PROJECT REPORT

TO: ENVIRONMENTAL EVALUATION COMMITTEE **AGENDA DATE: March 14, 2024**

FROM: PLANNING & DEVELOPMENT SERVICES **AGENDA TIME 1:30 PM / No. 1**

PROJECT TYPE: Cal 98 Holdings ZC #23-0007/CUP #23-0027/IS #23-0033 SUPERVISOR DIST #2

LOCATION: 15 State Route (SR) 98 APN: 058-180-001-000

Calexico, CA 92231 PARCEL SIZE: +/- 44.6 acres

GENERAL PLAN (existing) Urban Area (Calexico) GENERAL PLAN (proposed) N/A

ZONE (existing) A-2-U (General Agriculture-Urban) ZONE (proposed) M-1-U (Light Industrial-Urban)

GENERAL PLAN FINDINGS ☒ CONSISTENT ☐ INCONSISTENT ☐ MAY BE/FINDINGS

PLANNING COMMISSION DECISION: HEARING DATE: ____________

☐ APPROVED ☐ DENIED ☐ OTHER

PLANNING DIRECTORS DECISION: HEARING DATE: ____________

☐ APPROVED ☐ DENIED ☐ OTHER

ENVIROMENTAL EVALUATION COMMITTEE DECISION: HEARING DATE: 03/14/2024

INITIAL STUDY: #23-0033

☐ NEGATIVE DECLARATION ☐ MITIGATED NEG. DECLARATION ☐ EIR

DEPARTMENTAL REPORTS / APPROVALS:

PUBLIC WORKS	☒ NONE	☒ ATTACHED
AG	☒ NONE	☐ ATTACHED
APCD	☐ NONE	☒ ATTACHED
E.H.S.	☒ NONE	☐ ATTACHED
FIRE / OES	☐ NONE	☒ ATTACHED
SHERIFF	☐ NONE	☒ ATTACHED
OTHER	IID, CalTrans	

REQUESTED ACTION:

(See Attached)

☐ NEGATIVE DECLARATION
☐ MITIGATED NEGATIVE DECLARATION

Initial Study & Environmental Analysis
For:

Zone Change #23-0007 / Conditional Use Permit #23-0027 / Initial Study #23-0033
Cal 98 Holdings

Prepared By:

COUNTY OF IMPERIAL
Planning & Development Services Department
801 Main Street
El Centro, CA 92243
(442) 265-1736
www.icpds.com

(March 2024)

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SECTION 1
INTRODUCTION

A. PURPOSE

This document is a ☐ policy-level, ☒ project level Initial Study for evaluation of potential environmental impacts resulting with the proposed Zone Change #23-0007 / Conditional Use Permit #23-0027 / Initial Study #23-0033 (Refer to Exhibit "A" & "B").

B. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REQUIREMENTS AND THE IMPERIAL COUNTY'S GUIDELINES FOR IMPLEMENTING CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's "CEQA Regulations Guidelines for the Implementation of CEQA, as amended", an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

☐ According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade the quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

☐ According to Section 15070(a), a **Negative Declaration** is deemed appropriate if the proposal would not result in any significant effect on the environment.

☐ According to Section 15070(b), a **Mitigated Negative Declaration** is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will not result in any potentially significant environmental impacts and therefore, a Negative Declaration is deemed as the appropriate document to provide necessary environmental evaluations and clearance as identified hereinafter.

This Initial Study and Negative Declaration are prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); Section 15070 of the State & County of Imperial's Guidelines for Implementation of the California Environmental Quality Act of 1970, as amended (California Code of Regulations, Title 14, Chapter 3, Section 15000, et. seq.); applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial Guidelines for Implementing CEQA, depending on the project scope, the County of Imperial Board of Supervisors, Planning Commission and/or Planning Director is designated the Lead

Agency, in accordance with Section 15050 of the CE-QA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. INTENDED USES OF INITIAL STUDY AND NEGATIVE DECLARATION

This Initial Study and Negative Declaration are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals.

The Initial Study and Negative Declaration, prepared for the project will be circulated for a period of 20 days (*30-days if submitted to the State Clearinghouse for a project of area-wide significance*) for public and agency review and comments. At the conclusion, if comments are received, the County Planning & Development Services Department will prepare a document entitled "Responses to Comments" which will be forwarded to any commenting entity and be made part of the record within 10-days of any project consideration.

D. CONTENTS OF INITIAL STUDY & NEGATIVE DECLARATION

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a potentially significant impact, potentially significant unless mitigation incorporated, less than significant impact or no impact.

PROJECT SUMMARY, LOCATION AND EVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

IV. PERSONS AND ORGANIZATIONS CONSULTED identifies those persons consulted and involved in preparation of this Initial Study and Negative Declaration.

V. REFERENCES lists bibliographical materials used in the preparation of this document.

VI. NEGATIVE DECLARATION – COUNTY OF IMPERIAL

VII. FINDINGS

SECTION 4

VIII. RESPONSE TO COMMENTS (IF ANY)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP) (IF ANY)

E. SCOPE OF ENVIRONMENTAL ANALYSIS

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

1. **No Impact:** A "No Impact" response is adequately supported if the impact simply does not apply to the proposed applications.

2. **Less Than Significant Impact:** The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.

3. **Potentially Significant Unless Mitigation Incorporated:** This applies where incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact".

4. **Potentially Significant Impact:** The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less than significant levels.

F. POLICY-LEVEL or PROJECT LEVEL ENVIRONMENTAL ANALYSIS

This Initial Study and Negative Declaration will be conducted under a ☐ policy-level, ☒ project level analysis. Regarding mitigation measures, it is not the intent of this document to "overlap" or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County's jurisdiction, are also not considered mitigation measures and therefore, will not be identified in this document.

G. TIERED DOCUMENTS AND INCORPORATION BY REFERENCE

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which are discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included in this document. Tiering is defined as follows:

"Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project."

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

"Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."

Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

(1) Were not examined as significant effects on the environment in the prior EIR; or

(2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. Incorporation By Reference

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]). This document incorporates by reference appropriate information from the "Final Environmental Impact Report and Environmental Assessment for the "County of Imperial General Plan EIR" prepared by Brian F. Mooney Associates in 1993 and updates.

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR and updates are available, along with this document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.
- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning &

Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.

- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.

- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the County of Imperial General Plan EIR is SCH #93011023.

- The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f]). This has been previously discussed in this document.

II. Environmental Checklist

1. **Project Title**: Zone Change #23-0007/Conditional Use Permit #23-0027/Initial Study #23-0033 Cal 98 Holdings
2. **Lead Agency**: Imperial County Planning & Development Services Department
3. **Contact person and phone number**: Derek Newland, Planner III, (442)265-1736, ext. 1756
4. **Address**: 801 Main Street, El Centro CA, 92243
5. **E-mail**: dereknewland@co.imperial.ca.us
6. **Project location**: 15 E. Hwy 98 (State Route 98), Calexico, CA 92231
7. **Project sponsor's name and address**:
8. **General Plan designation**: Urban Area
9. **Zoning**: A-2-U (General Agriculture within Urban Area)

10. **Description of project**: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Rd. and left turn only lane on to SR-98. Additionally, a left turn lane for passenger vehicles would add on SR-98 on to Kemp Road which will also be paved on the eastern side of the project location. The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach project location where they will enter straight into the property at the proposed Dogwood Road expansion.

11. **Surrounding land uses and setting**: The surrounding lands consist of the New River to the south, with Agriculture lands to the north. Both east and west of the project along SR-98 consist of a combination of agricultural, residential, commercial and light industrial zoned properties. These surrounding properties contain houses, agricultural fields, self-storage and a vehicle dismantling yard all within .5 miles of the project site. In addition, the City of Calexico lies .4 miles east of the project site and further west along SR-98 +/- 1 mile away is a solar power facility.

12. **Other public agencies whose approval is required** (e.g., permits, financing approval, or participation agreement.): California Department of Transportation, Imperial County Air Pollution Control District, Imperial County Environmental Health Division.

13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The Campo Band of Mission Indians and Quechan Tribes were sent letters of opportunity to consult on October 19, 2023, pursuant to AB-52 along with a request for comments package and Cultural Survey performed by Tierra Environmental Services. No response was received by either tribe.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental

<u>review process. (See Public Resources Code, Section 21080.3.2). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code, Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code, Section 21082.3 (c) contains provisions specific to confidentiality.</u>

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology /Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

ENVIRONMENTAL EVALUATION COMMITTEE (EEC) DETERMINATION

After Review of the Initial Study, the Environmental Evaluation Committee has:

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

☐ Found that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

☐ Found that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

EEC VOTES	YES	NO	ABSENT
PUBLIC WORKS	☐	☐	☐
ENVIRONMENTAL HEALTH SVCS	☐	☐	☐
OFFICE EMERGENCY SERVICES	☐	☐	☐
APCD	☐	☐	☐
AG	☐	☐	☐
SHERIFF DEPARTMENT	☐	☐	☐
ICPDS	☐	☐	☐

Jim Minnick, Director of Planning/EEC Chairman

Date:

PROJECT SUMMARY

A. **Project Location**: The project site is located at 15 SR-98, Calexico, CA 92231 and consists of one (1) parcel identified as Assessor Parcel Number 058-180-001-000, and is further legally described as a Portion of the West Half of the Northwest Quarter of Section 15, T17S, R14E, S.B.B.M.

B. **Project Summary**: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Rd. and left turn only lane on to Hwy 98. Additionally, a left turn lane for passenger vehicles would add on SR-98 on to Kemp Road which will also be paved on the eastern side of the project location. The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach project location where they will enter straight into the property at the proposed Dogwood Road expansion.

C. **Environmental Setting**: The surrounding lands consist of the New River to the south, with Agriculture lands to the north. Both east and west of the project along SR-98 consist of a combination of agricultural, residential, commercial and light industrial zoned properties. These surrounding properties contain houses, agricultural fields, self-storage and a vehicle dismantling yard all within .5 miles of the project site. In addition, the City of Calexico lies .4 miles east of the project site and further west along SR-98 +/- 1 mile away is a solar power facility.

D. **Analysis**: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. The project parcel is currently zoned A-2-U (General Agriculture within Urban Area) which does not allow for the proposed trucking and warehousing facility. Therefore, a zone change to M-1-U (Light Industrial Within Urban Area) is required as the proposed use would be allowed in this zone with an approved Conditional Use Permit.

E. **General Plan Consistency**: The parcel is located in an area designated as an Urban Area which is within the City of Calexico's Sphere of Influence and allows for uses and zones that would be associated with an urban environment. Therefore, upon approval the proposed zone change to M-1-U (Light Industrial Within Urban Area) could be found consistent with the General Plan and would not require a General Plan Amendment.

Exhibit "A"

Vicinity Map

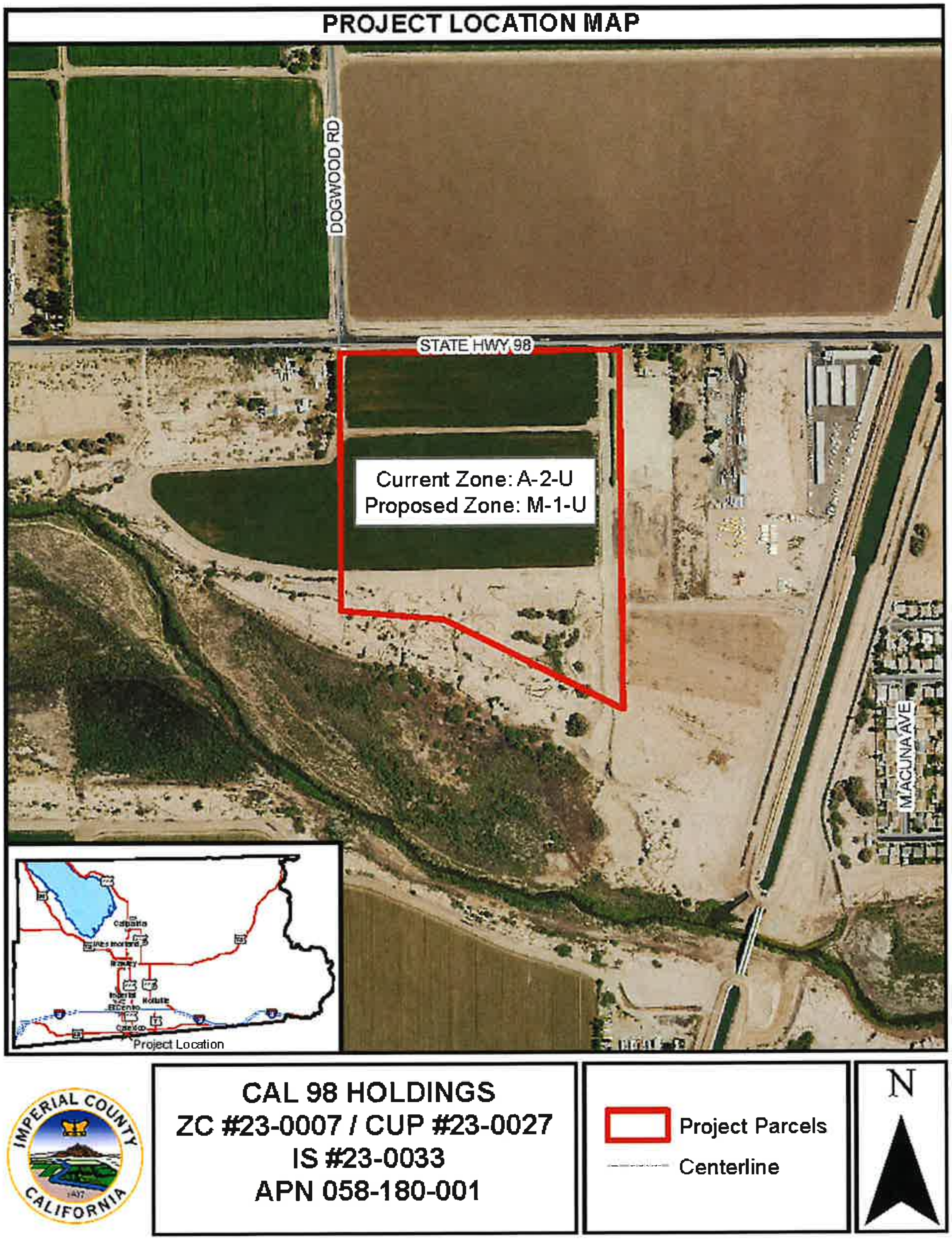

Exhibit "B"
Site Plan

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

I. *AESTHETICS*

Except as provided in Public Resources Code Section 21099, would the project:

a)	Have a substantial adverse effect on a scenic vista or scenic highway?	☐	☐	☐	☒

a) The proposed project is located at the intersection of Dogwood Road and State Route 98. Neither listed as a scenic highway or future scenic highway in the Circulation and Scenic Highway Element of the Imperial County General Plan[1], nor designated as such per the Caltrans California State Scenic Highway System Map[2]. No Impacts are expected.

b)	Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

b) As previously stated in subsection a), the proposed project is not located near a Scenic vista or Scenic Highway and would not substantially damage scenic resources. Therefore, no impacts are expected.

c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surrounding? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

c) The proposed trucking and warehousing facility would convert actively farmed agricultural land and requires a zone change from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area). The surrounding lands consist of the New River to the south, with Agriculture lands to the north. Both east and west of the project along SR-98 consist of a combination of agricultural, residential, commercial and light industrial zoned properties. These surrounding properties contain houses, agricultural fields, self-storage and a vehicle dismantling yard all within .5 miles of the project site. In addition, the City of Calexico lies .4 miles east of the project site and further west along SR-98 +/- 1 mile away is a solar power plant. Due to the project location and variety land uses on either side of the project it is not expected that the project would substantially degrade the existing visual character or quality of public views. Additionally, the project will be required to install a perimeter masonry wall with land scaping along the north, west and east sides of the project per the County's Title 9 Land Use Ordinance Division 3: Site & Design Standards[3]. Therefore, any impacts would be expected to be less than significant.

d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

d) The project would not create new source of substantial light or glare would adversely affect day or nighttime views in the area as the project will be required to shield all exterior light sources and direct them away from adjacent properties and away from or shielded from public roads per Title 9 Division 3. Any impacts are expected to be less than significant.

II. *AGRICULTURE AND FOREST RESOURCES*

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. --Would the project:

a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐

a) The proposed project would convert +/- 40 acres of active farmland designated as Farmland of Statewide Importance according to the Farmland Mapping and Monitoring Program map[4]. However, the project is located within the Calexico Urban Area of the Imperial County General Plan for the City of Calexico, which is land that has already been assessed for

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1 Imperial County General Plan: Circulation and Scenic Highway Element.
2 Caltrans State Scenic Highway System Map
3 Imperial County Title 9 Land Use Ordinance Division 3: Site & Design Standards
4 California Farmland Mapping & Monitoring Program: Imperial County Important Farmland Map 2018

potential future development and as a result would not be considered conversion of farmland. Therefore, any impacts area expected to be less than significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☒	☐

b) The proposed project would conflict with existing zoning however project is proposing a zone change from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) along with a Conditional Use Permit as required for the proposed trucking and warehousing within the proposed M-1-U zone. In addition, there are no active Williamson Act Contracts within Imperial County. Approval of the proposed zone change, and CUP would make the project consistent with the General Plan and therefore any impacts are expected to be less than significant.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒

c) The proposed trucking and warehousing facility is not located in areas zoned for forest, timberland, or timberland production and therefore, would not conflict with any zoning associated for those uses. No impacts are expected.

d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

d) The proposed trucking and warehousing facility is not being proposed in any forest land and therefore would not result in the loss of forest land or conversion of forest land to non-forest use. No impacts are expected.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

e) As stated above, while the project is proposed to be developed on an active agricultural field the project is located within the Calexico Urban Area of the Imperial County General Plan for potential future development and with an approved zone change would not be considered conversion of farmland. Any impacts are expected to be less than significant.

III. *AIR QUALITY*

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to the following determinations. Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

a) The proposed project is not expected to conflict with or obstruct implementation of the applicable air quality plan. A construction Dust Control Plan and a Construction Notification Form will be required by the Air Pollution Control District before construction can begin. Any impacted would be considered less than significant.

b) 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?	☐	☐	☒	☐

b) The propose trucking and warehousing facility is not expected to 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. Any impacts would be considered less than significant.

c) Expose sensitive receptors to substantial pollutants concentrations?	☐	☐	☒	☐

c) The proposed trucking and warehousing facility is located .4 miles from the City of Calexico as well as having a few residential structures nearby. It is not anticipated that the project would expose sensitive receptors to substantial pollutants concentrations. Any impacts would be considered less than significant.

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

d) The proposed trucking and warehousing facility is not expected to result in other emissions such as those leading to odors adversely affecting a substantial number of people. Any impacts would be considered less than significant.

IV. ***BIOLOGICAL RESOURCES*** ***Would the project:***

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? ☐ ☒ ☐ ☐

a) A biological study[5] was conducted on the project site and it was determined that while not observed, there is potential for burrowing owls as well as other ground nesting species such as lesser nighthawk and/or killdeer to be located on site with the potential for nesting sites. To mitigate potential risk to any potential borrowing/nesting sites the following mitigation measures will be implemented:

BIO 1 – Preconstruction Surveys within 14 days and 24 hours of start of groundbreaking activities by a qualified biologist.

BIO 2 - If occupied burrows are found on site, the burrows shall be passively relocated by a qualified biologist outside of nesting season and an appropriate number of artificial burrows shall be installed. If possible, these burrows shall be installed as close as possible to the passively relocated burrows.

BIO 3 - If not in the active construction areas, the occupied burrows can be sheltered in place with appropriate materials.

BIO 4 - If occupied burrows are sheltered, a biological monitor shall monitor areas of active construction This biologist will ensure that the project complies with these mitigation measures and will have the authority to halt activities if they are not in compliance. The biologist will inspect the construction areas periodically for the presence of BUOWs.

BIO 5 - If work is stopped for longer than 14 days, the area will be resurveyed prior to restart of construction.

BIO 6 – AVOIDANCE: Construction foremen and workers and onsite employees be given worker training by a qualified biologist regarding burrowing owl that would include the following:

• Description of BUOW
• Biology
• Regulations (CDFW/USFWS)
• Wallet card with picture/guidelines for protecting owl and wildlife
• Notification procedures if owl (dead, alive, injured) is found on or near site

A sign-in should be obtained and the training materials and sign-in sheet should be submitted to appropriate agency.

It is expected that implementation of these mitigation measures would bring the project impacts to less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? ☐ ☐ ☐ ☒

b) Per the above referenced biological study, the proposed project is not located on riparian habitat. Therefore, no impacts are expected.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ☐ ☐ ☐ ☒

c) Per the above referenced biological study the proposed project is not located on stated or federally protected wetlands and therefore no impacts are expected.

d) Interfere substantially with the movement of any 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? ☐ ☐ ☐ ☒

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5 Cal 98 Charger Logistics Biological Resources Assessment Technical Report

d) Per the previously stated biological study the proposed project will not interfere with the currently restricted 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. Therefore, no impacts are expected.

e)	Conflict with any local policies or ordinance protecting biological resource, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

e) Approval of the proposed zone change and accompanying Conditional Use Permit would bring the proposed project into compliance with Imperial County Title 9 Land Use Ordinance as the project. Any impacts are expected to be less than significant.

f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

f) The proposed project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Any impacts are expected to be less than significant.

V. *CULTURAL RESOURCES* *Would the project:*

a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒

a) A cultural study[6] was conducted on the project site with no resource being identified and no further archaeological work being recommended. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource and no impacts are expected.

b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒

b) As stated above, a cultural study was performed on site with no resources being identified and no further archaeological work being recommended. Therefore, the proposed project would not cause a substantial adverse change in the significance of an archaeological resource and no impacts are expected.

c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

c) As has been stated a cultural study was performed on the proposed project site. The site is an actively farmed agricultural field with no sign of remains being found. Additionally, no further archaeological work on the site was recommended and no impacts are expected.

VI. *ENERGY* *Would the project:*

a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

a) Construction of the proposed project would consist of grading and paving of the project footprint as well as the paving of Kemp Road to the east and creation of a 3 lane north and south extension on to dogwood road with a left turn lane on the SR-98. In addition, a +\- 120,000 square feet warehouse will be constructed and adhered to the current California Building Code. Energy resources would be consumed during the construction of the project in the form of fuel and electricity for machinery and tools. After construction the only onsite energy consumption would be electricity for external lighting and the powering of the warehouse. Fuel consumption would be from vehicles both personal and commercial coming to and from the site. It is not expected that this project would result in significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Any impacts are expected to be less than significant.

b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

[6] Cultural Resources Survey Report for the Cal 98 Holdings Trucking Facility, Tierra Environmental Services, July 03, 2023

b) The proposed trucking and warehousing facility would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project will be required to adhere to all state and local rules and regulations through the acquisition of the appropriate permits for the construction and operation of the proposed facility. Any impacts would be considered less than significant.

VII. ***GEOLOGY AND SOILS Would the project:***

a)	Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:	☐	☐	☒	☐

a) The proposed project would not directly or indirectly cause potential substantial adverse effects, including risk of loss, injury or death, as the proposed trucking and warehousing facility does not appear to conflict with the geology and soil of the property or adjacent properties in the area. In addition, all work onsite must go through various permitting such as grading and building permits which would comply with all state and local regulations and building codes. Any impacts are expected to be less than significant.

1)	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☒	☐

1) The proposed trucking and warehousing facility will include a 120,245 square feet warehouse and the structure will be required to meet all requirements within the current 2022 California Building Code. The nearest fault lines from the project site are both roughly +/- 9 miles east and west of the project site and any shaking would be similar to the surrounding properties including the City of Calexico which is situated +/- .4 miles east of the project. Any impacts are expected to be less than significant.

2)	Strong Seismic ground shaking?	☐	☐	☒	☐

2) Imperial County is subject to potential seismic ground shaking due to the numerous faults in the area. The project site could experience strong seismic ground shaking but no more than the surrounding properties. In addition, the proposed 120,245 square feet warehouse would be subject to all 2022 California Building Codes and any impacts are expected to be less than significant.

3)	Seismic-related ground failure, including liquefaction and seiche/tsunami?	☐	☐	☐	☒

3) The proposed trucking and warehousing operation is not in a tsunami inundation zone nor a liquefaction zone. Therefore, no impacts are expected.

4)	Landslides?	☐	☐	☒	☐

4) According to Imperial County General Plan's Seismic and Public Safety Element[7] "Landslide Activity" map, the project is not located in a landslide zone. However, the southern portion of the property abuts the New River which is at a lower elevation to the project site. Under extreme circumstances there may be a potential for the cliff face to fail but the project development is proposed to be developed away from this area on the currently disturbed ag field. In addition, the warehouse will be built on the north end of the +/- 44-acre parcel well away from this area. Therefore, any impacts are expected to be less than significant.

b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

b) As stated above, the proposed project is north of the New River with an exposed cliff face on the southern portion of the property. The project is not proposed to be developed near this cliff side and therefore any erosion of the cliff side would be natural and not a result of the project. In addition, per the Imperial County General Plan's Seismic and Public Safety Element "Erosion Activity" map, the project site is listed as "low" for erosion activity. Any impacts are expected to be less than significant.

c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

c) The proposed trucking and warehousing facility will consist of the majority of the +/- 40-acre project site on the +/- 44

[7] Imperial County General Plan: Seismic and Public Safety Element

acre parcel being graded and paved for the purpose of trailer parking. In addition, the proposed project is not located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore, any impacts are expected to be less than significant.

d)	Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property?	☐	☐	☒	☐

d) The proposed trucking and warehousing facility is proposed to be constructed on what is currently an actively farmed agricultural field which will be graded and paved and the warehouse will comply with all California Building Codes. The project will not be located on expansive soil and therefore will not create a substantial direct or indirect risk to life or property. Therefore, any impacts are expected to be less than significant.

e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐

e) The proposed trucking and warehousing facility is proposed to be built on what is currently an active agricultural field and is not expected to be incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems. A percolation test would be conducted on site before any such system was permitted or alternatives assessed. Any impacts are expected to be less than significant.

f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

f) The proposed trucking and warehousing facility is intending to grade and pave a currently active agricultural field and would not directly or indirectly destroy a unique paleontological resource or site or unique feature. No impacts are expected.

VIII. *GREENHOUSE GAS EMISSION* *Would the project:*

a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility is not expected to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Any impacts would be considered less than significant.

b)	Conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

b) The proposed trucking and warehousing facility not expected to conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases; therefore, less than significant impacts are expected.

IX. *HAZARDS AND HAZARDOUS MATERIALS* *Would the project:*

a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility does not propose to transport nor store hazardous materials on site and therefore would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Any impacts are expected to be less than significant.

b)	Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

b) As stated above the proposed trucking and warehousing operation does not propose to transport nor store hazardous materials on site and therefore would not create a significant hazard to the pubic or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Any impacts

would be considered less than significant.

c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

c) The proposed project does not propose to transport nor store hazardous materials and the nearest schools are in the City of Calexico just under 1 mile from the project location. These schools are Blanche Charles Elementary School which is +/- 3,800 feet east of the project and William Moreno Junior High School which is +/- 4,300 feet east of the project locations. Therefore, the 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 school. Any impacts would be considered less than significant.

d)	Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

d) Per the California Department of Toxic Substances Control[8], the proposed project is not located on a list of hazardous materials sites and therefore no impacts are expected.

e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐

e) The proposed project is located within the C zone of the Imperial County Airport Land Use Compatibility Plan for the City of Calexico Airport. The proposed project was brought before the Airport Land Use Commission on November 15, 2023, where it was found consistent with the 1996 Airport Land Use Compatibility Plan. Therefore, the project is not expected to result in a safety hazard or excessive noise for people residing or working in the project area. Any impacts would be considered less than significant.

f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

f) The proposed trucking and warehousing facility would not impair implementation of or physically interfere with an adopted emergency reasons plan or emergency evacuation plan. Furthermore, the project would comply with any applicable rules and regulations as well as related requirements within the Imperial County Fire Department Letter dated November 06, 2023[9]. Any impacts would be considered less than significant.

g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

g) The proposed project is not located in a fire hazard zone per the Cal Fire "Fire Hazard Severity Zones (FHSZ) viewer[10] and therefore the project is not expected to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Any impacts would be considered less than significant.

X. *HYDROLOGY AND WATER QUALITY* ***Would the project:***

a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility propose to grade and pave a currently farmed agricultural field as well as the construction of a +/- 120,245 square feet warehouse and water drainage and waste discharge will be addressed as part of the permitting process of these actions. Therefore, it is not expected that the proposed project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Any impacts would be considered less than significant.

b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project	☐	☐	☒	☐

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[8] California Department of Toxic Substances Control: EnviroStor
[9] Imperial County Fire Department Letter dated November 06, 2023
[10] Cal Fire: Fire Hazard Severity Zones (FHSZ) Viewer

may impede sustainable groundwater management of the basin?

b) Approval of the proposed project would result in the grading and paving of the existing actively farmed agricultural field. Agricultural fields in the county typically have subsurface drain tiles which move irrigation water into the Imperial Irrigation District's drain system. The paving of the site would eliminate water penetration from irrigation water on the property, however, as irrigation water is already drained from the site through drainage tiles, the majority of the water is already being prevented from substantially effecting groundwater. Therefore, it is not expected that the project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Any impacts would be considered less than significant.

c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐

c) The proposed trucking and warehouse facility proposes paving of +/- 36.57 acres of the +/- 44 acres parcel and will require a grading permit which will address drainage onsite. In addition, an encroachment on to SR-98 will be required which will require a hydrology study as part of the permitting study which will also address drainage from the site. Therefore, it is not expected that the project will 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 through the addition of impervious surfaces and any impacts would be anticipated to be less than significant.

	(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐

(i) The proposed trucking and warehousing facility will not result in substantial erosion or siltation on- or off-site. Therefore, any impacts would be considered less than significant.

	(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐

(ii) It is not expected that the proposed trucking and warehousing facility would substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Therefore, any impacts would be expected to be less than significant.

	(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or;	☐	☐	☒	☐

(iii) The project is not expected to create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Any impacts are expected to be less than significant.

	(iv) impede or redirect flood flows?	☐	☐	☒	☐

(iv) The project is not located within an area prone to flooding and therefore any impacts are expected to be less than significant.

d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐

d) The proposed trucking and warehouse facility is not located in a flood hazard, tsunami, or seiche zone and it is not expected risk release of pollutants due to project inundation. There is no storage of fuel, motor oil or any other hazardous pollutants on site proposed. Any impacts from a potential inundation of the site would be expected to be less than significant.

e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

e) The proposed trucking and warehouse facility would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Any impacts would be expected to be less than significant.

XI. ***LAND USE AND PLANNING*** ***Would the project:***

a) Physically divide an established community? ☐ ☐ ☐ ☒

a) The proposed trucking and warehousing facility will not physically divide an established community. Therefore, no impacts are expected.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? ☐ ☐ ☒ ☐

b) The proposed trucking and warehousing facility would not be an allowed use on the A-2-U (General Agriculture within Urban Area) zone per Imperial County's Land Use Ordinance Title 9 Division 5[11]. As such, the project requires the approval of the proposed Zone Change #23-0007 to M-1-U (Light Industrial within Urban Area) as well as the approval of the proposed Conditional Use Permit #23-0027. Approval of the Zone Change and Conditional Use permit would bring the project into compliance with Imperial County's Land Use Ordinance. Therefore, any impacts would be considered less than significant.

XII. ***MINERAL RESOURCES*** ***Would the project:***

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? ☐ ☐ ☐ ☒

a) The proposed trucking and warehousing facility is not anticipated to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state as the project does not propose the removal of mineral resources and is not located within the boundaries or vicinity of an active mine. No impacts are expected.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? ☐ ☐ ☐ ☒

b) The proposed project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. No impacts are expected.

XIII. ***NOISE*** ***Would the project result in:***

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? ☐ ☐ ☒ ☐

a) A noise study was produced by UltraSystems and it was determined that while there will be higher noise levels during construction, they would not exceed Imperial County's Noise Ordinance nor would the project once operational and no mitigation measures are recommended. In addition, as part of the design standards required for the proposed M-1-U Zone, masonry walls will be required and conditioned along the property lines of adjacent parcels which allow for residential uses as well as being required along SR-98. It is expected that these masonry walls would contribute to reducing any onsite noise from the proposed trucking and warehouse facility once operational. Any impacts would be considered less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels? ☐ ☐ ☒ ☐

b) During the construction of the project some low levels of ground-borne vibration and noise may occur but not to any significant or excessive degree. Therefore, any impacts would be considered less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? ☐ ☐ ☐ ☒

c) The project is located within the "C" Zone of the Imperial County Airport Land Use Compatibility Plan for the City of Calexico Airport and received a compatible determination by the Airport Land Use Commission on November 15, 2023. No

[11] Imperial County Title 9 Land Use Ordinance, Division 5

impacts are expected.

XIV. ***POPULATION AND HOUSING*** ***Would the project:***

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

a) The proposed trucking and warehousing facility would not induce substantial unplanned population growth either directly or indirectly. The project proposes 20 onsite employees with all others being drivers or visitors to the site. No impacts are expected.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

b) The proposed trucking and warehousing facility is proposed to be on a currently vacant parcel that is an active agricultural field. Therefore, the project would not displace substantial numbers of existing people or housing necessitating the construction of replacement housing elsewhere and no impacts are expected.

XV. ***PUBLIC SERVICES***

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐

a) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Any impacts would be considered less than significant.

1) Fire Protection?	☐	☐	☒	☐

1) It is expected that compliance with conditions set out in the Imperial County Fire Departments comment letter dated November 06, 2023[12] would prevent the project from resulting in substantial adverse impacts to Fire Department services or facilities. Any impacts would be expected to be less than significant.

2) Police Protection?	☐	☐	☒	☐

2) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to law enforcement services or facilities. Any impacts would be expected to be less than significant.

3) Schools?	☐	☐	☐	☒

3) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to school services or facilities. No impacts are expected.

4) Parks?	☐	☐	☐	☒

4) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to park services or facilities. No impacts are expected.

5) Other Public Facilities?	☐	☐	☒	☐

5) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to any other Public Facilities. Any impacts would be considered less than significant.

[12] Imperial County Fire Departments comment letter dated November 06, 2023

XVI. *RECREATION*

a) Would the project increase the use of the existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ☐ ☐ ☒ ☐

a) The proposed trucking and warehousing facility do not propose to increase population by either necessitating new housing or creating a large influx people to the area that would increase the use of any existing neighborhood and regional parks or other recreational facility such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, any impacts are expected to be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment? ☐ ☐ ☐ ☒

b) The proposed trucking and warehousing facility do not propose any new recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment. No impacts are expected.

XVII. *TRANSPORTATION* *Would the project:*

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ☐ ☐ ☒ ☐

a) The proposed trucking and warehousing facility do not appear to conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Any impacts would be considered less than significant

b) Would the project conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b)? ☐ ☐ ☒ ☐

b) The proposed trucking and warehousing facility do not appear to conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b). Any impacts would be considered less than significant.

c) Substantially increases hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ☐ ☐ ☒ ☐

c) The proposed trucking and warehousing facility will be extending Dogwood Road onto the property at the intersection of SR-98 and Dogwood Road. This will include a 4th stoplight at the current 3-way stop intersection with north and south lanes as well as a left turn lane onto west bound SR-98. A left turn lane will be put in on westbound SR-98 on to Kemp Road on the eastern side of the project location for passenger vehicle access only. As part of the permitting process with Caltrans for these actions, an Intersection Control Evaluation report will be required and conditioned as part of the project. In addition, the project will undergo a design review as part of the building permit process to address the design of the project site at these intersections. It is anticipated that these actions will make any impacts less than significant.

d) Result in inadequate emergency access? ☐ ☐ ☐ ☒

d) As described in XVII c), there will be improvements to the intersections on the east and west of the project site. These improvements will comply with both Caltrans and Imperial County Fire requirements for emergency access. Therefore, no impacts are expected.

XVIII. *TRIBAL CULTURAL RESOURCES*

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is: ☐ ☐ ☒ ☐

a) A letter of opportunity to consult was sent to the Campo Band of Mission Indians and the Quechan Indian Tribe on October 19, 2023, along with the letter, a request for comments with an attached Cultural Study performed by Tierra Environmental Services was also sent. No response has been received from either tribe. The Cultural Study found no evidence of new cultural resources and no further archaeological work was recommended. Any impacts would be

expected to be less than significant.

(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as define in Public Resources Code Section 5020.1(k), or ☐ ☐ ☐ ☒

(i) The proposed trucking and warehouse project site is not listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). No impacts are expected.

0 (ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth is subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe. ☐ ☐ ☒ ☐

(ii) As stated in section XVIII a), letters of opportunity to consult were sent out to the Campo Band Mission Indians and Quechan Indian Tribe in accordance with AB52 and a cultural study was provided with no response received by either tribe. No evidence of new cultural resources were identified in the study and no further action is archaeological work was recommended by the study. Any impacts would be considered less than significant.

XIX. *UTILITIES AND SERVICE SYSTEMS* *Would the project:*

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects? ☐ ☐ ☒ ☐

a) The proposed trucking and warehousing facility will not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects. The project will be required to install a septic system and local onsite water treatment plant as water to the site will come from the Imperial Irrigation District water system and will require treatment for use. Any impacts would be expected to be less than significant.

b) Have sufficient water supplies available to serve the project from existing and reasonably foreseeable future development during normal, dry and multiple dry years? ☐ ☐ ☒ ☐

b) The proposed trucking and warehousing facility will require water for fire suppression, landscaping, bathroom and possible kitchen facilities. The project proposes to obtain water from the Imperial Irrigation District, and it is expected that the it will have sufficient water supplies as the water requirements would be less than the water usage already onsite from the actively farmed agricultural field and therefore any impacts are expected to be less than significant.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? ☐ ☐ ☐ ☒

c) The proposed trucking and warehousing facility will require an onsite septic system which will require a percolation test as part of the required permitting through the Environmental Health Division. Therefore, no impacts to a wastewater treatment provider are expected.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? ☐ ☐ ☒ ☐

d) The proposed trucking and warehousing facility propose 20 onsite employees with truck drivers and possible visitors varying in number at any given time and no packaging or repackaging of freight onsite is proposed. Waste removal will require a contracted service from a local waste provider. It is not expected that the project will generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, any impacts would be considered less than significant.

e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

e) The project will be required to comply with all federal, state and local management and reduction statutes and regulations related to solid waste. Any impacts would be considered less than significant.

XX. *WILDFIRE*

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

a) The proposed trucking and warehouse facility is not anticipated to impair an adopted emergency response plan or emergency evacuation plan. Any impacts would be considered less than significant.

b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

b) The proposed trucking and warehouse facility is not in a location prone to wildfires and therefore is not expected to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Any impacts would be considered less than significant.

c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

c) The proposed trucking and warehouse facility will be required to have an onsite water source (pressurized water supply) for fire protection however the installation or maintenance of the source would not exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No impacts are expected.

d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

d) The proposed trucking and warehouse facility is not in an area at risk for flooding or landslides and therefore no impacts are anticipated.

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino, (1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

Revised 2009- CEQA
Revised 2011- ICPDS
Revised 2016 – ICPDS
Revised 2017 – ICPDS
Revised 2019 – ICPDS

SECTION 3
III. MANDATORY FINDINGS OF SIGNIFICANCE

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, eliminate tribal cultural resources or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☐

IV. PERSONS AND ORGANIZATIONS CONSULTED

This section identifies those persons who prepared or contributed to preparation of this document. This section is prepared in accordance with Section 15129 of the CEQA Guidelines.

A. COUNTY OF IMPERIAL

- Jim Minnick, Director of Planning & Development Services
- Michael Abraham, AICP, Assistant Director of Planning & Development Services
- Diana Robinson, Planning Division Manager
- Derek Newland, Project Planner
- Imperial County Air Pollution Control District
- Department of Public Works
- Fire Department
- Ag Commissioner
- Environmental Health Services
- Sheriff's Office

B. OTHER AGENCIES/ORGANIZATIONS

- Imperial Irrigation District
- California Department of Transportation

(Written or oral comments received on the checklist prior to circulation)

V. REFERENCES

1. Imperial County General Plan: Circulation and Scenic Highway Element
https://www.icpds.com/assets/planning/circulation-scenic-highway-element-2008.pdf
2. California State Scenic Highway System Map
https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa
3. Imperial County Title 9 Land Use Ordinance Division 3: Site & Design Standards
https://www.icpds.com/assets/planning/ordinances/title-9-div-3-2014.pdf
4. California Farmland Mapping & Monitoring Program: Imperial County Important Farmland Map 2018
https://maps.conservation.ca.gov/DLRP/CIFF/
5. Cal 98 Charger Logistics Biological Resources Assessment Technical Report, Barrett's Biological Enterprises December, 2022
6. Cultural Resources Survey Report for the Cal 98 Holdings Trucking Facility, Tierra Environmental Services, July 03, 2023
7. Imperial County General Plan: Seismic and Public Safety Element
https://www.icpds.com/assets/planning/seismic-and-public-safety.pdf
8. California Department of Toxic Substances Control: EnviroStor
https://www.envirostor.dtsc.ca.gov/public/
9. Imperial County Fire Department Letter dated November 06, 2023
10. Cal Fire: Fire Hazard Severity Zones (FHSZ) Viewer
https://egis.fire.ca.gov/FHSZ/
11. Imperial County Title 9 Land Use Ordinance, Division 5
https://www.icpds.com/assets/IS21-0039-TITLE-9-Div-5.pdf
12. Imperial County Fire Departments comment letter dated November 06, 2023

VI. NEGATIVE DECLARATION – County of Imperial

The following Negative Declaration is being circulated for public review in accordance with the California Environmental Quality Act Section 21091 and 21092 of the Public Resources Code.

Project Name: Cal 98 chargers Logistics

Project Applicant: Cal 98 Holdings
Representative: Tom Dubose

Project Location: 15 SR-98, Calexico, CA 92231

Description of Project: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Rd. and left turn only lane on to Hwy 98. Additionally, a left turn lane for passenger vehicles would add on SR-98 on to Kemp Road which will also be paved on the eastern side of the project location. The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach project location where they will enter straight into the property at the proposed Dogwood Road expansion.

VII. FINDINGS

This is to advise that the County of Imperial, acting as the lead agency, has conducted an Initial Study to determine if the project may have a significant effect on the environment and is proposing this Negative Declaration based upon the following findings:

☐ The Initial Study shows that there is no substantial evidence that the project may have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.

☐ The Initial Study identifies potentially significant effects but:

(1) Proposals made or agreed to by the applicant before this proposed Mitigated Negative Declaration was released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur.

(2) There is no substantial evidence before the agency that the project may have a significant effect on the environment.

(3) Mitigation measures are required to ensure all potentially significant impacts are reduced to levels of insignificance.

A MITIGATED NEGATIVE DECLARATION will be prepared.

If adopted, the Negative Declaration means that an Environmental Impact Report will not be required. Reasons to support this finding are included in the attached Initial Study. The project file and all related documents are available for review at the County of Imperial, Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 (442) 265-1736.

NOTICE

The public is invited to comment on the proposed Negative Declaration during the review period.

Date of Determination Jim Minnick, Director of Planning & Development Services

The Applicant hereby acknowledges and accepts the results of the Environmental Evaluation Committee (EEC) and hereby agrees to implement all Mitigation Measures, if applicable, as outlined in the MMRP.

Applicant Signature Date

SECTION 4

VIII. RESPONSE TO COMMENTS

(ATTACH DOCUMENTS, IF ANY, HERE)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP)

(ATTACH DOCUMENTS, IF ANY, HERE)

S:\AllUsers\CEQA RULES\CEQA Rules 2018\Initial Study - Environmental Checklist REVISED Template.docx

COMMENTS

IMPERIAL COUNTY SHERIFF'S OFFICE
FRED MIRAMONTES
SHERIFF-CORONER-MARSHAL

Chief Deputy Ryan Kelley
328 Applestill Road
El Centro, Ca. 92243
(442) 265-2003
rkelley@icso.org

November 13, 2023

Imperial County Planning & Development Services
801 Main Street
El Centro, Ca. 92243
(442) 265-1736

Planning & Development Services,

The Imperial County Sheriff's Office is the Chief Law Enforcement agency in Imperial County. The Sheriff's Office provides general law enforcement, detention and court services for the residents, business owners and visitors of Imperial County.

The proposed project site is located within the Imperial County Sheriff's Office jurisdiction. The project is located at 15 East Highway 98 in Calexico, California.

The applicant is proposing 91.881 square feet of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. The applicant is additionally proposing to provide 832 trailer parking spaces, 20 truck parking spaces and 42 car parking spaces.

The Imperial County Sheriff's Office provides services to similar facilities. Calls for service can vary from burglaries, vandalisms, thefts and trespassing. Calls can result in arrests of offenders for felony property crimes. Some investigations require extensive follow up from our criminal investigations division and our scientific investigations unit. The Imperial County Sheriff's Office is committed to facilities operating in our area of responsibility and will deploy every resource available to assist in the apprehension and prosecution of those responsible for these crimes.

The Imperial County Sheriff's Office requests that the below conditions be incorporated onto the Cal 98 Holdings Conditional Use Permit #23-0027. This request is in consideration of the potential hazards to the Imperial County Sheriff's Office employees associated with responding to calls for service originating at this facility:

1. The Imperial County Sheriff's Office request that a detailed security plan and diagram be included and approved by the county prior to any activity on the premises.

2. Install adequate lighting, fencing and safety measures to prevent or deter criminal activity.
3. Install license plate reading cameras at all ingress and regress locations at the project site and grant access to the Imperial County Sheriff's Office to review the data collected. It is requested that these cameras be included in the security plan.
4. Install surveillance cameras at the project site to allow for 24/7, three hundred and sixty degree remote viewing capabilities and recording of activity on the premises. It is requested that the surveillance cameras be included in the security plan.

The Imperial County Sheriff's Office is available to discuss our concerns with the advancement of CUP #23-0027. If you have any questions, please contact the Imperial County Sheriff's Office at (442)265-2002.

Sincerely,

Chief Deputy Ryan Kelley

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (442) 265-1800
FAX: (442) 265-1799

AIR POLLUTION CONTROL DISTRICT

February 29, 2024

Tom Dubose
Dubose Design Group Inc
1065 State St.
El Centro, CA 92243

SUBJECT: Revised California Emissions Estimator Model Analysis for Cal 98 Holdings Trucking

Dear Mr. Dubose,

Following consultations with the Air District the applicant submitted a revised CalEEMod analysis to address comments first stated in a comment letter dated December 1, 2022. After review of the revised CalEEMod and in consideration of offsite mitigations under Rule 310, the Air District finds the revised CalEEMod is consistent with the consultations and sufficiently addresses the comments and concerns of the Air District. In consideration of these findings and reviewing the comment letter suggesting two options to move the project forward, the applicant has adequately complied with the option to revise the CalEEMod analysis and the Air District considers the applicant will not be submitting an operational dust control plan for the project. Given the size of the project, a construction Dust Control Plan must be submitted for review and approval by the Air District and a Construction Notification Form must be submitted at least 10 days prior to earthmoving beginning for the project. Forms for both of these documents can be accessed at https://apcd.imperialcounty.org/planning/#construction.

The Air District will also share this communication with the Planning and Development services office.

Please feel free to contact our office at (442) 265-1800 if you have any questions or concerns.

Respectfully,

Ismael Garcia
Environmental Coordinator II

Reviewed by,
Monica N. Soucier
APC Division Manager

COUNTY EXECUTIVE OFFICE

Miguel Figueroa
County Executive Officer
miguelfigueroa@co.imperial.ca.us
www.co.imperial.ca.us

County Administration Center
940 Main Street, Suite 208
El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-1010

October 24, 2023

TO: Derek Newland, Planning and Development Services Department

FROM: Rosa Lopez-Solis, Executive Office

SUBJECT: Request for Comments – Cal 98 Holdings – CUP 23-0033/APN 058-180-001

The County of Imperial Executive Office is responding to a Request for Comments DACSA Trucking LLC Project. The Executive Office would like to inform the developer of conditions and responsibilities should the applicant seek a Conditional Use Permit (CUP). The conditions commence prior to the approval of an initial grading permit and subsequently continue throughout the permitting process. This includes, but not limited to:

- Sales Tax Condition. The permittee is required to have a Construction Site Permit reflecting the project site address, allowing all eligible sales tax payments are allocated to the County of Imperial, Jurisdictional Code 13998. The permittee will provide the County of Imperial a copy of the CDTFA account number and sub-permit for its contractor and subcontractors (if any) related to the jobsite. Permittee shall provide in written verification to the County Executive Office that the necessary sales and use tax permits have been obtained, prior to the issuance of any grading permits.
- Construction/Material Budget: The permittee will provide the County Executive Office a construction materials budget: an official construction materials budget or detailed budget outlining the construction and materials cost for the processing facility on permittee letterhead.

Should there be any concerns and/or questions, do not hesitate to contact me.

November 1, 2023

Mr. Derek Newland
Planner II
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

RECEIVED
By Imperial County Planning & Development Services at 11:34 am, Nov 01, 2023

SUBJECT: Change of Zone for a Trucking Facility Project (ZC23-0007, CUP23-0027/IS23-0033)

Dear Mr. Newland:

On October 20, 2023, the Imperial Irrigation District received from the Imperial County Planning & Development Services Department, a request for agency comments on a zone change application for Cal98 Holdings trucking facility project (Zone Change No. 23-0007, Conditional Use Permit No. 23-0027, Initial Study No. 23-0033). The applicant proposes a change of zone to allow for a trucking facility that includes 91,881 sq. ft. of warehousing; 16,460 sq. ft. of service space; 11, 904 sq. ft. of office space and parking spaces for 832 trailers, 20 trucks and 42 cars. The project site is located at 15 E Hwy. 98 in Calexico, CA (APN 058-180-001).

The IID has reviewed the project information and found that the comments provided in the November 18, 2022 district letter (see attached) continue to apply.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Jamie Asbury – General Manager
Mike Pacheco – Manager, Water Dept.
Matthew H Smelser – Manager, Energy Dept.
Geoffrey Holbrook – General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

November 18, 2022

Mr. Derek Newland
Planner II
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: Cal 98 Holdings Tricking Facility; ZC22-0005, CUP22-0024, IS22-0043

Dear Mr. Newland:

On November 15, 2022, the Imperial Irrigation District received from the Imperial County Planning & Development Services Dept., a request for agency comments on Zone Change No. 22-0005, Conditional Use Permit No. 22-0024, Initial Study No. 22-0043. The applicant, Cal 98 Holdings, proposes a change of zone to establish a trucking facility that includes a 91,881 sq. ft. warehouse, a 16,460 sq. ft. service area, 11,904 sq. ft. of office space and a 832-trailer parking area. The property, currently used for agriculture, is located at 15 West Hwy. 98, Calexico, CA (APN 058-180-001).

The IID has reviewed the application and has the following comments:

1. IID water facilities that may be impacted include Birch Lateral 3 Delivery 35A.

2. To insure there are no impacts to IID water facilities, the project's Imperial County-approved grading/drainage and fencing plans along with a copy of the project's Storm Water Pollution Prevention Plan, are to be submitted to IID Water Department Engineering Services Section for review prior to final project design. IID WDES Section can be contacted at (760) 339-9265 for additional information.

3. In order to obtain a water supply from IID for a non-agricultural project, the Project proponent will be required to comply with all applicable IID policies and regulations and may be required to enter into a water supply agreement. Such policies and regulations require, among other things, that all potential environmental and water supply impacts of the Project, including potential impacts to the Salton Sea as a result of reduced drainage flow, be adequately assessed, appropriate mitigation developed if warranted, including any necessary approval conditions adopted by the relevant land use and permitting agencies.

4. IID has implemented a water supply apportionment program pursuant to IID's revised Equitable Distribution Plan, which the Project is subject to including any amending or superseding policy for the same or similar purposes, during all or any part of the term of said water supply agreement, IID shall have the right to apportion the Project's water as an industrial water user. More information on how to obtain a water supply agreement, is available at https://www.iid.com/water/municipal-industrial-and-commercial-customers or contact Justina Gamboa-Arce, water resources planner, at (760) 339-9085 or jgamboaarce@iid.com.

5. To receive water from IID's raw water system the applicant must have water delivered by a State-approved water provider as required by the State of California Safe Drinking Water Act. The proposed project must be in compliance in order to receive IID canal water.

6. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions for its completion are available at the website https://www.iid.com/about-iid/department-directory/real-estate. The district Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment.

7. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.

8. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, water deliveries, canals, drains, etc.) need to be included as part of the project's California Environmental Quality Act and/or National Environmental Policy Act documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully analyzed. Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Jamie Asbury – Manager, Energy Dept.
Constance Bergmark – Deputy Mgr. Energy Dept.
Geoffrey Holbrook – General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

IMPERIAL COUNTY CALIFORNIA

COUNTY OF IMPERIAL

DEPARTMENT OF PUBLIC WORKS

155 S. 11th Street
El Centro, CA
92243

Tel: (442) 265-1818
Fax: (442) 265-1858

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ICDPW

Public Works works for the Public

November 6, 2023

Imperial County Planning & Development Services
Mr. Jim Minnick, Director
801 Main Street
El Centro, CA 92243

Attention: Derek Newland, Planner II

SUBJECT: CUP 23-0027 Cal 98 Holdings
Located at 15 E highway 98, Calexico, CA 92231
APN 058-180-001

Dear Mr. Minnick:

This letter is in response to your submittal received by this Department on October 20, 2023 for the above-mentioned project. The applicant is proposing a change of zone from A-2-U to M-1-U for a trucking facility that consists of a warehouse building and trailer, truck and car parking.

Department staff has reviewed the package information and the following comments shall be Conditions of Approval:

1. Developer shall furnish a Drainage and Grading Plan to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to off-site properties. Said plan shall be completed per the Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage, and Grading Plans within Imperial County. The Drainage and Grading Plan shall be submitted to this department for review and approval. The developer shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included.
2. Per Section 12.10.020 - Street Improvement Requirements of Imperial County Ordinance: Street improvements shall be provided on Kemp Rd along the frontage of the project.
3. An encroachment permit shall be secured from this department for any construction and/or construction related activities within County Right-of-Way. Activities to be covered under an encroachment permit shall include the installation of, but not be limited to, stabilized construction entrances, driveways, road improvements, temporary traffic control devices, etc.
4. Prior to the issuance grading and building permits, a stabilized construction entrance shall be installed under an encroachment permit from this department.
5. The Developer shall be repair any damage caused to County Roads during construction and maintain such roads in safe conditions as determined by the Imperial County Road Commissioner. Said road repairs shall be completed under an encroachment permit from this department.
6. Developer shall furnish a Traffic Study per the County of Imperial Department of Public Works Traffic Study and Report Policy. The Traffic Study shall analyze project impacts

to County roads, including but not limited to, level of service, intersection delays, traffic delays at site access point (need for turn lanes), etc. The Traffic Study shall be submitted to this department review and approval. The Traffic Study shall include existing traffic counts (obtained within a year of the preparation of the study) along roads between origin and destination routes. Any mitigation measures identified on the Traffic Study shall be approved by this department and become part of these Conditions of Approval.

7. Developer will be responsible for any impact mitigation measures identified on the Traffic Study, including but not limited to, road improvements, intersection improvements, right/left turn lanes for site access, fair share costs, etc.

INFORMATIVE:

The following items are for informational purposes only. The Applicant is responsible to determine if the enclosed items affect the subject project.

- The following items are for informational purposes only. The Developer is responsible to determine if the enclosed items affect the subject project.
- All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).
- The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior county approval of onsite grading plan (40 CFR 122.28).
- A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and large vehicles which impose greater than legal loads and/or dimensions on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).
- As this project proceeds through the planning and the approval process, additional comments and/or requirements may apply as more information is received.

Should you have any questions, please do not hesitate to contact this office. Thank you for the opportunity to review and comment on this project.

Respectfully,

David Dale, P.E., P.L.S.
Assistant Director of Public Works
County Surveyor

ADMINISTRATION / TRAINING
1078 Dogwood Road
Heber, CA 92249

Administration
Phone: (442) 265-6000
Fax: (760) 482-2427

Training
Phone: (442) 265-6011

OPERATIONS/PREVENTION
2514 La Brucherie Road
Imperial, CA 92251

Operations
Phone: (442) 265-3000
Fax: (760) 355-1482

Prevention
Phone: (442) 265-3020

RECEIVED
By Imperial County Plannning & Development Services at 4:25 pm, Nov 07, 2023

November 6, 2023

RE: Cal 98 Holdings, Zone Change #23-0007, Conditional Use Permit #23-0027, Initial Study #23-0033

Address: 15 E Hwy 98, Calexico, CA 92231, APN: 058-180-001

The Imperial County Fire Department would like to thank you for the opportunity to review and comment on the, Zone Change #22-0007, Conditional Use Permit #23-0027, and Initial Study #23-0033, for Cal 98 Holdings located at 15 E. Hwy 98 in Calexico CA 92231.

Imperial County Fire Department has the following comments and/or requirements.

- An approved water supply capable of supplying the required fire flow determined by appendix B in the California Fire Code and Imperial County Fire Department shall be installed and maintained. Private fire service mains and appurtenance shall be installed in accordance with NFPA 24.
- Fire Department access roads shall be installed and maintained in accordance with the California Fire Code. Roadways within the project will be provided with all-weather surface and capable of supporting impose loads of fire apparatus. Secondary access will be required for the project. Roadway width will be determined upon further review of the site plan. Knox box (locks) will be required for the project. All locks and gates shall be installed in accordance with the California Fire Code.
- Automatic fire sprinklers requirements will be determined by Imperial County Fire Department officials and the California Fire Code
- Automatic fire detection and notification systems requirements will be determined by Imperial County Fire Department officials and the California Fire Code.
- Storage shall be in accordance with Chapter 32 of the California Fire Code for high-pile combustible storage.
- Hazardous Materials shall be in accordance with Chapter 50 of the California Fire Code and other applicable code sections.
- Compliance with all required sections of the fire code.

The zone change will require an approved pressurized water supply capable of meeting required fire flows to be installed and maintained in accordance with the California Fire Code. M-1 zone is used for light industrial and will require greater water demand due to the potential hazards and fire loads associated with industrial operations.

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Fax: (760) 355-1482

Prevention
Phone: (442) 265-3020

Imperial County Fire Department shall review the project for impacts that may create a negative effect on Imperial County Fire Department and/or the County of Imperial in concerns with life safety, property conservation, and/or environmental concerns. These items shall be addressed between Imperial County Fire Department Official, County of Imperial Officials and project applicant/developers.

Imperial County Fire Department reserves the right to comment and request additional requirements pertaining to this project regarding fire and life safety measures, California Building and Fire Code, and National Fire Protection Association standards at a later time as we see necessary.

If you have any questions, please contact the Imperial County Fire Prevention Bureau at 442-265-3020 or 442-265-3021.

Sincerely
Andrew Loper
Lieutenant/Fire Prevention Specialist
Imperial County Fire Department
Fire Prevention Bureau

David Lantzer
Fire Chief
Imperial County Fire Department

Robert Malek
Deputy Chief/Deputy Fire Marshal
Imperial County Fire Department
Fire Prevention Bureau

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

November 17, 2023

11-IMP-98
PM 30.9
Charger Logistics Cal 98 Holdings (Zone Change #23-0007)
Traffic Study August 2023

Mr. Derek Newland
Imperial County
Planning and Development Services
801 Main Street
El Centro, CA 92243

Dear Mr. Newland:

Thank you for including the California Department of Transportation (Caltrans) in the review process for the proposed Charger Logistics Cal 98 Holdings project located near State Route 98 (SR-98). The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans has the following comments:

Traffic Analysis
According to the August 2023 Traffic Study, all truck access to the proposed development will be through a newly constructed southward extension of Dogwood Road, and all employees traffic will be able to use the improved driveways at Kemp Road and Dogwood Road.

Please provide a construction cost estimate for the work within Caltrans R/W.

The revised transportation impact analysis (TIA) dated August 29, 2023, needs to be updated to reflect the correct posted speed limit on SR-98 along the immediate segment of the development property.

The TIA Section 3.1 states, "The speed limit is posted at 55 mph approximately 1,110 feet east of Kemp Road on the north side of the roadway (for westbound traffic). The speed limit is posted at 40 mph approximately 1,800 feet east of Kemp Road on the south side of the roadway (for eastbound traffic)." This is incorrect.

The 40 mph posted speed ends on the east side of the All-American Canal, approximately 2,000 feet east from Kemp Road intersection. This segment of SR-98 is 65 mph per the latest posted signage.

Please consider the following correction: "The speed limit is posted at 65 mph approximately 870 feet east of Kemp Road on the north side of the roadway (for westbound traffic). The speed limit is posted at 40 mph approximately 2,100 feet east of Kemp Road on the south side of the roadway (for eastbound traffic)."

Section 4.2 of the TIA needs to include an existing + project traffic scenario. The document is also missing a horizon year analysis. Please clarify.

Please include a table like the one used in Section 8, Table 8-1, to compare existing operations to existing + project operations.

Section 7.3 "Trip Assignment," states that truck traffic will be prohibited from entering the proposed development site via Dogwood Road extension through westbound SR-98. All incoming truck traffic from Mexico will be forced to use Cole Boulevard and Dogwood Road to access the proposed driveway at Dogwood Road.

Mr. Derek Newland
November 17, 2023
Page 3

Please clarify if the outbound trucks leaving the site, will be using eastbound SR-98.

If the project intends to prohibit heavy-truck/ semi-truck access from SR-98, coordination with Caltrans' Signage/Striping Branch, Traffic Safety Operations, and Traffic Analysis will be required to evaluate such modification, which would include a need for a revised traffic study.

The TIA Section 9.0 "Site Access," states that all truck access to the proposed development will be through a newly constructed southward extension of Dogwood Road, and all employees traffic will be able to use the proposed driveways at Kemp Road and Dogwood Road.

- The proposed Intersection Improvements at SR-98 and Dogwood Road intersection, along with change in lane configurations on SR-98 to add left-turn pockets, will require an Intersection Control Evaluation Analysis per Caltrans Traffic Operations Policy Directive (TOPD) 13-02.
- The proposed SR-98 westbound left-turn pocket at Kemp Road (speed posted at 55 mph)," will also require widening of SR-98 and an Intersection Control Evaluation Analysis per Caltrans (TOPD) 13-02. In addition, please change current speed to 65 mph as stated previously.

Section 9.0 and 3.1 of the traffic study, states that a Class I Multi-use Path is being proposed along SR-98 from Dogwood Road to Eady Avenue. Please coordinate with Caltrans Active Transportation Branch, the City and the County of Imperial as this proposed development may impact the Class 1 Multi Use- Path.

The proposed improvements at Kemp Road and SR-98 Intersection, and Dogwood Road/ SR-98, will require an ICE report. This document will need to evaluate the appropriate intersection control and lane configuration.

- Please refer to the latest Caltrans Highway Design Manual (HDM) Chapter 400 for appropriate design standards for Intersections at grade.

- Please clarify if the existing dirt road portion of Dogwood Road south of SR-98 will be paved. Caltrans recommends that this dirt road section be paved to minimize or eliminate tracking onto SR-98.
- All proposed left and right turn pockets will require a queue analysis to confirm a 95th percentile storage queue.

Please see attached documents with red lines for reference and details.
- *Cal98Logistics_Revised_TIA_Traffic_Study20230829*
- *TEA_Review_ZC_23-0007_IS_23-0033_Request_for_Comments*

Hydrology and Drainage Studies
Caltrans generally does not allow development projects to impact hydraulics within the State's Right-of-Way (R/W). Any modification to the existing Caltrans drainage and/or increase in runoff to State facilities will not be allowed.

Please provide a drainage study to evaluate impacts to state facilities as they relate to the proposed roadway improvements at SR-98.

Complete Streets and Mobility Network
Caltrans views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation network. Caltrans supports improved transit accommodation through the provision of Park and Ride facilities, improved bicycle and pedestrian access and safety improvements, signal prioritization for transit, bus on shoulders, ramp improvements, or other enhancements that promotes a complete and integrated transportation network.

The City of Calexico has a Class I Bike Path planned along Birch Street/ SR-98 in the project area. Please refer to the 2018 Calexico Bicycle Master Plan Update.

Please continue to coordinate with Caltrans and the City of Calexico for locations that may affect both Caltrans, Calexico and Imperial County.

Right-of-Way
Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.

Any work performed within Caltrans' ROW will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' ROW prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits, Specifically, CEQA determination or exemption.

If you have any questions or concerns, please contact Roger Sanchez, LDR Coordinator, at (619) 987-1043 or by e-mail sent to roger.sanchez-rangel@dot.ca.gov.

Sincerely,

Rogelio Sanchez

Rogelio Sanchez
Acting Branch Chief
Local Development Review

Enclosures: Cal98Logistics_Revised_TIA_Traffic_Study20230829
TEA_Review_ZC_23-0007_IS_23-0033_Request_for_Comments

APPLICATION

CHANGE OF ZONE

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (442) 265-1736

- APPLICANT MUST COMPLETE ALL NUMBERED (black & blue) SPACES – Please type or print -

1. PROPERTY OWNER'S NAME Cal 98 Holdings		EMAIL ADDRESS Lovepreet.Kaur@chargerlogistics.com	
2. MAILING ADDRESS (Street / P O Box, City, State) 8861 Houghton Road, Bakersfield, CA		ZIP CODE 93331	PHONE NUMBER 647-614-8643
3. ENGINEER'S NAME Mauricio Lam	CA. LICENSE NO. 55432	EMAIL ADDRESS mauriciolam@lcec-inc.com	
4. MAILING ADDRESS (Street / P O Box, City, State) 1065 State Street, El Centro, CA		ZIP CODE 92243	PHONE NUMBER 760-353-8110

5. ASSESSOR'S PARCEL NO. 058-180-001-000	ZONING (existing) A2	ZONING (proposed) M-1
6. PROPERTY (site) ADDRESS Highway 98, Calexico, CA		SIZE OF PROPERTY (in acres or square foot) 44.6 +/- acres

7. GENERAL LOCATION (i.e. city, town, cross street)
Southeast intersection of Dogwood Road and State Highway 98, Calexico, CA

8. LEGAL DESCRIPTION Portion of the west half of the northwest quarter of section 15, township 17 south, range 14 east, S.B.M. in an incorporated area of the county of Imperial, CA.

8. DESCRIBE CURRENT USE ON / OF PROPERTY (list and describe in detail)
This project proposes 91,881 square feet of warehousing, 16,460 SF of service space, and 11,904 SF of office space. Additionally, proposes to provide 832 trailer parking spaces, 20 trucks parking spaces, and 42 car parking spaces.

9. PLEASE STATE REASON FOR PROPOSED USE (be specific)
Warehouse facility for logistics and trucks that will bring those in termporarily stored nd re dsitributed

10. DESCRIBE SURROUNDING PROPERTY USES
Area surrounded by agricultural parcels.

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

Annette Lem — Print Name

8.30.23 — Date

Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. PRELIMINARY TITLE REPORT (6 months or newer)
C. FEE ______
D. OTHER ______

APPLICATION RECEIVED BY:	______	DATE ______	REVIEW / APPROVAL BY OTHER DEPT'S required.
APPLICATION DEEMED COMPLETE BY:	______	DATE ______	☐ P. W.
APPLICATION REJECTED BY:	______	DATE ______	☐ E. H. S.
TENTATIVE HEARING BY:	______	DATE ______	☐ A. P. C. D.
FINAL ACTION:	☐ APPROVED ☐ DENIED	DATE ______	☐ O. E. S.
			☐ ______
			☐ ______

ZC # ______

CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (760) 482-4236

- APPLICANT MUST COMPLETE ALL NUMBERED (black) SPACES – Please type or print -

1. PROPERTY OWNER'S NAME Cal 98 Holdings		EMAIL ADDRESS Lovepreet.Kaur@chargerlogistics.com	
2. MAILING ADDRESS (Street / P O Box, City, State) 8861 Houghton Road, Bakersfield, CA		ZIP CODE 93331	PHONE NUMBER 647-614-8643
3. APPLICANT'S NAME Dubose Design Group		EMAIL ADDRESS tom@dubosedesigngroup.com	
4. MAILING ADDRESS (Street / P O Box, City, State) 1065 State Street, El Centro, CA		ZIP CODE 92243	PHONE NUMBER 760-353-8110
4. ENGINEER'S NAME Mauricio Lam	CA. LICENSE NO. 55432	EMAIL ADDRESS mauriciolam@lcec-inc.com	
5. MAILING ADDRESS (Street / P O Box, City, State) 1065 State Street, El Centro, CA		ZIP CODE 92243	PHONE NUMBER 760-353-8110

6. ASSESSOR'S PARCEL NO. 058-180-001-000	SIZE OF PROPERTY (in acres or square foot) 44.6 +/- acres	ZONING (existing) A2
7. PROPERTY (site) ADDRESS Highway 98, Calexico, CA		
8. GENERAL LOCATION (i.e. city, town, cross street) Southeast intersection of Dogwood Road and State Highway 98, Calexico, CA		
9. LEGAL DESCRIPTION Portion of the west half of the northwest quarter of section 15, township 17 south, range 14 east, S.B.M. in an incorporated area of the county of Imperial, CA.		

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10. DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail) This project proposes 91,881 square feet of warehousing 16,460 SF of service space, and 11,904 SF of office space. Additionally, proposes to provide 832 trailer parking spaces, 20 trucks parking spaces, and 42 car parking spaces.

11. DESCRIBE CURRENT USE OF PROPERTY Agriculture (A2) - Alfalfa

12. DESCRIBE PROPOSED SEWER SYSTEM Onsite septic system or county approved package plant

13. DESCRIBE PROPOSED WATER SYSTEM Canal Birch Lateral 3 with Gate BR3_35A with ICEHS Approved Water Treatment System

14. DESCRIBE PROPOSED FIRE PROTECTION SYSTEM Onsite water storage per ICFD Standards

15. IS PROPOSED USE A BUSINESS? ☒ Yes ☐ No — IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE? 50 approx

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

Annette Leon — 8/30/2023
Print Name — Date

[signature] — 8/30/2023
Signature — Date

Print Name — Date

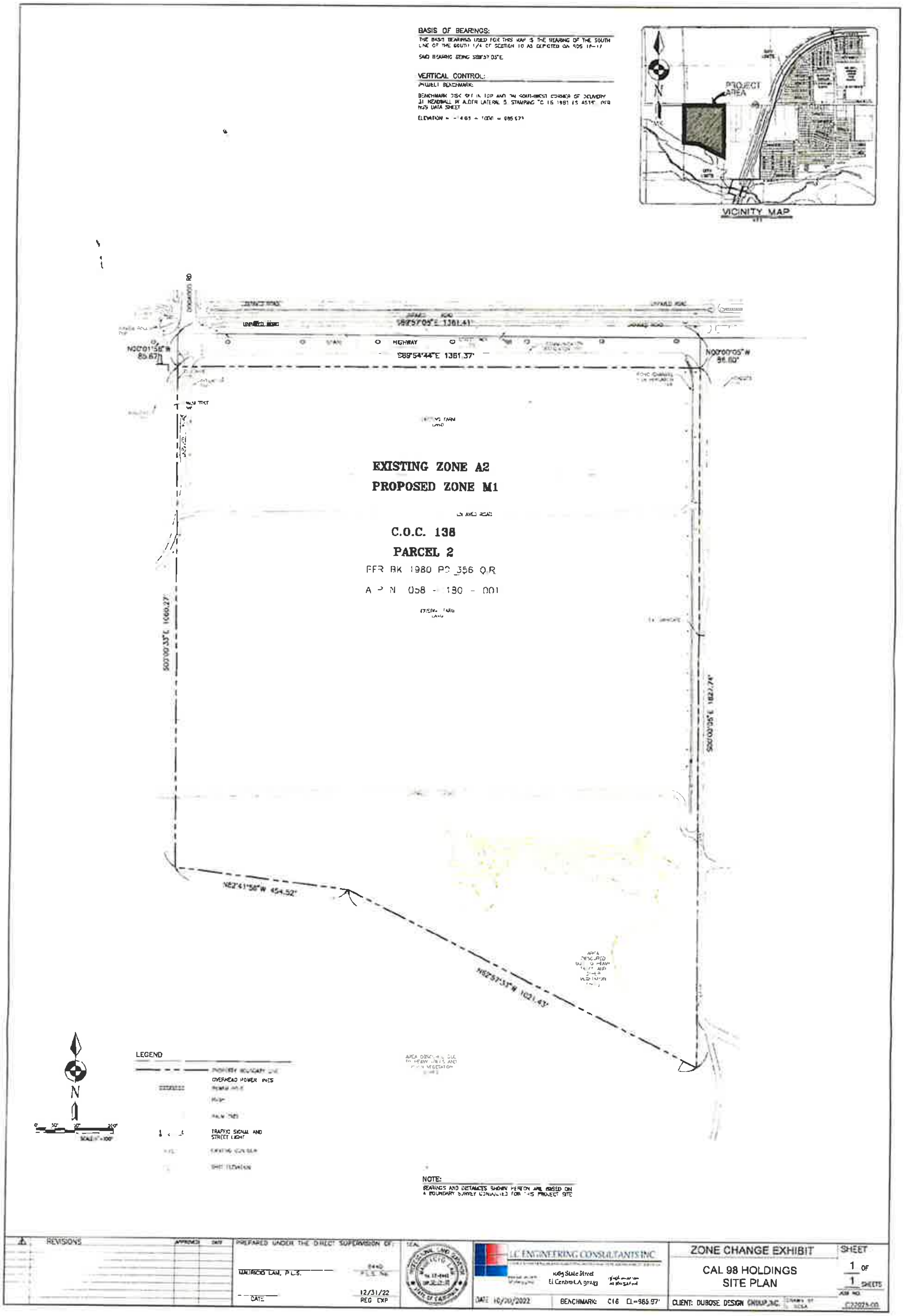
Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE ____
C. OTHER ____
D. OTHER ____

APPLICATION RECEIVED BY:	____	DATE ____	REVIEW / APPROVAL BY OTHER DEPT'S required.	
APPLICATION DEEMED COMPLETE BY:	____	DATE ____	☐ P. W.	
APPLICATION REJECTED BY:	____	DATE ____	☐ E. H. S.	
TENTATIVE HEARING BY:	____	DATE ____	☐ A. P. C. D.	
FINAL ACTION: ☐ APPROVED ☐ DENIED		DATE ____	☐ O. E. S.	

CUP # ____



BASIS OF BEARINGS:
VERTICAL CONTROL:
PROJECT AREA
VICINITY MAP
HIGHWAY
S89°57'05"E 1361.41'
S89°54'44"E 1361.37'
N00°01'58"W 85.67'
N00°00'05"W 86.60'
EXISTING ZONE A2
PROPOSED ZONE M1
C.O.C. 138
PARCEL 2
PER BK 1980 PG 356 O.R.
A.P.N. 058 - 130 - 001
S00°00'33"E 1060.27'
S00°00'05"E 1827.74'
N82°41'58"W 454.52'
N62°57'33"W 1021.43'
N
LEGEND
OVERHEAD POWER LINES
TRAFFIC SIGNAL AND STREET LIGHT
NOTE:
BEARINGS AND DISTANCES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY CONDUCTED FOR THIS PROJECT SITE
REVISIONS
PREPARED UNDER THE DIRECT SUPERVISION OF:
MAURICIO LAM, P.L.S.
DATE
12/31/22
REG. EXP.
LC ENGINEERING CONSULTANTS INC
El Centro CA
DATE 10/20/2022
BENCHMARK: C16 EL=985.97'
ZONE CHANGE EXHIBIT
CAL 98 HOLDINGS
SITE PLAN
CLIENT: DUBOSE DESIGN GROUP, INC.
SHEET
1 OF
1 SHEETS

Cal 98 Charger Logistics

Project Description

Prepared for: County of Imperial

By Dubose Design Group – September 2023

Cal 98 Charger Logistics Project Description

DuBose Design Group, Inc., the applicant, proposes to build a project that includes 91,881 square feet (SF) of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. The current use of the property is Agricultural (A2) (Alfalfa) with 44.6 +/- acres, APN 058-180-001-000 and is located on the southwest corner of the SR-98 and Kemp Road intersection in the County of Imperial. Access to the site will be provided via two driveways. One drive way will be located on the southern extension of Dogwood Road approximately 1000 feet south of the new four way intersection of Highway 98 and Dogwood Road, and one driveway will be located on the east side of the project site at Kemp Road. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County.

It will begin construction in the first quarter of 2024 and end in the fourth quarter of 2024. The total construction duration will be almost nine months. The construction phases include Site Preparation, Grading, Building Construction, Paving and Architectural Coating.

Air Quality and Greenhouse Gas Emissions Study

The County of Imperial has determined that an air quality and greenhouse gas (GHG) emission study is needed as part of California Environmental Quality Act (CEQA) documentation for an Initial Study/Mitigated Negative Declaration. This air quality analysis was conducted within the context of CEQA (California Public Resources Code §§ 21000 et seq.). The methodology follows the CEQA Air Quality Handbook1 prepared by the Imperial County Air Pollution Control District (ICAPCD) for quantification of emissions and evaluation of potential impacts on air resources.

A health risk assessment is also completed and is included in the application package.

Noise Study

Because the site is in a "noise impact zone" as defined by the Noise Element of the Imperial County General Plan, the County requires that an acoustical analysis be performed.

The report satisfies the acoustical analysis requirement. It includes a discussion of the fundamentals of sound; an examination of federal, state, and local noise guidelines and policies; a review of existing conditions; an evaluation of potential noise impacts associated with the project; and the mitigation for all identified significant or potentially significant impacts.

Transportation Impact Analysis

Existing Street Network Following is a brief description of the street segments within the project area. **Route 98 (SR-98/Birch Street)** is classified as a Highway/Secondary Roadway. SR-98 is an east-west highway running through Calexico, parallel to the international border. It is generally constructed as a two-lane undivided roadway outside the Calexico city limit. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Cesar Chavez Boulevard and between East Rivera and SR-7. Between Cesar Chavez Boulevard and East Riviera, SR-98 is built as a four-lane divided roadway with intermittent turn lanes. Sidewalks are only provided between W. Williams Avenue and Imperial Avenue. Class II bike lanes are only provided on both sides of the roadway between W. Williams Avenue and Cesar Chavez Boulevard. Curbside parking is not provided. The posted speed limit is 40 mph west of SR-111 and 30-65 mph east of SR-111.

State Route 111 (SR-111/Imperial Avenue) is classified as an Expressway/Highway/Primary Arterial in the City of Calexico General Plan Circulation Element. SR-111 is a north-south highway connecting the three largest cities in Imperial County and runs from I-10 in Riverside County to the international border. SR-111 is classified as a 6-lane expressway north of Cole Boulevard, a 4-lane highway south of Cole Boulevard, and a primary arterial south of SR-98. SR-111 is currently constructed as a 4-lane divided roadway north of SR-98 and a 4-lane undivided roadway with a twoway left turn lane south of SR-98. Contiguous sidewalks are provided on both sides of the roadway south of SR-98. Curbside parking and bike lanes are not provided. The posted speed limit is 65 mph north of SR-98 and 35 mph south of SR-98.

State Route 7 (SR-7) is classified as a State Highway/Expressway in the Imperial County General Plan Circulation Element. SR-7 is a north-south highway, beginning at the international border and ending at I-8. It is currently constructed as a four-lane divided roadway and the speed limit is 65 mph within the project vicinity.

W. Cole Boulevard is classified as a Primary/Major Arterial in the City of Calexico General Plan Circulation Element. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Town center Way and between Bowker Road and SR-98. Between Town center Way and SR-111, and between Rockwood Avenue and Bowker Road, W. Cole Boulevard is built as a fourlane undivided roadway. It is also currently built as a six-lane divided roadway between SR-111 and Rockwood Avenue. Curbside parking and bike lanes are not provided. Sidewalks are provided intermittently on both sides of the roadway between Town center Way and Bowker Road. The posted speed limit is 35 mph.

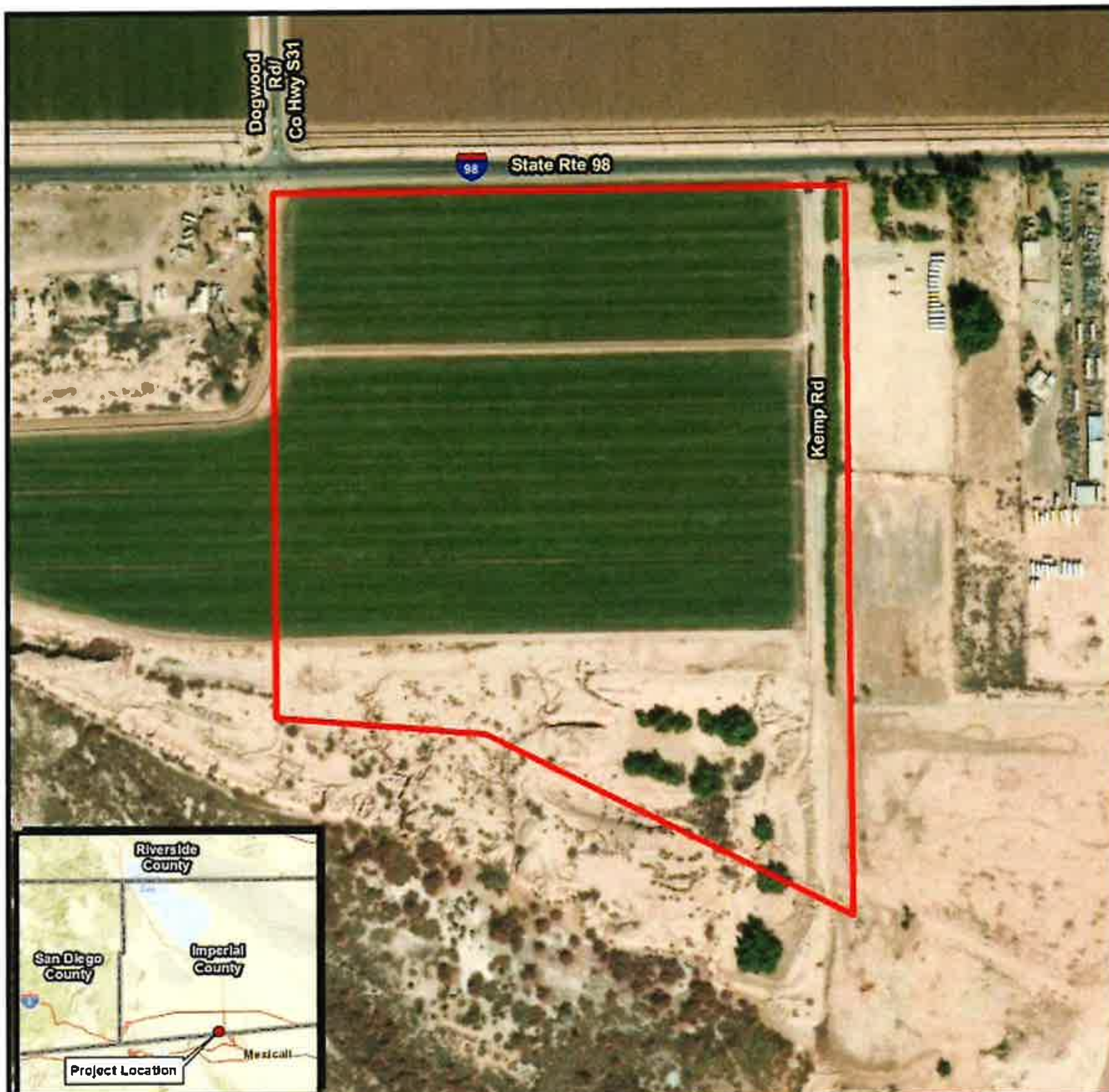
Dogwood Road (SR-31) is classified as a Primary Arterial in the City of Calexico General Plan Circulation Element. It is currently constructed as a two-lane undivided roadway within the project vicinity. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit within the project vicinity.

Kemp Road is an unclassified roadway. It is currently constructed as a two-lane undivided unpaved roadway. Kemp Road borders the east side of the project site. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit.

REGIONAL LOCATION MAP

Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

PROJECT LOCATION MAP



Disclaimer Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.


PARKING COUNT:
TRAILER PARKING: 832 SPACES
TRUCK PARKING: 20 SPACES
CAR PARKING: 42 SPACES
2 ADA SPACES
DOGWOOD RD
HWY 98
HWY 98
DOGWOOD RD
KEY PLAN
KEMP ROAD
PROPERTY LINE
PROPERTY LINE
UNDEVELOPED
1 SITE PLAN
SCALE: 1" = 80'-0"
PEARL CONTRACTING
SITE PLAN
A1.1

STUDIES

LINSCOTT
LAW &
GREENSPAN
engineers

TRANSPORTATION IMPACT ANALYSIS

CHARGER LOGISTICS CAL-98 HOLDINGS PROJECT

County of Imperial, California
January 2024

LLG Ref. 3-22-3596

Prepared by:
Zahira Chayeb
Transportation Engineer II

Under the Supervision of:
John A. Boarman, P.E.
Principal

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

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APPENDIX

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H. Historical Traffic comparison
I. Peak Hour Intersection Analysis Worksheets – Horizon Year 2050
J. Peak Hour Intersection Analysis Worksheets – Horizon Year 2050 with Project
K. Governor's Office of Planning and Research (OPR) guidelines from the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018 excerpt

L. *Caltrans Transportation Analysis Framework,* 1st Edition (September 2020) excerpt

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TRANSPORTATION IMPACT ANALYSIS

CHARGER LOGISTICS CAL-98 HOLDINGS PROJECT

County of Imperial, California
January 2024

1.0 INTRODUCTION

The following traffic impact analysis has been prepared to determine the potential impacts to the local circulation system due to the construction of the proposed Charger Logistics Cal-98 Holdings project in the County of Imperial, California. This report includes the following sections:

- Project Description
- Existing Conditions
- Analysis Approach and Methodology
- Substantial Effect Criteria
- Analysis of Existing Conditions
- Trip Generation / Distribution / Assignment
- Existing + Project Analysis
- Near-Term (Existing + Cumulative) Analysis
- Horizon Year 2050 Analysis
- Site Access Discussion
- Vehicle Miles Travelled (VMT) Discussion
- Conclusions and Recommendations

An Intersection Control Evaluation (ICE) will be prepared under a separate cover, per Caltrans standards, addressing the appropriate Caltrans controlled intersections.

2.0 PROJECT DESCRIPTION

The project is located on the southwest corner of the SR-98 and Kemp Road intersection in the County of Imperial.

The project proposes 91,881 square feet (SF) of warehousing, 16,460 SF of service space, and 11,904 SF of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

Access to the site will be provided via two driveways. One driveway will be located on the west side of the project site south of SR-98 via the southward extension of Dogwood Road, and one driveway will be located on the east side of the project site at Kemp Road.

The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to/from Mexico, San Diego, and Imperial County.

Figure 2–1 depicts the project vicinity with ***Figure 2–2*** depicts a more details project area map and ***Figure 2–3*** shows the project's site plan.

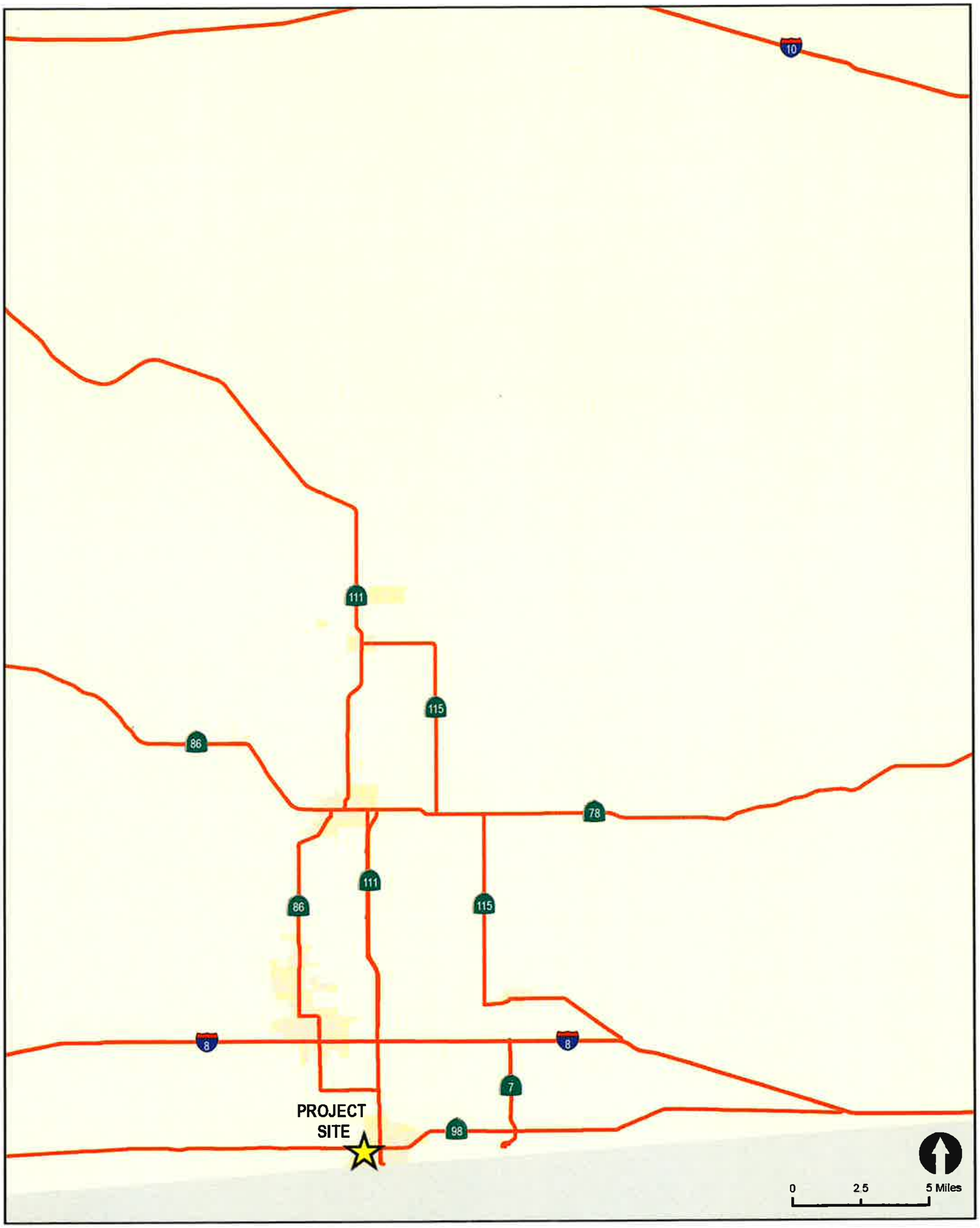

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Figure 2-1

Project Vicinity Map

Charger Logistics Project

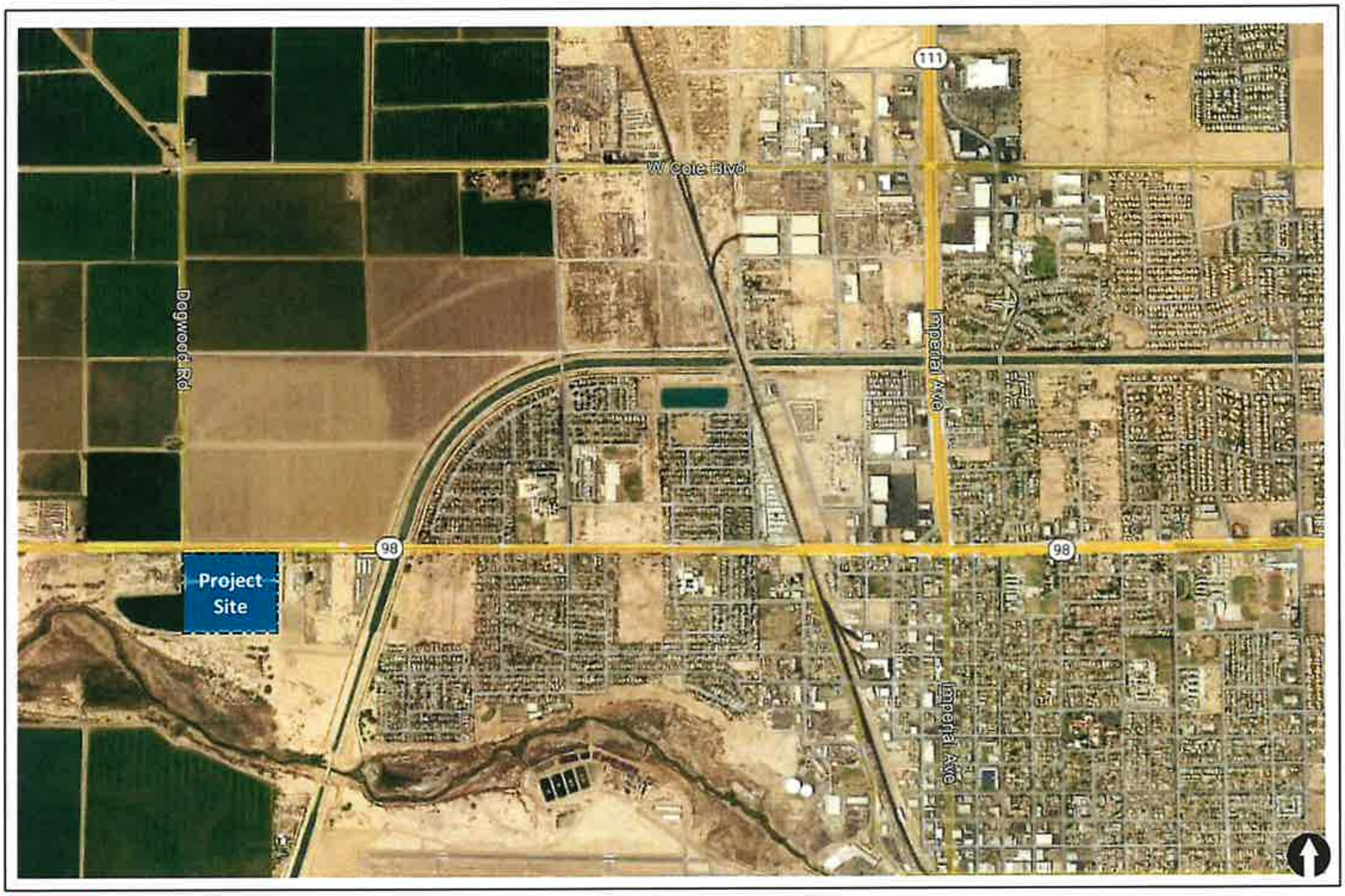

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Figure 2-2

Project Area Map

CHARGER LOGISTICS PROJECT

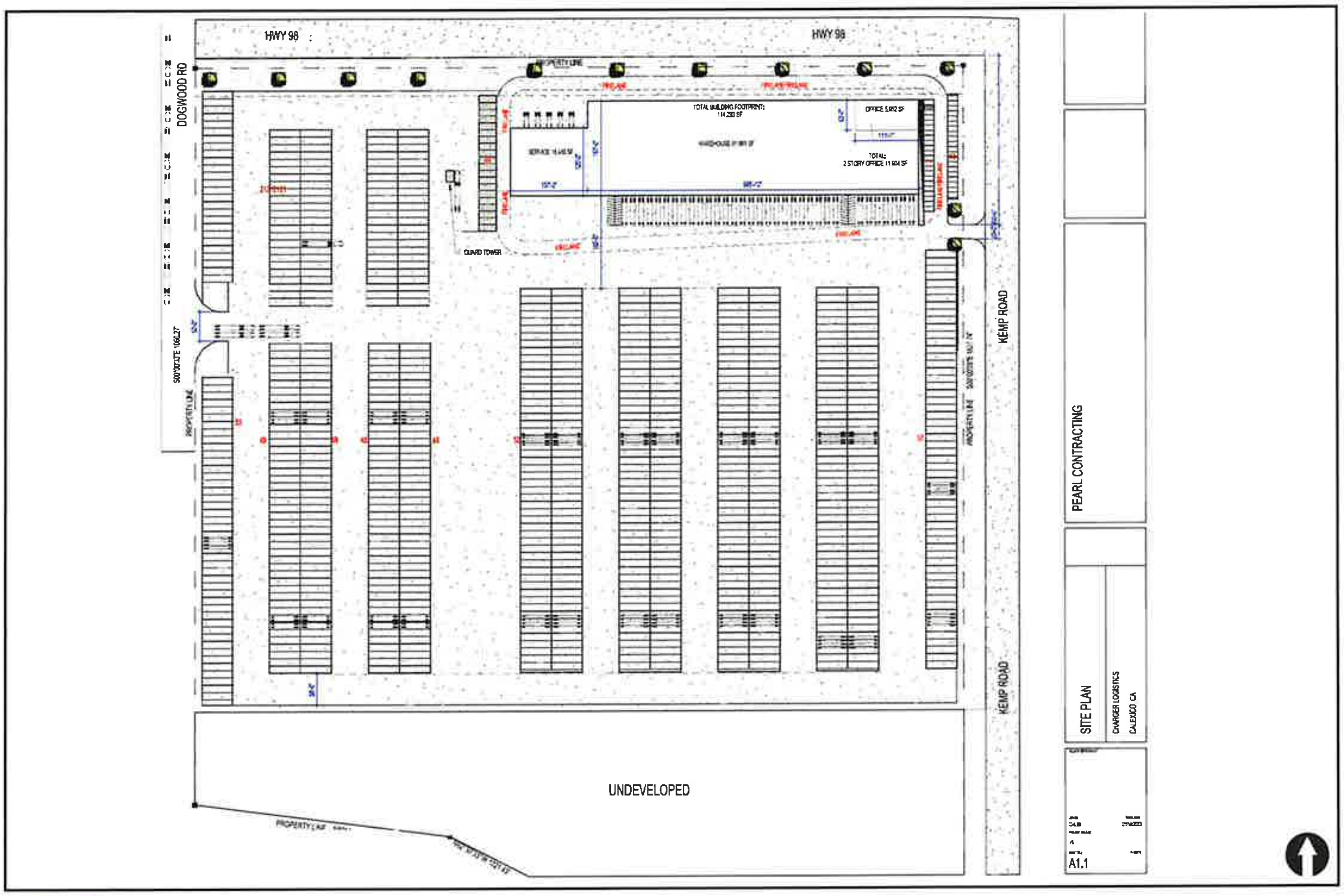

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Figure 2-3
Site Plan

CHARGER LOGISTICS PROJECT

3.0 EXISTING CONDITIONS

3.1 Existing Street Network

Following is a brief description of the street segments within the project area. ***Figure 3–1*** illustrates the existing conditions, including the lane geometry, for the key intersections in the study area.

