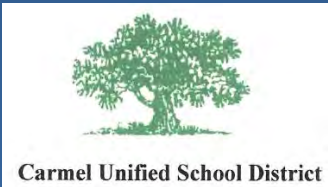


Revised Draft EIR

# Carmel High School Stadium Improvements

SCH# 2021050293

August 24, 2022



Prepared by  
EMC Planning Group



REVISED DRAFT EIR

# CARMEL HIGH SCHOOL STADIUM IMPROVEMENTS

SCH# 2021050293

PREPARED FOR

**Carmel Unified School District**

Dan Paul, Chief Operations Officer

4380 Carmel Valley Road

Carmel, CA 93923

Tel 831.624.6311

PREPARED BY

**EMC Planning Group Inc.**

601 Abrego Street

Monterey, CA 93940

August 24, 2022

This document was produced on recycled paper.







# TABLE OF CONTENTS

1.0	INTRODUCTION.....	1-1
1.1	Purpose for Preparing a Revised Draft EIR.....	1-1
1.2	Summary of Revisions Made to the Previously Circulated Draft EIR.....	1-2
1.3	Methodology.....	1-3
1.4	California Government Code Section 53094.....	1-5
1.5	EIR Process.....	1-6
1.6	Terminology.....	1-10
2.0	SUMMARY.....	2-1
2.1	CEQA Requirements.....	2-1
2.2	Proposed Project Summary.....	2-1
2.3	Summary of Significant Impacts and Mitigation Measures.....	2-2
2.4	Summary of Alternatives.....	2-2
2.5	Areas of Known Controversy.....	2-14
2.6	Issues to be Resolved.....	2-15
3.0	ENVIRONMENTAL SETTING.....	3-1
3.1	Regional and Vicinity Setting.....	3-1
3.2	Project Site Location and Setting.....	3-2
3.3	Baseline Conditions.....	3-13
4.0	PROJECT DESCRIPTION.....	4-1
4.1	Project Objectives.....	4-1
4.2	Project Characteristics.....	4-2
4.3	Intended Uses of the EIR.....	4-39

5.0	AESTHETICS .....	5-1
5.1	Environmental Setting.....	5-2
5.2	Regulatory Setting .....	5-6
5.3	Thresholds or Standards of Significance .....	5-14
5.4	Analysis, Impacts, and Mitigation Measures.....	5-14
6.0	AIR QUALITY .....	6-1
6.1	Environmental Setting.....	6-1
6.2	Regulatory Setting .....	6-8
6.3	Thresholds of Significance.....	6-15
6.4	Analysis, Impacts, and Mitigation Measures.....	6-17
7.0	BIOLOGICAL RESOURCES .....	7-1
7.1	Environmental Setting.....	7-2
7.2	Regulatory Setting .....	7-19
7.3	Thresholds or Standards of Significance .....	7-23
7.4	Analysis, Impacts, and Mitigation Measures.....	7-24
8.0	ENERGY.....	8-1
8.1	Environmental Setting.....	8-1
8.2	Regulatory Setting .....	8-2
8.3	Thresholds of Significance.....	8-4
8.4	Analysis and Mitigation Measures.....	8-5
9.0	GREENHOUSE GAS EMISSIONS .....	9-1
9.1	Environmental Setting.....	9-1
9.2	Regulatory Setting .....	9-8
9.3	Thresholds or Standards of Significance .....	9-16
9.4	Analysis, Impacts, and Mitigation Measures.....	9-18

10.0	NOISE .....	10-1
10.1	Environmental Setting .....	10-1
10.2	Regulatory Setting .....	10-3
10.3	Thresholds or Standards of Significance .....	10-9
10.4	Analysis, Impacts, and Mitigation Measures.....	10-10
11.0	TRANSPORTATION AND PARKING .....	11-1
11.1	Environmental Setting .....	11-2
11.2	Regulatory Setting .....	11-5
11.3	Thresholds of Significance.....	11-7
11.4	Analysis, Impacts, and Mitigation Measures.....	11-7
12.0	SOILS, EROSION, AND WATER QUALITY .....	12-1
12.1	Environmental Setting .....	12-1
12.2	Regulatory Setting .....	12-2
12.3	Thresholds or Standards of Significance .....	12-3
12.4	Analysis, Impacts, and Mitigation Measures.....	12-4
13.0	TRIBAL AND CULTURAL RESOURCES .....	13-1
13.1	Environmental Setting .....	13-1
13.2	Regulatory Setting .....	13-2
13.3	Thresholds or Standards of Significance .....	13-4
13.4	Environmental Impact Analysis .....	13-5
14.0	RECREATION .....	14-1
14.1	Environmental Setting .....	14-1
14.2	Regulatory Setting .....	14-3
14.3	Thresholds or Standards of Significance .....	14-4
14.4	Environmental Impact Analysis .....	14-5

15.0	CUMULATIVE IMPACTS.....	15-1
15.1	CEQA Requirements .....	15-1
15.2	Cumulative Development Scenario.....	15-2
15.3	Cumulative Analysis .....	15-4
16.0	SIGNIFICANT UNAVOIDABLE IMPACTS .....	16-1
16.1	CEQA Requirements .....	16-1
16.2	Impact Analysis.....	16-1
17.0	GROWTH INDUCING IMPACTS.....	17-1
17.1	CEQA Requirements .....	17-1
17.2	Growth Inducing Impact Analysis .....	17-1
18.0	ALTERNATIVES .....	18-1
18.1	CEQA Requirements .....	18-1
18.2	Project Objectives and Significant Impacts .....	18-1
18.3	Alternatives Considered .....	18-3
18.4	Comparison of Alternatives .....	18-31
18.5	Environmentally Superior Alternative .....	18-31
19.0	ORGANIZATIONS AND PERSONS CONSULTED .....	19-1
20.0	DOCUMENT AND WEB SOURCES AND REPORT PREPARERS .....	20-1
20.1	Document and Web Sources .....	20-1
20.2	Report Preparers .....	20-13

## Appendices

Appendix A	Notice of Preparation, Initial Study, and Responses to Notice of Preparation
Appendix B	Neighborhood Parking Assessment
Appendix C	Lighting Data
Appendix D	Lighting Performance Summary Results
Appendix E	NOAA Sunrise/Sunset Tables for 2021
Appendix F	Visual Simulations Document
Appendix G	CalEEMod Results and Health Risk Assessment
Appendix H	EMFAC Fuel Demand Results
Appendix I	Environmental Noise Assessment
Appendix J	VMT Assessment and Intersection Operations, Site Access and Parking Evaluation
Appendix K	Traffic Management Plan
Appendix L	Geotechnical Report

## Figures

Figure 3-1	Project Location .....	3-3
Figure 3-2	Aerial Photograph.....	3-5
Figure 3-3	Project Site Photos – Existing Stadium Site .....	3-7
Figure 3-4	Project Site Photos – Existing Tennis Court and Pedestrian Path Site .....	3-9
Figure 3-5	Project Site Photos – Perimeter Area near Existing Pool Site .....	3-11
Figure 3-6	Existing On-Campus Parking Spaces and Circulation .....	3-23
Figure 4-1	Overall Site Plan .....	4-3
Figure 4-2a	Foot-Candle Measurement Summary – Football Field.....	4-7
Figure 4-2b	Foot-Candle Measurement Summary – Track .....	4-9
Figure 4-2c	Candela Measurement Summary – Edge of Campus.....	4-11
Figure 4-3	Lighting Pole Elevation (Locations F1 & F2).....	4-13
Figure 4-4	Lighting Pole Elevation (Locations F3 & F4).....	4-15



Figure 4-5	Conceptual Storage Building Design .....	4-17
Figure 4-6	Post Development Overall Parking Exhibit .....	4-19
Figure 4-7	Demolition Plan East Parking Lot .....	4-23
Figure 4-8	East Parking Lot – Conceptual Design .....	4-25
Figure 4-9	Demolition Plan Tennis Courts.....	4-27
Figure 4-10	Tennis Court Parking Lot – Conceptual Design.....	4-29
Figure 5-1a	Existing Daytime Conditions .....	5-7
Figure 5-1b	Existing Nighttime Conditions .....	5-9
Figure 5-2	Viewshed Analysis Map .....	5-17
Figure 5-3	Key Observation Points Map .....	5-21
Figure 5-4a	KOP-1 – State Route 1 North (Daytime Existing).....	5-23
Figure 5-4b	KOP-1 – State Route 1 North (Daytime Proposed) .....	5-24
Figure 5-5a	KOP-2 – Morse Drive (Daytime Existing) .....	5-25
Figure 5-5b	KOP-2 - Morse Drive (Daytime Proposed) .....	5-26
Figure 5-6a	KOP-4 – Outlook Drive (Daytime Existing).....	5-27
Figure 5-6b	KOP-4 – Outlook Drive (Daytime Proposed) .....	5-28
Figure 5-7a	KOP-5 – Edgefield Place (Daytime Existing) .....	5-29
Figure 5-7b	KOP-5 – Edgefield Place (Daytime Proposed).....	5-30
Figure 5-8a	KOP-6 – Carmel Knolls Drive North (Daytime Existing) .....	5-31
Figure 5-8b	KOP-6 – Carmel Knolls Drive North (Daytime Proposed).....	5-32
Figure 5-9a	KOP-7 – Carmel Knolls Drive South (Daytime Existing).....	5-33
Figure 5-9b	KOP-7 – Carmel Knolls Drive South (Daytime Proposed) .....	5-34
Figure 5-10a	KOP-8 – Carmel Rancho Shopping Center (Daytime Existing) ....	5-35
Figure 5-10b	KOP-8 – Carmel Rancho Shopping Center (Daytime Proposed) .....	5-36
Figure 5-11a	KOP-9 – Carmel Meadows (Daytime Existing) .....	5-37
Figure 5-11b	KOP-9 – Carmel Meadows (Daytime Proposed).....	5-38
Figure 5-12a	KOP-1 – State Route 1 North (Nighttime Existing).....	5-43
Figure 5-12b	KOP-1 – State Route 1 North (Nighttime Proposed) .....	5-44

Figure 5-13a	KOP-2 – Morse Drive (Nighttime Existing) .....	5-45
Figure 5-13b	KOP-2 – Morse Drive (Nighttime Proposed) .....	5-46
Figure 5-14a	KOP-3 – State Route 1 South (Nighttime Existing) .....	5-47
Figure 5-14b	KOP-3 – State Route 1 South (Nighttime Proposed).....	5-48
Figure 5-15a	KOP-4 – Outlook Drive (Nighttime Existing).....	5-49
Figure 5-15b	KOP-4 – Outlook Drive (Nighttime Proposed).....	5-50
Figure 5-16a	KOP-5 – Edgefield Place (Nighttime Existing) .....	5-51
Figure 5-16b	KOP-5 – Edgefield Place (Nighttime Proposed).....	5-52
Figure 5-17a	KOP-6 – Carmel Knolls Drive North (Nighttime Existing) .....	5-53
Figure 5-17b	KOP-6 – Carmel Knolls Drive North (Nighttime Proposed) .....	5-54
Figure 5-18a	KOP-7 – Carmel Knolls Drive South (Nighttime Existing).....	5-55
Figure 5-18b	KOP-7 – Carmel Knolls Drive South (Nighttime Proposed) .....	5-56
Figure 5-19a	KOP-8 – Carmel Rancho Shopping Center (Nighttime Existing) .....	5-57
Figure 5-19b	KOP-8 – Carmel Rancho Shopping Center (Nighttime Proposed).....	5-58
Figure 5-20a	KOP-9 – Carmel Meadows (Nighttime Existing) .....	5-59
Figure 5-20b	KOP-9 – Carmel Meadows (Nighttime Proposed).....	5-60
Figure 7-1	Habitat Map .....	7-3
Figure 7-2	Special-Status Species .....	7-7
Figure 15-1	Cumulative Project Locations.....	15-5
Figure 18-1	Monterey Peninsula College Location .....	18-11
Figure 18-2	Pacific Grove High School Location.....	18-13
Figure 18-3	Carmel Middle School Location.....	18-19
Figure 18-4	Carmel Middle School Proposed Master Plan Diagram (2019 Facilities Master Plan) .....	18-21

## Tables

Table 2-1	Summary of Significant Impacts and Mitigation Measures .....	2-7
Table 3-1	Existing Schedule of Stadium Uses (2022-2023) .....	3-14
Table 3-2	Existing Schedule of High School Tennis Court Use (2022-2023).....	3-17
Table 3-3	Existing Schedule of Pool Facility Uses (2022-2023) .....	3-18
Table 3-4	Existing Off-Site Practices and Games .....	3-20
Table 3-5	Existing Carmel High School On-Campus Parking Summary .....	3-22
Table 3-6	Neighborhood Parking Summary (Unrestricted and Restricted) .....	3-25
Table 4-1	Summary of Existing and Proposed Parking.....	4-22
Table 4-2	Proposed Schedule of Stadium Uses (After Installation of Field Lights) .....	4-31
Table 4-3	Proposed Stadium and Pool Facility Lighting Schedule.....	4-34
Table 4-4	Anticipated Increase in Spectator Attendance.....	4-35
Table 4-5	Proposed Off-Site Practices and Games .....	4-36
Table 4-6	Proposed Schedule of Tennis Court Uses at Carmel Middle School.....	4-37
Table 6-1	Common Criteria Air Pollutants.....	6-3
Table 6-2	Typical Non-Road Engine Emissions Standards.....	6-7
Table 6-3	National and California Ambient Air Quality Standards.....	6-10
Table 6-4	North Central Coast Air Basin Attainment Status .....	6-14
Table 6-5	Thresholds of Significance for Criteria Air Pollutants .....	6-17
Table 6-6	Unmitigated Criteria Air Pollutant Construction Emissions .....	6-18
Table 6-7	Unmitigated Operational Criteria Air Pollutant Emissions .....	6-20
Table 6-8	Construction Risk Impacts at the MEI .....	6-22
Table 7-1	Special-Status Plant Species with Potential to Occur in the Project Vicinity .....	7-9
Table 7-2	Special-Status Wildlife Species with Potential to Occur in the Project Vicinity .....	7-14

Table 9-1	Greenhouse Gas Emissions Types and Their Contribution to Global Warming .....	9-6
Table 9-2	Greenhouse Gas Emissions Global Warming Potentials.....	9-7
Table 10-1	Guideline Vibration Annoyance Potential Criteria.....	10-4
Table 10-2	Guideline Vibration Damage Potential Threshold Criteria .....	10-4
Table 10-3	Monterey County Community Noise Exposure Levels (Ldn or CNEL, dBA).....	10-6
Table 10-4	Typical Vibration Levels During Construction .....	10-16
Table 11-1	Neighborhood Parking Summary (Unrestricted and Restricted).....	11-4
Table 11-2	Estimated Project Trip Generation .....	11-10
Table 15-1	Cumulative Impact Analysis Geographic Scope .....	15-3
Table 15-2	Cumulative Project List .....	15-4
Table 18-1	Comparison of Alternatives to the Proposed Project.....	18-32





# 1.0 Introduction

## 1.1 PURPOSE FOR PREPARING A REVISED DRAFT EIR

The Carmel Unified School District (school district or District), acting as the lead agency, has determined that the Carmel High School Stadium Improvements Project (formerly known as the “Carmel High School Stadium Lights Project” and hereinafter “proposed project”) could result in significant adverse environmental impacts and has required that an environmental impact report (EIR) be prepared to evaluate these potentially significant adverse environmental impacts.

This document is a revised draft EIR (RDEIR) for the proposed project. Pursuant to California Environmental Quality Act (CEQA) Guidelines, Section 15088.5(a), the school district is required to recirculate a draft EIR when significant new information is added to the draft EIR after public review of the draft EIR, but before certification. Significant new information can include changes in the project or environmental setting, as well as additional data or other information.

The school district prepared a draft EIR for the proposed project that was circulated for public review from August 13, 2021 to September 27, 2021. The school district received 46 comment letters and emails during this public comment period, and five verbal comments during a September 8, 2021 Board of Education hearing on the draft EIR. The comments identified several public concerns including, but not limited to, the following:

- Parking, Traffic Safety, and Emergency Vehicle Access;
- Light Pollution and Dark Sky Certification;
- Noise; and
- Alternative Projects, including Constructing a Lighted Stadium at Carmel Middle School.

Upon review of the public comments, the school district elected to respond to timely comments on the draft EIR by revising and recirculating it for a second round of public review and comment in accordance with CEQA Guidelines 15088.5. More specifically, the school district has decided to address the issues raised by the public in the following ways:

## 1.0 Introduction

- Update the project description to include two new parking areas with an additional 111 parking spaces, including ADA parking, and a new, internal roadway connecting the on-campus parking located within the existing high school property;
- Addition and analysis of new project alternatives;
- Conduct further visual simulations for the proposed stadium and new parking lot lights;
- Perform additional parking analysis with respect to on-campus and neighborhood parking;
- Provide clarifications to address input from the public;
- Replacement of existing pedestrian pathway; and
- Revise the draft EIR to evaluate the changes to the project and further address public comments received on the 2021 DEIR, as the changes to the project description addressing the public's concerns constitute significant new information such that recirculation of the draft EIR is required.

Additionally, a new stadium storage building, with a spectator viewing platform, is now included in the project description.

This revised draft EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970, as amended, to inform public decision makers and their constituents of the environmental impacts of the proposed project. In accordance with CEQA guidelines, this report describes both beneficial and adverse environmental impacts generated by the proposed project and suggests measures for mitigating significant adverse environmental impacts resulting from the proposed project.

## 1.2 SUMMARY OF REVISIONS MADE TO THE PREVIOUSLY CIRCULATED DRAFT EIR

The school district has substantially revised the draft EIR, and this RDEIR replaces the previous draft EIR in its entirety in accordance with CEQA Guidelines section 15088.5(f)(1). As required by CEQA Guidelines section 15088.5(g), a summary of the revisions made to the previous draft EIR is presented here. Additional clarifications have also been made throughout the revised draft EIR, and updated tables, graphics, and appendices have been added.

### Project Description

The project description has been revised to include the following components, which are presented in detail in Section 4.0, Project Description:

- Demolition of the tennis courts;
- Two, new parking lots, and a new internal roadway connecting the on-campus parking;
- Stadium storage building, with a spectator viewing platform; and
- Replacement of existing light fixtures at the pool facility and the existing low, bollard lights on the pedestrian pathway from the main parking lot to the new parking lot replacing the tennis courts.

## **Environmental Setting**

The environmental setting has been updated to present the setting at the pool, and the location of the two parking lots and new internal roadway. Additional documentation has been added regarding on- and off-campus parking, and regarding existing athletic facilities schedules.

## **Environmental Analysis**

Changes have been made to the environmental analysis to address impacts associated with the new proposed project components, presented in the Project Description section above. These include aesthetics; air quality; biological resources; energy; greenhouse gas emissions; noise; transportation; cultural and tribal resources; and soils, erosion and water quality.

## **Aesthetics**

The aesthetics section has been updated to not only address visual impacts associated with the new project components, but includes six additional key observation points, and includes simulations of daytime views, as well as nighttime views.

## **Alternatives**

The alternatives discussion has been updated, including evaluation of an alternative location—a new, lighted stadium at Carmel Middle School for practices and games.

# **1.3 METHODOLOGY**

## **General**

This EIR has been prepared by EMC Planning Group in accordance with CEQA and its implementing guidelines, using an interdisciplinary approach. The school district has the discretionary authority to review and approve the proposed project. This EIR is an informational document that is intended to inform the decision makers and their constituents, as well as responsible and trustee agencies of the environmental impacts of the

proposed project, identify feasible mitigation measures that would avoid or reduce the severity of the impacts, and examine reasonable alternatives to the proposed Project (CEQA Guidelines, section 15121(a).) An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure. (CEQA Guidelines, section 15151.). The lead agency is required to consider the information contained in this EIR prior to taking any discretionary action to approve the proposed project.

This EIR has been prepared using available information from private and public sources noted herein, as well as information generated through field investigation by EMC Planning Group and other technical experts.

An EIR is an objective public disclosure document that takes no position on the merits of the proposed project. Therefore, the findings of this EIR do not advocate a position "for" or "against" the proposed project. Instead, the EIR provides information on which decisions about the proposed project can be based. This EIR has been prepared according to professional standards and in conformance with legal requirements.

## **Emphasis**

This RDEIR focuses on the significant effects on the environment in accordance with CEQA Guidelines section 15143. The significant effects are discussed with emphasis in proportion to their severity and probability of occurrence. Effects dismissed in an initial study as clearly insignificant and unlikely to occur need not be discussed further in the EIR unless the lead agency subsequently receives information inconsistent with the finding in the initial study. A copy of the initial study may be attached to the EIR to provide the basis for limiting the impacts discussed.

## **Forecasting**

In accordance with CEQA Guidelines section 15144, preparing this RDEIR necessarily involved some degree of forecasting. While foreseeing the unforeseeable is not possible, the report preparers and technical experts used best available efforts to find out and disclose all that it reasonably can.

## **Speculation**

If, after thorough investigation, the report preparers in consultation with the lead agency determined that a particular impact is too speculative for evaluation, the conclusion is noted and the issue is not discussed further (CEQA Guidelines section 15145).

## **Degree of Specificity**

In accordance with CEQA Guidelines section 15146, the degree of specificity in this RDEIR corresponds to the degree of specificity involved in the proposed project. An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.

## **Technical Detail**

The information contained in this RDEIR includes summarized technical data, maps, plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public, pursuant to CEQA Guidelines section 15147. Placement of highly technical and specialized analysis and data is included as appendices to the main body of the RDEIR. Appendices to this RDEIR are included on a CD on the inside, back cover.

## **Citation**

In accordance with CEQA Guidelines section 15148, preparation of this RDEIR was dependent upon information from many sources, including engineering reports and scientific documents relating to environmental features. If the document was prepared specifically for the proposed project, the document is included in the technical appendices discussed above. Documents that were not prepared specifically for the proposed project, but contain information relevant to the environmental analysis of the proposed project, are cited but not included in this RDEIR. This RDEIR cites all documents used in its preparation including, where appropriate, the page and section number of any technical reports that were used as the basis for any statements in the RDEIR.

## **1.4 CALIFORNIA GOVERNMENT CODE SECTION 53094**

As discussed further under each environmental topic addressed herein, the governing board of a school district may render city or county zoning ordinances and general plan requirements inapplicable to a proposed school facility project pursuant to California Government Code Section 53094. Accordingly, although the proposed project does not conflict with any otherwise applicable local plans or zoning regulations, if the proposed project is approved, the school district's governing board will consider exempting the Carmel High School campus and the proposed project from any zoning ordinances or regulations of the County of Monterey, including without limitation, the County's General Plan, and any other related ordinances or regulations that otherwise would be applicable. Regardless, this RDEIR evaluates the proposed project's consistency with local regulations and policies for the purposes of CEQA compliance, and because the school district strives to acknowledge and adhere to local policies and regulations to the extent feasible.



## 1.5 EIR PROCESS

There are several steps required in an EIR process. The major steps are briefly discussed below.

### Notice of Preparation

CEQA Guidelines section 15082 describes the purpose, content and process for preparing, circulating and facilitating early public and public agency input on the scope of an EIR.

CEQA Guidelines section 15375 defines a notice of preparation as:

...a brief notice sent by the Lead Agency to notify the Responsible Agencies, Trustee Agencies, the Office of Planning and Research, and involved federal agencies that the Lead Agency plans to prepare an EIR for the project. The purpose of the notice is to solicit guidance from those agencies as to the scope and content of the environmental information to be included in the EIR.

A notice of preparation was prepared for the proposed project and circulated for 30 days from May 13, 2021 to June 14, 2021, as required by CEQA. Written responses to the NOP were received from the following:

### Public Agencies

1. Native American Heritage Commission (NAHC), letter dated May 17, 2021;
2. California Department of Transportation (Caltrans) District 5, letter dated May 26, 2021;
3. California Department of Fish and Wildlife, Central Region, letter dated June 14, 2021;
4. Transportation Agency for Monterey County (TAMC), letter dated June 14, 2021;

### Members of the Public

5. Perry A.R., e-mail dated May 25, 2021;
6. Meredith Stricker and Thom Cowen, letter dated June 7, 2021;
7. Meredith Nole, e-mail dated June 8, 2021;
8. Jim Suchan, e-mail dated June 9, 2021;
9. Darrah Blanton and Don Hubbard, letter dated June 10, 2021;
10. Ann Taylor, e-mail dated June 13, 2021;
11. Joseph and Marjorie Longo; e-mail dated June 14, 2021; and
12. Larry Arthur and Jane Goldcamp, e-mail dated June 15, 2021.

The notice of preparation, as well as comments received are included in Appendix A.

As part of the early consultation process and pursuant to CEQA Guidelines section 15082(c)(1) regarding projects of statewide importance and section 15083 regarding early public consultation, a scoping meeting was held via Zoom during a regularly scheduled Board of Education meeting on May 26, 2021 at 5:30 P.M. Attendees included five Board of Education members, three school district staff members, two EMC Planning Group staff, and one member of the public. One member of the public stated their general support for the project, but no member of the public commented on the notice of preparation.

## **Draft EIR**

The school district prepared a draft EIR for the proposed project that was circulated for public review from August 13, 2021 to September 27, 2021. The school district received 46 comment letters and emails during this public comment period, and five verbal comments during a September 8, 2021 Board of Education hearing on the draft EIR.

Upon review of the public comments, the school district elected to respond to timely comments on the draft EIR by revising and recirculating it for a second round of public review and comment in accordance with CEQA Guidelines 15088.5.

## **Revised Draft EIR**

### *Contents*

This RDEIR is an informational document which will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. This RDEIR replaces the previous draft EIR in its entirety. The public agency is required to consider the information in the EIR along with other information that may be presented to the agency. CEQA Guidelines Article 9 requires a draft EIR contain the following information:

- Table of Contents;
- Summary;
- Project Description;
- Environmental Setting;
- Consideration and Discussion of Environmental Impacts;
- Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects;
- Consideration and Discussion of Alternatives to the Proposed Project;

## 1.0 Introduction

- Effects not found to be Significant;
- Organization and Persons Consulted; and
- Discussion of Cumulative Impacts.

The detailed contents of this RDEIR are outlined in the table of contents.

### *Public Review*

This RDEIR will be circulated for a 45-day public review period. All comments addressing environmental issues received on the RDEIR during this second public review period will be addressed in the final EIR. CEQA Guidelines section 15204(a) states that in reviewing a draft EIR, persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters.

CEQA Guidelines section 15204(c) states that reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to section 15064, an effect shall not be considered significant in the absence of substantial evidence.

In accordance with CEQA Guidelines section 15088.5(f)(1), it is the intent of the school district to address the issues raised in the comment letters received during the public review period for the original draft EIR, in this RDEIR. The school district has substantially revised the former draft EIR, and this RDEIR replaces the previous draft EIR in its entirety. Therefore, the comments received on the original draft EIR will not receive a response or be addressed in the final EIR. Only the public comments received during the 45-day public review period for the RDEIR will be responded to and be addressed in the final EIR.

CEQA Guidelines section 15088.5(f)(1) states, "When an EIR is substantially revised and the entire document is recirculated, the lead agency may require reviewers to submit new comments and, in such cases, need not respond to those comments received during the earlier circulation period. The lead agency shall advise reviewers, either in the text of the revised EIR or by an attachment to the revised EIR, that although part of the administrative

record, the previous comments do not require a written response in the final EIR, and that new comments must be submitted for the revised EIR. The lead agency need only respond to those comments submitted in response to the recirculated revised EIR.”

### *Commenting on the RDEIR*

New comments must be submitted for the RDEIR. Comments received after the end of the 45-day review period will not be addressed in the final EIR.

The public review period is from August 25, 2022 to October 10, 2022. Comments on the RDEIR must be submitted at one of the following two locations in order to be addressed in the final EIR:

Mail: Dan Paul, Chief Operations Officer  
Carmel Unified School District  
4380 Carmel Valley Road, Carmel, CA 93923

Email [feedback@carmelusd.org](mailto:feedback@carmelusd.org)

Comments on the RDEIR may also be provided at the following public meeting on the RDEIR:

September 6, 2022 at 5:30 pm

Carmel Middle School Gymnasium  
4380 Carmel Valley Road

The deadline to submit comments on the RDEIR is Monday, October 10, 2022 at 5pm.

## **Final EIR**

### *Contents*

In accordance with CEQA Guidelines section 15132, the final EIR will provide the following:

- List of persons, organizations, and public agencies commenting on the draft EIR;
- Comments received on the RDEIR (comments on the original RDEIR will not be included);
- Responses to significant environmental points raised in comments on the RDEIR (responses to comments on the original draft EIR will not be included); and
- Revisions that may be necessary to the RDEIR based upon the comments and responses.

According to CEQA Guidelines section 15204(a), when responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR. The final EIR and the RDEIR will constitute the entire EIR.

### *Certification*

CEQA Guidelines section 15088 requires the lead agency to provide a written proposed response to a public agency on comments made by that public agency at least 10 days prior to certifying an EIR.

CEQA Guidelines section 15090 requires lead agencies to certify the final EIR prior to approving a project. The lead agency shall certify that the final EIR has been completed in compliance with CEQA, the final EIR was presented to the decision-making body of the lead agency and that the decision-making body reviewed and considered the information contained in the final EIR prior to approving the project, and that the final EIR reflects the lead agency's independent judgment and analysis.

## **1.6 TERMINOLOGY**

### **Characterization of Impacts**

This EIR uses the following terminology to denote the significance of environmental impacts.

#### **No Impact**

"No impact" means that no change from existing conditions is expected to occur.

#### **Adverse Impacts**

A "less-than-significant impact" is an adverse impact, but would not cause a substantial adverse change in the physical environment, and no mitigation is required.

A "significant impact" or "potentially significant impact" would, or would potentially, cause a substantial adverse change in the physical environment, and mitigation is required.

A "less-than-significant impact with implementation of mitigation measures" means that the impact would cause no substantial adverse change in the physical environment if identified mitigation measures are implemented.

A "significant and unavoidable impact" would cause a substantial change in the physical environment and cannot be avoided if the project is implemented; mitigation may be recommended, but will not reduce the impact to less-than-significant levels.

#### **Beneficial Impact**

A "beneficial impact" is an impact that would result in a decrease in existing adverse conditions in the physical environment if the project is implemented.



## Abbreviations and Acronyms

3D	Three-Dimensional Form
AB	Assembly Bill
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
BEES	Building Energy Efficiency Standards
CAD	Computer Aided Design
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CHS	Carmel High School
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO <sub>2e</sub>	Carbon Dioxide Equivalent
CUSD	Carmel Unified School District
dB	Decibel
DEM	Digital Elevation Model
DNL/L <sub>dn</sub>	Day/Night Average Sound Level
EIR	Environmental Impact Report
EMFAC	Emissions Factor Model
EPA	Environmental Protection Agency
fc	Foot-candle
FESA	Federal Endangered Species Act
GHG	Greenhouse Gas(es)
GPS	Global Positioning System

## 1.0 Introduction

HID	High Intensity Discharge
HRA	Health Risk Assessment
IDA	International Dark Sky Association
IES	Illuminating Engineering Society
IESNA	Illuminating Engineering Society of North America
ISP	Integrated Sustainability Plan
JV	Junior Varsity
kW	Kilowatt
kWh	Kilowatt-hour
KOP	Key Observation Point
LED	Light-Emitting Diode
Leq	Equivalent Sound Level
L <sub>max</sub>	Maximum Noise Level
MEI	Maximally Exposed Individual
MPH	Miles Per Hour
MT	Metric Tons
NASA	National Aeronautics and Space Administration
NLPIP	National Lighting Product Information Program
NRCS	Natural Resource Conservation Service
NOAA	National Oceanic and Atmospheric Administration
NO <sub>x</sub>	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
OEHHA	California Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
PM <sub>10</sub>	Suspended Particulate Matter 10 micrometers or less
PM <sub>2.5</sub>	Fine Particulate Matter 2.5 micrometers or less
ppm	Parts per Million
PRG	Preliminary Remediation Goal
RDEIR	Revised Draft Environmental Impact Report

RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SF	Square Feet
SR 1	State Route 1
SOX	Sulfur Oxides
TAC	Toxic Air Contaminant
TAMC	Transportation Agency for Monterey County
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WJVA	WJV Acoustics, Inc.

*This side intentionally left blank.*

# 2.0 Summary

## 2.1 CEQA REQUIREMENTS

CEQA Guidelines Section 15123 requires an EIR to contain a brief summary of the proposed project and its consequences. This summary identifies each significant effect and the proposed mitigation measures and alternatives to reduce or avoid that effect; areas of controversy known to the lead agency; and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects.

This summary also includes a brief summary of the revised project description. Detailed revised project description information, including figures illustrating the project location and components, is included in Section 4.0, Project Description.

## 2.2 PROPOSED PROJECT SUMMARY

The school district is proposing the following improvements at Carmel High School:

- Stadium field lights (70 to 80 feet high);
- New 2,400-square foot storage building with a standing, viewing platform adjacent to the home bleachers;
- A new parking area with 35 standard spaces east of the existing swimming pool;
- A new parking lot with 76 standard spaces replacing the existing tennis courts south of the stadium, including a new 18-foot drive aisle connecting the existing main campus parking lot to the north, and a new pedestrian walkway. This parking lot also includes a 20-foot driveway providing access to Morse Drive and the existing access to the baseball field parking to the east; and
- Replacing light fixtures at the swimming pool with LED light fixtures.

See Section 4.0, Project Description, for a complete discussion of the project components.

## **2.3 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

The proposed project would result in significant or potentially significant impacts. Each of the significant impacts is identified in [Table 2-1, Summary of Significant Impacts and Mitigation Measures](#), located at the end of this Summary section. The table lists each significant impact by topic area, mitigation measures to avoid or substantially minimize each impact, and the level of significance of each impact after implementation of the mitigation measures. Less-than-significant impacts are not included in the summary table.

## **2.4 SUMMARY OF ALTERNATIVES**

This revised draft EIR evaluates the environmental impacts of the following alternatives to the proposed project.

### **Alternative 1 No Project Alternative – No Late Start**

Under this no project alternative, the school district would not implement the “late start law” and the athletic facilities would remain as they currently are the Carmel High School campus. The high school class and athletics schedules would remain status quo with classes starting as early as 7:45 A.M. and ending at 3:00 P.M. on Monday, Tuesday, and Friday, or 3:10 P.M. on Wednesday and 2:15 P.M. on Thursday. At the football stadium, no night-time lighting would be installed and no storage building would be constructed. The tennis courts would remain in place and no improvements would be made to the existing pedestrian path along the western edge of the campus. The pool facility and pedestrian pathway would maintain its existing light fixtures. In addition, no additional parking would be constructed at the eastern edge of campus and no parking would be replace the tennis courts discussed above. On-campus parking would remain at 276 total parking spaces. Likewise, the on-campus internal drive aisle would not be constructed.

Athletic activities would continue to occur as they are presently occurring and as described in Section 3.0, Environmental Setting under 3.3, “Baseline Conditions.” Generally, this means that sports practices and games would end prior to sundown, and that no evening or nighttime events would take place at the football stadium. As a result, students would continue to share the stadium among numerous sports teams at once with some sports teams required to hold off site practices and games/matches at Carmel Middle School, and students would continue to be bussed there, as discussed in Table 3-4 in Section 3.0. Football games would continue to be played on Saturday afternoons or off-campus at Monterey Peninsula College, which rarely happens, for occasional playoff games.

This alternative would avoid the significant impacts described in Table 2-1, Summary of Significant Impacts and Mitigation Measures, which are associated with implementation of the proposed project. This alternative would avoid all of the proposed project's environmental impacts, including the significant and unavoidable lighting impacts, and therefore, would be considered the second environmentally-superior alternative. This alternative does not meet any of the project objectives.

## **Alternative 2 No Project Alternative – With Late Start**

Under this no project alternative, the school district would not install the field lighting at Carmel High School Stadium and would not construct any new on-campus parking areas or the storage building as proposed. The existing storage buildings and tennis courts would not be demolished, and the internal drive aisle would not be constructed on-campus. Moreover, the existing pool lights and pedestrian pathway lights would not be replaced. However, unlike Alternative 1, the school district would implement the "late start law" which would push class times back from the current start time of 7:45 A.M. to no earlier than 8:30 A.M. Class end times would consequently end by 3:45 P.M. Monday, Tuesday, and Friday, or 3:55 P.M. on Wednesday and 3:00 P.M. on Thursday. In addition, the high school would not bus student athletes to off-site locations for both practices and games as discussed in Alternative 1. However, in order to accommodate the need to complete all sporting activities at the stadium between the end of the school day and sunset, the school district would eliminate some of the high school athletic programs that utilize the stadium or that are bussed off-site to Carmel Middle School for practices and games to avoid the need for extended time on the stadium field or at Carmel Middle School past sunset.

This alternative would avoid the significant impacts described in Table 2-1, Summary of Significant Impacts and Mitigation Measures, which are associated with implementation of the proposed project. This alternative is the environmentally superior alternative. It would avoid all of the proposed project's environmental impacts, including the significant and unavoidable lighting impacts. This alternative only meets one of the project objectives. The alternative would reduce existing operational difficulties and complex coordination issues with respect to the scheduling of practices and games for school district athletic programs because it eliminates the sports programs that are currently creating operational and coordination issues at the high school. In addition, this alternative would nominally reduce baseline impacts associated with air quality, greenhouse gas emissions, noise, and transportation.

### **Alternative 3 After Dark Practices and Games at Alternative Locations (Monterey Peninsula College and Pacific Grove High School)**

This alternative is similar to the no-project alternative, i.e., includes no improvements at Carmel High School, but does include bussing athletes to Monterey Peninsula College and/or Pacific Grove High School for after dark practices and games.

For games and practices that cannot be accommodated between the end of classes and sundown, students either at Carmel High School or Carmel Middle School, would be bussed to off-site facilities with night-time lighting, including Monterey Peninsula College (MPC), and/or Pacific Grove High School (PGHS). These locations are the only two lighted athletic field stadiums within four miles of the Carmel High School campus, and Carmel High School Campus has held special athletic events at MPC in the past, although rarely. Accordingly, MPC and PGHS were identified as reasonable alternative locations.

This alternative would avoid most of the significant impacts described in Table 2-1, Summary of Significant Impacts and Mitigation Measures, which are associated with implementation of the proposed project. However, this alternative would not avoid significant impacts associated with energy and transportation and could create greater impacts associated with the potential construction or expansion of new recreational facilities at the MPC and/or PGHS campuses.

### **Alternative 4 Alternative Location (New, Lighted Stadium at Carmel Middle School) for Practices and Games**

During the public review period for the draft EIR, several comments were received regarding constructing a new lighted, stadium at another location. Some comments mentioned Carmel Middle School as an alternative for use by school district teams for practices and games/sporting events. Construction of a lighted stadium on the Carmel Middle School could include, but not be limited to, the following facilities:

- All weather (artificial turf) field;
- All-weather track;
- Track and field event areas (shotput, discus, long jump, high jump, pole vault);
- Storage for all sports equipment;
- Scoreboard and sound system;
- Bleachers for both home and visitors;
- Press box;
- Locker room/team rooms;
- Restrooms for spectators and teams;



- Parking lot and associated lighting;
- Space for sports medicine staff and athlete treatment;
- Ticket booth and concessions area; and
- Field lighting.

If constructed in the location shown in the *Carmel Unified School District Facilities Master Plan* (2019 master plan), the lighted stadium would replace an area of the existing Carmel Middle School campus where four softball and baseball fields are currently located. If implemented in accordance with the 2019 facilities master plan, those softball and baseball fields would be relocated to an adjacent, undeveloped lot, which is owned by the school district, next to the middle school. While the potential stadium site is largely flat with existing playfields, Cypress trees line the site along the west and south boundaries. Potential tree removal may be required depending on the extent of construction and development activities.

Construction of additional parking would also be required. Under the “worst-case” scenario (i.e., rivalry or homecoming games) identified in Section 11.0, Transportation, which would occur once or twice per year, the existing on-campus parking shortfall at the high school is approximately 341 (617 demand - 276 available) parking spaces. Following this same demand scenario, under this alternative an additional 218 parking spaces would be needed at the middle school (617 demand – 199 available – 200 overflow parking spaces).

This alternative would not avoid the significant impacts described in Table 2-1, Summary of Significant Impacts and Mitigation Measures, which are associated with implementation of the proposed project. In particular, this alternative would result in greater environmental impacts associated with aesthetics; air quality; biological resources; greenhouse gas emissions; noise; soils, erosion, and water quality; tribal and cultural resources; and recreation. This alternative would result in increased impacts associated with aesthetics, air quality, biological resources, energy, greenhouse gas emissions, noise, soils, erosion, and water quality, and tribal and cultural resources because of the level of construction associated with this alternative. While meeting seven of the project objectives, Alternative 4 would be the least environmentally superior alternative as it would result in a much greater level of environmental impacts as compared to the other alternatives, as well as the proposed project.

## **Alternative 5 Reduced Project Alternative (No Stadium Lights)**

This alternative would not include the stadium lights. It would include the new on-campus parking areas and the storage building as proposed. The existing storage buildings and tennis courts would be demolished, and the internal drive aisle would be constructed on-campus. The existing pool lights and pedestrian pathway lights would be replaced. The “late start law” would not be implemented.

## 2.0 Summary

This alternative would avoid most of the significant impacts described in Table 2-1, Summary of Significant Impacts and Mitigation Measures, which are associated with implementation of the proposed project. However, this alternative would not avoid significant impacts associated with air quality, biological resources, noise, and transportation. This alternative would eliminate the proposed project's significant and unavoidable light impacts and would reduce impacts associated with air quality, biological resources, energy, greenhouse gas emissions, noise, and transportation as compared to the proposed project. In addition, this alternative would meet six of the project objectives. Alternative 5 would be the next environmentally superior alternative after Alternatives 2 and 1.

**Table 2-1 Summary of Significant Impacts and Mitigation Measures**

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
<b>Aesthetics</b>			
<p><b>Impact 5-2.</b> New Lighting would Result in Light Pollution and the New Sources of Light and Glare Would be Visible from and towards County-Designated Visually "Sensitive" and "Highly Sensitive" Areas and Slightly Modify the Visual Character and Quality of the Site</p>	<p>Significant</p>	<p><b>Mitigation Measure 5-2a.</b> Carmel Unified School District will prepare and adopt a policy regarding use of field lights for home games and practices at the Carmel High School Stadium and will implement the following use restrictions consistent with Table 4-2, Proposed Schedule of Stadium Uses (After Installation of Field Lights), found in Section 4.0, Project Description, of this revised draft EIR:</p> <p>Games. Lights shall be used only for up to the following number of nighttime events for each of the following Carmel High School field sports teams:</p> <ul style="list-style-type: none"> <li>▪ Football. Six games;</li> <li>▪ Girls field hockey. Ten games;</li> <li>▪ Boys and girls soccer. Twelve games for each team;</li> <li>▪ Boys and girls lacrosse. Twelve games for each team; and</li> <li>▪ Boys and girls track and field. Four meets (combined).</li> </ul> <p>This would total forty-four games and/or meets combined between football, soccer, field hockey, lacrosse, and track and field. Football games shall end by 9:30 p.m. and lights shall be turned off by 10:00 p.m. Field sport games other than football shall end by 7:00 p.m. and lights shall be turned off by 7:30 p.m.</p> <p>Practices. All field sports practices shall end by 8:00 p.m. with lights turned off by 8:30 p.m.</p> <p><b>Mitigation Measure 5-2b.</b> Carmel Unified School District will prepare and adopt a policy that restricts use of Carmel High School stadium and pool facility by non-school related groups after dark. Any use by non-school related groups shall end before sunset so that field and/or pool lighting does not need to be used.</p> <p><b>Mitigation Measure 5-2c.</b> Prior to the first lighted practice or event, the Carmel Unified School District shall consult with an energy specialist regarding how to reduce the intensity of existing lighting at the campus that is visible off-campus, and implement the specialist's recommendations.</p> <p><b>Mitigation Measure 5-2d.</b> Once stadium lights are installed and pool facility light fixtures are replaced, the school district shall have the stadium and pool lights professionally evaluated and validated as conforming to the International Dark-Sky Association's (IDA) Community Friendly Sports Lighting Program (Phase II – Field Verification). Prior to the first lighted practice or event, the school district shall obtain an IDA Field Verification Letter and shall be posted on the school district's website for public review.</p>	<p>Significant and Unavoidable</p>

2.0 Summary

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
<b>Biological Resources</b>			
<p><b>Impact 7-2.</b> Potential Effect on Special-Status Species (Hoary Bat)</p>	<p>Significant</p>	<p><b>Mitigation Measure 7-2.</b> Within 14 days prior to tree removal, tree trimming or other construction activities, the school district will retain a qualified biologist to conduct a habitat assessment for bats and potential roosting sites in trees to be trimmed, and in trees and structures within 50 feet of the development footprint. In the event that construction activities are suspended for 15 consecutive days or longer, these surveys will be repeated. These surveys will include a visual inspection of potential roosting features (bats need not be present) and a search for presence of guano within and 50 feet around the project site. Cavities, crevices, exfoliating bark, and bark fissures that could provide suitable potential nest or roost habitat for bats will be surveyed. Assumptions can be made on what species is present due to observed visual characteristics along with habitat use, or the bats can be identified to the species level with the use of a bat echolocation detector such as an “Anabat” unit. Potential roosting features found during the survey will be flagged or marked. Locations off the site to which access is not available may be surveyed from within the site or from public areas.</p> <p>If no roosting sites or bats are found, a letter report confirming absence will be submitted by the biologist to the school district prior to the commencement of tree removal, trimming and construction activities and no further mitigation is required.</p> <p>If bats or roosting sites are found, a letter report and supplemental documents will be provided by the biologist to the school district prior to the commencement of tree removal, tree trimming and construction activities and the following monitoring, exclusion, and habitat replacement measures will be implemented:</p> <p>a. If bats are found roosting outside of the nursery season (May 1 through October 1), they shall be evicted as described under (b) below. If bats are found roosting during the nursery season, they will be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or by monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats will be evicted as described under (b) below. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. Therefore, if a maternal roost is present, a 50-foot buffer zone (or different size if determined in consultation with the California Department of Fish and Wildlife) will be established around the roosting site within which no construction activities including tree removal or structure disturbance will occur until after the nursery season.</p> <p>b. If a non-breeding bat hibernaculum is found in a tree or snag scheduled for removal or on any structures within 50 feet of project disturbance activities, the individuals will be safely evicted, under the direction of a qualified bat biologist. If pre-construction surveys determine that there are bats present in any trees or structures to be removed, exclusion structures (e.g., one-way doors or</p>	<p>Less than Significant</p>

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		<p>similar methods) will be installed by a qualified biologist. The exclusion structures will not be placed until the time of year in which young are able to fly, outside of the nursery season. Information on placement of exclusion structures will be provided to the California Department of Fish and Wildlife prior to construction. If needed, other removal methods could include: carefully opening the roosting area in a tree or snag by hand to expose the cavity and opening doors/windows on structures, or creating openings in walls to allow light into the structures. Removal of any trees or snags and disturbance within 50 feet of any structures will be conducted no earlier than the following day (i.e., at least one night will be provided between initial roost eviction disturbance and tree removal/disturbance activities). This action will allow bats to leave during dark hours, which increases their chance of finding new roosts with a minimum of potential predation.</p> <p>c. Bat Mitigation and Monitoring Plan. If roosting habitat is identified, a Bat Mitigation and Monitoring plan will be prepared and implemented to mitigate for the loss of roosting habitat. The plan will include information pertaining to the species of bat and location of the roost, compensatory mitigation for permanent impacts, including specific mitigation ratios and a location of the proposed mitigation area, and monitoring to assess bat use of mitigation areas. The plan will be submitted to California Department of Fish and Wildlife for review and approval prior to the bat eviction activities or the removal of roosting habitat.</p> <p>The school district will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the commencement of tree removal (if any), trimming and construction activities.</p>	
<p><b>Impact 7-3. Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds)</b></p>	<p>Significant</p>	<p><b>Mitigation Measure 7-3.</b> Prior to tree removal (if any), demolition, and construction activities, to avoid impacts to nesting birds during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), or if construction activities are suspended for at least 14 days and recommence during the nesting season, a qualified biologist will conduct nesting bird surveys.</p> <p>a. Two surveys for active bird nests will occur within 14 days prior to start of construction, with the final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding each work area are typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys will be conducted at the appropriate times of day to observe nesting activities. Locations off the site to which access is not available may be surveyed from within the site or from public areas. A report documenting survey results and plan for active bird nest avoidance (if needed) will be completed by the qualified biologist prior to construction activities.</p>	<p>Less than Significant</p>

2.0 Summary

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		<p>b. If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction will be established. The buffer will be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist will conduct baseline monitoring of each nest to characterize "normal" bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist will monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman will have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active.</p> <p>The school district will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the start of tree removal if any, trimming and construction activities.</p>	
<b>Impact 7-6.</b> Potential Tree Removal	Significant	<b>Mitigation Measure 7-6.</b> Prior to any ground disturbance, an International Society of Arboriculture (ISA)-certified arborist will conduct a tree survey and prepare an evaluation report with associated data and location map for all potentially affected trees on and immediately adjacent to the project site. The school district will follow the arborist's recommendations, such as the planting of replacement trees in appropriate on-site or off-site areas, along with any required maintenance and monitoring.	Less than Significant
<b>Tribal and Cultural Resources</b>			
<b>Impact 13-1.</b> A Potential Adverse Substantial Adverse Change in the Significance of a Historical Resource Pursuant to a Unique Archaeological Resource	Significant	<b>Mitigation Measure 13-1.</b> In the event that archaeological resources (artifacts, concentrations of shell/bone/rock/ash) are encountered, all construction within a fifty-meter radius of the find should be stopped, school district staff notified, the Monterey County Housing and Community Development Department contacted, and an archaeologist retained to examine the find and make appropriate recommendations. Should the archaeologist determine the find to be a significant historic resource or a unique archaeological resource, measures pursuant to CEQA Guidelines section 15064.5 shall be implemented.	Less than Significant
<b>Impact 13-2.</b> Potential to Disturb Native American Human Remains, Including Those Interred Outside of Dedicated Cemeteries	Significant	<b>Mitigation Measure 13-2.</b> Due to the possibility that human remains may be discovered during construction activities; the following language shall be included in all project construction documents: "If human remains are found during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner is contacted to determine that no investigation of the cause of death is required.	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		<p>If the coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD may then make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in Public Resources Code Section 5097.98.</p> <p>The landowner or authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance if:</p> <p>a) the Native American Heritage Commission is unable to identify a MLD or the MLD failed to make a recommendation within 48 hours after being allowed access to the site; b) the descendent identified fails to make a recommendation; or c) the landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner."</p>	
<b>Noise</b>			
<b>Impact 10-3.</b> Construction Activities Could Cause a Substantial Temporary Noise Increase	Significant	<b>Mitigation Measure 10-3.</b> The school district will limit construction activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday, with no construction on Sunday or holidays, and require construction equipment to be adequately maintained and muffled. These requirements will be included in construction plans and contracts.	Less than Significant
<b>Transportation</b>			
<b>Impact 11-3.</b> Construction Traffic Could Result in Safety Impacts When School is in Session	Significant	<p><b>Mitigation Measure 11-3.</b> The school district will prepare a Construction Management Plan prior to the commencement of construction preparation activities. The plan will be implemented during construction and include, but not be limited to, the following:</p> <p>a. Provide for the appropriate control measures, including barricades, warning signs, speed control devices, flaggers, and other measures to mitigate potential traffic hazards;</p> <p>b. Ensure coordination with on-site campus staff;</p> <p>c. Prohibit heavy vehicle traffic to and from the project site during the hours when the majority of students are entering and exiting the campus;</p> <p>d. Store construction equipment in a safe location during the construction phase of the project.</p>	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
<p><b>Impact 11-4.</b> An Increase in Event Attendance Could Result in Inadequate Parking During Limited Nighttime Events with Potential Emergency Access Issues</p>	<p>Significant</p>	<p><b>Mitigation Measure 11-4.</b> The Carmel Unified School District will adopt and implement all measures outlined in the Traffic Management Plan prepared for Carmel High School. The proposed Traffic Management Plan for Carmel High School is included in Appendix K. The final, approved plan will include, but not be limited to the following measures:</p> <ul style="list-style-type: none"> <li>a. <b>Off-Campus Parking:</b> During night football games and other special events, the parking lot at Carmel Middle School located at 4380 Carmel Valley Road will be utilized for local attendees. Carmel Middle School has 199 striped parking spaces and these parking spaces can be doubled by using other parts of the Carmel Middle School campus. All students, parents and other Carmel High School-based attendees will be encouraged to drive to the Carmel Middle School campus and then be shuttled to Carmel High School. The main campus parking located off of Ocean Avenue which has 174 parking stalls and the new 76 tennis court stalls (totally 250 stalls) will be reserved for all parking generated by the visiting team. The second parking lot which has 35 parking stalls and is located immediately south of the stadium and tennis courts next to the baseball diamond would be reserved for players and coaches only of the home team. On game days, Carmel High School students would have to move their parked cars from the Carmel High School campus to Carmel Middle School;</li> <li>b. <b>Shuttle Service from Carmel Middle School:</b> Bus pick-up services will be provided for attendees who will park at Carmel Middle School during the night football games and other special events. This service would pick-up local attendees from the middle school and shuttle them to the event on the Carmel High School campus. In addition, a drop-off / pick-up area will be established in the main parking lot for local attendees. The designated area will be at the concrete apron near the flagpole. However, these drop-off / pick-up vehicles will not be permitted to park at Carmel High School. With a capacity of 56 passengers per bus, up to 18 bus trips could be required before and after the game to accommodate about 1,000 "home" attendees parking at Carmel Middle School and transporting them between the middle school and the football stadium at Carmel High School. During the rivalry and home coming football games, approximately 1,500 attendees are anticipated to attend. It is anticipated that five to six buses would be required to shuttle attendees from Carmel Middle School. A round trip for each bus is estimated to take approximately 30 minutes including loading and unloading times;</li> <li>c. <b>Alternative Mode Encouragement:</b> Employees and students can be asked to consider alternate mode of transportation during the night football games and special events. Families and employees within one mile of campus can be asked to consider walking to school. In addition, parents will be asked to drop off and pick up their children at the designated drop-off location at the concrete apron near the flagpole in the main CHS parking lot.;</li> </ul>	<p>Less than Significant</p>



Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		<p>d. On-Site Amenities: Amenities on-site include provision of Traffic Management Plan contract persons, and related information at Carmel High School during night football games and special events. The Traffic Management Plan contact persons will be from on-site employees and will provide information and resources on transportation choices available to parents, students and visitors during evening games and events. Prior to the beginning of school year, the transportation coordinator will be provided transportation information packets that include information Carmel Unified School District shuttle bus options for events. To better inform parents of new students and new employees of the available transportation options to Carmel High School during games and special events, information transportation packets can be distributed upon hire and at new student/parent orientations. By providing detailed overview of the available options faculty and students can plan better to reach campus during night football games and special events.</p> <p>e. On-Campus Supervision: Carmel High School will appoint game day and weekend supervisors to supervise traffic and parking during nighttime football games, special events, and as needed. One supervisor will be needed at the main entrance and exit driveway, one supervisor will be needed at the entrance only driveway located south of Ocean Avenue and one supervisor will be needed at the Morse Drive parking lot at the tennis courts. The appointed employees will also be on call should an unforeseen disruption occur. The supervisors will coordinate with traffic control officers to direct traffic to appropriate parking areas and from the parking areas at the end of the game or a special event. They will be responsible for guiding motorists and enforcing traffic regulations in the main campus parking area.</p> <p>f. Parking Management: Areas immediately around the Carmel High School campus will have barricade-mounted No Event Parking signs installed in several locations, limiting the area to residents only during special events. Carmel Hills Drive, Stewart Place and Morse Drive between State Route 1 and Flanders Drive will be restricted to resident traffic prior to and during each home game. Carmel High School will submit encroachment permit applications to the county to authorize signs on the roadways outside of the jurisdiction of Carmel High School. Although most fines for parking violations are relatively inexpensive, a towed vehicle can prove expensive when wrecker fees are included. Violations that can result in towing include: parking along yellow curbs and inside fire lanes; blocking a fire hydrant, driveway, street, or alley; illegal use of handicapped parking; and illegally parking on private property. No Event Parking signs, traffic cones and barricades will be installed in the vicinity of the Carmel High School campus.</p>	

SOURCE: EMC Planning Group 2022

## 2.5 AREAS OF KNOWN CONTROVERSY

CEQA Guidelines section 15123, Summary, requires a discussion of areas of controversy known to the lead agency including issues raised by agencies and the public. The school district is aware of general public concern about possible visual and transportation impacts as a result of the proposed project. Four comment letters in response to the notice of preparation were received by public agencies, are included in Appendix A, and are summarized below:

### 1. Native American Heritage Commission

The commission identified the need for the Town to comply with the noticing and consultation requirements of AB52 and SB18. The school district's actions to comply with AB52 is described in Section 13.0, Effects Addressed in the Initial Study (under "Cultural Resources" and "Tribal Cultural Resources"). SB18 only applies to general plan amendments and therefore, is not relevant to the proposed project.

### 2. Caltrans, District 5

Caltrans staff notes the requirement for a vehicle miles traveled assessment and the issuance of an encroachment permit if any activities were to be proposed in the Caltrans right-of-way among other standard recommendations and requirements. Caltrans comments are addressed in Section 11.0, Transportation.

### 3. California Department of Fish and Wildlife (CDFW), Central Region

CDFW staff identified possible direct impacts to nesting birds and other special-status species as a result of the proposed project and recommended measures to address. CDFW comments are addressed in Section 7.0, Biological Resources.

### 4. Transportation Agency for Monterey County (TAMC)

TAMC staff supports a detailed traffic analysis to inform the EIR about impacts to local and regional road networks, including State Route 1 intersections from Carpenter Street to Carmel Valley Road, encourages the evaluation of all potential nighttime special events, and consideration of safe bicycle and pedestrian connections to the project site. TAMC comments are addressed in Section 11.0, Transportation.

Responses to the Notice of Preparation by the public identified aesthetic impacts associated new sources of nighttime light generated by stadium lighting and impacts on scenic resources as well as traffic and parking concerns generated by additional attendees of sporting events at Carmel High School Stadium. Other comments received from neighbors of the high school addressed possible biological impacts to the adjacent Hatton Canyon area.

During the public review period for the original draft EIR, several of the same issues were raised numerous times in both verbal and written letters and emails received by the school district on the draft EIR. Members of the public submitted comments on the draft EIR regarding the following issues:

- light and noise impacts on wildlife;
- existing parking capacity at the high school;
- cumulative traffic impacts;
- the potential for the four new stadium lights to generate light pollution;
- the accuracy of the visual simulations included in the draft EIR;
- light and glare impacts to wildlife;
- whether the stadium lights would be “Dark-Sky” certified by the International Dark-Sky Association (IDA);
- cumulative light and glare impacts;
- cumulative noise impacts;
- increased noise levels as a result of increased attendance at sporting events at the high school stadium, as well as the associated increase in traffic noise;
- the increase in traffic, emergency access, and the existing and future impact on parking in the adjacent neighborhoods; and
- consideration of an alternative that would construct a new lighted, stadium at another location such as Carmel Middle School.

## **2.6 ISSUES TO BE RESOLVED**

CEQA Guidelines Section 15123 requires an EIR summary to discuss issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. As discussed throughout this RDEIR, several significant impacts are identified that require implementation of mitigation measures if the District Board of Education decides to approve the proposed project or one of the alternatives. The Board of Education will be required to consider the analysis in this RDEIR, and make a decision whether to approve the proposed project, or one of the five alternatives discussed and evaluated herein.

*This side intentionally left blank.*

## 3.0 Environmental Setting

### 3.1 REGIONAL AND VICINITY SETTING

#### Regional Setting

The project site is located on an existing high school campus (Carmel High School) in unincorporated Monterey County within the rural/suburban State Route 1 corridor running south to north between the Carmel River and the Big Sur coast to the south, the City of Carmel-by-the-Sea to the west, and the Del Monte Forest area and City of Monterey to the north. Hatton Canyon and residential neighborhoods are located immediately east of the campus while the greater Carmel Valley area is located further to the east. The Pacific Ocean is located one mile to the west. [Figure 3-1, Regional Location](#), presents the regional location of the project site.

#### Vicinity Setting

Surrounding the high school campus are a residential neighborhood to the north (along Carmel Hills Drive), open space and a residential neighborhood to the east (along Flanders Drive), and a residential neighborhood to the south (along Morse Drive). State Route 1 and a residential neighborhood in the City of Carmel-by-the-Sea are located to the west. Measured from the stadium, the nearest residence to the north is approximately 850 feet, to the south is approximately 200 feet, to the east is approximately 350 feet, and to the west is approximately 180 feet. [Figure 3-2, Aerial Photograph](#), presents an aerial view of the project site and surrounding uses and features.

Sensitive environmental characteristics include the views from State Route 1, a state-designated scenic highway, along with small groves of cypress, Monterey pine trees, and oak trees along the highway and throughout the residential neighborhoods surrounding the high school campus. In addition, the 130-acre Hatton Canyon area to the east, portions of which are operated by the California State Parks, features sensitive wetland, riparian, and pine forest habitat and a recently developed bike trail. These characteristics are all discussed in detail in Section 7.0, Biological Resources, of this RDEIR.

## 3.2 PROJECT SITE LOCATION AND SETTING

### Project Location

The approximately 22-acre Carmel High School campus is located immediately east of State Route 1. Improvements are proposed in several areas in the southern half of the campus. These areas include the existing 3.8-acre athletic stadium, an approximately 0.50-acre area to the immediate east of the existing pool facility, and an approximately one-acre area made up of the campus tennis court facility and a paved pedestrian pathway connecting the tennis courts with the main campus parking lot and stadium, located on the western and south edges of the high school campus.

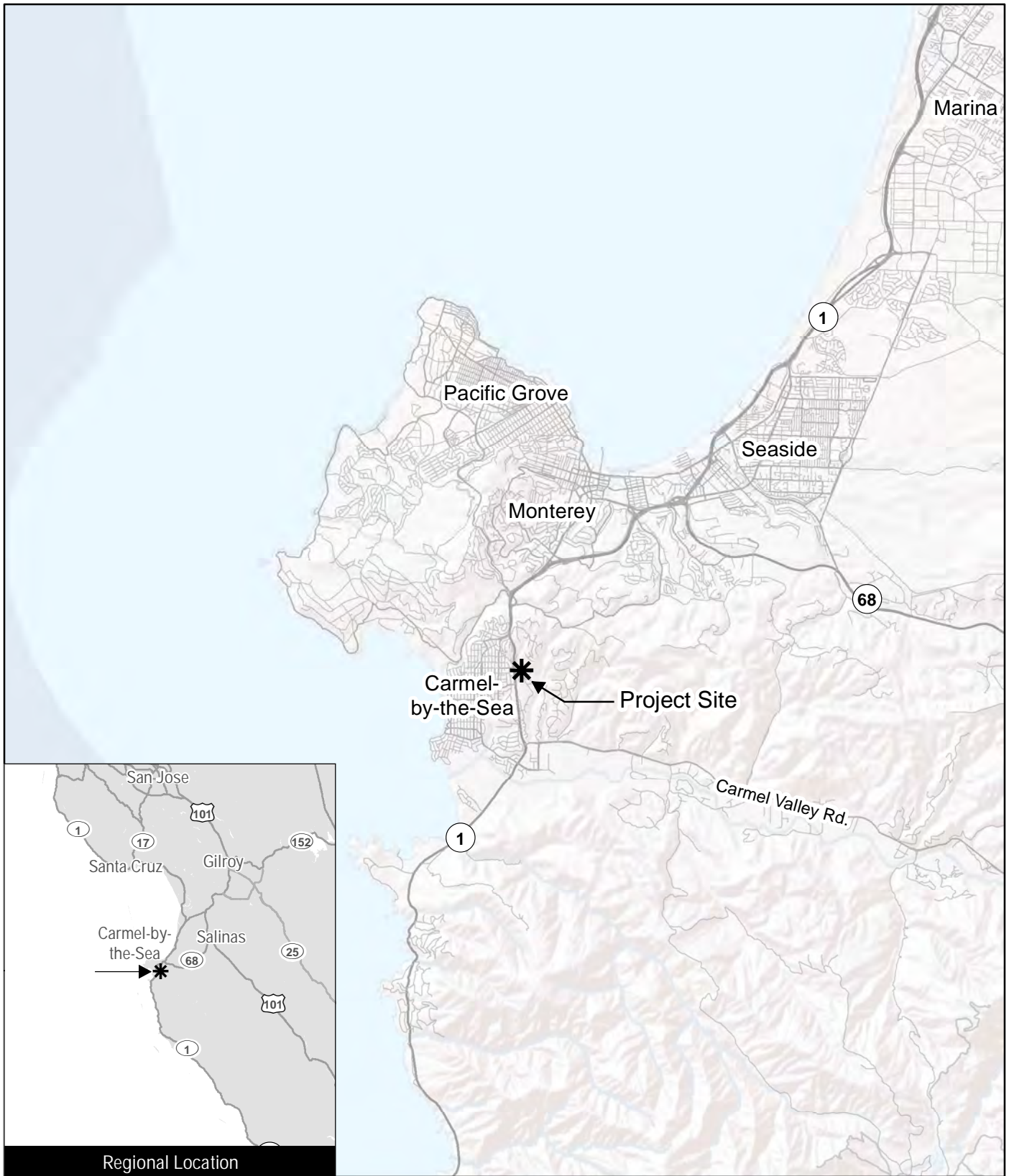
### Project Site Setting

The south portion of the high school campus where improvements are proposed is largely made up of the high school's sports facilities, including a swimming facility, football/track and field stadium, tennis courts, and baseball diamond. [Figure 3-3, Project Site Photographs – Existing Stadium Site](#), presents views of the existing stadium facilities. [Figure 3-4, Project Site Photographs - Existing Tennis Court and Pedestrian Path Site](#), presents views of the existing four-court tennis court and the paved pedestrian path that extends from the tennis courts to the main campus parking lot along State Route 1. [Figure 3-5, Project Site Photographs - Perimeter Area near Existing Pool Site](#), presents photographs of the campus ring road area northeast of the existing pool facility where a proposed parking area would be constructed.

### General Plan and Zoning Designations

The project site's 2010 Monterey County General Plan designation is "Public/Quasi-Public (Urban Reserve)" (*Monterey County 2010 General Plan – Greater Monterey Peninsula Area Plan*). The project site's zoning designation is "Public/Quasi-Public with Design Control District Overlay" (PQP-D). The purpose of the "Public/Quasi-Public" zoning designation is to allow in designated areas public/quasi-public uses such as schools, parks, regional parks, recreation areas, and uses which serve the public at large. The project site is not located within the coastal zone.

Even though the governing board of the school district has the authority to render city or county zoning ordinances and general plan requirements inapplicable to the project site and proposed project pursuant to California Government Code Section 53094, this RDEIR evaluates the proposed project's consistency with local regulations and policies for purposes of CEQA compliance.



Source: ESRI 2019

Figure 3-1  
Regional Location



*This side intentionally left blank.*





Source: Google Earth 2021,  
Monterey County GIS 2019





-  0 450 feet
-  Carmel-by-the-Sea City Limits
-  Carmel High School Campus Boundary
-  Campus Entrances

Figure 3-2

## Existing Setting





*This side intentionally left blank.*



① Carmel High School Stadium behind home bleachers (from stadium entrance)



② Looking southwest across field from home bleachers (towards State Route 1)



Source: Google Earth 2021  
Photographs: EMC Planning Group 2021



③ Looking west behind home bleachers (near entrance to pool facility)



④ Carmel High School Stadium home bleachers and press box (from south looking north)

## Project Site Photographs– Existing Stadium Site

Figure 3-3

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*





① Existing paved pedestrian path looking south from western edge of stadium track



② Existing paved pedestrian path looking north from tennis courts



Source: Google Earth 2021  
Photographs: EMC Planning Group 2022



③ Existing tennis courts looking east towards baseball field



④ Existing tennis courts looking west near visitors bleachers at stadium

*This side intentionally left blank.*





① View of proposed eastern parking area near ring road connection with stadium



② View of portion of proposed eastern parking area with existing portable storage structures



Source: Google Earth 2022  
Photographs: EMC Planning Group 2022



③ View of portion of proposed eastern parking area towards eastern edge of campus



④ View of edge of proposed eastern parking area looking south

*This side intentionally left blank.*



### **3.3 BASELINE CONDITIONS**

The existing conditions under each environmental analysis factor discussed in this RDEIR is addressed in the respective environmental analysis chapter.

#### **Existing Facilities and Use**

The existing setting of each area of the campus with proposed changes is discussed below.

##### **Stadium**

The school district is proposing lights and a stadium storage building with a spectator viewing platform at the existing stadium.

The stadium is a track and sports field with a rubberized track, synthetic turf athletic field, metal bleachers on the northern (home) side and southern (visitor) side of the track, electronic scoreboard on the west side of the track, and storage and maintenance buildings located at the northwestern and northeastern edges of the track perimeter. The home bleachers on the northern side of the track have an attached press box which is located above the top of the bleachers. The press box includes three loudspeakers with additional loudspeaker poles located behind both home and visitor bleachers. The home bleachers have a maximum capacity of 991 and the visitor bleachers have a maximum capacity of 90, for a total stadium capacity of 1,081. Large portions of the existing stadium, including replacement of the field turf, pedestrian walkways, home bleachers, electronic scoreboard were part of a series of extensive stadium improvements implemented between 2014 and 2016.

Carmel High School stadium currently hosts all sporting events during daylight hours. Football games are played on Saturdays, in the early afternoon usually starting at 2:00 P.M. For the football games held on campus at the existing stadium, attendance ranges from 500 attendees for most football games to up to 1,500 attendees for a rivalry or homecoming game. The approximate attendance for these other events is up to 200 people. As the existing bleacher capacity is 1,081, some attendees stand or bring their own chairs. All other sporting events, band activities, and special events are currently held on campus during daylight hours on weekdays after school. The stadium is used for both events and practices.

The stadium is available for rent to outside entities when it is not in use by district teams/programs. There have been relatively few requests for the stadium since the artificial turf field was installed at the stadium in 2014. Organized user requests for the stadium typically average 12 weekend days and five weekdays (summer) per year. Outside users of the stadium include a local youth flag football league, youth lacrosse league, and youth soccer clubs. Youth flag football has typically occurred between 9 A.M. to 3:00 P.M. on the weekend and 1:00 P.M. to 4:00 P.M. on weekdays. Youth lacrosse requested the stadium for two Saturdays in 2018 from 8:00 A.M. to 5:00 P.M. Youth soccer requested three Saturday

uses in 2021 from 5:00 P.M. to 8:00 P.M. Youth flag football shows an attendance of approximately 60 spectators; lacrosse 150 spectators; and soccer 50 spectators. The school district has not established a policy regarding end times for use by outside entities. [Table 3-1, Existing Schedule of Stadium Uses \(Before Installation of Field Lights\) \(2022-2023\)](#), presents a breakdown of the sports teams that utilized the stadium for the 2022-2023 school year.

