

Draft EIR

Carmel High School Stadium Lights

SCH# 2021050293

August 10, 2021



Carmel Unified School District



Prepared by
EMC Planning Group

DRAFT EIR

CARMEL HIGH SCHOOL STADIUM LIGHTS

SCH# 2021050293

PREPARED FOR

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1.0 Introduction

1.1 PURPOSE FOR PREPARING THE EIR

The Carmel Unified School District (school district), acting as the lead agency, has determined that the Carmel High School Stadium Lights Project (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 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 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 and to identify feasible mitigation measures that would avoid or reduce the severity of the impacts. 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.

The purpose of an EIR is to identify a project’s significant environmental effects, to indicate the manner in which those significant effects can be mitigated or avoided, and to identify alternatives to the proposed project.

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 draft EIR 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 draft EIR 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 draft EIR 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 draft EIR 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 draft EIR. Appendices to this draft EIR are included on a CD on the inside, back cover.

Citation

In accordance with CEQA Guidelines section 15148, preparation of this draft EIR 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 draft EIR. This draft EIR 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 draft EIR.

1.3 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;
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

Contents

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

The detailed contents of this draft EIR are outlined in the table of contents.

Public Review

This draft EIR will be circulated for a 45-day public review period. All comments addressing environmental issues received on the draft EIR 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.

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 draft EIR;
- Responses to significant environmental points raised in comments; and
- Revisions that may be necessary to the draft EIR 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 draft EIR 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.

1.4 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

AB	Assembly Bill
BEES	Building Energy Efficiency Standards
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CHS	Carmel High School
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO _{2e}	Carbon Dioxide Equivalent
CUSD	Carmel Unified School District
dB	Decibel
DNL/L _{dn}	Day/Night Average Sound Level
EIR	Environmental Impact Report
EMFAC	Emissions Factor Model
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
GHG	Greenhouse Gas(es)
ISP	Integrated Sustainability Plan
kWh	Kilowatt-hour
L _{eq}	Equivalent Sound Level
L _{max}	Maximum Noise Level
MPH	Miles Per Hour

1.0 Introduction

MT	Metric Tons
NOAA	National Oceanic and Atmospheric Administration
NO _x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
OPR	Office of Planning and Research
PM ₁₀	Suspended Particulate Matter 10 micrometers or less
PM _{2.5}	Fine Particulate Matter 2.5 micrometers or less
ppm	Parts per Million
PRG	Preliminary Remediation Goal
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
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

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 project description. Detailed project description information, including figures illustrating the project location and components, is included in Section 2.0 Project Description.

2.2 PROPOSED PROJECT SUMMARY

The Carmel Unified School District (school district) is proposing to install field lighting at the existing Carmel High School stadium. No additional improvements are proposed. 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 (northern end of stadium) and 15.5 feet, 60 feet, and 80 feet (southern end of stadium), respectively. The four new lighting poles will result in a total of 44 luminaires with an average kilowatt of 68.82 (74.8 maximum). 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 while accommodating the state-mandated late-start law beginning in 2022.

2.3 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

The proposed project would result in some 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 EIR evaluates the environmental impacts of the following alternatives to the proposed project.

1. Alternative 1, Alternate Location for Practices and Games. This alternative eliminates the proposed field lighting, although high school athletic activities would still need to occur under the “late start law” conditions starting in the 2022-2023 school year. Generally, this means that on-campus athletic and other activities would end prior to sundown, and that no evening or nighttime events would take place at Carmel High School Stadium. For athletic events that cannot be accommodated between the end of classes and sundown, students could be bussed to off-site facilities with night-time lighting, possibly including Monterey Peninsula College, and/or Pacific Grove High School, assuming these facilities could accommodate Carmel High School’s athletic program schedule.
2. Alternative 2, Eliminate Some Athletic Programs. This alternative also eliminates the proposed field lighting although high school athletic activities would still need to occur under the “late start law” conditions starting in the 2022-2023 school year. Under this alternative, 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 for practices and games to avoid the need for extended time on the stadium field past sunset.

Table 2-1 Summary of Significant Impacts and Mitigation Measures

Significance Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
Aesthetics			
Impact 5-2. The Proposed Project Would Add Lighting to the Existing Lighted Campus Environment	Significant and Unavoidable	<p>Mitigation Measure 5-1. 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 4-1, Proposed Schedule of Stadium Uses (After Installation of Field Lights), found in Section 4.0, Project Description, of this EIR:</p> <ul style="list-style-type: none"> ▪ Games. Lights shall be used only for up to the following number of nighttime events for each of the Carmel High School field sports teams: <ul style="list-style-type: none"> • Football. Six games; • Girls field hockey. Eight games; • Boys and girls soccer. Seven games for each team; • Boys and girls lacrosse. Five games for each team; and • Boys and girls track and field. Four meets (combined). <p>This would total thirty-seven 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> <ul style="list-style-type: none"> ▪ Practices. All field sports practices shall end by 8:00 p.m. and lights shall be turned off by 8:30 p.m. <p>Mitigation Measure 5-2. Carmel Unified School District will prepare and adopt a policy that restricts use of Carmel High School stadium by non-school related groups. Any use by non-school related groups shall end before sunset so that field lighting does not need to be used.</p>	Significant and Unavoidable
Biological Resources			
Impact 7-2. Potential Effect on Special-Status Species (Hoary Bat)	Significant	<p>Mitigation Measure 7-2. Within 14 days prior to tree trimming or other construction activities, the 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</p>	Less than Significant

Significance Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		<p>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 Carmel Unified School District prior to the commencement of tree 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 Carmel Unified School District prior to the commencement of tree trimming and construction activities and the following monitoring, exclusion, and habitat replacement measures will be implemented:</p> <ol style="list-style-type: none"> 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. 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) 	

Significance Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		<p>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 CDFW 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 CDFW for review and approval prior to the bat eviction activities or the removal of roosting habitat.</p> <p>The District will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the start of tree trimming and construction activities.</p>	
Impact 7-3. Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds)	Significant	<p>Mitigation Measure 7-3. Prior to tree removal, demolition, and grading, 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 tree trimming and lighting pole construction 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,</p>	Less than Significant

2.0 Summary

Significance Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		<p>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 initiation of tree trimming and lighting pole construction.</p> <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 District will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the start tree trimming and lighting pole construction.</p>	
Cultural Resources			
Impact 12-1. Potential to accidentally discover unknown buried historic resources or unique archaeological resources during earth moving activities	Significant	Mitigation Measure 12-1. 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, Carmel Unified School District staff notified, the Monterey County Resource Management Agency 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

Significance Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
Impact 12-2. Possibility of an accidental discovery of human remains during construction activities	Significant	<p>Mitigation Measure 12-2. Due to the possibility that human remains may be discovered during construction activities; the following language shall be included in all project construction documents:</p> <p>“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.</p> <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: 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>	Less than Significant
Noise			
Impact 10-3. Construction Activities Could Cause a Substantial Temporary Noise Increase	Significant	Mitigation Measure 10-1. The school district will limit construction activities to the hours of 7:00 a.m. to 7:00 p.m. This requirement will be included in construction plans.	Less than Significant
Transportation			
Impact 11-3. An Increase in Event Attendance Could Result in Inadequate Parking During Limited	Significant	Mitigation Measure 11-1. The Carmel Unified School District shall prepare and implement a parking and traffic control management plan for Carmel High School to include the following temporary traffic control measures during all nighttime football games at Carmel High School Stadium:	Less than Significant

2.0 Summary

Significance Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
Nighttime Events with Potential Emergency Access Issues		<ul style="list-style-type: none"> ▪ The school district shall identify and implement parking demand reduction measures to reduce the effect of football game parking on surrounding residential streets and queuing onto State Route 1, including but not limited to, carpool matching, having staff park along the campus ring road and pool parking lot, providing shuttle services from off-site parking, encouraging walking and biking to games; ▪ Traffic control officers at the northerly driveway to facilitate flow into and out of the campus parking lot; ▪ Parking lot monitors to monitor the availability of parking spaces in the main campus parking lot off of Ocean Avenue. Parking lot monitors should monitor the availability of parking spaces and should coordinate with traffic control officers to close inbound access when the parking lot is full; ▪ Enforce right-in and right-out only turn restrictions at the southerly driveway of the main campus parking lot; and ▪ Prohibit non-staff, non-volunteers, and non-players parking at the Morse Drive parking lot. <p>The parking and traffic control management plan shall be prepared and approved by the Carmel High School Principal and the Carmel Unified School District Superintendent prior to the first nighttime football game, and shall be implemented during nighttime football games.</p>	

SOURCE: EMC Planning Group 2021

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.

2.6 ISSUES TO BE RESOLVED

CEQA Guidelines Section 15123 requires an EIR to discuss issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. The school district is not aware of any issues to be resolved; however, the Board of Education will be required to consider the analysis in this EIR, and make a decision whether to approve the proposed project, or one of the alternatives.

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3.0 Environmental Setting

3.1 REGIONAL SETTING

The project site is located 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 sit to the immediate east of the campus while the greater Carmel Valley area sits further to the east.

3.2 PROJECT SITE AND VICINITY SETTING

Project Location

The approximately 3.8-acre project site is the existing athletic stadium located on the south edge of the Carmel High School (high school) campus. The campus is located immediately east of State Route 1 and approximately 0.50 miles east of the City of Carmel-by-the-Sea in unincorporated Monterey County. [Figure 3-1, Regional Location](#), presents the regional location of the project site. [Figure 3-2, Aerial Photograph](#), presents the project site and surrounding land uses.

Project Site Setting

The project site is an approximately 3.8-acre site made up of the existing athletic stadium 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 south portion of the high school campus 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](#), presents views of the existing stadium facilities.

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 draft EIR.

Vicinity Setting

Surrounding land uses include the residential neighborhoods to the north (along Carmel Hills Drive), east (along Flanders Drive), and south (along Morse Drive). State Route 1 and residential neighborhoods in the City of Carmel-by-the-Sea beyond are located to the west. Surrounding land uses are identified in Figure 3-2, Aerial Photograph.

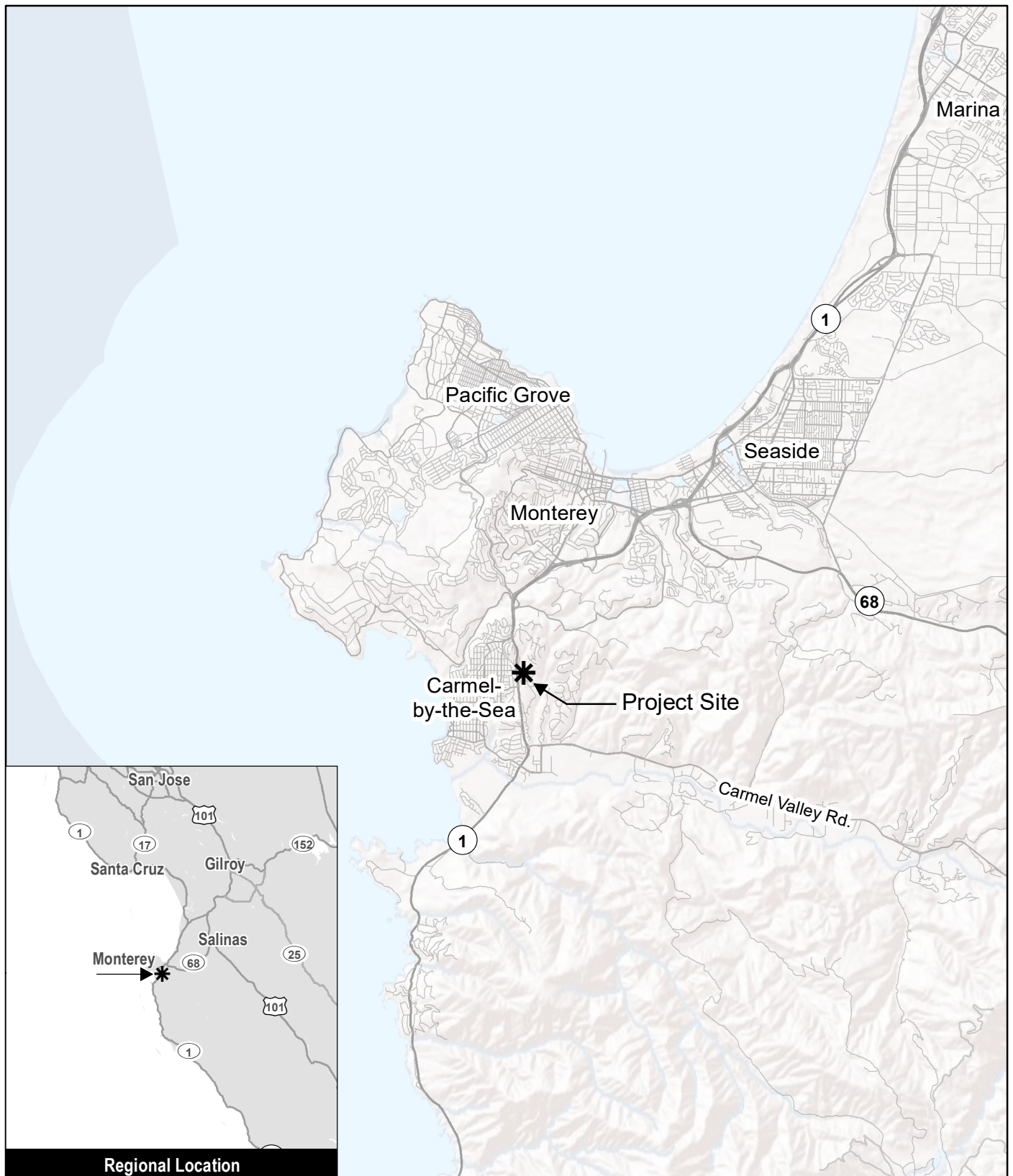
General Plan and Zoning Designations

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.