State Route 98 (SR-98/Birch Street) is classified as a Highway/Secondary Roadway. SR-98 is an east-west highway running through Calexico, parallel to the international border. It is generally constructed as a two-lane undivided roadway outside the Calexico city limit. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Cesar Chavez Boulevard and between East Rivera and SR-7. Between Cesar Chavez Boulevard and East Riviera, SR-98 is built as a four-lane divided roadway with intermittent turn lanes. Sidewalks are only provided between W. Williams Avenue and Imperial Avenue. Class II bike lanes are only provided on both sides of the roadway between W. Williams Avenue and Cesar Chavez Boulevard. Curbside parking is not provided. The speed limit is posted at 65 mph approximately 860 feet east of Kemp Road on the north side of the roadway (for westbound traffic). The speed limit is posted at 40 mph approximately 2,100 feet east of Kemp Road on the south side of the roadway (for eastbound traffic).

Per the *Imperial County Regional Active Transportation Plan*, a Class I Multi-Use Path is proposed along SR-98 from Dogwood Road to Eady Avenue.

State Route 111 (SR-111/Imperial Avenue) is classified as an Expressway/Highway/Primary Arterial in the *City of Calexico General Plan Circulation Element*. SR-111 is a north-south highway connecting the three largest cities in Imperial County and runs from I-10 in Riverside County to the international border. SR-111 is classified as a 6-lane expressway north of Cole Boulevard, a 4-lane highway south of Cole Boulevard, and a primary arterial south of SR-98. SR-111 is currently constructed as a 4-lane divided roadway north of SR-98 and a 4-lane undivided roadway with a two-way left turn lane south of SR-98. Contiguous sidewalks are provided on both sides of the roadway south of SR-98. Curbside parking and bike lanes are not provided. The posted speed limit is 65 mph north of SR-98 and 35 mph south of SR-98.

Per the *Imperial County Regional Active Transportation Plan*, a Class II Bike Lane is proposed along SR-111 along its entire stretch.

State Route 7 (SR-7) is classified as a State Highway/Expressway in the *Imperial County General Plan Circulation Element*. SR-7 is a north-south highway, beginning at the international border and ending at I-8. It is currently constructed as a four-lane divided roadway and the speed limit is 65 mph within the project vicinity.

W. Cole Boulevard is classified as a Primary/Major Arterial in the *City of Calexico General Plan Circulation Element*. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Towncenter Way and between Bowker Road and SR-98. Between Towncenter Way and SR-111, and between Rockwood Avenue and Bowker Road, W. Cole Boulevard is built as a four-lane undivided roadway. It is also currently built as a six-lane divided roadway between SR-111 and Rockwood Avenue. Curbside parking and bike lanes are not provided. Sidewalks are provided intermittently on both sides of the roadway between Towncenter Way and Bowker Road. The posted speed limit is 35 mph.

Per the *Imperial County Regional Active Transportation Plan*, a Class II Bike Lane is proposed along Cole Boulevard along its entire stretch.

Dogwood Road (SR-31) is classified as a Primary Arterial in the *City of Calexico General Plan Circulation Element*. It is currently constructed as a two-lane undivided roadway within the project vicinity. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit within the project vicinity.

Per the *Imperial County Regional Active Transportation Plan*, a Class I Multi-Use Path is proposed along Dogwood Road from SR-98 and northward.

Kemp Road is an unclassified roadway. It is currently constructed as a two-lane undivided unpaved roadway. Kemp Road borders the east side of the project site. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit.

3.2 Existing Traffic Volumes

AM and PM peak hour intersection turning movement volume counts at study area intersections were commissioned by LLG Engineers in June 2022. It should be noted that all intersection volumes were applied a growth factor of 10% to represent non-summer conditions. The Dogwood Road Bridge at Willoughby Road was closed when the original traffic counts were conducted in June 2022. The bridge reopened in mid-2023. Traffic counts at the Dogwood Road / Cole Boulevard and Dogwood Road / SR-98 intersections were re-conducted in August 2023 to accurately depict the traffic conditions with the bridge open.

Figure 3–2 depicts the existing traffic volumes on both an ADT and peak hour basis. ***Appendix A*** contains the manual intersection count sheets.

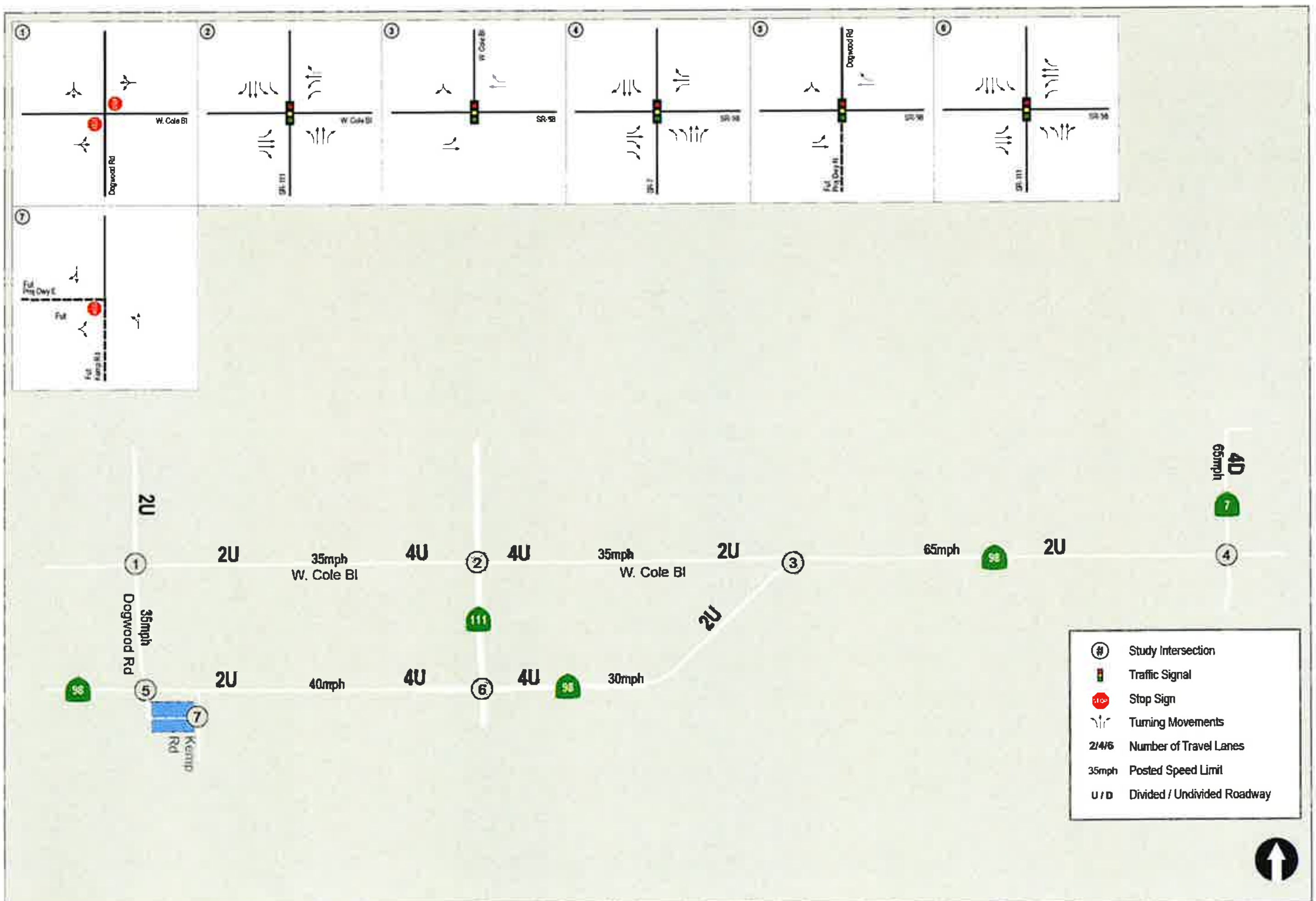

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Figure 3-1
Existing Conditions Diagram

CHARGER LOGISTICS PROJECT

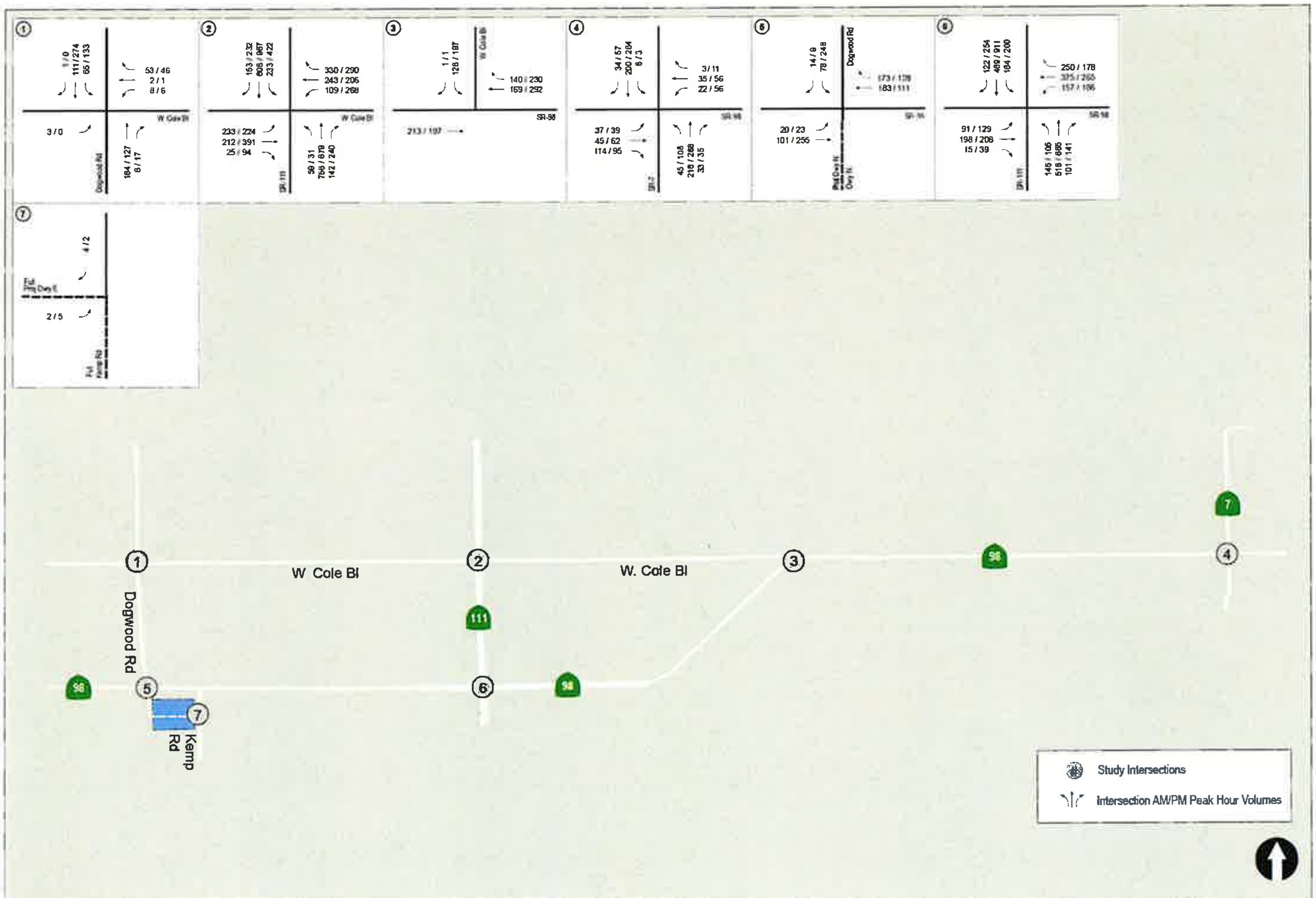

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Figure 3-2
Existing Traffic Volumes

CHARGER LOGISTICS PROJECT

4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 Project Study Area

The following intersections and segments were analyzed in this study and were chosen since they will carry the majority of project truck and employee traffic.

Intersections:

1. Dogwood Road / Cole Boulevard
2. SR 111 / Cole Boulevard
3. SR 98 / Cole Boulevard
4. SR 7 / SR 98
5. SR 98 / Dogwood Road
6. SR 111 / SR 98
7. Kemp Road / East Project Driveway

4.2 Analysis Scenarios

The following scenarios are analyzed in this report:

- Existing traffic
- Existing + Project traffic
- Existing + Cumulative traffic
- Existing + Cumulative traffic + Project traffic
- Horizon Year 2050 traffic
- Horizon Year 2050 + Project traffic

4.3 Analysis Methodology

The operations of the project area intersections and segments are characterized using the concept of "Level of Service" (LOS). LOS is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A through F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

Table 4–1 summarizes the description for each level of service. ***Table 4–2*** depicts the criteria, which are based on the average control delay for any particular minor movement (unsignalized intersections).

TABLE 4–1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Table 4–2
Unsignalized Intersection LOS & Delay Ranges

LOS	Delay (seconds/vehicle)
A	≤ 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	≥ 50.1

Source: 2000 Highway Capacity Manual

Table 4–3
Imperial County Standard Street Classification Average Daily Vehicle Trips

Road		Level of Service W/ADT*				
Class	**X-Section**	**A**	**B**	**C**	**D**	**E**
Expressway	128 / 210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106 / 136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82 / 102	14,800	24,700	29,600	33,400	37,000
Major Collector (Collector)	64 / 84	13,700	22,800	27,400	30,800	34,200
Minor Collector (Local Collector)	40 / 70	1,900	4,100	7,100	10,900	16,200
Residential Street	40 / 60	*	*	< 1,500	*	*
Residential Cul-de-Sac / Loop Street	40/60	*	*	< 1,500	*	*
Industrial Collector	76 / 96	5,000	10,000	14,000	17,000	20,000
Industrial Local Street	44 / 64	2,500	5,000	7,000	8,500	10,000

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors. It should be noted that for segments along SR-111, the capacities of a 6-lane expressway were reduced by one-third and utilized to calculate level of service.

5.0 SUBSTANTIAL EFFECT CRITERIA

The County of Imperial does not have published significance criteria. However, the County General Plan does state that the level of service (LOS) goal for intersections and roadway segments is to operate at LOS C or better. Therefore, if an intersection or segment degrades from LOS C or better to LOS D or worse with the addition of project traffic, the impact is considered significant. If the location operates at LOS D or worse with and without project traffic, the impact is considered significant if the project causes the intersection delta to increase by more than two (2) seconds, or the V/C ratio to increase by more than 0.02. These amounts are consistent with those used in the City of El Centro and the County of Imperial in numerous traffic studies.

TABLE 5–1
TRAFFIC IMPACT SIGNIFICANT THRESHOLDS

Level of Service with Project [a]	Allowable Increase Due to Project Impacts [b]					
					Intersections	
					Delay (sec.)	
D, E & F *(or ramp meter delays above 15 minutes)*					2	

Footnotes:

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

c. The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS E is 2 minutes and at LOS F is 1 minute.

General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
4. LOS = Level of Service

6.0 Analysis of Existing Conditions

6.1 Peak Hour Intersection Levels of Service

The project study area is located in a rural setting and all project driveways are unsignalized. As seen in ***Table 6–1,*** all study area intersections are calculated to currently operate at LOS C or better during both the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

Table 6–1
Existing Intersection Operations

Intersection	Control Type	Peak Hour	Existing	
			Delay [a]	LOS [b]
1. Dogwood Road / Cole Boulevard	TWSC [c]	AM PM	14.5 11.0	B B
2. SR 111 / Cole Boulevard	Signal	AM PM	59.9 60.5	E E
3. SR 98 / Cole Boulevard	Signal	AM PM	15.6 15.5	B B
4. SR 7 / SR 98	Signal	AM PM	25.9 29.3	C C
5. SR 98 / Dogwood Road	Signal	AM PM	26.5 21.2	C C
6. SR 111 / SR 98	Signal	AM PM	38.7 37.3	D D
7. Kemp Road / East Project Driveway	OWSC [d]	AM PM	DNE [e] DNE	DNE DNE

Footnotes:

a. Delay per vehicle in seconds
b. LOS – Level of service
c. TWSC – Two-Way STOP Controlled intersection.
d. OWSC – One-Way STOP Controlled intersection.
e. DNE – Does Not Exist

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

Project trips consist of vehicular trips added to the street system which begin or end at the Project site and are generated by the proposed development. Trip generation estimates for the Project are based on site specific information provided by the applicant.

The traffic generated by the Project will consist of two main trip types (Employees and Trucks) as described below. Project traffic generation was calculated for each trip type as shown in ***Table 8-1.*** As seen in *Table 7–1,* the Project is calculated to generate a total of 650 ADT, with 30 inbound / 27 outbound trips during the AM peak hour, and 27 inbound / 30 outbound trips during the PM peak hour. A passenger car equivalence factor (PCE) was applied to the truck trips, as discussed below.

- ***Employees*** A total of 20 on-site employees are expected each day. The majority of the employees are expected to drive alone in their own vehicle (i.e., not carpool). Only a small amount of employees are expected to work a 8AM – 5PM shift. In order to provide a conservative analysis, 20% of the total employees were assumed to enter the site (traveling inbound) during the AM peak, and 20% of the total employees were assumed to exit the site (traveling outbound) during the PM peak.
- ***Heavy-Duty Truck Trips:*** A total of 100 heavy-duty trucks are expected to access the site each day. Heavy-duty trucks are assumed to access the site consistently between the hours of 9AM and 9PM (approximately 8 heavy vehicles per hour for 12-hours). A Passenger Car Equivalence (PCE) of 3.0 was applied to account for the diminished performance characteristics of heavy trucks in traffic flow (as compared to passenger vehicles) based on data contained in the Highway Capacity Manual (HCM).

In order to account for miscellaneous trips (such as visitors and deliveries), 10 additional ADT trips were assumed, as well as 1 inbound and 1 outbound trip during both the AM and PM peak hours.

TABLE 7–1
TRIP GENERATION

Use	Quantity	PCE [a]	Daily Trips		AM Peak Hour			PM Peak Hour		
			Rate	ADT [b]	In	Out	*Total*	In	Out	*Total*
Employees	20	1.0	2/vehicle	40	4	1	5	1	4	5
Heavy Vehicles (trucks)	100	3.0	2/vehicle	600	25	25	50	25	25	50
Miscellaneous Deliveries & Visitors	5	1.0	2/vehicle	10	1	1	2	1	1	2
Total				***650***	***30***	***27***	***57***	***27***	***30***	***57***

Footnotes:
a. PCE = Passenger Car Equivalent
b. ADT = Average Daily Traffic (24-hour total bi-directional traffic on a roadway segment)

General Notes:
1. The project site will operate only when the Port is operating (9AM-9PM)
2. 12 hours of truck activity evenly spread throughout the day
3. 20% of employees assured to work 8AM-5PM shift

7.2 Trip Distribution

It should be noted that separate distributions were derived for trucks and employees (and miscellaneous) trips since they will have very different travel patterns.

7.2.1 *Truck Traffic Distribution*

The distribution for trucks is based on the *City of Calexico General Plan Interim and Ultimate Truck Routes,* November 2006 (see ***Appendix B***). The distribution for trucks is also based on the expected inbound and outbound destinations.

The project expects 65% of trucks inbound from Mexico, 15% inbound from San Diego (west of the project site), and 20% inbound from Imperial County (north of project site).

In terms of outbound trips, the project expects 30% outbound to Mexico, 50% outbound to San Diego, and 20% outbound to Imperial County.

The project expects most of the trucks to come in from Mexico (65% assumed), and less trucks to enter back into Mexico (30% assumed).

Figure 7–1 shows the distribution of trucks.

7.2.2 *Employee / Miscellaneous Traffic Distribution*

Project trip distribution was developed based on existing traffic patterns, location of residential areas where employees may live, and the regional roadway network. The employee / miscellaneous distribution assumes 20% along SR-7 to/from Mexico, 15% along Dogwood Road, 55% along SR-111 north of Cole Boulevard, 10% along SR-111 south of SR-98, and 5% along SR-98 west of the project site.

Figure 7–2 shows the distribution of employee passenger car / miscellaneous trips operations traffic

7.3 Trip Assignment

Separate trip assignments were prepared for each trip type based on the distribution percentages detailed above.

For trucks coming inbound from Mexico, the route taken will be directed as follows:

- Travel northbound along SR-7 from the U.S./Mexico border.
- Travel westbound along Cole Blvd.
- Travel southbound via Dogwood Road to reach the project site.

For outbound trucks traveling to Mexico, the route taken will be directed as follows:

- Travel northbound along Dogwood Road

- Travel eastbound along Cole Blvd.
- Travel southbound via SR-7 to reach the U.S./Mexico border.

Trucks traveling to/from San Diego will travel via SR-98. Trucks traveling to/from Imperial County will travel via SR-111.

Trucks will be prohibited from entering the site from the east and using the Kemp Road driveway. All trucks will use the Dogwood Road driveway only. In addition, the majority (90%) of employees are expected to use the Kemp Road driveway. This report assumes 10% of employees will use the Dogwood Road driveway.

The Project truck traffic assignment is shown on ***Figure 7–3. Figure 7–4*** shows the Project employee (and miscellaneous) traffic assignment. ***Figure 7–5*** depicts the total Project traffic assignment.

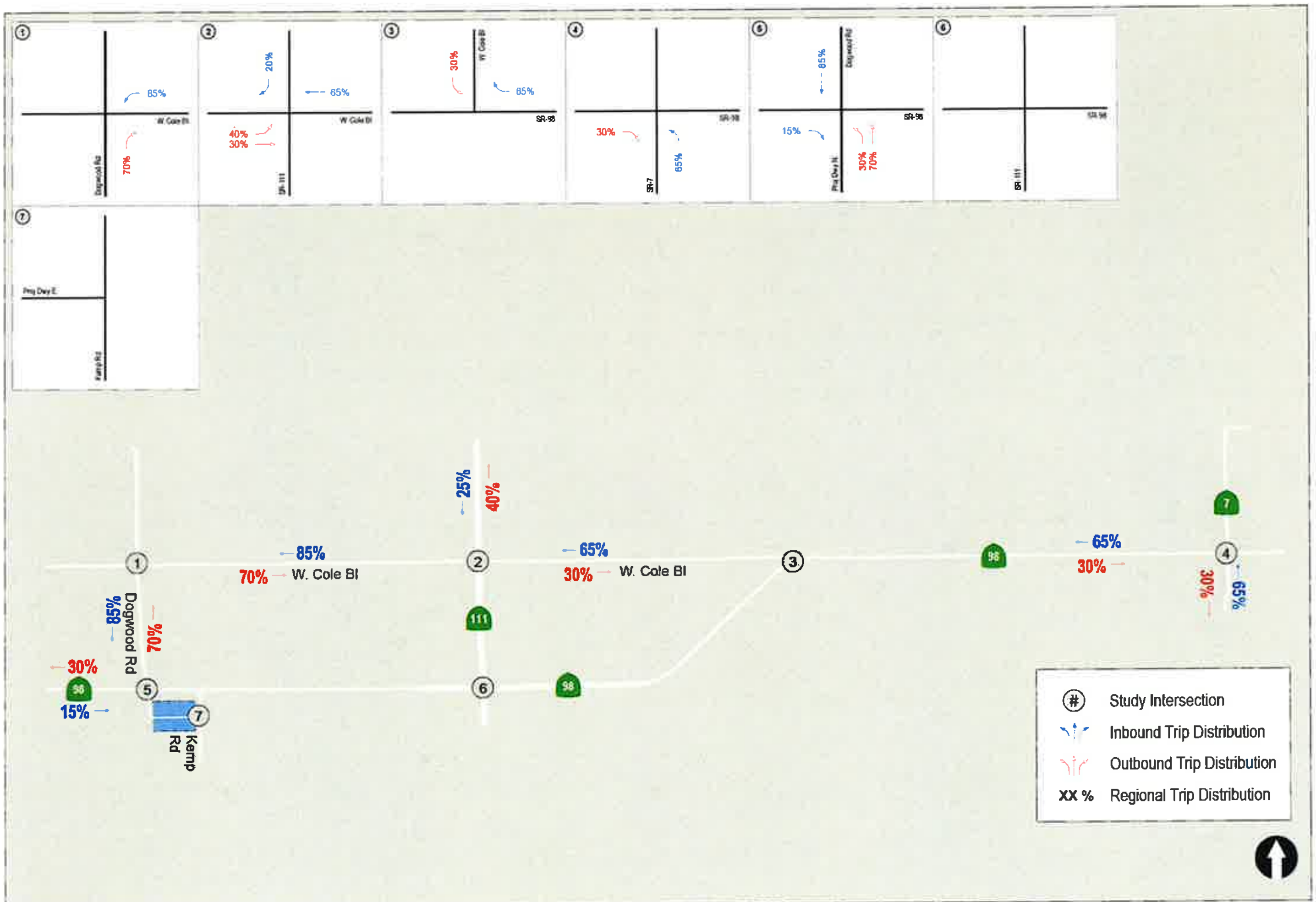

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Figure 7-1
Truck Trip Distribution

CHARGER LOGISTICS PROJECT

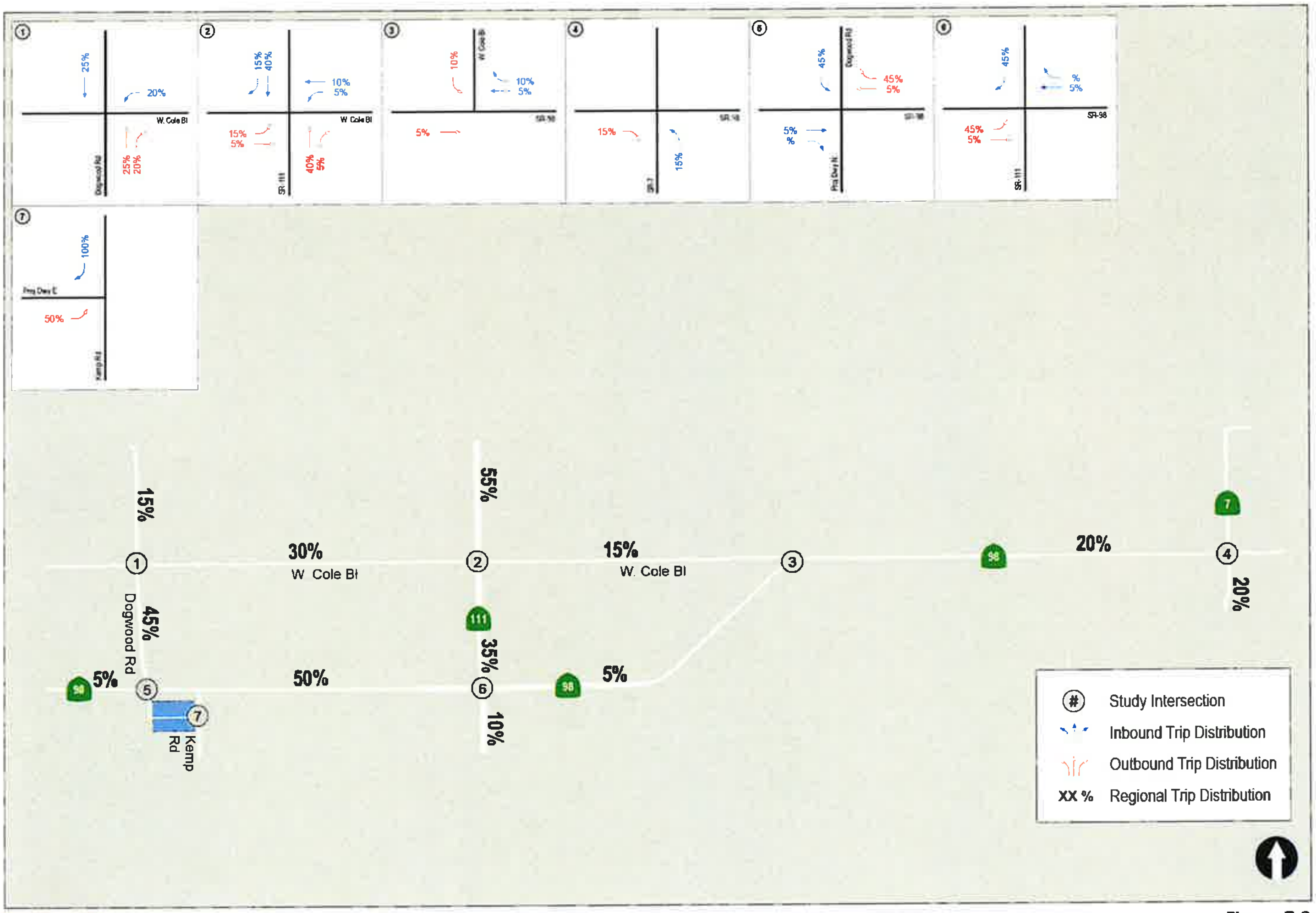

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Figure 7-2

Employee Trip Distribution

CHARGER LOGISTICS PROJECT

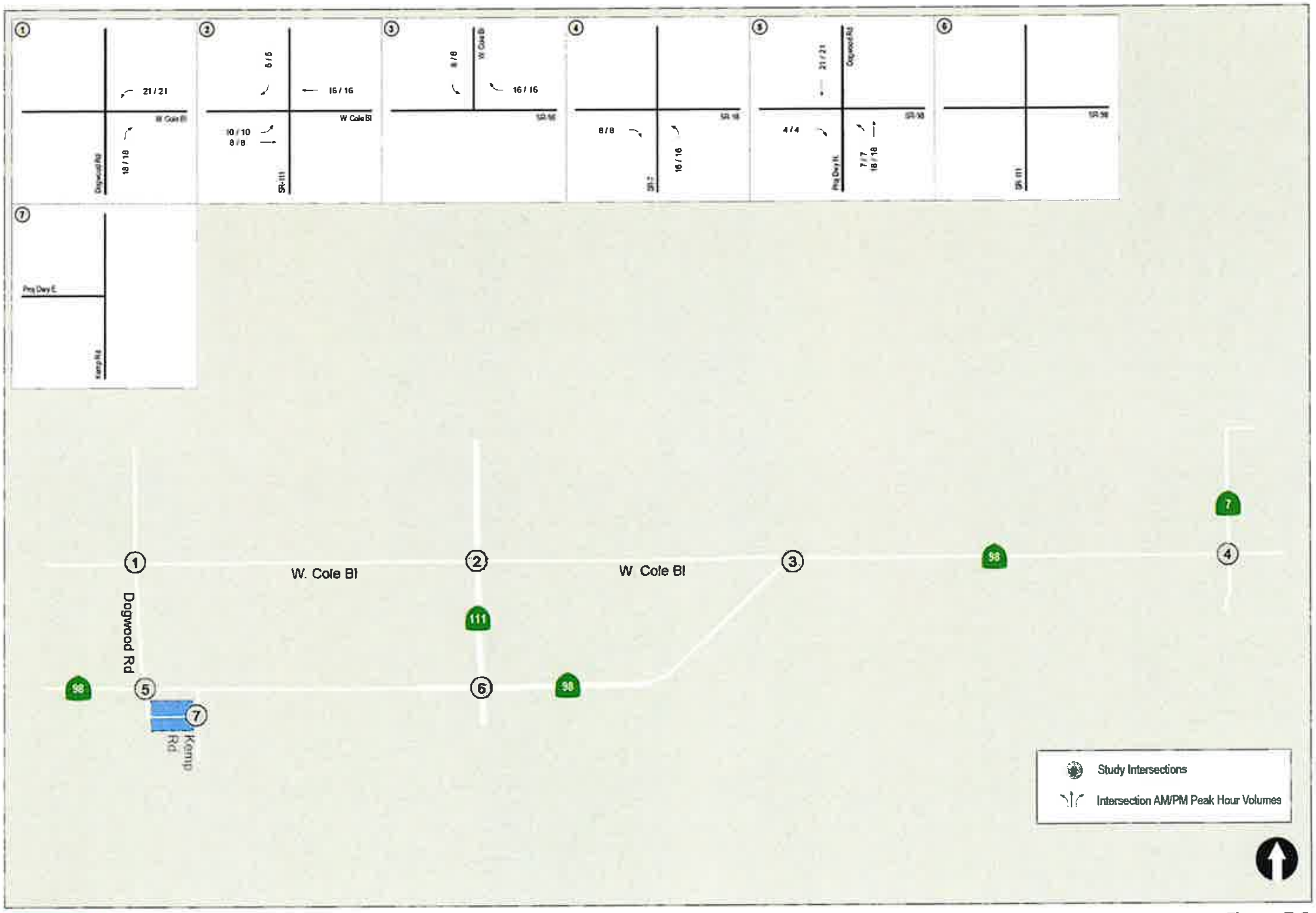

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Figure 7-3

Project Traffic Volumes

Trucks

CHARGER LOGISTICS PROJECT

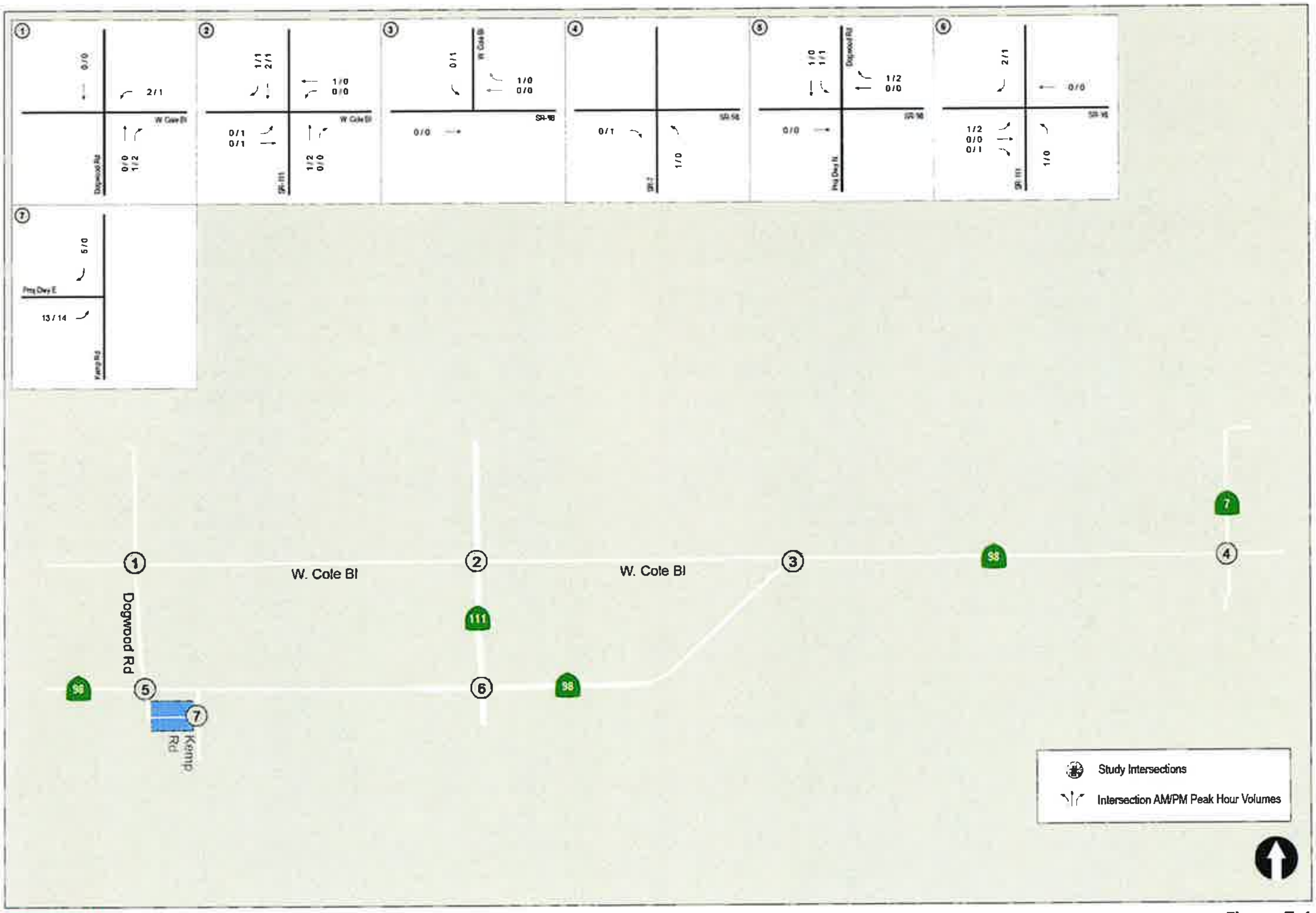

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Figure 7-4

Project Traffic Volumes

Employee / Miscellaneous

CHARGER LOGISTICS PROJECT

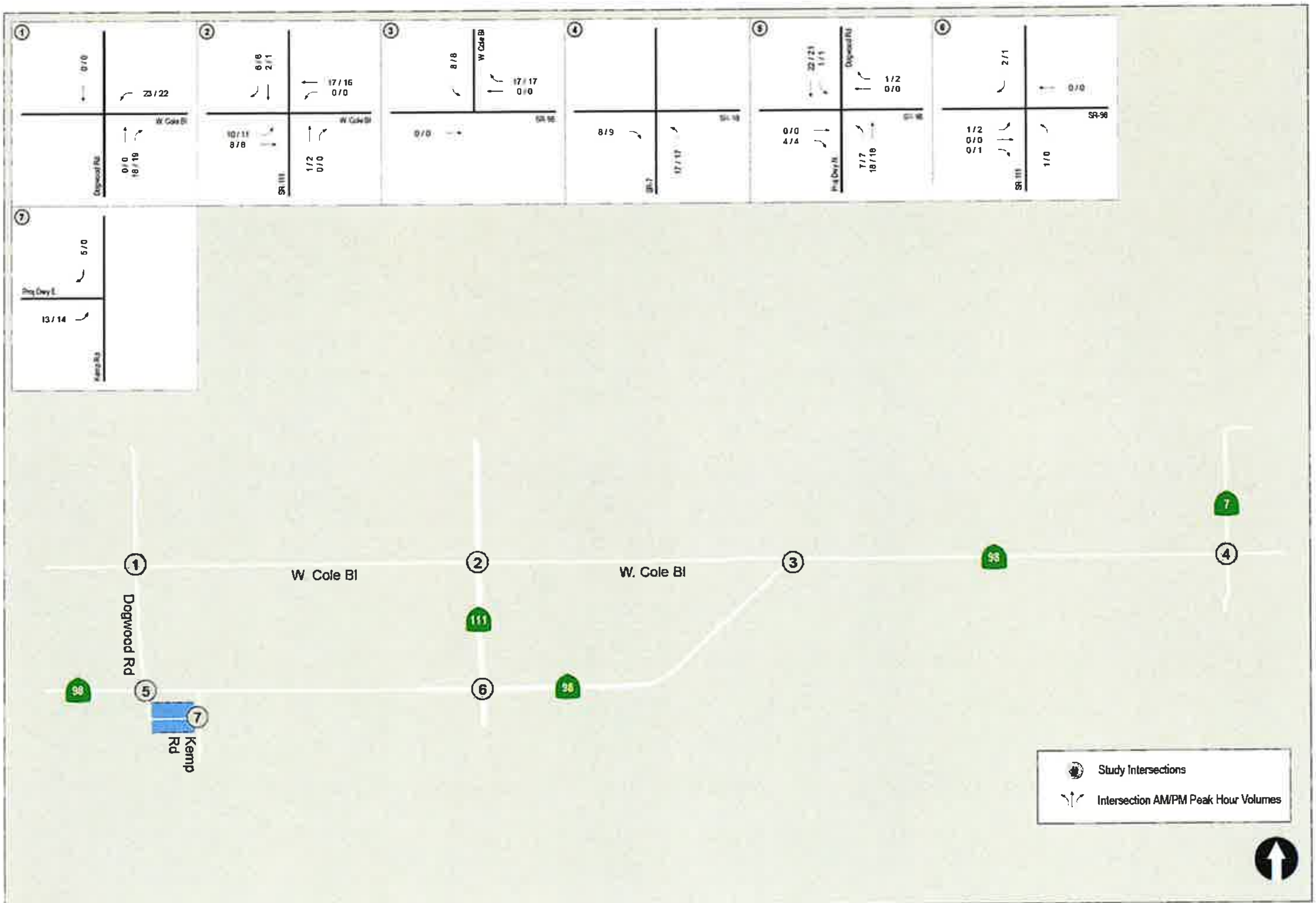

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Figure 7-5

Total Project Traffic Volumes

CHARGER LOGISTICS PROJECT

8.0 EXISTING + PROJECT ANALYSIS

8.1 Peak Hour Intersection Levels of Service

Table 8–1 summarizes the intersection operations throughout the project study area during the Opening Year of the project with the addition of Project traffic. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersection:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersections already operating at an unacceptable LOS is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to the study intersection and no improvements are required.

Figure 8-1 shows the Existing with Project traffic volumes.

Appendix C-D includes the Existing and Existing with Project intersection analysis worksheets.

TABLE 8–1
EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ [c] Delay
			Delay [a]	LOS [b]	Delay [a]	LOS [b]	
1. Dogwood Road / Cole Boulevard	TWSC [d]	AM	14.5	B	14.6	B	0.1
		PM	11.0	B	15.1	C	4.1
2. SR 111 / Cole Boulevard	Signal	AM	59.9	E	60.3	E	0.4
		PM	60.5	E	61.5	E	1.0
3. SR 98 / Cole Boulevard	Signal	AM	15.6	B	16.0	B	0.4
		PM	15.5	B	15.6	B	0.1
4. SR 7 / SR 98	Signal	AM	25.9	C	26.5	C	0.6
		PM	29.3	C	29.5	C	0.2
5. SR 98 / Dogwood Road	Signal	AM	26.5	C	26.5	C	0.0
		PM	21.2	C	24.7	C	3.5
6. SR 111 / SR 98	Signal	AM	38.7	D	38.7	D	0.0
		PM	37.3	D	37.3	D	0.0
7. Kemp Road / East Project Driveway	OWSC [e]	AM	DNE [f]	DNE	8.5	A	8.5
		PM	DNE	DNE	8.5	A	8.5

Footnotes:

a. Delay per vehicle in seconds
b. LOS – Level of service
c. Δ denotes an increase in delay due to project.
d. TWSC – Two-Way STOP Controlled intersection.
e. OWSC – One-Way STOP Controlled intersection.
f. DNE – Does Not Exist
g. The recommended lane geometry that includes the project driveway (south leg) was assumed in the Existing + Project scenario

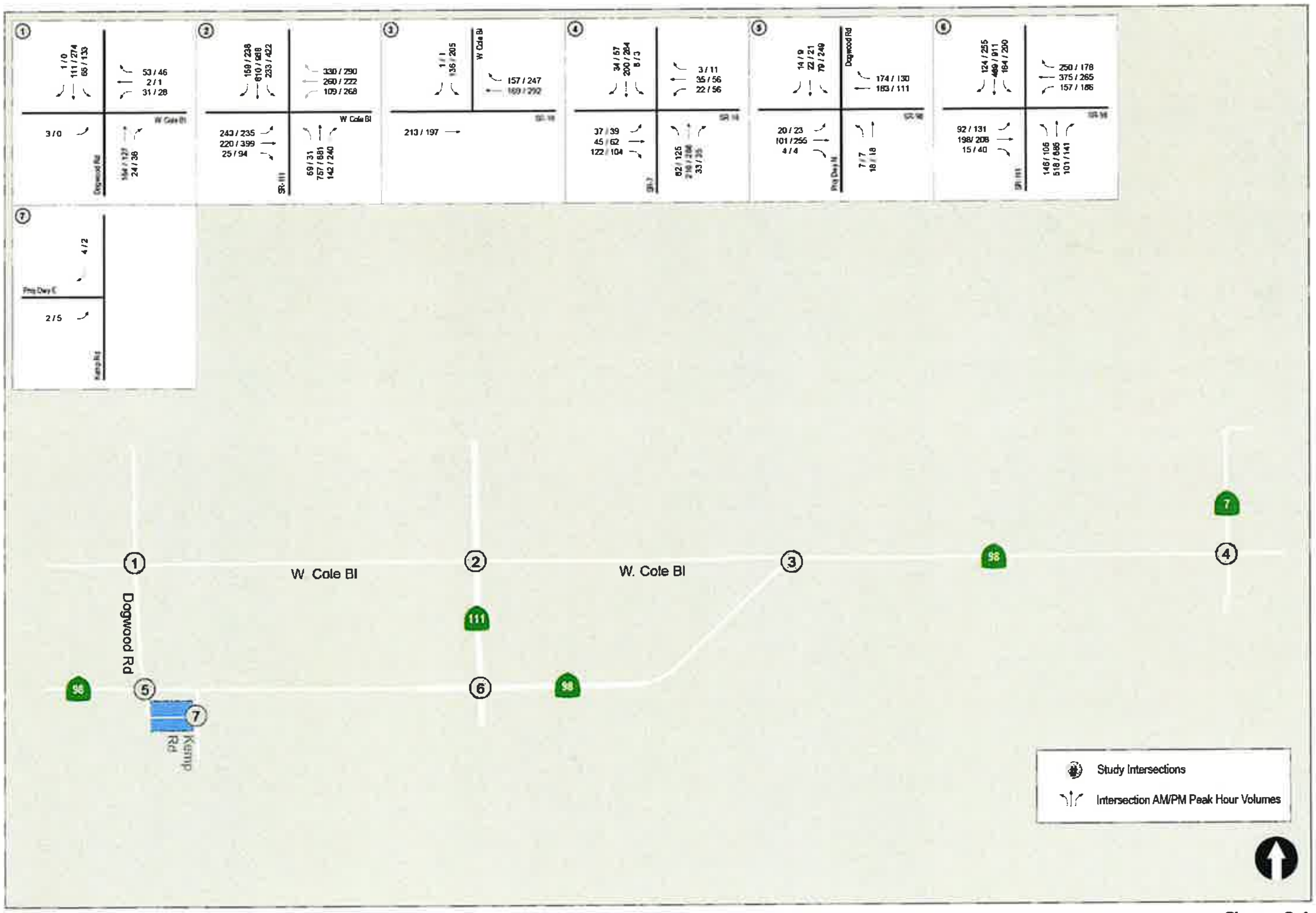

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Figure 8-1
Existing + Project Traffic Volumes

CHARGER LOGISTICS PROJECT

9.0 Near Term Analysis

9.1 Cumulative Traffic

To account for potential cumulative traffic increases in the project area, a 10% growth factor was applied to the existing traffic volumes at the study area intersections. This 10% growth would represent the amount of traffic that may utilize the street system in the project vicinity proposed from future near-by development projects planned in Imperial County and the City of Calexico.

9.2 Opening Year 2024 without Project (Existing + Cumulative) Analysis

9.2.1 *Intersection Operations*

Table 9–1 summarizes the intersection operations throughout the project study area during the Opening Year of the project. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

9.3 Opening Year 2024 with Project (Existing + Cumulative + Project) Analysis

9.3.1 *Intersection Operations*

Table 9–1 summarizes the intersection operations throughout the project study area during the Opening Year of the project and the addition of Project traffic. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersection already operating at an unacceptable LOS is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to the study intersection and no improvements are required.

Figure 9-1 shows the Cumulative traffic volumes. ***Figure 9-2*** shows the Opening Year without Project traffic volumes. ***Figure 9-3*** shows the Opening Year with Project traffic volumes.

Appendix E-F includes the Opening Year and Opening Year with Project intersection analysis worksheets.

TABLE 9–1
OPENING YEAR INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Opening Year Operations		Opening Year + Project Operations		Δ [c] Delay	Impact Type
			Delay [a]	LOS [b]	Delay	LOS		
1. Dogwood Road / Cole Boulevard	TWSC [d]	AM	15.4	C	15.6	C	0.2	None
		PM	11.6	B	16.4	C	4.8	None
2. SR 111 / Cole Boulevard	Signal	AM	70.9	E	71.8	E	0.9	None
		PM	71.5	E	72.8	E	1.3	None
3. SR 98 / Cole Boulevard	Signal	AM	15.8	B	16.2	B	0.4	None
		PM	15.8	B	15.9	B	0.1	None
4. SR 7 / SR 98	Signal	AM	26.4	C	26.9	C	0.5	None
		PM	29.5	C	29.9	C	0.4	None
5. SR 98 / Dogwood Road [g]	Signal	AM	27.9	C	27.9	C	0.0	None
		PM	21.9	C	26.0	C	4.1	None
6. SR 111 / SR 98	Signal	AM	39.9	D	40.0	D	0.1	None
		PM	39.7	D	39.8	D	0.1	None
7. Kemp Road / East Project Driveway	OWSC [e]	AM	DNE [f]	DNE	8.5	A	8.5	None
		PM	DNE	DNE	8.5	A	8.5	None

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to project.
d. TWSC – Two-Way STOP Controlled intersection.
e. OWSC – One-Way STOP Controlled intersection.
f. DNE = Does Not Exist
g. The recommended lane geometry that includes the project driveway (south leg) was assumed in the Opening Year + Project scenario

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

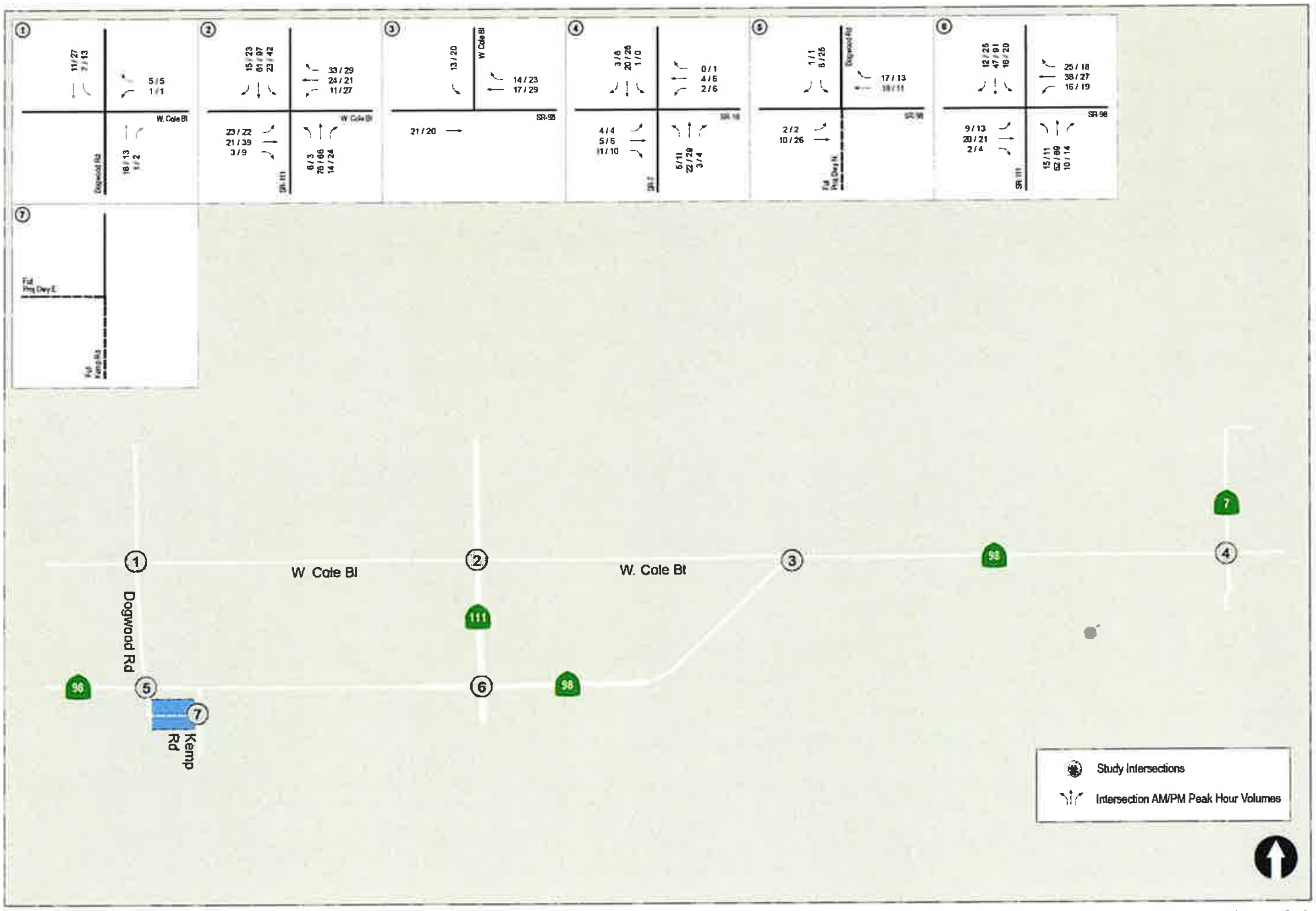

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Figure 9-1
Cumulative Traffic Volumes

CHARGER LOGISTICS PROJECT

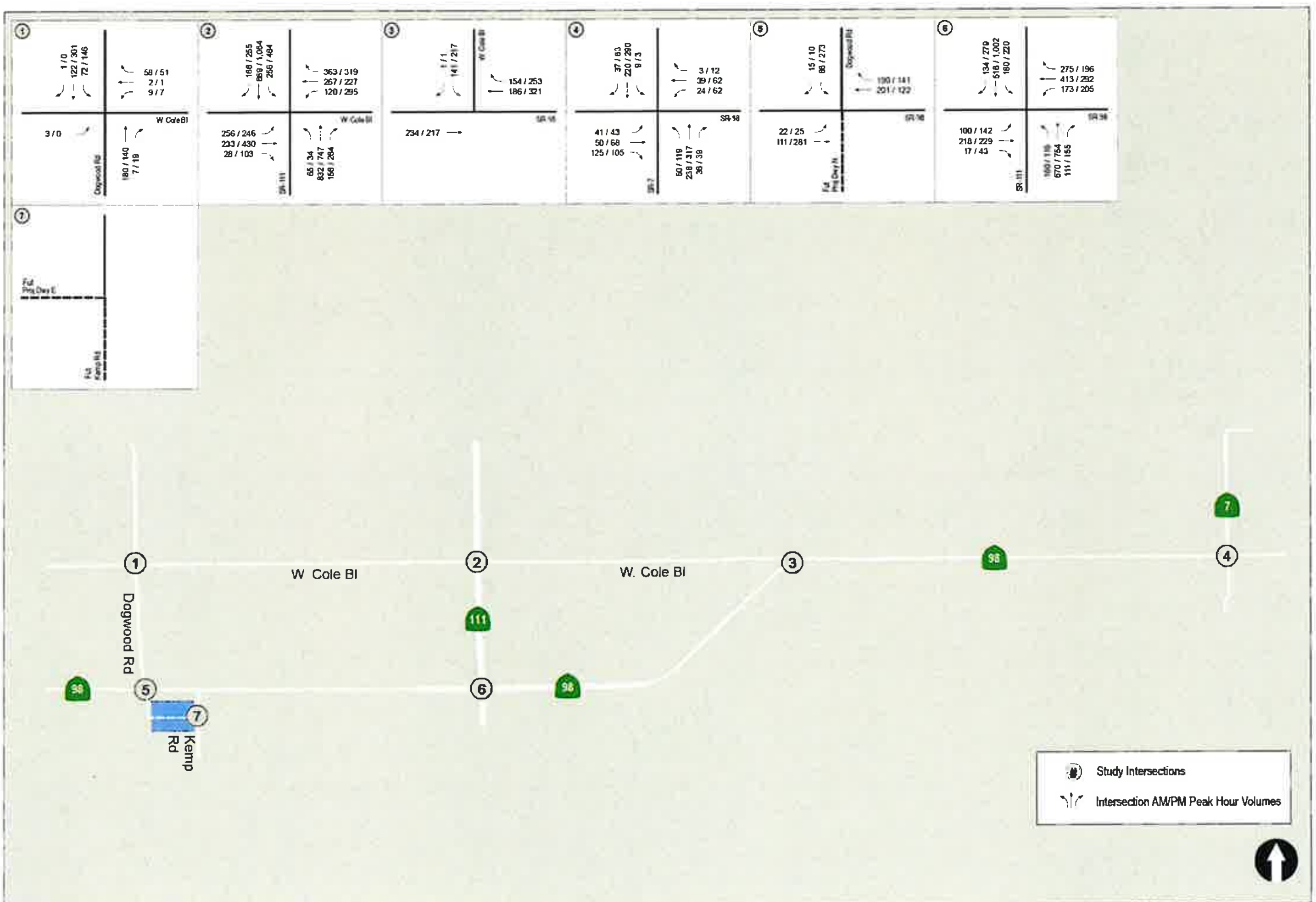

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Figure 9-2

Opening Year without Project (Existing + Cumulative) Traffic Volumes

CHARGER LOGISTICS PROJECT

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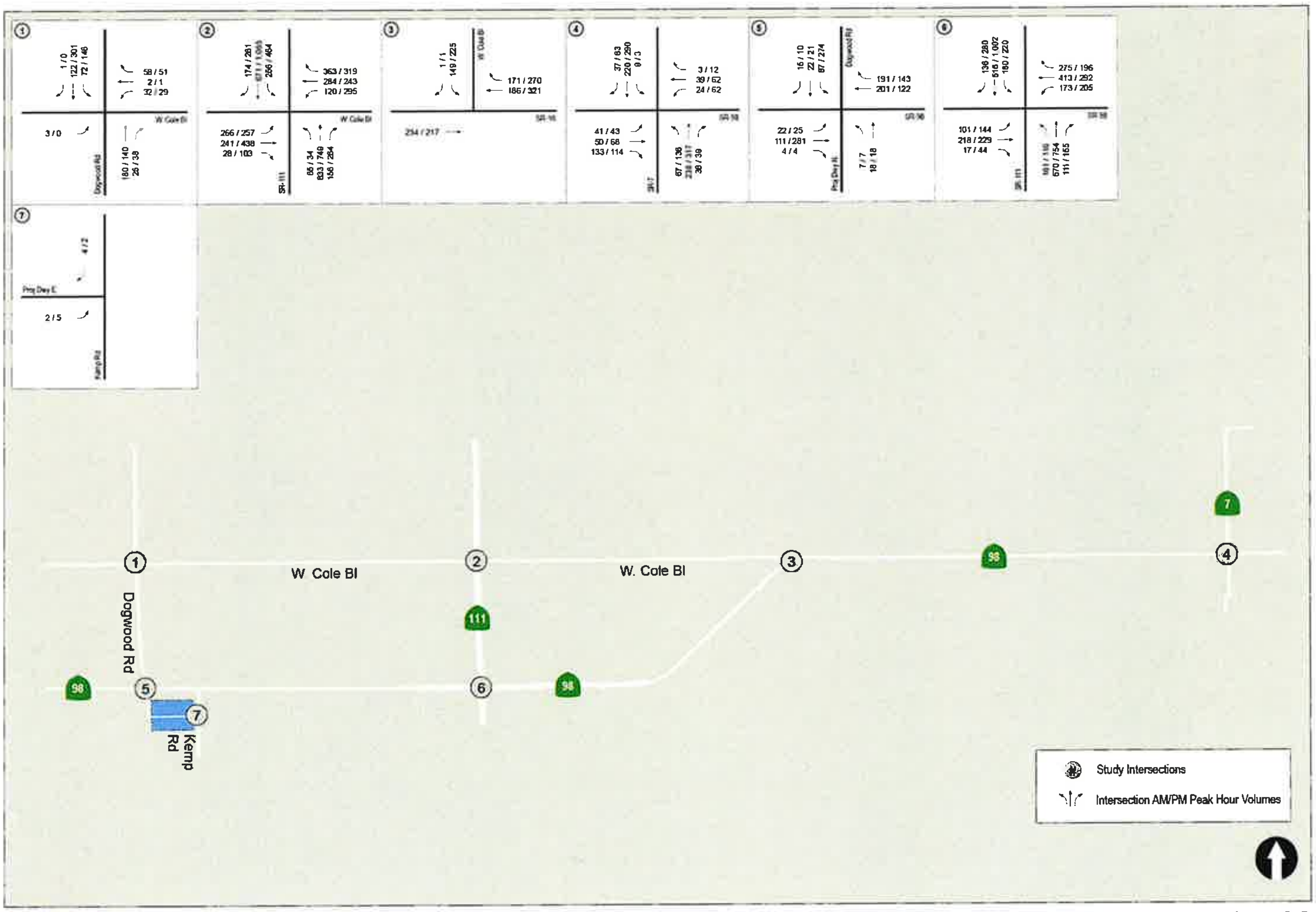

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Figure 9-3

Opening Year + Project (Existing + Cumulative + Project) Traffic Volumes

CHARGER LOGISTICS PROJECT

10.0 Horizon Year 2050 Analysis

10.1 Horizon Year Traffic

To calculate the Horizon Year 2050 traffic volumes, the *Imperial County Circulation and Scenic Highways Element,* January 2008, (see ***Appendix G***) and historical volumes were reviewed.

The *Imperial County Circulation and Scenic Highways Element* includes a 2050 forecast in which traffic volumes are calculated by applying a 0.5%, 1.0%, or 2.0% annual growth factor to Year 2025 forecasted volumes.

Historical volumes from Caltrans Census Data, as well as LLG in-house were reviewed.

A comparison was done of in-house 2018 and 2022 traffic volumes, as well as Caltrans Census Data 2018 and 2022 traffic volumes. The comparison showed that there has been a decrease in traffic between 2018 and 2022 (see ***Appendix H***).

To be conservative, LLG calculated Year Horizon Year 2050 traffic volumes by applying a 0.5% annual growth factor to existing volumes. By applying a 0.5% annual growth factor, LLG is incorporating the same methodology as the *Imperial County Circulation and Scenic Highways Element*, as well as calculating a plausible traffic volume based on historical data.

10.2 Horizon Year 2050 without Project Analysis

10.2.1 *Intersection Operations*

Table 10–1 summarizes the intersection operations throughout the project study area during the Horizon Year of the project. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

10.3 Horizon Year 2050 with Project Analysis

10.3.1 *Intersection Operations*

Table 10–1 summarizes the intersection operations throughout the project study area during the Horizon Year of the project and the addition of Project traffic. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersections operating at an unacceptable LOS is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to the study intersection and no improvements are required.

Figure 10-1 shows the Horizon Year traffic volumes. ***Figure 10-2*** shows the Horizon Year with Project traffic volumes.

Appendix I-J includes the Opening Year and Opening Year with Project intersection analysis worksheets.

TABLE 10–1
HORIZON YEAR 2050 INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Horizon Year Operations		Horizon Year + Project Operations		Δ [c] Delay	Impact Type
			Delay [a]	LOS [b]	Delay	LOS		
1. Dogwood Road / Cole Boulevard	TWSC [d]	AM	16.0	C	16.3	C	0.3	None
		PM	24.6	C	25.0	C	0.4	None
2. SR 111 / Cole Boulevard	Signal	AM	78.1	E	79.3	E	1.2	None
		PM	78.5	E	80.1	F	1.6	None
3. SR 98 / Cole Boulevard	Signal	AM	15.8	B	16.2	B	0.4	None
		PM	15.9	B	16.0	B	0.1	None
4. SR 7 / SR 98	Signal	AM	26.9	C	27.4	C	0.5	None
		PM	28.1	C	28.5	C	0.4	None
5. SR 98 / Dogwood Road [g]	Signal	AM	28.4	C	28.4	C	0.0	None
		PM	22.4	C	27.2	C	4.8	None
6. SR 111 / SR 98	Signal	AM	40.7	D	40.7	D	0.0	None
		PM	41.0	D	41.1	D	0.1	None
7. Kemp Road / East Project Driveway	OWSC [e]	AM	0.0	A	8.5	A	8.5	None
		PM	0.0	A	8.5	A	8.5	None

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to project.
d. TWSC – Two-Way STOP Controlled intersection.
e. OWSC – One-Way STOP Controlled intersection.
f. DNE = Does Not Exist
g. The recommended lane geometry that includes the project driveway (south leg) was assumed in the Opening Year + Project scenario

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

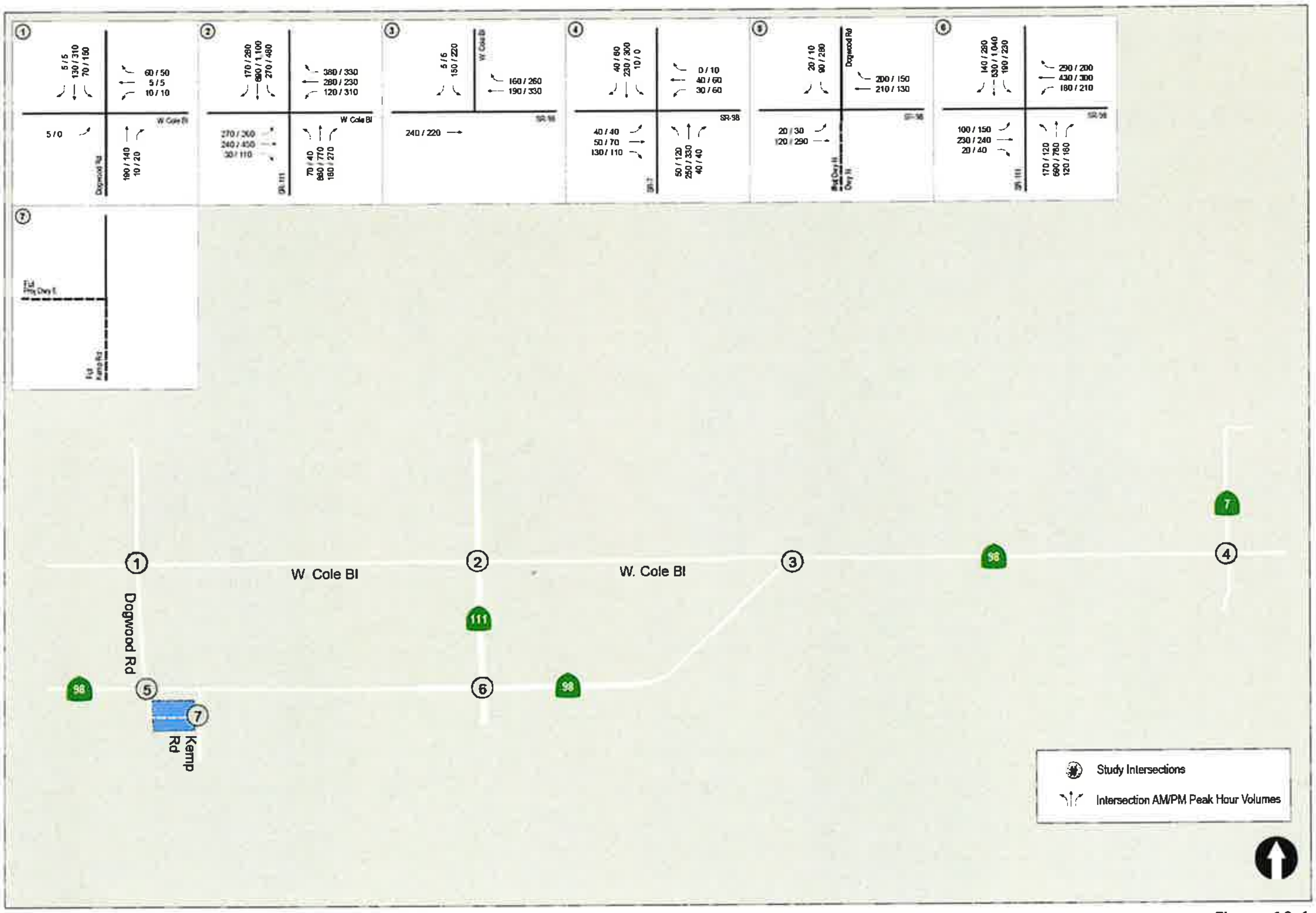

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Figure 10-1
Horizon Year 2050 Without Project Traffic Volumes

Charger Logistics Project

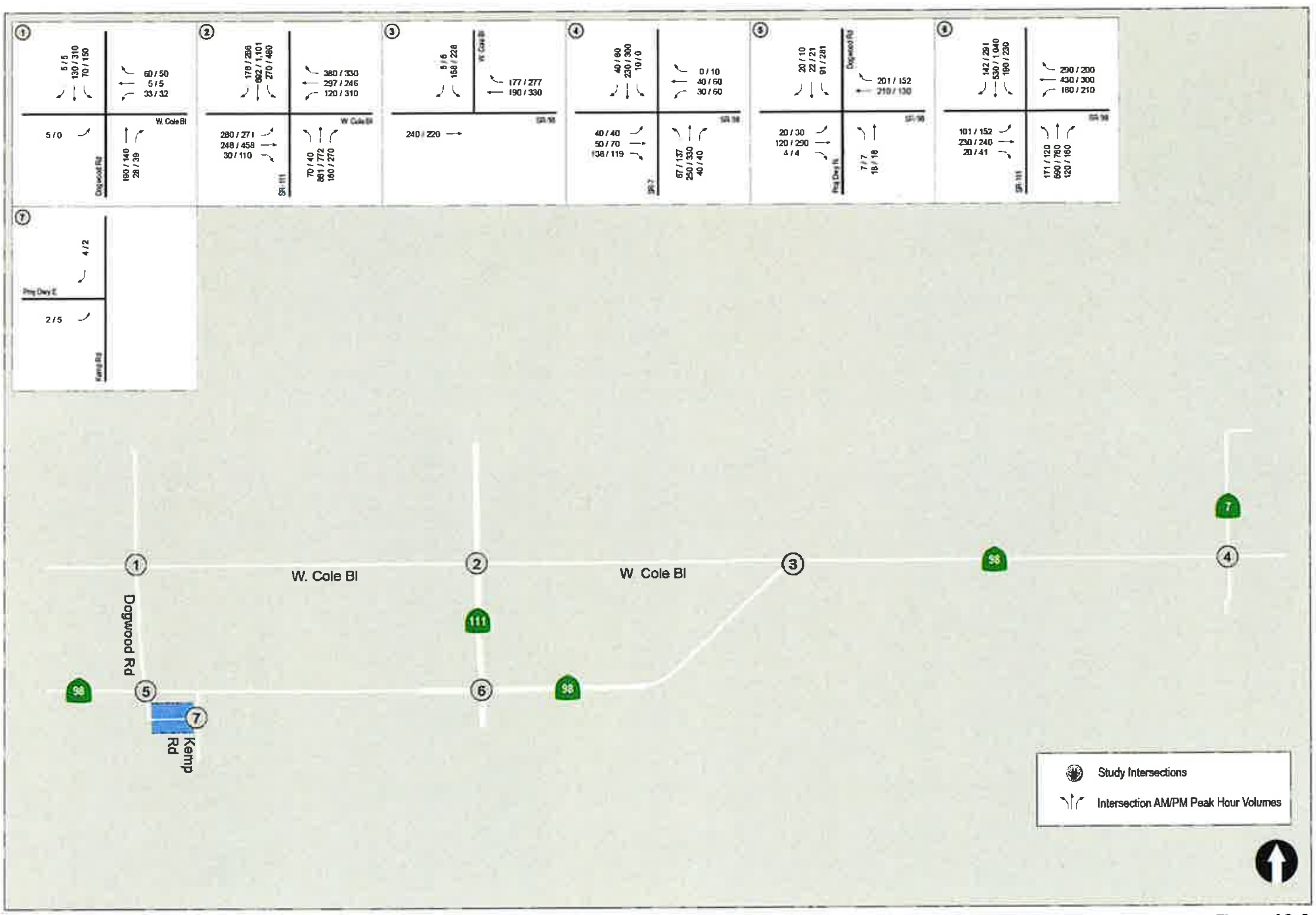

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Figure 10-2

Horizon Year 2050 + Project Traffic Volumes

CHARGER LOGISTICS PROJECT

11.0 SITE ACCESS

11.1 Site Access Assessment

As described in *Section 2.0*, there are two project driveways. Access to the site is provided via Kemp Road on the east side of the project site, and on the west side of the project site at Dogwood Road.

Trucks will be directed to only enter the site on the west side of the project site via Dogwood Road. Trucks will be prohibited to enter the site via Kemp Road. Employees approaching from the east will be directed to use the Kemp Road driveway, but some were assumed to use the Dogwood Road driveway for the analysis.

To facilitate employee traffic entering the site via SR-98 to Kemp Road, a westbound left-turn pocket should be provided on SR-98 at Kemp Road due to the high speeds along SR-98 (65 MPH).

Additionally, a westbound dedicated left-turn lane and a southbound dedicated left-turn lane should be provided at the SR-98 / Dogwood Road intersection, and the overall intersection lane configuration shown in ***Figure 13-1*** should be implemented.

It should be noted that the proposed left turn pockets along SR-98 will require widening of SR-98 to accommodate standard lanes and standard shoulders. Additionally, as stated in *Section 3.1*, a Class I Multi-Use Path is proposed along SR-98 from Dogwood Road to Eady Avenue. This active transportation improvement needs to be considered when providing the westbound left-turn pockets on SR-98 at Kemp Road and Dogwood Road such that project construction does not preclude, prevent, or affect the operations of a future bike path.

It is recommended that an Intersection Control Evaluation (ICE) study be prepared at both the SR-98 / Dogwood Road and SR-98 / Kemp Road intersections, consistent with Caltrans standards. The ICE will include the recommended design of the proposed improvements.

11.2 Queue Analysis at Access

A queue analysis was completed to evaluate the queue lengths at the SR-98 / Dogwood Road intersection with the implementation of the improvements described above. ***Table 11-1*** includes the queue analysis results.

TABLE 11–1
QUEUE ANALYSIS AT ACCESS

Intersection	Movement	Peak Hour	Existing Storage Length	Existing	Existing + Project	Near Term	Near Term + Project	Horizon Year	Horizon Year + Project
5. SR-98 / Dogwood Road	Southbound Left	AM	Shared	46'	46'	50'	50'	52'	52'
		PM		128'	137'	141'	153'	146'	158'
	Westbound Right	AM	350'	15'	47'	16'	49'	16'	50'
		PM		13'	33'	14'	40'	14'	44'
	Westbound Left	AM	-	-	10'	-	10'	-	10'
		PM		-	10'	-	10'	-	10'
	Northbound Left	AM	-	-	8'	-	8'	-	8'
		PM		-	8'	-	8'	-	8'
	Eastbound Left	AM	325'	24'	24'	25'	25'	24'	24'
		PM		26'	26'	28'	28'	32'	32'

General Notes:

1. "+Project" scenarios assume a 4-leg intersection at SR-98 / Dogwood Road

12.0 VEHICLE MILES TRAVELED (VMT)

12.1 Background

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under CEQA. These changes include the elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions. The VMT standard for evaluating transportation impacts under CEQA became mandatory statewide on July 1, 2020.

Vehicle Miles Traveled (VMT) is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network. VMT's are calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round trip) travel and is typically estimated on a weekday for the purpose of measuring potential transportation impacts.

12.2 Methodology

Imperial County has not yet formally developed guidelines or adopted significance criteria or technical methodologies for VMT analysis. Therefore, LLG utilized the Governor's Office of Planning and Research (OPR) guidelines from the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018 (included in ***Appendix I***), to develop technical methodologies for this Project.

The Project will generate trips from two distinct types of vehicles: heavy vehicles, which consist of the Project's feedstock and compost trucks, and employee passenger vehicles. Heavy vehicles and passenger vehicles are classified as different vehicle types in the OPR guidelines and are considered differently in regard to VMT analysis.

12.2.1 *Heavy Duty Vehicles*

Per OPR guidelines, "vehicle miles traveled" refers to the amount and distance of ***automobile*** travel attributable to a project. The OPR guidelines specifically state "The term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT)".

Additionally, the *Caltrans Transportation Analysis Framework,* 1st Edition (September 2020) (included in ***Appendix J***) defines Vehicle Miles Traveled as "The number of miles traveled by motor vehicles on roadways in a given area over a given time period". The *Caltrans Transportation Analysis Framework* continues to state, "VMT may be subdivided for reporting and analysis purposes into single occupant passenger vehicles (SOVs), high occupancy vehicles (HOV's), buses, trains, light duty trucks, and heavy-duty trucks … For a CEQA compliant transportation impact analysis, automobile VMT (cars and light trucks) may be evaluated".

Per the OPR guidelines, heavy vehicles *may* be included in assessments but are not required to be included. Furthermore, per the *Caltrans Transportation Analysis Framework*, CEQA-compliant analyses are to evaluate automobile VMT (cars and light trucks).

Therefore, the VMT analysis does not include trips from heavy-duty trucks and the trips generated by the Project's heavy-duty trucks are excluded from VMT analysis.

12.2.2 *Employee / Miscellaneous Passenger Vehicles*

Many agencies use "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact. OPR contains a screening threshold for small projects which states that, "absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact."

The Project's employee / miscellaneous passenger vehicles are calculated to generate 50 ADT, as shown in *Table 7-1*. Therefore, the employee / miscellaneous component of the Project can be considered a "small project", assumed to cause a less-than significant transportation impact per OPR guidelines.

12.3 VMT Conclusions

The trips generated by the Project's heavy-duty trucks are excluded from VMT analysis. The employee / miscellaneous component of the Project can be considered a "small project", assumed to cause a less-than significant transportation impact per OPR guidelines.

13.0 CONCLUSIONS

The capacity analyses performed for the key roadway segments and unsignalized and signalized intersections indicate that ***no substantial effects would occur*** with the addition of the project.

13.1 Transportation LOS Analysis

All of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersection:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersections which operate at an unacceptable LOS in the pre-project condition is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to these two intersections and no improvements are required.

13.2 VMT Analysis

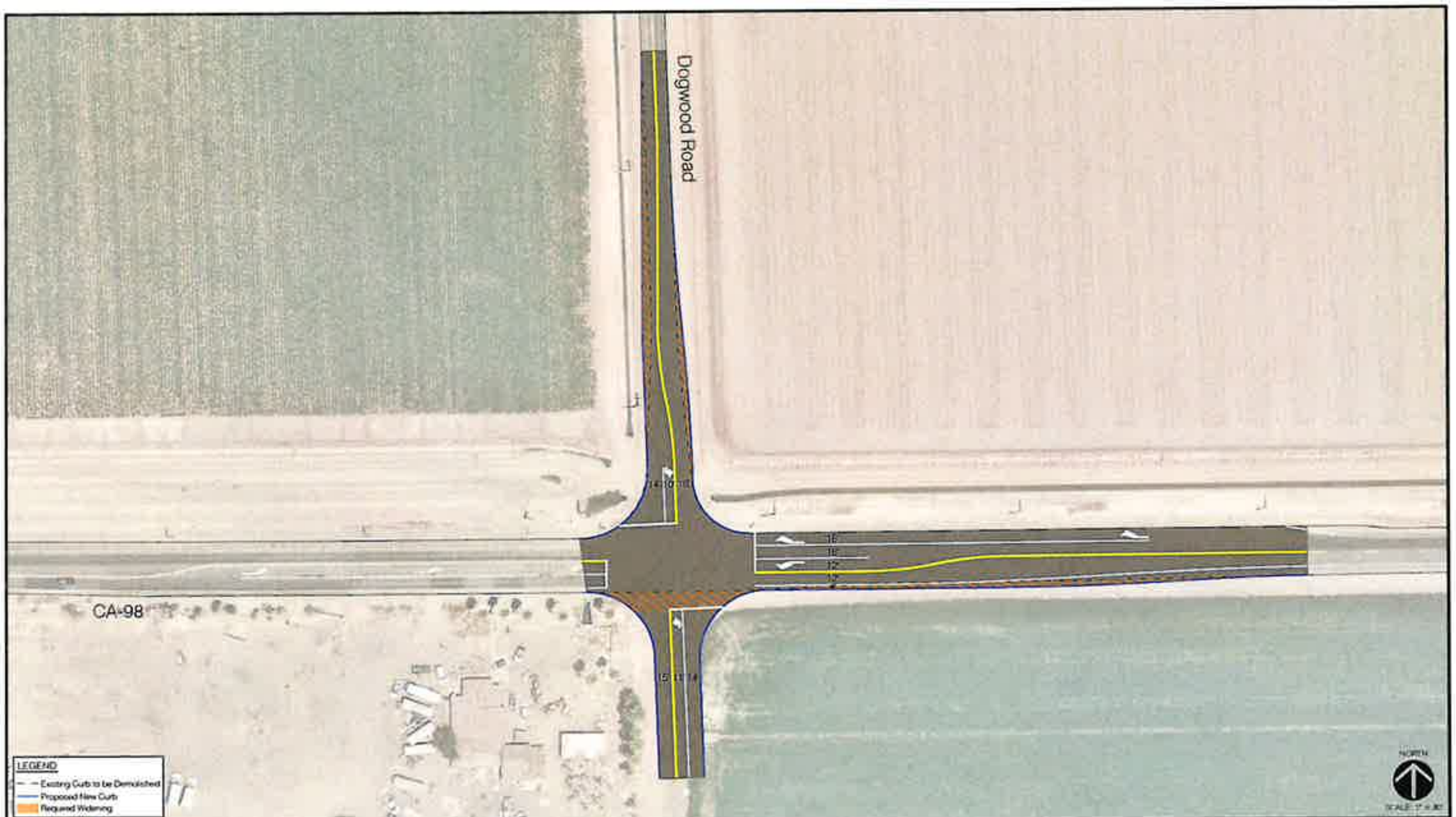
The project does not create a significant VMT transportation impact, and no mitigation measures are required.

13.3 Access

The following access related improvements are recommended:

1. Provide a westbound left-turn lane on SR-98 at Kemp Road.
2. Provide the following geometrics of the SR-98 / Kemp Road intersection.
    a. Northbound
        i. Stop controlled shared left-right lane
    b. Eastbound
        i. Shared through-right lane
    c. Westbound:
        i. Exclusive left-turn lane
        ii. Excusive through lane
3. Pave Kemp Road along the project frontage.

4. Prohibit trucks from utilizing SR-98 from the east to access the site. Trucks should be required to use Dogwood Road to ingress the site.
5. Prohibit trucks from using Kemp Road to access the site.
6. Provide the following geometrics at the SR-98 / Dogwood Road intersection. ***Figure 13-1*** illustrates the recommended improvements at the SR-98 / Dogwood Road intersection.
    a. Northbound
        i. Exclusive left-turn lane
        ii. Shared through-right lane
    b. Southbound
        i. Exclusive left-turn lane
        ii. Shared through-right lane
    c. Eastbound
        i. Exclusive left-turn lane
        ii. Shared through-right lane
    d. Westbound
        i. Exclusive left-turn lane
        ii. Excusive through lane
        iii. Excusive right-turn lane
7. Prepare a Caltrans Intersection Control Evaluation (ICE) analysis at the SR-98 intersections at Dogwood Road and Kemp Road. The ICE will include the recommended design of the proposed improvements.