**Table 3-1 Existing Schedule of Stadium Uses (2022-2023)**

Sports Team	Days of the Week	Timing		Number of Participants (Student Athletes, Coaches, and Staff)	Number of Evening Practices per Week <sup>1</sup> /Home Games per Year (Range)
		Start	End		
<b>Fall Sports (August to November)</b>					
<i>Girls Field Hockey (Varsity)</i>					
Practices	Monday-Friday	5:00 P.M.	7:00 P.M.	25	4-5 per week/50-60 per year
Games	Monday-Friday	3:30 P.M.	5:00 P.M.	50 (both teams)	7-10 per year
<i>Girls Field Hockey (Junior Varsity)</i>					
Practices	Monday-Friday	5:00 P.M.	7:00 P.M.	25	4-5 per week/50-60 per year
Games	Monday-Friday	4:45 P.M.	6:15 P.M.	25-50	7-10 per year
<i>Football (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:00 P.M.	50-60	4-5 per week/50-60 per year
Games	Saturday	2:00 P.M.	4:00 P.M.	100-150 (both teams)	4-6 per year
<i>Football (Junior Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:00 P.M.	40-50	4-5 per week/50-60 per year
Games	Saturday	11:30 A.M.	2:00 P.M.	100-150 (both teams)	4-6 per year
<b>Winter Sports (November to February)</b>					
<i>Girls Soccer (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	Sunset	25	4-5 per week/50-60 per year
Games	Monday-Friday	3:30 P.M.	5:00 P.M.	50 (both teams)	7-12 per year
<i>Girls Soccer (Junior Varsity)<sup>2</sup></i>					
Practices	Monday-Friday	3:30 P.M.	Sunset	25	4-5 per week/50-60 per year
Games	Monday-Friday	5:30 P.M.	7:30 P.M.	50 (both teams)	7-12 per year

Carmel High School Stadium Improvements Revised Draft EIR

Sports Team	Days of the Week	Timing		Number of Participants (Student Athletes, Coaches, and Staff)	Number of Evening Practices per Week <sup>1</sup> /Home Games per Year (Range)
		Start	End		
<i>Boys Soccer (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	Sunset	25	4-5 per week/50-60 per year
Games	Monday-Friday	3:30 P.M.	5:00 P.M.	50 (both teams)	7-12 per year
<i>Boys Soccer (Junior Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	Sunset	25	4-5 per week/50-60 per year
Games	Monday-Friday	5:30 P.M.	7:30 P.M.	50 (both teams)	7-12 per year
<b>Spring Sports (February to May)</b>					
<i>Girls Lacrosse (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M. or 5:00 P.M.	5:00 P.M. or 6:30 P.M.	25	4-5 per week/50-60 per year
Games	Monday-Friday	3:30 P.M.	5:00 P.M.	50 (both teams)	7-12 per year
<i>Girls Lacrosse (Junior Varsity)</i>					
Practices	Monday-Friday	3:30 P.M. or 5:00 P.M.	5:00 P.M. or 6:30 P.M.	25	4-5 per week/50-60 per year
Games	Monday-Friday	5:00 P.M.	6:30 P.M.	50 (both teams)	7-12 per year
<i>Boys Lacrosse (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M. or 5:00 P.M.	5:00 P.M. or 6:30 P.M.	25	4-5 per week/50-60 per year
Games	Monday-Friday	4:00 P.M.	6:00 P.M.	50 (both teams)	5-10 per year
<i>Boys Lacrosse (Junior Varsity)</i>					
Practices	Monday-Friday	3:30 P.M. or 5:00 P.M.	5:00 P.M. or 6:30 P.M.	25	4-5 per week/50-60 per year
Games	Monday-Friday	6:00 P.M. **JV usually away in supersite games	8:00 P.M.	50 (both teams)	3-6 per year

Sports Team	Days of the Week	Timing		Number of Participants (Student Athletes, Coaches, and Staff)	Number of Evening Practices per Week <sup>1</sup> /Home Games per Year (Range)
		Start	End		
<i>Boys &amp; Girls Track &amp; Field (Varsity &amp; Junior Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:00 P.M.	100	4-5 per week/50-60 per year
Meets	Thursday	3:30 P.M.	7:00 P.M.	200	2-4
Total of Evening Practices/Games/Meets (Range)					350-420 practices per year (combined total)/ 74-124 games per year (combined total)

SOURCE: CUSD 2022

NOTES:

1. Field sports practices are generally a combined practice with varsity and junior varsity teams.
2. JV girls and boys soccer teams practice at Carmel Middle School.

### Tennis Court and Pedestrian Path

The school district is proposing to demolish the tennis courts to create a new parking lot and reconstruction of the existing pedestrian path from the main parking lot to the tennis courts into a new access driveway with pedestrian access as well.

The existing setting in this location is a four-court outdoor tennis facility, with an approximate 400-foot paved, lighted pedestrian path leading to the existing main parking lot. This pedestrian path is located east of State Route 1, with a row of mature trees, tree stumps, and a wooden and brick fence in-between. The tennis courts are surrounded by a non-paved walking path, a chain-linked fences, and trees. On the eastern side of the tennis courts, there is a concrete stairway leading to the stadium. The general public is permitted to use the courts when they are not in use by the high school tennis teams There has been no use request of the tennis courts from organized groups in the past five years. The high school does not use the courts for Physical Education (PE) classes.

[Table 3-2, Existing Schedule of Pool Facility Use \(Before Replacement of Pool Light Fixtures\) \(2022-2023\)](#), presents an overview of the existing use schedule for the pool facility.

**Table 3-2 Existing Schedule of High School Tennis Court Use (2022-2023)**

Sports Team	Days of the Week	Timing		Number of Participants (Student Athletes, Coaches, and Staff)	Number of Practices per Week/Home Matches per Year (Range)
		Start	End		
<b>Fall Sports (August to November)</b>					
<i>Girls Tennis (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:15 P.M.	20	4-5 per week
Matches <sup>1</sup>	Monday-Friday	3:30 P.M.	5:00 P.M.	15-25	6-8 per year
<b>Spring Sports (February to May)</b>					
<i>Boys Tennis (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:00 P.M.	20	4-5 per week
Matches <sup>1</sup>	Monday-Friday	3:30 P.M.	5:00 P.M.	15-25	6-8 per year
<b>Total Practices/Matches (Range)</b>					<b>56-70 practices per year (combined total)/ 12-14 home matches per year (per team)</b>

SOURCE: CUSD 2022

NOTE:

1. Girls and boys tennis teams currently hold home matches and tournaments at Mission Ranch in Carmel and Carmel Valley Athletic Club in Carmel Valley

## Portable Classrooms and Storage Containers

The school district is proposing to remove portable classrooms and storage containers at the east end of campus to create a new parking area.

The existing setting at this location consists of a paved area, with some areas of compact dirt and/or gravel on the eastern edge of the campus. An existing perimeter road is located to the west and a forested area is located to the east. The following portable classrooms and storage containers are located within this area:

- Two 960-square-foot portable classrooms;
- One 1,000 square foot wooden storage shed;
- Two 8 x 40-foot storage containers; and
- Four 8 x 20-foot storage containers.

These containers are currently used for storing athletic equipment, theater props, and miscellaneous equipment for various instructional programs.

## Swimming Pool

The school district is proposing to replace the existing light fixtures attached to the 60-foot-high lighting poles at the on-campus pool facility, with LED light fixtures. The existing setting at this location is a 16-lane, 40-meter outdoor swimming pool, with a 1,156 square foot pool storage building housing the filtration and mechanical equipment, spectator seating with a total capacity of 396 spectators on the north and side sides of the pool, and four, 60-foot-high lighting poles. Construction of the pool facility occurred from 2006 to 2007 and the pool lights were installed during construction of the pool facility. Prior to 2007, a pool facility existed on campus at the same location as the current pool and consisted of a six-lane lap pool and separate dive pool. Street-light style lights were mounted on telephone poles at several locations around the pool deck. The pool facility is currently used by the high school boys and girls water polo, swim teams and dive teams. Outside users include a youth swim club and youth water polo club which primarily occurs on weekends during the school year and Monday through Saturday during the summer months when school is not in session. Pool lights are used for high school water polo, swim, and diving practice. The lights have also been used for local swim and water polo clubs in the past; however, the pool lights have not been used for outside swim or water polo clubs since March 2020 due to COVID-19 pandemic restrictions.

Table 3-3, [Existing Schedule of Pool Facility Uses \(2022-2023\)](#), presents an overview of the existing use schedule for the pool facility.

**Table 3-3 Existing Schedule of Pool Facility Uses (2022-2023)**

Sports Team	Days of the Week	Timing		Number of Participants (Student Athletes, Coaches, and Staff)	Number of Evening Practices per Week/Home Games or Meets per Year (Range)
		Start	End		
<b>Fall Sports (August to November)</b>					
<i>Boys Water Polo (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:30 P.M.	25	4-5 nights a week/50-60 nights per year
Games	Monday-Friday	4:00 P.M.	6:00 P.M. or 8:00 P.M. <sup>1</sup>	40	8-12 per year
<i>Boys Water Polo (Junior Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:30 P.M.	25	4-5 nights a week/50-60 nights per year (combined with varsity)
Games	Monday-Friday	4:00 P.M.	6:00 P.M. or 8:00 P.M. <sup>1</sup>	40	8-12 per year <sup>2</sup>

Sports Team	Days of the Week	Timing		Number of Participants (Student Athletes, Coaches, and Staff)	Number of Evening Practices per Week/Home Games or Meets per Year (Range)
		Start	End		
<i>Girls Water Polo (Varsity)</i>					
Practices	Monday-Friday	5:15 P.M.	7:15 P.M.	20	4-5 nights a week/50-60 nights per year
Games	Monday-Friday	4:00 P.M.	6:00 P.M. or 8:00 P.M. <sup>1</sup>	40	8-12 per year
<i>Girls Water Polo (Junior Varsity)</i>					
Practices	Monday-Friday	5:15 P.M.	7:15 P.M.	20	4-5 nights a week/50-60 nights per year (combined with varsity)
Games	Monday-Friday	4:00 P.M.	6:00 P.M. or 8:00 P.M. <sup>1</sup>	40	6-10 (depend on whether opposing school has a junior varsity team)
<b>Spring Sports (February to May)</b>					
<i>Boys/Girls Dive (Varsity)<sup>3</sup></i>					
Practices	Monday-Friday	3:30 P.M.	6:00 P.M.	10	4-5 nights a week/50-60 nights per year
Meets	Monday-Friday	3:30 P.M.	6:30 P.M.	100 (it's part of the swim meet)	3-5 nights per year <sup>4</sup>
<i>Boys Swimming (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	6:00 P.M.	25-30	4-5 nights a week/50-60 nights per year <sup>5</sup>
Meets	Monday-Friday	3:30 P.M.	6:30 P.M.	100 (when both boys and girls are in the same meet)	4-7 nights per year <sup>6</sup>
<i>Girls Swimming (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	6:00 P.M.	30-40	4-5 nights a week/50-60 nights per year <sup>5</sup>
Meets	Monday-Friday	3:30 P.M.	6:30 P.M.	100 (when both boys and girls are in the same meet)	4-7 nights per year <sup>6</sup>
<b>Total Nighttime Practices/Games/Meets per Year (Range)</b>					<b>150-180 night practices per year/ 28-31 night games/meets per year</b>

SOURCE: CUSD 2022

NOTES:

1. If boys and girls water polo games are both home on same day, games occur between 4:00 P.M. and 8:00 P.M.; if only one of the teams is home than games occur between 4:00 P.M. and 6:00 P.M.
2. Boys JV water polo holds games as a double header with boys varsity water polo team
3. Boys and girls dive team is a part of boys and girls swimming program with similar meet schedule
4. Boys and girls dive teams hold competitions in conjunction with swim meets when other schools have a dive team as part of their swimming team.
5. Boys and girls swim team share the pool for practices
6. Numbers of swim meets fluctuates per year as some schools do not have a pool to host events. Boys and girls swim teams participate in the same meet when the opponents have both a boys and girls swim team.

## Existing Campus Lighting

Existing sources of on-campus lighting include security lighting on the high school campus, such as in the adjacent parking lot, along walkways, and on the exteriors of high school campus buildings. Exterior and some interior lighting has been upgraded to LED in 2016 according to the 2019 *Carmel Unified School District Facilities Master Plan*. In addition, four facility lights mounted on 60-foot-high poles have been present at the swimming facility to the immediate northeast of the stadium since 2007. Existing lighting associated with the stadium includes a lighted electronic scoreboard which sits at the far western end of the stadium as well as security and pedestrian safety lighting along the edge of the stadium facility. The tennis court area includes minimal security lighting as well as pathway bollard lights for the pedestrian path that leads from the main campus parking lot and stadium along State Route 1.

## Off-Site Practices and Games

Carmel High School currently holds some practices and games/matches off-site to accommodate all teams, as practices and games cannot currently be held at the stadium after dark. [Table 3-4, Existing Off-Site Practices and Games](#), documents this current situation. In the past, high attendance home football events have occasionally been held at Monterey Peninsula College at night. However, these events happen rarely and therefore, are not included in this table. Table footnotes explain how this would change with implementation of the project. The changes are also addressed in Section 4.0, Project Description.

**Table 3-4 Existing Off-Site Practices and Games**

Team	Average # of Athletes	Off-Site Location	Average Days per Week Number of Weeks	Travel Method
<b>Practices</b>				
Soccer <sup>1</sup> (Boys and Girls)	80	Carmel Middle School	Once a week 13 weeks per year	Special District Bus and Student Drivers
Softball <sup>2</sup> (Girls)	30	Carmel Middle School	5 days a week 15 weeks per year	Existing Bus Route and Student Drivers
<b>Games/Matches</b>				
Softball <sup>2</sup> (Girls)	60 (JV & Varsity)	Carmel Middle School	2 days per week 15 of weeks per year	Existing Bus Route and Student Drivers
Tennis <sup>3</sup> (Girls)	12	Mission Ranch in Carmel or the Carmel Valley Athletic Club in Carmel Valley	2 days per week 13 weeks per year	Van, Bus, or Student/Parent Drivers
Tennis <sup>3</sup> (Boys)	12	Mission Ranch in Carmel or the Carmel Valley Athletic Club in Carmel Valley	2 days per week 13 weeks per year	Van, Bus, or Student/Parent Drivers



Team	Average # of Athletes	Off-Site Location	Average Days per Week Number of Weeks	Travel Method
JV Soccer (Boys and Girls)	50	Carmel Middle School	9 per year	Van, Bus, or Student/Parent Drivers

SOURCE: Dan Paul, CUSD Director Facility and Transportation

NOTES: General. Numbers are averages and vary year-to-year depending upon student athlete participation numbers, as well as game/match schedules.

1. Soccer practices would be held at Carmel High School with implementation of the project.
2. Softball practices and games will continue to be held at Carmel Middle School with implementation of the project.
3. Tennis matches will continue to be held at Mission Ranch or Carmel Valley Athletic Club with implementation of the project. Tennis practices would be held at Carmel Middle School. See Section 4.0, Project Description.

## Parking

### On-Campus

A total of 276 parking spaces are available on campus: 231 standard parking spaces, eight (8) ADA-compliant spaces, eight (8) Clean Air Vehicle spaces, seven (7) compact spaces, 12 staff parking spaces, five (5) visitor parking spaces, and five (5) auto shop parking spaces (Whitson 2022). As of the start of the 2022-2023 school year, Carmel High School has a total of 866 enrolled students, 102 daytime faculty and staff (including kitchen staff) and five nighttime staff. An overview of all available on-campus parking spaces and the campus circulation pattern are presented in [Figure 3-6, Existing On-Campus Parking Spaces and Circulation](#), and a summary of total on-campus parking spaces are presented in [Table 3-5, Existing Carmel High School On-Campus Parking Summary](#).

As indicated in Table 3-5, the two primary parking lots are the main campus parking located off of Ocean Avenue which has a total of 174 parking spaces, and the second is located immediately south of the stadium and tennis courts next to the baseball diamond, accessed from State Route 1 at Morse Drive, and includes 35 standard parking stalls. Both primary parking areas are accessible to spectators during sporting events at the stadium. The main high school parking lot is also accessed directly off of State Route 1 via a right turn only access point at the south end of the parking lot. No traffic or parking control plan is in place at either parking area during large events. The additional parking areas (the campus ring road and the pool facility parking areas) are only available to staff and student-athletes during sporting events.

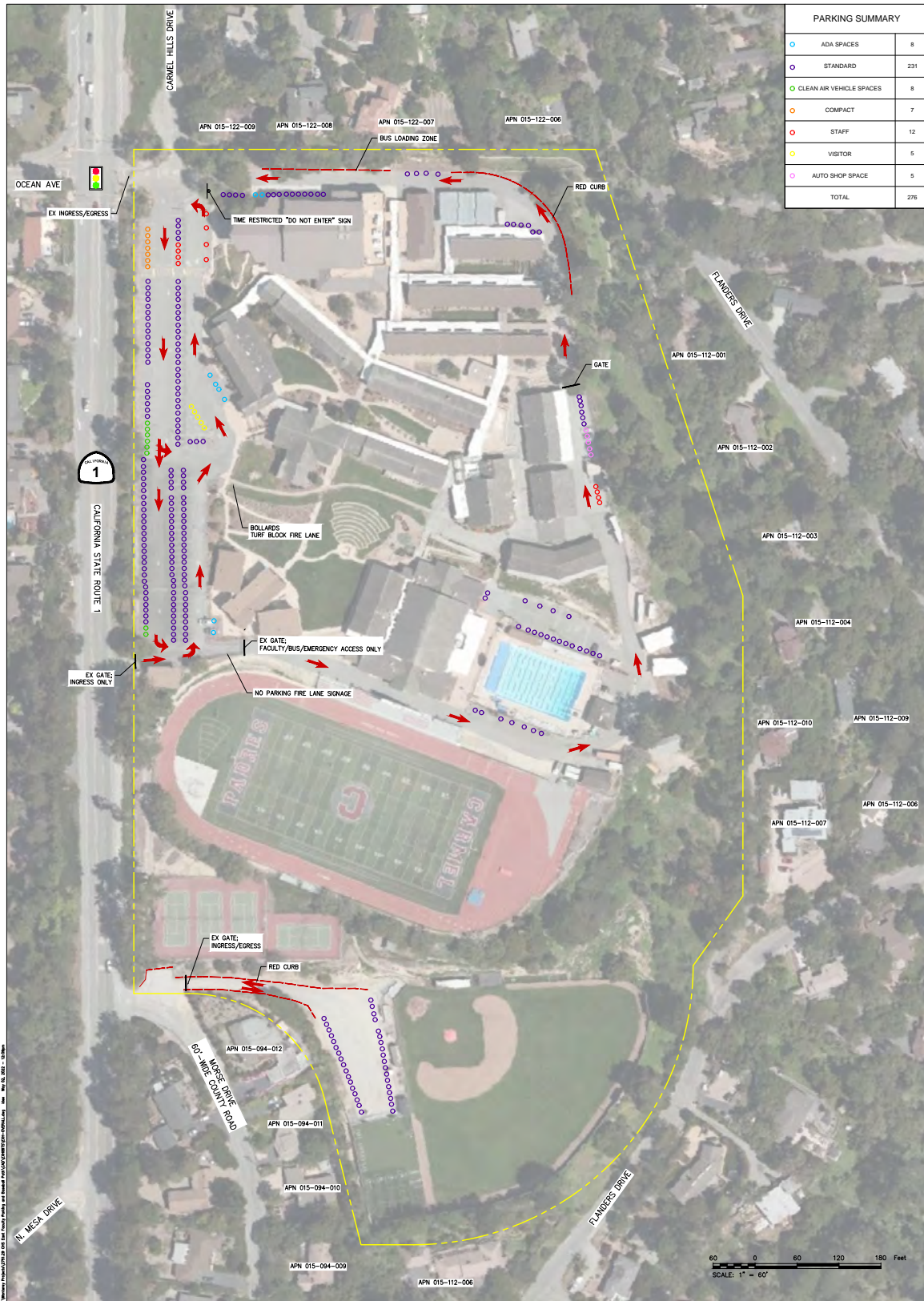
**Table 3-5 Existing Carmel High School On-Campus Parking Summary**

Type of Parking Space	Number of Spaces
<b>Main Campus Parking Lot (off Ocean Avenue and State Route 1)</b>	
Standard Parking Space	140
ADA Spaces	6
Clean Air Vehicle Spaces	8
Compact Spaces	7
Staff Spaces	8
Visitor Spaces	5
<i>Main Campus Parking Lot Sub-Total</i>	<i>174</i>
<b>Baseball Field Parking Lot (off Morse Drive)</b>	
Standard Parking Spaces	35
<b>Campus Ring Road (off Ocean Avenue)</b>	
Standard Parking Spaces	30
ADA Spaces	2
Auto Shop Spaces	5
Staff Spaces	4
<i>Campus Ring Road Parking Sub-Total</i>	<i>41</i>
<b>Pool Facility Parking (accessed via campus ring road)</b>	
Standard Parking Spaces	26
<b>Grand Total On-Campus Parking Spaces</b>	<b>276</b>

SOURCE: Whitson Engineers 2022

## Off-Campus

Overflow parking occurs on surrounding public streets particularly along Carmel Hills Drive to the north of campus off Ocean Avenue and along Morse Drive to the south of campus. Based on a neighborhood parking assessment conducted by EMC Planning Group in June 2022 (see [Appendix B](#) for a memo summarizing the findings of the neighborhood parking assessment), ample available public parking was identified on the residential streets surrounding the high school. [Table 3-6, Neighborhood Parking Summary \(Unrestricted and Restricted\)](#), presents the restricted and unrestricted parking in the adjacent neighborhoods.



PARKING SUMMARY		
○ (Blue)	ADA SPACES	8
○ (Purple)	STANDARD	231
○ (Green)	CLEAN AIR VEHICLE SPACES	8
○ (Orange)	COMPACT	7
○ (Red)	STAFF	12
○ (Yellow)	VISITOR	5
○ (Pink)	AUTO SHOP SPACE	5
	TOTAL	276



Source: Whitson Engineering 2022

# Figure 3-6 Existing On-Campus Parking Spaces and Circulation



*This side intentionally left blank.*

**Table 3-6 Neighborhood Parking Summary (Unrestricted and Restricted)**

Street Name	Unrestricted Parking	Restricted Parking	Total Parking
Carmel Hills Drive <sup>1</sup>	95	71	166
Valley Place	32	0	32
Stewart Place <sup>2</sup>	0	24	24
Flanders Drive <sup>2</sup>	302	24	326
Canyon Circle	42	0	42
Ward Place	30	0	30
Whitman Circle	56	0	56
Row Place	3	0	3
Baldwin Circle	13	0	13
Morse Drive <sup>2</sup>	81	33	114
<b>Cumulative Total</b>	<b>654</b>	<b>152</b>	<b>806</b>

SOURCE: EMC Planning Group 2022

## NOTES:

1 - No parking from 7:00am – 6:00pm (except weekends and holidays)

2 - No parking from 7:00am – 12:00pm (except weekends and holidays)

A total of 806 possible parking spaces were identified on the residential streets surrounding the high school. Approximately 654 spaces of the identified parking spaces are unrestricted. The majority of unrestricted parking (302 spaces) is located along Flanders Drive. The small cul-de-sacs adjacent to Flanders Drive, including Canyon Drive, Ward Place, Whitman Circle, Row Place, and Baldwin Circle, contributed an additional 118 total unrestricted parking spaces. An additional 81 unrestricted possible parking spaces were also identified on Morse Drive.

A total of 18 percent of all observed parking spaces were in areas with posted restricted parking areas. Carmel Hills Drive had the largest observed number of restricted parking (71 spaces) with limitations set from 7:00am to 6:00pm Monday through Friday. Restricted parking was also identified on most of Stewart Place (24 spaces), Flanders Drive (24 spaces), and Morse Drive (33 spaces), which accounted for an additional 81 possible parking spaces with limitations set from 7:00am to 12:00pm Monday through Friday. Of the ten residential streets only one, Stewart Place, consisted entirely of restricted parking including the only “No Parking Anytime” zone, for a very short length, identified during the assessment. Refer to [Appendix B](#) for a graphic identifying the restricted parking zones.

*This side intentionally left blank.*

# 4.0 Project Description

## 4.1 PROJECT OBJECTIVES

CEQA Guidelines section, 15124(b) requires an EIR to include a statement of the objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding consideration, if necessary. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits.

The objectives set forth below describe the underlying purpose of the proposed project and provide a basis of identification of a reasonable range of alternatives evaluated in this RDEIR. The objectives are numbered for ease of reference only; the numbering does not reflect any priority or weight given to the objectives.

- 1) Provide an enhanced learning environment for both physical education and after-school sports activities that meets contemporary standards of education and improves the District's athletic program for its Carmel High School students and other students in the District;
- 2) Provide athletic facilities that facilitate implementation of the State's "late start law" without disruption to the District's existing educational and athletic programs;
- 3) Provide the capability to host sport events and games for Carmel High School students in the evening when students, parents, and community members can more easily attend;
- 4) Improve athlete and spectator safety during evening sports events and games;
- 5) Operate an athletic stadium facility that is at least equal with most other local high schools, including the ability to conduct events in the evening;
- 6) Improve on-campus traffic circulation, fire and emergency vehicle access, campus security and safety, ADA access, and student, staff, and visitor access within the Carmel High School campus grounds;
- 7) Improve and expand on-campus parking facilities to meet need at Carmel High School;



## 4.0 Project Description

- 8) Implement “green building” practices that foster energy conservation, and replace outmoded athletic lighting fixtures with new fixtures that will obtain dark sky certification;
- 9) Enhance the spectator experience during sporting events by adding an alternative viewing location different from the existing bleachers;
- 10) Augment the secure storage space available to the District’s athletic programs;
- 11) Create a new, healthy weekend social opportunity for District students while building school spirit;
- 12) Reduce operational difficulties and complex coordination issues with respect to the scheduling of practices and games for District athletic programs;
- 13) Achieve these objectives consistent with the intent of the Facilities Master Plan that was presented to the District’s Board on June 26, 2019; and
- 14) Achieve these objectives within the District’s allocated budget allowances.

## 4.2 PROJECT CHARACTERISTICS

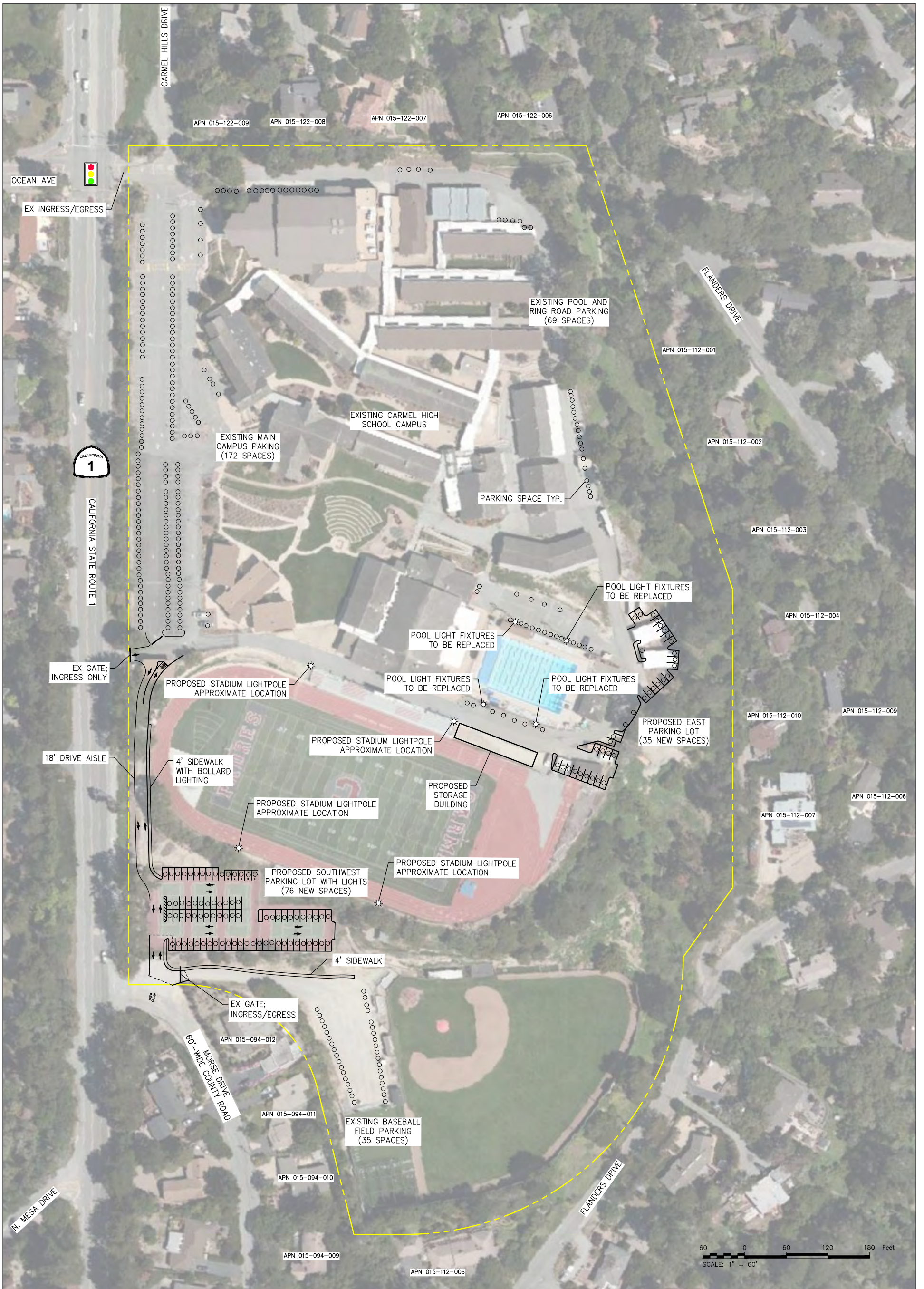
### Summary

The school district is proposing the following improvements at Carmel High School:

- Stadium field lights;
- New storage building with a standing, viewing platform adjacent to the home bleachers;
- A new parking area with 35 standard spaces east of the existing swimming pool;
- A new parking lot with 76 standard spaces replacing the existing tennis courts south of the stadium, including a new 18-foot drive aisle connecting the existing main campus parking lot to the north, and a new pedestrian walkway. This parking lot also includes a 20-foot driveway providing access to Morse Drive and the existing access to the baseball field parking to the east; and
- Replacing light fixtures at the swimming pool.

[Figure 4-1, Overall Site Plan](#), presents the location of these proposed improvements on the campus.





Carmel High School Campus Boundary

Source: Whitson Engineers 2022

Figure 4-1  
Overall Site Plan





*This side intentionally left blank.*

## Stadium Improvements

### Stadium Field Lights

The school district is proposing to install field lighting at the existing stadium at Carmel High School, consistent with the school district's 2019 facilities master plan. [Figure 4-2a, Foot-Candle Measurement Summary – Football Field](#), presents an overview of the stadium with proposed lighting locations (identified as Locations F1 through F4) and horizontal foot-candle measurements across the expanse of the football field as prepared by Musco Sports Lighting, the school district's sports light contractor. [Figure 4-2b, Foot-Candle Measurement Summary – Track](#), presents foot-candle measurements as measured from the edge of the track. [Figure 4-2c, Candela Measurement Summary – Edge of Campus](#), presents light spill measurements as measured by candela (per fixture) at the edge of the campus. Horizontal foot-candle measurements range from a minimum of 42 foot-candles near the edges of the field to a maximum of 62 foot-candles located at along the northwest corner of the field surface. Foot-candle measurements disperse to 48 foot-candles (maximum) to one foot-candle (minimum) at the edge of the track. Horizontal foot-candle measurements at the edge of campus quickly disperse to a maximum of 0.02 foot-candles (directly south of the stadium near the property boundary with residences along Morse Drive) to zero foot-candles along the majority of the campus boundary. Candela measurements at the edge of campus range from 1846 candelas across State Route 1 to a minimum of 0 candelas along the eastern edge of campus, northeast of the stadium (see Section 5.0, Aesthetics, for additional lighting measurement definitions and details).

Two of the lighting poles will be located behind the northern, home seating area and will extend 70 feet high accounting for a 10-foot higher grade than the south, visitor seating bleachers, which will be 80 feet high. Each pole will be on a pre-cast concrete base approximately 10 feet below ground. Each lighting pole will feature three separate luminaires. Mounting heights for the three luminaires are 25.5 feet, 70 feet, and 80 feet (Locations F1 and F2) and 15.5 feet, 60 feet, and 80 feet (Locations F3 and F4). The four new lighting poles will result in a total of 44 luminaires with an average kilowatt of 68.82 (74.8 maximum). A complete set of lighting data associated with the Carmel High School Stadium light designs, prepared by Musco Sports Lighting, is included as part of [Appendix C](#). In October 2021, the school district submitted the proposed Carmel High School stadium lighting design for Dark Sky certification and received approval from the International Dark-Sky Association (IDA) on October 27, 2021. The Lighting Performance Summary Results provided by IDA in evaluating the proposed stadium lighting and pool lighting designs are included as [Appendix D](#).

Figure 4-3, [Lighting Pole Elevation \(Locations F1 & F2\)](#), provides a lighting pole configuration drawing for the 70-foot light structures (Locations F1 and F2). [Figure 4-4, Lighting Pole Elevation \(Locations F3 & F4\)](#), provides a lighting pole configuration drawing for the 80-foot light structures (Locations F3 and F4).

### **Storage Building (at Existing Stadium)**

A new 20-foot by 120-foot storage building will be constructed immediately east of the existing home bleachers, consistent with the school district's 2019 facilities master plan. Demolition activities will include excavation of existing earthwork in the vicinity of the proposed storage building down to +/- 30 inches below track level in order to construct foundations and retaining wall. The storage building will measure 10 feet in height and will be built to align with the existing bleachers. A standing platform will sit on a portion of the roof of the storage building and will be open to spectators during sporting events. It is anticipated that this standing platform will be able to hold approximately 178 spectators per building code requirements which requires five square feet of standing space per person. The platform will be posted and monitored to maintain a maximum capacity of 100 spectators for easier crowd control. A capacity sign will be installed as part of the storage building construction project. [Figure 4-5, Conceptual Storage Building Design](#), presents a drawing of the proposed storage building.

### **New Parking Lots**

The proposed project includes the addition of 111 parking spaces in two locations, which are discussed below. [Figure 4-6, Post Development Overall Parking Exhibit](#), presents the location of the post-project parking spaces.

#### **East of Existing Pool**

An additional 35 standard parking spaces are proposed east of the existing pool facility where storage buildings and containers currently sit along the campus ring road. The two storage buildings and two storage containers will be removed and replaced by an area sufficient to accommodate the 35 parking spaces which will be re-paved and striped. These 35 parking spaces are intended to accommodate students during the school day and then are to be used by staff and participants during sporting events. Spectators will not park in this area during any sporting events. This additional parking area will be accessed via Ocean Avenue and the campus ring road. Removal and demolition activities will include the initial removal of all freight storage containers in the vicinity of the proposed east parking lot area and the demolition and remove from the property two, 960-square foot (each), single story, wood foundation, modular classroom buildings. An additional 1,000 square foot, single story wood frame storage building will be demolished and removed from the property. Minimal grading will be required to accommodate the expanded paved parking area. No additional lighting is required for this new parking area. Plans include tree box filters (best management practice for stormwater treatment), a 24-inch-high retaining curb, reconstruction of the existing fence, and addition of a gate).



Note: All numbered measurements shown on this figure represent horizontal foot-candle measurements.

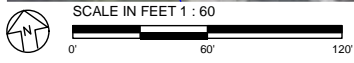
Source: Musco Lighting 2021

## Figure 4-2a Foot-Candle Measurement Summary - Football Field

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*





Note: All numbered measurements shown on this figure represent horizontal foot-candle measurements.

Source: Musco Lighting 2021

*This side intentionally left blank.*





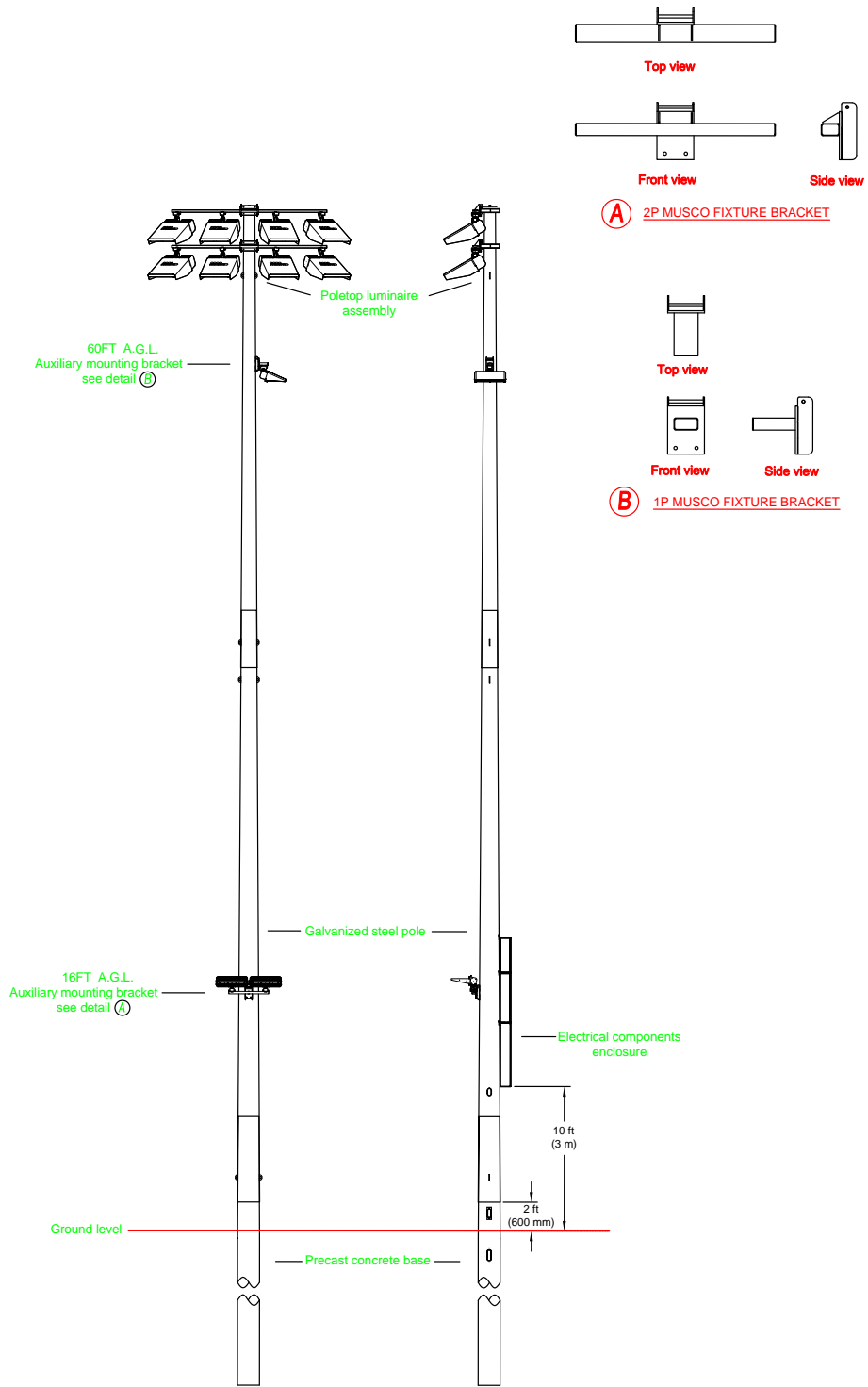
Note: All numbered measurements shown on this figure represent candela (per fixture) measurements.

Source: Musco Lighting 2021

## Figure 4-2c Candela Measurement Summary - Edge of Campus

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*



**POLE(S): F1**

Musco 70FT Light-Structure System™ pole  
TLC for LED™ luminaires

Source: MUSCO Lighting 2021

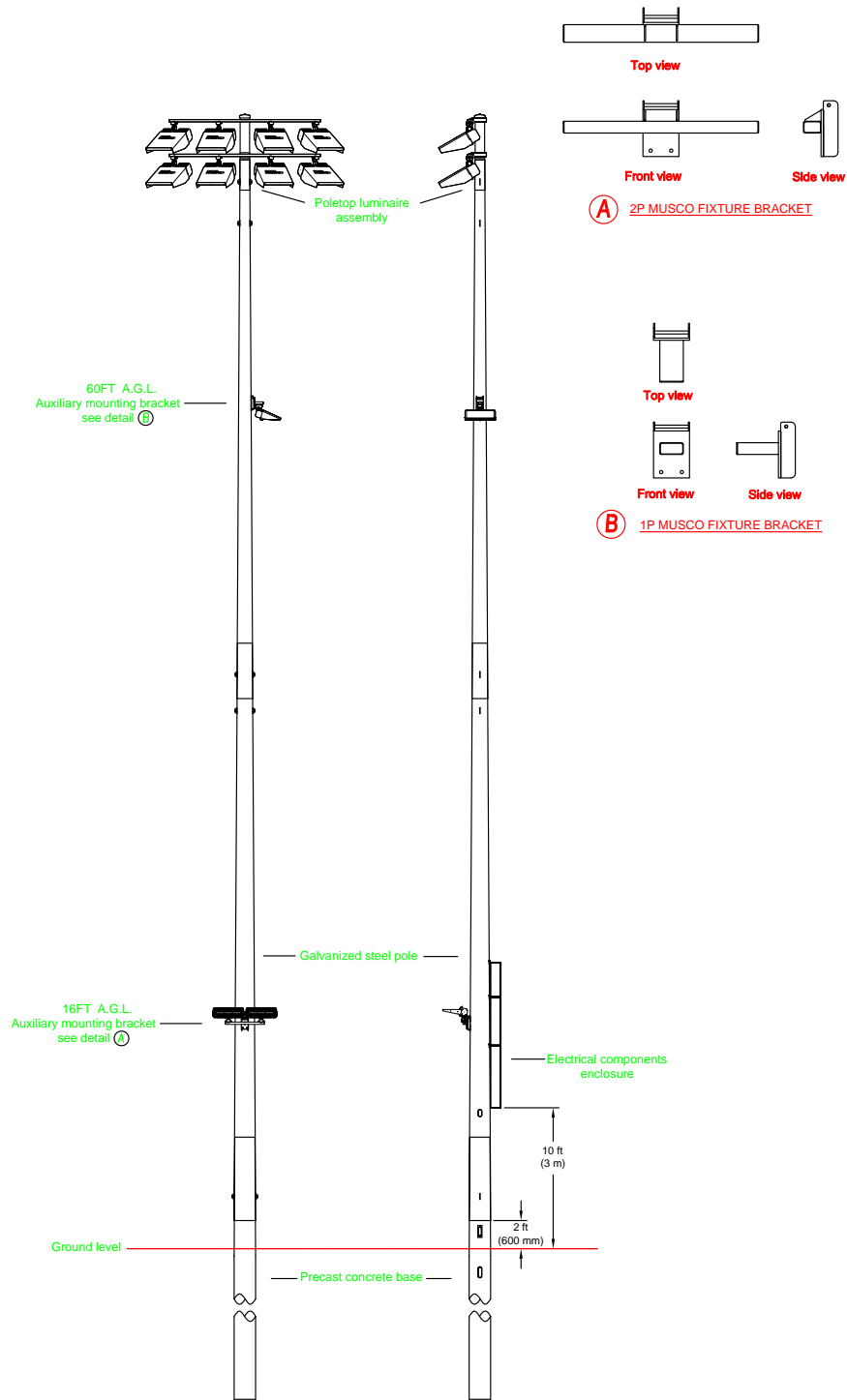
Figure 4-3

# Lighting Pole Elevation (Locations F1 & F2)

Carmel High School Stadium Improvements Revised Draft EIR



*This side intentionally left blank.*



**POLE(S): F3**  
 Musco 80FT Light-Structure System™ pole  
 TLC for LED™ luminaires

Source: MUSCO Lighting 2021

Figure 4-4

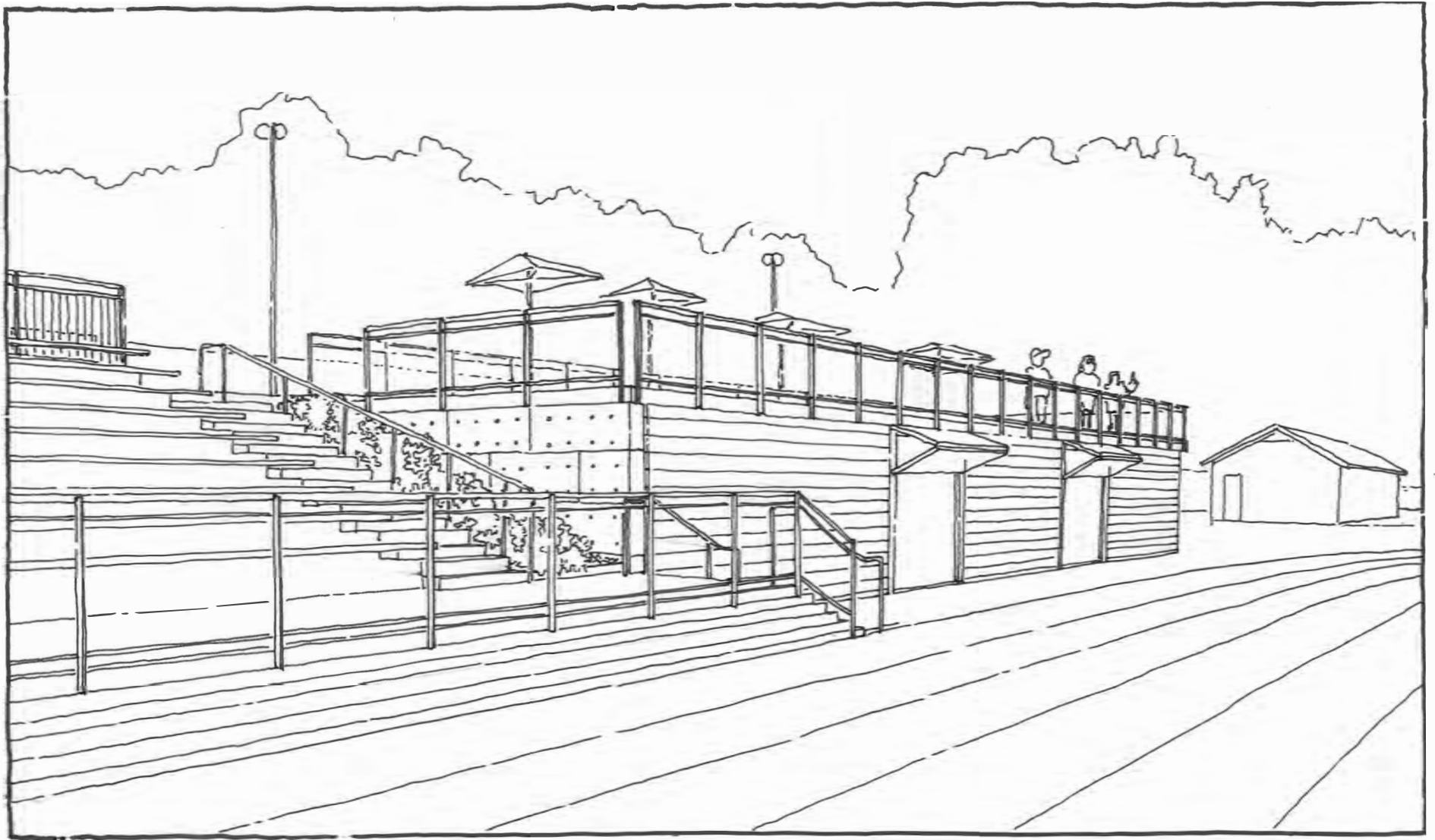
# Lighting Pole Elevation (Locations F3 & F4)

Carmel High School Stadium Improvements Revised Draft EIR



*This side intentionally left blank.*





Source: Bartos Architecture 2015

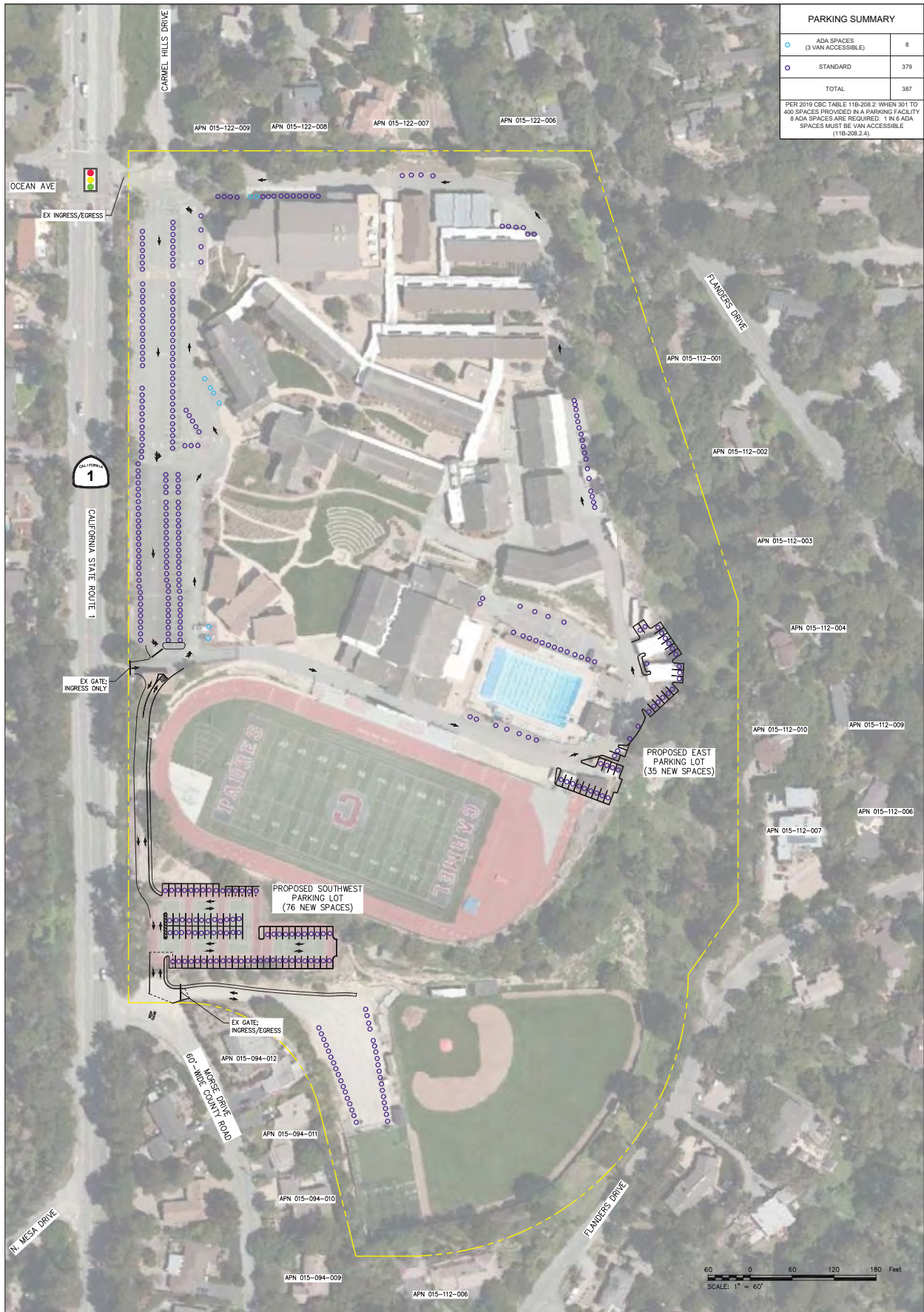
Figure 4-5

## Conceptual Storage Building Design

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*





Source: Whitson Engineers 2022

Figure 4-6  
 Post Development Overall Parking Exhibit  
 Carmel High School Stadium Improvements Revised Draft EIR



*This side intentionally left blank.*

A demolition plan is presented in [Figure 4-7, Demolition Plan East Parking Lot](#) and conceptual project plans for the new parking area near the pool facility are presented in [Figure 4-8, East Parking Lot – Conceptual Design](#). This parking lot is identified in the school district’s 2019 facilities master plan.

### **South of Stadium (Current Tennis Courts)**

An additional, 0.62-acre parking lot with 76 standard parking spaces will be constructed to replace the existing tennis courts located immediately south of the stadium and north of Morse Drive. This parking lot will accommodate students for school day parking and students and visitors for all school-sponsored events including sporting events at the stadium. This parking lot will have two accesses. The first will be an 18-foot drive aisle, parallel to State Route 1, between the existing campus parking lot to the north and the new parking lot to the south. The second access will be a 20-foot driveway providing access to Morse Drive and the existing access to the baseball field parking to the east. The new parking lot will be lighted and will feature cut-off luminaires on 12-foot-high poles with three-foot concrete bases. Supplemental/replacement low level (four-foot +/-) pedestrian pathway lights would also be installed. Removal and demolition activities will include demolition of the existing single story 1,000 square foot, wood frame storage building near the tennis courts, removal of all tennis court fencing, and excavation of existing top soil and vegetation in preparation for a new approximately 270 linear feet access drive to connect the existing campus parking lot to the proposed parking lot at the tennis court site. The drive aisle will require demolition of the existing pedestrian walkway, which will be rebuilt adjacent to the drive aisle. A demolition plan is presented in [Figure 4-9, Demolition Plan Tennis Courts](#) and the project plans for this new parking lot are presented in [Figure 4-10, Tennis Court Parking Lot – Conceptual Design](#).

The high school tennis team will practice at the Carmel Middle School tennis courts. Tournaments will continue to be held off-site at either the Mission Ranch in Carmel or the Carmel Valley Athletic Club in Carmel Valley.

### **Summary of Existing and Proposed Parking**

[Table 4-1, Summary of Existing and Proposed Parking](#), presents an overview of existing parking located on campus, as well as the addition of 111 proposed new parking spaces.

**Table 4-1 Summary of Existing and Proposed Parking**

Parking Lot	Parking Spaces
Existing Facilities	276 <sup>1</sup>
East of Pool	35
South of Stadium (Tennis Courts)	76
<b>Total (Existing and Proposed)</b>	<b>387</b>

SOURCE: Whitson Engineers

NOTE: 1. See Table 3-2 for location breakdown.

## Replacement of Existing Pool Light Fixtures

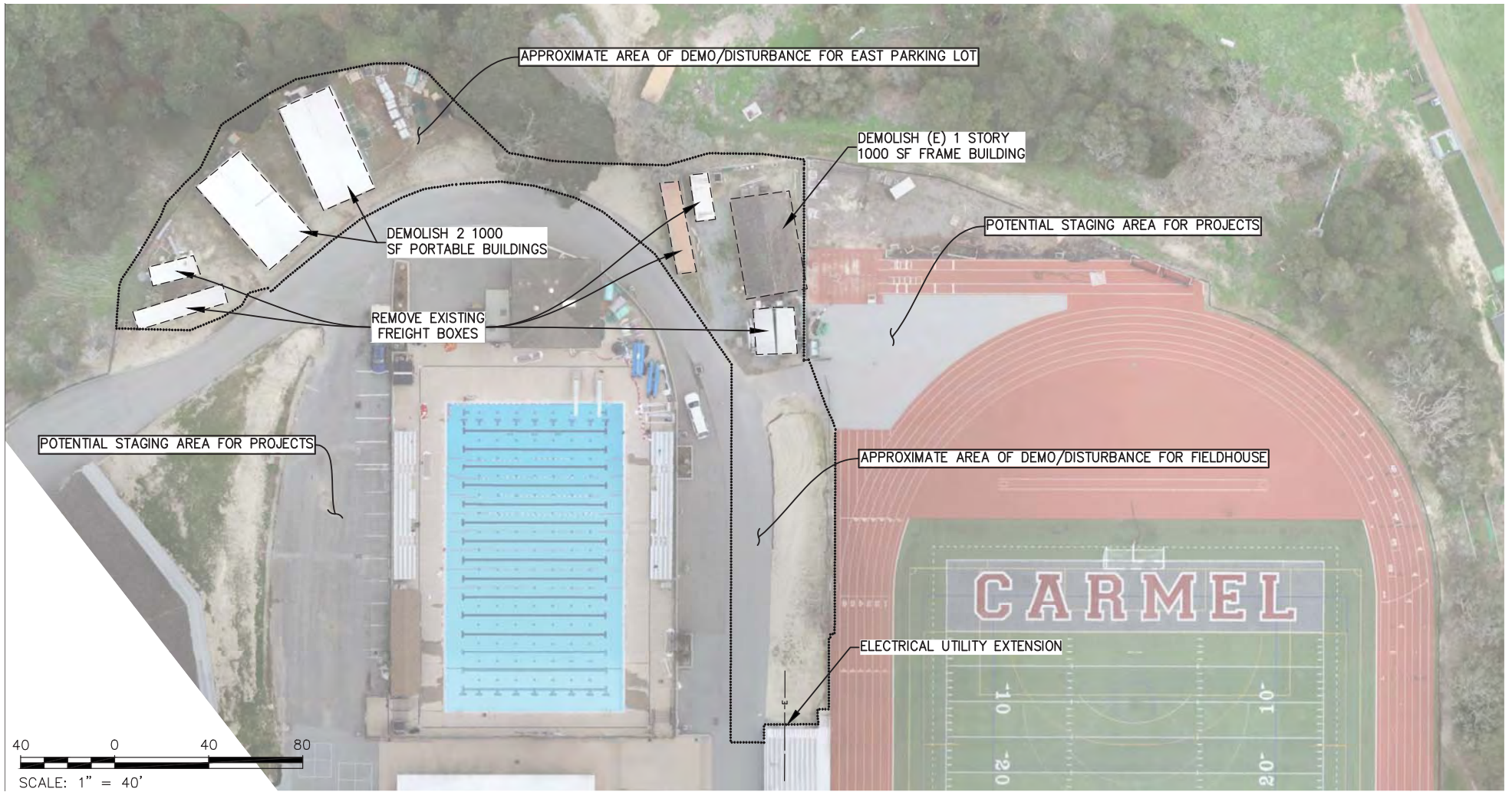
In order to help address concerns about existing campus light spillage, the school district will replace the existing light fixtures attached to the existing 50-foot-high lighting poles at the pool facility, with LED light fixtures. These LED light fixture designs were submitted to the International Dark-Sky Association and received design review approval for Dark Sky certification on July 29, 2022. Pool light fixtures will only be turned on for school -sponsored swim meets and practices. Illumination summaries and comparisons between existing and proposed pool light designs are include as part of Appendix C. The Lighting Performance Summary Results provided by IDA in evaluating the proposed stadium lighting and pool lighting designs are included as Appendix CD

## Schedule of Uses at the High School

### Stadium

The proposed project is intended to expand the timing and use of the existing stadium facilities for several sports teams including the following: football (boys), soccer (boys and girls), lacrosse (boys and girls), track and field (boys and girls), and field hockey (girls). By allowing evening-hour use, the high school would provide enhanced opportunities for students to participate in school-sponsored sports. The timing of all other school-affiliated sporting activities that do not utilize the stadium for practices or games would remain the same. [Table 4-2, Proposed Schedule of Stadium Uses \(After Installation of Field Lights\)](#), provides a summary of the anticipated use of the stadium after improvements are made. No uses of the stadium are proposed before sunrise.



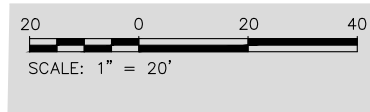
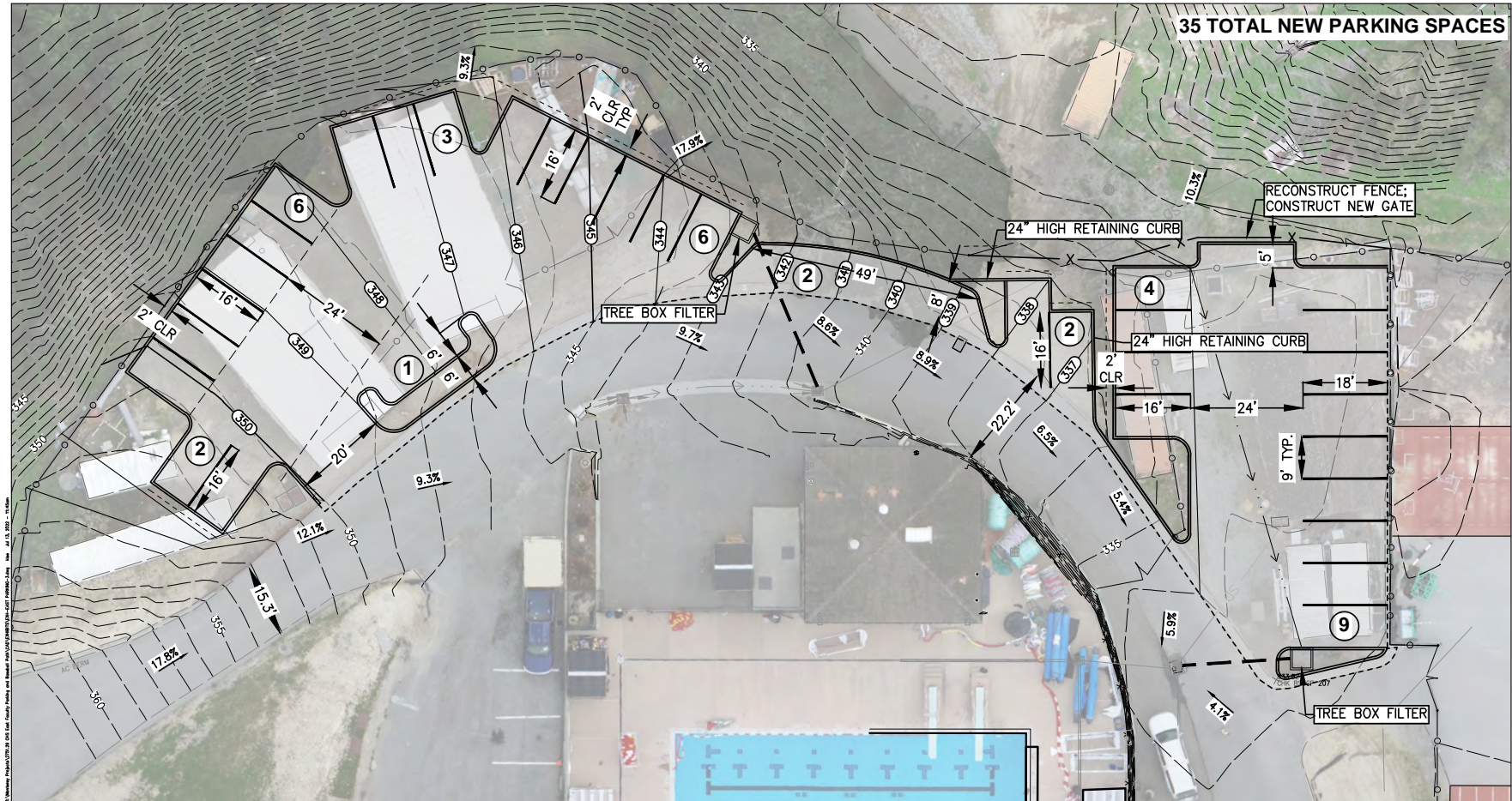


Source: Whitson Engineers 2022

Figure 4-7  
 Demolition Plan East Parking Lot

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*



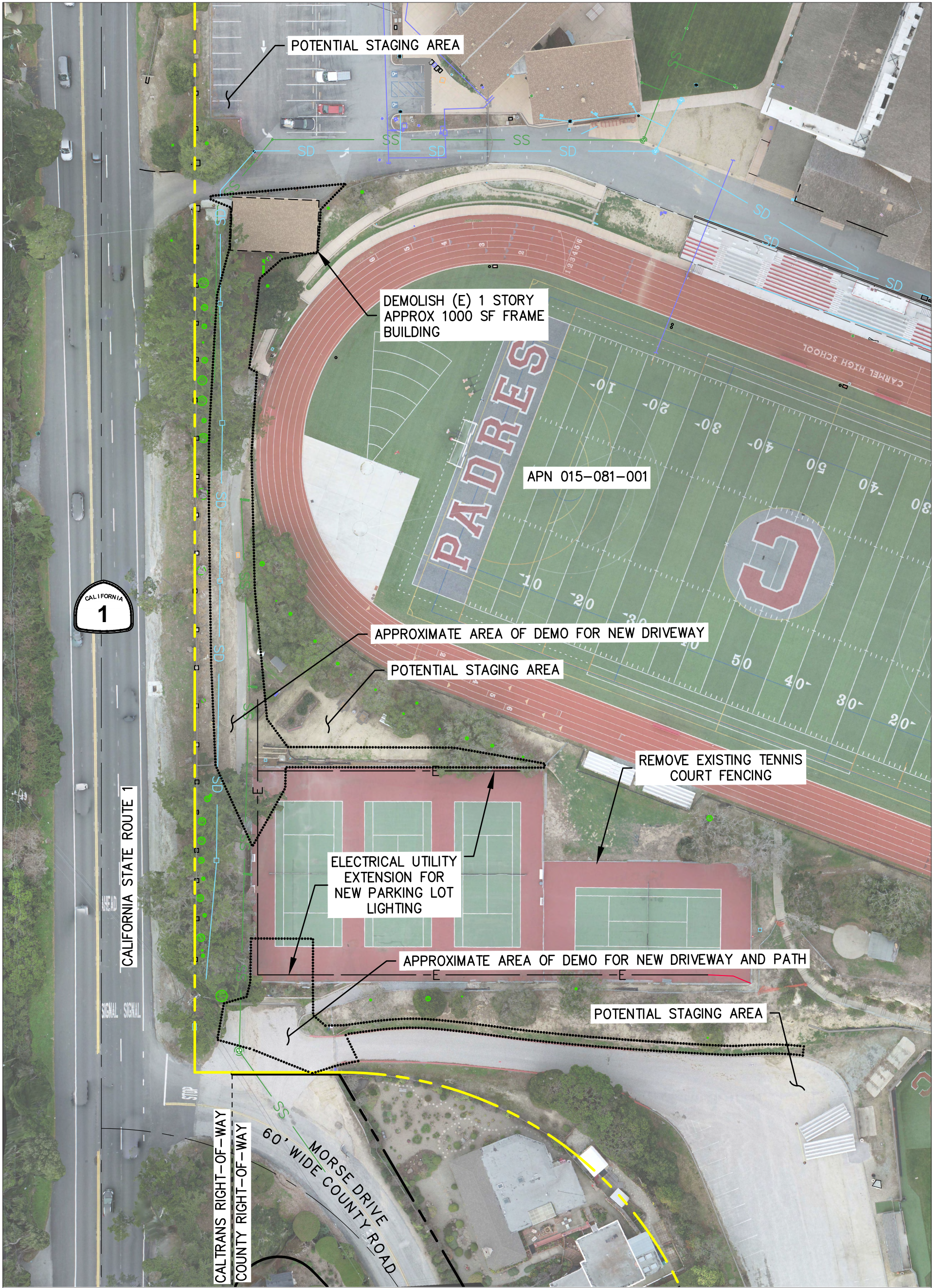
Source: Whitson Engineers 2022

Figure 4-8  
 East Parking Lot - Conceptual Design

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*





Source: Whitson Engineers 2022

Figure 4-9

## Demolition Plan Tennis Courts

Carmel High School Stadium Improvements Revised Draft EIR



*This side intentionally left blank.*



Source: Whitson Engineers 2022

Figure 4-10

# Tennis Court Parking Lot - Conceptual Design



*This side intentionally left blank.*

**Table 4-2 Proposed Schedule of Stadium Uses (After Installation of Field Lights)**

Sports Team	Days of the Week	Timing		Number of Participants (Student-Athletes, Coaches, and Staff)	Estimated Number of Evening Practices per Week <sup>1</sup> /Home Games per Year (Range)
		Start	End		
<b>Fall Sports (August to November)</b>					
<i>Girls Field Hockey (Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	3:30 P.M.	4:45 P.M.	50 (both teams)	7-10 per year
<i>Girls Field Hockey (Junior Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	4:45 P.M.	6:15 P.M.	25-50	7-10 per year
<i>Football (Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	50-60	4-5 per week/ 50-60 per year
Games	Friday	7:30 P.M.	10:00 P.M.	100-150	4-6 per year
<i>Football (Junior Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	40-50	4-5 per week/ 50-60 per year
Games	Friday	5:00 P.M.	7:30 P.M.	100-150	4-6 per year
<b>Winter Sports (November to February)</b>					
<i>Girls Soccer (Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:30 P.M.	5:45 P.M. or 7:15 P.M.	25	4-5 per week 50-60 per year
Games	Monday-Friday	5:45 P.M.	7:15 P.M.	50-60 (both teams)	7-12 per year
<i>Girls Soccer (Junior Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:30P.M.	5:45 P.M. or 7:15 P.M.	25	4-5 per week 50-60 per year
Games	Monday-Friday	4:00 P.M.	5:45 P.M.	50 (both teams)	7-12 per year

4.0 Project Description

Sports Team	Days of the Week	Timing		Number of Participants (Student-Athletes, Coaches, and Staff)	Estimated Number of Evening Practices per Week <sup>1</sup> /Home Games per Year (Range)
		Start	End		
<i>Boys Soccer (Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:30 P.M.	5:45 P.M. or 7:15 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	5:45 P.M.	7:15 P.M.	50 (both teams)	7-12 per year
<i>Boys Soccer (Junior Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:30 P.M.	5:45 P.M. or 7:15 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	4:00 P.M.	5:45 P.M.	50 (both teams)	7-12 per year
<b>Spring Sports (February to May)</b>					
<i>Girls Lacrosse (Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	3:30 P.M.	5:00 P.M.	50 (both teams)	7-12 per year
<i>Girls Lacrosse (Junior Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	5:00 P.M.	6:30 P.M.	50 (both teams)	7-12 per year
<i>Boys Lacrosse (Varsity)</i>					
Practices	Monday-Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	4:00 P.M.	6:00 P.M.	50 (both teams)	7-12 per year
<i>Boys Lacrosse (Junior Varsity)</i>					
Practices	Monday - Friday	4:00 P.M. or 5:45 P.M.	6:00 P.M. or 7:45 P.M.	25	4-5 per week/ 50-60 per year
Games	Monday-Friday	6:00 P.M.	8:00 P.M.	50 (both teams)	7-12 per year

Sports Team	Days of the Week	Timing		Number of Participants (Student-Athletes, Coaches, and Staff)	Estimated Number of Evening Practices per Week <sup>1</sup> /Home Games per Year (Range)
		Start	End		
<i>Boys &amp; Girls Track &amp; Field (Varsity and Junior Varsity)</i>					
Practices	Monday-Friday	4:00 P.M.	5:30 P.M.	100	4-5 per week/ 50-60 per year
Meets	Thursday	3:30 P.M.	7:30 P.M.	200 (both teams)	2-4 per year
Total of Evening Games per Year (Range)					Evening Practices per Year: 350-400/ Evening Games/Meets per Year: 74-124

SOURCE: CUSD 2022

NOTE: 1. Field sports practices are generally a combined practice with varsity and junior varsity teams.

Sunset in the Carmel area ranges from as early as 4:52 P.M. in late November to early December to as late as 8:30 P.M. in late June to early July (NOAA 2021 – see [Appendix D](#) for a sunrise/sunset table for the year 2021). Use of lighting during and following athletic practices would generally end by 8:00 P.M. Most athletic games would end by 7:00 P.M., but no later than 9:30 P.M., with lighting potentially remaining on after to facilitate safe crowd exiting and for clean-up and other similar activities after game completion.

### Tennis Courts

Upon implementation of the proposed project, the tennis court facility on the south edge of campus will be demolished and the high school teams will practice at the existing courts at Carmel Middle School. Home tennis matches and tournaments will continue to be held at Mission Ranch in Carmel or Carmel Valley Athletic Club in Carmel Valley.

### Pool Facility

Upon implementation of the proposed project, the school district plans to maintain the existing use schedule for the existing on-campus lighted pool facility. Refer to Table 3-3, Existing Schedule of Pool Facility Uses (Before Replacement of Pool Light Fixtures) (2022-2023), in Section 3.0, Environmental Setting, of the revised draft EIR for a schedule of school-sponsored aquatic teams utilizing the pool facility.

### Lighting Schedule

The following table ([Table 4-3, Proposed Stadium and Pool Facility Lighting Schedule](#)) presents a hypothetical summary scenario of the proposed stadium based on past sporting event schedules for the school district, sport team field use needs, and sunset times. The table presents a month-by-month scenario with the number of days required for use of lighting and the range of start and end times for lighting needs. In addition, the table presents the anticipated pool facility lighting schedule for the 2022-2023 school year.

**Table 4-3 Proposed Stadium and Pool Facility Lighting Schedule**

Month (Number of Days with Lights in Use)	Start Time (Range)	End Time
<b>Stadium</b>		
August (3 days)	7:08 P.M. – 7:11 P.M.	8:00 P.M.
September (21 days)	6:23 P.M. – 7:07 P.M.	8:00 P.M. (10:00 P.M. for two Friday night football games)
October (16 days)	5:42 P.M. – 6:18 P.M.	8:00 P.M. (10:00 P.M. for one Friday night football game)
November (16 days)	4:21 P.M. – 5:40 P.M.	7:30 P.M. (10:00 P.M. for one Friday night football game)
December (17 days)	4:20 P.M. – 4:25 P.M.	7:30 P.M.
January (16 days)	4:38 P.M. – 5:01 P.M.	7:30 P.M. (8:00 P.M. on January 30-31)
February (15 days)	5:02 P.M. – 5:30 P.M.	8:00 P.M.
March (23 days)	5:31 P.M. – 6:59 P.M.	8:00 P.M.
April (15 days)	7:01 P.M. – 7:23 P.M.	8:00 P.M.
May (5 days)	7:26 P.M. – 7:29 P.M.	8:00 P.M.
<b>Pool Facility</b>		
August (18 days)	7:08 P.M. – 7:38 P.M.	8:30 P.M.
September (21 days)	6:23 P.M. – 7:07 P.M.	8:30 P.M.
October (16 days)	5:42 P.M. – 6:18 P.M.	8:30 P.M.
November (4 days)	5:37 P.M. – 5:40 P.M.	8:30 P.M.
December (0 days)	No Pool Lighting Needed	No Pool Lighting Needed
January (2 days)	5:00 P.M. - 5:01 P.M.	6:15 P.M.
February (15 days)	5:02 P.M. – 5:30 P.M.	6:15 P.M.
March (8 days)	5:31 P.M. – 5:40 P.M.	6:15 P.M.
April (0 days)	No Pool Lighting Needed	No Pool Lighting Needed
May (0 days)	No Pool Lighting Needed	No Pool Lighting Needed

SOURCE: CUSD 2022

NOTE: Number of days and times are approximate and are subject to minor alterations.