3.3 BASELINE CONDITIONS

Existing Facilities and Use

The project site is a track and sports field located at the southern edge of the Carmel High School campus. The project site consists of 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.



Source: ESRI 2019

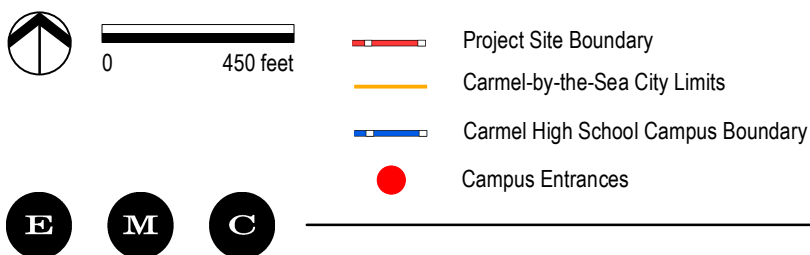
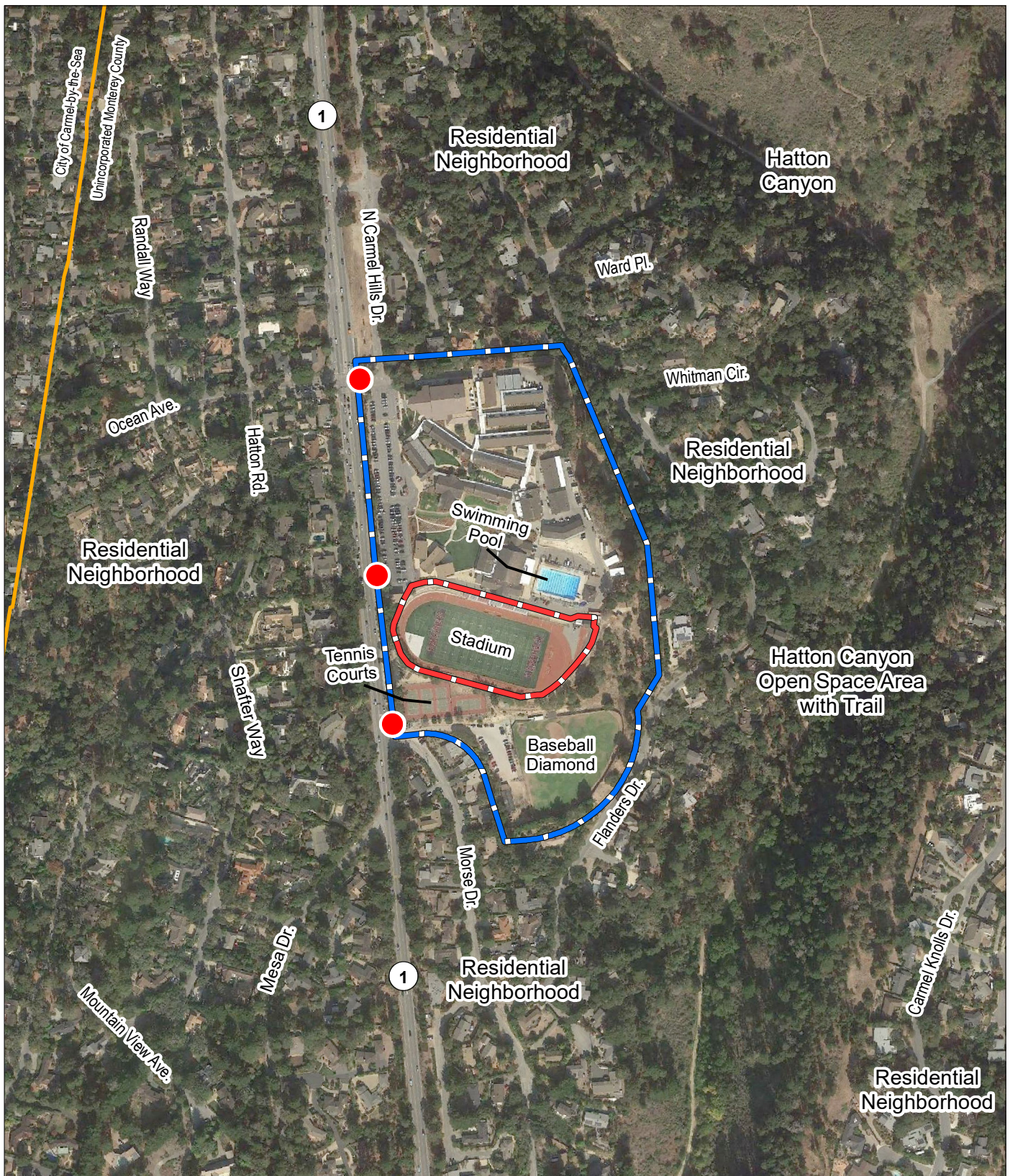
Figure 3-1

Regional Location

Carmel High School Stadium Lights EIR



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Source: Google Earth 2018,
Monterey County GIS 2019

Figure 3-2

Aerial Photograph

Carmel High School Stadium Lights EIR

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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 2018
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)

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Carmel High School 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, attendance ranges from 500 attendees for most football games to up to 1,500 attendees for a rivalry or homecoming game. As the existing bleacher capacity is 1,081, some attendees will 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. 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. The school district has not established a policy regarding end times for use by outside entities. The approximate attendance for these other events is up to 200 people. [Table 3-1, Carmel High School Stadium \(2019-2020\) Sporting Event Schedule](#), presents a breakdown of the sports teams that utilized the stadium during the last full (pre-COVID-19 pandemic) school year.

Table 3-1 Carmel High School Stadium (2019-2020) Sporting Event Schedule

Sports Team	Days of the Week	Timing		Number of Participants	Location (2019-2020)
		Start	End		
Fall Sports (August to November)					
Football (Boys)	Saturday	11:00 A.M	5:00 P.M.	120-160	Carmel High School Stadium
Field Hockey (Girls)	Monday-Friday (Varies)	3:30 P.M.	5:30 P.M.	60-70	Carmel High School Stadium
Winter Sports (November to February)					
Soccer (Boys & Girls)	Monday-Friday (Varies)	3:30 P.M.	5:00 P.M.	80-90	Carmel High School Stadium/Carmel Middle School
Spring Sports (February to May)					
Lacrosse (Boys & Girls)	Monday-Friday (Varies)	4:00 P.M.	6:00 P.M.	75-100	Carmel High School Stadium
Track & Field (Boys & Girls)	Thursday	3:30 P.M.	6:30 P.M.	120-200	Carmel High School Stadium

SOURCE: CUSD 2021

NOTE: In the past, Carmel High School has played night football games on Friday or Saturday evenings at Monterey Peninsula College or Pacific Grove High School instead of on-campus; this typically occurs once or twice per season but varies each year.

Several Carmel High School sports teams which regularly utilize Carmel High School Stadium are currently bussed to other sports fields located including Carmel Middle School to accommodate game and practice schedules. These include lacrosse (boys and girls) and junior varsity soccer (boys and girls).

Parking

At Carmel High School, 201 standard parking stalls are available for attendees of sporting events at the stadium. Available parking is distributed between two parking lots. The main campus parking located off of Ocean Avenue has 165 parking stalls and the second is located immediately south of the stadium and tennis courts next to the baseball diamond and includes 36 parking stalls. 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. Additional parking spaces (approximately 22 spaces) is available to staff along the campus ring road along the north and eastern boundary of the campus along with approximately 15 parking spaces immediately north of the pool facility. 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.

4.0 Project Description

4.1 PROJECT OBJECTIVES

The addition of the stadium lights is primarily intended to allow for Friday night football games and other nighttime games and practices at Carmel High School in anticipation of the state's "late start law," which will go into effect starting in the fall of 2022 and will affect the ability of various sports teams from practicing later in the day without lights. The Carmel Unified School District (school district) plans to install the stadium lighting by the start of the 2022-2023 school year. In addition, the new field lighting will:

- Provide the capability to host sport events and games at the athletic stadium on the Carmel High School campus at night when students, parents, and community members can more easily attend;
- Avoid the need to bus student athletes to off-site locations and facilities for night time games at Monterey Peninsula College and/or Pacific Grove High School and to Carmel Middle School for practices and games;
- Provide athlete and spectator enhanced safety by providing superior lighting conditions during sports events and games at night; and
- Create a new, healthy weekend social opportunity for students while building school spirit through the ability to host nighttime games and events at Carmel High School stadium.

4.2 PROJECT CHARACTERISTICS

Proposed Improvements (Field Lights)

The school district is proposing to install field lighting at the existing stadium at Carmel High School. No additional improvements are proposed. [Figure 4-1, Illumination Summary](#), presents an overview of the stadium with proposed lighting locations (identified as Locations F1 through F4) and footcandle measurements across the expanse of the football field. 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). [Figure 4-2, Lighting Pole Elevation \(Locations F1 & F2\)](#), provides a lighting pole configuration drawing for the 70-foot light structures (Locations F1 and F2). [Figure 4-3, Lighting Pole Elevation \(Locations F3 & F4\)](#), provides a lighting pole configuration drawing for the 80-foot light structures (Locations F3 and F4).

Schedule of Uses

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 while accommodating the state-mandated late-start law beginning in 2022. The timing of all other school-affiliated sporting activities that do not utilize the stadium for practices or games would remain the same. [Table 4-1, 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.

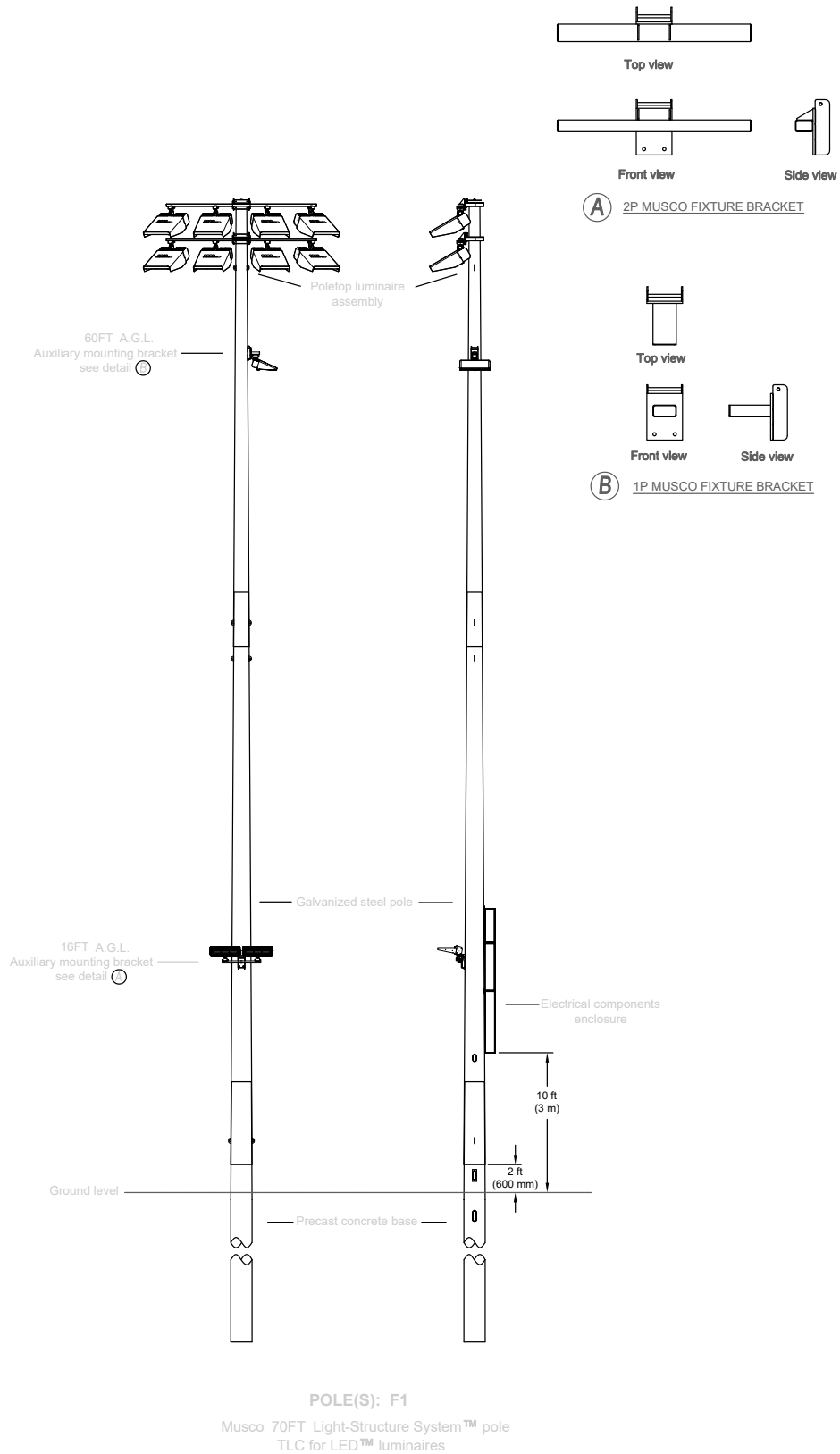
Sunset in the Carmel area ranges from as early as 4:52 P.M. in late November to early December to as late as 8:30 P.M. in late June to early July (NOAA 2021 – see [Appendix B](#) for a sunrise/sunset table for the year 2021). Evening athletic games and evening athletic practices would be limited to only school-sanctioned sports teams. 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.