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CONCEPTUAL ONLY
NOT FOR CONSTRUCTION

Figure 13-1

Recommended Improvements at SR-98 & Dogwood Road

CHARGER LOGISTICS PROJECT

TECHNICAL APPENDICES

CHARGER LOGISTICS CAL-98 HOLDINGS PROJECT

County of Imperial, California
January 2024

LLG Ref. 3-22-3596

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

APPENDIX A

INTERSECTION COUNT SHEETS

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers		
Location:	#01	File Name: ITM-23-075-01
Intersection:	Dogwood Road & Cole Road	Project: LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023	Charger Logistics Project

AM	Dogwood Road Southbound			Cole Road Westbound			Dogwood Road Northbound			Cole Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	8	16	0	5	0	7	0	24	0	0	0	0	60
7:15	17	18	0	1	0	10	0	57	0	0	0	0	103
7:30	5	19	0	1	0	14	0	48	2	0	1	0	90
7:45	20	27	0	1	1	18	0	42	1	1	0	0	111
8:00	12	17	0	2	0	6	0	24	2	0	0	0	63
8:15	16	22	0	3	1	13	0	45	0	1	0	0	101
8:30	11	35	1	1	0	11	0	38	2	1	0	0	100
8:45	13	34	0	1	0	9	0	45	1	0	0	0	103
Total	102	188	1	15	2	88	0	323	8	3	1	0	731
Approach%	35.1	64.6	0.3	14.3	1.9	83.8	-	97.6	2.4	75.0	25.0	-	
Total%	14.0	25.7	0.1	2.1	0.3	12.0	-	44.2	1.1	0.4	0.1	-	

AM Intersection Peak Hour: 07:45 to 08:45

	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Volume	59	101	1	7	2	48	-	149	5	3	-	-	375
Approach%	36.6	62.7	0.6	12.3	3.5	84.2	-	96.8	3.2	100.0	-	-	
Total%	15.7	26.9	0.3	1.9	0.5	12.8	-	39.7	1.3	0.8	-	-	
PHF			0.86			0.71			0.86			0.75	0.84

PM	Dogwood Road Southbound			Cole Road Westbound			Dogwood Road Northbound			Cole Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	33	52	0	1	0	6	0	20	1	0	1	0	114
16:15	30	59	0	0	0	9	0	29	1	0	0	0	128
16:30	28	53	0	1	0	11	0	32	3	0	0	0	128
16:45	20	56	0	2	0	5	0	27	5	0	0	0	115
17:00	28	67	0	3	0	12	0	31	2	0	0	0	143
17:15	46	63	0	0	1	12	0	32	4	0	0	0	158
17:30	27	63	0	0	0	13	0	25	4	0	0	0	132
17:45	15	60	0	0	0	8	0	25	1	0	1	0	110
Total	227	473	0	7	1	76	0	221	21	0	2	0	1028
Approach%	32.4	67.6	-	8.3	1.2	90.5	-	91.3	8.7	-	100.0	-	
Total%	22.1	46.0	-	0.7	0.1	7.4	-	21.5	2.0	-	0.2	-	

PM Intersection Peak Hour: 16:45 to 17:45

	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Volume	121	249	-	5	1	42	-	115	15	-	-	-	548
Approach%	32.7	67.3	-	10.4	2.1	87.5	-	88.5	11.5	-	-	-	
Total%	22.1	45.4	-	0.9	0.2	7.7	-	21.0	2.7	-	-	-	
PHF			0.85			0.80			0.90			#DIV/0!	0.87

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

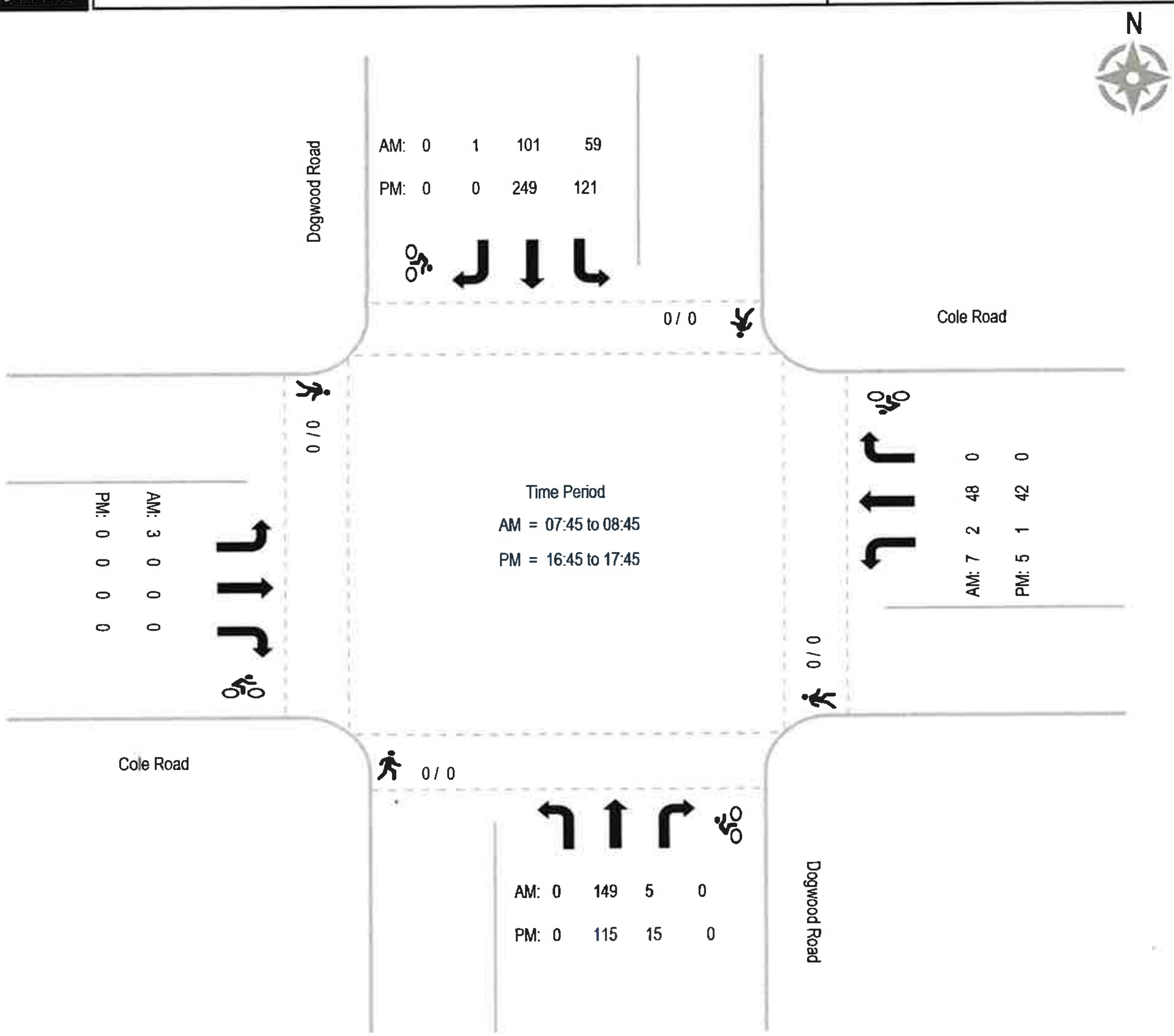
Location:	#01	File Name:	ITM-23-075-01
Intersection:	Dogwood Road & Cole Road	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project

AM	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

Location:	#01	File Name:	ITM-23-075-01
Intersection:	Dogwood Road & Cole Road	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#02	File Name:	ITM-23-075-02
Intersection:	Dogwood Road & Birch Street (SR-98)	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project

AM	Dogwood Road Southbound			Birch Street (SR-98) Westbound			S-31 Northbound			Birch Street (SR-98) Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	15	0	6	0	30	29	0	0	0	1	9	0	90
7:15	16	0	3	0	41	47	0	0	0	5	23	0	135
7:30	18	0	1	0	35	51	0	0	0	6	19	0	130
7:45	19	0	8	0	51	33	0	0	0	4	24	0	139
8:00	18	0	1	0	39	26	0	0	0	3	26	0	113
8:15	21	0	3	0	29	37	0	0	0	4	21	0	115
8:30	29	0	7	0	30	40	0	0	0	4	25	0	135
8:45	28	0	6	0	34	44	0	0	0	2	29	0	143
Total	164	0	35	0	289	307	0	0	0	29	176	0	1000
Approach%	82.4	-	17.6	-	48.5	51.5	-	-	-	14.1	85.9	-	
Total%	16.4	-	3.5	-	28.9	30.7	-	-	-	2.9	17.6	-	

AM Intersection Peak Hour: 07:15 to 08:15

	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Volume	71	-	13	-	166	157	-	-	-	18	92	-	517
Approach%	84.5	-	15.5	-	51.4	48.6	-	-	-	16.4	83.6	-	
Total%	13.7	-	2.5	-	32.1	30.4	-	-	-	3.5	17.8	-	
PHF			0.78			0.92			#DIV/0!			0.95	0.93

PM	Dogwood Road Southbound			Birch Street (SR-98) Westbound			S-31 Northbound			Birch Street (SR-98) Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	50	0	2	0	24	18	0	0	0	3	35	0	132
16:15	57	0	1	0	18	27	0	0	0	5	50	0	158
16:30	50	0	2	0	28	31	0	0	0	4	71	0	186
16:45	57	0	2	0	26	26	0	0	0	6	48	0	165
17:00	58	0	4	0	26	30	0	0	0	5	47	0	170
17:15	60	0	0	0	21	29	0	0	0	6	66	0	182
17:30	53	0	1	0	32	26	0	0	0	3	36	0	151
17:45	61	0	0	0	24	26	0	0	0	2	44	0	157
Total	446	0	12	0	199	213	0	0	0	34	397	0	1301
Approach%	97.4	-	2.6	-	48.3	51.7	-	-	-	7.9	92.1	-	
Total%	34.3	-	0.9	-	15.3	16.4	-	-	-	2.6	30.5	-	

PM Intersection Peak Hour: 16:30 to 17:30

	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Volume	225	-	8	-	101	116	-	-	-	21	232	-	703
Approach%	96.6	-	3.4	-	46.5	53.5	-	-	-	8.3	91.7	-	
Total%	32.0	-	1.1	-	14.4	16.5	-	-	-	3.0	33.0	-	
PHF			0.94			0.92			#DIV/0!			0.84	0.94

Intersection Turning Movement - Bicycle & Pedestrian Count

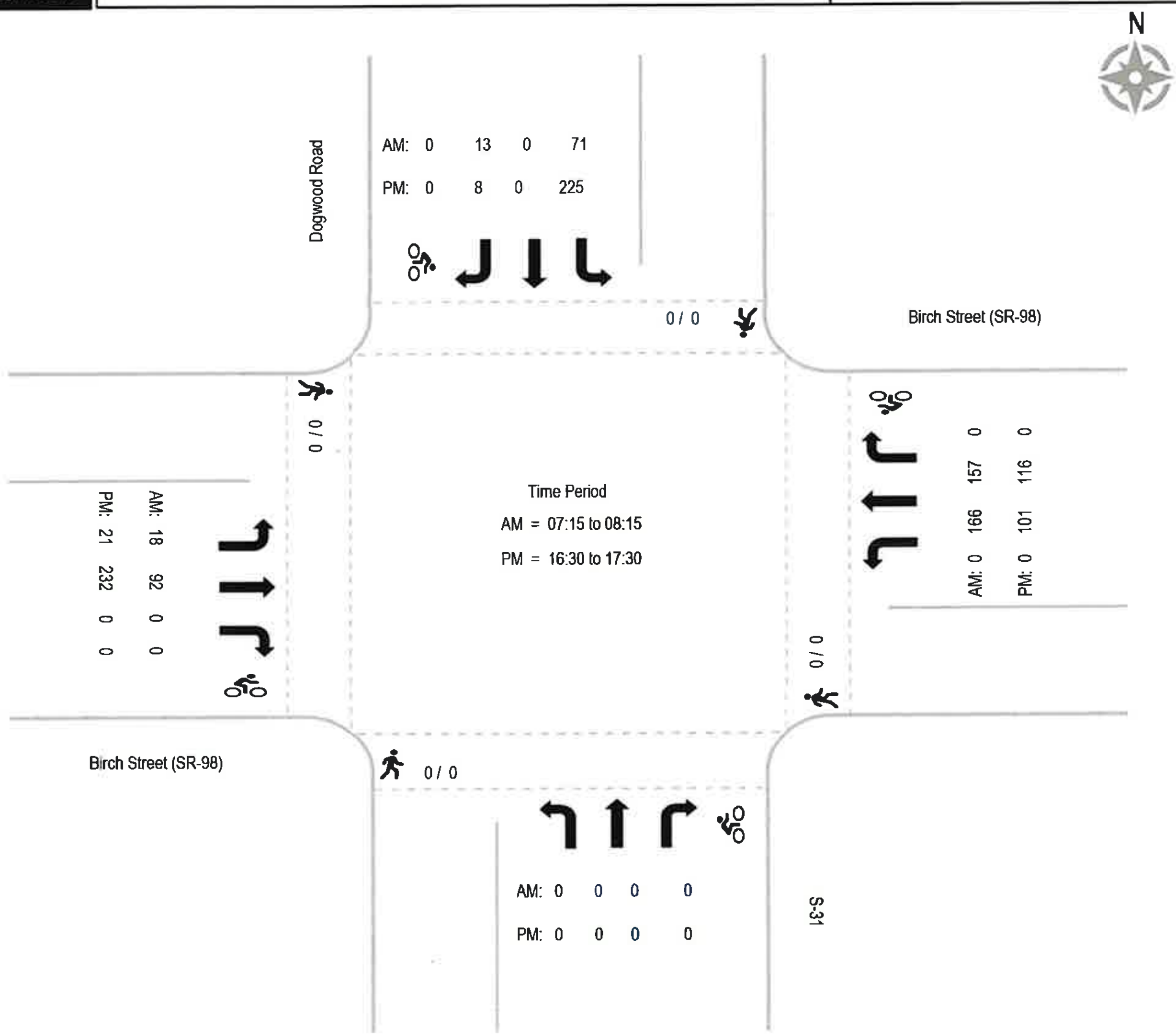
LINSCOTT LAW & GREENSPAN engineers	Location:	#02	File Name:	ITM-23-075-02
	Intersection:	Dogwood Road & Birch Street (SR-98)	Project:	LLG Ref. 3-23-3596
	Date of Count:	Wednesday August 02, 2023		Charger Logistics Project

AM	Dogwood Road Southbound				Birch Street (SR-98) Westbound				S-31 Northbound				Birch Street (SR-98) Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Dogwood Road Southbound				Birch Street (SR-98) Westbound				S-31 Northbound				Birch Street (SR-98) Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

Linscott Law & Greenspan engineers	Location:	#02	File Name:	ITM-23-075-02
	Intersection:	Dogwood Road & Birch Street (SR-98)	Project:	LLG Ref. 3-23-3596
	Date of Count:	Wednesday August 02, 2023		Charger Logistics Project



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County of Imperial
N/S: Dogwood Road
E/W: Cole Road
Weather: Clear

File Name : 01_CIM_Dogwood_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	7	0	1	8	1	0	2	3	0	3	0	3	14
07:15 AM	0	0	0	0	3	0	0	3	0	1	2	3	0	1	0	1	7
07:30 AM	0	1	0	1	2	1	0	3	0	0	1	1	0	3	0	3	8
07:45 AM	0	0	0	0	5	3	0	8	0	0	5	5	0	0	0	0	13
Total	0	1	0	1	17	4	1	22	1	1	10	12	0	7	0	7	42
08:00 AM	0	0	0	0	6	1	1	8	0	0	3	3	0	0	1	1	12
08:15 AM	0	0	1	1	7	0	1	8	0	0	2	2	0	1	0	1	12
08:30 AM	0	0	0	0	6	0	0	6	0	0	4	4	0	0	0	0	10
08:45 AM	1	0	0	1	3	0	2	5	0	0	7	7	0	0	0	0	13
Total	1	0	1	2	22	1	4	27	0	0	16	16	0	1	1	2	47
Grand Total	1	1	1	3	39	5	5	49	1	1	26	28	0	8	1	9	89
Apprch %	33.3	33.3	33.3		79.6	10.2	10.2		3.6	3.6	92.9		0	88.9	11.1		
Total %	1.1	1.1	1.1	3.4	43.8	5.6	5.6	55.1	1.1	1.1	29.2	31.5	0	9	1.1	10.1	

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	5	**3**	0	**8**	0	0	**5**	**5**	0	0	0	0	**13**
08:00 AM	0	0	0	0	6	1	**1**	8	0	0	3	3	0	0	**1**	**1**	12
08:15 AM	0	0	**1**	**1**	**7**	0	1	8	0	0	2	2	0	**1**	0	1	12
08:30 AM	0	0	0	0	6	0	0	6	0	0	4	4	0	0	0	0	10
Total Volume	0	0	1	1	24	4	2	30	0	0	14	14	0	1	1	2	47
% App. Total	0	0	100		80	13.3	6.7		0	0	100		0	50	50		
PHF	.000	.000	.250	.250	.857	.333	.500	.938	.000	.000	.700	.700	.000	.250	.250	.500	.904

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County of Imperial
N/S: Dogwood Road
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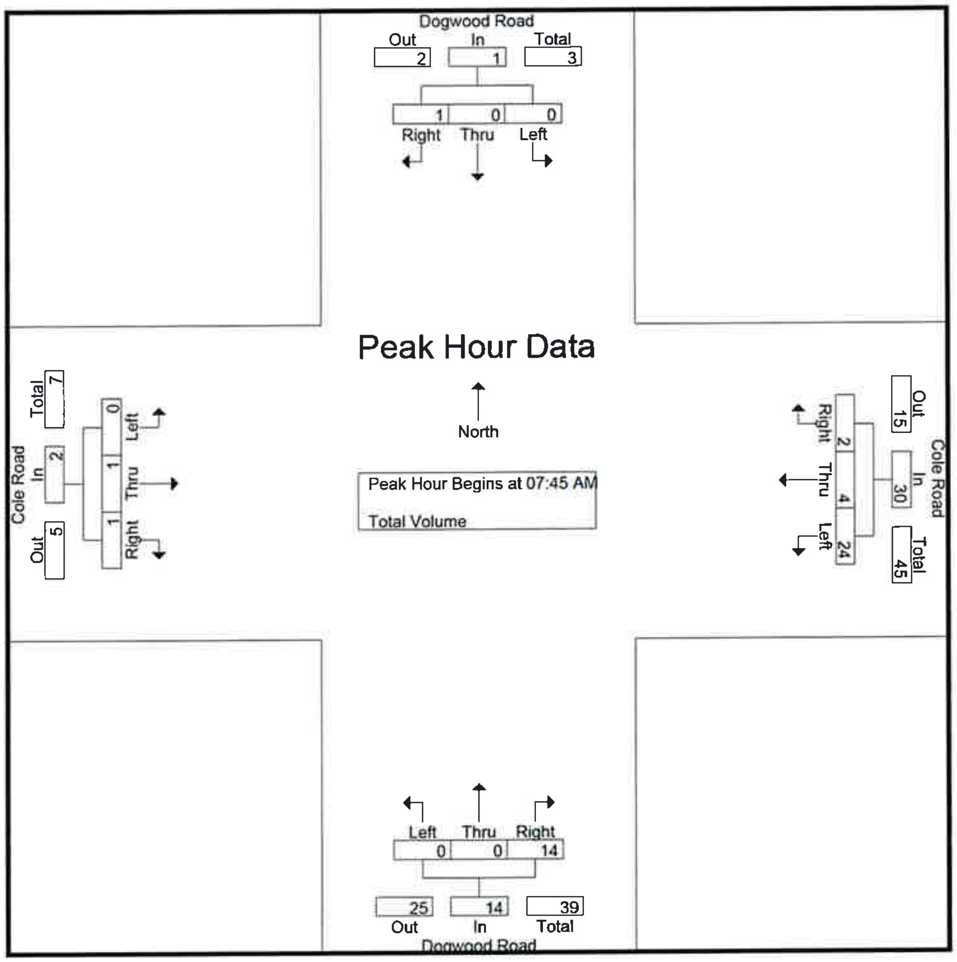
Weather: Clear

File Name : 01_CIM_Dogwood_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				08:00 AM				07:00 AM			
+0 mins.	0	1	0	1	5	3	0	8	0	0	3	3	0	3	0	3
+15 mins.	0	0	0	0	6	1	1	8	0	0	2	2	0	1	0	1
+30 mins.	0	0	0	0	7	0	1	8	0	0	4	4	0	3	0	3
+45 mins.	0	0	1	1	6	0	0	6	0	0	7	7	0	0	0	0
Total Volume	0	1	1	2	24	4	2	30	0	0	16	16	0	7	0	7
% App. Total	0	50	50		80	13.3	6.7		0	0	100		0	100	0	
PHF	.000	.250	.250	.500	.857	.333	.500	.938	.000	.000	.571	.571	.000	.583	.000	.583

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County of Imperial
N/S: Dogwood Road
E/W: Cole Road
Weather: Clear

File Name : 01_CIM_Dogwood_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	7	0	0	7	0	0	7	7	0	1	0	1	15
04:15 PM	0	0	0	0	1	0	0	1	1	0	3	4	0	1	0	1	6
04:30 PM	0	0	0	0	2	0	0	2	0	0	8	8	0	0	0	0	10
04:45 PM	0	0	0	0	2	0	0	2	1	0	7	8	0	0	0	0	10
Total	0	0	0	0	12	0	0	12	2	0	25	27	0	2	0	2	41
05:00 PM	0	0	0	0	3	0	0	3	0	0	2	2	0	0	0	0	5
05:15 PM	0	0	0	0	5	2	0	7	1	0	4	5	0	3	1	4	16
05:30 PM	0	0	0	0	1	0	0	1	0	0	4	4	0	0	0	0	5
05:45 PM	0	0	0	0	1	0	0	1	0	0	4	4	0	0	0	0	5
Total	0	0	0	0	10	2	0	12	1	0	14	15	0	3	1	4	31
Grand Total	0	0	0	0	22	2	0	24	3	0	39	42	0	5	1	6	72
Apprch %	0	0	0		91.7	8.3	0		7.1	0	92.9		0	83.3	16.7		
Total %	0	0	0	0	30.6	2.8	0	33.3	4.2	0	54.2	58.3	0	6.9	1.4	8.3	

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	**7**	0	0	**7**	0	0	7	7	0	**1**	0	**1**	**15**
04:15 PM	0	0	0	0	1	0	0	1	**1**	0	3	4	0	1	0	1	6
04:30 PM	0	0	0	0	2	0	0	2	0	0	**8**	**8**	0	0	0	0	10
04:45 PM	0	0	0	0	2	0	0	2	1	0	7	8	0	0	0	0	10
Total Volume	0	0	0	0	12	0	0	12	2	0	25	27	0	2	0	2	41
% App. Total	0	0	0		100	0	0		7.4	0	92.6		0	100	0		
PHF	.000	.000	.000	.000	.429	.000	.000	.429	.500	.000	.781	.844	.000	.500	.000	.500	.683

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County of Imperial
N/S: Dogwood Road
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Weather: Clear

File Name : 01_CIM_Dogwood_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022
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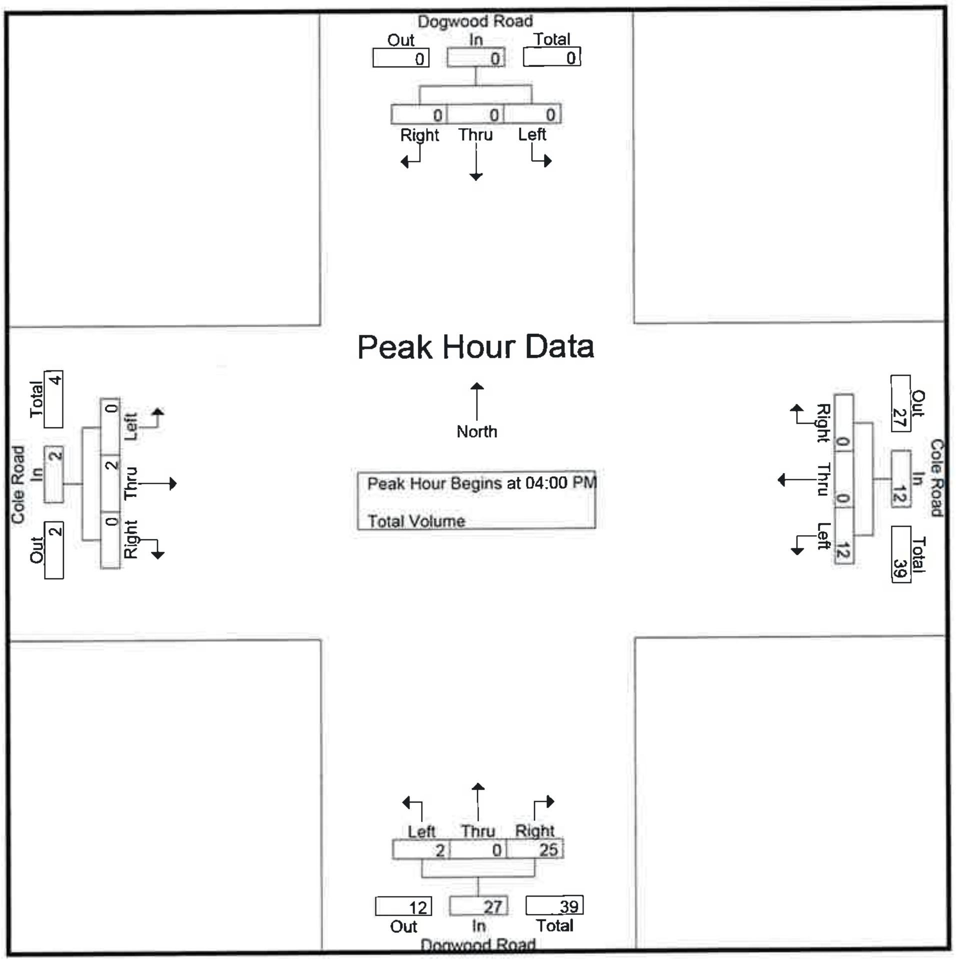

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	0	0	0	0	2	0	0	2	0	0	7	7	0	0	0	0
+15 mins.	0	0	0	0	2	0	0	2	1	0	3	4	0	0	0	0
+30 mins.	0	0	0	0	3	0	0	3	0	0	8	8	0	0	0	0
+45 mins.	0	0	0	0	5	2	0	7	1	0	7	8	0	3	1	4
Total Volume	0	0	0	0	12	2	0	14	2	0	25	27	0	3	1	4
% App. Total	0	0	0		85.7	14.3	0		7.4	0	92.6		0	75	25	
PHF	.000	.000	.000	.000	.600	.250	.000	.500	.500	.000	.781	.844	.000	.250	.250	.250

Location: County of Imperial
N/S: Dogwood Road
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Dogwood Road	East Leg Cole Road	South Leg Dogwood Road	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Dogwood Road	East Leg Cole Road	South Leg Dogwood Road	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Imperial
N/S: Dogwood Road
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Dogwood Road			Westbound Cole Road			Northbound Dogwood Road			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Dogwood Road			Westbound Cole Road			Northbound Dogwood Road			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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PO Box 1178
Corona, CA 92878
951-268-6268

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PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road
Weather: Clear

File Name : 02_CIM_Imperial_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	33	83	27	143	21	32	66	119	8	128	34	170	41	26	7	74	506
07:15 AM	42	101	26	169	17	51	66	134	6	145	23	174	41	21	8	70	547
07:30 AM	49	132	33	214	31	51	85	167	12	197	20	229	68	37	1	106	716
07:45 AM	68	180	42	290	21	53	69	143	21	207	36	264	46	48	5	99	796
Total	192	496	128	816	90	187	286	563	47	677	113	837	196	132	21	349	2565
08:00 AM	36	107	32	175	22	56	77	155	13	153	23	189	39	51	9	99	618
08:15 AM	59	134	32	225	25	61	69	155	8	130	50	188	59	57	8	124	692
08:30 AM	38	154	29	221	20	46	66	132	14	161	30	205	40	57	10	107	665
08:45 AM	49	140	28	217	34	49	62	145	15	134	38	187	40	62	8	110	659
Total	182	535	121	838	101	212	274	587	50	578	141	769	178	227	35	440	2634
Grand Total	374	1031	249	1654	191	399	560	1150	97	1255	254	1606	374	359	56	789	5199
Apprch %	22.6	62.3	15.1		16.6	34.7	48.7		6	78.1	15.8		47.4	45.5	7.1		
Total %	7.2	19.8	4.8	31.8	3.7	7.7	10.8	22.1	1.9	24.1	4.9	30.9	7.2	6.9	1.1	15.2	

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	49	132	33	214	**31**	51	**85**	**167**	12	197	20	229	**68**	37	1	106	716
07:45 AM	**68**	**180**	**42**	**290**	21	53	69	143	**21**	**207**	36	**264**	46	48	5	99	**796**
08:00 AM	36	107	32	175	22	56	77	155	13	153	23	189	39	51	**9**	99	618
08:15 AM	59	134	32	225	25	**61**	69	155	8	130	**50**	188	59	**57**	8	**124**	692
Total Volume	212	553	139	904	99	221	300	620	54	687	129	870	212	193	23	428	2822
% App. Total	23.5	61.2	15.4		16	35.6	48.4		6.2	79	14.8		49.5	45.1	5.4		
PHF	.779	.768	.827	.779	.798	.906	.882	.928	.643	.830	.645	.824	.779	.846	.639	.863	.886

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PO Box 1178
Corona, CA 92878
(951) 268-6268
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County of Imperial
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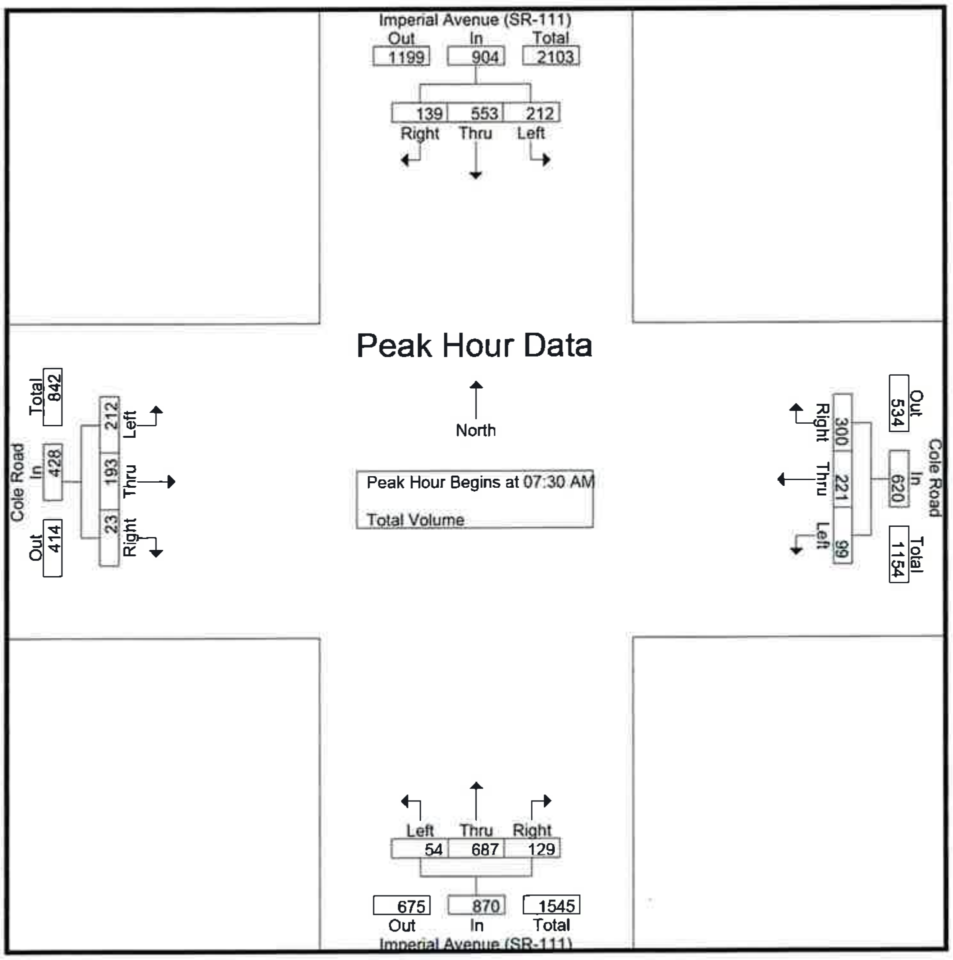
Weather: Clear

File Name : 02_CIM_Imperial_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:30 AM				08:00 AM			
+0 mins.	**68**	**180**	**42**	**290**	**31**	51	**85**	**167**	12	197	20	229	**39**	51	9	99
+15 mins.	36	107	32	175	21	53	69	143	**21**	**207**	36	**264**	**59**	57	8	**124**
+30 mins.	59	134	32	225	22	56	77	155	13	153	23	189	40	57	**10**	107
+45 mins.	38	154	29	221	25	**61**	69	155	8	130	**50**	188	40	**62**	8	110
Total Volume	201	575	135	911	99	221	300	620	54	687	129	870	178	227	35	440
% App. Total	22.1	63.1	14.8		16	35.6	48.4		6.2	79	14.8		40.5	51.6	8	
PHF	.739	.799	.804	.785	.798	.906	.882	.928	.643	.830	.645	.824	.754	.915	.875	.887

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Corona, CA 92878
(951) 268-6268
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County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road
Weather: Clear

File Name : 02_CIM_Imperial_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	89	222	61	372	46	58	46	150	18	168	52	238	38	88	17	143	903
04:15 PM	105	236	64	405	69	37	65	171	5	146	63	214	51	83	20	154	944
04:30 PM	89	215	54	358	58	54	60	172	12	168	48	228	42	88	20	150	908
04:45 PM	78	223	56	357	59	44	62	165	7	168	55	230	53	72	17	142	894
Total	361	896	235	1492	232	193	233	658	42	650	218	910	184	331	74	589	3649
05:00 PM	112	205	37	354	58	52	77	187	4	135	52	191	58	112	28	198	930
05:15 PM	106	219	58	383	54	56	65	175	13	151	42	206	47	71	15	133	897
05:30 PM	108	263	51	422	76	47	50	173	6	141	38	185	39	64	10	113	893
05:45 PM	110	225	60	395	50	40	58	148	10	153	54	217	50	74	10	134	894
Total	436	912	206	1554	238	195	250	683	33	580	186	799	194	321	63	578	3614
Grand Total	797	1808	441	3046	470	388	483	1341	75	1230	404	1709	378	652	137	1167	7263
Apprch %	26.2	59.4	14.5		35	28.9	36		4.4	72	23.6		32.4	55.9	11.7		
Total %	11	24.9	6.1	41.9	6.5	5.3	6.7	18.5	1	16.9	5.6	23.5	5.2	9	1.9	16.1	

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	105	**236**	**64**	**405**	**69**	37	65	171	5	146	**63**	214	51	83	20	154	**944**
04:30 PM	89	215	54	358	58	**54**	60	172	**12**	**168**	48	228	42	88	20	150	908
04:45 PM	78	223	56	357	59	44	62	165	7	168	55	**230**	53	72	17	142	894
05:00 PM	**112**	205	37	354	58	52	**77**	**187**	4	135	52	191	**58**	**112**	**28**	**198**	930
Total Volume	384	879	211	1474	244	187	264	695	28	617	218	863	204	355	85	644	3676
% App. Total	26.1	59.6	14.3		35.1	26.9	38		3.2	71.5	25.3		31.7	55.1	13.2		
PHF	.857	.931	.824	.910	.884	.866	.857	.929	.583	.918	.865	.938	.879	.792	.759	.813	.974

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Corona, CA 92878
(951) 268-6268
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County of Imperial
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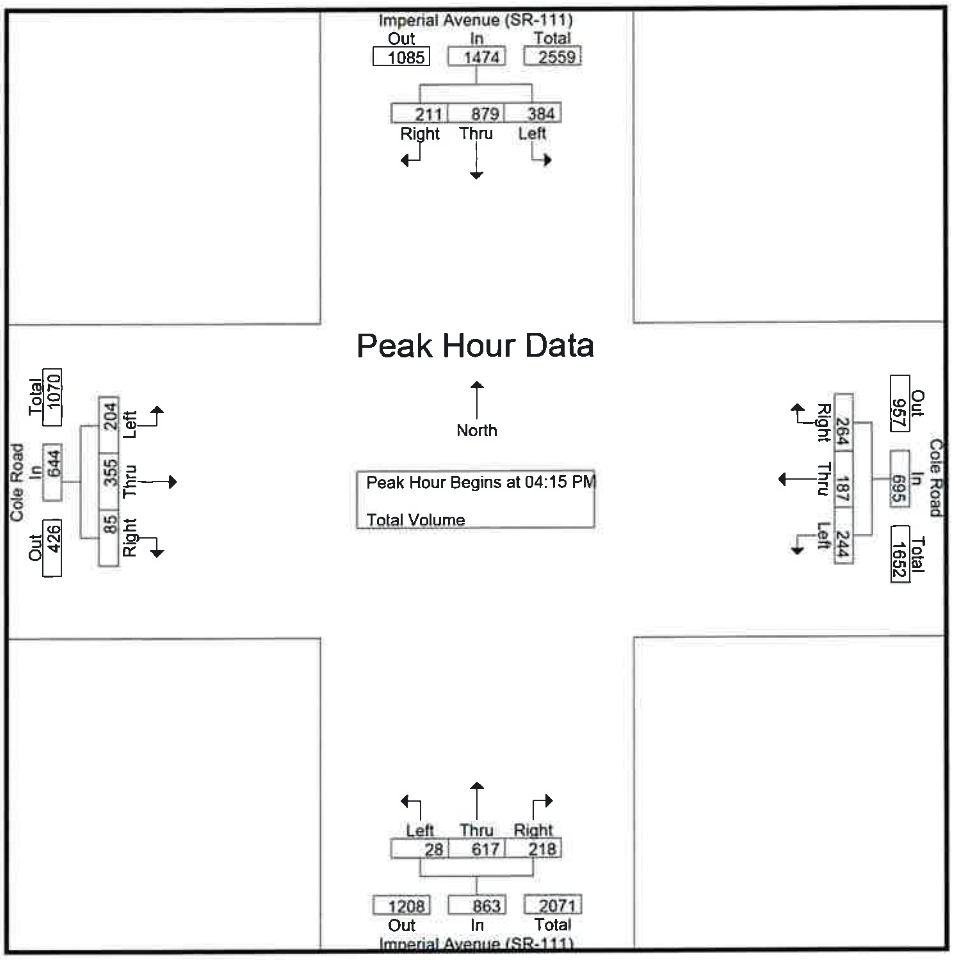
Weather: Clear

File Name : 02_CIM_Imperial_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:00 PM				04:15 PM			
+0 mins.	**112**	205	37	354	59	44	62	165	**18**	**168**	52	**238**	51	83	20	154
+15 mins.	106	219	58	383	58	52	**77**	**187**	5	146	**63**	214	42	88	20	150
+30 mins.	108	**263**	51	**422**	54	**56**	65	175	12	168	48	228	53	72	17	142
+45 mins.	110	225	**60**	395	**76**	47	50	173	7	168	55	230	**58**	**112**	**28**	**198**
Total Volume	436	912	206	1554	247	199	254	700	42	650	218	910	204	355	85	644
% App. Total	28.1	58.7	13.3		35.3	28.4	36.3		4.6	71.4	24		31.7	55.1	13.2	
PHF	.973	.867	.858	.921	.813	.888	.825	.936	.583	.967	.865	.956	.879	.792	.759	.813

Location: County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Imperial Avenue (SR-111)	East Leg Cole Road	South Leg Imperial Avenue (SR-111)	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	2	0	0	0	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	2	0	0	0	2
8:15 AM	0	0	0	0	0
8:30 AM	3	0	0	0	3
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	7	0	0	0	7

	North Leg Imperial Avenue (SR-111)	East Leg Cole Road	South Leg Imperial Avenue (SR-111)	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	1	1	1	4
4:45 PM	0	0	1	0	1
5:00 PM	1	1	0	0	2
5:15 PM	0	0	1	0	1
5:30 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	4	2	3	1	10

Location: County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Imperial Avenue (SR-111)			Westbound Cole Road			Northbound Imperial Avenue (SR-111)			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	0	0	0	0	0	1

	Southbound Imperial Avenue (SR-111)			Westbound Cole Road			Northbound Imperial Avenue (SR-111)			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

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PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Cole Road
E/W: SR-98
Weather: Clear

File Name : 03_CIM_Cole_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	13	0	13	25	28	53	0	42	42	108
07:15 AM	21	1	22	47	35	82	0	46	46	150
07:30 AM	27	0	27	33	27	60	0	45	45	132
07:45 AM	29	0	29	43	37	80	0	47	47	156
Total	90	1	91	148	127	275	0	180	180	546
08:00 AM	39	0	39	31	28	59	0	56	56	154
08:15 AM	29	0	29	36	40	76	0	27	27	132
08:30 AM	24	0	24	36	40	76	0	31	31	131
08:45 AM	33	0	33	51	43	94	0	43	43	170
Total	125	0	125	154	151	305	0	157	157	587
Grand Total	215	1	216	302	278	580	0	337	337	1133
Apprch %	99.5	0.5		52.1	47.9		0	100		
Total %	19	0.1	19.1	26.7	24.5	51.2	0	29.7	29.7	

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	21	**1**	22	**47**	35	**82**	0	46	46	150
07:30 AM	27	0	27	33	27	60	0	45	45	132
07:45 AM	29	0	29	43	**37**	80	0	47	47	**156**
08:00 AM	**39**	0	**39**	31	28	59	0	**56**	**56**	154
Total Volume	116	1	117	154	127	281	0	194	194	592
% App. Total	99.1	0.9		54.8	45.2		0	100		
PHF	.744	.250	.750	.819	.858	.857	.000	.866	.866	.949

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County of Imperial
N/S: Cole Road
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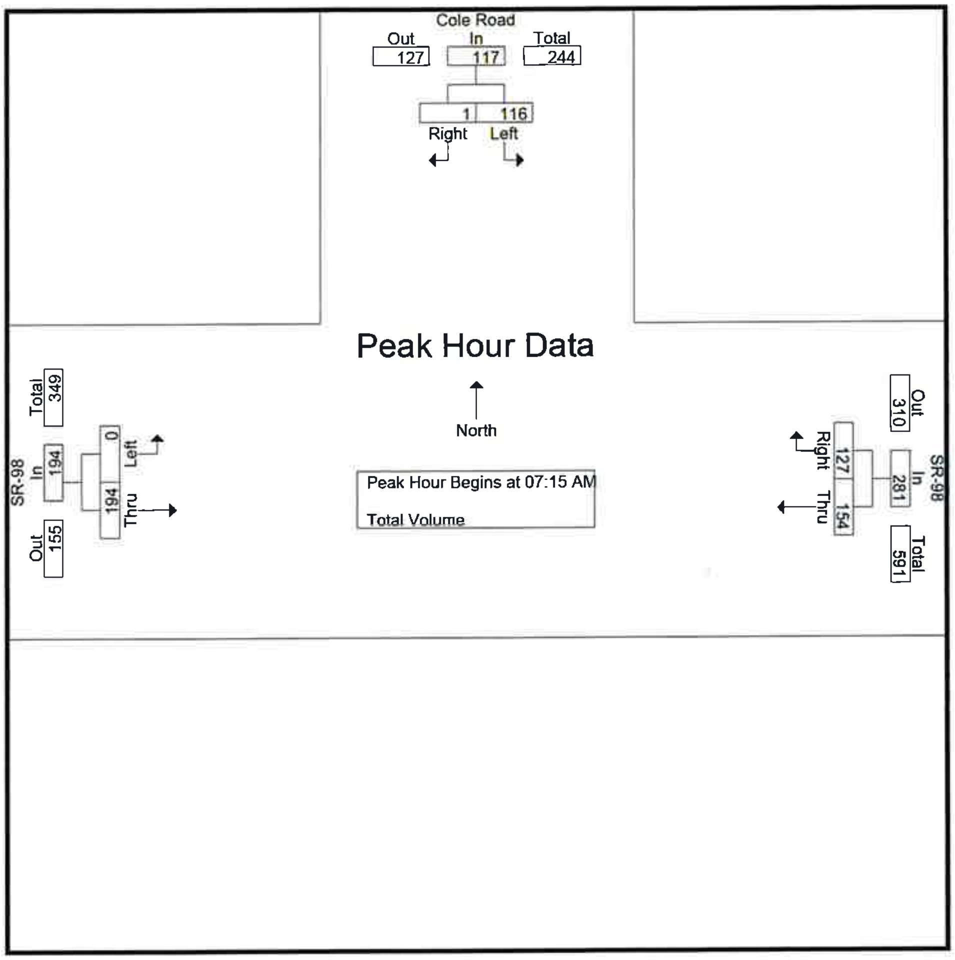
Weather: Clear

File Name : 03_CIM_Cole_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			07:15 AM		
+0 mins.	**39**	0	**39**	31	28	59	0	46	46
+15 mins.	29	0	29	36	40	76	0	45	45
+30 mins.	24	0	24	36	40	76	0	47	47
+45 mins.	33	0	33	**51**	**43**	**94**	0	**56**	**56**
Total Volume	125	0	125	154	151	305	0	194	194
% App. Total	100	0		50.5	49.5		0	100	
PHF	.801	.000	.801	.755	.878	.811	.000	.866	.866

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County of Imperial
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Weather: Clear

File Name : 03_CIM_Cole_SR-98_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	43	1	44	72	49	121	0	42	42	207
04:15 PM	58	0	58	70	50	120	0	46	46	224
04:30 PM	46	0	46	67	52	119	0	51	51	216
04:45 PM	32	0	32	56	58	114	0	40	40	186
Total	179	1	180	265	209	474	0	179	179	833
05:00 PM	52	1	53	73	48	121	0	27	27	201
05:15 PM	50	1	51	70	42	112	0	37	37	200
05:30 PM	65	1	66	50	47	97	0	37	37	200
05:45 PM	46	0	46	57	42	99	0	35	35	180
Total	213	3	216	250	179	429	0	136	136	781
Grand Total	392	4	396	515	388	903	0	315	315	1614
Apprch %	99	1		57	43		0	100		
Total %	24.3	0.2	24.5	31.9	24	55.9	0	19.5	19.5	

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	43	**1**	44	**72**	49	**121**	0	42	42	207
04:15 PM	**58**	0	**58**	70	50	120	0	46	46	**224**
04:30 PM	46	0	46	67	52	119	0	**51**	**51**	216
04:45 PM	32	0	32	56	**58**	114	0	40	40	186
Total Volume	179	1	180	265	209	474	0	179	179	833
% App. Total	99.4	0.6		55.9	44.1		0	100		
PHF	.772	.250	.776	.920	.901	.979	.000	.877	.877	.930

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County of Imperial
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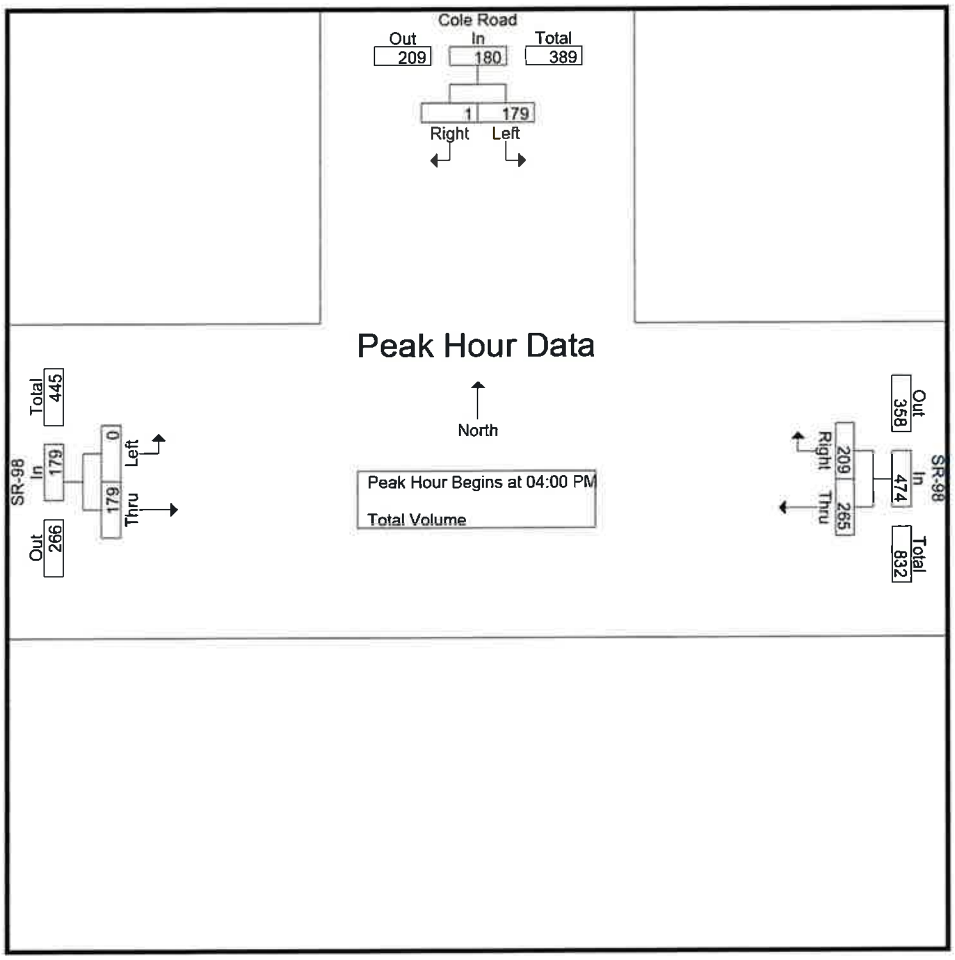

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:00 PM			04:00 PM		
+0 mins.	52	**1**	53	**72**	49	**121**	0	42	42
+15 mins.	50	1	51	70	50	120	0	46	46
+30 mins.	**65**	1	**66**	67	52	119	0	**51**	**51**
+45 mins.	46	0	46	56	**58**	114	0	40	40
Total Volume	213	3	216	265	209	474	0	179	179
% App. Total	98.6	1.4		55.9	44.1		0	100	
PHF	.819	.750	.818	.920	.901	.979	.000	.877	.877

Location: County of Imperial
N/S: Cole Road
E/W: SR-98

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Cole Road	East Leg SR-98	South Leg Cole Road	West Leg SR-98	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Cole Road	East Leg SR-98	South Leg Cole Road	West Leg SR-98	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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951-268-6268

Location: County of Imperial
N/S: Cole Road
E/W: SR-98

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Cole Road			Westbound SR-98			Northbound Cole Road			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Cole Road			Westbound SR-98			Northbound Cole Road			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
951-268-6268

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PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	17	10	31	6	11	0	17	3	61	10	74	4	15	14	33	155
07:15 AM	2	38	5	45	7	8	0	15	4	72	11	87	4	14	17	35	182
07:30 AM	3	44	8	55	6	8	1	15	16	55	5	76	5	9	14	28	174
07:45 AM	2	63	14	79	4	11	1	16	10	43	8	61	7	7	33	47	203
Total	11	162	37	210	23	38	2	63	33	231	34	298	20	45	78	143	714
08:00 AM	0	37	4	41	3	5	1	9	11	26	6	43	18	11	40	69	162
08:15 AM	1	37	7	45	5	8	2	15	15	30	9	54	6	7	17	30	144
08:30 AM	1	32	8	41	9	11	1	21	20	36	5	61	5	12	14	31	154
08:45 AM	0	37	8	45	4	11	3	18	10	47	4	61	9	13	33	55	179
Total	2	143	27	172	21	35	7	63	56	139	24	219	38	43	104	185	639
Grand Total	13	305	64	382	44	73	9	126	89	370	58	517	58	88	182	328	1353
Apprch %	3.4	79.8	16.8		34.9	57.9	7.1		17.2	71.6	11.2		17.7	26.8	55.5		
Total %	1	22.5	4.7	28.2	3.3	5.4	0.7	9.3	6.6	27.3	4.3	38.2	4.3	6.5	13.5	24.2	

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	38	5	45	**7**	8	0	15	4	**72**	**11**	**87**	4	**14**	17	35	182
07:30 AM	**3**	44	8	55	6	8	**1**	15	**16**	55	5	76	5	9	14	28	174
07:45 AM	2	**63**	**14**	**79**	4	**11**	1	**16**	10	43	8	61	7	7	33	47	**203**
08:00 AM	0	37	4	41	3	5	1	9	11	26	6	43	**18**	11	**40**	**69**	162
Total Volume	7	182	31	220	20	32	3	55	41	196	30	267	34	41	104	179	721
% App. Total	3.2	82.7	14.1		36.4	58.2	5.5		15.4	73.4	11.2		19	22.9	58.1		
PHF	.583	.722	.554	.696	.714	.727	.750	.859	.641	.681	.682	.767	.472	.732	.650	.649	.888

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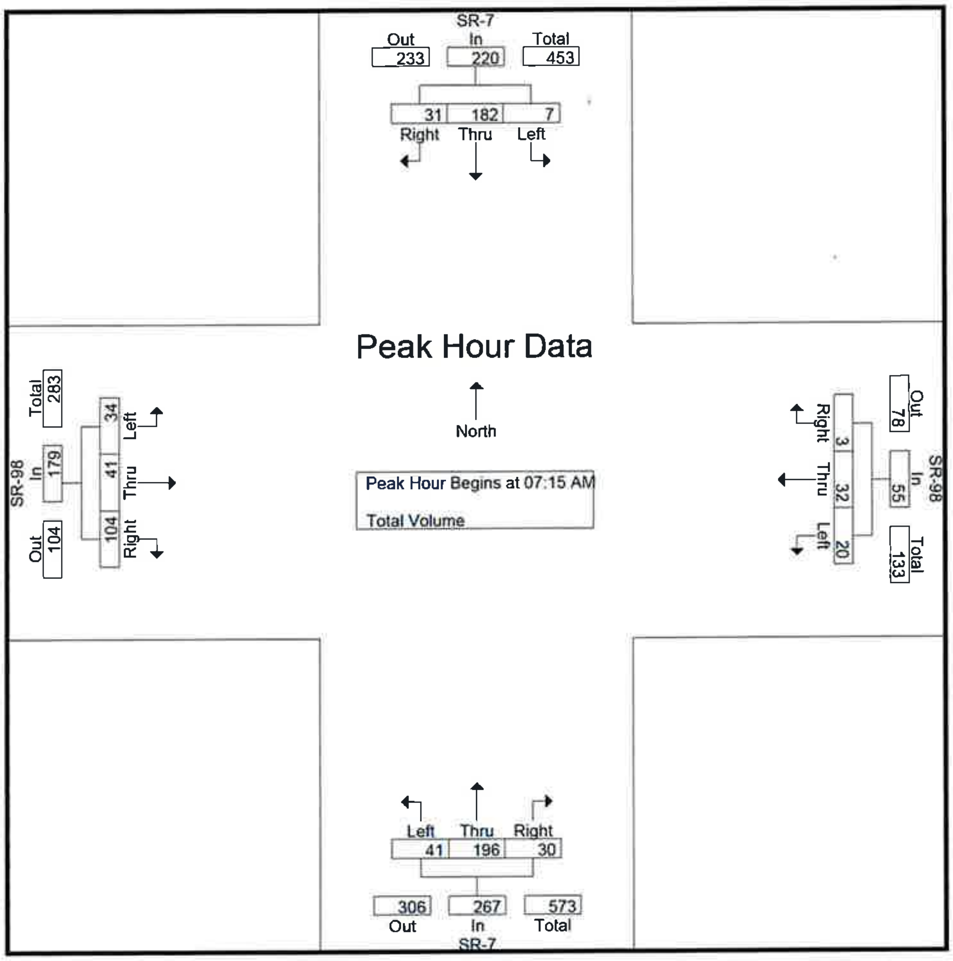
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:00 AM				08:00 AM			
+0 mins.	2	38	5	45	6	**11**	0	**17**	3	61	10	74	**18**	11	**40**	**69**
+15 mins.	**3**	44	8	55	**7**	8	0	15	4	**72**	**11**	**87**	6	7	17	30
+30 mins.	2	**63**	**14**	**79**	6	8	**1**	15	**16**	55	5	76	5	12	14	31
+45 mins.	0	37	4	41	4	11	1	16	10	43	8	61	9	**13**	33	55
Total Volume	7	182	31	220	23	38	2	63	33	231	34	298	38	43	104	185
% App. Total	3.2	82.7	14.1		36.5	60.3	3.2		11.1	77.5	11.4		20.5	23.2	56.2	
PHF	.583	.722	.554	.696	.821	.864	.500	.926	.516	.802	.773	.856	.528	.827	.650	.670

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PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	46	10	57	15	29	0	44	13	51	7	71	8	20	26	54	226
04:15 PM	2	71	11	84	9	11	5	25	17	80	9	106	13	20	23	56	271
04:30 PM	1	59	10	70	16	17	4	37	16	57	9	82	7	10	25	42	231
04:45 PM	0	50	16	66	13	9	0	22	23	62	7	92	8	12	18	38	218
Total	4	226	47	277	53	66	9	128	69	250	32	351	36	62	92	190	946
05:00 PM	0	60	15	75	13	14	1	28	42	63	7	112	7	14	20	41	256
05:15 PM	2	63	10	75	9	17	1	27	14	57	9	80	8	11	16	35	217
05:30 PM	0	61	14	75	12	16	0	28	13	56	9	78	12	13	16	41	222
05:45 PM	0	52	6	58	8	19	1	28	17	49	4	70	7	18	23	48	204
Total	2	236	45	283	42	66	3	111	86	225	29	340	34	56	75	165	899
Grand Total	6	462	92	560	95	132	12	239	155	475	61	691	70	118	167	355	1845
Apprch %	1.1	82.5	16.4		39.7	55.2	5		22.4	68.7	8.8		19.7	33.2	47		
Total %	0.3	25	5	30.4	5.1	7.2	0.7	13	8.4	25.7	3.3	37.5	3.8	6.4	9.1	19.2	

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**2**	**71**	11	**84**	9	11	**5**	25	17	**80**	**9**	106	**13**	**20**	23	**56**	**271**
04:30 PM	1	59	10	70	**16**	**17**	4	**37**	16	57	9	82	7	10	**25**	42	231
04:45 PM	0	50	**16**	66	13	9	0	22	23	62	7	92	8	12	18	38	218
05:00 PM	0	60	15	75	13	14	1	28	**42**	63	7	**112**	7	14	20	41	256
Total Volume	3	240	52	295	51	51	10	112	98	262	32	392	35	56	86	177	976
% App. Total	1	81.4	17.6		45.5	45.5	8.9		25	66.8	8.2		19.8	31.6	48.6		
PHF	.375	.845	.813	.878	.797	.750	.500	.757	.583	.819	.889	.875	.673	.700	.860	.790	.900

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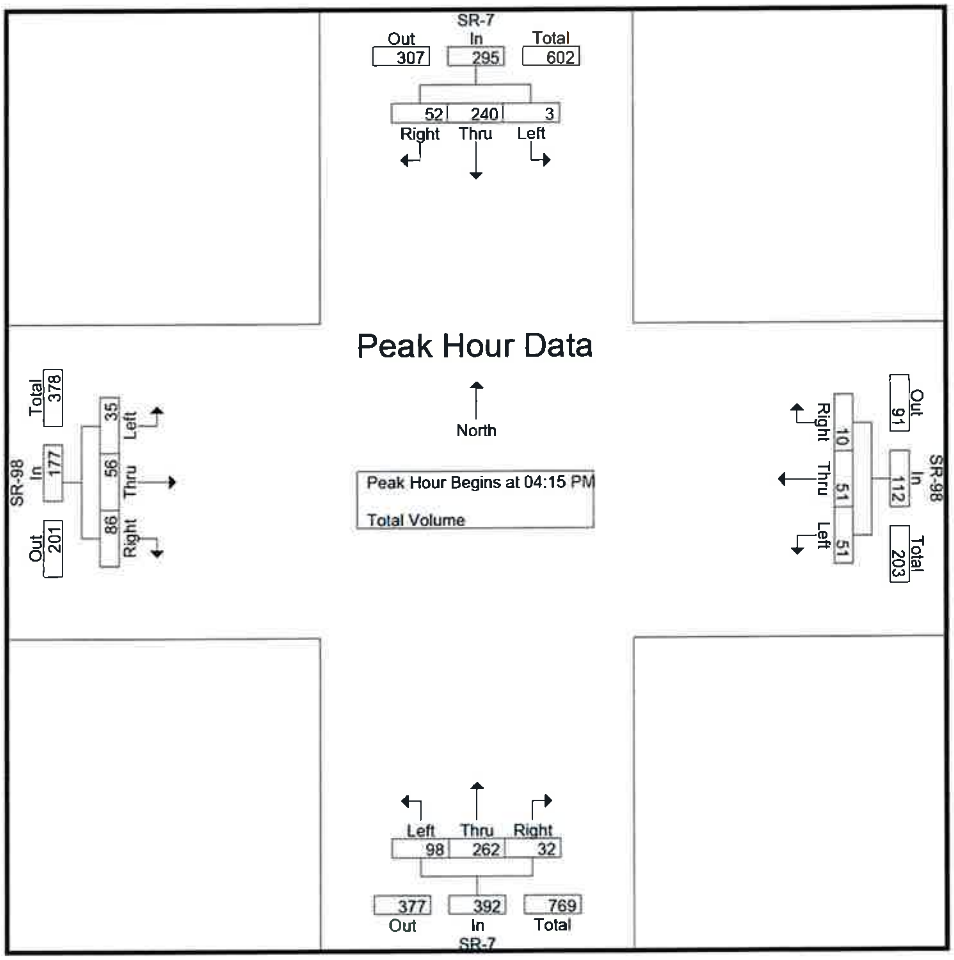
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:15 PM				04:00 PM			
+0 mins.	**2**	**71**	11	**84**	15	**29**	0	**44**	17	**80**	**9**	106	8	**20**	**26**	54
+15 mins.	1	59	10	70	9	11	**5**	25	16	57	9	82	**13**	20	23	**56**
+30 mins.	0	50	**16**	66	**16**	17	4	37	23	62	7	92	7	10	25	42
+45 mins.	0	60	15	75	13	9	0	22	**42**	63	7	**112**	8	12	18	38
Total Volume	3	240	52	295	53	66	9	128	98	262	32	392	36	62	92	190
% App. Total	1	81.4	17.6		41.4	51.6	7		25	66.8	8.2		18.9	32.6	48.4	
PHF	.375	.845	.813	.878	.828	.569	.450	.727	.583	.819	.889	.875	.692	.775	.885	.848

Location: County of Imperial
N/S: SR-7
E/W: SR-98

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg SR-7	East Leg SR-98	South Leg SR-7	West Leg SR-98	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg SR-7	East Leg SR-98	South Leg SR-7	West Leg SR-98	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Imperial
N/S: SR-7
E/W: SR-98

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound SR-7			Westbound SR-98			Northbound SR-7			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	1	1

	Southbound SR-7			Westbound SR-98			Northbound SR-7			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
951-268-6268

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Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	6	7	0	41	1	42	0	0	0	0	2	10	0	12	61
07:15 AM	0	0	3	3	0	59	1	60	0	0	0	0	2	24	0	26	89
07:30 AM	0	0	3	3	0	58	0	58	1	0	0	1	2	35	0	37	99
07:45 AM	0	0	4	4	0	55	0	55	0	0	0	0	3	26	0	29	88
Total	1	0	16	17	0	213	2	215	1	0	0	1	9	95	0	104	337
08:00 AM	0	0	5	5	0	43	1	44	0	0	0	0	2	16	0	18	67
08:15 AM	1	0	3	4	0	43	0	43	0	0	0	0	1	28	0	29	76
08:30 AM	0	0	5	5	0	43	0	43	0	0	0	0	4	21	0	25	73
08:45 AM	0	0	3	3	0	34	5	39	0	0	0	0	3	22	0	25	67
Total	1	0	16	17	0	163	6	169	0	0	0	0	10	87	0	97	283
Grand Total	2	0	32	34	0	376	8	384	1	0	0	1	19	182	0	201	620
Apprch %	5.9	0	94.1		0	97.9	2.1		100	0	0		9.5	90.5	0		
Total %	0.3	0	5.2	5.5	0	60.6	1.3	61.9	0.2	0	0	0.2	3.1	29.4	0	32.4	

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	3	3	0	**59**	**1**	**60**	0	0	0	0	2	24	0	26	89
07:30 AM	0	0	3	3	0	58	0	58	**1**	0	0	**1**	2	**35**	0	**37**	**99**
07:45 AM	0	0	4	4	0	55	0	55	0	0	0	0	**3**	26	0	29	88
08:00 AM	0	0	**5**	**5**	0	43	1	44	0	0	0	0	2	16	0	18	67
Total Volume	0	0	15	15	0	215	2	217	1	0	0	1	9	101	0	110	343
% App. Total	0	0	100		0	99.1	0.9		100	0	0		8.2	91.8	0		
PHF	.000	.000	.750	.750	.000	.911	.500	.904	.250	.000	.000	.250	.750	.721	.000	.743	.866

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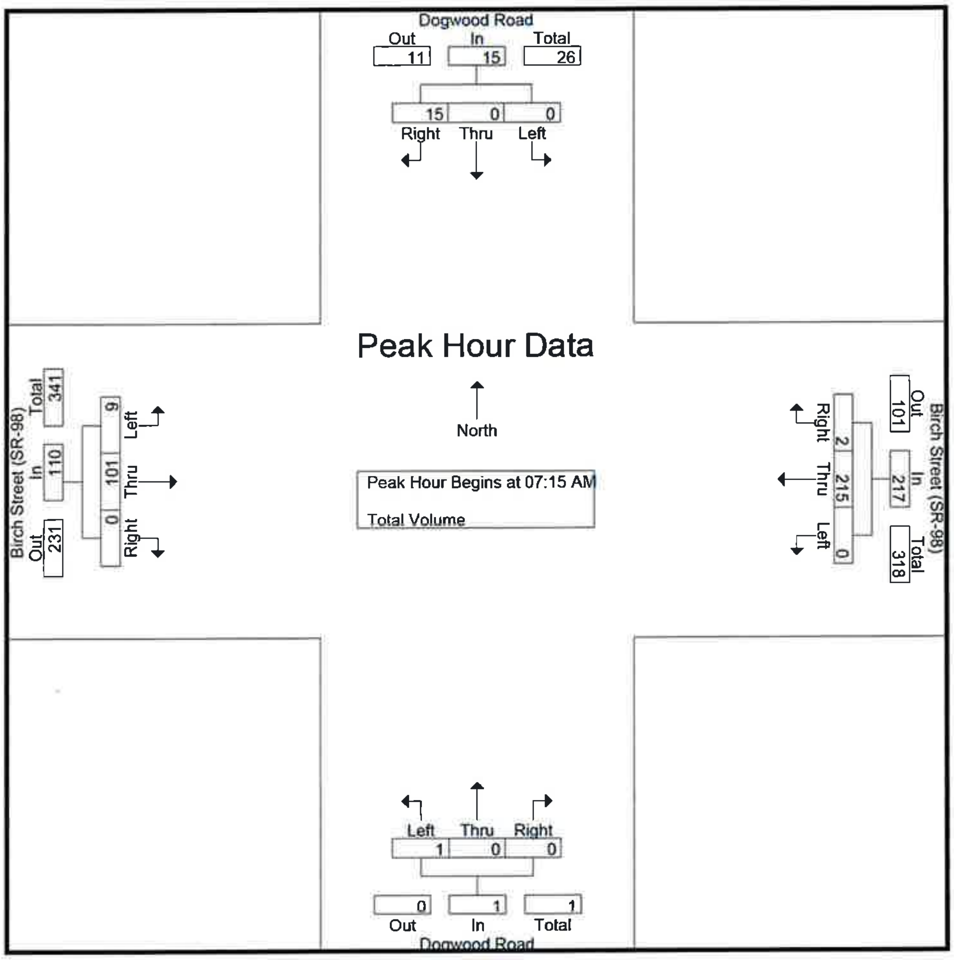
County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:15 AM				07:00 AM				07:30 AM			
+0 mins.	0	0	4	4	0	**59**	**1**	**60**	0	0	0	0	2	**35**	0	**37**
+15 mins.	0	0	**5**	**5**	0	58	0	58	0	0	0	0	**3**	26	0	29
+30 mins.	**1**	0	3	4	0	55	0	55	**1**	0	0	**1**	2	16	0	18
+45 mins.	0	0	5	5	0	43	1	44	0	0	0	0	1	28	0	29
Total Volume	1	0	17	18	0	215	2	217	1	0	0	1	8	105	0	113
% App. Total	5.6	0	94.4		0	99.1	0.9		100	0	0		7.1	92.9	0	
PHF	.250	.000	.850	.900	.000	.911	.500	.904	.250	.000	.000	.250	.667	.750	.000	.764

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County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	2	2	0	19	1	20	0	0	0	0	4	50	0	54	76
04:15 PM	0	0	1	1	0	24	4	28	0	0	0	0	0	61	0	61	90
04:30 PM	0	0	1	1	0	37	5	42	0	0	0	0	3	44	0	47	90
04:45 PM	0	0	3	3	0	12	5	17	0	0	0	0	4	59	0	63	83
Total	0	0	7	7	0	92	15	107	0	0	0	0	11	214	0	225	339
05:00 PM	0	0	2	2	0	24	1	25	0	0	0	0	2	65	1	68	95
05:15 PM	0	0	4	4	0	28	3	31	0	0	0	0	1	65	0	66	101
05:30 PM	0	0	1	1	0	35	2	37	0	0	0	0	2	67	0	69	107
05:45 PM	0	0	1	1	0	21	3	24	0	0	0	0	2	56	0	58	83
Total	0	0	8	8	0	108	9	117	0	0	0	0	7	253	1	261	386
Grand Total	0	0	15	15	0	200	24	224	0	0	0	0	18	467	1	486	725
Apprch %	0	0	100		0	89.3	10.7		0	0	0		3.7	96.1	0.2		
Total %	0	0	2.1	2.1	0	27.6	3.3	30.9	0	0	0	0	2.5	64.4	0.1	67	

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	3	3	0	12	**5**	17	0	0	0	0	**4**	59	0	63	83
05:00 PM	0	0	2	2	0	24	1	25	0	0	0	0	2	65	**1**	68	95
05:15 PM	0	0	**4**	**4**	0	28	3	31	0	0	0	0	1	65	0	66	101
05:30 PM	0	0	1	1	0	**35**	2	**37**	0	0	0	0	2	**67**	0	**69**	**107**
Total Volume	0	0	10	10	0	99	11	110	0	0	0	0	9	256	1	266	386
% App. Total	0	0	100		0	90	10		0	0	0		3.4	96.2	0.4		
PHF	.000	.000	.625	.625	.000	.707	.550	.743	.000	.000	.000	.000	.563	.955	.250	.964	.902

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Corona, CA 92878
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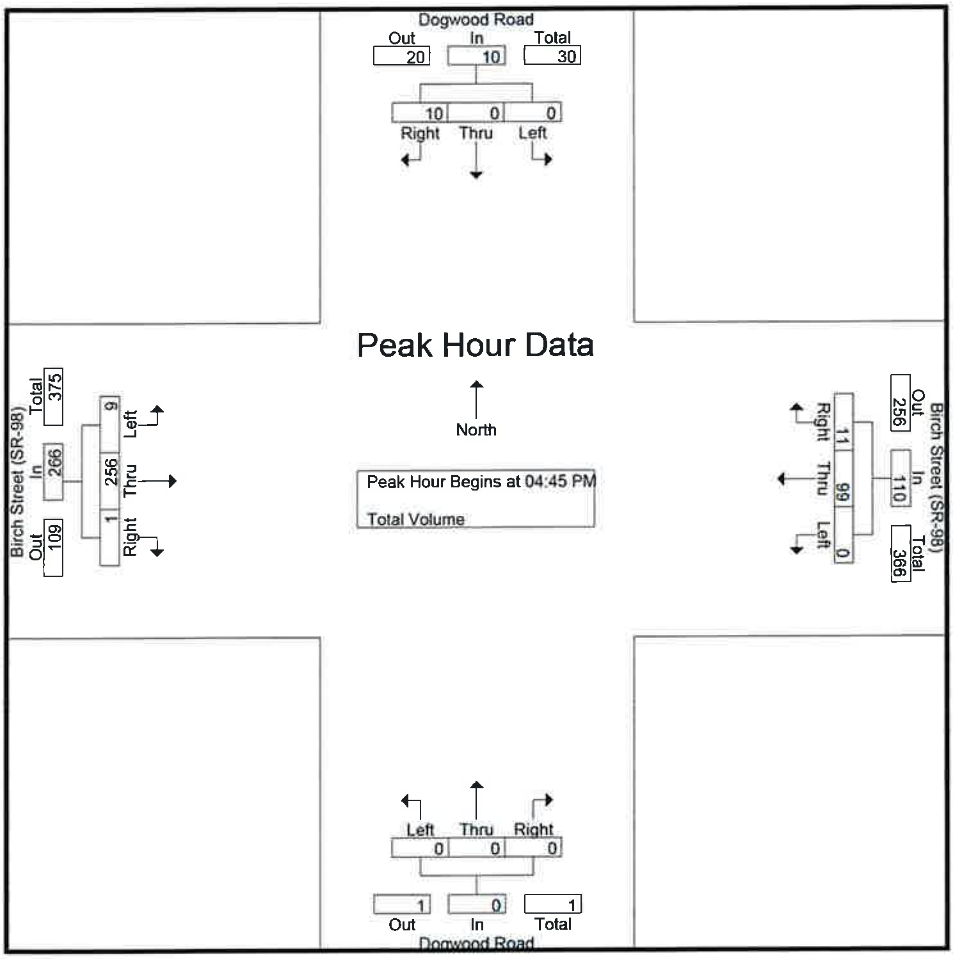
County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:00 PM				04:45 PM			
+0 mins.	0	0	1	1	0	24	1	25	0	0	0	0	**4**	59	0	63
+15 mins.	0	0	3	3	0	28	**3**	31	0	0	0	0	2	65	**1**	68
+30 mins.	0	0	2	2	0	**35**	2	**37**	0	0	0	0	1	65	0	66
+45 mins.	0	0	**4**	**4**	0	21	3	24	0	0	0	0	2	**67**	0	**69**
Total Volume	0	0	10	10	0	108	9	117	0	0	0	0	9	256	1	266
% App. Total	0	0	100		0	92.3	7.7		0	0	0		3.4	96.2	0.4	
PHF	.000	.000	.625	.625	.000	.771	.750	.791	.000	.000	.000	.000	.563	.955	.250	.964

Location: County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Dogwood Road	East Leg Birch Street (SR-98)	South Leg Dogwood Road	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Dogwood Road	East Leg Birch Street (SR-98)	South Leg Dogwood Road	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Dogwood Road			Westbound Birch Street (SR-98)			Northbound Dogwood Road			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Dogwood Road			Westbound Birch Street (SR-98)			Northbound Dogwood Road			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
951-268-6268

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PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 06_CIM_Imperial_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	14	70	14	98	27	41	59	127	21	94	23	138	23	22	4	49	412
07:15 AM	21	81	29	131	20	59	49	128	15	111	19	145	30	38	2	70	474
07:30 AM	24	121	25	170	16	61	84	161	30	129	18	177	16	47	3	66	574
07:45 AM	57	101	26	184	42	102	67	211	30	116	27	173	16	63	3	82	650
Total	116	373	94	583	105	263	259	627	96	450	87	633	85	170	12	267	2110
08:00 AM	33	87	29	149	30	102	57	189	42	133	25	200	18	55	4	77	615
08:15 AM	30	101	33	164	24	78	50	152	28	106	29	163	22	24	2	48	527
08:30 AM	29	137	23	189	47	59	53	159	32	116	11	159	27	38	5	70	577
08:45 AM	40	126	31	197	37	76	48	161	29	116	22	167	26	40	10	76	601
Total	132	451	116	699	138	315	208	661	131	471	87	689	93	157	21	271	2320
Grand Total	248	824	210	1282	243	578	467	1288	227	921	174	1322	178	327	33	538	4430
Apprch %	19.3	64.3	16.4		18.9	44.9	36.3		17.2	69.7	13.2		33.1	60.8	6.1		
Total %	5.6	18.6	4.7	28.9	5.5	13	10.5	29.1	5.1	20.8	3.9	29.8	4	7.4	0.7	12.1	

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**57**	101	26	184	42	**102**	**67**	**211**	30	116	27	173	16	**63**	3	**82**	**650**
08:00 AM	33	87	29	149	30	102	57	189	**42**	**133**	25	**200**	18	55	4	77	615
08:15 AM	30	101	**33**	164	24	78	50	152	28	106	**29**	163	22	24	2	48	527
08:30 AM	29	**137**	23	**189**	**47**	59	53	159	32	116	11	159	**27**	38	**5**	70	577
Total Volume	149	426	111	686	143	341	227	711	132	471	92	695	83	180	14	277	2369
% App. Total	21.7	62.1	16.2		20.1	48	31.9		19	67.8	13.2		30	65	5.1		
PHF	.654	.777	.841	.907	.761	.836	.847	.842	.786	.885	.793	.869	.769	.714	.700	.845	.911

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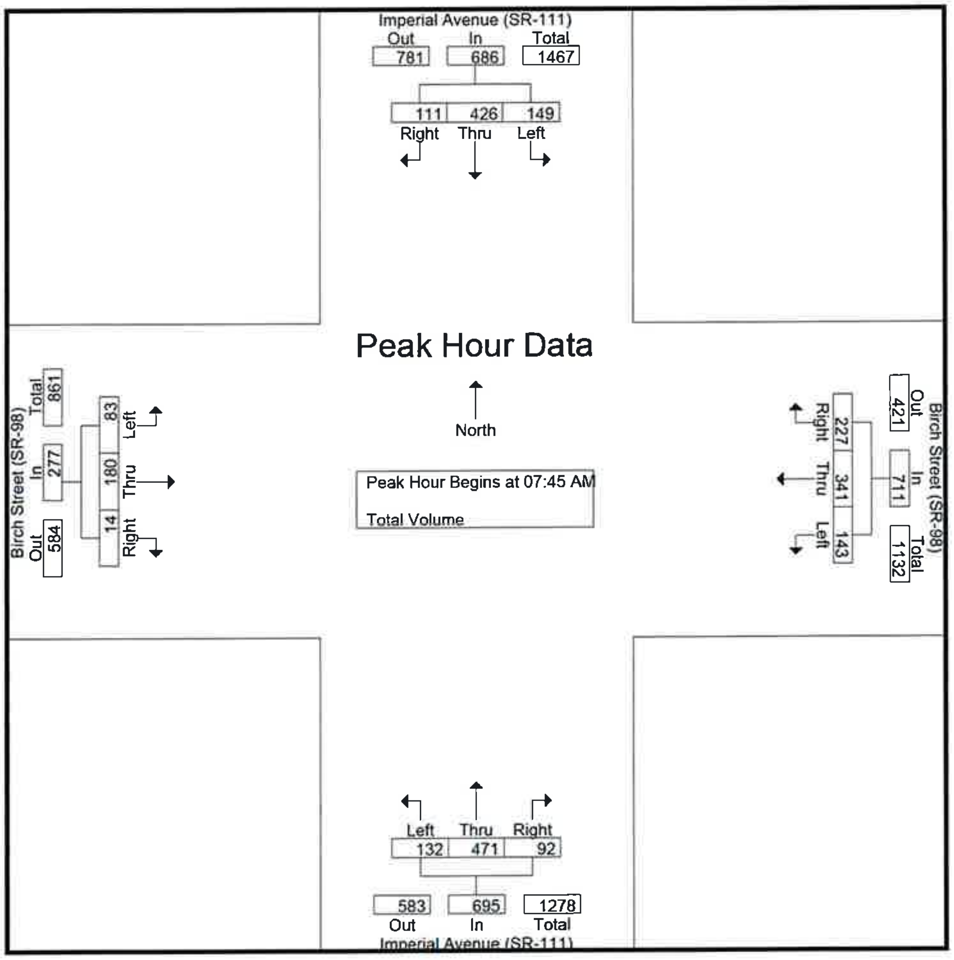
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 06_CIM_Imperial_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:30 AM				07:15 AM			
+0 mins.	33	87	29	149	16	61	**84**	161	30	129	18	177	**30**	38	2	70
+15 mins.	30	101	**33**	164	**42**	**102**	67	**211**	30	116	27	173	16	47	3	66
+30 mins.	29	**137**	23	189	30	102	57	189	**42**	**133**	25	**200**	16	**63**	3	**82**
+45 mins.	**40**	126	31	**197**	24	78	50	152	28	106	**29**	163	18	55	**4**	77
Total Volume	132	451	116	699	112	343	258	713	130	484	99	713	80	203	12	295
% App. Total	18.9	64.5	16.6		15.7	48.1	36.2		18.2	67.9	13.9		27.1	68.8	4.1	
PHF	.825	.823	.879	.887	.667	.841	.768	.845	.774	.910	.853	.891	.667	.806	.750	.899

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PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 06_CIM_Imperial_Birch_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	41	191	63	295	48	67	43	158	23	144	32	199	31	58	7	96	748
04:15 PM	57	228	59	344	42	60	36	138	23	170	31	224	30	44	10	84	790
04:30 PM	50	204	59	313	45	63	50	158	27	153	31	211	23	33	11	67	749
04:45 PM	34	205	50	289	34	51	33	118	22	156	34	212	33	54	7	94	713
Total	182	828	231	1241	169	241	162	572	95	623	128	846	117	189	35	341	3000
05:00 PM	49	195	67	311	48	75	57	180	24	119	23	166	34	38	8	80	737
05:15 PM	39	195	65	299	38	66	34	138	18	133	41	192	28	58	4	90	719
05:30 PM	48	234	60	342	48	65	24	137	21	123	24	168	24	39	7	70	717
05:45 PM	40	187	54	281	35	62	30	127	19	121	27	167	32	53	5	90	665
Total	176	811	246	1233	169	268	145	582	82	496	115	693	118	188	24	330	2838
Grand Total	358	1639	477	2474	338	509	307	1154	177	1119	243	1539	235	377	59	671	5838
Apprch %	14.5	66.2	19.3		29.3	44.1	26.6		11.5	72.7	15.8		35	56.2	8.8		
Total %	6.1	28.1	8.2	42.4	5.8	8.7	5.3	19.8	3	19.2	4.2	26.4	4	6.5	1	11.5	

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	41	191	**63**	295	**48**	**67**	43	**158**	23	144	32	199	31	**58**	7	**96**	748
04:15 PM	**57**	**228**	59	**344**	42	60	36	138	23	**170**	31	**224**	30	44	10	84	**790**
04:30 PM	50	204	59	313	45	63	**50**	158	**27**	153	31	211	23	33	**11**	67	749
04:45 PM	34	205	50	289	34	51	33	118	22	156	**34**	212	**33**	54	7	94	713
Total Volume	182	828	231	1241	169	241	162	572	95	623	128	846	117	189	35	341	3000
% App. Total	14.7	66.7	18.6		29.5	42.1	28.3		11.2	73.6	15.1		34.3	55.4	10.3		
PHF	.798	.908	.917	.902	.880	.899	.810	.905	.880	.916	.941	.944	.886	.815	.795	.888	.949

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PO Box 1178
Corona, CA 92878
(951) 268-6268
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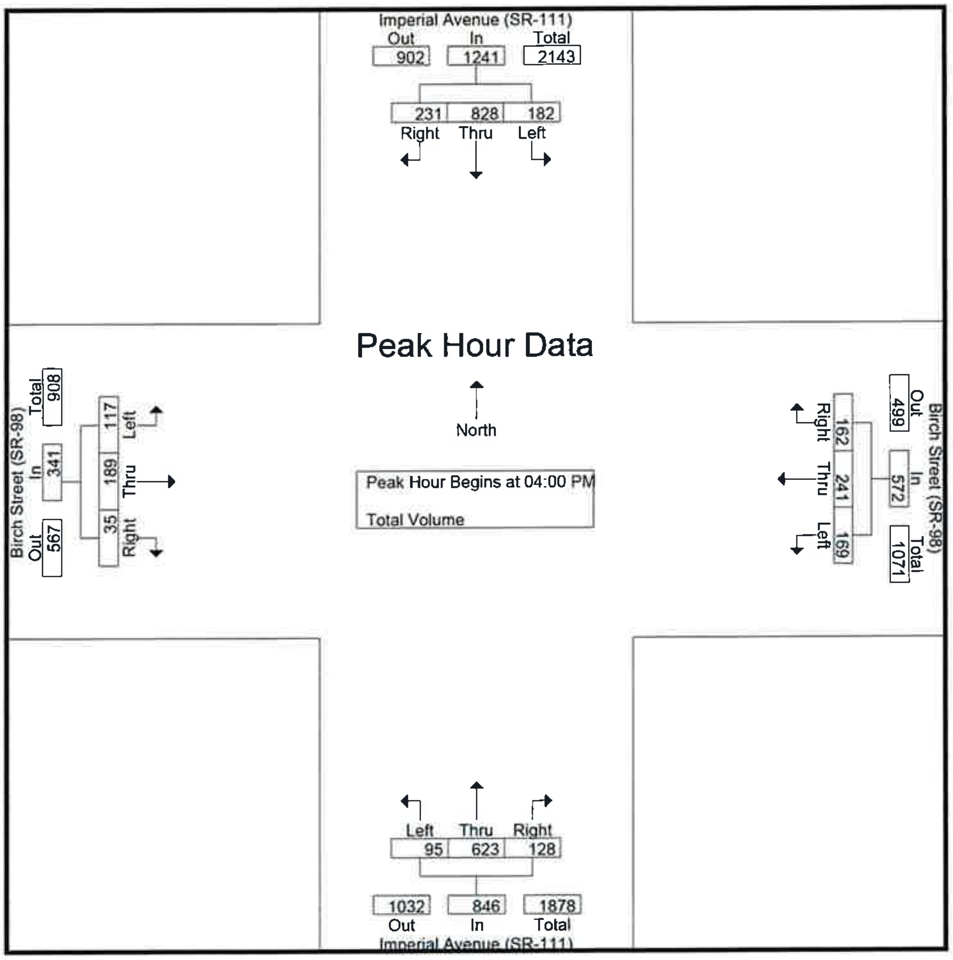
County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 06_CIM_Imperial_Birch_PM
Site Code : 05722648
Start Date : 6/28/2022



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:00 PM				04:00 PM			
+0 mins.	**57**	**228**	59	**344**	42	60	36	138	23	144	32	199	31	**58**	7	**96**
+15 mins.	50	204	59	313	45	63	50	158	23	**170**	31	**224**	30	44	10	84
+30 mins.	34	205	50	289	34	51	33	118	**27**	153	31	211	23	33	**11**	67
+45 mins.	49	195	**67**	311	**48**	**75**	**57**	**180**	22	156	**34**	212	**33**	54	7	94
Total Volume	190	832	235	1257	169	249	176	594	95	623	128	846	117	189	35	341
% App. Total	15.1	66.2	18.7		28.5	41.9	29.6		11.2	73.6	15.1		34.3	55.4	10.3	
PHF	.833	.912	.877	.914	.880	.830	.772	.825	.880	.916	.941	.944	.886	.815	.795	.888

Location: County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Imperial Avenue (SR-111)	East Leg Birch Street (SR-98)	South Leg Imperial Avenue (SR-111)	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	0	0	0	1
7:15 AM	3	2	0	1	6
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	2	0	0	0	2
8:30 AM	2	0	0	0	2
8:45 AM	1	1	0	0	2
TOTAL VOLUMES:	10	3	0	1	14

	North Leg Imperial Avenue (SR-111)	East Leg Birch Street (SR-98)	South Leg Imperial Avenue (SR-111)	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	1	2
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	1	0	2	4

Location:	County of Imperial
N/S:	Imperial Avenue (SR-111)
E/W:	Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Imperial Avenue (SR-111)			Westbound Birch Street (SR-98)			Northbound Imperial Avenue (SR-111)			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	1	0	0	0	0	0	0	1	0	0	2	0	4

	Southbound Imperial Avenue (SR-111)			Westbound Birch Street (SR-98)			Northbound Imperial Avenue (SR-111)			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

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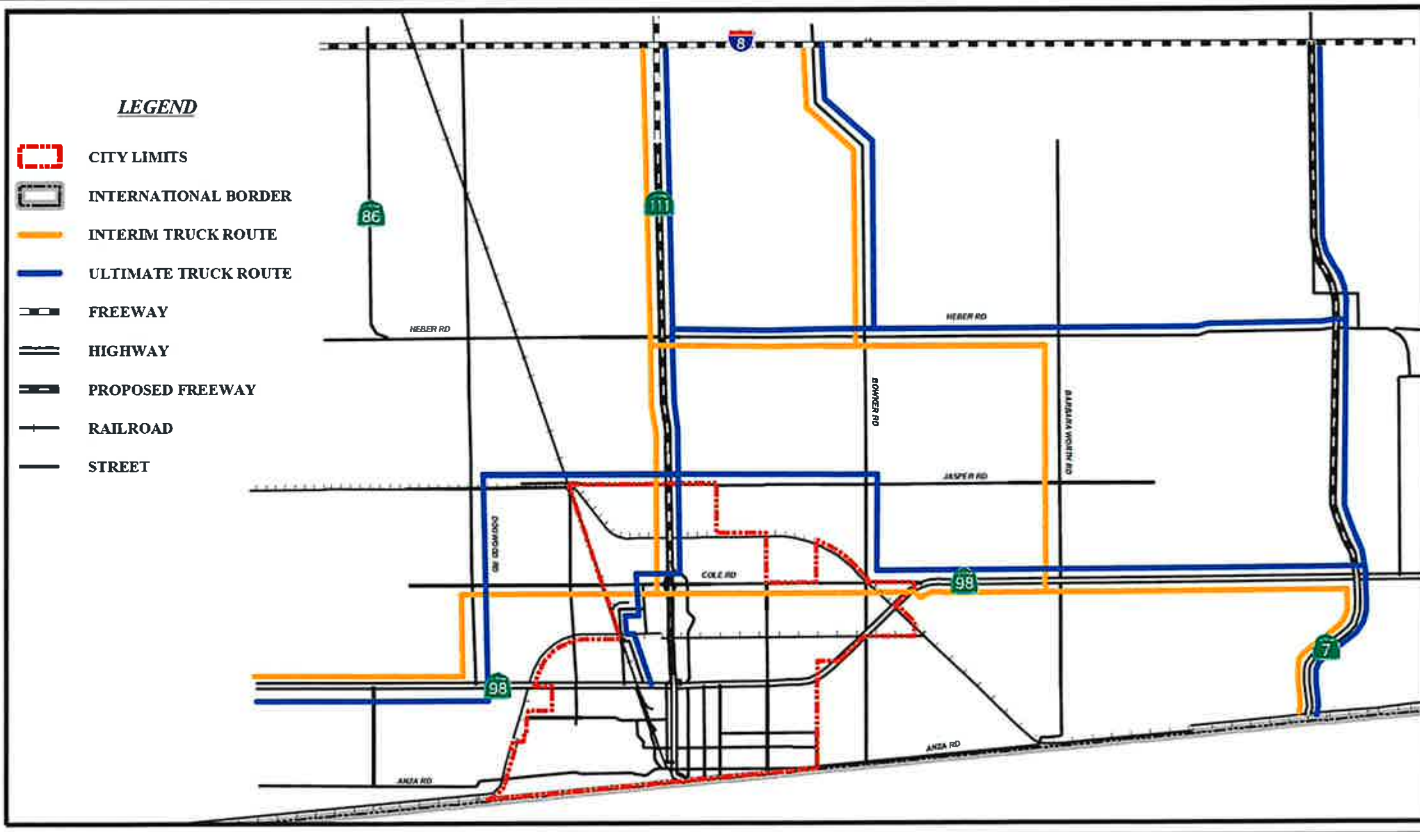
PO Box 1178
Corona, CA 92878
951-268-6268

APPENDIX B

CITY OF CALEXICO GENERAL PLAN INTERIM AND ULTIMATE TRUCK ROUTES, NOVEMBER 2006

G:\2004\04-0046\Gis\truck_routes_8x11.mxd Map revised Nov. 20, 2006.



Source: City of Calexico

N W E S

Not to Scale

Figure C-4

Interim and Ultimate Truck Routes

City of Calexico General Plan

APPENDIX C

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	8	2	53	0	164	6	65	111	1
Future Vol, veh/h	3	0	0	8	2	53	0	164	6	65	111	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	11	3	75	0	191	7	76	129	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	536	500	150	497	497	215	140	0	0	208	0	0
Stage 1	292	292	-	205	205	-	-	-	-	-	-	-
Stage 2	244	208	-	292	292	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	455	473	896	483	475	825	1443	-	-	1363	-	-
Stage 1	716	671	-	797	732	-	-	-	-	-	-	-
Stage 2	760	730	-	716	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	384	435	879	452	437	809	1429	-	-	1350	-	-
Mov Cap-2 Maneuver	384	435	-	452	437	-	-	-	-	-	-	-
Stage 1	709	624	-	789	725	-	-	-	-	-	-	-
Stage 2	681	723	-	666	624	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	10.7	0	2.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	384	718	1350	-	-
HCM Lane V/C Ratio	-	-	-	0.01	0.124	0.056	-	-
HCM Control Delay (s)	0	-	-	14.5	10.7	7.8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	212	25	109	243	330	59	756	142	233	608	153
Future Volume (veh/h)	233	212	25	109	243	330	59	756	142	233	608	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	271	247	29	117	261	355	72	922	173	299	779	196
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	1297	564	253	538	442	123	997	431	308	1067	462
Arrive On Green	0.15	0.37	0.37	0.07	0.29	0.29	0.07	0.28	0.28	0.09	0.30	0.30
Sat Flow, veh/h	1781	3554	1544	3456	1870	1538	1781	3554	1537	3456	3554	1539
Grp Volume(v), veh/h	271	247	29	117	261	355	72	922	173	299	779	196
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1728	1870	1538	1781	1777	1537	1728	1777	1539
Q Serve(g_s), s	20.3	6.4	1.6	4.4	15.6	28.8	5.3	34.0	12.3	11.6	26.5	13.8
Cycle Q Clear(g_c), s	20.3	6.4	1.6	4.4	15.6	28.8	5.3	34.0	12.3	11.6	26.5	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	1297	564	253	538	442	123	997	431	308	1067	462
V/C Ratio(X)	1.01	0.19	0.05	0.46	0.49	0.80	0.58	0.93	0.40	0.97	0.73	0.42
Avail Cap(c_a), veh/h	268	1432	622	256	611	502	132	997	431	308	1067	462
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	29.2	27.7	59.9	39.7	44.5	60.8	47.1	39.3	61.2	42.3	37.8
Incr Delay (d2), s/veh	57.5	0.3	0.1	1.3	2.5	12.7	3.3	15.3	2.8	43.5	4.4	2.8
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	13.4	2.8	0.6	2.0	7.5	12.4	2.5	17.0	5.0	6.9	12.2	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.8	29.5	27.8	61.2	42.2	57.1	64.1	62.4	42.1	104.7	46.7	40.6
LnGrp LOS	F	C	C	E	D	E	E	E	D	F	D	D
Approach Vol, veh/h		547			733			1167			1274	
Approach Delay, s/veh		71.6			52.4			59.5			59.4	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	46.2	15.6	55.3	15.0	48.9	26.0	44.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 12	* 38	* 10	54.3	* 10	* 40	* 20	44.0
Max Q Clear Time (g_c+I1), s	13.6	36.0	6.4	8.4	7.3	28.5	22.3	30.8
Green Ext Time (p_c), s	0.0	1.6	0.1	4.6	0.0	7.9	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	59.9
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	213	169	140	128	1
Future Volume (veh/h)	0	213	169	140	128	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
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	0	245	197	163	171	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	4	519	519	417	775	5
Arrive On Green	0.00	0.28	0.28	0.28	0.44	0.44
Sat Flow, veh/h	1781	1870	1870	1505	1760	10
Grp Volume(v), veh/h	0	245	197	163	173	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1505	1780	0
Q Serve(g_s), s	0.0	5.4	4.2	4.4	3.0	0.0
Cycle Q Clear(g_c), s	0.0	5.4	4.2	4.4	3.0	0.0
Prop In Lane	1.00			1.00	0.99	0.01
Lane Grp Cap(c), veh/h	4	519	519	417	784	0
V/C Ratio(X)	0.00	0.47	0.38	0.39	0.22	0.00
Avail Cap(c_a), veh/h	285	1644	1131	910	784	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.0	14.6	14.6	8.7	0.0
Incr Delay (d2), s/veh	0.0	3.1	2.1	2.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	1.6	1.4	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.1	16.7	17.4	9.3	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		245	360		173	
Approach Delay, s/veh		18.1	17.0		9.3	
Approach LOS		B	B		A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		21.8		28.1	0.0	21.8
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.4		5.0	0.0	6.4
Green Ext Time (p_c), s		4.9		0.7	0.0	5.2
Intersection Summary						
HCM 6th Ctrl Delay			15.6			
HCM 6th LOS			B			
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)	37	45	114	22	35	3	45	216	33	8	200	34
Future Volume (veh/h)	37	45	114	22	35	3	45	216	33	8	200	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	57	69	175	26	41	3	58	281	43	11	286	49
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	385	760	109	324	263	273	1530	752	47	1342	733
Arrive On Green	0.09	0.21	0.21	0.06	0.17	0.17	0.08	0.43	0.43	0.03	0.38	0.38
Sat Flow, veh/h	1781	1870	2619	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	57	69	175	26	41	3	58	281	43	11	286	49
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.1	3.1	5.2	1.4	1.9	0.2	1.6	5.0	1.5	0.6	5.6	1.8
Cycle Q Clear(g_c), s	3.1	3.1	5.2	1.4	1.9	0.2	1.6	5.0	1.5	0.6	5.6	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	385	760	109	324	263	273	1530	752	47	1342	733
V/C Ratio(X)	0.34	0.18	0.23	0.24	0.13	0.01	0.21	0.18	0.06	0.24	0.21	0.07
Avail Cap(c_a), veh/h	214	1018	1645	214	1018	827	348	1530	752	180	1342	733
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	33.4	28.0	45.7	35.7	35.0	44.1	18.0	13.6	48.8	21.5	14.7
Incr Delay (d2), s/veh	1.7	0.2	0.2	1.6	0.2	0.0	0.4	0.3	0.1	3.6	0.4	0.2
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	1.4	1.4	1.5	0.6	0.8	0.1	0.7	1.9	0.5	0.3	2.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	33.7	28.1	47.3	35.9	35.0	44.5	18.3	13.7	52.4	21.9	14.9
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		301			70			382			346	
Approach Delay, s/veh		32.6			40.1			21.7			21.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	29.5	13.8	47.0	15.3	26.1	8.4	52.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.4	7.2	3.6	7.6	5.1	3.9	2.6	7.0
Green Ext Time (p_c), s	0.0	1.0	0.1	1.7	0.1	0.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑	↱	Y	
Traffic Volume (veh/h)	20	101	183	173	78	14
Future Volume (veh/h)	20	101	183	173	78	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
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	21	106	199	188	100	18
Peak Hour Factor	0.95	0.95	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	71	556	317	250	602	108
Arrive On Green	0.04	0.30	0.17	0.17	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1474	1460	263
Grp Volume(v), veh/h	21	106	199	188	119	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1474	1737	0
Q Serve(g_s), s	0.6	2.3	5.3	6.5	2.3	0.0
Cycle Q Clear(g_c), s	0.6	2.3	5.3	6.5	2.3	0.0
Prop In Lane	1.00			1.00	0.84	0.15
Lane Grp Cap(c), veh/h	71	556	317	250	716	0
V/C Ratio(X)	0.29	0.19	0.63	0.75	0.17	0.00
Avail Cap(c_a), veh/h	267	788	343	271	716	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	14.0	20.6	21.1	9.9	0.0
Incr Delay (d2), s/veh	0.8	0.8	9.1	18.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	2.8	3.2	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.7	14.7	29.7	39.9	10.4	0.0
LnGrp LOS	C	B	C	D	B	A
Approach Vol, veh/h		127	387		119	
Approach Delay, s/veh		16.5	34.7		10.4	
Approach LOS		B	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.9		29.5	6.8	17.0
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		4.3		4.3	2.6	8.5
Green Ext Time (p_c), s		1.2		0.8	0.0	0.6
Intersection Summary						
HCM 6th Ctrl Delay			26.5			
HCM 6th LOS			C			

Notes

User approved volume balancing among the lanes for turning movement.