## Attendance at High School Stadium

The estimated attendance for athletic competitions upon installation of the proposed field lights would vary by sport and other factors, such as level of competition (e.g., regular season vs. postseason) and weather conditions. As described in Chapter 3.0, Environmental Setting, under existing conditions the highest attendance is typically for football games, with up to 500 spectators for most football games, increasing to up to 1,500 spectators for a rivalry or homecoming game. All varsity football games would have the ability to be hosted on the



Carmel High School campus on either Thursday, Friday, or Saturday evenings depending on officials' availability. There would be an increase in games only if the football team makes the playoffs and stadium capacity allows Carmel High School to host a home playoff game. Additionally, an increase in number of spectators is expected by having the majority of games at night as opposed to afternoon events. The installation of sports lights at Carmel High School is expected to increase attendance from 500 spectators to 800 spectators for most football games and from 1,500 spectators to 2,000 spectators for rivalry or homecoming games, which are played in the fall.

The proposed project would also allow both varsity and junior varsity soccer games to be played at Carmel High School, with an average increase of 100 spectators per game, which are played in the winter.

Attendance is not anticipated to increase at the high school associated with replacing the pool light fixtures. In addition, no attendance increase is anticipated as result of moving all tennis activities to the middle school as tennis matches and tournaments were already occurring off-campus.

[Table 4-4, Anticipated Increase in Spectator Attendance](#), presents the various sporting events that would hold events after dark, where additional attendance would be expected.

**Table 4-4 Anticipated Increase in Spectator Attendance**

Sporting Event	Average Annual Number of Events	Average Spectator Attendance Increase per Event	Total Additional Spectator per Sport Per Year
Football Games (Regular)	4	300	1,200
Football Games (Homecoming/Rivalry)	2	500	1,000
Soccer (Boys and Girls)	20	100	2,000
<b>Total</b>			<b>4,200</b>

SOURCE: CUSD

NOTES:

- Varsity and junior varsity included
- Soccer junior varsity currently plays matches at Carmel Middle School. With the proposed project, they will play at Carmel High School. Therefore, while those attending the matches at Carmel High School are new spectators at Carmel High School, they do not represent new trips generated by the project.

## Students Traveling Off-Site for Practices and Games

### Proposed

Carmel High School will hold practices and games off-site for certain sports team even after implementation of the proposed project. [Table 4-5, Proposed Off-Site Practices and Games](#), provides an overview of those teams that will require transportation to off-site practices and games.

**Table 4-5 Proposed Off-Site Practices and Games**

Team	Average # of Athletes	Off-Site Location	Days per Week Number of Weeks per Year (Maximum)	Travel Method
<b>Practices</b>				
Softball (Girls) <sup>1</sup>	30	Carmel Middle School	Five days per week (Spring)	Existing Bus Route and Student Drivers
Tennis (Girls)	24	Carmel Middle School	Three days a week 13 weeks (Fall)	Bus, Van, or Parent Driver
Tennis (Boys)	24	Carmel Middle School	Three days a week 13 weeks (fall)	Bus, Van, or Parent Driver
<b>Games/Matches</b>				
Softball (Girls) <sup>1</sup>	60 if two games occurring (JV and Varsity)	Carmel Middle School	One to three days per week 10-12 weeks (Spring)	Existing Bus Route and Student Drivers
Tennis (Girls) <sup>2</sup>	24	Mission Ranch in Carmel or the Carmel Valley Athletic Club in Carmel Valley	Up to three days per week 13 weeks (Fall)	Bus, Van, or Parent Driver
Tennis (Boys) <sup>2</sup>	24	Mission Ranch in Carmel or the Carmel Valley Athletic Club in Carmel Valley	Up to three days per week 13 weeks (Spring)	Bus, Van, or Parent Driver

SOURCE: CUSD 2022

NOTE:

1. Softball practices and games will continue to be held at Carmel Middle School with implementation of the project.
2. Tennis matches will continue to be held at Mission Ranch or Carmel Valley Athletic Club with implementation of the project.

### Existing Compared to Proposed

Existing off-site practices and games are presented in Section 3.0, Environmental Setting, Table 3-4, Existing Off-Site Practices and Games. The following discussion compares the numbers of students currently leaving the campus for practice, with the number of students proposed to leave with implementation of the proposed project.

Boys’ and girls’ soccer teams (80 athletes) currently go to Carmel Middle School once a week for 13 weeks for practice (80 x 13 = 1,040), and the boys’ and girls’ JV soccer teams (50) currently hold their home matches at Carmel Middle School, with an average of nine matches per year (50 x 9 = 450). In one year, this equals 1,490 students traveling off-campus for practice.

Boys’ and girls’ tennis teams (24 athletes) would go to Carmel Middle School five days a week for two weeks, and three days a week for 11 weeks. In one year, this equals 1,032 ([24 x 5 x 2 = 240] + [24 x 3 x 11 = 792]) students traveling off-campus for practice.

The number of students leaving the campus pre-project (1,490) is greater than the number of students leaving campus post-project (1,032) and therefore, this component of the project would not result in new vehicle trip generation, or air quality, greenhouse gas emissions, energy, or noise impacts. Therefore, this project component will not be addressed further in this RDEIR. [Table 4-6, Proposed Schedule of Tennis Court Uses at Carmel Middle School](#), provides the proposed high school tennis schedule at the middle school.

**Table 4-6 Proposed Schedule of Tennis Court Uses at Carmel Middle School**

Sports Team	Days of the Week	Timing		Number of Participants (Student Athletes, Coaches, and Staff)	Number of Practices per Week/Home Matches per Year (Range)
		Start	End		
<b>Fall Sports (August to November)</b>					
<i>Girls Tennis (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:15 P.M.	20	4-5 practices
Matches <sup>1</sup>	Monday-Friday	3:30 P.M.	5:00 P.M.	15-25	6-8 matches
<b>Spring Sports (February to May)</b>					
<i>Boys Tennis (Varsity)</i>					
Practices	Monday-Friday	3:30 P.M.	5:00 P.M.	20	4-5 practices
Matches <sup>1</sup>	Monday-Friday	3:30 P.M.	5:00 P.M.	15-25	6-8 matches
<b>Total Practices/Matches (Range)</b>					<b>56-70 practices 12-14 matches</b>

SOURCE: CUSD 2022

NOTE: Girls and boys tennis teams currently hold home matches and tournaments at Mission Ranch in Carmel and Carmel Valley Athletic Club in Carmel Valley and will continue to do so with implementation of the project.

## Construction Schedule and Details

Project construction would occur over a period of five months starting in June 2023. Construction activities associated with installation of the stadium lights would include materials delivery, excavation for pole foundation installation, installation via hydraulic crane of the lighting poles, mounting of the luminaires, and restoration of disturbed surfaces including pavement and landscaping that was removed during excavation and trenching. Each pole (Locations F3 and F4) on the south side will require the removal of a single, +/- 5-inch diameter branch from the closest respective oak tree but will not require full removal of any adjacent trees.

#### 4.0 Project Description

Construction of the new tennis court parking lot and new 18-foot drive aisle connecting the main campus parking lot and the new tennis court parking lot would require grading and repaving activities. The tennis court parking lot would require approximately 9,000 square feet of paving, 2,100 square feet of sidewalk, 250 cubic yards of cut, 20 cubic yards of fill, and 50 cubic yards of export. The existing trees between State Route 1 and the track are intended to be saved and feasibility of saving existing trees will be studied in the design phase of the project. Approximately 250 linear feet of 12-inch by 36-inch retaining curb will be required along with 160 linear feet of 36-inch to 48-inch retaining wall. Construction of the tennis court parking lot is estimated to require 38 working days over the course of a three-month period with some time allowance between activities and mobilization/demobilization (Katie Lee, email message, July 22, 2022).

Construction of the new eastern parking area near the existing pool facility would require approximately 11,200 square feet of repaving and approximately 500 cubic yards of cut (export) would be required to make subgrade for new pavement sections for the tennis court parking lot. The eastern parking lot would also require approximately 70 linear feet of 24-inch-tall retaining curbs. Construction of the eastern parking lot would likely require 20 working days over the course of a total of two months with some time allowance between activities and mobilization/demobilization (Katie Lee, email message, July 22, 2022).

A preliminary project construction timeline is as follows: removal of the existing storage containers and buildings along the eastern edge of campus would initially occur between April and May 2023 followed by installation and replacement of stadium and pool lights and construction of the new storage building and eastern parking lot between June and August 2023. Finally, the demolition of the existing tennis courts and construction of the new parking area and drive aisle would occur between August 2023 and September 2023.

Typical construction equipment would be used, such as a backhoe, trencher, drill rig mounted on truck, concrete truck and pump, and a crane for pole installation and field lighting mounting, as well as semi-trucks for materials delivery (Dan Paul, email message, July 2, 2021; Bob Crookham, email message, July 6, 2021; Ken Scates, email message, June 15, 2022). All construction activities would likely occur during daylight hours during a school break. Construction crews would primarily access the site via the access road (accessible only to school district personnel) which runs from Ocean Avenue to the north around the eastside of campus south to the stadium site. The existing pool parking lot will be the initial staging area, but it will move for the start of the school year so parking isn't impacted. It will likely go to the tennis court area as most of the work will be occurring there later in the construction schedule. Access gates to the site would be locked outside of construction hours. Construction vehicles, equipment, and materials would be stored on the project site or adjacent facility storage buildings or the campus access road.

### **4.3 INTENDED USES OF THE EIR**

As the lead agency, the school district, specifically the Board of Education as the governing board of the school district, has the primary authority for project approval. However, the proposed project would require review by the Division of the State Architect (DSA) which issues a "Written Approval of Plans" letter after it reviews the project for code compliance.

In addition, encroachment permits from the County of Monterey and Caltrans will be required for all driveways, curbs, curb cuts, and any other roadway improvements that extend within or onto County or Caltrans rights-of-way.

Any demolition work may also require the school district to obtain a "Authority to Construct and Permit to Operate" from the Monterey Bay Air Resources District.

*This side intentionally left blank.*

## 5.0 Aesthetics

This section of the RDEIR addresses the project's effects on scenic resources, the change in the visual character of the project site and its surroundings due to the project, and the impacts of new sources of light and glare that would be added by the project. Information in this section is derived primarily from project plans prepared by school district consultants, the *2010 Monterey County General Plan*, a site visit conducted by EMC Planning Group staff on April 13, 2021, and visual simulations prepared by 3DScape in April 2022.

Several comments were received from neighbors of the high school in response to the notice of preparation regarding aesthetics. Comments primarily concerned light pollution and spillover effects associated with the construction of new stadium lights on surrounding neighborhoods as well as concern for preserving scenic viewsheds, increased lighting impacting views of the night sky, and potential visual impacts within the State Route 1 scenic corridor. All of these comments are addressed in this section of the EIR. The notice of preparation and comment letters on the notice are included in [Appendix A](#).

In addition, the potential for the four new stadium lights to generate light pollution was an issue addressed in a majority of the verbal comments and written letters and emails received on the draft EIR. Some of the commenters questioned the accuracy of the four (4) 2021 visual simulations prepared by 3DScape for the draft EIR. In order to help address these concerns, the school district reengaged 3DScape to prepare additional visual simulations for an additional five (5) key observation points (KOPs) spread across a range of locations within a one-mile radius of the Carmel High School campus. In addition, 3DScape prepared revised daytime and nighttime simulations of the original four KOP locations (with the exception of one daytime simulation for KOP-3). Each set of visual simulations included one set of existing and proposed daytime simulations (except one KOP) and one set of existing and proposed nighttime simulations. Locations were selected by 3DScape and EMC Planning Group staff based on, among other factors, the location's proximity to the campus, visibility of the project site, and whether the location was publicly accessible.

This section of the RDEIR in part addresses concerns raised in the draft EIR comments on aesthetics and light and glare through the preparation of these additional visual simulations.

## 5.1 ENVIRONMENTAL SETTING

Visual resources addressed in this analysis include natural and constructed features contributing to the aesthetic quality of the landscape's appearance that can be seen from a public viewpoint. Scenic resources can include natural open space, interesting topographic formations, and intact natural vistas. Natural landforms and landscapes, such as hills or mountains, native woodlands, lakes, streams, and coastlines, are often considered to be scenic resources. Scenic resources also can include urban open spaces, urban forests, and the built environment.

### **State Route 1 Corridor (Carmel River to State Route 68) Visual Character and Quality**

The 5.8-mile segment of State Route 1 between Carmel River and the State Route 68 interchange and roundabout was officially designated as a State Scenic Highway by Caltrans in 1970 (Caltrans 2021). This segment of the State Route 1 corridor sharply slopes north from the Rio Road intersection along a cypress and pine tree lined corridor that largely features residential neighborhoods on both sides of the highway with the Carmel High School campus at the Ocean Avenue intersection representing the midway point of this segment of State Route 1. Large portions of views of the surrounding area from the highway, either traveling north (uphill) or south (downhill), are obscured by vegetation or topography though some interspersed views are available.

### **Visual Quality and Character of the Project Site and Surroundings**

The 22-acre Carmel High School campus and the stadium site sits along the western edge of Hatton Canyon along State Route 1. The project site is an approximately 20-acre site made up of the existing athletic stadium, the area immediately east of the existing pool facility, and the tennis courts and pedestrian path that runs along the far western boundary of the campus along State Route 1, all located on the Carmel High School campus. The stadium site is entirely flat and is placed on the lowest graded terrace of a series of north to south terraces that make up the larger high school campus. The proposed eastern parking area is a gradually sloping site which sits along the campus ring road east of the existing pool facility and northeast of the stadium. The tennis courts are on a flat site that sits below a sharp slope that runs from the stadium site down towards the Morse Drive and the baseball diamond. None of these areas are currently lighted at night with the exception of various pedestrian path and security lighting around the stadium. The main high school campus consists of 22 individual buildings with 53 classrooms, of varying uses, sizes, and heights. The Center for Performing Arts serves as the most prominent visual feature and largest structure on campus at the Ocean Avenue entrance. The gymnasium and Science Wing sit immediately north of the stadium site. The south portion of the high school campus is largely made up of the high



school's sports facilities, including the swimming pool facility, football/track and field stadium, tennis courts, and baseball diamond. The main campus parking lot sits along the western edge of the campus along State Route 1, with an additional parking lot next to the baseball diamond off Morse Drive. Campus lighting is primarily utilized for security and pedestrian safety as well as in the main parking lot. The Ocean Avenue and State Route 1 intersection features several tall, downlit street lights with stoplights in all directions. Morse Drive does not feature any street lighting.

The northern portion of Hatton Canyon is narrow and at a lower elevation than the surrounding neighborhoods, which sit along the north, west, and east ridges of the canyon. The topography within Hatton Canyon is highly variable, ranging from the flat bottomlands near the mouth of the Carmel River in the southern portion to the steep hillsides of the Carmel Hills in the northern portion. Elevations within Hatton Canyon range from approximately 610 feet, at the northeastern edge to approximately 20 feet at the southern end of the property near the Carmel River (California State Parks 2018).

## **Public Views and Sensitive Receptors**

The project site is located on the southern half of the high school campus, which is viewable from certain vantage points throughout the Hatton Canyon area primarily from the north (High Meadows and Jack's Peak residential areas) and east (Carmel Knolls). Areas to the west that make up residential neighborhoods in the City of Carmel-by-the-Sea and unincorporated areas of Carmel slope gradually downhill from State Route 1 towards Carmel Beach. The northern portion of Hatton Canyon is not widely visible because of the canyon topography. The primary viewer groups consist of travelers on State Route 1, and residences and neighbors viewing the extent of the canyon area from public streets and visitors using the canyon for informal recreation. Views in this area include a steep-sided canyon with some heavily wooded habitat with mature trees. There are no designated scenic vistas within the project vicinity; however, the *Greater Monterey Peninsula Area Plan* designates this area as a highly sensitive visual area. Areas designated as highly sensitive are defined as possessing those scenic resources that are most unique and have regional or countywide significance (Monterey County 2010).

Viewer sensitivity characterizes the reaction of a viewer to landscape change in the project area. For the purposes of this analysis, viewer groups include residents in public areas of neighborhoods adjacent to the project site. Views from private properties are important to their residents; however, CEQA's purview for determination of a significant effect on the environment applies to views from public places, such as neighborhood streets, public parks, or public trails. With this in mind, sensitive daytime viewers for purposes of this discussion include persons in general with a direct view of the project site from a public vantage point, such as area residents, but including others traveling on local public roadways (on foot or in

vehicles) and sidewalks and trails. The typical daytime viewers within the project area include residents, Carmel High School staff, and students. Residents in the area tend to have high sensitivity to visual changes, because they spend more time in the area and are accustomed to the existing views, in some cases for many years. Although those working, learning, and commuting in the area may look for local landmarks and scenery, they typically are less sensitive to visual changes than residents because they are not focused on the aesthetic quality of their neighborhood.

## Light and Glare

Existing sources of light within the project vicinity include lighting on the high school campus, such as in the adjacent parking lot, along walkways, and on the exteriors of high school campus buildings, lighting from adjacent residential development, and along nearby roadways. Exterior and some interior lighting has been upgraded to light-emitting diode (LED) in 2016 according to the 2019 *Carmel Unified School District Facilities Master Plan*. In addition, four facility lights mounted on 60-foot-high poles have been present at the swimming facility to the immediate northeast of the stadium since 2007. Two of the 60-foot-high lighting poles (west) include three luminaires while two poles (east) include four luminaires. Each luminaire includes 1.5-kilowatt lamp with high intensity discharge (or HID) lights. Foot-candle measurements indicate an average of 75.4 horizontal foot-candles, with a maximum of 85 horizontal foot-candles, as measured on the pool surface. Foot-candle measurements quickly disperse to zero horizontal foot-candles at 133-feet away from the center of the pool (Musco Lighting 2007). Candela measurements, or the measure of light intensity or brightness from a distance, for the existing pool light fixtures as measured at the eastern campus property line are a maximum of approximately 44,000 candelas. Lighting measurements of the existing HID pool lights are included as part of [Appendix C](#). Prior to 2007, a pool facility existed on campus at the same location as the current pool and consisted of a six-lane lap pool and separate dive pool. Street-light style lights were mounted on telephone poles at several locations around the pool deck. The swimming facility lights are primarily used from late August until mid-November to facilitate water polo practices and games. Water polo practice usually occurs until 8:00 P.M., while games can occur until 8:30 P.M. The swimming facility lights are also utilized from December through April for the high school swim team and periodically for some outside users until 8:15 P.M. daily. For both water polo and swim seasons, the high school uses two different lighting levels – a practice level, which uses approximately half lighting capacity and a game level, which uses full lighting capacity. There are also underwater lights that are on for both lighting levels.

Sources of daytime glare within the project vicinity may include reflected sunlight from windows of campus buildings and vehicles in the adjacent parking lot and on State Route 1. Sources of nighttime glare may include vehicle headlights traveling north and south on State Route 1 as well as existing campus lighting. [Figure 5-1a, Existing Daytime Conditions](#), presents a daytime view of the existing high school campus and surrounding area as viewed from Outlook Drive across Hatton Canyon northeast of the campus. [Figure 5-1b, Existing Nighttime Conditions](#), presents the existing nighttime view of the campus from the same location.

### **Sensitive Receptors (Nighttime)**

Nighttime views within the project area are also of particular importance to surrounding neighborhood residents (neighborhood residential receptors) and the broader Carmel community. The typical nighttime viewers within the project area include residents using public roads, sidewalks and other public areas, and therefore residents should be considered sensitive receptors when in public areas. Residents in the area tend to have high sensitivity to changes in luminance, because they are accustomed to the existing night sky views and changes in night lighting that have occurred over their time living in the area. Although those working and participating in nighttime activities in the area may look for views of the night sky, they typically are less sensitive to changes in luminance than residents, because their expectation includes the lighting necessary for nighttime activities that typically occur on the project site.

### **Lighting Fundamentals**

Common luminance terms are defined below to provide context and a better understanding of the technical terms referenced throughout this section.

- Light trespass. Light trespass, also commonly referred to as light spill, results from light emitted from an installation that falls outside the boundaries of the property on which the lighting system is installed. Light trespass is measured on both the vertical plane (e.g., light shining above the ground) and horizontal plane (e.g., light shining on the ground) (NLPIP 2007).
- Obtrusive light. Spill light that causes discomfort, distraction, or a reduction in the ability to see essential information, such as traffic signals.
- Glare. The discomfort or impairment of vision experienced when the image is excessively bright in relation to the general surroundings.
- Sky glow. The diffuse brightening of the night sky.
- Luminaire. A complete lighting unit consisting of a light source(s) and ballast(s) or driver(s) (when applicable), together with the parts designed to distribute the light, to position and protect the light source(s), and to connect the light source(s) to the power supply. Also known as a light fixture (IES 2022a).

- Illuminance. The quantity of incident light on a plane surface, commonly measured in terms of foot-candles.
- Kilowatt (kW). A unit of power, equal to 1,000 watts.
- Foot-candle (fc). A foot-candle is a measurement of light intensity. One foot-candle is defined by the Illuminating Engineering Society of North America (IESNA) as enough light to saturate a one-foot square with one lumen of light (Waypoint Lighting 2020).
  - Horizontal foot-candle. The amount of light being received on a horizontal surface such as a roadway or parking lot pavement.
  - Vertical foot-candle. The amount of light being received on a vertical surface such as a billboard or building façade.
- Candela (cd). A candela is a measurement of luminous intensity or brightness (IES 2022b).
- Light-emitting diode (LED). Compared with conventional light sources that first convert electrical energy into heat, and then into light, LEDs (Light Emitting Diodes) convert electrical energy directly into light, delivering efficient light generation with little-wasted electricity.
- Light pollution. Artificial light which causes a detrimental effect on the environment, astronomical research or enjoyment of the night sky or causes undesirable glare or unnecessary illumination of adjacent property (Monterey County 2016).

## **5.2 REGULATORY SETTING**

### **State Scenic Highways Program**

The California Scenic Highways Program was created by the California Scenic Highway Law in 1963 with the purpose of preserving and protecting scenic highway corridors from any change that would diminish the aesthetic value of lands adjacent to highways. State Scenic Highways are those highways that are either officially designated by Caltrans or are eligible for designation. The statewide system of scenic highways is part of the Master Plan of State Highways Eligible for Official State Designation as Scenic Highways.



Source: 3DScape 2022

Figure 5-1a

## Existing Daytime Conditions

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*





Source: 3DScape 2022

Figure 5-1b  
Existing Nighttime Conditions

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*



Scenic highway nominations are evaluated using the following criteria:

- the proposed scenic highway is principally within an unspoiled native habitat and showcases the unique aspects of the landscape, agriculture, or man-made water features;
- existing visual intrusions do not significantly impact the scenic corridor;
- strong local support for the proposed scenic highway designation is demonstrated; and
- the length of the proposed scenic highway is not short or segmented.

State Route 1 was designated as the first State Scenic Highway in California with the first segment (San Luis Obispo County line to Carmel River) having been officially designated in 1965 and the second segment, where the project site is located, from the Carmel River to Highway 68 officially designated in 1970 (Caltrans 2021).

### **Corridor Protection Program**

An eligible State Scenic Highway becomes officially designated through a process in which the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program (CPP), and receives notification that the highway has been officially designated a State Scenic Highway by the Caltrans Director. As stipulated by the California Scenic Highways Programs, when a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. Scenic corridors are defined as corridors that possess highly scenic and natural features, as viewed from the highway. Topography, vegetation, viewing distance, and/or jurisdictional lines determine the corridor boundaries. The CPP summarizes the city or county ordinances, zoning and/or planning policies (collectively called “visual quality protection measures”) that preserve the scenic quality of the corridor. The visual quality protection measures and the CPP should be written in sufficient detail as to avoid broad discretionary interpretation; and need to demonstrate a concise strategy to effectively maintain the scenic character of the corridor. If the visual quality protection measures do not already exist at that local level, additional protection measures would need to be adopted by the local government(s) in order to fulfill the five elements required by legislation defined in the Streets and Highways Code. The CPP describes visual quality protection measures that exist at the local level in five legislatively required areas: 1) Regulation of land use and density of development; 2) Detailed land and site planning; 3) Control of outdoor advertising; 4) Careful attention to and control of earthmoving and landscaping; and 5) The design and appearance of structures and equipment (Caltrans 2021).

## Monterey County

Even though the governing board of the school district has the authority to render city or county zoning ordinances and general plan requirements inapplicable to the project site and proposed project pursuant to California Government Code Section 53094, this RDEIR evaluates the proposed project's consistency with local regulations and policies for purposes of CEQA compliance.

### Greater Monterey Peninsula Area Plan

GMP-3.3 The Greater Monterey Peninsula Scenic Highway Corridors and Visual Sensitivity Map (Figure 14) shall be used to designate visually "sensitive" and "highly sensitive" areas generally visible from designated Scenic Highways. The following policies shall apply to areas that have one of these designations:

- a. All areas designated as "sensitive" or "highly sensitive" shall be interpreted within the meaning of this policy and are to be protected.
- b. Landowners will be encouraged to dedicate scenic easements to an appropriate agency or non-profit organization over portions of their land shown as "sensitive" or "highly sensitive" on the Map.
- c. Areas shown as "highly sensitive" on the Map should be preserved as open space to the maximum extent possible through scenic easements or, if necessary, fee acquisition.
- d. New development should not be sited on those portions of property that have been mapped as "highly sensitive." Where exceptions are appropriate to maximize the goals, objectives, and policies of this plan, development shall be sited in a manner that minimizes visible effects of proposed structures and roads to the greatest extent possible, and shall utilize landscape screening and other techniques to achieve maximum protection of the visual resource.
- e. New development to be located in areas mapped as "sensitive" or "highly sensitive" and which would be visible from a designated scenic route shall maintain the visual character of the area. In order to adequately mitigate the visual impacts of development in such areas, the following shall be required:

1. Development shall be rendered compatible with the visual character of the area using appropriate siting, design, materials, and landscaping;
2. Development shall maintain no less than a 100-foot setback from the scenic route right-of-way;
3. The impact of any earth movement associated with the development shall be mitigated in such a manner that permanent scarring is not created;
4. Tree removal shall be minimized;
5. Landscape screening and restoration shall consist of locally native plant and tree species consistent with surrounding native vegetation;
6. Architectural review of projects shall be required to ensure visual compatibility of the development with the surrounding area; and
7. New development in open grassland areas shall minimize its impact on the uninterrupted viewshed.

Outside of the exemption provided by Government Code section 54094, exceptions to the above may be considered if compelling circumstances are demonstrated. In cases where the extent of visibility of development proposed in "highly sensitive" areas is not clear, individual on-site investigations by the Planning Department staff shall be required.

### **Monterey County Design Guidelines for Exterior Lighting (2016)**

Adopted by the Monterey County Board of Supervisors in January 2016, the purpose of the *Design Guidelines for Exterior Lighting* (County design guidelines) is to implement Policy LU 1.13 of the County's General Plan that requires exterior lighting to be unobtrusive, reduce off-site glare, and only light an intended area. The County design guidelines establish criteria for the location and direction of fixtures, number of fixtures, and design of fixtures. The County guidelines also provide information on energy efficiency and best management practices for exterior lighting and visual aids for various types of acceptable light fixtures. The County design guidelines do not establish lighting guidance specific to school facilities, sports fields or stadium lighting and is primarily intended for residential, commercial, and industrial uses.

## 5.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of aesthetics, as it does on a whole series of additional topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of aesthetics impacts, or on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant aesthetics impact would occur if implementation of the proposed project would result in:

- a substantial adverse effect on a scenic vista and/or substantially degrade the existing visual character or quality of public view of the site and its surroundings (from publicly accessible vantage points); and
- a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

These are the issues evaluated in the following impact analysis.

### Issues or Potential Impacts not Discussed Further

The Appendix G questions on the subject of aesthetics include questions that are not relevant to the proposed project. These are as follows:

- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The impact analysis below does evaluate the proposed project's impact as viewed from State Route 1. However, as noted in Section 4.0, Project Description, the project site, while in close proximity to State Route 1, a Caltrans officially designated State Scenic Highway, does not include any improvements within the State Route 1 right-of-way. Therefore, the proposed project would not substantially damage scenic resources within this officially designated State Scenic Highway. Therefore, it is not necessary to discuss this topic further.

## 5.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

### Approach to the Environmental Analysis

This section evaluates whether the proposed project would result in significant impacts on aesthetic, or scenic, resources. The significance criteria above were used to evaluate the proposed project's effects on aesthetic resources relative to the existing baseline condition. The visual analysis is based on:

- Site investigations by the consultant team on April 12 and 13, 2021 and June 15, 2022;
- Evaluations of aerial (Google Earth) and ground-based photographs of the project site, locations therein where modifications are proposed, as well as the publicly accessible viewpoints of the project site from surrounding neighborhoods and roadways;
- Visual simulations of the proposed lights and light poles within the context of existing and proposed daytime and nighttime conditions on and around the project site;
- Review of preliminary project plans;
- Communications with school district staff regarding visual aspects of the proposed project; and
- Consideration of County and Caltrans policies and guidelines related to visual resources.

Actions with long-term visual effects, such as construction of new stadium lighting poles and introducing new sources of nighttime light and daytime glare, can alter the landscape in a manner that could affect existing scenic resources and the visual character or quality of an area, depending on the perspective of the viewer and the visual sensitivity of an area.

## **Viewshed Analysis and Visual Simulations Methodology**

The methodology for producing the viewshed analysis visual simulations by 3DScape is provided below. The complete set of visual simulations and methodology discussion prepared by 3DScape is included as [Appendix F](#). According to 3DScape staff, there is not a governing professional body that dictates standards and practices this type of work; however, through 3DScape’s extensive experience supporting many projects for the California Energy Commission and the Bureau of Land Management, which are required to comply with visual resource impact assessment standards under both CEQA and the National Environmental Policy Act (NEPA), 3DScape has adopted a methodology to prepare visual simulations that satisfies standards under both state and federal environmental review processes.

Prior to preparing the visual simulations, 3DScape conducted a viewshed analysis to generate a “seen/unseen” area map whereby areas with direct views of the four 70- to 80-foot stadium lights are present. This “seen/unseen” area map is presented in [Figure 5-2, Viewshed Analysis Map](#). Areas marked in red are areas where the stadium lights may be visible though those areas classified as “visible” may still be screened by intervening

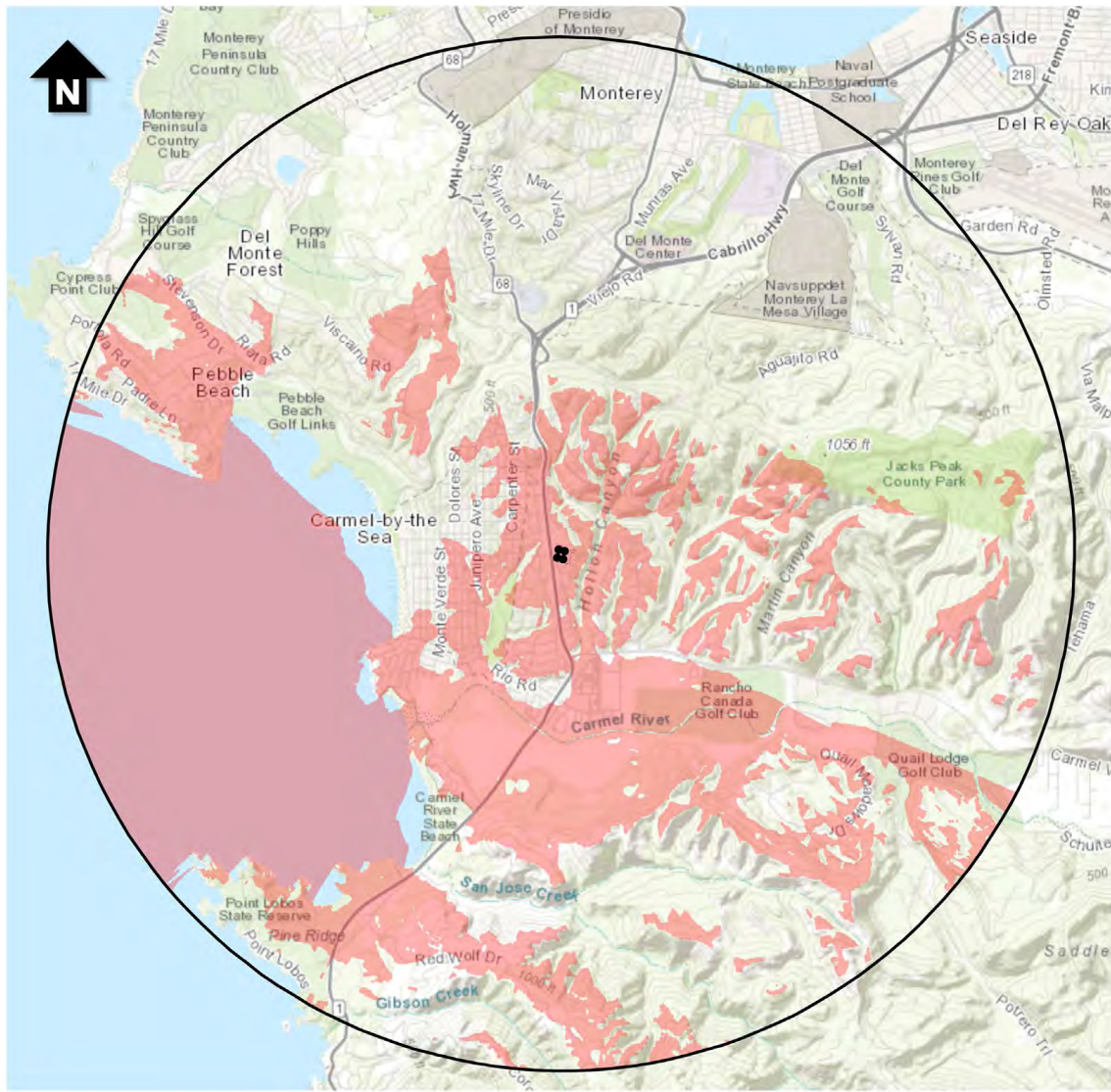
landscape, which is not a processing parameter in the mapping data that produced this figure. Data provided by the project architect and Musco Sports Lighting to 3DScape was in the form of AutoCAD.dwg and .pdf files. The stadium poles were captured from the lighting plan provided by Musco Sports Lighting. That file was then converted to an image file, and georeferenced to Bing imagery using ESRI ArcGIS software. Four poles were then digitized to create a stadium lights shapefile. Attributes were added for name and height. The four lighting poles are given the location names, F1 to F4, taken from the Musco lighting plan. Base elevation values “Z field” for each pole were calculated using the “Add Surface Information” tool in the Functional Surface toolbox in ArcGIS 3D Analyst Extension. The USGS 10-meter Digital Elevation Model (DEM) was used in the viewshed analysis and for all surface related analysis. The native elevation attributes in the DEM are stated in meters so the ‘Height\_m’ attribute field was created and the pole heights were converted to meters for the analysis. The Z value and Height\_m fields were added together to obtain the top of the pole height. This field is called “Observe” and is used in the viewshed analysis.

A 3.5-mile buffer was then created around the four proposed poles to define the limit of the viewshed analysis. The USGS DEM was clipped to this buffer for the analysis. This is done to speed up the processing time. The native DEM covers much more area than is required for the analysis. Using the “Visibility” tool in the ArcGIS Spatial Analyst-Surface toolbox, the cells of the DEM, which are in a direct sightline of each of the poles, is calculated and attributed as “Visible” or “Not Visible” Note: those cells classified as Visible may still be screened by intervening landscape, which is not a processing parameter.

First, digital photography was captured from the Key Observation Points (KOPs) verified by the use of GPS location support data. A standard 35mm camera was utilized consistently throughout the process, resulting in what is referred to as a “normal” view. A normal view allows for viewing of the 3D model under similar circumstances to the proposed project physically viewed in the field.

Next, the digital photography, along with the corresponding GPS support data was referenced in real world scale to 3D Computer Aided Design (CAD) platforms; (3D Studio & AutoCAD) respectively. To ensure a high degree of visual accuracy in the simulations, CAD allows for life-size modeling within the computer. This translates to using real world scale and dimension to locate and portray facilities/structures and terrain features. Other data utilized to verify simulation precision includes: aerial photography and Google Earth topographical data.





**VISIBILITY LEGEND:**

- STADIUM LIGHTS
- LIMIT OF ANALYSIS (3.5 MILE RADIUS)
- AREAS WHERE STADIUM LIGHTS MAY BE VISIBLE



Source: 3D Scope 2022

Note: Light poles shown on map are not to scale



Figure 5-2  
Viewshed Analysis Map

*This side intentionally left blank.*

To verify proposed structure location, elevation, and orientation, Google Earth topographical and aerial photography data were initially employed as background reference files. Then 3D Studio massing models of the proposed structures were constructed, based upon AutoCAD data provided by the school district’s architect. Camera positions and orientations were also recorded in the same 3D coordinate space, according to the aforementioned GPS location data and aerial photography. Completing these stages of the process, the 3D Studio massing models of the proposed structures, and the camera locations, now exist together in real world scale with respect to distance, elevation and orientation.

To generate the correct view relative to the digital photographs, an electronic camera lens, matching the physical lens from the field, was set up at its appropriate position in 3D coordinate space; again, verified by the GPS location support data. Next, the digital photography was imported into the 3D database and loaded as an environment map, generating the digital camera view of the 3D model.

The 3D massing models of the proposed structures were then displayed, along with any significant existing structures, so that proper alignment, scale, angle, and distance could be verified. To complete the process, materials and texture mapping were applied to the 3D models. Then, a reality-based lighting solution was generated, based on lighting engineering data provided by the school district. To achieve this, physically based, photometric light sources were placed within the 3D model to represent each fixture. Light source characteristics were then matched, according to the engineering lighting data, including; light fixture type, light power, temperature/color, and angle. And finally, the visual simulation was then generated with a physically based rendering engine, utilizing a multi-threaded image processing algorithm commonly known as Ray Tracing.

### Effects on Scenic Vistas and the Visual Character and Quality of the Project Site (Daytime Only)

<b>IMPACT</b> 5-1	The Light Poles Would be Visible during the Day from and towards County-Designated Visually “Sensitive” and “Highly Sensitive” Areas and Slightly Modify the Visual Character and Quality of the Site	Less than Significant
----------------------	---	-----------------------

### Daytime Visual Simulations

To illustrate the future off-site day time conditions, day time visual simulations were prepared for eight off-site key observations points (KOPs) located north and south of the stadium in publicly accessible areas where the terrain and vegetation offer a clear view of the proposed stadium light poles and the tennis court parking lot lights in locations nearer to the high school. These KOP locations are shown on [Figure 5-3, Key Observation Points Map](#). The

existing (pre-stadium light pole installation) and proposed (after stadium light pole installation) daytime conditions are presented for each of these KOPs on the following series of figures:

- Figure 5-4a, KOP-1 – State Route 1 North (Daytime Existing) and Figure 5-4b, KOP-1 – State Route 1 North (Daytime Proposed);
- Figure 5-5a, KOP-2 – Morse Drive (Daytime Existing) and Figure 5-5b, KOP-2 – Morse Drive (Daytime Proposed);
- Figure 5-6a, KOP-4 – Outlook Drive (Daytime Existing) and Figure 5-6b, KOP-4 – Outlook Drive (Daytime Proposed);
- Figure 5-7a, KOP-5 – Edgefield Place (Daytime Existing) and Figure 5-7b, KOP-5 – Edgefield Place (Daytime Proposed);
- Figure 5-8a, KOP-6 – Carmel Knolls Drive North (Daytime Existing) and Figure 5-8b, KOP-6 – Carmel Knolls Drive North (Daytime Proposed);
- Figure 5-9a, KOP-7 – Carmel Knolls Drive South (Daytime Existing) and Figure 5-9b, KOP-7 – Carmel Knolls Drive South (Daytime Proposed);
- Figure 5-10a, KOP-8 – Carmel Rancho Shopping Center (Daytime Existing) and Figure 5-10b, KOP-8 – Carmel Rancho Shopping Center (Daytime Proposed); and
- Figure 5-11a, KOP-9 – Carmel Meadows (Daytime Existing) and Figure 5-11b, KOP-9 – Carmel Meadows (Daytime Proposed).

No daytime images or simulations for KOP-3 were generated as views from that location during the daytime were determined to be similar to those of KOP-2 and would not result in any measurable change.

### **Scenic Vistas/Corridor – Daytime Views**

State Route 1 is an officially State Scenic Highway and scenic corridor as designated by both Caltrans and Monterey County, respectively, and sits immediately adjacent to the west side of the stadium site (approximately 90 feet from the center of the highway to the closest edge of the stadium track). The project does not propose any changes within the State Route 1 right-of-way. Views to and from State Route 1 of the stadium site are partially obscured by an existing row of cypress and oak trees, an existing five-foot-high grape stake fence, and the existing electronic scoreboard at the far west side of the stadium site. Daytime views along both northbound and southbound lanes of State Route 1 do include some unencumbered views of the stadium site and beyond. In particular, views from southbound lanes near the intersection of State Route 1 and Ocean Avenue (the main entrance to the Carmel High School campus), include views that look towards the stadium and the hillsides and mountains beyond that make up the northern most portion of the Santa Lucia Range and provide the backdrop for the greater Carmel Valley (see Figure 5-4a). These hillsides are also designated as “highly sensitive” according to the “Scenic Highway Corridors & Visual Sensitivity - Greater Monterey Peninsula Map” (Monterey County 2010b).





Source: 3D Scape 2022



Figure 5-3  
Key Observation Points Map

Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*





Source: 3D Scape 2022

Figure 5-4a  
KOP-1 – State Route 1 North (Daytime Existing)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-4b  
KOP-1 – State Route 1 North (Daytime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-5a  
KOP-2 – Morse Drive (Daytime Existing)  
Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-5b  
KOP-2 – Morse Drive (Daytime Proposed)  
Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-6a  
**KOP-4 – Outlook Drive (Daytime Existing)**  
Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-6b  
KOP-4 – Outlook Drive (Daytime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-7a  
KOP-5 – Edgefield Place (Daytime Existing)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-7b

## KOP-5 – Edgefield Place (Daytime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-8a

## KOP-6 – Carmel Knolls Drive North (Daytime Existing)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-8b

## KOP-6 – Carmel Knolls Drive North (Daytime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-9a

## KOP-7 – Carmel Knolls Drive South (Daytime Existing)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-9b

## KOP-7 – Carmel Knolls Drive South (Daytime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-10a

## KOP-8 – Carmel Rancho Shopping Center (Daytime Existing)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-10b

## KOP-8 – Carmel Rancho Shopping Center (Daytime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-11a  
KOP-9 – Carmel Meadows (Daytime Existing)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

## KOP-10 – Carmel Meadows (Daytime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR

The 70- to 80-foot light poles would also be intermittently visible to some adjacent residential uses and public streets with west and southwest facing views of Carmel Bay and Point Lobos State Natural Reserve. However, the poles would be narrow and therefore, would be generally not highly visible to most residential areas during the daytime. As shown in Figure 5-4b (KOP-1), proposed light poles would be visible during the daytime from State Route 1 southbound lanes though the light poles would be partially obscured by existing intersection lights and stoplights along with campus structures and vegetation. As demonstrated in Figures 5-6b and Figure 5-7b (KOP-4 and KOP-5), neighborhoods north of the campus and Hatton Canyon would experience partially altered daytime views though views of the light poles from the Outlook Drive location are less perceptible in daytime conditions and would be largely obscured by existing tree vegetation particularly from the Edgefield Place location. Views of the County-designated highly sensitive Santa Lucia Range and the Point Lobos Natural Reserve from these locations would not be substantially altered as a result of the light poles. Figures 10b and 11b present daytime views from south of the campus (looking north towards the campus) at the Carmel Rancho Shopping Center (KOP-8) and the Carmel Meadows neighborhood (KOP-9) which are approximately one mile and 1.65 miles, respectively, south of the high school. Views of the light poles, while present in the daytime from these southern locations, are less perceptible than in nighttime conditions when the lights are turned on for school sporting events.

The project would cause visible changes to daytime views, as shown in the daytime visual simulations. However, the light poles become less and less perceptible the further one travels away from the high school particularly given their width and color along with the surrounding topography and vegetation. The proposed light poles, while visible during the daytime from certain publicly accessible viewpoints in the immediate vicinity of the high school, do not substantially alter views within or near the State Route 1 scenic corridor or other scenic vistas in the immediate vicinity of the high school. Therefore, the proposed project would have a less-than-significant impact on views of scenic corridors and vistas.

### **Visual Character and Quality**

The project site is located on the southern portion of the Carmel High School campus and is an existing athletic stadium consisting of a home and visitor bleacher area, synthetic turf field, and track. Residential uses are located to the east and south, while State Route 1 is located to the west. The project consists of installation of field lighting to accommodate nighttime athletic activities, would be visually consistent with the existing visual character of the site, and would not substantially alter the visual character of the project area, which encompasses the high school campus and the immediate residential neighborhoods surrounding the high school. While the installation of 70- and 80-foot light poles would alter the existing aerial space above the stadium, the visual quality of the appearance of the stadium would be maintained, because the project involves improvements to the stadium



that are consistent with its visual character and would be minimal in visual magnitude as the new light poles would only be partially visible from publicly accessible vantage points. As shown in Figure 5-5b (KOP-2), the addition of stadium light poles and the tennis court parking lot and associated light poles would create new and increased obstructions to views from the residences located south of the stadium site at the Morse Drive location. Figures 5-8b and 5-9b (KOP-6 and KOP-7), represent publicly-accessible viewpoint from the Carmel Knolls neighborhood to the east of the campus and Hatton Canyon. Little to no daytime publicly accessible views towards the campus would be altered as a result of the light poles due to existing residences and vegetation obscuring views looking west towards the high school.

In addition, four facility lights mounted on 60-foot-high poles are utilized at the on-campus swimming pool immediately adjacent to the stadium to the northwest. These pool lights are already visible from surrounding vantage points and generate concentrated levels of lighting when in use, contributing to the existing visual conditions of the area. A component of the proposed project calls for the replacement of the existing pool light fixtures to be replaced by LED fixtures that are intended in part to reduce light spill effects of the existing pool light fixtures. The addition of the four field lights would not substantially alter these visual conditions. In addition, associated construction activities and equipment required to install the field lights would be temporary and would not permanently alter the existing visual character of the site. Therefore, this impact is less than significant.

### Effects on Scenic Vistas and the Visual Character and Quality of the Project Site and Light and Glare Effects (Nighttime Only)

<b>IMPACT 5-2</b>	New Lighting would Result in Light Pollution and the New Sources of Light and Glare Would be Visible from and towards County-Designated Visually "Sensitive" and "Highly Sensitive" Areas and Slightly Modify the Visual Character and Quality of the Site	<b>Significant and Unavoidable</b>
-----------------------	--	------------------------------------

### Nighttime Visual Simulations

The project would install new permanent lighting fixtures at the Carmel High School Stadium, which currently lacks on-site field lighting. Two of the lighting poles will be located behind the northern, home seating area and will extend 70 feet high accounting for a 10-foot higher grade than the south, visitor seating bleachers, which will be 80 feet high. Each pole will be on a pre-cast concrete base approximately 10 feet below ground. Each lighting pole will feature three separate luminaires. Mounting heights for the three luminaires are 25.5 feet, 70 feet, and 80 feet (Locations F1 and F2) and 15.5 feet, 60 feet, and 80 feet (Locations F3

and F4). The four new lighting poles will result in a total of 44 luminaires with an average kilowatt of 68.82 (74.8 maximum). Light fixtures would be designed to direct light downward to minimize light trespass and sky glow (see Figures 4-2 and Figure 4-3 in Section 4.0, Project Description, for further light pole design details). However, proposed lighting would be visible to the surrounding area, which would add illuminance to the existing lighted nighttime environment. From public streets in some surrounding neighborhoods, as well as from State Route 1, the proposed lighting would be visible to sensitive viewer groups. Like with the day time simulations discussed above under Impact 5-1, to illustrate the future off-site nighttime lighting conditions, nighttime visual simulations were prepared for nine off-site KOPs. The existing (pre-stadium light installation) and proposed (after stadium lights installation) nighttime conditions are presented for each of these KOPs on the following series of figures:

- Figure 5-12a, KOP-1 – State Route 1 North (Nighttime Existing) and Figure 5-12b, KOP-1 – State Route 1 (Nighttime Proposed);
- Figure 5-13a, KOP-2 – Morse Drive (Nighttime Existing) and Figure 5-13b, KOP-2 – Morse Drive (Nighttime Proposed);
- Figure 5-14a, KOP-3 – State Route 1 South (Nighttime Existing) and Figure 5-14b, KOP-3 – State Route 1 South (Nighttime Proposed);
- Figure 5-15a, KOP-4 – Outlook Drive (Nighttime Existing) and Figure 5-15b, KOP-4 – Outlook Drive (Nighttime Proposed);
- Figure 5-16a, KOP-5 – Edgefield Place (Nighttime Existing) and Figure 5-16b, KOP-5 – Edgefield Place (Nighttime Proposed);
- Figure 5-17a, KOP-6 – Carmel Knolls Drive North (Nighttime Existing) and Figure 5-17b, KOP-6 – Carmel Knolls Drive North (Nighttime Proposed);
- Figure 5-18a, KOP-7 – Carmel Knolls Drive South (Nighttime Existing) and Figure 5-18b, KOP-7 – Carmel Knolls Drive South (Nighttime Proposed);
- Figure 5-19a, KOP-8 – Carmel Rancho Shopping Center (Nighttime Existing) and Figure 5-19b, KOP-8 – Carmel Rancho Shopping Center (Nighttime Proposed); and
- Figure 5-20a, KOP-9 – Carmel Meadows (Nighttime Existing) and Figure 5-20b, KOP-9 – Carmel Meadows (Nighttime Proposed).

As shown in Figure 5-12b (north) and Figure 5-13b (south), proposed lighting would be visible from State Route 1 northbound and southbound lanes though the lighting would largely blend in with the existing sources of nighttime light particularly at the Ocean Avenue/State Route 1 intersection which already features street lighting and stoplights. As viewed from State Route 1 to the southwest (KOP-3), existing lighting at the stadium

(primarily from the electronic scoreboard and pathway and security lighting) would also blend with proposed stadium lighting. In addition, the tree row fronting the stadium site would obscure views and lessen glare impacts on travelers along State Route 1.

As shown in Figure 5-13b (from Morse Drive immediately south of the stadium site) and Figure 5-15b and 5-16b (from Outlook Drive and Edgefield Place), the addition of stadium lighting and tennis court parking lot lighting would create new and increased lighting conditions particularly when viewed from south of the stadium site at the Morse Drive location (KOP-2) and from neighborhoods further away within Hatton Canyon and above (KOP-4 and KOP-5). Figures 5-17b and 5-18b (KOP-6 and KOP-7) provide nighttime publicly accessible views from the Carmel Knolls neighborhood. As shown in these figures, nighttime views from these two publicly accessible locations, while obscured by existing trees and residences, would be altered due to nighttime light glow effects from the stadium lights as seen above the tree line. Additional nighttime views to the south as shown in Figures 5-19b and 5-20b show the visibility of the stadium lights from further distances (Carmel Rancho Shopping Center – KOP-8 – and Carmel Meadows neighborhood – KOP-9). The presence of the stadium lights would also be visible when viewed from the Carmel Rancho Shopping Center area when looking north uphill towards the high school.

### **Light and Glare Impacts**

The addition of stadium lights, while consistent with the lighting conditions experienced when the existing pool lights are turned on, would provide a greater level of light illuminance and light glow than currently experienced from publicly accessible viewpoints in the vicinity of the high school. Neighborhood residential receptors are sensitive to increases in both light and glare conditions and to changes in night sky visibility. The project would cause visible changes to lighting conditions, as shown in the visual simulations discussed above. Therefore, proposed project lighting, associated with the stadium lighting and tennis court parking lot lighting, would alter the nighttime lighting environment and the illuminance produced by the project would be seen by sensitive viewer groups while nighttime lighting is in use. Impacts on light and glare conditions as a result of the proposed project could be considered significant.

As noted in CEQA Guidelines Section 15064(b)(1), "the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area." In this analysis, the school district has utilized a multi-faceted approach for evaluating project impacts as a result light pollution. The analysis uses a combination of qualitative and quantitative factors to evaluate the degree of change to the existing nighttime lighting environment resulting from the project.



Source: 3D Scape 2022

Figure 5-12a  
KOP-1 – State Route 1 North (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-12b

## KOP-1 – State Route 1 (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022



Source: 3D Scape 2022

Figure 5-13b  
KOP-2 – Morse Drive (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-14a

## KOP-3 – State Route 1 South (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-14b

## KOP-3 – State Route 1 South (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-15a

## KOP-4 – Outlook Drive (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-15b  
KOP-4 – Outlook Drive (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-16a

## KOP-5 – Edgefield Place (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-16b

## KOP-5 – Edgefield Place (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-17a

## KOP-6 – Carmel Knolls Drive North (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-17b

## KOP-6 – Carmel Knolls Drive North (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-18a

## KOP-7 – Carmel Knolls Drive South (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-18b

## KOP-7 – Carmel Knolls Drive South (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-19a

## KOP-8 – Carmel Rancho Shopping Center (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-19b

## KOP-8 – Carmel Rancho Shopping Center (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR



Source: 3D Scape 2022

Figure 5-20a

## KOP-9 – Carmel Meadows (Nighttime Existing)

Carmel High School Stadium Improvements Revised Draft EIR





Source: 3D Scape 2022

Figure 5-20b

## KOP-9 – Carmel Meadows (Nighttime Proposed)

Carmel High School Stadium Improvements Revised Draft EIR

The primary basis for determining if the project would result in significant nighttime visual impacts were the visual simulations prepared by 3DScape utilizing an established methodology to prepare visual simulations that satisfies standards under both state and federal environmental review processes. In addition, Musco Sports Lighting have prepared a set of photometric studies and illumination summaries that quantify the level of stadium lighting levels, as measured by horizontal foot-candles, at both the field, track, and edge of campus (see Figures 4-2a, 4-2b, and 4-2c in Section 4.0, Project Description). Horizontal foot-candle measurements range from a minimum of 42 foot-candles near the edges of the field to a maximum of 62 foot-candles located at along the northwest corner of the field surface. Foot-candle measurements disperse to 48 foot-candles (maximum) to one foot-candle (minimum) at the edge of the track. Horizontal foot-candle measurements at the edge of campus quickly disperse to a maximum of 0.02 foot-candles (directly south of the stadium near the property boundary with residences along Morse Drive) to zero foot-candles along the majority of the campus boundary. Candela measurements for the stadium lights as prepared by Musco show a maximum of 1847 candelas (per fixture) as measured along the western edge of State Route 1.

Additionally, Musco Sports Lighting has prepared an illumination summary for the pool light retrofits and a comparison illumination summary which combines both the existing pool lights (also referred to as “high intensity discharge” or “HID” lights) and the proposed stadium lights as well as the LED pool light fixtures and the proposed stadium lights. A copy of these comparison summaries as well as an overview of sports lighting technology over the last forty years as measured by candelas per fixture are included as part of Appendix C.

When comparing the effects of both the pool and stadium lighting, Musco provides a comparison study utilizing lighting measurements for two scenarios: HID pool lights with LED stadium lights and LED pool lights with LED stadium lights. As shown in the illumination summary prepared by Musco for both the existing HID pool lights and the proposed LED pool lights, the first light spill line was measured at grade, and the second spill line was measured at 15 feet below grade. 15 feet below grade is assumed as the typical property-line homes’ elevation below the pool. Musco then replicated the existing HID fixtures’ photometry per the original aiming diagram. The resultant maximum candela for the existing HID lights was about 44,000 candelas existing at grade, and it was about 80,000 candelas existing taken at 15 feet below elevation. Musco further retrofit designed the pool lights with up-to-date LED technology. The resultant maximum candela for LED was about 17 candelas at grade and 341 candelas at 15 feet below elevation (Bob Crookham, Musco Sports Lighting, e-mail communication, August 18, 2022). The proposed pool light fixtures, therefore, represent a decrease of 43,983 candelas at grade and 79,659 candelas at 15 feet below elevation.

It should be noted that unlike at the pool facility, where lighting can be modified to adjust between practices and games given the size of the pool and underwater lighting available, in order to maintain safe and/or sufficient lighting levels for practices and games, stadium lighting would need to be maintained at the same level of lighting intensity across the entire field for all practices and games as the Illuminating Society of Engineers does not provide lighting standards for reduced levels for practices (Dan Paul, e-mail communication, August 10, 2022). Therefore, lighting conditions at the stadium would remain consistent for all sports practices and games. Additionally, the light use analysis contained in this section includes junior varsity games, which are typically played right before varsity games and are unlikely to need lights (even in winter).

In addition to the qualitative and quantitative factors described above, several other resources addressing light design and light and glare impacts were referenced and reviewed for project conformance. The County's 2016 *Design Guidelines for Exterior Lighting* were reviewed and the proposed project's lighting designs do not conflict with the County's design guidelines. While the County's design guidelines do not address field or sports lighting, the proposed project's exterior pedestrian and parking lot lighting designs are consistent with the County's design guidelines stated performance criteria which require exterior lighting to among other requirements, be angled vertically downward, fully shielded, and include only the minimum fixtures necessary. All of these requirements are intended to limit offsite glare and lessens impacts as a result of light pollution.

In addition, and as noted in Section 4.0, Project Description, in October 2021, the school district submitted the proposed Carmel High School stadium lighting design for Dark Sky certification and received design analysis (Phase I) approval from the International Dark-Sky Association (IDA) on October 27, 2021. The LED light pool light fixture designs were also submitted to the IDA and received design analysis approval for Dark Sky certification on July 29, 2022. The Lighting Performance Summary Results provided by IDA in evaluating the proposed stadium lighting and pool lighting designs are included as Appendix D. By adopting IDA's "Community Friendly Outdoor Sports Lighting" program guidelines, the school district's light designs will:

- Minimize neighborhood lighting nuisance by greatly reducing local spill and glare;
- Manage high angle light pollution, thus dramatically decreasing off-site light trespass and sky glow;
- Mitigate neighborhood light pollution and sky glow, which will benefit the environment, the astronomy community, and others impacted by poorly designed outdoor sports facilities; and
- Minimize lumen densities, thereby reducing energy consumption.

IDA Community Friendly Outdoor Sports Lighting Program application process consists of two distinct Phases, I and II. Phase I, Design Analysis, reviews and evaluates the proposed field design and, based on photometric data and other information, determines if the design meets the program criteria. The school district has already submitted and received IDA Phase I Design Analysis approval for both the stadium lights and pool light fixture replacements (see Appendix D).

Phase II, Field Verification, provides the option for designs receiving an IDA Phase I Certification Letter to have the facility, once constructed, professionally evaluated and validated as conforming to the program guidelines by a site visit. Facilities meeting the design specifications will receive an IDA Field Verification Letter and be provided an award plaque. Additional information about IDA and the certification process under IDA's "Community Friendly Outdoor Sports Lighting Programs" can be found online at: <https://www.darksky.org/our-work/lighting/lighting-for-industry/apply-osl/>. To further ensure compliance with IDA's "Community Friendly Outdoor Sports Program," the school district shall undergo the Phase II, Field Verification process as reflected in the mitigation measure (5-2d) listed below.

## **Conclusion**

The proposed stadium and pool lighting is designed to minimize light trespass and light and glare impact. However, neighborhood residential receptors are sensitive to changes in night sky visibility. The project would cause visible changes to lighting, as shown in the visual simulations, which also indicate a change in sky glow. Therefore, proposed lighting would alter the nighttime lighting environment and the illuminance produced by the project would be seen by sensitive viewer groups while nighttime lighting is in use. Therefore, the impact related to light and glare would be potentially significant. Implementation of the following mitigation measures would reduce the project's light and glare impacts, but not to a less-than-significant level.

### *Mitigation Measures*

5-2a Carmel Unified School District will prepare and adopt a policy regarding use of field lights for home games and practices at the Carmel High School Stadium and will implement the following use restrictions consistent with Table 4-2, Proposed Schedule of Stadium Uses (After Installation of Field Lights), found in Section 4.0, Project Description, of this revised draft EIR:

**Games.** Lights shall be used only for up to the following number of nighttime events for each of the following Carmel High School field sports teams:

- Football. Six games;
- Girls field hockey. Ten games;
- Boys and girls soccer. Twelve games for each team;



- Boys and girls lacrosse. Twelve games for each team; and
- Boys and girls track and field. Four meets (combined).

This would total forty-four games and/or meets combined between football, soccer, field hockey, lacrosse, and track and field. Football games shall end by 9:30 p.m. and lights shall be turned off by 10:00 p.m. Field sport games other than football shall end by 7:00 p.m. and lights shall be turned off by 7:30 p.m.

**Practices.** All field sports practices shall end by 8:00 p.m. with lights turned off by 8:30 p.m.

- 5-2b Carmel Unified School District will prepare and adopt a policy that restricts use of Carmel High School stadium and pool facility by non-school related groups after dark. Any use by non-school related groups shall end before sunset so that field and/or pool lighting does not need to be used.
- 5-2c Prior to the first lighted practice or event, the Carmel Unified School District shall consult with an energy specialist regarding how to reduce the intensity of existing lighting at the campus that is visible off-campus, and implement the specialist's recommendations.
- 5-2d Once stadium lights are installed and pool facility light fixtures are replaced, the school district shall have the stadium and pool lights professionally evaluated and validated as conforming to the International Dark-Sky Association's (IDA) Community Friendly Sports Lighting Program (Phase II – Field Verification). Prior to the first lighted practice or event, the school district shall obtain an IDA Field Verification Letter and shall be posted on the school district's website for public review.

There are no additional feasible mitigation measures available that would reduce nighttime light and glare impacts of the project to a less-than-significant level. Therefore, this impact would remain significant and unavoidable.

# 6.0 Air Quality

This section of the EIR evaluates potential impacts to regional and local air quality. Construction (short-term) and operational (long-term) impacts are evaluated. The information within this section is largely sourced from the *VMT Assessment and Intersection Operations, Site Access and Parking Evaluation for the Proposed Carmel High School Stadium Lighting in Carmel-by-the-Sea, California* prepared for the proposed project by Hexagon Transportation Consultants (2022), the health risk assessment technical memorandum, *Carmel High School Stadium Improvements Project – Carmel-by-the-Sea, CA* prepared by Illingworth and Rodkin (2022) (health risk assessment), and the results of mobile-source emissions modeling using the California Emissions Estimator Model (CalEEMod), version 2020.4.0 conducted by EMC Planning Group. The health risk technical memorandum and CalEEMod model results are included in [Appendix G](#). Additional sources of information are introduced where applicable.

There were no responses to the NOP regarding air quality, and no specific comments regarding air quality on the first draft EIR.

## 6.1 ENVIRONMENTAL SETTING

### Regional Climate and Topography

The project site is located within the North Central Coast Air Basin (“air basin”), a 5,159 square mile area along the central coast of California comprising of Monterey, Santa Cruz, and San Benito counties.

A semi-permanent high-pressure cell in the eastern Pacific Ocean is the basic controlling factor in the air basin’s climate. In the summer, a dominant, high pressure cell causes persistent west and northwest winds over the coast transporting pollutants from the air basin to the Central Valley. Air descends in the high-pressure cell forming a stable temperature inversion of hot air over a cool coastal layer of air. Onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. Warmer air aloft acts to inhibit vertical air movement.

The generally northwest-southeast orientation of mountain ranges restricts and channels summer on-shore air currents. Surface heating in the interior portion of the Salinas and San Benito valleys creates a weak low-pressure cell, which intensifies on-shore airflows during

the afternoon and evening. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. Airflow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the high-pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop, which can transport pollutants from either the San Francisco Bay Area or the Central Valley into the air basin.

During the winter, the high-pressure cell migrates southward and has less influence on the air basin. Air frequently flows in a southeasterly direction out of the Salinas and San Benito valleys, especially during night and morning hours, transporting pollutants from the air basin to the Central Valley. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the air basin as a whole in winter and early spring.

## **Criteria Air Pollutants and Their Effects on Human Health**

The six most common and widespread air pollutants of concern, or “criteria pollutants,” are ground level ozone, nitrogen oxides, particulate matter, carbon monoxide, sulfur dioxide, and lead. In addition, volatile organic compounds are a key contributor to the criteria air pollutants because they react with other substances to form ground-level ozone. The common properties, sources, and related health and environmental effects of these pollutants are summarized in [Table 6-1, Common Criteria Air Pollutants](#).

Health effects of criteria air pollutants include, but are not limited to, asthma, bronchitis, chest pain, coughing, throat irritation, and airway inflammation. Currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project’s criteria air pollutant emissions and specific human health impacts. An air district’s thresholds of significance for criteria air pollutants are not intended to be indicative of any localized human health impact that an individual project may have. For the purposes of the California Environmental Quality Act (“CEQA”), air quality analysis for criteria air pollutants is not really a localized, project-level impact analysis but one of regional, cumulative impacts. For these reasons, it is not the norm for CEQA practitioners to conduct an analysis of the localized health impacts associated with a project’s criteria air pollutant emissions as part of the CEQA process.

### **Ozone**

Ground-level ozone is created by complex chemical reactions between nitrogen oxides and volatile organic compounds in the presence of sunlight. Since ground-level ozone is not emitted directly into the atmosphere, but is formed because of photochemical reactions, it is considered a secondary pollutant.

**Table 6-1 Common Criteria Air Pollutants**

Pollutant	Properties	Major Sources	Related Health & Environmental Effects
Ozone (O <sub>3</sub> )	Ground-level ozone is not emitted directly into the air. It results from chemical reactions between NO <sub>x</sub> and volatile organic compounds (VOC) in presence of sunlight.	<ul style="list-style-type: none"> <li>▪ Automobiles;</li> <li>▪ Industrial facilities;</li> <li>▪ Gasoline vapors;</li> <li>▪ Chemical solvents;</li> <li>▪ Electric utilities.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Chest pain, coughing, throat irritation, and airway inflammation</li> <li>▪ Worsens bronchitis, emphysema, and asthma.</li> <li>▪ Affects sensitive vegetation and ecosystems.</li> </ul>
Nitrogen Oxides (NO <sub>x</sub> )	Group of highly reactive gases including nitrogen dioxide (NO <sub>2</sub> ).	<ul style="list-style-type: none"> <li>▪ Combustion of fuel;</li> <li>▪ Automobiles;</li> <li>▪ Power plant;</li> <li>▪ Off-road Equipment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Irritate respiratory system / increase respiratory infections</li> <li>▪ Development of asthma</li> <li>▪ Forms acid rain – harms sensitive ecosystems</li> <li>▪ Creates hazy air</li> <li>▪ Contributes to nutrient pollution in coastal waters</li> </ul>
Respirable and Fine Particulate Matter (PM <sub>10</sub> ) (PM <sub>2.5</sub> )	Mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, soot, dirt, or smoke can be seen with the naked eye. Others are so small that they can only be detected with an electron microscope.	<ul style="list-style-type: none"> <li>▪ Automobiles;</li> <li>▪ Power Plants;</li> <li>▪ Construction sites;</li> <li>▪ Tilled farm fields;</li> <li>▪ Unpaved roads;</li> <li>▪ Smokestacks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Aggravated asthma;</li> <li>▪ Irritation of the airways, coughing, and difficulty breathing;</li> <li>▪ Decreased lung function;</li> <li>▪ Premature death;</li> <li>▪ Reduced visibility.</li> </ul>
Carbon Monoxide (CO)	Colorless, odorless gas released when something is burned.	<ul style="list-style-type: none"> <li>▪ Fuel combustion;</li> <li>▪ Industrial processes;</li> <li>▪ Highly congested traffic.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Chest pain for those with heart disease;</li> <li>▪ Vision problems;</li> <li>▪ Dizziness, unconsciousness, and death (at high levels).</li> </ul>
Sulfur Oxides (SO <sub>x</sub> )	In the entire group of SO <sub>x</sub> , sulfur dioxide (SO <sub>2</sub> ) is the component of the greatest concern.	<ul style="list-style-type: none"> <li>▪ Fuel combustion;</li> <li>▪ Industrial processes;</li> <li>▪ Locomotives, ships, and other heavy equipment;</li> <li>▪ Volcanoes.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Makes breathing difficult;</li> <li>▪ Worsens asthma;</li> <li>▪ Contributes to acid rain;</li> <li>▪ Reduced visibility;</li> <li>▪ Damages statues and monuments.</li> </ul>
Lead (Pb)	Lead is a naturally occurring element found in small amounts in the earth's crust.	<ul style="list-style-type: none"> <li>▪ Ore and metal processing;</li> <li>▪ Leaded aviation fuel;</li> <li>▪ Waste Incinerators;</li> <li>▪ Utilities;</li> <li>▪ Lead-acid battery manufacturers.</li> </ul>	<ul style="list-style-type: none"> <li>▪ High blood pressure and heart disease in adults;</li> <li>▪ Behavioral problems, learning deficits, and lowered IQ in infants and young children;</li> <li>▪ Decreased plant and animal growth;</li> <li>▪ Neurological effects in vertebrates.</li> </ul>

SOURCE: United States Environmental Protection Agency 2018



Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis, and other respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to ozone.

A healthy person exposed to high concentrations may become nauseated or dizzy, may develop a headache or cough, or may experience a burning sensation in the chest. Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

If project-generated concentrations of volatile organic compounds and/or nitrogen oxides exceed the applicable thresholds of significance, concentrations of ground-level ozone resulting from these pollutants could potentially result in significant resulting in adverse human health impacts.

### **Volatile Organic Compounds**

VOCs are emitted from a variety of sources, including liquid and solid fuel combustion, evaporation of organic solvents, and waste disposal. VOCs are any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, as well as a list of compounds specifically excluded by the California Air Resources Board ("CARB") or the United States Environmental Protection Agency ("EPA").

### **Nitrogen Oxides**

Most NO<sub>x</sub> are created during combustion of fuels. NO<sub>x</sub> is a major contributor to ozone formation. NO<sub>2</sub> is a reddish-brown gas that can irritate the lungs and can cause breathing difficulties at high concentrations. Like ozone, nitrogen dioxide is not directly emitted, but is formed through a reaction between nitric oxides and atmospheric oxygen. NO<sub>2</sub> also contributes to the formation of particulate matter (see discussion below). NO<sub>2</sub> concentrations in the air basin have been well below ambient air quality standards; therefore, NO<sub>2</sub> concentrations from land use projects are not a concern.

### **Particulate Matter**

Particulate matter refers to a wide range of solid or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Particulate matter with diameter of 10 micrometers or less is referred to as PM<sub>10</sub>. PM<sub>2.5</sub> includes a subgroup of finer particles that have a diameter of 2.5 micrometers or less. Particulate matter is directly emitted to the atmosphere as a byproduct of fuel combustion, wind erosion of soil and unpaved roads, and from construction or agricultural operations. Small particles are also created in the atmosphere through chemical reactions. Approximately 64 percent of fugitive dust is respirable particulate matter. Minimal grading typically generates about 10 pounds per day per acre on average while excavation and earthmoving activities typically generate about 38 pounds per day per acre.

Although particles greater than 10 micrometers in diameter can cause irritation in the nose, throat, and bronchial tubes, natural mechanisms remove much of these particles. Particles less than 10 micrometers in diameter are able to pass through the body's natural defenses and the mucous membranes of the upper respiratory tract and enter into the lungs. The particles can damage the alveoli. The particles may also carry carcinogens and other toxic compounds, which can adhere to the particle surfaces and enter the lungs.

## **Carbon Monoxide**

CO is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all carbon monoxide emissions nationwide. CO can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. CO contributes to the formation of ground-level ozone.

Higher levels of CO generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all carbon monoxide emissions may come from motor vehicle exhaust.

Concentration of CO is a direct function of vehicle idling time and, thus, traffic flow conditions. Transport of CO emissions is extremely limited; it disperses rapidly from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthy levels, affecting local sensitive receptors (residents, school children, hospital patients, the elderly, etc.). Emissions thresholds established for CO apply to direct or stationary sources.

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service. Congested intersections with high volumes of traffic could cause CO "hot spots," where localized high concentrations of CO occur.

## **Sulfur Oxides**

Within the larger group of gaseous  $SO_x$ ,  $SO_2$  is the component of greatest concern, and is used as the indicator for the group. Emissions that lead to high concentrations of  $SO_2$  generally also lead to the formation of other  $SO_x$ . Sulfur dioxide is a colorless acid gas with a pungent odor.  $SO_2$  is produced by the combustion of sulfur-containing fuels, such as oil, coal and diesel. Sulfur dioxide dissolves in water vapor to form acid, and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and their environment. Health effects of  $SO_2$  include damage to lung tissue and increased risk of acute and chronic respiratory disease.