Source: Musco Sports Lighting 2021

Figure 4-1
Illumination Summary
 Carmel High School Stadium Lights EIR

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Source: Musco Sports Lighting 2021

Figure 4-2

Lighting Pole Elevation (Locations F1 & F2)

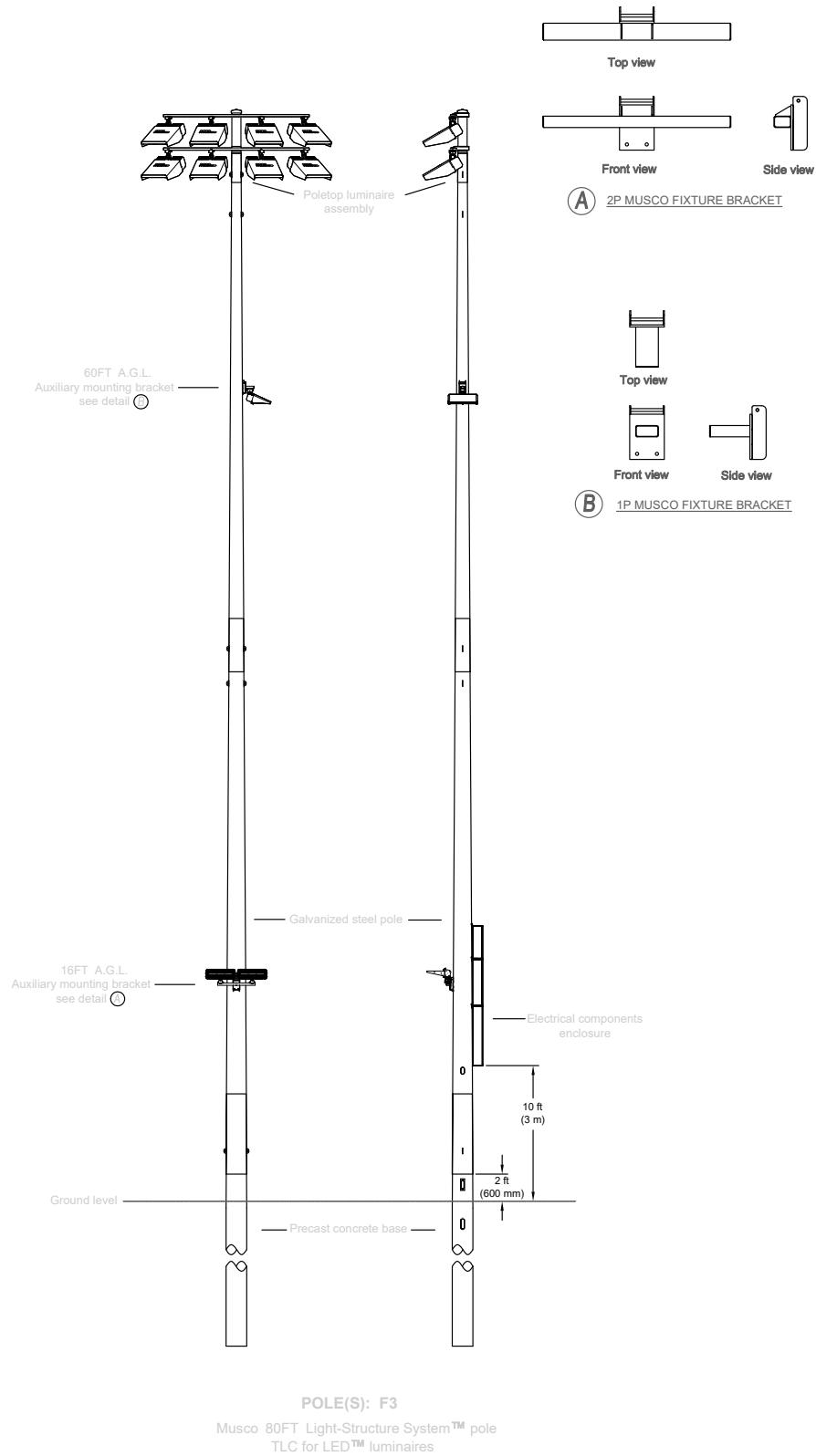
Carmel High School Stadium Lights EIR

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Source: Musco Sports Lighting 2021

Figure 4-3

Lighting Pole Elevation (Locations F3 & F4)

Carmel High School Stadium Lights EIR

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Table 4-1 Proposed Schedule of Stadium Uses (After Installation of Field Lights)

Sports Team	Days of the Week	Timing		Number of Participants	Estimated Number of Evening Games per Year
		Start	End		
Fall Sports (August to November)					
Field Hockey (Girls)					
Practices	Monday-Friday	4:00 P.M. or 5:30 P.M.	5:30 P.M. or 8:00 P.M.	30-50	
Games	Monday-Friday (Varies)	4:00 P.M.	6:00 P.M.	60-70	6-8
Football (Boys)					
Practices	Monday-Thursday	4:00 P.M.	5:30 P.M.	60-80	
Games	Thursday/Friday/Saturday	5:00 P.M.	9:30 P.M.	120-160	4-6
Winter Sports (November to February)					
Soccer (Boys & Girls)					
Practices	Monday-Friday	4:00 P.M.	8:00 P.M.	30-60	
Games	Monday-Friday (Varies)	5:00 P.M.	7:00 P.M.	80-90	10-15
Spring Sports (February to May)					
Lacrosse (Boys & Girls)					
Practices	Monday-Friday	4:00 P.M.	8:00 P.M.	60-80	
Games	Monday-Friday (Varies)	5:00 P.M.	7:00 P.M.	120-200	10
Track and Field (Boys & Girls)					
Practices	Monday-Friday	4:00 P.M.	5:30 P.M.	60-80	
Meets	Wednesday or Thursday	4:00 P.M.	7:00 P.M.	120-200	2-4
Total of Nighttime Games (Range)					32-39

SOURCE: CUSD 2021

Attendance

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 attendees for most football games, increasing to up to 1,500 attendees for a rivalry or homecoming game. Football games take place during afternoon hours or off-site at Monterey Peninsula College or Pacific Grove High School for postseason games. An increase in the number of sporting events would occur, as the existing night football games at

Monterey Peninsula College would be played on-campus with the installation of the stadium lights. 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. This would increase the number of football games hosted on campus by one to two games (as no offsite games at Monterey Peninsula College or Pacific Grove High School would occur). Additionally, an increase in number of attendees 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 attendees to 800 attendees for most football games and from 1,500 attendees to 2,000 attendees for rivalry or homecoming games. For all other sporting events, attendance is expected to increase from up to 200 attendees to up to 500 attendees.

Parking Needs

Existing parking on campus is presented in Section 3.0, Environmental Setting. There is no additional parking proposed as part of the project. Both the Ocean Avenue main campus entrance and the right-turn only access off State Route 1, along with the parking lot adjacent to the baseball field located off Morse Drive, would be made available for nighttime games at the high school stadium.

Construction Schedule and Details

Project construction would occur over a period of two months starting in June 2022. Construction activities 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. 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). Construction 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. 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, 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.

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5.0 Aesthetics

This section of the draft EIR 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.

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](#).

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 3.8-acre site made up of the existing athletic stadium 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 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 a swimming 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.

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

The project site makes up the southern edge 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).

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, and along nearby roadways. 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. Two of the 60-foot-high lighting poles (west) include three luminaires while two poles (east) includes four luminaires. Each luminaire includes 1.5-kilowatt lamp. 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 5-1, Existing Nighttime Conditions](#), presents a nighttime view of the existing high school campus and surrounding area as viewed from Outlook Drive across Hatton Canyon northeast of the campus.

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. 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 possesses 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).



Source: 3DScape 2021



Figure 5-1
Existing Nighttime Conditions
Carmel High School Stadium Lights EIR

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Monterey County

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.

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.

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;
- 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 within the context of existing and proposed nighttime conditions on and around the project site;
- Review of project plans;
- Communications with school district staff and consultants 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 permanently 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.

Effects on Scenic Vistas and the Visual Character and Quality of the Project Site

IMPACT 5-1	The Light Poles Would be Visible from and towards County-Designated Visually “Sensitive” and “Highly Sensitive” Areas and Change the Visual Character and Quality of the Site	Less than Significant
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Scenic Vistas/Corridor – Daytime Views

State Route 1 is the nearest 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 or improvements along or 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. These hillsides are also designated as “highly sensitive” according to the “Scenic Highway Corridors & Visual Sensitivity - Greater Monterey Peninsula Map” (Monterey County 2010b).

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.

The impacts on scenic corridors or vistas would be less than significant.

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, the project would be visually consistent with the existing visual character of the site, and would not substantially alter the visual character of the project area. While the installation of 70- and 80-foot lighting 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. 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. 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.

Light and Glare Effects

IMPACT 5-2	New Lighting would be Added to the Existing Lighted Campus Environment	Significant and Unavoidable
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The project would install new permanent lighting fixtures at the Carmel High School Stadium, which currently lacks on-site field lighting. 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. 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 4-2 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. To illustrate the future off-site nighttime lighting conditions, nighttime visual simulations were prepared for four off-site key observations points (KOPs) located north and south of the stadium in publicly accessible areas where the terrain and vegetation offers a clearer view of the proposed stadium lighting. These KOP locations are shown on [Figure 5-2, Key Observation Points Map](#). The existing (pre-stadium light installation) and proposed (after stadium lights installation) nighttime conditions are presented for each of these KOPs on [Figure 5-3, Key Observation Point 1](#), [Figure 5-4, Key Observation Point 2](#), [Figure 5-5, Key Observation Point 3](#), and [Figure 5-6, Key Observation Point 4](#).

As shown in Figure 5-3 (north) and Figure 5-5 (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 5-4 (from Morse Drive immediately south of the stadium site) and Figure 5-6 (from Outlook Drive), the addition of stadium 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). Neighborhood 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, as shown in the visual simulations. 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.

Impacts on light and glare conditions as a result of the proposed project could be considered significant. Implementation of the following mitigation measures would reduce the impact, but not to a less-than-significant level.