* 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)	91	198	15	157	375	250	145	518	101	164	469	122
Future Volume (veh/h)	91	198	15	157	375	250	145	518	101	164	469	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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	107	233	18	187	446	298	167	595	116	180	515	134
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	853	468	240	838	468	219	1343	261	234	1630	710
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.06	0.45	0.45	0.07	0.46	0.46
Sat Flow, veh/h	1781	3554	1532	3456	3554	1532	3456	2953	574	3456	3554	1548
Grp Volume(v), veh/h	107	233	18	187	446	298	167	357	354	180	515	134
Grp Sat Flow(s),veh/h/ln	1781	1777	1532	1728	1777	1532	1728	1777	1751	1728	1777	1548
Q Serve(g_s), s	7.7	6.9	1.1	6.9	14.3	21.9	6.2	17.8	17.9	6.7	11.9	6.7
Cycle Q Clear(g_c), s	7.7	6.9	1.1	6.9	14.3	21.9	6.2	17.8	17.9	6.7	11.9	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	131	853	468	240	838	468	219	808	796	234	1630	710
V/C Ratio(X)	0.82	0.27	0.04	0.78	0.53	0.64	0.76	0.44	0.44	0.77	0.32	0.19
Avail Cap(c_a), veh/h	208	1096	573	330	1039	555	300	808	796	367	1630	710
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	40.2	31.9	59.5	43.4	39.1	59.9	24.2	24.2	59.6	22.3	20.8
Incr Delay (d2), s/veh	6.1	0.2	0.0	5.2	0.5	1.8	4.6	1.8	1.8	2.0	0.5	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	3.6	3.0	0.4	3.2	6.4	8.5	2.8	7.8	7.8	3.0	5.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	40.4	32.0	64.7	43.9	41.0	64.5	26.0	26.0	61.7	22.8	21.4
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		358			931			878			829	
Approach Delay, s/veh		47.4			47.1			33.3			31.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.7	14.2	37.1	13.4	65.2	14.7	36.6
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 14	41.8	* 12	40.1	* 11	44.3	* 15	* 38
Max Q Clear Time (g_c+I1), s	9.7	19.9	8.9	8.9	8.2	13.9	9.7	23.9
Green Ext Time (p_c), s	0.1	4.4	0.1	1.5	0.1	4.1	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	-	-	-	-	-
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	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	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	0	0	6	1	46	0	127	17	133	274	0
Future Vol, veh/h	0	0	0	6	1	46	0	127	17	133	274	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	8	1	58	0	141	19	156	322	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	834	814	342	805	805	171	332	0	0	170	0	0
Stage 1	644	644	-	161	161	-	-	-	-	-	-	-
Stage 2	190	170	-	644	644	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	288	312	701	301	316	873	1227	-	-	1407	-	-
Stage 1	461	468	-	841	765	-	-	-	-	-	-	-
Stage 2	812	758	-	461	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	235	264	688	265	268	856	1215	-	-	1394	-	-
Mov Cap-2 Maneuver	235	264	-	265	268	-	-	-	-	-	-	-
Stage 1	456	400	-	833	757	-	-	-	-	-	-	-
Stage 2	749	750	-	395	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11	0	2.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1215	-	-	-	662	1394	-	-
HCM Lane V/C Ratio	-	-	-	-	0.1	0.112	-	-
HCM Control Delay (s)	0	-	-	0	11	7.9	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	391	94	268	206	290	31	679	240	422	967	232
Future Volume (veh/h)	224	391	94	268	206	290	31	679	240	422	967	232
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	277	483	116	288	222	312	33	722	255	464	1063	255
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1128	489	343	489	401	91	954	412	465	1250	543
Arrive On Green	0.16	0.32	0.32	0.10	0.26	0.26	0.05	0.27	0.27	0.13	0.35	0.35
Sat Flow, veh/h	1781	3554	1540	3456	1870	1535	1781	3554	1536	3456	3554	1543
Grp Volume(v), veh/h	277	483	116	288	222	312	33	722	255	464	1063	255
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1535	1781	1777	1536	1728	1777	1543
Q Serve(g_s), s	22.3	15.4	8.0	11.8	14.3	27.0	2.6	26.8	20.9	19.3	39.7	18.4
Cycle Q Clear(g_c), s	22.3	15.4	8.0	11.8	14.3	27.0	2.6	26.8	20.9	19.3	39.7	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	1128	489	343	489	401	91	954	412	465	1250	543
V/C Ratio(X)	1.00	0.43	0.24	0.84	0.45	0.78	0.36	0.76	0.62	1.00	0.85	0.47
Avail Cap(c_a), veh/h	277	1162	504	467	574	471	124	954	412	465	1250	543
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.6	38.7	36.1	63.5	44.4	49.1	65.8	48.2	46.1	62.1	43.0	36.1
Incr Delay (d2), s/veh	54.2	0.9	0.9	9.7	2.4	12.0	0.9	5.6	6.8	41.2	7.4	2.9
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	14.2	6.9	3.1	5.6	7.0	11.6	1.2	12.5	8.7	11.1	18.5	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.8	39.6	37.0	73.2	46.8	61.2	66.7	53.8	52.9	103.3	50.4	39.0
LnGrp LOS	F	D	D	E	D	E	E	D	D	F	D	D
Approach Vol, veh/h		876			822			1010			1782	
Approach Delay, s/veh		63.1			61.5			54.0			62.5	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	19.9	51.6	13.0	58.9	28.0	43.6
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 19	46.9	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	28.8	13.8	17.4	4.6	41.7	24.3	29.0
Green Ext Time (p_c), s	0.0	6.9	0.5	9.3	0.0	5.3	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	60.5
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	197	292	230	197	1
Future Volume (veh/h)	0	197	292	230	197	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
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	0	224	298	235	253	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	626	626	506	716	3
Arrive On Green	0.00	0.33	0.33	0.33	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1513	1767	7
Grp Volume(v), veh/h	0	224	298	235	255	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1513	1781	0
Q Serve(g_s), s	0.0	4.9	6.8	6.6	5.4	0.0
Cycle Q Clear(g_c), s	0.0	4.9	6.8	6.6	5.4	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	626	626	506	722	0
V/C Ratio(X)	0.00	0.36	0.48	0.46	0.35	0.00
Avail Cap(c_a), veh/h	263	1513	1041	842	722	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.6	14.3	14.2	11.2	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.6	3.0	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.6	2.1	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.2	16.9	17.3	12.6	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		224	533		255	
Approach Delay, s/veh		15.2	17.0		12.6	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		26.2		28.1	0.0	26.2
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		6.9		7.4	0.0	8.8
Green Ext Time (p_c), s		4.4		1.0	0.0	7.5

Intersection Summary		
HCM 6th Ctrl Delay		15.5
HCM 6th LOS		B

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)	39	62	95	56	56	11	108	288	35	3	264	57
Future Volume (veh/h)	39	62	95	56	56	11	108	288	35	3	264	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	49	78	120	74	74	14	123	327	40	3	300	65
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	372	770	175	397	324	309	1549	819	14	1259	682
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.44	0.44	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	49	78	120	74	74	14	123	327	40	3	300	65
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	2.8	3.8	3.7	4.3	3.5	0.8	3.7	6.2	1.4	0.2	6.5	2.7
Cycle Q Clear(g_c), s	2.8	3.8	3.7	4.3	3.5	0.8	3.7	6.2	1.4	0.2	6.5	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	372	770	175	397	324	309	1549	819	14	1259	682
V/C Ratio(X)	0.32	0.21	0.16	0.42	0.19	0.04	0.40	0.21	0.05	0.21	0.24	0.10
Avail Cap(c_a), veh/h	201	949	1577	206	954	780	327	1549	819	163	1259	682
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	36.5	28.9	46.2	35.2	34.1	46.8	19.1	12.1	53.7	24.8	17.9
Incr Delay (d2), s/veh	1.7	0.3	0.1	2.3	0.2	0.1	0.8	0.3	0.1	10.2	0.4	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	1.3	1.7	1.1	1.9	1.6	0.3	1.5	2.4	0.4	0.1	2.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	36.8	29.0	48.5	35.4	34.2	47.7	19.4	12.3	63.9	25.3	18.2
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		247			162			490			368	
Approach Delay, s/veh		35.3			41.3			25.9			24.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	30.1	15.5	47.0	15.0	31.5	6.6	55.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 13	* 55	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	6.3	5.8	5.7	8.5	4.8	5.5	2.2	8.2
Green Ext Time (p_c), s	0.1	0.9	0.1	1.9	0.1	0.4	0.0	2.0

Intersection Summary		
HCM 6th Ctrl Delay		29.3
HCM 6th LOS		C

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	255	111	128	248	9
Future Volume (veh/h)	23	255	111	128	248	9
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.92	1.00	0.96
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	27	304	121	139	264	10
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	88	530	269	210	715	27
Arrive On Green	0.05	0.28	0.14	0.14	0.42	0.42
Sat Flow, veh/h	1781	1870	1870	1460	1700	64
Grp Volume(v), veh/h	27	304	121	139	275	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1460	1771	0
Q Serve(g_s), s	0.8	7.3	3.1	4.7	5.6	0.0
Cycle Q Clear(g_c), s	0.8	7.3	3.1	4.7	5.6	0.0
Prop In Lane	1.00			1.00	0.96	0.04
Lane Grp Cap(c), veh/h	88	530	269	210	745	0
V/C Ratio(X)	0.31	0.57	0.45	0.66	0.37	0.00
Avail Cap(c_a), veh/h	272	804	350	273	745	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.0	16.0	20.5	21.2	10.4	0.0
Incr Delay (d2), s/veh	0.7	4.5	5.4	15.3	1.4	0.0
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	3.2	1.6	2.3	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.7	20.5	25.9	36.5	11.8	0.0
LnGrp LOS	C	C	C	D	B	A
Approach Vol, veh/h		331	260		275	
Approach Delay, s/veh		20.9	31.5		11.8	
Approach LOS		C	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.8		29.5	7.3	15.5
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		9.3		7.6	2.8	6.7
Green Ext Time (p_c), s		3.6		2.1	0.0	0.8
Intersection Summary						
HCM 6th Ctrl Delay			21.2			
HCM 6th LOS			C			
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)	129	208	39	186	265	178	105	685	141	200	911	254
Future Volume (veh/h)	129	208	39	186	265	178	105	685	141	200	911	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
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	145	234	44	204	291	196	112	729	150	222	1012	282
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	747	395	257	672	413	161	1367	281	273	1778	776
Arrive On Green	0.10	0.21	0.21	0.07	0.19	0.19	0.05	0.47	0.47	0.08	0.50	0.50
Sat Flow, veh/h	1781	3554	1527	3456	3554	1523	3456	2921	601	3456	3554	1550
Grp Volume(v), veh/h	145	234	44	204	291	196	112	443	436	222	1012	282
Grp Sat Flow(s),veh/h/ln	1781	1777	1527	1728	1777	1523	1728	1777	1746	1728	1777	1550
Q Serve(g_s), s	10.4	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.0	8.2	25.9	14.4
Cycle Q Clear(g_c), s	10.4	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.0	8.2	25.9	14.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	170	747	395	257	672	413	161	831	817	273	1778	776
V/C Ratio(X)	0.85	0.31	0.11	0.79	0.43	0.47	0.70	0.53	0.53	0.81	0.57	0.36
Avail Cap(c_a), veh/h	216	1093	544	348	1039	571	181	831	817	314	1778	776
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.9	43.4	37.0	59.2	46.6	39.9	61.1	24.5	24.5	58.9	22.7	19.8
Incr Delay (d2), s/veh	18.8	0.2	0.1	6.0	0.4	0.8	7.3	2.4	2.5	11.6	1.3	1.3
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	5.5	3.2	1.1	3.5	4.2	5.4	2.0	10.1	9.9	4.0	10.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.7	43.6	37.1	65.2	47.0	40.8	68.4	27.0	27.0	70.5	24.0	21.2
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		423			691			991			1516	
Approach Delay, s/veh		54.3			50.6			31.7			30.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	66.4	14.9	33.2	11.3	70.7	17.6	30.5
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	43.2	* 13	40.0	* 6.8	48.2	* 16	* 38
Max Q Clear Time (g_c+I1), s	10.2	25.0	9.5	9.2	6.2	27.9	12.4	16.0
Green Ext Time (p_c), s	0.1	5.3	0.1	1.6	0.0	8.3	0.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	-	-	-	-	-
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	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	21	106	199	188	118
v/c Ratio	0.08	0.23	0.51	0.17	0.15
Control Delay	21.4	15.6	25.5	1.0	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	15.6	25.5	1.0	9.5
Queue Length 50th (ft)	5	25	49	0	16
Queue Length 95th (ft)	24	53	#147	15	46
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	264	783	388	1119	806
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.14	0.51	0.17	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	27	304	121	139	274
v/c Ratio	0.11	0.51	0.28	0.13	0.39
Control Delay	23.6	18.4	21.9	1.3	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	18.4	21.9	1.3	14.8
Queue Length 50th (ft)	8	80	28	0	59
Queue Length 95th (ft)	26	127	83	13	128
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	255	757	438	1053	708
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.40	0.28	0.13	0.39

Intersection Summary

APPENDIX D

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING WITH PROJECT

Intersection												
Int Delay, s/veh	3.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	31	2	53	0	164	24	65	111	1
Future Vol, veh/h	3	0	0	31	2	53	0	164	24	65	111	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	44	3	75	0	191	28	76	129	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	546	521	150	507	507	225	140	0	0	229	0	0
Stage 1	292	292	-	215	215	-	-	-	-	-	-	-
Stage 2	254	229	-	292	292	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	448	460	896	476	468	814	1443	-	-	1339	-	-
Stage 1	716	671	-	787	725	-	-	-	-	-	-	-
Stage 2	750	715	-	716	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	378	423	879	445	430	799	1429	-	-	1326	-	-
Mov Cap-2 Maneuver	378	423	-	445	430	-	-	-	-	-	-	-
Stage 1	709	623	-	779	718	-	-	-	-	-	-	-
Stage 2	671	708	-	665	623	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	14.6			12.3			0			2.9		
HCM LOS	B			B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	378	611	1326	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.198	0.057	-	-
HCM Control Delay (s)	0	-	-	14.6	12.3	7.9	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	220	25	109	260	330	59	757	142	233	610	159
Future Volume (veh/h)	243	220	25	109	260	330	59	757	142	233	610	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	283	256	29	117	280	355	72	923	173	299	782	204
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	1330	578	234	516	424	115	1007	436	337	1124	487
Arrive On Green	0.17	0.37	0.37	0.07	0.28	0.28	0.06	0.28	0.28	0.10	0.32	0.32
Sat Flow, veh/h	1781	3554	1544	3456	1870	1537	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	283	256	29	117	280	355	72	923	173	299	782	204
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1728	1870	1537	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	23.1	7.1	1.8	4.8	18.7	31.8	5.8	36.8	13.3	12.5	28.2	15.3
Cycle Q Clear(g_c), s	23.1	7.1	1.8	4.8	18.7	31.8	5.8	36.8	13.3	12.5	28.2	15.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	296	1330	578	234	516	424	115	1007	436	337	1124	487
V/C Ratio(X)	0.96	0.19	0.05	0.50	0.54	0.84	0.63	0.92	0.40	0.89	0.70	0.42
Avail Cap(c_a), veh/h	296	1408	612	243	562	462	122	1007	436	337	1124	487
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.6	30.9	29.2	65.9	45.1	49.9	66.8	50.8	42.4	65.3	43.9	39.4
Incr Delay (d2), s/veh	40.8	0.3	0.1	1.7	3.2	16.1	6.3	14.2	2.7	23.4	3.6	2.6
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	13.7	3.1	0.7	2.2	9.1	14.0	2.8	18.2	5.4	6.6	12.9	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.4	31.1	29.3	67.5	48.3	66.0	73.0	65.0	45.1	88.6	47.4	42.1
LnGrp LOS	F	C	C	E	D	E	E	E	D	F	D	D
Approach Vol, veh/h		568			752			1168			1285	
Approach Delay, s/veh		66.0			59.6			62.6			56.2	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	49.9	15.6	60.9	15.2	54.7	30.0	46.5				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1				
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0				
Max Q Clear Time (g_c+I1), s	14.5	38.8	6.8	9.1	7.8	30.2	25.1	33.8				
Green Ext Time (p_c), s	0.0	2.3	0.1	4.8	0.0	10.2	0.0	4.8				
Intersection Summary												
HCM 6th Ctrl Delay			60.3									
HCM 6th LOS			E									

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	213	169	157	136	1
Future Volume (veh/h)	0	213	169	157	136	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
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	0	245	197	183	181	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	528	528	425	786	4
Arrive On Green	0.00	0.28	0.28	0.28	0.45	0.45
Sat Flow, veh/h	1781	1870	1870	1505	1761	10
Grp Volume(v), veh/h	0	245	197	183	183	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1505	1780	0
Q Serve(g_s), s	0.0	5.6	4.4	5.2	3.3	0.0
Cycle Q Clear(g_c), s	0.0	5.6	4.4	5.2	3.3	0.0
Prop In Lane	1.00			1.00	0.99	0.01
Lane Grp Cap(c), veh/h	3	528	528	425	795	0
V/C Ratio(X)	0.00	0.46	0.37	0.43	0.23	0.00
Avail Cap(c_a), veh/h	274	1537	1044	840	795	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.4	15.0	15.2	8.9	0.0
Incr Delay (d2), s/veh	0.0	2.9	2.0	3.2	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	1.7	1.7	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.3	17.0	18.4	9.6	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		245	380		183	
Approach Delay, s/veh		18.3	17.7		9.6	
Approach LOS		B	B		A	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	22.7	29.3	0.0	22.7
Change Period (Y+Rc), s	8.0	6.1	* 5.7	8.0
Max Green Setting (Gmax), s	42.7	23.2	* 8	29.0
Max Q Clear Time (g_c+I1), s	7.6	5.3	0.0	7.2
Green Ext Time (p_c), s	4.8	0.7	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	16.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
* 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)	37	45	122	22	35	3	62	216	33	8	200	34
Future Volume (veh/h)	37	45	122	22	35	3	62	216	33	8	200	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	57	69	188	26	41	3	81	281	43	11	286	49
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	383	780	109	323	262	302	1545	759	47	1328	725
Arrive On Green	0.09	0.20	0.20	0.06	0.17	0.17	0.09	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2618	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	57	69	188	26	41	3	81	281	43	11	286	49
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.1	3.1	5.7	1.4	1.9	0.2	2.3	5.0	1.5	0.6	5.7	1.8
Cycle Q Clear(g_c), s	3.1	3.1	5.7	1.4	1.9	0.2	2.3	5.0	1.5	0.6	5.7	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	383	780	109	323	262	302	1545	759	47	1328	725
V/C Ratio(X)	0.34	0.18	0.24	0.24	0.13	0.01	0.27	0.18	0.06	0.24	0.22	0.07
Avail Cap(c_a), veh/h	212	1007	1653	212	1007	818	345	1545	759	178	1328	725
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	33.9	27.9	46.2	36.2	35.4	44.1	17.9	13.5	49.3	22.0	15.1
Incr Delay (d2), s/veh	1.7	0.2	0.2	1.6	0.2	0.0	0.5	0.3	0.1	3.6	0.4	0.2
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	1.4	1.4	1.7	0.7	0.8	0.1	0.9	1.9	0.5	0.3	2.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	34.1	28.0	47.8	36.3	35.5	44.5	18.2	13.6	52.9	22.4	15.3
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		314			70			405			346	
Approach Delay, s/veh		32.6			40.6			23.0			22.4	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	29.6	14.7	47.0	15.4	26.2	8.4	53.3
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.4	7.7	4.3	7.7	5.1	3.9	2.6	7.0
Green Ext Time (p_c), s	0.0	1.1	0.1	1.7	0.1	0.2	0.0	1.7

Intersection Summary		
HCM 6th Ctrl Delay		26.5
HCM 6th LOS		C

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)	20	101	4	5	183	174	7	18	0	79	22	14
Future Volume (veh/h)	20	101	4	5	183	174	7	18	0	79	22	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
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	21	106	4	5	199	189	8	20	0	101	28	18
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	370	14	12	318	250	667	770	0	699	430	277
Arrive On Green	0.04	0.21	0.21	0.01	0.17	0.17	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1789	67	1781	1870	1474	1345	1870	0	1392	1044	671
Grp Volume(v), veh/h	21	0	110	5	199	189	8	20	0	101	0	46
Grp Sat Flow(s),veh/h/ln	1781	0	1856	1781	1870	1474	1345	1870	0	1392	0	1716
Q Serve(g_s), s	0.6	0.0	2.7	0.1	5.3	6.5	0.2	0.3	0.0	2.5	0.0	0.9
Cycle Q Clear(g_c), s	0.6	0.0	2.7	0.1	5.3	6.5	1.1	0.3	0.0	2.8	0.0	0.9
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.00	1.00		0.39
Lane Grp Cap(c), veh/h	71	0	384	12	318	250	667	770	0	699	0	707
V/C Ratio(X)	0.29	0.00	0.29	0.42	0.63	0.76	0.01	0.03	0.00	0.14	0.00	0.07
Avail Cap(c_a), veh/h	267	0	452	167	343	270	742	875	0	699	0	707
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	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	17.9	26.4	20.6	21.1	9.8	9.3	0.0	10.2	0.0	9.5
Incr Delay (d2), s/veh	0.8	0.0	1.9	21.7	9.0	18.9	0.0	0.0	0.0	0.4	0.0	0.2
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	0.2	0.0	1.2	0.1	2.8	3.3	0.1	0.1	0.0	0.7	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	19.7	48.2	29.6	40.1	9.8	9.3	0.0	10.6	0.0	9.7
LnGrp LOS	C	A	B	D	C	D	A	A	A	B	A	A
Approach Vol, veh/h		131			393			28			147	
Approach Delay, s/veh		20.7			34.9			9.5			10.3	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.1		29.5	6.8	17.1		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.6	4.7		4.8	2.6	8.5		3.1				
Green Ext Time (p_c), s	0.0	0.7		1.2	0.0	0.6		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

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)	92	198	15	157	375	250	146	518	101	164	469	124
Future Volume (veh/h)	92	198	15	157	375	250	146	518	101	164	469	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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	108	233	18	187	446	298	168	595	116	180	515	136
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	854	470	240	838	469	221	1341	261	234	1627	709
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.06	0.45	0.45	0.07	0.46	0.46
Sat Flow, veh/h	1781	3554	1532	3456	3554	1532	3456	2953	574	3456	3554	1548
Grp Volume(v), veh/h	108	233	18	187	446	298	168	357	354	180	515	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1532	1728	1777	1532	1728	1777	1751	1728	1777	1548
Q Serve(g_s), s	7.8	6.9	1.1	6.9	14.3	21.9	6.2	17.9	18.0	6.7	11.9	6.8
Cycle Q Clear(g_c), s	7.8	6.9	1.1	6.9	14.3	21.9	6.2	17.9	18.0	6.7	11.9	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	132	854	470	240	838	469	221	806	795	234	1627	709
V/C Ratio(X)	0.82	0.27	0.04	0.78	0.53	0.64	0.76	0.44	0.45	0.77	0.32	0.19
Avail Cap(c_a), veh/h	218	1093	573	351	1039	555	327	806	795	388	1627	709
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	40.1	31.8	59.5	43.4	39.1	59.9	24.3	24.3	59.6	22.4	21.0
Incr Delay (d2), s/veh	4.7	0.2	0.0	3.6	0.5	1.8	2.7	1.8	1.8	2.0	0.5	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	3.6	3.0	0.4	3.2	6.4	8.5	2.8	7.8	7.8	3.0	5.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	40.3	31.9	63.1	43.9	41.0	62.6	26.0	26.1	61.6	22.9	21.6
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		359			931			879			831	
Approach Delay, s/veh		47.0			46.8			33.0			31.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.6	14.2	37.2	13.5	65.1	14.8	36.6
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.7	20.0	8.9	8.9	8.2	13.9	9.8	23.9
Green Ext Time (p_c), s	0.2	4.3	0.1	1.5	0.1	4.1	0.1	3.5

Intersection Summary		
HCM 6th Ctrl Delay		38.4
HCM 6th LOS		D

Notes

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

Intersection						
Int Delay, s/veh	2.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	0	0	4
Future Vol, veh/h	2	0	0	0	0	4
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	-	-	-	-	-
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	2	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	28	1	46	0	127	36	133	274	0
Future Vol, veh/h	0	0	0	28	1	46	0	127	36	133	274	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	35	1	58	0	141	40	156	322	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	845	835	342	815	815	181	332	0	0	191	0	0
Stage 1	644	644	-	171	171	-	-	-	-	-	-	-
Stage 2	201	191	-	644	644	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	283	304	701	296	312	862	1227	-	-	1383	-	-
Stage 1	461	468	-	831	757	-	-	-	-	-	-	-
Stage 2	801	742	-	461	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	230	257	688	259	263	846	1215	-	-	1370	-	-
Mov Cap-2 Maneuver	230	257	-	259	263	-	-	-	-	-	-	-
Stage 1	456	399	-	823	749	-	-	-	-	-	-	-
Stage 2	738	735	-	393	399	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	15.1	0	2.6
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1215	-	-	-	451	1370	-	-
HCM Lane V/C Ratio	-	-	-	-	0.208	0.114	-	-
HCM Control Delay (s)	0	-	-	0	15.1	8	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	399	94	268	222	290	31	681	240	422	968	238
Future Volume (veh/h)	235	399	94	268	222	290	31	681	240	422	968	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	290	493	116	288	239	312	33	724	255	464	1064	262
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1128	489	345	490	402	91	953	412	464	1249	542
Arrive On Green	0.16	0.32	0.32	0.10	0.26	0.26	0.05	0.27	0.27	0.13	0.35	0.35
Sat Flow, veh/h	1781	3554	1540	3456	1870	1535	1781	3554	1536	3456	3554	1543
Grp Volume(v), veh/h	290	493	116	288	239	312	33	724	255	464	1064	262
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1535	1781	1777	1536	1728	1777	1543
Q Serve(g_s), s	22.3	15.8	8.0	11.8	15.5	27.0	2.6	26.9	20.9	19.3	39.8	19.0
Cycle Q Clear(g_c), s	22.3	15.8	8.0	11.8	15.5	27.0	2.6	26.9	20.9	19.3	39.8	19.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	1128	489	345	490	402	91	953	412	464	1249	542
V/C Ratio(X)	1.05	0.44	0.24	0.84	0.49	0.78	0.36	0.76	0.62	1.00	0.85	0.48
Avail Cap(c_a), veh/h	277	1128	489	503	573	470	124	953	412	464	1249	542
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.7	38.8	36.2	63.5	44.9	49.1	65.9	48.3	46.1	62.1	43.1	36.4
Incr Delay (d2), s/veh	67.4	1.0	0.9	7.9	2.7	11.9	0.9	5.7	6.8	41.5	7.4	3.1
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	15.2	7.1	3.1	5.5	7.6	11.6	1.2	12.6	8.8	11.1	18.6	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.0	39.8	37.1	71.4	47.6	61.0	66.8	54.0	53.0	103.7	50.5	39.4
LnGrp LOS	F	D	D	E	D	E	E	D	D	F	D	D
Approach Vol, veh/h		899			839			1012			1790	
Approach Delay, s/veh		67.9			60.7			54.1			62.7	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	20.0	51.7	13.0	58.9	28.0	43.7
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	28.9	13.8	17.8	4.6	41.8	24.3	29.0
Green Ext Time (p_c), s	0.0	6.8	0.6	9.2	0.0	5.3	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	61.5
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	197	292	247	205	1
Future Volume (veh/h)	0	197	292	247	205	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
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	0	224	298	252	263	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	637	637	515	710	3
Arrive On Green	0.00	0.34	0.34	0.34	0.40	0.40
Sat Flow, veh/h	1781	1870	1870	1514	1767	7
Grp Volume(v), veh/h	0	224	298	252	265	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1514	1781	0
Q Serve(g_s), s	0.0	4.9	6.8	7.2	5.7	0.0
Cycle Q Clear(g_c), s	0.0	4.9	6.8	7.2	5.7	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	637	637	515	716	0
V/C Ratio(X)	0.00	0.35	0.47	0.49	0.37	0.00
Avail Cap(c_a), veh/h	260	1500	1032	835	716	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.5	14.2	14.3	11.5	0.0
Incr Delay (d2), s/veh	0.0	1.5	2.5	3.3	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.6	2.3	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.1	16.6	17.6	13.0	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		224	550		265	
Approach Delay, s/veh		15.1	17.1		13.0	
Approach LOS		B	B		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		26.6		28.1	0.0	26.6
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		6.9		7.7	0.0	9.2
Green Ext Time (p_c), s		4.4		1.0	0.0	7.7

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* 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)	39	62	104	56	56	11	125	288	35	3	264	57
Future Volume (veh/h)	39	62	104	56	56	11	125	288	35	3	264	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	49	78	132	74	74	14	142	327	40	3	300	65
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	373	776	176	398	325	314	1541	816	14	1246	676
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.43	0.43	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	49	78	132	74	74	14	142	327	40	3	300	65
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	2.8	3.8	4.1	4.2	3.5	0.8	4.2	6.2	1.4	0.2	6.5	2.7
Cycle Q Clear(g_c), s	2.8	3.8	4.1	4.2	3.5	0.8	4.2	6.2	1.4	0.2	6.5	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	373	776	176	398	325	314	1541	816	14	1246	676
V/C Ratio(X)	0.32	0.21	0.17	0.42	0.19	0.04	0.45	0.21	0.05	0.21	0.24	0.10
Avail Cap(c_a), veh/h	197	952	1585	202	958	782	360	1541	816	164	1246	676
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	36.2	28.7	45.9	35.0	33.9	46.7	19.2	12.2	53.4	25.0	18.0
Incr Delay (d2), s/veh	1.7	0.3	0.1	2.3	0.2	0.1	1.0	0.3	0.1	10.2	0.5	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	1.3	1.7	1.2	1.9	1.5	0.3	1.8	2.4	0.4	0.1	2.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	36.5	28.8	48.2	35.2	33.9	47.7	19.5	12.3	63.6	25.4	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		259			162			509			368	
Approach Delay, s/veh		34.8			41.0			26.8			24.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	30.0	15.6	46.4	15.0	31.5	6.6	55.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 55	* 11	* 38	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	6.2	6.1	6.2	8.5	4.8	5.5	2.2	8.2
Green Ext Time (p_c), s	0.1	0.9	0.2	1.9	0.1	0.4	0.0	2.0

Intersection Summary		
HCM 6th Ctrl Delay		29.5
HCM 6th LOS		C

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)	23	255	4	5	111	130	7	18	0	249	21	9
Future Volume (veh/h)	23	255	4	5	111	130	7	18	0	249	21	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
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	27	304	5	5	121	141	8	20	0	265	22	10
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	387	6	12	308	242	677	766	0	696	491	223
Arrive On Green	0.05	0.21	0.21	0.01	0.16	0.16	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1834	30	1781	1870	1472	1361	1870	0	1392	1200	545
Grp Volume(v), veh/h	27	0	309	5	121	141	8	20	0	265	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1864	1781	1870	1472	1361	1870	0	1392	0	1745
Q Serve(g_s), s	0.8	0.0	8.4	0.2	3.1	4.8	0.2	0.3	0.0	7.5	0.0	0.6
Cycle Q Clear(g_c), s	0.8	0.0	8.4	0.2	3.1	4.8	0.8	0.3	0.0	7.9	0.0	0.6
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	88	0	394	12	308	242	677	766	0	696	0	715
V/C Ratio(X)	0.31	0.00	0.79	0.42	0.39	0.58	0.01	0.03	0.00	0.38	0.00	0.04
Avail Cap(c_a), veh/h	265	0	451	166	341	269	753	871	0	696	0	715
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	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	20.0	26.6	20.0	20.7	9.8	9.5	0.0	11.8	0.0	9.5
Incr Delay (d2), s/veh	0.7	0.0	14.5	21.8	3.7	9.8	0.0	0.0	0.0	1.6	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	4.7	0.1	1.5	2.1	0.1	0.1	0.0	2.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	0.0	34.5	48.3	23.8	30.5	9.8	9.5	0.0	13.4	0.0	9.6
LnGrp LOS	C	A	C	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		336			267			28			297	
Approach Delay, s/veh		33.8			27.8			9.6			13.0	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.3		29.5	7.4	16.8		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.8	10.4		9.9	2.8	6.8		2.8				
Green Ext Time (p_c), s	0.0	0.9		2.1	0.0	0.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									
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)	131	208	40	186	265	178	105	685	141	200	911	255
Future Volume (veh/h)	131	208	40	186	265	178	105	685	141	200	911	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
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	147	234	45	204	291	196	112	729	150	222	1012	283
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	750	396	258	672	414	161	1363	280	274	1774	774
Arrive On Green	0.10	0.21	0.21	0.07	0.19	0.19	0.05	0.47	0.47	0.08	0.50	0.50
Sat Flow, veh/h	1781	3554	1528	3456	3554	1523	3456	2921	601	3456	3554	1550
Grp Volume(v), veh/h	147	234	45	204	291	196	112	443	436	222	1012	283
Grp Sat Flow(s),veh/h/ln	1781	1777	1528	1728	1777	1523	1728	1777	1745	1728	1777	1550
Q Serve(g_s), s	10.6	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.1	8.2	25.9	14.5
Cycle Q Clear(g_c), s	10.6	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.1	8.2	25.9	14.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	172	750	396	258	672	414	161	829	815	274	1774	774
V/C Ratio(X)	0.85	0.31	0.11	0.79	0.43	0.47	0.70	0.53	0.53	0.81	0.57	0.37
Avail Cap(c_a), veh/h	216	1063	531	377	1039	571	183	829	815	324	1774	774
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	43.3	36.9	59.2	46.6	39.9	61.1	24.6	24.6	58.9	22.8	19.9
Incr Delay (d2), s/veh	19.4	0.2	0.1	3.9	0.4	0.8	6.9	2.5	2.5	10.5	1.3	1.3
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	5.6	3.2	1.1	3.5	4.2	5.4	2.0	10.1	9.9	4.0	10.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	43.5	37.0	63.1	47.0	40.8	68.0	27.1	27.2	69.4	24.1	21.3
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		426			691			991			1517	
Approach Delay, s/veh		54.5			50.0			31.7			30.2	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	66.3	14.9	33.3	11.3	70.5	17.8	30.5
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	12.6	25.1	9.5	9.2	6.2	27.9	12.6	16.0
Green Ext Time (p_c), s	0.1	5.3	0.2	1.6	0.0	8.3	0.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	6.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	0	0	2
Future Vol, veh/h	5	0	0	0	0	2
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	-	-	-	-	-
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	5	0	0	0	0	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	2	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1620	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1620	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1620	-	1022	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	110	5	199	189	8	20	101	46
v/c Ratio	0.08	0.26	0.03	0.50	0.41	0.01	0.02	0.17	0.06
Control Delay	21.4	18.5	23.8	24.8	7.0	8.7	8.6	11.3	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	18.5	23.8	24.8	7.0	8.7	8.6	11.3	7.8
Queue Length 50th (ft)	5	25	1	49	0	1	3	16	4
Queue Length 95th (ft)	24	70	10	#147	47	8	14	46	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	273	466	170	400	464	679	934	604	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.24	0.03	0.50	0.41	0.01	0.02	0.17	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	309	5	121	141	8	20	265	32
v/c Ratio	0.10	0.61	0.03	0.30	0.31	0.01	0.02	0.48	0.04
Control Delay	23.2	25.3	25.4	22.5	5.7	10.0	9.9	16.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	25.3	25.4	22.5	5.7	10.0	9.9	16.7	9.5
Queue Length 50th (ft)	7	81	1	28	0	1	3	51	4
Queue Length 95th (ft)	26	#193	10	83	33	8	14	137	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	262	507	164	409	450	635	864	555	720
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.61	0.03	0.30	0.31	0.01	0.02	0.48	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX E

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR WITHOUT PROJECT

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	3	0	0	9	2	58	0	180	7	72	122	1
Future Vol, veh/h	3	0	0	9	2	58	0	180	7	72	122	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	13	3	82	0	209	8	84	142	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	587	548	163	544	544	233	153	0	0	227	0	0
Stage 1	321	321	-	223	223	-	-	-	-	-	-	-
Stage 2	266	227	-	321	321	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	421	444	882	450	446	806	1428	-	-	1341	-	-
Stage 1	691	652	-	780	719	-	-	-	-	-	-	-
Stage 2	739	716	-	691	652	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	349	405	865	418	407	791	1414	-	-	1328	-	-
Mov Cap-2 Maneuver	349	405	-	418	407	-	-	-	-	-	-	-
Stage 1	684	601	-	772	712	-	-	-	-	-	-	-
Stage 2	654	709	-	637	601	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	11.1	0	2.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	349	692	1328	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.14	0.063	-	-
HCM Control Delay (s)	0	-	-	15.4	11.1	7.9	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	233	28	120	267	363	65	832	156	256	669	168
Future Volume (veh/h)	256	233	28	120	267	363	65	832	156	256	669	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	298	271	33	129	287	390	79	1015	190	328	858	215
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	1357	590	232	533	438	116	995	430	333	1107	480
Arrive On Green	0.16	0.38	0.38	0.07	0.28	0.28	0.06	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	298	271	33	129	287	390	79	1015	190	328	858	215
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	7.6	2.0	5.4	19.2	36.0	6.4	41.5	15.1	14.0	32.5	16.6
Cycle Q Clear(g_c), s	24.3	7.6	2.0	5.4	19.2	36.0	6.4	41.5	15.1	14.0	32.5	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	1357	590	232	533	438	116	995	430	333	1107	480
V/C Ratio(X)	1.02	0.20	0.06	0.56	0.54	0.89	0.68	1.02	0.44	0.98	0.77	0.45
Avail Cap(c_a), veh/h	292	1390	604	240	555	456	120	995	430	333	1107	480
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	30.7	29.0	67.0	44.8	50.8	67.8	53.4	43.8	66.9	46.3	40.8
Incr Delay (d2), s/veh	58.0	0.3	0.1	2.6	3.1	21.7	11.5	33.7	3.3	44.8	5.3	3.0
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	15.6	3.3	0.8	2.4	9.4	16.4	3.3	23.0	6.1	8.3	15.1	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.0	30.9	29.1	69.6	47.9	72.5	79.4	87.1	47.1	111.6	51.6	43.8
LnGrp LOS	F	C	C	E	D	E	E	F	D	F	D	D
Approach Vol, veh/h		602			806			1284			1401	
Approach Delay, s/veh		74.9			63.3			80.7			64.5	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	62.7	15.3	54.6	30.0	48.3
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	16.0	43.5	7.4	9.6	8.4	34.5	26.3	38.0
Green Ext Time (p_c), s	0.0	0.0	0.1	5.1	0.0	8.4	0.0	3.3

Intersection Summary			
HCM 6th Ctrl Delay			70.9
HCM 6th LOS			E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	234	186	154	141	1
Future Volume (veh/h)	0	234	186	154	141	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
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	0	269	216	179	188	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	4	542	542	437	762	4
Arrive On Green	0.00	0.29	0.29	0.29	0.43	0.43
Sat Flow, veh/h	1781	1870	1870	1507	1762	9
Grp Volume(v), veh/h	0	269	216	179	190	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1507	1780	0
Q Serve(g_s), s	0.0	6.1	4.7	4.9	3.4	0.0
Cycle Q Clear(g_c), s	0.0	6.1	4.7	4.9	3.4	0.0
Prop In Lane	1.00			1.00	0.99	0.01
Lane Grp Cap(c), veh/h	4	542	542	437	770	0
V/C Ratio(X)	0.00	0.50	0.40	0.41	0.25	0.00
Avail Cap(c_a), veh/h	280	1615	1111	895	770	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.0	14.5	14.5	9.2	0.0
Incr Delay (d2), s/veh	0.0	3.2	2.2	2.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.8	1.6	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.2	16.7	17.4	9.9	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		269	395		190	
Approach Delay, s/veh		18.2	17.0		9.9	
Approach LOS		B	B		A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.7		28.1	0.0	22.7
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		8.1		5.4	0.0	6.9
Green Ext Time (p_c), s		5.4		0.7	0.0	5.7

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* 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)	41	50	125	24	39	3	50	238	36	9	220	37
Future Volume (veh/h)	41	50	125	24	39	3	50	238	36	9	220	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	63	77	192	28	45	3	65	309	47	13	314	53
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	384	766	114	322	261	283	1516	751	54	1332	733
Arrive On Green	0.10	0.21	0.21	0.06	0.17	0.17	0.08	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2618	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	63	77	192	28	45	3	65	309	47	13	314	53
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.4	3.5	5.8	1.5	2.1	0.2	1.8	5.6	1.7	0.7	6.2	1.9
Cycle Q Clear(g_c), s	3.4	3.5	5.8	1.5	2.1	0.2	1.8	5.6	1.7	0.7	6.2	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	384	766	114	322	261	283	1516	751	54	1332	733
V/C Ratio(X)	0.36	0.20	0.25	0.24	0.14	0.01	0.23	0.20	0.06	0.24	0.24	0.07
Avail Cap(c_a), veh/h	213	1010	1642	213	1010	820	346	1516	751	178	1332	733
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	33.9	28.2	45.8	36.2	35.4	44.2	18.5	13.8	48.8	22.1	14.9
Incr Delay (d2), s/veh	1.8	0.3	0.2	1.6	0.2	0.0	0.4	0.3	0.2	3.3	0.4	0.2
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	1.5	1.5	1.7	0.7	0.9	0.1	0.8	2.2	0.5	0.4	2.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	34.2	28.4	47.4	36.4	35.4	44.6	18.8	13.9	52.1	22.5	15.1
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		332			76			421			380	
Approach Delay, s/veh		33.0			40.4			22.3			22.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	29.5	14.1	47.0	15.7	26.1	8.8	52.3
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.5	7.8	3.8	8.2	5.4	4.1	2.7	7.6
Green Ext Time (p_c), s	0.0	1.2	0.1	1.9	0.1	0.2	0.0	1.9

Intersection Summary		
HCM 6th Ctrl Delay		26.4
HCM 6th LOS		C

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	111	201	190	86	15
Future Volume (veh/h)	22	111	201	190	86	15
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
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	23	117	218	207	110	19
Peak Hour Factor	0.95	0.95	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	77	573	329	260	599	103
Arrive On Green	0.04	0.31	0.18	0.18	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1477	1471	254
Grp Volume(v), veh/h	23	117	218	207	130	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1477	1738	0
Q Serve(g_s), s	0.7	2.5	5.9	7.3	2.6	0.0
Cycle Q Clear(g_c), s	0.7	2.5	5.9	7.3	2.6	0.0
Prop In Lane	1.00			1.00	0.85	0.15
Lane Grp Cap(c), veh/h	77	573	329	260	707	0
V/C Ratio(X)	0.30	0.20	0.66	0.80	0.18	0.00
Avail Cap(c_a), veh/h	264	779	339	268	707	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.1	13.9	20.8	21.3	10.3	0.0
Incr Delay (d2), s/veh	0.8	0.8	10.0	21.8	0.6	0.0
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	1.0	3.1	3.8	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.9	14.7	30.8	43.2	10.8	0.0
LnGrp LOS	C	B	C	D	B	A
Approach Vol, veh/h		140	425		130	
Approach Delay, s/veh		16.5	36.8		10.8	
Approach LOS		B	D		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.6		29.5	7.0	17.5
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		4.5		4.6	2.7	9.3
Green Ext Time (p_c), s		1.3		0.9	0.0	0.3
Intersection Summary						
HCM 6th Ctrl Delay			27.9			
HCM 6th LOS			C			

Notes

User approved volume balancing among the lanes for turning movement.
* 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)	100	218	17	173	413	275	160	570	111	180	516	134
Future Volume (veh/h)	100	218	17	173	413	275	160	570	111	180	516	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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	118	256	20	206	492	327	184	655	128	198	567	147
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	897	496	259	880	495	237	1272	248	252	1548	674
Arrive On Green	0.08	0.25	0.25	0.07	0.25	0.25	0.07	0.43	0.43	0.07	0.44	0.44
Sat Flow, veh/h	1781	3554	1534	3456	3554	1533	3456	2951	576	3456	3554	1547
Grp Volume(v), veh/h	118	256	20	206	492	327	184	394	389	198	567	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1728	1777	1533	1728	1777	1750	1728	1777	1547
Q Serve(g_s), s	8.5	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.1	7.3	13.9	7.7
Cycle Q Clear(g_c), s	8.5	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.1	7.3	13.9	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	142	897	496	259	880	495	237	766	755	252	1548	674
V/C Ratio(X)	0.83	0.29	0.04	0.80	0.56	0.66	0.78	0.51	0.52	0.79	0.37	0.22
Avail Cap(c_a), veh/h	218	1093	581	351	1039	564	327	766	755	388	1548	674
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	39.1	30.4	59.1	42.7	38.2	59.6	27.0	27.0	59.3	24.6	22.9
Incr Delay (d2), s/veh	8.6	0.2	0.0	6.1	0.6	2.4	5.0	2.5	2.5	2.5	0.7	0.7
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	4.1	3.3	0.4	3.6	7.0	9.3	3.1	9.3	9.2	3.3	6.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	39.3	30.4	65.2	43.3	40.5	64.5	29.5	29.6	61.8	25.3	23.6
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		394			1025			967			912	
Approach Delay, s/veh		47.3			46.8			36.2			33.0	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	61.6	14.9	38.7	14.1	62.2	15.6	38.1				
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9				
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38				
Max Q Clear Time (g_c+I1), s	10.3	23.1	9.6	9.5	8.8	15.9	10.5	25.9				
Green Ext Time (p_c), s	0.2	4.5	0.1	1.6	0.1	4.5	0.1	3.6				
Intersection Summary												
HCM 6th Ctrl Delay			39.9									
HCM 6th LOS			D									

Notes

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

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	-	-	-	-	-
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	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection												
Int Delay, s/veh	2.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	7	1	51	0	140	19	146	301	0
Future Vol, veh/h	0	0	0	7	1	51	0	140	19	146	301	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	1	64	0	156	21	172	354	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	917	895	374	885	885	187	364	0	0	187	0	0
Stage 1	708	708	-	177	177	-	-	-	-	-	-	-
Stage 2	209	187	-	708	708	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	253	280	672	266	284	855	1195	-	-	1387	-	-
Stage 1	426	438	-	825	753	-	-	-	-	-	-	-
Stage 2	793	745	-	426	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	201	232	659	230	235	839	1184	-	-	1374	-	-
Mov Cap-2 Maneuver	201	232	-	230	235	-	-	-	-	-	-	-
Stage 1	422	366	-	817	745	-	-	-	-	-	-	-
Stage 2	725	738	-	356	366	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			11.6			0			2.6		
HCM LOS	A			B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	-	618	1374	-	-
HCM Lane V/C Ratio	-	-	-	-	0.119	0.125	-	-
HCM Control Delay (s)	0	-	-	0	11.6	8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	430	103	295	227	319	34	747	264	464	1064	255
Future Volume (veh/h)	246	430	103	295	227	319	34	747	264	464	1064	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	304	531	127	317	244	343	36	795	281	510	1169	280
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1127	489	372	508	417	94	940	406	458	1224	531
Arrive On Green	0.15	0.32	0.32	0.11	0.27	0.27	0.05	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1536	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	304	531	127	317	244	343	36	795	281	510	1169	280
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1536	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	17.5	8.9	13.1	15.9	30.5	2.8	30.8	24.0	19.3	46.8	21.2
Cycle Q Clear(g_c), s	22.3	17.5	8.9	13.1	15.9	30.5	2.8	30.8	24.0	19.3	46.8	21.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	1127	489	372	508	417	94	940	406	458	1224	531
V/C Ratio(X)	1.11	0.47	0.26	0.85	0.48	0.82	0.38	0.85	0.69	1.11	0.96	0.53
Avail Cap(c_a), veh/h	273	1127	489	496	565	464	122	940	406	458	1224	531
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	39.9	37.0	63.8	44.4	49.7	66.7	50.7	48.2	63.1	46.6	38.2
Incr Delay (d2), s/veh	88.6	1.1	1.0	10.4	2.5	14.9	1.0	9.3	9.3	76.5	17.0	3.7
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	16.7	7.8	3.5	6.3	7.7	13.4	1.3	14.8	10.2	13.3	23.3	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	150.2	41.0	38.0	74.2	46.9	64.6	67.6	60.0	57.5	139.7	63.6	41.9
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	E	D
Approach Vol, veh/h		962			904			1112			1959	
Approach Delay, s/veh		75.1			63.2			59.6			80.3	
Approach LOS		E			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	21.4	52.3	13.4	58.5	28.0	45.6
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	32.8	15.1	19.5	4.8	48.8	24.3	32.5
Green Ext Time (p_c), s	0.0	4.5	0.6	9.7	0.0	0.0	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	71.5
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	217	321	253	217	1
Future Volume (veh/h)	0	217	321	253	217	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	0.98
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	0	247	328	258	278	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	655	655	530	700	3
Arrive On Green	0.00	0.35	0.35	0.35	0.40	0.40
Sat Flow, veh/h	1781	1870	1870	1515	1768	6
Grp Volume(v), veh/h	0	247	328	258	280	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1515	1781	0
Q Serve(g_s), s	0.0	5.5	7.7	7.4	6.3	0.0
Cycle Q Clear(g_c), s	0.0	5.5	7.7	7.4	6.3	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	655	655	530	705	0
V/C Ratio(X)	0.00	0.38	0.50	0.49	0.40	0.00
Avail Cap(c_a), veh/h	257	1478	1017	824	705	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.5	14.2	14.1	12.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	2.7	3.2	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.9	2.3	2.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.2	17.0	17.3	13.7	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		247	586		280	
Approach Delay, s/veh		15.2	17.1		13.7	
Approach LOS		B	B		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.4		28.1	0.0	27.4
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.5		8.3	0.0	9.7
Green Ext Time (p_c), s		4.9		1.1	0.0	8.1

Intersection Summary		
HCM 6th Ctrl Delay		15.8
HCM 6th LOS		B

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)	43	68	105	62	62	12	119	317	39	3	290	63
Future Volume (veh/h)	43	68	105	62	62	12	119	317	39	3	290	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	54	86	133	82	82	16	135	360	44	3	330	72
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	373	773	180	396	323	313	1536	818	14	1243	680
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.43	0.43	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	54	86	133	82	82	16	135	360	44	3	330	72
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	3.1	4.2	4.1	4.7	3.9	0.9	4.0	7.0	1.5	0.2	7.2	3.0
Cycle Q Clear(g_c), s	3.1	4.2	4.1	4.7	3.9	0.9	4.0	7.0	1.5	0.2	7.2	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	373	773	180	396	323	313	1536	818	14	1243	680
V/C Ratio(X)	0.34	0.23	0.17	0.46	0.21	0.05	0.43	0.23	0.05	0.21	0.27	0.11
Avail Cap(c_a), veh/h	197	948	1578	218	971	793	331	1536	818	164	1243	680
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	36.5	28.9	46.0	35.3	34.1	46.8	19.5	12.2	53.6	25.3	18.0
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.5	0.3	0.1	0.9	0.4	0.1	10.2	0.5	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	1.4	1.9	1.2	2.1	1.7	0.3	1.7	2.7	0.5	0.1	2.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	36.8	29.0	48.6	35.6	34.2	47.7	19.9	12.3	63.7	25.9	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		273			180			539			405	
Approach Delay, s/veh		35.3			41.4			26.2			24.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	30.1	15.5	46.4	15.3	31.4	6.6	55.4				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4				
Max Green Setting (Gmax), s	* 13	* 55	* 10	* 38	* 12	* 56	* 10	* 38				
Max Q Clear Time (g_c+I1), s	6.7	6.2	6.0	9.2	5.1	5.9	2.2	9.0				
Green Ext Time (p_c), s	0.1	1.0	0.1	2.1	0.1	0.4	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			29.5									
HCM 6th LOS			C									
Notes												

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	281	122	141	273	10
Future Volume (veh/h)	25	281	122	141	273	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.92	1.00	0.96
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	30	335	133	153	290	11
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	96	549	282	221	705	27
Arrive On Green	0.05	0.29	0.15	0.15	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1464	1700	64
Grp Volume(v), veh/h	30	335	133	153	302	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1464	1771	0
Q Serve(g_s), s	0.9	8.2	3.4	5.3	6.4	0.0
Cycle Q Clear(g_c), s	0.9	8.2	3.4	5.3	6.4	0.0
Prop In Lane	1.00			1.00	0.96	0.04
Lane Grp Cap(c), veh/h	96	549	282	221	734	0
V/C Ratio(X)	0.31	0.61	0.47	0.69	0.41	0.00
Avail Cap(c_a), veh/h	268	793	345	270	734	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.2	16.1	20.6	21.4	11.0	0.0
Incr Delay (d2), s/veh	0.7	5.0	5.5	16.4	1.7	0.0
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	3.6	1.7	2.6	2.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	21.1	26.1	37.7	12.7	0.0
LnGrp LOS	C	C	C	D	B	A
Approach Vol, veh/h		365	286		302	
Approach Delay, s/veh		21.4	32.3		12.7	
Approach LOS		C	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.6		29.5	7.6	16.0
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		10.2		8.4	2.9	7.3
Green Ext Time (p_c), s		3.8		2.3	0.0	0.8
Intersection Summary						
HCM 6th Ctrl Delay			21.9			
HCM 6th LOS			C			

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)	142	229	43	205	292	196	116	754	155	220	1002	279
Future Volume (veh/h)	142	229	43	205	292	196	116	754	155	220	1002	279
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
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	160	257	48	225	321	215	123	802	165	244	1113	310
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	783	416	278	701	436	172	1301	268	295	1708	745
Arrive On Green	0.10	0.22	0.22	0.08	0.20	0.20	0.05	0.45	0.45	0.09	0.48	0.48
Sat Flow, veh/h	1781	3554	1529	3456	3554	1525	3456	2921	601	3456	3554	1549
Grp Volume(v), veh/h	160	257	48	225	321	215	123	488	479	244	1113	310
Grp Sat Flow(s),veh/h/ln	1781	1777	1529	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	11.5	7.9	3.1	8.3	10.4	15.3	4.6	27.3	27.3	9.0	30.8	16.9
Cycle Q Clear(g_c), s	11.5	7.9	3.1	8.3	10.4	15.3	4.6	27.3	27.3	9.0	30.8	16.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	185	783	416	278	701	436	172	791	777	295	1708	745
V/C Ratio(X)	0.86	0.33	0.12	0.81	0.46	0.49	0.71	0.62	0.62	0.83	0.65	0.42
Avail Cap(c_a), veh/h	216	1063	537	377	1039	581	183	791	777	324	1708	745
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.4	42.6	35.7	58.8	46.1	39.0	60.8	27.6	27.6	58.5	25.5	21.9
Incr Delay (d2), s/veh	23.4	0.2	0.1	6.5	0.5	0.9	9.5	3.6	3.6	13.6	1.9	1.7
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	6.3	3.5	1.2	3.9	4.7	5.9	2.2	12.2	12.0	4.5	13.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.7	42.8	35.9	65.3	46.5	39.8	70.4	31.2	31.2	72.1	27.5	23.6
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		465			761			1090			1667	
Approach Delay, s/veh		55.2			50.2			35.6			33.3	
Approach LOS		E			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.3	63.5	15.7	34.6	11.7	68.1	18.7	31.5				
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9				
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38				
Max Q Clear Time (g_c+I1), s	11.0	29.3	10.3	9.9	6.6	32.8	13.5	17.3				
Green Ext Time (p_c), s	0.1	5.2	0.2	1.7	0.0	7.9	0.0	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			39.7									
HCM 6th LOS			D									
Notes												

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	-	-	-	-	-
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	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	23	117	218	207	129
v/c Ratio	0.09	0.25	0.55	0.18	0.16
Control Delay	21.5	15.8	27.0	1.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	15.8	27.0	1.0	9.7
Queue Length 50th (ft)	6	27	54	0	18
Queue Length 95th (ft)	25	57	#166	16	50
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	264	783	393	1124	802
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.15	0.55	0.18	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	30	335	133	153	301
v/c Ratio	0.12	0.55	0.30	0.14	0.43
Control Delay	23.8	19.1	22.0	1.2	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	19.1	22.0	1.2	15.5
Queue Length 50th (ft)	9	90	31	0	69
Queue Length 95th (ft)	28	141	90	14	141
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	254	752	450	1061	699
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.45	0.30	0.14	0.43

Intersection Summary

APPENDIX F

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR WITH PROJECT

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	32	2	58	0	180	25	72	122	1
Future Vol, veh/h	3	0	0	32	2	58	0	180	25	72	122	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	45	3	82	0	209	29	84	142	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	597	569	163	555	555	244	153	0	0	248	0	0
Stage 1	321	321	-	234	234	-	-	-	-	-	-	-
Stage 2	276	248	-	321	321	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	415	432	882	442	440	795	1428	-	-	1318	-	-
Stage 1	691	652	-	769	711	-	-	-	-	-	-	-
Stage 2	730	701	-	691	652	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	343	394	865	411	401	780	1414	-	-	1305	-	-
Mov Cap-2 Maneuver	343	394	-	411	401	-	-	-	-	-	-	-
Stage 1	684	600	-	761	704	-	-	-	-	-	-	-
Stage 2	645	694	-	637	600	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	12.9	0	2.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	343	585	1305	-	-
HCM Lane V/C Ratio	-	-	-	0.012	0.221	0.064	-	-
HCM Control Delay (s)	0	-	-	15.6	12.9	7.9	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	266	241	28	120	284	363	65	833	156	256	671	174
Future Volume (veh/h)	266	241	28	120	284	363	65	833	156	256	671	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	309	280	33	129	305	390	79	1016	190	328	860	223
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	1357	590	232	533	439	115	995	430	333	1107	480
Arrive On Green	0.16	0.38	0.38	0.07	0.29	0.29	0.06	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	309	280	33	129	305	390	79	1016	190	328	860	223
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	7.8	2.0	5.4	20.7	36.0	6.4	41.5	15.1	14.1	32.6	17.3
Cycle Q Clear(g_c), s	24.3	7.8	2.0	5.4	20.7	36.0	6.4	41.5	15.1	14.1	32.6	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	1357	590	232	533	439	115	995	430	333	1107	480
V/C Ratio(X)	1.06	0.21	0.06	0.56	0.57	0.89	0.68	1.02	0.44	0.98	0.78	0.46
Avail Cap(c_a), veh/h	292	1390	604	240	555	456	120	995	430	333	1107	480
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	30.7	28.9	67.0	45.3	50.8	67.9	53.4	43.9	66.9	46.4	41.1
Incr Delay (d2), s/veh	69.0	0.3	0.1	2.6	3.6	21.6	11.6	34.1	3.3	44.9	5.4	3.2
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	16.5	3.4	0.8	2.5	10.1	16.4	3.3	23.0	6.1	8.3	15.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.0	31.0	29.1	69.7	48.8	72.4	79.4	87.5	47.1	111.8	51.8	44.3
LnGrp LOS	F	C	C	E	D	E	E	F	D	F	D	D
Approach Vol, veh/h		622			824			1285			1411	
Approach Delay, s/veh		80.6			63.2			81.0			64.5	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	62.7	15.3	54.6	30.0	48.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	16.1	43.5	7.4	9.8	8.4	34.6	26.3	38.0
Green Ext Time (p_c), s	0.0	0.0	0.1	5.3	0.0	8.4	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	71.8
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	234	186	171	149	1
Future Volume (veh/h)	0	234	186	171	149	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
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	0	269	216	199	199	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	550	550	443	774	4
Arrive On Green	0.00	0.29	0.29	0.29	0.44	0.44
Sat Flow, veh/h	1781	1870	1870	1507	1763	9
Grp Volume(v), veh/h	0	269	216	199	201	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1507	1780	0
Q Serve(g_s), s	0.0	6.3	4.9	5.7	3.8	0.0
Cycle Q Clear(g_c), s	0.0	6.3	4.9	5.7	3.8	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	550	550	443	782	0
V/C Ratio(X)	0.00	0.49	0.39	0.45	0.26	0.00
Avail Cap(c_a), veh/h	270	1511	1026	827	782	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.4	14.9	15.2	9.4	0.0
Incr Delay (d2), s/veh	0.0	3.1	2.1	3.3	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	1.9	1.9	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.5	17.0	18.4	10.2	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		269	415		201	
Approach Delay, s/veh		18.5	17.7		10.2	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.5		29.3	0.0	23.5
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		42.7		23.2	* 8	29.0
Max Q Clear Time (g_c+I1), s		8.3		5.8	0.0	7.7
Green Ext Time (p_c), s		5.3		0.8	0.0	5.7
Intersection Summary						
HCM 6th Ctrl Delay			16.2			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.

* 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)	41	50	133	24	39	3	67	238	36	9	220	37
Future Volume (veh/h)	41	50	133	24	39	3	67	238	36	9	220	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	63	77	205	28	45	3	87	309	47	13	314	53
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	382	782	114	321	261	306	1528	756	54	1321	727
Arrive On Green	0.10	0.20	0.20	0.06	0.17	0.17	0.09	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2618	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	63	77	205	28	45	3	87	309	47	13	314	53
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.4	3.5	6.2	1.6	2.1	0.2	2.4	5.6	1.7	0.7	6.3	2.0
Cycle Q Clear(g_c), s	3.4	3.5	6.2	1.6	2.1	0.2	2.4	5.6	1.7	0.7	6.3	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	382	782	114	321	261	306	1528	756	54	1321	727
V/C Ratio(X)	0.37	0.20	0.26	0.25	0.14	0.01	0.28	0.20	0.06	0.24	0.24	0.07
Avail Cap(c_a), veh/h	211	1001	1648	211	1001	813	343	1528	756	177	1321	727
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	34.3	28.2	46.2	36.5	35.7	44.3	18.5	13.7	49.2	22.5	15.2
Incr Delay (d2), s/veh	1.8	0.3	0.2	1.6	0.2	0.0	0.5	0.3	0.2	3.3	0.4	0.2
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	1.5	1.5	1.8	0.7	0.9	0.1	1.0	2.2	0.5	0.4	2.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	34.5	28.4	47.8	36.7	35.7	44.8	18.8	13.9	52.5	22.9	15.4
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		345			76			443			380	
Approach Delay, s/veh		32.9			40.8			23.4			22.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	29.6	14.9	47.0	15.8	26.2	8.8	53.1
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.6	8.2	4.4	8.3	5.4	4.1	2.7	7.6
Green Ext Time (p_c), s	0.0	1.2	0.1	1.9	0.1	0.2	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

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)	22	111	4	5	201	191	7	18	0	87	22	15
Future Volume (veh/h)	22	111	4	5	201	191	7	18	0	87	22	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
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	23	117	4	5	218	208	8	20	0	112	28	19
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	389	13	12	330	261	657	761	0	691	415	281
Arrive On Green	0.04	0.22	0.22	0.01	0.18	0.18	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1796	61	1781	1870	1477	1343	1870	0	1392	1019	692
Grp Volume(v), veh/h	23	0	121	5	218	208	8	20	0	112	0	47
Grp Sat Flow(s),veh/h/ln	1781	0	1858	1781	1870	1477	1343	1870	0	1392	0	1711
Q Serve(g_s), s	0.7	0.0	3.0	0.2	5.9	7.3	0.2	0.3	0.0	2.8	0.0	0.9
Cycle Q Clear(g_c), s	0.7	0.0	3.0	0.2	5.9	7.3	1.1	0.3	0.0	3.2	0.0	0.9
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.00	1.00		0.40
Lane Grp Cap(c), veh/h	77	0	402	12	330	261	657	761	0	691	0	696
V/C Ratio(X)	0.30	0.00	0.30	0.42	0.66	0.80	0.01	0.03	0.00	0.16	0.00	0.07
Avail Cap(c_a), veh/h	264	0	447	165	339	268	732	865	0	691	0	696
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	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.1	0.0	17.7	26.8	20.8	21.3	10.1	9.6	0.0	10.6	0.0	9.8
Incr Delay (d2), s/veh	0.8	0.0	1.9	21.8	10.0	22.0	0.0	0.0	0.0	0.5	0.0	0.2
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	1.3	0.1	3.1	3.8	0.1	0.1	0.0	0.8	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	19.7	48.5	30.7	43.4	10.1	9.6	0.0	11.1	0.0	10.0
LnGrp LOS	C	A	B	D	C	D	B	A	A	B	A	A
Approach Vol, veh/h		144			431			28			159	
Approach Delay, s/veh		20.7			37.0			9.8			10.7	
Approach LOS		C			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.7		29.5	7.0	17.5		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.7	5.0		5.2	2.7	9.3		3.1				
Green Ext Time (p_c), s	0.0	0.8		1.3	0.0	0.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			27.5									
HCM 6th LOS			C									

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)	101	218	17	173	413	275	161	570	111	180	516	136
Future Volume (veh/h)	101	218	17	173	413	275	161	570	111	180	516	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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	119	256	20	206	492	327	185	655	128	198	567	149
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	900	497	259	880	495	238	1271	248	252	1545	673
Arrive On Green	0.08	0.25	0.25	0.07	0.25	0.25	0.07	0.43	0.43	0.07	0.43	0.43
Sat Flow, veh/h	1781	3554	1534	3456	3554	1533	3456	2951	576	3456	3554	1547
Grp Volume(v), veh/h	119	256	20	206	492	327	185	394	389	198	567	149
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1728	1777	1533	1728	1777	1750	1728	1777	1547
Q Serve(g_s), s	8.6	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.2	7.3	14.0	7.8
Cycle Q Clear(g_c), s	8.6	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.2	7.3	14.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	143	900	497	259	880	495	238	765	753	252	1545	673
V/C Ratio(X)	0.83	0.28	0.04	0.80	0.56	0.66	0.78	0.52	0.52	0.79	0.37	0.22
Avail Cap(c_a), veh/h	218	1093	581	351	1039	564	327	765	753	388	1545	673
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	39.1	30.3	59.1	42.7	38.2	59.6	27.1	27.1	59.3	24.7	23.0
Incr Delay (d2), s/veh	9.0	0.2	0.0	6.1	0.6	2.4	5.1	2.5	2.5	2.5	0.7	0.8
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	4.2	3.3	0.4	3.6	7.0	9.3	3.2	9.4	9.3	3.3	6.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	39.2	30.3	65.2	43.3	40.5	64.7	29.6	29.6	61.8	25.4	23.7
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		395			1025			968			914	
Approach Delay, s/veh		47.4			46.8			36.3			33.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	61.6	14.9	38.8	14.1	62.1	15.7	38.1
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.3	23.2	9.6	9.5	8.8	16.0	10.6	25.9
Green Ext Time (p_c), s	0.2	4.5	0.1	1.6	0.1	4.5	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	2.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	0	0	4
Future Vol, veh/h	2	0	0	0	0	4
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	-	-	-	-	-
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	2	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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	0	0	0	29	1	51	0	140	38	146	301	0
Future Vol, veh/h	0	0	0	29	1	51	0	140	38	146	301	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	36	1	64	0	156	42	172	354	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	928	916	374	895	895	197	364	0	0	208	0	0
Stage 1	708	708	-	187	187	-	-	-	-	-	-	-
Stage 2	220	208	-	708	708	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	248	272	672	261	280	844	1195	-	-	1363	-	-
Stage 1	426	438	-	815	745	-	-	-	-	-	-	-
Stage 2	782	730	-	426	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	196	224	659	225	231	828	1184	-	-	1350	-	-
Mov Cap-2 Maneuver	196	224	-	225	231	-	-	-	-	-	-	-
Stage 1	422	365	-	807	738	-	-	-	-	-	-	-
Stage 2	714	723	-	355	365	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	16.4	0	2.6
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	-	416	1350	-	-
HCM Lane V/C Ratio	-	-	-	-	0.243	0.127	-	-
HCM Control Delay (s)	0	-	-	0	16.4	8.1	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	438	103	295	243	319	34	749	264	464	1065	261
Future Volume (veh/h)	257	438	103	295	243	319	34	749	264	464	1065	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	317	541	127	317	261	343	36	797	281	510	1170	287
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1129	489	372	509	418	94	939	406	458	1223	531
Arrive On Green	0.15	0.32	0.32	0.11	0.27	0.27	0.05	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1536	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	317	541	127	317	261	343	36	797	281	510	1170	287
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1536	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	17.8	8.9	13.1	17.2	30.5	2.8	31.0	24.0	19.3	46.9	21.8
Cycle Q Clear(g_c), s	22.3	17.8	8.9	13.1	17.2	30.5	2.8	31.0	24.0	19.3	46.9	21.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	1129	489	372	509	418	94	939	406	458	1223	531
V/C Ratio(X)	1.16	0.48	0.26	0.85	0.51	0.82	0.38	0.85	0.69	1.11	0.96	0.54
Avail Cap(c_a), veh/h	273	1129	489	496	565	464	122	939	406	458	1223	531
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.7	40.0	37.0	63.8	44.8	49.7	66.7	50.8	48.2	63.2	46.7	38.5
Incr Delay (d2), s/veh	105.7	1.1	1.0	10.5	2.9	14.8	1.0	9.4	9.4	76.8	17.2	3.9
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	18.0	8.0	3.5	6.3	8.4	13.3	1.3	14.9	10.2	13.3	23.4	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.4	41.1	38.0	74.3	47.7	64.4	67.7	60.2	57.6	140.0	63.9	42.4
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	E	D
Approach Vol, veh/h		985			921			1114			1967	
Approach Delay, s/veh		81.4			63.1			59.8			80.5	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	21.4	52.4	13.4	58.5	28.0	45.7
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	33.0	15.1	19.8	4.8	48.9	24.3	32.5
Green Ext Time (p_c), s	0.0	4.4	0.6	9.8	0.0	0.0	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	72.8
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	217	321	270	225	1
Future Volume (veh/h)	0	217	321	270	225	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	0.97
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	0	247	328	276	288	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	664	664	538	695	2
Arrive On Green	0.00	0.36	0.36	0.36	0.39	0.39
Sat Flow, veh/h	1781	1870	1870	1515	1768	6
Grp Volume(v), veh/h	0	247	328	276	290	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1515	1781	0
Q Serve(g_s), s	0.0	5.5	7.7	8.0	6.6	0.0
Cycle Q Clear(g_c), s	0.0	5.5	7.7	8.0	6.6	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	664	664	538	700	0
V/C Ratio(X)	0.00	0.37	0.49	0.51	0.41	0.00
Avail Cap(c_a), veh/h	255	1467	1009	817	700	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.4	14.1	14.2	12.3	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.6	3.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.9	2.5	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.0	16.7	17.7	14.1	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		247	604		290	
Approach Delay, s/veh		15.0	17.2		14.1	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.9		28.1	0.0	27.9
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.5		8.6	0.0	10.0
Green Ext Time (p_c), s		4.9		1.1	0.0	8.3

Intersection Summary						
HCM 6th Ctrl Delay			15.9			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.

* 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)	43	68	114	62	62	12	136	317	39	3	290	63
Future Volume (veh/h)	43	68	114	62	62	12	136	317	39	3	290	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	54	86	144	82	82	16	155	360	44	3	330	72
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	373	775	180	396	323	315	1537	818	14	1242	680
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.43	0.43	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	54	86	144	82	82	16	155	360	44	3	330	72
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	3.1	4.2	4.5	4.7	3.9	0.9	4.6	7.0	1.5	0.2	7.2	3.0
Cycle Q Clear(g_c), s	3.1	4.2	4.5	4.7	3.9	0.9	4.6	7.0	1.5	0.2	7.2	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	373	775	180	396	323	315	1537	818	14	1242	680
V/C Ratio(X)	0.34	0.23	0.19	0.46	0.21	0.05	0.49	0.23	0.05	0.21	0.27	0.11
Avail Cap(c_a), veh/h	197	949	1581	201	954	780	359	1537	818	164	1242	680
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	36.6	29.0	46.1	35.4	34.2	47.0	19.5	12.2	53.6	25.4	18.0
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.5	0.3	0.1	1.2	0.4	0.1	10.2	0.5	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	1.4	1.9	1.3	2.1	1.7	0.3	2.0	2.7	0.5	0.1	2.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	36.9	29.1	48.6	35.6	34.2	48.2	19.8	12.3	63.8	25.9	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		284			180			559			405	
Approach Delay, s/veh		35.1			41.4			27.1			24.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	30.1	15.6	46.4	15.4	31.4	6.6	55.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 55	* 11	* 38	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	6.7	6.5	6.6	9.2	5.1	5.9	2.2	9.0
Green Ext Time (p_c), s	0.1	1.0	0.2	2.1	0.1	0.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

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)	25	281	4	5	122	143	7	18	0	274	21	10
Future Volume (veh/h)	25	281	4	5	122	143	7	18	0	274	21	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
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	30	335	5	5	133	155	8	20	0	291	22	11
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	408	6	12	320	253	666	756	0	686	468	234
Arrive On Green	0.05	0.22	0.22	0.01	0.17	0.17	0.40	0.40	0.00	0.40	0.40	0.40
Sat Flow, veh/h	1781	1837	27	1781	1870	1475	1360	1870	0	1392	1158	579
Grp Volume(v), veh/h	30	0	340	5	133	155	8	20	0	291	0	33
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	1475	1360	1870	0	1392	0	1737
Q Serve(g_s), s	0.9	0.0	9.4	0.2	3.5	5.3	0.2	0.4	0.0	8.7	0.0	0.6
Cycle Q Clear(g_c), s	0.9	0.0	9.4	0.2	3.5	5.3	0.8	0.4	0.0	9.0	0.0	0.6
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.00	1.00		0.33
Lane Grp Cap(c), veh/h	95	0	414	12	320	253	666	756	0	686	0	702
V/C Ratio(X)	0.31	0.00	0.82	0.42	0.42	0.61	0.01	0.03	0.00	0.42	0.00	0.05
Avail Cap(c_a), veh/h	262	0	445	164	337	265	741	859	0	686	0	702
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	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	20.2	26.9	20.1	20.9	10.1	9.8	0.0	12.5	0.0	9.9
Incr Delay (d2), s/veh	0.7	0.0	16.6	21.8	3.9	10.7	0.0	0.0	0.0	1.9	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	0.4	0.0	5.4	0.1	1.7	2.3	0.1	0.1	0.0	2.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	36.8	48.7	24.1	31.6	10.1	9.8	0.0	14.4	0.0	10.0
LnGrp LOS	C	A	D	D	C	C	B	A	A	B	A	A
Approach Vol, veh/h		370			293			28			324	
Approach Delay, s/veh		35.9			28.4			9.9			14.0	
Approach LOS		D			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	20.1		29.5	7.6	17.3		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.9	11.4		11.0	2.9	7.3		2.8				
Green Ext Time (p_c), s	0.0	0.6		2.2	0.0	0.8		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		26.0
HCM 6th LOS		C

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)	144	229	44	205	292	196	116	754	155	220	1002	280
Future Volume (veh/h)	144	229	44	205	292	196	116	754	155	220	1002	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
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	162	257	49	225	321	215	123	802	165	244	1113	311
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	787	418	278	701	436	172	1297	267	295	1704	743
Arrive On Green	0.10	0.22	0.22	0.08	0.20	0.20	0.05	0.44	0.44	0.09	0.48	0.48
Sat Flow, veh/h	1781	3554	1529	3456	3554	1525	3456	2921	601	3456	3554	1549
Grp Volume(v), veh/h	162	257	49	225	321	215	123	488	479	244	1113	311
Grp Sat Flow(s),veh/h/ln	1781	1777	1529	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	11.6	7.9	3.1	8.3	10.4	15.3	4.6	27.4	27.4	9.0	30.9	17.0
Cycle Q Clear(g_c), s	11.6	7.9	3.1	8.3	10.4	15.3	4.6	27.4	27.4	9.0	30.9	17.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	187	787	418	278	701	436	172	789	775	295	1704	743
V/C Ratio(X)	0.87	0.33	0.12	0.81	0.46	0.49	0.71	0.62	0.62	0.83	0.65	0.42
Avail Cap(c_a), veh/h	216	1063	537	377	1039	581	183	789	775	324	1704	743
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	42.5	35.6	58.8	46.1	39.0	60.8	27.7	27.7	58.5	25.6	22.0
Incr Delay (d2), s/veh	24.0	0.2	0.1	6.5	0.5	0.9	9.5	3.6	3.7	13.6	2.0	1.7
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	6.4	3.5	1.2	3.9	4.7	5.9	2.2	12.2	12.0	4.5	13.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.3	42.7	35.8	65.3	46.5	39.8	70.4	31.3	31.4	72.1	27.6	23.8
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		468			761			1090			1668	
Approach Delay, s/veh		55.3			50.2			35.7			33.4	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	63.3	15.7	34.7	11.7	67.9	18.8	31.5
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	11.0	29.4	10.3	9.9	6.6	32.9	13.6	17.3
Green Ext Time (p_c), s	0.1	5.2	0.2	1.7	0.0	7.9	0.0	2.8

Intersection Summary			
HCM 6th Ctrl Delay			39.8
HCM 6th LOS			D

Notes

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

Intersection						
Int Delay, s/veh	6.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	0	0	2
Future Vol, veh/h	5	0	0	0	0	2
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	-	-	-	-	-
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	5	0	0	0	0	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	2	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1620	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1620	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1620	-	1022	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	23	121	5	218	208	8	20	112	47
v/c Ratio	0.08	0.28	0.03	0.53	0.43	0.01	0.02	0.19	0.06
Control Delay	21.4	18.7	23.8	26.0	7.0	8.7	8.6	11.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	18.7	23.8	26.0	7.0	8.7	8.6	11.5	7.7
Queue Length 50th (ft)	6	28	1	54	0	1	3	18	4
Queue Length 95th (ft)	25	76	10	#166	49	8	14	50	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	277	474	173	409	485	666	918	591	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.26	0.03	0.53	0.43	0.01	0.02	0.19	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	340	5	133	155	8	20	291	33
v/c Ratio	0.11	0.67	0.03	0.33	0.34	0.01	0.02	0.52	0.05
Control Delay	23.2	27.7	25.4	22.8	6.8	10.0	9.9	17.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	27.7	25.4	22.8	6.8	10.0	9.9	17.6	9.4
Queue Length 50th (ft)	8	91	1	31	0	1	3	58	4
Queue Length 95th (ft)	28	#221	10	90	40	8	14	153	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	262	507	164	409	450	635	864	555	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.67	0.03	0.33	0.34	0.01	0.02	0.52	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

CIRCULATION AND
SCENIC HIGHWAYS ELEMENT

Prepared by:
Imperial County Planning & Development Services Department
801 Main Street
El Centro, CA 92243

in collaboration with the

Imperial County Public Works Department
155 South 11th Street
El Centro, CA 92243

WILLIAM S. BRUNET, P.E.
Director of Public Works

JURG HEUBERGER, AICP
Planning & Development Services Director

Approved by:
Board of Supervisors
January 29, 2008

APPENDIX G

IMPERIAL COUNTY CIRCULATION AND SCENIC HIGHWAYS ELEMENT EXCERPT

CIRCULATION AND
SCENIC HIGHWAYS ELEMENT

Prepared by:
Imperial County Planning & Development Services Department
801 Main Street
El Centro, CA 92243

in collaboration with the

Imperial County Public Works Department
155 South 11th Street
El Centro, CA 92243

WILLIAM S. BRUNET, P.E.
Director of Public Works

JURG HEUBERGER, AICP
Planning & Development Services Director

Approved by:
Board of Supervisors
January 29, 2008

C. Future Traffic Volume Forecast

Forecast Model

A modification of SCAG's 2025 Regional Model was used to forecast Year 2025 traffic volumes on the various street segments. Minor modifications were made to both the land use and network data to improve accuracy. The following key roadway network and land use parameters were verified and/or assumed:

The Socio-Economic and Land Use data was reviewed for the 2025 Imperial County Transportation Model (ICTM). The 2025 ICTM contained two different socio-economic and land use data, one is the Calexico General Plan (CalexGP) version and the other is the Imperial Mall (ImpMall4a) version. After a review of the demographic information for both versions and consultation with Caltrans staff, it was determined that the CalexGP model provided the most accurate traffic forecast.

The Calexico General Plan (CalexGP) version of the ICTM was updated based on comments from the City of Calexico and is called the CalexGP+ version. The CalexGP+ version is considered a land use alternative to the CalexGP and ImpMall4a versions of the model.

The transportation network in the 2025 Imperial County Transportation Model was modified to include a link for Kloke Road from SR 98 to Cole Road and minor adjustments to some key connections.

I-8 interchanges are assumed in 2050 at Drew Road, Forrester Road, Austin Road, Imperial Avenue, SR-86, Dogwood Road, SR-111, Bowker Road, and SR-7.

Year 2050 Traffic Volumes

Once the land use and network data were modified in the 2025 CalexGP+ Model, Year 2025 ADT volumes were forecasted. The Year 2025 forecasted ADT volumes were reviewed for validity and consistency with existing ADT volumes and the surrounding land use and network data. A review of all 2025 model traffic volumes was conducted and revisions to these forecast volumes were made as deemed appropriate, especially when forecast volumes appeared lower than expected.

Annual growth rates were calculated at the nearby road segments from the existing ADT volumes and Year 2025 ADT volumes. The average annual growth rates were calculated for all the segments in the study area. After a review of the annual growth rates, the following annual growth rates were applied to the segments in the circulation element plan to forecast Year 2050 volumes:

Year 2025 ADT volumes < 20,000 - two percent (2.0%) annual growth was applied to the Year 2025 ADT volumes to determine Year 2050 ADT volumes.

Year 2025 ADT volumes between 20,001 and 27,000 - one percent (1.0%) annual growth was applied to the Year 2025 ADT volumes to estimate Year 2050 ADT volumes.

Year 2025 ADT volumes > 27,000 - half percent (0.5%) annual growth was applied to the Year 2025 ADT volumes to determine Year 2050 ADT volumes.

The 2025 CalexGP+ Model did not contain volumes for all of the roadway segments in the Imperial County Circulation Element Plan. For those segments, the Year 2050 segment volumes were calculated by applying a reasonable annual growth rate. The resultant Year 2050 forecast traffic volumes for the roadway segments are summarized in Table 3.

As shown in Table 3, all unincorporated area street segments are forecast to operate at LOS C or better on a daily basis. For the purpose of this analysis, LOS C will be targeted as the minimum acceptable level of service. Most roadway segments are forecast to operate at LOS A and B with their proposed Circulation Element classification. Level of service on State Highways, in some cases, deteriorates to LOS D, however the County of Imperial has no jurisdiction over State Highways and planning for these facilities is undertaken by the State of California. County roads that do intersect with State routes should be given special consideration because delays at intersections tend to deteriorate operating conditions along street segments.

For the purposes of this analysis, a table (see Table 5, Section IV) to compare daily traffic levels of service has been utilized. This is a broad base approach which is used to size roadways to accommodate long term volumes.

D. Roadway Classification Recommendations

The circulation plan is developed to create an efficient transportation system on a countywide basis. Roadway classifications will provide for the effective flow of goods and people with minimum delays in a cost effective and well-maintained system.

The recommended roadway classifications for the key roadways were determined based on Year 2050 volumes. The goal of the recommended roadway classification is to ensure key roadway segments operate at LOS C or better for the forecasted Year 2050 traffic volumes. The recommended roadway classifications were then reviewed for consistency and countywide infrastructure goals based on the future land use and network data. Table 3 shows the recommended roadway classifications for selected road segments.

Dual left–turn lanes and dedicated right-turn lanes should be planned at the intersection of major roadways. Appendix A1 contains guidelines for the provision of left-turn lanes and right-turn lanes at the intersection of various types of roadways. It is recommended that grade-separated railroad crossings be planned at roadways classified as Prime Arterial or Expressway. Appendix A2 contains the typical intersection layouts for the different roadway classifications.

A review of Table 3 shows that some of the classifications are potentially larger than necessary based on the forecasted traffic volumes. However, based on discussions with County staff and the desire to be slightly conservative in terms of setting aside right-of-way, the classifications shown in Table 3 were recommended.

E. Financial Recommendations

There is no single source nor single method of financing that will achieve the goals and objectives. The County will need to apply consistent efforts to secure the necessary financing.

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TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume[a]	Year 2005 ADT Volume[a]	Year 2025 ADT Volume[c]	25 Year Total Growth Factor[d]	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS[e]
Diehl Road								
Westside/Drew	Minor Collector						Minor Collector (2)	
Drew/Harrigan	Major Collector						Prime Arterial (6)	
Proposed Harrigan/Silsbee	Major Collector						Prime Arterial (6)	
Dietrich Road								
Rutherford/Shank	Minor Collector						Major Collector (4)	
Proposed Shank/SR-78	None						Major Collector (4)	
Doetsch Road								
Elder/SR-86	Minor Collector						Minor Collector (2)	
Dogwood Road (S31)*								
Proposed Lindsey/Hovley	None						Prime Arterial (6-divided)	
Brawley/SR-98	Prime Arterial						Prime Arterial (6-divided)	
Dowden Road								
Proposed Forrester/Gentry	None						Local Collector (2)	
Gentry/Kershaw	None						Prime Arterial (6)	
Kershaw/Butters	Minor Collector						Prime Arterial (6)	
Drew Road (S29)								
Evan Hewes/SR-98	Prime Arterial						Prime Arterial (6-divided)	
Dunaway Road								
I-8/Evan Hewes Hwy	Major Collector	900	1,040	2,756	1.64	4,500	Major Collector (4)	A
Eady Road								
Willoughby/Cole	Minor Collector						Minor Collector (2)	
Eddins Road (S30)								
Gentry/SR-111(Calipatria City Limits)	Major Collector						Major Collector (4)	
Edgar Road								
Pierle/Forrester	Minor Collector						Minor Collector (2)	
Elder Road								
Doetsch/Cady	Minor Collector						Minor Collector (2)	
English Road								
Sinclair/Wilkins	Minor Collector						Minor Collector (2)	
Erskine Road								
Wheeler/Payne	Minor Collector						Minor Collector	
Evan Hewes Hwy (S80)								
Imperial Hwy/El Centro	Prime Arterial						Prime Arterial (6-divided)	
El Centro/SR-115	Prime Arterial						Prime Arterial (6-divided)	
SR-115/End	Prime Arterial						Prime Arterial (6-divided)	
Fawcett Road								
Dogwood/Meadows	Minor Collector						Major Collector (4)	
Ferrell Road								
Kubler/SR-98	Major Collector						Major Collector (4)	
SR-98/Anza	Minor Collector						Minor Collector (2)	
Fifield Road								
SR-78/Streiby	Minor Collector						Minor Collector (2)	
Fisher Road								
Drew/Pulliam	Minor Collector						Minor Collector (2)	
Flett Road								
Wilkinson/Wirt	Minor Collector						Minor Collector (2)	
Forrester Road (S30)								
Proposed Sinclair/Walker	None						Prime Arterial (6-divided)	
Walker/Westmorland	Major Collector						Prime Arterial (6-divided)	
Westmorland/McCabe	Prime Arterial						Prime Arterial (6-divided)	
McCabe/Hime	Minor Collector						Prime Arterial (6-divided)	
Proposed Hime/River	Minor Collector						Prime Arterial (6-divided)	
North Westmorland City Limits/Gentry	Major Collector	1,200	1,390	9,000	1.64	15,000	Prime Arterial (6-divided)	A
Foulds Road								
Pellett/Lack	Minor Collector						Minor Collector (2)	
Fredericks Road								
Loveland/SR-111	Minor Collector						Minor Collector (2)	
Frontage Road								
Ross/Brawley (City)	Major Collector						Major Collector (4)	
Garst Road								
Sinclair/McDonald	Minor Collector						Minor Collector (2)	
Garvey Road								
Baughman/Andre	Minor Collector						Minor Collector (2)	

APPENDIX H

HISTORICAL TRAFFIC COMPARISON

INTERSECTION	DIRECTION	MARCH 2018						2022 + 10% SUMMER FACTOR						% CHANGE					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
2. SR-111 / Cole Blvd	Sb	64	130	626	993	171	427	153	232	608	967	233	422	139%	78%	-3%	-3%	36%	-1%
	Wb	416	288	428	319	123	292	330	290	243	206	109	268	-21%	1%	-43%	-35%	-11%	-8%
	Nb	149	281	645	716	89	104	142	240	756	679	59	31	-5%	-15%	17%	-5%	-34%	-70%
	Eb	103	121	325	462	142	123	25	94	212	391	233	224	-76%	-22%	-35%	-15%	64%	82%
3. SR-98 / Cole Blvd	Sb	0	0	0	0	134	245	1	1	0	0	128	197					-4%	-20%
	Wb	149	303	283	466	0	0	140	230	169	292	0	0	-6%	-24%	-40%	-37%		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0						
	Eb	0	0	264	386	1	0	0	0	213	197	0	0	·		-19%	-49%	-100%	
AVERAGE CHANGE														-9%					
ANNUAL CHANGE														-2%					

SEGMENT	2018 CALTRANS CENSUS	2021 CALTRANS CENSUS	% CHANGE
SR-111			
North of Cole Road	37,500	29,500	-21%
South of Cole Road	34,000	27,000	-21%
North of Dogwood Rd	34,000	27,000	-21%
South of Dogwood Rd	34,000	34,000	0%
SR-98			
West of Dogwood Rd	4,200	4,900	17%
East of Dogwood Rd	9,300	10,800	16%
West of SR-111	20,300	23,600	16%
East of SR-111	24,600	20,600	-16%
West of SR-7	14,500	7,100	-51%
East of SR-7	3,150	3,050	-3%
SR-7			
North of SR-98	7,100	7,600	7%
South of SR-98	7,100	6,200	-13%
AVERAGE CHANGE			-7%
ANNUAL CHANGE			-1%

SEGMENT	2021 CALTRANS CENSUS	2025 IMPERIAL CE FORECAST	% CHANGE
SR-98			
West of Dogwood Rd	4,900	8,800	80%
East of Dogwood Rd	10,800	24,180	124%
West of SR-111	23,600	24,180	2%
East of SR-111	20,600	26,000	26%
West of SR-7	7,100	26,000	266%
East of SR-7	3,050	26,000	752%
AVERAGE CHANGE			208%
ANNUAL CHANGE			52%

SEGMENT	2021 CALTRANS CENSUS	2050 IMPERIAL CE FORECAST	% CHANGE
SR-98			
West of Dogwood Rd	4,900	14,500	196%
East of Dogwood Rd	10,800	31,500	192%
West of SR-111	23,600	31,500	33%
East of SR-111	20,600	33,500	63%
West of SR-7	7,100	33,500	372%
East of SR-7	3,050	33,500	998%
AVERAGE CHANGE			309%
ANNUAL CHANGE			8%

APPENDIX I

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – HORIZON YEAR 2050 WITHOUT PROJECT

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	0	60	0	190	10	70	130	0
Future Vol, veh/h	0	0	0	10	0	60	0	190	10	70	130	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	0	85	0	221	12	81	151	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	603	566	171	560	560	247	161	0	0	243	0	0
Stage 1	323	323	-	237	237	-	-	-	-	-	-	-
Stage 2	280	243	-	323	323	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	411	434	873	439	437	792	1418	-	-	1323	-	-
Stage 1	689	650	-	766	709	-	-	-	-	-	-	-
Stage 2	727	705	-	689	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	341	396	856	408	399	777	1404	-	-	1310	-	-
Mov Cap-2 Maneuver	341	396	-	408	399	-	-	-	-	-	-	-
Stage 1	682	600	-	758	702	-	-	-	-	-	-	-
Stage 2	642	698	-	636	600	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11.1	0	2.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	-	688	1310	-	-
HCM Lane V/C Ratio	-	-	-	-	0.143	0.062	-	-
HCM Control Delay (s)	0	-	-	0	11.1	7.9	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	240	30	120	280	380	70	860	160	270	690	170
Future Volume (veh/h)	270	240	30	120	280	380	70	860	160	270	690	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	314	279	35	129	301	409	85	1049	195	346	885	218
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	1369	595	231	540	444	116	989	428	331	1099	476
Arrive On Green	0.16	0.39	0.39	0.07	0.29	0.29	0.07	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	314	279	35	129	301	409	85	1049	195	346	885	218
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	7.8	2.1	5.4	20.3	38.4	7.0	41.5	15.6	14.3	34.2	17.0
Cycle Q Clear(g_c), s	24.3	7.8	2.1	5.4	20.3	38.4	7.0	41.5	15.6	14.3	34.2	17.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	1369	595	231	540	444	116	989	428	331	1099	476
V/C Ratio(X)	1.08	0.20	0.06	0.56	0.56	0.92	0.73	1.06	0.46	1.04	0.81	0.46
Avail Cap(c_a), veh/h	290	1383	601	239	552	454	119	989	428	331	1099	476
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	30.6	28.8	67.4	44.9	51.3	68.4	53.8	44.5	67.4	47.4	41.4
Incr Delay (d2), s/veh	76.2	0.3	0.1	2.7	3.3	26.0	17.5	46.0	3.5	61.3	6.3	3.2
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	17.1	3.4	0.8	2.5	10.0	17.9	3.7	24.7	6.4	9.1	16.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.6	30.8	29.0	70.2	48.2	77.3	85.9	99.8	47.9	128.7	53.7	44.6
LnGrp LOS	F	C	C	E	D	E	F	F	D	F	D	D
Approach Vol, veh/h		628			839			1329			1449	
Approach Delay, s/veh		84.6			65.8			91.3			70.2	
Approach LOS		F			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	63.5	15.4	54.5	30.0	49.2				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1				
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0				
Max Q Clear Time (g_c+I1), s	16.3	43.5	7.4	9.8	9.0	36.2	26.3	40.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	5.3	0.0	7.4	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			78.1									
HCM 6th LOS			E									

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	240	190	160	150	0
Future Volume (veh/h)	0	240	190	160	150	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	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	0	276	221	186	276	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	546	546	1124	9999	9999
Arrive On Green	0.00	0.29	0.29	0.29	0.43	0.43
Sat Flow, veh/h	1781	1870	1870139715085538495109760			
Grp Volume(v), veh/h	0	276	221	186	276	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1507	1781	1585
Q Serve(g_s), s	0.0	6.2	4.8	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.2	4.8	2.0	0.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	3	546	5468188240921478610368			
V/C Ratio(X)	0.00	0.51	0.40	0.17	0.00	0.00
Avail Cap(c_a), veh/h	280	1610	11088188727921478593984			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.0	14.5	2.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.3	2.2	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	1.8	1.4	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.3	16.7	2.5	0.0	0.0
LnGrp LOS	A	B	B	A	A	A
Approach Vol, veh/h		276	407		277	
Approach Delay, s/veh		18.3	10.2		0.0	
Approach LOS		B	B		A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.9		28.1	0.0	22.9
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		8.2		2.0	0.0	6.8
Green Ext Time (p_c), s		5.6		1.4	0.0	5.9

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
* 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)	40	50	130	30	40	0	50	250	40	10	230	40
Future Volume (veh/h)	40	50	130	30	40	0	50	250	40	10	230	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		0.96	1.00		0.97
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	77	200	35	47	0	65	325	52	14	329	57
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	381	761	131	339	287	281	1492	755	57	1317	724
Arrive On Green	0.10	0.20	0.20	0.07	0.18	0.00	0.08	0.42	0.42	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2617	1781	1870	1585	3456	3554	1521	1781	3554	1544
Grp Volume(v), veh/h	62	77	200	35	47	0	65	325	52	14	329	57
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1585	1728	1777	1521	1781	1777	1544
Q Serve(g_s), s	3.4	3.6	6.2	1.9	2.2	0.0	1.8	6.1	1.9	0.8	6.7	2.1
Cycle Q Clear(g_c), s	3.4	3.6	6.2	1.9	2.2	0.0	1.8	6.1	1.9	0.8	6.7	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	381	761	131	339	287	281	1492	755	57	1317	724
V/C Ratio(X)	0.36	0.20	0.26	0.27	0.14	0.00	0.23	0.22	0.07	0.25	0.25	0.08
Avail Cap(c_a), veh/h	210	998	1624	210	998	846	342	1492	755	176	1317	724
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	34.4	28.8	45.6	35.8	0.0	44.8	19.3	13.8	49.2	22.7	15.4
Incr Delay (d2), s/veh	1.8	0.3	0.2	1.5	0.2	0.0	0.4	0.3	0.2	3.1	0.5	0.2
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	1.5	1.6	1.8	0.9	1.0	0.0	0.8	2.4	0.6	0.4	2.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	34.7	29.0	47.2	36.0	0.0	45.2	19.6	14.0	52.3	23.2	15.6
LnGrp LOS	D	C	C	D	D	A	D	B	B	D	C	B
Approach Vol, veh/h		339			82			442			400	
Approach Delay, s/veh		33.4			40.8			22.7			23.1	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	29.6	14.2	47.0	15.7	27.3	9.0	52.1				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4				
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39				
Max Q Clear Time (g_c+I1), s	10.9	8.2	3.8	8.7	5.4	4.2	2.8	8.1				
Green Ext Time (p_c), s	0.0	1.2	0.1	2.0	0.1	0.2	0.0	2.0				

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	120	210	200	90	20
Future Volume (veh/h)	20	120	210	200	90	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
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	21	126	228	217	115	26
Peak Hour Factor	0.95	0.95	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	71	573	336	266	569	129
Arrive On Green	0.04	0.31	0.18	0.18	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1478	1399	316
Grp Volume(v), veh/h	21	126	228	217	142	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1478	1728	0
Q Serve(g_s), s	0.6	2.7	6.2	7.6	2.9	0.0
Cycle Q Clear(g_c), s	0.6	2.7	6.2	7.6	2.9	0.0
Prop In Lane	1.00			1.00	0.81	0.18
Lane Grp Cap(c), veh/h	71	573	336	266	703	0
V/C Ratio(X)	0.29	0.22	0.68	0.82	0.20	0.00
Avail Cap(c_a), veh/h	264	778	339	268	703	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.2	13.9	20.7	21.3	10.4	0.0
Incr Delay (d2), s/veh	0.8	0.9	10.5	23.5	0.6	0.0
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	1.1	3.3	4.0	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.1	14.8	31.3	44.9	11.0	0.0
LnGrp LOS	C	B	C	D	B	A
Approach Vol, veh/h		147	445		142	
Approach Delay, s/veh		16.4	37.9		11.0	
Approach LOS		B	D		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.6		29.5	6.9	17.7
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		4.7		4.9	2.6	9.6
Green Ext Time (p_c), s		1.5		1.0	0.0	0.1
Intersection Summary						
HCM 6th Ctrl Delay			28.4			
HCM 6th LOS			C			

Notes

User approved volume balancing among the lanes for turning movement.