## **Lead**

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. Thirty years ago, mobile sources were the main contributor to ambient Pb concentrations in the air. Pb was phased out of on-road vehicle gasoline between 1975 and 1996 (Newell and

Rogers 2003). Consequently, levels of lead in the air decreased 98 percent between 1980 and 2014 (United States Environmental Protection Agency 2017). As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of Pb in air are generally found near Pb smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

## **Toxic Air Contaminants and their Effects on Human Health**

Toxic air contaminants (“TACs”) are pollutants that may be expected to result in an increase in mortality or serious illness or may pose a present or potential hazard to human health. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. TACs can be classified as either carcinogens or non-carcinogens.

### **Diesel Emissions**

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs. Diesel engines emit a complex mix of pollutants including nitrogen oxides, particulate matter, and TACs. The most visible constituents of diesel exhaust are very small carbon particles or soot, known as diesel particulate matter. Diesel exhaust also contains over 40 cancer-causing substances, most of which are readily adsorbed on the soot particles. Among the TACs contained in diesel exhaust are dioxin, lead, polycyclic organic matter, and acrolein. Diesel engine emissions are responsible for about 70 percent of California's estimated cancer risk attributable to TACs (California Air Resources Board 2020a). As a significant fraction of particulate pollution, diesel particulate matter contributes to numerous health impacts, including increased hospital admissions, particularly for heart disease, but also for respiratory illness, and even premature death.

Diesel exhaust is especially common during the grading stage of construction (when most of the heavy equipment is used), and adjacent to heavily trafficked roadways where diesel trucks are common. The EPA regulates diesel engine design and fuel composition at the federal level, and has implemented a series of measures since 1993 to reduce nitrogen oxides and particulate emissions from off-road and highway diesel equipment. Before EPA began regulating sulfur in diesel, diesel fuel contained as much as 5,000 parts per million (ppm) of sulfur. In 2006, EPA introduced stringent regulations to lower the amount of sulfur in diesel fuels to 15 ppm (United States Environmental Protection Agency 2019). This fuel is known as ultra-low sulfur diesel.

EPA Tier 1 non-road diesel engine standards were introduced in 1996, Tier 2 in 2001, Tier 3 in 2006, with final Tier 4 in 2014 (DieselNet 2017). [Table 6-2, Typical Non-Road Engine Emissions Standards](#), compares emissions standards for NO<sub>x</sub> and particulate matter from non-road engine Tier 1 through Tier 4 for typical engine sizes. As illustrated in the table,

emissions for these pollutants have decreased significantly for construction equipment manufactured over the past 20 years, and especially for construction equipment manufactured in the past five years.

**Table 6-2 Typical Non-Road Engine Emissions Standards**

Engine Tier and Year Introduced	NO <sub>x</sub> Emissions <sup>1</sup>			Particulate Emissions <sup>1</sup>		
	100-175 HP	175-300 HP	300-600 HP	100-175 HP	175-300 HP	300-600 HP
Tier 1 (1996)	6.90	6.90	6.90	--	0.40	0.40
Tier 2 (2001)	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	0.22	0.15	0.15
Tier 3 (2006)	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	-- † <sup>3</sup>	-- † <sup>3</sup>	-- † <sup>3</sup>
Tier 4 (2014)	0.30	0.30	0.30	0.015	0.015	0.015

SOURCE: DieselNet 2017

NOTES:

1. Expressed in g/bhp-hr, where g/bhp-hr stands for grams per brake horsepower-hour.
2. Tier 1 standards for NO<sub>x</sub> remained in effect.
3. † - Not adopted, engines must meet Tier 2 PM standard.

In California, non-road equipment fleets can retain older equipment, but fleets must meet averaged emissions limits, new equipment must be Tier 3 or better after January 2018 (for large and medium fleets) or January 2023 (for small fleets), and over time the older equipment must be fitted with particulate filters. Large and medium fleets have increasingly strict fleet compliance targets through 2023 and small fleets through 2029. A small fleet has total horse power of 2,500 or less, and a medium fleet has total horsepower of between 2,500 and 5,000. Owners or operators of portable engines and other types of equipment can register their units under the CARB’s statewide Portable Equipment Registration Program in order to operate their equipment throughout California without having to obtain individual permits from local air districts (California Air Resources Board 2020b).

## Construction Emissions

Emissions generated during construction are “short-term” in the sense that they would be limited to the actual periods of site development and construction. Short-term construction emissions are typically generated by the use of heavy equipment, the transport of materials, and construction employee commute trips. Construction-related emissions consist primarily of volatile organic compounds, nitrogen oxides, diesel particulate matter, suspended particulate matter, and carbon monoxide. Emissions of volatile organic compounds, nitrogen oxides, diesel particulate matter, and carbon monoxide are generated primarily by the operation of gas and diesel-powered motor vehicles, asphalt paving activities, and the application of architectural coatings. Suspended particulate matter emissions are generated primarily by wind erosion of exposed graded surfaces.

## **Sensitive Receptors**

Although air pollution can affect all segments of the population, certain groups are more susceptible to its adverse effects than others. Children, the elderly, and the chronically or acutely ill are the most sensitive population groups. These sensitive receptors are commonly associated with specific land uses such as residential areas, schools, retirement homes, and hospitals.

Existing sensitive receptors located adjacent to or in the vicinity of the project site consist of existing single-family residential subdivisions north of the high school classrooms and auditorium, east of the classrooms and the swimming pool, south of the baseball fields and tennis courts, and west of State Route 1 (refer to Figure 3-2). The nearest receptor is a single-family residence located approximately 200 feet south of the stadium. According to the health risk assessment (Illingworth and Rodkin 2022, Figure 1) this residence is the location of the Maximally Exposed Individual (MEI) who would be exposed to the greatest concentrations of construction emissions. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions. The health risk assessment also notes that persons in several buildings at the center of the campus would also be exposed to emissions generated by construction activity. While there are additional sensitive receptors within 1,000 feet of the project site, including students, faculty, and staff on campus, the receptors chosen are adequate to identify maximum impacts from the project (Illingworth and Rodkin 2022, page 2).

## **6.2 REGULATORY SETTING**

### **Federal**

#### **United States Environmental Protection Agency**

The EPA was established on December 2, 1970 to create a single agency that covered several agency concerns: federal research, monitoring, standard-setting and enforcement. The purpose of the EPA is to protect the overall health of humans and the environment. The EPA does this by safeguarding all Americans from the hazardous risks in the environment where they live and work. Environmental safety is one of the primary concerns of U.S. policies and the following are commonly used to establish environmental policy: natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade.

#### **Federal Clean Air Act**

Air quality is regulated on the federal level. The Clean Air Act, adopted in 1970 and amended in 1990, set federal standards for air quality.



The federal Clean Air Act required the EPA to set National Ambient Air Quality Standards for several air pollutants on the basis of human health and welfare criteria. The Clean Air Act also set deadlines for the attainment of these standards. The Clean Air Act established two types of national air standards: primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive persons such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. Historically, air quality laws and regulations have divided air pollutants into two broad categories of airborne pollutants: criteria pollutants and TACs.

In general, the Clean Air Act creates a partnership between state and federal governments for implementation of the Clean Air Act provisions. The federal Clean Air Act requires states to prepare an air quality control plan known as a State Implementation Plan. California's State Implementation Plan contains the strategies and control measures that California will use to attain the National Ambient Air Quality Standards. If, when reviewing the State Implementation Plan for conformity with Clean Air Act Amendments mandates, the EPA determines a State Implementation Plan to be inadequate, EPA may prepare a Federal Implementation Plan for the non-attainment area and may impose additional control measures.

### **National Ambient Air Quality Standards**

Ambient air quality is described in terms of compliance with the state and national standards. State standards are discussed below. In general, criteria pollutants are pervasive constituents, such as those emitted in vast quantities by the combustion of fossil fuels. Both the state and federal governments have developed ambient air quality standards for the most prevalent pollutants, which include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter, and fine particulate matter. [Table 6-3, National and California Ambient Air Quality Standards](#), lists national and California ambient air quality standards for common air pollutants.

National Emissions Standards for Hazardous Air Pollutants are emissions standards set by the EPA for an air pollutant not covered by National Ambient Air Quality Standards that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness. The standards for a particular source category require the maximum degree of emission reduction that the EPA determines to be achievable, which is known as the Maximum Achievable Control Technology.

**Table 6-3 National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	National Standards <sup>1</sup>				California Standards <sup>2</sup>	
		Primary <sup>3,4</sup>		Secondary <sup>3,5</sup>		Concentration <sup>3</sup>	
		ppm	µg/m <sup>3</sup>	ppm	µg/m <sup>3</sup>	ppm	µg/m <sup>3</sup>
O <sub>3</sub> <sup>6</sup>	1 Hour	-	-	-	-	0.09	180
	8 Hour	0.07	137	0.07	137	0.07	137
PM <sub>10</sub> <sup>7</sup>	24 Hour	-	150	-	150	-	50
	Annual	-	-	-	-	-	20
PM <sub>2.5</sub> <sup>7</sup>	24 Hour	-	35	-	35	-	-
	Annual	-	12	-	15	-	12
CO	8 Hour	9	10	-	-	9.0	10
	1 Hour	35	40	-	-	20.0	23
NO <sub>2</sub> <sup>8</sup>	Annual	0.053	100	0.053	100	0.03	57
	1 Hour	0.10	188	-	-	0.18	339
SO <sub>2</sub> <sup>9</sup>	Annual	0.03	See note 9	-	-	-	-
	24 Hour	0.14	See note 9	-	-	0.04	105
	3 Hour	-	-	0.5	1,300	-	-
	1 Hour	0.075	196	-	-	0.25	655
Pb <sup>10,11</sup>	30 Day Average	-	-	-	-	-	1.5
	Rolling 3-month Average	-	0.15	-	0.15	-	-
	Calendar Quarter	See note 10	1.5	See note 10	1.5	-	-
Visibility Reducing Particles <sup>12</sup>	8 Hour	No Federal Standards				See note 12	
Sulfates	24 Hour					-	25
Hydrogen Sulfide	1 Hour					0.03	42
Vinyl Chloride <sup>10</sup>	24 Hour					0.01	26

SOURCE: California Air Resources Board 2016

## NOTES:

1. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.

2. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
  3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
  4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
  5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
  6. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
  7. On December 14, 2012, the national annual PM<sub>2.5</sub> primary standard was lowered from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
  8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
  9. On June 2, 2010, a new 1-hour SO<sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO<sub>2</sub> national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
  10. The CARB has identified lead and vinyl chloride as 'TACs' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
  11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
  12. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
- 

## State

### California Air Resources Board

The federal Clean Air Act gives states primary responsibility for directly monitoring, controlling, and preventing air pollution. CARB is responsible for coordination and oversight of federal, state, and local air pollution control programs in California and for implementing the requirements of the federal Clean Air Act and California Clean Air Act. The duties of CARB include coordinating air quality attainment efforts, setting standards, conducting research, and creating solutions to air pollution. The CARB, which is a state agency located within the California Environmental Protection Agency, oversees regional or local air quality management or air pollution control districts that are charged with developing attainment plans for the areas over which they have jurisdiction. CARB grants regional or local air districts explicit statutory authority to adopt indirect source regulations

and transportation control measures, including measures to encourage the use of ridesharing, flexible work hours, or other measures that reduce the number or length of vehicle trips.

### **Air Quality Management Plans**

The federal Clean Air Act requires areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans. State Implementation Plans are comprehensive plans that describe how an area will attain national ambient air quality standards. State Implementation Plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. California grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage the use of ridesharing, flexible work hours, or other measures that reduce the number or length of vehicle trips. Local air districts prepare State Implementation Plan elements and submit them to the CARB for review and approval. CARB forwards State Implementation Plan revisions to the EPA for approval and publication in the Federal Register.

### **California Ambient Air Quality Standards**

The California Ambient Air Quality Standards were established in 1959 by the California Department of Public Health to set air quality standards and controls for vehicle emissions. The California Ambient Air Quality Standards are often stricter than the National Ambient Air Quality Standards. When state thresholds are exceeded at regional monitoring stations, an “attainment plan” must be prepared that outlines how an air quality district will achieve compliance with the state standards.

### **California Air Toxics Program**

California has a comprehensive and effective Air Toxics Program. Several pieces of legislation form the basis for the CARB to identify and control air toxics from a multitude of sources, inform the public of significant toxic exposures and provide ways to reduce risks from these exposures.

The Toxic Air Contaminant Identification and Control Act of 1983 or Assembly Bill (“AB”) 1807 established the California Air Toxics Program, designed to reduce exposure to air toxics. The program involves a two-step process: risk identification and risk management. In the risk identification step, upon CARB's request, the Office of Environmental Health Hazard Assessment evaluates the health effects of substances other than pesticides and their pesticidal uses. Substances with the potential to be emitted or that are currently being emitted into the air may be identified as a TAC. Once a substance is identified as a TAC, and with the participation of local air districts, industry, and interested public, CARB prepares a report that outlines the need and degree to regulate the TAC through a control measure (California Air Resources Board 2020c).

The Air Toxics Hot Spots Information and Assessment Act of 1987 or AB 2588 requires stationary sources to report the types and quantities of certain substances their facilities routinely release into the air. Goals of AB 2588 include collection of emission data, identification of facilities having localized impacts, establishment of health risks, notifications of nearby residents of significant risks, and reduction of those risks to acceptable levels (California Air Resources Board 2020d).

### **California Office of Environmental Health Hazard Assessment (OEHHA)**

The OEHHA and CARB develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015. These guidelines incorporate methods designed to provide for enhanced protection of children, as required by State law. CARB has provided additional guidance on implementing OEHHA’s recommended methods. Current Monterey Bay Air Resources District regulations/guidelines (Rule 1000 – Permit Guidelines and Requirements for Sources Emitting Toxic Air Contaminants) specify use of the most recent OEHHA guidelines when conducting health risk assessments. The health risk assessment (Illingworth and Rodkin 2022) utilized the 2015 OEHHA guidelines and CARB-recommended exposure parameters.

## **Regional/Local**

### **Monterey Bay Air Resources District**

The Monterey Bay Air Resources District (“air district”) was created in 1965 by the Monterey County Board of Supervisors. The air district is charged with regulatory authority over stationary sources of air emissions, monitoring air quality within the air basin, providing guidelines for analysis of air quality impacts pursuant to CEQA, and preparing an air quality management plan to maintain or improve air quality in the air basin. The air district has developed thresholds of significance for determining air quality impacts. These are contained in the *CEQA Air Quality Guidelines* (“CEQA Guidelines”) (Monterey Bay Unified Air Pollution Control District 2008).

In accordance with the Clean Air Act, the CARB is required to designate regions of the state as attainment, non-attainment, or unclassified with regard to that region’s compliance with criteria air pollutants standards. An “attainment” designation for a region signifies that pollutant concentrations do not violate the standard for that pollutant in that region. A “non-attainment” designation indicates that a pollutant concentration violated the standard at least once. An “unclassified” designation signifies that available data does not support either an attainment or non-attainment status. The air basin is in non-attainment with state mandated thresholds for ozone and suspended particulate matter as shown in [Table 6-4, North Central Coast Air Basin Attainment Status](#). With respect to federal standards, the air basin has either achieved attainment or is unclassified.



**Table 6-4 North Central Coast Air Basin Attainment Status**

Pollutant	California Standards	National Standards
O <sub>3</sub>	Non-attainment	Attainment
PM <sub>10</sub>	Non-attainment	Attainment
PM <sub>2.5</sub>	Attainment	Attainment
CO	Attainment (Monterey County)	Attainment
NO <sub>2</sub>	Attainment	Attainment
SO <sub>2</sub>	Attainment	Attainment
Pb	Attainment	Attainment

SOURCE: Monterey Bay Air Resources District 2017

The air district is delegated with the responsibility at the local level to implement both federal and state mandates for improving air quality in the air basin through an air quality plan. When thresholds are exceeded at regional monitoring stations on consecutive accounts, an attainment plan must be prepared that outlines how an air quality district will achieve compliance. Generally, these plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods. The air district periodically prepares and updates plans in order to attain State and national air quality standards, to comply with quality planning requirements, and to achieve the goal of clean and healthful air. These plans also report on progress in improving air quality and provide a road map to guide the air district's future activities.

### **2012-2015 Air Quality Management Plan**

The *2012-2015 Air Quality Management Plan* (air quality plan) was adopted by the air district in March 2017. This remains the currently adopted plan. The air quality plan focuses on achieving the 8-hour component of the California ozone standard (the air basin has already attained the 1-hour standard), by continuing successful programs carried forward from the prior air quality management plan.

In Monterey County, air quality monitoring stations are located in the City of Salinas, King City, and in Carmel Valley, east of the project site. Ozone exceedances at monitoring stations have declined from 63 (2006-2008), to 16 (2009-2011) to 9 (2013-2015), to no exceedances during 2017-2020 (California Air Resources Board 2022). Mobile source NO<sub>x</sub> emissions in the air basin have dropped significantly during the period 2000 to 2015, from about 56 tons per day to about 23 tons per day, largely attributable to state fuel and fuel efficiency standards. The NO<sub>x</sub> emissions transported into the air basin from the San Francisco Bay Area and San Joaquin Air Basins are forecast to decline through the year 2030 (Monterey Bay Air Resources District 2017, page 2).

As identified above, the primary pollutants of concern in the formation of ozone are VOC and NO<sub>x</sub>. Ozone formation in the air basin is more limited by the availability of NO<sub>x</sub> than by the availability of ROG<sub>s</sub>, so reducing NO<sub>x</sub> emissions is most crucial for reducing ozone formation. The majority of NO<sub>x</sub> emissions originate from mobile sources. The air district only has direct permitting authority over emissions that originate from point sources, which constitute 21 percent of NO<sub>x</sub> emissions. The air district can only indirectly affect mobile source and area source emissions, for example by influencing land use patterns which can reduce vehicle miles traveled. Since mobile sources are the primary source of NO<sub>x</sub> emissions, the air quality plan provides for continued focus on mobile source grant programs which reduce NO<sub>x</sub> from both on-road and off-road mobile sources.

### **6.3 THRESHOLDS OF SIGNIFICANCE**

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of air quality, as it does on a whole series of additional environmental topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of air quality impacts, or on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries presented in Appendix G and to use that language in fashioning thresholds. The school district has done so here.

For the purposes of this EIR, a significant impact related to air quality would occur if implementation of the proposed project would:

- 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; or
- Expose sensitive receptors to substantial pollutant concentrations.

### **Issues Not Discussed Further in this Section**

Appendix G two questions for which no further discussion is needed. They are:

- Conflict with or obstruct implementation of the applicable air quality plan; and
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

A consistency determination is a process by which the Lead Agency demonstrates that the population associated with proposed housing projects in their area is accommodated by the Association of Monterey Bay Area Governments regional growth forecasts (Association of Monterey Bay Area Governments 2018) as they are reflected in the air quality plan. The

proposed project does not include housing or population and therefore, the project would not conflict with or obstruct implementation of the air quality plan. Therefore, no further discussion of this issue is required.

The proposed project consists of demolition of existing storage buildings and paved surfaces, installation of a small storage building, installation of new parking lots and four lighting poles, and would not be a source of odors with potential to adversely affect a substantial number of people. Therefore, no further discussion of this issue is required.

## **Air District Significance Threshold Criteria**

### **Construction Emissions**

Construction activities are temporary impacts that, depending on the size and type of project, commonly occur in limited time periods. Construction emissions have the potential to significantly impact local air quality. The following are the impact thresholds for inhalable particulates, ozone, and other pollutants:

- Construction activities that directly generate 82 pounds per day or more of PM<sub>10</sub> would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors. Excavation and earthmoving activities generate about 38 pounds of PM<sub>10</sub> per day per acre, and minimal grading generates about 10 pounds per day per acre. According to the air district's CEQA Guidelines, a significant impact is assumed when daily major earthwork exceeds 2.2 acres or minimal grading exceeds 8.1 acres. If ambient air quality in the project area already exceeds the state standard, a project would contribute substantially to this violation if it would emit 82 pounds per day or more;
- Construction projects using typical construction equipment, such as dump trucks, scrapers, bulldozers, compactors and front-end loaders that temporarily emit ozone precursors, are accommodated in the emission inventories of State- and federally-required air plans and would not have a significant impact on the attainment and maintenance of the ozone standard; and
- Construction projects that may cause or substantially contribute to the violation of other state or national air quality standards, or that could emit TACs, could result in temporary significant impacts.

### **Operational Emissions Thresholds**

The majority of adverse impacts on air quality come from the long-term operations of a project. [Table 6-5, Thresholds of Significance for Criteria Air Pollutants](#), provides project-level thresholds of significance for criteria air pollutants during operation of a project.

**Table 6-5 Thresholds of Significance for Criteria Air Pollutants**

Pollutants Source	Threshold(s) of Significance <sup>1</sup>
Volatile Organic Compounds (VOC)	137 lb/day (direct + indirect) <sup>2</sup>
Nitrogen Oxides (NO <sub>x</sub> ), as Nitrogen Dioxide (NO <sub>2</sub> )	137 lb/day (direct + indirect) <sup>2</sup>
Respirable Particulate Matter (PM <sub>10</sub> )	82 lb/day (on-site) <sup>3</sup>
Carbon Monoxide (CO)	550 lb/day (direct)
Sulfur Oxides (SO <sub>x</sub> ), as Sulfur Dioxide (SO <sub>2</sub> )	150 lb/day (direct)

SOURCE: Monterey Bay Unified Air Pollution Control District 2008

NOTES:

1. Projects that emit other criteria pollutant emissions would have a significant impact if emissions would cause or substantially contribute to the violation of state or national ambient air quality standards. Criteria pollutant emissions could also have a significant impact if they would alter air movement, moisture, temperature, climate, or create objectionable odors in substantial concentrations. When estimating project emissions, local or project-specific conditions should be considered.
2. Because of the complexities of predicting ground level ozone concentrations in relation to the state and national ambient air quality standards, the air district has developed mass emissions thresholds for VOC and NO<sub>x</sub> that can be used to make significance determinations. The air district ties these thresholds to the local attainment status of ozone. Exceedance of VOC and/or NO<sub>x</sub> thresholds indicates that a project would be inconsistent with ozone standards, resulting in a significant contribution to ground level ozone impacts.
3. The air district's 82 pounds per day operational phase threshold of significance applies only to onsite emissions and project-related exceedances along unpaved roads. These impacts are generally less than significant. On large development projects, almost all travel is on paved roads (0% unpaved), and entrained road dust from vehicular travel can exceed the significance threshold. Please contact the air district to discuss estimating emissions from vehicular travel on paved roads. Air district-approved dispersion modeling can be used to refute (or validate) a determination of significance if modeling shows that emissions would not cause or substantially contribute to an exceedance of California and national ambient air quality standards.

## 6.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

### Construction Emissions

<b>IMPACT 6-1</b>	<b>Fugitive Dust and Equipment Exhaust Emissions During Construction Would Not Exceed the Air District Thresholds and Degrade Air Quality</b>	<b>Less Than Significant</b>
-----------------------	---	------------------------------

Construction activity consists of excavation, footings and trenching for the installation of four light standards, demolition of the existing tennis courts and construction of a 76-space parking lot in its place, demolition of two buildings on the east side of the campus and construction of a 35-space parking lot, installation of a new 2,400 square foot storage building on an area of the site already improved with pavement and concrete adjacent to existing bleachers, and construction of an access route from the new 76-space parking lot to the existing parking lot at the front of the campus (refer to Figure 4-5). The estimated total area of disturbance is less than one acre, which is below the air district standard of soils disturbance of 2.2 acres per day. As a result, construction activity would not result in criteria pollutant emissions that exceed the air district standards.

Emissions modeling conducted as part of the construction health risk assessment (Appendix G) provides calculated construction criteria pollutant emissions in tons per year. A comparison between the calculated emissions generated by construction activities and air district thresholds for all criteria air pollutants is presented in [Table 6-6, Unmitigated Criteria Air Pollutant Emissions During Construction](#).

**Table 6-6 Unmitigated Criteria Air Pollutant Construction Emissions**

	ROG (VOC) <sup>1</sup>	NO <sub>x</sub> <sup>1</sup>	CO <sup>1</sup>	SO <sub>x</sub> <sup>1</sup>	Respirable PM <sub>10</sub> <sup>1,2</sup>
Emissions <sup>3</sup>	0.07	0.46	0.51	<0.01	0.07
Emissions in Pounds per Day <sup>4</sup>	2.33	15.33	17	<0.01	2.33
Air District Thresholds <sup>4</sup>	137	137	550	150	82
Exceeds Thresholds?	NO	NO	NO	NO	NO

SOURCE: Illingworth and Rodkin 2022, EMC Planning Group 2022.

NOTES:

1. Amounts are rounded and may vary.
2. Total PM<sub>10</sub> and PM<sub>2.5</sub> emissions.
3. Reported in tons per year (Illingworth and Rodkin 2022).
4. Converted to pounds per day (2,000 pounds per ton) and with daily averages assuming a total of 60 days of construction activity.

The construction health risk assessment assumed a two-acre area of disturbance based on multiple equipment passes on the half-acre site. Construction emissions from multiple passes over the site would not generate d PM<sub>10</sub> emissions that would exceed air district construction thresholds or operational thresholds. Ozone precursor emissions generated during construction are compared to the air district operational thresholds of significance to show that construction emissions would be less than significant.

### Conclusion

Construction activity would not cause or substantially contribute to the violation of other state or national air quality standards. In particular, fugitive dust and equipment emissions from grading and construction would not result in significant criteria pollutant emissions. Therefore, the impact is less than significant.

### Criteria Air Emissions from Operations

<b>IMPACT 6-2</b>	Criteria Air Pollutants During Operations Would Not Exceed Air District Thresholds and Degrade Air Quality	Less than Significant
-----------------------	--	-----------------------

Operation of the proposed project would result in new criteria air pollutant emissions from energy demand and mobile sources due to increased attendance. Electricity is provided to



the campus by Central Coast Community Energy from 100 percent renewable sources (Dan Paul, e-mail message to consultant, July 6, 2021). Central Coast Community Energy is a Community Choice Energy agency established by local communities to source clean and renewable electricity for Monterey, San Benito and Santa Cruz counties and parts of San Luis Obispo and Santa Barbara counties while retaining the local utility provider's traditional role delivering power and maintaining electric infrastructure. Central Coast Community Energy procures renewable energy contracts from a variety of sources (refer to Section 8, Energy). As such, operational criteria emissions that would otherwise be generated as a result of project electricity use would be negligible.

Operational criteria pollutant emissions for mobile sources were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4 software, a modeling platform recommended by the California Air Resources Board (CARB) and accepted by the air district. The CalEEMod platform allows calculations of operational area and mobile-source criteria pollutant and greenhouse gas (GHG) emissions from land use projects.

The model calculates mobile-source emissions based on vehicle trip volumes, trip length and trip rates for various land use types; however, the model does not have a default land use category for outdoor stadiums. The model's default trip lengths for an "Arena" land use were used in this analysis. To calculate the increase in operational mobile-source emissions that would result from increased attendance (and increased vehicle trips) at night games, the model's default trip rate for an "Arena" land use was adjusted based on information provided by Hexagon Transportation Consultants (2022, pages 4-5) for a "worst case" traffic scenario, assuming an additional 39 night games per year (all sports). The traffic analysis estimates are based on football games, which attract the largest number of attendees. The maximum increased attendance at regular football games is projected to be about 300 additional persons per event. High-volume football events such as Homecoming or playoffs could increase attendance up to 500 additional persons. For modeling purposes, a conservative average daily trip rate accounting for up to 39 events with an increased attendance of 500 persons was calculated. Average daily trip rate was calculated using data provided by the Hexagon Transportation Consultants as follows:

- 500 attendees / 3.24 persons per vehicle x 2 trips (inbound and outbound) = 309 trips.
- Additional shuttle trips (inbound and outbound) = 36.
- 345 total trips per game (36+309) multiplied by a maximum of 39 night games per year yields 13,455 total vehicle trips per year.
- Average daily trip volume was calculated by dividing total vehicle trips volume by the number of days per year, which yields an average daily trip volume of 36.82.

This trip rate is derived from worst-case attendance estimates applied to the maximum expected number of night games. The model trip rate default was adjusted to 36.82 average

daily trips. The modeling results for mobile-source emissions during winter and summer months from an increase in attendance are included in [Appendix G](#) and summarized in [Table 6-7, Unmitigated Operational Criteria Air Pollutant Emissions](#).

**Table 6-7 Unmitigated Operational Criteria Air Pollutant Emissions**

Emissions	ROG (VOC) <sup>1</sup>	NO <sub>x</sub> <sup>1</sup>	CO <sup>1</sup>	SO <sub>x</sub> <sup>1</sup>	Respirable PM <sub>10</sub> <sup>1,2</sup>
Winter <sup>3</sup>	0.09	0.11	0.79	<0.01	0.14
Summer <sup>3</sup>	0.10	0.10	0.71	<0.01	0.14
Air District Thresholds <sup>3</sup>	137	137	550	150	82
Exceeds Thresholds?	NO	NO	NO	NO	NO

SOURCE: EMC Planning Group 2022

NOTES:

1. Amounts are rounded and may vary.
2. Total PM<sub>10</sub> and PM<sub>2.5</sub> emissions.
3. Reported in tons per year.

The model results demonstrate that emissions from the increase in vehicle traffic at night games would not exceed air district operational thresholds of significance. Therefore, additional emissions generated by project operations would not result in significant impacts and their contribution to regional air quality impacts would be less than significant.

### Conclusion

Even with worst-case estimates of mobile-source emissions, the proposed increase in attendance due to the proposed night game use of the existing stadium would not generate criteria air pollutant emissions that would exceed air district thresholds. Therefore, the increase in operational criteria air pollutant emissions would be less than significant.

### Construction Phase Toxic Air Contaminants

<b>IMPACT 6-3</b>	Operation of Construction Equipment Could Expose Sensitive Receptors to Minimal Toxic Air Contaminants	<b>Less Than Significant</b>
-----------------------	--	------------------------------

The school is a sensitive receptor as are residences to the north, south, east, and west. As discussed in Section 6.2, Environmental Setting, existing residential uses surround the high school campus. Sensitive receptors located within 1,000 feet of construction activity and parking lots are shown in Figure 1 of the health risk assessment prepared by Illingworth and Rodkin (2022) (Appendix G), which evaluates health risk impacts from exposure to air emissions that would be generated during construction and from the increase in vehicle trips.

The construction health risks are based on exposures at the MEI, which is the receptor location that would be exposed to the greatest concentration of construction TAC emissions. That residence is located just south of the tennis courts and is shown in red on Figure 1 of the health risk assessment.

The air district's CEQA Guidelines do not provide screening thresholds for TACs generated by construction equipment; however, the air district applies current rules and regulations for evaluating impacts from TACs. Thresholds used to evaluate human health impacts in accordance with air district Rules 1000 and 1003 are applied by the air district in making significance determinations under CEQA. A project would have a significant impact if:

- The hazard index (non-cancer) is greater than 1 for acute and/or chronic impacts.
- The cancer risk is greater than 10 in one million.

Rule 1000 specifies that the health risk assessment use the most recent version of OEHHA guidelines. According to the most recent OEHHA guidance for health risk assessment (2015), health risk assessments should be based on a 30- or 70-year exposure period, depending on whether the analysis is for an MEI or population-wide impacts. Although the construction activity would be short lived over a period of about eight weeks, the health risk assessment analyzed effects at the MEI using the 30-year exposure period consistent with OEHHA guidance.

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. The age groups include the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level. The health risks are addressed by predicting increased cancer risk from construction activity that involves use of diesel equipment and computing the HI for non-cancer health risks using CalEEMod and the U.S. EPA AERMOD dispersion model.

The overall risk impacts from the project are the combination of risks from construction and operational sources. These sources include on-site construction activity, construction truck trips, and increased traffic from the project. The project increased cancer risk is computed by

summing the project construction cancer risk and operation cancer risk contributions. Unlike cancer risk, the HI values are not additive but based on the annual maximum values for the entirety of the project.

The maximum increased cancer risks and non-cancer health hazards were calculated using the modeled TAC concentrations combined with the OEHHA guidance for age sensitivity factors and exposure parameters as recommended by air district. Age-sensitivity factors for infants, which reflect their greater sensitivity to cancer causing TACs, were applied to all age groups. Methodology and data inputs are described in greater detail in the health risk assessment and its attachments. Modeled results are presented in [Table 6-8, Construction Risk Impacts at the MEI](#).

**Table 6-8 Construction Risk Impacts at the MEI**

Source	Cancer Risk (per Million)	Hazard Index
Project Construction (Unmitigated Emissions)	8.16 (infant)	0.01
Air District Threshold	10.00	1.0
Exceeds Thresholds?	NO	NO

SOURCE: Illingworth and Rodkin 2022

### Conclusion

Although sensitive receptors are located in proximity to the project site where construction activities would occur, the increase in infant cancer risk and non-cancer health risks at the MEI are below air district standards. Exposures and associated health risks would be further reduced at other sensitive receptor locations. Therefore, the health risk impacts from exposures to project-related construction TAC emissions is less than significant.

### Operational Toxic Air Contaminants

<b>IMPACT 6-4</b>	Increased Traffic Would Expose Sensitive Receptors to Minimal Toxic Air Contaminants	Less Than Significant
-----------------------	--	-----------------------

The only source of air pollutants associated with operation of the project would be the new traffic generated by the project. Sources of vehicle exhaust would consist primarily of non-diesel light-duty vehicles that have low TAC emissions rates. Large diesel trucks are a source of diesel particulate matter, which is the most common TAC generated by mobile-sources. However, traffic generated by the proposed project would not include heavy duty truck traffic. Therefore, the health risks from operational traffic would be negligible and less than significant.

# 7.0

## Biological Resources

This section addresses existing biological resources on the project site and immediate vicinity; the federal, state, and regional/local regulatory framework pertaining to biological resources; and anticipated impacts to biological resources as a result of the proposed project. This evaluation is based on reconnaissance field surveys conducted by an EMC Planning Group biologist on April 12, 2021 and June 15, 2022; a review of existing scientific literature, aerial photographs, technical background information, and policies applicable to projects located in Monterey County.

Information in this section is derived from various sources including:

- Project applications and plans;
- *2010 Monterey County General Plan* (Monterey County 2010);
- *2007 Monterey County General Plan Draft Environmental Impact Report* (Monterey County 2008);
- Monterey County Zoning Ordinance Title 21 (For Inland Areas). (Monterey County 1997);
- California Department of Fish and Wildlife (CDFW) *California Natural Diversity Database* (CDFW 2021);
- California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (CNPS 2021); and
- U.S. Fish and Wildlife Service (USFWS) *Endangered Species Program* (USFWS 2021a) and *National Wetlands Inventory* (USFWS 2021b).

One comment on the NOP was received on June 14, 2021 from the CDFW. Analysis was recommended to address potential impacts to the federally threatened California red-legged frog (*Rana draytonii*), state endangered foothill yellow-legged frog (*Rana boylei*), species of special-status bats, and special-status plants, including Hickman's onion (*Allium hickmanii*), and Monterey clover (*Trifolium trichocalyx*). Other comments received from neighbors of the high school addressed possible biological impacts to the adjacent Hatton Canyon area. These comments are addressed in this section of the EIR. The notice of preparation and comment letters on the notice are included in [Appendix A](#). During the public review period for the original draft EIR, CDFW did not comment, however, members of the public submitted



comments regarding light and noise impacts on wildlife. This section of the RDEIR addresses both light and noise impacts on candidate, sensitive, or special status species. See Section 7.4, Analysis, Impacts, and Mitigation Measures.

## 7.1 ENVIRONMENTAL SETTING

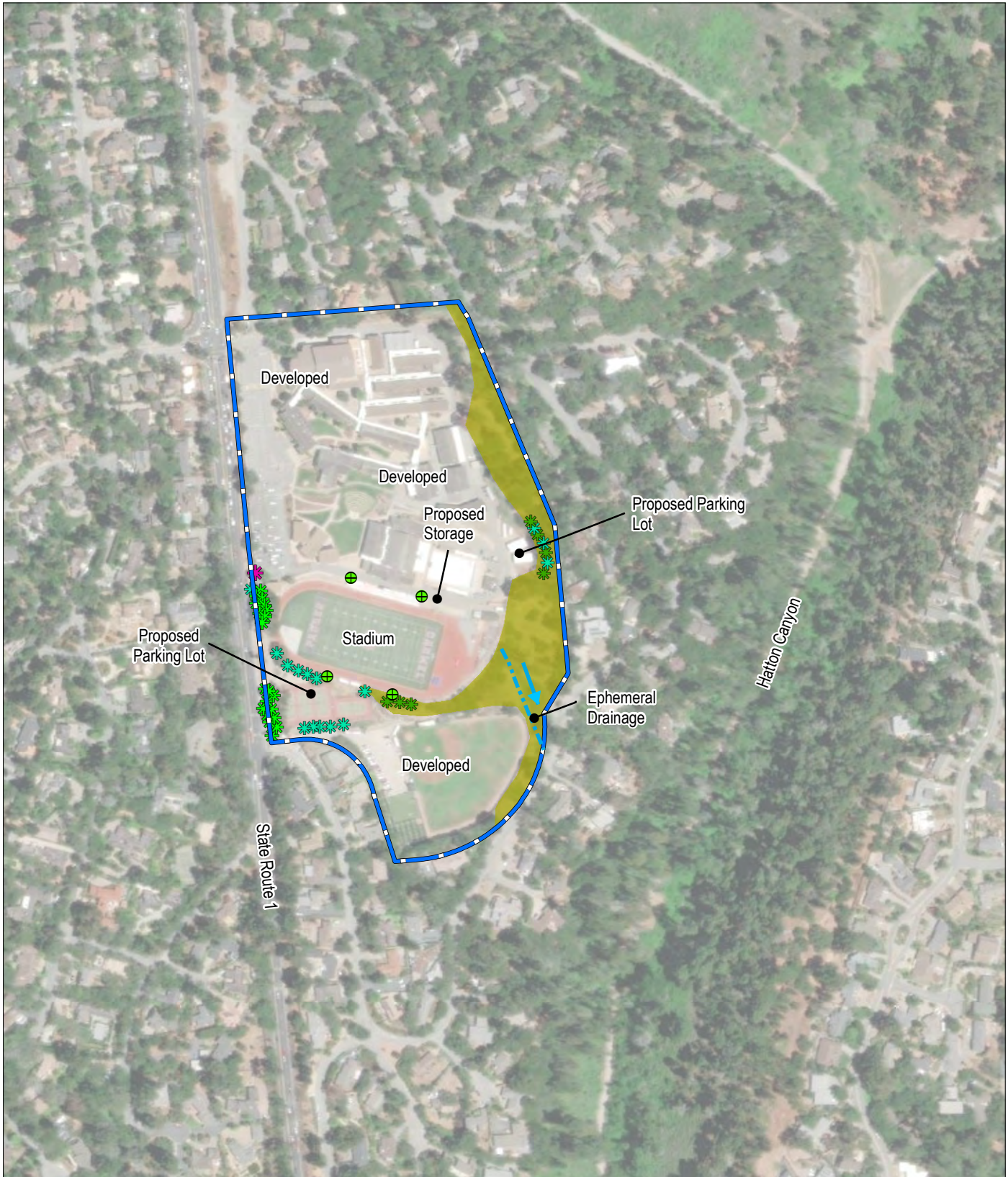
EMC Planning Group biologist Patrick Furtado, MS, conducted a reconnaissance-level biological survey at the stadium and vicinity on April 12, 2021, and at the proposed parking lots, access road, and storage building sites on June 15, 2022 to document existing plant communities and wildlife habitats, and to evaluate the potential for special-status biological resources to occur. Qualitative observations of plant cover, structure, and species composition were used to determine plant communities and wildlife habitats. Habitat quality and disturbance levels were documented.

### Existing Conditions

The project site is located east of the City of Carmel-by-the-Sea in Monterey County, California, near the intersection of State Route 1 and Ocean Avenue. The site is situated on the Monterey U.S. Geological Survey (USGS) 7.5-minute quadrangle map, at an elevation of approximately 335 feet. The site is within the Central Coast Bioregion, which encompasses a diversity of plant communities from wet redwood forest to dry oak woodland and chaparral. The climate in the area is Mediterranean, with warm and dry summers, and winters tending to be cool and wet. Most of the annual rainfall occurs between the months of December and March. The soil type mapped across the project site is Chamise channery loam (9 to 15 percent slopes), which consists of channery loam and channery clay loam, with parent material of loamy alluvium derived from shale (USDA NRCS 2021).




The improvements are proposed on an existing, developed, active high school campus. On the hillslope adjacent to the east end of the stadium is a small area of oak woodland and riparian habitat. This area is outside of the project impact boundary but will be discussed below. [Figure 7-1, Habitat Map](#), shows habitat mapped on the project site.

In addition, the 130-acre Hatton Canyon area to the east, portions of which are operated by the California State Parks, features sensitive wetland, riparian, and pine forest habitat and a recently developed bike trail. Hatton Canyon is located approximately 400 to 800 feet from the eastern edge of the high school campus. The location of Hatton Canyon is identified in [Figure 3-2, Aerial Photograph](#), and in [Figure 7-1, Habitat Map](#).



Source: ESRI 2022, Monterey County GIS 2019



-  School Campus Boundary
-  Mixed Oak Woodland
-  Proposed Light Pole

-  Coast Live Oak
-  Monterey Cypress
-  Cedar
-  Monterey Pine

Figure 7-1

# Habitat Map



*This side intentionally left blank.*

## Developed

The sports stadium is enclosed on the west, south, and east by stands of mature Monterey cypress (*Hesperocyparis macrocarpa*) and coast live oak (*Quercus agrifolia*). An area of ruderal vegetation is also found on the hillslope adjacent to the south and consists of mostly weedy plants such as wild radish (*Raphanus sativus*), wild oats (*Avena fatua*), bristly ox-tongue (*Helminotheca echinoides*), bur clover (*Medicago polymorpha*), and wild mustard (*Hirschfeldia incana*).

The vegetation within and around the adjacent buildings and stadium infrastructure also consists of nonnative horticultural plantings of pittosporum (*Pittosporum* sp.), English ivy (*Hedera helix*), rosemary (*Rosmarinus officinalis*), Mexican bush sage (*Salvia leucophylla*), and Pride-of-Madeira (*Echium candicans*).

Adjacent to the baseball field are tall Monterey pines (*Pinus radiata*) and Monterey cypress that could potentially provide nesting sites for raptors such as red-shouldered hawk (*Buteo lineatus*). Oaks on the project site are ideal nesting habitat for birds such as oak titmouse (*Baeolophus inornatus*), bushtit (*Psaltriparus minimus*), and dark-eyed junco (*Junco hyemalis*) – all species observed during the survey. Other species observed include California scrub-jay (*Aphelocoma californica*), Bewick's wren (*Thryomanes bewickii*), Anna's hummingbird (*Calypte anna*), and white-crowned sparrow (*Zonotrichia leucophrys*). Western fence lizards (*Sceloporus occidentalis*) were found in most areas.

## Oak Woodland/Riparian

Adjacent to the project site, on the east side of the football stadium, a hillslope descends down to Flanders Drive. Scattered coast live oak, Monterey pine, and ruderal vegetation occur here. A drainage pipe with flowing water empties just below the stadium creating a small riparian corridor that continues behind the baseball field. This drainage is located approximately 100 feet south of the proposed eastern parking lot and approximately 100 feet southeast of the proposed storage building. Riparian vegetation here is dominated by arroyo willow (*Salix lasiolepis*) and creek dogwood (*Cornus sericea*). At the time of the survey, this area was full of bird activity with much calling and singing. Nesting activity was likely and the species observed here included Wilson's warbler (*Cardellina pusilla*), oak titmouse, golden-crowned sparrow (*Zonotrichia atricapilla*), and Bewick's wren.

Mammal species expected to utilize the habitat include California vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), striped skunk (*Mephitis mephitis*), California ground squirrel (*Spermophilus beecheyi*), and raccoon (*Procyon lotor*). Other reptile species expected to utilize the habitat include California alligator lizard (*Elgaria multicarinata multicarinata*) and Pacific gopher snake (*Pituophis catenifer catenifer*).



## Wetlands and Waterways

As described above, a drainage pipe with flowing water empties just below the stadium and continues behind the baseball field. Runoff has caused a narrow, incised channel that supports a small riparian corridor. Flowing water was present at the time of the survey in April 2021, with a depth of one to two inches. This drainage is likely dry most of the year, accommodating flows during storm events or from irrigation. The drainage is not mapped on the USFWS National Wetlands Inventory Wetlands Mapper or on the USGS topographical map of the area and it is not clear whether it connects to a greater tributary. This drainage is within the campus boundary but is outside of the project site. This drainage is located approximately 100 feet south of the proposed eastern parking lot and approximately 100 feet southeast of the proposed storage building. No impacts to the drainage are proposed as part of this project.

## Special-Status Species with Potential to Occur in Vicinity

Special-status species are those listed as Endangered, Threatened, or Rare, or as Candidates for listing by the USFWS or CDFW under the state and/or federal Endangered Species Acts. The special-status designation also includes CDFW Species of Special Concern and Fully Protected species, California Native Plant Society (CNPS) Rare Plant Rank 1B and 2B species, and other locally rare species that meet the criteria for listing as described in Section 15380 of CEQA Guidelines. Special-status species are generally rare, restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring.

A search of the CDFW *California Natural Diversity Database* (CDFW 2021) was conducted for the Monterey, Marina, Seaside, Soberanes Point, and Mt. Carmel USGS quadrangles in order to evaluate potentially occurring special-status plant and wildlife species in the project vicinity. [Figure 7-2, Special-Status Species with Potential to Occur in the Project Vicinity](#), shows the locations of special-status species recorded in the project vicinity. Records of occurrence for special-status plants were reviewed for the same USGS quadrangles in the CNPS *Inventory of Rare and Endangered Plants* (CNPS 2021). A USFWS *Endangered Species Program* threatened and endangered species list was also generated for Monterey County (USFWS 2021a).

[Table 7-1, Special-Status Plant Species with Potential to Occur in Vicinity](#), and [Table 7-2, Special-Status Wildlife Species with Potential to Occur in the Project Vicinity](#), show special-status species documented within the project vicinity, their listing status and suitable habitat description, and their potential to occur on the site.





Source: ESRI 2021, Monterey County GIS 2019, CDFW CNDDDB 2021

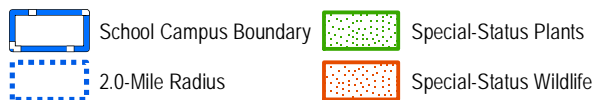
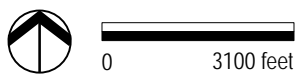


Figure 7-2

## Special-Status Species with the Potential to Occur in the Project Vicinity

Carmel High School Stadium Improvements Revised Draft EIR





*This side intentionally left blank.*

**Table 7-1 Special-Status Plant Species with Potential to Occur in the Project Vicinity**

Species	Status (Federal/State/CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Beach layia ( <i>Layia carnosa</i> )	FE/SE/1B.1	Coastal dunes, hugely reduced in range along California's north coast dunes, on sparsely vegetated semi-stabilized dunes, usually behind foredunes; elevation 0-75m. Blooming Period: March – July.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Carmel Valley bush-mallow ( <i>Malacothamnus palmeri</i> var. <i>involutus</i> )	--/--/1B.2	Chaparral, cismontane woodland, coastal scrub; elevation 30-1100m. Blooming Period: May – October.	Unlikely. Suitable woodland or coastal scrub habitat not found within project site.
Carmel Valley malacothrix ( <i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> )	--/--/1B.2	Chaparral (rocky); elevation 25-335m. Blooming Period: March – December.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Coastal dunes milkvetch ( <i>Astragalus tener</i> var. <i>titi</i> )	FE/SE/1B.1	Coastal bluff scrub, coastal dunes. Known only from a few extant occurrences, mostly historical in Southern California. Moist sandy depressions of bluffs or dunes along and near the Pacific Ocean, one site on a clay terrace; elevation 1-50m. Blooming Period: March – May.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Congdon's tarplant ( <i>Centromadia parryi</i> spp. <i>congdonii</i> )	--/--/1B.1	Valley and foothill grassland (alkaline); elevation 1-230m. Known to occur on various substrates, and in disturbed and ruderal (weedy) areas. Blooming Period: June – November.	Unlikely. Suitable valley or foothill grassland habitat not found within project site.
Contra Costa goldfields ( <i>Lasthenia conjugens</i> )	FE/--/1B.1	Wet areas in cismontane woodland, playas (alkaline), valley and foothill grassland, and vernal pools; elevation 0-470m. Blooming Period: March – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Eastwood's goldenbush ( <i>Ericameria fasciculata</i> )	--/--/1B.1	Closed cone coniferous forest, chaparral (maritime), coastal dunes, and coastal scrub/sand; elevation 30 - 275 meters. Blooming Period: July – October.	Unlikely. Suitable forested, chaparral or coastal scrub habitat not found within project site.
Fort Ord spineflower ( <i>Chorizanthe minutiflora</i> )	--/--/1B.2	Coastal scrub, maritime chaparral, sandy openings; elevation 60-145m. Blooming Period: April – July.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Fragrant fritillary ( <i>Fritillaria liliacea</i> )	--/--/1B.2	Coastal scrub, valley and foothill grassland, and coastal prairie. Often on serpentine, various soils reported though usually clay in grassland; elevation 3-410m. Blooming Period: February – April.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Gowen cypress ( <i>Cupressus goveniana</i> ssp. <i>goveniana</i> )	FT/--/1B.2	Closed cone coniferous forest. Narrowly endemic to Monterey County. Coastal terraces, usually in sandy soils, sometimes with Monterey pine, Bishop pine; elevation 100-125m. Evergreen.	Unlikely. Species identifiable throughout year, not found during surveys.

7.0 Biological Resources

Species	Status (Federal/State/CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Hickman's cinquefoil ( <i>Potentilla hickmanii</i> )	FE/SE/1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, marshes and swamps, small streams in open or forested areas along the coast; elevation 5-125m. Blooming Period: April – August.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Hickman's onion ( <i>Allium hickmanii</i> )	--/--/1B.2	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, coastal prairie, sandy loam, damp ground and vernal swales; elevation 20-200m. Blooming Period: April – May.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Hooked popcorn flower ( <i>Plagiobothrys uncinatus</i> )	--/--/1B.2	Chaparral (sandy), cismontane woodland, valley and foothill grassland; elevation 300-730m. Blooming Period: April - May	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Hooker's manzanita ( <i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> )	--/--/1B.2	Sandy soils in coastal scrub, chaparral, and closed-cone forest habitats; evergreen; elevation 45-215m. Blooming Period: February – April.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Hospital Canyon larkspur ( <i>Delphinium californicum</i> ssp. <i>interius</i> )	--/--/1B.2	Cismontane woodland and chaparral, in wet, boggy meadows, openings in chaparral, and in canyons; elevation 225-1060m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Hutchinson's larkspur ( <i>Delphinium hutchinsoniae</i> )	--/--/1B.2	Broadleaved upland forest, chaparral, coastal prairie, coastal scrub; elevation 0-400m. Blooming Period: March – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Jolon clarkia ( <i>Clarkia jolonensis</i> )	--/--/1B.2	Cismontane woodland, chaparral, coastal scrub; elevation 20-660m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Kellogg's horkelia ( <i>Horkelia cuneata</i> ssp. <i>sericea</i> )	--/--/1B.1	Closed-cone coniferous forest, maritime chaparral, coastal scrub, sandy or gravelly openings; elevation 10-200m. Blooming Period: April – September.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Little Sur manzanita ( <i>Arctostaphylos edmundsii</i> )	--/--/1B.2	Coastal bluff scrub, chaparral includes <i>A. edmundsii</i> var. <i>parvifolia</i> , state-listed rare, forming mounds on sandy terraces on ocean bluffs; elevation 30-105m. Blooming period: April - November.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Marsh microseris ( <i>Microseris paludosa</i> )	--/--/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland; elevation 5-300m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Menzies's wallflower ( <i>Erysimum menziesii</i> ssp. <i>menziesii</i> )	FE/SE/1B.1	Coastal dunes. Known only from Mendocino and Monterey Counties, localized on dunes and coastal strand; elevation 0-35m. Blooming Period: March – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.

Species	Status (Federal/State/ CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Monterey clover ( <i>Trifolium trichocalyx</i> )	FE/SE/1B.1	Closed-cone coniferous forest, endemic to Monterey County. Poorly drained, low nutrient soil underlain with hardpan soils, also openings and burned areas; elevation 120-205. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Monterey gilia ( <i>Gilia tenuiflora</i> ssp. <i>arenaria</i> )	FE/ST/1B.2	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, sandy openings; elevation 0-45m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Monterey spineflower ( <i>Chorizanthe pungens</i> var. <i>pungens</i> )	FTI/--/1B.2	Sandy openings in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland; elevation 3-450m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Northern curly-leaved monardella ( <i>Monardella sinuata</i> ssp. <i>nigrescens</i> )	--/--/1B.2	Sandy sites in chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills); elevation 0-300m. Blooming Period: April – September.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Pacific Grove clover ( <i>Trifolium polyodon</i> )	--/SR/1B.1	Closed-cone coniferous forest, coastal prairie, meadows and seeps, valley and foothill grassland, mesic; elevation 5-120m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Pajaro manzanita ( <i>Arctostaphylos pajaroensis</i> )	--/--/1B.1	Sandy soils in chaparral habitat; evergreen; elevation 30-760m. Blooming Period: December – March.	Unlikely. Species identifiable throughout year, not found during surveys.
Pine rose ( <i>Rosa pinetorum</i> )	--/--/1B.2	Closed-cone coniferous forest; elevation 2-300m. Blooming Period: May – July.	Unlikely. Suitable forested habitat not found within project site.
Pink Johnny-nip ( <i>Castilleja ambigua</i> var. <i>insalutata</i> )	--/--/1B.1	Coastal bluff scrub, coastal prairie. Wet or moist coastal strand or scrub habitats; 3-135m elevation. Blooming Period: May – August.	Unlikely. Suitable coastal scrub or prairie habitats not found within project site.
Pinnacles buckwheat ( <i>Eriogonum nortonii</i> )	--/--/1B.3	Sandy sites in chaparral and valley and foothill grassland, often on recent burns; elevation 300-975m. Blooming Period: May – June.	Unlikely. Species found at elevations higher than the project site.
Point Reyes horkelia ( <i>Horkelia marinensis</i> )	--/--/1B.2	Sandy sites in coastal dunes, coastal prairie, and coastal scrub; elevation 5-755m. Blooming Period: May – September.	Unlikely. Suitable coastal scrub or prairie habitats not found within project site.
Saline clover ( <i>Trifolium hydrophilum</i> )	--/--/1B.2	Marshes and swamps, valley and foothill grassland, and vernal pools. Prefers wet, alkaline sites; elevation 0-300m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
San Francisco collinsia ( <i>Collinsia multicolor</i> )	--/--/1B.2	Serpentine sites in closed cone coniferous forest and coastal scrub. Prefers decomposed shale (mudstone) mixed with humus; elevation 30-250m. Blooming Period: March – May.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.



7.0 Biological Resources

Species	Status (Federal/State/CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Sand-loving wallflower ( <i>Erysimum ammophilum</i> )	--/--/1B.2	Maritime chaparral, coastal dunes, coastal scrub, sandy openings; elevation 0 – 60m. Blooming Period: February – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Sandmat manzanita ( <i>Arctostaphylos pumila</i> )	--/--/1B.2	Closed cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, sandy openings; elevation 30-730m. Blooming Period: February – May.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Santa Cruz clover ( <i>Trifolium buckwestiorum</i> )	--/--/1B.1	Broadleaved upland forest, cismontane woodland, and coastal prairie; prefers moist grassland and gravelly margins; elevation 105-610m. Blooming Period: April – October.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Santa Cruz microseris ( <i>Stebbinsoseris decipiens</i> )	--/--/1B	Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland, open areas, sometimes serpentine; elevation 10-500m. Blooming Period: April – May.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Seaside bird's-beak ( <i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> )	--/SE/1B.1	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, sandy often disturbed sites; elevation 0-215m. Blooming Period: May - October	Unlikely. Suitable forested, chaparral, or coastal habitats not found within project site.
Tidestrom's lupine ( <i>Lupinus tidestromii</i> )	FE/SE/1B.1	Partially stabilized dunes, immediately near the ocean; elevation 0-3m. Blooming Period: April – June.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Toro manzanita ( <i>Arctostaphylos montereyensis</i> )	--/--/1B.2	Maritime chaparral, cismontane woodland, coastal scrub, sandy; elevation 30-730m. Blooming Period: February – March	Unlikely. Species identifiable throughout year, not found during surveys.
Vernal pool bent grass ( <i>Agrostis lacuna-vernalis</i> )	--/--/1B.1	Vernal pools (mima mounds); elevation 115-145m.	Unlikely. Suitable vernal pool habitat not found within project site.
Woodland woollythreads ( <i>Monolopia gracilens</i> )	--/--/1B.2	Serpentine, open sites in broadleaved upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland; elevation 100-1200m. Blooming Period: March – July.	Unlikely. Surveys conducted during blooming period. Potential habitat not found.
Yadon's rein orchid ( <i>Piperia yadonii</i> )	FE/--/1B.1	Sandy sites in coastal bluff scrub, closed cone coniferous forest, maritime chaparral; elevation 10-510m. Blooming Period: May – August.	Unlikely. Suitable forested, chaparral, or coastal habitats not found within project site.

SOURCE: CDFW 2021, CNPS 2021

NOTE: Status Codes:

Federal (USFWS)

FE: Listed as Endangered under the Federal Endangered Species Act.

FT: Listed as Threatened under the Federal Endangered Species Act.

FC: A Candidate for listing as Threatened or Endangered under the Federal Endangered Species Act.

FSC: Species of Special Concern.

FD: Delisted under the Federal Endangered Species Act.

State (CDFW)

SE: Listed as Endangered under the California Endangered Species Act.

ST: Listed as Threatened under the California Endangered Species Act.

SR: Listed as Rare under the California Endangered Species Act.

SC: A Candidate for listing as Threatened or Endangered under the California Endangered Species Act.

SSC: Species of Special Concern.

SFP: Fully Protected species under the California Fish and Game Code.

SD: Delisted under the California Endangered Species Act.

CNPS Rare Plant Ranks and Threat Code Extensions

1B: Plants that are considered Rare, Threatened, or Endangered in California and elsewhere.

2B: Plants that are considered Rare, Threatened, or Endangered in California, but more common elsewhere.

1: Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).

2: Fairly endangered in California (20-80% occurrences threatened).

3: Not very endangered in California (<20% of occurrences threatened or no current threats known).

---

**Table 7-2 Special-Status Wildlife Species with Potential to Occur in the Project Vicinity**

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
American badger ( <i>Taxidea taxus</i> )	--/SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats. Need sufficient food and open, uncultivated ground with friable soils to dig burrows. Prey on burrowing rodents.	Unlikely. Suitable open habitat with friable soils not found at project site.
Bank swallow ( <i>Riparia riparia</i> )	--/ST	Highly colonial species that nests in alluvial soils along rivers, streams, lakes, and ocean coasts. Nesting colonies only occur in vertical banks or bluffs of friable soils at least one meter tall, suitable for burrowing with some predator deterrence values. Breeding colony present in Salinas River.	Unlikely. Suitable vertical banks or bluffs not found at project site.
Black swift ( <i>Cypseloides niger</i> )	--/SSC	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea bluffs above surf; forages widely.	Unlikely. Suitable cliff or coastal habitat not found at project site.
Burrowing owl ( <i>Athene cunicularia</i> )	--/SSC	Open, dry, annual or perennial grasslands, desert, or scrubland, with available small mammal burrows.	Unlikely. High level of disturbance around stadium and on campus. Suitable burrow habitat not found at project site.
California black rail ( <i>Laterallus jamaicensis coturniculus</i> )	--/ST	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depth of about 1 inch that does not fluctuate during the year and dense vegetation for nesting.	Unlikely. Suitable marsh or coastal habitat not found at project site.
California brown pelican ( <i>Pelecanus occidentalis californicus</i> )	FE/SE	(Nesting Colony) Colonial nester on coastal islands just outside the surf line, nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators.	Unlikely. Suitable coastal habitat not found at project site.
California horned lark ( <i>Eremophila alpestris actia</i> )	--/SSC	Coastal regions, chiefly from Sonoma County to San Diego County, also within the main part of the San Joaquin Valley and east to the foothills. Prefers short-grass prairie, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Unlikely. Suitable open prairie or grassland habitats not found at project site.
California linderiella ( <i>Linderiella occidentalis</i> )	FSC/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools typically has very low alkalinity, conductivity, and total dissolved solids.	Unlikely. Suitable pool habitat not found at project site.
California red-legged frog ( <i>Rana draytonii</i> )	FT/SSC	Rivers, creeks, and stock ponds with pools and overhanging vegetation. Requires dense, shrubby or emergent riparian vegetation, and prefers short riffles and pools with slow-moving, well-oxygenated water. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter.	Unlikely. Suitable aquatic or upland habitats not found at project site.

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
California tiger salamander ( <i>Ambystoma californiense</i> )	FT/ST	Grasslands and oak woodlands near seasonal pools and stock ponds in central and coastal California. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter. Requires seasonal water sources that persist into late March for breeding habitat.	Unlikely. Suitable aquatic or upland habitats not found at project site.
Coast horned lizard ( <i>Phrynosoma blainvillii</i> )	--/SSC	Arid grassland and scrubland habitats; prefers lowlands along sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burrowing, and abundant supply of ants and other insects for feeding.	Unlikely. Suitable open grassland or scrubland habitats not found at project site.
Coast Range newt ( <i>Taricha torosa</i> )	--/SSC	Coastal drainages; lives in terrestrial habitats and can migrate over 1 km to breed in ponds, reservoirs, and slow-moving streams.	Unlikely. Suitable aquatic or upland habitats not found at project site.
Ferruginous hawk ( <i>Buteo regalis</i> )	--/SSC	(Wintering) Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. Mostly consumes flat lagomorphs, ground squirrels, and mice.	Unlikely. Suitable open grassland or scrubland habitats not found at project site.
Foothill yellow-legged frog ( <i>Rana boylei</i> )	--/SSC	Partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. Requires at least some cobble-sized substrate for egg-laying and 15 weeks of available water to attain metamorphosis.	Unlikely. Suitable aquatic habitats not found at project site.
Globose dune beetle ( <i>Coelus globosus</i> )	--/--	Inhabitant of coastal sand dune habitat, erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks. It burrows beneath the sand surface and is most common beneath dune vegetation.	Unlikely. Suitable dune habitats not found at project site.
Hoary bat ( <i>Lasiurus cinereus</i> )	--/SSC	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Possible. More likely to occur along a waterbody such as the Carmel River; may forage through site.
Monarch butterfly ( <i>Danaus plexippus</i> )	--/--	Winter roost sites. Wind protected tree groves (Eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	Unlikely. Suitable roost trees not found at project site.
Monterey shrew ( <i>Sorex ornatus salarius</i> )	--/SSC	Riparian, wetland, and upland areas in the vicinity of the Salinas River delta. Prefers moist microhabitats. Feeds on insects and other invertebrates found under logs, rocks, and litter.	Unlikely. Suitable aquatic and upland habitats not found at project site.
Northern California legless lizard ( <i>Anniella pulchra</i> )	--/SSC	Sandy or loose loamy soils under sparse vegetation, moist soils. <i>Anniella pulchra</i> is traditionally split into two subspecies: <i>A. pulchra pulchra</i> (silvery legless lizard) and <i>A. pulchra nigra</i> (black legless lizard), but these subspecies are typically no longer recognized.	Unlikely. Suitable sandy or open habitats not found at project site.

7.0 Biological Resources

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
Salinas harvest mouse ( <i>Reithrodontomys megalotis distichlis</i> )	--/--	Known only from the Monterey Bay region. Occurs in fresh and brackish water wetlands and probably in the adjacent uplands around the mouth of the Salinas River.	Unlikely. Suitable aquatic and upland habitats not found at project site.
Smith's blue butterfly ( <i>Euphilotes enoptes smithi</i> )	FE/--	Coastal dunes and coastal sage scrub plant communities. Host plants include <i>Eriogonum latifolium</i> and <i>E. parvifolium</i> for larval and adult stages.	Unlikely. Suitable host plants not found at project site.
Steelhead ( <i>Oncorhynchus mykiss irideus</i> )	FT/--	Coastal stream with clean spawning gravel. Requires cool water and pools. Needs migratory access between natal stream and ocean.	Unlikely. Suitable aquatic habitat not found at project site.
Tidewater goby ( <i>Eucyclogobius newberryi</i> )	FE/SSC	Brackish water habitats, found in shallow lagoons and lower stream reaches, still but not stagnant water with high oxygen levels.	Unlikely. Suitable aquatic habitat not found at project site.
Tricolored blackbird ( <i>Agelaius tricolor</i> )	--/SE	Areas adjacent to open water with protected nesting substrate, which typically consists of dense, emergent freshwater marsh vegetation.	Unlikely. Suitable freshwater marsh habitat not found at project site.
Western pond turtle ( <i>Emys marmorata</i> )	--/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites (such as rocks or partially submerged logs) and suitable upland habitat for egg-laying (sandy banks or grassy open fields).	Unlikely. Suitable aquatic habitat not found at project site.
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	FT/SSC	Sandy beaches, salt pond levees, shores of large alkali lakes; sandy, gravelly, or friable soils for nesting.	Unlikely. Suitable coastal or aquatic habitat not found at project site.
Yellow rail ( <i>Corturnicops noveboracensis</i> )	--/SSC	Summer resident in eastern Sierra Nevadas, prefers freshwater marshlands.	Unlikely. Suitable freshwater marsh habitat not found at project site.

SOURCE: CDFW 2021

NOTE: Status Codes:

Federal (USFWS)

FE: Listed as Endangered under the Federal Endangered Species Act.

FT: Listed as Threatened under the Federal Endangered Species Act.

FC: A Candidate for listing as Threatened or Endangered under the Federal Endangered Species Act.

FSC: Species of Special Concern.

FD: Delisted under the Federal Endangered Species Act.

State (CDFW)

SE: Listed as Endangered under the California Endangered Species Act.

ST: Listed as Threatened under the California Endangered Species Act.



SR: Listed as Rare under the California Endangered Species Act.

SC: A Candidate for listing as Threatened or Endangered under the California Endangered Species Act.

SSC: Species of Special Concern.

SFP: Fully Protected species under the California Fish and Game Code.

SD: Delisted under the California Endangered Species Act.

---

## Special-Status Plants

Database search results and the potential for special-status plants to occur on the project site and vicinity are presented in [Table 7-1, Special-Status Plant Species with Potential to Occur in the Project Vicinity](#), and are discussed in the Impacts and Mitigation Measures section, below.

## Special-Status Wildlife

Special-status wildlife species potentially occurring in the project vicinity were evaluated for their potential to occur on the project site. Database search results and the potential for special-status wildlife to occur on the project site and vicinity are presented in [Table 7-2, Special-Status Wildlife Species with Potential to Occur in the Project Vicinity](#), and are discussed in the Impacts and Mitigation Measures section, below. These species include pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and nesting raptors and migratory birds.

Two special-status amphibian species, California red-legged frog and foothill yellow-legged frog, were identified as requiring additional analysis in a comment letter on the NOP from CDFW. The nearest recorded observations of these species are located along the Carmel River, over one mile south of the project site. Both of these species require aquatic habitat for breeding. As described above, a small drainage was found approximately 300 feet from the nearest proposed light pole. At the time of the site visit in April 2021, one to two inches of water were visible, likely from rain and/or irrigation events. The drainage is likely too shallow and does not contain water for a sufficient duration to allow for successful breeding. In addition, no connection with known occupied habitat (Carmel River) was visible. Impacts to special-status amphibian species are not anticipated as a result of the project.

## Regulated Trees

The new 18-foot drive aisle along the west end of the football field and the tennis courts could potentially impact a row of mature Monterey cypress trees (*Hesperocyparis macrocarpa*) growing along the western boundary of the campus, adjacent to State Route 1. Several of these trees lean to the east over the proposed route, and can be seen on the aerial photograph in [Figure 7-1, Habitat Map](#). A mature coast live oak (*Quercus agrifolia*) with exposed roots located immediately east of the proposed drive aisle, could also potentially be impacted by the addition of this drive aisle.

The proposed new parking stalls at the existing tennis courts could also potentially impact two mature coast live oaks, depending upon the amount of grading necessary.

The proposed new parking stalls east of the swimming pool could also potentially impact the mature Monterey pine (*Pinus radiata*) and several coast live oak trees growing on the hillslope. However, it appears that there is adequate buffer space between the trees and the new parking in this area.

## **Sensitive Natural Communities**

As described in more detail above, the site supports two natural communities considered sensitive by the CDFW: mixed oak woodland and wetlands/waterways. Sensitive natural communities are protected because they support a diverse assemblage of native species.

## **Wildlife Movement**

Wildlife movement includes migration (usually movement one way per season), inter-population movement (long-term dispersal and genetic flow), and small travel pathways (daily movement within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities, such as foraging or escape from predators, they also provide connection between outlying populations and the main populations, permitting an increase in gene flow among populations. These habitat linkages can extend for miles and occur on a large scale throughout the greater region. Habitat linkages facilitate movement between populations located in discrete locales and populations located within larger habitat areas.

The project site is located within an area between developed areas and wildland areas generally known as "urban/wildland interface." However, movement within the habitats in and around the stadium, existing tennis court, and buildings is likely restricted to that of common wildlife species as the developed high school campus does not function as a regional wildlife movement corridor or habitat linkage.

## **7.2 REGULATORY SETTING**

This section briefly describes federal, state, and local regulations, permits, and policies pertaining to biological resources and wetlands as they apply to the project.

### **Federal Plans and Regulations**

#### **Endangered Species Act**

The federal Endangered Species Act of 1973 (known hereafter as the "Act") protects species that the USFWS has listed as "Endangered" or "Threatened." Permits may be required from USFWS if activities associated with a proposed project would result in the "take" of a federally listed species or its habitat. Under the Act, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in "take." "Take" of a listed species is prohibited unless (1) a Section 10(a) permit has been issued by the USFWS or (2) an Incidental Take Statement has been obtained through formal consultation between a federal agency and the USFWS pursuant to Section 7 of the Act.

## **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act of 1918 prohibits killing, possessing, or trading in migratory birds, and protects the nesting activities of native birds including common species, except in accordance with certain regulations prescribed by the Secretary of the Interior. Over 1,000 native nesting bird species are currently protected under the federal law. This Act encompasses whole birds, parts of birds, bird nests, and eggs.

## **Clean Water Act**

Section 404 of the Clean Water Act of 1972 regulates the discharge of dredge and fill material into "Waters of the U.S." "Waters of the U.S." are waters such as oceans, rivers, streams, lakes, ponds, and wetlands subject to U.S. Army Corps of Engineers (USACE) Regulatory Program jurisdiction under Section 404 of the Clean Water Act. Certain artificial drainage channels, ditches and wetlands are also considered jurisdictional "Waters of the U.S." On June 22, 2020, the Environmental Protection Agency and the Department of the Army's Navigable Waters Protection Rule: Definition of "Waters of the United States" became effective in 49 states and in all US territories. The San Francisco USACE District uses the rule definitions of "Waters of the U.S." when making permit decisions and providing landowners written determinations of the limits of federal jurisdiction on their property.

The USACE determines the extent of its jurisdiction as defined by ordinary high-water marks on channel banks, wetland boundaries, and/or connectivity to a navigable water. Wetlands are habitats with soils that are intermittently or permanently saturated or inundated. The resulting anaerobic conditions naturally select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 *Corps of Engineers Wetlands Delineation Manual* and the 2008 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*.

Activities that involve the discharge of fill into jurisdictional wetlands or waters are subject to the permit requirements of the USACE. Discharge permits are typically issued on the condition that the project proponent agrees to provide compensatory mitigation which results in no net loss of area, function, or value, either through wetland creation, restoration, or the purchase of credits through an approved mitigation bank. In addition to individual discharge permits, the USACE also issues nationwide permits applicable for certain activities.

## **State Plans and Regulations**

### **California Endangered Species Act**

Pursuant to the California Endangered Species Act and Section 2081 of the California Fish and Game Code, an Incidental Take Permit from the CDFW is required for projects that could result in the “take” of a state-listed Threatened or Endangered species. “Take” is defined under these laws as an activity that would directly or indirectly kill an individual of a species. If a project would result in the “take” of a state-listed species, then a CDFW Incidental Take Permit, including the preparation of a conservation plan, would be required.

### **Nesting Birds and Birds of Prey**

Sections 3505, 3503.5, and 3800 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, including their nests or eggs. Birds of prey (the orders Falconiformes and Strigiformes) are specifically protected in California under provisions of the California Fish and Game Code, Section 3503.5. This section of the Code establishes that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code. Disturbance that causes nest abandonment and/or loss of reproductive effort, such as construction during the breeding season, is considered take by the CDFW.