Mitigation Measures

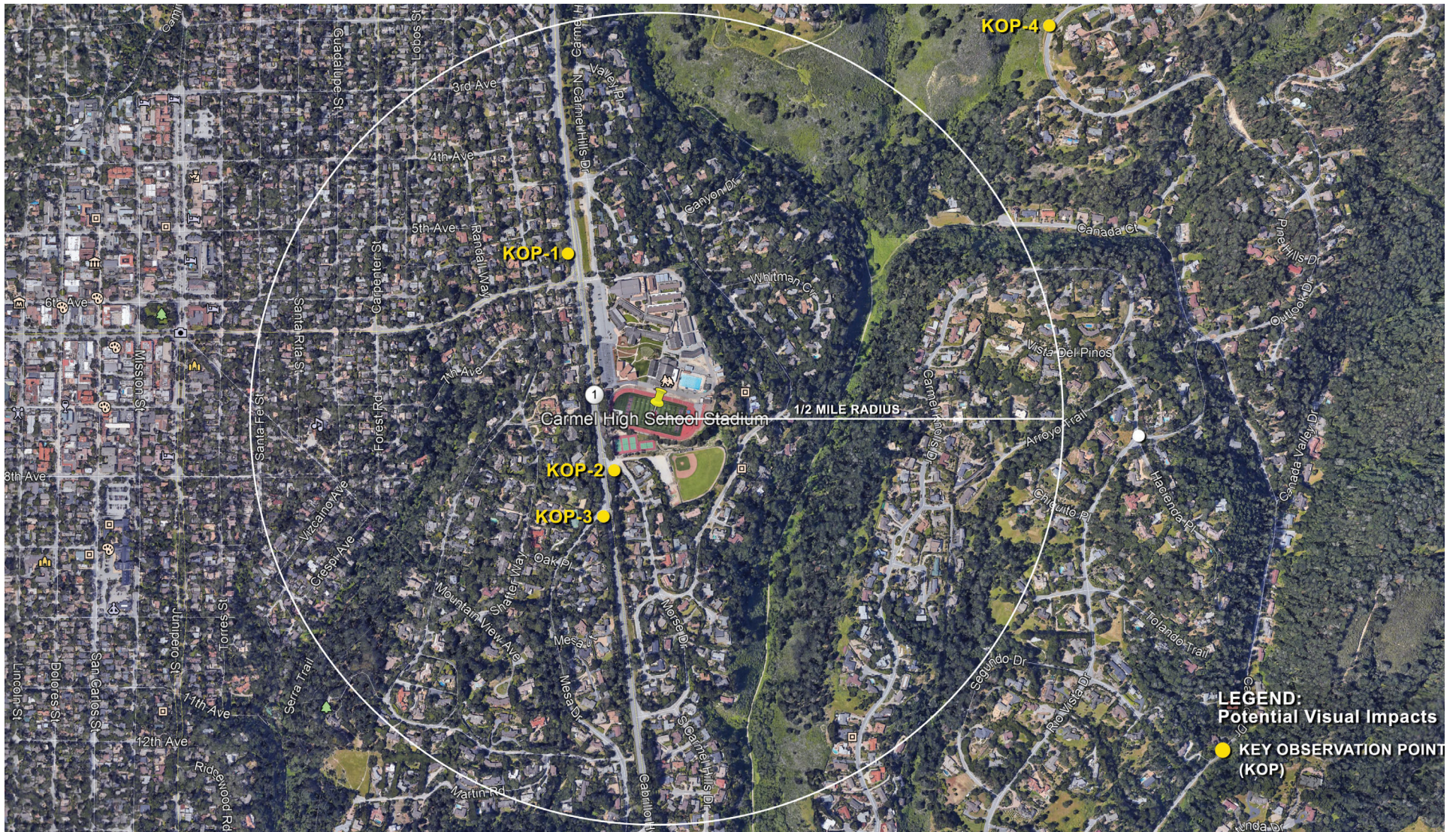
5-1 Carmel Unified School District will prepare and adopt a policy regarding use of field lights for home games and practices at the Carmel High School Stadium and will implement the following use restrictions consistent with Table 4-1, Proposed Schedule of Stadium Uses (After Installation of Field Lights), found in Section 4.0, Project Description, of this EIR:

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

- Football. Six games;
- Girls field hockey. Eight games;
- Boys and girls soccer. Seven games for each team;
- Boys and girls lacrosse. Five games for each team; and
- Boys and girls track and field. Four meets (combined).

This would total thirty-seven 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 p.m. with lights turned off by 8:30 p.m.



Source: 3DScape 2021

Figure 5-2
Key Observation Points Map
Carmel High School Stadium Lights EIR

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Source: 3DScape 2021

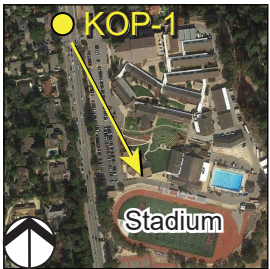
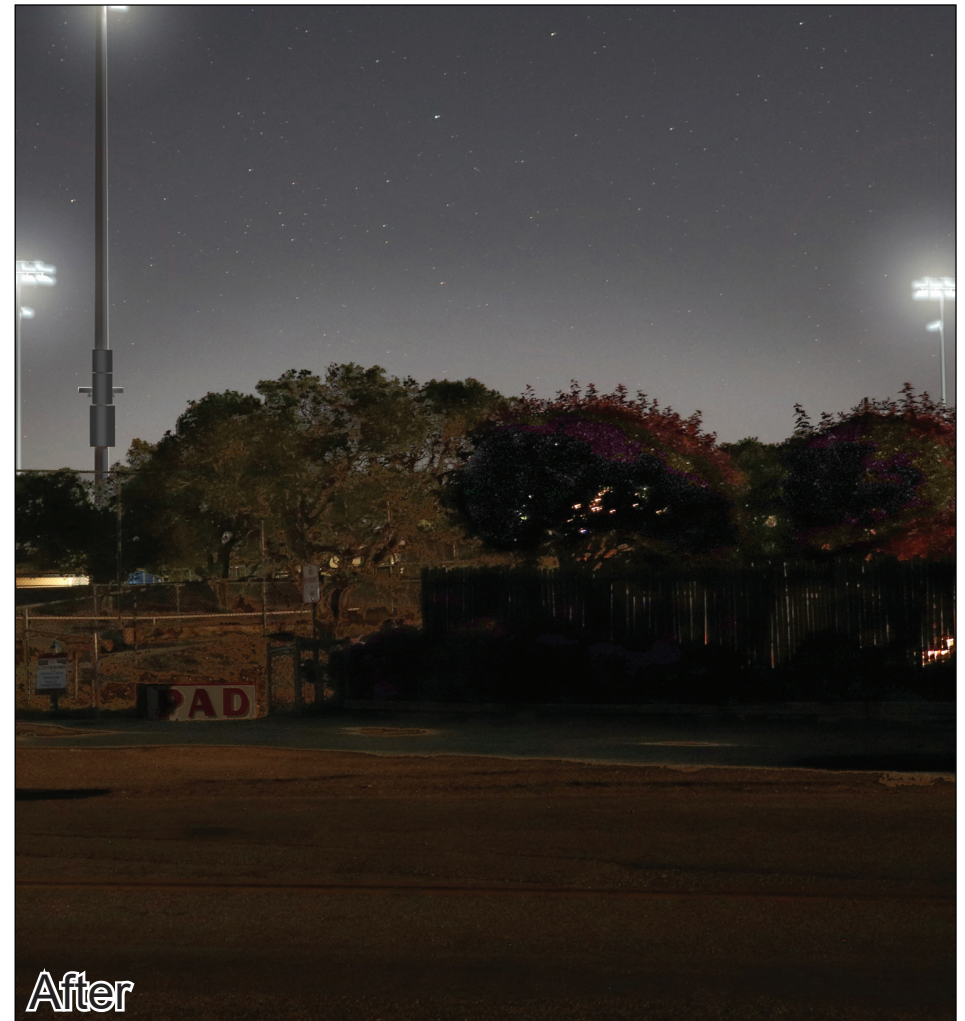


Figure 5-3

Key Observation Point 1

Carmel High School Stadium Lights EIR

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Source: 3DScape 2021

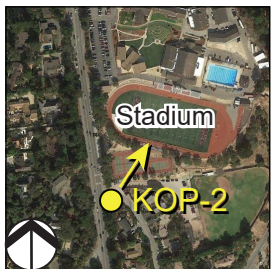
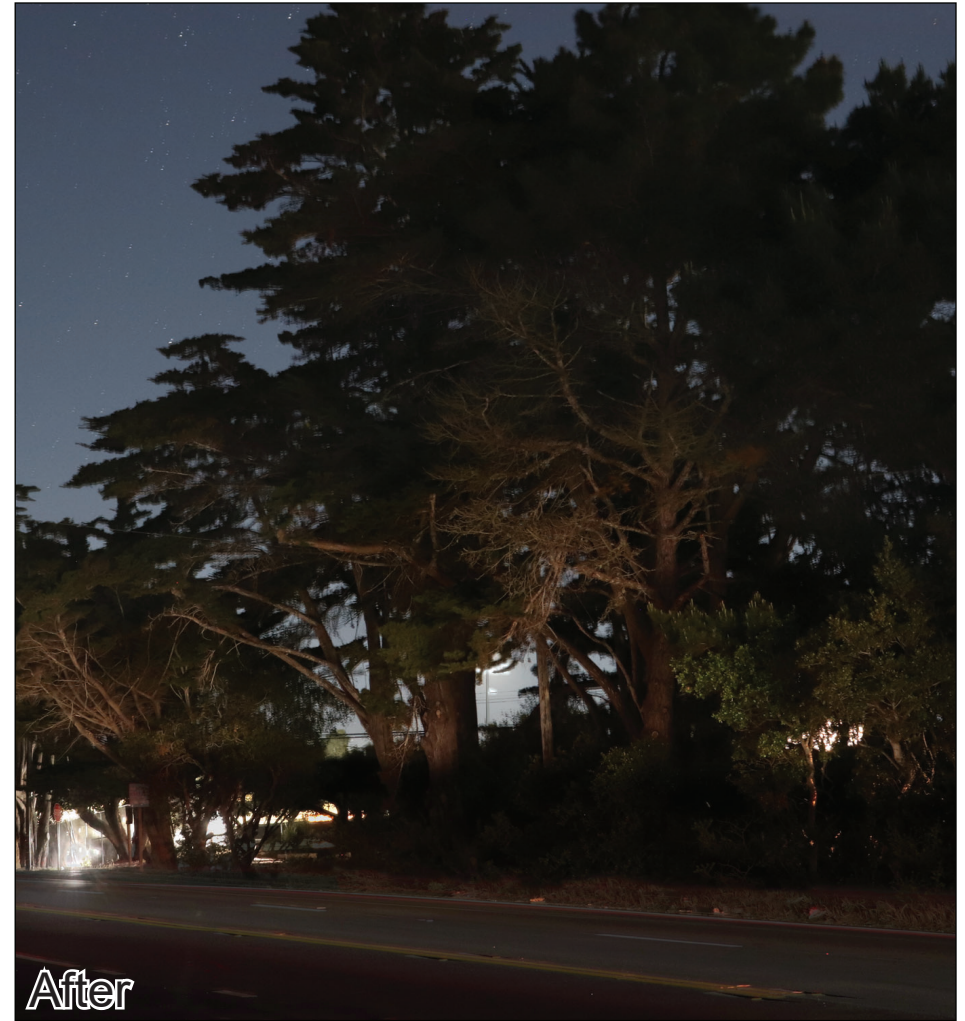


Figure 5-4

Key Observation Point 2

Carmel High School Stadium Lights EIR

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Source: 3DScape 2021

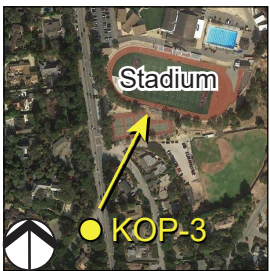
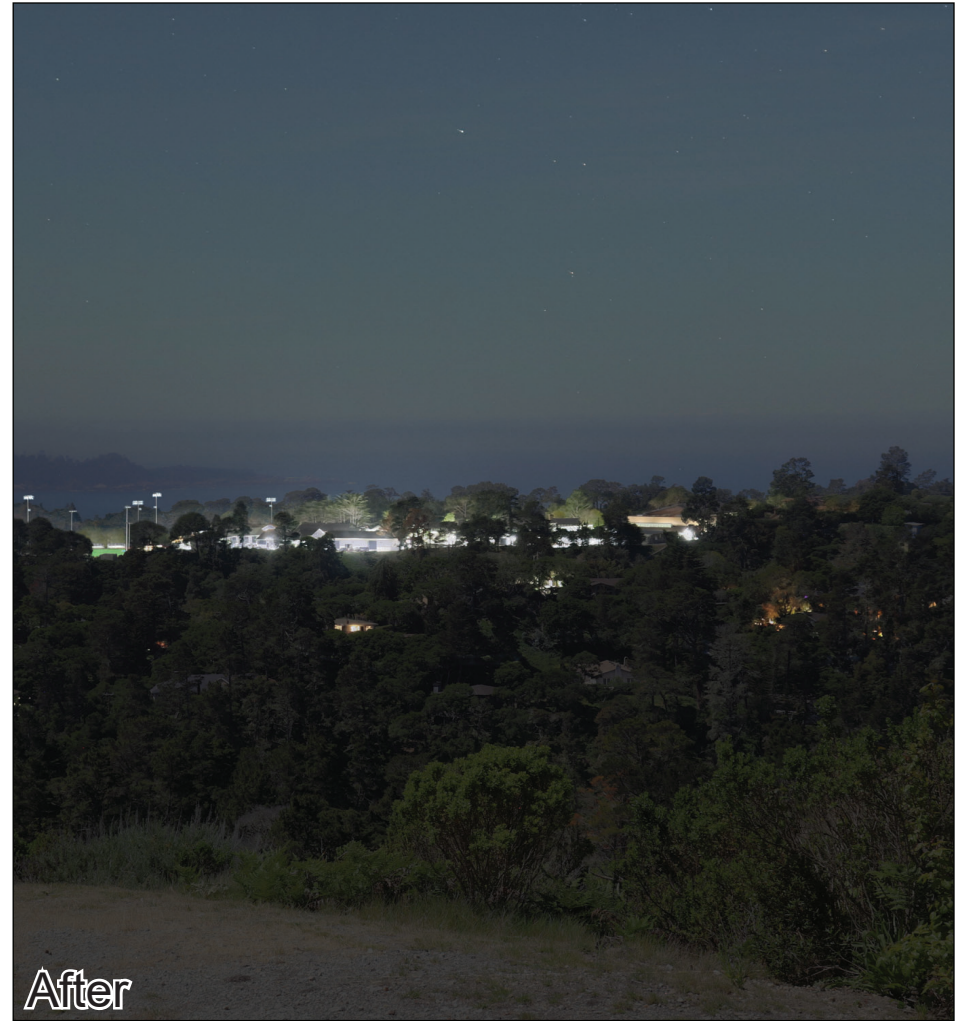


Figure 5-5

Key Observation Point 3

Carmel High School Stadium Lights EIR

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Source: 3DScape 2021

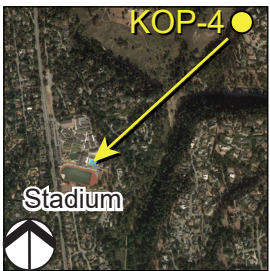


Figure 5-6

Key Observation Point 4

Carmel High School Stadium Lights EIR

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- 5-2 Carmel Unified School District will prepare and adopt a policy that restricts use of Carmel High School stadium by non-school related groups. Any use by non-school related groups shall end before sunset so that field lighting does not need to be used.