* 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)	100	230	20	180	430	290	170	590	120	190	530	140
Future Volume (veh/h)	100	230	20	180	430	290	170	590	120	190	530	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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	118	271	24	214	512	345	195	678	138	209	582	154
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	913	508	267	903	511	248	1233	251	263	1513	659
Arrive On Green	0.08	0.26	0.26	0.08	0.25	0.25	0.07	0.42	0.42	0.08	0.43	0.43
Sat Flow, veh/h	1781	3554	1534	3456	3554	1534	3456	2927	595	3456	3554	1547
Grp Volume(v), veh/h	118	271	24	214	512	345	195	411	405	209	582	154
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1728	1777	1534	1728	1777	1746	1728	1777	1547
Q Serve(g_s), s	8.5	8.0	1.4	7.9	16.3	25.3	7.2	22.7	22.7	7.7	14.6	8.3
Cycle Q Clear(g_c), s	8.5	8.0	1.4	7.9	16.3	25.3	7.2	22.7	22.7	7.7	14.6	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	142	913	508	267	903	511	248	749	735	263	1513	659
V/C Ratio(X)	0.83	0.30	0.05	0.80	0.57	0.68	0.79	0.55	0.55	0.80	0.38	0.23
Avail Cap(c_a), veh/h	218	1093	586	351	1039	569	327	749	735	388	1513	659
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	38.9	29.8	59.0	42.2	37.6	59.4	28.3	28.3	59.1	25.6	23.8
Incr Delay (d2), s/veh	8.6	0.2	0.0	7.1	0.6	2.8	6.5	2.9	3.0	3.9	0.7	0.8
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	4.1	3.5	0.5	3.7	7.3	9.9	3.4	10.1	10.0	3.5	6.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	39.0	29.8	66.1	42.8	40.4	65.9	31.2	31.3	62.9	26.4	24.6
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		413			1071			1011			945	
Approach Delay, s/veh		46.6			46.7			37.9			34.2	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	60.4	15.2	39.3	14.5	60.9	15.6	38.9
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.7	24.7	9.9	10.0	9.2	16.6	10.5	27.3
Green Ext Time (p_c), s	0.2	4.6	0.1	1.7	0.1	4.6	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	-	-	-	-	-
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	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	0	50	0	140	20	150	310	0
Future Vol, veh/h	0	0	0	10	0	50	0	140	20	150	310	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	0	63	0	156	22	176	365	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	936	915	385	904	904	187	375	0	0	188	0	0
Stage 1	727	727	-	177	177	-	-	-	-	-	-	-
Stage 2	209	188	-	727	727	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	245	273	663	258	277	855	1183	-	-	1386	-	-
Stage 1	415	429	-	825	753	-	-	-	-	-	-	-
Stage 2	793	745	-	415	429	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	195	224	650	222	228	839	1172	-	-	1373	-	-
Mov Cap-2 Maneuver	195	224	-	222	228	-	-	-	-	-	-	-
Stage 1	411	356	-	817	745	-	-	-	-	-	-	-
Stage 2	727	738	-	345	356	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.2	0	2.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	-	573	1373	-	-
HCM Lane V/C Ratio	-	-	-	-	0.131	0.129	-	-
HCM Control Delay (s)	0	-	-	0	12.2	8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	450	110	310	230	330	40	770	270	480	1100	260
Future Volume (veh/h)	260	450	110	310	230	330	40	770	270	480	1100	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	321	556	136	333	247	355	43	819	287	527	1209	286
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	1122	486	387	515	423	101	935	404	456	1204	522
Arrive On Green	0.15	0.32	0.32	0.11	0.28	0.28	0.06	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1537	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	321	556	136	333	247	355	43	819	287	527	1209	286
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1537	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	18.6	9.7	13.8	16.1	31.8	3.4	32.3	24.8	19.3	49.5	22.0
Cycle Q Clear(g_c), s	22.3	18.6	9.7	13.8	16.1	31.8	3.4	32.3	24.8	19.3	49.5	22.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	1122	486	387	515	423	101	935	404	456	1204	522
V/C Ratio(X)	1.18	0.50	0.28	0.86	0.48	0.84	0.43	0.88	0.71	1.16	1.00	0.55
Avail Cap(c_a), veh/h	272	1122	486	494	563	462	122	935	404	456	1204	522
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	40.6	37.6	63.8	44.3	50.0	66.7	51.6	48.8	63.5	48.4	39.3
Incr Delay (d2), s/veh	113.1	1.2	1.1	11.8	2.5	16.3	1.1	11.3	10.1	92.3	27.0	4.1
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	18.6	8.3	3.8	6.7	7.9	14.1	1.6	15.7	10.6	14.3	26.1	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.0	41.8	38.7	75.6	46.8	66.3	67.8	62.9	59.0	155.8	75.4	43.3
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	F	D
Approach Vol, veh/h		1013			935			1149			2022	
Approach Delay, s/veh		83.6			64.4			62.1			91.8	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	22.1	52.3	14.0	57.9	28.0	46.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	34.3	15.8	20.6	5.4	51.5	24.3	33.8
Green Ext Time (p_c), s	0.0	3.5	0.5	10.0	0.0	0.0	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	78.5
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	220	330	260	220	0
Future Volume (veh/h)	0	220	330	260	220	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	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	0	250	337	265	250	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	663	663	1161	9999	9999
Arrive On Green	0.00	0.35	0.35	0.35	0.39	0.39
Sat Flow, veh/h	1781	1870	1870[illegible]23232			
Grp Volume(v), veh/h	0	250	337	265	250	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1515	1781	1585
Q Serve(g_s), s	0.0	5.6	7.9	3.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.6	7.9	3.0	0.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	3	663	663[illegible]86208			
V/C Ratio(X)	0.00	0.38	0.51	0.23	0.00	0.00
Avail Cap(c_a), veh/h	255	1468	1010[illegible]869824			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.5	14.2	2.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.8	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	3.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.1	17.0	2.6	0.0	0.0
LnGrp LOS	A	B	B	A	A	A
Approach Vol, veh/h		250	602		251	
Approach Delay, s/veh		15.1	10.7		0.0	
Approach LOS		B	B		A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.8		28.1	0.0	27.8
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.6		2.0	0.0	9.9
Green Ext Time (p_c), s		5.0		1.3	0.0	8.3

Intersection Summary

HCM 6th Ctrl Delay			9.2
HCM 6th LOS			A

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)	40	70	110	60	60	10	120	330	40	0	300	60
Future Volume (veh/h)	40	70	110	60	60	10	120	330	40	0	300	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	51	89	139	79	79	13	136	375	45	0	341	68
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	373	774	179	398	325	313	1752	911	2	1244	677
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.49	0.49	0.00	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1526	1781	3554	1543
Grp Volume(v), veh/h	51	89	139	79	79	13	136	375	45	0	341	68
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1526	1781	1777	1543
Q Serve(g_s), s	2.9	4.3	4.3	4.5	3.8	0.7	4.0	6.5	1.3	0.0	7.5	2.8
Cycle Q Clear(g_c), s	2.9	4.3	4.3	4.5	3.8	0.7	4.0	6.5	1.3	0.0	7.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	373	774	179	398	325	313	1752	911	2	1244	677
V/C Ratio(X)	0.33	0.24	0.18	0.44	0.20	0.04	0.43	0.21	0.05	0.00	0.27	0.10
Avail Cap(c_a), veh/h	197	949	1580	218	972	794	331	1752	911	164	1244	677
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	36.5	28.9	46.0	35.1	33.9	46.7	15.6	9.2	0.0	25.4	18.0
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.4	0.2	0.0	1.0	0.3	0.1	0.0	0.5	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	1.3	1.9	1.3	2.0	1.7	0.3	1.7	2.4	0.4	0.0	3.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	36.9	29.0	48.4	35.4	34.0	47.7	15.9	9.4	0.0	25.9	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	A	A	C	B
Approach Vol, veh/h		279			171			556			409	
Approach Delay, s/veh		35.1			41.3			23.1			24.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	30.1	15.5	46.4	15.1	31.5	0.0	61.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 13	* 55	* 10	* 38	* 12	* 56	* 10	* 38
Max Q Clear Time (g_c+I1), s	10.5	6.3	6.0	9.5	4.9	5.8	0.0	8.5
Green Ext Time (p_c), s	0.1	1.0	0.1	2.1	0.1	0.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	290	130	150	280	10
Future Volume (veh/h)	30	290	130	150	280	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
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	36	345	141	163	298	11
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	110	569	291	228	695	26
Arrive On Green	0.06	0.30	0.16	0.16	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1467	1702	63
Grp Volume(v), veh/h	36	345	141	163	310	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1467	1771	0
Q Serve(g_s), s	1.0	8.5	3.7	5.7	6.8	0.0
Cycle Q Clear(g_c), s	1.0	8.5	3.7	5.7	6.8	0.0
Prop In Lane	1.00			1.00	0.96	0.04
Lane Grp Cap(c), veh/h	110	569	291	228	723	0
V/C Ratio(X)	0.33	0.61	0.49	0.72	0.43	0.00
Avail Cap(c_a), veh/h	264	781	340	267	723	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.2	16.0	20.8	21.6	11.4	0.0
Incr Delay (d2), s/veh	0.6	4.7	5.7	17.5	1.9	0.0
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	3.7	1.9	2.8	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	20.7	26.5	39.1	13.3	0.0
LnGrp LOS	C	C	C	D	B	A
Approach Vol, veh/h		381	304		310	
Approach Delay, s/veh		21.1	33.3		13.3	
Approach LOS		C	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.4		29.5	8.0	16.4
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		10.5		8.8	3.0	7.7
Green Ext Time (p_c), s		3.8		2.3	0.0	0.7
Intersection Summary						
HCM 6th Ctrl Delay			22.4			
HCM 6th LOS			C			

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)	150	240	40	210	300	200	120	780	160	230	1040	290
Future Volume (veh/h)	150	240	40	210	300	200	120	780	160	230	1040	290
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
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	169	270	45	231	330	220	128	830	170	256	1156	322
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	802	427	284	708	444	178	1272	260	306	1678	731
Arrive On Green	0.11	0.23	0.23	0.08	0.20	0.20	0.05	0.43	0.43	0.09	0.47	0.47
Sat Flow, veh/h	1781	3554	1530	3456	3554	1525	3456	2923	599	3456	3554	1549
Grp Volume(v), veh/h	169	270	45	231	330	220	128	504	496	256	1156	322
Grp Sat Flow(s),veh/h/ln	1781	1777	1530	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	12.1	8.3	2.8	8.5	10.7	15.6	4.7	29.1	29.1	9.5	33.1	18.0
Cycle Q Clear(g_c), s	12.1	8.3	2.8	8.5	10.7	15.6	4.7	29.1	29.1	9.5	33.1	18.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	194	802	427	284	708	444	178	773	759	306	1678	731
V/C Ratio(X)	0.87	0.34	0.11	0.81	0.47	0.50	0.72	0.65	0.65	0.84	0.69	0.44
Avail Cap(c_a), veh/h	216	1063	539	377	1039	586	183	773	759	324	1678	731
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	42.2	35.0	58.7	46.0	38.5	60.7	29.0	29.0	58.3	26.8	22.9
Incr Delay (d2), s/veh	26.0	0.2	0.1	7.2	0.5	0.9	10.7	4.3	4.3	15.2	2.3	1.9
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	6.8	3.6	1.1	4.0	4.8	6.0	2.3	13.1	12.9	4.8	14.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.0	42.4	35.1	65.9	46.4	39.4	71.5	33.2	33.3	73.5	29.2	24.8
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		484			781			1128			1734	
Approach Delay, s/veh		55.9			50.2			37.6			34.9	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	62.1	15.9	35.2	11.9	67.0	19.3	31.8
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 13	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	11.5	31.1	10.5	10.3	6.7	35.1	14.1	17.6
Green Ext Time (p_c), s	0.0	4.9	0.2	1.8	0.0	7.4	0.0	2.9

Intersection Summary		
HCM 6th Ctrl Delay		41.0
HCM 6th LOS		D

Notes

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

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	-	-	-	-	-
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	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

APPENDIX J

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – HORIZON YEAR 2050 WITH PROJECT

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	5	0	0	33	5	60	0	190	28	70	130	5
Future Vol, veh/h	5	0	0	33	5	60	0	190	28	70	130	5
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	0	46	7	85	0	221	33	81	151	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	620	590	174	574	577	258	167	0	0	264	0	0
Stage 1	326	326	-	248	248	-	-	-	-	-	-	-
Stage 2	294	264	-	326	329	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	400	420	869	430	427	781	1411	-	-	1300	-	-
Stage 1	687	648	-	756	701	-	-	-	-	-	-	-
Stage 2	714	690	-	687	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	326	383	853	399	389	766	1398	-	-	1288	-	-
Mov Cap-2 Maneuver	326	383	-	399	389	-	-	-	-	-	-	-
Stage 1	680	597	-	748	694	-	-	-	-	-	-	-
Stage 2	623	683	-	634	596	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	13.4	0	2.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	326	564	1288	-	-
HCM Lane V/C Ratio	-	-	-	0.02	0.245	0.063	-	-
HCM Control Delay (s)	0	-	-	16.3	13.4	8	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	248	30	120	297	380	70	861	160	270	692	176
Future Volume (veh/h)	280	248	30	120	297	380	70	861	160	270	692	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	326	288	35	129	319	409	85	1050	195	346	887	226
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	1369	595	231	541	445	116	989	428	331	1099	476
Arrive On Green	0.16	0.39	0.39	0.07	0.29	0.29	0.07	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	326	288	35	129	319	409	85	1050	195	346	887	226
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	8.1	2.1	5.4	21.8	38.4	7.0	41.5	15.6	14.3	34.3	17.7
Cycle Q Clear(g_c), s	24.3	8.1	2.1	5.4	21.8	38.4	7.0	41.5	15.6	14.3	34.3	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	1369	595	231	541	445	116	989	428	331	1099	476
V/C Ratio(X)	1.12	0.21	0.06	0.56	0.59	0.92	0.73	1.06	0.46	1.04	0.81	0.47
Avail Cap(c_a), veh/h	290	1382	601	239	552	454	119	989	428	331	1099	476
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	30.7	28.8	67.5	45.4	51.3	68.4	53.8	44.5	67.4	47.4	41.7
Incr Delay (d2), s/veh	90.1	0.3	0.1	2.7	3.8	25.9	17.5	46.4	3.5	61.4	6.4	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.2	3.6	0.8	2.5	10.7	17.9	3.7	24.7	6.4	9.1	16.1	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.5	30.9	29.0	70.2	49.3	77.2	85.9	100.3	47.9	128.8	53.8	45.1
LnGrp LOS	F	C	C	E	D	E	F	F	D	F	D	D
Approach Vol, veh/h		649			857			1330			1459	
Approach Delay, s/veh		91.9			65.8			91.7			70.2	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	63.6	15.4	54.5	30.0	49.2
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	16.3	43.5	7.4	10.1	9.0	36.3	26.3	40.4
Green Ext Time (p_c), s	0.0	0.0	0.1	5.5	0.0	7.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	79.3
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	240	190	177	158	5
Future Volume (veh/h)	0	240	190	177	158	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
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	0	276	221	206	211	7
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	558	558	450	745	25
Arrive On Green	0.00	0.30	0.30	0.30	0.44	0.44
Sat Flow, veh/h	1781	1870	1870	1508	1708	57
Grp Volume(v), veh/h	0	276	221	206	219	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1508	1773	0
Q Serve(g_s), s	0.0	6.5	5.0	5.9	4.2	0.0
Cycle Q Clear(g_c), s	0.0	6.5	5.0	5.9	4.2	0.0
Prop In Lane	1.00			1.00	0.96	0.03
Lane Grp Cap(c), veh/h	3	558	558	450	774	0
V/C Ratio(X)	0.00	0.49	0.40	0.46	0.28	0.00
Avail Cap(c_a), veh/h	268	1502	1020	822	774	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.3	14.8	15.2	9.6	0.0
Incr Delay (d2), s/veh	0.0	3.1	2.1	3.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	1.9	1.9	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.5	16.9	18.5	10.6	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		276	427		219	
Approach Delay, s/veh		18.5	17.7		10.6	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.9		29.3	0.0	23.9
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		42.7		23.2	* 8	29.0
Max Q Clear Time (g_c+I1), s		8.5		6.2	0.0	7.9
Green Ext Time (p_c), s		5.5		0.9	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
* 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)	40	50	138	30	40	0	67	250	40	10	230	40
Future Volume (veh/h)	40	50	138	30	40	0	67	250	40	10	230	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		0.96	1.00		0.97
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	77	212	35	47	0	87	325	52	14	329	57
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	380	776	130	338	286	303	1504	760	57	1306	719
Arrive On Green	0.10	0.20	0.20	0.07	0.18	0.00	0.09	0.42	0.42	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2617	1781	1870	1585	3456	3554	1521	1781	3554	1544
Grp Volume(v), veh/h	62	77	212	35	47	0	87	325	52	14	329	57
Grp Sat Flow(s),veh/h/ln	1781	1870	1308	1781	1870	1585	1728	1777	1521	1781	1777	1544
Q Serve(g_s), s	3.4	3.6	6.6	2.0	2.2	0.0	2.5	6.1	1.9	0.8	6.8	2.2
Cycle Q Clear(g_c), s	3.4	3.6	6.6	2.0	2.2	0.0	2.5	6.1	1.9	0.8	6.8	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	380	776	130	338	286	303	1504	760	57	1306	719
V/C Ratio(X)	0.36	0.20	0.27	0.27	0.14	0.00	0.29	0.22	0.07	0.25	0.25	0.08
Avail Cap(c_a), veh/h	209	990	1630	209	990	839	339	1504	760	175	1306	719
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	34.8	28.7	46.0	36.2	0.0	44.8	19.2	13.8	49.6	23.1	15.7
Incr Delay (d2), s/veh	1.9	0.3	0.2	1.6	0.2	0.0	0.5	0.3	0.2	3.2	0.5	0.2
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	1.5	1.6	1.9	0.9	1.0	0.0	1.0	2.4	0.6	0.4	2.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	35.0	28.9	47.6	36.3	0.0	45.3	19.5	14.0	52.7	23.6	15.9
LnGrp LOS	D	D	C	D	D	A	D	B	B	D	C	B
Approach Vol, veh/h		351			82			464			400	
Approach Delay, s/veh		33.3			41.1			23.8			23.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	29.7	14.9	47.0	15.7	27.4	9.1	52.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	4.0	8.6	4.5	8.8	5.4	4.2	2.8	8.1
Green Ext Time (p_c), s	0.0	1.2	0.1	2.0	0.1	0.2	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

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)	20	120	4	5	210	201	7	18	0	91	22	20
Future Volume (veh/h)	20	120	4	5	210	201	7	18	0	91	22	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
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	21	126	4	5	228	218	8	20	0	117	28	26
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	391	12	12	337	266	650	761	0	690	355	330
Arrive On Green	0.04	0.22	0.22	0.01	0.18	0.18	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1801	57	1781	1870	1478	1335	1870	0	1392	873	811
Grp Volume(v), veh/h	21	0	130	5	228	218	8	20	0	117	0	54
Grp Sat Flow(s),veh/h/ln	1781	0	1858	1781	1870	1478	1335	1870	0	1392	0	1684
Q Serve(g_s), s	0.6	0.0	3.2	0.2	6.2	7.7	0.2	0.3	0.0	3.0	0.0	1.1
Cycle Q Clear(g_c), s	0.6	0.0	3.2	0.2	6.2	7.7	1.3	0.3	0.0	3.3	0.0	1.1
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.00	1.00		0.48
Lane Grp Cap(c), veh/h	71	0	403	12	337	266	650	761	0	690	0	685
V/C Ratio(X)	0.29	0.00	0.32	0.42	0.68	0.82	0.01	0.03	0.00	0.17	0.00	0.08
Avail Cap(c_a), veh/h	263	0	447	165	339	268	724	864	0	690	0	685
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	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	17.8	26.8	20.7	21.3	10.2	9.6	0.0	10.6	0.0	9.8
Incr Delay (d2), s/veh	0.8	0.0	2.1	21.8	10.5	23.7	0.0	0.0	0.0	0.5	0.0	0.2
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	1.4	0.1	3.3	4.1	0.1	0.1	0.0	0.9	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	19.9	48.5	31.2	45.1	10.2	9.6	0.0	11.2	0.0	10.1
LnGrp LOS	C	A	B	D	C	D	B	A	A	B	A	B
Approach Vol, veh/h		151			451			28			171	
Approach Delay, s/veh		20.8			38.1			9.8			10.8	
Approach LOS		C			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.7		29.5	6.9	17.7		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.6	5.2		5.3	2.6	9.7		3.3				
Green Ext Time (p_c), s	0.0	0.8		1.4	0.0	0.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									

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)	101	230	20	180	430	290	171	590	120	190	530	142
Future Volume (veh/h)	101	230	20	180	430	290	171	590	120	190	530	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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	119	271	24	214	512	345	197	678	138	209	582	156
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	915	510	267	903	511	249	1232	250	263	1509	657
Arrive On Green	0.08	0.26	0.26	0.08	0.25	0.25	0.07	0.42	0.42	0.08	0.42	0.42
Sat Flow, veh/h	1781	3554	1535	3456	3554	1534	3456	2927	595	3456	3554	1547
Grp Volume(v), veh/h	119	271	24	214	512	345	197	411	405	209	582	156
Grp Sat Flow(s),veh/h/ln	1781	1777	1535	1728	1777	1534	1728	1777	1746	1728	1777	1547
Q Serve(g_s), s	8.6	8.0	1.4	7.9	16.3	25.3	7.3	22.7	22.7	7.7	14.7	8.4
Cycle Q Clear(g_c), s	8.6	8.0	1.4	7.9	16.3	25.3	7.3	22.7	22.7	7.7	14.7	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	143	915	510	267	903	511	249	748	734	263	1509	657
V/C Ratio(X)	0.83	0.30	0.05	0.80	0.57	0.68	0.79	0.55	0.55	0.80	0.39	0.24
Avail Cap(c_a), veh/h	218	1093	587	351	1039	569	327	748	734	388	1509	657
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	38.8	29.7	59.0	42.2	37.6	59.3	28.4	28.4	59.1	25.7	23.9
Incr Delay (d2), s/veh	9.0	0.2	0.0	7.1	0.6	2.8	6.8	2.9	3.0	3.9	0.7	0.9
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	4.2	3.5	0.5	3.7	7.3	9.9	3.4	10.1	10.0	3.5	6.3	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	39.0	29.7	66.1	42.8	40.4	66.1	31.3	31.4	62.9	26.5	24.8
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		414			1071			1013			947	
Approach Delay, s/veh		46.8			46.7			38.1			34.2	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	60.3	15.2	39.4	14.6	60.8	15.7	38.9
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.7	24.7	9.9	10.0	9.3	16.7	10.6	27.3
Green Ext Time (p_c), s	0.2	4.6	0.1	1.7	0.1	4.6	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	2.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	0	0	4
Future Vol, veh/h	2	0	0	0	0	4
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	-	-	-	-	-
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	2	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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	5	0	0	32	5	50	0	140	39	150	310	5
Future Vol, veh/h	5	0	0	32	5	50	0	140	39	150	310	5
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	0	40	6	63	0	156	43	176	365	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	952	939	388	918	921	198	381	0	0	209	0	0
Stage 1	730	730	-	188	188	-	-	-	-	-	-	-
Stage 2	222	209	-	730	733	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	239	264	660	252	270	843	1177	-	-	1362	-	-
Stage 1	414	428	-	814	745	-	-	-	-	-	-	-
Stage 2	780	729	-	414	426	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	185	216	647	216	221	827	1166	-	-	1349	-	-
Mov Cap-2 Maneuver	185	216	-	216	221	-	-	-	-	-	-	-
Stage 1	410	354	-	806	738	-	-	-	-	-	-	-
Stage 2	708	722	-	343	353	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25	18.4	0	2.6
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1166	-	-	185	376	1349	-	-
HCM Lane V/C Ratio	-	-	-	0.029	0.289	0.131	-	-
HCM Control Delay (s)	0	-	-	25	18.4	8.1	0	-
HCM Lane LOS	A	-	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.2	0.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	458	110	310	246	330	40	772	270	480	1101	266
Future Volume (veh/h)	271	458	110	310	246	330	40	772	270	480	1101	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	335	565	136	333	265	355	43	821	287	527	1210	292
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1123	487	387	516	424	101	935	404	456	1203	522
Arrive On Green	0.15	0.32	0.32	0.11	0.28	0.28	0.06	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1537	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	335	565	136	333	265	355	43	821	287	527	1210	292
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1537	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	18.9	9.7	13.9	17.5	31.8	3.4	32.4	24.8	19.3	49.5	22.6
Cycle Q Clear(g_c), s	22.3	18.9	9.7	13.9	17.5	31.8	3.4	32.4	24.8	19.3	49.5	22.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	1123	487	387	516	424	101	935	404	456	1203	522
V/C Ratio(X)	1.23	0.50	0.28	0.86	0.51	0.84	0.43	0.88	0.71	1.16	1.01	0.56
Avail Cap(c_a), veh/h	271	1123	487	493	562	462	122	935	404	456	1203	522
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	40.7	37.5	63.9	44.7	49.9	66.8	51.7	48.9	63.5	48.4	39.5
Incr Delay (d2), s/veh	133.1	1.3	1.1	11.8	2.9	16.2	1.1	11.5	10.2	92.6	27.4	4.3
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	20.1	8.5	3.8	6.7	8.5	14.1	1.6	15.8	10.6	14.3	26.2	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	195.1	42.0	38.7	75.7	47.6	66.1	67.8	63.2	59.0	156.1	75.8	43.8
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	F	D
Approach Vol, veh/h		1036			953			1151			2029	
Approach Delay, s/veh		91.1			64.3			62.3			92.1	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	22.1	52.4	14.0	57.9	28.0	46.5
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	34.4	15.9	20.9	5.4	51.5	24.3	33.8
Green Ext Time (p_c), s	0.0	3.4	0.5	10.1	0.0	0.0	0.0	4.6

Intersection Summary		
HCM 6th Ctrl Delay		80.1
HCM 6th LOS		F

Notes

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	220	330	277	228	5
Future Volume (veh/h)	0	220	330	277	228	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	0.97
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	0	250	337	283	292	6
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	672	672	545	677	14
Arrive On Green	0.00	0.36	0.36	0.36	0.39	0.39
Sat Flow, veh/h	1781	1870	1870	1516	1735	36
Grp Volume(v), veh/h	0	250	337	283	299	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1516	1776	0
Q Serve(g_s), s	0.0	5.6	7.9	8.3	7.0	0.0
Cycle Q Clear(g_c), s	0.0	5.6	7.9	8.3	7.0	0.0
Prop In Lane	1.00			1.00	0.98	0.02
Lane Grp Cap(c), veh/h	3	672	672	545	693	0
V/C Ratio(X)	0.00	0.37	0.50	0.52	0.43	0.00
Avail Cap(c_a), veh/h	253	1457	1002	812	693	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.3	14.1	14.2	12.6	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.7	3.5	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	3.0	2.6	2.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	14.9	16.8	17.7	14.5	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		250	620		299	
Approach Delay, s/veh		14.9	17.2		14.5	
Approach LOS		B	B		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		28.3		28.1	0.0	28.3
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.6		9.0	0.0	10.3
Green Ext Time (p_c), s		5.0		1.2	0.0	8.4

Intersection Summary		
HCM 6th Ctrl Delay		16.0
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.
* 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)	40	70	119	60	60	10	137	330	40	0	300	60
Future Volume (veh/h)	40	70	119	60	60	10	137	330	40	0	300	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
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	51	89	151	79	79	13	156	375	45	0	341	68
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	373	776	179	398	325	315	1753	912	2	1243	677
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.49	0.49	0.00	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1526	1781	3554	1543
Grp Volume(v), veh/h	51	89	151	79	79	13	156	375	45	0	341	68
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1526	1781	1777	1543
Q Serve(g_s), s	2.9	4.3	4.7	4.5	3.8	0.7	4.7	6.5	1.3	0.0	7.5	2.8
Cycle Q Clear(g_c), s	2.9	4.3	4.7	4.5	3.8	0.7	4.7	6.5	1.3	0.0	7.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	373	776	179	398	325	315	1753	912	2	1243	677
V/C Ratio(X)	0.33	0.24	0.19	0.44	0.20	0.04	0.50	0.21	0.05	0.00	0.27	0.10
Avail Cap(c_a), veh/h	197	950	1583	202	955	780	359	1753	912	164	1243	677
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	36.6	29.0	46.0	35.1	34.0	47.0	15.6	9.2	0.0	25.4	18.1
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.4	0.2	0.0	1.2	0.3	0.1	0.0	0.5	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	1.3	1.9	1.4	2.0	1.7	0.3	2.0	2.4	0.4	0.0	3.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	36.9	29.1	48.5	35.4	34.0	48.2	15.9	9.3	0.0	26.0	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	A	A	C	B
Approach Vol, veh/h		291			171			576			409	
Approach Delay, s/veh		34.9			41.3			24.1			24.7	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	30.1	15.6	46.4	15.1	31.5	0.0	62.0
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 55	* 11	* 38	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	6.5	6.7	6.7	9.5	4.9	5.8	0.0	8.5
Green Ext Time (p_c), s	0.1	1.0	0.2	2.1	0.1	0.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

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)	30	290	4	5	130	152	7	18	0	281	21	10
Future Volume (veh/h)	30	290	4	5	130	152	7	18	0	281	21	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
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	36	345	5	5	141	165	8	20	0	299	22	11
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	414	6	12	311	245	663	753	0	683	466	233
Arrive On Green	0.06	0.23	0.23	0.01	0.17	0.17	0.40	0.40	0.00	0.40	0.40	0.40
Sat Flow, veh/h	1781	1838	27	1781	1870	1472	1360	1870	0	1392	1158	579
Grp Volume(v), veh/h	36	0	350	5	141	165	8	20	0	299	0	33
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	1472	1360	1870	0	1392	0	1737
Q Serve(g_s), s	1.1	0.0	9.8	0.2	3.7	5.8	0.2	0.4	0.0	9.0	0.0	0.6
Cycle Q Clear(g_c), s	1.1	0.0	9.8	0.2	3.7	5.8	0.8	0.4	0.0	9.4	0.0	0.6
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.00	1.00		0.33
Lane Grp Cap(c), veh/h	110	0	420	12	311	245	663	753	0	683	0	699
V/C Ratio(X)	0.33	0.00	0.83	0.42	0.45	0.67	0.01	0.03	0.00	0.44	0.00	0.05
Avail Cap(c_a), veh/h	261	0	443	163	335	264	738	855	0	683	0	699
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	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	20.2	27.0	20.5	21.4	10.2	9.9	0.0	12.7	0.0	9.9
Incr Delay (d2), s/veh	0.6	0.0	17.5	21.8	4.7	13.8	0.0	0.0	0.0	2.0	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	0.4	0.0	5.7	0.1	1.8	2.7	0.1	0.1	0.0	2.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	0.0	37.7	48.8	25.2	35.2	10.2	9.9	0.0	14.7	0.0	10.1
LnGrp LOS	C	A	D	D	C	D	B	A	A	B	A	B
Approach Vol, veh/h		386			311			28			332	
Approach Delay, s/veh		36.5			30.9			10.0			14.3	
Approach LOS		D			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	20.3		29.5	8.1	17.1		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.2	11.8		11.4	3.1	7.8		2.8				
Green Ext Time (p_c), s	0.0	0.5		2.2	0.0	0.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			27.2									
HCM 6th LOS			C									

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)	152	240	41	210	300	200	120	780	160	230	1040	291
Future Volume (veh/h)	152	240	41	210	300	200	120	780	160	230	1040	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
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	171	270	46	231	330	220	128	830	170	256	1156	323
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	806	428	284	708	444	178	1268	260	306	1674	730
Arrive On Green	0.11	0.23	0.23	0.08	0.20	0.20	0.05	0.43	0.43	0.09	0.47	0.47
Sat Flow, veh/h	1781	3554	1530	3456	3554	1525	3456	2923	599	3456	3554	1549
Grp Volume(v), veh/h	171	270	46	231	330	220	128	504	496	256	1156	323
Grp Sat Flow(s),veh/h/ln	1781	1777	1530	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	12.3	8.3	2.9	8.5	10.7	15.6	4.7	29.2	29.2	9.5	33.1	18.1
Cycle Q Clear(g_c), s	12.3	8.3	2.9	8.5	10.7	15.6	4.7	29.2	29.2	9.5	33.1	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	196	806	428	284	708	444	178	771	757	306	1674	730
V/C Ratio(X)	0.87	0.34	0.11	0.81	0.47	0.50	0.72	0.65	0.65	0.84	0.69	0.44
Avail Cap(c_a), veh/h	216	1063	539	377	1039	586	183	771	757	324	1674	730
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	42.1	34.9	58.7	46.0	38.5	60.7	29.1	29.1	58.3	26.9	23.0
Incr Delay (d2), s/veh	26.5	0.2	0.1	7.2	0.5	0.9	10.7	4.3	4.4	15.2	2.4	1.9
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	6.9	3.6	1.1	4.0	4.8	6.0	2.3	13.1	12.9	4.8	14.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	42.3	35.0	65.9	46.4	39.4	71.5	33.4	33.5	73.5	29.3	24.9
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		487			781			1128			1735	
Approach Delay, s/veh		56.1			50.2			37.7			35.0	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	62.0	15.9	35.4	11.9	66.8	19.5	31.8
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	11.5	31.2	10.5	10.3	6.7	35.1	14.3	17.6
Green Ext Time (p_c), s	0.0	4.9	0.2	1.8	0.0	7.4	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	6.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	0	0	2
Future Vol, veh/h	5	0	0	0	0	2
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	-	-	-	-	-
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	5	0	0	0	0	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	2	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1620	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1620	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1620	-	1022	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	130	5	228	218	8	20	117	54
v/c Ratio	0.08	0.30	0.03	0.55	0.44	0.01	0.02	0.20	0.07
Control Delay	21.4	19.0	23.8	26.7	7.0	8.7	8.6	11.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	19.0	23.8	26.7	7.0	8.7	8.6	11.7	7.2
Queue Length 50th (ft)	5	30	1	57	0	1	3	20	4
Queue Length 95th (ft)	24	81	10	#176	50	8	14	52	21
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	278	474	173	412	495	659	914	588	745
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.27	0.03	0.55	0.44	0.01	0.02	0.20	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	350	5	141	165	8	20	299	33
v/c Ratio	0.14	0.69	0.03	0.34	0.37	0.01	0.02	0.54	0.05
Control Delay	23.5	28.6	25.4	23.1	7.4	10.0	9.9	17.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	28.6	25.4	23.1	7.4	10.0	9.9	17.9	9.4
Queue Length 50th (ft)	9	94	1	33	0	1	3	60	4
Queue Length 95th (ft)	32	#230	10	94	44	8	14	158	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	262	507	164	409	451	635	864	555	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.69	0.03	0.34	0.37	0.01	0.02	0.54	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX K

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH (OPR) GUIDELINES FROM THE TECHNICAL ADVISORY ON EVALUATING TRANSPORTATION IMPACTS IN CEQA, DECEMBER 2018 EXCERPT

TECHNICAL ADVISORY

ON EVALUATING TRANSPORTATION IMPACTS IN CEQA

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH • STATE OF CALIFORNIA

December 2018

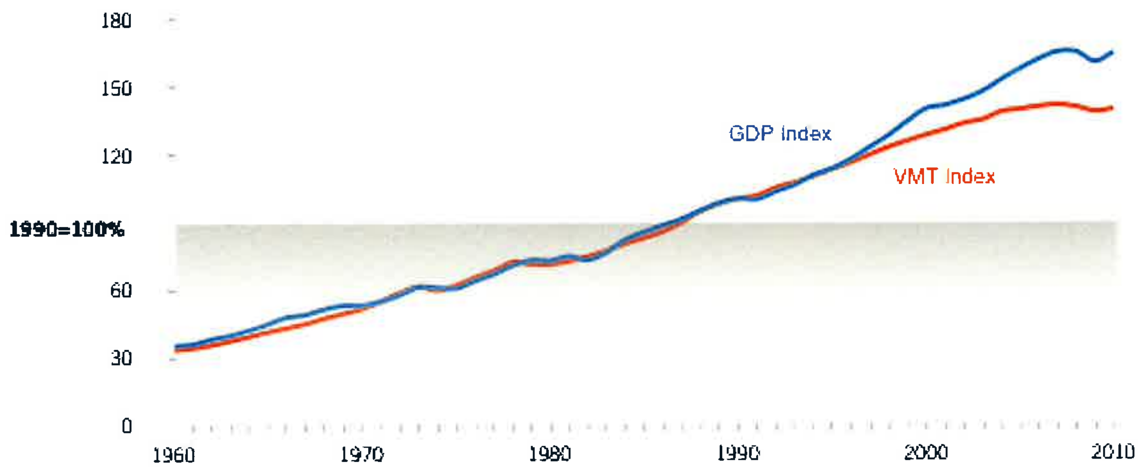

Figure 1. Kooshian and Winkelman (2011) *VMT and Gross Domestic Product (GDP), 1960-2010.*

C. Technical Considerations in Assessing Vehicle Miles Traveled

Many practitioners are familiar with accounting for VMT in connection with long-range planning, or as part of the CEQA analysis of a project's greenhouse gas emissions or energy impacts. This document provides technical information on how to assess VMT as part of a transportation impacts analysis under CEQA. Appendix 1 provides a description of which VMT to count and options on how to count it. Appendix 2 provides information on induced travel resulting from roadway capacity projects, including the mechanisms giving rise to induced travel, the research quantifying it, and information on additional approaches for assessing it.

1. Recommendations Regarding Methodology

Proposed Section 15064.3 explains that a "lead agency may use models to estimate a project's vehicle miles traveled . . . ." CEQA generally defers to lead agencies on the choice of methodology to analyze impacts. (*Santa Monica Baykeeper v. City of Malibu* (2011) 193 Cal.App.4th 1538, 1546; see *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 409 ["the issue is not whether the studies are irrefutable or whether they could have been better" … rather, the "relevant issue is only whether the studies are sufficiently credible to be considered" as part of the lead agency's overall evaluation].) This section provides suggestions to lead agencies regarding methodologies to analyze VMT associated with a project.

Vehicle Types. Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT). For an apples-to-apples comparison, vehicle types considered should be consistent across project assessment, significance thresholds, and mitigation.

Residential and Office Projects. Tour- and trip-based approaches[10] offer the best methods for assessing VMT from residential/office projects and for comparing those assessments to VMT thresholds. These approaches also offer the most straightforward methods for assessing VMT reductions from mitigation measures for residential/office projects. When available, tour-based assessment is ideal because it captures travel behavior more comprehensively. But where tour-based tools or data are not available for all components of an analysis, a trip-based assessment of VMT serves as a reasonable proxy.

Models and methodologies used to calculate thresholds, estimate project VMT, and estimate VMT reduction due to mitigation should be comparable. For example:

- A tour-based assessment of project VMT should be compared to a tour-based threshold, or a trip-based assessment to a trip-based VMT threshold.
- Where a travel demand model is used to determine thresholds, the same model should also be used to provide trip lengths as part of assessing project VMT.
- Where only trip-based estimates of VMT reduction from mitigation are available, a trip-based threshold should be used, and project VMT should be assessed in a trip-based manner.

When a trip-based method is used to analyze a residential project, the focus can be on home-based trips. Similarly, when a trip-based method is used to analyze an office project, the focus can be on home-based work trips.

When tour-based models are used to analyze an office project, either employee work tour VMT or VMT from all employee tours may be attributed to the project. This is because workplace location influences overall travel. For consistency, the significance threshold should be based on the same metric: either employee work tour VMT or VMT from all employee tours.

For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).

Retail Projects. Generally, lead agencies should analyze the effects of a retail project by assessing the change in total VMT[11] because retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.

---

[10] See Appendix 1, *Considerations About Which VMT to Count,* for a description of these approaches.
[11] See Appendix 1, *Considerations About Which VMT to Count,* "Assessing Change in Total VMT" section, for a description of this approach.

APPENDIX L

CALTRANS TRANSPORTATION ANALYSIS FRAMEWORK, 1ST EDITION (SEPTEMBER 2020) EXCERPT

Transportation Analysis Framework

First Edition

Evaluating Transportation Impacts of State Highway System Projects

California Department of Transportation
Sacramento, California
September 2020

Trip-Based Model	Trip-based travel models use the individual person trip as the fundamental unit of analysis. Trip-based models are often referred to as "4-step" models because they split the trip making decision process into 4 discrete steps: trip generation by time of day, destination choice, mode choice, and route choice (traffic assignment).
Trucks	Trucks are a subtype of the heavy vehicles category which includes trucks, intercity buses, and recreational vehicles. This Framework follows the Highway Capacity Manual definition of what constitutes a heavy vehicle: "A vehicle with more than four wheels touching the pavement during normal operation." This is consistent with the Caltrans Traffic Census definition of a truck: "The two-axle (truck) class includes 1-1/2-ton trucks with dual rear tires and excludes pickups and vans with only four tires."
Vehicle Miles Traveled	The number of miles traveled by motor vehicles on roadways in a given area over a given time period. VMT may be subdivided for reporting and analysis purposes into single occupant passenger vehicles (SOVs), high occupancy vehicles (HOV's), buses, trains, light duty trucks, and heavy-duty trucks. For example, an air quality analysis may require daily VMT by vehicle class and average speed or vehicle operating mode (idle, acceleration, cruise, deceleration, etc.). For a CEQA compliant transportation impact analysis, automobile VMT (cars and light trucks) may be evaluated.
VMT Attributable to a Project	In the context of a CEQA analysis, the VMT attributable to a transportation project, or induced travel, is the difference in passenger VMT between the with project and without project alternatives. VMT attributable to a project is equivalent to induced travel in this context.

END OF APPENDICES

AIR QUALITY AND GREENHOUSE GAS EMISSIONS STUDY
FOR
CAL98 CHARGER LOGISTICS PROJECT
CALEXICO, CALIFORNIA

Prepared for:

DuBose Design Group, Inc.
1065 State Street
El Centro, CA 92243

Prepared by:

UltraSystems Environmental Incorporated
16431 Scientific Way
Irvine, California 92618-4355

Project No. 7189

February 2024

This analysis was prepared in accordance with § 15063(d)(3) and Appendix G of the State CEQA Guidelines to determine the potential significant air quality effects on the physical environment that could result from the implementation of the project.

Report Preparers:

Name & Title:	MICHAEL ROGOZEN, Senior Principal Engineer		
Signature:	Michael Rogozen	Date:	February 26, 2024
Name & Title:	ISHA SHAH, Environmental Engineer		
Signature:	Isha Shah	Date:	February 26, 2024
Name and Title	PATRICIA HAIGH, Staff Scientist		
Signature:	Patricia Haigh	Date:	February 26, 2024

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ATTACHMENTS

Attachment 1 – CalEEMod Inputs and Results

1.0 INTRODUCTION

Cal98 RE Holdings Inc., the applicant, proposes to build a project that includes 91,881 square feet (SF) of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

The proposed project is located on the southwest corner of the SR-98 and Kemp Road intersection in the Imperial County. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County. Refer to **Figure 1.0-1**, **Figure 1.0-2** and **Figure 1.0-3**.

The County of Imperial has determined that an air quality and greenhouse gas (GHG) emission study is needed as part of California Environmental Quality Act (CEQA) documentation for an Initial Study/Mitigated Negative Declaration.

This air quality analysis was conducted within the context of CEQA (California Public Resources Code §§ 21000 et seq.). The methodology follows the CEQA Air Quality Handbook[1] prepared by the Imperial County Air Pollution Control District (ICAPCD) for quantification of emissions and evaluation of potential impacts on air resources.

1 CEQA Air Quality Handbook: Guidelines for the Implementation of the California Air Quality Act of 1970 as amended. Imperial County Air Pollution Control District. Final - December 12, 2017.

Figure 1.0-1
REGIONAL LOCATION MAP

Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Path: \\Gissvr\GIS\Projects\7189_Dubose_Calexico_AQ_GHG_HRA\MXDs\7189_Calexico_2_0_Regional_Location_2022_08_31.mxd
August 31, 2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; UltraSystems Environmental, Inc., 2022

Scale: 1:950,400

N

0 7.5 15 Miles

0 8 16 Kilometers

Legend

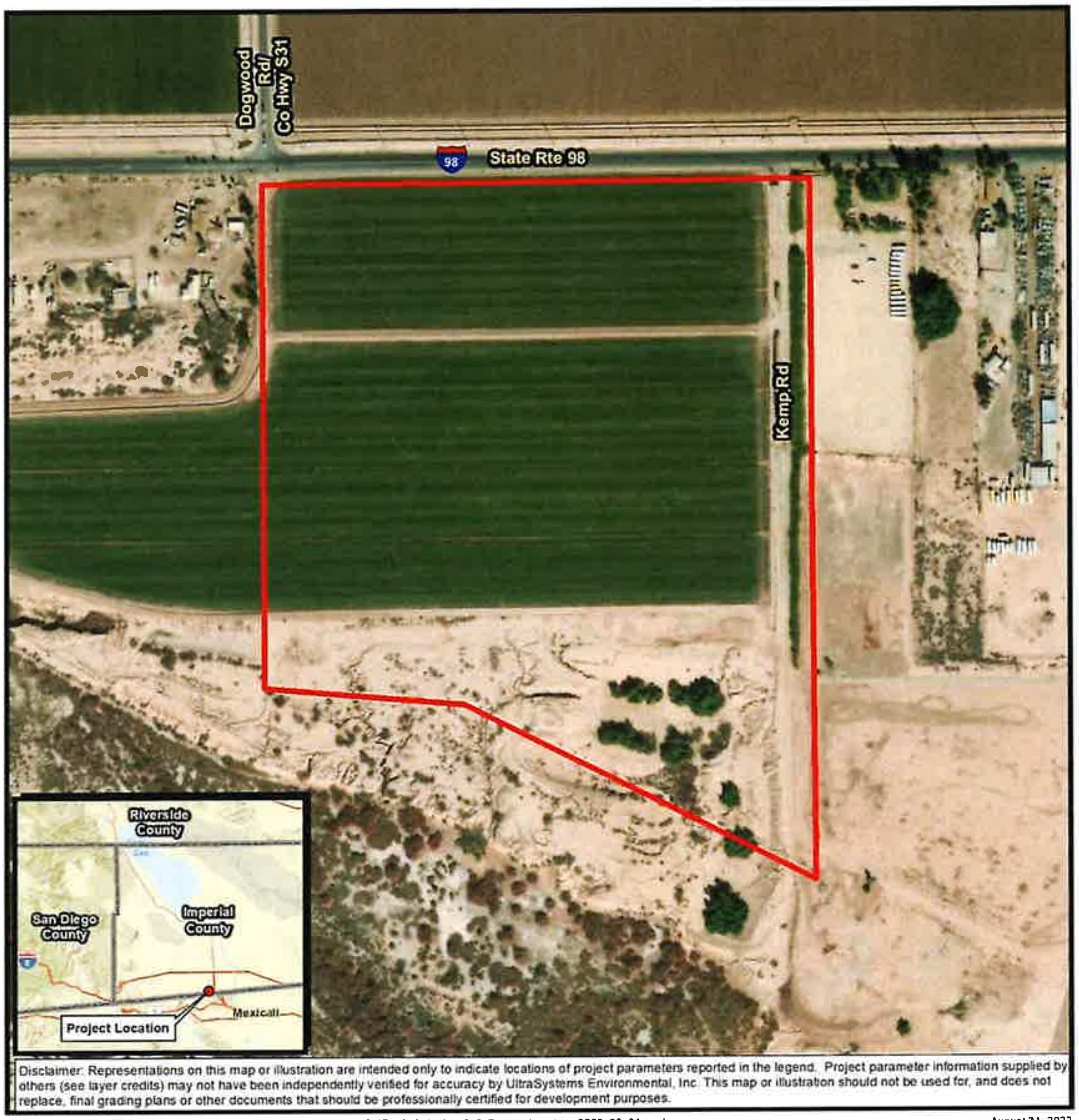
- Project Location
- County Boundary

Cal98 Charger Logistics

Regional Location

UltraSystems

Figure 1.0-2
PROJECT LOCATION MAP



Path \\Gissvr\GIS\Projects\7189_Dubose_Calexico_AQ_GHG_HRA\MXDs\7189_Calexico_3_0_Project_Location_2022_08_31.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, UltraSystems Environmental, Inc., 2022

August 31, 2022

Scale: 1:4,200

N

0 175 350 Feet

0 40 80 Meters

Legend

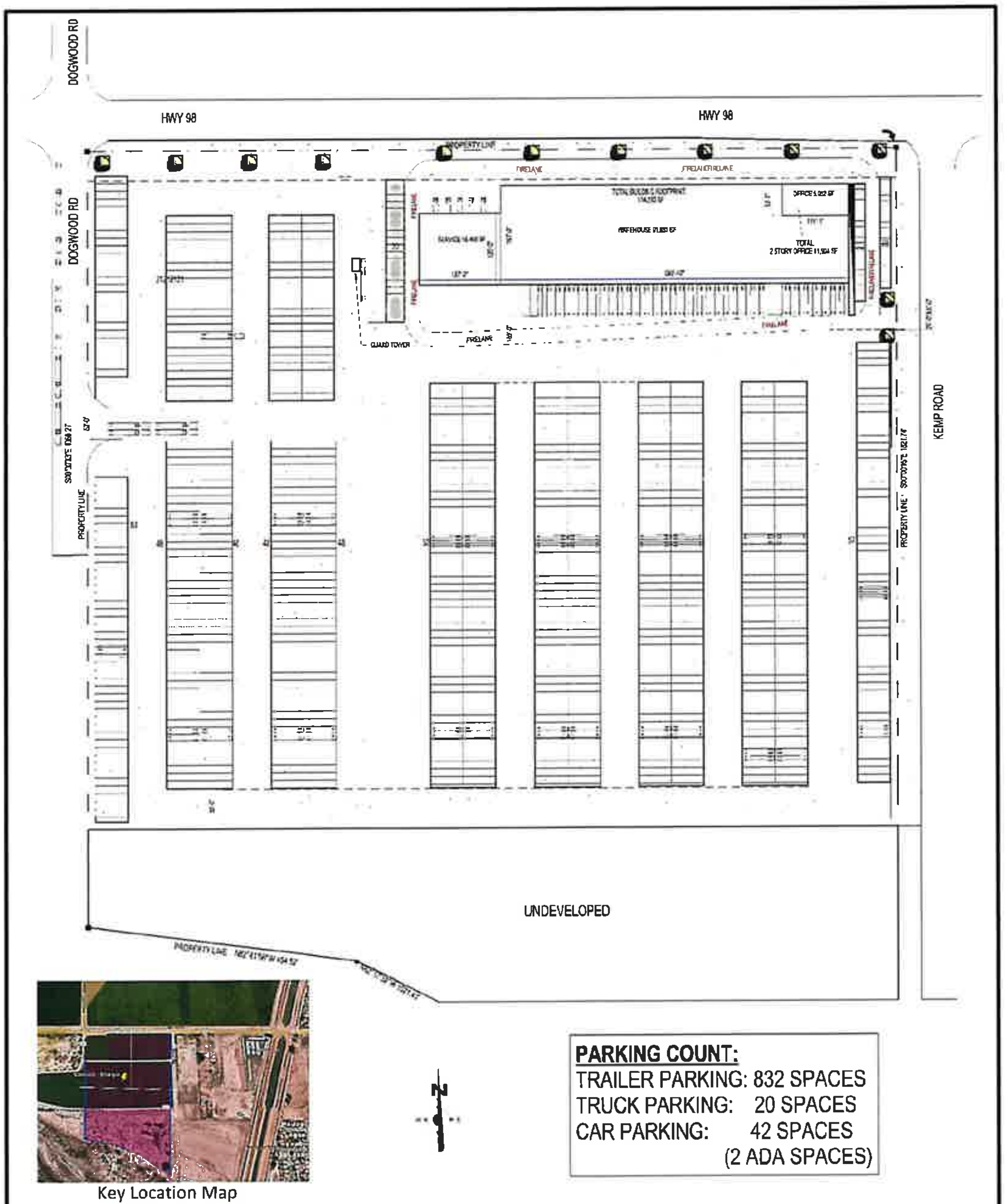
Project Boundary

Cal98 Charger Logistics

Project Location

UltraSystems

Figure 1.0-3
PROJECT SITE PLAN



Disclaimer: Illustration provided by Charger Logistics, Pearl Contracting, who has indicated that the information is true and correct. No other warranties are expressed or implied.

Source: Charger Logistics and Pearl Contracting, January 30, 2023.

Cal98 Charger Logistics

Site Plan

UltraSystems

2.0 PROJECT DESCRIPTION

2.1 General Description

The project will begin construction in October 2024 and end in September 2025. The total construction duration will be 11 months. The construction phases include site preparation, grading, building construction, paving and architectural coating.

2.2 Construction Activities and Schedule

Project components are summarized in **Table 2.2-1**.

Table 2.2-1
CONSTRUCTION CHARACTERISTICS

Site Element	Area
Warehouse	91,881 square feet
Two Story Office	11,904 square feet
Service Area	16,460 square feet
Total Building Footprint	**114,293 square feet**
Parking	894 spaces
Landscaping	0.37 acre

Table 2.2-2 shows the project implementation schedule. No phases will overlap.

Table 2.2-2
PROJECT IMPLEMENTATION SCHEDULE

Phase	Construction	
	Start	End
Site Preparation	October 1, 2024	October 28,2024
Grading	October 29, 2024	November 25, 2024
Building Construction	November 26, 2024	July 21, 2025
Paving	July 22, 2025	August 18, 2025
Architectural Coating	August 19, 2025	September 15, 2025

2.3 Existing Sensitive Land Uses

The Imperial County General Plan land use for the project site and its immediate surroundings is "Urban Area." The land northwest, west and southwest of the site is designated for agricultural land uses. Large residential neighborhoods are about 2,000 feet northeast and 1,500 feet southeast of the site. Scattered individual residences are nearer the site. The nearest one is about 32 feet due west.

3.0 EXISTING CONDITIONS

The project site is located in an unincorporated area of Imperial County, which is in the Salton Sea Air Basin (SSAB). The SSAB includes the Imperial Valley and the central part of Riverside County, including the Coachella Valley. The Imperial Valley is bordered by the Salton Sea to the north, the Anza-Borrego Desert State Park to the west, the Chocolate Mountains to the northeast, and the U.S./Mexican Border to the south. The proposed site is located approximately 0.4 mile west of the city of Calexico.

3.1 Regional Climate/Meteorology

Meteorology is the study of weather and climate. Weather refers to the state of the atmosphere at a given time and place regarding temperature, air pressure, humidity, cloudiness, and precipitation. The term "weather" refers to conditions over short periods; conditions over prolonged periods, generally at least 30 to 50 years, are referred to as climate. Climate, in a narrow sense, is usually defined as the "average weather," or more rigorously as the statistical description in terms of the mean and variability of relevant quantities over a period ranging from months to thousands or millions of years. These quantities are most often surface variables such as temperature, precipitation, and wind.

Climatic conditions in Imperial County are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms except in winter when the high is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the weakened storms and barrier, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall. The flat terrain of the valley and the strong temperature differentials created by intense solar heating, produce moderate winds and deep thermal convection.

The combination of subsiding air, protective mountains, and distance from the ocean all combine to limit precipitation severely. Rainfall is highly variable with precipitation from a single heavy storm sometimes exceeding the entire annual total during a later drought condition.

Imperial County enjoys a year-round climate characterized by a temperate fall, winter, and spring and a harsh summer. Humidity often combines with the valley's normal elevated temperatures to produce a moist, tropical atmosphere that frequently seems hotter than the thermometer suggests. The sun shines, on the average, more in the Imperial County that anywhere else in the United States.

3.1.1 Temperature and Precipitation

The annual average high and low temperatures, as recorded at the Calexico meteorological station (#041288; latitude 32.66667°, longitude -115.4833°), which is approximately 2.76 miles southeast of the project site,[2] are 86.2°F and 55.9°F, respectively. Average winter (December, January, and February) high and low temperatures are approximately 69.10°F and 40.73°F and average summer (June, July, and August) high and low temperatures are approximately 102.87°F and 72.70°F. The annual average of total precipitation is approximately 2.69 inches, which occurs mostly during the winter and relatively infrequently during the summer. Monthly precipitation averages

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2 Meteorological station location information from National Oceanographic and Atmospheric Administration, National Climate Data Center https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca1288, Accessed September 14, 2022.

approximately 0.40 inch during the winter (December, January, and February), approximately 0.11 inch during the spring (March, April, and May), approximately 0.23 inch during the fall (September, October, and November), and approximately 0.17 inch during the summer (June, July, and August).

3.1.2 Humidity

Humidity in Imperial County is typically low throughout the year, ranging from 28% in summer to 52 % in winter. The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50-60% but drop to about 10% during the day. Summer weather patterns are dominated by intense heat-induced low-pressure areas that form over the interior desert.

3.1.3 Wind

The wind direction follows two general patterns. The first occurs from fall through spring, where prevailing winds are from the west and northwest. Most of these winds originate in the Los Angeles Basin. The second pattern consists of occasional periods of high winds. Wind speeds exceeding 31 miles per hour (mph) occur most frequently in April and May. On an annual basis, high winds, those exceeding 31 mph, are observed 0.6% of the time, where speeds of less than 6.8 miles per hour account for more than one-half of the observed winds. Wind statistics indicate that prevailing winds are from the west-northwest through southwest; however, a secondary flow pattern from the southeast is also evident.

3.1.4 Inversions

Air pollutant concentrations are primarily determined by the amount of pollutant emissions in an area and the degree to which these pollutants are dispersed in the atmosphere. The stability of the atmosphere is one of the key factors affecting pollutant dispersion. Atmospheric stability regulates the amount of vertical and horizontal air exchange, or mixing, that can occur within a given air basin. Horizontal mixing is a result of winds, as discussed above, but vertical mixing also affects the degree of stability in the atmosphere. An interruption of vertical mixing is called an inversion.

In the atmosphere, air temperatures normally decrease as altitude increases. At varying distances above the earth's surface, however, a reversal of this gradient can occur. This condition, termed an inversion, is simply a warm layer of air above a layer of cooler air, and it has the effect of limiting the vertical dispersion of pollutants. The height of the inversion determines the size of the vertical mixing volume trapped below. Inversion strength or intensity is measured by the thickness of the layer and the difference in temperature between the base and the top of the inversion. The strength of the inversion determines how easily it can be broken by winds or solar heating.

Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken allowing pollutants to disperse more easily. Weak, surface inversions are caused by radiational cooling of air in contact with the cold surface of the earth at night. In valleys and low-lying areas, this condition is intensified by the addition of chilly air flowing down slope from the hills and pooling on the valley floor.

The presence of the Pacific High-Pressure Cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest or worst-case ozone levels are often associated with the presence of this type of inversion.

3.2 Regulatory Setting

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

3.2.1 Air Pollutants of Concern[3]

3.2.1.1 Criteria Pollutants

As required by the Federal Clean Air Act (FCAA), the U. S. Environmental Protection Agency (USEPA) has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide, suspended particulate matter (PM), and lead. Suspended PM includes both PM with an aerodynamic diameter of 10 micrometers or less (respirable PM, or PM_{10}) and PM with an aerodynamic diameter of 2.5 micrometers or less (fine PM, or $PM_{2.5}$). The California Air Resources Board (ARB) has established separate standards for the state, i.e., the California Ambient Air Quality Standards (CAAQS). The ARB established CAAQS for all the federal pollutants and sulfates, hydrogen sulfide, and visibility-reducing particles.

For some of the pollutants, the identified air quality standards are expressed in more than one averaging time to address the typical exposures found in the environment. For example, CO is expressed as a one-hour averaging time and an eight-hour averaging time. Regulations have set NAAQS and CAAQS limits in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). **Table 3.2-1** summarizes the state and federal ambient air quality standards for all criteria pollutants. Criteria pollutants of concern in Imperial County are ozone and PM, since the standards for other criteria pollutants are either being met or are unclassified in the Basin, and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future.

Ozone (O_3) is not emitted directly to the atmosphere but is formed by photochemical reactions between reactive organic gases (ROG), or volatile organic compounds[4] (VOC), and oxides of nitrogen (NO_X) in the presence of sunlight. The long, hot, humid days of summer are particularly conducive to ozone formation; thus, ozone levels are of concern primarily during May through September. Ozone is a strong chemical oxidant that adversely impacts human health through effects on respiratory function. It can also damage forests and crops. Tropospheric[5] ozone is formed by a complex series of chemical reactions involving NO_X, the result of combustion processes and evaporative ROGs such as industrial solvents, toluene, xylene, and hexane as well as the various hydrocarbons that are evaporated from the gasoline used by motor vehicles or emitted through the tailpipe following combustion. Additionally, ROGs are emitted by natural sources such as trees and crops. Ozone

3 This section discusses only criteria pollutants and air toxics. Greenhouse gases are defined and discussed in **Section 5.**

4 Emissions of organic gases are typically reported only as aggregate organics, either as Volatile Organic Compounds (VOC) or as Reactive Organic Gases (ROG). These terms are meant to reflect what specific compounds have been included or excluded from the aggregate estimate. Although EPA defines VOC to exclude both methane and ethane, and CARB defines ROG to exclude only methane, in practice it is assumed that VOC and ROG are essentially synonymous.

5 The troposphere is the atmospheric layer closest to the Earth's surface. Ozone produced here is an air pollutant that is harmful to breathe, and it damages crops, trees and other vegetation.

formation is promoted by strong sunlight, warm temperatures, and winds. High concentrations tend to be a problem in the Imperial County only during the hot summer months when these conditions frequently occur.

Reactive Organic Gases (ROG) are defined as any compound of carbon, excluding CO, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participate in atmospheric photochemical reactions. It should be noted that there is no state or national ambient air quality standard for ROG because ROGs are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROGs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.

Nitrogen Oxides (NO_x) serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2).[6] NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_X is an ozone precursor. A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which an Ambient Air Quality Standard (AAQS) has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more AAQSs. When NO_X and ROG are released in the atmosphere, they can chemically react with one another in the presence of sunlight to form ozone.

Particulate Matter (PM) is a general term used to describe a complex group of airborne solid, liquid, or semi-volatile materials of various size and composition. Primary PM is emitted directly into the atmosphere from both human activities (including agricultural operations, industrial processes, construction and demolition activities, and entrainment of road dust into the air) and non-anthropogenic activities (such as windblown dust and ash resulting from forest fires). Secondary PM is formed in the atmosphere from predominantly gaseous combustion by-product precursors, such as sulfur oxides and NO_X, and ROGs. The overwhelming majority of airborne PM in Imperial County is primary PM. The major source of primary PM is fugitive windblown dust, with other contributions from entrained road dust, farming, and construction activities.

Particle size is a critical characteristic of PM that primarily determines the location of PM deposition along the respiratory system (and associated health effects) as well as the degradation of visibility through light scattering. In the United States, federal and state agencies have established two types of PM air quality standards, as shown in **Table 3.2-1**. PM_{10} corresponds to the fraction of PM no greater than 10 micrometers in aerodynamic diameter and is commonly called respirable particulate matter, while $PM_{2.5}$ refers to the subset of PM_{10} of aerodynamic diameter smaller than 2.5 micrometers, which is commonly called fine particulate matter.

PM air pollution has undesirable and detrimental environmental effects. PM affects vegetation, both directly (e.g., deposition of nitrates and sulfates may cause direct foliar damage) and indirectly (e.g., coating of plants upon gravitational settling reduces light absorption). PM also accumulates to form regional haze, which reduces visibility due to scattering of light.

6 Another form of NO_x, nitrous oxide (N_2O), is a greenhouse gas and is discussed below.

PM_{10} is respirable, with fine and ultrafine particles[7] reaching the alveoli deep in the lungs, and larger particles depositing principally in the nose and throat area. PM_{10} deposition in the lungs results in irritation that triggers a range of inflammation responses, such as mucus secretion and bronchoconstriction, and exacerbates pulmonary dysfunctions, such as asthma, emphysema, and chronic bronchitis. Sufficiently small particles ($PM_{2.5}$ and ultrafines) may penetrate the bloodstream and impact functions such as blood coagulation, cardiac autonomic control, and mobilization of inflammatory cells from the bone marrow. Individuals susceptible to higher health risks from exposure to PM_{10} airborne pollution include children, the elderly, smokers, and people of all ages with low pulmonary/cardiovascular function. For these individuals in particular, adverse health effects of PM_{10} pollution include coughing, wheezing, shortness of breath, phlegm, bronchitis, and aggravation of lung or heart disease, leading for example to increased risks of hospitalization and mortality from asthma attacks and heart attacks.

Pollutant Transport

As stated above, ozone is a "secondary" pollutant, formed in the atmosphere by reactions between NO_X and ROG. These reactions are driven by sunlight and proceed at varying rates. Transport is the movement of ozone or the pollutants that form ozone from one area (known as the upwind area) to another area (known as the downwind area). Pollutant transport is a very complex phenomenon. Sometimes transport is a straightforward matter of wind blowing from one area to another at ground level, carrying ozone with it, but usually it is not that simple. Transport is three-dimensional; it can take place at the surface, or high above the ground. Meteorologists use the terms "surface" and "aloft" to distinguish these two cases. Often, winds can blow in different directions at different heights above the ground. To complicate matters further, winds can shift during the day, pushing a polluted air mass first one way, then another. Finally, because ozone and ozone forming emissions from an upwind area can mix with locally generated ozone and locally generated emissions, it is often difficult to determine the origin of the emission causing high pollution levels. Political boundaries do not prevent transport of pollutants. Transport over distances of several hundred miles has often been documented in California.

The accurate determination of the impacts of transport requires detailed technical analyses in conjunction with modeling studies. The Imperial County Air Quality Management Plan[8] (AQMP) identifies how the transport of emissions and pollutants from Mexico and other areas (South Coast and San Diego) influences ozone violations within Imperial County. Although Imperial County is currently in attainment of the 1997 8-hour ozone NAAQS, it is important to note that any future analysis of air emissions impacting Imperial County must take into consideration the influence of transport from three distinct sources: the South Coast Air Basin via the Coachella Valley to the north, the San Diego Air Basin to the west and the international city of Mexicali, Mexico to the south.

3.2.1.2 Air Toxics

Air toxics, also called toxic air contaminants (TAC), are substances that are airborne and that can cause serious, and sometimes lethal, adverse health effects at relatively low ambient concentrations. The main exposure route for most TACs is through the respiratory tract, although people can also be

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7 Ultrafine particles (UFPs) are nanoscale, less than 100 nanometers. Regulations do not currently exist for this size class of ambient air pollution particles, which are far smaller than the regulated PM_{10} and $PM_{2.5}$ particle classes and are believed to have several more aggressive health implications than those classes of larger particles.

8 Final 2009 1997 8-Hour Modified Air Quality Management Plan. Imperial County Air Pollution Control District. July 13, 2010.

exposed through contact with soil or food upon which airborne contaminants have settled. The ARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified 24 TACs,[9] as individual substances or classes of substances, and have compiled health effects data for them. Except for special studies, TAC concentrations in ambient air are not monitored routinely.

3.2.2 Applicable Regulations

3.2.2.1 Federal Regulations

The federal Clean Air Act (FCAA), passed in 1970, established the national air pollution control program. The basic elements of the CAA are the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

NAAQS are the maximum allowable concentrations of criteria pollutants, over specified averaging periods, to protect human health. The FCAA requires that the U.S. Environmental Protection Agency (USEPA) establish NAAQS and reassess, at least every five years, whether they are adequate to protect public health, based on current scientific evidence. The NAAQS are divided into primary and secondary standards; the former standards are set to protect human health within an adequate margin of safety, and the latter to protect environmental values, such as plant and animal life.

The USEPA has identified nonattainment and attainment areas for each NAAQS. Under amendments to the FCAA, EPA has designated air basins or portions thereof as attainment, nonattainment, or unclassifiable, based on whether the national standards have been achieved.

In addition, the FCAA uses a classification system to design clean-up requirements appropriate for the severity of the pollution and set realistic deadlines for reaching clean-up goals. If an air basin is not in federal attainment for a particular pollutant, the Basin is classified as a marginal, moderate, serious, severe, or extreme nonattainment area, based on the estimated time it would take to reach attainment. Nonattainment areas must take steps towards attainment by a specific timeline. **Table 3.3-1** shows the federal and state attainment designations and federal classifications for the Basin.

Data collected at permanent monitoring stations are used by the USEPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are subject to additional restrictions, as required by the USEPA.

The FCAA Amendments in 1990 substantially revised the planning provisions for those areas not currently meeting NAAQS. The Amendments identify specific emission reduction goals, require both a demonstration of reasonable further progress and attainment, and incorporate more stringent sanctions for failure to attain the NAAQS or to meet interim attainment milestones.

9 Toxic Air Contaminant List with Staff Reports/Executive Summaries. Office of Environmental Health Hazard Assessment, July 17, 2008. URL: https://oehha.ca.gov/air/general-info/toxic-air-contaminant-list-staff-reportsexecutive-summaries.

The USEPA does not set ambient standards for toxic air contaminants. Its regulatory approach is to set emissions limits and/or work practice standards for TACs in specific industrial categories.

3.2.2.2 State Regulations

The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. There were no attainment deadlines for the CAAQS originally. However, the State Legislature passed the California Clean Air Act (CCAA) in 1988 to establish air quality goals, planning mechanisms, regulatory strategies, and standards of progress to promote their attainment. The ARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the CCAA, responding to the FCAA, and for regulating emissions from motor vehicles and consumer products.

The CCAA requires attainment of CAAQS by the earliest practicable date. The state standards are generally more stringent than the corresponding federal standards. Attainment plans are required for air basins in violation of the State ozone, PM_{10}, CO, SO_2, or NO_2 standards. Responsibility for achieving state standards is placed on the ARB and local air pollution control districts. District plans for nonattainment areas must be designed to achieve a 5% annual reduction in emissions. Preparation of and adherence to attainment plans are the responsibility of the local air pollution districts or air quality management districts. **Table 3.2-1** illustrates NAAQS and CAAQS for criteria pollutants.[10]

The ARB regulates TACs in several ways. First, it has adopted air toxics control measures (ATCMs) based – in large part – on USEPA regulations, but sometimes more stringent. Many air pollution control districts have incorporated ATCMs into their rules.[11] The ARB also requires, through AB 2588, large emitters to create and maintain TAC emission inventories and, in some cases, to prepare air toxics health risk assessments (HRAs). The main categories of health risk defined by the ARB and the Office of Environmental Health Hazard Assessment (OEHHA) are cancer, chronic non-cancer, and acute non-cancer. The cancer and chronic non-cancer assessments are based upon 70 years exposure, while the acute noncancer assessments are based upon one-hour exposures.

Table 3.2-1
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA AIR POLLUTANTS

Air Pollutant	Averaging Time	California Standard	National Standard
Ozone (O_3)	1 hour 8 hours	0.09 ppm 0.070 ppm	— 0.070 ppm *
Respirable particulate matter (PM_{10})	24-hour Annual Arithmetic Mean	50 $\mu g/m^3$ 20 $\mu g/m^3$	150 $\mu g/m^3$ —
Fine particulate matter ($PM_{2.5}$)	24-hour Annual Arithmetic Mean	— 12 $\mu g/m^3$	35 $\mu g/m^3$ 12.0 $\mu g/m^3$ **

10 Ambient Air Quality Standards. California Air Resources Board. https://www.arb.ca.gov/research/aaqs/aaqs2.pdf. May 4, 2016. Accessed July 2018.

11 For example, ICAPCD Rule 1002 incorporates by reference seven ATCMs.

Air Pollutant	Averaging Time	California Standard	National Standard
Carbon monoxide (CO)	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm
Nitrogen dioxide (NO_2)	1 hour Annual Arithmetic Mean	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm
Sulfur dioxide (SO_2)	1 hour 24 hours	0.25 ppm 0.04 ppm	75 ppb —
Lead	30-day Rolling 3-month	1.5 µg/m3 —	— 0.15 µg/m³
Sulfates	24 hours	25 µg/m³	**No National Standards**
Hydrogen sulfide	1 hour	0.03 ppm	
Vinyl chloride	24 hours	0.01 ppm	
Visibility-reducing particles	8 hours	Extinction coefficient of 0.23 per kilometer, visibility of ten miles or more due to particles when relative humidity is less than 70%.	

* On October 1, 2015, the national 8-hour ozone standard was lowered from 0.075 to 0.070 ppm.
** On December 14, 2012, the national $PM_{2.5}$ standard was lowered from 15 µg/m³ to 12.0 µg/m³.

Abbreviations:
ppm = parts per million
µg/m³ = micrograms per cubic meter
ppb = parts per billion
Mean = Annual Arithmetic Mean
30-day = 30-day average

3.2.3 Air Quality Plans

3.2.3.1 Ozone Plan

After Imperial County failed to meet the 2008 8-hour standard of 0.075 parts per million (ppm), the USEPA reclassified it from "marginal" nonattainment to "moderate" nonattainment. This reclassification required development and submittal of a 2008 8-Hr Ozone state implementation plan (SIP)[12] and a reasonable available control technology (RACT) SIP by January 1, 2017.[13] The final 2017 Ozone SIP demonstrated that a part of the reason why Imperial County has elevated ozone concentrations is because of transport of emissions from Mexico. Therefore, the SIP relies on the provisions in CAA §179B to demonstrate that Imperial County is in attainment of the 2008 8-hour ozone standard but for emissions emanating across the international border.[14] A weight-of-evidence

12 California's State Implementation Plan (SIP) is a collection of regional and local plans and regulations for achieving compliance with national ambient air quality standards.

13 State Implementation Plans. Ozone (O3), Imperial County Air Pollution Control District. URL: https://apcd.imperialcounty.org/planning/#stateplan. Accessed October 24, 2021.

14 Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard. Prepared by Ramboll Environ US Corporation, Los Angeles, CA for the Imperial County Air Pollution Control District, El Centro, CA. September 12,

analysis was included to show that Imperial County will maintain this status of attainment through the July 2018 attainment date.

3.2.3.2 PM_{10} Plan

2009 Plan

The ICAPCD District Board of Directors adopted the PM_{10} SIP for Imperial County on August 11, 2009.[15] The PM_{10} SIP meets USEPA requirements to demonstrate that the County will attain the PM_{10} standard as expeditiously as practicable. The PM_{10} SIP was required to address and meet the following elements, required under the FCAA of areas classified to be in serious nonattainment of the NAAQS:

- Best available emission inventories.
- A plan that enables attainment of the PM_{10} federal air quality standards.
- Annual reductions in PM_{10} or PM_{10} precursor emissions that are of not less than 5% from the date of SIP submission until attainment.
- Best available control measures and best available control technologies for significant sources and major stationary sources of PM_{10}, to be implemented no later than four years after reclassification of the area as serious.
- Transportation conformity and motor vehicle emission budgets in accord with the attainment plan.
- Reasonable further progress and quantitative milestones.
- Contingency measures to be implemented (without the need for additional rulemaking actions) if the control measure regulations incorporated in the plan cannot be successfully implemented or fail to give the expected emission reductions.

The PM_{10} SIP updated the emission inventory to incorporate revised cattle emissions, revised windblown dust model results, revised Southern California Association of Governments (SCAG) activity data, and updated entrained and windblown unpaved road dust estimates. The adjustments made to the emission inventory fell in two categories: (1) adjustments to incorporate new methodology and updated information (e.g., throughputs, activity data, etc.), and (2) adjustments to incorporate emission reductions arising from the implementation of new control measures.

Additionally, the PM_{10} SIP demonstrates that Imperial County attained the Federal PM_{10} NAAQS, but for international emissions from Mexico, based on 2006-2008 monitoring data. Attainment was due, in part, to ICAPCD's November 2005 adoption and subsequent implementation of Regulation VIII fugitive dust rules; those rules were based on the related 2005 Best Available Control Measure (BACM) analysis.

2017. URL: https://apcd.imperialcounty.org/wp-content/uploads/2020/01/OzoneSIP.pdf. Accessed September 16, 2022.

15 2009 Imperial County State Implementation Plan for Particulate Matter Less Than 10 Microns in Aerodynamic Diameter. Imperial County Air Pollution Control District. July 10, 2009.

Since the reclassification of Imperial County to serious nonattainment for PM_{10} occurred on August 2004, control of fugitive PM_{10} emissions from the significant source categories that meets BACM stringency identified in the PM_{10} SIP began in January 2006.

Major stationary sources are required to implement Best Available Control Technology (BACT) to control PM_{10} emissions (Rule 207) and they are required to comply with the 20% opacity (Rule 403). In addition, stationary sources will be required to mitigate fugitive dust emissions from access roads, construction activities, handling and transferring of bulk materials, and track-out/carry-out according to the requirements of Regulation VIII.

Because the Imperial County is shown in the PM_{10} SIP to have attained the 24-hour PM_{10} NAAQS but for international transport of Mexicali emissions in 2006-2008, reasonable further progress and milestone requirements are unnecessary, and specifically the 5% yearly emission reductions requirement does not apply to future years. As documented in the PM_{10} SIP, all remaining SIP requirements applicable to the 2009 Imperial County PM_{10} Plan have been successfully addressed.

2018 Redesignation Request and Maintenance Plan

In 2018, the ICAPCD prepared a PM_{10} Request for Redesignation and Maintenance Plan, which was approved by the District Board on October 23, 2018.[16] The document requested that the Imperial Valley Planning Area's PM_{10} attainment status be changed from serious nonattainment to attainment, and included a maintenance plan. The request was approved by the California Air Resources Board on December 13, 2018 after a public hearing.[17] The USEPA approved the SIP revision and the redesignation, effective October 19, 2020.[18]

3.2.3.3 $PM_{2.5}$ Plan

The ICAPCD District Board of Directors adopted the Imperial County 2013 State Implementation Plan for the 2006 24-hour $PM_{2.5}$ Moderate Nonattainment Area on December 2, 2014.[19] The $PM_{2.5}$ SIP fulfills the requirements of the CAA for those areas classified as "moderate" nonattainment for $PM_{2.5}$. It incorporates updated emission inventories, and analysis of Reasonable Available Control Measures (RACM), an assessment of Reasonable Further Progress (RFP), and a discussion of contingency measures. Analyses in the $PM_{2.5}$ SIP included assessing emission inventories from Imperial County and Mexicali; evaluating the composition and elemental makeup of samples collected on Calexico violation days; reviewing the meteorology associated with high concentration measurements; and performing directional analysis of the sources potentially impacting the Calexico $PM_{2.5}$ monitor. As is demonstrated in the $PM_{2.5}$ SIP, the primary reason for elevated $PM_{2.5}$ levels in Imperial County is transport from Mexico. Essentially, the $PM_{2.5}$ SIP demonstrated attainment of the 2006 $PM_{2.5}$ NAAQS "but for" transport of international emissions from Mexicali, Mexico. The ARB approved this SIP on December 18, 2014.

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16 State Implementation Plans. Particulate Matter 10 (PM10), Imperial County Air Pollution Control District. URL: https://apcd.imperialcounty.org/planning/#stateplan. Accessed October 24, 2021.

17 2018 Imperial County PM10 State Implementation Plan. California Air Resources Board, Sacramento, CA. URL: https://ww2.arb.ca.gov/resources/documents/2018-imperial-county-pm10-state-implementation-plan. Accessed October 24, 2022.

18 85 Federal Register 58286-58294. September 18, 2020. URL: https://www.govinfo.gov/content/pkg/FR-2020-09-18/pdf/2020-18427.pdf. Accessed October 24, 2022.

19 Imperial County 2013 SIP for the 2006 24-hr PM2.5 Moderate Nonattainment Area. Imperial County Air Pollution Control District. December 2, 2014.

Between 2013 and 2016, the USEPA implemented a new, lower, annual $PM_{2.5}$ standard and designated the previously determined non-attainment area in Imperial County as a "moderate" non-attainment area. The County was required to prepare a new $PM_{2.5}$ SIP and did so on April 24, 2018. The new SIP was approved by the ARB on May 25, 2018.[20] Elements of the 2018 $PM_{2.5}$ SIP include:[21]

- Base year emission inventories and future year forecasts for manmade sources of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors.
- A comprehensive precursor demonstration.
- An attainment demonstration;
- Demonstration that control measures meet Reasonably Available Control Technology (RACT), Reasonably Available Control Measures (RACM), and Additional Reasonable Measures (ARM) requirements, as applicable.
- Requirements for Reasonable Further Progress (RFP).
- Contingency measures for RFP
- Quantitative milestones.
- Transportation conformity emission budgets to ensure transportation projects are consistent with the SIP.

3.2.4 Local Regulations

3.2.4.1 Air Quality

The ICAPCD also has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions of hazardous air pollutants, and New Source Review. The ICAPCD Rules and Regulations are part of the SIP and are separately enforceable by the EPA. The following ICAPCD rules potentially apply to the Project.

Rules 800 (General Requirements for Control of Fine Particulate Matter), **801** (Construction and Earthmoving Activities), **802** (Bulk Materials), **803** (Carry-out and Track-out), **804** (Open Areas), and **805** (Paved and Unpaved Roads) are intended to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated by anthropogenic fugitive dust sources by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. These rules include opacity limits, control measure requirements, and dust control plan requirements that apply to activities at the facility.

The 2017 Ozone SIP (see **Section 3.2.3.1**) strengthened new source review (NSR) requirements for facilities with potential to emit NO_x and ROG emissions above certain thresholds. Some of these requirements, which are in **Rule 207** (New and Modified Stationary Source Review), may come into play during the permitting process.

20 State Implementation Plans. 2012 Annual Particulate Matter 2.5 (PM2.5), Imperial County Air Pollution Control District. URL: https://apcd.imperialcounty.org/planning/#stateplan. Accessed October 24, 2022

21 2018 Imperial County Annual Particulate Matter Less Than 2.5 Microns in Diameter State Implementation Plan. Prepared by Ramboll Environ US Corporation, Los Angeles, CA for the Imperial County Air Pollution Control District, El Centro, CA. April, 2018. URL: https://apcd.imperialcounty.org/wp-content/uploads/2020/01/2018-IC-PM25SIP.pdf. Accessed October 24, 2022.

3.2.4.2 Right-to-Farm Ordinance

In recognition of the role of agriculture in the county, Imperial County has adopted a right-to-farm ordinance. A "right-to-farm" ordinance creates a legal presumption that ongoing, standard farming practices are not a nuisance to adjoining residences. It requires a disclosure to owners and purchasers of property near agricultural land operations, or areas zoned for agricultural purposes. The disclosure advises persons that discomfort and inconvenience from odors, fumes, dust, smoke, and chemicals resulting from conforming and accepted agricultural operations are normal and necessary aspects of living in the agricultural areas of the county.

3.3 REGIONAL AIR QUALITY

Table 3.3-1 shows the area designation status of Imperial County for each criteria pollutant for both the NAAQS and the CAAQS.

Table 3.3-1
FEDERAL AND STATE ATTAINMENT STATUS FOR IMPERIAL COUNTY

Pollutant	State Designation	Federal Designation (Classification)
Ozone	Nonattainment	Nonattainment
Fine PM ($PM_{2.5}$)	Attainment	Nonattainment (Moderate)
Respirable PM (PM_{10})	Nonattainment	Maintenance (Serious)
Carbon Monoxide (CO)	Attainment	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	No Federal Standards
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	No Federal Standards
Visibility reducing Particles	Unclassified	No Federal Standards

Source: Maps of State and Federal Area Designations. California Air Resources Board. Accessed online at https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations, on September 14, 2022.

3.4 LOCAL AIR QUALITY

Existing levels of ambient air concentrations and historical trends and projections in the project area are best documented by measurements made by the ICAPCD and the ARB. Monitoring has been performed by the ICAPCD, ARB, and private industry. There are six monitoring sites in Imperial County from Niland to Calexico.

The nearest monitoring stations to the project site is Calexico-Ethel Street station, approximately 2.69 miles east of the site. The station monitors ozone, PM_{10} and $PM_{2.5}$. **Table 3.4-1** summarizes 2020 through 2022 published monitoring data from the ARB's Aerometric Data Analysis and Management System (ADAM).

Table 3.4-1
AMBIENT CRITERIA POLLUTANT CONCENTRATION DATA FOR PROJECT VICINITY

Air Pollutant	Standard/Exceedance	2020	2021	2022
Ozone (O_3)	Max. 1-hour Concentration (ppm)	0.107	0.122	0.097
	Max. 8-hour Concentration (ppm)	0.088	0.091	0.083
	Days > Federal 8-hour Std. of 0.070 ppm	16	13	6
	# Days > California 1-hour Std. of 0.09 ppm	6	4	1
	# Days > California 8-hour Std. of 0.07 ppm	19	14	7
Respirable Particulate Matter (PM_{10})	Max. Federal 24-hour Concentration (μg/m³)	194.5	291.7	184.8
	Max. State 24-hour Concentration (μg/m3)	188	301.1	182.8
	#Days > Fed. 24-hour Std. of 150 μg/m³	4	3	2
	#Days > California 24-hour Std. of 50 μg/m³	166.3	150.7	163.9
	Federal Annual Average(μg/m³)	54.4	52.1	52.6
	State Annual Average(μg/m³)	54.1	52.5	54.0
Fine Particulate Matter ($PM_{2.5}$)	Max. Federal 24-hour Concentration (μg/m³)	46.1	60.8	41.9
	#Days > Fed. 24-hour Std. of 150 μg/m³	5.4	2.1	5.1
	Federal Annual Average(μg/m³)	11.9	10.2	10.9
	State Annual Average(μg/m³)	ND	10.2	10.9

Source: California Air Resources Board, "iADAM Air Quality Data Statistics." Accessed online at https://www.arb.ca.gov/adam/select8/sc8start.php, on September 14, 2022.
ND There were insufficient (or no) data available to determine the value.

4.0 AIR QUALITY IMPACTS ANALYSIS

This analysis was prepared in accordance with the ICAPCD CEQA Air Quality Handbook and with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Air quality impacts are typically divided into short-term and long-term impacts. Short-term impacts are associated with construction activities, such as site grading, excavation and building construction of a project. Long-term impacts are associated with the operation of a project upon its completion.

4.1 CEQA IMPACT REVIEW CRITERIA

In accordance with *State CEQA Guidelines* Appendix G, implementation of the project would result in a potentially significant impact if it were to:

- Conflict with or obstruct implementation of the applicable air quality plan;

- 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;

- Expose sensitive receptors to substantial pollutant concentrations; or

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Where available, the significance criteria established by the applicable air quality management district (AQMD) or air pollution control district (APCD) may be relied upon to make the significance determinations. As will be discussed in the next section, the ICAPCD has developed a CEQA Air Quality Handbook to provide a protocol for air quality analyses that are prepared under the requirements of CEQA.

4.2 IMPERIAL COUNTY APCD THRESHOLDS OF SIGNIFICANCE

Under the ICAPCD guidelines, an air quality evaluation must address the following:

- Comparison of calculated project emissions with ICAPCD emission thresholds.

- Consistency with the most recent Clean Air Plan for Imperial County.

- Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable.

- The evaluation of special conditions that apply to certain projects.

4.2.1 Construction Impacts

As will be discussed in **Section 4.5.2**, this is a "Tier I" project. In general, projects whose *operational* emissions qualify them as Tier I do not need to quantify their construction emissions; instead, they adopt the standard mitigation measures for construction (See **Section 5.0**). The ICAPCD CEQA Guidelines states the "approach of the CEQA analyses for construction particulate matter impacts should be qualitative as opposed to quantitative." However, this analysis quantifies construction emissions. The quantification serves the purpose of determining which construction-related mitigation measures, if any, to prescribe. The ICAPCD's thresholds for significance are shown in **Table 4.2-1**.

Table 4.2-1
THRESHOLDS OF SIGNIFICANCE FOR CONSTRUCTION ACTIVITIES[22]

Pollutant	Threshold
PM_{10}	150 lbs/day
ROG	75 lbs/day
NO_x	100 lbs/day
CO	550 lbs/day

4.2.2 Operational Impacts

To evaluate long-term air quality impacts due to operation of a project, the ICAPCD recommends the significance criteria shown in **Table 4.2-2.**

Table 4.2-2
THRESHOLDS OF SIGNIFICANCE FOR PROJECT OPERATIONS[23]

Pollutant	Emissions (lbs/day)	
	Tier I	Tier II
Carbon Monoxide (CO)	< 550	≥ 550
Reactive Organic Gases (ROG)	< 137	≥ 137
Nitrogen Oxides (NO_X)	< 137	≥ 137
Sulfur Oxides (SO_X)	< 150	≥ 150
Particulate Matter (PM_{10})	< 150	≥ 150
Particulate Matter ($PM_{2.5}$)	< 550	≥ 550
Level of Significance	Less Than Significant	Significant Impact
Level of Analysis	Initial Study	Comprehensive Air Quality Report
Environmental Document	Negative Declaration	Mitigated Negative Declaration or Environmental Impact Report

4.3 CO "HOTSPOTS" THRESHOLDS

Exhaust emissions from motor vehicles can potentially cause a direct, localized hotspot impact at or near proposed developments or sensitive receptors. The optimum condition for the occurrence of a CO hotspot would be cool and calm weather at a congested major roadway intersection with sensitive receptors nearby, and where vehicles are idling or moving at a stop-and-go pace.