### **Streambed Alterations**

The CDFW has jurisdiction over the bed and bank of natural drainages according to provisions of Sections 1601 through 1603 of the California Fish and Game Code. Diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that support wildlife resources and/or riparian vegetation are subject to CDFW regulations. Activities that would disturb these drainages are regulated by the CDFW; authorization is required in the form of a Streambed Alteration Agreement. Such an agreement typically stipulates measures that will protect the habitat values of the drainage in question.

### **California Porter-Cologne Water Quality Control Act**

Under the California Porter-Cologne Water Quality Control Act, the applicable Regional Water Quality Control Board (regional board) may necessitate Waste Discharge Requirements for the fill or alteration of “Waters of the State,” which according to California Water Code Section 13050 includes “any surface water or groundwater, including saline waters, within the boundaries of the state.” The regional board may, therefore, necessitate Waste Discharge Requirements even if the affected waters are not under USACE jurisdiction.

Also, under Section 401 of the Clean Water Act, any activity requiring a USACE Section 404 permit must also obtain a state Water Quality Certification (or waiver thereof) to ensure that the proposed activity will meet state water quality standards. The applicable state regional board is responsible for administering the water quality certification program and enforcing National Pollutant Discharge Elimination System permits.



## Local Plans and Regulations

Even though the governing board of the school district has the authority to render city or county zoning ordinances and general plan requirements inapplicable to the project site and proposed project pursuant to California Government Code Section 53094, this RDEIR evaluates the proposed project's consistency with local regulations and policies for purposes of CEQA compliance.

### Monterey County General Plan

The *2010 Monterey County General Plan - Conservation and Open Space (OS)* element contains the following goal and policies associated with biological resources that are applicable to the proposed project:

**Goal OS-5.** Conserve listed species, critical habitat, habitat and species protected in area plans; avoid, minimize and mitigate significant impacts to biological resources.

**Policy OS-5.4.** Development shall avoid, minimize, and mitigate impacts to listed species and critical habitat to the extent feasible.

**Policy OS-5.16.** A biological study shall be required for any development project requiring a discretionary permit and having the potential to 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, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

**Policy OS-5.25.** Occupied nests of statutorily protected migratory birds and raptors shall not be disturbed during the breeding season (generally February 1 to September 15).

### Greater Monterey Peninsula Area Plan (2010)

The *2010 Greater Monterey Peninsula Area Plan* contains the following goal and policies associated with biological resources that are applicable to the proposed project:

**GMP-3.5.** Removal of healthy, native oak, Monterey pine, and redwood trees in the Greater Monterey Peninsula Planning Area shall be discouraged.

**GMP-3.6.** A 100-foot setback from all wetlands, as identified by a County-approved biologist, shall be provided and maintained in open space use. No new development shall be allowed in this setback area. No landscape alterations will be allowed in this setback area unless accomplished in conjunction with a restoration and enhancement plan prepared by a County-approved biologist and approved by the California Department of Fish and Game.

**GMP-3.7.** The County shall encourage other local agencies to take appropriate measures for the protection of wetlands under their jurisdiction.

### **Monterey County Ordinance**

The *Monterey County Zoning Ordinance: Title 21, Section 21.60.030 – Regulations*, states that “no landmark oak tree shall be removed in any area except as may be approved by the Director of Planning pursuant to Section 16.60.040. Landmark oak trees are those trees which are twenty-four (24) inches or more in diameter when measured two feet above the ground, or trees which are visually significant, historically significant, or exemplary of their species.”

## **7.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE**

The CEQA Guidelines indicate that a project may have a significant effect on the environment if it would have any of the effects listed below.

- 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;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

No habitat conservation plans apply to the project area. No further discussion of this topic is required. The applicable issues for the proposed project are evaluated in the impact analysis below.

## 7.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

This evaluation is based a review of existing scientific literature, aerial photographs, technical background information; relevant documents addressing biological resources at the project site; surveys conducted by EMC Planning Group; and policies applicable to projects located in Monterey County. See the beginning of this EIR section for a list of relevant documents used in this analysis.

### Effects on Special-Status Plant and Wildlife Species

IMPACT 7-1	Special-Status Plant Species	No Impact
---------------	------------------------------	-----------

Although habitats within the campus boundary include mixed oak woodland and areas where native plant species may occur, the proposed project is located in existing developed areas of an active high school campus (Figure 3-2 Aerial Photograph). No suitable habitat exists on the project site for special-status plant species and impacts to special-status plant species are not anticipated as a result of the project.

IMPACT 7-2	Potential Effect on Special-Status Species (Hoary Bat)	Less than Significant with Mitigation
---------------	--	--

As discussed in the project description, no tree removal is planned or intended. See also the construction schedule and details section of 4.0, Project Description.

The foliage of medium to large trees provide potential roosting habitat for one special-status bat species known to occur within the project vicinity: the California Species of Special Concern hoary bat. The nearest observations of the hoary bat were recorded in 1907 and 1948 in the city of Monterey and Point Lobos (Occurrence Nos. 75 and 76, CNDDDB 2021). Little is known about the distribution of hoary bat in the area.

Potential habitat for hoary bats generally includes dense foliage of medium to large trees. Open habitats or habitat mosaics are preferred, with access to trees for cover and open areas or habitat edges for feeding. This solitary species feeds primarily on moths and requires open water in the vicinity. Hoary bat is likely more concentrated along the Carmel River; however, it may occasionally forage or roost within the project vicinity.

### Conclusion

Tree removal is not currently part of the project description (page 4-18), however if special-status bats are present on the site, tree removal (if any), or tree trimming and other construction activities could result in the loss of individual animals. This would be a significant adverse environmental impact. Implementation of the following mitigation measure would reduce the potential impact to a less-than-significant level.

*Mitigation Measure*

7-2 Within 14 days prior to tree removal, tree trimming or other construction activities, the school district will retain a qualified biologist to conduct a habitat assessment for bats and potential roosting sites in trees to be trimmed, and in trees and structures within 50 feet of the development footprint. In the event that construction activities are suspended for 15 consecutive days or longer, these surveys will be repeated. These surveys will include a visual inspection of potential roosting features (bats need not be present) and a search for presence of guano within and 50 feet around the project site. Cavities, crevices, exfoliating bark, and bark fissures that could provide suitable potential nest or roost habitat for bats will be surveyed. Assumptions can be made on what species is present due to observed visual characteristics along with habitat use, or the bats can be identified to the species level with the use of a bat echolocation detector such as an "Anabat" unit. Potential roosting features found during the survey will be flagged or marked. Locations off the site to which access is not available may be surveyed from within the site or from public areas.

If no roosting sites or bats are found, a letter report confirming absence will be submitted by the biologist to the school district prior to the commencement of tree removal, trimming and construction activities and no further mitigation is required.

If bats or roosting sites are found, a letter report and supplemental documents will be provided by the biologist to the school district prior to the commencement of tree removal, tree trimming and construction activities and the following monitoring, exclusion, and habitat replacement measures will be implemented:

- a. If bats are found roosting outside of the nursery season (May 1 through October 1), they shall be evicted as described under (b) below. If bats are found roosting during the nursery season, they will be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or by monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats will be evicted as described under (b) below. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. Therefore, if a maternal roost is present, a 50-foot buffer zone (or different size if determined in consultation with the California Department of Fish and Wildlife) will be established around the roosting site within which no construction activities including tree removal or structure disturbance will occur until after the nursery season.

- b. If a non-breeding bat hibernaculum is found in a tree or snag scheduled for removal or on any structures within 50 feet of project disturbance activities, the individuals will be safely evicted, under the direction of a qualified bat biologist. If pre-construction surveys determine that there are bats present in any trees or structures to be removed, exclusion structures (e.g., one-way doors or similar methods) will be installed by a qualified biologist. The exclusion structures will not be placed until the time of year in which young are able to fly, outside of the nursery season. Information on placement of exclusion structures will be provided to the California Department of Fish and Wildlife prior to construction. If needed, other removal methods could include: carefully opening the roosting area in a tree or snag by hand to expose the cavity and opening doors/windows on structures, or creating openings in walls to allow light into the structures. Removal of any trees or snags and disturbance within 50 feet of any structures will be conducted no earlier than the following day (i.e., at least one night will be provided between initial roost eviction disturbance and tree removal/disturbance activities). This action will allow bats to leave during dark hours, which increases their chance of finding new roosts with a minimum of potential predation.
- c. Bat Mitigation and Monitoring Plan. If roosting habitat is identified, a Bat Mitigation and Monitoring plan will be prepared and implemented to mitigate for the loss of roosting habitat. The plan will include information pertaining to the species of bat and location of the roost, compensatory mitigation for permanent impacts, including specific mitigation ratios and a location of the proposed mitigation area, and monitoring to assess bat use of mitigation areas. The plan will be submitted to California Department of Fish and Wildlife for review and approval prior to the bat eviction activities or the removal of roosting habitat.

The school district will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the commencement of tree removal (if any), trimming and construction activities.

Implementation of this mitigation measure would reduce the potential significant impact to special-status bats to a less-than-significant level by requiring pre-construction surveys and the incorporation of appropriate avoidance and minimization measures should evidence of roosting bats be found on the project site. Therefore, this impact is less than significant with mitigation incorporated.



<b>IMPACT</b> 7-3	<b>Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds)</b>	<b>Less than Significant with Mitigation</b>
----------------------	---	--

As discussed in the project description, no tree removal is planned or intended. See also the construction schedule and details section of 4.0, Project Description.

Various bird species may nest throughout the project site, including in buildings, on open ground, or in any type of vegetation. Several avian species were observed at the project site during the reconnaissance field survey, including red-shouldered hawk, dark-eyed junco, California scrub jay, Wilson’s warbler, oak titmouse, and bushtit. No nesting activity was observed during the surveys. However, many bird species are migratory and fall under the jurisdiction of the Migratory Bird Treaty Act, protections for birds of prey, and/or are considered Fully Protected Species.

Protected nesting birds, including raptor species such as Cooper’s hawk (*Accipiter cooperii*), have potential to nest on and adjacent to the project site during the nesting bird season (January 15 through September 15).

**Conclusion**

If nesting birds protected by state and federal regulations are present on or adjacent to the site during construction activities including tree removal (if any), and trimming and construction activities, the proposed project may directly result in loss of active nests, or indirectly result in nest abandonment and thereby cause loss of fertile eggs or nestlings. This would be a significant adverse environmental impact. Implementation of the following mitigation measure would reduce the potential impact to a less-than-significant level.

*Mitigation Measure*

- 7-3 Prior to tree removal (if any), demolition, and construction activities, to avoid impacts to nesting birds during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), or if construction activities are suspended for at least 14 days and recommence during the nesting season, a qualified biologist will conduct nesting bird surveys.
  - a. Two surveys for active bird nests will occur within 14 days prior to start of construction, with the final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding each work area are typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys will be conducted at the appropriate times of day to observe nesting activities. Locations off the site to which access is not available may be surveyed from within the site or from public

areas. A report documenting survey results and plan for active bird nest avoidance (if needed) will be completed by the qualified biologist prior to construction activities.

- b. If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction will be established. The buffer will be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist will conduct baseline monitoring of each nest to characterize “normal” bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist will monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman will have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active.

The school district will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the start of tree removal if any, trimming and construction activities.

Implementation of this mitigation measure would reduce potential significant impacts to nesting birds and raptors to less than significant by requiring a preconstruction survey prior to construction in and adjacent to the project site boundary. If nesting activity is observed, measures to protect the nest(s) will be implemented. Therefore, this impact is less than significant with mitigation.

<b>IMPACT</b> 7-4	Potential Effect on Sensitive Biological Resources (Lighting and Noise)	<b>Less than Significant</b>
----------------------	--	------------------------------

### Lighting

The project would install new lighting fixtures along the edges of the track and stadium; no permanent overhead lighting is currently used. The proposed light fixtures would be at the top of 70 and 80-foot poles. Light fixtures would be designed to direct light downward to minimize light trespass and sky glow (see Figures 4-2a, 4-2b, and 4-2c for the illumination summaries associated with these light poles. A second set of egress lights would be affixed at a height of approximately 60 feet on each pole, and a third set of lower-output LED luminaires would be installed up to 16 feet in height (see Figures 4-3 and Figure 4-4 in Section 4.0, Project Description, for further light pole design details).

The project would also replace the existing bollard lights along the pathway from the proposed parking lot south of the stadium, to the stadium, with low level (four-foot) pedestrian pathway lights, and replace the existing light fixtures attached to the 60-foot-high lighting poles at the pool facility, with LED light fixtures. These LED lights will only be turned on for school-sponsored swim meets and practices. Additionally, the new parking lot replacing the tennis courts will feature cut-off luminaires on 12-foot-high poles with 3-foot concrete bases. The upgrades to pool lights and pathway lights will lessen impact on lights on nights stadium lights are not in use.

Proposed lighting would be visible to the surrounding area, which would alter the nighttime environment with additional illuminance. To illustrate the future off-site nighttime lighting conditions, nighttime visual simulations were prepared by school district visual consultant, 3DScape, nine off-site key observations points (KOPs) located in publicly accessible areas where the terrain and vegetation offers a clearer view of the proposed stadium lighting. These KOP locations are presented and discussed in Section 5.0, Aesthetics.

According to Figures 4-2a, 4-2b, and 4-2c and the discussion in Section 5.0, stadium lighting has been designed to direct illumination directly onto the football field. As shown on figure 4-2c, illumination is modeled at 0 to 1847 candelas (per fixture) at the edge of the campus. Illumination would therefore not extend to Hatton Canyon. Both listed and non-listed plant and wildlife species are sensitive to artificial lighting, however, particularly at night. Special-status species identified with the potential to occur within the project site include nesting birds and raptors and roosting bats.

## **Noise**

Noise disturbance due to construction, traffic, and other anthropogenic activity has been found to have detrimental impacts on avian habitat occupancy, pairing success, and reproductive output (Kleist et. al 2018). However, quantification of impacts in avian species is difficult and little is known about the level of noise disturbance known to universally cause an impact. Less is known about bats' response to human alteration of habitat, but work has shown that bat diversity and activity decline with increasing human development (Jung and Kalko 2011).

Most jurisdictions have not adopted noise standards for wildlife areas. As described in Section 10.0, Noise, the noise levels associated with activities such as high school football games, other sporting events and other events held in the stadium cannot be precisely defined due to variables such as the number of attendees, atmospheric conditions and the topographical relationship between the stadium and off-site sensitive receptors. The Carmel High School stadium is located at an elevation that is generally approximately 30 to 60 feet above the elevation of areas to the south and the east, providing topographic acoustic shielding from some of the noise sources, and noise levels associated with vehicle traffic on State Route 1 would generally be higher at areas to the west than noise levels associated with football game activities.

## Roosting Bats

Being nocturnal, bats are likely to be strongly affected by artificial lighting. New artificial lighting is proposed at the stadium and at the new parking lot where the tennis courts are currently located. No new lighting is proposed in the vicinity of the proposed new eastern parking lot. Moreover, many species of bats are insectivorous, and insects are also strongly influenced by lighting. Impacts on bats and their prey depend on the light spectra produced by street lights; ultraviolet (UV) wavelengths attract more insects and consequently insectivorous bats. Bat responses to lighting are species-specific and reflect differences in flight morphology and performance. Both high pressure sodium and LED lights reduce commuting activity by clutter-tolerant bats of the genera *Myotis*, and these bats still avoided LED lights when dimmed (Rowse et al. 2016). Additional lighting the few hours on those nights when the stadium lights would be on may have some effect on bat foraging behavior, but not to the level of a negative impact on the population. Pool lights and pathway lights are replacements for existing lighting and would reduce illumination impacts from baseline conditions. The new parking lot lights will be used by staff and participants at sporting events following the schedule of uses included in Section 4.0, Project Description. The proposed project incorporated the International Dark-Sky Association guidelines for minimizing light pollution into the project design, and outdoor lighting will be provided in a manner that provides for nighttime safety, utility, security, and enjoyment while limiting light trespass into natural areas surrounding the campus. The open space to the east along Hatten Canyon and along the riparian corridor around the Carmel River provides ample dark foraging opportunities, making it less likely that bats would frequent the proposed project area. Potential impacts to incidental foraging bats as a result of increased light and glare are therefore considered less than significant.

Maximum noise levels measured at the short-term noise monitoring sites ranged from 68 to 81 dB. Football games represent the worst-case noise impacts for events at the stadium. The worst-case assessment of football game maximum noise levels at nearby residential land uses is between approximately 60 to 70 dB. Such maximum noise levels do not exceed the existing maximum noise levels measured at the noise measurement sites. In addition, events would mostly occur between September and May, which overlaps the nursery season (May 1 through October 1) for one month (September). The proposed project is located within an active high school campus with daily variations in noise throughout the campus. If bats did choose to nest on campus, traffic noise levels at each of the four ambient noise measurement would site could, as a worst-case a couple of times per year, only increase by approximately 0-2 dB (2 dB at site LT-1 and 0 dB at sites LT-2, LT-3 and LT-4) and is not expected to significantly impact nesting activity. Operational noise impacts, including stadium events, replacement of pool lights, new parking lots, and traffic control measures are not expected to exceed existing ambient noise levels (see measured noise levels at site LT-2 and LT-4 (tennis

court vicinity) and site LT-3 (swimming pool facility) (Section 10.0 Noise). Therefore, the impacts of noise increases generated by the proposed project on protected bat species would be considered less than significant.

### **Nesting Migratory Birds and Raptors**

Once constructed, stadium light poles would be a maximum of 80 feet tall. Given the small surface area of their vertical and horizontal structure, poles would not have a significant impact on bird flight, including during migration. Stadium light would be on for only short periods consisting of ½ an hour to four hours on selected nights for up to four months, with most of the light use occurring during the school year between September and May. Pool lights and pathway lights are replacements for existing lighting and would reduce illumination impacts from baseline conditions. The new parking lot lights will be used by staff and participants at sporting events following the schedule of uses included in Section 4.0, Project Description ([Table 4-3, Proposed Stadium and Pool Facility Lighting Schedule](#)). The proposed project incorporated the International Dark-Sky Association guidelines for minimizing light pollution into the project design, and outdoor lighting will be provided in a manner that provides for nighttime safety, utility, security, and enjoyment while limiting light trespass into natural areas surrounding the campus.

There is evidence that powerful ground-based light sources in urban areas, such as the National September 11 Memorial & Museum in New York, induces significant behavior alterations in birds. However, when lights were extinguished, these alterations disappeared (Van Doren et. al. 2017). Since lighting would occur during short durations and little light trespass would occur, stadium lights are unlikely to result in birds becoming trapped within the light zone and causing a substantial and prolonged shift in migratory patterns. In addition, lighting events would occur between September and May, outside of the majority of the nesting bird season (generally January 15 to September 15). While lighting of the proposed project may cause the existing, active high school campus to be less attractive to nesting birds in the immediate vicinity, ample nesting habitat is located in the surrounding neighborhoods and regional vicinity, particularly within open space to the east along Hatten Canyon. Potential impacts to nesting migratory birds and raptors as a result of increased light and glare are therefore considered less than significant.

Maximum noise levels measured at the short-term noise monitoring sites ranged from 68 to 81 dB. As mentioned above, the worst-case assessment of noise-generating sports activities would be a football game. Football game maximum noise levels at nearby residential land uses is between approximately 60 to 70 dB. Such maximum noise levels do not exceed the existing maximum noise levels measured at the noise measurement sites. In addition, events would mostly occur between September and May, which falls partially outside the usual nesting bird season (January 15 through September 15). The proposed project is located within an active high school campus with daily variations in noise throughout the campus.



If birds did choose to nest on campus, traffic noise levels at each of the four ambient noise measurement sites would only increase by approximately 0-2 dB (2 dB at site LT-1 and 0 dB at sites LT-2, LT-3 and LT-4) and is not expected to significantly impact nesting activity. Operational noise impacts, including stadium events and new parking lots, are not expected to exceed existing ambient noise levels (see measured noise levels at site LT-2 and LT-4 (tennis court vicinity) and site LT-3 (swimming pool facility) (Section 10.0 Noise). Therefore, the impacts of noise increases generated by the proposed project on nesting birds would be considered less than significant.

### Protected Wetlands or Waters of the U.S.

<b>IMPACT</b> 7-5	Federally- and State-Protected Wetlands or Waters of the U.S. (Intermittent or Ephemeral Drainage)	<b>No Impact</b>
----------------------	---	------------------

A potentially jurisdictional aquatic feature was identified outside of the project site boundary on the east side of the football stadium ([Figure 7-1, Habitat Map](#)). However, this drainage is located approximately 100 feet south of the proposed eastern parking lot and approximately 100 feet southeast of the proposed storage building, outside of the project impact area. . Impacts to protected wetlands or waters of the U.S. are therefore not anticipated as a result of the project.

### Potential Tree Removal

<b>IMPACT</b> 7-6	Potential Tree Removal	<b>Less than Significant with Mitigation</b>
----------------------	------------------------	--

As discussed in the project description, no tree removal is planned or intended. See also the construction schedule and details section of 4.0, Project Description.

The proposed new 18-foot drive aisle along the west end of the football field and the tennis courts, the proposed new parking stalls at the existing tennis courts, and the proposed new parking stalls east of the swimming pool could potentially adversely impact mature Monterey cypress, Monterey pine and coast live oak trees growing immediately adjacent to these proposed improvements. The location of these trees is identified on [Figure 7-1, Habitat Map](#). Although project plans do not call for the removal of any of these trees, the planned construction of a new drive aisle and parking spaces could potentially jeopardize tree health through damage to roots and paving under tree driplines, resulting in the potential need to remove the trees. Implementation of the following mitigation measure would reduce this potential, significant impact to a less-than-significant level.

**Mitigation Measure**

7-6 Prior to any ground disturbance, an International Society of Arboriculture (ISA)-certified arborist will conduct a tree survey and prepare an evaluation report with associated data and location map for all potentially affected trees on and immediately adjacent to the project site. The school district will follow the arborist’s recommendations, such as the planting of replacement trees in appropriate on-site or off-site areas, along with any required maintenance and monitoring.

**Wildlife Movement**

<b>IMPACT</b> 7-7	Interference with Movement of Wildlife Species or with Established Wildlife Corridors	Less than Significant
----------------------	---	-----------------------

Wildlife movement includes migration (i.e., usually movement one way per season), inter-population movement (i.e., long-term dispersal and genetic flow), and small travel pathways (i.e., daily movement within an animal's territory).

The proposed project would impede to a limited degree the local movement of common wildlife species during construction and by the addition of new sources of light and glare. However, the impact to animals that may occasionally traverse these areas would be less than significant given the amount of similar habitat in the vicinity and region. Therefore, no mitigation measures are necessary.

**Sensitive Natural Communities**

<b>IMPACT</b> 7-8	Sensitive Natural Communities	No Impact
----------------------	-------------------------------	-----------

Sensitive natural communities are those that are listed in the CNDDDB due to the rarity of the community in the state or throughout its entire range (globally). Ranking of plant communities occurs according to their degree of imperilment, as measured by rarity, trends, and threats. Sensitive natural communities that may occur in the Central California region include, but are not limited to, the following: wetland and marsh, riparian forest, sycamore alluvial woodland, oak woodland, maritime chaparral, manzanita chaparral, dune scrub, and vernal pools. There are no sensitive natural communities found within the project site and impacts to sensitive natural communities are not anticipated as a result of the project.

*This side intentionally left blank.*

## 8.0 Energy

This section includes analysis of projected operational and construction energy demand for the proposed project and includes a determination about whether that demand could be considered wasteful or inefficient. Applicable uniform regulations for energy efficiency and conservation are also reviewed.

No comments regarding energy were received in response to the notice of preparation. Several members of the public commented that the original draft EIR did not adequately address “greenhouse energy” but did not indicate how the analysis was inadequate.

### 8.1 ENVIRONMENTAL SETTING

Population growth is a key driver for increasing fuel, electricity, and natural gas demand, and it is anticipated that Monterey County’s population and energy demand will continue to grow. To minimize the need for additional electricity generation facilities, both the state and regional energy utilities have focused investments on many energy-related sector initiatives. Energy purveyors have also focused on obtaining larger shares of retail power from renewable sources.

#### Electric Utility

Pacific Gas and Electric, one of the five largest utilities in the state, is the primary purveyor of electricity and natural gas in Monterey County. Pacific Gas and Electric operates a major network of electricity and natural gas transmission lines within its service area, including the project area.

Electricity is supplied to the campus by Central Coast Community Energy from 100 percent renewable sources (Dan Paul, e-mail message to consultant, July 6, 2021). Central Coast Community Energy is a Community Choice Energy agency established by local communities to source clean and renewable electricity for Monterey, San Benito and Santa Cruz counties and parts of San Luis Obispo and Santa Barbara counties while retaining the local utility provider’s traditional role delivering power and maintaining electric infrastructure. Central Coast Community Energy procures renewable energy contracts from a variety of solar, wind, and geothermal projects.

## **8.2 REGULATORY SETTING**

### **Energy Use and Conservation**

For decades, federal, state, and regional energy agencies and energy providers have been focused on reducing growth in fossil fuel-based energy demand, especially in the form of transportation fuel and electricity. Key related environmental goals have been to reduce air pollutants and greenhouse gases. Public and private investments in a range of transportation technology, energy efficiency and energy conservation programs and technologies to improve transportation fuel efficiency have been increasing, as has the focus on land use planning as a tool to reduce vehicle trips/lengths and transportation-related energy use.

Energy conservation is embodied in many federal, state, and local statutes and policies. Representative state energy efficiency and conservation, and transportation energy demand guidance, regulations, and legislation are summarized below. Additional related regulations and legislation are found in Section 9.0, Greenhouse Gas Emissions.

### **State**

#### **California Energy Commission**

The California Energy Commission is California's primary energy policy and energy planning agency. Created by the California Legislature in 1974, the California Energy Commission has five major responsibilities: 1) forecasting future energy needs and keeping historical energy data; 2) licensing thermal power plants 50 megawatts or larger; 3) promoting energy efficiency through appliance and building standards; 4) developing energy technologies and supporting renewable energy; and 5) planning for and directing state response to energy emergencies. Under the requirements of the California Public Resources Code, the California Energy Commission, in conjunction with the Department of Conservation's Division of Oil, Gas, and Geothermal Resources, is required to assess electricity and natural gas resources on an annual basis or as necessary. The Systems Assessment and Facilities Siting Division ensures that needed energy facilities are authorized in an expeditious, safe, and environmentally acceptable manner.

#### **California 2008 Energy Action Plan Update**

The state adopted the Energy Action Plan in 2003, followed by the Energy Action Plan II in 2005. The current plan, the California 2008 Energy Action Plan Update, is California's principal energy planning and policy document. The updated document examines the state's ongoing actions in the context of global climate change, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. The Energy Action Plan Update establishes energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods) as the first-



priority actions to address increasing energy demands. Additional priorities include using renewable sources of power and distributed generation (e.g., using relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy increasing energy demand and transmission capacity needs, clean and efficient fossil-fired generation is supported. The Energy Action Plan Update examines policy changes in the areas of energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change (California Energy Commission 2008).

### **California Building Codes**

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were first established in 1978 to reduce energy consumption. The California Energy Code is updated every three years as the Building Energy Efficiency Standards (BEES) to allow consideration and possible incorporation of new energy efficiency technologies and construction methods. The 2019 BEES went into effect on January 1, 2020. The 2019 BEES were structured to achieve the state's goal that all new low-rise residential buildings (single-family homes) be zero net energy. Multi-family homes and non-residential buildings built to the 2019 BEES will use about 30 percent less energy compared to the 2016 BEES (California Energy Commission 2018). The current 2022 Energy Code, which goes into effect on January 1, 2023, updates the prior 2019 code by requiring actions/features that continue to support California's gradual transition away from use of fossil fuels, and that improve environmental quality.

The Green Building Standards Code, also known as CALGreen, which requires all new buildings in the state to be more energy efficient and environmentally responsible, was most recently updated in July 2019. These comprehensive regulations are intended to achieve major reductions in interior and exterior building energy consumption.

### **Assembly Bill 2021 (Energy Efficiency Act of 2006)**

This bill encourages all investor-owned and municipal utilities to aggressively invest in achievable, cost-effective, energy efficiency programs in their service territories.

### **Assembly Bill 1493 (Pavley I Rule)**

AB 1493 was enacted on July 22, 2002. It requires the CARB to develop and adopt regulations that improve fuel efficiency of vehicles and light-duty trucks. Pavley I requirements apply to these vehicles in the model years 2009 to 2016.

### **Advanced Clean Cars**

In January 2012, CARB adopted an Advanced Clean Cars program, which is aimed at increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies.

## Renewable Energy Legislation/Orders

The California Renewable Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20 percent of their retail sales with renewable power by 2017, was established by SB 1078 in 2002. The renewable portfolio standard was accelerated to 20 percent by 2010 by SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by CARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. The Legislature then codified this mandate in 2011 with the enactment of SB X1-2. SB 350, adopted in September 2015, increases the standard to 50 percent by 2030. This same legislation includes statutes directing the California Energy Commission and Public Utilities Commission to regulate utilities producing electricity so that they will create electricity-generation capacity sufficient for the widespread electrification of California's vehicle fleet, as a means of reducing GHG emissions associated with the combustion of gasoline and other fossil fuels. The Legislature envisions a dramatic increase in the sales and use of electric cars, which will be recharged with electricity produced with increasingly cleaner power sources.

On September 10, 2018, former Governor Jerry Brown signed into law SB 100 and Executive Order B-55-18. SB 100 raises California's Renewable Portfolio Standard requirement to 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. Executive Order B-55-18 establishes a carbon neutrality goal for California by 2045, and sets a goal to maintain net negative emissions thereafter.

### Senate Bill 743

SB 743, which became effective September 2013, initiated reforms to the CEQA Guidelines to establish new criteria for determining the significance of transportation impacts that "promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses." Specifically, SB 743 directed the Governor's Office of Planning and Research to update the CEQA Guidelines to replace automobile delay—as described solely by level of service or similar measures of vehicular capacity or traffic congestion—with vehicle miles traveled as the recommended metric for determining the significance of transportation impacts. This is discussed further in Section 9.0, Greenhouse Gas Emissions.

## 8.3 THRESHOLDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of energy resources, as it does on a whole series of additional environmental topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of energy resource impacts, or on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies

discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant impact would occur if implementation of the proposed project would:

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

There is no definition in CEQA for what constitutes “wasteful, inefficient, or unnecessary consumption of energy resources.” This threshold of significance for determining whether the energy impacts of a project could be found to be significant and require mitigation is by its nature purely qualitative; there is no quantitative threshold at which energy impacts are determined to be significant.

The following analysis quantifies the major forms of projected project energy demand. The purpose is to disclose and provide a relative understanding of the magnitude of that demand. The projected electricity demand for stadium lighting would be miniscule relative to the vast majority of land use and development project types commonly evaluated in EIRs. And due in large part to the qualitative nature of the threshold of significance, projects with orders of magnitude greater demand for electricity are commonly found to have less than significant energy impacts.

## 8.4 ANALYSIS AND MITIGATION MEASURES

### Energy Use

IMPACT 8-1	Energy from Lighting and Traffic Will be Consumed During Construction and Operations	Less than Significant
---------------	--	-----------------------

### Energy Consumption - Operations

The primary sources of energy demand will be from increased transportation fuel use and electricity use. Associated demand and related issues are summarized below.

#### *Transportation Fuel Demand*

Transportation fuel demand commonly increases when a proposed project generates new vehicle trips that result in new vehicle miles traveled (VMT). VMT can be used to project transportation fuel demand. VMT for the proposed project conditions was estimated using the California Emissions Estimator Model (CalEEMod). The closest land use category

available in CalEEMod to approximate the proposed project characteristics is “Arena”, a use that is significantly more traffic and energy intensive than is the proposed project. Therefore, the CalEEMod results likely overestimate the actual VMT and energy use for the proposed project. The CalEEMod results are contained in [Appendix G](#). VMT is estimated to increase by about 46,181 miles per year.

The 2021 Emissions Factor Model version 1.01, which uses VMT as an input, was used to estimate the projected the transportation fuel use increase resulting from the project. The Emissions Factor Model results in [Appendix H](#) show a projected increase of approximately 1,240 gallons per year. The Emissions Factor Model results are based upon the CalEEMod VMT results. Therefore, fuel demand is likely also overestimated. Additional reasons why these results may be overestimated include reduction in busing to other sports fields; reduction in number of Saturday games avoiding additional trips for students and staff that are already on campus on weekdays, spectators for night games may live closer to the high school than the current location of night games; and reduction in circling around looking for parking with the addition of parking spaces. This information is not qualifiable in the model.

### *Electricity Demand*

New lighting at the stadium and at the new south of the stadium parking lot will be the primary sources of new electricity demand. Operations at the proposed stadium storage building would also be new source. New demand from these sources would be nominal given the limited application and frequency/duration of use. The plan to replace existing pool lighting and existing lighting along the pathway to the existing tennis courts/new south stadium parking lot would result in nominal electricity savings, as the new LED lights would be more energy efficient than the existing lights.

### **Energy Consumption - Construction**

During the short-term, construction process, diesel and gasoline use in construction equipment, construction material transport vehicles, portable power generation systems, and worker vehicles would be the primary sources of energy use. Construction phase energy demand would be minimal given the given the simple installation process. Consequently, construction energy demand has not been quantified.

### **Conclusion**

The proposed project is a common type of improvement that would result in an increase in demand for common energy types and the new lights must meet current standards for energy efficiency. Given the considerations summarized above, the proposed project would have a less-than-significant impact from wasteful, inefficient, or unnecessary energy resource demand during operations and construction.

## Energy Plans

<b>IMPACT 8-2</b>	<b>No Conflict with State or Local Plans for Renewable Energy or Energy Efficiency</b>	<b>No Impact</b>
-----------------------	--	------------------

The school district has not adopted a plan for renewable energy, nor is it subject to complying with renewable energy plans of other local special districts or government agencies. State renewable energy plans do not specifically require action at the local special district or government agency level.

A multitude of state regulations and legislative acts are aimed at improving energy efficiency and enhancing energy conservation. While most of the energy-related legislation is enforced at the state level, the California Building Standards Code is enforceable at the local level by the school district, specifically the Board of Education, through the project approval process and required review by the Division of the State Architect which issues a "Written Approval of Plans" letter after it reviews the project for code compliance. That enforcement is the primary mechanism through which state-mandated energy efficiency/conservation measures that are within the control of the school district must be implemented. Therefore, the project will not conflict with renewable energy efficiency/conservation plans.



*This side intentionally left blank.*

## Greenhouse Gas Emissions

Information in this section is derived primarily from results of CalEEMod modeling found in [Appendix G](#), and trip generation information contained in the *VMT Assessment and Intersection Operations, Site Access and Parking Evaluation for the Proposed Carmel High School Stadium Lighting in Carmel-by-the-Sea, California* (Hexagon Transportation Consultants 2022) found in [Appendix J](#) to this EIR.

No comments regarding GHG emissions were received in response to the notice of preparation. The following comments on GHG emissions were received during the public review period for the original draft EIR:

- Caltrans, District 5 commented, “The parking demand measures will help meet statewide goals of reducing both vehicle miles traveled (VMT) and greenhouse gasses (GHG’s). We look forward to the school district passing the traffic control management plan before the first game.”
- Several members of the public commented that the original draft EIR did not adequately address “greenhouse energy” but did not indicate how the analysis was inadequate.

### 9.1 ENVIRONMENTAL SETTING

This section provides a general overview of climate change science, causes and effects of climate change, California and local GHG inventories, and GHG emissions produced from the current use of the project site.

#### Climate Change Science

The international scientific community has concluded with a high degree of confidence that human activities are causing an accelerated warming of the atmosphere. The resulting change in climate has serious global implications and consequently, human activities that contribute to climate change may have a potentially significant effect on the environment. In recent years, concern about climate change and its potential impacts has risen dramatically. That concern has translated into a range of international treaties and national and regional agreements aimed at diminishing the rate at which global warming is occurring. The federal government, under former President Obama, began to tackle concerns about climate change

through a range of initiatives and regulatory actions. Many states and local agencies, private sector interests, and other public and private interests have also taken initiative to combat climate change. At the state level, California has taken a leadership role in tackling climate change, as evidenced by the programs outlined in the Regulatory Setting section below.

## **Causes of Climate Change**

The greenhouse effect naturally regulates the Earth's temperature. However, human activity has increased the intensity of the greenhouse effect by releasing increasing amounts of GHGs into the atmosphere. GHGs can remain in the atmosphere for decades or even hundreds of thousands of years (depending on the particular GHG). The GHG emissions that are already in the atmosphere will continue to cause climate change for years to come, just as the warming being experienced now is the result of emissions produced in the past. Climatic changes are happening now and are projected to increase in frequency and severity before the benefits of GHG emission reductions will be realized. Increased concentrations of GHGs in the atmosphere result in increased air, surface, and ocean temperatures. Many of the effects and impacts of climate change stem from resulting changes in temperature and meteorological responses to those changes.

## **Effects of Climate Change**

Increased concentrations of GHGs in the atmosphere result in increased air, surface, and ocean temperatures. Many of the effects and impacts of climate change stem from resulting changes in temperature and meteorological responses to those changes.

## **Rising Temperatures**

The Intergovernmental Panel on Climate Change, which includes more than 1,300 scientists from the United States and other countries, estimated that global temperatures have increased by about 2 degrees Fahrenheit (°F) during the 20<sup>th</sup> century (NASA 2020). The Intergovernmental Panel on Climate Change forecasts indicate that global temperatures can be expected to continue to rise between 2.5 and 10°F over the next century. According to the *California's Fourth Climate Change Assessment: Statewide Summary Report* (2019), average temperatures in California are projected to increase 5.6°F to 8.8°F by 2100.

According to Cal-Adapt, a climate change projection modeling tool developed by California Energy Commission, temperatures in Monterey County have historically (1961-1990) averaged about 66.1°F (Cal-Adapt 2021a). Average temperatures are projected to rise 5.0°F in the future (2070-2099), based on medium and high emissions scenarios. Monterey County has historically experienced four extreme heat days per year (over 87.9°F). The model projections fluctuate on an annual basis. Future scenarios modeled in Cal-Adapt are long range forecast. The number of extreme heat days per year is expected to increase to an average of nine days per year in the future (2070-2099) (Cal-Adapt 2021b).

## **Reduced Snowpack**

The Sierra Nevada snowpack acts as a large natural reservoir that stores water during the winter and releases it into rivers and reservoirs in the spring and summer. It is expected that there will be less snowfall in the Sierra Nevada and that the elevations at which snow falls will rise. Similarly, there will be less snowpack water storage to supply runoff water in the warmer months. It has already been documented that California's snow line is rising. More precipitation is expected to fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack. The spring snowpack in the Sierra Nevada decreased by 10 percent in the last century and may decrease as much as 70 to 90 percent by 2100 (Cal-Adapt 2021b). It is estimated that for each 1.8°F increase in Earth's average temperature, the Sierra snowpack will retreat 500 feet in elevation and an overall reduction of 25 to 40 percent reduction in snowpack by 2050 is projected. The Sierra Nevada snowpack provides approximately 80 percent of California's annual water supply. The rapid decrease in snowpack and spring melt poses a threat to groundwater resources in many parts of the state where rivers that recharge groundwater with melt water from the Sierra Nevada will have reduced groundwater recharge potential.

## **Water Supply**

Climate change is expected to increase pressure on and competition for water resources, further exacerbating already stretched water supplies. Decreasing snowpack and spring stream flows and increasing demand for water from a growing population and hotter climate could lead to increasing water shortages. Water supplies are also at risk from rising sea levels. Competition for water between cities, farmers, and the environment is expected to increase.

Anticipated changes to source water conditions including more intense storm events, longer drought periods, reduced snowpack at lower elevations, and earlier spring runoff will likely impact the quality of the source waters. Changes in source water quantity and quality may result in increased treatment needs and increased treatment costs.

## **Precipitation Levels**

Precipitation levels are difficult to predict compared to other indicators of climate change. Annual rain and snowfall patterns vary widely from year to year, especially in California. Generally, higher temperatures increase evaporation and decrease snowfall, resulting in a drier climate. On average, Cal-Adapt projections show little change in total annual precipitation in California (Cal-Adapt 2021c). Furthermore, among several models, precipitation projections do not show a consistent trend during the next century. The Mediterranean seasonal precipitation pattern is expected to continue, with most precipitation falling during winter from North Pacific storms. One of the four climate models projects

slightly wetter winters, and another model projects slightly drier winters with a 10 to 20 percent decrease in total annual precipitation. However, even modest changes would have a significant impact because California ecosystems are conditioned to historical precipitation levels and water resources are nearly fully utilized.

The Monterey County area has historically averaged about 18.7 inches of rainfall per year. That number is forecast to average about 21.3 inches in the future (2070-2099) (Cal-Adapt 2021a).

### **More Frequent and Extreme Storm Events**

Extreme weather is expected to become more common throughout California as a result of climate change. More extreme storm events are expected to increase water runoff to streams and rivers during the winter months, heightening flood risks. Warmer ocean surface temperatures have caused warmer and wetter conditions in the Sierra Nevada, increasing flood risk. Strong winter storms may produce atmospheric rivers that transport large amounts of water vapor from the Pacific Ocean to the California coast. As the strength of these storms increases, the risk of flooding increases.

### **Sea Level Rise**

Sea level rise is one of the most significant effects of climate change. Sea level has been rising over the past century, and the rate has increased in recent decades. Global mean sea level in 2017 was the highest annual average in the satellite era (since 1993) with a value of 77 millimeters above the 1993 average (Hartfield, Blunden, and Arndt 2018). Globally, sea levels are rising due to two main reasons: thermal expansion of warming ocean water and melting of ice from glaciers and ice sheets. Rising sea levels amplify the threat and magnitude of storm surges in coastal areas. Water infrastructure, often located along the coast or tidally-influenced water bodies, can be vulnerable to greater changes in storm surge intensity. The threat of flooding and damage to water infrastructure will continue to increase over time as sea levels rise and the magnitude of storms increase. Rising sea levels will create stress on coastal ecosystems that provide recreation, protection from storms, and habitat for fish and wildlife, including commercially valuable fisheries. Rising sea levels can also introduce new, or exacerbate existing, saltwater intrusion into freshwater resources.

### **Diminished Air Quality**

Climate change is expected to exacerbate air quality problems by increasing the frequency, duration, and intensity of conditions conducive to air pollution formation. Higher temperatures and increased ultraviolet radiation from climate change are expected to facilitate the chemical formation of more secondary air pollutants from ground-level sources. Conversely, decreased precipitation is expected to reduce the number of particulates cleansed from the air. Incidents of wildfires are expected to increase due to climate change, further contributing to air quality problems.



According to the American Lung Association's 2020 *State of the Air* report, nearly half of all Americans were exposed to unhealthy air in 2016-2018. The report found that California cities dominate the rankings of the nation's most widespread air pollutants, ozone and particle pollution. In California, over 38 million residents live in counties where ozone or particulate pollution placed their health at risk (American Lung Association 2020).

### **Ecosystem Changes**

Climate change effects will have broad impacts on local and regional ecosystems, habitats, and wildlife as average temperatures increase, precipitation patterns change, and more extreme weather events occur. Species that cannot rapidly adapt are at risk of extinction. As temperatures increase, California vegetation is expected to change. Desert and grassland vegetation are projected to increase while forest vegetation is projected to generally decline. The natural cycle of plant flowering and pollination, as well as the temperature conditions necessary for a thriving locally adapted agriculture, may also be affected. Perennial crops, such as grapes, may take years to recover. Increased temperatures also provide a foothold for invasive species of weeds, insects, and animals.

### **Social Vulnerability to Climate Change**

The impacts of climate change will not affect people equally. People exposed to the most severe climate-related hazards are often those least able to cope with the associated impacts, due to their limited resources and adaptive capacity. Climate change is expected to have a greater impact on larger populations living in poorer and developing countries with lower incomes that rely on natural resources and agricultural systems that will likely be affected by changing climates.

Certain groups in developed countries like the United States will also experience more impacts from climate change than others. People in rural areas are more likely to be affected by climate change related droughts or severe storms compared to their urban counterparts. However, certain groups living in cities will also be at higher risk than others.

Residents at greatest risk include children, the elderly, those with existing health problems, the socially and/or economically disadvantaged, those who are less mobile, and those who work outdoors. Place of residence is another vulnerability indicator, as renters, households without air conditioning, households lacking access to grocery stores, households in treeless areas, and households on impervious land cover are also more vulnerable to climate change impacts.

### **Health Effects/Illness**

As temperatures rise from global warming, the frequency and severity of heat waves will grow and increase the potential for bad air days, which can lead to increases in illness and death due to dehydration, heart attack, stroke, and respiratory disease. Additionally, dry conditions can lead to a greater number of wildfires producing smoke that puts people with asthma and respiratory conditions at risk of illness or death.

Higher temperatures and the increased frequency of heat waves are expected to significantly increase heat-related illnesses, such as heat exhaustion and heat stroke, while also exacerbating conditions associated with cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. An increase of 10°F in average daily temperature is associated with a 2.3 percent increase in mortality. During heat waves mortality rates can increase to about nine percent. As temperatures in the area increase, vulnerable populations such as children, the elderly, people with existing illnesses, and people who work outdoors will face the greatest risk of heat-related illness.

As climate change affects the temperature, humidity, and rainfall levels across California, some areas could become more suitable habitats for insects (especially mosquitoes), ticks, and mites that may carry diseases. Wetter regions are typically more susceptible to vector-borne diseases, especially human hantavirus cardiopulmonary syndrome, Lyme disease, and West Nile virus.

## Greenhouse Gas Types

GHGs are emitted by natural processes and human activities. The human-produced GHGs most responsible for global warming and their relative contribution to it are carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons. The contribution of these GHGs to global warming based on the U.S. inventory of GHGs in 2018 (United States Environmental Protection Agency 2020) is summarized in [Table 9-1, Greenhouse Gas Emissions Types and Their Contribution to Global Warming](#).

**Table 9-1 Greenhouse Gas Emissions Types and Their Contribution to Global Warming**

Greenhouse Gas	Percent of all GHG	Typical Sources
Carbon dioxide (CO <sub>2</sub> )	81 percent	Combustion of fuels, solid waste, wood
Methane (CH <sub>4</sub> )	10 percent	Fuel production/combustion; livestock, decay of organic materials
Nitrous Oxide (N <sub>2</sub> O)	7 percent	Combustion of fuels, solid waste, agricultural/industrial processes
Chlorofluorocarbons (CFCs)	3 percent	Industrial processes

SOURCE: United States Environmental Protection Agency 2020

NOTE: Percentages may not add up to 100 percent due to independent rounding.

## Greenhouse Gas Global Warming Potentials

Each type of GHG has a different capacity to trap heat in the atmosphere and each type remains in the atmosphere for a particular length of time. The ability of a GHG to trap heat is measured by an index called the global warming potential expressed as carbon dioxide equivalent. Carbon dioxide is considered the baseline GHG in this index and has a global warming potential of one.

The GHG volume produced by a particular source is often expressed in terms of carbon dioxide equivalent (CO<sub>2</sub>e). Carbon dioxide equivalent describes how much global warming a given type of GHG will cause, with the global warming potential of CO<sub>2</sub> as the base reference. Carbon dioxide equivalent is useful because it allows comparisons of the impact from many different GHGs, such as methane, perfluorocarbons, or nitrous oxide. If a project is a source of several types of GHGs, their individual global warming potential can be standardized and expressed in terms of CO<sub>2</sub>e. [Table 9-2, Greenhouse Gas Emissions Global Warming Potentials](#) presents a summary of the global warming potential of various GHGs.

**Table 9-2 Greenhouse Gas Emissions Global Warming Potentials**

GHG	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide CO <sub>2</sub>	50-200	1
Methane CH <sub>4</sub>	12 (+/- 3)	21
Nitrous Oxide N <sub>2</sub> O	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC Tetrafluoromethane CF <sub>4</sub>	50,000	6,500
PFC Hexafluoroethane C <sub>2</sub> F <sub>6</sub>	10,000	9,200
Sulfur Hexafluoride SF <sub>6</sub>	3,200	23,900

SOURCE: United Nations Framework Convention on Climate Change 2020

Methane has a global warming potential of 21 times that of carbon dioxide, and nitrous oxide has a global warming potential of 310 times that of CO<sub>2</sub>. The families of chlorofluorocarbons, hydrofluorocarbons, and perfluorocarbons have a substantially greater global warming potential than other GHGs, generally ranging from approximately 1,300 to over 10,000 times that of CO<sub>2</sub>. While CO<sub>2</sub> represents the vast majority of the total volume of GHGs released into the atmosphere, the release of even small quantities of other types of GHGs can be significant for their contribution to climate change.

## Greenhouse Gas Inventories

### California GHG Emissions Inventory

Based on the California Air Resources Board's (CARB) current state GHG inventory data, a net of about 425.3 million metric tons (MMT) of CO<sub>2</sub>e were generated in California in 2018 (California Air Resources Board 2021). In 2018, about 40 percent of all GHG gases emitted in the state came from the transportation sector. Industrial uses and electric power generation (in state generation and out of state generation for imported electricity) were the second and

third largest categories at about 21 percent and 15 percent, respectively. The commercial and residential use sectors combined to generate about 10 percent of the 2018 emissions, while the agricultural sector contributed about 8 percent.

## **Existing Sources of GHG Emissions within the Project Site**

The project site is an existing high school football stadium on the Carmel High School campus. Existing sources of GHG emissions include an electronic scoreboard, and storage and maintenance buildings which use minimal electricity and emissions from vehicular trips associated with event participant and attendee travel to the site. These events are summarized in Table 4-1 of the Project Description.

### **Electric Utility**

Electricity is supplied to the campus by Central Coast Community Energy. Central Coast Community Energy is a Community Choice Energy agency established by local communities to source clean and renewable electricity for Monterey, San Benito and Santa Cruz counties and parts of San Luis Obispo and Santa Barbara counties while retaining the local utility provider's traditional role delivering power and maintaining electric infrastructure as well as billing. Central Coast Community Energy procures renewable energy contracts through a variety of solar, wind, and geothermal projects, and has committed to source 100 percent of its energy supply from clean and renewable resources for all participating communities by 2030, 15 years ahead of California's energy goal.

## **9.2 REGULATORY SETTING**

The federal government has taken significant regulatory steps toward addressing climate change. Generally, California policy and regulations and regulations implemented at the regional and local levels are as or more comprehensive and stringent than federal actions; therefore, this section focuses on state, regional, and local regulatory actions whose implementation would lessen the contribution of the proposed project to climate change. Only legislation/regulation that is germane to the proposed project is included in this section.

### **State**

#### **Overall Statutory Framework**

The California Legislature has enacted a series of statutes addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the state; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations

by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB “Scoping Plans” intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

## **Statutes and Executive Orders Setting Statewide GHG Reduction Targets**

### *Assembly Bill 32 (Global Warming Solutions Act)*

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

### *Senate Bill 32*

Effective January 1, 2017, Senate Bill (SB) 32 added a new section to the Health and Safety Code. It requires CARB to ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below those that occurred in 1990 no later than December 31, 2030.

Between AB 32 and SB 32, the Legislature has codified some of the GHG emissions reduction targets included within certain Executive Orders issued by prior governors. The 2020 GHG emissions reduction target in AB 32 was consistent with the second of three statewide GHG emissions reduction targets set forth in the 2005 Executive Order known as S-3-05. Executive Order S-3-05 included the following GHG emissions reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. Executive Order, B-30-15, issued in 2015, created a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030. The 2030 GHG reduction target in SB 32 is consistent with the reduction target set forth in Executive Order B-30-15.

Executive Order B-55-18, signed in 2018, establishes a carbon neutrality goal for California by 2045, and sets a goal to maintain net negative emissions thereafter. This goal is a significant new driver for the state’s GHG reduction/climate change strategy. The order requires not only that emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of carbon dioxide from the atmosphere, including through sequestration in forests, soils and other natural landscapes. These latter strategies are a focus of the CARB’s 2022 Scoping Plan as described below.



The Legislature has not yet set a 2050 target, though references to a 2050 target can be found in statutes outside the Health and Safety Code. In 2015, the Legislature passed SB 350, which is discussed in more detail below. This legislation essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain state agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification and that accelerating investments in transportation electrification is needed to reduce greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.

### **Statutes Setting Targets for Generating Energy from Renewable Energy Sources**

In September 2002, the Legislature enacted SB 1078, which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase 20 percent of the State's electricity from renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

In September 2006, the Legislature enacted SB 107, which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. In April 2011, the Legislature enacted SB X1-2, which set even more aggressive statutory target that 33 percent of the State's electricity come from renewables by 2020.

In 2015, the Legislature enacted SB 350. SB 350 encourages a substantial increase in the use of electric vehicles and increased the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. In 2018, former Governor Jerry Brown signed into law SB 100 and Executive Order B-55-18. SB 100 raises California's Renewable Portfolio Standard requirement to 50 percent renewable resources target by December 31, 2026, and 60 percent by December 31, 2030.

In sum, California has set a statutory goal of requiring that, by the year 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to be sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other zero-emission vehicles. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon intensive. A number of statutes in recent years have addressed that strategy. These are discussed below.

## **Statutes Addressing Mobile Source GHG Reductions**

Senate Bill 743 (SB 743), which became effective September 2013, initiated reforms to the CEQA Guidelines to establish new criteria for determining the significance of transportation impacts that “promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses.” Specifically, SB 743 directed the Governor’s Office of Planning and Research to update the CEQA Guidelines to replace automobile delay—as described solely by LOS or similar measures of vehicular capacity or traffic congestion—with Vehicle Miles Traveled (VMT) as the recommended metric for determining the significance of transportation impacts. The Office of Planning and Research has updated the CEQA Guidelines for this purpose by adding a new section 15064.3 to the Guidelines. Beginning July 1, 2020, the provisions apply statewide. While SB 743 is transportation related in terms of CEQA, it is key legislation for reducing GHGs from mobile sources.

## **Executive Orders for Increasing Electric Vehicle Use**

### *Executive Order B-16-12*

In March 2012, former Governor Brown issued an Executive Order, B-16-12, which embodied a vision of a future in which zero-emission vehicles will play a big part in helping the state meet its GHG reduction targets. Executive Order B-16-12 directed state government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be “zero-emission vehicles ready”;
- By 2020, adequate infrastructure to support one million zero-emission vehicles;
- By 2025, 1.5 million zero-emission vehicles on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on zero-emission vehicles, and greenhouse gas emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In sum, California has set a statutory goal of requiring that, by the year 2030, half of the electricity generated in California should be from renewable sources, with increased generation capacity intended to be sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other zero-emission vehicles. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon intensive. A number of statutes in recent years have addressed that strategy.

### *Senate Bill 350*

In addition to setting increased renewable energy portfolio targets, this bill indirectly promotes electrification of the transportation fleet by promoting actions to enhance availability of renewable energy as a vehicle transportation energy source.

### *Executive Order B-48-18*

In January 2018, former Governor Brown issued Executive Order B-48-18. This executive order requires that all state entities work with the private sector and all appropriate levels of government to put at least five million zero-emission vehicles on California roads by 2030. It also requires all State entities to work with the private sector and all appropriate levels of government to spur the construction and installation of 200 hydrogen fueling stations and 250,000 zero-emission vehicle chargers, including 10,000 direct current fast chargers, by 2025.

### *Executive Order N-79-20*

In 2020, California Governor Gavin Newsom issued Executive Order N-79-20, which sets statewide goals for phasing out gasoline-powered cars and trucks in California. Under the Order, 100 percent of in-state sales of new passenger cars and trucks are to be zero-emission by 2035; 100 percent of in-state sales of medium- and heavy-duty trucks and busses are to be zero-emission by 2045, but only where feasible; and 100 percent of off-road vehicles and equipment sales are to be zero-emission by 2035 where feasible.

## **Statutes and California Air Resources Board Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels**

In July 2002, the Legislature enacted AB 1493 (Pavley Bill), which requires the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. In September 2004, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations are commonly known as the “Pavley standards.” In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the “Pavley II standards.”

In January 2012, CARB adopted an Advanced Clean Cars program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This program combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the Advanced Clean Cars program are the low-emission vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the zero-emission vehicle regulation,

which requires manufacturers to produce an increasing number of pure zero-emission vehicles (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years.

It is expected that the Advanced Clean Car regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

## **Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives**

### *Senate Bill 375 (Sustainable Communities' Strategy)*

This 2008 legislation sets forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for the year 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities' strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities' strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities' strategy, then an alternative planning strategy must be developed that demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Local agencies that adopt land use, housing, and transportation policies that are consistent with and facilitate implementation of the related GHG reduction strategies in a sustainable communities strategy benefit through potential CEQA streamlining for qualifying projects proposed within their boundaries. Adoption of such policies can be a part of a general plan update or other similar policy adoption process. However, a local agency's general plan is not required to be consistent with a sustainable communities strategy.

## **2017 Climate Change Scoping Plan**

CARB has been tasked with preparing five-year strategies for how California will achieve GHG reductions embodied in key statewide GHG reduction target-setting legislation. With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing CARB's 2017 Scoping Plan. It reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard by 2030 and doubling of energy efficiency savings by 2030;

- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks;
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities' Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in greenhouse gas emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

## 2022 Scoping Plan

The draft 2022 Scoping Plan Update assesses progress toward the statutory 2030 target identified in SB 32, while laying out a path to achieving carbon neutrality no later than 2045 as identified in Executive Order B-55-18. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

This is the first Scoping Plan that adds carbon neutrality as a science-based guide beyond statutorily established emission reduction targets. Previous plans focused on specific GHG reduction targets for the industrial, energy, and transportation sector, to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution.



## **Building Code Requirements Intended to Reduce GHG Emissions**

### *California Energy Code*

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the California Building Standards Code, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The California Energy Code is updated every three years by the California Energy Commission as the Building Energy Efficiency Standards (BEES) to allow consideration and possible incorporation of new energy efficiency technologies and construction methods. Although the BEES were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity. The California Building Standards Code is enforceable at the project-level. Energy standards have supported California's long-term strategy to meet energy demand, and conserve resources. The Energy Code governs window and door materials, lighting, electrical panels, insulation, faucets and additional building features. The requirements vary between home and business buildings, as well as among climate zones in which they are implemented. The current 2022 Energy Code updates the prior 2019 code by requiring actions/features that continue to support California's gradual transition away from use of fossil fuels, and improve environmental quality.

### *California Green Building Standards Code*

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) ("CALGreen") is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality.

These comprehensive regulations are intended to achieve major reductions in interior and exterior building energy consumption. CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of commercial, residential, and state-owned buildings, as well as schools and hospitals. The current 2019 version of CALGreen includes mandatory standards that address:

- Planning and Design (e.g., stormwater, bicycle facilities, clean air vehicles, EV support infrastructure, light pollution and grading and paving);
- Water Efficiency (metering, conserving fixtures, landscaping, outdoor recycle water supply);

- Materials Conservation and Efficiency (moisture control, construction waste management, soil and debris management, recycling, systems commissioning, etc.); and
- Environmental Quality (fireplaces and woodstoves, ducting, paints, carpets, flooring, interior air quality, noise, ozone and refrigerants, etc.).

CALGreen includes two tiers (Tier I and Tier II) of voluntary standards. Each increases the mandatory performance standards above and provide additional elective measures, with Tier 2 measures being the most expansive.

The code was most recently updated in July 2022 with the update to take effect on January 1, 2023. The primary changes in the 2022 code are to planning and design standards. These changes promote electrification of the vehicle fleet by expanding standards for electric vehicle infrastructure (e.g., electric vehicle charging stations) for residential and non-residential development. Change in the water efficiency, materials conservations, and environmental quality standards were limited.

## **Regional/Local**

### **Monterey Bay Air Resources District**

The project site is located in the North Central Coast Air Basin and within the boundary of the Monterey Bay Air Resources District (“air district”). To date, the air district has not adopted CEQA guidance for analysis of GHG effects of land use projects nor has it prepared a qualified GHG reduction plan for use/reference by local agencies.

## **9.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE**

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of GHG emissions, as it does on a whole series of additional topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of GHG impacts, or on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant GHG impact would occur if implementation of the proposed project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The school district does not have an adopted plan for reducing GHGs from which the analysis of project-specific GHG impacts can be streamlined. To date, the air district has not adopted or recommended a GHG threshold of significance that is applicable to land use projects, nor has it prepared a qualified GHG reduction plan for use/reference by local agencies. Consequently, the school district is relying on the Bay Area Air Quality Management District (BAAQMD) for guidance regarding analysis of GHG emissions impacts and GHG emissions impact thresholds. BAAQMD manages air quality in the adjacent San Francisco Bay Area Air Basin.

BAAQMD's current guidance for GHG emission impact thresholds and impact evaluation is found in the *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (Bay Area Air Quality Management District 2022) ("BAAQMD guidance"). The BAAQMD guidance has been crafted to apply to land use development projects, particularly residential and commercial projects. It identifies performance standards that are project design based. Individual projects that incorporate the design measures are deemed to contribute their fair share towards reducing GHG emissions consistent with the Executive Order B-55-18 goal of achieving statewide carbon neutrality no later than 2045 as described in the Regulatory Setting section above. The design measures/elements address natural gas use, energy use, VMT, and electric vehicle infrastructure. As an alternative to incorporating these performance measure elements, the guidance states that projects that are consistent with an adopted plan for reducing GHG emissions may also be found to have a less-than significant GHG impact.

While the BAAQMD guidance is its most recent, it is not considered applicable to all land development project types as indicated in the following excerpt from that guidance:

The Air District has developed these thresholds of significance based on typical residential and commercial land use projects and typical long-term communitywide planning documents such as general plans and similar long-range development plans. As such, these thresholds may not be appropriate for other types of projects that do not fit into the mold of a typical residential or commercial project or general plan update. Lead agencies should keep this point in mind when evaluating other types of projects. A lead agency does not necessarily need to use a threshold of significance if the analysis and justifications that were used to develop the threshold do not reflect the particular circumstances of the project under review. Accordingly, a lead agency should not use these thresholds if it is faced with a unique or unusual project for which the analyses supporting the thresholds as described in this report do not squarely apply. In such cases, the lead agency should develop an alternative approach that would be more appropriate for the particular project before it, considering all of the facts and circumstances of the project on a case-by-case basis (Bay Area Air Quality Management District 2022, p. 3).

The proposed project is clearly not a residential or commercial project and is considered “unusual” relative to these common land use development types. Consequently, the school district is relying on BAAQMD’s prior guidance regarding GHG thresholds of significance, as identified in its *California Environmental Quality Act Air Quality Guidelines* (Bay Area Air Quality Management District 2017) (“2017 CEQA guidance”) as a basis to craft a threshold of significance that is more applicable to the proposed project.

The 2017 CEQA guidance was developed in part to guide new land development projects to contribute their fair share towards meeting the Assembly Bill 32 target of reducing statewide GHG emissions to 20 percent below 1990 levels by 2020. Projects whose GHG emissions are below a quantified threshold of significance identified in the 2017 CEQA Guidelines would be considered to have a less-than-significant GHG impact. The mass emissions threshold of 1,100 MT CO<sub>2e</sub>/year found in the 2017 CEQA guidance is relevant for use with the proposed project.

Senate Bill 32 became effective in January 1, 2017. Senate Bill 32 requires that by 2030, statewide greenhouse gas emissions be reduced to at least 40 percent below 1990 levels. BAAQMD’s 2017 threshold of 1,100 MT CO<sub>2e</sub>/year does not reflect the deeper emissions reduction target requirement for 2030. This threshold, designed only to help meet the 2020 statewide reduction target, would need to be reduced by an additional 20 percent to coincide with the more stringent 2030 emissions reduction target. The scaled-down 2030 GHG threshold would equal 1,100 MT CO<sub>2e</sub>/year × .80 = 880 MT CO<sub>2e</sub>/year. The proposed project would be operational well before 2030. Nevertheless, the 2030 threshold is used in this analysis because it is considered conservative relative to the project operational date.

## 9.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

This section includes information and data regarding GHGs that are relevant to the proposed project based on the thresholds of significance described above. The information and data are used as a basis for determining impact significance as described below.

### Generation of Greenhouse Gas Emissions

<b>IMPACT</b> 9-1	Generate Greenhouse Gas Emissions	Less than Significant
----------------------	-----------------------------------	-----------------------

The proposed project would generate GHG emissions during its operation and construction. Operational GHG emissions would be generated primarily from electricity use and by vehicle trips accessing the project site. GHG emissions from the proposed project that are common to land use development projects, including area sources, water supply, wastewater, and solid waste, are expected to be nominal and would not affect conclusions of the analysis. Therefore, these sources are not discussed further.

## **GHG Emission Generation Summary**

The proposed project would generate GHG emissions during its operation and construction. Operational GHG emissions would be generated primarily electricity use and by vehicle trips accessing the project site and are evaluated below. GHG emissions associated with the proposed project that are common to land use development projects, including area sources, water supply, wastewater, and solid waste, are expected to be nominal and would not affect conclusions of the analysis. Therefore, these sources are not discussed further.

### *Operational GHG Emissions*

The proposed project would result in increased electricity consumption from the new stadium lighting, parking lot lighting, and ancillary lighting and interior power use associated with the new storage building. A minor reduction in existing electricity demand would occur from replacing existing pool lighting and existing pathway lights to the new south parking lot with more energy efficient LED lighting. Electricity is supplied to the campus by Central Coast Community Energy from 100 percent renewable sources. Therefore, the minor increase in electricity demand would not generate new GHG emissions.

Projected transportation-source GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software, a modeling platform recommended by the California Air Resources Board and accepted by the air district. The CalEEMod platform allows calculations of operational area and mobile-source criteria pollutant and GHG emissions from land use projects. The assumptions and project conditions used to model both criteria air emissions and GHG emission are described in Section 6.0, Air Quality. As identified in section 4.0 of the Annual CalEEMod results included in [Appendix G](#), transportation-source GHG emissions are projected at 16.93 metric tons of carbon dioxide equivalent (MT CO<sub>2e</sub>) per year.

### *Construction GHG Emissions*

Construction activities would be minimal in terms of intensity and duration. Construction activity consists of boring, pouring concrete footings, and minor trenching for erecting four light standards; minor grading and paving to construct new parking and the new internal connector roadway; minor grading and construction activities to build the new storage building; and construction worker/vehicle trips. GHG emissions that would be generated during construction are “short-term” and would be minimal. For this reason, construction GHG emissions are not reported.

## **Conclusion**

The only notable GHG emissions from the proposed project would be from transportation sources due to an increase in the frequency and duration of night time events and related increase in attendees that travel to the site. The projected transportation-source GHG emission volume of 16.93 MT CO<sub>2e</sub>/year, which as described above is considered to be



conservative, would be substantially below the threshold of significance of 880 MT CO<sub>2</sub>e/year. Therefore, the project would have a less-than-significant impact related to GHG emissions.

### GHG Emissions Reduction Plans

<b>IMPACT 9-2</b>	<b>No Conflict with the Applicable Plans to Reduce Greenhouse Gas Emissions</b>	<b>No Impact</b>
-----------------------	---	------------------

Neither the school district, the County of Monterey, nor the air district have adopted plans for reducing GHGs. Consequently, the 2017 CEQA Guidelines prepared by BAAQMD have been referenced as guidance for creating a threshold of significance for the proposed project. Projects whose emissions fall below a threshold of significance identified in a plan created to reduce GHGs are considered to be consistent with the associated plan. As described above, the threshold of significance derived from that plan is 880 MT CO<sub>2</sub>e/year. Because the proposed project emissions of 16.93 CO<sub>2</sub>e/year fall substantially below the associated threshold of significance, the project would not conflict with a GHG reduction plan.

Additionally, the school district is required to comply with the applicable CalGreen and Title 24 standards in place for the reduction of greenhouse gas emissions.

# 10.0 Noise

The discussion in this section is primarily based upon information from the *Carmel High School Stadium Improvements Environmental Noise Assessment (Update to the Carmel High School Stadium Lights Environmental Noise Assessment dated July 6, 2021)* (noise assessment) prepared by WJV Acoustics, Inc. (WJVA), dated August 11, 2022 (included as [Appendix I](#) to this EIR). In addition, noise standards and regulations are based on the *2010 Monterey County General Plan* and the Monterey County Noise Ordinance.

The school district received two responses to the notice of preparation which noted neighbor concerns over increased noise as a result of evening games and practices at the stadium. Responses to the notice of preparation are included in Appendix A. Several comments were received on the original draft EIR regarding increased noise levels as a result of increased attendance at sporting events at the high school stadium, as well as the associated increase in traffic noise. In addition, comments were submitted about the need to evaluate noise impacts to sensitive nocturnal wildlife as a result of the proposed project.

This section of the RDEIR addresses the increased noise levels as a result of increased attendance at sporting events at the high school stadium, as well as the associated increase in traffic noise. Section 7.0, Biological Resources, addresses the impacts of noise on wildlife.

## 10.1 ENVIRONMENTAL SETTING

### Acoustic Fundamentals

When describing sound levels, the more common descriptors used are Day/Night Level (“DNL or  $L_{dn}$ ”), and Community Noise Equivalent Level (“CNEL”). The descriptor  $L_{eq}$  refers to the equivalent sound level, which contains the same total energy intensity of noise over any given period of time. DNL refers to the day/night average sound level during a 24-hour day, which is obtained after the addition of ten decibels, as a penalty, to the sound levels after 10 pm and before 7 am.

The CNEL is the average equivalent sound level during a 24-hour day, achieved after the supplement of five decibels to the sound level, as a penalty, in the evening from 7 pm to 10 pm. An additional ten decibels are also added to the sound level in the night, before 7 am and after 10 pm.

## Effects of Noise on People

The effects of noise on people vary from person to person. Therefore, the common and most effective way to determine noise impacts is to compare a new noise, typically the noise created or generated by a project, to the existing noise within the area. Existing noise is also referred to as the “ambient” environment. As a general rule of thumb, a new noise would be less acceptable if it exceeds the current ambient noise level. At extreme levels, noise can result in adverse physical and mental effects.

## Baseline Noise Conditions

Existing ambient noise levels in the project vicinity are dominated by traffic noise along State Route 1 (SR-1) and other local roadways. Additional sources of noise observed during a site inspection included aircraft overflights, landscaping equipment, barking dogs and birds. The immediate project vicinity is also exposed to existing noise sources associated with various during and after school activities including sports practices and games at the football field, baseball field, tennis court and swimming pool areas as well as outdoor band practices and various other school-related activities

Measurements of existing ambient noise levels in the project vicinity were conducted on April 20 and April 21, 2021 and March 22 and March 23, 2022. Long-term (24-hour) ambient noise level measurements were conducted at four (4) locations (assigned site identifiers LT-1, LT-2, LT-3, and LT-4 in the noise assessment). At LT-1 and LT-2, the meters started at approximately 10am and were collected after 10am the following day. At LT-3 and LT-4, the meters started at approximately 11am and were collected after 11am the following day. One long-term ambient noise measurement site (LT-1) was located in the vicinity of existing residential land uses east of the stadium, along Flanders Drive and was exposed to traffic noise associated localized traffic and other noise sources typical of residential neighborhoods. Measured hourly energy average noise levels ( $L_{eq}$ ) at site LT-1 ranged from a low of 29.9 dB between midnight and 1:00 a.m. to a high of 53.8 dB between 4:00 p.m. and 5:00 p.m. Hourly maximum ( $L_{max}$ ) noise levels at site LT-1 ranged from 34.9 to 74.4 dB. Residual noise levels at the monitoring site, as defined by the L90 statistical descriptor ranged from 28.5 to 37.7 dB.

A second long-term ambient noise monitoring site (LT-2) was located near residential land uses along Morse Drive. The meter was placed at the rear of the residential land uses, facing the stadium. Noise monitoring site LT-2 was exposed traffic noise associated with SR-1 as well as localized traffic, activities occurring at the high school baseball field and the adjacent parking lot. Measured hourly energy average noise levels ( $L_{eq}$ ) at site LT-2 ranged from a low of 35.5 dB between 1:00 a.m. and 2:00 a.m. to a high of 65.5 dBA between 10:00 a.m. and 11:00 a.m. Hourly maximum ( $L_{max}$ ) noise levels at site LT-2 ranged from 47.3 to 81.1 dB. Residual noise levels at the monitoring site, as defined by the L90, ranged from 31.1 to

41.6 dB. The measured CNEL value at site LT-2 during the 24-hour noise measurement period was 54.0 dB. Table V of the noise assessment summarizes short-term measurement results.

A third long-term ambient noise monitoring site (LT-3) was located near the far eastern edge of campus near the proposed eastern parking lot area. The meter was placed at the rear of residential land uses, facing the eastern edge of campus. Measured hourly energy noise levels ( $L_{eq}$ ) at site LT-3 ranged from a low of 32.5 dB between 3:00 a.m. and 4:00 a.m. to a high of 49.2 dBA between 10:00 a.m. and 11:00 a.m. Hourly maximum ( $L_{max}$ ) noise levels at site LT-3 ranged from 39.1 to 73.2 dB. Residual noise levels at the monitoring site, as defined by the L90, ranged from 31.3 to 38.6 dB. The measured CNEL value at site LT-3 during the 24-hour noise measurement period was 46.0 dB.