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.

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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 for the Proposed Carmel High School Stadium Lighting* prepared for the proposed project by Hexagon Transportation Consultants (2021) and the results of emissions modeling using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. The CalEEMod results are included as [Appendix C](#). Additional sources of information are introduced where applicable.

There were no responses to the NOP regarding air quality.

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.

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.

Table 6-1 Common Criteria Air Pollutants

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

SOURCE: United States Environmental Protection Agency 2018

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_x are created during combustion of fuels. NO_x is a major contributor to ozone formation. NO_2 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_2 also contributes to the formation of particulate matter (see discussion below). NO_2 concentrations in the air basin have been well below ambient air quality standards; therefore, NO_2 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_{10} . $\text{PM}_{2.5}$ 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_x 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 _x Emissions ¹			Particulate Emissions ¹		
	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)	-- ²	-- ²	-- ²	0.22	0.15	0.15
Tier 3 (2006)	-- ²	-- ²	-- ²	-- † ³	-- † ³	-- † ³
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_x 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.

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.

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.

Table 6-3 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards ¹				California Standards ²	
		Primary ^{3,4}		Secondary ^{3,5}		Concentration ³	
		ppm	µg/m ³	ppm	µg/m ³	ppm	µg/m ³
O ₃ ⁶	1 Hour	-	-	-	-	0.09	180
	8 Hour	0.07	137	0.07	137	0.07	137
PM ₁₀ ⁷	24 Hour	-	150	-	150	-	50
	Annual	-	-	-	-	-	20
PM _{2.5} ⁷	24 Hour	-	35	-	35	-	-
	Annual	-	12	-	15	-	12
CO	8 Hour	9	10	-	-	9.0	10
	1 Hour	35	40	-	-	20.0	23
NO ₂ ⁸	Annual	0.053	100	0.053	100	0.03	57
	1 Hour	0.10	188	-	-	0.18	339
SO ₂ ⁹	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 ^{10,11}	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 ¹²	8 Hour	No Federal Standards				See note 12	
Sulfates	24 Hour					-	25
Hydrogen Sulfide	1 Hour					0.03	42
Vinyl Chloride ¹⁰	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_{10} , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For $PM_{2.5}$, 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_{10} , $PM_{2.5}$, 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 $PM_{2.5}$ primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM_{10} standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ 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_2 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_2 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 ($1.5 \mu\text{g}/\text{m}^3$ 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.

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 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 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.

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 ₃	Non-attainment	Attainment
PM ₁₀	Non-attainment	Attainment
PM _{2.5}	Attainment	Attainment
CO	Attainment (Monterey County)	Attainment
NO ₂	Attainment	Attainment
SO ₂	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 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). Mobile source NO_x 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_x 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_x. Ozone formation in the air basin is more limited by the availability of NO_x than by the availability of ROG_s, so reducing NO_x emissions is most crucial for reducing ozone formation. The majority of NO_x 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_x emissions. The air district can only indirectly affect mobile source and area source emissions, for example by influencing land use patterns which can reduce VMT. Since mobile sources are the primary source of NO_x emissions, the air quality plan provides for continued focus on mobile source grant programs which reduce NO_x 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 (“AMBAG”) 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 is a construction of 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 PM₁₀ 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 PM₁₀ 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 ¹
Volatile Organic Compounds (VOC)	137 lb/day (direct + indirect) ²
Nitrogen Oxides (NO _x), as Nitrogen Dioxide (NO ₂)	137 lb/day (direct + indirect) ²
Respirable Particulate Matter (PM ₁₀)	82 lb/day (on-site) ³
Carbon Monoxide (CO)	550 lb/day (direct)
Sulfur Oxides (SO _x), as Sulfur Dioxide (SO ₂)	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_x 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_x 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

IMPACT 6-1	Fugitive Dust Emissions During Construction Would Not Exceed the Air District Thresholds and Degrade Air Quality	Less Than Significant
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Construction activity consists of excavation, footings and trenching for the installation of four light standards. The estimated total area of disturbance is less than one acre, well 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. The generation of fugitive dust emissions during construction would be less than significant.

Conclusion

Fugitive dust from grading and construction would not result in significant PM₁₀ emissions because the amount of daily soil disturbance would not exceed the air district significance thresholds for generating fugitive dust. Therefore, the impact is less than significant.

Criteria Air Emissions from Operations

IMPACT 6-2	Criteria Air Pollutants During Operations Would Not Exceed Air District Thresholds and Degrade Air Quality	Less than Significant
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Operation of the proposed project would result in new criteria air pollutant emissions from the provision of electrical service to power the lights and from mobile sources due to increased attendance. Operational criteria pollutant 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 (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 does not have a land use category for outdoor stadiums and the model defaults do not distinguish between land uses with or without lighting. As such, emissions from the provision of energy for lighting systems are not directly quantifiable using CalEEMod.

However, the model default land use of “Arena” was used as a proxy to capture the operational emissions for the 3.8-acre outdoor stadium. The model’s emissions factors for an arena use include energy demand for the provision of lighting and HVAC systems, and water demand. The model results reflect emissions volumes generated during operations of a 3.8-acre arena use. This is a conservative estimate since the change in emissions resulting from the proposed project would consist only of the emissions from increased attendance and the energy demand for new lighting, which would generate fewer emissions than would an entirely new facility. The model defaults were adjusted to reflect the increase in mobile-

source air emissions from additional trips to the site during nighttime events. Proposed operational mobile-source criteria air pollutant emissions were calculated based on trip generation estimates for an average of 800 attendees at an average of 39 night events per year (Hexagon Transportation Consultants 2021). The modeling results for a 3.8-acre arena use are included in [Appendix C](#) and summarized in [Table 6-6, Unmitigated Operational Criteria Air Pollutant Emissions](#).

The model results demonstrate that the proposed project would not exceed air district thresholds during operations even if an entirely new facility were constructed. The proposed project emissions would not result in significant impacts and the contribution to regional air quality would be less than significant.

Table 6-6 Unmitigated Operational Criteria Air Pollutant Emissions

Emissions ¹	VOC	NO _x	PM ₁₀	CO	SO ₂
Air District Thresholds	137 lbs/day	137 lbs/day	82 lbs/day	550 lbs/day	150 lbs/day
Total Average Daily Emissions ^{2,3}	42.05	13.33	3.59	25.13	<0.10
<i>Exceeds Thresholds?</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

SOURCE: EMC Planning Group 2020a

NOTES:

1. Results have been rounded, and may, therefore, vary slightly.
2. Emissions are based on an average of 39 nighttime events per year, with an average of 800 attendees per event.
3. Similar to operations of a 3.8-acre indoor arena.

Conclusion

The proposed increase in attendance due to the proposed night game use of the existing stadium would not generate criteria pollutant emissions that would exceed air district thresholds. Therefore, the increase in operational emissions would be less than significant.

Construction Phase Toxic Air Contaminants

IMPACT 6-3	Operation of Construction Equipment Could Expose Sensitive Receptors to Minimal Toxic Air Contaminants	Less Than Significant
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The school is a sensitive receptor as are residents to the north, south, east, and west. As discussed in Section 6.2, Environmental Setting, existing residential uses surround the high school campus. There are no receptors to the north within 500 feet of the project site. Receptors within 500 feet of the proposed lighting pole locations are located to the east, beyond the pool and baseball field, to the south beyond the baseball field and tennis courts, and west of State Route 1. Receptors to the east are located within 500 feet of the proposed light standard F2; receptors to the south are located within 500 feet of the light standards F1, F3, and F4; receptors to the west are located within 500 feet of proposed lighting standards

F1 and F3; one residence nearest to the tennis courts is located within 500 feet of all proposed lighting standards.

The air district's CEQA Guidelines do not provide screening thresholds for TACs generated by construction equipment. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which are used to determine the exposure of people to TAC emissions, should be based on a 30- or 70-year exposure period, depending on whether the analysis is for a maximally exposed individual or population-wide impacts. However, such assessments should be limited to the period/duration of activities that generate TAC emissions (OEHHA 2015). Construction of the lighting poles would generate short-term exhaust emissions of criteria air pollutants from the use of diesel fueled construction equipment, haul trucks associated with materials transport, and vehicle use during worker commute. Construction activities include excavating footings, pouring concrete foundations, and installing the lighting standards by crane. All of these activities would take place over a period of two months, during a school break, and in four separate locations around the field (refer to Figure 4-1). As a result, construction activities would be distributed across the site such that construction would not last for more two to eight weeks at any given location.

Due to the small scope of construction activity, receptor distance from the field, and presence of prevailing winds from the west and northwest, potential receptors 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.

Conclusion

Although sensitive receptors are located within 500 feet of the project site where construction activities would occur, prolonged exposures of these receptors to dust and heavy equipment diesel exhaust during construction would not occur. Therefore, the impact would be less than significant.

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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 a reconnaissance field survey conducted by an EMC Planning Group biologist; 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](#).

7.1 ENVIRONMENTAL SETTING

EMC Planning Group biologist Patrick Furtado, MS, conducted a reconnaissance-level biological survey at the project site on April 12, 2021, 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, on an approximately 3.8-acre site 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 project site is currently fully developed with a sports stadium and adjacent recreational facilities including tennis courts and a baseball field. The proposed project includes the installation of new lighting at the existing stadium. 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.

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 echioides*), bur clover (*Medicago polymorpha*), and wild mustard (*Hirschfeldia incana*).

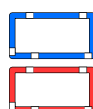
The vegetation within and around the adjacent buildings and stadium infrastructure also consists of nonnative horticultural plantings of pittosporum (*Pittosporum* sp.), English ivy (*Hedera helix*), rosemary (*Rosmarinus officinalis*), Mexican bush sage (*Salvia leucophylla*), and Pride-of-Madeira (*Echium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



Source: ESRI 2021, Monterey County GIS 2019



0 400 feet



School Campus Boundary

Project Site



Proposed Light Pole



Mixed Oak Woodland



Figure 7-1
Habitat Map

Carmel High School Stadium Lights EIR

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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 (*Psaltirparus 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. 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. The drainage is approximately 300 feet from the closest proposed light pole. 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.

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.



0 400 feet



School Campus Boundary



Project Site



2.0-Mile Radius



Special-Status Plants



Special-Status Wildlife

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

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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>congonii</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>)	FT/--/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 draytoni</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>Cortunicops 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.

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 project site contains trees likely protected by Monterey County Municipal Code, Chapter 16.60.030 – Regulations, however although the proposed project includes some minor tree trimming of one oak on the south side of the field, it does not include tree removal.

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 and buildings is likely restricted to that of common wildlife species and this portion of the 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.

The USFWS published a proposed rule to clarify prohibitions governing the “take” of birds under the Migratory Bird Treaty Act on February 3, 2020. This proposed rule clarifies that the scope of the Migratory Bird Treaty Act applies only to intentional injuring or killing of birds. Conduct that results in the unintentional (incidental) injury or death of migratory birds is not prohibited under the Act. On January 7, 2021, the final regulation defining the scope of the Migratory Bird Treaty Act was published in the Federal Register. The rule goes into effect on February 8, 2021.

The USFWS announced a proposed rule to revoke the January 7, 2021, final regulation that limited the scope of the Act. The public comment period closed on June 7, 2021, however publication of the final rule in the Federal Register has not yet occurred. Although the status of the revised rule is unknown, compliance with the new interpretation of the law, which prohibits the intentional and unintentional take of migratory birds, is recommended.