The significance of localized project impacts depends on whether project-related emissions result in a violation of state and/or federal CO standards. A significant impact would occur if the CO hotspot analysis of vehicular intersection emissions exposes sensitive receptors to concentrations that are in excess of the following thresholds:

- 20 parts per million (ppm) for a 1-hour average, and/or
- 9 ppm for 8-hour average.

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22 Imperial County Air Pollution Control District. 2017. CEQA Air Quality Handbook. November, p. 20.
23 Imperial County Air Pollution Control District. 2017. CEQA Air Quality Handbook. November, p. 10.

The ICAPCD *CEQA Air Quality* Handbook does not specify criteria for significance when ambient CO levels already exceed a state or federal standard. For that case, we used the South Coast Air Quality Management District's specification that project impacts are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more.[24]

4.4 METHODOLOGY

Regional emissions of criteria air pollutants and precursors, and toxic air contaminants during project construction and operations were assessed in accordance with the methodologies described below. ICAPCD suggests that the "approach of the CEQA analyses for construction PM_{10} impacts should be qualitative as opposed to quantitative"[25] but that any projects which are greater than the level of significance for construction may have a significant impact on local and, under certain circumstances, regional air quality. For full disclosure purposes, construction emissions were quantified.

Details of our assumptions and calculations are presented in **Attachment 1** to this report. In this section, we give an overview of our approach.

Construction and operating emissions were estimated with the California Emission Estimator Model (CalEEMod), Version 2022.1.1.21[26] Construction phase definitions and schedules, warehouse area, landscaping area, parking spaces and other site element data were obtained from the applicant. CalEEMod's default assumptions were used for other modeling parameters. Equipment deployment and phasing are shown in **Table 4.4-1**.

Table 4.4-1
CONSTRUCTION PHASING AND EQUIPMENT DETAILS[a]

Phase	Number of Pieces of Equipment	Equipment	Usage Hours	Horsepower[a]	Load Factor[a]
Site Preparation	3	Rubber Tired Dozers	8.00	367	0.40
	4	Tractors/Loaders/Backhoes	8.00	84	0.37
Grading	2	Excavators	8.00	36	0.38
	1	Graders	8.00	148	0.41
	1	Rubber Tired Dozers	8.00	367	0.40
	2	Scrapers	8.00	423	0.48
	2	Tractors/Loaders/Backhoes	8.00	84	0.37
Building Construction	1	Cranes	7.00	367	0.29
	3	Forklifts	8.00	82	0.20
	1	Generator Sets	8.00	14	0.74
	3	Tractors/Loaders/Backhoes	7.00	84	0.37
	1	Welders	8.00	46	0.45
Paving	2	Pavers	8.00	81	0.42

24 ICAPCD (Imperial County Air Pollution Control District), 2017. CEQA Air Quality Handbook. Accessed online at https://apcd.imperialcounty.org/wp-content/uploads/2020/01/CEQAHandbk.pdf, on September 15, 2022.

25 Ibid

26 BREEZE Software. User's Guide for CalEEMod Version 2022.1.1.21. Prepared for California Air Pollution Control Officers Association. February 2024. Accessed online at https://www.caleemod.com/documents/user-guide/01_User%20Guide.pdf.

Phase	Number of Pieces of Equipment	Equipment	Usage Hours	Horsepower[a]	Load Factor[a]
	2	Paving Equipment	8.00	89	0.36
	2	Rollers	8.00	36	0.38
Architectural Coating	1	Air Compressors	6.00	37	0.48
Source: CalEEMod Version 2022.1.1.21. [a]Horsepower and load factor data are default values from CalEEMod.					

4.5 AIR QUALITY IMPACTS

4.5.1 Short-Term Impacts

Project construction activities will generate short-term air quality impacts. Construction emissions can be distinguished as either onsite or offsite. Onsite air pollutant emissions would consist principally of exhaust emissions from off-road heavy-duty construction equipment, as well as fugitive particulate matter from earthwork. Offsite emissions would result from workers commuting to and from the job site, as well as from trucks hauling building materials and taking away debris. For calculations, construction was divided into the following phases, which do not overlap in time:

- Site preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Table 4.5-1 shows the results of the CalEEMod analysis and compares them with the ICAPCD significance criteria. Daily emissions of all pollutants are below their significance thresholds, and no mitigation is necessary. Calculation assumptions and results files are provided in **Attachment 1**.

Table 4.5-1
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS

Project Phase Construction	Maximum Emissions (lbs/day)[a]			
	ROG	NO_x	CO	PM_{10}
Site Preparation	3.73	**36.08**	**33.65**	33.17
Grading	3.62	34.39	31.05	32.34
Building Construction- 2024	1.46	12.04	15.51	87.6
Building Construction- 2025	1.24	10.71	14.02	**34.43**
Paving	1.94	7.5	10.94	20.85
Architectural Coating	**32.89**	0.91	1.77	13.53
ICAPCD Significance Thresholds[a]	*75*	*100*	*550*	*150*
Significant (Yes or No)	**No**	**No**	**No**	**No**

Source: *CalEEMod Version 2022.1.1.21.*
[a]The ICAPCD does not have a significance threshold for $PM_{2.5}$ during construction.

4.5.2 Long-Term Impacts

To properly characterize air pollution impacts under CEQA, we calculated operational impacts for maximum emissions.

4.5.2.1 Operational Emissions

Table 4.5-2 summarizes the daily operating emissions for this phase. Because the daily emissions of all the pollutants are below the Tier I thresholds, these emissions are less than significant and no mitigation is needed.

Table 4.5-2
DAILY PROJECT OPERATIONAL EMISSIONS

Emissions Source	Pollutant (maximum lbs/day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Area	3.64	0.04	5.23	0.01	0.01
Energy	0.03	0.59	0.50	0.04	0.04
Mobile	1.42	0.79	7.10	96.3	9.78
Waste	ND	ND	ND	ND	ND
Water	ND	ND	ND	ND	ND
Total Operational Emissions	5.09	1.42	12.83	96.35	9.78
Thresholds for Tier II	*137*	*137*	*550*	*150*	*550*
Tier	**I**	**I**	**I**	**I**	**I**

ND = *No Data*
Source: Calculated by UltraSystems.

Air Toxics Emissions

The only toxic air contaminant emitted by the project will be diesel particulate matter (DPM), which is emitted by construction equipment and onroad diesel trucks. The ARB has formally designated DPM as a toxic air contaminant.[27] Per ARB guidance, PM_{10} from diesel fuel combustion is assumed to be a surrogate for DPM. UltraSystems has estimated DPM emissions and performed a health risk assessment (HRA), which is described in a separate memorandum.[28]

The State of California has established a threshold of 10 in one million as a level posing no risk for exposures to carcinogens regulated under the Safe Drinking Water and Toxic Enforcement Act (Proposition 65). The same threshold is used by many air pollution control agencies, including the South Coast Air Quality Management District. The project HRA estimated a maximum individual cancer risk of 0.0075 in one million during construction and 0.4 in one million during operations. Both of these values are far below the threshold of 10 in one million. The maximum chronic noncancer hazard, as measured by the "hazard index," which is the ratio of air concentration of a

27 The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Fact Sheet. California Air Resources Board, Sacramento, CA. October 1998. URL: Per https://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf.

28 Air Toxics Health Risk Assessment for Cal98 Charger Logistics Projects, Calexico, California. Memorandum from M. B. Rogozen, UltraSystems Environmental Inc. and B. Piazza, Air Quality Dynamics to Tom DuBose, DuBose Design Group. January 27, 2023.

pollutant to its standard reference level for toxic exposures, is estimated to be 0.0082 and 0.00043 for construction and operations, respectively, which is far below the significance level of 1.0.

4.5.3 Sensitive Receptors

Sensitive receptors are persons who would be more susceptible to air pollution than the general population, such as children, athletes, the elderly, and the chronically ill. Examples of land uses where substantial numbers of sensitive receptors are often found are schools, daycare centers, parks, recreational areas, medical facilities, nursing homes, and convalescent care facilities. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended times, resulting in sustained exposure to pollutants. The closest sensitive receptor currently is a single-family residence on State Route 98, about 32 feet west of the project's western boundary.

4.5.4 Objectionable Odors

Construction activities for the project would generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust) and asphalt paving operations. These emissions would occur during daytime hours only and would be isolated to the immediate vicinity of the construction site and activity. Therefore, they would not affect a substantial number of people. Operational emissions would include some diesel engine exhaust, but the location of the project is remote and odor emissions will not affect a substantial number of people.

4.5.5 Conformity with Air Quality Management Plan

The ICAPCD *CEQA Air Quality Handbook* calls for a consistency analysis with the regional clean air plans, namely ozone and PM_{10} attainment demonstration plans, for large residential and commercial developments that are required to develop an EIR. Projects that are projected to exceed ICAPCD thresholds of significance for its operations are considered large developments and are required to demonstrate consistency with regional air quality plans. Because the proposed project's emissions will not exceed the District's significance thresholds, analysis for conformity with regional air quality plans is not required for the project.

5.0 GREENHOUSE GAS EMISSIONS ANALYSIS

5.1 Climate Change and Greenhouse Gases

If the earth had no atmosphere, almost all of the energy received from the sun would be re-radiated out into space. Our atmosphere helps retain a major portion of the solar radiation through "the greenhouse effect." Short-wavelength solar radiation passes through the atmosphere and is absorbed by the earth's surface. The earth re-radiates the heat up into the atmosphere, at a longer wavelength. GHG in the atmosphere absorb the longer-wavelength heat and then radiate it back downward. In general, as concentrations of GHG in the atmosphere increase, global temperatures increase.

For many centuries, atmospheric GHG concentrations were relatively stable. As combustion of fossil fuels for industrial activities and transportation increased, concentrations of CO_2 in the atmosphere increased dramatically. The result has been an observed increase in average global temperature. The current consensus among scientists is that continued increases in atmospheric GHG will not only raise the average global temperature but will also lead to changes in climate. While air temperatures will mainly rise, temperatures may decrease in some areas. Rainfall distribution and storm patterns will be affected. As polar ice melts, sea levels may rise, inundating coastal areas.

GHG is defined under the California Global Warming Solutions Act of 2006 (AB 32) as CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6). Associated with each GHG species is a "global warming potential" (GWP), which is defined as the ratio of degree of warming to the atmosphere that would result from the emission of one mass unit of a given GHG compared with one equivalent mass unit of CO_2 over a given period of time. By this definition, the GWP of CO_2 is always 1. The GWP of methane and N_2O are 25 and 298, respectively.[29] "Carbon dioxide equivalent" (CO_2e) emissions are calculated by weighting each GHG compound's emissions by its GWP and then summing the products.

Carbon dioxide (CO_2) is a clear, colorless, and odorless gas. Fossil fuel combustion is the main human-related source of CO_2 emissions; electricity generation and transportation are first and second in the amount of CO_2 emissions, respectively. Carbon dioxide is the basis of GWP, and thus has a GWP of 1.

Methane (CH_4) is a clear, colorless gas, and is the main component of natural gas. Anthropogenic sources of CH_4 are fossil fuel production, biomass burning, waste management, and mobile and stationary combustion of fossil fuel. Wetlands are responsible for the majority of the natural methane emissions.[30] As mentioned above, CH_4, within a 100-year period, is 25 times more effective in trapping heat than is CO_2.

Nitrous oxide (N_2O) is a colorless, clear gas, with a slightly sweet odor. N_2O has both natural and human-related sources, and is removed from the atmosphere mainly by photolysis, or breakdown by sunlight, in the stratosphere. The main human-related sources of N_2O in the United States are agricultural soil management (synthetic nitrogen fertilization), mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production.[31] Nitrous oxide is also produced from a wide range of biological sources in soil and water. Within a 100-year span, N_2O is 298 times more effective in trapping heat than is CO_2.[32]

5.1.1 Potential Environmental Effects

Worldwide, average temperatures are likely to increase by 3°F to 7°F by the end of the 21st century.[33] However, a global temperature increase does not directly translate to a uniform increase in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the Earth may experience increased temperature, increased incidents of drought, and similar warming effects, whereas another region may experience a relative cooling. According to the International Panel on Climate Change's (IPCC's) Working Group II Report,[34] climate change impacts on North America may include diminishing snowpack, increasing

29 Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. 2007.
30 U.S. Environmental Protection Agency, "Methane." Climate Change Web Site. Internet URL: http://www.epa.gov/methane/. Updated April 1, 2011.
31 U.S. Environmental Protection Agency, "Nitrous Oxide." Climate Change Web Site. Internet URL: http://www.epa.gov/nitrousoxide/. Updated June 22, 2010.
32 Ibid.
33 Climate Change 2007: Impacts, Adaptation, and Vulnerability. Website http://www.ipcc.ch/ipccreports/ar4-wg2.htm. Accessed March 2013.
34 Ibid.

evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations.

5.1.2 California Implications

Even though climate change is a global problem and GHGs are global pollutants, the specific potential effects of climate change on California have been studied. The third assessment produced by the California Natural Resources Agency (CNRA)[35] explores local and statewide vulnerabilities to climate change, highlighting opportunities for taking concrete actions to reduce climate-change impacts. Projected changes for the remainder of this century in California include:

- **Temperatures** – By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century and springtime warming — a critical influence on snowmelt — will be particularly pronounced.

- **Rainfall** – Even though model projections continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability, improved climate models shift towards drier conditions by the mid-to-late 21st century in Central, and most notably, Southern California.

- **Wildfire** - Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning, with human activities continuing to be the biggest factor in ignition risk. Models are showing that estimated that property damage from wildfire risk could be as much as 35% lower if smart growth policies were adopted and followed than if there is no change in growth policies and patterns.

The third assessment by CNRA not only defines projected vulnerabilities to climatic changes but analyzes potential impacts from adaptation measures used to minimize harm and take advantage of beneficial opportunities that may arise from climate change.

The report highlights important new insights and data, using probabilistic and detailed climate projections and refined topographic, demographic, and land use information. The findings include:

- The state's electricity system is more vulnerable than was previously understood.
- The Sacramento-San Joaquin Delta is sinking, putting levees at growing risk.
- Wind and waves, in addition to faster rising seas, will worsen coastal flooding.
- Animals and plants need connected "migration corridors" to allow them to move to habitats that are more suitable to avoid serious impacts.
- Native freshwater fish are particularly threatened by climate change.
- Minority and low-income communities face the greatest risks from climate change.

35 Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. California Natural Resources Agency. July 2012 / CEC-500-2012-007.

5.2 Regulatory Background

5.2.1 Federal Climate Change Regulation

The federal government is taking several common-sense steps to address the challenge of climate change. The U.S. Environmental Protection Agency (USEPA) collects several types of GHG emissions data. These data help policy makers, businesses, and USEPA track GHG emissions trends and identify opportunities for reducing emissions and increasing efficiency. USEPA has been collecting a national inventory of GHG emissions since 1990, and in 2009 established mandatory reporting of GHG emissions from large GHG emissions sources.

Until January 19, 2017 the USEPA's regulatory initiatives included USEPA's vehicle GHG rules and Clean Power Plan; partnering with the private sector through voluntary energy and climate programs; and reducing USEPA's carbon footprint with the federal GHG requirements and USEPA's Strategic Sustainability Performance Plan.

The recently concluded Trump administration had a different strategy in relation to climate change and took the USEPA in a new direction (USEPA, 2017)[36]. President Trump's Executive Order 13783, "Promoting Energy Independence and Economic Growth,"[37] specifically addressed revisions in the Clean Power Plan and standards of performance for GHGs for new stationary sources; CH_4 standards for the oil and gas sector; and light-duty vehicle GHG standards. On January 20, 2021, President Biden issued Executive Order 13990[38], which rescinded the Executive Order on Energy Independence, along with several other executive orders concerning energy, climate, and environmental protection. Among the stated goals of Executive Order 13990 are "to reduce greenhouse gas emissions" and "to bolster resilience to the impacts of climate change." Various federal agencies are restoring prior regulations and developing new ones to further these policies.

5.2.2 California Climate Change Regulation

Through several pieces of legislation, gubernatorial executive orders, and administrative regulations that relate to GHG emissions and climate change, California has set aggressive goals for GHG reductions within the state. Per Senate Bill (SB) 97, the California Natural Resources Agency adopted amendments to the CEQA Guidelines, which address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project's effects on the environment. However, neither a threshold of significance nor any specific mitigation measures are included or provided in these CEQA Guideline amendments. The major state provisions for reducing GHG emissions are as follows.

Assembly Bill 32 (AB 32)

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires the California Air Resources Board (ARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. The ARB is directed to set a statewide GHG emission limit, based on 1990

36 USEPA, 2020. Available online at:.https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act accessed March 19, 2020.

37 Executive Order 13783, Promoting Energy Independence and Economic Growth. March 31, 2017. URL: https://www.federalregister.gov/documents/2017/03/31/2017-06576/promoting-energy-independence-and-economic-growth.

38 Executive Order 13990. Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. January 20, 2021. URL:

levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

The AB 32 Scoping Plan (Scoping Plan) (ARB, 2008)[39] contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by the ARB with input from the Climate Action Team and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the state's economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

In May 2014, the ARB adopted the First Update to the Climate Change Scoping Plan (ARB, 2014)[40]. This update identifies the next steps for California's leadership on climate change. The first update to the initial Scoping Plan describes progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities for the next several years. It also frames activities and issues facing the state as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020.

In the original Scoping Plan, the ARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons (MT) of CO_2e. As part of the update, the ARB revised the 2020 Statewide limit to 431 million MT of CO_2e, an approximately 1% increase from the original estimate. The 2020 business-as-usual forecast in the update is 509 million MT of CO_2e. The state would need to reduce those emissions by 15.3% to meet the 431 million MT of CO_2e 2020 limit.

In November 2017, the ARB published the 2017 Scoping Plan (ARB, 2017)[41], which builds upon the former Scoping Plan and Update by outlining priorities and recommendations for the state to achieve a 40% reduction in GHGs by 2030, compared to 1990 levels. The major elements of the framework proposed are enhancement of the Renewables Portfolio Standard (RPS) and the Low Carbon Fuel Standard (LCFS); a Mobile Source Strategy, Sustainable Freight Action Plan, Short-Lived Climate Pollutant Reduction Strategy, Sustainable Communities Strategies, and a Post-2020 Cap-and-Trade Program; a 20% reduction in GHG emissions from the refinery sector and an Integrated Natural and Working Lands Action Plan.

On November 16, 2022, the ARB circulated its Final 2022 Scoping Plan for Achieving Carbon Neutrality (ARB, 2022). It identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier. Through the lens of carbon neutrality, the plan expands the scope to

39 ARB, 2008. Climate Change Scoping Plan: A Framework for Change. California Air Resources Board. December 2008.

40 ARB, 2014. First Update to the Climate Change Scoping Plan, Building on the Framework. California Air Resources Board. May 2014.

41 ARB, 2017b. California's 2017 Climate Change Scoping Plan. California Air Resources Board. November 2017. URL: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

more meaningfully consider how our natural and working lands (NWL) contribute to our long-term climate goal.[42]

Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. This new emission reduction target is a step toward the ultimate goal of reducing emissions by 80% below 1990 levels by 2050. The executive order also specifically addresses the need for climate adaptation and directs state government to:

- Incorporate climate change impacts into the state's Five-Year Infrastructure Plan.
- Update the Safeguarding California Plan – the state climate adaption strategy – to identify how climate change will affect California infrastructure and industry, and what actions the state can take to reduce the risks posed by climate change.
- Factor climate change into state agencies' planning and investment decisions.
- Implement measures under existing agency and departmental authority to reduce GHG emissions.

California Senate Bills 1078, 107, 2, and 350: Renewables Portfolio Standard

Established in 2002 under California SB 1078 and accelerated in 2006 under California SB 107, California's RPS requires retail suppliers of electric services to increase procurement from eligible renewable energy resources by at least 1% of their retail sales annually, until they reach 20% by 2010.

On April 2, 2011, Governor Brown signed California SB 2 to increase California's RPS to 33% by 2020. This new standard also requires regulated sellers of electricity to procure 25% of their energy supply from certified renewable resources by 2016. Most recently, Governor Brown signed into legislation SB 350 in October 2015, which requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030.

California Senate Bill 100 (Chapter 312, Statutes of 2018)

Senate Bill 100 (SB 100)[43] sets a 2045 goal of powering all retail electricity sold in California and state agency electricity needs with renewable and zero-carbon resources — those such as solar and wind energy that do not emit climate-altering greenhouse gases. SB 100 updates the state's Renewables Portfolio Standard to ensure that by 2030 at least 60% of California's electricity is renewable. SB 100 requires the Energy Commission, Public Utilities Commission and Air Resources Board to use programs under existing laws to achieve 100% clean electricity.

42 2022 Scoping Plan for Achieving Carbon Neutrality. California Air Resources Board, URL: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf
43 https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100.

Low Carbon Fuel Standard

California Executive Order S-01-07 (January 18, 2007)[44] requires a 10% or greater reduction in the average carbon intensity for transportation fuels in California regulated by the ARB. The ARB identified the LCFS as a Discrete Early Action item under AB 32, and the final resolution (09-31) was issued on April 23, 2009.

Sustainable Communities and Climate Protection Act (SB 375)

California's Sustainable Communities and Climate Protection Act, also referred to as SB 375, became effective January 1, 2009. The goal of SB 375 is to help achieve AB 32's GHG emissions reduction goals by aligning the planning processes for regional transportation, housing, and land use. SB 375 requires the ARB to develop regional reduction targets for GHGs and prompts the creation of regional plans to reduce emissions from vehicle use throughout the state. California's 18 Metropolitan Planning Organizations (MPOs) have been tasked with creating Sustainable Community Strategies in an effort to reduce the region's vehicle miles traveled (VMT) in order to help meet AB 32 targets through integrated transportation, land use, housing and environmental planning. Pursuant to SB 375, the ARB set per-capita GHG emissions reduction targets from passenger vehicles for each of the state's 18 MPOs. On September 23, 2010, the ARB issued a regional 8% per capita reduction target for the planning year 2020, and a conditional target of 13% for 2035.

California Green Building Standards (CALGreen) Code

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24)[45], was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended with recognition that energy-efficient buildings that require less electricity reduce fuel consumption, which in turn decreases GHG emissions. The standards are updated every three years, to allow consideration and possible incorporation of new energy efficient technologies and methods. The 2019 Title 24 standards (effective as of January 1, 2020) were adopted in part to respond to the GHG reduction targets. On the residential side, the standards required solar photovoltaic systems for new homes and encouraged demand-responsive technologies for increased comfort and energy savings. In nonresidential buildings, the standards updated indoor and outdoor lighting, making maximum use of LED technology. For the first time, the standards established requirements for newly constructed healthcare facilities[46,47]. Analysis by the California Energy Commission concludes that the 2019 energy efficiency standards, which took effect January 1, 2020, were projected to result in a 30% improvement in energy efficiency for nonresidential buildings over the 2016 standards. The 2019 standards were a major step towards meeting the Zero Net Energy goal by the year 2030. The latest iteration of CALGreen is the 2022 Energy Code, which took effect on January 1, 2023 and builds upon California's goals towards building decarbonization and net carbon neutrality by emphasizing

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44 Office of the Governor. Executive Order S-01-07. January 18, 2007. URL: https://climateactionnetwork.ca/wp-content/uploads/2011/06/eos0107.pdf.

45 California Energy Commission, Building Energy Efficiency Standards for Residential and Nonresidential Buildings for the 2019 Building Energy Efficiency Standards. Title 24, Part 6, and Associated Administrative Regulations in Part 1. CEC-400-2018-020-CMF. December. URL: https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf. Accessed March 12, 2020.

46 Ibid.

47 California Energy Commission, 2019 Building Energy Efficiency Standards. Frequently Asked Questions. March. URL: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed March 12, 2020.

energy efficient innovations.[48] Its four areas of focus for the construction of new buildings include encouraging electric heat pump technology, establishing electric-ready requirements, expanding solar photovoltaic (PV) system and battery storage standards, and strengthening ventilation standards.

California Senate Bill 1383 (SB 1383)

California Senate Bill 1383 (SB 1383), which was signed into law on September 19, 2016, required the ARB to approve and implement a comprehensive strategy to reduce emissions of short-lived climate pollutants, including methane. By 2030, methane emissions are to be decreased to 40% below their 2013 levels.49 A principal method for achieving this goal is the setting of the following targets to reduce the landfill disposal of organics:[50]

- A 50-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020.
- A 75-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2025.

This legislation, and its implementing regulation,[51] are based on the idea that the methane that would be generated by decomposition of organic waste in landfills, can be recovered by anaerobic digestion or other technologies and converted to biogas, which can then be used to generate electricity, power motor vehicles, or supplement or replace fossil fuel-derived natural gas. The CO_2 emitted from these end uses has a significantly lower global warming potential than the CH_4 that would be emitted from organic waste disposal.

5.2.3 Local Significance Regulations

It is widely recognized that no single project could generate enough GHG emissions to change the global climate temperature noticeably. However, the combination of GHG emissions from past, present, and future projects could contribute substantially to global climate change. Thus, project specific GHG emissions should be evaluated in terms of whether they would result in a cumulatively significant impact on global climate change.

Since the County of Imperial has not established a threshold of significance for GHGs, we used an interim South Coast Air Quality Management District value[52] of 10,000 metric tons per year of CO_2e for a new industrial facility as a significance threshold.

48 2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen). URL: https://codes.iccsafe.org/content/CAGBC2022P1. Accessed on February 22, 2024.

49 Senate Bill No. 1383. Chapter 395. URL: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383. Accessed October 29, 2021.

50 Health and Safety Code § 39730.6(a).

51 Short-lived Climate Pollutants (SLCP): Organic Waste Reductions. Final Regulation Text. California Department of Resources Recycling and Recovery (CalRecycle), November 2020. URL: file:///A:/Downloads/2021Sep3NonADAFinalRegulationText.pdf. Accessed October 29, 2021.

52 Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans. South Coast Air Quality Management District Board. Adopted December 5, 2008. URL: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf.

5.3 Methodology

The project will cause both direct and indirect source emissions of GHG. Direct emission sources are those which produce onsite emissions through the combustion of fossil fuels or oxidation or fermentation of feedstock. Typically, the two main direct emission sources will be use of internal combustion (IC) engines and space heating. Indirect GHG source emissions are those for which the project is responsible, but that occur offsite. For example, the solid waste that is distributed to landfills will decay and emit the GHGs CO_2 and CH_4. GHG are also emitted by combustion of fossil fuels to generate electricity used by the project. Production of the electricity used to convey water to the project and to treat wastewater generated by the project is also an indirect source.

GHG emissions from project construction and operation were estimated with the CalEEMod Version 2022.1.1.21 software, as described in **Section 4.4.1**.

5.4 PROJECT GREENHOUSE GAS EMISSIONS INVENTORY

Because of the persistence of GHG in the atmosphere, all the impacts addressed in this section are defined as long-term. Greenhouse gas emissions from construction are amortized over the next 30 years and added to operational emissions for the purpose of estimating annual emissions.

5.4.1 Construction Emissions

The same equipment characteristics and schedule information that were used for the air quality analysis described in **Section 4.5** were used in the GHG analysis. **Table 5.4.1** shows the estimated annual construction-related GHG emissions, by construction year. The total of these values would be **374 tonnes of CO_2e** between the years 2024 and 2025. The 30-year amortized amount is 12.47 tonnes of CO_2e.

Table 5.4-1
ANNUAL GHG EMISSIONS FROM CONSTRUCTION, 2024-2025

Year	Annual Emissions (MT)			
	CO_2	CH_4	N_2O	CO_2e
2024	147	0.01	< 0.005	148
2025	224	0.01	0.01	226
Total	**371**	**0.02**	**0.015**	**374**

5.4.2 Operational Emissions

Operational GHG emissions were calculated by CalEEMod. These results are shown in **Table 5.4-2**. Total annual mitigated CO_2e emissions from the project would be **811 tonnes per year**. Energy sources account for about 65% of the total annual emissions.

Table 5.4-2
PROJECT OPERATIONAL GHG EMISSIONS

Emissions Source	Estimated Project Generated CO_2e Emissions (Metric Tons per Year)
Amortized Construction Emissions	12.47
Area Sources	1.76
Energy Demand (Electricity & Natural Gas)	528
Mobile (Motor Vehicles)	170
Solid Waste Generation	35.2
Water Demand	64.0
Total	**811**

5.5 IMPACT ANALYSIS

UltraSystems used the following factors from § 15064.4(b) of the CEQA Guidelines to assess the significance of impacts from greenhouse gas emissions on the environment:[53]

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

53 CEQA Guidelines §§ 15064.4(b)(1) through 15064.4(b)(3).

5.5.1 Change in Greenhouse Gas Emissions

Future annual GHG emissions will be less than the proposed interim significance threshold of 10,000 metric tons per year of CO_2e. Therefore, impacts will be less than significant an no mitigation is required.

5.5.2 Compliance with Regional Climate Action Plan

There are currently no regional or local climate action plans or general or specific plan provisions to reduce GHG emissions in the study area.

6.0 MITIGATION MEASURES

6.1 Mitigation For Air Quality Impacts

No mitigation for air quality impacts is necessary.

6.2 Mitigation for Climate Change Impacts

No mitigation for climate change impacts is necessary.

ATTACHMENTS

ATTACHMENT 1
CALEEMOD INPUTS AND RESULTS

7261_DuBose_Calexico Warehouse_Update Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	7261_DuBose_Calexico Warehouse_Update
Construction Start Date	10/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	4.80
Location	32.67754536951749, -115.53140835988658
County	Imperial
City	Unincorporated
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5611
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Unrefrigerated Warehouse-No Rail	108	1000sqft	2.49	108,341	16,117	0.00	—	Warehouse+ service
General Office Building	11.9	1000sqft	0.14	11,904	0.00	0.00	—	—
Parking Lot	894	Space	8.05	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-9	Use Dust Suppressants
Construction	C-10-A	Water Exposed Surfaces
Construction	C-13	Use Low-VOC Paints for Construction
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
Mit.	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	12.5	14.0	—	6,733	6,733	0.28	0.09	0.07	6,757

Mit.	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	8.75	9.21	—	6,733	6,733	0.28	0.09	0.07	6,757
% Reduced	—	—	—	—	—	—	—	—	—	30%	34%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	2.46	4.89	6.85	0.01	0.20	35.8	36.0	0.19	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
Mit.	0.72	2.46	4.89	6.85	0.01	0.20	35.8	36.0	0.19	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226
Mit.	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	12.5	14.0	—	6,733	6,733	0.28	0.09	0.07	6,757
2025	1.61	1.37	11.2	15.3	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,143	3,143	0.13	0.09	0.06	3,174
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2024	0.60	0.51	4.71	4.68	0.01	0.20	10.4	10.6	0.19	1.64	1.83	—	891	891	0.04	0.01	0.11	896
2025	0.72	2.46	4.89	6.85	0.01	0.19	35.8	36.0	0.18	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.11	0.09	0.86	0.85	< 0.005	0.04	1.90	1.94	0.03	0.30	0.33	—	147	147	0.01	< 0.005	0.02	148
2025	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	8.75	9.21	—	6,733	6,733	0.28	0.09	0.07	6,757
2025	1.61	1.37	11.2	15.3	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,143	3,143	0.13	0.09	0.06	3,174
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.60	0.51	4.71	4.68	0.01	0.20	9.44	9.64	0.19	1.18	1.37	—	891	891	0.04	0.01	0.11	896
2025	0.72	2.46	4.89	6.85	0.01	0.19	35.8	36.0	0.18	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.11	0.09	0.86	0.85	< 0.005	0.04	1.72	1.76	0.03	0.22	0.25	—	147	147	0.01	< 0.005	0.02	148
2025	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
Mit.	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
Mit.	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824
Mit.	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799
Mit.	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Area	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Area	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.11	1.06	0.69	5.23	0.01	0.01	86.3	86.3	0.01	8.70	8.71	—	1,007	1,007	0.06	0.06	1.61	1,028
Area	0.46	3.20	0.02	2.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.6	10.6	< 0.005	< 0.005	—	10.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170
Area	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	525	525	0.04	< 0.005	—	528
Water	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0
Waste	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Area	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Area	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386

Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.11	1.06	0.69	5.23	0.01	0.01	86.3	86.3	0.01	8.70	8.71	—	1,007	1,007	0.06	0.06	1.61	1,028
Area	0.46	3.20	0.02	2.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.6	10.6	< 0.005	< 0.005	—	10.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170
Area	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	525	525	0.04	< 0.005	—	528
Water	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0
Waste	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.97	1.80	< 0.005	0.09	—	0.09	0.08	—	0.08	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	1.08	1.08	—	0.55	0.55	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.33	< 0.005	0.02	—	0.02	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.75	0.00	0.00	23.9	23.9	0.00	2.40	2.40	—	118	118	0.01	0.01	0.01	120
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	1.29	1.29	0.00	0.13	0.13	—	6.93	6.93	< 0.005	< 0.005	0.01	7.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.24	0.24	0.00	0.02	0.02	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.17
Vendor	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	0.00
Hauling	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	0.00

3.2. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movemen:	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.97	1.80	< 0.005	0.09	—	0.09	0.08	—	0.08	—	290	290	0.01	< 0.005	—	291
Dust From Material Movemen:	—	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.33	< 0.005	0.02	—	0.02	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2
Dust From Material Movemen	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.75	0.00	0.00	23.9	23.9	0.00	2.40	2.40	—	118	118	0.01	0.01	0.01	120
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	1.29	1.29	0.00	0.13	0.13	—	6.93	6.93	< 0.005	< 0.005	0.01	7.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.24	0.24	0.00	0.02	0.02	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.17
Vendor	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	0.00
Hauling	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	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.88	1.65	< 0.005	0.08	—	0.08	0.07	—	0.07	—	362	362	0.01	< 0.005	—	363

Dust From Material Movement	—	—	—	—	—	—	0.50	0.50	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	0.85	0.00	0.00	27.3	27.3	0.00	2.74	2.74	—	135	135	0.01	0.01	0.02	137
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	1.48	1.48	0.00	0.15	0.15	—	7.92	7.92	< 0.005	< 0.005	0.01	8.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.27	0.27	0.00	0.03	0.03	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Vendor	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	0.00

Hauling	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	0.00

3.4. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.88	1.65	< 0.005	0.08	—	0.08	0.07	—	0.07	—	362	362	0.01	< 0.005	—	363
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.9	59.9	< 0.005	< 0.005	—	60.1

Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	0.85	0.00	0.00	27.3	27.3	0.00	2.74	2.74	—	135	135	0.01	0.01	0.02	137
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	1.48	1.48	0.00	0.15	0.15	—	7.92	7.92	< 0.005	< 0.005	0.01	8.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.27	0.27	0.00	0.03	0.03	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Vendor	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	0.00
Hauling	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	0.00

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.79	0.92	< 0.005	0.04	—	0.04	0.03	—	0.03	—	169	169	0.01	< 0.005	—	169
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.0	28.0	< 0.005	< 0.005	—	28.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.23	2.10	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	332	332	0.02	0.01	0.04	337
Vendor	0.03	0.02	0.61	0.31	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	428	428	0.01	0.06	0.03	447
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.02	0.18	0.00	0.00	4.68	4.68	0.00	0.47	0.47	—	25.1	25.1	< 0.005	< 0.005	0.04	25.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	30.2	30.2	< 0.005	< 0.005	0.03	31.5
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.85	0.85	0.00	0.09	0.09	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.25	0.25	< 0.005	0.03	0.03	—	4.99	4.99	< 0.005	< 0.005	0.01	5.21
Hauling	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	0.00

3.6. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.79	0.92	< 0.005	0.04	—	0.04	0.03	—	0.03	—	169	169	0.01	< 0.005	—	169
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.0	28.0	< 0.005	< 0.005	—	28.1

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.23	2.10	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	332	332	0.02	0.01	0.04	337
Vendor	0.03	0.02	0.61	0.31	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	428	428	0.01	0.06	0.03	447
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.18	0.00	0.00	4.68	4.68	0.00	0.47	0.47	—	25.1	25.1	< 0.005	< 0.005	0.04	25.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	30.2	30.2	< 0.005	< 0.005	0.03	31.5
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.85	0.85	0.00	0.09	0.09	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.25	0.25	< 0.005	0.03	0.03	—	4.99	4.99	< 0.005	< 0.005	0.01	5.21
Hauling	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	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.13	5.15	0.01	0.17	—	0.17	0.16	—	0.16	—	948	948	0.04	0.01	—	951
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.75	0.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	157	157	0.01	< 0.005	—	157
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.17	3.15	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	384	384	0.02	0.01	1.34	390
Vendor	0.03	0.02	0.53	0.27	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	420	420	0.01	0.06	1.14	438
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.20	1.93	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	325	325	0.02	0.01	0.03	330

Vendor	0.03	0.02	0.58	0.28	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	421	421	0.01	0.06	0.03	438
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.91	0.00	0.00	26.3	26.3	0.00	2.64	2.64	—	138	138	0.01	0.01	0.23	140
Vendor	0.01	0.01	0.23	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.78	0.78	—	166	166	< 0.005	0.02	0.19	173
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	4.80	4.80	0.00	0.48	0.48	—	22.8	22.8	< 0.005	< 0.005	0.04	23.2
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.41	1.41	< 0.005	0.14	0.14	—	27.5	27.5	< 0.005	< 0.005	0.03	28.7
Hauling	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	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.13	5.15	0.01	0.17	—	0.17	0.16	—	0.16	—	948	948	0.04	0.01	—	951
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.75	0.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	157	157	0.01	< 0.005	—	157
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.17	3.15	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	384	384	0.02	0.01	1.34	390
Vendor	0.03	0.02	0.53	0.27	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	420	420	0.01	0.06	1.14	438
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.20	1.93	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	325	325	0.02	0.01	0.03	330
Vendor	0.03	0.02	0.58	0.28	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	421	421	0.01	0.06	0.03	438
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.91	0.00	0.00	26.3	26.3	0.00	2.64	2.64	—	138	138	0.01	0.01	0.23	140
Vendor	0.01	0.01	0.23	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.78	0.78	—	166	166	< 0.005	0.02	0.19	173
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	4.80	4.80	0.00	0.48	0.48	—	22.8	22.8	< 0.005	< 0.005	0.04	23.2

Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.41	1.41	< 0.005	0.14	0.14	—	27.5	27.5	< 0.005	< 0.005	0.03	28.7
Hauling	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	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.05	0.96	0.00	0.00	20.5	20.5	0.00	2.06	2.06	—	117	117	0.01	< 0.005	0.41	119
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	1.11	1.11	0.00	0.11	0.11	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.20	0.20	0.00	0.02	0.02	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	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	0.00
Hauling	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	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.05	0.96	0.00	0.00	20.5	20.5	0.00	2.06	2.06	—	117	117	0.01	< 0.005	0.41	119
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	1.11	1.11	0.00	0.11	0.11	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	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	0.00

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.20	0.20	0.00	0.02	0.02	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	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	0.00
Hauling	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	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	1.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.03	0.63	0.00	0.00	13.5	13.5	0.00	1.35	1.35	—	76.8	76.8	< 0.005	< 0.005	0.27	78.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.73	0.73	0.00	0.07	0.07	—	3.83	3.83	< 0.005	< 0.005	0.01	3.88
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.13	0.13	0.00	0.01	0.01	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	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	0.00
Hauling	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	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	1.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.03	0.63	0.00	0.00	13.5	13.5	0.00	1.35	1.35	—	76.8	76.8	< 0.005	< 0.005	0.27	78.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.73	0.73	0.00	0.07	0.07	—	3.83	3.83	< 0.005	< 0.005	0.01	3.88
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.13	0.13	0.00	0.01	0.01	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige Warehouse-No Rail	0.92	0.88	0.45	4.40	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	738	738	0.04	0.04	2.55	754
General Office Building	0.56	0.54	0.27	2.71	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	454	454	0.03	0.02	1.57	464
Parking Lot	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	0.00
Total	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.69	0.65	0.49	3.33	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	652	652	0.05	0.04	0.07	665
General Office Building	0.43	0.40	0.30	2.05	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	401	401	0.03	0.02	0.04	409
Parking Lot	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	0.00
Total	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.14	0.13	0.09	0.65	< 0.005	< 0.005	10.7	10.7	< 0.005	1.08	1.08	—	114	114	0.01	0.01	0.18	116
General Office Building	0.06	0.06	0.04	0.30	< 0.005	< 0.005	5.00	5.00	< 0.005	0.50	0.51	—	53.0	53.0	< 0.005	< 0.005	0.08	54.0
Parking Lot	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	0.00
Total	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.92	0.88	0.45	4.40	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	738	738	0.04	0.04	2.55	754
General Office Building	0.56	0.54	0.27	2.71	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	454	454	0.03	0.02	1.57	464
Parking Lot	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	0.00
Total	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.69	0.65	0.49	3.33	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	652	652	0.05	0.04	0.07	665
General Office Building	0.43	0.40	0.30	2.05	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	401	401	0.03	0.02	0.04	409
Parking Lot	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	0.00
Total	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated	0.14	0.13	0.09	0.65	< 0.005	< 0.005	10.7	10.7	< 0.005	1.08	1.08	—	114	114	0.01	0.01	0.18	116
General Office Building	0.06	0.06	0.04	0.30	< 0.005	< 0.005	5.00	5.00	< 0.005	0.50	0.51	—	53.0	53.0	< 0.005	< 0.005	0.08	54.0
Parking Lot	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	0.00
Total	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige rated Warehou Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrige rated Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	252	252	0.02	< 0.005	—	253
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	93.8	93.8	0.01	< 0.005	—	94.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	63.6	63.6	< 0.005	< 0.005	—	63.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	409	409	0.03	< 0.005	—	411

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrige rated Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	252	252	0.02	< 0.005	—	253
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	93.8	93.8	0.01	< 0.005	—	94.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	63.6	63.6	< 0.005	< 0.005	—	63.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	409	409	0.03	< 0.005	—	411

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	0.01	0.01	0.10	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	110	110	0.01	< 0.005	—	110
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.77	6.77	< 0.005	< 0.005	—	6.79
Parking Lot	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
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	117

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehou Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.01	0.10	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	110	110	0.01	< 0.005	—	110
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.77	6.77	< 0.005	< 0.005	—	6.79
Parking Lot	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
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	117

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.93	0.86	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Total	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Total	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.93	0.86	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Total	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Total	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	7.95	24.8	32.7	0.82	0.02	—	59.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.67	2.08	2.75	0.07	< 0.005	—	4.96
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	7.95	24.8	32.7	0.82	0.02	—	59.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.67	2.08	2.75	0.07	< 0.005	—	4.96
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	9.09	0.00	9.09	0.91	0.00	—	31.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.99	0.00	0.99	0.10	0.00	—	3.46
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated	—	—	—	—	—	—	—	—	—	—	—	9.09	0.00	9.09	0.91	0.00	—	31.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.99	0.00	0.99	0.10	0.00	—	3.46
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/1/2024	10/28/2024	5.00	20.0	—
Grading	Grading	10/29/2024	11/25/2024	5.00	20.0	—
Building Construction	Building Construction	11/26/2024	7/21/2025	5.00	170	—
Paving	Paving	7/22/2025	8/18/2025	5.00	20.0	—

Architectural Coating	Architectural Coating	8/19/2025	9/15/2025	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	9.24	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.77	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

Grading	—	—	—	—
Grading	Worker	20.0	9.24	LDA,LDT1,LDT2
Grading	Vendor	—	6.77	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	49.3	9.24	LDA,LDT1,LDT2
Building Construction	Vendor	19.7	6.77	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	9.24	LDA,LDT1,LDT2
Paving	Vendor	—	6.77	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	9.86	9.24	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.77	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	9.24	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.77	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT

Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	9.24	LDA,LDT1,LDT2
Grading	Vendor	—	6.77	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	49.3	9.24	LDA,LDT1,LDT2
Building Construction	Vendor	19.7	6.77	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	9.24	LDA,LDT1,LDT2
Paving	Vendor	—	6.77	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	9.86	9.24	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.77	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	180,368	60,123	21,029

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	30.0	0.00	—
Grading	—	—	60.0	0.00	—
Paving	0.00	0.00	0.00	0.00	8.05

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
General Office Building	0.00	0%
Parking Lot	8.05	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	457	0.03	< 0.005
2025	0.00	457	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	189	189	189	68,807	794	794	794	289,937
General Office Building	116	26.3	8.33	32,035	489	111	35.1	134,987
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	189	189	189	68,807	794	794	794	289,937
General Office Building	116	26.3	8.33	32,035	489	111	35.1	134,987
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	180,368	60,123	21,029

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,214,981	457	0.0330	0.0040	2,067,828
General Office Building	452,738	457	0.0330	0.0040	127,568
Parking Lot	307,024	457	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,214,981	457	0.0330	0.0040	2,067,828
General Office Building	452,738	457	0.0330	0.0040	127,568
Parking Lot	307,024	457	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	25,053,856	329,917
General Office Building	2,115,743	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	25,053,856	329,917
General Office Building	2,115,743	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	102	—
General Office Building	11.1	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	102	—
General Office Building	11.1	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	33.4	annual days of extreme heat
Extreme Precipitation	0.25	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	65.7
AQ-PM	48.7
AQ-DPM	30.1
Drinking Water	57.2
Lead Risk Housing	30.7
Pesticides	89.5
Toxic Releases	46.0
Traffic	8.75
Effect Indicators	—
CleanUp Sites	50.3
Groundwater	74.8

Haz Waste Facilities/Generators	86.6
Impaired Water Bodies	99.5
Solid Waste	95.0
Sensitive Population	—
Asthma	68.5
Cardio-vascular	89.4
Low Birth Weights	20.3
Socioeconomic Factor Indicators	—
Education	73.4
Housing	39.7
Linguistic	85.2
Poverty	72.1
Unemployment	65.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	24.4193507
Employed	22.93083537
Median HI	21.92993712
Education	—
Bachelor's or higher	23.23880405
High school enrollment	14.0639035
Preschool enrollment	58.10342615
Transportation	—
Auto Access	48.80020531

Active commuting	25.67688952
Social	—
2-parent households	77.12049275
Voting	20.99319902
Neighborhood	—
Alcohol availability	67.0986783
Park access	38.22661363
Retail density	7.955857821
Supermarket access	24.95829591
Tree canopy	1.424355191
Housing	—
Homeownership	51.98254844
Housing habitability	38.4832542
Low-inc homeowner severe housing cost burden	37.62350828
Low-inc renter severe housing cost burden	23.55960477
Uncrowded housing	28.33311947
Health Outcomes	—
Insured adults	30.39907609
Arthritis	0.0
Asthma ER Admissions	42.3
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	90.7

Cognitively Disabled	19.2
Physically Disabled	15.4
Heart Attack ER Admissions	7.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	39.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	39.7
English Speaking	4.1
Foreign-born	93.6
Outdoor Workers	18.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.6
Traffic Density	16.8
Traffic Access	23.0
Other Indices	—
Hardship	80.6

Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	84.0
Healthy Places Index Score for Project Location (b)	26.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project plan
Construction: Construction Phases	Start date of construction? Q 4 of 2024 End date? or Operational year? Open Q 3 2025

Construction: Architectural Coatings	Imperial County RULE 424 ARCHITECTURAL COATINGS VOC CONTENT LIMITS FOR ARCHITECTURAL COATING Floor Coatings 100 Roof Coatings 50 Traffic Marking Coatings 100
Operations: Architectural Coatings	Imperial County RULE 424 ARCHITECTURAL COATINGS VOC CONTENT LIMITS FOR ARCHITECTURAL COATING Floor Coatings 100 Roof Coatings 50 Traffic Marking Coatings 100
Operations: Road Dust	90% paved
Construction: On-Road Fugitive Dust	90% PAVED ROAD

CAL 98 CHARGER LOGISTICS

Biological Resources Assessment Technical Report

El Centro ,California

December, 2022

Prepared for:

Dubose Design Group
1065 W State Street
El Centro, CA

Prepared by:

Barrett's Biological Enterprises
Certified as performed in accordance with established biological practices by:

Marie S. Barrett

Marie S. Barrett, Biologist
2035 Forrester Road
El Centro, Ca 92243
760.427.7006

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Figure 1 Project Location Map
Figure 2 Biological Resources Map
Figure 3 FEMA/Soils Maps

Executive Summary

General biological surveys were conducted on December 13/20, 2022 within the proposed site. The approximately 44.6 acres of the project site is located within Imperial County, CA.

No federal or state botanical or zoological endangered or threatened species were found within the project site areas or buffer survey zone during this survey.

Burrowing owls, a California Species of Special Concern, were not found on project site.

Saltcedar, an invasive species, was found in several areas.

1.0 Introduction

1.1 Location

The project site is located within the County of Imperial. The current use of the property is Agricultural (A2) (Alfalfa) with 44.6 +/- acres, APN 058-180-001-000 and is located on the southwest corner of the SR-98 and Kemp Road intersection in the County of Imperial. Approximately three fourths of area is planted to crops and one fourth is a ruderal vacant lot. The U.S. Geological Survey 1:24,000-scale, 7.5- minute map is Heber, California topographic quadrangle.

1.2 Project Description

DuBose Design Group, Inc., the applicant, proposes to build a project that includes 91,881 square feet (SF) of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

Access to the site will be provided via two driveways. One driveway will be located on the north side of the project site at SR-98, and one driveway will be located on the east side of the project site at Kemp Road. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County.

It will begin construction in June 2023 and end in February 2024. The total construction duration will be almost nine months. The construction phases include Site Preparation, Grading, Building Construction, Paving and Architectural Coating.

1.3 Possible Applicable Environmental Regulations

1.3.1 State of California

California Environmental Quality Act (CEQA) Title 14 CA Code of Regulations 15380 requires that endangered, rare or threatened species or subspecies of animals or plants be identified within the influence of the project. If any such species are found, appropriate measures should be identified to avoid, minimize or mitigate to the extent possible the effects of the project.

Native Plant Protection Act CDFG Code Section 1900-1913 prohibits the taking, possessing, or sale within the stare of any plant listed by CDFG as rare, threatened or endangered. Landowners may be allowed to take these species if CDFG is notified at least 10 days prior to plant removal or if these plants are found within public right of ways.

CA Fish and Game Codes 3503, 3503.5. 3513 protect migratory birds, bird nests and eggs including raptors (birds of prey) and raptor nests from take unless authorized by CDFG.

CA Fish and Game Code Section **1600, as amended** regulates activities that substantially diverts or obstructs the natural flow of any river, stream or lake or uses materials from a streambed. This can include riparian habitat associated with watercourses.

State of CA Fully Protected Species identifies and provides additional protection to species that are rare or face possible extinction. These species may not be taken or possessed at any time except for scientific research or relocation for protection of livestock.

Porter-Cologne Water Quality Control Act, as amended is administered by the State Water Resource Control Board (SWRCB) to protect water quality and is an avenue to implement CA responsibilities under the federal Clean Water Act. This act regulates discharge of waste into a water resource.

1.3.2 Federal

National Environmental Policy Act (NEPA: 42 United States Code (U.S.C.) 4321 et seq) established national environmental policy and goals for the protection, maintenance and enhancement of the environment. A process is available for implementation goals within federal agencies. NEPA requires federal agencies to consider the environment in processing proposed actions.

Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531-1544) protects federal listed threatened and endangered species from unlawful take (harass, harm, pursue, hunt, shoot, kill ,wound, collect, capture, trap or attempt to do so) or significantly modify habitat. If a proposed project would jeopardize a threatened or endangered species, then a Section 7 consultation with a federal agency could be required.

Migratory Bird Treaty Act (MBTA) (50 Code Federal Regulations (CFR) 10.13)is a federal statute with several foreign countries to protect species that migrate between countries. Over 850 species are listed and may not be disrupted during nesting activities. It is illegal to collect any part (nest, feather, eggs, etc) of a listed species, disturb species while nesting or offer for trade or barter any listed species or parts thereof.

Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) protects bald and golden eagles from take (harass, harm, pursue, hunt, shoot, kill ,wound, collect, capture, trap or attempt to do so) or interference with breeding, feeding or sheltering activities.

Clean Water Act, 1972 (CWA 33 U.S.C. 1251 et seq.) regulates discharges into waters of the U.S. EPA is given the responsibility to implement programs to prevent pollution.

2.0 BIOLOGICAL SURVEY METHODOLOGIES

The purpose of the studies was to determine the inventory of biological resources at the time of the survey; the possibility of the existence of endangered, threatened, sensitive or species of concern within project area: map habitats, and ascertain the probability of the presence of sensitive species on site.

2.1 Field Surveys

2.1.1 General Biological Survey

The survey was intended to assess presence or the potential for species to occur based on habitat suitability.

California Natural Diversity Database (CNDDB), California Native Plant Society database (CNPS), United States Fish and Wildlife Service (USFWS)/Carlsbad office Sensitive Species list, FEMA Flood Map, USDA Soil Maps, field guides, personal contacts and other methods were utilized to ascertain potential for sensitive species on the site.

Pedestrian biological surveys of the approximately +44.6 acre project area and buffer zones, where possible, to document vegetation and animals were conducted by biologists Glenna Barrett, Jacob Calanno and Jeremy Scheffler as indicated in Table 1: Field Survey Schedule. The surveys were conducted to develop an inventory of species (plant and animal) present at the time of the surveys, map vegetative communities, if present and ascertain the potential for occurrence of sensitive, endangered or threatened species within the project area and vicinity.

Table 1: Field Survey Schedule

Date	Surveyors	Survey Time	Weather
12/13/22	Glenna Barrett, Jacob Calanno, Jeremy Scheffler	0700-0830	59-64°F/25% cloud cover/4 mph
12/20/22	Glenna Barrett	0915-1030	59-64°F/0% cloud cover/4 mph
Total all surveyors		5.75 hrs	

Garmin GPS, binoculars, thermometer, anemometer and digital cameras were used.

2.1.2 Jurisdictional Delineation

No washes and ephemeral washes were observed on site.

2.2 Literature Review

Potential occurrence for endangered, threatened, sensitive, species of concern and noxious weeds was determined by perusal of appropriate data bases which included:

- CA Natural Diversity Database (CNDDB)
- CA Native Plant Society (CNPS) Rare Plant Program
- USFWS Bird Species of Conservation Concern
- UFWS Critical Habitat for Threatened & Endangered Species Website
- CA Food and Agriculture Department Noxious Weed Information Project
- USDA Soil maps
- FEMA Flood map

3.0 Existing Conditions

3.1 Topography and Soils

This area is located in Imperial County and is found in the southern part of the county; southern portion of site is north of the New River and northern portion adjacent to SR 98. Landforms are Alluvium derived from mixed and/or eolian deposits derived from mixed. Drainage is moderately well drained and depth to water table is typically greater than 80 inches.

The elevation on this site varies from approximately -3 feet to -38 feet.

Soils on site include:
102—Badland (6.8%)
Map Unit Setting
National map unit symbol: h8z8
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Not prime farmland

114—Imperial silty clay, wet (72.5%)
Map Unit Setting
National map unit symbol: h8zn
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

115—Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes (4.2%)
Map Unit Setting

National map unit symbol: h8zp
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

122—Meloland very fine sandy loam, wet (15.5%)
Map Unit Setting
National map unit symbol: h8zx
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Prime farmland if irrigated and drained

3.2 Vegetation

3.2.1 Vegetation Community

Vegetation has been divided into communities that are groups of plants that usually coexist within the same area. This area is considered the Colorado Desert and native vegetation would be creosote bush-brittle bush scrub (*Larrea tridentate-Encelia farinosa* Shrubland Alliance). (*A Manual of California Vegetation,* 2009, Sawyer/Wolf). Rainfall was reported as 1.10 inches in September, 2022, which is sufficient to promote seed germination on site.

Table 2: Vegetative Communities

Parcels	Acreage	Description	Vegetative Communities
		41.1 acres of agricultural crops 3.5 acres of vacant lot	Agriculture Ruderal

3.2.2 Agriculture

Agricultural crops are growing on this site. Approximately 41.1 aces are planted to crops. Approximately 3.5 acres is a vacant lot with no signs of agricultural cultivation. Soils at this site include: Approximately 41.1 aces are Farmland of statewide importance. Soil map found in Appendix.

3.2.3 Vegetation

Vegetation on site is agricultural and ruderal species (listed in Appendix C).

3.3 Wildlife

3.3.1 Invertebrates

This project site is a combination of agricultural and vacant lot. Invertebrates (insects) would be expected.

3.3.2 Amphibians

Reliable moisture is a requirement for a portion of amphibian life cycle. The project site has irrigation water, but no standing water. No amphibians were observed on site. Due to the lack of reliable available water, none would be expected.

3.3.3 Reptiles

Reptiles utilize habitat dependent upon their dietary requirements. Some species diet includes vegetation while others consume insects. All require vegetation for shelter. Vegetation is available on site and could support reptiles. None were observed.

3.3.4 Birds

Bird species diversity varies with seasons, variety and quality of vegetative communities.

Birds were observed in the vicinity. List of species observed is found in Appendix C.

3.3.5 Mammals

Signs of mammals were observed on sites but were assumed to be coyotes, rabbits. Bats are not expected; roosting sites are not available. The mammals that were found are identified in Appendix C.

3.3.6 Fish

There are no water sources on site; no fish would be expected.

3.4 Sensitive Biological Resources

3.4.1 Special Status Species

Table 3. Special-Status Wildlife Species with Potential to Occur on Project Site			
Special-Status Species	**Legal Status**	**Found**	**Potential for Occurrence**
Flat-tailed horned lizard (FTHL)	Federal: None State: Protected, Species of Special Concern	No	None on site – Highly disturbed acreage. No FTHL, scat or tracks were identified in the general biological survey. This area is not within a FTHL Management Area
Colorado fringe toed lizard	Federal: Threatened State: Endangered	No	None on site – Primarily found in wind-blown sand areas. Agricultural acres/badlands with no wind blown sand areas.
Burrowing owl	Federal: None State: CSC	No	Low on site but burrowing possible in water conveyance system (canals/drains)
Gila Woodpecker *Melanerpes uropygialis*	CDFW: Endangered	No	Very low on site – Highly disturbed acreage with sparse available nesting opportunities; no palm trees
Le Conte's thrasher *Toxostoma lecontei*	CDFW: Species of Concern	No	Very low on site –no available nesting opportunities
Loggerhead shrike *Lanius ludovicianus*	CDFW: Species of Concern	No	Very low on site; no suitable habitat No prey was observed
Yuma Ridgeway rail	Fed: Endangered	No	None on site. Lives in freshwater and brackish marshes; Prefers dense cattails, bulrushes, and other aquatic vegetation. Nests in riverine wetlands near upland, in shallow sites dominated by mature vegetation, often in the base of a shrub. Prefers denser cover in winter than in summer. Very shy. No habitat not on site.

3.4.2 Riparian Habitat or Sensitive Natural Communities

Based upon the level of disturbance or habitat conversion within adjacent areas, vegetative communities are considered rare or sensitive. Rare vegetation types that are converted and degraded can disrupt the integrity of the ecological functions of natural environments. This can lead to the loss of sensitive plant species and a resulting decrease in biodiversity. Wetland or riparian habitat communities are considered sensitive by CDFW.

3.4.3 Jurisdictional Waters

Wetlands and other "waters of the United States" that are subject to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act are under the jurisdiction of the U.S. Army Corp of Engineers (ACOE). No Wetlands and other waters of the United States will be impacted.

3.4.4 Habitat Connectivity and Wildlife Corridors

The ability for wildlife to freely move about an area and not become isolated is considered connectivity and is important to allow dispersal of a species to maintain exchange genetic characteristics; forage (food and water) and escape from predation.

3.4.5 California Desert Conservation Area (CDCA)

This project is not within or immediately adjacent to an Area of Critical Environmental Concern (ACEC) of the CDCA.

4.0 Proposed Project Impact

The proposed impacts are summarized in this section.

4.1 Impact to Special Status Species

If this project has a substantial adverse effect, either directly or through habitat modification or elimination, on any plant or animal species that is considered endangered, threatened, candidate for listing or special status species either through federal or state regulations, this project would be considered to have a significant impact.

4.1.1 Biological Resources

No special status and priority plants or animals were observed. The approximately 44.6 acres are highly disturbed and no adverse impact is expected either directly or through habitat modification on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service when avoidance, minimization and mitigation recommendations are followed.

Biological resources found are listed in Table 4, Appendix C and Figure 4 Biological Resources Map.

Table 4 Biological Resources

Location	Description	Recommendations
1. Agriculture/Ruderal vegetation	Agricultural crops on approximately 44.1 acres and ruderal vegetation on approximately 3.5 acres	Burrowing Owl/MBTA surveys prior to construction

4.1.2 Sensitive Wildlife

4.1.2.1 Burrowing Owl

Construction Impact.

While no burrowing owl (BUOW) were observed during surveys, a preconstruction BUOW) survey should be performed within 14 days and 24 hours prior to construction by qualified biologists as BUOW are found throughout Imperial County.

BUOW could potentially utilize burrows in nearby canal or drain ditch banks adjacent to the project. There is no abundance of prey (insects) that could support BUOW presence. There is potential that there would be direct and/or indirect impacts to this species if construction occurs during the active nesting period of February to end of August. Ground disturbance from heavy equipment, which may potentially impact the BUOW, if present, would be considered significant and could require mitigation. Impacts to this species would be considered significant, if present.

Section 5 discusses avoidance, minimization and mitigation requirements for burrowing owls found on site or in vicinity during construction.

4.1.2.2 MBTA Nesting

Construction Impact

Bird nesting could occur within the project. Ground nesting species, such as lesser nighthawk, and killdeer could use the area.
If construction is planned to begin during nesting season (generally February 1 through August 31), the project area and a 500 foot buffer area should be surveyed within 3-5 days of start of construction to determine presence/absence of nesting. If nests are found, an appropriate buffer zone for the species should be maintained during construction until juveniles have fledged.

Operations and Maintenance Indirect Impact

Electrocution

Electrical components are not found within the project and would not be expected to impact avian populations.

4.2 Impact to Riparian Habitat or Sensitive Natural Communities

The distribution of riparian plant species is largely driven by hydrological and soil variables and riparian plant communities frequently occur in relatively distinct zone along streamside elevational and soil textural gradients.

There is no riparian habitat found on site, therefore this project will not have a substantial adverse effect on any riparian habitat.

4.3 Impact to Jurisdictional Waters

There are no wetlands found on site; therefore this project will have no impact on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

No established washes and ephemeral washes were observed on site. FEMA Map #06025C2067C rated this project as Zone X: Areas determined to be outside the 0.2% annual chance floodplain. FEMA map found in Figure 1.

4.4 Impact to Wildlife Movement and Nursery Sites

This project is a vacant lot surrounded by agricultural, vacant lots and commercial development. The proposed project will not interfere with the currently restricted 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.

4.5 Impact to Airports

This project has no components that will attract avian populations that would impact airports. It is approximately 0.6 miles from Calexico International Airport, CA, which is the closest airport. No impact upon airports is expected.

4.6 CEQA Impacts

Possible CEQA significant impacts that could include the following within the parameters of this project:

Table 5: Expected Impacts

Area	Endangered/threatened/ Species of Concern Habitat	Riparian Habitat	Wetlands	Wildlife Corridors	Local Ordinances	Waters of the U.S.
44.6 acres	None with avoidance/ minimization/ mitigation measures	No	No	No	No	No

5.0 Recommended Avoidance, Minimization and Mitigation Measures

5.1 Sensitive Wildlife

5.1.1 Burrowing Owl

Avoidance Measures

A preconstruction survey should be performed prior to initiating ground disturbance. Report should be submitted to the appropriate agency.

Since BUOW have been located within the vicinity, it is recommended that construction foremen and workers and onsite employees be given worker training by a qualified biologist regarding burrowing owl that would include the following:

- Description of BUOW
- Biology
- Regulations (CDFW/USFWS)
- Wallet card with picture/guidelines for protecting owl and wildlife
- Notification procedures if owl (dead, alive, injured) is found on or near site

A sign in should be obtained and the training materials and sign in sheet should be submitted to appropriate agency.

Minimization Measures

To avoid direct or indirect impacts to BUOW, surveys for this species should be conducted to determine if this species is present within the survey area. If BUOW is present, mitigation will be required. Minimization measures could include preconstruction surveys within 14 days and 24 hours of start of ground breaking activities and worker training.

Mitigation Measures

1. If occupied burrows are found on site, the burrows shall be passively relocated by a qualified biologist outside of nesting season and an appropriate number of artificial burrows shall be installed. If possible, these burrows shall be installed as close as possible to the passively relocated burrows
2. If not in the active construction areas, the occupied burrows can be sheltered in place with appropriate materials
3. If occupied burrows are sheltered, a biological monitor shall monitor areas of active construction This biologist will ensure that the project complies with these mitigation measures and will have the authority to halt activities if they are not in

compliance. The biologist will inspect the construction areas periodically for the presence of BUOWs.
4. If work is stopped for longer than 14 days, area will be resurveyed prior to restart of construction.

5.1.2 Migratory Birds and Non-migratory Bird Species

If construction is scheduled to begin during nesting season (February-August), a survey for nesting birds should be performed within 3-5 days of groundbreaking activities. Dependent upon species found, appropriate buffer zones will be established by a qualified biologist. Buffer zones will be established for active nests and these nests will be monitored by qualified biologist until young have fledged.

If work is stopped for longer than 7 days during nesting bird season, area will be resurveyed prior to restart of construction.

It is recommended that construction foremen and workers and onsite employees be given worker training by a qualified biologist regarding nesting birds that would include the following:

- Description of birds covered under MBTA and likely to be found on project
- Biology
- Regulations (CDFW/USFWS)
- Notification procedures if bird (dead, alive, injured) is found on or near site

A sign in should be obtained and the training materials and sign in sheet should be submitted to appropriate agency.
A biologist should be consulted immediately if a dead or injured bird is found on site.

5.1.3 Invasive Plants

Any saltcedar found on site should be removed in a manner that will not distribute plant seeds or plant material. Use of covered trailers to remove invasive species to an approved landfill is recommended.

Equipment brought onsite should be clean to prevent importing invasive species to site.

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APPENDIX A
SENSITIVE BOTANICAL AND ZOOLOGICAL SPECIES (CNDDB/CNPS) SPECIES

APPENDIX A
SENSITIVE BOTANICAL AND ZOOLOGICAL SPECIES (CNDDB/CNPS)
HEBER Nine-Quadrangle
12/10/22

BOTANICAL SPECIES	STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/SITE POTENTIAL
Abrams's Spurge *Chamaesyce abramisiana*	CNPS list: 2	Annual herbaceous blooms Sept/Nov. Common spurge in area has large purple spot and is prostrate; Abram's is not as colorful.	Sonoran Desert Shrub	No Abrams's spurge found. No habitat
Hairy stickleaf *Mentzelia hirsutissima*	S2S3/2.3	Annual to shrub; hairs needle-like, stinging, or rough Leaves alternate in CA, generally ± pinnately lobed; stipules 0 Various Inflorescence Flower is bisexual, radial; sepals generally 5, generally persistent in fruit; petals generally 5, free or fused to each other or to filament tube; stamens 5–many, filaments thread-like to flat, sometimes fused at base or in clusters; petal-like staminodes sometimes present; pistil 1, ovary inferior, chamber generally 1, placentas generally 3, parietal, style 1 Fruit is generally capsule (utricle) with 1-many seeds	Sonoran Desert Scrub growing on rocky hillsides and desert mesas. Found in small boulders on an arid slope with limited competition from shrubs.	Not expected; no habitat. None observed.

Abronia villosa var aurita Chaparral sand-verbena	State: S2.2 (not very threatened); CNPS list:1B.2 (rare, threatened in Ca; fairly endangered in Ca.)	Likes full sun, and sandy soil. Sand-verbena has gray foliage with pinkish purple flowers, and the flowers are fragrant. It does not tolerate weeds and needs bare ground. 80-1600m (263-5249ft	Chaparral, Coastal Shrub, and desert dunes/sandy areas.	No habitat; none observed
Sand Food *Pholisma sonorae*	State: S1.2 (threatened); CNPS list:1B.2	Parasite on species such as *Erigonus, /tiquilia, ambrosia, pluchea.* White to brown color. Corolla pink to purple.	Sonoran Desert Dunes; loose deep sand	No habitat; none observed
ZOOLOGICAL SPECIES	**STATUS[1]**	**DESCRIPTION OF SPECIES**	**HABITAT**	**OBSERVATION/ SITE POTENTIAL**
Yuma clapper rail *Rallus longirostris yumanensis*	Fed:Endangered Ca: Threatened	A chickenlike marsh bird with a long, slightly drooping bill and an often-upturned tail. Light brownish with dark streaks above. Rust-colored breast; bold, vertical gray and white bars on the flanks; white undertail coverts	Lives in freshwater and brackish marshes. Prefers dense cattails, bulrushes, and other aquatic vegetation. Nests in riverine wetlands near upland in shallow sites dominated by mature vegetation, often in the base of a shrub. Prefers denser cover in winter than in summer. Very shy.	None observed or heard; Cattails not found in dense stands; no suitable habitat on site.

Burrowing Owl *Athene cunicularia*	CDFW: SC Species of Concern	Small raptors that nest in burrows that have been borrowed from other species in open grassland areas. Have adapted well in Imperial County using canals/ drains/ ditches to establish burrows and foraging for insects in agricultural fields	Open, dry annual or perennial grasslands; deserts & scrublands	No owls/burrows found. Survey results included in this report
Vermillion flycatcher *Pyrocephalus rubinus*	CDFW: SC Species of Concern	Length: 5 inches the adult male has a Bright red cap, throat and underparts; with a Black eyeline, nape, back, wings, and tail The Immature male similar to female but has variable amount of red on underparts. The female and immature have Brown upperparts with White underparts with faint streaks on breast with an undertail coverts tinged pink, the adult male Vermilion Flycatcher is very distinctive. The female and immatures are more nondescript but the streaking on the breast and pink tinge to the undertail coverts distinguish them from other flycatchers	Frequents streams and ponds in arid areas	No habitat; none observed.

BOTANICAL SPECIES	STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/SITE POTENTIAL
Yellow Warbler *Dendroica petechia brewsteri*	State: S2; CDFW: SC	Plain yellow face with dark eyes;yellow spots on tail. Flits around hunting insects. Rare in winter in southwest; winters in tropics	Nests in riparian plant areas; preferring willows, cottonwoods, aspens, sycamores and alders for nesting and foraging	None observed;. No wet thickets are present on site.
Western Yellow bat *Lasiurus xanthinus*	State: S3	Consumes small to medium-sized, night flying insects. Yellow color/short ears.	Roosts in leafy vegetation the deserts of the southwestern United States. Roosts among the dead fronds of palm trees and cottonwoods	Not expected no palms or cottonwood trees.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	CDFW: SC	Bat has a free-tail which extends beyond the edge of the interfemoral membrane. With a forearm of 45-49 mm, it is smaller than all other North American molossid species except *Tadarida brasiliensis*. It is slightly larger than *T. brasiliensis* and has its ears joined at the midline. The body length measures 3 7/8 to 4 5/8", with a wingspan of 14". The fur is dark gray or brown above and below and nearly white at base. Ears are joined at base. Possesses a wrinkly upper lip; about half of the tail extends past edge of tail membrane	These bats require large surfaces of open water in order to drink. The pocketed free-tailed bat is colonial and roosts primarily in crevices of rugged cliffs, high rocky outcrops and slopes. Plant associations, include desert shrub and pine-oak forests. The species may also roost in buildings, caves, and under roof tiles.	No habitat; no large surface of water on site

big free-tailed bat *Nyctinomops macrotis*	State: SSC	It is the largest member of Nyctinomops,[3] with an average forearm length of 60 mm (2.4 in).[4] Individuals weigh approximately 20.6 g (0.73 oz). It has a wingspan of 417–436 mm (16.4–17.2 in). Its fur is glossy and variable in color, ranging from pale, reddish brown to dark brown or blackish.	It's range includes many countries in North, Central, and South America. Big Free-tailed Bats typically live in deserts and arid grasslands where rocky outcrops, canyons, or cliffs provide ideal roosts. Occasionally these bats will roost in buildings. They feed mostly on moths, but also crickets, flying ants, froghoppers, leafhoppers, and stinkbugs. The bats are seldom encountered by people It has been documented at a range of elevations from sea level to 2,600 m (8,500 ft) above sea level.	Rocky outcrops, canyons, or cliffs are not available for roosting; not expected
California leaf-nosed bat *Macrotus californicus*	State: SSC	The California leaf-nosed bat weighs between 12 and 20 grams, has a wingspan of over 30 centimeters and a body length of over 6 centimeters, and is brown in color. As its name implies, it has a triangular fleshy growth of skin, called a noseleaf, protruding above the nose.	California leaf-nosed bats can be found in Sonoran and Mojave Desert scrub habitats in the Colorado River valley in southern California, Nevada and Arizona, and throughout western Mexico. It is non-migratory and does not hibernate.	No desert scrub habitats on site; not expected
pallid bat *Antrozous pallidus*	State: SSC	have a head and body length of approximately 2.75 inches (6.2-7.9 cm), forearm length of approximately 2.1	is a species of bat that ranges from western Canada to central Mexico. Roosts in cliffs in	No roosting habitat; not expected

		inches (4.5–6 cm), a tail of approximately 1.75 inches (3.9-4.9 cm), and a wingspan of 15-16 inches (38–40 cm). They weigh 14-25 grams. These bats are large, with long forward pointing ears (over 2.5 cm). Fur is pale at the roots, brown on their back, with a light underside. Pallid bats have a blunt piglike snout.	colonies generally including 20 or more individuals. Pallid bats were highly selective in their choice of roost sites; Deep, horizontal crevices were preferred in summer	
American Badger *Taxidea taxus*	CDFW: Species of Concern	Burrowing animals that feed on ground squirrels, rabbits, gophers and other small animals. Prefer grasslands, agricultural areas.	Found in drier open areas with friable soils	None seen; no burrows observed
western mastiff bat *Eumops perotis californicus*	State: SSC	This species is the largest bat native to North America, and some of its distinguishing characteristics are its large ears, wings, and forearms.	It is found in the Western United States, Mexico and South America.	None observed; no habitat
Sonoran Desert toad *Incilius alvarius*	State: SSC	It exudes toxins from glands within its skin that have psychoactive properties.	is found in northern Mexico and the southwestern United States.	None observed, no habitat
northern leopard frog *Lithobates pipiens*	State: SSC	The northern leopard frog is a fairly large species of frog, reaching about 11 cm (4.3 in) in snout-to-vent length. It varies from green to brown in dorsal color, with large, dark, circular spots on its back, sides, and legs	Northern leopard frogs have a wide range of habitats. They are found in permanent ponds, swamps, marshes, and slow-moving streams throughout forest, open, and urban areas.[9] They normally inhabit water bodies with abundant aquatic	None observed, no habitat on site

			vegetation. In the summer, they often abandon ponds and move to grassy areas and lawns.	
lowland leopard frog *Lithobates yavapaiensis*	State: SSC		Appears to stay close to water, seeking shelter in streamside vegetation.In cold areas they are inactive in the winter, but they can be active all year long in geothermal springs or at low elevations	No habitat; not expected
Yuma hispid cotton rat *Sigmodon hispidus eremicus*	State: SSC	Adult size is total length 202–340 mm (8.0–13.4 in); tail 87–122 mm (3.4–4.8 in), frequently broken or stubbed; hind foot 29–35 mm (1.1–1.4 in); ear 16–20 mm (0.63–0.79 in); mass 50–250 g	The distribution of S. hispidus ranges from Arizona in the west to Virginia to the east and from the Platte River in Nebraska in the north to, likely, the Rio Grande in the south, where it meets the northern edge of the distribution of S. toltecus (formerly S. h. toltecus)	None observed, no habitat on site
Palm Springs pocket mouse *Perognathus longimembris bangsi*	State: SSC	This small mouse, with a long tail, inhabits arid and semiarid habitats with grasses, sagebrush and other scrubby vegetation. It is nocturnal and has a short period of activity for the first two hours after sunset, and then sporadic activity through the rest of the night.	It is found in Baja California and Sonora in Mexico and in Arizona, California, Idaho, Nevada, Oregon and Utah in the United States.[1] Its natural habitat is subtropical or tropical dry lowland grassland.	None observed, could be found hunting in area

northern harrier *Circus hudsonius*	State: SSC	Owl-like faces and small, hooked bills slender bodies, V-shaped wings	undisturbed wetlands and grasslands	
summer tanager *Piranga rubra*	State: SSC	Adults have stout pointed bills and measure 17 cm (6.7 in) in length and 29 g (1.0 oz) in weight. Wingspan ranges from 28 to 30 cm. Adult males are rose red and similar in appearance to the hepatic tanager, although the latter has a dark bill; females are orangish on the underparts and olive on top, with olive-brown wings and tail. As with all other birds, all red and orange colorations are acquired through their diet.	Their breeding habitat is open wooded areas, especially with oaks, across the southern United States, extending as far north as Iowa. These birds migrate to Mexico, Central America and northern South America.	No habitat; not expected
mountain plover *Charadrius montanus*	State: SSC	The mountain plover is 8 to 9.5 inches (20 to 24 cm) long and weighs about 3.7 ounces (105 grams). Its wingspread is 17.5 to 19.5 inches (44.5 to 49.5 cm). The mountain plover's call consists of a low, variable whistle. Both sexes are of the same size.	Mountain plovers nest on bare ground in early spring (April in northern Colorado). The breeding territory must have bare ground with short, sparse vegetation. Plovers usually select a breeding range that they share with bison and black tailed prairie dogs. These animals are grazers that keep vegetation short.	Not observed; could be found in alfalfa fields that have been pastured by sheep
loggerhead shrike *Lanius*	State: SSC	The loggerhead shrike is a medium-sized passerine. "Loggerhead" refers to the relatively large size of the head as	The bird requires an open habitat with an area to forage, elevated perches, and nesting	Not observed; no prey observed; not expected

ludovicianus		compared to the rest of the body. The wing and tail length are about 3.82 in (9.70 cm) and 3.87 in (9.83 cm) long, respectively. It weighs on average 1.8 oz (50 g), with a range of 1.6–2.1 oz (45–60 g) for a healthy adult shrike.	sites. They are often found in open pastures or grasslands and appear to prefer red-cedar and hawthorn trees for nesting.	
California black rail *Laterallus jamaicensis coturniculus*	State: Threatened	Chicken-like, small, black bird, shy	Marshy areas.	No habitat
flat-tailed horned lizard *Phrynosoma mcallii*	State: SSC	The flat-tail horned lizard has evolved elaborate camouflage measures to eliminate shadow. Their bodies are flattened, with the sides thinning to an edge; the animals habitually press their bodies to the ground; and their sides are fringed with white scales which effectively hide and disrupt any remaining areas of shadow there may be under the edge of the body.	The majority of their remaining habitat in the US is administered by the Bureau of Land Management. Sandy, desert areas.	No habitat
Colorado Desert fringe-toed lizard *Uma notata*	State: SSC	It can be distinguished from the Mojave fringe-toed lizard and the Coachella Valley fringe-toed lizard by its orange/pinkish stripes on the sides of its underside, while the backs have much similar appearances.	It is adapted to arid climates and is most commonly found in sand dunes within the Colorado Desert of the United States and Mexico.	No habitat

Special Status Species that Occur in Imperial County (USFWS)

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Plants				
Peirson's milk-vetch *Astragalus magdalenae* var. *peirsonii*	T/E/1B	Silvery, short-lived perennial plant that is somewhat broom like in appearance. A member of the pea and bean family, it can grow to 2.5 feet tall and is notable among milkvetches for its greatly reduced leaves. Peirson's milkvetch produces attractive, small purple flowers , generally in March or April, with 10 to 17 flowers per stalk. It yields inflated fruit similar to yellow-green pea pods with triangular beaks.	Desert dune habitats. In California, known from sand dunes in the Algodones Dunes system of Imperial County. Was known historically from Borrego Valley in San Diego County and at a site southwest of the Salton Sea in Imperial County	L None observed. No dune habitat
Birds				
California brown pelican *Pelecanus occidentalis* No longer endangered	E/E/-	Large size and brown color. Adults weigh approximately 9 pounds, and have a wingspan of over 6 feet. They have long, dark	Open water, estuaries, beaches; roosts on various structures, such as pilings, boat docks,	L None observed. No open water

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		bills with big pouches for catching and holding fish. Pelicans breed in nesting colonies on islands without mammal predators. Roosting and loafing sites provide important resting habitat for breeding and non-breeding birds.	breakwaters, and mudflats	
Southwestern willow flycatcher *Empidonax traillii extimus*	E/-/-	Small; usually a little less than 6 inches in length, including tail. Conspicuous light-colored wingbars. Lacks the conspicuous pale eye-ring of many similar *Empidonax* species. Overall, body brownish-olive to gray-green above. Throat whitish, breast pale olive, and belly yellowish. Bill relatively large; lower mandible completely pale. The breeding range of extimus includes Arizona and adjacent	At low elevations, breeds principally in dense willow, cottonwood, and tamarisk thickets and in woodlands, along streams and rivers. Migrants may occur more widely. Prefers riparian willow/cottonwood but will use salt cedar thickets	L None Observed No sal cedar thickets (salt cedar sparse) with running water found on site

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		states.		
Yuma clapper rail *Rallus longirostris yumanensis*	E/T/-	A chickenlike marsh bird with a long, slightly drooping bill and an often upturned tail. Light brownish with dark streaks above. Rust-colored breast; bold, vertical gray and white bars on the flanks; white undertail coverts. Very shy.	Lives in freshwater and brackish marshes. Prefers dense cattails, bulrushes, and other aquatic vegetation. Nests in riverine wetlands near upland, in shallow sites dominated by mature vegetation, often in the base of a shrub. Prefers denser cover in winter than in summer..	L None observed or heard; no suitable habitat; not immediately adjacent to Salton Sea.
Yellow-billed cuckoo *Coccyzus americanus*	C/E/-	Medium-sized cuckoo with gray-brown upperparts and white underparts. Eye-rings are pale yellow. Bill is mostly yellow. Wings are gray-brown with rufous primaries. Tail is long and has white-spotted black edges. Sexes are similar.	Found in forest and open woodlands, especially in areas with dense undergrowth, such as parks, riparian woodlands, and thickets	L None observed; no habitat on site. No thickets are present.
Bald eagle	T, PD/E/-	The distinctive white head and	Found on shores, lake	L

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Haliaeetus leucocephalus		tail feathers Beak and eyes yellow. Bald Eagles are about 29 to 42 inches long, can weigh 7 to 15 pounds, and have a wing span of 6 to 8 feet.	margins, and near large rivers. Nests in large trees. Winters at lakes, reservoirs, river systems, and some rangelands and coastal wetlands (breeding range is mainly in mountainous habitats near reservoirs, lakes and rivers, mainly in the northern two-thirds of California)	None observed; no habitat on site.
Least tern *Sterna antillarum*	E/E/-	Small tern. During breeding, black cap ending at white forehead. Short white eyestripe. Bill yellow with black tip. Back light gray. Underside white. Black leading edge to wing. In nonbreeding plumage has black eyestripe extending to back of head, white top of head, and black bill. Size: 21-23 cm (8-9 in) Wingspan: 48-53 cm (19-21 in)	Shallow areas of estuaries, lagoons, and at the joining points between rivers and estuaries	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		Weight: 30-45 g (1.06-1.59 ounces)		
Least Bell's Vireo *Vireo bellii pusillus*	E/E/-	Drab gray to green above and white to yellow below. It has a faint white eyering and two pale wingbars; has pale whitish cheeks and forehead and greenish wings and tail. longer tail and subtle wingbars. The song is a varied sequence of sharp, slurred phrases that typically end with an ascending or descending note.	Formerly a common and widespread summer resident below about 2,000 feet in western Sierra Nevada. Also was common in coastal southern California, from Santa Barbara County south, below about 4,000 feet east of the Sierra Nevada. Prefers thickets of willow, and other low shrubs afford nesting and roosting cover	L None observed; no habitat on site. No thickets are present on site.
Mountain plover *Charadrius montanus*	FPT/SC/-	Medium-sized plover with pale brown upperparts, white underparts, and brown sides. Head has brown cap, white face, and dark eyestripe. Upperwings	Avoids high and dense cover. Uses open grass plains, plowed fields with little vegetation, and open sagebrush areas.	L None observed; could be found if alfalfa fields are

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		are brown with black edges and white bars; underwings are white. Tail is brown-black with white edges. Sexes are similar.	Likes to follow livestock grazing or burned off fields.	pastured by sheep
Black rail *Laterallus jamaicensis coturniculus*	-/T/-	The smallest of all rails, the black rail is slate-colored, with a black bill, red eyes and a white-speckled back. The legs are moderately long and the toes are unwebbed. The sexes are similar.	Most commonly occurs in tidal emergent wetlands dominated by pickleweed or in brackish marshes with bulrushes in association with pickleweed. In freshwater, usually found in bulrushes, cattails, and saltgrass and in immediate vicinity of tidal sloughs. Typically occurs in the high wetland zones near upper limit of tidal flooding, not in low wetland areas with	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
			considerable annual or daily fluctuations in water levels. Nests are concealed in dense vegetation, often pickleweed, near upper limits of tidal flooding	

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Raptors				
Peregrine Falcon *Falco peregrinus*	D/E/-	Large, powerful falcon; pointed winged falcon silhouette. Strong shallow wingbeats may dive at speeds up to 100 mph. Dark with dark hooded effect. Blue gray below with narrow bars	Most often found along coastlines or marshy habitats. Nest in cliffs and have been known to nest in tall buildings	L None observed; rare visitors to area outside of the Salton Sea. No waterfowl for prey or cliffs/tall buildings for nesting
Northern Harrier *Circus cyaneus*	-/SC/-	Long-winged, long tailed hawk. Habitually flys low over open fields and marshes watching and listening for prey such as rodents and birds. (I observed Harrier with a white faced ibis as prey). Perches low or on ground. Low slow flight. Nests in reeds. Grey with black wingtips.	Marshes, open fields. Nests in reeds	L Low rodent, rabbit populations. Not observed on site.

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Sharp-shinned Hawk *Accipiter striatus*	-/SC/-	Blue gray above pale reddish below; small size. Tip of tail squared off. Nesting occurs in dense tree stands which are cool, moist, well shaded and usually near water. Hunt in openings at the edges of woodlands and also brushy pastures.	Sharp-shinned hawks may appear in woodland habitats during winter and migration periods and are often common in southern California in the coastal lowlands and desert areas; winters in woodlands and other habitats except alpine, open prairie and bare desert	L Low rodent, rabbit populations. Not observed
White tailed Kite *Elanus leucurus*		Gray and white with black on lshoulders and under bend of wing. Graceful flyer. Adults have bright red eyes. Medium size hawk; aboaut 15 inches long and about 12 ounces. Males pale with with rufous shoulders and thigh feathers.	Found in open country; like to perch on treetop. May be seen hovering prior to attack of a rodent.	L Low rodent, rabbit populations. Not observed

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Ferruginous hawk *Buteo regalis*	/E/ /SC/	White tail washed with rufous. Wide head wings in shallow v when soaring.	Found in arid to semiarid regions, as well as grasslands and agricultural areas in southwestern Canada, western United States, and northern Mexico.	L Low rodent, rabbit populations; None observed
Mammals				
Bighorn sheep *Ovis canadensis*	E/E/-	Sheep have short hair which is light gray to grayish brown, except around their stomachs and rump, where it is creamy	Desert Bighorn sheep occupy a variety of plant communities, ranging from mixed-grass	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		white. Their tails are about four inches long. Full-grown rams weigh between 180 and 240 pounds,	hillsides, shrubs. Avoids dense vegetation	
Jaguar *Panthera onca*	-/-/-	Typically yellow-brown with black spots, called rosettes, but they can also be black with black spots. They are nocturnal and have a keen sense of smell and hearing. Excellent swimmers, tree climbers, and move easily on the ground.	Occurs in tropical rainforests, arid scrub, and wet grasslands. Prefers dense forests or swamps with a ready supply of water	L None observed; no habitat
Reptiles and Amphibians				
Desert tortoise *Gopherus agassizii*	T/T/-	A herbivore that may attain a length of 9 to 15 inches in upper shell (carapace) length. The tortoise is able to live where ground temperature may exceed 140 degrees F because of its ability to dig underground burrows and escape the heat. At least 95% of its life is spent in	Dry, flat, and gravelly or sandy ground in desert shrub communities where annual and perennial grasses are abundant. Frequent habitats with a mix of shrubs, forbs, and grasses	L None observed; habitat not favorable

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		burrows. Their shells are high-domed, and greenish-tan to dark brown in color. Desert tortoises can grow from 4–6"in height and weigh 8–15 lb (4–7 kg) when fully grown. The front limbs have heavy, claw-like scales and are flattened for digging. Back legs are more stumpy and elephantine		
Flat-tailed horn lizard *Phrynosoma mcallii*	PT/-/-	Closely related to Desert horned lizard (scat indistinquishable); only found in Imperial, Riverside County,Ca and Yuma area, Az. Small round lizard with distinquishing round spots on back. Diet of ants; needs sandy soil, shade bushes to survive.	Desert washes/sandy areas with vegetative cover. Diet of ants	L No habitat; none observed
Fish				
Desert pupfish	E/E/-	Small, silvery-colored fish with 6 to 9 dark bands on its sides.	Springs, seeps, and slow-moving streams in Salton	L

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Cyprinodon macularius		Grows to a full average length of only 2.5 inches; develop quickly, sometimes reaching full maturity within 2 to 3 months. Although their average life span is 6 to 9 months, some survive more than one year. Pupfish have a short, scaled head with an upturned mouth. The anal and dorsal fins are rounded with the dorsal sometimes exhibiting a dark blotch. The caudal fin is convex at the rear.	Sink basin and backwaters and sloughs of the Colorado River	None observed; no habitat
Razorback Sucker *Xyrauchen texanus*	Fed/CA: Endangered	One of the largest suckers in North America, can grow to up to 13 pounds and lengths exceeding 3 feet. The razorback is brownish-green with a yellow to white-colored belly and has an abrupt, bony hump on its back shaped like an upside-down	Colorado River	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		boat keel		

Sources: CDFW/CNDDB 2009, California Wildlife 2009; CNPS 2009; USFWS, 2009

[1]Status:

Federal:

e = Listed as an endangered species

t = Listed as a threatened species

c = Candidate for listing

D = Delisted

PD = Proposed for delisting/PT = Proposed for threatened status

State/CDFWG:

E = Listed as an endangered species; or previously known as "rare, fully protected"

T = Listed as a threatened species

SC = species of special concern (designation intended for use as a management tool and for information; species of special concern have no legal status (www.dfg.ca.gov/wildlife/species/ssc/birds.html))

CNPS (California Native Plant Society):

1B = Rare, threatened, or endangered in California or elsewhere

2= Plants rare, threatened,or endangered in Ca, but more common elsewhere

3=Plants about which more information is needed

Habitat Suitability Codes: H = Habitat is of high suitability for this species M = Habitat is of moderate suitability for this species L = Habitat is of low suitability for this species

USFWS BIRDS OF CONSERVATION CONCERN

Common Name	Species Name	Region 8 Imperial County	National Rating	Habitat	Potential Onsite
Bald Eagle	*Haliaeetus leucocephalus*	X	X	Nests on tall trees or on cliffs in forested areas near large bodies of water. Winters in coastal areas, along large rivers, and large unfrozen lakes.	Low Not expected. No tall trees; not observed in area
Swainson's Hawk	*Buteo swainsoni*		X	Breeds in open country such as grassland, shrubland, and agricultural areas. Usually migrates in large flocks often with Broad-winged Hawks. Winters in open grasslands and agricultural areas of Southern America.	Low Not expected on site; no agriculture. May migrate through. Not observed in area
Peregrine Falcon	*Falco peregrinus*	X	X	Inhabits open wetlands near cliffs for nesting. Also uses large cities and nests on buildings.	Low No open wetlands or nesting area.