A fourth long-term ambient noise monitoring site (LT-4) was located near the existing tennis court parking spaces and walkway. Measured hourly energy average noise levels ( $L_{eq}$ ) at site LT-4 ranged from a low of 44.6 dB between 3:00 a.m. and 4:00 a.m. to a high of 62.4 dBA between 8:00 a.m. and 9:00 a.m. Hourly maximum ( $L_{max}$ ) noise levels at site LT-4 ranged from 64.3 to 88.5 dB. Residual noise levels at the monitoring site, as defined by the L90, ranged from 34.2 to 55.4 dB. The measured CNEL value at site LT-4 during the 24-hour noise measurement period was 62.5 dB.

As demonstrated by these noise measurements, existing traffic noise levels already exceed the County's noise exposure standards for single family residential (70  $L_{dn}$  or dB) at these monitoring sites. See Table 10-3, for additional County noise standards.

## 10.2 REGULATORY SETTING

This section discusses the local policies relevant to the analysis of noise in the project area. Noise standards in the County of Monterey are defined in the *2010 Monterey County General Plan* Safety Element, Health and Safety Noise Control Ordinance.

### State

Some guidance for construction vibration is provided by the *Caltrans Transportation and Construction Vibration Guidance Manual*. The manual provides guidance for determining annoyance potential criteria and damage potential threshold criteria. These criteria are provided below in [Table 10-1, Guideline Vibration Annoyance Potential Criteria](#), and [Table 10-2, Guideline Vibration Damage Potential Threshold Criteria](#), and are presented in terms of peak particle velocity (PPV) in inches per second (in/sec).

**Table 10-1 Guideline Vibration Annoyance Potential Criteria**

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4

SOURCE: Caltrans 2020

**Table 10-2 Guideline Vibration Damage Potential Threshold Criteria**

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile, historic buildings, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

SOURCE: Caltrans 2020

## Local

Even though the governing board of the school district has the authority to render city or county zoning ordinances and general plan requirements inapplicable to the project site and proposed project pursuant to California Government Code Section 53094, this RDEIR evaluates the proposed project's consistency with local regulations and policies for purposes of CEQA compliance.

### 2010 Monterey County General Plan

The Safety Element of the Monterey County General Plan (adopted October 26, 2010) establishes land use compatibility criteria in terms of the Community Noise Equivalent Level (CNEL) to describe noise exposure for noise compatibility planning purposes. The CNEL is the time-weighted energy average noise level for a 24-hour day, with a 5 dB (technically 4.77 dB) penalty added to noise levels occurring during the evening hours between 7:00 p.m. and 10:00 p.m. and a 10 dB penalty added to noise levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m. The CNEL represents cumulative exposure to noise over an extended period of time and is therefore calculated based upon annual average conditions.



Although not explicitly stated in the General Plan, exterior noise level standards are typically applied to “outdoor activity areas”. Outdoor activity areas are generally considered to be backyards of single-family residential land uses, common use outdoor areas and individual patios and balconies of multi-family residential land uses, and common use outdoor areas for transient lodging land uses.

The “Noise Hazards” section of the Safety Element provides the following Goals and Policies that are relevant to the project:

### *Safety Element*

The General Plan’s Safety Element contains the following planning guidelines relating to noise.

Goal S-7. Maintain a healthy and quiet environment free from annoying and harmful sounds.

Policy S-7.1. New noise-sensitive land uses may only be allowed in areas where existing and projected noise levels are “acceptable” according to “Land Use Compatibility for Community Noise Table” (see Table 10-1 below). A Community Noise Ordinance shall be established consistent with said Table that addresses, but is not limited to the following (Noise level maps are located at the end of this Element):

- a. Capacity-related roadway improvement projects.
- b. Construction-related noise impacts on adjacent land uses.
- c. New residential land uses exposed to aircraft operations at any airport or air base.
- d. Site planning and project design techniques to achieve acceptable noise levels such as: building orientation, setbacks, earthen berms, and building construction practices. The use of masonry sound walls for noise control in rural areas shall be discouraged.
- e. Design elements necessary to mitigate significant adverse noise impacts on surrounding land uses.
- f. Impulse noise.
- g. Existing railroad locations & noise levels.

Policy S-7.2. Proposed development shall incorporate design elements necessary to minimize noise impacts on surrounding land uses and to reduce noise in indoor spaces to an acceptable level.

Policy S-7.3. Development may occur in areas identified as “normally unacceptable” provided effective measures to reduce both the indoor and outdoor noise levels to acceptable

Policy S-7.6. Acoustical analysis shall be part of the environmental review process for projects when:

- a. Noise sensitive receptors are proposed in areas exposed to existing or projected noise levels that are “normally unacceptable” or higher (see [Table 10-3, Monterey County Community Noise Exposure Levels \(L<sub>dn</sub> or CNEL, dBA\)](#)).
- b. Proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors.

**Table 10-3 Monterey County Community Noise Exposure Levels (L<sub>dn</sub> or CNEL, dBA)**

Land Use Category	Noise Ranges (L <sub>dn</sub> or CNEL), dB			
	I <sup>1</sup>	II <sup>2</sup>	III <sup>3</sup>	IV <sup>4</sup>
Residential – Low-Density Single Family, Duplex, Mobile Homes	<60	55-70	70-75	75+
Residential – Multi-Family	<65	60-70	70-75	75+
Transient Lodging – Motels, Hotels	<65	60-70	70-80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	<70	60-70	70-80	80+
Auditoriums, Concert Halls, Amphitheaters	--	<70	65+	--
Sports Arena, Outdoor Spectator Sports	--	<75	70+	--
Playgrounds, Neighborhood Parks	<70	70-75	75+	--
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	70-80	--	80+
Office Buildings, Business Commercial, Professional	<70	65-75	75+	--
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	75-85	--

SOURCE: Monterey County 2010

NOTE:

1. Noise Range I: Normally Acceptable. The specific land use is satisfactory based on the assumption that any buildings are of normal conventional construction.
  2. Noise Range II: Conditionally Acceptable. New construction or development should be undertaken only after a detailed analysis of noise reduction is made and noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
  3. Noise Range III: Normally Unacceptable. New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction must be made and noise insulation features must be included in the design.
  4. Noise Range IV: Clearly Unacceptable. New construction or development should generally not be undertaken.
- 

The “Noise Hazards” section of the Safety Element of the Monterey County General Plan provides the following Policies pertaining to construction noise and vibration:

Policy S-7.8: All discretionary projects that propose the use of heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could subject to this policy.

Policy S-7.9: No construction activities pursuant to a County permit that exceed “acceptable” levels listed in Policy S-7.1 shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include but not be limited to:

- Constructing temporary barriers, or
- Using quieter equipment than normal.

Policy S-7.10: Construction projects shall include the following standard noise protection measures:

- Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience;
- All equipment shall have properly operating mufflers; and
- Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.

Although not explicitly stated in the County’s General Plan, it is common to ensure interior noise levels attributable to exterior sources not exceed 45 dB CNEL (or L<sub>dn</sub>) within residential land uses. This is consistent with Title 24 of the California Code of Regulations for residential

construction and consistent with U.S. Department of Housing and Urban Development (HUD). The intent of the interior noise level guideline is to provide an acceptable noise environment for indoor communication and sleep.

Additionally, Section 1207.4 of the California Building Code states “Interior noise levels attributable to exterior sources should not exceed 45 dB in any inhabitable room. The noise metric shall be the day-night average sound level ( $L_{dn}$ ) or the community noise equivalent level (CNEL), consistent with the noise level of the local general plan.”

### **County of Monterey Noise Ordinance**

The Monterey County Municipal Code provides further exterior noise limits applicable to the project.

§10.60.030 – Operation of noise-producing devices restricted.

At any time of the day, it is prohibited within unincorporated area of the County of Monterey to operate, assist in operating, allow, or cause to be operated any machine, mechanism, device or contrivance which produces a noise level exceeding eighty-five (85) dBA measured fifty (50) feet therefrom. The prohibition in this Section shall not apply to aircraft nor to any such machine, mechanism, device or contrivance that is operated in excess of two thousand five hundred (2,500) feet from any occupied dwelling unit.

§10.60.040 – Regulation of nighttime noise.

The following regulations shall apply to nighttime noise:

- a. It is prohibited within the unincorporated area of the County of Monterey to make, assist in making, allow, continue, create, or cause to be made any loud and unreasonable sound any day of the week from 10:00 p.m. to 7:00 a.m. the following morning.
- b. Within the period of 10:00 p.m. to 7:00 a.m. the following morning, and for the purposes of this Section, a loud and unreasonable sound shall include any sound that exceeds the exterior noise levels standards of 45  $L_{eq}$  dBA and 65  $L_{max}$ .

The provisions of this Section are not intended to affect and shall not apply to:

1. Bells, chimes, carillons and similar devices while being used for religious purposes, or in conjunction with religious services, or for celebrations of public holidays;

2. Outdoor gatherings, public dances, shows and sporting and entertainment events, provided such gathering, dance or event is conducted on commercial or institutional premises, pursuant to applicable rules, regulations and zoning restrictions and in compliance with all permits or licenses issued by a public agency relative to the staging of the gathering, dance or event;
3. Emergency vehicles being operated by authorized personnel or equipment used in an emergency, such as chain saws; or
4. Commercial agricultural operations, not including activities at farm-related housing.

### **10.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE**

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of noise, as it does on a whole series of additional topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of noise impacts, or on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant noise impact would occur if implementation of the proposed project would result in:

- 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; or
- Generation of excessive groundborne vibration or groundborne noise levels during construction.

#### **Checklist Questions Deemed Not Applicable**

- 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.



Since the project site is not located within an airport land use plan, within two miles of a public airport, or within the vicinity of a private airstrip, the proposed project would not expose people residing or working in the project area to excessive noise levels from airport or airstrip operations. No further discussion of this issue is necessary.

## 10.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

This section includes information and data regarding noise that are relevant to the proposed project based on the threshold of significance described above. The information and data are used as a basis for determining impact significance and for the mitigation measures.

### Traffic Noise Impacts on Noise-Sensitive Land Uses

<b>IMPACT 10-1</b>	Project-Generated Traffic Would Occasionally Increase Existing Noise Levels	Less than Significant
------------------------	---	-----------------------

The proposed stadium lighting project is expected to result in an occasional increase in attendance for the football games and other sporting events. The increase in attendees will result in an increase in vehicular trips that is currently generated by the events. WJV Acoustics consulted with Hexagon Traffic Consultants, the project traffic consultant, regarding project-related traffic. Utilizing the surveyed vehicle occupancy rate and anticipated attendance projections, the average trip increase per day for Friday night football games at Carmel High School would be approximately 37 trips (300 attendees / 3.24 persons per vehicle x 2 trips (inbound and outbound) x 1 event per week (185 on game day) / 5 days per week = averaging to 37 trips per day). During a homecoming or rivalry game, attendance is estimated to increase from the current 1,500 attendees to 2,000 attendees. Therefore, using the same methodology, the worst-case average trip increase during the football season would be approximately 62 trips per day (309 on game day). It should be noted, traffic noise exposure (as defined by the CNEL metric) is calculated based upon annual average conditions.

As noted in Section 11.0, Transportation, during sporting events with high attendance, in addition to on-site parking, off-site parking would be provided at Carmel Middle School, located approximately two miles south of the Carmel High School campus along Carmel Valley Road. Attendees would be shuttled by bus between the off-site parking facility and Carmel High School. Up to 18 bus trips could be required before or after sporting events, with an average of eight daily trips.

In order to determine the noise impacts on local roadways from the additional vehicle trips identified in the Hexagon VMT assessment, WJV Acoustics modeled the increased daily traffic trips to provide a generalized understanding of overall increases in traffic noise

associated with the project. WJVA utilized the FHWA Traffic Noise Model to quantify generalized increases in traffic noise. The FHWA Model is a standard analytical method used for roadway traffic noise calculations. The model is based upon reference energy emission levels for automobiles, medium trucks (two axles) and heavy trucks (three or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within  $\pm 1.5$  dB. To predict CNEL values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

As stated above, the distribution of the 70 increased average daily trips (62 additional vehicle and 8 shuttle bus trips) over the local roadways was not provided as part of the traffic study. For a generalized (and worst-case analysis), WJVA modeled anticipated noise levels that would occur if all 70 trips were along one single roadway. For the purpose of the analysis, WJVA assumed that half of the additional trips would occur during daytime hours (7:00 am to 7:00 p.m.) and half would occur during evening hours (7:00 pm to 10:00 pm). Assuming a vehicle speed of 35 miles per hour (mph) and a generalized setback distance of 100 feet from the roadway, noise levels associated with 70 vehicle trips (62 vehicle trips and 8 bus trips) on a single roadway would result in traffic noise exposure of approximately 43 dB CNEL, at a reference setback distance of 100 feet from the centerline of a roadway.

If this noise exposure level of 43 dB CNEL, associated with the 70 average daily project-related trips, was applied (added) to the four 24-hour ambient noise measurements sites described above (LT-1 through LT-4), taking into account the distance from each site to the closest roadway, noise levels at each of the four ambient noise measurement would site would increase by approximately 0-2 dB (2 dB at site LT-1 and 0 dB at sites LT-2, LT-3 and LT-4).

It is important to understand that this determination assumes that all 70 average project-related trips (62 vehicles and 8 bus trips) would occur along each roadway (not distributed across roadways), and should therefore, be considered a worst-case assessment of project-related increases in traffic noise in the project vicinity. For example, the calculated increase of 2 dB was determined by applying all 70 average project trips (62 vehicle and 8 bus trips) along Flanders Drive (vicinity of ambient noise measurement site LT-1). However, Flanders Drive would be designated as a no parking zone during stadium events and none of the anticipated bus trips would occur along Flanders Drive. This assessment has been provided for demonstrational purposes only. Project-related traffic noise is not expected to result in any measurable increase of traffic noise exposure along any roadways in the project vicinity.

Therefore, project-related traffic noise increases would not exceed Monterey County noise level standards. Therefore, the traffic noise impact is considered less than significant.

## Operational Noise Impacts

<b>IMPACT 10-2</b>	<b>Nighttime Stadium Events, Activities Associated with the Two New Campus Parking Areas, and Traffic Control Measures Would Cause an Occasional Noise Increase</b>	<b>Less than Significant</b>
------------------------	---	------------------------------

As described above, under 10.2, Regulatory Setting, Section 10.60.040 (c)(2) of Monterey County Code of Ordinances provides exemptions to the noise standards provided in the County Code. Specifically relevant to the project, the County Code states that the provisions of the noise ordinance shall not apply to “Outdoor gatherings, public dances, shows and sporting and entertainment events, provided such gathering, dance or event is conducted on commercial or institutional premises, pursuant to applicable rules, regulations and zoning restrictions.” However, typical noise levels associated with such events are described below.

### Stadium Events

Sporting events with PA system, cheering crowds, band performances, and half-time events currently take place during daylight hours. Therefore, the noise associated with these events is currently experienced by surrounding residents. However, the proposed project is expected to result in increased attendance for events held after dark, as described in Section 4.0, Project Description. Therefore, the following analysis addresses the existing and increase in attendance and the noise effect on sporting events held after dark. It should be noted, the proposed changes in time of events such as football games, from the current daylight times to the proposed evening times (after the lights have been installed) would not result in noise occurring during nighttime hours (defined as 10:00 p.m. to 7:00 a.m. by Monterey County) as all games and stadium events would still conclude prior to 10:00 p.m. (the time at which Monterey County nighttime noise level standards apply).

The noise levels associated with activities such as high school football games, other sporting events and other events held in the stadium cannot be precisely defined due to variables such as the number of attendees, atmospheric conditions and the topographical relationship between the stadium and off-site sensitive receptors (homes to the north, south, east and west of the campus as identified in Figure 3-2, Aerial Photograph). Additionally, due to pandemic conditions, there were no high school football games held at the stadium or within the surrounding area when the noise assessment was originally prepared. WJV Acoustics therefore reviewed noise level data previously collected on November 9, 2018, for a different high school football stadium in Visalia, California. It should be noted; the game was a sectional playoff game and crowd size and volume was likely louder than a “typical” game. Additionally, crowd size and PA system may not be comparable to that which would be expected at Carmel High School. The exact attendance at the football game was not determined, however, the Mineral King Bowl has a capacity of up to 8,500 during football games. This stadium has lighting and the referenced game occurred during the evening hours.

These noise levels are described in the noise assessment (see pages 15-16). Applying the noise levels measured at the Visalia stadium location, such levels would be in the range of approximately 50-60 dB  $L_{eq}$  and 60-70 dB  $L_{max}$ , at the closest residential land uses located approximately 240 feet south of the stadium on Morse Drive. These noise levels are likely significantly higher than those which would occur at Carmel High School due to crowd size of the event and overall stadium size and design. Additionally, the Carmel High School stadium is located at an elevation that is generally approximately 30 to 60 feet above the elevation of the residential land uses to the south and the east, providing topographic acoustic shielding from some of the noise sources, and noise levels associated with vehicle traffic on State Route 1 would generally be higher at the homes to the west than noise levels associated with football game activities.

Carmel High School football games would typically take place between the hours of 5:00 p.m. to 9:30 p.m. Existing maximum noise levels measured at noise monitoring site LT-1 were in the range of approximately 66-74 dB between the hours of 5:00 p.m. and 10:00 p.m., and existing maximum noise levels measured at noise monitoring site LT-2 were in the range of approximately 61 to 75 dB between the hours of 5:00 p.m. and 10:00 p.m. Existing maximum noise levels at noise monitoring site LT-3 were in the range of approximately 50 to 60 dB between the hours of 5:00 p.m. to 10:00 p.m., and existing maximum noise levels at noise monitoring site LT-4 were in the range of approximately 71 to 85 dB between the hours of 5:00 p.m. to 10:00 p.m. Maximum noise levels measured at the short-term noise monitoring sites ranged from 68 to 81 dB.

The worst-case assessment of football game maximum noise levels at nearby residential land uses is between approximately 60 to 70 dB. Such maximum noise levels could potentially exceed existing maximum noise levels in the vicinity of noise measurement site LT-3. However, such levels would not exceed any Monterey County noise standards. It should also be noted, Monterey County does not have applicable daytime noise level standards, and only provides nighttime (10:00 p.m. to 7:00 a.m.) noise standards, as previously presented.

While some noise associated with the cheering of crowds, band performances and half-time events would be expected to be audible during some events at some nearby residential land uses, such events would be extremely limited in both duration and frequency. Therefore, the operational noise increases generated by nighttime stadium events would be less than significant.

### **Replacement of Pool Lights**

The noise associated with nighttime events at the pool are part of the existing baseline conditions and therefore, noise associated with activities at the pool are not analyzed. Replacement of the pool lights would not affect noise associated with pool use after dark.

## **New Parking Lots**

Noise due to traffic in parking lots is typically limited by low speeds and is not usually considered to be significant. Human activity in parking lots that can produce noise includes voices, stereo systems and the opening and closing of car doors and trunk lids. Such activities can occur at any time the parking lot is open. The noise levels associated with these activities cannot be precisely defined due to variables such as the number of parking movements, time of day and other factors. It is typical for a passing car in a parking lot to produce a maximum noise level of 60 to 65 dBA at a distance of 50 feet, which is comparable to the level of a raised voice.

The proposed new parking area in the existing tennis court area would be located approximately 100 feet from residential land uses, and the proposed new parking area north of the stadium, in the vicinity of the swimming pool facility would be located approximately 200 feet from residential land uses. At these distance, maximum ( $L_{max}$ ) parking lot vehicle movements would be expected to be approximately 54 to 59 dB at the closest residential land uses to the parking area in the tennis court area and approximately 48 to 53 dB at the closest residential land uses to the proposed parking areas near the swimming pool complex.

The parking lot-related noise levels at the closest residential land uses, described above, would not be expected to exceed any of the applicable noise levels standards in the Regulatory Section presented earlier. Additionally, parking lot noise levels would not be expected to exceed existing ambient noise levels at the closest residential land uses to the proposed new parking areas (see measured noise levels at site LT-2 and LT-4 (tennis court vicinity) and site LT-3 (swimming pool facility)).

## **Traffic Control Measures (Traffic Management Plan)**

The school district and the project transportation consultant, TJKM, have developed a proposed Traffic Management Plan (TMP), included as a mitigation measure in Section 11.0, Transportation, in an effort to further manage and reduce event-related traffic (and subsequent traffic noise) impacts on nearby residents in the general vicinity of the school and stadium. The TMP and the traffic control measures are described further in Section 11.0, Transportation. The intent of the TMP is to reduce traffic and parking demand for main campus areas and on surrounding residential streets to improve safety. Implementation of the TMP would further reduce project-related traffic impacts at nearby residential and other noise-sensitive land uses by rerouting some traffic to Carmel Middle School and shuttling attendees to sporting events at the high school stadium, encouraging a reduction in the use of adjacent residential street parking through utilizing alternative modes of transportation and preventing non-residents from accessing certain neighboring streets during high school events, and providing supervision to ensure the smooth flow of traffic and manage unforeseen disruptions.

Regarding providing off-campus parking and shuttle to and from Carmel Middle School, it would be speculative to determine whether this would result in an increase of vehicle miles traveled and therefore, possible increases in noise. Both Carmel Middle School and Carmel High School are within the Carmel Unified School District’s attendance boundaries. While some drivers may need to travel further to get to Carmel Middle School, other drivers would travel shorter distances, depending on the location of their residence or starting point of travel. Therefore, this potential impact (adverse or beneficial) is too speculative to evaluate and is not discussed further per CEQA Guidelines section 15145.

### Construction Noise Impacts

IMPACT 10-3	Construction Activities Could Cause a Substantial Temporary Noise Increase	Less-than-Significant with Mitigation
----------------	--	---------------------------------------

Construction activities associated with the proposed project (including required demolition activities) would occur over a period of five months (assumed to occur between June 2023 and October 2023). Construction noise is not considered to be a significant impact if construction is limited to the daytime hours and construction equipment is adequately maintained and muffled. Extraordinary noise-producing activities (e.g., pile driving) are not anticipated. Construction noise impacts could result in annoyance or sleep disruption for nearby residents if nighttime operations were to occur or if equipment is not properly muffled or maintained. This would be considered a significant, adverse environmental impact. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

*Mitigation Measure*

- 10-3 The school district will limit construction activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday, with no construction on Sunday or holidays, and require construction equipment to be adequately maintained and muffled. These requirements will be included in construction plans and contracts.

### Construction Groundborne Vibration Impacts

IMPACT 10-4	Construction Activities Could Cause Temporary Groundborne Vibration	Less than Significant
----------------	---	-----------------------

Vibration levels would vary depending on soil conditions, construction methods, and equipment used. [Table 10-4, Typical Vibration Levels During Construction](#), presents typical vibration levels that could be expected from construction equipment at a distance of 100 and 300 feet.



**Table 10-4 Typical Vibration Levels During Construction**

Equipment	PPV (in/sec)	
	@ 100 Feet	@ 300 Feet
Bulldozer (Large)	0.011	0.006
Bulldozer (Small)	0.0004	0.00019
Loaded Truck	0.01	0.005
Jackhammer	0.005	0.002
Vibratory Roller	0.03	0.013
Caisson Drilling	0.03	0.013

SOURCE: Caltrans 2020

The California Department of Transportation (Caltrans) provides further guidance on vibration issues associated with construction and operation of project in relation to human perception and structural damage in its 2020 *Transportation and Construction Vibration Guidance Manual*. Recommendations are provided for levels of vibration that could result in damage to structures exposed to continuous vibration. 0.2 in/sec PPV is Caltrans' recommended vibration level where the risk of architectural damage could occur to normal dwelling houses (Caltrans 2020, Technical Advisory, Table 2).

Operation of construction equipment can cause ground vibrations that diminish in strength with distance from the source. Buildings founded on the soil in the vicinity of a construction site may be affected by these vibrations, with varying results ranging from no perceptible effects at the lowest levels, low rumbling sounds and perceptible vibrations at moderate levels, and slight damage at the highest levels. Typically ground vibration does not reach a level where it damages structures unless the structure is extremely fragile.

The dominant sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. None of these activities are anticipated to occur with construction or operation of the proposed project. Typical vibration levels at distances of 100 feet and 300 feet are summarized in Table 10-4 above. These levels would not be expected to exceed any significant threshold levels for annoyance or damage, as provided above in the tables in the Regulatory section. Therefore, vibration levels would be less than significant.

## Neighborhood Traffic Noise

<p><b>IMPACT 10-5</b></p>	<p>Existing Neighborhood Noise Associated with Students and Spectators Parking in the Surrounding Neighborhoods Would Decrease with Construction of New Parking Areas and Implementation of the Traffic Management Plan</p>	<p><b>Beneficial</b></p>
-------------------------------	---	--------------------------

The proposed project would reduce high school-related parking in the neighborhoods by constructing two new parking lots with 111 new parking spaces and implementing the proposed traffic management plan (included as Appendix K), required as a mitigation measure in Section 11.0, Transportation. Therefore, the proposed project would have a beneficial impact on existing and future traffic-related noise in the surrounding neighborhoods.

*This side intentionally left blank.*

## Transportation and Parking

This section describes the applicable state regulations and policies related to transportation; discusses the existing roadway network and transportation facilities in the project area; describes existing transportation conditions within project area; discusses existing and proposed parking; and analyzes the potential impacts from implementation of the project on transportation.

The information in this section is based on *VMT Assessment and Intersection Operations, Site Access and Parking Evaluation for the Proposed Carmel High School Stadium Lighting in Camel-by-the-Sea, California* prepared by Hexagon Transportation Consultants, dated July 21, 2021 (updated August 11, 2022) which is included in [Appendix J](#), and the *Carmel High School Stadium Improvements Project– Neighborhood Parking Assessment* prepared by EMC Planning Group dated August 12, 2022, which is included as [Appendix B](#). Additional sources of information are introduced where applicable.

Several comments were received in response to the notice of preparation regarding transportation and traffic-related issues. These include a comment letter received from Caltrans, District 5 (dated May 26, 2021), which notes the requirement for a vehicle miles traveled assessment and the issuance of an encroachment permit if any activities were to be proposed in the Caltrans right-of-way among other standard recommendations and requirements. A comment letter was received from the Transportation Agency for Monterey County (TAMC) (dated June 14, 2021), which supports a detailed traffic analysis to inform the EIR about impacts to local and regional road networks, including State Route 1 intersections from Carpenter Street to Carmel Valley Road, encourages the evaluation of all potential nighttime special events, and consideration of safe bicycle and pedestrian connections to the project site. Other comments received include several from neighbors of the high school noting the existing and possible increased traffic issues along State Route 1 and surrounding streets, adequate parking on campus and in neighborhoods during events, and emergency access issues. The notice of preparation and comment letters on the notice are included in [Appendix A](#).

Several comments were received on the original draft EIR regarding the increase in traffic, emergency access, and the existing and future impact on parking in the adjacent neighborhoods. This section of the RDEIR addresses these concerns through preparation of a neighborhood parking assessment, a proposed traffic management plan included as a mitigation measure, and a revised vehicle miles traveled assessment.

## 11.1 ENVIRONMENTAL SETTING

### Local Roadway Network

Local access to the Carmel High School campus is provided via State Route 1, Ocean Avenue, Carmel Hills Drive, and Morse Drive. These roadways are described below and their locations are presented in Figure 3-2, Aerial Photograph.

State Route 1 (also known as SR 1 or Cabrillo Highway) is a four-lane arterial that runs along most of the Pacific coastline of California between Mendocino County to the north and Orange County to the south. Within the Monterey Bay region, State Route 1 connects the cities of Carmel, Monterey, Seaside, and Marina. Within the project vicinity, State Route 1 has two lanes in each direction with a two-way left-turn lane and left-turn pockets provided at intersections north of Ocean Avenue. South of Ocean Avenue, State Route 1 narrows to two lanes in the northbound direction, one lane in the southbound direction, and no median lane. The posted speed limit is 45 miles per hour (mph). Access to the school's main parking lot is provided via its signalized intersection with Ocean Avenue and a right-turn only driveway located approximately 700 feet south of Ocean Avenue. There is no parking and there are no sidewalks or bike lanes along State Route 1 in the vicinity of the site.

Ocean Avenue is a two-lane east-west roadway that runs between Carmel High School/Carmel Hills Drive and Carmel Beach to the west. The speed limit on Ocean Avenue is 25 mph. On-street parking is prohibited on both sides of the street in the project vicinity. Ocean Avenue provides direct access to the school's main parking lot, approximately 100 feet east of its signalized intersection with State Route 1.

Carmel Hills Drive is a two-lane north-south roadway that runs north from Carmel High School/Ocean Avenue and terminates as a dead-end. The speed limit on Carmel Hills Drive is 25 mph. On-street parking is prohibited on both sides of the street in the project vicinity between 7 AM and 6 PM, Monday through Friday. Carmel Hills Drive provides direct access to the school's main parking lot at its intersection with Ocean Avenue, approximately 100 feet east of State Route 1.

Morse Drive is a two-lane residential roadway in the vicinity of the project site. It begins at its unsignalized intersection with State Route 1 (approximately 1,180 feet south of Ocean Avenue) and extends south to Carmel Hills Drive, where it transitions west to intersect again with State Route 1 (approximately 1,500 feet south of the northerly intersection). The speed limit on Morse Drive is 25 mph. On-street parking is prohibited on both sides of the street from 7 am to 12 pm in the project vicinity. Morse Drive provides direct access to a small parking lot located at the southern end of the school via a gated access drive aisle located approximately 50 feet east of State Route 1.

Pedestrian facilities in the study area include a crosswalk at the south approach of the State Route 1/Ocean Avenue intersection and a sidewalk along the eastbound side of Ocean Avenue between State Route 1 and Downtown Carmel. There are no sidewalks and bicycles facilities (i.e., bike lanes and bike routes) along State Route 1 and most residential streets in the area, including Morse Drive and Carmel Hills Drive. Therefore, it is anticipated that a majority of attendees would drive to the school campus.

### **Existing Traffic Conditions**

Traffic conditions were observed by Hexagon Transportation Consultants during the PM peak hour of traffic on a Friday evening (June 11, 2021 between the hours of 5:00 PM to 5:30 PM) in order to identify existing operational deficiencies. No significant operational issues were observed along the State Route 1 corridor between Carpenter Street and Carmel Valley Road. Northbound and southbound traffic volumes were approximately equal, and no lane imbalances were observed. Northbound and southbound queues at the intersections of State Route 1/Carpenter Street, State Route 1/Ocean Avenue, and State Route 1/Carmel Valley Road did not extend to the next adjacent signalized intersection and generally free-flowing traffic conditions were observed between intersections. Traffic conditions generally improved (i.e., shorter queues at intersections and decreasing number of vehicles) over the course of the observation period. At the intersection of State Route 1 and Ocean Avenue, no significant intersection operational deficiencies were observed. At the stop-controlled intersection of State Route 1 and Morse Drive, short queues of fewer than four vehicles were observed waiting to turn onto State Route 1. There were few observed vehicles making a southbound left turn lane onto Morse Drive.

### **Pedestrian and Bicycle Access**

Pedestrian facilities in the study area include a crosswalk at the south approach of the State Route 1/Ocean Avenue intersection and a sidewalk along the eastbound side of Ocean Avenue between State Route 1 and Downtown Carmel. There are no sidewalks and bicycles facilities (i.e., bike lanes and bike routes) along State Route 1 and most residential streets in the area, including Morse Drive and Carmel Hills Drive. Therefore, it is anticipated that a majority of attendees would drive to the school campus.

### **Campus Parking Facilities**

Carmel High School's main parking lot is located along the campus' western boundary near State Route 1. A total of 276 parking spaces are available on campus: 231 standard parking spaces, eight (8) ADA-compliant spaces, eight (8) Clean Air Vehicle spaces, seven (7) compact spaces, 12 staff parking spaces, five (5) visitor parking spaces, and five (5) auto shop parking spaces (Whitson 2022). The two primary parking lots are the main campus parking located off of Ocean Avenue which has a total of 174 parking spaces. Two-way access is provided via Ocean Avenue at the northern end of the lot, approximately 100 feet east of



State Route 1. A secondary access driveway located 700 feet south of Ocean Avenue provides direct right-in and right out only access to State Route 1. An additional parking lot is located at the southern end of the school with two-way access provided via Morse Drive and includes 35 standard parking stalls. The additional parking areas (the campus ring road and the pool facility parking areas) provide a total of 67 additional spaces and are only available to staff and student-athletes during sporting events. See Section 3.0, Environmental Setting, under “Parking” and “On-Campus” for additional details and a breakdown of on-campus parking areas by parking space type and totals.

**Off-Site Neighborhood Parking Conditions**

As detailed in Section 3.0, Environmental Setting, under “Parking” and “Off-Campus,” a total of 806 possible parking spaces were identified on the residential streets surrounding the project location as calculated in a neighborhood parking assessment conducted by EMC Planning Group on Saturday, June 18, 2022 in the morning. See Appendix B for a memo summarizing the results of the neighborhood parking assessment. [Table 11-1, Neighborhood Parking Summary \(Unrestricted and Restricted\)](#), presents the restricted and unrestricted parking in the adjacent neighborhoods.

**Table 11-1 Neighborhood Parking Summary (Unrestricted and Restricted)**

Street Name	Unrestricted Parking	Restricted Parking	Total Parking
Carmel Hills Drive <sup>1</sup>	95	71	166
Valley Place	32	0	32
Stewart Place <sup>2</sup>	0	24	24
Flanders Drive <sup>2</sup>	302	24	326
Canyon Circle	42	0	42
Ward Place	30	0	30
Whitman Circle	56	0	56
Row Place	3	0	3
Baldwin Circle	13	0	13
Morse Drive <sup>2</sup>	81	33	114
<b>Cumulative Total</b>	<b>654</b>	<b>152</b>	<b>806</b>

SOURCE: EMC Planning Group 2022

NOTES:

1 - No parking from 7:00am – 6:00pm (except weekends and holidays)

2 - No parking from 7:00am – 12:00pm (except weekends and holidays)

Approximately 81 percent (654 spaces) of the 806 identified parking spaces are considered to be unrestricted. The majority of unrestricted parking (302 spaces) is located along Flanders Drive. The small cul-de-sacs adjacent to Flanders Drive, including Canyon Drive, Ward

Place, Whitman Circle, Row Place, and Baldwin Circle, contribute an additional 118 total unrestricted parking spaces. Eighty-one unrestricted possible parking spaces were also identified on Morse Drive. However, there were several sites along this street that may not provide an adequate area to meet the required parking design dimensions without impeding the flow of traffic due to a limited shoulder and abundant vegetation at these locations. Carmel Hills Drive had the largest observed number of restricted parking (71 spaces) with limitations set from 7:00am to 6:00pm Monday through Friday. Restricted parking was also identified on most of Stewart Place (24 spaces), Flanders Drive (24 spaces), and Morse Drive (33 spaces), which accounted for an additional 81 possible parking spaces with limitations set from 7:00am to 12:00pm Monday through Friday. Of the ten residential streets only one, Stewart Place, consisted entirely of restricted parking including the only “No Parking Anytime” zone, for a very short length, identified during the assessment. Refer to Appendix B for a graphic identifying the restricted parking zones.

## 11.2 REGULATORY SETTING

### State

Historically, transportation analyses for development projects being evaluated under CEQA have utilized vehicle delay and congestion on the roadway system as the primary metric for identifying traffic impacts. However, the State of California has recognized the limitations of measuring and mitigating only vehicle delay at intersections and in 2013 passed Senate Bill (SB) 743, which requires jurisdictions to end the practice of using congestion and delay metrics, such as level of service, as the metric for evaluating impacts of new development in Transit Priority Areas.

SB 743 also directed the California Office of Planning and Research (OPR) to establish new criteria for determining the significance of transportation impacts that “promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses.” OPR has updated the CEQA Guidelines for this purpose by adding a new section 15064.3 to the Guidelines. Beginning July 1, 2020, the provisions of SB 743 apply statewide to all projects, even those outside of Transit Priority Areas. VMT is generally defined as the total miles of travel by personal motorized vehicles a project is expected to generate in a day.

In response to revising the CEQA Guidelines pursuant to SB 743, OPR issued the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (“technical advisory”), which provides guidance on how agencies can evaluate VMT in CEQA documents. While the advisory provides guidance on evaluating operational VMT impacts and recommends thresholds of significance, it is silent on thresholds for construction impacts, as SB 743 does not address construction VMT impacts.

The school district, the County, and TAMC, at the time of this report, have not yet adopted any analysis procedures, standards, or guidelines consistent with SB 743. In the absence of an adopted, or even draft, policy with numeric thresholds, this assessment relies on guidelines published by the OPR in analyzing the project's effects on VMT.

## **Local – Monterey County Parking Regulations**

Even though the governing board of the school district has the authority to render city or county zoning ordinances and general plan requirements inapplicable to the project site and proposed project pursuant to California Government Code Section 53094, this RDEIR evaluates the proposed project's consistency with local regulations and policies for purposes of CEQA compliance.

The applicable Monterey County parking regulations are presented here.

**12.28.030 - Prohibited—Between 7:00 a.m. and 6:00 p.m.** No person shall stop, park, or leave unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic-control device, in any of the following places between the hours of 7:00 a.m. and 6:00 p.m., except on Saturdays, Sundays, and holidays, and the Director of Transportation of the County of Monterey is directed to place and maintain appropriate signs or curb markings giving notice of this regulation at such places:

Carmel Hills Drive, on both sides of Carmel Hills Drive, in Carmel Hills, from Ocean Avenue generally north to its terminus;

Stewart Place, on the east side of Stewart Place beginning at Flanders and running southerly for approximately one hundred sixty (160) feet.

**12.28.035 - Prohibited—Between 7:00 a.m. and 12:00 p.m.** No person shall stop, park, or leave standing any vehicle, whether attended or unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic-control device, in any of the following places between the hours of 7:00 a.m. and 12:00 p.m., except on Saturdays, Sundays, and holidays, and the Director of Transportation of the County of Monterey is directed to place and maintain appropriate signs or curb markings giving notice of this regulation at such places:

Flanders Drive, on the north side of Flanders Drive from the centerline of Carmel Hills Drive, easterly for a distance of one hundred thirty-two (132) feet; on the south side of Flanders Drive from the centerline of Carmel Hills Drive, easterly for a distance of four hundred thirty-two (432) feet; Morse Drive, on both sides of Morse Drive from a point twenty-six (26) feet east of the centerline of State Highway 1, southerly to the centerline of Flanders Drive.

Stewart Place, on the east side of Stewart Place from the centerline of Carmel Hills Drive, southerly a distance of four hundred fifty-five (455) feet to its terminus; on the west side of Stewart Place from the centerline of Carmel Hills Drive, southerly for a distance of three hundred fifty-five (355) feet; on the west side of Stewart Place from a point three hundred ninety (390) feet south of the centerline of Carmel Hills Drive, southerly a distance of sixty-five (65) feet to its terminus.

### **11.3 THRESHOLDS OF SIGNIFICANCE**

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of transportation, as it does on a whole series of additional environmental topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of transportation impacts, or indeed on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant impact would occur if implementation of the proposed project would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) (regarding vehicle miles travelled);
- Substantially increase hazards due to a geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

### **11.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES**

#### **Issues or Potential Impacts not Discussed Further**

##### **Conflict with Transportation Programs, Plans, Ordinance, or Policy Leading to Adverse Impacts**

Implementation of the project would not require the construction, re-design, or alteration of any public roadways outside of the Carmel High School campus; and thus, would not adversely affect any existing or planned transit, bicycle, or pedestrian facilities. Therefore, the project would not conflict with a program, plan, ordinance, or policy addressing transit, bicycle, and pedestrian facilities. This issue is not discussed further.

## Vehicle Miles Traveled

<b>IMPACT 11-1</b>	An Increase in Event Attendance Would Increase Vehicle Trips but Would Not Result in Significant Vehicle Miles Travelled	Less than Significant
------------------------	--	-----------------------

### Methodology

#### *Worst-case, Maximum Spectator Attendance Scenario – Homecoming/Rivalry Football Games*

Pursuant to Senate Bill (SB) 743, the California Environmental Quality Act (CEQA) 2019 Update Guidelines Section 15064.3, subdivision (b) states that VMT will be the metric in analyzing transportation impacts for CEQA purposes. VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle-trips with one end within the project. Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

For typical land uses such as residential, office, and commercial developments, daily VMT estimates are calculated based on land use travel patterns during an average weekday (Monday through Friday). Unlike these typical uses, however, there is a significant variance in day-to-day project generated trips for high school athletic events. For example, as a “worst-case” or maximum spectator attendance scenario, Carmel High School would host football games four to six times per year during football season. One or two of these games could generate higher attendance than the others. These games are considered the worst-case, or maximum spectator attendance, scenario. No other Carmel High School games played at the stadium during the fall would result in higher spectator attendance, as the proposed game times are the same as the existing game times. Calculating only the VMT generated during Friday game days (or any other game day) would not accurately represent average weekday VMT. Instead, it is necessary to divide the total number of trips generated during a game week (i.e., the trips generated during a Friday football game) by the five weekdays to provide an average weekly trip estimate. Moreover, this would be a conservative estimate as other sporting events would result in fewer trips.

Standard practice in evaluating trip generation to determine the average daily trips generated is based upon a five-day week, as opposed to a seven-day week. Transportation analysis is generally based on traffic generated Monday through Friday, which usually represents the busiest traffic periods.

### **Trip Generation Analysis**

As discussed above, although many different sporting events would be held at night, the trip general analysis uses the “worst-case” or maximum attendance scenario to determine proposed project trip generation.

As noted in Section 4.0, Project Description, Table 4-4, the proposed stadium lighting is expected to result in an increase in attendance for football games and soccer matches. The increase in attendees would result in an increase in vehicular trips and VMT that is currently generated by the sporting events. The project is estimated to increase the attendance of football games on Friday nights from the current approximately 500 attendees to up to 800 attendees. During a homecoming or rivalry game, attendance is expected to increase from the current 1,500 attendees to an anticipated 2,000 attendees. The football season typically runs for 10 weeks between August and November with approximately four to six home games hosted by Carmel High School.

Due to pandemic conditions, there were no scheduled high school football games in the surrounding region for which observations of carpooling activity could be collected. Therefore, the VMT assessment utilized a vehicle occupancy rate based on data previously collected for a homecoming football game on a Friday night, with lights, at Mitty High School in San Jose, California, which was the only Friday night football game where Hexagon had previously collected data. Hexagon Transportation Consultants counted the number of vehicles parked at Mitty High School, at an adjacent church, and on the surrounding streets during the homecoming game on Friday, October 5, 2018, and on a regular Friday night on October 26, 2018. The difference between the two parking counts represents Mitty game night traffic. Based on the number of additional parked vehicles and the estimated attendance at the surveyed Friday night game, the vehicle occupancy rate was calculated to be an average of 3.24 persons per vehicle for the game attendees. [Table 11-2, Estimate Project Trip Generation](#), summarizes the estimated number of additional daily trips to be generated by the proposed project.



**Table 11-2 Estimated Project Trip Generation**

Game/Event	Estimated Increase in Attendance	Number of Trips per Personal Vehicle per Day	Number of Shuttle Bus Trips	Daily Trip Increase
Normal Friday Night Football Game	300	37 <sup>1</sup>	8 <sup>2</sup>	45
Homecoming/Rivalry Games	500	62 <sup>1</sup>	8 <sup>2</sup>	70

SOURCE: Hexagon Transportation Consultants

NOTES:

1. Increase in attendance/3.24 persons per vehicle x 2 trips (inbound and outbound)/5 days per week

2. 18 shuttles per game x 2 trips (inbound and outbound)/5 days per week

To confirm if the 3.24 persons per vehicle is a reasonable assumption for high school football games, the following high school stadium project CEQA documents were reviewed regarding persons per vehicle:

- Los Alto High School Lights & Public Address System EIR (Los Altos) (2020)  
3.24 persons per vehicle (used Mitty High School data);
- Mountain View High School Field Lighting EIR (Mountain View) (2020)  
3.24 persons per vehicle (used Mitty High School data);
- Bonita Vista High School Track & Field Project EIR (Chula Vista) (2021)  
3.5 persons per vehicle;
- Leuzinger High School IS/MND (Lawndale) (2021)  
2 persons per vehicle;
- Grant Union High School IS/MND (Sacramento) (2021) average of  
3 persons per vehicle;
- Chavez High School Stadium Seating Expansion (Stockton) (2008)  
4.17 persons per vehicle;
- Concord High School and Clayton Valley High School (Concord) (2015)  
2.17 persons per vehicle;
- Valley High School Sports Complex (Costa Mesa) (2014)  
4.0 persons per vehicle; and
- Hiram Johnson High School Athletic Improvements MND (Sacramento) (2022)  
3.4 persons per vehicle.

The average of these nine projects is 3.19 persons per vehicle. Therefore, 3.24 is a reasonable projection for the number of persons per vehicle attending an evening football game.

Utilizing the surveyed vehicle occupancy rate and estimated attendance projections, the average trip increase per day for Friday night football games at Carmel High School would be approximately 37 trips ( $300 \text{ attendees} / 3.24 \text{ persons per vehicle} \times 2 \text{ trips (inbound and outbound)} \times 1 \text{ event per week} / 5 \text{ days per week} = 37 \text{ trips per day}$ ). During a homecoming or rivalry game, attendance is estimated to increase from the current 1,500 attendees to an anticipated 2,000 attendees. Therefore, the worst-case average trip increase during the football season would be approximately 62 trips per day for the homecoming and rivalry games ( $500 \text{ attendees} / 3.24 \text{ persons per vehicle} \times 2 \text{ trips (inbound and outbound)} \times 1 \text{ event per week} / 5 \text{ days per week} = 62 \text{ trips per day}$ ). The stadium lighting also would increase the attendance for other sporting events, such as soccer in winter and lacrosse in the spring, from the current approximately 200 attendees to up to 500 attendees. The total vehicular trips and resulting VMT of non-football events would be lower than those of evening football games since the total attendance for non-football sports events would be less than Friday night football games. Moreover, fall sports (football and field hockey), winter sports (soccer), and spring sports (lacrosse/track & field) would not occur concurrently. Therefore, the evaluation of Friday evening football games represents a worst-case scenario in terms of total trips and VMT throughout the year.

During the most highly attended sporting events, off-site parking would be provided at Carmel Middle School, located approximately 1.5 driving miles south of the Carmel High School campus along Carmel Valley Road. Carmel Middle School has 199 striped parking spaces. In addition, the middle school has additional overflow parking available near the existing track at the northwest portion of the campus which is accessed through a gated dirt road when needed and is located in non-irrigated portions of the track perimeter. This overflow parking area is unstriped and essentially doubles the amount of on-campus parking at the middle school based on the size of the area available. Therefore, when including this overflow parking area, a maximum total of approximately 400 parking spaces are available the middle school. Under the proposed project, attendees would be shuttled by bus between the off-site parking facility and Carmel High School. Up to 18 bus trips could be required before or after sporting events, for a total of up to 36 trips per game or 8 trips per day ( $18 \text{ shuttles} \times 2 \text{ trips (inbound and outbound)} \times 1 \text{ event per week} / 5 \text{ days per week} = 8 \text{ trips per day}$ ).

As discussed above, the average trip increase per day as a result of the proposed project would range from 37 trips for normal Friday night football games and up to 62 trips per day for homecoming and rivalry games. With the proposed bus shuttle, the average trip increase would range between 45 trips averaged per day for normal Friday night games and 70 trips averaged per day for homecoming and rivalry games.

## Conclusion

Per the OPR recommendations, land use projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Therefore, per the OPR recommendation, it can be presumed that the project (including the proposed bus shuttle) would have a less-than-significant transportation impact on VMT.

## Circulation Hazards

<b>IMPACT 11-2</b>	No Substantial Increase in Hazards due to Design Features or Incompatible Uses	Less than Significant
------------------------	--	-----------------------

### On-site Circulation Design Features

Implementation of the project includes two new on-campus parking lots. One is proposed immediately east of the existing swimming pool and ring road (see the East Parking Lot Conceptual Design figure in Section 4.0, Project Description). No new lights are necessary for this new parking lot.

The other is proposed to replace the existing tennis courts, south of the stadium (see the Tennis Court Parking Lot figure in Section 4.0, Project Description). This parking lot would be lighted and also includes an 18-foot drive aisle and a new lighted, pedestrian pathway to connect this parking lot to the main campus parking lot, and a 20-foot driveway to connect this parking lot with Morse Drive. The addition of these parking areas has been designed for both smooth vehicular and pedestrian circulation and safety.

### Off-Site Circulation

Implementation of the project would not require the construction, re-design, or alteration of any public roadways outside of the Carmel High School campus. Additionally, the types of vehicles accessing the project site during operational activities would be consistent with those currently using the roadway network to access Carmel High School (i.e., passenger vehicles, buses, etc.). Therefore, operational activities would not substantially increase hazards due to a design feature or incompatible uses.

As noted in the VMT assessment, the proposed stadium improvements are not expected to result in an adverse effect on traffic operations along State Route 1 that would warrant physical improvements. Furthermore, the larger increases in traffic associated with the Friday night football games would occur only four to six times per year. The infrequent occurrence and short peak arrival and departure periods of attendees does not warrant roadway improvements. Rather, the school district would implement temporary traffic control measures presented in the Traffic Management Plan prepared by TJKM and discussed below under "Parking Capacity and Emergency Access."

The smaller increases in spectators for the other stadium events can be adequately addressed by existing and proposed parking and therefore, for those events, the Traffic Management Plan would not be required.

## Short-Term Construction Traffic Safety

<b>IMPACT 11-3</b>	<b>Construction Traffic Could Result in Safety Impacts When School is in Session</b>	<b>Less-than-Significant with Mitigation</b>
------------------------	--	--

The construction schedule and details are described in Section 4.0, Project Description. Project construction would occur over a period of five to six months starting in April/May with removal of the old storage buildings. Much of the construction would occur when school is out for the summer (installation & replacement of lights/construction of storage building and east parking); however, construction would be expected to continue through approximately August/September (demolition of tennis courts and west storage building/construction of new parking area & driveways).

Movement of vehicles, particularly large trucks, into and out of the high school campus during construction has potential to affect traffic safety. Traffic from the various construction activities would be ongoing throughout the five-month construction phase.

The increase in vehicle trips associated with construction activities has the potential to result in short-term safety impacts. Implementation of the following mitigation measure would reduce this potentially significant safety impact to a less-than-significant level.

### *Mitigation Measure*

- 11-3 The school district will prepare a Construction Management Plan prior to the commencement of construction preparation activities. The plan will be implemented during construction and include, but not be limited to, the following:
- a. Provide for the appropriate control measures, including barricades, warning signs, speed control devices, flaggers, and other measures to mitigate potential traffic hazards;
  - b. Ensure coordination with on-site campus staff;
  - c. Prohibit heavy vehicle traffic to and from the project site during the hours when the majority of students are entering and exiting the campus; and
  - d. Store construction equipment in a safe location during the construction phase of the project.

## Parking Capacity and Emergency Access

<b>IMPACT 11-4</b>	An Increase in Event Attendance Could Result in Inadequate Parking During Limited Nighttime Events with Potential Emergency Access Issues	Less-than-Significant with Mitigation
------------------------	---	---------------------------------------

### Existing and Proposed Parking Analysis

#### *CEQA and Parking Impacts*

While adequacy of parking alone is not within the purview of CEQA impacts, because it is not an effect on the environment; it has been excluded from CEQA review by state law (i.e., Public Resources Code section 21009) as upheld in *Covina Residents for Responsible Development v. City of Covina* (CA Second District Court of Appeals 2018). However, secondary impacts on the environment that result from a parking deficit are within the scope of CEQA. Under CEQA, "it is not the project's 'impacts on parking' that matter; it is the impact of the project's reduced parking on the environment that matters." (*Save Our Access-San Gabriel Mountains v. Watershed Conservation Authority* (2021) 68 Cal.App.5th 8, 28.) The particular circumstances of the project and its setting will determine this analysis. (Id. at 26-27.)

During the notice of preparation comment period, as well as during the public review period for the draft EIR, concerns were raised that the addition of lighting at Carmel High School Stadium and hosting events in the evenings would result in issues related to inadequate on-campus parking.

#### *Existing Parking – On-Campus*

The school's main parking lot is located along the project site frontage facing State Route 1. Two-way access is provided via Ocean Avenue at the northern end of the lot, approximately 100 feet east of State Route 1. A secondary access driveway located 700 feet south of Ocean Avenue provides direct right-in and right-out only access to State Route 1. The lot provides a total of 174 parking spaces. During Friday evening football games, visitors would be permitted to park in all parking spaces, including staff-designated spaces. An additional parking lot that provides 35 parking spaces is located at the southern end of the school with two-way access provided via Morse Drive. Approximately 67 additional spaces are located around the swimming pool and the eastern edge of campus (campus ring road). These 67 spaces are generally available only to staff. Therefore, the total number of on-campus parking spaces is approximately 276. Refer to Table 3-5, Existing Carmel High School On-Campus Parking Summary.

### ***Existing Parking – Neighborhood***

As presented in Section 3.0, Environmental Setting, there are approximately 806 parking spaces in the adjacent neighborhoods, 654 of which are unrestricted, and 152 of which are restricted. Some of the parking is restricted from 7:00am to 6:00pm (except weekends and holidays) and others from 7:00am to 12:00pm (except weekends and holidays). There are no restrictions after 6:00pm and therefore, no restrictions for Friday night varsity football games, which would start at 7:30pm with implementation of the project.

### ***Worst-Case, Maximum Attendance Scenario Parking Needs***

It is estimated that the parking demand for normal Friday night football games would be approximately 247 vehicles based on the anticipated 800 attendees and the surveyed 3.24 vehicle occupancy rate. During a homecoming or rivalry game, attendance could be as high as 2,000. With 3.24 persons per vehicle, parking for up to 617 vehicles (2,000 x 3.24) could be required. The high school does not schedule other events on campus that would use up campus parking during football games. Under this “worst-case” scenario, which would occur once or twice per year, the existing on-campus parking shortfall is approximately 341 (617 demand - 276 available) parking spaces. Spectators who cannot find on-campus parking would likely seek parking on public streets within adjacent neighborhoods in one of the off-street parking spaces in the vicinity.

### ***Proposed New Parking Lots***

The proposed project includes the construction of two new parking areas on-campus. An additional, 0.62-acre parking lot with 76 parking spaces would be constructed to replace the existing tennis courts located immediately south of the stadium and north of Morse Drive. This parking lot would accommodate students for school day parking and students and visitors for all school-sponsored events including sporting events at the stadium. An additional 35 parking spaces are proposed east of the existing pool facility where storage buildings and containers currently sit along the campus ring road. This parking would be reserved for faculty and staff.

### ***Parking Adequacy During Homecoming/Rivalry Events***

Even with these additional 111 parking spaces, on-campus parking capacity during the “worst-case” scenario described above, would be deficient by 230 parking spaces (617 demand - 387 total spaces). Therefore, it is likely that on-site parking would be deficient on campus once or twice per year for homecoming or rivalry games.

Based on the existing capacity of existing parking lots, a majority of traffic would park within the Ocean Avenue parking lot. Circulation within the parking lot consists of a looping southbound-only drive aisle and northbound-only drive aisle which run between the two site access points located at the north and south ends of the lot. A cut-through aisle between



the north-south drive aisles is located approximately half-way between the two access points. Circulation is continuous and the existing one-way operation of the drive aisles minimizes conflicts between inbound and outbound vehicles. However, inbound queues into the parking lot could form during the peak-hour of arrivals, possibly inhibiting emergency access vehicles during this limited time period.

To facilitate access to available on-campus parking and to prevent excessive queueing onto SR 1 and possibly inhibiting emergency access vehicles during this limited time period, the school district will implement a traffic management plan (TMP). A TMP consists of specific programs, information, encouragement, and incentives by an organization to educate people on available transportation options and ensure said options are utilized. TMP programs are typically designed to encourage modes other than driving alone, and to counterbalance the incentives to drive, like free parking and vehicle-oriented roadway design. There are both traditional and innovative technology-based methods to provide TMP measures.

The following mitigation measure shall be implemented:

***Mitigation Measure***

- 11-4 The Carmel Unified School District will adopt and implement all measures outlined in the Traffic Management Plan prepared for Carmel High School. The proposed *Traffic Management Plan for Carmel High School* is included in [Appendix K](#). The final, approved plan will include, but not be limited to the following measures:
- a. **Off-Campus Parking:** During night football games and other special events, the parking lot at Carmel Middle School located at 4380 Carmel Valley Road will be utilized for local attendees. Carmel Middle School has 199 striped parking spaces and these parking spaces can be doubled by using other parts of the Carmel Middle School campus. All students, parents and other Carmel High School-based attendees will be encouraged to drive to the Carmel Middle School campus and then be shuttled to Carmel High School. The main campus parking located off of Ocean Avenue which has 174 parking stalls and the new 76 tennis court stalls (totally 250 stalls) will be reserved for all parking generated by the visiting team. The second parking lot which has 35 parking stalls and is located immediately south of the stadium and tennis courts next to the baseball diamond would be reserved for players and coaches only of the home team. On game days, Carmel High School students would have to move their parked cars from the Carmel High School campus to Carmel Middle School;

- b. Shuttle Service from Carmel Middle School: Bus pick-up services will be provided for attendees who will park at Carmel Middle School during the night football games and other special events. This service would pick-up local attendees from the middle school and shuttle them to the event on the Carmel High School campus. In addition, a drop-off / pick-up area will be established in the main parking lot for local attendees. The designated area will be at the concrete apron near the flagpole. However, these drop-off / pick-up vehicles will not be permitted to park at Carmel High School. With a capacity of 56 passengers per bus, up to 18 bus trips could be required before and after the game to accommodate about 1,000 "home" attendees parking at Carmel Middle School and transporting them between the middle school and the football stadium at Carmel High School. During the rivalry and home coming football games, approximately 1,500 attendees are anticipated to attend. It is anticipated that five to six buses would be required to shuttle attendees from Carmel Middle School. A round trip for each bus is estimated to take approximately 30 minutes including loading and unloading times;
- c. Alternative Mode Encouragement: Employees and students can be asked to consider alternate mode of transportation during the night football games and special events. Families and employees within one mile of campus can be asked to consider walking to school. In addition, parents will be asked to drop off and pick up their children at the designated drop-off location at the concrete apron near the flagpole in the main CHS parking lot.;
- d. On-Site Amenities: Amenities on-site include provision of Traffic Management Plan contract persons, and related information at Carmel High School during night football games and special events. The Traffic Management Plan contact persons will be from on-site employees and will provide information and resources on transportation choices available to parents, students and visitors during evening games and events. Prior to the beginning of school year, the transportation coordinator will be provided transportation information packets that include information Carmel Unified School District shuttle bus options for events. To better inform parents of new students and new employees of the available transportation options to Carmel High School during games and special events, information transportation packets can be distributed upon hire and at new student/parent orientations. By providing detailed overview of the available options faculty and students can plan better to reach campus during night football games and special events.

## 11.0 Transportation and Parking

- e. On-Campus Supervision: Carmel High School will appoint game day and weekend supervisors to supervise traffic and parking during nighttime football games, special events, and as needed. One supervisor will be needed at the main entrance and exit driveway, one supervisor will be needed at the entrance only driveway located south of Ocean Avenue and one supervisor will be needed at the Morse Drive parking lot at the tennis courts. The appointed employees will also be on call should an unforeseen disruption occur. The supervisors will coordinate with traffic control officers to direct traffic to appropriate parking areas and from the parking areas at the end of the game or a special event. They will be responsible for guiding motorists and enforcing traffic regulations in the main campus parking area.
- f. Parking Management: Areas immediately around the Carmel High School campus will have barricade-mounted No Event Parking signs installed in several locations, limiting the area to residents only during special events. Carmel Hills Drive, Stewart Place and Morse Drive between State Route 1 and Flanders Drive will be restricted to resident traffic prior to and during each home game. Carmel High School will submit encroachment permit applications to the county to authorize signs on the roadways outside of the jurisdiction of Carmel High School. Although most fines for parking violations are relatively inexpensive, a towed vehicle can prove expensive when wrecker fees are included. Violations that can result in towing include: parking along yellow curbs and inside fire lanes; blocking a fire hydrant, driveway, street, or alley; illegal use of handicapped parking; and illegally parking on private property. No Event Parking signs, traffic cones and barricades will be installed in the vicinity of the Carmel High School campus.

This Transportation Demand Management Plan will be implemented by high school administration. An annual evaluation will be conducted to assess the TMP's success in achieving its goals. The monitoring will identify deficiencies in the operations and planning and recommend measures that can be quickly implemented to resolve the issues. Each year a report will be prepared and submitted by the high school to Monterey County. The effort will consist of collecting observational data to assess which elements of the TMP need to be immediately modified in advance of subsequent events. The following plan elements will be reviewed:

1. Pre and Post Game Day Traffic Management;
2. Number of Football games and special events;
3. Current Parking Requirements;
4. Middle School Parking Demand;
5. Hours of Shuttle;
6. Traffic Congestion and Queuing;
7. Vehicular Pick-ups and Drop-offs;
8. Wayfinding and Signage;
9. Staffing;
10. General Safety and Security; and
11. TMP measures deployed the prior year.

Prior to the first scheduled monitoring football game, a meeting will be held with Monterey County and high school TMP coordinator to identify the specific monitoring locations, durations, and staffing responsibilities. Regular meetings involving Monterey County and the high school TMP coordinator. The suggested schedule is the beginning of the school year, mid-November and the end of the school year. Discussion points would include the monitoring observations and a determination of what modifications to the TMP should be implemented for subsequent events.

A written record of observations, and suggested improvements after each monitoring event will be prepared, and be available for public review at Monterey County offices. The purpose of the TMP is to reduce vehicle trips, and traffic congestion, during night football games and special events.

11.0 Transportation and Parking

*This side intentionally left blank.*

## Soils, Erosion, and Water Quality

The discussion in this section is primarily based upon information from the *Geotechnical and Geologic Hazards Investigation Stadium Lighting Project, Carmel High School* (2021 geotechnical report) prepared by Cleary Consultants, Inc. dated July 2021 (included as [Appendix L](#) to this RDEIR).

There were no responses to the NOP regarding soils, erosion, and water quality, and no specific comments regarding soils, erosion, and water quality on the first draft EIR.

### 12.1 ENVIRONMENTAL SETTING

Carmel High School is situated within the low hills immediately southeast of the Monterey Peninsula and west of Hatton Canyon, a tributary valley of Carmel Valley which is located approximately 4,000 feet south of the campus. Published geologic mapping indicates that the west portion of the site is underlain by Pleistocene-age Monte Vista Coastal Terrace deposits (Qctm) and the east portion of the site is underlain by Holocene-age Artificial Fill (Qaf) overlying Miocene-age semi-siliceous mudstone of the Monterey Formation (Tml). Other mapping alternatively shows that the site is underlain by Quaternary age dissected older alluvium (Qoa), which is bounded to the east and west by Miocene-age marine shale of the Monterey Formation. Subsurface investigations conducted by Cleary Consultants determined that soils underlying the stadium site (and soils underlying the high school campus more generally) consisted of loose to medium dense to very dense clayey sand soil. Soils are further underlain by hard sandy siltstone bedrock of the Monterey Formation as well as native earth materials composed of hard silty clay and sandy clay soil (Cleary Consultants 2021).

As described in Section 7.0, Biological Resources, the nearby water courses consist of a drainage pipe with flowing water empties just below the stadium and continues behind the baseball field. Runoff has caused a narrow, incised channel that supports a small riparian corridor. Flowing water was present at the time of the survey in April 2021, with a depth of one to two inches. This drainage is likely dry most of the year, accommodating flows during storm events or from irrigation. The drainage is not mapped on the USFWS National Wetlands Inventory Wetlands Mapper or on the USGS topographical map of the area and it is not clear whether it connects to a greater tributary. This drainage is within the campus



boundary but is outside of the project site. This drainage is located approximately 100 feet south of the proposed eastern parking lot and approximately 100 feet southeast of the proposed storage building. No impacts to the drainage are proposed as part of this project. Further east of the campus is the Hatton Canyon creek which sits approximately 900 feet east of the campus.

## **12.2 REGULATORY SETTING**

### **Federal**

#### **National Pollutant Discharge Elimination System (NPDES) Permit**

In California, the State Water Resources Control Board administers the Clean Water Act (33 U.S. Code Section 1301 et seq.) and its associated regulations promulgated by the U.S. Environmental Protection Agency (40 CFR Section 122 et seq.) requiring the permitting of stormwater-generated pollution under the National Pollutant Discharge Elimination System (NPDES). The State Water Resources Control Board's jurisdiction is administered through nine regional water quality control boards. Under the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act, an operator must obtain coverage under the General Construction Permit for any construction or demolition activity (e.g., clearing, grading, excavation) that results in a land disturbance of one acre or more. The General Construction Permit requires the implementation of best management practices (BMPs) to reduce sedimentation into surface waters and to control erosion. One element of compliance with the NPDES permit is preparation of a storm water pollution prevention plan (SWPPP) that addresses control of water pollution, including sediment, in runoff during construction.

### **State**

#### **California Building Code**

The California Building Code (CBC) (California Code of Regulations, Title 24) is based on the International Building Code. The CBC has been modified from the International Building Code for California conditions, with more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, while Chapter 18A regulates construction on unstable soils, such as expansive soils and areas subject to liquefaction. Appendix J of the CBC regulates grading activities, including drainage and erosion control. The CBC contains a provision that provides for a preliminary soil report to be prepared to identify "the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects." (CBC Chapter 18 Section

1803.1.1.1). Chapter 18.02 of the Monterey County Code adopts the CBC by reference. The school district has the option to exempt itself from local building and zoning codes per California Government Code 53094.

### **California Code of Regulations (Title 5, Sections 14001 through 14012)**

California Code of Regulations (CCR) Title 5 outlines the powers and duties of the California Department of Education regarding school sites and the construction of school buildings. Districts seeking state funding must comply with the student safety and educational appropriateness standards outlined in CCR Title 5. Further, Section 14001 requires school facilities to be designed to meet federal, state, and local statutory requirements for structure, fire, and public safety.

### **California Division of the State Architect**

The California Division of the State Architect (DSA) reviews seismic, fire and life safety, and accessibility of projects, regardless of funding status. Prior to design approval, the DSA reviews site plans to ensure consistency with the Uniform Building Code applicable to structure design and construction in order to minimize the potentially damaging effect of severe ground shaking originating from earthquakes in the region. Geotechnical investigations are also subject to DSA review and must be submitted to California Geological Survey (CGS) prior to project approval (DSA 2016).

### **NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity**

The State Water Resources Control Board adopted the statewide NPDES General Permit in August 1999. The state requires that projects disturbing more than one acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management plans (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

## **12.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE**

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of soils, erosion, and water quality, as it does on a whole series of additional topics. Lead agencies are under no obligation to use these inquiries

in fashioning thresholds of significance on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant soils, erosion, and water quality impact would occur if implementation of the proposed project would result in:

- Substantial soil erosion or the loss of topsoil;
- Being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; or
- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

## 12.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

This section includes information and data regarding soils, erosion, and water quality that are relevant to the proposed project based on the threshold of significance described above. The information and data are used as a basis for determining impact significance and for the mitigation measures.

### Soil Erosion

<b>IMPACT 12-1</b>	<b>Construction Activities Associated with the Proposed Project Could Expose Soils and Increase the Potential for Soil Erosion</b>	<b>Less than Significant</b>
------------------------	--	------------------------------

Project construction would require earthwork activities, which could temporarily expose soils and increase the potential for soil erosion from wind or stormwater runoff. Because construction activities would disturb more than one acre of soil, the school district would need to obtain coverage under the statewide NPDES General Permit for Discharge of Stormwater Associated with Construction Activity (Construction General Permit). Coverage under the Construction General Permit requires preparation and implementation of an SWPPP. The SWPPP would be required to identify temporary best management practices (BMPs) to prevent the transport of earthen materials from construction sites during periods of precipitation or runoff, and temporary BMPs would be required to prevent wind erosion of earthen materials. In addition, once all ground disturbance has taken place including installation of the stadium light poles, the two parking lots constructed, and the new storage building installed, all exposed soil materials would be covered and there would be limited potential for soil erosion to occur. Mandatory compliance with adopted regulations would require the project to minimize erosion and loss of topsoil during construction. Operations

and maintenance would not require additional soil disturbance and would not result in erosion or loss of topsoil. The project would not leave topsoil exposed and vulnerable to erosion. Therefore, the project’s impact associated with soil erosion would be less than significant.

### Expansive Soil

<b>IMPACT 12-2</b>	<b>The Proposed Project Would Not Locate Improvements on Areas with Expansive Soils</b>	<b>No Impact</b>
------------------------	---	------------------

Expansive soils are those with excessive swelling clay minerals such as montmorillonite. The presence of expansive clay minerals in soils can cause excessive swelling when the soil comes into contact with water and also shrinkage when it undergoes drying (ScienceDirect 2022).

As discussed in the 2021 geotechnical report, soil samples found that the project site is generally underlain by approximately 13 to 36.5 feet of soil comprised of clay-gravel-sand mixtures of varying consistency, interlayered by very stiff to hard sandy clay and silty clay, overlying hard siltstone and claystone bedrock of the Monterey Formation to the maximum depth explored of 45 feet. Therefore, the near surface soils on the project site were to determine have a low expansion potential and would not result in damage to the proposed storage building, if the project is constructed in a way that would provide for proper stabilization of the proposed storage building. Compliance with CBC regulations and DSA review would require the project to incorporate standard engineering and seismic safety design techniques to further reduce the risk to life or property. Therefore, no impacts associated with locating the project on a site with expansive soils would occur.

### Degrade Surface or Ground Water Quality

<b>IMPACT 12-3</b>	<b>Construction Activities Associated with the Proposed Project Have the Potential to Degrade Surface or Ground Water Quality</b>	<b>Less than Significant</b>
------------------------	---	------------------------------

The proposed project consists of a series of improvements surrounding the existing stadium, including construction of two new parking areas which would require grading and the use of heavy equipment. Construction of the two parking lots have the greatest potential to impact water quality. Demolition of existing softscape and hardscape, earthwork grading, and site drainage improvements within the tennis court area and the area east of the pool facility would disturb and expose soils to wind and water erosion, potentially transporting sediment and pollutants to surface water bodies, such as the Hatton Canyon creek area to the east. Erosion and sedimentation of exposed dirt areas particularly vulnerable during storm events. Sediments that enter surface water as a result of construction-related activities are classified as a non-point source pollutant, which can be deposited in stormwater and surrounding waterways, ultimately degrading water quality and wildlife habitats.

The school district would need to obtain coverage under the statewide National Pollution Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit) (NPDES Permit, 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ) because the project would disturb more than one acre. Obtaining coverage under the Construction General Permit involves submitting a Notice of Intent to the SWRCB and developing a stormwater pollution prevention plan (SWPPP) which would contain BMPs which would, among other measures, would prevent transport of earthen materials and other construction waste materials, prevent wind erosion, and require preparation of a spill prevention and containment plan. Implementation of these BMPs through the SWPPP would ensure project impacts associated with degradation surface or ground water quality would be reduced to a less-than-significant level.

## Tribal and Cultural Resources

### 13.1 ENVIRONMENTAL SETTING

The environmental setting was provided by Archaeological Resource Management in their April 14, 2021 cultural resources evaluation.

Early ethnographic accounts of local Native American cultures provide a cultural context for archaeological studies. The Ohlone, or Costanoan, Indians inhabited the San Francisco Bay regions from the Golden Gate south to Monterey. Derived from a Spanish word, Costanoan means "people of the coast," and is an older term. Descendants of these people prefer to refer to themselves as "Ohlone," and it is now the generally accepted term. The research area is located in the Rumsen linguistic area, which shared many cultural traits with other linguistic groups in the Ohlone region. It is believed that the Ohlone Indians inhabited the area since A.D. 500, and that speakers of the Hokan language previously inhabited at least part of the region. However, it is unclear when the Hokan or even earlier Paleo-Indians first came to the area.

Archaeological data documents Native American coastal activity in the Central Coast area over the past 10,000 years, with some indications of occupation as early as 12,000 to 13,000 years ago. The Ohlone were gatherers and hunters who utilized only the native flora and fauna with the exception of one domesticate, the dog. Yet, the abundance and high quality of natural resources allowed them to settle in semi-sedentary villages. The Ohlone were typically organized in basic political units called "tribelets" that consisted of 100 to 250 members. The "tribelet" was an autonomous social unit consisting of one or more permanent villages with smaller villages in a relatively close proximity. Parties went out from the major villages to locations within the tribal territory to obtain various resources.