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” (NWPR) became effective in 49 states and in all US territories. The San Francisco USACE District uses the NWPR 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

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-5.22. In order to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors and reduce sediment and other water quality impacts of new development, the county shall develop and adopt a Stream Setback Ordinance. The ordinance shall establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Camel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The ordinance shall delineate appropriate uses within the setback area that shall not cause removal of riparian habitat, compromise identified riparian wildlife corridors, or compromise water quality of the relevant stream while also taking into consideration uses that serve health and safety purposes. The Stream Setback Ordinance shall apply to all discretionary development, County public projects, and to conversion of lands uncultivated for the previous 30 years, on normal soil slopes over 15% or on highly erodible soils on slopes over 10%. The stream setback ordinance shall be adopted within three (3) years of adoption of the General Plan. *Note: Monterey County has not yet developed and adopted a Stream Setback Ordinance.*

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.

GMP-3.8. Open space areas should include a diversity of habitats with special protection given to ecologically important zones, such as:

- a. areas where one habitat grades into another, or
- b. areas used by wildlife for access routes to water or feeding grounds.

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
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Although habitats within the campus boundary include mixed oak woodland and areas where native plant species may occur, the proposed project is located immediately adjacent to the stadium ([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
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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

If special-status bats are present on the site, 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 trimming or other construction activities, the 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 Carmel Unified School District prior to the commencement of tree 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 Carmel Unified School District prior to the commencement of 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 CDFW 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 CDFW for review and approval prior to the bat eviction activities or the removal of roosting habitat.

The District will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the start of tree 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.

IMPACT 7-3	Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds)	Less than Significant with Mitigation
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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 trimming and lighting pole construction, 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, demolition, and grading, 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 tree trimming and lighting pole construction 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 initiation of tree trimming and lighting pole construction.
- 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 District will be responsible for implementation of this mitigation measure. Compliance with this measure will be documented, prior to the start tree trimming and lighting pole construction.

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.

IMPACT 7-4	Potential Effect on Sensitive Biological Resources (Light and Glare)	Less than Significant
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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. 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 4-2 and Figure 4-3 in Section 4.0, Project Description, for further light pole design details). 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, for four off-site key observations points (KOPs) located north and south of the stadium in publicly accessible areas where the terrain and vegetation offers a clearer view of the proposed stadium lighting. These KOP locations are shown on [Figure 5-2, Key Observation Points Map](#). The existing (pre-stadium light installation) and proposed (after stadium lights installation) nighttime conditions are presented for each of these KOPs on [Figure 5-3, Key Observation Point 1](#), [Figure 5-4, Key Observation Point 2](#), [Figure 5-5 Key Observation Point 3](#), and [Figure 5-6, Key Observation Point 4](#).

As shown in Figure 5-6 (from Outlook Drive), the addition of stadium lighting would create new and increased lighting conditions within Hatton Canyon and above (KOP-4). Both listed and non-listed plant and wildlife species are sensitive to artificial lighting, particularly at night. Special-status species identified with the potential to occur within the project site include nesting birds and raptors and roosting bats.

The lighting impacts would occur approximately 39 nights per year (11 percent) for up to four hours per night (29 percent) assuming 14 hours of darkness per day (5 PM to 7 AM).

Roosting Bats. Being nocturnal, bats are likely to be strongly affected by artificial lighting. 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). The few hours each night that 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. 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 any 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.

Nesting Migratory Birds and Raptors. Once constructed, 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 two to four hours a night for up to four months, with most of the light use occurring during the school year between October and May. 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 mostly occur between October and May, which falls outside the usual nesting bird season. Potential impacts to nesting migratory birds and raptors as a result of increased light and glare are therefore considered less than significant.

Protected Wetlands or Waters of the U.S.

IMPACT 7-5	Federally- and State-Protected Wetlands or Waters of the U.S. (Intermittent or Ephemeral Drainage)	No Impact
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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, the proposed project is located immediately adjacent to the stadium ([Figure 3-2 Aerial Photograph](#)), approximately 300 feet from the potentially jurisdictional aquatic feature. Impacts to protected wetlands or waters of the U.S. are therefore not anticipated as a result of the project.

Trimming Regulated Trees

IMPACT 7-6	Trimming Regulated Trees	Less than Significant
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The proposed project does not include the removal of any trees. However, one oak tree may need to be trimmed along the south side of the field during construction of the light poles. Minor trimming of this oak tree is considered a less-than-significant impact.

Wildlife Movement

IMPACT 7-7	Interference with Movement of Wildlife Species or with Established Wildlife Corridors	Less than Significant
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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

IMPACT 7-8	Sensitive Natural Communities	No Impact
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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.

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8.0 Energy

This section of the EIR 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. The notice of preparation and comment letters are included in [Appendix A](#).

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. Adopted by the California Energy Commission in May 2018, the 2019 BEES went into effect on January 1, 2020. The 2019 BEES are 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 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.

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.

These are the issues evaluated in the impact analysis below.

8.4 ANALYSIS AND MITIGATION MEASURES

Energy Use

IMPACT 8-1	The Proposed Field Lighting and Associated Anticipated Increase in Traffic Will Consume Energy During Construction and Operation	Less than Significant
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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 existing and proposed project conditions were estimated using the California Emissions Estimator Model (CalEEMod). The closest Land Use category in CalEEMod is “Arena” and the results (both existing and proposed) likely overestimate the actual existing VMT and the actual proposed VMT that would be associated with the increase in spectators with implementation of the proposed project. The CalEEMod results are contained in [Appendix C](#). Existing annual VMT is estimated to be 86,022. Proposed annual VMT is estimated to be 137,309; an increase of 51,287 miles per year.

The 2021 Emissions Factor Model (EMFAC) version 1.01, which uses VMT as an input, was used to estimate the projected transportation fuel use increase for the project. The Emissions Factor Model results in [Appendix D](#) show that the existing transportation fuel (diesel and gas) demand is approximately 3,640 gallons annually, and the projected transportation fuel demand would be approximately 5,661 gallons per year, and increase of approximately 2,021 gallons. The EMFAC results are based upon the CalEEMod VMT results and therefore, fuel demand is likely also overestimated.

Electricity Demand

The four new light standards would have a total of 44 luminaires (individual light units). The new lighting would use an average of 68.82 kilowatts (74.8 maximum) of electricity. The proposed project would nominally increase demand for electricity.

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

IMPACT 8-2	No Conflict with State or Local Plans for Renewable Energy or Energy Efficiency	No Impact
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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.

9.0 Greenhouse Gas Emissions

Information in this section is derived primarily from results of CalEEMod modeling found in [Appendix C](#), and trip generation information contained in the *VMT Assessment for the Proposed Carmel High School Stadium Lighting* prepared for the proposed project (Hexagon Transportation Consultants 2021) found in [Appendix E](#) to this EIR.

No comments regarding GHG emissions were received in response to the notice of preparation.

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 20th 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. 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.

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 ₂)	81 percent	Combustion of fuels, solid waste, wood
Methane (CH ₄)	10 percent	Fuel production/combustion; livestock, decay of organic materials
Nitrous Oxide (N ₂ 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 (CO₂e). Carbon dioxide equivalent describes how much global warming a given type of GHG will cause, with the global warming potential of CO₂ 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 CO₂e. [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 ₂	50-200	1
Methane CH ₄	12 (+/- 3)	21
Nitrous Oxide N ₂ O	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC Tetrafluoromethane CF ₄	50,000	6,500
PFC Hexafluoroethane C ₂ F ₆	10,000	9,200
Sulfur Hexafluoride SF ₆	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 CO₂. 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 CO₂. While CO₂ 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 CARB's current state GHG inventory data, a net of about 425.3 million metric tons (MMT) of CO₂e 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 3-1 of the Project Description.

Electric Utility

Electricity is supplied to the campus by Central Coast Community Energy from 100 percent renewable sources. 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. They have committed to source 100 percent of our energy supply from clean and renewable resources to all participating communities by 2030, 15 years ahead of California's energy goal. Central Coast Community Energy procures renewable energy contracts through a variety of solar, wind, and geothermal projects.

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 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.

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 the Use of Renewable Energy for the Generation of Electricity

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. Executive Order B-55-18 establishes a carbon neutrality goal for California by 2045; and sets a goal to maintain net negative emissions thereafter.

In March 2012, former Governor Jerry Brown issued an Executive Order, B-16-12, which embodied a similar 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 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, the state will have established adequate infrastructure to support one million zero-emission vehicles in California;
- By 2025, there will be 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, 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 the Reduction of GHGs from Mobile Sources

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.

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.

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 greenhouse gas 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 GHG thresholds of significance identified in BAAQMD's *California Environmental Quality Act Air Quality Guidelines* (2017) as a basis to craft a threshold of significance. BAAQMD manages air quality in the adjacent San Francisco Bay Area Air Basin.

BAAQMD's GHG significance thresholds in the 2017 CEQA Guidelines are based on meeting the Assembly Bill 32 target of reducing statewide GHG emissions to 1990 levels by 2020. Projects whose GHG emissions are below the applicable threshold of significance would not be considered to generate GHG emissions that would have a significant environmental impact. Senate Bill 32 became effective in January 1, 2017. Senate Bill 32 requires that statewide greenhouse gas emissions be reduced to at least 40 percent below those that occurred in 1990 by the end of 2030. As such, BAAQMD's 2017 thresholds do not reflect the level at which GHG impacts could be considered less than significant in light of the 2030 target. BAAQMD's mass emissions threshold of 1,100 MT CO₂e/year is relevant for use with the proposed project. This threshold would need to be reduced by 40 percent to coincide with the more stringent 2030 emissions reduction target. The scaled-down GHG threshold would be 660 MT CO₂e/year (1,100 MT CO₂e/year x .60 = 660 MT CO₂e/year).

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

IMPACT 9-1	Generate Greenhouse Gas Emissions	Less than Significant
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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 Analysis

Electricity-Source GHG Emissions

The project site is an existing athletic stadium located at the southern edge of the Carmel High School campus. The site includes an electronic scoreboard, and storage and maintenance buildings which use minimal electricity. Electricity is supplied to the campus by Central Coast Community Energy from 100 percent renewable sources.

The proposed project would result in increased electricity consumption from the new stadium lighting; however, since this energy is provided by 100 percent renewable resources that do not generate GHGs, there would be no increase in associated GHG emissions. As such, the change in electricity demand would not generate new GHG emissions.

Transportation-Source GHG Emissions

The change in mobile-source GHG emissions was modeled using trip generation information for existing and proposed conditions provided by the traffic consultant (Hexagon Transportation Consultants 2021) and found in [Appendix E](#) as an input. Projected project 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 (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 defaults were adjusted to reflect the increase in mobile-source air emissions from additional trips to the site during night events based on information provided by the traffic consultant (Robert Del Rio, email to consultant June 21, 2021). According to the traffic consultant, under existing operations football games with up to 500 attendees are played during afternoon hours, or off-site at Monterey Peninsula College or Pacific Grove High School for postseason games. Trip generation rates were estimated assuming an increase in attendance at Friday night football games from 500 attendees to up to 800 attendees, all of which would now travel to the project site during night games. During a homecoming or rivalry game, attendance is

expected to increase from the current 1,500 attendees to an anticipated 2,000 attendees; however, these events would be infrequent. Average daily trips per acre would increase from 62 average trips to 99 average trips, which represents “worst-case” traffic volumes.

Proposed operational mobile-source GHG emissions were calculated based on the worst-case trip generation rate of 99 average trips at an average of 39 night events per year (Hexagon Transportation Consultants 2021). As identified in section 4.0 of the CalEEMod results, included as [Appendix C](#), transportation-source GHG emissions are projected at 53.58 MT CO₂e/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. GHG emissions that would be generated during construction are “short-term” and would be minimal. For this reason, construction emissions have not been quantified.

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 53.58 MT CO₂e/year would be substantially below the threshold of significance of 660 MT CO₂e/year. Therefore, the project would have a less-than-significant impact related to GHG emissions.

GHG Emissions Reduction Plans

IMPACT 9-2	No Conflict with the Applicable Plans to Reduce Greenhouse Gas Emissions	No Impact
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Neither the school district 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. Because the proposed project emissions fall substantially below the associated threshold of significance, the project would not conflict with the reference GHG reduction plan.

10.0 Noise

The discussion in this section is primarily based upon information from the *Carmel High School Field Lights Environmental Noise Assessment* (noise assessment) prepared by WJV Acoustics, Inc., dated July 6, 2021 (included as [Appendix E](#) to this EIR). In addition, noise standards and regulations are based on *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.

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 noise 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.

Measurements of existing ambient noise levels in the project vicinity were conducted on April 20 and April 21, 2021. Long-term (24-hour) ambient noise level measurements were conducted at two (2) locations (assigned site identifiers LT-1 and LT-2 in the noise assessment). 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.

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 10-1, 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.

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. While the school district is not subject to County noise regulations, the County noise standards are utilized as the applicable noise standards for which the project is evaluated against to help determine potential noise impacts.

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 10-1, Monterey County Community Noise Exposure Levels \(L_{dn} or CNEL, dBA\)](#)).
- 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.