Black Rail	*Laterallus jamaicensis*	X	X	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Low No salt or freshwater marshes; no vegetation
Snowy Plover	*Chardrius alexandrinus*	X	X	Barren to sparsely vegetated sand beaches, dry salt flats in lagoons, dredge spoils deposited on beach or dune habitat, levees and flats at salt-evaporation ponds, river bars, along alkaline or sailne lakes, reservoirs, and ponds.	Low No habitat; not observed
Mountain Plover	*Charadrius montanus*	X	X	Breeds on open plains at moderate elevations. Winters in short-grass plains and fields, plowed fields, and sandy deserts.	Low on site No habitat; not observed
Black Oystercatcher	*Haematopus bachmani*	X	X	Rocky seacoasts and islands, less commonly sandy beaches.	Low No habitat; not observed

Solitary Sandpiper	*Tringa solitaria*		X	Breeds in taiga, nesting in trees in deserted songbird nests. In migration and winter found along freshwater ponds, stream edges, temporary ponds, flooded ditches and fields, more commonly in wooded regions, less frequently on mudflats and open marshes.	Low No habitat; not observed
Lesser Yellowlegs	*Tringa flavipes*		X	Breeds in open boreal forest with scattered shallow wetlands. Winters in wide variety of shallow fresh and saltwater habitats.	Low No habitat; not observed
Upland Sandpiper	*Bartramia longicauda*		X	Native prairie and other dry grasslands, including airports and some croplands.	Low No habitat; not observed
Whimbrel	*Numenius phaeopus*	X	X	Breeds in various tundra habitat, from wet lowlands to dry heath. In migration, frequents various coastal and inland habitats, including	Low No habitat; not observed

				fields and beaches. Winters in tidal flats and shorelines, occasionally visiting inland habitats.	
Long-billed Curlew	*Numenius americanus*	X	X	Nests in wet and dry uplands. In migration and winter found on wetlands, grain fields, lake and river shores, marshes, and beaches.	Low on site No habitat; not observed
Short-billed Dowitcher	*Limnodromus griseus*	X	X	Breeds in muskegs of taiga to timberline, and barely into subarctic tundra. Winters on coastal mud flats and brackish lagoons. In migration prefers saltwater tidal flats, beaches, and salt marshes. Also found in freshwater mud flats and flooded agricultural fields.	Low No habitat; not observed

Aleutian Tern	*Sterna aleutica*		X	Nest on flat vegetated islands on or near the coast. Vegetation includes dwarf-shrub tundra, grass and sedgemeadows, and coastal marsh. Migration and winter habitat not known, probably pelagic.	Low No habitat; not observed
Least Tern	*Sterna antillarum*		X	Seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers, breeding on sandy or gravelly beaches and banks of rivers or lakes, rarely on flat rooftops of buildings.	Low No habitat; not observed
Gull-billed Turn	*Sterna nilotica*		X	Breeds on gravelly or sandy beaches. Inters in salt marshes, estuaries, lagoons and plowed fields, along rivers, around lakes and in freshwater marshes.	Low No habitat; not observed
Black Skimmer	*Rynchops niger*	X	X	Breeds in large colonies on sandbars and beaches. Forages in shallow bays, inlets, and estuaries.	Low No habitat; not observed

Yellow-billed Cuckoo	*Coccyzus americanus*	X	X	Open woodlands with clearings, orchards, dense scrubby vegetation, mainly cottonwood, willow, and adler, often along water.	Low No habitat; not observed
Black Swift	*Cypseloides niger*	X	X	Nests on steep ledges on cliffs or canyons. Migrates and winters over coastal lowlands.	Low No habitat; no swifts observed in area
Costa's Hummingbird	*Calypte costae*	X	X	Primarily low deserts and arid brushy foothills, but also chaparral and coastal sage scrub closer to the coast. Often visits ornamental plantings and feeders in desert communities. In migration and winter frequents a wider variety of habitats, occasionally ranging into pine-oak woodlands in adjacent mountains.	Low No habitat; not observed – no feeders or nectar sources in area
Calliope Hummingbird	*Stellula calliope*	X	X	Open montane forest, mountain meadows, and thickets of willow and alder. In migration and	Low No habitat; not observed

				winter also in chaparral, oak and pine-oak woodlands, deserts, and gardens.	
Rufous Hummingbird	*Selasphorus rufus*		X	Breeds in a variety of forested habitats where flowers are found. Frequents montane meadows and just about anywhere else with flowers or feeders during migration. Winters primarily in pine and pine-oak forests in Mexico, but most birds wintering farther north are attracted either to flowers or feeders in gardens.	Low No habitat; not observed – no feeders or nectar in area.
Allen's Hummingbird	*Selasphorus sasin*	X	X	Breeds in coastal sage scrub, chaparral, and riparian corridors within coastal forests. In Mexico winters in forest edge and scrub clearings with flowers. The resident population on the mainland of southern	Low No habitat; not observed. No feeders or nectar in area

				California is largely restricted to suburban neighborhoods where feeders and flowers are plentiful.	
Lewis's Woodpecker	*Melanerpes lewis*	X	X	Breeds in open arid conifer, oak, and riparian woodlands: rare in coastal areas. Winters in breeding habitat, and oak savannas, orchards, and even in towns.	Low No habitat; not observed
Olive-sided Flycatcher	*Contopus cooperi*	X	X	Montane and northern coniferous forests, at forest edges and openings such as meadows, and at ponds and bags. Winters at forest edges and clearings where tall trees or snags are present.	Low No habitat; not observed
Willow Flycatcher	*Empidonax trailii*	X	X	Breeds in moist, shrubby areas, often with standing or running water. Winters in shrubby clearings and	Low No habitat; not observed

				early successional growth.	
Loggerhead Shrike	*Lanius ludovicianus*	X	X	Open or brushy areas.	Low No habitat; not observed. No thorny trees available
Bell's Vireo	*Vireo bellii*	X	X	Dense, low, shrubby vegetation generally early successional stages in riparian areas, brushy fields, young second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions.	Low No habitat; not observed
Gray Vireo	*Vireo vicinior*	X	X	Found in desert scrub, mixed oak-juniper and pinyon-juniper woodlands, dry chaparral, and thorn scrub in hot, arid mountains and high-plains.	Low No habitat; not observed
Horned Lark	*Eremophila alpestris*		X	Open, barren country including dirt fields, gravel ridges, and shores.	Low No Habitat; none observed

				Prefers bare ground to short grasses.	
LeConte's Thrasher	*Toxostoma lecontei*	X	X	Desert scrub, mesquite, tall riparian brush and, locally, chaparral.	Low No habitat; not observed
Yellow Warbler	*Dendroica petechia*	X		Breeds in wet, decidious thickets, especially in willows and adler. Also in shrubby areas, old fields, gardens and orchards. In southern Florida and farther south, found in mangroves.	Low No habitat; not observed
Common Yellowthroat	*Geothlypis trichas*	X		Thick vegetation from wetlands to prairies to pine forests. Frequently near water.	Low No habitat; not observed
Rufous-winged Sparrow	*Aimophila carpalis*		X	Found in flat areas of tall desert grass mixed with brush and cactus, and thorn scrub.	Low No habitat; not observed
Brewer's Sparrow	*Euphagus cyanocephalus*	X	X	Found in a variety of habitats, but prefers open, human-modified areas, such as farmland, fields, residential lawns, and urban parks.	Low No habitat; not observed

Black-chinned Sparrow	*Spizella atrogularis*	X	X	Arid brushland, commonly in tall and fairly dense sagebrush, and dry chaparral. Often in rocky, rugged country from sea level to around 8,900 ft (2700m).	Low No habitat; not observed
Tricolored Blackbird	*Agelaius tricolor*	X	X	Breeds in marsh vegetation, particulary cattails, near grain fields, riparian scrublnd, and forests, but always near water. Dairies and feedlots also commonly used for foraging. Urban and suburban areas occasinoally utilized, particularly park lawns. Cultivated lands also suitable for foraging. Large night-time roosts form during nonbreeding season in cattail marshes near foraging grounds.	Low No habitat; not observed
Lawrence's Goldfinch	*Carduelis lawrencei*	X	X	Prefers dry interior foothills, mountain valleys, open woodlands, chaparral, and weedy	Low No habitat; not observed

				fields. Often found near isolated water sources such as springs and cattle troughs.	

APPENDIX B
PHOTOGRAPHS

PHOTOGRAPHS

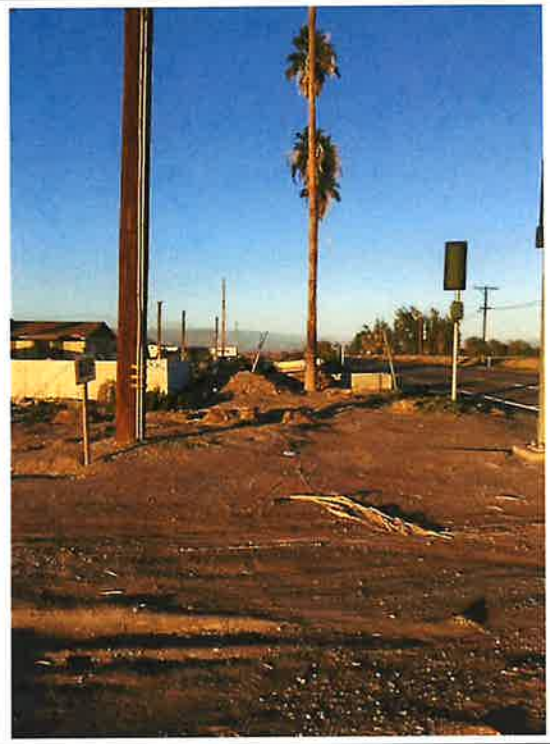
1. Looking south from northern portion of project site; agricultural crop

2. Facing east from northwest portion of project site; agricultural crop

3. Looking west at southern border of alfalfa field; alfalfa and ruderal vegetation on site

4. Project site facing SE from SW corner

5. Concrete lined ditch facing north from Kemp road facing north



6. On the south side of SR 98 looking west, to the SW is the house and few buildings; off site

7. Saltbush on site

8. Dirt ditch at middle road between fields; alfalfa

9. Kemp Rd and SR 98 facing west at seeded ag field across SR 98

10. Southeast corner facing south

11. Looking east at intersection of Kemp Road and southern alfalfa field; offsite adjacent to site

12. Southeast corner facing north

APPENDIX C
SPECIES FOUND ONSITE AND VICINITY

VEGETATION OBSERVED ON/ADJACENT TO THE PROJECT SITE:

Common name	Scientific name	Cal-IPC Rating*
Alfalfa	*Medicago sativa*	None
Arrowweed	*Pluchea sericea*	None
Phragmites	*Phragmites australis*	None
Iodine bush	*Allenrolfea occidentalis*	None
Mesquite	*Prosopis glandulosa*	None
4 wing Salt bush	*Atriplex canescens*	None
Saltcedar	*Tamarix sp.*	Ca Noxious Weed Cal-IPC rating: High *

Cal-Invasive Plant Council
*High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

ANIMALS/INVERTEBRATES OBSERVED ON/ADJACENT TO SITE

Common name	Scientific name
Black phoebe	*Sayornis nigricans*
Black-tailed gnatcatcher	*Polioptila melanura*
Cooper's hawk	*Accipiter cooperii*
Double-crested cormorant	*Phalacrocorax auritus*
Eurasian collared dove	*Streptopelia decaocto*
Gambel's Quail	*Callipepla gambelii*
Great-tailed Grackle	*Quiscalus mexicanus*
Great blue heron	*Ardea herodias*
Mourning dove	*Zenaida macroura*
Says Phoebe	*Sayornis saya*
Canine tracks	*unknown*
Cottontail rabbit	*Sylvilagus audubonii*

APPENDIX D
QUALIFICATIONS

GLENNA MARIE BARRETT

PO Box 636 Imperial, California 92251 (760) 425-0688
glennabarrett@outlook.com

PROFILE

Organized and focused individual, adept at implementing multifaceted projects while working alone or as an integral part of a team .Skilled in client/employee communications ,report preparation ,program analyses and development. Cost conscious ,safety oriented and empathetic .A strong communicator with excellent interpersonal skills ,which allows development of rapport with individuals on all levels . A sound professional attitude ,strong work ethic and pride in personal performance.

WORK EXPERIENCE

Senior Biologist Barrett's Biological Surveys, Imperial County, CA April 2016-currently.
Principal Biological Consultant, Barrett Enterprises. Imperial, CA December 2001 - currently. Compile information and complete local, state, and federal government forms; such as conditional use permits, reclamation plan applications, Financial Assurance Cost Estimates, zone changes, CEQA, Environmental Evaluation Committee responses, and 501 (c)(3) tax exemption applications. Act as liaison between local businesses and local, state, and federal government agencies. Certified to survey for Flat-Tailed Horned Lizards in California and Arizona. Certified to survey the Desert Tortoise.
Kruger- Environmental Compliance Coordinator (ECC) for Seville Solar Complex for a 626-acre solar farm in Imperial County, CA. Compiled and submitted data and reports for APCD such as equipment lists and man hours, water hours for dust suppression; Planning reports such as weekly monitoring reports and scheduling with the third party monitor for work on BLM land; Assisted in writing the Emergency Response Action Plan; CDFW quarterly reports for the Incidental Take Permit for the Flat Tail Horned Lizard (FTHL), CNDDB reports, FTHL Observation Data Sheets, site tours and any other information required by CDFW; Agriculture Commissioner's Office quarterly reports; provided the hazardous reporting information for the CERS online reporting system; assisted writing the FTHL ITP; trained new hires; contacted various local businesses for different on-call services; also provided any updates for plans and schedules necessary throughout the life of the project; etc. (January 2015- March 2016).
Grant writing experience: Awarded two grants for BUOW educational programs for $15,000 each from Imperial Valley Community Foundation. Awarded $35,700 for a total of $75,000 with matching funds to establish the Imperial Valley Small Business Development Center with the Imperial Reginal Alliance. Awarded $450,000 from the California Public Utilities Commission for a broadband connectivity initiative in Imperial County with Imperial Reginal Alliance and Imperial Valley Economic Development Corporation (IVEDC).

FIELD EXPERIENCE

Ms. Barrett has done the field work and contributed to the required reports for the following projects:
•**8ME-Burrowing Owl/MBTA/Avian Mortality Monitoring and training for the Mount Signal Solar Projects** in Calexico, CA (April 2010-currently)
•**Salton Sea Species Conservation Habitat Project** - Imperial County, CA: Nov 2020 -current monitoring construction for desert pupfish, Ridgway Rails and other species. Found both species on site and consulted with agencies for protective measures.
•**Burrtec- FTHL/MBTA Surveys** in Salton City, CA: Team leader for eight people to complete a pre-construction site sweep for 320 acres in Imperial County. 2014-2022
•**Applied Biological Consulting- Approved Biological Monitor on DPV2**: The 500kV transmission line traverses approximately 153 mi from Bythe, CA to Menifee in Riverside County, CA. Crossing private,

state and Federal lands, such as the Bureau of Land Management [BLM], U.S. Forest Service [USFS]. Desert tortoise, nesting birds, fringe toed lizard, flat tailed lizard (November 2011 to May 31, 2013)

- **Chandi Group,** Conduct Habitat Assessment Survey (as outlined in Western

Riverside Multispecies Habitat Conservation Plan: Burrowing Owl/Narrow Endemic Species) within the City of Jurupa Valley, Riverside County, 2015

EDUCATION AND TRAINING

Received Bachelor of Science in Business Administration with a focus on Management, along with Economics and Leadership minors, December 2000. Humboldt State University, Arcata, CA.

Special Status/listed species observed/ identified, surveyed, monitored and/or relocated: Mohave desert tortoise, Coachella valley milkvetch, Desert kit fox, Mountain lion, Coachella valley fringe toed lizard, Mohave fringe toed lizard, Stephen's kangaroo rat, Mohave ground squirrel, Coast horned lizard, Flat-Tail Horned lizard, Burrowing Owl.

Extensive knowledge in southwestern United States, non-migratory and migratory avian biology and ecology. Strong knowledge of common Flora and Fauna communities associated with Southern California and surrounding environs. CEQA, NEPA, California Endangered Species Act (CESA) and Federal Endangered Species Act (ESA) knowledge gained through work experience. I have excellent analytical skills, multi-tasking and writing abilities. My past work experience has provided me with many years of hands on experience working with and managing others to find practical solutions to solve problems and achieve common goals.

CERTIFICATIONS/ WORKSHOPS

- Desert Pupfish Training CA Department of Fish and Wildlife Sharon Keeney, Summer/Fall 2019-21
- Introduction to Plant Identification CA Native Plant Society June. 2019
- FTHL Workshop, 2008 El Centro BLM office.
- Yuma Clapper Rail Training Colorado River Yuma Bird Festival AZ Game and Fish 2008
- USFW Desert Tortoise Egg Handling Desert Tortoise Council Survey Techniques Workshop Certificate, 2008 and 2010.
- Anza Borrego State Park Wildflower Identification Workshop, 2010.
- Southwest Willow Flycatcher Workshop Kernville, CA, 2010.
- SCE TRTP Construction Monitoring Training Class and WEAP Redlands, CA 2011.
- DPV2 Construction Monitoring Training Class and WEAP Santa Ana, CA 2011.
- Helicopter flight trained on DPV2, 2012.
- Certified to handle/ move venomous snakes on DPV2, 2012.
- Bat monitoring with Ms. Pat Brown BLM El Centro, CA Office, 2010.
- Salton Sea International Bird Festival 2007 Coordinator
- Mountain Plover/ Long-billed Curlew surveys, L.A. Museum of Natural History
- Presented at the Fourth Annual BUOW Symposium in Pasco, Washington, 2014.
- Board Member- Colorado River Citizens Forum, 2014-2016.
- BUOW Educational outreach grantee from IVCF, interacting with IID, IVROP, ICFB, Ag Commissioner's Office, 2015.
- Friends of the Sonny Bono National Wildlife Refuge, Member 2015

Jeremy Scheffler
181 Branding Iron
Imperial, CA 92251
jscheffler29@gmail.com
760-457-5154

INTRO:

I am a recent graduate from CSU Chico, and I majored in Environmental Science. I pride myself on my problem-solving abilities and my capacity to view situations through different perspectives to find a solution.

EDUCATION:

August 2016- May 2020	***California State University, Chico*** Undergraduate, Senior GPA: 3.04 Environmental Science: Atmosphere & Climate Pathway Minor: Sustainability
August 2012- June 2016	***Imperial High School, Imperial, CA*** Diploma, June 2016 GPA: 3.4

SKILLS:

-Experience with tools
-Knowledge of Plant and Insects
-Experience creating/presenting reports
-Analyzing Data
-Experience with groups to complete assignments
-Experience with inspection of ag commodities
-Familiarity with ArcGIS software
-Communication (Written & Verbal)

EXPERIENCE:

April 11,2021	**Wildlife Biologist**, Imperial County, Niland, CA Working with Barrett's Biological Surveys performed transects on 100 acres observing for desert tortoise, Harwoods' milkvetch and American badger.
April 2, 2021	***Wildlife Biologist,*** Imperial County, Winterhaven, CA Working with Barrett's Biological Surveys performed a pedestrian nesting bird survey on a linear project of 1mile. Found nesting egrets in a rookery.
March 1 - Current (2021)	***Agriculture Biologist,* Imperial County, El Centro, CA** -Enforce compliance of CCR and CFAC -Inspect and investigate pesticide use and incidents -Sample and ship specimens to lab for ID
September 21 - February 16 (2021)	***Agriculture Technician,* CDFA, Winterhaven, CA** -Enforce CA Food and Ag Code -Inspect Ag commodities for invasive pests -Input necessary data into computer
January 24 – May 15 (2020)	***Teaching Assistant/ Grader,* Shane Mayor, CSU Chico** -Teaching Assistant for the Weather Class -Assist Students With Help on Course Material -Grade Assignments and Tests

RELEVANT COURSE WORK:

-Ecology (Fall 2018)
-Earth System Science (Sp. 2019)
-Sustainability Issues (Fall 2019)
-Evolutionary Biology (Sp. 2018)
-Water & Soils (Fall 2017)
-Senior Seminar in Environmental Science (Sp. 2020)

ACHIEVEMENTS:

Spring 2020	***Sustainability Leadership*, Certificate,** CSU Chico
Spring 2020	***Dean's Honor List*, Certificate,** CSU Chico
Fall 2019	***Dean's Honor List*, Certificate**, CSU Chico

Jacob Calanno
Post Office Box 458
Niland, California 92257
760-550-4214

SPECIALTIES: Biological Surveys and Monitoring, Mechanical Process Applications, Field operations.

EDUCATION: Imperial Valley College, Imperial, Ca. - Municipal Water and Waste Water Treatment; Licensing pending.

COMPUTER SKILLS: Basic computer skills, Lab View for Engineers.

CERTIFIED SPECIALIZED TRAINING:
Environmental Review & Compliance for Natural Gas Facilities Seminar- June 5-7, 2012
Desert tortoise Surveying, Monitoring and Handling Techniques Certificate Nov. 5-6, 2012
Flat Tail Horn Lizard Training- June 20, 2012
Introduction to Plant Identification, CA Native Plant Society, June, 2019
Desert Pupfish Training CA Department of Fish and Wildlife, Sharon Keeney, Summer Fall 2019
40 Hour Hazwoper Feb. 8, 2013
CALIFORNIA OSHA TITLE-2011
Confine Space Training, 2005
Lockout/Tagout , 2005
Respirator Training, 2005
Operators Safety Training, 2005
Foreman Field Crew Supervisory and Operations Training, 2005

SUMMARY: Biological surveyor and Monitor/ Field Operations Crew Foreman/Operations Technician
For the past ten years I have been specifically working on biological surveys and monitoring including burrowing owl, flat tail horned lizard, desert tortoise and migratory birds. I have 15 years' experience in the environmental remediation industry. My area of expertise is in biological monitoring, remedial mechanical applications, equipment, operations and maintenance programs.
Training and hands on experience working in the field with endangered species:
Desert Tortoise and the Flat Tail Horned Lizard, Desert Pupfish, Ridgway Rail followed compliance policy and procedure when encountering endangered species. This training was received while working on specific projects such as:

WORK EXPERIENCE:

2012-18 Barrett's Biological Surveys
Salton Sea Species Conservation Habitat Project: Imperial, CA: Nov 2020 -current monitoring construction for desert pupfish, Ridgway Rails and other species. Found both species on site and consulted with agencies for protective measures. 8 hrs/day/5 days per week
Project Salton City Burrtec Landfill: 320 acre clearance and provided FTHL training to construction crew(42 hrs)
Project AECOM/IID Burrowing Owl habitat surveys June, 2015
Project Imperial County Public Works Desert Tortoise/MBTA monitoring: 195.7 hours at Walters Camp, near Palo Verde, CA
Project Mesquite Mine: 30 acre desert tortoise clearance; fence installation monitoring (25 hrs)
Project Oat Mine: FTHL monitoring (186 hrs)
Project CalTrans: FTHL monitoring (50 hrs)
Project: Arms and Dudes Film Project FTHL/MBTA monitoring (181 hours)
Project Niland Wastewater Project BUOW/Biological surveys (5 days)

Project: Hell's Kitchen MBTA Nesting Bird/Burrowing Owl Surveys (5 days)
BLM, El Centro, CA office: Volunteer Bat Surveys with Pat Brown (20 hours)
CDFW, Avian Carcass Collection Volunteer (5 hours)

2005 to 2010 Volper, LLC, Burbank, Ca.
Provided field supervision of construction
Responsibilities include plan and coordinate field construction and activities, field reports and tracking hours.
Manager/Grower

2003 to 2005 Cape Environmental, Irvine, California
Field Operations Supervisor/Sr. Operations Technician
Provided technical equipment applications support on various environmental remediation projects.
Responsibilities included; construction, planning and field supervision for the installation, operation and maintenance of ground water remediation equipment.

2000 to 2003 Foster Wheeler Environmental, San Diego, California
Field Operation Supervisor/Sr. Operations Technician
Provided technical equipment applications support on various environmental remediation projects.
Responsibilities included; construction, planning and field supervision for the installation, operation and maintenance of ground water remediation equipment.

REFERENCES:

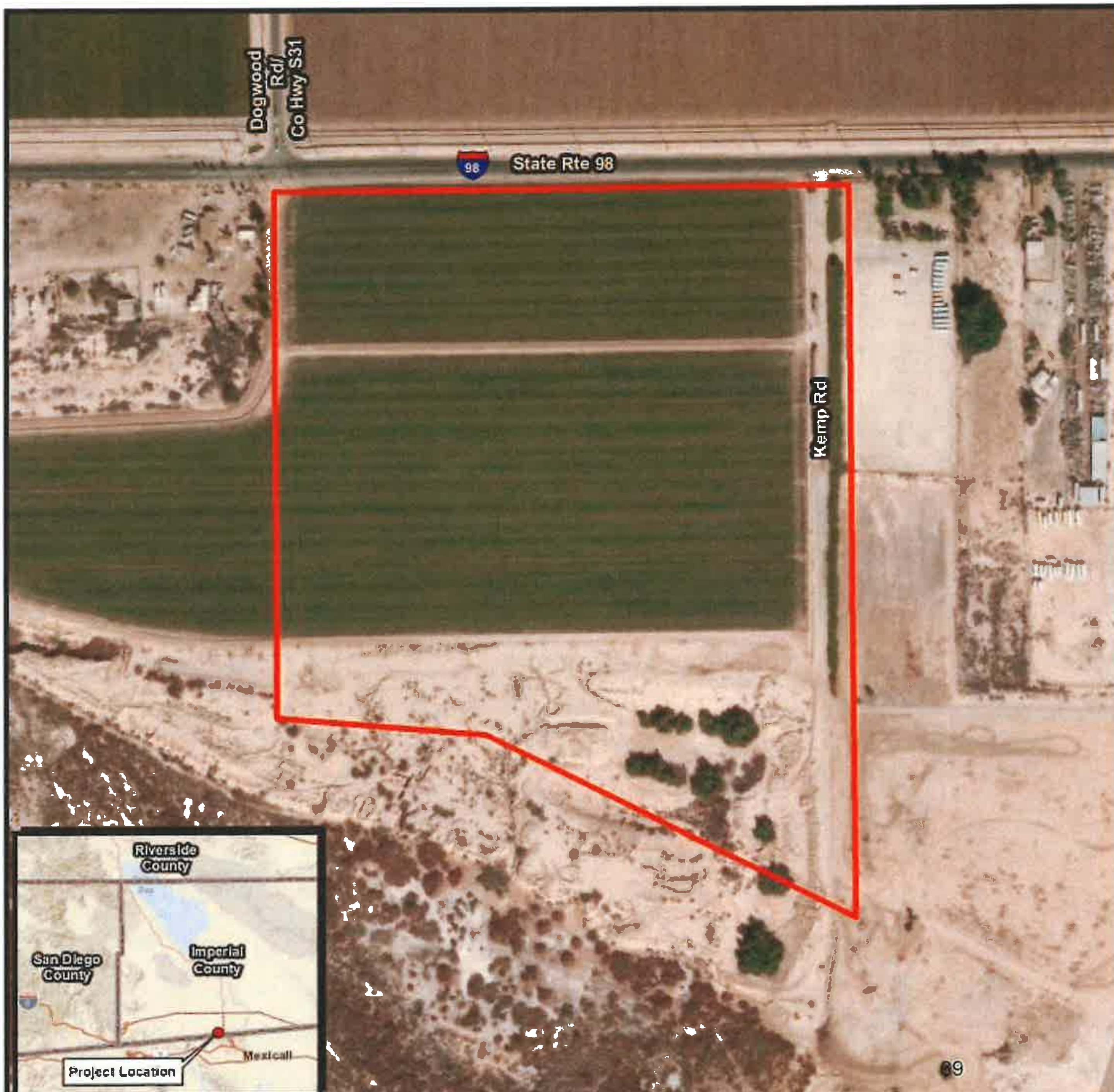
Mr. Fredrick Rivera
IR Manager,
Naval Air Facility - El Centro
760-339-2226

Marie Barrett
2035 Forrester Rd
El Centro, CA 92243
760 427 7006

Ed Cooney
Engineering Technician
FEAD/PW Bldg.504 NAF El Centro, CA 92243
760-339-2469

FIGURE 1
PROJECT LOCATION MAP

PROJECT LOCATION MAP



Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

FIGURE 2
BIOLOGICAL RESOURCES MAP


Trimble
Agricultural area
Birch lat 3 Canal
CA-98 & Kemp Rd
Alfalfa
Residential area
Vacant lot
Commercial lot
Alfalfa
All American Canal
Chargers 98 Biologial Map
Ruderal lot
Saltcedar
Ruderal vegetation
Vacant lot
Nosotros Little League
Google Earth
1000 ft

FIGURE 3
FEMA/Soil Maps

National Flood Hazard Layer FIRMette

FEMA

115°32'4"W 32°40'54"N

115°31'26"W 32°40'24"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/12/2022 at 2:01 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Imperial County, California, Imperial Valley Area

Map Scale: 1:3,340 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
Area of Interest (AOI)

Soils
Soil Map Unit Polygons
Soil Map Unit Lines
Soil Map Unit Points

Special Point Features
Blowout
Borrow Pit
Clay Spot
Closed Depression
Gravel Pit
Gravelly Spot
Landfill
Lava Flow
Marsh or swamp
Mine or Quarry
Miscellaneous Water
Perennial Water
Rock Outcrop
Saline Spot
Sandy Spot
Severely Eroded Spot
Sinkhole
Slide or Slip
Sodic Spot
Spoil Area
Stony Spot
Very Stony Spot
Wet Spot
Other
Special Line Features

Water Features
Streams and Canals

Transportation
Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background
Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 14, Sep 1, 2022

Soil map units are labeled (as space allowed) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 17, 2021—May 22, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102	Badland	3.3	6.8%
114	Imperial silty clay, wet	35.2	72.5%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	2.0	4.2%
122	Meloland very fine sandy loam, wet	8.0	16.5%
Totals for Area of Interest		**48.5**	**100.0%**

CULTURAL RESOURCES SURVEY REPORT FOR THE CAL98 HOLDINGS TRUCKING FACILITY IMPERIAL COUNTY, CALIFORNIA

Prepared for:

Dubose Design Group Inc.
1065 State Street
El Centro, CA, 92243

Submitted by:

Tierra Environmental Services
10650 Scripps Ranch Boulevard, Suite 105
San Diego, CA 92131

Michael Baksh, Ph.D.
Bobby Bolger Ed.M, RPA

July 03, 2023

National Archaeological Data Base Information
Type of Study: Cultural Resources Survey
Sites: N/A
USGS Quadrangles: Heber 7.5' Quadrangle (1:25,000)
Area: 45.7 Acres
Key Words: Imperial County, Kumeyaay, Lake Cahuilla, Negative Archaeological Survey

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ABSTRACT

Tierra Environmental Services (Tierra) was retained to conduct an intensive archaeological survey of 45.7 acres for the Cal98 Holdings Trucking Facility Project (Project)in Imperial County, California. The Project intends a zone change (#22-0005) and Conditional Use Permit (#22-0024) to construct a trucking facility to service the needs of vehicles utilizing the adjacent Highway 98, leading from the border town of Calexico in the east to the community of Ocotillo in the west. Archaeological and historical research included a records search, literature review, examination of historic maps, and an intensive pedestrian survey of the Property.

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA) and its respective implementing regulations and guidelines. The County of Imperial will assume the role of lead agency for the Project.

The record search was conducted by the South Coastal Information Center (SCIC) at San Diego State University to identify any previously recorded cultural resources within the Project area and to determine the types of resources that might occur in the Project area. The records search identified five cultural studies and six resources (all designated as Historic) previously recorded within a half-mile search radius, with no previously recorded resources identified within the Project area.

A Native American Contact Program has been initiated to ascertain further prehistoric knowledge from the local Tribes and the Native American Heritage Commission. The Native American Heritage Commission notified Imperial County of a positive result for the broader general area in a search of their Sacred Lands File for The Ewwiiaapaayp and Viejas Bands, who were contacted regarding the project and confirmed that the specific Project area does not overlap with their known Sacred Lands Site(s).

In addition to the archival research, Bobby Bolger, RPA conducted an intensive pedestrian survey of the Project area on March 8, 2023. Overall surface visibility within the Project area was good within the southern portion of the Project area having very high surface visibility attributed to being raw and lightly vegetated desert landscape while the northern portion of the site had fair to poor surface visibility attributed to its use as an active agricultural field with crops currently growing throughout it. No new resources were discovered within the Project area. At the request of Imperial County, additional land south of the Project area was also surveyed and a single new resource (a Historic trash dump) was identified and recorded south of the project site along the eroding cliffs overlooking the New River. Based on its location well outside the Project boundaries, it is not expected to be impacted by Project construction or activities. No further archaeological work is recommended at this time.

In the event unanticipated, buried prehistoric archaeological resources (lithic material, faunal, pottery, etc.) or historical archaeological resources (ceramics, building materials, glassware, etc.) are unearthed during construction or any ground disturbing activities within the Project area, additional resource treatments would become necessary. Once a potential resource has been identified, all work within 100 feet must be halted until the find can be assessed by a qualified archaeologist.

If human remains are encountered during the proposed work, no further excavation or disturbance may occur in the vicinity of the find until the County coroner has been contacted. California Health and Safety Cod 7050.5 states (a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the Public Resources Code. (b) In the event of discovery or recognition of any human remains in any location other than a dedicated

cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains area discovered has determined that the remains are not subject to the provisions of Section 27481. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or to his or her authorized representative, notifies the coroner of the discovery if recognition of human remains. (c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

I. INTRODUCTION

A. Project Description

Tierra Environmental Services, Inc. (Tierra) conducted a cultural resources study in support of The Cal98 Holdings Trucking Facility Project (Project). The Project intends a zone change and Conditional Use Permit for the proposed plans to develop the property to construct a trucking facility to service the needs of vehicles utilizing the adjacent Highway 98, leading from the border town of Calexico in the east to the community of Ocotillo in the west.

The Project site is situated on APN/Parcel 058-080-001 immediately west of Calexico in southern Imperial County, California (Figure 1). The Project site is located immediately southwest of the intersection of Dogwood Road and California State Route 98, approximately 0.8 miles north of the Mexico/U.S. Border, and adjacent to (north of) the New River that connects to the Salton Sea. The Project site is located 0.2 miles west of the All-American Canal and shares its northern border with California State Route (SR) 98 (SR-98 within Section 11, Township 17 South, Range 14 East, on the Heber 7.5' California (1:24,000) USGS Quadrangle (Figure 2). Surrounding land uses include residential, industrial, commercial, and agricultural land (Figure 3).

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA) and its respective implementing regulations and guidelines. The Imperial County Planning & Development Services Department will act as the "Lead Agency" for the Project.

B. Project Personnel

The cultural resource inventory has been conducted by Tierra Environmental Services (Tierra), whose cultural resources staff meets federal, state, and local requirements. Dr. Michael G. Baksh served as Principal Investigator and provided overall Project management. Dr. Baksh has a Ph.D. in Anthropology from the University of California at Los Angeles and has more than 35 years conducting archaeological investigations within the southwestern United States in compliance with Section 106 of the NHPA. Mr. Bobby Bolger, RPA served as primary report author and field crew chief. Mr. Bolger has a B.A. in Anthropology from the University of California at Berkeley, an Ed.M from SUNY Buffalo and 16 years of experience in southern California archaeology. Resumes of lead Project personnel are included in Appendix A.

C. Structure of the Report

This report follows the State Historic Preservation Office's guidelines for Archaeological Resource Management Reports (ARMR). The report introduction provides a description of the project and associated personnel. Section II provides background on the Project site and previous research. Section III describes the research design and survey methods, while Section IV describes the inventory results, including individual site descriptions. Section V provides a summary and recommendations.

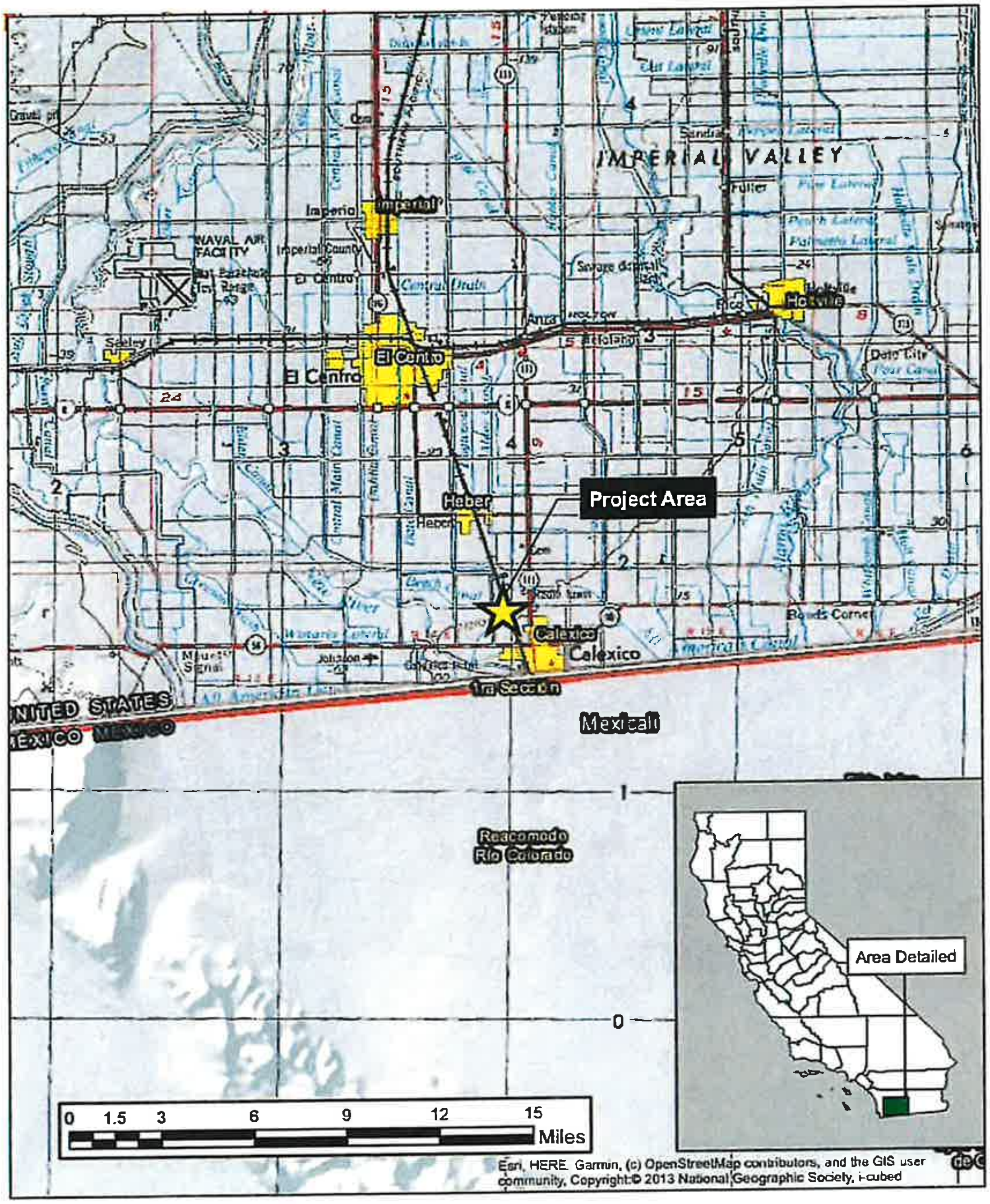
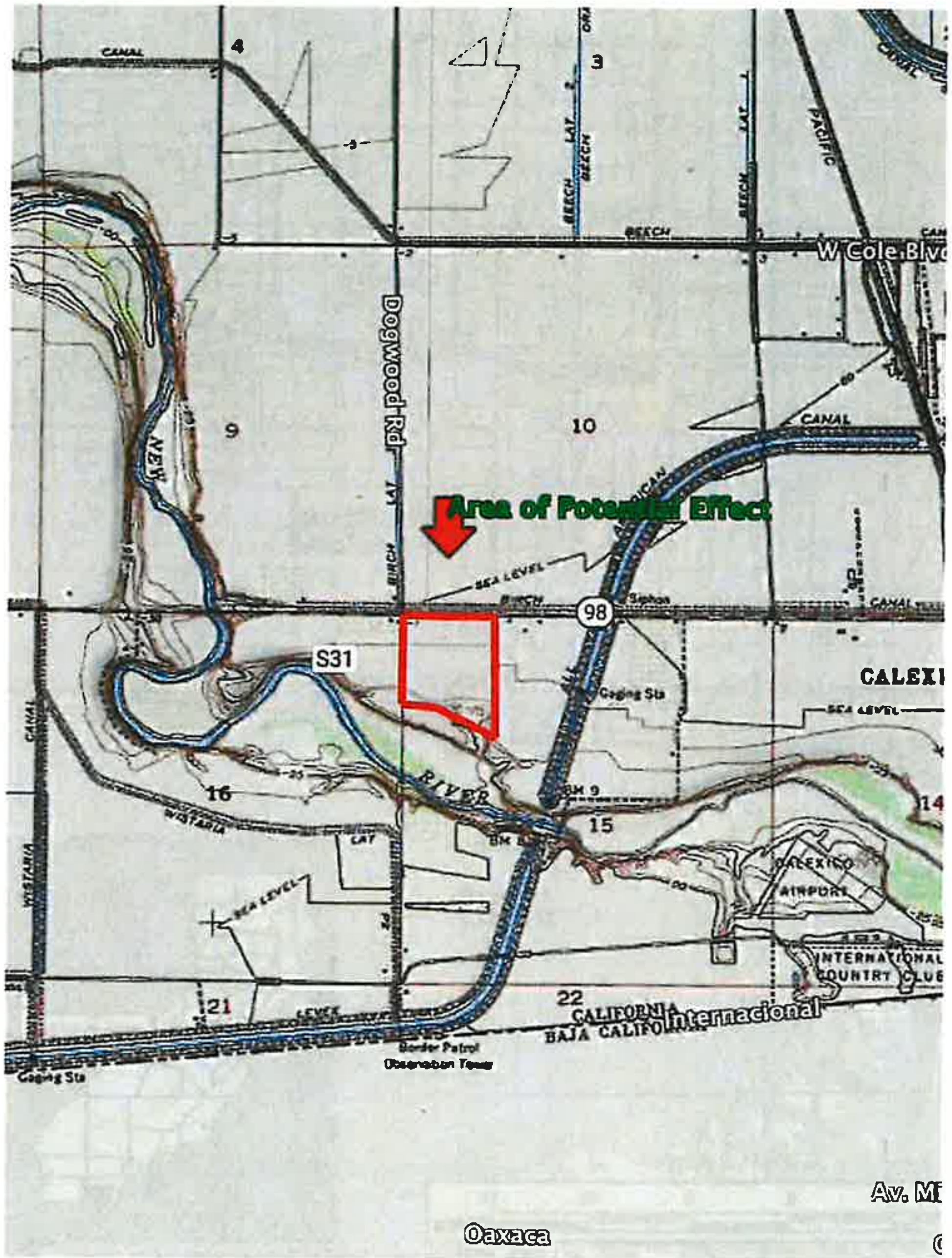


Figure 1. Regional Location Map

TIERRA
ENVIRONMENTAL SERVICES



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Copyright© 2013 National Geographic Society, i-cubed

USGS 7.5' Quadrangle:

N

0 1000 2000
FEET

Figure 2. Project Location Map

TIERRA
ENVIRONMENTAL SERVICES

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Imagery Date: May 2023

Figure 3. Area of Potential Effects

TIERRA
ENVIRONMENTAL SERVICES

II. NATURAL AND CULTURAL SETTING

The following environmental and cultural background provides a context for the cultural resource inventory.

A. Natural Setting

The Project area is relatively flat and is located in what was once the lakebed of the prehistoric Lake Cahuilla. During the late Cretaceous (>100 million years ago) a granitic and gabbroic batholith was being formed under and west of the Project area. This batholith was uplifted and now forms the granitic rocks and outcrops of the San Jacinto Mountains. At about the same time that these mountains were being uplifted, the Salton Trough was dropping, reaching points well below sea level. The Salton Trough to the north of the Project area began slowly filling with sediments from streams draining the adjacent mountains and from the Colorado River. The Colorado River occasionally shifted from its Gulf of California delta and flowed north into the Salton Trough, forming freshwater Lake Cahuilla.

At its highest level, this body of water covered more than 60 miles of the lowest portion of the basin. Lake Cahuilla was a resource that had profound effects on the prehistoric people who lived in the Project area and groups in the surrounding region. This lake probably last existed in the 1500s (Laylander 1994). It supplied the southern Coachella Valley and northern Imperial Valley with not only water but other lacustrine resources such as freshwater mussels, waterfowl, and fish. Even without the support of direct flow from the Colorado River, the Salton Basin, Borrego, and other dry lake basins would sometimes contain seasonal shallow ponds supplying additional water resources (Bean 1972).

The proposed Project area is located approximately 0.8 miles north of the Mexico/U.S. Border, 0.2 miles west of the All-American Canal, directly adjacent and south of State Route 98, and a few hundred meters north of the New River that connects to the Salton Sea. Nearby existing developments include residential, industrial, commercial, and agricultural land.

The City Calexico (City) is a port of entry and trade and shipping center within Imperial County. The City is heavily characterized by industrial, agricultural, and residential development. The Property is just north of the U.S. and Mexico border and the city of Mexicali, Mexico. The City is incorporated and within the jurisdiction of the County of Imperial Valley.

The Project site is located in the southern portion of Imperial County. The elevation of the Property ranges from two feet Below Mean Sea Level (BMSL) to ten feet Below Mean Sea Level. The area is composed of disturbed land consisting of active agricultural fields in the north, vacant desert land interrupted by offroad and target shooting activity in the south, and a small canal alongside the private Kemp Road at the very eastern boundary. There are no permanent structures within the Project site. In the immediate vicinity of the Project site, agricultural fields, vacant desert land, and State Route 98 are visible. Residential development is present just east of the Project site and adjacent to and east of the All-American Canal. The area consists of flat terrain with the active agricultural fields slightly terraced to allow for irrigation via the canals.

The Project area is dependent on water imported from the Colorado River via the All-American Canal located 0.2 miles east of the Project site. This resource has made water readily available for domestic use and agriculture. The New River, located just to the south of the Project site, is not a viable water source due to its contaminated state. The New River is considered to be one of the most polluted rivers in the United

States. The river originates in Mexicali, Mexico, and flows into the U.S. through the City of Calexico. The New River is one of the largest public health issues the County has faced (City of Calexico 2020).

The soils series present within the Project site consists of Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes (USDA N.D.). The Imperial series are typically pinkish gray and light brown, calcareous, silty clay to depths of 60 inches or more. Vegetation consists of saltbush, creosotebush, Sueda, and Allenrolfea; mesquite and Tamarix grow where their roots can reach ground water (USDA 2015). The Glenbar series consists of very deep, well drained soils that formed in stratified stream alluvium. Glenbar soils are on flood plains and alluvial fans and have slopes of 0 to 3 percent. Vegetation consists of creosotebush, mesquite, paloverde, ironwood, salt cedar, cacti, annual weeds and grasses (USDA 2015).

Animal resources in the region include coyotes, rabbits, and various rodent, reptile, and bird species. Coastal resources are located more than 90 miles west and include shellfish and other animal species.

B. Cultural Setting

Paleoindian Period

The earliest well documented prehistoric sites in southern California are identified as belonging to the Paleoindian period, which has locally been termed the San Dieguito complex/tradition. The Paleoindian period is thought to have occurred between 12,000 years ago, or earlier, and 8,000 years ago in this region. Although varying from the well-defined fluted point complexes such as Clovis, the San Dieguito complex is still seen as a hunting focused economy with limited use of seed grinding technology. The economy is generally seen to focus on highly ranked resources such as large mammals and relatively high mobility which may be related to following large game. Archaeological evidence associated with this period has been found around inland dry lakes, on old terrace deposits of the California desert, and also near the coast where it was first documented at the Harris Site.

Early Archaic Period

Native Americans during the Archaic period had a generalized economic focus on hunting and gathering. In many parts of North America, Native Americans chose to replace this economy with types based on horticulture and agriculture. Coastal southern California economies remained largely based on wild resource use until European contact (Willey and Phillips 1958). Changes in hunting technology and other important elements of material culture have created two distinct subdivisions within the Archaic period in southern California.

The Early Archaic period is differentiated from the earlier Paleoindian period by a shift to a more generalized economy and an increased focus on use of grinding and seed processing technology. At sites dated between approximately 8,000 and 1,500 years before present, the increased use of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, identify a range of adaptations to a more diversified set of plant and animal resources. Variations of the Pinto and Elko series projectile points, large bifaces, manos and portable metates, core tools, and heavy use of marine invertebrates in coastal areas are characteristic of this period, but many coastal sites show limited use of diagnostic atlatl points. Major changes in technology within this relatively long chronological unit appear limited. Several scientists have considered changes in projectile point styles and artifact frequencies within the Early Archaic period to be indicative of population movements or units of cultural change (Moratto 1984) but these units are poorly defined locally due to poor site preservation.

During the 1940s and 1950s, D.L. True located a number of Archaic Period sites in inland northern San Diego County that appeared to exhibit an assemblage different from the coastal Archaic material (True 1958, 1980; True and Beemer 1982). These sites were typically on small saddles and hills overlooking stream drainages and were characterized mainly by surface artifact scatters of basin and slab metates, manos, some scraper planes, debitage and rarely discoidals. True originally called this material "Old Complex" sites and later the Pauma Complex (True 1958; True and Beemer 1982). True and Beemer concluded after an examination of a number of Pauma sites, that it was still too early to determine whether there was a relationship between the La Jolla and Pauma materials, and whether that relationship is "temporal, economic, or cultural in nature" (1982:258). Given that the distance between the two very different environments (coastal and inland) is only a few dozen kilometers, and the sites appear to be contemporaneous, it seems most rational that the different materials are seasonal manifestations of a typical single Archaic mobility strategy using coastal and inland resources.

Similar environmental variability exists in the Archaic in the Southwest and other regions, and all varying sites are considered to be different aspects of annual positioning strategies of the same hunter-gatherer groups (Bayham et al. 1986; Sayles 1983; Sayles and Antevs 1941). It seems likely that this is the case in northern San Diego County, but as noted by True and Beemer, "ultimate resolution of this kind of problem requires a direct examination and analysis of each collection by the same investigator" (1982:258). This problem remains an important issue in southern California prehistory.

Late Archaic or Late Prehistoric Period

Around 2,000 B.P., Takic-speaking people from the Great Basin region began migrating into southern California, representing what is called the Late Prehistoric period. The Late Prehistoric period in this portion of Imperial County is recognized archaeologically by smaller Projectile points, the replacement of flexed inhumations with cremation, the introduction of ceramics, and an emphasis on inland plant food collection and processing, especially acorns and mesquite (Kroeber 1925). Inland semi-sedentary villages were established along major water courses and around springs, and montane areas were seasonally occupied to exploit mesquite, acorns, and piñon nuts. Mortars for mesquite and acorn processing increased in frequency relative to seed grinding basins.

The most numerous of the archaeological resources in the Imperial Valley date to the Late Prehistoric period. The majority of the sites studied were small processing sites, associated with the grinding of vegetal resources and dating to the Late Prehistoric period. Larger habitation sites were less common, but displayed a wider range of activities and longer periods of occupation (Jefferson 1974). Typical artifacts at these sites include Desert Side-notched and Cottonwood Triangular Projectile points and Lower Colorado Buff Ware and Tizon Brown Ware ceramics. Lithic artifacts are typically made from chert, volcanic, or quartz material.

The Kamia or Desert Kumeyaay occupied the Project area during this period. The Kamia are a subgroup of the Yuman family of the Hokan stock, and are therefore closely related linguistically to the Mohave, Quechan, Maricopa, Paipai, Cocopa and Kiliwa (Kendall 1983:5). The extreme diversity of Cahuilla territory nearly reflected the range of environmental habitats allowed in inland southern California. Topographically, their territory ranged from the New River and Alamo River sloughs to San Felipe Creek in the north and east to the Algodones Dunes. Ecological habitats included the full range of mountains, valleys, passes, foothills, and desert area (Shipek 1982).

Group size and the degree of social interaction therefore varied over the course of an annual cycle. The basic unit of production was the family, which was capable of great self-sufficiency, but Kamia/Kumeyaay families, like other hunter-gatherers, moved in and out of extended family camps or villages opportunistically as problems or opportunities arose (Lawton and Bean 1968). Thus, whereas single families occasionally exploited low-density, dispersed resources on their own, camps or villages of several families formed at other times, particularly when key resources (such as water) were highly localized.

Going beyond the basic social unit of the family, the Kamia/Kumeyaay were organized by some form of descent system. From the available ethnographic data it is not immediately obvious as to whether they were organized into lineages or clans. Indeed, their features of social organization appear to have shared some qualities of both systems, and it may be speculated that the society had begun evolving from a lineage system to a clan system prior to the time of Western contact. In any case, the Kamia/Kumeyaay traced their descent patrilineally (i.e., through one's father), were exogamous at the level of the descent group (i.e., one had to marry outside one's own lineage or clan), and practiced patrilocal residence (i.e., a married woman lived with her husband's father's relatives). Descent groups apparently "owned" land and certain other resources. According to Kroeber (1925:720), "It would appear that each "clan" owned a tract and that each locality was inhabited by members of one clan, plus their introduced wives". Regarding other resources, Spier (1923:307) observed that some "gens" (i.e., clans) owned patches of certain trees and "Each gens owned one or more eyries from which eaglets were taken for use in the mourning ceremony". Apparently, however, resource ownership did not extend to the oak groves in the mountains (ibid), which probably reflects the extreme importance placed upon this resource for the adaptation and survival of the entire society. Gifford (1931: 50-51) reported that the Kamia had no clan chiefs and recognized a tribal chief like the Quechan, however this form of leadership may have been introduced after European contact.

Important plant foods exploited from the Kamia's diverse habitat included mesquite and screw beans, pinyon nuts, and various cacti. Important but less utilized plants included various seeds, wild fruits and berries, tubers, roots, and greens. Women were instrumental in the collection and preparation of vegetal foods (Gifford 1931).

The extent to which the Kamia/Kumeyaay practiced agriculture at the time of European contact has not been established. Gifford (1931) felt that agriculture, which had been well established among the Colorado River groups at the time of Western influence, had diffused into the Imperial Valley and was practiced by all of the Kamia lineages. Similarly, Lawton and Bean (1968) have suggested that certain Cahuilla groups cultivated corn, beans, squash and melons, like the neighboring Colorado River tribes.

Kamia culture and society remained stable during the period of missionization on the coast. It was not until the American period that Kamia were heavily displaced. The introduction of European diseases greatly reduced the native population of southern California and further disrupted the way of life of the native inhabitants (Lawton and Bean 1968).

Ethnohistoric Period

The Ethnohistoric period refers to a brief period when Native American culture was initially being affected by Euroamerican culture and historical records on Native American activities were limited. When the Spanish colonists began to settle California, the Kamia were on the margins of the mission system. They retained more of their culture due to their distance from mission influence. Although clans moved from place to place within their general territory, some locations were occupied for longer periods and by more people than others (Almstedt 1982:13). These settlements, which may be regarded as villages, "were places to which the people returned from their foraging, where they spent winter months, sometimes in association with other clans Some larger groups appear to have had sizable summer as well as winter villages" (Almstedt 1982:13). Within each village there was a dance floor, extensive milling stations, family living areas, and possibly a sweathouse and granary. If it was a winter camp, a house would have been set directly on the ground and a fireplace built on the ground by the door (Spier 1923:338).

European contact introduced disease that dramatically reduced the Native American population and helped to break down cultural institutions. The transition to a largely Euroamerican lifestyle occurred relatively rapidly in the nineteenth century.

C. Prior Research

The archaeological inventory includes archival and other background studies in addition to Tierra's field survey of the Project. The archival research consisted of literature and records searches at local archaeological repositories in addition to an examination of historic maps, aerial photographs, and historic site inventories. This information was used to identify previously recorded resources and determine the types of resources that might occur in the survey area. The methods and results of the archival research are described below.

The records and literature search for the Project was conducted at the South Coastal Information Center at San Diego State University. The records search included a half-mile radius of the Project site to provide background on the types of sites that would be expected in the region (Appendix B). The records search identified a total of five archaeological investigations, and six previously recorded resources within a half-mile radius of the Project site. Table 1 summarizes the investigations, and Table 2 summarizes the resources. Historic research included an examination of a variety of resources. The current listings of the National Register of Historic Places (NRHP) were checked through the NRHP website. The California Inventory of Historic Resources (State of California 1976) and the California Historical Landmarks (State of California 1992) were also checked for historic resources.

The 1957 Heber (1:62500) USGS Quadrangle shows the presence of no buildings/structures within the Project site. The All-American Canal is visible to the east of the Project site. Kemp Road along the eastern edge of the project is visible but unnamed in the map. No buildings/structures are visible on the most recent topographic maps ranging from 2012 to 2021 (1:24000) USGS Quadrangle, and no evidence of any permanent structures having existed within the Project site were found.

Table 1. the APE	Cultural Resource Investigations Previously Conducted Within a Half-Mile Radius of *shaded (or bolded) entries indicate intersection with current APE		
Report #	Title	Author	Year
IM-00643	Archaeological Examination of the Proposed Ramirez RV Park in Calexico, California	Von Werlhof, Jay et al.	1999
IM-00997	Nextel Wireless Telecommunications Site CA5850A	Wlodarski, Robert J.	2006
IM-01252	Draft Environmental Impact Report - Los Lagos Specific Plan, Calexico, California	HDR	2007
IM-01584	"First Supplemental Historic Property Survey Report for the State Route 98 Widening, Phase 1-B, City of Calexico, Imperial County"	Tsunoda, Koji	2015
IM-01638	Cultural Resources Survey Dogwood – CA/Ensite #17431	Perez, Don C.	2014

Table 2	Cultural Resources Previously Recorded Within a Half-Mile of the APE *shaded entries indicate intersection with the current APE		
Site	Description	Recorder	Year
P-13-007130	Historic Structure. Four-mile segment of an abandoned portion of the original All-American Canal.	HDR, Inc.	1994
P-13-008912	HP04 (Ancillary Building)	Harris Arch Cons.	2005
P-13-008913	AH06 (Water Conveyance System)	Harris Arch Cons.	2005
P-13-008914	AH11 (Walls/fences) Fence	Harris Arch Cons.	2005
P-13-014488	AH04 (Privies/dumps/trash scatters)	ASM Affiliates	2013

Historic aerial photographs, dating from 1953 to 2020, were also analyzed. The 1953 historic aerial photograph shows an almost completely unchanged land usage as is observed in the modern day. This is mirrored in the 1984, 1996, 2002, 2012, and 2020 aerials. From all available evidence, and to the degree of certainty that can be obtained via the resolution of the pictures available, the land usage, agricultural field distribution, and layout of the area has remained the same since at least 1953 (Historic Aerials 2022).

The records search identified a total of six previously recorded cultural resources within a half-mile radius of the Project site. These records provide an idea of the types of cultural resources that might be expected within the Project site. As indicated in Table 2 all of the recorded cultural resources in the project vicinity are historic in age. These sites are composed of a portion of the All-American Canal, a historic building, a historic water conveyance system, a historic fence, and a historic trash scatter.

III. RESEARCH DESIGN AND METHODS

A. Survey Research Design

The goal of the project was to identify any cultural resources that might be affected by the proposed action. To accomplish this goal, background information was examined and assessed, and an intensive pedestrian field survey was conducted to identify cultural remains. Based on the records search and historic map check, cultural resources were not anticipated to be present within the Project site, however, due to the presence of a portion of the All American Canal as well as the New River within the vicinity of the Project site, the presence of historic artifacts and sites was determined as possible, therefore, an intensive pedestrian survey was conducted.

B. Survey Methods

The literature search for the project was conducted at the South Coastal Information Center of the California Archaeological Inventory at San Diego State University. This records search included site records and reports for the Project site and a half-mile radius of the project along with historic research.

The survey of the Project site was conducted by Bobby Bolger, RPA (Tierra Environmental Senior Archaeologist) on March 8, 2023. The intensive survey used 10-meter transects.

Resources identified during the survey were assigned consecutive temporary numbers (*e.g.* PFTT-TES-001) in the field. Furthermore, temporary numbers may contain an "H" suffix, used to denote historic period resources (*e.g.* PFTT-TES-001H) or in the case of a resource representative of both historic and prehistoric periods, the suffix "/H" was added (*e.g.* PFTT-TES-001/H). Resources identified as isolates received an "i" to indicate isolated finds. As per industry standards, historic artifacts or features were recorded in feet and inches while prehistoric resources were recorded using the metric system. All resources assigned with a temporary number will be given permanent trinomials or primary numbers by the SCIC. No ground disturbing activities or artifact collections were undertaken during the course of this study.

IV. SURVEY RESULTS

An intensive pedestrian survey was conducted for the proposed Project by Senior Archaeologist Bobby Bolger, RPA from Tierra Environmental Services on March 8, 2023. The study was conducted to identify potential cultural resources previously not identified within the Project site. Visibility was good in the southern portion of the project area 95% to 100% and fair to poor 25%-50% in the northern agricultural portion of the project area, and the survey utilized 15-meter transects.

The Project site is composed of agricultural fields in the northern portion of the Project area and vacant desert land marred by arroyos, target shooting activity, and offroad usage in the southern portion. Significant trash, metal scraps, evidence of offroad activity, and almost ubiquitous evidence of target shooting were present in the southern portion of the Project area. A historic trash deposit was located south of the Project area's boundaries along the ridgeline overlooking the New River and it is possible that some of the non-diagnostic glass shards and metal debris located throughout the southern portion of the project was also of a historic age, but due to a lack of identifiable characteristics, the fragmentary nature of the debris, and the seeming modern nature of the target shooting and offroad activity that accounted for its current location, no historic resources were noted within the Project area.

The literature and records search identified no previously recorded resources within the Project site, and the survey resulted in no newly recorded cultural resources within the Project site.

As Imperial County had requested that the survey include some transects south of the Project, between the southern project boundary and the New River, further work south of the Project area was included in the survey and resulted in the discovery of a Historic trash dump approximately 225 feet south of the southern APN boundary for the Project. This site is not expected to be impacted by Project construction.

Photograph 1. Agricultural Fields (APN 058-080-001-000), View South

Photograph 2. Vacant Desert Land (APN 058-080-001-000), View Northwest

Photograph 3. Agricultural Fields and Canal (APN 058-080-001-000), View South Southwest

Photograph 4. Evidence of Offroading Activity (APN 058-080-001-000), View South Southeast

V. SUMMARY AND RECOMMENDATIONS

This cultural investigation was undertaken in response to the proposed Cal98 Holdings Trucking Facility Project, which included a pedestrian survey, a record search at the SCIC, and a Native American Contact Program. The goal of the project was to identify resources that may be impacted by the project.

The Project intends a zone change and Condition Use Permit for the proposed plans to develop the property for use as a trucking facility along State Route 98.

A pedestrian survey was conducted to ascertain if any cultural resources may be present within the Project area and subsequently impacted by the proposed Project. The results of the pedestrian survey were negative with no previously or newly recorded resources identified within the Project site. Significant trash and debris were located within the southern portion of the site and the only permanent facilities within the Project area are an agricultural canal and dirt road. These facilities are not known to be affiliated with anyone of significance, contribute to any broad pattern of local cultural heritage, nor yield additional information to local history further making it not eligible for listing on the CRHR. These facilities are not considered culturally significant; therefore, they were not recorded as historic resources.

A records search resulted in five cultural studies previously conducted within a one-half mile radius of the Project area and six previously recorded resources identified within a mile radius of the Project site, none of which have been recorded within the Project site.

A Native American Contact Program has been enacted with local Tribes and the Native American Heritage Commission. Calls were placed to Ewwiiaapaayp and Viejas Bands of the Kumeyaay over a potential positive result of the Sacred Lands File, but both governments formally responded to inform Tierra Environmental Services that the Project area did not contain areas of sensitive cultural importance to their respective tribal organizations.

A. Regulatory Framework

For the purposes of this report, cultural resources describe any expression of human activity on the landscape whether past or present. Within the cultural resources framework are resource types including but not limited to, prehistoric archaeological sites, historical archeological sites, districts, historical buildings and structures, ethnographic sites, Traditional Cultural Properties (TCPs), and isolated artifacts and features. Each of these resources may be evaluated for their potential significance, and if determined eligible to the California Register, are designated as "historic properties".

This archaeological investigation was conducted in compliance with California Environmental Quality Act (CEQA) requirements pertaining to the determination of whether the proposed Project may have an affect on significant cultural resources (PRC 21083.2 and CCR 15064.5). According to CEQA, an impact is considered significant if it would disrupt or adversely affect a prehistoric or historic-era archaeological site or a property of historic or cultural significance to a community, ethnic or social group. The State CEQA Guidelines define a significant historical resource as a resource listed or eligible for listing on the California Register of Historic Resources (CRHR) (PRC 5024.1). A historical resource may be eligible for inclusion in the CRHR if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or is likely to yield, information important in prehistory or history.

Significant cultural resources may be avoided by the proposed Project through a redesign of the Project or construction planning, or protected and preserved through various means. If avoidance or protection of a significant cultural resource is not possible, mitigation measures shall be required as set forth in Public Resources Code 21083.2 (c-1). A non-significant cultural resource need not be given any further consideration (PRC 21083.2 [h]).

B. Recommendations

Of the six resources recorded within a mile radius of the Project site, none have been previously recorded within the Project site and no new cultural resources were recorded within the Project area during the intensive pedestrian survey. A historic trash dump was located south of the Project area but is not expected to be impacted by Project activities. No further archaeological work is recommended at this time.

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APPENDIX A

RESUMES OF PRINCIPAL PERSONNEL

CONFIDENTIAL APPENDIX
Not for Public Review

APPENDIX B

ARCHAEOLOGICAL RECORDS SEARCH RESULTS

This Document is Confidential Under California Government Code 6254.10 &
the National Historic Preservation Act, Section 304 & Other Applicable Federal, State, & Local
Laws & Regulations Prohibiting Public &
Unauthorized Disclosure of Records Related to Cultural Resources

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IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

NOISE STUDY REPORT
FOR
CAL98 CHARGER LOGISTICS PROJECT
CALEXICO, CALIFORNIA

Prepared for:

DuBose Design Group
1065 State Street
El Centro, California 92243

Prepared By:

UltraSystems Environmental
16431 Scientific Way
Irvine, California 92618-4355

Job No. 7189

September 2022

This noise analysis was prepared in accordance with § 15063(d)(3) and Appendix G of the *State CEQA Guidelines* to determine the potential significant noise effects on the physical environment that could result from the implementation of the project.

NOISE STUDY REPORT
FOR
CAL98 CHARGER LOGISTICS PROJECT
CALEXICO, CALIFORNIA

September 2022

Prepared by: ______________________ Date: ______________
UltraSystems Environmental Inc.

Prepared by: ______________________ Date: ______________
UltraSystems Environmental Inc.

Prepared by: ______________________ Date: ______________
UltraSystems Environmental Inc.

Reviewed by: ______________________ Date: ______________
UltraSystems Environmental Inc.

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ATTACHMENT

ATTACHMENT 1 – AMBIENT NOISE MEASUREMENT DATA

1.0 INTRODUCTION

Charger Logistics Cal-98 Holdings, the applicant, proposes to build a project that includes 91,881 square feet of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

The proposed project is located on the southwest corner of the State Route 98 (SR-98) and Kemp Road intersection in unincorporated Imperial County, California. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County. Refer to **Figure 1.0-1**, **Figure 1.0-2** and **Figure 1.0-3**.

Because the site is in a "noise impact zone" as defined by the Noise Element of the Imperial County General Plan, the County requires that an acoustical analysis be performed. This report satisfies the acoustical analysis requirement. It includes a discussion of the fundamentals of sound; an examination of federal, state, and local noise guidelines and policies; a review of existing conditions; an evaluation of potential noise impacts associated with the project; and the mitigation for all identified significant or potentially significant impacts.

2.0 BACKGROUND INFORMATION

2.1 Characteristics of Sound

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The decibel (dB) scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals (corresponding to zero dBA). The scale ranges from zero (for the average least perceptible sound) to about 130 (for the average human pain level).

The normal range of conversation is between 34 and 66 dBA. Between 70 and 90 dBA, sound is distracting and presents an obstacle to conversation, thinking, or learning. Above 90 dBA, sound can cause permanent hearing loss. Examples of various sound levels in different environments are shown in **Table 2.1-1** (Typical Sound Levels).

Figure 1.0-1
REGIONAL LOCATION MAP

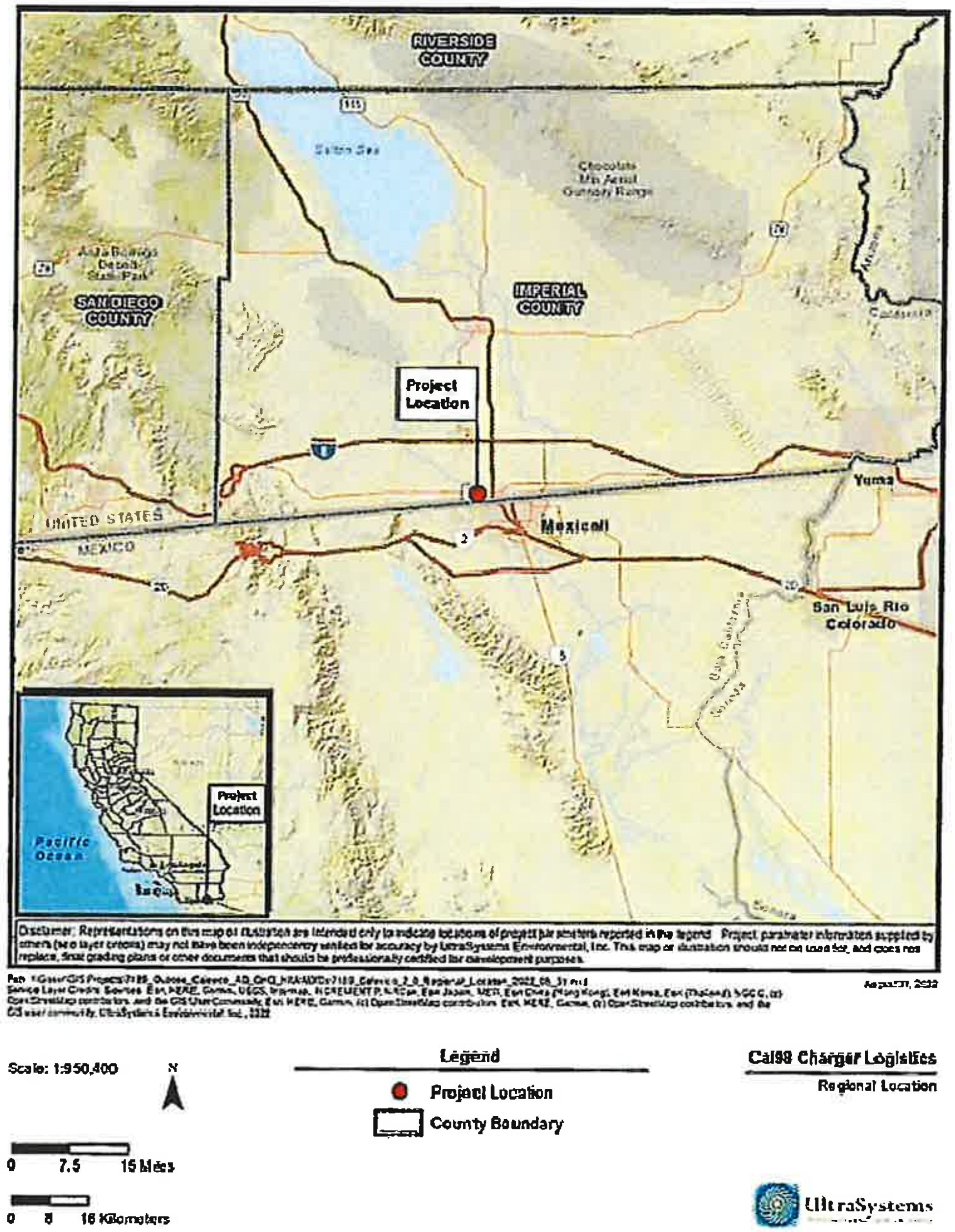

Figure 1.0-2
PROJECT LOCATION MAP

Figure 1.0-3
PROJECT SITE PLAN

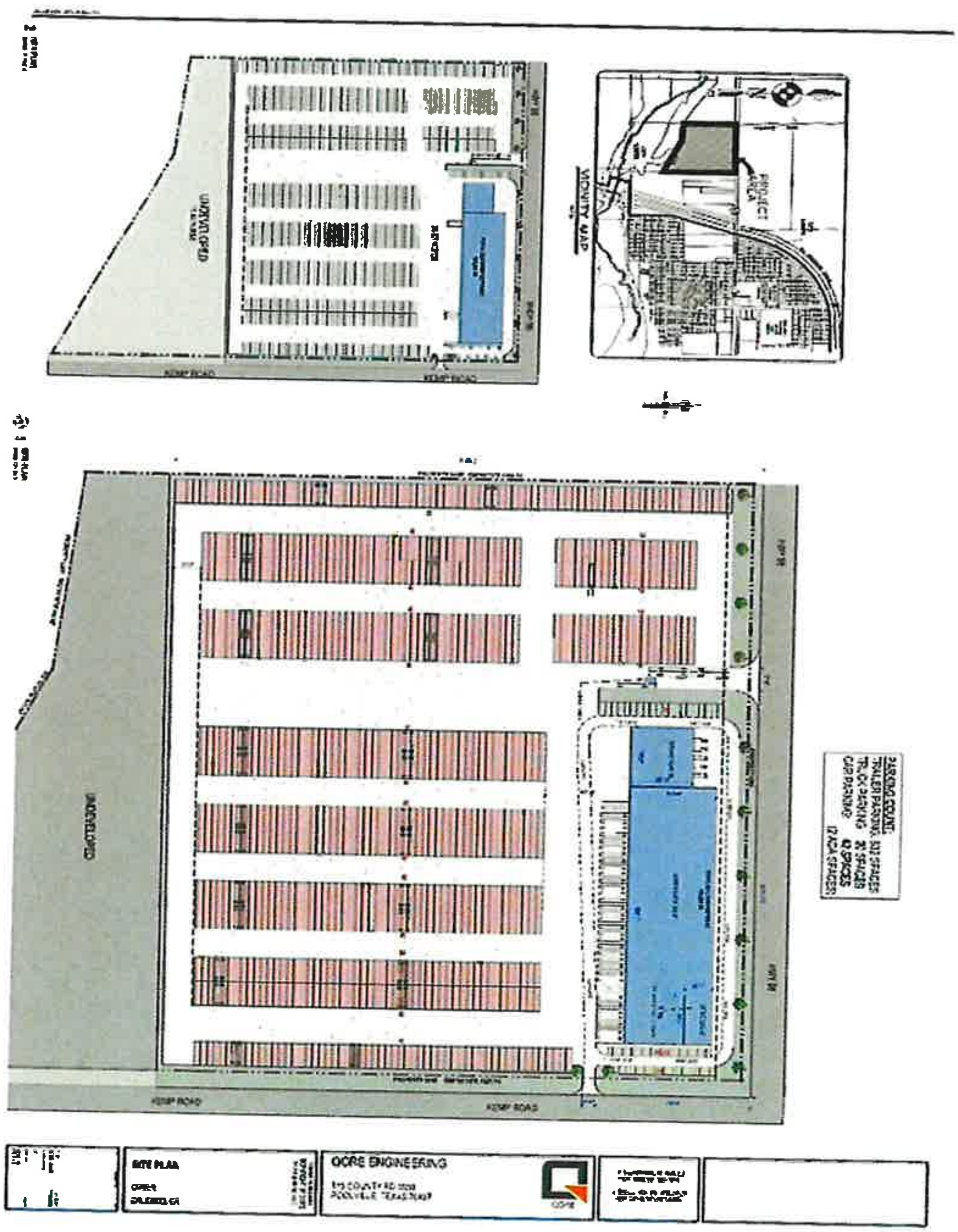

Table 2.1-1
TYPICAL SOUND LEVELS

Common Sounds	A-Weighted Sound Level in Decibels	Subjective Impression
Oxygen Torch	120	Pain Threshold
Rock Band	110	
Pile Driver at 50 feet	100	Very Loud
Ambulance Siren at 100 feet	90	
Garbage disposal	80	
Vacuum Cleaner at 10 feet	70	Moderately Loud
Air Conditioner at 100 feet	60	
Quiet Urban Daytime	50	
Quiet Urban Nighttime	40	Quiet
Bedroom at Night	30	
Recording Studio	20	Just Audible
	10	Threshold of Hearing
	0	

Sources: Aviation Planning Associates. 1978. Calculations of Maximum A-weighted Sound Levels (dBA) Resulting from Civil Aircraft Operations.

2.2 Noise Measurement Scales

Several rating scales have been developed to analyze adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people depends largely upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent noise level, is an average of sound level over a defined time period (such as 1 minute, 15 minutes, 1 hour or 24 hours). Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.
- L_{90} is a noise level that is exceeded 90 percent of the time at a given location; it is often used as a measure of "background" noise.
- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 5-dBA "penalty" added to noise during the hours of 7:00 p.m. to 10:00 p.m., and a 10-dBA penalty added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime.[1] The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

L_{dn}, the day-night average noise, is a 24-hour average L_{eq} with an additional 10-dBA "penalty" added to noise that occurs between 10 p.m. and 7 a.m. The L_{dn} metric yields similar values (within 1 dBA) as does the CNEL metric. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

1 The evening weighting in the CNEL calculation is actually 4.77, but the Imperial County Noise Abatement and Control Ordinance defines it as 5.

A noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

When evaluating environmental community noise levels, a 3-dBA increase over 24 hours is barely perceptible to most people. A 5-dBA increase is readily noticeable and is considered a potentially significant impact. A 10-dBA increase is perceived as a doubling of loudness and is a clearly significant impact.[2]

2.3 Noise Attenuation

The noise level from a particular source generally declines as the distance to the receiver increases. Other factors such as the weather and reflecting or shielding also intensify or reduce the noise level at any given location. Typically, a single row of buildings between the receiver and the noise source reduces the noise level by about 5 dBA. Exterior noise levels can normally be reduced by 15 dBA inside buildings constructed with no special noise insulation.[3] The U.S. Environmental Protection Agency (USEPA) estimates that residences in "warm" climates provide at least 12 dBA of exterior-to-interior noise attenuation with windows open and 24 dBA with windows closed.[4]

Noise from traffic on roads depends on the volume and speed of traffic and the distance from the traffic. A commonly used rule of thumb for traffic noise is that for every doubling of distance from the road, atmospheric spreading over "hard" or "soft" sites reduces the noise level by about 3 or 4.5 dBA, respectively. For a stationary source, the noise is reduced by at least 6 dBA for each doubling of distance. Further, because of the logarithmic nature of the decibel scale, a doubling of traffic on any given roadway or doubling a stationary source would cause a noise increase of approximately 3 dBA.

2.4 Noise Sensitive Receivers

This noise analysis focuses primarily upon project impacts on sensitive noise receivers located near the project site or along roadways that would carry project-generated traffic. Such noise-sensitive land uses in the project area are single-family residences.

3.0 PROJECT DESCRIPTION

The project will begin construction in June 2023 and end in February 2024. The total construction duration will be almost nine months. The construction phases include site preparation, grading, building construction, paving and architectural coating.

3.1 Current Operations

The project site is currently used in alfalfa cultivation.

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2 U.S. Environmental Protection Agency (US EPA), 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March.

3 U.S. Department of Housing and Urban Development (HUD), 1985. Noise Guidebook.

4 U.S. Environmental Protection Agency, Protective Noise Levels. Condensed Version of EPA Levels Document, Office of Noise Abatement and Control, Washington, DC, EPA-550/9-79-100 (November 1978).

3.2 Future Operations

The project consists of adding a warehouse building on the north side of the project area along SR-98, trailer parking (832 spaces), truck parking (20 spaces), car parking (42 spaces), and landscaping bordering the entire project. According to the transportation impact analysis (TIA) for the project,[5] 100 heavy-duty trucks are expected to access the site between 9 a.m. and 9 p.m. daily. Employee commuting, visitors and deliveries are expected to total about 30 average daily trips (ADT). The TIA estimates that 65 percent of the inbound trucks will be from Mexico, 15 percent will be from San Diego and the remainder from the north in Imperial County.[6] Outbound destinations will be to Mexico (30 percent), San Diego (50 percent) and Imperial County (20%).

3.3 Construction Activities and Schedule

Areas of project components are summarized in **Table 3.3-1.**

Table 3.3-1
CONSTRUCTION CHARACTERISTICS

Site Element	Area
Warehouse	91,881 square feet
Two Story Office	5,952 square feet
Service Station	16,460 square feet
Total Building Footprint	**114,293 square feet**
Parking	894 spaces
Landscaping	0.37 acre
Source: Site plan prepared by Qore Engineering, Poolville, TX, July 19, 2022.	

As seen in **Table 3.3-2,** construction will comprise five phases.

Table 3.3-2
PROJECT CONSTRUCTION SCHEDULE

Phase	Construction	
	Start	End
Site Preparation	June 1, 2023	June 21, 2023
Grading	June 22, 2023	July 12, 2023
Building Construction	July 13, 2023	January 4, 2024
Paving	January 5, 2024	January 25, 2024
Architectural Coating	January 26, 2024	February 15, 2024

5 Transportation Impact Analysis. Charger Logistics Cal-98 Holdings Project. County of Imperial California. Prepared by Linscott Law & Greenspan Engineers, San Diego, CA, LLG Ref. 3-22-3596. July 28, 2021.
6 Calexico is in the southernmost part of Imperial County.

3.4 Existing Sensitive Land Uses

The Imperial County General Plan land use for the project site and its immediate surroundings is "Urban Area." The land northwest, west and southwest of the site is designated for agricultural land uses. Large residential neighborhoods are about 2,000 feet northeast and 1,500 feet southeast of the site. Scattered individual residences are nearer the site. The nearest one is about 32 feet due west of the project boundary.[7]

The County of Imperial defines noise sensitive land uses in its General Plan Noise Element. Sensitive noise receivers are, in general, areas of habitation where the intrusion of noise has the potential to impact adversely the occupancy, use or enjoyment of the environment. Sensitive receptors include, but are not limited to, residences, schools, hospitals, parks and office buildings.[8] **Figure 3.4-1** shows sensitive land uses near the project. These uses are described in **Table 3.4-1**.

3.5 Existing Noise Environment

The principal noise sources in Imperial County are transportation sources, which include aircraft, rail lines, and motor vehicles; industrial sources, which include rail switching yards, utilities, and manufacturing facilities; and agricultural operations. In rural areas of the County, mining and off-road vehicle activity also create significant noise, but generally in areas without noise sensitive receptors.[9]

The project site is within a "noise impact zone," which is an area which may be exposed to a noise greater than 60dB CNEL or 75 dB L_{eq}(1 hour).[10] It meets both of the following General Plan criteria for a noise impact zone:[11,12]

- Within 1,100 feet of a state highway.
- Within 750 feet of the centerline of any railroad.
- Within 1,320 feet of existing farmland which is in an agricultural zone.

3.6 Ambient Noise Measurements

On Tuesday, August 20, 2022, UltraSystems conducted ambient noise measurements at the nearest sensitive receiver (a house on the northwest corner of the project boundary) and at four other residential locations. The purpose of the measurements was to obtain information on "existing conditions." **Figure 3.6-1** shows the locations of the measurements. Sampling results are provided in **Attachment 1** and summarized in **Table 3.6-1.** Hourly averages ranged from 49.9 to 67.7 dBA L_{eq}.

---

7 This distance was not used for the noise impact calculations. See **Section 5.1.**

8 County of Imperial General Plan. Noise Element. Planning and Developmental Services. Approved October 6, 2015., p. 16.

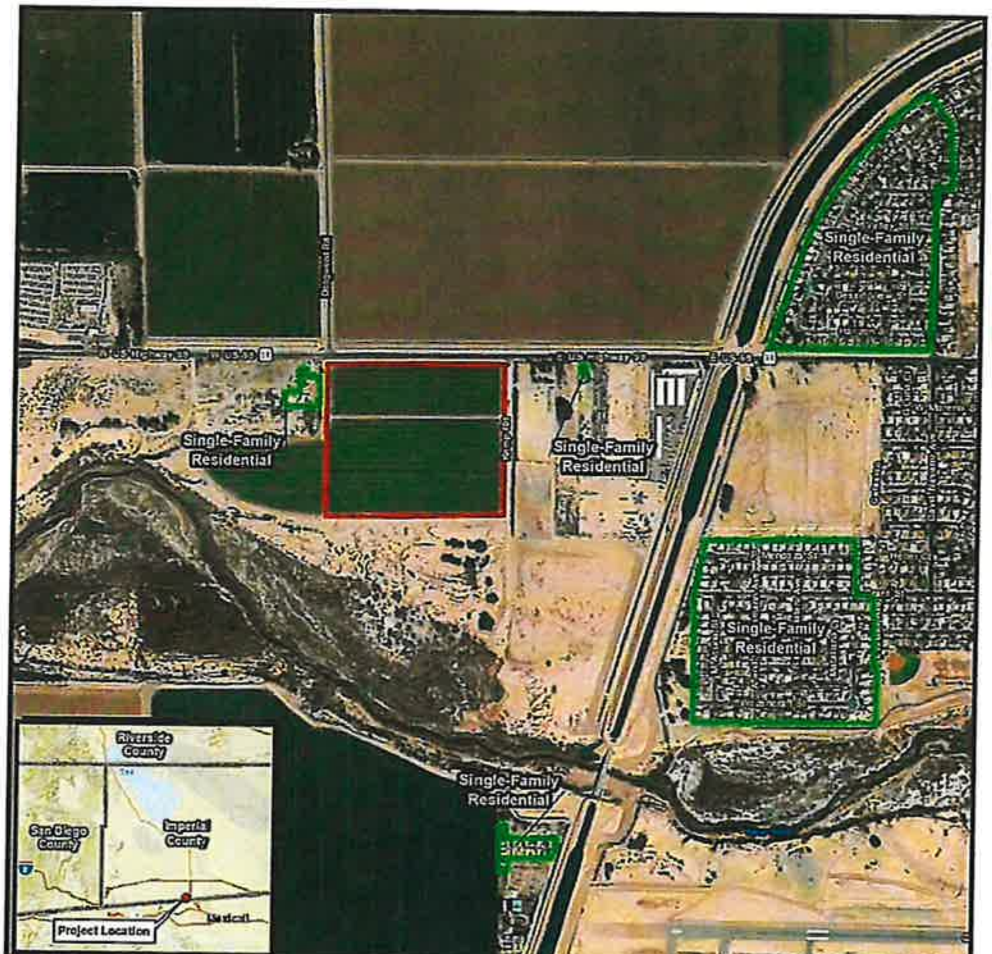
9 Ibid., p.4.

10 Ibid., p.16.

11 Ibid., loc. Cit.

12 Ibid., p. 17.

Figure 3.4-1
SENSITIVE LAND USES NEAR PROJECT SITE



Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community; Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; UltraSystems Environmental, Inc., 2022

September 29, 2022

Scale: 1:10,800

N

0 450 900 Feet

0 110 220 Meters

Legend

Sensitive Noise Receiver

Project Boundary

Cal98 Charger Logistics

Sensitive Noise Receivers

UltraSystems

Table 3.4-1
SENSITIVE RECEIVERS IN PROJECT AREA

Description	Location	Distance From Site Boundary[a] (feet)	Nearest Ambient Sampling Point[a]
Single Family Residence (Northwest)	4 West Highway 98	32	2
Single Family Residence (Northeast)	51 CA 98	578	1
Single Family Neighborhood (Northeast)	1101 Rainbow Ave	1,956	3
Singe Family Neighborhood (Southeast)	1073 Grant Street	1,523	4
Mobile Home Park (South)	52 2nd Street	2,406	5

[a] These distances were not used for the noise impact calculations. See Section 5.1.
[a]See **Figure 3.6-1** for locations of ambient noise sampling points.

Figure 3.6-1

AMBIENT NOISE MEASUREMENT LOCATIONS

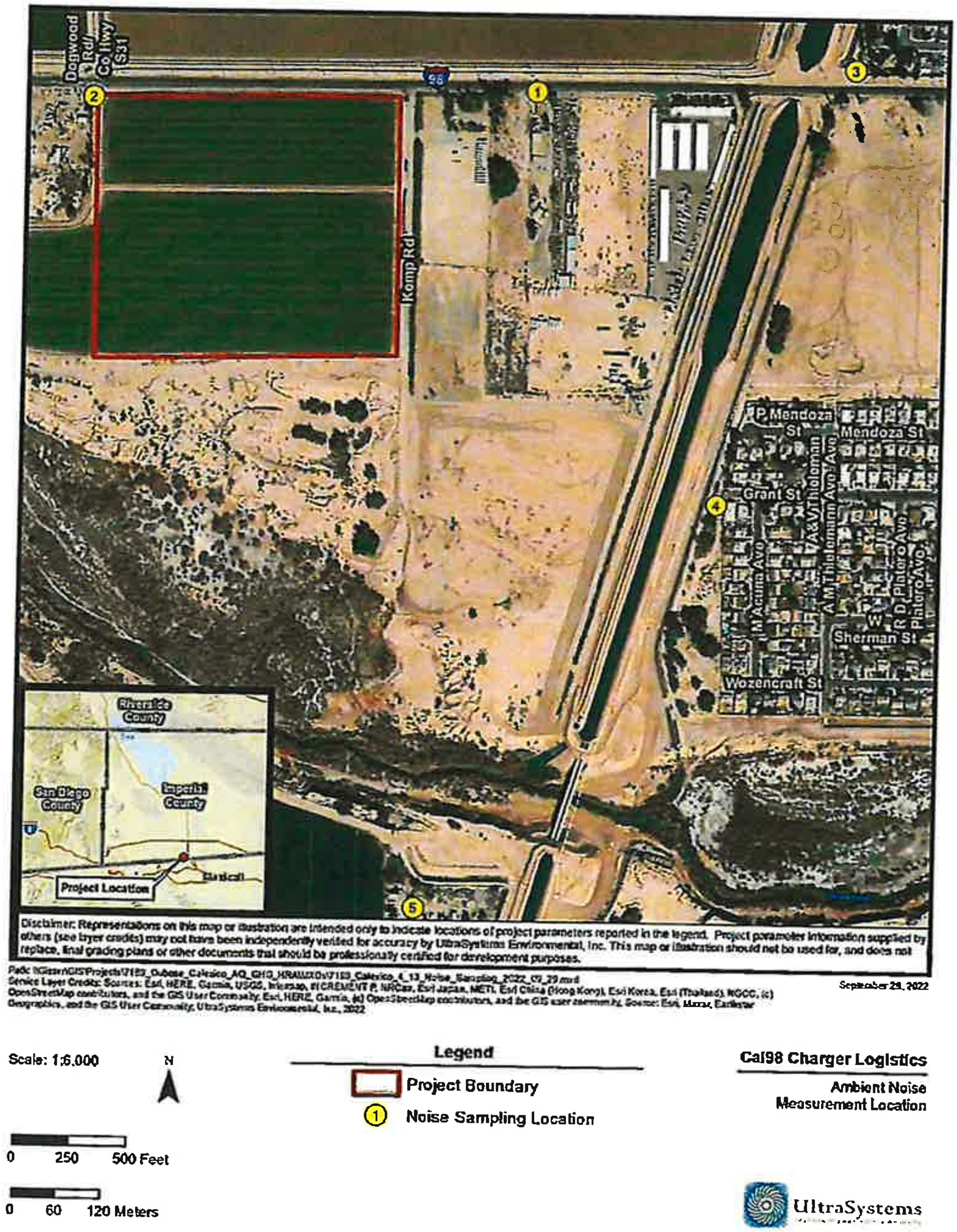


Table 3.6-1
AMBIENT NOISE MEASUREMENT RESULTS

Point	Data Set	Sampling Time	Address[a]	Sound Level (dBA)		
				L_{eq}	L_{max}	L_{90}
1	S279	1132-1147	51 CA 98	67.7	83.6	39.0
2	S283	1357-1412	4 West Highway 98	49.9	71.7	44.6
3	S282	1330-1345	1101 Rainbow Avenue	54.7	66.5	44.1
4	S281	1257-1312	1073 Grant Street	64.6	81.3	40.7
5	S280	1210-1225	52 2nd Street	66.2	84.0	39.1

Source: UltraSystems, 2022.
[a]All sampling locations were near single-family residences.

4.0 APPLICABLE REGULATIONS

To limit population exposure to noise levels that are physically and/or psychologically damaging or intrusive, the federal government, the State of California, various county governments, and most municipalities in the state have established noise policies, standards, and ordinances.

4.1 Federal

The U.S. Department of Housing and Urban Development (HUD) has set a goal of 45 dBA L_{dn} as a desirable maximum interior standard for residential units developed under HUD funding. While HUD does not specify acceptable exterior noise levels, standard construction of residential dwellings constructed under Title 24 of the California Code of Regulations typically provide 20 dBA of acoustical attenuation with the windows closed and 10 dBA with the windows open. Based on this assumption, the exterior L_{dn} or CNEL should not exceed 65 dBA under normal conditions.

4.2 State of California

The California Department of Health Care Services (DHCS)[13] Office of Noise Control[14] studied the correlation of noise levels and their effects on various land uses. The most current guidelines are contained in the "General Plan Guidelines" issued by the Governor's Office of Planning and Research in 2017.[15] These guidelines establish four categories for judging the severity of noise intrusion on specified land uses:

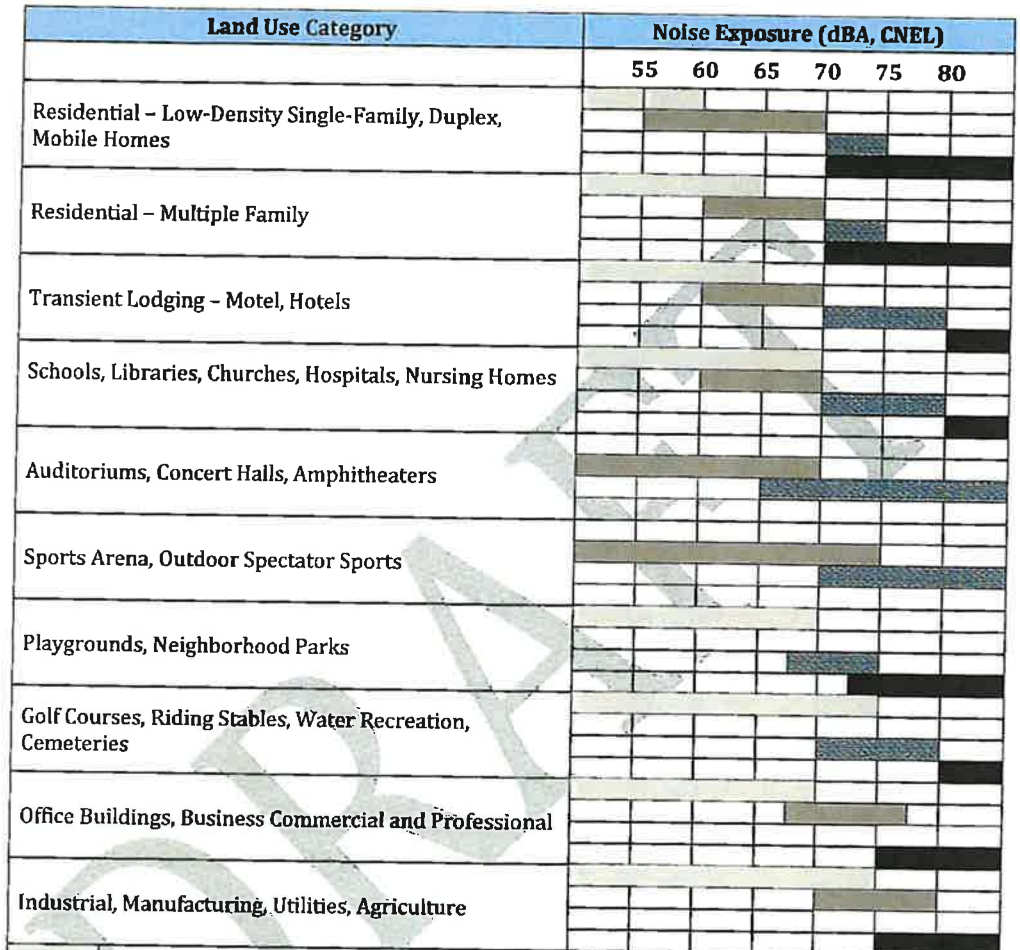
- Normally Acceptable: Is generally acceptable, with no mitigation necessary.
- Conditionally Acceptable: May require some mitigation, as established through a noise study.