The proximity of both mountainous and bay regions in the Monterey Bay area made a diversity of resources available during different seasons to the native inhabitants. During the winter months, the low-lying flats near the San Francisco Bay have abundant marine and waterfowl resources, while the surrounding mountainous areas are best in the summer months for their nut, seed, and mammalian resources. A primary food source was acorns, abundant in autumn and easily stored for the remainder of the year. The acorn industry of California was probably the most characteristic feature of its domestic economy. An elaborate process of grinding and leaching acorns is necessary to render them palatable.



The acorn industry first became a major source of food in the Middle Period as is indicated by the appearance of mortars and pestles in the archaeological record. Other important resources include various plant foods, land animals, and the marine resources of the San Francisco Bay. Both large and small land mammals were typically hunted, trapped or poisoned. Many items, including shell beads and ornaments, were extensively traded with other groups as far away as the Great Basin of Nevada.

It is argued that contrary to usual conceptions of hunters and gatherers, native Californian groups, including the Ohlone, practiced a form of resource management that was close to agriculture. Bean and Lawton consider this pattern a "semi-agricultural" stage which included quasi-agricultural harvesting activity and proto-agricultural techniques. Some plants were pruned and reseeded seasonally for optimal production. Foods such as acorns were stored for many months at a time. Ethnographic accounts also report the repeated burning of woodlands grassbelt to increase animal and plant resources. It is likely to have made hunting conditions better by reducing scrubby growth and encouraging the growth of grasses and other plants that are appealing to grazers such as deer and elk. The plant growth succession after a burning is also rich in grains and legumes that were major food sources for Native Californians. Bean and Lawton also claim that the abundance of plant and animal resources in California and the development of ingenious technological processes allowed Native Californians to develop social structures beyond the normal parameters of hunting and gathering. These include extensive political systems, controlled production and redistribution of goods, and alliances and trade with other groups.

## **13.2 REGULATORY SETTING**

### **Federal**

#### **National Historic Preservation Act (1966)**

This Act was passed into law in 1966. The purpose of the Act is to establish systems and standards for coordinating historic preservation efforts between the federal government and state, local, and tribal governments. This Act includes Title I, Historic Preservation Programs, Section 101, which states the Secretary may expand and maintain a National Register of Historic Places composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Additional information about this Act can be found under Title 54 U.S.C. Chapter 3021-National Register of Historic Places, 54 U.S.C. 302101 (National Park Service 2018).

## **Native American Graves Protection and Repatriation Act (NAGPRA) (1990)**

This Act was passed into law on November 16, 1990 and has been amended twice. This Act describes the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation. Additional information about this Act can be found under Public Law 101-601; 54 U.S.C. (National Park Service 2018).

## **State**

### **California Environmental Quality Act (CEQA) Historic and Unique Archaeological Resources (California Public Resources Code § 21083.2)**

It is the responsibility of the lead agency to determine whether a project may have a significant effect on archaeological resources. If the lead agency determines that a project may have a significant effect on historic resources or unique archaeological resources, the EIR shall address the issue of those resources. If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state.

### **Assembly Bill 52**

On September 25, 2014, Governor Brown signed Assembly Bill (AB) 52, which creates a new category of environmental resources “tribal cultural resources” that must be considered under CEQA. The legislation imposes new requirements for consultation regarding projects that may affect a tribal cultural resource, includes a broad definition of what may be considered to be a tribal cultural resource, and includes a list of recommended mitigation measures. AB 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, unique archaeological, and paleontological resources. AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area.

To participate in AB 52, a tribe requests, in writing, that they wish the lead agency to notify them through a formal notification of proposed projects within the tribe’s geographic area where they are traditionally and culturally affiliated. The lead agency has 14 days after determining that an application for a project is complete, or a decision by a public agency to undertake a project, to provide formal notification to the designated contact or tribal representative of traditionally and culturally affiliated California Native American tribes that have requested notice.

## 13.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of tribal cultural resources, as it does on a whole series of additional topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of tribal cultural resource impacts, or on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant tribal and cultural resource impact would occur if implementation of the proposed project would:

### Historic and Unique Archaeological Resources

- Cause a substantial adverse change in the significance of a historical resource;
- Cause a substantial adverse change in significance of a (unique) archaeological resource; or
- Disturb any Native American human remains, including those interred outside of dedicated cemeteries.

### Tribal Cultural Resources

- 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:
  - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
  - 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 in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

## 13.4 ENVIRONMENTAL IMPACT ANALYSIS

### *Historic and Unique Archaeological Resources*

This evaluation is based upon two archaeological investigations. The first was a records search and a cultural resource evaluation conducted by Archaeological Resource Management for the proposed lighting project in April 2021. The second was an archaeological investigation of the two parking lots, the proposed 18-foot drive aisle, and the proposed storage building site in May 2022 by EMC Planning Group archaeologist Kaitlin Ruppert.

### *Tribal Cultural Resources*

The CEQA statute as amended by Assembly Bill 52 (AB 52) (Public Resources Code Sections 21073 and 21074) defines “tribal cultural resources”, and “California Native American tribe” as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission. Public Resources Code Section 21080.3.1 outlines procedures for tribal consultation as part of the environmental review process.

On March 29, 2021, the school district sent an offer of consultation letter to the tribal representative of the Ohlone/Costanoan-Esselen Nation (OCEN). No response to the offer of consultation was received.

On August 5, 2022, the school district sent a follow-up notification to the tribal representative of the Ohlone/Costanoan-Esselen Nation (OCEN). The notification detailed the changes made to the proposed project since the original consultation letter had been sent.

### **Historical and Unique Archaeological Resources**

<b>IMPACT 13-1</b>	A Potential Adverse Substantial Adverse Change in the Significance of a Historical Resource Pursuant or a Unique Archaeological Resource	<b>Less than Significant with Mitigation</b>
------------------------	--	--

A records search was conducted by Archaeological Resource Management in 2021 which revealed no previously recorded sites are located within the proposed project area. In addition, no previously recorded historic or archaeological resources are located within a one-quarter mile radius of the proposed project area. Surveys were conducted by qualified archaeologists on all visible open land surfaces in the project area (April 2021 and May 2022). No traces of significant cultural material, prehistoric or historic, were noted during the survey.

However, there is always the potential to accidentally discover unknown buried historic resources or unique archaeological resources during earth moving activities. Implementation of the following mitigation measure would reduce this potential, significant impact to a less-than-significant level.

**Mitigation Measure**

13-1 In the event that archaeological resources (artifacts, concentrations of shell/bone/rock/ash) are encountered, all construction within a fifty-meter radius of the find should be stopped, school district staff notified, the Monterey County Housing and Community Development Department contacted, and an archaeologist retained to examine the find and make appropriate recommendations. Should the archaeologist determine the find to be a significant historic resource or a unique archaeological resource, measures pursuant to CEQA Guidelines section 15064.5 shall be implemented.

**Native American Human Remains**

<b>IMPACT</b> 13-2	Potential to Disturb Native American Human Remains, Including Those Interred Outside of Dedicated Cemeteries	Less than Significant with Mitigation
-----------------------	---	--

In addition, although there is no evidence of human remains associated with the project site, which is an existing developed school site, there is the possibility of an accidental discovery of human remains during construction activities. Disturbance of Native American human remains is considered a significant adverse environmental impact. Implementation of the following mitigation measure would reduce this potential, significant impact to a less-than-significant level.

**Mitigation Measure**

13-2 Due to the possibility that human remains may be discovered during construction activities; the following language shall be included in all project construction documents:

“If human remains are found during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner is contacted to determine that no investigation of the cause of death is required.

If the coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD may then make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in Public Resources Code Section 5097.98.

The landowner or authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance if: a) the Native American Heritage Commission is unable to identify a MLD or the MLD failed to make a recommendation within 48 hours after being allowed access to the site; b) the descendent identified fails to make a recommendation; or c) the landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.”



*This side intentionally left blank.*

# 14.0 Recreation

This analysis focuses on tennis courts, as the proposed project includes demolition of the tennis courts at Carmel High School.

## 14.1 ENVIRONMENTAL SETTING

### Carmel High School

#### Summary of Recreational Facilities

The Carmel High School campus includes recreational facilities for the students of the high school, as well as members of the community under the Civic Center Act. They include, but are not limited to indoor facilities (gymnasium, dance studio, weight room) and outdoor facilities (swimming pool, stadium, multi-use practice field/baseball field, and four tennis courts). Facilities impacted by the proposed project are the swimming pool, the stadium, and the tennis courts, all located within the southern portion of the campus. The location of these facilities can be found in [Figure 3-2, Existing Setting](#).

In addition, the school district operates other schools in the vicinity that provide recreational opportunities for the community.

#### Tennis Courts

The existing schedule and use of the tennis courts by the boys' and girls' tennis teams is presented in Section 3.0, Environmental Setting. The high school girls' and boys' tennis teams currently practice at the high school courts, but hold home matches and tournaments at Mission Ranch in Carmel and Carmel Valley Athletic Club in Carmel Valley. The high school tennis courts are not used for physical education classes.

Although the recreational facilities at the high school are available to the public under the Civic Center Act, there has been no use requests from organized groups in the past five years.

#### Carmel Unified School District Tennis Courts

In addition to the four tennis courts at Carmel High School, Carmel Middle School has four tennis courts, and Tularcitos Elementary School has two tennis courts. There are no tennis courts at Carmel Valley High School or any of the school district's schools.

## Other Vicinity Public Parks and Public Tennis Courts

There are numerous city, county, regional, and state parks within the general vicinity and region. Public tennis courts within an approximately five-mile radius are summarized below:

- Forest Hill Park, Carmel-by-the-Sea. Two tennis courts located approximately one mile from Carmel High School.
- Monterey High School, Monterey. Four tennis courts located approximately three miles from Carmel High School.
- La Mesa Elementary School, Monterey. Two tennis courts located approximately three miles from Carmel High School.
- Via Paraiso Park, Monterey. Two tennis courts located approximately three miles from Carmel High School.
- Monterey Peninsula College. Five tennis courts located approximately three miles from Carmel High School.
- Pacific Grove High School, Pacific Grove. Six tennis courts located approximately four miles from Carmel High School.
- Hilltop Park Center, Monterey. One tennis court located approximately four miles from Carmel High School.
- Del Rey Oaks Tennis Courts, Del Rey Oaks. Two tennis courts located approximately five miles from Carmel High School.

In addition to the public facilities listed above, the following are three examples of the many private tennis clubs open to the public for a fee or membership:

- Mission Ranch, Carmel-by-the-Sea. Six tennis courts located approximately one mile from Carmel High School. Membership or fee required. Note: Carmel High School holds home matches and tournaments here.
- Carmel Valley Athletic Club, Carmel Valley. Ten tennis courts located approximately three miles from Carmel High School. Membership or fee required. Note: Carmel High School holds home matches and tournaments here.
- Monterey Tennis Center, Monterey. Six located approximately 3.5 miles from Carmel High School. Membership or fee required.

## 14.2 REGULATORY SETTING

### California Department of Education

The California Department of Education identifies the following legal requirements for middle and high school physical education (California Department of Education 2022):

- All students in grades 7-12 must receive a minimum of 400 minutes of physical education instruction every 10 school days (Education Code Section 51222);
- Local school boards may exempt students from any two years of physical education in grades 10, 11, or 12;
- Beginning in July 2007, students must pass the physical performance test administered in grade 9 to receive the two-year exemption (Education Code Section 51241);
- If exempted, students must be provided a variety of physical education elective courses (Education Code Section 51222);
- High school physical education course content must include instruction in each of the eight content areas:
  - The effect of physical activity upon dynamic health;
  - Mechanics of body movement;
  - Aquatics;
  - Individual/dual sports;
  - Gymnastics/tumbling;
  - Team sports;
  - Rhythms/dance; and
  - Combatives.

### County of Monterey General Plan

Even though the governing board of the school district has the authority to render city or county zoning ordinances and general plan requirements inapplicable to the project site and proposed project pursuant to California Government Code Section 53094, this RDEIR evaluates the proposed project's consistency with local regulations and policies for purposes of CEQA compliance.

The public services element of the general plan includes the following relevant policies:

PS-7.3 The cost-effective use of multi-purpose school facilities during off-school hours for community meeting space and recreation space shall be encouraged.

PS-11.5 The County shall encourage full utilization of park and recreation facilities owned and/or operated by other agencies.

## **Carmel Unified School District**

The school district does not have any policies associated with the construction of athletic Facilities. The school district's governing board does have policies that govern the use of school facilities, including athletic facilities, by community groups consistent with the Civic Center Act (Ed. Code, section 38130, et seq.; see BP & AR 1330.).

## **14.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE**

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of recreation, as it does on a whole series of additional topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of recreation impacts, or on any subject addressed in the checklist. Rather, with few exceptions, CEQA grants agencies discretion to develop their own thresholds of significance. Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The school district has done so here. Therefore, for purposes of this EIR, a significant impact on the environment could occur associated with recreation facilities if implementation of the proposed project would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

## 14.4 ENVIRONMENTAL IMPACT ANALYSIS

### Camel Middle School Tennis Courts

<b>IMPACT 14-1</b>	The Proposed Project may Accelerate the Deterioration of the Carmel Middle School Tennis Courts	<b>Less than Significant</b>
------------------------	---	------------------------------

The proposed project includes demolition of the existing tennis courts at the high school in order to construct additional parking spaces. The existing tennis courts are currently used by the school district for practice only. Tournaments hosted by the high school boys’ and girls’ tennis teams are currently held off-site at either the Mission Ranch in Carmel or the Carmel Valley Athletic Club in Carmel Valley. With implementation of the project, the high school boys’ and girls’ tennis teams will practice at the Carmel Middle School tennis courts, when not in use by the middle school tennis teams. Tournaments will continue to be held off-site at either the Mission Ranch in Carmel or the Carmel Valley Athletic Club in Carmel Valley.

Use of the middle school tennis courts by high school students may result in accelerated deterioration of the courts, requiring the school district to maintain the courts more often. Maintenance activities may result in minor vehicle miles traveled and resulting vehicle emissions; however, the increased maintenance activities would not result in a significant environmental impact.

### Vicinity Public Tennis Courts

<b>IMPACT 14-2</b>	The Proposed Project may Accelerate the Deterioration of Other Public Tennis Courts in the Vicinity	<b>Less than Significant</b>
------------------------	---	------------------------------

As previously stated, although the recreational facilities at the high school are available to the public under the Civic Center Act, there has been no use requests to use the tennis courts from organized groups in the past five years. Individual members of the public may use the tennis courts outside of school hours and the school district does not lock the gates to the tennis courts; however, neither the high school nor the school district monitors that use. Community members wishing to use school district facilities need to do so in accordance with Civic Center Act procedures. The school district acknowledges that some community members may use the tennis facilities without the school district’s knowledge, the school district should be able to rely on its Civic Center Act data for purposes of ascertaining community use.

Use of other tennis court facilities in the vicinity resulting from closure of the Carmel High School courts may result in accelerated deterioration of these other courts. However, because there are a significant number of public (and private) tennis court facilities the vicinity,



increased use would likely be spread among many facilities. Maintenance activities may result in minor vehicle miles traveled and resulting vehicle emissions; however, the increased maintenance activities would not result in a significant environmental impact.

### **Additional New or Expanded Recreational Facilities**

<b>IMPACT 14-3</b>	The Proposed Project Does Not Include New Recreational Facilities or Require the Construction or Expansion of Recreational Facilities Beyond the Proposed Project Itself	<b>No Impact</b>
------------------------	--	------------------

The proposed project includes improvements at Carmel High School to the existing stadium and pool, and includes demolition of the existing tennis courts. The environmental impacts of these components of the project are evaluated throughout this RDEIR.

Otherwise, the proposed project does not result in new recreational facilities or require the construction or expansion of recreational facilities. As discussed above, the high school students would use the existing tennis courts at the middle school when they are not in use by middle school programs, and no new recreational facilities are required to be expanded or constructed.

# 15.0 Cumulative Impacts

## 15.1 CEQA REQUIREMENTS

CEQA Guidelines section 15130 requires a discussion of cumulative impacts when the project's incremental effect is "cumulatively considerable", as defined in section 15065(a)(3), which states, "The project has possible environmental effects that are individually limited but cumulative considerable. Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. A cumulative impact consists of an impact that is created as a result of the combination of the proposed project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR. When the combined cumulative impacts associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting its conclusion that the cumulative impact is less than significant.

A lead agency may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and therefore, is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the other identified projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact (CEQA Guidelines, Section 15130).

CEQA requires a cumulative development scenario to consist of either a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or, a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

## 15.2 CUMULATIVE DEVELOPMENT SCENARIO

### Geographic Scope

The geographic scope of the area affected by cumulative impacts can vary with the specific environmental topic being evaluated. According to CEQA Guidelines section 15130(b)(1)(3), the lead agency should define the geographic scope of the area affected by the cumulative effect. For purposes of analyzing cumulative projects impacts, the geographic scope of the area affected ranges from development within the State Route 1 corridor or the City of Carmel-by-the-Sea to much broader areas such as Monterey County or the air basin. For example, aesthetic impacts are evaluated within the context of existing and/or pending development of the greater Carmel area, including portions of the City of Carmel-by-the-Sea, Hatton Canyon, and the western edge of Carmel Valley; the entire air basin is the geographic boundary used in the cumulative air quality analysis; and the proposed project effect on climate change is evaluated at a state scale. Identification of the geographic scope is included in each cumulative impact discussion, and is summarized in [Table 15-1, Cumulative Impact Analysis Geographic Scope](#).

### Projects Contributing to Cumulative Development Conditions

For some environmental issue areas, the project list approach is used as the cumulative development scenario. This approach is used because the project site is located in a rural/suburban part of the county. Its cumulative effects are better understood in the context of more local projects that influence environmental conditions in the local area than by a set of general plan projections where cumulative effects are strongly influenced by urban development in more distant urban areas.

County of Monterey staff, City of Carmel-by-the-Sea staff, and Transportation Agency for Monterey County (TAMC) staff provided input to the cumulative project scenario. Based on communications with County of Monterey, City of Carmel-by-the-Sea, and TAMC staff and information from the Monterey County “Current Major Projects” website, there are no active, approved projects within the State Route 1 corridor area in unincorporated Monterey County for consideration in the cumulative project scenario (Monterey County 2022).

However, two projects (one hotel project in Carmel and one large residential project off Carmel Valley Road in unincorporated Monterey County) are included for purposes of highlighting two larger projects that may introduce increased cumulative impacts in the vicinity of the high school (see Table 15-2 below).

**Table 15-1 Cumulative Impact Analysis Geographic Scope**

Resource Area	Geographic Area
Aesthetics	State Route 1 corridor, between State Route 68 and Carmel Valley Road including portions of Hatton Canyon, the City of Carmel-by-the-Sea, and western most portions of Carmel Valley
Air Quality	Air Quality: North Central Coast Air Basin
Biological Resources	Unincorporated Monterey County (greater Carmel and Carmel Valley)
Cultural, Paleontological, and Tribal Resources	Historic and Archaeological Resources: City of Carmel-by-the-Sea, the State Route 1 corridor between State Route 68 and Carmel Valley Road, and surrounding unincorporated areas Paleontological Resources: Monterey County
Energy	State of California
Greenhouse Gas Emission	State of California
Noise	Projects that add traffic to State Route 1 and/or surrounding roads (traffic noise) Projects in the immediate vicinity with operational noise affecting the sensitive receptor nearest to Carmel High School (operational noise)
Transportation	Unincorporated Monterey County (greater Carmel and Carmel Valley)
Soils, Erosion, and Water Quality	State Route 1 corridor, between State Route 68 and Carmel Valley Road including portions of Hatton Canyon, the City of Carmel-by-the-Sea, and western most portions of Carmel Valley
Recreation	Carmel High School, Carmel Middle School, and public tennis courts within a five-mile radius

SOURCE: EMC Planning Group 2022

Planned, approved and recently approved/under construction projects within the three jurisdictions are presented in [Table 15-2, Cumulative Project List](#). The project locations are illustrated on [Figure 15-1, Cumulative Project Locations](#). The agencies were consulted to identify the projects that are under construction, recently approved or are in process of being considered. Larger projects with greater potential to influence environmental conditions in the immediate project area were then selected from those projects.

**Table 15-2 Cumulative Project List**

Project List	Location	Project Description
<i>Monterey County</i>		
Rancho Cañada Village	Carmel Valley Road (behind Carmel Middle School)	Develop an approximately 76-acre area within the former West Course at Rancho Cañada Golf Club. The project site would be comprised of a mix of residential and recreational uses, including an approximately 25-acre, 130-unit residential neighborhood; approximately 40 acres of permanent open space; and approximately 11 acres of common areas within the 76-plus acres. The project is proposed as a planned unit development (PUD) providing a compact, pedestrian-friendly development with a variety of housing types and recreational uses within the residential community.  This project is approved, but not yet developed, and located approximately 1.75 miles from Carmel High School.
<i>City of Carmel-by-the-Sea</i>		
Carmel Resort Inn	Carpenter Street & 1 <sup>st</sup> Avenue	Full tear down of an existing motel/inn with approximately 31 units. Proposal to rebuild 16 one bedroom, 900 square foot resort cottage units, reception/lobby, spa and office, and eight (8) 1,800 square foot residential units.  This project is located about ¾ of a mile from Carmel High School.

SOURCE: Monterey County 2021-2022; City of Carmel-by-the-Sea 2021-2022

## 15.3 CUMULATIVE ANALYSIS

The following sections include an evaluation of the cumulative scenario’s impacts, and addresses whether the proposed project’s contribution is considerable.

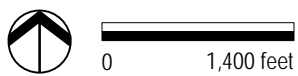
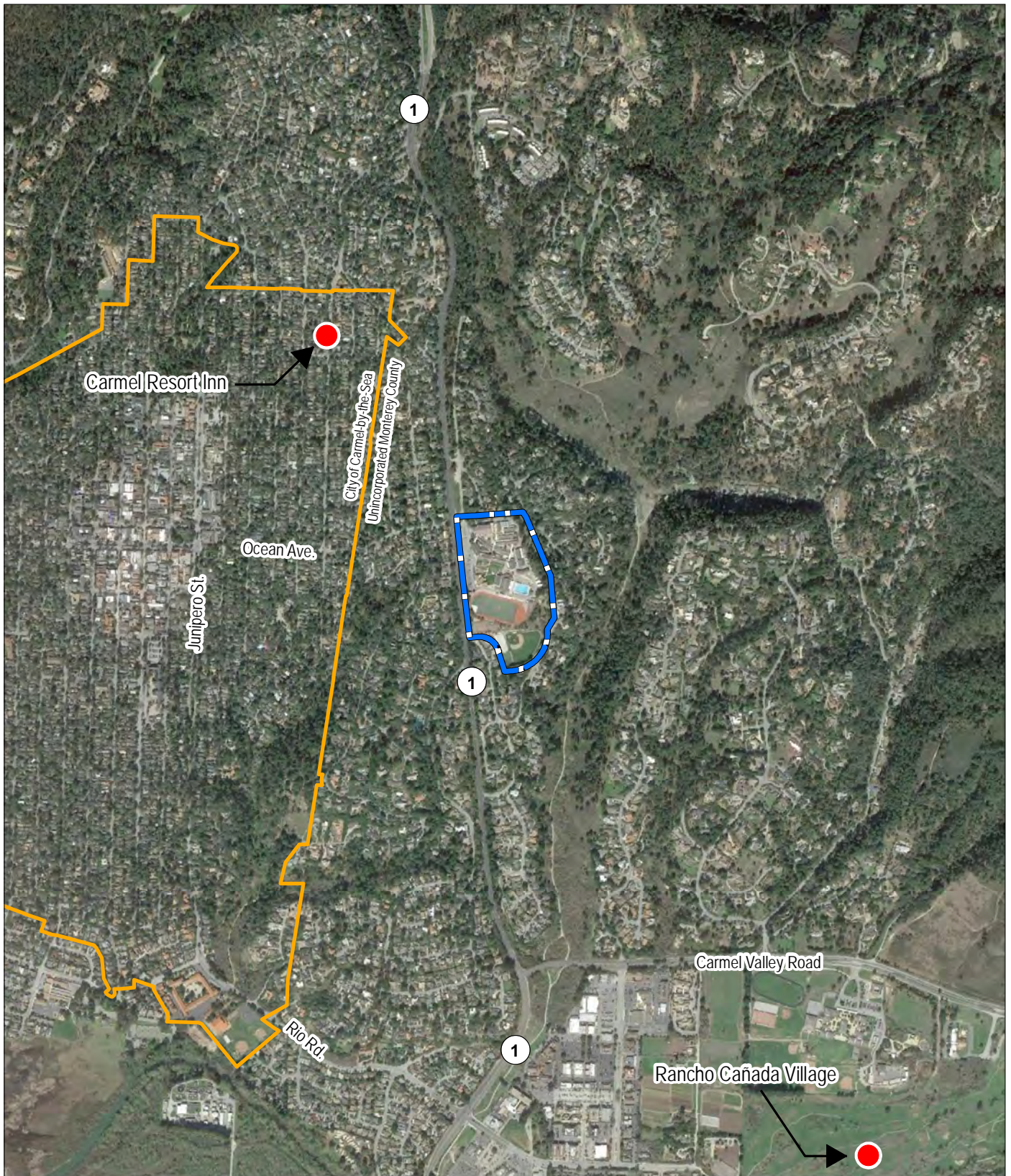
### Aesthetics

#### Proposed Project Impact Summary

Aesthetic impacts are discussed in Section 5.0, Aesthetics. The proposed project would result in the following aesthetic impacts:

- Impact 5-1. The Light Poles Would be Visible from and towards County-Designated Visually “Sensitive” and “Highly Sensitive” Areas and Slightly Modify the Visual Character and Quality of the Site (Less than Significant); and
- Impact 5-2. New Lighting would Result in Light Pollution and the New Sources of Light and Glare Would be Visible from and towards County-Designated Visually “Sensitive” and “Highly Sensitive” Areas and Slightly Modify the Visual Character and Quality of the Site (Significant and Unavoidable).





- Carmel-by-the-Sea City Limits
- Carmel High School Campus Boundary
- Other Projects

Source: Google Earth 2022,  
Monterey County GIS 2019

Figure 15-1

# Cumulative Project Locations





*This side intentionally left blank.*

## **Geographic Scope**

The geographic scope for aesthetics impacts of the proposed project is development within and surrounding the State Route 1 corridor between State Route 68 to the north and Carmel Valley to the south. The geographic scope includes portions of Hatton Canyon and those neighborhoods to the north, east, and west of the canyon that have views towards and beyond the high school campus. Portions of both the City of Carmel-by-the-Sea and the western portions of Carmel Valley are also included for light and glare conditions and projects which may contribute to increased light and glare impacts throughout the area.

## **Cumulative Impacts**

### *Scenic Vistas and Visual Character*

Past and existing cumulative suburban development within the State Route 1 corridor has been relatively limited. Scenic vistas and visual character continue to be defined by views of Monterey pine and cypress forest interspersed with single family residential development and distant views of hillsides and mountain ranges. The area remains zoned primarily for residential uses with some commercial development particularly towards the south along Carmel Valley Road and Rio Road. None of the cumulative projects would affect aesthetic conditions within the State Route 1 corridor. The Rancho Canada Village project may substantially affect aesthetic conditions depending on the extent of its visibility from certain publicly visible areas. However, development would be largely set back from Carmel Valley Road with existing open space and the Carmel Middle School blocking most views. The Carmel Resort Inn is located west and downhill of State Route 1 and entirely blocked from view from the highway by topography, residential development, and vegetation. Given these conditions, past, present and probable future development within the State Route 1 corridor and greater Carmel area would have less-than-cumulatively significant impacts on aesthetic resource conditions.

### *Light and Glare*

Similarly, past and present uses within the State Route 1 corridor and greater Carmel area have not contributed to significant light and glare conditions as well as sky glow, primarily due to the forest cover. Exceptions would be the existing high school campus (security and pedestrian lighting along with the existing pool lighting when turned on), commercial development along Carmel Valley Road and Rio Road, as well as existing streetlights along State Route 1. The Rancho Canada Village project has potential to significantly alter sky glow conditions, depending upon the level of night-time light that will be implemented. At buildout, it could introduce significant development that may increase skyglow effects to the extent that cumulative skyglow effects could be considered cumulatively significant. However, the Rancho Canada Village project is required to comply with the County's conditions of approval for lighting, which would reduce this cumulatively significant impact to a less-than-significant level.

## **Project Contribution to Cumulative Impacts**

### *Scenic Vistas and Visual Character*

As described for Impacts 5-1 and 5-2, the proposed project would have a less-than-significant impact on scenic vistas and the visual character of the surrounding area. Additionally, the proposed project's contribution to the cumulative impact on scenic vistas and the visual character of the area would not be cumulatively considerable and therefore not cumulatively significant.

### *Light and Glare*

The proposed project on its own would result in a significant impact related to nighttime lighting during the limited hours of operation. The project's cumulative impact on the lighting at the campus is documented in the visual simulations presented in Section 5.0, Aesthetics. In addition to the existing lighting on campus, the two cumulative projects (Rancho Canada Village and Carmel Resort Inn) may also add lighting to the night sky, although potentially to a lesser degree as the proposed project. As presented in the visual simulations in Section 5.0, the addition of the new lighting to the existing lighting environmental is cumulatively considerable and therefore, cumulatively significant. As described for Impact 5-3, mitigation measures are presented, but none are available to reduce this impact to a less-than-significant level. Therefore, the proposed project's contribution to the cumulative impact is significant and unavoidable.

## **Air Quality**

### **Proposed Project Impact Summary**

Air quality impacts are discussed in Section 6.0, Air Quality. The proposed project would result in the following air quality impacts:

- Impact 6-1. Fugitive Dust Emissions During Construction Would not Exceed the Air District Thresholds and Degrade Air Quality (Less than Significant);
- Impact 6-2. Criteria Air Pollutants During Operations Would Not Exceed Air District Thresholds and Degrade Air Quality (Less than Significant);
- Impact 6-3. Operation of Construction Equipment Could Expose Sensitive Receptors to Minimal Toxic Air Contaminants (Less than Significant); and
- Impact 6-4. Increased Traffic Would Expose Sensitive Receptors to Minimal Toxic Air Contaminants (Less than Significant).

## **Geographic Scope**

The geographic scope for criteria air emissions impacts of the proposed project is the boundary of the North Central Coast Air Basin (air basin), which encompasses Monterey, San Benito, and Santa Cruz counties. This is the area for which the Monterey Bay Air Resources District (air district) has prepared plans for reducing specific types of air emissions and otherwise manages air quality to meet federal and state air quality standards.

## **Cumulative Impacts**

Past and present projects within the air basin have generated criteria air emissions through construction and operational activities. The air basin is currently in state non-attainment for ozone and particulate matter. That is, past and present projects have generated these emission types to the extent that their concentration within the air basin exceeds applicable state standards. The air district has prepared air quality plans designed to bring cumulative emissions from past, present, and future projected development to below the standards. Though the effect has been diminishing in recent years with cleaner fuel and engine technologies, cumulative development, including the proposed project if approved, also has potential to result in increased vehicle trips (and vehicle miles traveled) wherein vehicles can produce air emissions, particularly carbon monoxide, at concentrations in localized areas (e.g., at congested intersections or along congested roadways) that could adversely affect adjacent sensitive receptors. Point sources of air emissions can adversely affect adjacent sensitive receptors, but due to the localized effects of point sources, it is unlikely that they would combine in a cumulative context to adversely affect the same population of sensitive receptors, and are considered less than cumulatively significant.

## **Project Contribution to Cumulative Impacts**

### *Construction Impacts – Criteria Air Pollutants*

Fugitive dust from grading and construction would not result in significant PM<sub>10</sub> emissions because the amount of daily soil disturbance would not exceed the air district significance thresholds for generating fugitive dust. Although possible, it is unlikely that other projects in the vicinity would be under construction at the same time as the proposed project causing cumulative construction-related pollution. Therefore, the impact is less than significant and less than cumulatively considerable.

### *Operational Impacts – Criteria Air Pollutants*

The proposed increase in attendance due to the proposed night game use of the existing stadium would generate criteria pollutant emissions far below the air district thresholds, and the project-level increase in operational emissions would be less than significant. Because of the minimal criteria air pollutants generated by the proposed project, the project's contribution to the cumulative scenario would not be considerable and the cumulative impact would be less than significant.

### *Construction Phase Toxic Air Contaminants and Sensitive Receptors*

Due to the small scope of construction activity, sensitive receptor distance from the campus, and presence of prevailing winds from the west and northwest, potential receptors to the west would be expected to have the least exposures to project-related construction dust and equipment exhaust. Receptors to the south and east would be expected to have the greatest exposures to construction emissions, but due to the short construction timeframe and limited construction activities, would not experience prolonged exposures to equipment exhaust or dust emissions volumes.

Although possible, it is unlikely that other projects in the vicinity would be under construction at the same time as the proposed project causing cumulative construction-related toxic air contaminants. Therefore, the impact is less than significant and less than cumulatively considerable.

## **Biological Resources**

### **Proposed Project Impact Summary**

Biological resource impacts are discussed in Section 7.0, Biological Resources. The proposed project would result in the following biological resource impacts:

- Impact 7-2. Potential Effect on Special-Status Species (Hoary Bat) (Less than Significant with Mitigation);
- Impact 7-3. Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds) (Less than Significant with Mitigation);
- Impact 7-4. Potential Effect on Sensitive Biological Resources (Lighting and Noise) (Less than Significant);
- Impact 7-6. Potential Tree Removal (Less than Significant with Mitigation); and
- Impact 7-7. Interference with Movement of Wildlife Species or with Established Wildlife Corridors (Less than Significant).

### **Geographic Scope**

The geographic distribution ranges for special-status species vary greatly depending largely on environmental factors such as habitat suitability criteria (e.g., some species may only occur locally while others may range throughout large geographic areas such as the western U.S.). For the purposes of cumulative analysis for special status species and other biological resources, including jurisdictional wetlands and waterways, the geographic boundary for cumulative impacts is generally defined as the Carmel Valley region and immediate vicinity within unincorporated Monterey County. An analysis at this level is considered adequate for determining whether impacts could affect the sustainability of special status species and their habitats. Within this area, regulatory agencies and conservation organizations including

U.S. Fish and Wildlife Service, the California Department of Fish and Wildlife, and California Native Plant Society, work to establish and update critical distribution range information for species thought to be declining within their geographic ranges due to habitat loss and degradation.

### **Cumulative Impacts**

Past and present projects within the geographic boundary identified above have permanently removed plant and wildlife habitats to varying degrees. This development has reduced the range and number of multiple plant and wildlife species and contributed to threats to their continued viability. The fact that federal and state agencies recognize numerous plant and wildlife species with special status, which requires that the species be given specific consideration and protection, reflects the agencies' concern that the species are declining in number and range relative to their historic occurrences. Special-status species are generally considered rare, restricted in distribution, declining throughout their range, and/or to have a critical, vulnerable stage in their life cycle, that warrants their protection and monitoring. Such development has also caused the loss and decline of sensitive natural plant communities including riparian, woodlands, and wetland communities; constrained wildlife movement; and reduced nesting and foraging habitat for resident and migratory avian species. The impacts of past and present projects on special-status species and protected habitat communities are cumulatively significant. The additional projects presented in Table 15-2 could potentially further exacerbate these cumulative impacts.

### **Project Contribution to Cumulative Impacts**

Implementation of mitigation measures for the impacts identified above (Impacts 7-2, 7-3 and 7-6) would reduce potential, significant impacts on special status species, nesting birds and raptors, and trees to a less-than-significant level. Given that the project site is an operational developed high school campus and is relatively devoid of biological resource habitats and given the historical effectiveness of the proposed mitigation measures, the impacts of the proposed project on biological resources would not be cumulatively considerable and therefore not cumulatively significant.

## **Energy**

### **Proposed Project Impact Summary**

The proposed project's impacts on energy resources are discussed in Section 8.0, Energy. The proposed project would result in the following energy impact:

- Impact 8-1. Energy from Lighting and Traffic Will be Consumed During Construction and Operations (Less than Significant).



## **Geographic Scope**

The geographic scope for this effect is cumulative development in California with particular emphasis on current and future cumulative development. This broad scope is reflective of the rigorous state effort, as expressed through multitude of legislative acts and regulations, to reduce energy consumption across a multitude of energy consumptive uses and sectors. The state effort has and continues to focus on the benefits of energy conservation with specific regard to addressing climate change and natural resource conservation.

## **Cumulative Impacts**

There is no codified or CEQA analysis practice standard for determining what constitutes a significant impact regarding wasteful or inefficient use of energy. However, it can be assumed that past cumulative projects are less energy efficient and result in more transportation fuel use than future projects. As California continues to implement more rigorous legislation and regulations to reduce energy use through improved energy efficiency and transportation technology changes, it is assumed that future projects, particularly land development projects, will not be sources of wasteful or inefficient energy use. Nevertheless, given the large geographic scope considered for this impact and the broad scale of past economic development in the state, the cumulative impact of past, present, and future projects on energy use is considered to be significant.

## **Project Contribution to Cumulative Impacts**

The project impact from wasteful and inefficient use of energy would be significant if its contribution to wasteful and inefficient use of energy would be cumulatively considerable. As noted in Section 8.0, Energy, the proposed project is a common land use improvement utilizing common energy types. The new stadium lights, parking lot lights, replacement pool lights, replacement pedestrian path lights, and any lighting associated with the storage building must meet current standards for energy efficiency which would only nominally increase demand for electricity. Additionally, the school district is replacing the existing pool lights and pedestrian path lights with newer, more energy-efficient light fixtures.

In addition, while most of the energy-related legislation is enforced at the state level, the California Building Standards Code is enforceable at the local level by the school district, specifically the Board of Education, through the project approval process and required review by the Division of the State Architect which issues a "Written Approval of Plans" letter after it reviews the project for code compliance. That enforcement is the primary mechanism through which state-mandated energy efficiency/conservation measures that are within the control of the school district must be implemented.

Given these considerations, the proposed project contribution to energy wasteful or inefficient energy consumption would be less than cumulatively considerable and the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

## **Greenhouse Gas Emissions**

### **Proposed Project Impact Summary**

The greenhouse gas (GHG) emissions impacts of the project are discussed in Section 9.0, Greenhouse Gas Emissions. The proposed project would result in the following GHG impact:

- Impact 9-1. Generate Greenhouse Gas Emissions (Less than Significant).

### **Geographic Scope**

Because climate change is a global phenomenon, it is highly unlikely that any one development project located anywhere in the world would have a significant individual impact on climate change. It is the sum total of contributions of development around the world that contribute to the problem. Individual land use projects that generate GHGs inherently contribute to the cumulative effect. However, the precise indirect effects of that contribution are difficult if not impossible to identify due to the complexity of local, regional, and global atmospheric dynamics and the broad scale at which global warming impacts such as sea level rise, increase in weather intensity, decrease in snowpack, etc. are known to occur.

While the true geographic scope of the area affected by GHG emissions is global, for purposes of this EIR, the geographic scope is considered to be the state. This scope is selected because the broad array of state legislation and regulatory requirements for reducing GHGs includes direction for local agency actions needed to reduce GHGs for the purpose of helping to meet statewide GHG reduction goals.

### **Cumulative Impacts**

Potential effects of global warming at the local, regional and state scale are described in Section 9.1 and are summarized above. The cumulative impacts of global warming are significant given projections of a range of adverse social, economic, and environmental effects resulting therefrom. This is also true for the climate change setting within the state.

### **Project Contribution to Cumulative Impacts**

Because the potential impact of the proposed project is inherently also its cumulative contribution to climate change, the analysis in Section 9.0, Greenhouse Gas Emissions, is also a cumulative impact assessment. That analysis found that the only notable GHG emissions from the proposed project would be from transportation sources due to an increase in the frequency and duration of night time events and related increase in attendees that travel to the site. Therefore, the project would have a less-than-significant impact related to GHG emissions. Consequently, the proposed project would not likely result in an increase in GHG emissions and its contribution to cumulative impacts on climate change would be less than cumulatively considerable.

## Noise

### Proposed Project Impact Summary

Noise impacts are discussed in Section 10.0, Noise. The proposed project would result in the following noise impacts:

- Impact 10-1. Project-Generated Traffic Would Occasionally Increase Existing Noise Levels (Less than Significant);
- Impact 10-2. Nighttime Stadium Events, Activities Associated with the Two New Campus Parking Areas, and Traffic Control Measures Would Cause an Occasional Noise Increase (Less than Significant);
- Impact 10-3. Construction Activities Could Cause a Substantial Temporary Noise Increase (Less-than-Significant with Mitigation); and
- Impact 10-4. Construction Activities Could Cause Temporary Excessive Groundborne Vibration (Less than Significant).

### Geographic Scope

The geographic scope for noise impacts includes any projects that add traffic to State Route 1 and/or surrounding roads (traffic noise). In addition, projects in the immediate vicinity with operational noise affecting the sensitive residential receptors nearest to Carmel High School along Morse Drive immediately south of the project site (operational noise). The closest residence to the proposed project is approximately 90 feet south of the proposed southern parking lot and approximately 115 feet east of the proposed east parking lot.

### Cumulative Impacts

#### *Long-Term Traffic Noise Impacts*

Past and present development within the region has contributed to increased ambient noise levels as a result of increases in traffic volumes on State Route 1. With increasing noise levels, noise sensitive residential uses near the segment of State Route 1 onto which project-generated trips would be distributed have been and will continue to be exposed to traffic noise that exceeds County noise exposure standards. As noted in Section 10.0, Noise, existing traffic noise levels already exceed the County's 70 dB L<sub>dn</sub> noise exposure standard for residential receptors in the vicinity of the high school along State Route 1 under existing conditions. Therefore, cumulative traffic noise impacts on these receptors are considered to be cumulatively significant.

#### *Long-Term Operations Noise Impacts*

There are no existing, operating developments in the immediate vicinity of the subject sensitive receptors that generate operational noise which would be measurable at the significantly impacted residential receptors. Therefore, the project-specific operational noise impact is the same as the cumulative operational noise impact for the subject receptors.

## **Project Contribution to Cumulative Impacts**

### *Long-Term Traffic Noise Impacts*

As described in Impact 10-1, traffic volume increases from the proposed project, when added to existing noise levels from traffic on the highway, would not result in a measurable increase in noise level at nearby sensitive residential receptors. Therefore, the project's contribution to the traffic noise would not be cumulatively considerable and therefore no cumulative impact would occur.

### *Long-Term Operational Noise Impacts*

As described for Impact 10-2, project-specific operational noise impacts at the nearest sensitive receptors are equivalent to cumulative operational noise impacts because there are no other existing or cumulative projects in the vicinity of the receptor other than the high school that would contribute to operational noise. The operational noise analysis concluded that the proposed project's operational noise impact on the nearest noise sensitive receptors would be less than significant. Therefore, the project contribution to cumulative operational noise impacts would not be cumulatively considerable.

## **Transportation**

### **Proposed Project Impact Summary**

Transportation impacts are discussed in Section 11.0, Transportation. The proposed project would result in the following noise impacts:

- Impact 11-1. An Increase in Event Attendance Would Increase Vehicle Trips but Would Not Result in Significant Vehicle Miles Travelled (Less than Significant);
- Impact 11-2. No Substantial Increase in Hazards due to Design Features or Incompatible Uses (Less than Significant);
- Impact 11-3. Construction Traffic Could Result in Safety Impacts When School is in Session (Less than Significant with Mitigation); and
- Impact 11-4. An Increase in Event Attendance Could Result in Inadequate Parking During Limited Nighttime Events with Potential Emergency Access Issues (Less than Significant with Mitigation).

### **Geographic Scope**

The geographic scope for traffic impacts encompasses unincorporated Monterey County that add additional traffic, particularly within the State Route 1 corridor and in the greater Carmel area and Carmel Valley.

## **Cumulative Impacts**

### *Vehicles Miles Traveled*

Cumulative development in the vicinity of the high school may increase cumulative impacts associated with increased vehicle miles travelled for unincorporated Monterey County as a whole, and for the State Route 1 corridor and greater Carmel area in particular.

### *Circulation Hazards, Parking Capacity, and Emergency Access*

Cumulative development along the State Route 1 corridor may increase traffic on State Route 1 that may have cumulative impacts associated with circulation hazards and emergency access.

## **Project Contribution to Cumulative Impacts**

### *Vehicle Miles Traveled*

The proposed project would result in fewer than 110 vehicle trips per day, and therefore, the proposed project's VMT impact is less than significant. Because the proposed project falls below this threshold, the proposed project has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact (Office of Planning & Research 2018).

### *Circulation Hazards, Parking Capacity, and Emergency Access*

As described in Impact 11-2, the proposed project is not expected to result in an adverse effect on traffic operations along State Route 1 that would warrant physical improvements. However, as described in Impact 11-3, the proposed project could result in inadequate parking during limited nighttime events which may create potential emergency access issues. Mitigation Measure 11-3, which requires the school district to implement a traffic management plan for the high school, mitigates the project's contribution to cumulative impacts associated with circulation hazards and emergency access issues. Therefore, the project's contribution to these cumulative impacts would be less-than-cumulatively considerable.

## **Soils, Erosion, and Water Quality**

### **Proposed Project Impact Summary**

The proposed project's impacts associated with soils, erosion, and water quality are discussed in Section 12.0, Soils, Erosion, and Water Quality. The proposed project could result in the following impacts associated with soils, erosion, and water quality:

- Impact 12-1. Construction Activities Associated with the Proposed Project Could Expose Soils and Increase the Potential for Soil Erosion (Less than Significant); and
- Impact 12-3. Construction Activities Associated with the Proposed Project Have the Potential to Degrade Surface or Ground Water Quality (Less than Significant).

## **Geographic Scope**

The geographic scope for assessment of cumulative soil erosion and water quality impacts is the unincorporated areas within the State Route 1 corridor, including the project site, including portions of Hatton Canyon, the City of Carmel-by-the-Sea, and other unincorporated areas within Carmel Valley. This scope boundary was selected because it identifies the areas where the project may impact cumulative soils and erosion conditions as well as water quality. The soils, erosion, and water quality conditions associated with the proposed project are common to land use projects over which the County has discretionary authority. While the school district is not typically subject to County requirements, the school district, via the Board of Education, is required to oversee and implement state requirements including the California Building Code, California Code of Regulations, and NPDES general permit requirements, as well as submit construction plans to the California Division of the State Architect for approval.

## **Cumulative Impacts**

Cumulative development has the potential to generate cumulative soils, erosion, and water quality impacts associated with construction activities. While possible, it is unlikely that any of these projects would be under construction at the same time as the proposed project to create a significant cumulative construction-related soils, erosion, and water quality impact.

## **Project Contribution to Cumulative Impacts**

The proposed project would not have significant soils, erosion or water quality impacts. Therefore, the proposed project would not result in a cumulatively considerable impact to soils, erosion, and water quality.

## **Tribal and Cultural Resources**

### **Proposed Project Impact Summary**

The proposed project's impacts on tribal cultural and cultural resources are discussed in Section 13.0, Tribal and Cultural Resources. The proposed project could result in the following tribal cultural and cultural resource impacts:

- Impact 13-1. A Potential Adverse Substantial Adverse Change in the Significance of a Historical Resource Pursuant or a Unique Archaeological Resource (Less than Significant with Mitigation); and
- Impact 13-2. Potential to Disturb Native American Human Remains, Including Those Interred Outside of Dedicated Cemeteries (Less than Significant with Mitigation).



## **Geographic Scope**

The geographic scope for this effect is cumulative development that could impact known or undiscovered historical, archaeological, or tribal cultural resources within the City of Carmel-by-the-Sea, the State Route 1 corridor between State Route 68 and Carmel Valley Road, and surrounding unincorporated areas.

## **Cumulative Impacts**

Cumulative cultural and tribal cultural resource impacts associated with buildout of the unincorporated County and development in the geographic scope identified for the proposed project would be less than cumulatively considerable with implementation of standard mitigations and procedures identified in the County's general plan as well as the City of Carmel-by-the-Sea's general plan. The two projects identified as contributing to the cumulative development conditions may contribute to cumulative impacts associated with cultural and tribal cultural resources.

## **Project Contribution to Cumulative Impacts**

Mitigation measure 12-1 and 12-2 outline standard procedures required for all ground disturbing projects in Monterey County and the City of Carmel-by-the-Sea that would be followed to reduce the significance of impacts associated with discovery of unknown cultural resources. These standard procedures follow accepted professional standards and the requirements of CEQA for addressing cultural and tribal cultural resources. As a result, the project's contribution to this impact would not be cumulatively considerable.

## **Recreation**

### **Proposed Project Impact Summary**

The proposed project's impacts on recreation facilities are discussed in Section 14.0, Recreation. The proposed project would result in the following impacts to recreation facilities:

- Impact 14-1. The Proposed Project may Accelerate the Deterioration of the Carmel Middle School Tennis Courts (Less than Significant); and
- Impact 14-2. The Proposed Project may Accelerate the Deterioration of Other Public Tennis Courts in the Vicinity (Less than Significant).

## **Geographic Scope**

The geographic scope for this effect is Carmel High School, Carmel Middle School, and public tennis courts within a five-mile radius.

## **Cumulative Impacts**

The proposed project would increase the use of the Carmel Middle School tennis courts and could potentially increase the use of other tennis courts within a five-mile radius. However, as discussed in Section 14.0, Recreation, the proposed project's environmental impact, or potential environmental impact, on these facilities would be less than significant. Therefore, there would be no cumulative impact.

## **Project Contribution to Cumulative Impacts**

The proposed project's contribution to the cumulative effect of the deterioration of tennis courts facilities is less than significant.

*This side intentionally left blank.*

## Significant Unavoidable Impacts

### 16.1 CEQA REQUIREMENTS

Pursuant to the CEQA Guidelines, a significant effect on the environment is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by a project, including effects on land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. (CEQA Guidelines, section 15382). A significant adverse unavoidable environmental impact is a significant adverse impact that cannot be reduced to a less-than-significant level through the implementation of mitigation measures. CEQA Guidelines section 15093 requires that a lead agency make findings of overriding considerations for unavoidable significant adverse environmental impacts before approving a project.

CEQA Guidelines section 15093(a) requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered “acceptable.” CEQA Guidelines section 15093(b) states that when the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.

### 16.2 IMPACT ANALYSIS

Based on the environmental analysis provided in this RDEIR, most of the potential significant impacts of the proposed project can be reduced to less than significant by implementing mitigation measures presented in this RDEIR. However, the project would result in the following significant unavoidable impact as summarized below.

## Aesthetics

As identified in Impact 5-2, proposed lighting would alter the nighttime lighting environment and the illuminance produced by the proposed project would be seen by sensitive viewer groups while nighttime lighting is in use. Impacts on light and glare conditions as a result of the proposed project would be considered significant by some viewers. Restricting the use of the stadium lights, as proposed in Mitigation Measure 5-2a, adopting a school district policy that will restrict use of the stadium by non-school related groups, as proposed in Mitigation Measure 5-2b, consulting with a lighting specialist, as proposed in Mitigation Measure 5-2c, and requiring the stadium and pool lights obtain Phase II -Field Verification under IDA's Community Friendly Sports Lighting Program, would provide some mitigation for the impact. However, there are no mitigation measures available that would reduce nighttime light and glare impacts of the project to a less-than-significant level. Therefore, this impact would remain significant and unavoidable. Additionally, as discussed in Section 14.0, the project's contribution to the cumulative lighting environmental is considerable and therefore, significant and unavoidable. The Board of Education will be required to adopt a statement of overriding considerations if they decide to approve the proposed project.

## Growth Inducing Impacts

### 17.1 CEQA REQUIREMENTS

Public Resources Code Section 21100(b)(5) and CEQA Guidelines Section 15126.2(d) require a discussion in the EIR of the growth-inducing impacts of a proposed project. The EIR must discuss the ways in which the project may directly or indirectly foster economic or population growth or additional housing in the surrounding environment, remove obstacles to growth, tax existing community services facilities, or encourage or facilitate other activities that cause significant environmental effects, either individually or cumulatively. Direct growth-inducing impacts result when the development associated with a project directly induces population growth or the construction of other development within the same geographic area.

The analysis of potential growth-inducing impacts includes a determination of whether a project would remove physical obstacles to population growth. This often occurs with the extension of infrastructure facilities that can provide services to new development. In addition to direct growth-inducing impacts, an EIR must also discuss growth-inducing effects that will result indirectly from the project, by serving as catalysts for future unrelated development in an area. Development of public institutions and the introduction of employment opportunities within the same geographic area are examples of projects that may result in growth-inducing impacts.

An EIR's discussion of growth-inducing effects should not assume that growth is necessarily beneficial, detrimental, or of little significance to the environment. An EIR is required to discuss the ways in which the proposed project could foster growth.

### 17.2 GROWTH INDUCING IMPACT ANALYSIS

The proposed project is located entirely within the existing develop Carmel High School campus. The proposed stadium improvements, two new parking lots, and replacement of pool lighting fixtures would serve existing uses of the Carmel High School campus. There is no evidence to indicate that adding lights at the stadium, adding two new parking lots, removal of existing storage buildings and containers, demolition of tennis courts, construction of a new storage building at the stadium, and replacement of pool lighting fixtures and other existing lights would facilitate an increase in enrollment at Carmel High



## 17.0 Growth Inducing Impacts

School. Attendees of events at Carmel High School would come from the existing students enrolled and faculty employed at the school, as well as family, alumni, and community members in the area and spectators from the opposing teams. For these reasons, the proposed project would not foster or stimulate significant economic or population growth in the surrounding environment.

In addition, the project site is located in a suburban area of Monterey County and implementation of the project would not result in an expansion of urban services. The project would not open undeveloped land to further growth or provide expanded utility capacity that would be available to serve future unplanned development. Development of the project would be restricted to the site boundaries. Existing utility lines and service providers are available to accommodate the proposed lighting. The project would not encourage or facilitate other activities that would cause significant environmental effects. Therefore, the proposed project would not represent direct or indirect growth-inducing impacts.

# 18.0 Alternatives

## 18.1 CEQA REQUIREMENTS

CEQA Guidelines section 15126.6(a) requires a description of a range of reasonable alternatives to the proposed project, or to the location of the project, which could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. It also requires an evaluation of the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project, but must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

CEQA Guidelines section 15126.6(b) further requires that the discussion of alternatives focus on those alternatives capable of eliminating any significant adverse environmental impacts or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. The EIR must present enough information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

## 18.2 PROJECT OBJECTIVES AND SIGNIFICANT IMPACTS

As discussed above, alternatives must be able to meet most of the basic objectives of the project and avoid or substantially lessen any of the significant effects of the project. Therefore, the proposed project objectives and significant effects are summarized here.

### Project Objectives

CEQA Guidelines section, 15124(b) requires an EIR to include a statement of the objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding consideration, if necessary. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits.

The objectives set forth below describe the underlying purpose of the proposed project and provide a basis of identification of a reasonable range of alternatives evaluated in this RDEIR. The objectives are numbered for ease of reference only; the numbering does not reflect any priority or weight given to the objectives.

1. Provide an enhanced learning environment for both physical education and after-school sports activities that meets contemporary standards of education and improves the District's athletic program for its Carmel High School students and other students in the District;
2. Provide athletic facilities that facilitate implementation of the State's "late start law" without disruption to the District's existing educational and athletic programs;
3. Provide the capability to host sport events and games for Carmel High School students in the evening when students, parents, and community members can more easily attend;
4. Improve athlete and spectator safety during evening sports events and games;
5. Operate an athletic stadium facility that is at least equal with most other local high schools, including the ability to conduct events in the evening;
6. Improve on-campus traffic circulation, fire and emergency vehicle access, campus security and safety, ADA access, and student, staff, and visitor access within the Carmel High School campus grounds;
7. Improve and expand on-campus parking facilities to meet need at Carmel High School;
8. Implement "green building" practices that foster energy conservation, and replace outmoded athletic lighting fixtures with new fixtures that will obtain dark sky certification;
9. Enhance the spectator experience during sporting events by adding an alternative viewing location different from the existing bleachers;
10. Augment the secure storage space available to the District's athletic programs;
11. Create a new, healthy weekend social opportunity for District students while building school spirit;
12. Reduce operational difficulties and complex coordination issues with respect to the scheduling of practices and games for District athletic programs;
13. Achieve these objectives consistent with the intent of the Facilities Master Plan that was presented to the District's Board on June 26, 2019; and
14. Achieve these objectives within the District's allocated budget allowances.

## Significant and Unavoidable Impacts

- Aesthetics Impact 5-2. New Lighting would Result in Light Pollution and the New Sources of Light and Glare Would be Visible from and towards County-Designated Visually “Sensitive” and “Highly Sensitive” Areas and Slightly Modify the Visual Character and Quality of the Site.

## Significant Impacts Reduced to a Less-than-Significant with Mitigation Measures

- Biological Resources Impact 7-2. Potential Effect on Special-Status Species (Hoary Bat)
- Biological Resources Impact 7-3. Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds);
- Biological Resources Impact 7-6. Potential Tree Removal;
- Noise Impact 10-3. Construction Activities Could Cause a Substantial Temporary Noise Increase;
- Transportation Impact 11-3. Construction Traffic Could Result in Safety Impacts When School is in Session;
- Transportation Impact 11-4. An Increase in Event Attendance Could Result in Inadequate Parking During Limited Nighttime Events with Potential Emergency Access Issues;
- Tribal and Cultural Resources Impact 13-1. A Potential Adverse Substantial Adverse Change in the Significance of a Historical Resource Pursuant or a Unique Archaeological Resource; and
- Tribal and Cultural Resources Impact 13-2. Potential to Disturb Native American Human Remains, Including Those Interred Outside of Dedicated Cemeteries.

## 18.3 ALTERNATIVES CONSIDERED

CEQA Guidelines section 15126.6 (e) requires the “No Project” alternative be evaluated along with its impacts. The “No Project” alternative analysis must discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

The following alternatives to the proposed project were considered:

1. Alternative 1: No Project-No Late Start;
2. Alternative 2: No Project-With Late Start;

3. Alternative 3: Reduced Project Alternative with After Dark Practices and Games at Alternative Locations (Monterey Peninsula College and Pacific Grove High School);
4. Alternative 4: Alternative Location (New, Lighted Stadium at Carmel Middle School) for Practices and Games; and
5. Alternative 5: Reduced Project Alternative (No Stadium Lights).

These alternatives are described below, followed by an analysis of how the alternative may reduce impacts associated with the proposed project.

## **Alternative 1: No Project Alternative-No Late Start**

### **Alternative Description**

Under this no project alternative, the school district would not implement the “late start law” and the athletic facilities would remain as they currently are the Carmel High School campus. The high school class and athletics schedules would remain status quo with classes starting as early as 7:45 A.M. and ending at 3:00 P.M. on Monday, Tuesday, and Friday, or 3:10 P.M. on Wednesday and 2:15 P.M. on Thursday. At the football stadium, no night-time lighting would be installed and no storage building would be constructed. The tennis courts would remain in place and no improvements would be made to the existing pedestrian path along the western edge of the campus. The pool facility and pedestrian pathway would maintain its existing light fixtures. In addition, no additional parking would be constructed at the eastern edge of campus and no parking would be replace the tennis courts discussed above. On-campus parking would remain at 276 total parking spaces. Likewise, the on-campus internal drive aisle would not be constructed.

Athletic activities would continue to occur as they are presently occurring and as described in Section 3.0, Environmental Setting under 3.3, “Baseline Conditions.” Generally, this means that sports practices and games would end prior to sundown, and that no evening or nighttime events would take place at the football stadium. As a result, students would continue to share the stadium among numerous sports teams at once with some sports teams required to hold off site practices and games/matches at Carmel Middle School, and students would continue to be bussed there, as discussed in Table 3-4 in Section 3.0. Football games would continue to be played on Saturday afternoons or off-campus at Monterey Peninsula College, which rarely happens, for occasional playoff games.

### **Alternative’s Attainment of Project Objectives**

This alternative would not meet any of the objectives of the proposed project.

### **Alternative Impacts Comparison**

This analysis identifies potential environmental impacts associated with this alternative and compares it with the impacts of installing new field lighting at the existing outdoor stadium,

demolishing the existing tennis courts and storage portable buildings, constructing two new on-campus parking areas, constructing an internal drive aisle, constructing a new storage building, and replacing the existing pool light fixtures and pedestrian pathway light fixtures at the existing Carmel High School campus. The environmental effects of this alternative as compared to the proposed project are summarized by topic area below.

*Aesthetics*

This alternative would not result in visual impacts as there would be no change in the existing visual setting.

*Air Quality*

This alternative would result in no operational and construction-related air quality impacts as no nighttime practices or games would occur, which not result in greater attendance or require construction of field lights, and no additional parking areas would be constructed to accommodate the greater number of attendees.

*Biological Resources*

This alternative would not result in potential biological resource impacts as there would be no construction activity and possible disturbance of potential bird nesting and bat roosting habitat.

*Energy*

This alternative would not result in energy impacts related to the physical construction and operation of the stadium lights, new parking areas, and new storage building. Under this alternative, the pool lights and pedestrian pathway lights would not be replaced with energy efficient lights that are Dark-Sky certified by IDA.

*Greenhouse Gas Emissions*

Operational and construction-related greenhouse gas emission impacts would not occur under this alternative.

*Noise*

This alternative would not result in noise generated by additional attendees and construction of the proposed stadium lights, new parking areas, new storage building, and replacement of pool light fixtures.

*Transportation*

This alternative would eliminate the transportation impacts generated by additional attendees.



### *Soils, Erosion, and Water Quality*

This alternative would not result in potential impacts related to soils, erosion, and water quality, as there would be no ground disturbance and no alteration of existing on-campus paved or unpaved surfaces.

### *Tribal and Cultural Resources*

This alternative would not result in potential cultural and tribal resource impacts, as there would be no ground disturbance.

### *Recreation*

This alternative would not result in the construction of, expansion of, or increased use of existing neighborhood or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or that might result in an adverse physical environmental effect.

## **Alternative 2: No Project Alternative-With Late Start**

### **Alternative Description**

Under this no project alternative, the school district would not install the field lighting at Carmel High School Stadium and would not construct any new on-campus parking areas or the storage building as proposed. The existing storage buildings and tennis courts would not be demolished, and the internal drive aisle would not be constructed on-campus. Moreover, the existing pool lights and pedestrian pathway lights would not be replaced. However, unlike Alternative 1, the school district would implement the “late start law” which would push class times back from the current start time of 7:45 A.M. to no earlier than 8:30 A.M. Class end times would consequently end by 3:45 P.M. Monday, Tuesday, and Friday, or 3:55 P.M. on Wednesday and 3:00 P.M. on Thursday. In addition, the high school would not bus student athletes to off-site locations for both practices and games as discussed in Alternative 1. However, in order to accommodate the need to complete all sporting activities at the stadium between the end of the school day and sunset, the school district would eliminate some of the high school athletic programs that utilize the stadium or that are bussed off-site to Carmel Middle School for practices and games to avoid the need for extended time on the stadium field or at Carmel Middle School past sunset.

### **Alternative’s Attainment of Project Objectives**

This alternative would not meet most of the objectives of the proposed project. This alternative would result in elimination of certain sports teams currently available to students, which would degrade the overall student experience and extracurricular activities offered by the school district. However, this alternative would meet the project objective to “reduce operational difficulties and complex coordination issues with respect to the scheduling of practices and games for District athletic programs” because it eliminates the sports programs that are currently creating operational and coordination issues at the high school.

## **Alternative Impacts Comparison**

This analysis identifies potential environmental impacts associated with this alternative and compares it with the impacts of installing new field lighting at the existing outdoor stadium, constructing two new on-campus parking areas, and constructing a new storage building at the existing Carmel High campus. The environmental effects of this alternative as compared to the proposed project are summarized by topic area below.

### *Aesthetics*

This alternative would not result in visual impacts as there would be no change in the existing visual setting.

### *Air Quality*

This alternative would result in no operational and construction-related air quality impacts as no nighttime practices or games would occur, which not result in greater attendance or require construction of field lights, and no additional parking areas would be constructed to accommodate the greater number of attendees. Air quality would be nominally improved from baseline as a result in the reduction of trips to Carmel Middle School and to games at Carmel High School due to the elimination of certain sports.

### *Biological Resources*

This alternative would not result in potential biological resource impacts as there would be no construction activity and possible disturbance of potential bird nesting and bat roosting habitat.

### *Energy*

This alternative would not result in energy impacts related to the physical construction and operation of the stadium lights, new parking areas, and new storage building. Under this alternative, the pool lights and pedestrian pathway lights would not be replaced with energy efficient lights that are Dark-Sky certified by IDA.

### *Greenhouse Gas Emissions*

Operational and construction-related greenhouse gas emission impacts would not occur under this alternative. Under this alternative, it is anticipated that there would be a nominal reduction from baseline conditions with respect to GHG due to elimination of trips to Carmel Middle School and reduced trips to games at Carmel High School due to the elimination of certain sports.

### *Noise*

This alternative would not result in noise generated by additional attendees and construction of the proposed stadium lights, new parking areas, new storage building, and replacement of

pool light fixtures. Noise impacts would be nominally improved from baseline as a result in the reduction of practices and games at Carmel High School due to the elimination of certain sports.

### *Transportation*

This alternative would eliminate the transportation impacts generated by additional attendees. Under this alternative, traffic would be nominally improved from baseline as a result in the reduction of trips to Carmel Middle School and to games at Carmel High School due to the elimination of certain sports.

### *Soils, Erosion, and Water Quality*

This alternative would not result in potential impacts related to soils, erosion, and water quality, as there would be no ground disturbance and no alteration of existing on-campus paved or unpaved surfaces.

### *Tribal and Cultural Resources*

This alternative would not result in potential cultural and tribal resource impacts, as there would be no ground disturbance.

### *Recreation*

This alternative would not result in the construction of, expansion of, or increased use of existing neighborhood or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or that might result in an adverse physical environmental effect.

## **Alternative 3: After Dark Practices and Games at Alternative Locations (Monterey Peninsula College and Pacific Grove High School)**

### **Alternative Description**

This alternative is similar to the no-project alternative, i.e., includes no improvements at Carmel High School, but does include bussing athletes to Monterey Peninsula College and/or Pacific Grove High School for after dark practices and games.

For games and practices that cannot be accommodated between the end of classes and sundown, students either at Carmel High School or Carmel Middle School, would be bussed to off-site facilities with night-time lighting, including Monterey Peninsula College (MPC), and/or Pacific Grove High School (PGHS). These locations are the only two lighted athletic field stadiums within four miles of the Carmel High School campus, and Carmel High School Campus has held special athletic events at MPC in the past, although rarely. Accordingly, MPC and PGHS were identified as reasonable alternative locations.

## **MPC and PGHS Location and Surrounding Land Uses**

Monterey Peninsula College (MPC) is located at 980 Fremont Street in Monterey, approximately 2.75 miles northeast of Carmel High School. An aerial photograph of MPC is presented in [Figure 18-1, Monterey Peninsula College Location](#). The lighted stadium is surrounded by the MPC campus facilities to the north and west; State Route 1 and residential neighborhoods to the east; and a residential neighborhood to the south. The nearest residence to the east is approximately 700 feet and the nearest residence to the south is approximately 200 feet.

Pacific Grove High School (PGHS) is located at 615 Sunset Drive in Pacific Grove, approximately four miles north of Carmel High School. An aerial photograph of the high school is presented in [Figure 18-2, Pacific Grove High School Location](#). The lighted stadium is surrounded by a residential neighborhood to the north, the high school campus and residential neighborhood to the south, the high school campus to the east, and a commercial business and the forested Rip Van Winkle Open Space to the west. The nearest residence to the north is approximately 170 feet and the nearest residence to the south is approximately 750 feet.

## **Feasibility**

### *Other Facilities Availability*

The school district contacted both Pacific Grove Unified School District (PGUSD) and MPC to determine the viability of utilizing their respective existing lighted stadiums for both practices and games by Carmel High School teams. PGUSD staff indicated that the Pacific Grove High School Stadium would be available to the Carmel Unified School District after 7:00 P.M. on weeknights except for Wednesdays. PGUSD sports teams would be given priority for home games and any dates where home games would be played by both school districts would require Carmel High School sports teams to play at either 7:30 P.M. or 9:30 P.M. (Lauralea Gaona, PGUSD, e-mail message, October 26, 2021). MPC staff indicated that their lighted stadium would not be available until 8:00 P.M. on Tuesday, Wednesday, or Thursday, and not until 6:00 P.M. or 6:30 P.M. on Monday and Friday, if not being used by other outside organizations (Wendy Bates, MPC Athletic Director, e-mail message, November 11, 2021).

### *Bussing*

Bussing Carmel High athletes to PGHS and/or MPC for practices after 7:00 is not a feasible alternative for the following reasons:

- Bussing student-athletes is not feasible due to the hours-of-service requirements for a commercial driver (bus driver). While it is feasible to drop off a team at either PGHS or MPC, the problem would be returning to CHS at the end of practice. Bus drivers have a Class B commercial license and must adhere to the on-duty time

regulation (13 CCR 1212.5) for that license. They can be on duty for 16 hours maximum, drive for a maximum 10 of the 16 hours while on duty, and must have eight hours of rest before reporting for duty again. "On duty" means the time they first report in the morning. Most of the school district's drivers start between 5 AM and 6AM, which would put their 16-hour maximum at 9 PM or 10 PM. Working the full 16 hours would affect their ability to report for their home-to-school route the following day as they must have 8 hours "off duty".

- The school district currently provides a "late run" to allow students in the outlying areas of the district to participate in after school activities and get transportation to Big Sur and Cachagua. The on-duty time requirement would make this impossible and the lack of transportation service would prevent some students in outlying areas from participating.
- Charter services could be used when available, but face the same on-duty requirements and would not provide the "late-run" transportation to Big Sur or Cachagua.

### **Alternative's Attainment of Project Objectives**

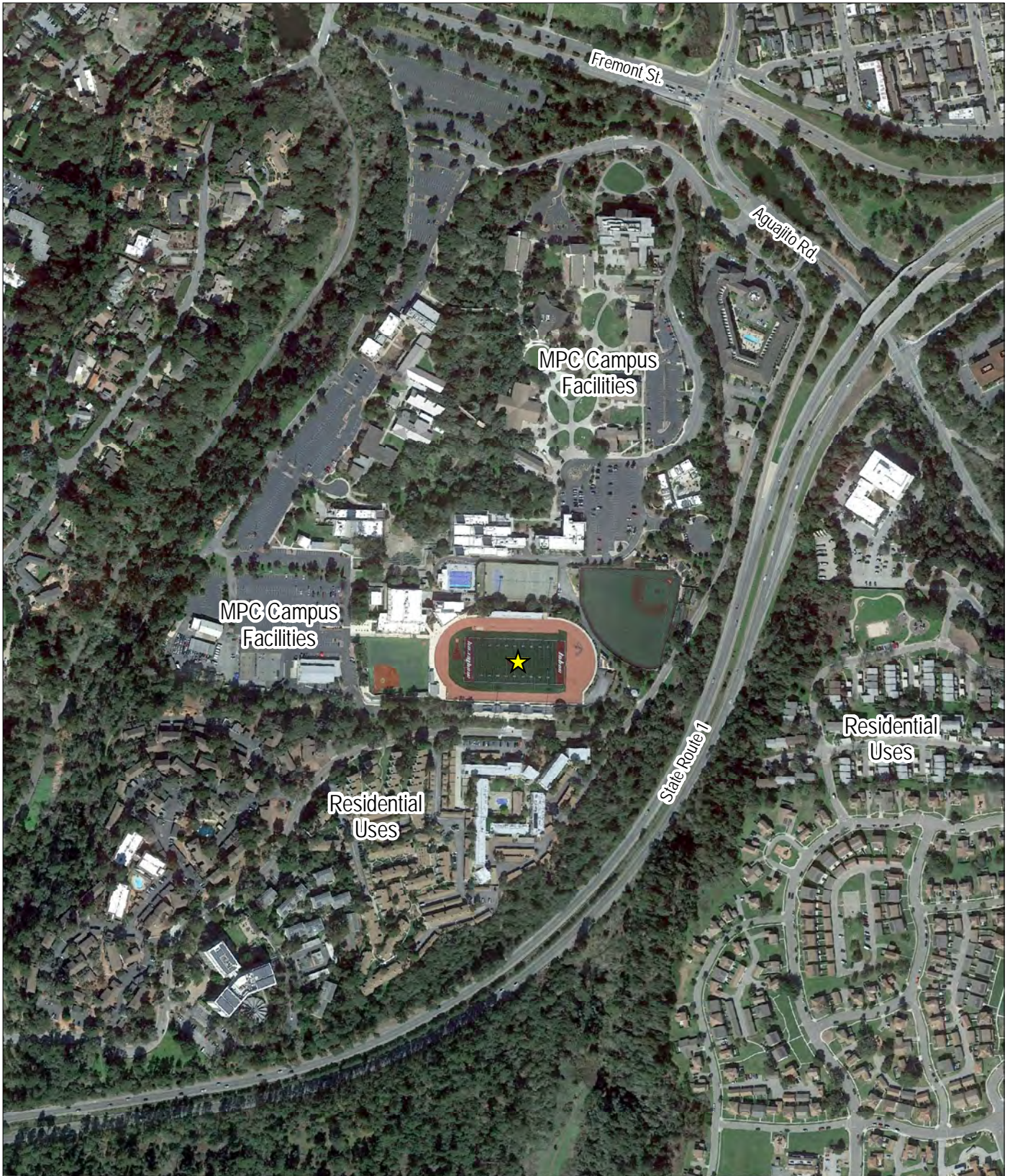
If this project was feasible to implement, it would meet the following project objectives:


- Provide the capability to host sport events and games for Carmel High School students in the evening when students, parents, and community members can more easily attend; and
- Improve athlete and spectator safety during evening sports events and games.