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_{dn}) 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.”

Table 10-1 Monterey County Community Noise Exposure Levels (L_{dn} or CNEL, dBA)

Land Use Category	Noise Ranges (L _{dn} or CNEL), dB			
	I ¹	II ²	III ³	IV ⁴
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.

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} .

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 Existing Noise-Sensitive Land Uses

IMPACT 10-1	Project-Generated Traffic Noise Would Not Increase Existing Noise Levels	No Impact
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The proposed stadium lighting project is expected to result in an 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 (3.24 persons per vehicle) 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 / 5 days per week = 37 trips per day). During a homecoming or rivalry game, attendance is expected 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.

If this noise exposure level of 33 dB CNEL, associated with the 62 daily project-related trips, was applied (added) to the two 24-hour noise measurements sites described above (LT-1 and LT-2), the project-related traffic noise would not result in any increase in overall noise exposure, as defined by the Community Noise Equivalent Level (CNEL). Decibels are logarithmic in nature and cannot be added arithmetically. For example, the measured 24-hour noise level exposure at sites LT-1 and LT-2 was 51 dB CNEL and 54 dB CNEL,

respectively. Assuming a worst-case scenario that all 62 daily trips were to be applied to either Morse Drive or Flanders Drive, the resulting noise exposures at the two sites would remain 51 dB CNEL and 54 dB CNEL, respectively (51 dB + 33 dB = 51 dB, and 54 dB + 33 dB = 54 dB). Therefore, project-related increases in traffic noise would not result in any overall increase in noise exposure throughout the project area, even when the entirety of daily trips are applied to one single roadway/area.

Operational Noise Impacts (Stadium Events)

IMPACT 10-2	Nighttime Stadium Events Would Cause an Occasional Noise Increase	Less than Significant
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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. Additionally, due to pandemic conditions there were no high school football games held at the stadium or within the surrounding area last year. WJV Acoustics therefore reviewed noise level data previously collected for a different high school football stadium in Visalia, California. 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. 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. 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 do not exceed the existing maximum noise levels measured at the noise measurement sites. Therefore, the operational noise increases generated by the proposed project would be less than significant.

Construction Noise Impacts

IMPACT 10-3	Construction Activities Could Cause a Substantial Temporary Noise Increase	Less-than-Significant with Mitigation
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Construction activities associated with installation of stadium lights will be limited. 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. In this case, all project construction activity will be confined to daytime hours (7:00 a.m. to 7:00 p.m), per the mitigation measure presented below. Compliance with this mitigation measure, would ensure construction-related activities associated with the proposed project would be reduced to a less-than-significant level.

Mitigation Measure

- 10-1 The school district will limit construction activities to the hours of 7:00 a.m. to 7:00 p.m. This requirement will be included in construction plans.

Construction Groundborne Vibration Impacts

IMPACT 10-4	Construction Activities Could Cause Temporary Excessive Groundborne Vibration	Less than Significant
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According to the Federal Transportation Administration (FTA), a significant impact would be identified if the construction of the project would generate groundborne vibration levels at adjacent structures exceeding 0.3 in/sec PPV because these levels would have the potential to result in “architectural” damage to normal buildings.

The school district has indicated that pile driving would not be needed for project construction. Project construction activities, such as drilling, may generate substantial vibration in the immediate vicinity of the work area. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. [Table 10-2, Vibration Source Levels for Construction Equipment](#), presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet (Federal Transit Administration 2006b).

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).

Table 10-2 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in./sec.)	Approximate L _v at 25 ft. (VdB)
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	In rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

SOURCE: Federal Highway Administration 2006b (Table 12-2, p. 12-12)

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.

Maximum ground vibration levels would be associated with the potential use of excavator and boring machine during construction activities, particular during drilling for the 10-foot-deep concrete base for the new field lights. According to FTA, vibration levels associated with large drilling are 0.089 in/sec PPV and 87 VdB at 25 feet. Vibration levels from large drilling could exceed Caltrans recommended level of 0.2 in/sec PPV with respect to the structural damage within 15 feet of large drilling activities (Caltrans 2020) and could exceed FTA's maximum acceptable level of 80 VdB with respect to human response within 43 feet of large drilling activities (FTA 2006b). The nearest existing structures to project construction

areas include single-family residences located as close as approximately 200 feet from the south edge of the stadium site along Morse Drive. Therefore, ground vibration levels from potential large drilling activities would not result in levels that could damage nearby structures or result in human disturbance. Project impacts associated with construction-related ground vibration and vibration noise would be less than significant.

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11.0

Transportation

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; and analyzes the potential impacts from implementation of the project on transportation.

The information in this section is based on *VMT Assessment for the Proposed Carmel High School Stadium Lighting Project* prepared by Hexagon Transportation Consultants, dated July 1, 2021 (see [Appendix F](#) for a copy of this report). 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. In addition, 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.

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.

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 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 parking lot, approximately 100 feet east of its signalized intersection with SR 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. Carmel Hills Drive provides direct access to the school's 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 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.

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 SR 1 and Morse Drive, short queues of fewer than four vehicles were observed waiting to turn onto SR 1. There were few observed vehicles making a southbound left turn lane onto Morse Drive.

Campus Parking Facilities

Carmel High 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 165 parking spaces. During proposed Friday evening football games, visitors will be permitted to park in all parking spaces, including staff-designated spaces.

An additional parking lot that provides 36 parking spaces is located at the southern end of the school with two-way access provided via Morse Drive. It is estimated that the parking demand for current Saturday afternoon football games is approximately 154 vehicles based on the maximum 500 attendees and the surveyed 3.24 vehicle occupancy rate.

11.2 REGULATORY SETTING

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.

11.2 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);
- 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.

11.3 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Effects Adequately Addressed in the Initial Study

Conflicts 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; 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

IMPACT 11-1	An Increase in Event Attendance Would Increase Vehicle Miles Traveled but Would Not Conflict with CEQA Guidelines Section 15064.3	Less than Significant
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As noted in Section 4.0, Project Description, the proposed stadium lighting is expected to result in an increase in attendance for football games and other sporting events. The increase in attendees will result in an increase in vehicular trips and VMT that is currently generated by the sporting events. Currently, football games with up to 500 attendees are played during afternoon hours, or off-site at Monterey Peninsula College or Pacific Grove High School for postseason games. The project would increase the attendance of football games on Friday nights from the current approximately 500 attendees to up to 800 attendees. The football season typically runs for 7 weeks between September and November with approximately 4 to 6 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 at Mitty High School in San Jose, California. 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.

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 / 5 days per week = 37 trips per day). During a homecoming or rivalry game, attendance is expected 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.

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 will be less than Friday night football games. Moreover, fall sports (football), 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.

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. Per 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, the project would have a less-than-significant transportation impact.

Circulation Hazards

IMPACT 11-2	No Substantial Increase in Hazards due to Design Features or Incompatible Uses	Less than Significant
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Implementation of the project would not require the construction, re-design, or alteration of any public roadways. 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 lighting is not expected to result in an adverse effect on traffic operations along State Route 1 that would warrant physical improvements. Furthermore, the 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, it is recommended that the school district consider the implementation of temporary traffic control measures discussed below under “Parking Capacity and Emergency Access.”

Parking Capacity and Emergency Access

IMPACT 11-3	An Increase in Event Attendance Could Result in Inadequate Parking During Limited Nighttime Events with Potential Emergency Access Issues	Less-than-Significant with Mitigation
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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.,

SB 743, Statutes of 2013) 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.

During the notice of preparation comment period, 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 adequate on-campus parking.

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 165 parking spaces. During Friday evening football games, visitors will be permitted to park in all parking spaces, including staff-designated spaces. An additional parking lot that provides 36 parking spaces is located at the southern end of the school with two-way access provided via Morse Drive. Approximately 37 additional spaces are located around the swimming pool and the eastern edge of campus (campus ring road). These 37 spaces are generally available only to staff. Therefore, the total number of on-campus parking spaces are approximately 238.

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 attendees. With 3.24 persons per vehicle, parking for up to 617 vehicles could be required. Under this "worst-case" scenario, which would occur once or twice per year, the on-campus parking shortfall would be approximately 379.

There are no proposed on-site or off-site improvements that would increase parking capacity at the school campus. Therefore, it is likely that on-site parking would be somewhat inadequate to meet the parking demand for Friday night football games, and highly inadequately once or twice per year for homecoming or rivalry games. Spectators who cannot find on-campus parking would likely seek parking on public streets within adjacent neighborhoods.

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, the following mitigation measure shall be implemented:

Mitigation Measure

11-1 The Carmel Unified School District shall prepare and implement a parking and traffic control management plan for Carmel High School to include the following temporary traffic control measures during all nighttime football games at Carmel High School Stadium:

- The school district shall identify and implement parking demand reduction measures to reduce the effect of football game parking on surrounding residential streets and queuing onto State Route 1, including but not limited to, carpool matching, having staff park along the campus ring road and pool parking lot, providing shuttle services from off-site parking, encouraging walking and biking to games;
- Traffic control officers at the northerly driveway to facilitate flow into and out of the campus parking lot;
- Parking lot monitors to monitor the availability of parking spaces in the main campus parking lot off of Ocean Avenue. Parking lot monitors should monitor the availability of parking spaces and should coordinate with traffic control officers to close inbound access when the parking lot is full;
- Enforce right-in and right-out only turn restrictions at the southerly driveway of the main campus parking lot; and
- Prohibit non-staff, non-volunteers, and non-players parking at the Morse Drive parking lot.

The parking and traffic control management plan shall be prepared and approved by the Carmel High School Principal and the Carmel Unified School District Superintendent prior to the first nighttime football game, and shall be implemented during nighttime football games.

Secondary Environmental Impacts

Part of the parking and traffic control management plan may include activities such as providing off-site parking and shuttle service to the high school campus. Possible off-site parking locations could include, but not be limited to, Carmel Middle School located 1.5

driving miles from the high school, Carmel Mission located 1.5 driving miles from the high school, Del Monte Shopping Center located 2.5 driving miles from the high school, and Carmel Valley High School located 5.5 driving miles from the high school.

Based upon the anticipated parking shortfall of 379 cars once or twice a year, this plan could result in additional vehicle miles travelled, along with associated air quality, greenhouse gas emissions, energy, and traffic noise impacts. However, this additional traffic would only occur once or twice a year and therefore, the associated air quality, greenhouse gas emissions, energy, and traffic noise impacts would be negligible.

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12.0

Effects Addressed in the Initial Study

As noted in Section 1.0, Introduction, this draft EIR 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.

CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (PRC Section 21100, CCR Sections 15126.2[a] and 15128). Environmental issue areas scoped out of the EIR are listed below with a brief explanation of why a) there would not be an impact to these resource areas, b) there would be a less-than-significant impact, or c) there would be a less-than-significant level with identified mitigation, as detailed in the initial study prepared for this project (see Appendix A).

12.1 NO IMPACT

Per the findings of the initial study, no impacts were identified in the following areas:

- Agriculture and Forest Resources;
- Geology and Soils;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Population and Housing;
- Public Services;
- Recreation;

- Utilities and Service Systems; and
- Wildfire.

Refer to the initial study included in Appendix A for additional information for each of the environmental issues noted above.

12.2 IMPACTS REDUCED TO A LESS-THAN-SIGNIFICANT LEVEL WITH MITIGATION

Cultural Resources

As noted in Section D.5, Cultural Resources, in the initial study prepared for the proposed project, an archaeological investigation was conducted and cultural resources evaluation prepared by Archaeological Resource Management (ARM) for the proposed project. A records search was conducted 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. A survey was conducted by a qualified ARM archaeologist on all visible open land surfaces in the project area. 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 (identified as mitigation measure CR-1 in the initial study) would reduce this potential, significant impact to a less-than-significant level.

Mitigation Measure

- 12-1 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, Carmel Unified School District staff notified, the Monterey County Resource Management Agency 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.

In addition, although there is no evidence of human remains associated with the project 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 (identified as mitigation measure CR-2 in the initial study) would reduce this potential, significant impact to a less-than-significant level.

Mitigation Measure

12-2 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.”

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. As previously noted in the initial study under Section D.18, Tribal Cultural Resources, on March 29, 2021, the school district sent an offer of consultation letter to the tribal representative of the Ohlone/Costanoan-Esselen Nation (OCEN). As of the writing of this EIR, the OCEN tribal representative has not responded to the offer of consultation from the school district.

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13.0 Cumulative Impacts

13.1 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 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 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.

13.2 CUMULATIVE DEVELOPMENT SCENARIO

Geographic Scope

The geographic scope of the area affected by cumulative impacts can vary with the specific environmental topic being evaluated. Generally, the geographic scope of the area affected by cumulative projects impacts is larger than the boundary of the project site itself, which encompasses 3.8 acres on the south end of the larger Carmel High School campus. 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 eastern 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 13-1, 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 2021). 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 13-2 below).