[13] Formerly called the California Department of Health Services (DHS).
[14] The Office of Noise Control no longer exists.
[15] State of California General Plan Guidelines. Appendix D. Guidelines for the Preparation and Content of the Noise Element of the General Plan. Office of Planning and Research, Sacramento, CA. 2017. http://opr.ca.gov/docs/OPR_Appendix_D_final.pdf. Accessed August 23, 2018.

- Normally Unacceptable: Requires substantial mitigation.
- Clearly unacceptable: Probably cannot be mitigated to a less-than-significant level.

The types of land uses addressed by the State standards and the acceptable noise categories for each are presented in **Table 4.2-1.** There is some overlap between categories, which indicates that some judgment is required in determining the applicability of the numbers in some situations. Note that Imperial County has modified this table for the purpose of implementing the noise element of its general plan. The Imperial County version of the table is presented in **Section 4.3.1.**

Table 4.2-1
LAND USE COMPATIBILITY FOR COMMUNITY NOISE SOURCES



Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation 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. Conventional construction, but with closed windows and fresh air supply system or air conditionally will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: State of California, *General Plan Guidelines*, Governor's Office of Planning and Research, 2017.

4.3 Local Standards

The primary regulatory documents that establish noise standards in the county are the Imperial County General Plan, Noise Element[16] and the Imperial Noise Abatement and Control Ordinance.[17] Relevant standards from both documents are discussed below by type of standard (e.g., for construction noise or operation noise). Note that the Imperial County General Plan and the Noise Abatement and Control Ordinance apply only to unincorporated area in the county.

4.3.1 Imperial County General Plan, Noise Element

Construction Noise

The Imperial County General Plan limits sound levels from construction activities during specific hours of the day and night through a set of construction noise standards, presented below in **Table 4.3-1**. The standards apply to the noise measured at the nearest sensitive receptor.

Table 4.3-1
COUNTY OF IMPERIAL CONSTRUCTION NOISE STANDARDS

Construction Duration	Sound Level (dB L_{eq})	Averaging Period	Hours of Operation Restriction
Short-Term (days or weeks)	75	8 hours	7:00 a.m. – 7:00 p.m. Monday to Friday 9:00 a.m. – 5:00 p.m. Saturday No commercial construction operation is permitted on Sundays and holidays
Extended Periods	75	1 hour	7:00 a.m. – 7:00 p.m. Monday to Friday 9:00 a.m. – 5:00 p.m. Saturday No commercial construction operation is permitted on Sundays and holidays

Source: County of Imperial, General Plan, Noise Element, 2015, p. 21.

Operational Noise

The Imperial County General Plan, Noise Element includes Property Line Noise Limits, which are listed in **Table 4.3-2**, and apply to noise generation from one property to an adjacent property. The standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standard may be appropriate. An analysis is required for any project that has the potential to generate noise in excess of the Property Line Noise Limits. Note that when the ambient noise level equals or exceeds a property line standard, the <u>increase</u> of the existing or proposed noise shall not exceed 3 dB L_{eq}.

16 Imperial County General Plan, Noise Element. County of Imperial Planning and Development Services, El Centro, CA. Approved October 6, 2015. http://www.icpds.com/CMS/Media/Noise-Element-2015.pdf. Accessed August 30, 2018.

17 Title 9, Land Use Ordinance for the County of Imperial, Division 7: Noise Abatement and Control (Last amended April 18, 2017). http://www.icpds.com/CMS/Media/TITLE9Div7_2015.pdf. Accessed August 30, 2018.

Table 4.3-2
COUNTY OF IMPERIAL OPERATIONAL NOISE STANDARDS

Land Use Zone	Hours	Noise Limit One-hour Average Sound Level (dBA)
Residential	7:00 a.m. – 10:00 p.m.	50
	10:00 p.m. – 7:00 a.m.	45
Multi-residential	7:00 a.m. – 10:00 p.m.	55
	10:00 p.m. – 7:00 a.m.	50
Commercial	7:00 a.m. – 10:00 p.m.	60
	10:00 p.m. – 7:00 a.m.	55
Light Industrial/Industrial Park	Anytime	70
General Industrial	Anytime	75

Source: County of Imperial, General Plan, Noise Element, 2015, p. 21.

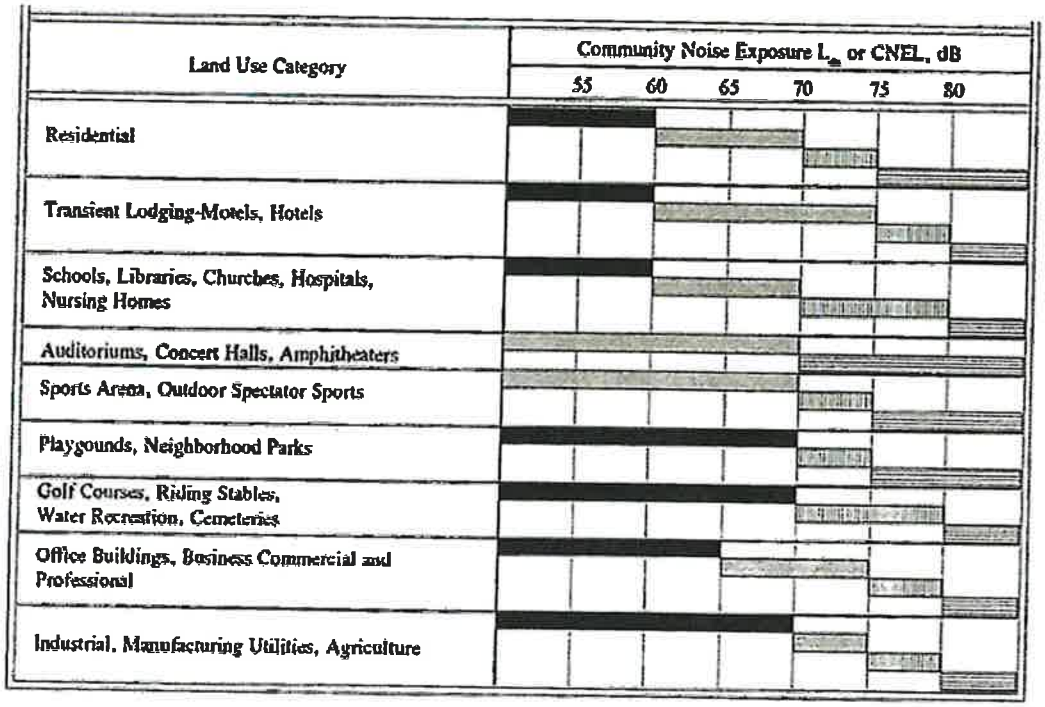
As was discussed in **Section 3.5**, the project site is located in a "noise impact zone," as defined by the Imperial County General Plan, Noise Element. An acoustical analysis is therefore required to "demonstrate project compliance with land use compatibility requirements and other applicable environmental noise standards."[18] The Imperial County-specific land use compatibility guidelines are shown in **Table 4.3-3**.

4.3.2 Imperial County Noise Ordinance

The Imperial County Noise Abatement and Control Ordinance includes property line noise limits that are essentially the same as those listed in **Table 4.3-2**.[19] No other Noise Abatement and Control Ordinance provisions are relevant to the propose project.

[18] Imperial County General Plan, Noise Element, p. 16.
[19] County of Imperial Codified Ordinances, Title 9, Division 7: Noise Abatement and Control, § 90702.00(A).

Table 4.3-3
IMPERIAL COUNTY NOISE/LAND USE COMPATIBILITY GUIDELINES



Interpretation (For Land Use Planning Purposes)

Normally Acceptable

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation 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 requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable

New construction or development clearly should not be undertaken.

Source: County of Imperial, General Plan, Noise Element, 2015, p. 18.

4.3.3 Imperial County Right-to-Farm Ordinance

In recognition of the role of agriculture in the county, Imperial County has adopted a right-to-farm ordinance.[20] A "right-to-farm" ordinance creates a legal presumption that ongoing, standard farming practices are not a nuisance to adjoining residences. It requires a disclosure to land owners near agricultural land operations, or areas zoned for agricultural purposes. The disclosure advises persons that discomfort and inconvenience from machinery resulting from conforming and accepted agricultural operations are normal and necessary aspects of living in the agricultural areas of the county.

4.4 Thresholds of Significance

There are two criteria for judging noise impacts. First, noise levels generated by the project must comply with all relevant federal, state, and local standards and regulations. Noise impacts on the surrounding community are limited by local noise ordinances, which are implemented through investigations in response to nuisance complaints. It is assumed that all existing regulations for the construction and operation of the project would be enforced. In addition, the project should not produce noise levels that are incompatible with adjacent noise sensitive land uses as defined in the General Plan.

The second measure of impact used in this analysis is the significant increase in noise levels above existing ambient noise levels as a result of the introduction of a new noise source. An increase in noise level due to a new noise source has a potential to adversely impact people.

Based on the applicable noise regulations stated above, the project would have a significant noise impact if it would:

- Conflict with applicable noise restrictions or standards imposed by regulatory agencies.
- Result in future (operational) noise levels within the "normally acceptable" ranges shown in **Table 4.3-3**, but would also result in an increase of 5 dBA CNEL or greater.
- Result in future (operational) noise levels greater than the "normally acceptable" ranges shown in **Table 4.3-3**, and result in an increase of 3 dBA CNEL or greater.
- Result in a substantial temporary or periodic increase in ambient noise levels above levels existing without the project at sensitive receiver locations.

5.0 PROJECT IMPACTS

Noise impacts associated with land use development projects include short-term and long-term impacts. Construction activities, especially heavy equipment operation, would create noise increases both onsite and offsite adjacent to the construction site.

Long-term noise impacts include project-generated onsite and offsite operational noise sources. Onsite (stationary) noise sources would include operation of trucks, cars, landscape and building maintenance equipment. Offsite noise would be attributable to project-induced traffic, which would cause an incremental increase in noise levels within and near the project vicinity.

[20] County of Imperial Codified Ordinances, Division 2, Title 6: Right to Farm, § 62950-62955.

This section also evaluates potential groundborne vibration that would be generated from the construction or operation of the project.

5.1 Short-Term Noise Impacts

Noise generated during construction of the project could generate noise levels in excess of standards adopted in local ordinances. Noise impacts from construction activities occurring within the project site would be a function of the noise generated by construction equipment, the equipment location, and the timing and duration of the noise-generating activities.

As discussed in **Section 3.3**, construction will comprise five phases. The types and numbers of pieces of equipment to be deployed during each construction phase were determined as part of the air quality and greenhouse gas emissions analysis for this project.[21] Equipment characteristics for the phases are shown in **Table 5.1-1.** No pile driving or blasting would be required for construction of the project.

Table 5.1-1
PHASE 1 CONSTRUCTION EQUIPMENT CHARACTERISTICS

Construction Phase	Equipment Type	Number of Pieces	Maximum Sound Level (dBA @ 50 feet)	Usage Factor	Composite Noise (dBA @ 50 feet)
Site Preparation	Rubber Tired Dozers	3	75	0.40	87.51
	Tractors/Loaders/Backhoes	4	85	0.37	
Grading	Excavators	2	80	0.38	88.65
	Graders	1	85	0.41	
	Rubber-Tired Dozer	1	79	0.40	
	Scrapers	2	97	0.48	
	Tractors/Loaders/Backhoes	2	85	0.37	
Building Construction	Cranes	1	83	0.29	87.13
	Forklifts	3	67	0.20	
	Generator Sets	1	81	0.74	
	Tractors/Loaders/Backhoes	3	85	0.37	
	Welders	1	74	0.45	
Paving	Pavers	2	77	0.42	84.61
	Paving Equipment	2	77	0.36	
	Rollers	2	75	0.38	
Architectural Coating	Air Compressor	1	81	0.48	77.81

Using calculation methods published by the Federal Transit Administration,[22] UltraSystems estimated the average hourly exposures at five sensitive receiver sites, each one of was a residence

[21] Air Quality and Greenhouse Gas Emissions Report for Cal98 Charger Logistics Project, Calexico, California. Prepared by UltraSystems Environmental Inc. for DuBose Design Group, El Centro, CA. September 2022.

[22] Transit Noise and Vibration Impact Assessment Manual. Federal Transit Administration, Office of Planning and Environment, Washington, DC, FTA Report No. 0123. September 2018. Internet: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

near one of the ambient noise measurement sites listed **Table 3.4-1** and shown in **Figure 3.6-1.** To account for the fact that at any given time the various pieces of construction equipment are at different places, the distances used for the calculation were those from the center of each major construction area to each ambient noise measurement point.

The maximum estimated composite hourly L_{eq} values at these receivers during each construction phase were calculated using the noise source values from **Table 5.1-1**. Results are presented in **Table 5.1-2.** The maximum exposure from construction activities would be 67.9 dBA L_{eq} and the maximum increase in exposure would be 1.1 dBA L_{eq}. Total exposures (ambient plus construction-generated) would be less than the County's limit of 75 dBA. (See **Table 4.3-1.**) Projected increase in exposure would not be detectable by people.

Please note that these estimated construction noise levels represent a conservative (worst-case) scenario, in which the loudest type of construction equipment would be operating on the same schedule and in the same area on the construction site. These worst-case values would not be continuous, nor would they be typical of noise levels throughout the construction period.

Table 5.1-2
MAXIMUM ESTIMATED CONSTRUCTION NOISE LEVELS

Site Preparation	Distance (feet)	15-minute L_{eq} (dBA)		
		Existing	Projected[a]	Change
1 - 51 Highway 98	941	67.7	67.9	0.2
2 - 4 West Highway 98	865	66.2	66.8	0.6
3 - 1101 Rainbow Ave	2,789	64.6	64.6	0.0
4 - 1073 Grant St	2,341	54.7	55.4	0.7
5 - 52 2nd Street	2,883	49.9	51.0	1.1

[a]Existing plus construction-related.

5.2 Long-Term Noise Impacts

5.2.1 Onsite Sources

Onsite noise sources from the proposed warehouse facility would include operation of rooftop mechanical equipment such as air conditioners, parking lot activities, and truck deliveries and departures. Noise levels from these sources are generally lower than from the traffic on streets bordering the project site.

Most of the noise from onsite truck traffic, engine idling, parking and loading and unloading will be on the south side of the proposed warehouse; the structure will block the line of sight to sensitive receivers on the northeast. Finally, the analysis included noise from trucks entering and leaving the facility. As discussed in **Section 3.2**, the average daily traffic would be 130 vehicles. A common formula for hourly noise exposure for a given number of individual arrivals is:

$$L_{eq} = SEL + 10 \log(N) - 35.6$$

where

SEL = sound exposure level of one vehicle[23]

N = number of vehicles per hour

The SEL for parking lot activity has been estimated to be 71 dB at 50 feet.[24] Therefore, for 130 vehicles, L_{eq} would be 71 + 10 log (130) – 35.6 = 56.5 dBA at 50 feet. Increases in L_{eq} at the closest residence used for the construction noise analysis would result in maximum exposure increases of about 0.3 dBA, which would not be detectable by most people. Noise impacts from onsite sources would be less than significant.

5.2.2 Roadway Noise

The principal noise source in the project area is traffic on local roadways. A noise impact would occur if the project contributes to a permanent increase in ambient noise levels affecting sensitive receivers along roadways that would carry project-generated traffic. The traffic study for the project[25] estimates that about 70 percent of the daily traffic (91 vehicles) will travel on SR-98 east of the project site. According to the Caltrans Traffic Census Program database,[26] the average daily traffic along the segment of SR-98 east of Dogwood Road and through a residential area was 11,800 during 2019, the last pre-pandemic year. The maximum increase due to the project would be about 0.8%. Given the logarithmic nature of the decibel, traffic volume needs to be doubled in order for the noise level to increase by 3 dBA,[27] the minimum level perceived by the average human ear. A doubling is equivalent to a 100% increase. Therefore, the onroad noise impact would be less than significant.

5.3 Vibration Impacts

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., subway operations, vehicles, machinery equipment, etc.) that causes the adjacent ground to move, thereby creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root-mean-square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.[28]

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity

23 The sound exposure level (SEL) is equivalent to the total sound energy experienced during a measurement period, as if it had all occurred in one second.

24 Environmental Noise Assessment. City of Citrus Heights City Hall and Medical Office Building Project. Prepared by J.C. Brennan and Associates, Inc., Auburn, California for Dudek, Auburn California. December 11, 2014. Internet: http://www.citrusheights.net/DocumentCenter/View/3049/Appendix-H-PDF?bidId=. Last accessed December 24, 2020.

25 Transportation Impact Analysis. Charger Logistics Cal-98 Holdings Project. County of Imperial California. Prepared by Linscott Law & Greenspan Engineers, San Diego, CA, LLG Ref. 3-22-3596. July 28, 2021, Figure 7-1.

26 Caltrans Traffic Census Program. Internet: https://dot.ca.gov/programs/traffic-operations/census. Last accessed September 30, 2022.

27 Technical Noise Supplement. Prepared by ICF Jones & Stokes, Sacramento, California for California Department of Transportation, Division of Environmental Analysis, Sacramento, California. November 2009.

28 Federal Transit Administration. Transit Noise and Vibration Impact Assessment. Accessed online at https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, pp 110-111.

level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for most people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.[29]

5.3.1 Construction Vibration

Construction activities for the project have the potential to generate low levels of groundborne vibration. The operation of construction equipment generates vibrations that propagate though the ground and diminishes in intensity with distance from the source. Vibration impacts can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage of buildings at the highest levels. The construction activities associated with the project could have an adverse impact on both sensitive structures (i.e., building damage) and populations (i.e., annoyance).

The construction vibration analysis used formulas published by the Federal Transit Administration (FTA).[30] For a standard reference distance of 25 feet, peak particle velocity is found from:

$$PPV = PPV_{ref} \times (25/D)^{1.5}$$

where

PPV_{ref} = Reference source vibration at 25 feet
D = Distance from source to receiver

The vibration level (VdB) for a standard reference distance of 25 feet is found from:

$$VdB = L_{vref} - 30 \log(D/25)$$

where

L_{vref} = Reference source vibration level at 25 feet
D = Distance from source to receiver

The FTA has published standard vibration levels for construction equipment operations, at a distance of 25 feet.[31] The smallest average distance from project construction activity to a residential receiver would be about 735 feet. The calculated vibration levels expressed in VdB and PPV for selected types of construction equipment at distances of 25 and 258 feet are listed in **Table 5.3-1**.

As shown in **Table 5.3-1**, the vibration level of construction equipment at the nearest sensitive receiver is at most 0.0022 inch per second, which is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings, and 43 VdB, which is less than the FTA threshold

[29] Ibid., p. 120.
[30] Ibid., p. 185.
[31] Ibid., p. 185.

for human annoyance of 80 VdB. Construction vibration impacts would therefore be less than significant.

Table 5.3-1
VIBRATION LEVELS OF CONSTRUCTION EQUIPMENT

Equipment	PPV at 25 feet (in/sec)	Vibration Decibels at 25 feet (VdB)	PPV at 735 feet (in/sec)	Vibration Decibels at 735 feet (VdB)
Loaded trucks	0.076	86	0.0018	42
Jack hammer	0.035	79	0.00085	35
Small bulldozer	0.003	58	0.000073	14
Large bulldozer	0.089	87	0.0022	43

Source: FTA, 2018 and UltraSystems, 2022.

5.3.2 Operational Vibration

Operation of the proposed project would not involve significant sources of ground-borne vibration or ground-borne noise. Thus, operation of the proposed project would result in a less than significant impact.

6.0 MITIGATION MEASURES

As no significant short- or long-term noise impacts due to the project would occur, no mitigation measures are necessary.

7.0 IMPACTS AFTER MITIGATION

As no significant short- or long-term noise impacts are expected for the project, no mitigation measures are necessary.

ATTACHMENT 1

AMBIENT NOISE MEASUREMENT DATA

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16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part A

Date: 9/20/22 Day of Week: Tuesday Time: 11:32am Project Number: 7189

Monitoring Segment / Area: 1 Monitoring Site Address: 951 CA-98, Calexico

Measurement Taken By: Erik/Michael of UltraSystems Environmental

Average Wind Speed: 4.3 mph [km/hr] Compass Heading (meter ⊥ to source) 340° N

Temp: 93.6 °F Relative Humidity: 23.3% Compass Heading (into wind) 70° E

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 32 ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 11:32am Measurement End Time: 11:47 am

Total Measurement Time: 15 min Session File Name (e.g., S012): S-279

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.0
L_{eq} (h)	Slow: 67.7	Fast:
L_{max}	Slow: 83.6	Fast:
L_{90}	Slow: 39.0	Fast:

Field Notes:

1. Road noise from CA-98
2. Birds Chirping
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part B

Date: 9/20/2022 Day of Week: Tuesday Time: 11:32 Project Number: 7189

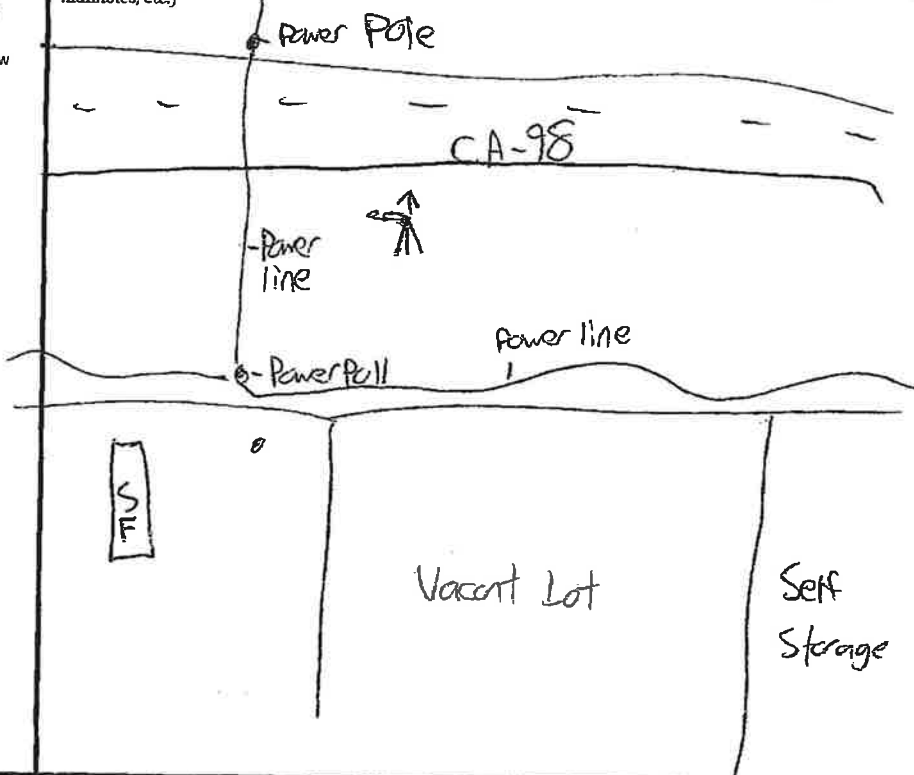
Monitoring Segment / Area: 1 Monitoring Site Address: St CA98, Calexico

Site Map

Plan View

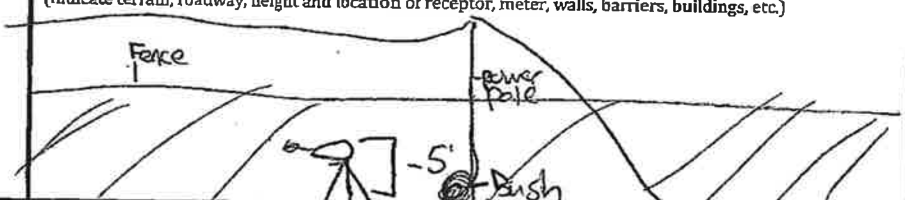
North Arrow (fill-in)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.67951°	Longitude: -115.52734°	Elevation: 0 ft

Noise Monitor's Signature: [signature] Date: 9/20/2022

Session Report

9/23/2022

Information Panel

Name	S279
Start Time	9/20/2022 11:31:31 AM
Stop Time	9/20/2022 11:46:31 AM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	67.7 dB	L90	1	39 dB
Lmax	1	83.6 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

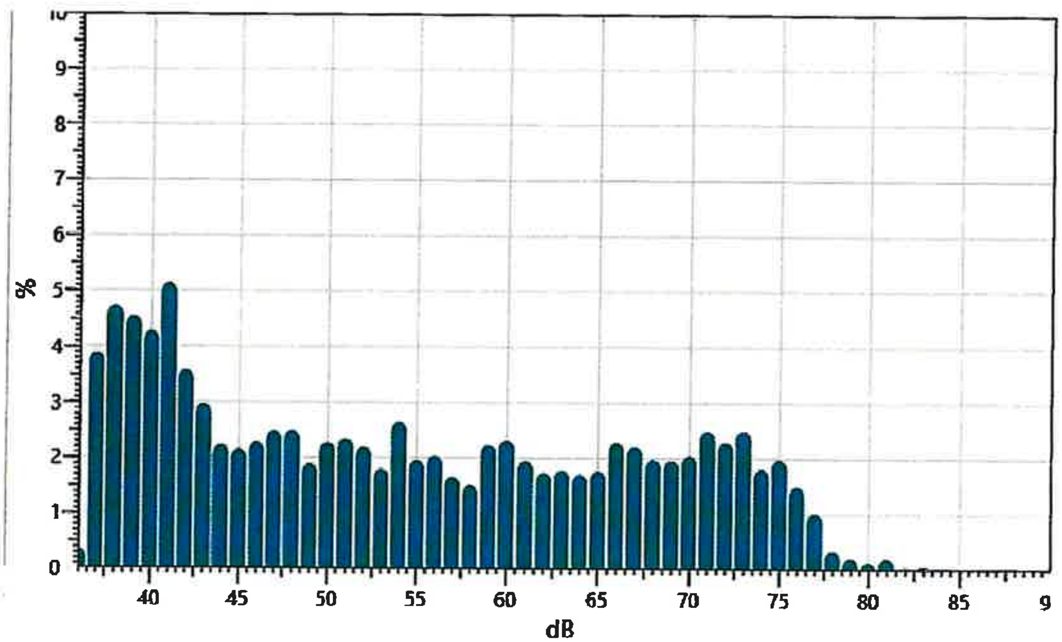
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
36:	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	0.14	0.08	0.36
37:	0.28	0.34	0.44	0.37	0.47	0.40	0.44	0.39	0.31	0.45	3.89
38:	0.55	0.45	0.49	0.49	0.44	0.44	0.40	0.34	0.51	0.61	4.73
39:	0.62	0.75	0.55	0.41	0.37	0.35	0.34	0.36	0.41	0.39	4.55
40:	0.36	0.21	0.38	0.48	0.49	0.42	0.46	0.54	0.49	0.45	4.28
41:	0.44	0.43	0.54	0.58	0.70	0.67	0.46	0.41	0.51	0.41	5.15
42:	0.33	0.32	0.34	0.34	0.38	0.32	0.33	0.41	0.39	0.41	3.58
43:	0.40	0.16	0.30	0.31	0.36	0.38	0.34	0.27	0.23	0.22	2.97
44:	0.26	0.19	0.21	0.24	0.24	0.19	0.28	0.23	0.21	0.18	2.23
45:	0.16	0.18	0.19	0.23	0.18	0.21	0.23	0.19	0.29	0.29	2.15
46:	0.25	0.14	0.19	0.19	0.25	0.23	0.29	0.27	0.26	0.21	2.28
47:	0.22	0.23	0.22	0.28	0.26	0.22	0.20	0.20	0.28	0.37	2.48
48:	0.36	0.26	0.21	0.23	0.24	0.22	0.26	0.22	0.28	0.21	2.49

49:	0.24	0.16	0.20	0.19	0.18	0.18	0.19	0.21	0.19	0.18	1.90
50:	0.18	0.19	0.20	0.19	0.25	0.23	0.22	0.26	0.28	0.28	2.27
51:	0.24	0.23	0.20	0.23	0.22	0.19	0.24	0.23	0.25	0.30	2.34
52:	0.34	0.29	0.20	0.20	0.25	0.21	0.20	0.16	0.17	0.17	2.20
53:	0.20	0.16	0.14	0.16	0.17	0.23	0.17	0.19	0.19	0.18	1.80
54:	0.23	0.25	0.27	0.27	0.29	0.36	0.23	0.20	0.30	0.25	2.65
55:	0.22	0.17	0.14	0.18	0.17	0.19	0.19	0.20	0.25	0.27	1.96
56:	0.25	0.20	0.23	0.25	0.21	0.21	0.16	0.15	0.19	0.18	2.03
57:	0.16	0.19	0.19	0.15	0.15	0.17	0.16	0.15	0.18	0.17	1.66
58:	0.17	0.16	0.11	0.15	0.16	0.15	0.17	0.15	0.13	0.17	1.51
59:	0.24	0.28	0.19	0.17	0.21	0.17	0.22	0.28	0.22	0.25	2.24
60:	0.22	0.19	0.23	0.23	0.31	0.24	0.19	0.22	0.23	0.24	2.31
61:	0.23	0.24	0.14	0.20	0.21	0.19	0.19	0.18	0.18	0.19	1.95
62:	0.15	0.18	0.18	0.15	0.17	0.14	0.16	0.20	0.20	0.20	1.74
63:	0.20	0.18	0.16	0.16	0.16	0.16	0.19	0.20	0.19	0.19	1.78
64:	0.20	0.19	0.13	0.17	0.17	0.16	0.17	0.17	0.17	0.18	1.71
65:	0.17	0.18	0.18	0.16	0.18	0.17	0.17	0.17	0.16	0.24	1.77
66:	0.31	0.17	0.21	0.18	0.19	0.20	0.21	0.27	0.26	0.27	2.28
67:	0.26	0.24	0.17	0.21	0.21	0.21	0.23	0.27	0.23	0.18	2.21
68:	0.19	0.19	0.20	0.17	0.19	0.21	0.20	0.18	0.20	0.24	1.98
69:	0.19	0.18	0.18	0.18	0.20	0.19	0.20	0.22	0.20	0.22	1.96
70:	0.22	0.19	0.15	0.17	0.21	0.21	0.23	0.22	0.22	0.22	2.04
71:	0.26	0.27	0.23	0.23	0.24	0.25	0.32	0.25	0.23	0.21	2.49
72:	0.19	0.19	0.19	0.23	0.21	0.23	0.22	0.33	0.24	0.26	2.29
73:	0.34	0.34	0.15	0.19	0.22	0.23	0.19	0.26	0.28	0.28	2.49
74:	0.20	0.20	0.19	0.19	0.20	0.19	0.20	0.15	0.14	0.14	1.81
75:	0.16	0.15	0.17	0.17	0.21	0.18	0.23	0.25	0.22	0.25	1.98
76:	0.22	0.20	0.13	0.17	0.14	0.12	0.11	0.14	0.15	0.12	1.50
77:	0.13	0.16	0.13	0.12	0.09	0.08	0.09	0.06	0.11	0.04	1.01
78:	0.07	0.05	0.03	0.03	0.03	0.05	0.02	0.02	0.02	0.02	0.34
79:	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.02	0.22
80:	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.14
81:	0.02	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.01	0.02	0.21
82:	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.05
83:	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.06

Statistics Chart

S279: Statistics Chart

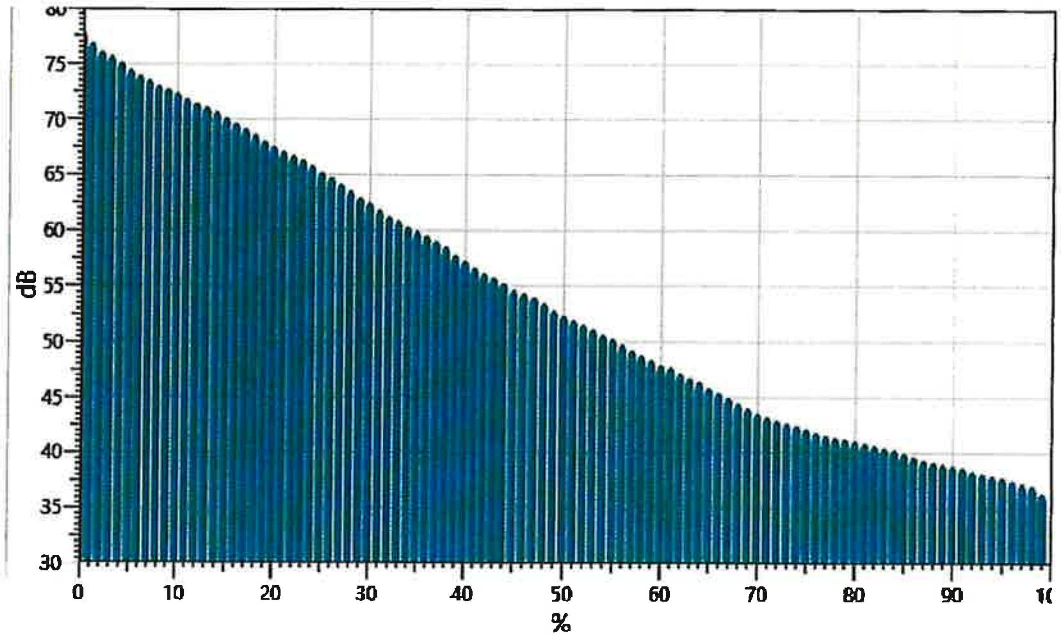


Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		77.9	76.9	76.1	75.7	75.2	74.5	74.0	73.6	73.1
10%:	72.8	72.4	71.9	71.5	71.1	70.7	70.2	69.7	69.2	68.7
20%:	68.1	67.6	67.2	66.8	66.4	65.9	65.3	64.8	64.2	63.6
30%:	63.0	62.5	61.9	61.3	60.9	60.4	60.0	59.6	59.1	58.6
40%:	57.9	57.3	56.7	56.2	55.8	55.3	54.7	54.4	54.0	53.5
50%:	52.9	52.4	52.0	51.6	51.2	50.7	50.3	49.8	49.3	48.8
60%:	48.4	47.9	47.7	47.2	46.8	46.4	45.9	45.5	45.0	44.5
70%:	44.1	43.6	43.3	43.0	42.7	42.5	42.2	41.9	41.6	41.4
80%:	41.3	41.1	40.9	40.7	40.5	40.3	40.0	39.7	39.4	39.2
90%:	39.0	38.9	38.7	38.4	38.2	38.0	37.8	37.5	37.3	37.1
100%:	36.4									

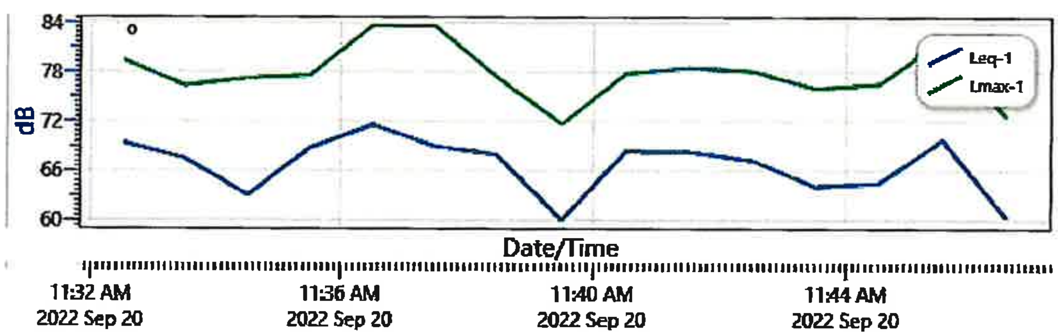
Exceedance Chart

S279: Exceedance Chart



Logged Data Chart

S279: Logged Data Chart



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16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part A

Date: 9/20/2022 Day of Week: Tuesday Time: 12:10 Project Number: 7189

Monitoring Segment / Area: 5 Monitoring Site Address: 52 2nd Street, Calexico

Measurement Taken By: Erik / Michael of UltraSystems Environmental

Average Wind Speed: 0.6 mph [km/hr] Compass Heading (meter ⊥ to source) 330° NW

Temp: 95° °F Relative Humidity: 23.4 % Compass Heading (into wind) 62° NE

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 65 ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 12:10 pm Measurement End Time: 12:25 pm

Total Measurement Time: 15 min Session File Name (e.g., S012): S280

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.2
$L_{eq\ (h)}$	Slow: 49.9	Fast:
L_{max}	Slow: 71.7	Fast:
L_{90}	Slow: 44.6	Fast:

Field Notes:

1. Dog Barking
2. Air conditioning from mobile Homes
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part B

Date: 9/20/22 Day of Week: Tuesday Time: 12:10PM Project Number: 7159

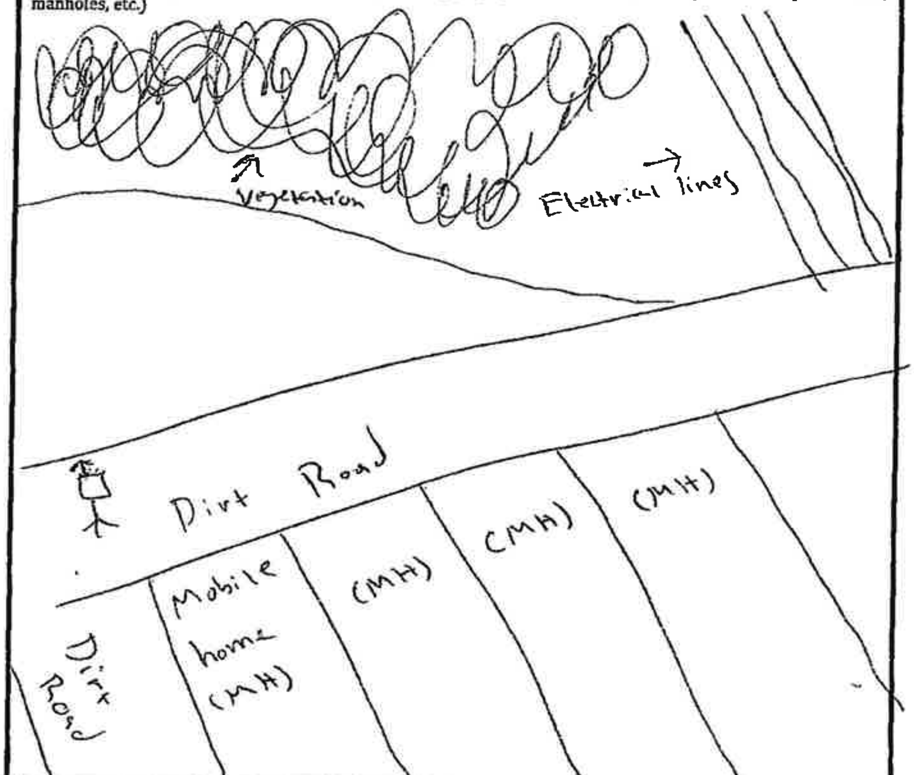
Monitoring Segment / Area: 5 Monitoring Site Address: 52 ~~[illegible]~~ 2nd Street, Calexico

Site Map

Plan View

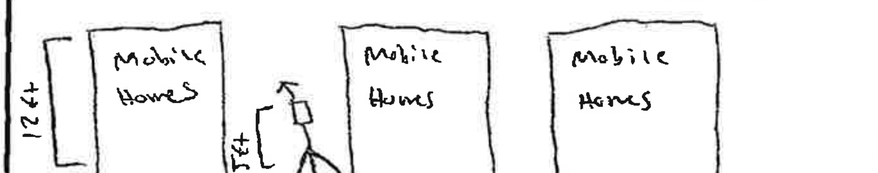
North Arrow (Fill-in)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.669506°	Longitude: -115.528889	Elevation: 0ft

Noise Monitor's Signature: [signature] Date: 9/20/22

Session Report

9/23/2022

Information Panel

Name	S280
Start Time	9/20/2022 12:09:37 PM
Stop Time	9/20/2022 12:24:37 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	49.8 dB	L90	1	44.6 dB
Lmax	1	71.7 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

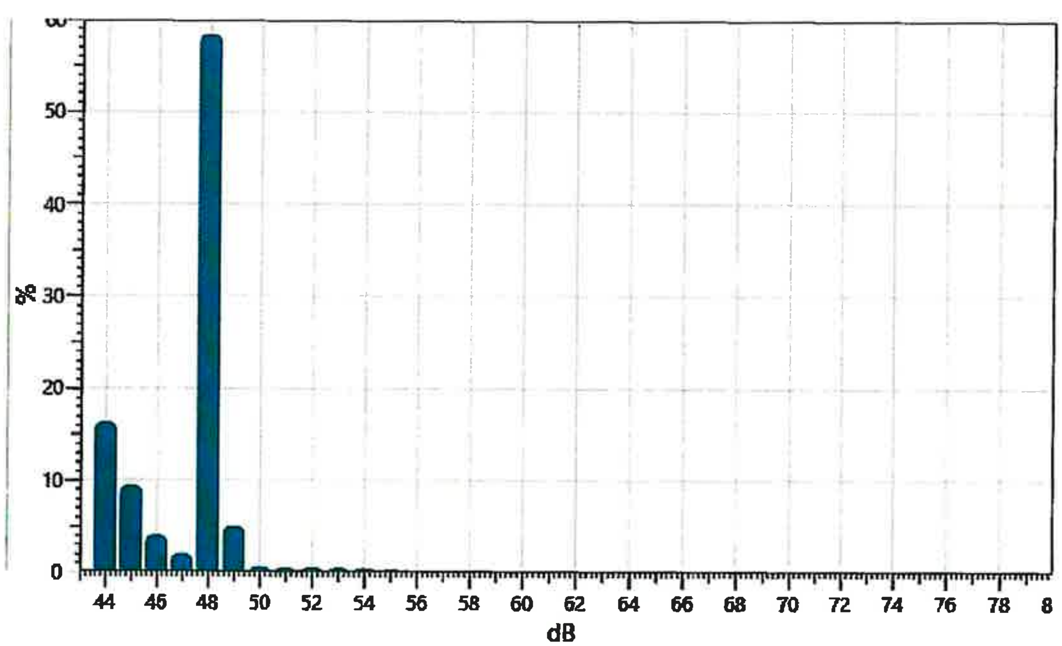
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
43:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28
44:	1.01	0.64	1.23	1.69	1.45	1.37	1.52	3.01	2.66	1.71	16.31
45:	1.01	0.90	1.30	1.30	0.77	0.39	0.78	0.82	0.82	1.37	9.44
46:	0.83	0.37	0.66	0.46	0.29	0.29	0.30	0.20	0.32	0.32	4.04
47:	0.32	0.26	0.24	0.13	0.10	0.12	0.18	0.20	0.15	0.35	2.03
48:	0.66	1.26	3.76	4.71	7.68	10.00	9.26	10.11	6.89	4.09	58.41
49:	1.70	0.57	0.56	0.82	0.52	0.31	0.18	0.13	0.13	0.11	5.04
50:	0.15	0.09	0.07	0.05	0.06	0.04	0.03	0.04	0.03	0.04	0.60
51:	0.03	0.04	0.04	0.04	0.04	0.03	0.05	0.09	0.06	0.06	0.48
52:	0.06	0.05	0.05	0.04	0.05	0.06	0.05	0.05	0.05	0.06	0.53
53:	0.06	0.06	0.05	0.05	0.04	0.05	0.05	0.04	0.03	0.04	0.48
54:	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.05	0.05	0.04	0.44
55:	0.04	0.03	0.02	0.04	0.04	0.03	0.04	0.04	0.03	0.02	0.33

56:	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.01	0.02	0.19
57:	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.01	0.02	0.22
58:	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.15
59:	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.15
60:	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.17
61:	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12
62:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
63:	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
64:	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
65:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
66:	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
67:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
68:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
69:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
70:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03
71:	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.03

Statistics Chart

S280: Statistics Chart

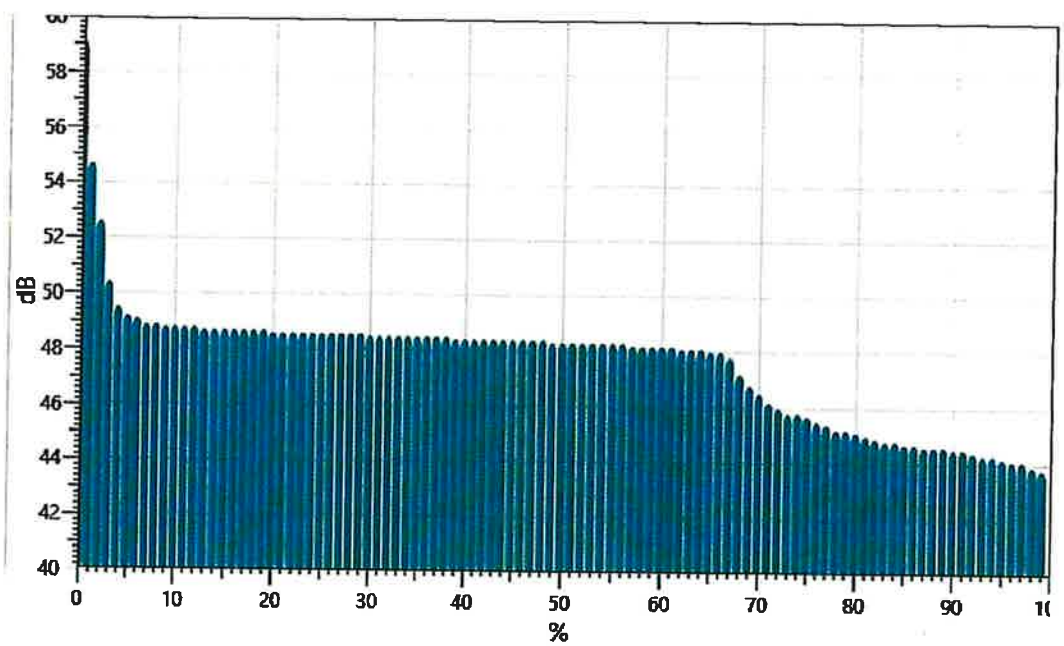


Exceedance Table

•	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		59.1	54.7	52.6	50.4	49.5	49.2	49.1	48.9	48.9
10%:	48.8	48.8	48.8	48.8	48.7	48.7	48.7	48.7	48.7	48.7
20%:	48.7	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
30%:	48.6	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5
40%:	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4
50%:	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.2	48.2
60%:	48.2	48.2	48.2	48.1	48.1	48.1	48.0	48.0	47.8	47.2
70%:	46.8	46.5	46.2	46.0	45.8	45.8	45.7	45.5	45.4	45.2
80%:	45.2	45.1	45.0	44.9	44.8	44.8	44.7	44.7	44.6	44.6
90%:	44.6	44.5	44.5	44.4	44.3	44.3	44.2	44.1	44.1	43.9
100%:	43.8									

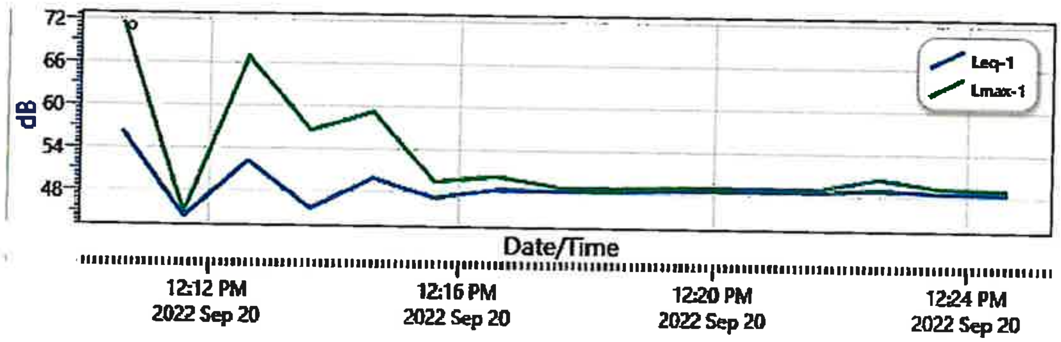
Exceedance Chart

S280: Exceedance Chart



Logged Data Chart

S280: Logged Data Chart



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Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part A

Date: 09/20/2022 Day of Week: Tuesday Time: 12:57pm Project Number: 7189

Monitoring Segment / Area: 4 Monitoring Site Address: 1073 Grant Street Calexico

Measurement Taken By: Erik/Michael of UltraSystems Environmental

Average Wind Speed: 0 mph [km/hr] Compass Heading (meter ⊥ to source) 336 NW

Temp: 98.3° F Relative Humidity: 24.1% Compass Heading (into wind) ~~336 NW~~ 63° NE

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 33ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: ______

Meter Setting: ☐ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 12:57pm Measurement End Time: 1:12pm

Total Measurement Time: 15 Session File Name (e.g., S012): S251

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.2
L_{eq} (h)	Slow: 54.7	Fast:
L_{max}	Slow: 66.5	Fast:
L_{90}	Slow: 44.1	Fast:

Field Notes:

1. Dirt Hill
2. Cars starting
3.

Noise Monitor's Signature: [signature] Date: 09/20/22

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Noise Measurement Report Form – Part B

Date: 09/20/22 Day of Week: Tuesday Time: 12:52pm Project Number: 2189

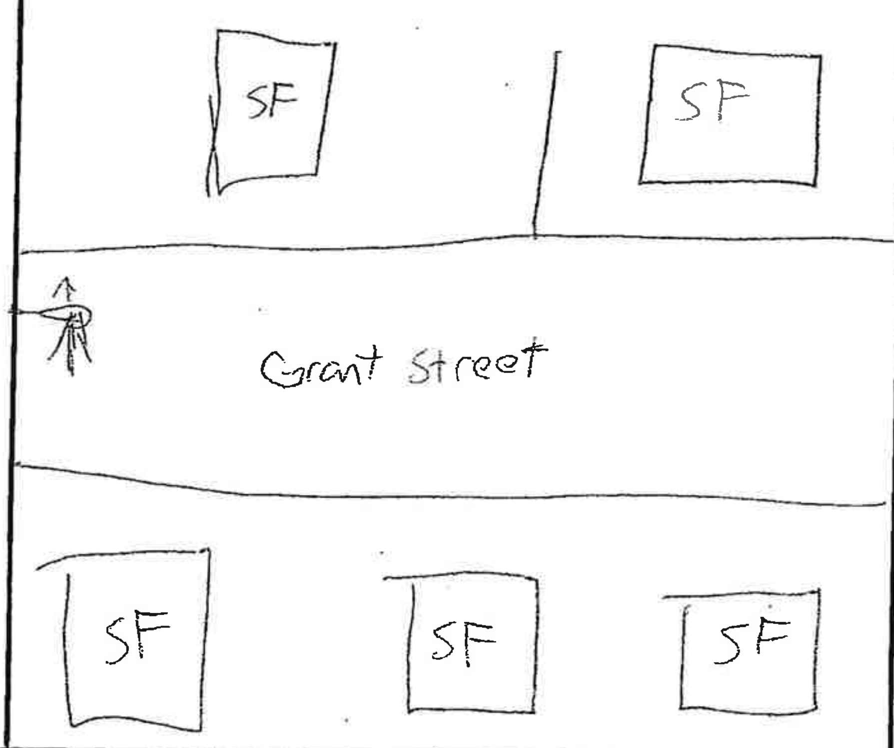
Monitoring Segment / Area: 4 Monitoring Site Address: 1023 Grant Street

Site Map

Plan View

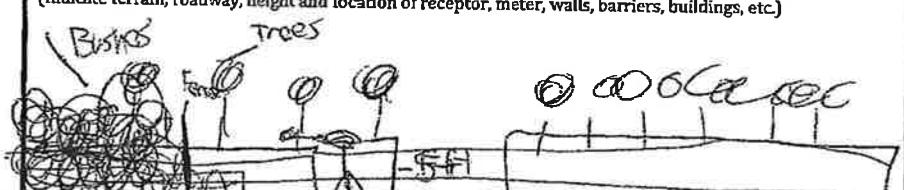
North Arrow (fill-in)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.674298°	Longitude: −115.524768°	Elevation: 0ft

Noise Monitor's Signature: [signature] Date: 09/20/22

Session Report

9/23/2022

Information Panel

Name	S281
Start Time	9/20/2022 12:57:03 PM
Stop Time	9/20/2022 1:12:03 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	54.7 dB	L90	1	41.1 dB
Lmax	1	66.5 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

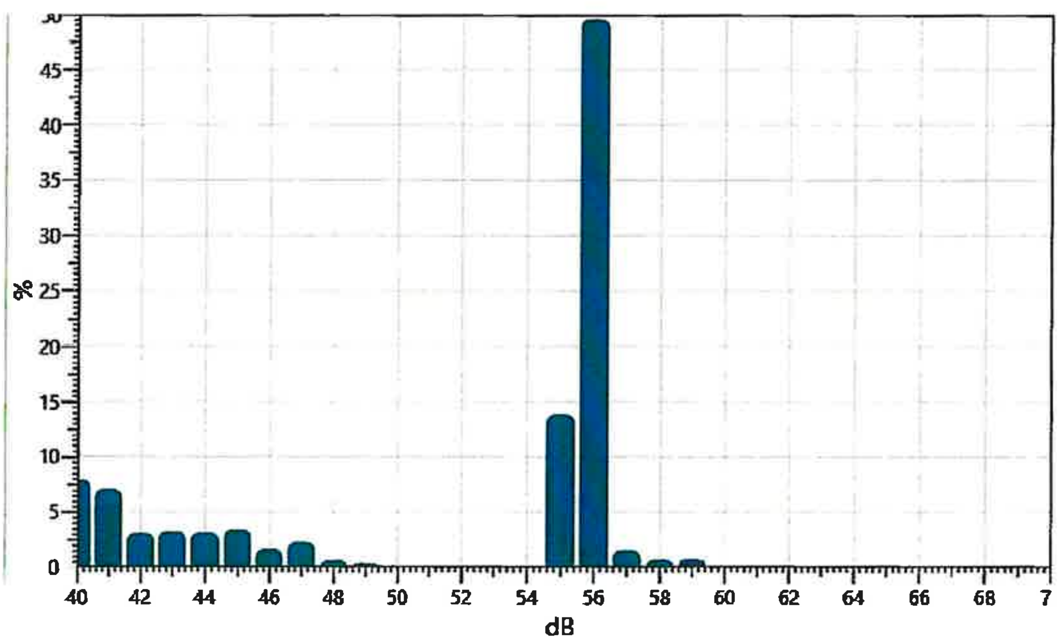
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40:	0.00	0.02	0.10	0.16	0.41	1.65	1.76	1.65	1.18	0.98	7.92
41:	0.79	1.04	0.81	0.80	0.69	0.63	0.68	0.61	0.53	0.52	7.10
42:	0.36	0.34	0.27	0.23	0.20	0.27	0.27	0.32	0.35	0.44	3.05
43:	0.48	0.12	0.38	0.38	0.41	0.41	0.31	0.28	0.19	0.27	3.23
44:	0.30	0.23	0.22	0.21	0.23	0.25	0.33	0.41	0.37	0.54	3.09
45:	0.41	0.39	0.43	0.37	0.28	0.21	0.22	0.45	0.40	0.26	3.43
46:	0.31	0.15	0.17	0.15	0.15	0.14	0.12	0.14	0.13	0.17	1.62
47:	0.14	0.16	0.41	0.47	0.61	0.14	0.12	0.09	0.07	0.06	2.29
48:	0.09	0.06	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.05	0.60
49:	0.05	0.04	0.05	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.38
50:	0.03	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.17
51:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.14
52:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12

53:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.11
54:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
55:	0.01	0.01	0.05	0.18	0.41	0.68	1.19	2.24	3.42	5.69	13.87
56:	6.50	8.94	8.45	8.30	5.86	3.84	3.50	2.40	1.03	0.76	49.60
57:	0.43	0.25	0.18	0.11	0.12	0.16	0.06	0.10	0.08	0.07	1.56
58:	0.11	0.07	0.03	0.05	0.06	0.12	0.05	0.04	0.07	0.08	0.68
59:	0.12	0.20	0.16	0.13	0.07	0.03	0.01	0.01	0.01	0.00	0.72
60:	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.04
61:	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04
62:	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
63:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.03
64:	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
65:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
66:	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.03

Statistics Chart

S281: Statistics Chart



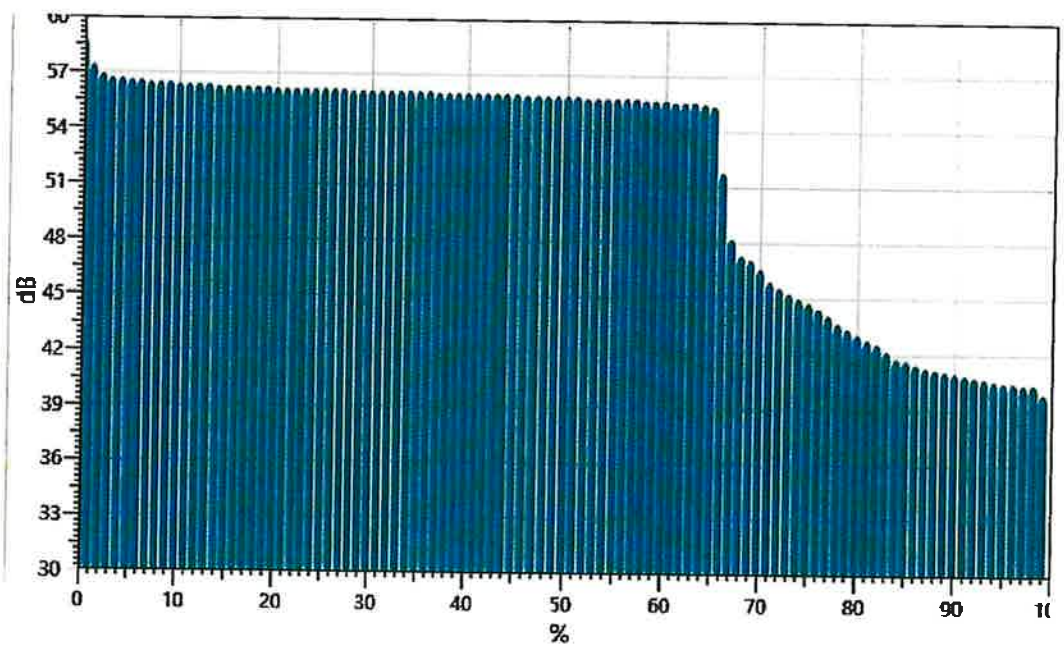
Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		58.8	57.4	56.9	56.7	56.7	56.6	56.6	56.5	56.5

10%:	56.5	56.4	56.4	56.4	56.4	56.3	56.3	56.3	56.3	56.3
20%:	56.3	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.1
30%:	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.0	56.0
40%:	56.0	56.0	56.0	56.0	56.0	56.0	56.0	55.9	55.9	55.9
50%:	55.9	55.9	55.9	55.8	55.8	55.8	55.8	55.8	55.8	55.7
60%:	55.7	55.7	55.6	55.6	55.6	55.5	55.4	51.8	48.2	47.3
70%:	47.1	46.6	45.9	45.6	45.3	45.0	44.8	44.5	44.1	43.7
80%:	43.4	43.1	42.8	42.6	42.2	41.8	41.7	41.5	41.3	41.2
90%:	41.1	41.0	40.9	40.8	40.7	40.6	40.5	40.5	40.4	40.4
100%:	39.9									

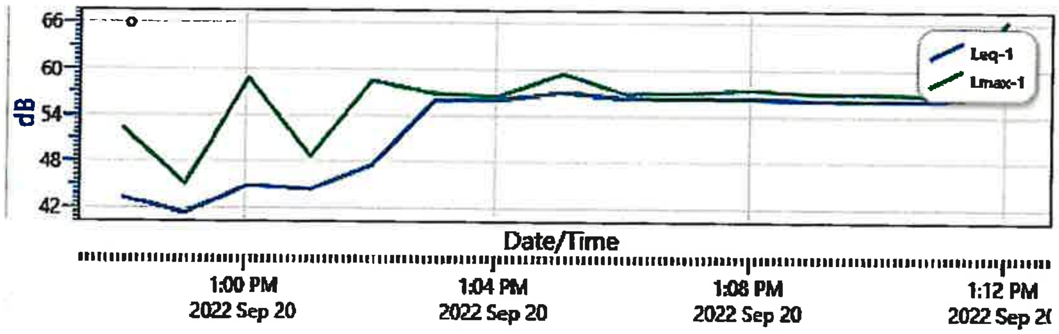
Exceedance Chart

S281: Exceedance Chart



Logged Data Chart

S281: Logged Data Chart



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Noise Measurement Report Form – Part A

Date: 9/20/22 Day of Week: Tuesday Time: 1:30 Project Number: 7189

Monitoring Segment / Area: 3 Monitoring Site Address: 1101 Rainbow Ave

Measurement Taken By: Erik / Michael of UltraSystems Environmental

Average Wind Speed: 0 mph [km/hr] Compass Heading (meter ⊥ to source) ______

Temp: 98.6 °F Relative Humidity: 27.5 % Compass Heading (into wind) 218° SW

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 101 ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 1:30pm Measurement End Time: 1:45pm

Total Measurement Time: 15min Session File Name (e.g., S012): S282

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.0
L_{eq} (h)	Slow: 64.6	Fast:
L_{max}	Slow: 81.3	Fast:
L_{90}	Slow: 40.7	Fast:

Field Notes:

1. Traffic along Hwy 98
2.
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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Noise Measurement Report Form – Part B

Date: 9/20/22 Day of Week: Tuesday Time: 1:30 Project Number: 7189

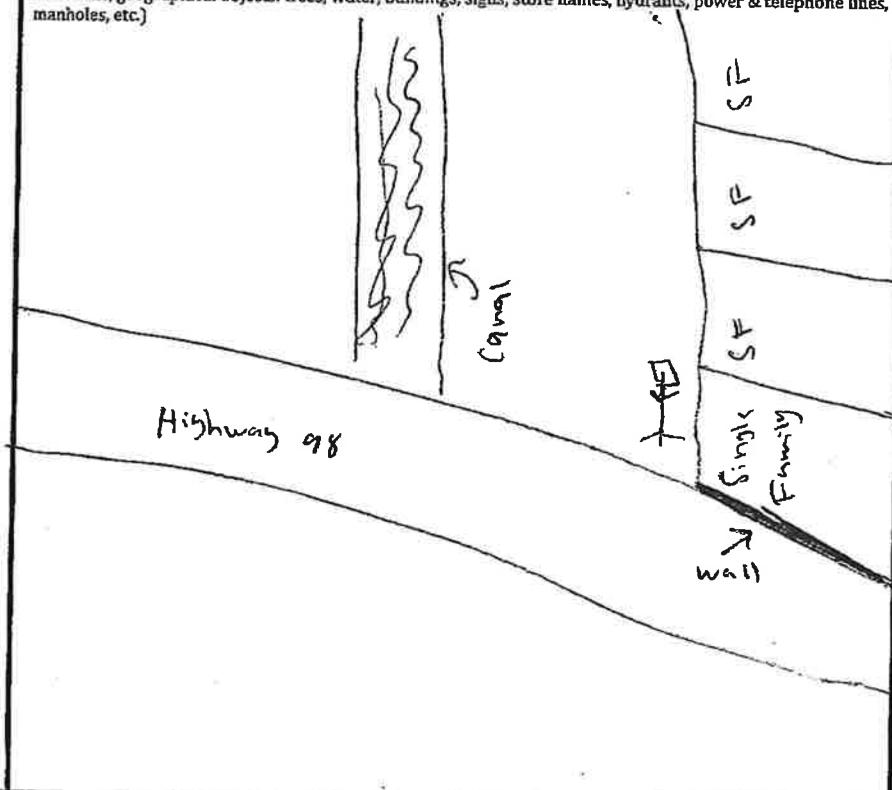
Monitoring Segment / Area: 3 Monitoring Site Address: 1101 Rainbow Avenue

Site Map

Plan View

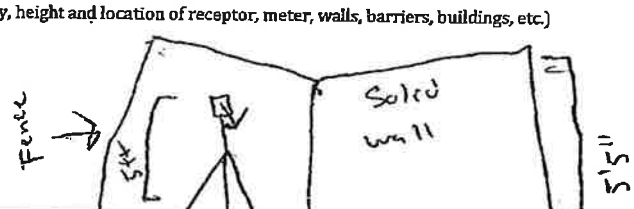
North Arrow (fill-in)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.679503°	Longitude: -115.522573°	Elevation: 0ft

Noise Monitor's Signature: [signature] Date: 9/20/2022

Session Report

9/23/2022

Information Panel

Name	S282
Start Time	9/20/2022 1:30:05 PM
Stop Time	9/20/2022 1:45:05 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	64.6 dB	L90	1	40.7 dB
Lmax	1	81.3 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

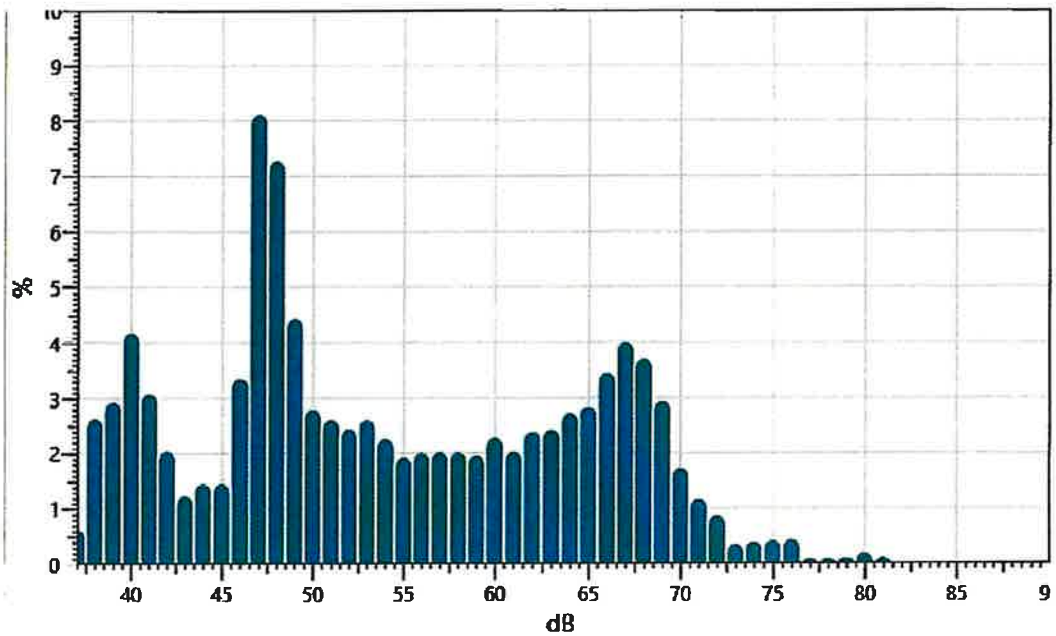
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
37:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.14	0.42	0.62
38:	0.60	0.37	0.29	0.32	0.25	0.19	0.18	0.16	0.10	0.16	2.63
39:	0.27	0.27	0.26	0.19	0.21	0.28	0.36	0.38	0.35	0.36	2.93
40:	0.54	0.22	0.42	0.47	0.41	0.42	0.52	0.39	0.45	0.34	4.18
41:	0.22	0.32	0.35	0.32	0.27	0.40	0.29	0.37	0.25	0.28	3.07
42:	0.22	0.22	0.24	0.18	0.25	0.20	0.18	0.21	0.17	0.16	2.03
43:	0.16	0.06	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.13	1.24
44:	0.11	0.12	0.11	0.14	0.17	0.16	0.18	0.16	0.16	0.14	1.44
45:	0.14	0.15	0.15	0.16	0.17	0.14	0.12	0.12	0.16	0.14	1.45
46:	0.14	0.08	0.12	0.21	0.35	0.37	0.31	0.60	0.68	0.50	3.35
47:	0.55	0.92	0.80	0.79	0.43	0.61	1.20	1.05	0.76	1.00	8.11
48:	1.03	1.25	0.96	0.98	0.72	0.49	0.41	0.47	0.48	0.47	7.27
49:	0.64	0.41	0.60	0.53	0.54	0.43	0.38	0.28	0.29	0.34	4.43

50:	0.26	0.29	0.28	0.26	0.27	0.26	0.31	0.30	0.22	0.33	2.79
51:	0.27	0.27	0.26	0.25	0.23	0.27	0.25	0.26	0.30	0.25	2.61
52:	0.32	0.24	0.24	0.26	0.23	0.25	0.23	0.22	0.22	0.21	2.43
53:	0.20	0.26	0.26	0.22	0.24	0.26	0.24	0.26	0.36	0.30	2.60
54:	0.28	0.24	0.21	0.22	0.26	0.20	0.19	0.21	0.20	0.24	2.26
55:	0.26	0.20	0.15	0.19	0.19	0.18	0.18	0.16	0.21	0.20	1.92
56:	0.19	0.17	0.19	0.18	0.22	0.20	0.25	0.21	0.19	0.20	2.00
57:	0.20	0.20	0.19	0.19	0.19	0.18	0.24	0.18	0.22	0.23	2.01
58:	0.28	0.24	0.14	0.22	0.20	0.19	0.19	0.19	0.19	0.18	2.01
59:	0.18	0.19	0.19	0.18	0.21	0.21	0.21	0.20	0.19	0.19	1.95
60:	0.20	0.22	0.25	0.23	0.24	0.24	0.23	0.22	0.22	0.23	2.27
61:	0.23	0.24	0.14	0.22	0.20	0.18	0.23	0.21	0.19	0.18	2.02
62:	0.20	0.20	0.19	0.24	0.23	0.27	0.24	0.25	0.28	0.28	2.38
63:	0.25	0.26	0.28	0.23	0.23	0.22	0.23	0.23	0.24	0.25	2.41
64:	0.34	0.33	0.23	0.26	0.26	0.27	0.25	0.25	0.27	0.27	2.72
65:	0.26	0.26	0.26	0.26	0.29	0.31	0.30	0.31	0.30	0.30	2.84
66:	0.31	0.32	0.35	0.28	0.28	0.26	0.32	0.39	0.40	0.54	3.44
67:	0.45	0.57	0.35	0.43	0.34	0.36	0.36	0.40	0.38	0.36	4.00
68:	0.32	0.35	0.36	0.38	0.39	0.36	0.38	0.38	0.39	0.39	3.69
69:	0.39	0.29	0.26	0.27	0.31	0.25	0.29	0.30	0.33	0.26	2.94
70:	0.19	0.22	0.13	0.17	0.19	0.14	0.17	0.21	0.16	0.14	1.73
71:	0.15	0.19	0.19	0.14	0.10	0.08	0.08	0.09	0.07	0.08	1.17
72:	0.09	0.09	0.09	0.13	0.14	0.08	0.06	0.05	0.07	0.07	0.86
73:	0.06	0.04	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.35
74:	0.03	0.03	0.04	0.04	0.04	0.06	0.06	0.04	0.03	0.03	0.39
75:	0.02	0.05	0.03	0.05	0.04	0.02	0.06	0.04	0.05	0.05	0.42
76:	0.04	0.04	0.11	0.04	0.07	0.03	0.03	0.03	0.03	0.01	0.44
77:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
78:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
79:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.11
80:	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.19
81:	0.02	0.03	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11

Statistics Chart

S282: Statistics Chart

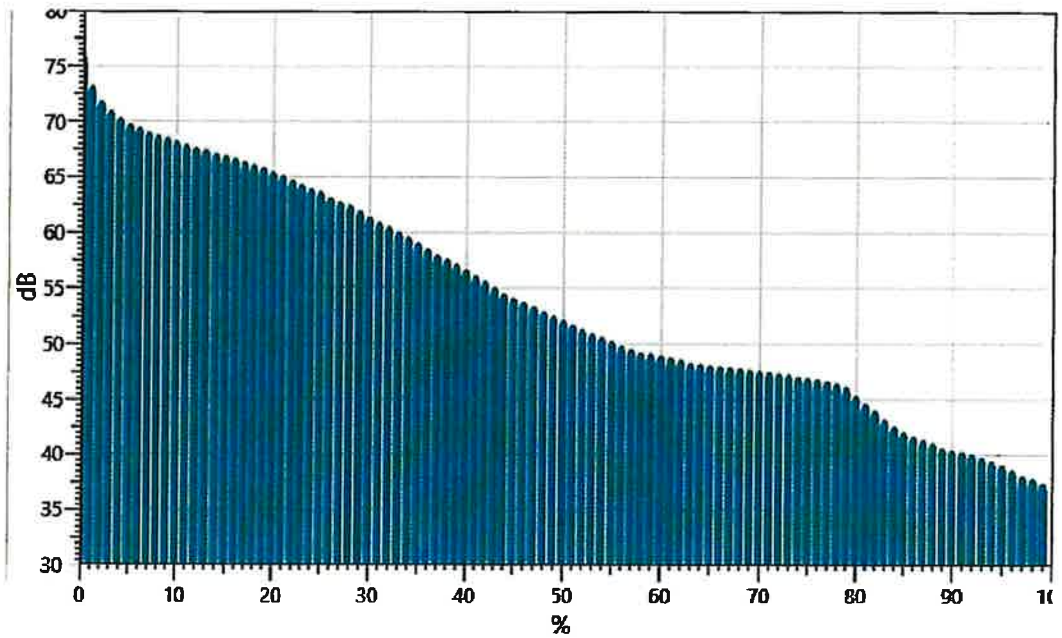


Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		75.9	73.3	71.9	71.0	70.4	69.8	69.5	69.1	68.8
10%:	68.6	68.3	68.0	67.7	67.5	67.2	67.0	66.8	66.5	66.2
20%:	65.9	65.5	65.2	64.8	64.4	64.0	63.7	63.2	62.8	62.5
30%:	62.0	61.5	61.0	60.6	60.1	59.7	59.2	58.6	58.1	57.7
40%:	57.2	56.7	56.2	55.7	55.1	54.6	54.2	53.8	53.4	53.0
50%:	52.6	52.2	51.8	51.4	51.0	50.7	50.3	49.9	49.6	49.3
60%:	49.2	49.0	48.8	48.6	48.3	48.2	48.1	48.0	47.9	47.8
70%:	47.7	47.6	47.5	47.4	47.3	47.1	47.0	46.9	46.7	46.5
80%:	46.2	45.4	44.7	44.1	43.3	42.6	42.1	41.7	41.4	41.1
90%:	40.7	40.5	40.3	40.1	39.8	39.5	39.1	38.7	38.2	37.9
100%:	37.5									

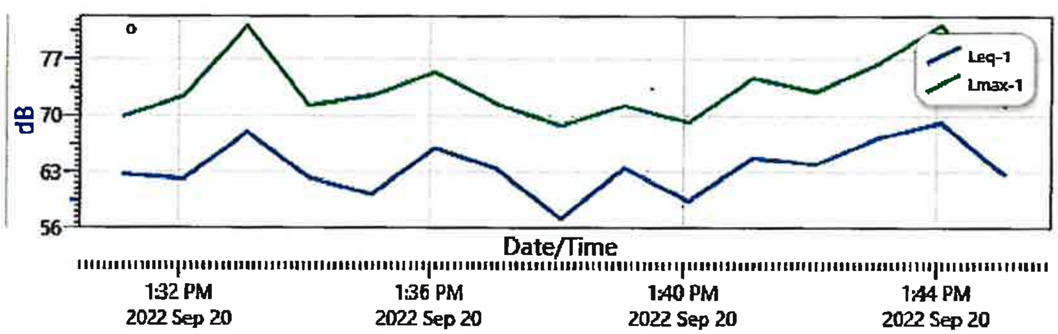
Exceedance Chart

S282: Exceedance Chart



Logged Data Chart

S282: Logged Data Chart



UltraSystems
environmental | management | planning

16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part A

Date: 9/20/2022 Day of Week: Tuesday Time: 1:57 Project Number: 7189

Monitoring Segment / Area: 2 Monitoring Site Address: 4 W Highway 98

Measurement Taken By: Erik / Michael of UltraSystems Environmental

Average Wind Speed: 3.3 mph [km/hr] Compass Heading (meter ⊥ to source) 19° N

Temp: 96.8 °F Relative Humidity: 30.6 % Compass Heading (into wind) 185° S

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 127ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 1:57 pm Measurement End Time: ~~2:12~~ 2:12 pm

Total Measurement Time: 15min Session File Name (e.g., S012): S283

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)
Calibration	Pre: 114.0 Post: 114.1
$L_{eq\,(h)}$	Slow: 66.2 Fast:
L_{max}	Slow: 84.0 Fast:
L_{90}	Slow: 39.1 Fast:

Field Notes:

1. Traffic along Hwy 98
2.
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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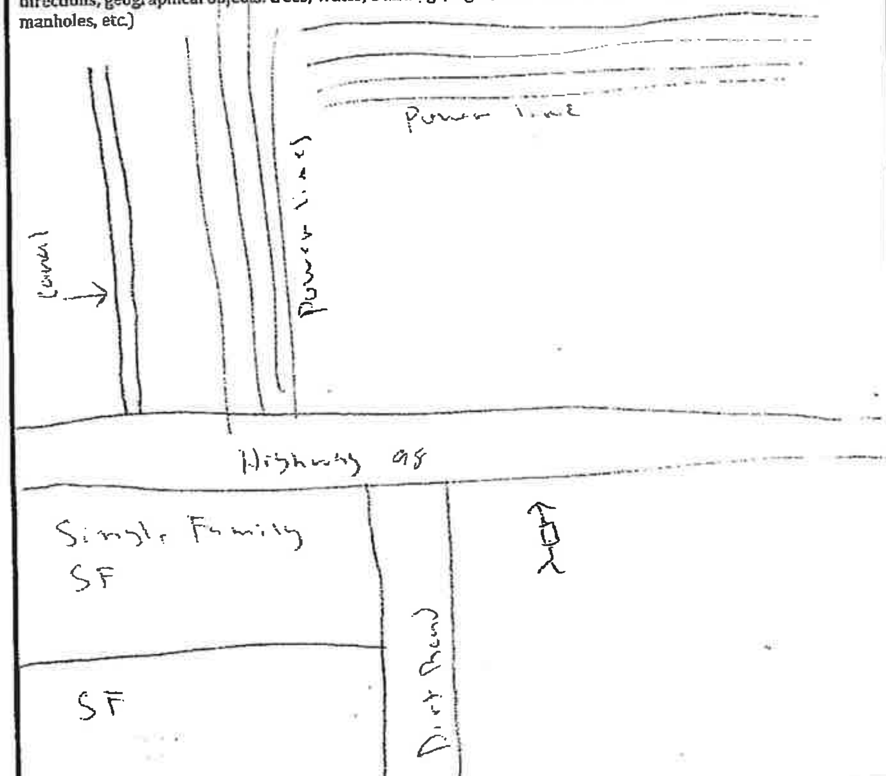
16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part B

Date: 9/20/22 Day of Week: Tuesday Time: 1:57 Project Number: 7184

Monitoring Segment / Area: 2 Monitoring Site Address: 4 w highway 98

Site Map

Plan View North Arrow (fill-in)	(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.) 
Elevation View	(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.) 

Latitude: 32.679182°	Longitude: -115.533557	Elevation: 0 ft

Noise Monitor's Signature: [signature] Date: 9/20/2022

Session Report

9/23/2022

Information Panel

Name	S283
Start Time	9/20/2022 1:55:44 PM
Stop Time	9/20/2022 2:10:44 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	66.2 dB	L90	1	39.1 dB
Lmax	1	84 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

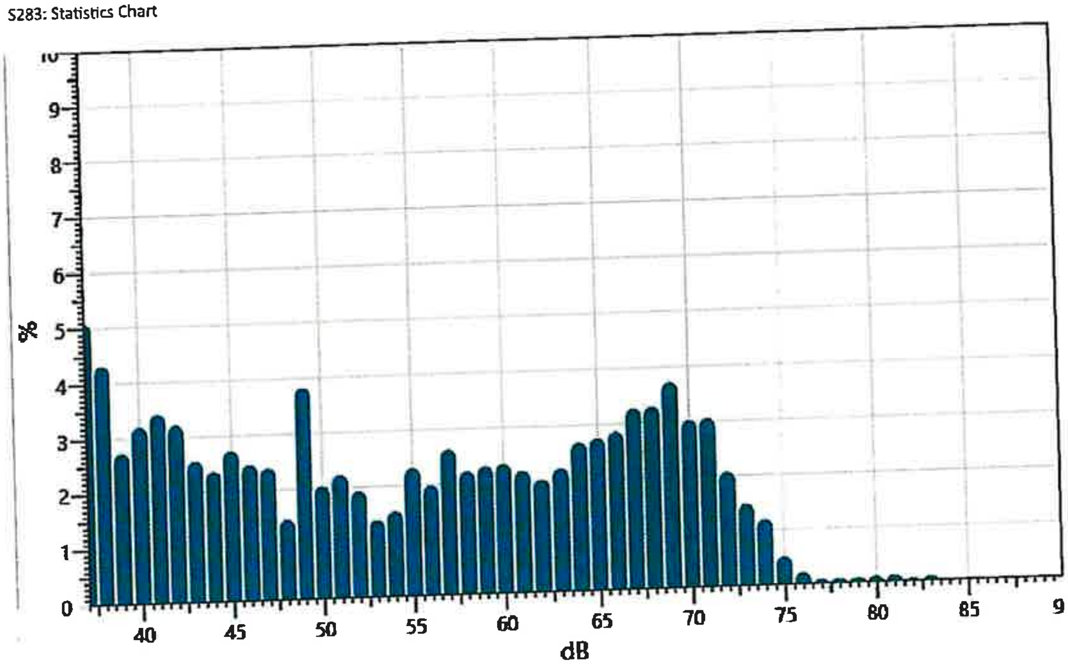
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
37:	0.08	0.24	0.59	0.55	0.58	0.56	0.75	0.48	0.59	0.66	5.10
38:	0.72	0.57	0.41	0.54	0.36	0.29	0.43	0.39	0.30	0.30	4.32
39:	0.24	0.32	0.28	0.33	0.25	0.47	0.22	0.25	0.20	0.17	2.74
40:	0.26	0.27	0.33	0.26	0.35	0.31	0.36	0.43	0.33	0.29	3.20
41:	0.28	0.25	0.20	0.22	0.30	0.30	0.61	0.47	0.43	0.38	3.42
42:	0.50	0.51	0.35	0.29	0.21	0.21	0.26	0.31	0.27	0.32	3.22
43:	0.31	0.11	0.23	0.24	0.25	0.29	0.35	0.28	0.25	0.24	2.55
44:	0.27	0.25	0.27	0.27	0.31	0.25	0.19	0.20	0.17	0.17	2.36
45:	0.17	0.26	0.33	0.34	0.27	0.24	0.28	0.37	0.24	0.24	2.73
46:	0.20	0.15	0.20	0.24	0.30	0.24	0.28	0.31	0.28	0.26	2.47
47:	0.26	0.31	0.32	0.36	0.25	0.18	0.21	0.22	0.15	0.13	2.39
48:	0.13	0.13	0.14	0.17	0.14	0.14	0.15	0.17	0.16	0.14	1.46
49:	0.15	0.21	0.33	0.33	0.34	0.40	0.55	0.57	0.43	0.52	3.83

50:	0.37	0.23	0.20	0.20	0.20	0.22	0.18	0.13	0.14	0.15	2.03
51:	0.17	0.20	0.19	0.16	0.17	0.22	0.30	0.21	0.28	0.32	2.22
52:	0.27	0.28	0.22	0.20	0.17	0.17	0.16	0.15	0.15	0.14	1.93
53:	0.17	0.15	0.13	0.14	0.13	0.15	0.14	0.14	0.13	0.11	1.41
54:	0.14	0.14	0.15	0.16	0.15	0.14	0.14	0.16	0.18	0.18	1.54
55:	0.18	0.37	0.22	0.20	0.24	0.27	0.23	0.20	0.17	0.24	2.31
56:	0.26	0.26	0.20	0.19	0.21	0.18	0.18	0.18	0.17	0.15	1.99
57:	0.19	0.28	0.33	0.31	0.31	0.24	0.26	0.23	0.21	0.26	2.63
58:	0.26	0.27	0.17	0.19	0.19	0.18	0.16	0.20	0.33	0.28	2.22
59:	0.22	0.26	0.21	0.25	0.25	0.24	0.22	0.24	0.22	0.20	2.30
60:	0.27	0.24	0.23	0.23	0.20	0.23	0.20	0.24	0.25	0.23	2.34
61:	0.25	0.28	0.17	0.23	0.21	0.22	0.21	0.22	0.19	0.22	2.20
62:	0.22	0.22	0.20	0.20	0.20	0.21	0.19	0.19	0.20	0.20	2.03
63:	0.18	0.19	0.21	0.23	0.24	0.24	0.25	0.23	0.23	0.23	2.23
64:	0.24	0.27	0.16	0.24	0.27	0.27	0.27	0.27	0.35	0.34	2.69
65:	0.37	0.33	0.31	0.27	0.26	0.24	0.26	0.24	0.24	0.24	2.76
66:	0.25	0.26	0.26	0.28	0.30	0.28	0.28	0.31	0.30	0.35	2.86
67:	0.35	0.36	0.24	0.35	0.35	0.33	0.30	0.35	0.34	0.30	3.27
68:	0.31	0.31	0.33	0.35	0.36	0.33	0.37	0.31	0.31	0.31	3.29
69:	0.38	0.40	0.41	0.34	0.43	0.39	0.38	0.33	0.33	0.34	3.72
70:	0.38	0.37	0.26	0.28	0.30	0.28	0.30	0.29	0.28	0.27	3.02
71:	0.35	0.34	0.32	0.30	0.28	0.26	0.30	0.35	0.28	0.28	3.05
72:	0.25	0.20	0.24	0.20	0.26	0.23	0.21	0.19	0.14	0.14	2.07
73:	0.20	0.18	0.12	0.16	0.17	0.13	0.12	0.12	0.14	0.16	1.49
74:	0.17	0.16	0.11	0.11	0.10	0.10	0.14	0.10	0.10	0.11	1.20
75:	0.11	0.07	0.08	0.08	0.04	0.02	0.02	0.03	0.03	0.03	0.51
76:	0.03	0.05	0.02	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.22
77:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
78:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
79:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
80:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.11
81:	0.02	0.01	0.01	0.01	0.03	0.02	0.00	0.01	0.01	0.01	0.13
82:	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.06
83:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.09
84:	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

Statistics Chart

S283: Statistics Chart

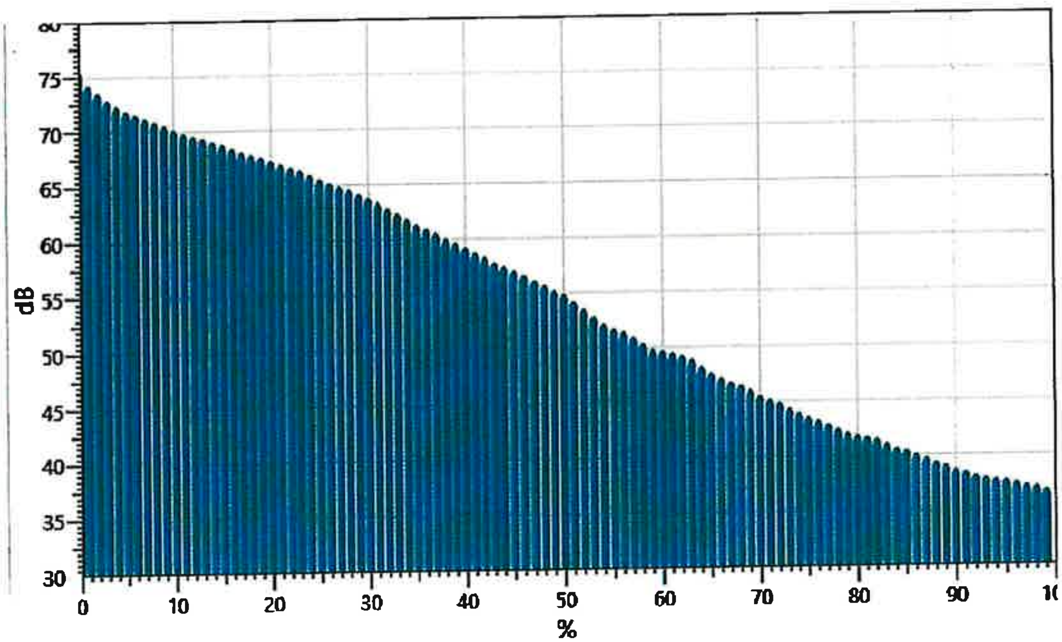


Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		75.6	74.3	73.6	72.9	72.4	71.9	71.6	71.2	70.9
10%:	70.6	70.2	69.9	69.6	69.4	69.1	68.8	68.5	68.2	67.9
20%:	67.6	67.3	67.0	66.7	66.4	66.0	65.6	65.2	64.9	64.6
30%:	64.2	63.8	63.4	62.9	62.4	61.9	61.4	61.0	60.6	60.1
40%:	59.7	59.3	58.8	58.4	57.9	57.5	57.1	56.7	56.2	55.8
50%:	55.3	54.9	54.3	53.6	52.9	52.2	51.8	51.5	51.0	50.4
60%:	49.9	49.7	49.5	49.3	48.9	48.2	47.6	47.2	46.8	46.5
70%:	46.1	45.6	45.2	44.9	44.4	44.0	43.6	43.3	42.9	42.5
80%:	42.1	41.9	41.7	41.5	41.1	40.7	40.5	40.1	39.8	39.4
90%:	39.1	38.7	38.5	38.2	38.0	37.8	37.7	37.5	37.3	37.2
100%:	36.9									

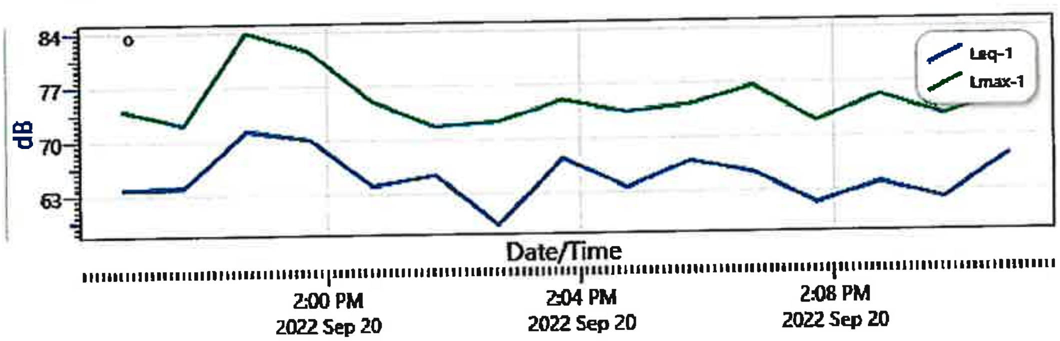
Exceedance Chart

S283: Exceedance Chart



Logged Data Chart

S283: Logged Data Chart



ALUC LETTER OF DETERMINATION

Imperial County Planning & Development Services
Planning / Building

Jim Minnick
DIRECTOR

February 29, 2024

Cal 98 Holdings
8861 Houghton Road
Bakersfield, CA 93331

SUBJECT: Airport Land Use Commission Determination for Cal 98 Holdings
ZC #23-0007/CUP #23-0027

Dear Applicant:

The Airport Land Use Commission (ALUC) on November 15, 2023, held a public hearing on the proposed Zone Change #23-0007 and Conditional Use Permit #23-0027 for a trucking and warehouse facility for consistency or inconsistency with the 1996 Airport Land Use Compatibility Plan (ALUCP). Tom Dubose was present on the applicant's behalf.

After conducting a public hearing, and hearing all the opponents and proponents of the proposed Zone Change and trucking and warehouse facility, the Commission found it consistent with the 1996 Airport Land Use Compatibility Plan (ALUCP).

If you should have any questions, please contact Derek Newland, Planner III, at (442) 265-1736 or via email at dereknewland@co.imperial.ca.us

Sincerely,

Jim Minnick
ALUC Secretary

By: ______________________
Derek Newland
Planner III

CC: Tom Dubose, tom@dubosedesigngroup.com
Jim Minnick, Planning & Dev. Services Director
Michael Abraham, AICP, Assistant ICPDS Director
Diana Robinson, Planning Division Manager
ZC#23-0007/CUP#23-0027, APN 058-180-001
File: 10.102; 10.101; 10.104; 10.141

DN/AT\S:\AllUsers\APN\058\180\001\ZC23-0007_CUP23-0027_IS23-0033\ALUC\Cal98_ZC23-0007_CUP23-0027 ALUC Determination Ltr 111523.docx