This alternative would not meet the following project objectives:

- Provide an enhanced learning environment for both physical education and after-school sports activities that meets contemporary standards of education and improves the District's athletic program for its Carmel High School students and other students in the District;
- Provide athletic facilities that facilitate implementation of the State's "late start law" without disruption to the District's existing educational and athletic programs;
- Operate an athletic stadium facility that is at least equal with most other local high schools, including the ability to conduct events in the evening;
- Improve on-campus traffic circulation, fire and emergency vehicle access, campus security and safety, ADA access, and student, staff, and visitor access within the Carmel High School campus grounds;





 MPC Lighted Stadium Location

Source: Google Earth 2022

Figure 18-1

# Monterey Peninsula College Location

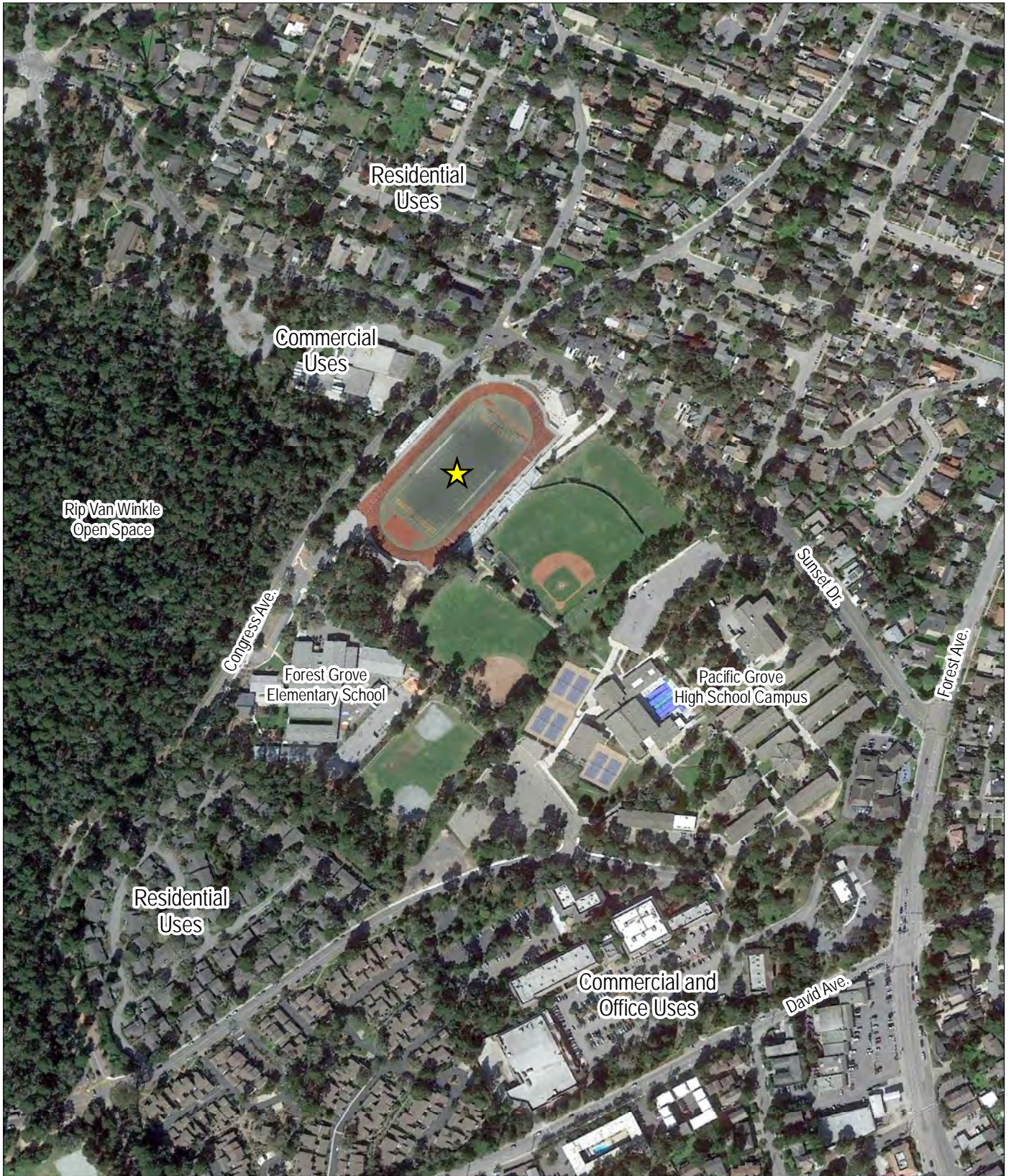
Carmel High School Stadium Improvements Revised Draft EIR





*This side intentionally left blank.*





0 400 feet



Pacific Grove High School Lighted Stadium

Source: Google Earth 2022

Figure 18-2

# Pacific Grove High School Location



Carmel High School Stadium Improvements Revised Draft EIR



*This side intentionally left blank.*

- Improve and expand on-campus parking facilities to meet need at Carmel High School;
  - Implement “green building” practices that foster energy conservation, and replace outmoded athletic lighting fixtures with new fixtures that will obtain dark sky certification;
- Enhance the spectator experience during sporting events by adding an alternative viewing location different from the existing bleachers;
- Augment the secure storage space available to the District’s athletic programs;
  - Create a new, healthy weekend social opportunity for District students while building school spirit;
  - Reduce operational difficulties and complex coordination issues with respect to the scheduling of practices and games for District athletic programs;
  - Achieve these objectives consistent with the intent of the Facilities Master Plan that was presented to the District’s Board on June 26, 2019; and
  - Achieve these objectives within the District’s allocated budget allowances.

This alternative would also possibly result in either severe time restrictions to certain sports teams made available to students which would degrade the overall student experience and extracurricular activities offered by the school district.

### **Alternative Impacts Comparison**

Although this alternative is not feasible, the following analysis is provided. This analysis identifies potential environmental impacts associated with this alternative and compares it with the impacts of installing new field lighting at the existing outdoor stadium, constructing two new on-campus parking areas, and constructing a new storage building at the existing Carmel High School campus. The environmental effects of this alternative as compared to the proposed project are summarized by topic area below.

#### *Aesthetics*

This alternative would not result in visual impacts at Carmel High School as there would be no change in the existing visual setting. However, there would be extended lighting impacts at either PGHS and/or MPC as Carmel High School practices and games would be held at those locations, in addition to existing games and events at these locations. Therefore, the lighting impact is generally the same, although occurring at different locations.

#### *Air Quality*

This alternative would result in operational air quality impacts as student-athletes would be required to be bussed to other locations for practices on a daily basis and for games, which

could result in greater operational criteria air emissions and toxic air contaminants as compared to the proposed project. Construction-related air quality impacts would not occur under this alternative.

### *Biological Resources*

This alternative would not result in potential biological resource impacts as there would be no construction activity and possible disturbance of potential bird nesting and bat roosting habitat at or near Carmel High School. However, there would be extended lighting and noise impacts at either PGHS and/or MPC as Carmel High School practices and games would be held at those locations, in addition to the PGHS and MPC games and events. Therefore, the potential lighting and noise impacts on nesting birds and roosting bats is generally the same, although occurring at different locations.

### *Energy*

This alternative would not result in energy impacts related to the physical construction and operation of the proposed stadium lights, two new parking areas, and storage building at Carmel High School. However, this alternative would result in increased transportation fuel demand as student-athletes would be required to be bussed to other locations for both practices and games. Additionally, lighting either of these fields (MPC or PGHS) would result in the same lighting energy impacts as if the games were held at Carmel High School.

### *Greenhouse Gas Emissions*

This alternative would result in operational greenhouse gas emission impacts as student-athletes would be required to be bussed to other locations for practices and games, which would result in greater operational greenhouse gas emissions as compared to the proposed project. Construction-related greenhouse gas emission impacts would not occur under this alternative.

### *Noise*

This alternative would not result in noise generated by additional attendees and construction of the proposed stadium lights, the two new parking areas, and the storage building would not occur at Carmel High School. However, this alternative has the potential to increase in traffic noise generated by additional bus trips required to bus student-athletes to off-site locations for practices and games, as well as additional attendees to games. Noise impacts could be considered similar (i.e., there would be extended noise impacts at MPC and/or PGHS); however, the noise impacts would occur in different locations (MPC and PGHS) at different times.

### *Transportation*

This alternative would eliminate the transportation impacts generated by additional attendees and construction of the proposed stadium lights, the two new parking areas, and

the storage building. However, this alternative would result in student-athletes being bussed to off-site locations for practices on a daily basis and games, as well as the diversion of attendee traffic to these two locations. Therefore, under this alternative, transportation impacts could increase as compared to the proposed project.

#### *Soils, Erosion, and Water Quality*

This alternative would not result in potential impacts related to soils, erosion, and water quality, as there would be no ground disturbance and no alteration of existing on-campus paved or unpaved surfaces.

#### *Tribal and Cultural Resources*

This alternative would not result in potential tribal and cultural resource impacts, as there would be no ground disturbance.

#### *Recreation*

This alternative would result in the increased use of existing athletic facilities at both Monterey Peninsula College and Pacific Grove High School which could result in accelerated deterioration of the facilities at these campuses, requiring these schools to maintain the facilities more often. Maintenance activities may result in minor vehicle miles traveled and resulting vehicle emissions; however, the increased maintenance activities would not result in a significant environmental impact.

### **Alternative 4: Alternative Location (New, Lighted Stadium at Carmel Middle School) for Practices and Games**

During the public review period for the draft EIR, several comments were received regarding constructing a new lighted, stadium at another location. Some comments mentioned Carmel Middle School as an alternative for use by school district teams for practices and games/sporting events. The following is a discussion of this alternative.

#### **Location and Surrounding Uses**

Carmel Middle School is located approximately 1.25 miles southeast of Carmel High School, south of Carmel Valley Road and ¼ mile north of the Carmel River. An aerial photograph of the middle school is presented in [Figure 18-3, Carmel Middle School Location](#). The campus is surrounded by residential neighborhoods (Carmel Rio Rancho and Carmel Views) to the north; approved but not yet developed Rancho Canada Village (130 homes) immediately to the south and east; Palo Corona Regional Park also to the east; and the Cottages of Carmel Assisted Living and Memory Care Community and rural ranchettes to the west. The nearest residence to the north is approximately 200 feet from the campus, the nearest residence to the south (approved but not yet constructed) is approximately 110 feet from the campus, the nearest residence to the east (approved but not yet constructed) is approximately 110 feet from the campus, and the nearest residence to the west is approximately 80 feet from the campus.



Carmel Middle School has approximately 199 striped parking spaces compared to the existing 276 parking spaces, and proposed parking spaces of 111, for a total of 387 parking spaces at Carmel High School. In addition, the middle school has additional overflow parking available near the existing track at the northwest portion of the campus which is accessed through a gated dirt road when needed and is located in non-irrigated portions of the track perimeter. This overflow parking area is unstriped and essentially doubles the amount of on-campus parking at the middle school based on the size of the area available. Therefore, when including this overflow parking area, a maximum total of approximately 400 parking spaces are available at the middle school.

### **Master Planning at Carmel Middle School**

In 2011, the school district studied constructing a stadium complex at Carmel Middle School, but the space required to accommodate such a stadium was determined to be infeasible given space requirements. The estimated cost in 2011 was \$24 million. Subsequently, the school district acquired the adjacent, undeveloped property and in 2019, prepared the *Carmel Unified School District Facilities Master Plan* (2019 master plan) which provided for a revision of the Carmel Middle School campus athletic facilities to maximize outdoor learning and playfields for all students across the school district. This revision included the potential for up to six baseball or softball diamonds, two soccer fields, a lighted outdoor track and football field, four outdoor basketball courts, eight tennis courts spread across the extent of the existing middle school campus (see Figure 5.9 of the 2019 Master Plan, included as [Figure 18-4, Carmel Middle School Proposed Master Plan Diagram \(2019 Facilities Master Plan\)](#)). The entire facilities master plan is available on the school district website at <https://www.carmelunified.org/site/handlers/filedownload.ashx?moduleinstanceid=9505&dataid=25001&FileName=CUSD%20Facilities%20Master%20Plan%202019.pdf>. However, no additional stadium is included in the 2019 Master Plan. In addition, these improvements would cost upwards of \$72 million dollars, which is not currently funded and would require a bond measure to ensure proper financing.

This alternative would not include the other improvements proposed as part of the project at the high school.

### **Alternative Description**

Construction of a lighted stadium on the Carmel Middle School could include, but not be limited to, the following facilities:

- All weather (artificial turf) field;
- All weather track;
- Track and field event areas (shotput, discus, long jump, high jump, pole vault);
- Storage for all sports equipment;





Source: Monterey County GIS 2022, Google Earth 2022

Figure 18-3

# Carmel Middle School Location



Carmel High School Stadium Improvements Revised Draft EIR

*This side intentionally left blank.*





- |       |   |
|-------|---|
|       | <b>Learning Studio</b>                            |
| CE    | Community Education                               |
| ELA   | English Language Arts                             |
| ELD   | English Language Dev't                            |
| FL    | Foreign Language                                  |
| MA    | Math  |
| PE    | Physical Education                                |
| PW    | Pathways  |
| SE    | Special Education                                 |
| SH    | Special Education (Severe)                        |
| SS    | Social Studies                                    |
|       | <b>Design Studio</b>                              |
| AUTO  | Automotive Shop                                   |
| CL    | Computer Lab                                      |
| CS    | Computer Science                                  |
| CUL   | Culinary Arts                                     |
| D     | Dance   |
| ENG   | Engineering + Robotics                            |
| FIT   | Fitness   |
| IL    | Innovation Lab                                    |
| SCI   | Science (with Lab)                                |
| SM    | Sports Medicine                                   |
| WT    | Weight Training                                   |
| MU    | Music   |
| VB    | Video Broadcast                                   |
| YB    | Yearbook / Journalism                             |
|       | <b>Learning Pavilion</b>                          |
| ADMIN | Main Office                                       |
| LOBBY | Secured Entry Point                               |
| FW    | Faculty Work/Collaboration                        |
| LIB   | Library   |
| LC    | Learning Center                                   |
| WC    | Wellness Center                                   |
| O     | Office  |
| CN    | Concessions                                       |
| CC    | Career Center                                     |
| CO    | Counseling  |
|       | <b>Gathering / Activity Areas</b>                 |
| ASB   | Student Leadership                                |
| GYM   | Gymnasium   |
| SU    | Student Union                                     |
|       | Outdoor Learning, Playfields, Gardens             |
|       | <b>Center for Innovative Educational Practice</b> |
| CIEP  | Center for Innovative Educational Practice        |
|       | <b>Support Spaces</b>                             |
| KIT   | Kitchen/Food Service                              |
| X     | Storage   |
| T     | Toilets   |
| U     | Utility   |
| J     | Janitor   |
| E     | Elevator  |
|       | Main Entry  |
|       | Bus Drop-Off + Circulation                        |
|       | Parent Drop-Off + Circulation                     |



Source: LPA 2019

Figure 18-4

Carmel Middle School Proposed Master Plan Diagram (2019 Facilities Master Plan)



*This side intentionally left blank.*

- Scoreboard and sound system;
- Bleachers for both home and visitors;
- Pressbox;
- Locker room/team rooms;
- Restrooms for spectators and teams;
- Parking lot and associated lighting;
- Space for sports medicine staff and athlete treatment;
- Ticket booth and concessions area; and
- Field lighting.

If constructed in the location shown in the 2019 master plan, the lighted stadium would replace an area of the existing Carmel Middle School campus where four softball and baseball fields are currently located. If implemented in accordance with the 2019 facilities master plan, those softball and baseball fields would be relocated to an adjacent, undeveloped lot, which is owned by the school district, next to the middle school. While the potential stadium site is largely flat with existing playfields, Cypress trees line the site along the west and south boundaries. Potential tree removal may be required depending on the extent of construction and development activities. Construction of additional parking would also be required. Under the “worst-case” scenario (i.e., rivalry or homecoming games) identified in Section 11.0, Transportation, which would occur once or twice per year, the existing on-campus parking shortfall at the high school is approximately 341 (617 demand - 276 available) parking spaces. Following this same demand scenario, under this alternative an additional 218 parking spaces would be needed at the middle school (617 demand – 199 available – 200 overflow parking spaces).

### **Alternative’s Attainment of Project Objectives**

This alternative would achieve the following project objectives:

- Provide an enhanced learning environment for both physical education and after-school sports activities that meets contemporary standards of education and improves the District’s athletic program for its Carmel High School students and other students in the District;
- Provide athletic facilities that facilitate implementation of the State’s “late start law” without disruption to the District’s existing educational and athletic programs;
- Provide the capability to host sport events and games for Carmel High School students in the evening when students, parents, and community members can more easily attend;
- Improve athlete and spectator safety during evening sports events and games;



- Operate an athletic stadium facility that is at least equal with most other local high schools, including the ability to conduct events in the evening;
- Create a new, healthy weekend social opportunity for District students while building school spirit; and
- Achieve these objectives consistent with the intent of the Facilities Master Plan that was presented to the District’s Board on June 26, 2019.

This alternative would not meet the following project objectives:

- Improve on-campus traffic circulation, fire and emergency vehicle access, campus security and safety, ADA access, and student, staff, and visitor access within the Carmel High School campus grounds;
- Improve and expand on-campus parking facilities to meet need at Carmel High School;
- Implement “green building” practices that foster energy conservation, and replace outmoded athletic lighting fixtures with new fixtures that will obtain dark sky certification;
- Enhance the spectator experience during sporting events by adding an alternative viewing location different from the existing bleachers;
- Augment the secure storage space available to the District’s athletic programs;
- Reduce operational difficulties and complex coordination issues with respect to the scheduling of practices and games for District athletic programs; and
- Achieve these objectives within the District’s allocated budget allowances.

## **Environmental Analysis**

Construction of a new lighted stadium at Carmel Middle School has the potential to generate significant environmental impacts, equal to or greater than the proposed project. The following environmental impacts, among other potential environmental effects, were evaluated.

### *Aesthetics*

The middle school campus is located in an area designated as visually sensitive in the County of Monterey General Plan (Figure 14, Scenic Highway Corridors and Visual Sensitivity). Construction of a lighted stadium facility at Carmel Middle School, located in a County designated visually sensitive area near the County-designated “highly visually sensitive” Carmel River and the Santa Lucia foothills and immediately north, south, and east of existing and/or approved residential neighborhoods, would have greater levels of aesthetic impacts as compared to the proposed project as there is currently no stadium at the middle school while there is already an existing stadium at the high school. These impacts,

like the proposed project, would be associated with impacts related to sensitive visual/scenic resources and light and glare through the introduction of a new stadium with associated facilities and structures listed above under “Master Planning at Carmel Middle School” including field lighting of a similar design and height as the proposed project at Carmel High School. This alternative would also add lights to a campus without lighted athletic facilities, whereas Carmel High School has existing pool lights. It would further require development of an undeveloped lot adjacent to Carmel Middle School versus improvements to a developed campus. Such visual impacts would necessitate the identification and implementation of mitigation measures to reduce those impacts to the extent feasible given the highly visually sensitive area the middle school is located in. Even with implementation of feasible mitigation measures, it is probable that like the proposed project, impacts associated with visual resources and light glare would not be reduced to a less-than-significant level and would be significant and unavoidable. Therefore, this alternative would result in a significant increase in aesthetic impacts as compared to the proposed project.

### *Air Quality and Greenhouse Gas Emissions*

Construction of a lighted stadium at Carmel Middle School would generate greater air quality and greenhouse gas emission impacts associated with more intensive construction-related activities involving use of heavy construction vehicles and equipment and increased levels of truck trips required to construct a new lighted stadium at the middle school campus. This alternative would likely require standard air quality mitigation measures to be implemented during construction activities, due to the size of the construction project. In addition, this alternative would require increased vehicle trips from Carmel High School to Carmel Middle School compared to the project baseline which would result in increased air quality and greenhouse gas emission impacts.

### *Biological Resources*

Given Carmel Middle School’s location ½ mile north of the Carmel River, an area of known critical habitat for special-status plant and animal species, it is likely that construction of a lighted stadium would generate greater biological resource impacts as compared to the proposed project. The proposed stadium location would require relocating existing softball and baseball fields to an undeveloped lot adjacent to Carmel Middle School which is likely to result in increased biological impacts compared to the developed Carmel High School campus. A 2018 IS/MND prepared for the acquisition of the 8.23-acre parcel immediately adjacent to and west of Carmel Middle School to use for additional athletic field, identified the following species as having the potential to occur in the vicinity of the middle school site: California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), Monterey dusky-footed woodrat (*Neotoma macrotis luciana*), Townsend’s big-eared bat (*Corynorhinus townsendii*), and nesting birds (EMC Planning Group 2018). Biological mitigation measures were identified in the 2018 IS/MND which addressed protection of California red-legged frog and California tiger salamander along with

woodrats, bats, and nesting birds. These special-status species with the potential to occur in the vicinity of the middle school are not expected to be located in the vicinity of the high school due to lack of necessary habitat. An additional mitigation measure was identified associated with a potential drainage feature that may require future consultation with applicable federal and state wetland regulatory agencies. Therefore, this alternative would likely result in greater biological impacts over the proposed project. See Section 7.0, Biological Resources, of the RDEIR for additional information on those species with the potential to occur in the vicinity of the high school.

### *Energy*

This alternative would likely result in greater energy impacts as the proposed project due to greater construction activities and traffic associated with constructing a new light stadium at Carmel Middle School. Construction of a new stadium at Carmel Middle School would lead to increased energy demand for the middle school site due to new stadium lights and associated energy demands from operation of a new stadium. However, these new facilities would be required to comply with all applicable state or local plans for renewable energy or energy efficiency.

### *Noise*

Noise impacts associated with constructing a lighted stadium at Carmel Middle School would likely be greater than the proposed project due to the level and intensity of construction activities required including use of heavy earth moving/grading equipment, use of cranes and other equipment needed to erect structures and lights. Mitigation would be required to address construction noise impacts similar to the proposed project.

Noise impacts associated with operational noise would be greater than the proposed project. Practices and high school sporting events are currently played at the high school stadium resulting in existing noise in the vicinity. Operating a new high school-level stadium at the middle school would result in new operational noise impacts not currently experienced in the vicinity of the middle school. Neighborhood traffic noise may also result if inadequate parking capacity leads to attendees parking in surrounding residential neighborhoods to the middle school.

### *Transportation*

Traffic impacts associated with constructing a lighted stadium at Carmel Middle School would generate greater impacts given the level of construction activity required as compared to the proposed project. Construction activities associated with a new lighted stadium would require heavy equipment needed for earth moving and grading activities along with use of a greater quantity of trucks and other vehicles for transporting of building materials to the middle school. A mitigation measure would likely be required similar to the proposed project to prepare a construction management plan to ensure short-term safety impacts are reduced.

In addition, this alternative would require increased vehicle trips from Carmel High School to Carmel Middle School compared to the project baseline. As previously noted, Carmel Middle School has approximately 199 striped parking spaces with an additional overflow parking area that essentially doubles the middle school on-campus parking capacity. However, following the same demand scenario for highly attended games as the proposed project, it is conceivable under this alternative that there would still be an additional 218 parking spaces needed at the middle school (617 demand – 199 available – 200 overflow parking spaces). This deficit in parking spaces at the middle school could lead to secondary environmental impacts associated with attendees parking in surrounding residential neighborhoods when capacity is exceeded at the middle school. Alternatively, the school district may be required to construct additional paved parking areas at the middle school leading to increased environmental impacts for the alternative as a whole. It is likely a traffic management plan similar to the proposed project would be required as mitigation to address safety, circulation, and parking concerns at the middle school during highly attended events at the new lighted stadium. Therefore, transportation impacts are likely to be similar if not increased under this alternative compared to the proposed project.

### *Soils, Erosion, and Water Quality*

This alternative would result in greater levels of ground disturbance, grading activities, and likely greater levels of pervious surface area across portions of the middle school site, which is about ¼ mile from the Carmel River, than would occur as a result of the proposed project at Carmel High School. Therefore, soils, erosion, and water quality impacts would be greater associated with construction of a new lighted stadium at Carmel Middle School. This alternative would also necessitate development of an undeveloped lot adjacent to the middle school to relocate softball and baseball fields. In addition, the potential stadium site at the middle school would be adjacent to flood hazard zones, as well as potentially located in a moderate flood hazard area (Zone X), which indicates an area that has 0.2 percent chance of an annual flood hazard to occur (Federal Emergency Management Agency 2022). Flooding impacts and potential increases in surface water quality impacts would therefore need to be evaluated and mitigated for if determined applicable to the proposed stadium site.

### *Tribal and Cultural Resources*

Carmel Middle School is located in an area identified by Monterey County as having a “high” archaeological sensitivity given its location adjacent to Carmel River (Monterey County 2021). An archaeological survey conducted for a 2018 IS/MND for the site acquisition project located several suspected ground stone artifacts on the project site immediately west of Carmel Middle School. Given these factors and the amount of ground disturbing activity required to construct a new lighted stadium, construction of such a stadium at the Carmel Middle School site has the potential to generate greater tribal and cultural resource impacts as compared to the proposed project. Mitigation measures similar to the proposed project, or

developed during the expected tribal consultation process with applicable tribal representatives, would be required to address these potentially greater tribal and cultural impacts. No previously recorded cultural resources sites or resources are located within the Carmel High School site. See Section 13.0, "Tribal and Cultural Resources," for additional discussion on the potential for impacts on cultural resources as a result of the proposed project.

### *Recreation*

This alternative consists of constructing a new, lighted stadium at the middle school, resulting in the environmental impacts discussed above, which include significant and significant and unavoidable impacts. However, project impacts associated with increased use of tennis court facilities at Carmel Middle School and other tennis courts in the vicinity of the high school would be reduced as a result of this alternative.

## **Alternative 5: Reduced Project Alternative (No Stadium Lights)**

### **Alternative Description**

This alternative would not include the stadium lights. It would include the new on-campus parking areas and the storage building as proposed. The existing storage buildings and tennis courts would be demolished, and the internal drive aisle would be constructed on-campus. The existing pool lights and pedestrian pathway lights would be replaced. The "late start law" would not be implemented.

### **Alternative's Attainment of Project Objectives**

This alternative would achieve the following project objectives:

- Improve on-campus traffic circulation, fire and emergency vehicle access, campus security and safety, ADA access, and student, staff, and visitor access within the Carmel High School campus grounds;
- Improve and expand on-campus parking facilities to meet need at Carmel High School;
- Implement "green building" practices that foster energy conservation, and replace outmoded athletic lighting fixtures with new fixtures that will obtain dark sky certification;
- Enhance the spectator experience during sporting events by adding an alternative viewing location different from the existing bleachers;
- Augment the secure storage space available to the District's athletic programs; and
- Achieve these objectives within the District's allocated budget allowances.

This alternative would not achieve the following project objectives:

- Provide an enhanced learning environment for both physical education and after-school sports activities that meets contemporary standards of education and improves the District's athletic program for its Carmel High School students and other students in the District;
- Provide athletic facilities that facilitate implementation of the State's "late start law" without disruption to the District's existing educational and athletic programs;
- Provide the capability to host sport events and games for Carmel High School students in the evening when students, parents, and community members can more easily attend;
- Improve athlete and spectator safety during evening sports events and games;
- Operate an athletic stadium facility that is at least equal with most other local high schools, including the ability to conduct events in the evening;
- Create a new, healthy weekend social opportunity for District students while building school spirit;
- Reduce operational difficulties and complex coordination issues with respect to the scheduling of practices and games for District athletic programs; and
- Achieve these objectives consistent with the intent of the Facilities Master Plan that was presented to the District's Board on June 26, 2019.

### **Alternative Impacts Comparison**

This analysis identifies potential environmental impacts associated with this alternative and compares it with the impacts of installing new field lighting at the existing outdoor stadium, demolishing the existing tennis courts and storage portable buildings, constructing two new on-campus parking areas, constructing an internal drive aisle, constructing a new storage building, and replacing the existing pool light fixtures and pedestrian pathway light fixtures at the existing Carmel High School campus. The environmental effects of this alternative as compared to the proposed project are summarized by topic area below.

#### *Aesthetics*

This alternative would not result in the visual impacts associated with installation of the stadium lights. This alternative would reduce existing lighting impacts associated with the pool lighting and pedestrian pathway light fixtures as those fixtures would be replaced with lower-impact lighting. This alternative would have reduced lighting impacts compared to the proposed project.



### *Air Quality*

This alternative would result in similar, less-than-significant with mitigation construction-related air quality impacts associated with demolishing the existing tennis courts and storage portable buildings, constructing two new on-campus parking areas, constructing an internal drive aisle, constructing a new storage building, and replacing the existing pool light fixtures and pedestrian pathway light fixtures. However, this alternative would result in no increase in game attendees, and therefore, would result in no operational air quality impacts.

### *Biological Resources*

This alternative would result in similar potential biological resource impacts associated with construction activity and possible disturbance of potential bird nesting and bat roosting habitat. However, this alternative would not result in noise and lighting impacts compared to the proposed project.

### *Energy*

This alternative would result in similar energy impacts as the proposed project, with the exception that this alternative would not result in the energy used for operation of stadium lights.

### *Greenhouse Gas Emissions*

This alternative would result in similar GHG emissions impacts as the proposed project, with the exception that this alternative would not result in the GHG emissions associated with operation of stadium lights.

### *Noise*

This alternative would not result in operational noise generated by additional attendees and construction of the proposed stadium lights; however, demolition and construction noise associated with the new parking areas, new storage building, drive aisle, and replacement of pool light fixtures would be the same as the proposed project.

### *Transportation*

This alternative would eliminate the transportation impacts generated by additional attendees.

### *Soils, Erosion, and Water Quality*

This alternative would result in the same potential impacts related to soils, erosion, and water quality, as the ground disturbance would be nearly the same as the proposed project, even without installation of the four light poles.

### *Tribal and Cultural Resources*

This alternative would result in similar potential cultural and tribal resource impacts, as the ground disturbance would be nearly the same as the proposed project, even without installation of the four light poles.

### *Recreation*

This alternative would result in the same impacts associated with recreation, as the tennis courts at Carmel High School would be demolished, and the high school students would practice at Carmel Middle School.

## **18.4 COMPARISON OF ALTERNATIVES**

The alternatives are summarized and compared in a matrix format in [Table 18-1, Comparison of Project Alternatives to the Proposed Project](#).

## **18.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

CEQA Guidelines section 15126.6(e)(2) states that if the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. The alternatives are ranked below, in order of environmental superiority.

### **Number 1**

Alternative 2, No Project Alternative – With Late Start, is the environmentally superior alternative. It would avoid all of the proposed project’s environmental impacts, including the significant and unavoidable lighting impacts. This alternative only meets one of the project objectives. The alternative would reduce existing operational difficulties and complex coordination issues with respect to the scheduling of practices and games for school district athletic programs because it eliminates the sports programs that are currently creating operational and coordination issues at the high school. In addition, this alternative would nominally reduce baseline impacts associated with air quality, greenhouse gas emissions, noise, and transportation.

### **Number 2**

Alternative 1, No Project Alternative – No Late Start, would avoid all of the proposed project’s environmental impacts, including the significant and unavoidable lighting impacts, and therefore, would be considered the next, environmentally-superior alternative. This alternative does not meet any of the project objectives.

**Table 18-1 Comparison of Alternatives to the Proposed Project**

Environmental Impact	Level of Impact					
	Proposed Project	Alternative #1 No Project – No Late Start	Alternative #2 No Project – With Late Start	Alternative #3 After Dark Games and Practices at MPC and/or PGHS	Alternative #4 Alternative Location (Carmel Middle School)	Alternative #5 Reduced Project (No Stadium Lights)
<b>Aesthetics</b>						
<b>Impact 5-1.</b> The Light Poles Would be Visible from and towards County-Designated Visually “Sensitive” and “Highly Sensitive” Areas and Slightly Modify the Visual Character and Quality of the Site	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	SU Greater Impact	NI Avoids Impact
<b>Impact 5-2.</b> New Lighting would Result in Light Pollution and the New Sources of Light and Glare Would be Visible from and towards County-Designated Visually “Sensitive” and “Highly Sensitive” Areas and Slightly Modify the Visual Character and Quality of the Site	SU	NI Avoids Impact	NI Avoids Impact	SU Avoids Impact at Carmel High, but extends lighting effects at MPC and/or PGHS	SU Greater Impact	NI Avoids Impact
<b>Air Quality</b>						
<b>Impact 6-1.</b> Fugitive Dust and Equipment Exhaust Emissions During Construction Would Not Exceed the Air District Thresholds and Degrade Air Quality	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Greater Impact	LTS Similar Impact
<b>Impact 6-2.</b> Criteria Air Pollutants During Operations Would Not Exceed Air District Thresholds and Degrade Air Quality	LTS	NI Avoids Impact	NI Avoids Impact	LTS Greater Impact	LTS Greater Impact	NI Avoids Impact
<b>Impact 6-3.</b> Operation of Construction Equipment Could Expose Sensitive Receptors to Minimal Toxic Air Contaminants	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Greater Impact	LTS Similar Impact

Environmental Impact	Level of Impact					
	Proposed Project	Alternative #1 No Project – No Late Start	Alternative #2 No Project – With Late Start	Alternative #3 After Dark Games and Practices at MPC and/or PGHS	Alternative #4 Alternative Location (Carmel Middle School)	Alternative #5 Reduced Project (No Stadium Lights)
<b>Impact 6-4.</b> Increased Traffic Would Expose Sensitive Receptors to Minimal Toxic Air Contaminants	LTS	NI Avoids Impact	NI Avoids Impact	LTS Greater Impact	LTSM Greater Impact	LTS Similar Impact
<b>Biological Resources</b>						
<b>Impact 7-1.</b> Special-Status Plant Species	NI	NI	NI	NI	LTSM Potentially Greater Impact	NI
<b>Impact 7-2.</b> Potential Effect on Special-Status Species (Hoary Bat)	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Similar Impact	LTSM Similar Impact
<b>Impact 7-3.</b> Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds)	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Similar Impact	LTSM Similar Impact
<b>Impact 7-4.</b> Potential Effect on Sensitive Biological Resources (Lighting and Noise)	LTS	NI Avoids Impact	NI Avoids Impact	LTS Similar Impact	LTSM Greater Impact	NI Avoids Impact
<b>Impact 7-5.</b> Federally- and State-Protected Wetlands or Waters of the U.S. (Intermittent or Ephemeral Drainage)	NI	NI	NI	NI	LTSM Potentially Greater Impact	NI
<b>Impact 7-6.</b> Potential Tree Removal	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Potentially Greater Impact	LTSM Similar Impact
<b>Impact 7-7.</b> Interference with Movement of Wildlife Species or with Established Wildlife Corridors	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Potentially Greater Impact	NI Avoids Impact
<b>Impact 7-8.</b> Sensitive Natural Communities	NI	NI	NI	NI	LTSM Potentially Greater Impact	NI

Environmental Impact	Level of Impact					
	Proposed Project	Alternative #1 No Project – No Late Start	Alternative #2 No Project – With Late Start	Alternative #3 After Dark Games and Practices at MPC and/or PGHS	Alternative #4 Alternative Location (Carmel Middle School)	Alternative #5 Reduced Project (No Stadium Lights)
<b>Energy</b>						
<b>Impact 8-1.</b> Energy from Lighting and Traffic Will be Consumed During Construction and Operations	LTS	NI Avoids Impact	NI Avoids Impact	LTS Similar Impact	LTS Greater Impact	LTS Reduced Impact
<b>Impact 8-2.</b> No Conflict with State or Local Plans for Renewable Energy or Energy Efficiency	NI	NI	NI	NI	NI	NI
<b>Greenhouse Gas Emissions</b>						
<b>Impact 9-1.</b> Generate Greenhouse Gas Emissions	LTS	NI Avoids Impact	NI Avoids Impact	LTS Similar Impact	LTS Greater Impact	LTS Reduced Impact
<b>Impact 9-2.</b> No Conflict with the Applicable Plans to Reduce Greenhouse Gas Emissions	NI	NI	NI	NI	NI	NI
<b>Noise</b>						
<b>Impact 10-1.</b> Project-Generated Traffic Would Occasionally Increase Existing Noise Levels	LTS	NI Avoids Impact	NI Avoids Impact	LTS Reduced Impact	LTS Potentially Greater Impact	NI Avoids Impact
<b>Impact 10-2.</b> Nighttime Stadium Events, Activities Associated with the Two New Campus Parking Areas, and Traffic Control Measures Would Cause an Occasional Noise Increase	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTS Similar Impact Associated with Nighttime Stadium Events	NI Avoids Impact
<b>Impact 10-3.</b> Construction Activities Could Cause a Substantial Temporary Noise Increase	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Greater Impact	LTSM Similar Impact
<b>Impact 10-4.</b> Construction Activities Could Cause Temporary Excessive Groundborne Vibration	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTS Similar Impact	LTS Similar Impact

Environmental Impact	Level of Impact					
	Proposed Project	Alternative #1 No Project – No Late Start	Alternative #2 No Project – With Late Start	Alternative #3 After Dark Games and Practices at MPC and/or PGHS	Alternative #4 Alternative Location (Carmel Middle School)	Alternative #5 Reduced Project (No Stadium Lights)
<b>Impact 10-5.</b> Existing Neighborhood Noise Associated with Students and Spectators Parking in the Surrounding Neighborhoods Would Decrease with Construction of New Parking Areas and Implementation of the Traffic Management Plan	Beneficial	NI	NI	NI	NI	Beneficial Similar Impact
<b>Transportation</b>						
<b>Impact 11-1.</b> An Increase in Event Attendance Would Increase Vehicle Trips but Would Not Result in Significant Vehicle Miles Travelled	LTS	NI Avoids Impact	NI Avoids Impact	LTS Greater Impact	LTS Similar Impact	NI Avoids Impact
<b>Impact 11-2.</b> No Substantial Increase in Hazards due to Design Features or Incompatible Uses	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTS Similar Impact	LTS Similar Impact
<b>Impact 11-3.</b> Construction Traffic Could Result in Safety Impacts When School is in Session	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Similar Impact	LTSM Similar Impact
<b>Impact 11-4.</b> An Increase in Event Attendance Could Result in Inadequate Parking During Limited Nighttime Events with Potential Emergency Access Issues	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Similar Impact	NI Avoids Impact
<b>Soils, Erosion, and Water Quality</b>						
<b>Impact 12-1.</b> Construction Activities Associated with the Proposed Project Could Expose Soils and Increase the Potential for Soil Erosion	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Greater Impact	LTS Similar Impact
<b>Impact 12-2.</b> The Proposed Project Would Not Locate Improvements on Areas with Expansive Soils	NI	NI	NI	NI	NI	NI



Environmental Impact	Level of Impact					
	Proposed Project	Alternative #1 No Project – No Late Start	Alternative #2 No Project – With Late Start	Alternative #3 After Dark Games and Practices at MPC and/or PGHS	Alternative #4 Alternative Location (Carmel Middle School)	Alternative #5 Reduced Project (No Stadium Lights)
<b>Impact 12-3.</b> Construction Activities Associated with the Proposed Project Have the Potential to Degrade Surface or Ground Water Quality	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Potentially Greater Impact	LTS Similar Impact
<b>Tribal and Cultural Resources</b>						
<b>Impact 13-1.</b> A Potential Adverse Substantial Adverse Change in the Significance of a Historical Resource Pursuant or a Unique Archaeological Resource	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Greater Impact	LTSM Similar Impact
<b>Impact 13-2.</b> Potential to Disturb Native American Human Remains, Including Those Interred Outside of Dedicated Cemeteries	LTSM	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTSM Greater Impact	LTSM Similar Impact
<b>Recreation</b>						
<b>Impact 14-1.</b> The Proposed Project may Accelerate the Deterioration of the Carmel Middle School Tennis Courts	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTS Reduced Impact	LTS Similar Impact
<b>Impact 14-2.</b> The Proposed Project may Accelerate the Deterioration of Other Public Tennis Courts in the Vicinity	LTS	NI Avoids Impact	NI Avoids Impact	NI Avoids Impact	LTS Reduced Impact	LTS Similar Impact
<b>Impact 14-3.</b> The Proposed Project Does Not Include New Recreational Facilities or Require the Construction or Expansion of Recreational Facilities Beyond the Proposed Project Itself	NI	NI	NI	NI Avoids Impact	SU Greater Impact	NI
<b>Environmental Superiority</b>	4	2	1	4	5	3

Environmental Impact	Level of Impact					
	Proposed Project	Alternative #1 No Project – No Late Start	Alternative #2 No Project – With Late Start	Alternative #3 After Dark Games and Practices at MPC and/or PGHS	Alternative #4 Alternative Location (Carmel Middle School)	Alternative #5 Reduced Project (No Stadium Lights)
Project Objectives	All 14 Objectives Met	No Objectives Met	One Objective Met	Two Objectives Met	Seven Objectives Met	Six Objectives Met

SOURCE: EMC Planning Group 2022

NOTE: NI – No Impact; LTS – Less Than Significant; LTSM – Less-Than-Significant with Mitigation; SU – Significant and Unavoidable

### **Number 3**

Alternative 5, Reduced Project Alternative, would eliminate the proposed project's significant and unavoidable light impacts and would reduce impacts associated with air quality, biological resources, energy, greenhouse gas emissions, noise, and transportation as compared to the proposed project. In addition, this alternative would meet six of the project objectives. Alternative 5 would be the next environmentally superior alternative after Alternatives 2 and 1.

### **Number 4**

Alternative 3, Alternate Locations (Monterey Peninsula College and Pacific Grove High School) for Practices and Games, is ranked equally superior to the proposed project. This alternative avoids the proposed project's significant and unavoidable lighting impacts at Carmel High School, but would extend the lighting impacts to the other two locations and therefore, would not eliminate the significant and unavoidable lighting impact. This alternative also may increase impacts associated with transportation, air quality, energy, greenhouse gas emissions, and noise, because athletes and spectators would have to travel further for games and practices. However, this alternative avoids the less-than-significant and less-than-significant with mitigation impacts associated with the proposed project's construction activities. Therefore, Alternative 3 would be equal in environmental superiority with the proposed project. However, this alternative only meets two of the project objectives associated with providing the capability to host sport events and games for Carmel High School students in the evening when students, parents, and community members can more easily attend and improving athlete and spectator safety during evening sports events and games.

### **Number 5**

Alternative 4, Alternative Location (New, Lighted Stadium at Carmel Middle School) for Practices and Games, would result in increased impacts associated with aesthetics, air quality, biological resources, energy, greenhouse gas emissions, noise, soils, erosion, and water quality, and tribal and cultural resources because of the level of construction associated with this alternative. While meeting seven of the project objectives, Alternative 4 would be the least environmentally superior alternative as it would result in a much greater level of environmental impacts as compared to the other alternatives, as well as the proposed project.

## Organizations and Persons Consulted

Anderson, Golden, Athletic Director, Carmel High School, 28 April 2021, 5 August 2022;  
10 August 2022.

Bates, Wendy, Athletic Director, Monterey Peninsula College, 11 November 2021.

Cartier, Robert, Ph.D., Principal Investigator, Archaeological Resource Management,  
14 April 2021.

Costello, Ali, Musco Sports Lighting, 5 January 2022.

Crookham, Bob, Musco Sports Lighting, 6 July 2021; 5 May 2022; 18 August 2022.

Del Rio, Robert, T.E., Vice President and Principal Associate, Hexagon Transportation  
Consultants, 1 July 2021.

Descanzo, Luis, Engineer, Hexagon Transportation Consultants, 28 July 2022.

Gaona, Lauralea, Pacific Grove Unified School District, 26 October 2021.

Lee, Katie, P.E., Whiston Engineers, 14 July 2022; 22 July 2022; 15 August 2022.

Jacobsen, Madilyn, Transportation Planner, Transportation Agency for Monterey County,  
7 June 2021.

Paul, Dan, Director of Facilities & Transportation, Carmel Unified School District,  
11 May 2021; 9 June 2021; 25 June 2021; 20 May 2022; 15 June 2022; 13 July 2022;  
26 July 2022; 28 July 2022; 29 July 2022; 1 August 2022; 2 August 2022; 3 August 2022;  
4 August 2022; 5 August 2022; 8 August 2022; 9 August 2022; 10 August 2022;  
11 August 2022; 12 August 2022; 13 August 2022; 22 August 2022.

Scates, Kenneth, AIA, LEED AP, HGHB Architecture, 5 May 2021; 15 June 2022; 22 July 2022;  
15 August 2022.

Spencer, Craig, Planning Manager, Monterey County Housing and Community  
Development, 21 June 2021; 29 July 2022.

Swanson, Brandon, Community Planning & Building Director, City of Carmel-by-the-Sea,  
7 June 2021; 29 July 2022.

Van Groningen, Walter J., President, WJV Acoustics, Inc., 6 July 2021; 29 July 2022.

Zack, Timothy R., Principal/Senior Design Visualization Specialist, 3DScape, 13 May 2021;  
25 April 2022; 12 August 2022.

*This side intentionally left blank.*

# 20.0 Document and Web Sources and Report Preparers

## 20.1 DOCUMENT AND WEB SOURCES

This section provides the document and web sources referenced in the EIR. Sources are provided by section.

### 1.0 Introduction Sources

No sources.

### 2.0 Summary Sources

No sources.

### 3.0 Environmental Setting Sources

Consultant Site Investigation, April 13, 2021.

EMC Planning Group. August 12. *Carmel High School Stadium Improvements – Neighborhood Parking Assessment*. Monterey, CA.

Google, Inc. 2021. Google Earth.

Monterey County. October 2010a. *2010 Monterey County General Plan*. Monterey, CA. Accessed March 31, 2021. <https://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency-rma-/planning/resources-documents/2010-general-plan>

———. September 2008. *2007 Monterey County General Plan Draft Environmental Impact Report*. Monterey, CA.

———. September 1997. *Monterey County Zoning Ordinance Title 21 (For Inland Areas)*. Monterey, CA. Accessed March 31, 2021. <https://www.co.monterey.ca.us/home/showdocument?id=22573>

———. 2021. GIS Mapping and Data website. Accessed March 31, 2021. <https://www.co.monterey.ca.us/government/about/gis-mapping-data>



Paul, Dan, Director of Facilities & Transportation, Carmel Unified School District.

E-mail messages to consultant, 9 June 2021, 25 July 2022, and 11 August 2022.

Whitson Engineers. May 2, 2022. "Carmel High School Existing Overall Parking and Circulation." Monterey, CA.

## 4.0 Project Description Sources

Anderson, Golden, Athletic Director, Carmel High School. E-mail message to consultant, 28 April 2021 and 8 August 2022.

Carmel Unified School District and LPA. *Carmel Unified School District Facilities Master Plan 2019*. Available online: <https://www.carmelunified.org/Page/6080>

Crookham, Bob, Musco Sports Lighting. E-mail message to consultant, 6 July 2021; phone conversation with consultant, 18 August 2022.

Lee, Katie, P.E. Whitson Engineers. E-mail message to consultant, 14 July 2022; 22 July 2022; 15 August 2022.

Musco Lighting. January 25, 2022a. *Carmel Pool Retrofit, Carmel, CA (Pool LED and Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.

———. January 25, 2022b. *Carmel Pool Retrofit, Carmel, CA (Pool HID with Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.

———. November 22, 2021a. *Carmel Pool Retrofit, Carmel, CA, Illumination Summary*. Oskaloosa, IA

———. June 16, 2021b. *Carmel High School Football, Carmel, CA – Project Summary, Illumination Summary, and Equipment Layout*. Oskaloosa, IA.

———. April 29, 2021c. *Carmel High School Football – Control System Summary*. Oskaloosa, IA.

———. May 5, 2021d. *Carmel High School Football, Carmel, CA – Pole Configuration Drawing*. Oskaloosa, IA.

National Oceanic and Atmospheric Administration (NOAA). 2021. NOAA Solar Calculator website. Accessed June 14, 2021. <https://gml.noaa.gov/grad/solcalc/>

Paul, Dan, Director of Facilities & Transportation, Carmel Unified School District.

E-mail messages to consultant, 11 May 2021; 9 June 2021; 25 June 2021; 20 May 2022; 15 June 2022; 13 July 2022; 26 July 2022; 28 July 2022; 29 July 2022; 1 August 2022;

2 August 2022; 3 August 2022; 4 August 2022; 5 August 2022; 8 August 2022;

9 August 2022; 10 August 2022; 11 August 2022; 12 August 2022; 13 August 2022; and 22 August 2022.

Scates, Kenneth, AIA, LEED AP, HGHB Architecture. Email message to consultant, 5 May 2021; 15 June 2022; 22 July 2022; 15 August 2022.

Whitson Engineers. August 12, 2022a. *Carmel High School Tennis Court Parking – Conceptual Design*. Monterey, CA.

———. July 8, 2022b. *Carmel High School East Parking Lot – Conceptual Design*. Monterey, CA.

———. August 10, 2022c. *Carmel High School Post Development Overall Parking Exhibit*. Monterey, CA.

## 5.0 Aesthetics Sources

3DScape Site Investigation, April 28-29, 2021; March 16-19 2022.

3DScape. April 25, 2022. *Visual Simulations Carmel High School Stadium Lighting*. Laguna Niguel, CA.

California Department of Transportation (Caltrans). 2021. California State Scenic Highways website. Accessed April 19, 2021. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>

California State Parks. July 2018. *Carmel Area State Parks Preliminary General Plan and Draft Environmental Impact Report (State Clearinghouse #2012041016)*. Sacramento, CA. Accessed April 26, 2021.

[https://www.parks.ca.gov/pages/21299/files/CASP\\_PrelimGPDEIR\\_07.30.2018\\_R.pdf](https://www.parks.ca.gov/pages/21299/files/CASP_PrelimGPDEIR_07.30.2018_R.pdf)

Consultant Site Investigation, April 13, 2021.

Crookham, Bob, Musco Sports Lighting. Phone conversation with consultant, 18 August 2022.

Google, Inc. 2021. Google Earth.

Google, Inc. 2022. Google Earth.

Illuminating Engineering Society (IES). 2022a. “Luminaire.” Accessed August 9, 2022. <https://www.ies.org/definitions/luminaire/>

———. 2022b. “Luminous Intensity.” Accessed August 18, 2022. <https://www.ies.org/definitions/luminous-intensity/>

Monterey County. October 2010a. *2010 Monterey County General Plan*. Salinas, CA. Accessed June 14, 2021. <https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/resources/2010-general-plan>

- . September 2008. *2007 Monterey County General Plan Draft Environmental Impact Report*. Salinas, CA. Accessed June 14, 2021.  
<https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/resources/2010-general-plan/draft-environmental-impact-report-deir>
- . January 2010b. “Monterey County Scenic Highway Corridors & Visual Sensitivity – Greater Monterey Peninsula Map.” Salinas, CA. Accessed June 1, 2021.  
<https://www.co.monterey.ca.us/home/showpublisheddocument/45898/636389941569630000>
- . January 26, 2016. *Monterey County Design Guidelines for Exterior Lighting*. Salinas, CA. Accessed August 10, 2022.  
<https://www.co.monterey.ca.us/home/showpublisheddocument/10740/635900997910330000>
- Musco Lighting. January 25, 2022a. *Carmel Pool Retrofit, Carmel, CA (Pool LED and Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.
- . January 25, 2022b. *Carmel Pool Retrofit, Carmel, CA (Pool HID with Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.
- . November 22, 2021a. *Carmel Pool Retrofit, Carmel, CA, Illumination Summary*. Oskaloosa, IA
- . June 16, 2021b. *Carmel High School Football, Carmel, CA – Project Summary, Illumination Summary, and Equipment Layout*. Oskaloosa, IA.
- . April 29, 2021c. *Carmel High School Football – Control System Summary*. Oskaloosa, IA.
- . May 5, 2021d. *Carmel High School Football, Carmel, CA – Pole Configuration Drawing*. Oskaloosa, IA.
- . 2017. *Impact on Playability and Glare Light*. Oskaloosa, IA.
- . April 3, 2007. *Carmel High School Pool Illumination Summary*. Oskaloosa, IA.
- National Lighting Product Information Program (NLPIP). March 2003 (revised February 2007). *Light Pollution*. Accessed August 9, 2022.  
<https://www.lrc.rpi.edu/programs/nlpip/lightinganswers/lightpollution/lightTrespassMeasured.asp>
- Waypoint Lighting. 2022. “IES Recommended Light Levels.” Accessed August 9, 2022.  
[https://waypointlighting.com/uploads/2/6/8/4/26847904/ies\\_recommended\\_light\\_levels.pdf](https://waypointlighting.com/uploads/2/6/8/4/26847904/ies_recommended_light_levels.pdf)

## 6.0 Air Quality Sources

- California Air Resources Board (CARB). April 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. <https://ww3.arb.ca.gov/ch/handbook.pdf>
- . 2021. Truck and Bus Regulation. Accessed June 21, 2021. <https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation/about>
- . iADAM Air Quality Data and Statistics. Accessed July 28, 2022. <https://www.arb.ca.gov/adam/>
- EMC Planning Group. July 28, 2022. *CUSD Stadium Improvements Project CalEEMod Results*. Appendix C.
- Google, Inc. 2021. Google Earth.
- Illingworth and Rodkin. July 28, 2022. *Carmel High School Stadium Improvements Project – Carmel-by-the-Sea, CA, Localized Air Quality Impacts*. Cotati, CA.
- Hexagon Transportation Consultants, Inc. July 26, 2021 (updated August 11, 2022). *VMT Assessment for the Proposed Carmel High School Stadium Lighting Project in Carmel-by-the-Sea, California*. Gilroy, CA.
- Monterey Bay Air Resources District. March 2017. *2012-2015 Air Quality Management Plan*. Monterey, CA. <http://www.co.monterey.ca.us/home/showdocument?id=62318>
- Monterey Bay Unified Air Pollution Control District. February 2008. *CEQA Air Quality Guidelines*. Monterey, CA. [https://www.mbard.org/files/f665829d1/CEQA\\_full+%281%29.pdf](https://www.mbard.org/files/f665829d1/CEQA_full+%281%29.pdf)
- Office of Environmental Health Hazard Assessment (OEHHA). February 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*. <https://oehha.ca.gov/media/downloads/cmr/2015guidancemanual.pdf>

## 7.0 Biological Resources

- California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database. Records of occurrence for Monterey, Marina, Seaside, Soberanes Point, and Mt. Carmel USGS quadrangle maps. Sacramento, CA. <https://wildlife.ca.gov/data/cnddb>
- California Native Plant Society (CNPS). 2021. Inventory of Rare and Endangered Plants. Records of occurrence for Monterey, Marina, Seaside, Soberanes Point, and Mt. Carmel USGS quadrangle maps. Sacramento, CA. <http://www.cnps.org/inventory>.
- Kleist et. al. 2018. *Chronic anthropogenic noise disrupts glucocorticoid signaling and has multiple effects on fitness in an avian community*. PNAS vol. 115. No.9. E648–E657.

Jung and Kalko. 2011. *Adaptability and vulnerability of high flying Neotropical aerial insectivorous bats to urbanization. Diversity and Distributions*. Vol 17, 263-274.

Monterey County. October 2010a. 2010 Monterey County General Plan. Monterey, CA. Accessed March 31, 2021. <https://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency-rma-/planning/resources-documents/2010-general-plan>

———. September 2008. 2007 Monterey County General Plan Draft Environmental Impact Report. Monterey, CA.

———. September 1997. Monterey County Zoning Ordinance Title 21 (For Inland Areas). Monterey, CA. Accessed March 31, 2021. <https://www.co.monterey.ca.us/home/showdocument?id=22573>

Rowse, et. al. 2017. *Dark Matters: The Effects of Artificial Lighting on Bats*.

U.S. Fish and Wildlife Service (USFWS). 2021a. Endangered Species Program. Species list for Santa Clara County. Washington, D.C. <http://www.fws.gov/endangered/>.

———. 2021b. National Wetlands Inventory Wetland Mapper. <https://www.fws.gov/wetlands/data/mapper.html>.

Van Doren et. al. 2017. *High-intensity urban light installation dramatically alters nocturnal bird migration*. Proceedings of the National Academy of Sciences of the United States of America (PNAS).

## 8.0 Energy

California Energy Commission. March 2018. 2019 Building Energy Efficiency Standards: Frequently Asked Questions. [https://www.energy.ca.gov/title24/2019standards/documents/2018\\_Title\\_24\\_2019-Building\\_Standards\\_FAQ.pdf](https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019-Building_Standards_FAQ.pdf)

———. February 2008. California 2008 Energy Action Plan Update. <https://ww2.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF>

Paul, Dan, Director of Facilities & Transportation, Carmel Unified School District. E-mail messages to consultant, 6 July 2021.

## 9.0 Greenhouse Gas Emissions

American Lung Association. April 21, 2020. "State of the Air." <https://www.lung.org/media/press-releases/state-of-the-air-california>

- Bay Area Air Quality Management District. April 19, 2017a. *2017 Clean Air Plan: Spare the Air, Cool the Climate*. San Francisco, CA. [http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a\\_-proposed-final-cap-vol-1-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en)
- . May 2017b. *California Environmental Quality Act Air Quality Guidelines*. San Francisco, CA. [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en)
- . April 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*, San Francisco, CA. <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en>
- Cal-Adapt. “Annual Averages.” Accessed June 30, 2021a. <https://cal-adapt.org/tools/annual-averages/>
- . “Extreme Heat.” Accessed June 30, 2021b. <https://cal-adapt.org/tools/extreme-heat/>
- . “Snowpack.” Accessed June 30, 2021c. <https://cal-adapt.org/tools/snowpack/#climatevar=swe&scenario=rcp45&lat=36.78125&lng=-121.34375&boundary=locagrid&units=inch>
- California Air Resources Board. “GHG Current California Emission Inventory Data.” Accessed March 13, 2021. <https://ww2.arb.ca.gov/ghg-inventory-data>
- G. Hartfield, J. Blunden, and D. S. Arndt. August 2018. *A Look at 2017: Takeaway Points from the State of the Climate Supplement*. [https://www.ametsoc.net/sotc2017/SoC2017\\_ExecSumm.pdf](https://www.ametsoc.net/sotc2017/SoC2017_ExecSumm.pdf)
- Google, Inc. 2020. Google Earth.
- Hexagon Transportation Consultants, Inc. July 26, 2021 (updated August 11, 2022). *VMT Assessment for the Proposed Carmel High School Stadium Lighting Project in Carmel-by-the-Sea, California*. Gilroy, CA.
- NASA. “The Effects of Climate Change.” Last modified September 28, 2020. <https://climate.nasa.gov/effects/>
- Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. January 16, 2019. *California’s Fourth Climate Change Assessment: Statewide Summary Report*. [https://www.energy.ca.gov/sites/default/files/2019-11/Statewide\\_Reports-SUM-CCCA4-2018-013\\_Statewide\\_Summary\\_Report\\_ADA.pdf](https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf)



United Nations Framework Convention on Climate Change. "Global Warming Potentials." Accessed September 28, 2020. <https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/greenhouse-gas-data-unfccc/global-warming-potentials>

United States Environmental Protection Agency. "Criteria Air Pollutants." Last modified March 8, 2018. <https://www.epa.gov/criteria-air-pollutants>

———. "Basic Information about Lead Air Pollution." Last modified November 29, 2017. <https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution>

———. "Diesel Fuel Standards and Rule Makings." Last modified August 5, 2019. <https://www.epa.gov/diesel-fuel-standards/diesel-fuel-standards-and-rulemakings>

———. "Overview of Greenhouse Gases". Last modified September 8, 2020. <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

## 10.0 Noise

California Department of Transportation (Caltrans). April 2020. *Transportation and Construction Vibration Guidance Manual*. Sacramento, CA. Accessed June 25, 2021. <https://dot.ca.gov/programs/environmental-analysis/noise-vibration/guidance-manuals>

Monterey County. 2019. Monterey County Code of Ordinances – Chapter 10.60 Noise Control. Accessed July 28, 2022: [https://library.municode.com/ca/monterey\\_county/codes/code\\_of\\_ordinances?nodeId=TIT10HESA\\_CH10.60NOCO](https://library.municode.com/ca/monterey_county/codes/code_of_ordinances?nodeId=TIT10HESA_CH10.60NOCO)

TJKM. August 22, 2022. *Traffic Management Plan for Carmel High School, Monterey County, California*. Pleasanton, CA.

WJV Acoustics, Inc. August 11, 2022. *Carmel High School Stadium Improvements Project Environmental Noise Assessment (Update to the Carmel High School Stadium Lights Environmental Noise Assessment July 6, 2021)*. Visalia, CA.

## 11.0 Transportation and Parking

EMC Planning Group. August 12. *Carmel High School Stadium Improvements – Neighborhood Parking Assessment*. Monterey, CA.

Hexagon Transportation Consultants, Inc. July 26, 2021 (updated August 11, 2022). *VMT Assessment for the Proposed Carmel High School Stadium Lighting Project in Carmel-by-the-Sea, California*. Gilroy, CA.

Office of Planning and Research. December 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Accessed July 6, 2021.  
[https://opr.ca.gov/docs/20190122-743\\_Technical\\_Advisory.pdf](https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf)

TJKM. August 22, 2022. *Traffic Management Plan for Carmel High School, Monterey County, California*. Pleasanton, CA.

## 12.0 Soils, Erosion, and Water Quality

California Division of the State Architect. 2016 (October 2016). *Geohazard Report Requirements: 2013 and 2016 CBC*. Department of General Services. CA. Accessed online:  
[https://www.dgs.ca.gov/-/media/Divisions/DSA/Publications/interpretations\\_of\\_regs/IR\\_A-4-16.pdf?la=en&hash=A60F623C38E2E611890FA9C347B00654609FE5B8](https://www.dgs.ca.gov/-/media/Divisions/DSA/Publications/interpretations_of_regs/IR_A-4-16.pdf?la=en&hash=A60F623C38E2E611890FA9C347B00654609FE5B8)

Cleary Consultants, Inc. July 2021. *Geotechnical and Geologic Hazards Investigation, Stadium Lights Project, Carmel High School, 3600 Ocean Avenue, Carmel, California*. Campbell, CA.

Federal Emergency Management Agency (FEMA). 2022. Flood Map Service Center website. Accessed August 23, 2022. <https://msc.fema.gov/portal/home>

Monterey County. September 2008. *2007 Monterey County General Plan Draft Environmental Impact Report*. Monterey, CA.  
<https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/resources/2010-general-plan/draft-environmental-impact-report-deir>

———. 2022. *Geologic Hazards Map for Monterey County*. Accessed July 22, 2022:  
<https://montereyco.maps.arcgis.com/apps/webappviewer/index.html?id=80aad38518a45889751e97546ca5c53>

ScienceDirect. 2022. "Expansive Soil." Accessed July 22, 2022:  
<https://www.sciencedirect.com/topics/engineering/expansive-soil>

## 13.0 Tribal and Cultural Resources

Archaeological Resource Management (ARM). April 14, 2021. *Cultural Resource Evaluation of the Carmel High School Stadium Lights Project in the County of Monterey*. San Jose, CA.

EMC Planning Group. May 10, 2022. *Survey Results for Carmel High School New Parking Lots and Equipment Building*. Monterey, CA.

## 14.0 Recreation

California Department of Education. *Physical Education Guidelines Middle & High School*. Accessed August 3, 2022. <https://www.cde.ca.gov/ls/fa/sf/peguidemidhi.asp>

## 15.0 Cumulative Impacts

City of Carmel-by-the-Sea. 2003. *City of Carmel-by-the-Sea General Plan/Coastal Land Use Plan*. Accessed August 10, 2021. <https://ci.carmel.ca.us/post/general-plan>

City of Carmel-by-the-Sea Planning. 2021. "Current Planning Applications" website. Accessed June 29, 2021. <https://ci.carmel.ca.us/post/current-planning-applications>

County of Monterey Housing & Community Development, Planning Services. 2022. "Current Major Projects" website. Accessed August 4, 2022. <https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/current-planning/general-info/current-major-projects>

Jacobsen, Madilyn, Transportation Planner, Transportation Agency for Monterey County. E-mail message to consultant, 7 June 2021.

Monterey County. October 2010a. *2010 Monterey County General Plan*. Monterey, CA. Accessed June 14, 2021. <https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/resources/2010-general-plan>

———. September 2008. *2007 Monterey County General Plan Draft Environmental Impact Report*. Monterey, CA. Accessed June 14, 2021. <https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/resources/2010-general-plan/draft-environmental-impact-report-deir>

———. January 2010b. "Monterey County Scenic Highway Corridors & Visual Sensitivity – Greater Monterey Peninsula Map." Monterey, CA. Accessed June 1, 2021. <https://www.co.monterey.ca.us/home/showpublisheddocument/45898/636389941569630000>

Office of Planning and Research. December 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Accessed July 6, 2021. [https://opr.ca.gov/docs/20190122-743\\_Technical\\_Advisory.pdf](https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf)

Spencer, Craig, Planning Manager, Monterey County Housing and Community Development. E-mail message to consultant, dated 21 June 2021.

Swanson, Brandon, Planning & Community Development Director, City of Carmel-by-the-Sea. Phone conversation with consultant, dated 7 June 2021.

## 16.0 Significant Unavoidable Impacts

Consultant Site Investigation, April 13, 2021.

Google, Inc. 2021. Google Earth.

Monterey County. October 2010a. *2010 Monterey County General Plan*. Monterey, CA.

Accessed June 14, 2021. <https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/resources/2010-general-plan>

———. September 2008. *2007 Monterey County General Plan Draft Environmental Impact Report*. Monterey, CA. Accessed June 14, 2021.

<https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/resources/2010-general-plan/draft-environmental-impact-report-deir>

———. January 2010b. “Monterey County Scenic Highway Corridors & Visual Sensitivity – Greater Monterey Peninsula Map.” Monterey, CA. Accessed June 1, 2021.

<https://www.co.monterey.ca.us/home/showpublisheddocument/45898/636389941569630000>

Musco Lighting. January 25, 2022a. *Carmel Pool Retrofit, Carmel, CA (Pool LED and Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.

———. January 25, 2022b. *Carmel Pool Retrofit, Carmel, CA (Pool HID with Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.

———. November 22, 2021a. *Carmel Pool Retrofit, Carmel, CA, Illumination Summary*. Oskaloosa, IA

———. June 16, 2021b. *Carmel High School Football, Carmel, CA – Project Summary, Illumination Summary, and Equipment Layout*. Oskaloosa, IA.

———. April 29, 2021c. *Carmel High School Football – Control System Summary*. Oskaloosa, IA.

———. May 5, 2021d. *Carmel High School Football, Carmel, CA – Pole Configuration Drawing*. Oskaloosa, IA.

———. 2017. *Impact on Playability and Glare Light*. Oskaloosa, IA.

———. April 3, 2007. *Carmel High School Pool Illumination Summary*. Oskaloosa, IA.

## 17.0 Growth Inducing Impacts

No sources.

## 18.0 Alternatives

3DScape Site Investigation, April 28-29, 2021; March 16-19 2022.

3DScape. April 25, 2022. *Visual Simulations Carmel High School Stadium Lighting*. Laguna Niguel, CA.

Anderson, Golden, Athletic Director, Carmel High School. E-mail message to consultant, 28 April 2021.

Bates, Wendy, Athletic Director, Monterey Peninsula College. E-mail message to Golden Anderson, Athletic Director, Carmel High School, 11 November 2021.

Carmel Unified School District and LPA. *Carmel Unified School District Facilities Master Plan 2019*. Available online: <https://www.carmelunified.org/Page/6080>

Consultant Site Investigation, April 13, 2021.

County of Monterey. Rancho Canada Village Vesting Tentative Map. <https://www.co.monterey.ca.us/home/showpublisheddocument/106856/637726530638430000>

EMC Planning Group. August 31, 2018. *Carmel Unified School District Site Acquisition Proposed Mitigated Negative Declaration*. Monterey, CA. [https://www.carmelunified.org/cms/lib/CA01000917/Centricity/Domain/1/CUSD\\_Site%20Acquisition\\_MND\\_IS.pdf](https://www.carmelunified.org/cms/lib/CA01000917/Centricity/Domain/1/CUSD_Site%20Acquisition_MND_IS.pdf)

Federal Emergency Management Agency (FEMA). 2022. Flood Map Service Center website. Accessed August 23, 2022. <https://msc.fema.gov/portal/home>

Gaona, Lauralea, Pacific Grove Unified School District. E-mail message to Golden Anderson, Athletic Director, Carmel High School, 26 October 2021.

Google, Inc. 2021. Google Earth.

Hexagon Transportation Consultants, Inc. July 26, 2021 (updated July 26, 2022). *VMT Assessment for the Proposed Carmel High School Stadium Lighting Project in Carmel-by-the-Sea, California*. Gilroy, CA.

Monterey County. October 2010a. *2010 Monterey County General Plan*. Monterey, CA. Accessed March 31, 2021. <https://www.co.monterey.ca.us/government/departments-iz/resource-management-agency-rma-/planning/resources-documents/2010-general-plan>

———. September 2008. *2007 Monterey County General Plan Draft Environmental Impact Report*. Monterey, CA.

———. September 1997. *Monterey County Zoning Ordinance Title 21 (For Inland Areas)*. Monterey, CA. Accessed March 31, 2021. <https://www.co.monterey.ca.us/home/showdocument?id=22573>

- . 2021. GIS Mapping and Data website. Accessed March 31, 2021.  
<https://www.co.monterey.ca.us/government/about/gis-mapping-data>
- Musco Lighting. January 25, 2022a. *Carmel Pool Retrofit, Carmel, CA (Pool LED and Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.
- . January 25, 2022b. *Carmel Pool Retrofit, Carmel, CA (Pool HID with Football LED) Project Summary and Illumination Summary*. Oskaloosa, IA.
- . November 22, 2021a. *Carmel Pool Retrofit, Carmel, CA, Illumination Summary*. Oskaloosa, IA
- . June 16, 2021b. *Carmel High School Football, Carmel, CA – Project Summary, Illumination Summary, and Equipment Layout*. Oskaloosa, IA.
- . April 29, 2021c. *Carmel High School Football – Control System Summary*. Oskaloosa, IA.
- . May 5, 2021d. *Carmel High School Football, Carmel, CA – Pole Configuration Drawing*. Oskaloosa, IA.
- . 2017. *Impact on Playability and Glare Light*. Oskaloosa, IA.
- . April 3, 2007. *Carmel High School Pool Illumination Summary*. Oskaloosa, IA.
- Paul, Dan, Director of Facilities & Transportation, Carmel Unified School District.  
E-mail messages to consultant, 9 June 2021; 17 August 2022; 22 August 2022.
- WJV Acoustics, Inc. August 11, 2022. *Carmel High School Stadium Improvements Project Environmental Noise Assessment (Update to the Carmel High School Stadium Lights Environmental Noise Assessment July 6, 2021)*. Visalia, CA.

## **20.2 REPORT PREPARERS**

### **EMC Planning Group**

**Teri Wissler Adam, Senior Principal**

Principal-in-Charge and Project Manager

**Stuart Poulter, AICP, MCRP, Senior Planner**

Report Preparation and Assistant Project Manager

**Ron Sisseem, MRP, Senior Principal**

Report Preparation (Greenhouse Gas Emissions and Energy)

**Sally Rideout, EMPA, Principal**

Report Preparation (Air Quality)



**Janet Walther, MS, Principal Biologist**

Report Preparation (Biological Resources)

**Patrick Furtado, MS, Associate Biologist**

Report Preparation (Biological Resources)

**Kaitlin Ruppert, MS, RPA**

Archaeologist

**Zane Mortensen, MS, Assistant Planner**

Air Quality Modeling/Neighborhood Parking Count

**Matt Papurello, Graphics/GIS Technician**

Graphics Preparation/Neighborhood Parking Count

**Tiffany Robinson, Production Manager**

Document Production

## **Hexagon Transportation Consultants**

**Robert Del Rio, TE, Vice President and Principal Associate**

VMT Assessment

**Luis Descanzo, Engineer**

VMT Assessment

## **WJV Acoustics, Inc.**

**Walter J. Van Groningen, President**

Environmental Noise Assessment

## **3DScape**

**Timothy R. Zack, Principal**

Visual Simulations

## **Archaeological Resource Management**

**Dr. Robert Cartier, Principal Investigator**

Cultural Resource Evaluation

## **Illingworth & Rodkin, Inc.**

**James A. Reyff, Principal**

Health Risk Assessment