Table 13-1 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 eastern 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 Highway 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)

SOURCE: EMC Planning Group 2021

Planned, approved and recently approved/under construction projects within the three jurisdictions are presented in [Table 13-2, Cumulative Project List](#). The project locations are illustrated on [Figure 13-1, 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 13-2 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 located over one mile from Carmel High School.
<i>City of Carmel-by-the-Sea</i>		
Carmel Resort Inn	Carpenter Street & 1 st Avenue	Full tear down/rebuild of an existing motel/inn. 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; City of Carmel-by-the-Sea 2021

13.3 CUMULATIVE ANALYSIS

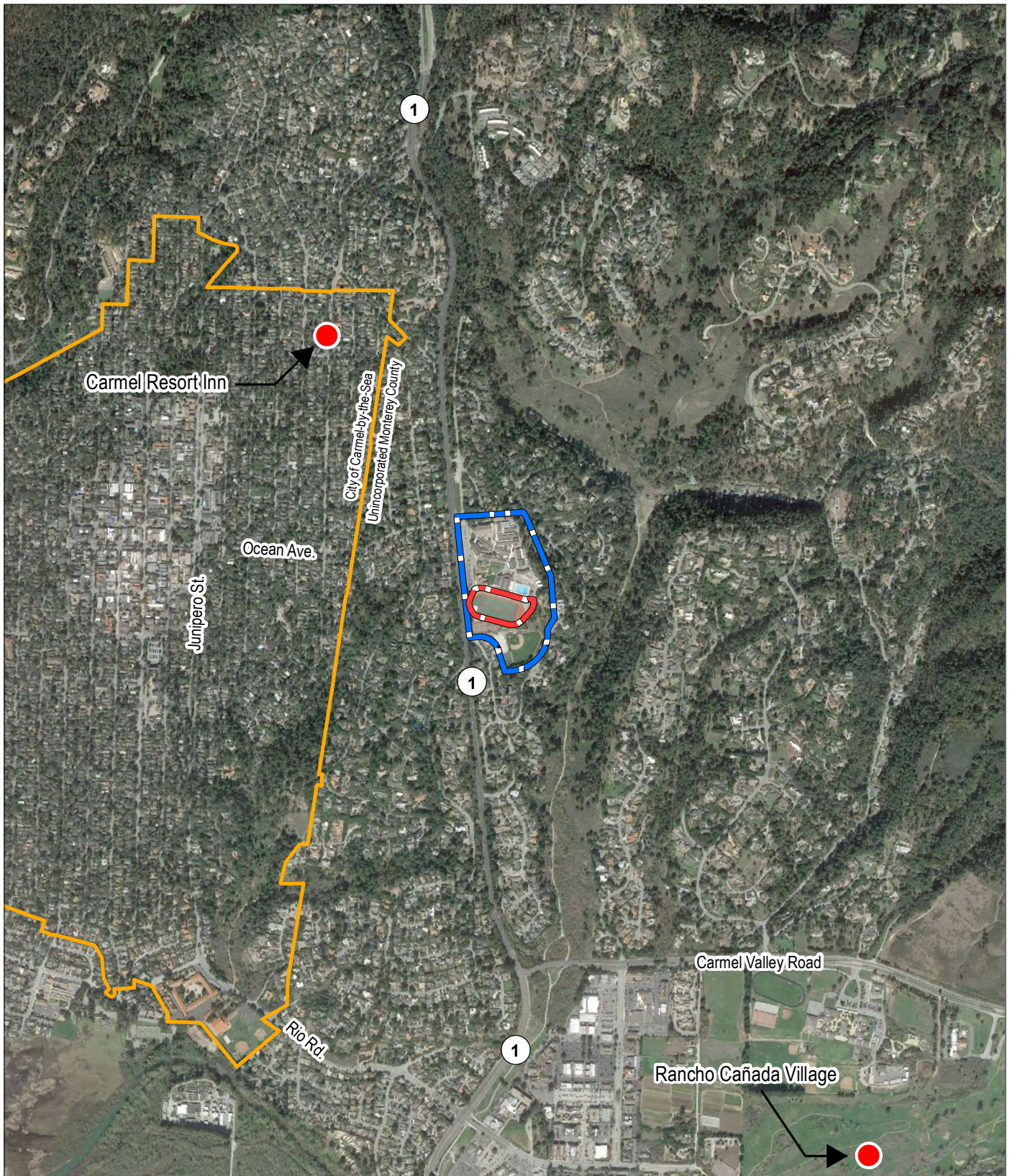
The following sections include an evaluation of the cumulative scenario's impacts, and addresses whether the proposed project's contribution is considerable.

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 Change the Visual Character and Quality of the Site (Less than Significant); and
- Impact 5-2. The Proposed Project Would Add Lighting to the Existing Lighted Campus Environment (Significant and Unavoidable).



0 1,400 feet

- Project Site Boundary
- Carmel-by-the-Sea City Limits
- Carmel High School Campus Boundary
- Other Projects

Source: Google Earth 2021,
Monterey County GIS 2019

Figure 13-1

Cumulative Project Locations

Carmel High School Stadium Lights EIR



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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 eastern 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. 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 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 likely 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); and
- Impact 6-3. Operation of Construction Equipment Could 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 PM₁₀ 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 field, 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 Biological Resources (Light and Glare) (less than Significant);
- Impact 7-6. Trimming Regulated Trees (Less than Significant); 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 13-2 could further exacerbate these cumulative impacts.

Project Contribution to Cumulative Impacts

Implementation of mitigation measures for the impacts identified above (Impacts 7-2 and 7-3) would reduce potential, significant impacts on special status species and nesting birds and raptors to a less-than-significant level. Given that the project site is relatively devoid of biological resource habitats and 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.

Cultural and Tribal Cultural Resources

Proposed Project Impact Summary

The proposed project's impacts on cultural and tribal cultural resources are discussed in Section 12.0, Effects Addressed in the Initial Study. The proposed project could result in the following cultural and tribal cultural resource impacts:

- Impact 12-1. Potential to accidentally discover unknown buried historic resources or unique archaeological resources during earth moving activities (Less-than-Significant with Mitigation); and
- Impact 12-2. Possibility of an accidental discovery of human remains during construction activities (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 Highway 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.

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. The Proposed Field Lighting and Associated Anticipated Increase in Traffic Will Consume Energy During Construction and Operation (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 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 and the new lights must meet current standards for energy efficiency which would only nominally increase demand for electricity. 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 10-2. Nighttime Stadium Events 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 is approximately 200 feet south of the project site.

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_{dn} 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

Noise 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 Miles Traveled but Would Not Conflict with CEQA Guidelines Section 15064.3 (Less than Significant);
- Impact 11-2. No Substantial Increase in Hazards due to Design Features or Incompatible Uses (Less than Significant); and
- Impact 11-3. 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 stadium lighting 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 lighting could result in inadequate parking during limited nighttime events which may create potential emergency access issues. Mitigation Measure 11-1, which requires the school district to prepare and implement a parking and traffic control 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 these cumulative impacts would be less-than-cumulatively considerable.

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Significant Unavoidable Impacts

14.1 CEQA REQUIREMENTS

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.

14.2 IMPACT ANALYSIS

Based on the environmental analysis provided in this EIR, most of the significant impacts of the proposed project can be reduced to less than significant by implementing mitigation measures presented in this EIR. However, the project would result in the following significant unavoidable impact as summarized below.

Aesthetics

As identified in Impact 5-3, 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. 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 5-1, would provide some mitigation

14.0 Significant Unavoidable Impacts

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 13.0, 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 approved the proposed project.

Growth Inducing Impacts

15.1 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.

15.2 GROWTH INDUCING IMPACT ANALYSIS

The proposed project is located entirely within the Carmel High School campus. The proposed field lights would serve existing uses of the Carmel High School campus. There is no evidence to indicate that adding lights at the stadium would facilitate an increase in enrollment at Carmel High 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 in-direct growth-inducing impacts.

16.0 Alternatives

16.1 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.

16.2 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.

Objectives

The addition of the stadium lights is primarily intended to allow for Friday night football games and other nighttime games and practices in anticipation of the state's "late start law," which will go into effect starting in the fall of 2022 and will affect the ability of various sports teams from practicing later in the day without lights. The Carmel Unified School District (school district) plans to install the stadium lighting by the start of the 2022-2023 school year. In addition, the new field lighting will:

- Provide the capability to host sport events and games at the athletic stadium on the Carmel High School campus at night when students, parents, and community members can more easily attend;
- Avoid the need to bus student athletes to off-site locations and facilities for night time games at Monterey Peninsula College and/or Pacific Grove High School and to Carmel Middle School for practices and games;
- Provide athlete and spectator safety by providing superior lighting conditions during sports events and games at night; and
- Create a new, healthy weekend social opportunity for students while building school spirit through the ability to host nighttime games and events at Carmel High School stadium.

Significant and Unavoidable Impacts

- Aesthetic Impact 5-2. The Proposed Project Would Add Lighting to the Existing Lighted Campus Environment (project and cumulative impact).

Significant Impacts Reduced to a Less-than-Significant with Mitigation Measures

- Biological Resource Impact 7-2. Potential Effect on Candidate, Sensitive, or Special-Status Species (Hoary Bat);
- Biological Resource Impact 7-3. Potential Effect on Candidate, Sensitive, or Special-Status Species (Nesting Raptors and Migratory Birds);
- Noise Impact 10-3. Construction Activities Could Cause a Substantial Temporary Noise Increase; and
- Transportation Impact 11-3. The Proposed Project Could Result in Inadequate Parking During Limited Nighttime Events with Potential Emergency Access Issues.

16.3 ALTERNATIVES CONSIDERED BUT REJECTED

CEQA Guidelines section 15126.6(f)(2) identifies considerations for evaluating an alternative project location. Among these are whether any of the significant effects of the project would be avoided or substantially lessened and whether feasible alternative locations exist.

Feasibility is described in section 15126.6(f)(1) and includes factors such as site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.

An alternative project location (i.e., an alternative location for the lights) is not a feasible alternative and therefore, was rejected for evaluation.

16.4 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 “no project” alternatives were considered:

1. Alternative 1: Alternative Location for Practices and Games; and
2. Alternative 2: Eliminate Some Athletic Programs.

These alternatives are described below, followed by an analysis of how the alternative may reduce impacts associated with the proposed project.

Alternative 1: Alternate Location for Practices and Games

Alternative Description

Under this alternative, no field lighting would be installed at Carmel High School Stadium although high school athletic activities would still need to occur under the “late start law” conditions starting in the 2022-2023 school year. Generally, this means that on-campus athletic and other activities would end prior to sundown, and that no evening or nighttime events would take place at Carmel High School Stadium.

For athletic events that cannot be accommodated between the end of classes and sundown, students could be bussed to off-site facilities with night-time lighting, possibly including Monterey Peninsula College, and/or Pacific Grove High School, assuming these facilities could accommodate Carmel High School’s athletic program schedule.

For practices that cannot be accommodated between the end of classes and sundown, students would need to be bussed to a facility that has the daily capacity to accommodate the evening practices. It is unlikely that Pacific Grove High School or other local high schools with lights could accommodate Carmel High School athletic practices due to their own athletic program schedules. It is unknown whether Monterey Peninsula College could accommodate this daily evening activity.

Alternative’s Attainment of Project Objectives

This alternative would not meet any of the objectives of the proposed project. This alternative would not meet any of the objectives outlined above, including not being able to extend play time on the stadium at the Carmel High School campus, not avoiding the need to bus students to off-site locations, and not providing athletes and spectators enhanced safety by providing superior lighting conditions. 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

This analysis identifies potential environmental impacts associated with this alternative and compares it with the impacts of installing new field lighting at the existing Carmel High School Stadium. 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 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 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 tree trimming and lighting pole construction activity and possible disturbance of potential bird nesting and bat roosting habitat.

Cultural and Tribal Cultural Resources

This alternative would not result in potential cultural and tribal resource impacts, as there would be no ground disturbance.

Energy

This alternative would not result in energy impacts related to the physical construction and operation of the stadium lights. 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.

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 would not occur. 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. Noise impacts could be considered similar; however, the noise impacts would occur in different locations at different times.

Transportation

This alternative would eliminate the transportation impacts generated by additional attendees and construction of the proposed stadium lights. However, this alternative would result in student-athletes being bussed to off-site locations for practices on a daily basis and games. Therefore, under this alternative, transportation impacts could increase as compared to the proposed project.

Alternative 2: Eliminate Some Athletic Programs

Alternative Description

Under this alternative, the school district would not install the field lighting at Carmel High School Stadium as proposed. 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 for practices and games to avoid the need for extended time on the stadium field past sunset.

Alternative's Attainment of Project Objectives

This alternative would not meet any of the objectives of the proposed project. This alternative would also 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.

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 Carmel High School Stadium. 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.

Biological Resources

This alternative would not result in potential biological resource impacts as there would be no tree trimming and lighting pole construction activity and possible disturbance of potential bird nesting and bat roosting habitat.

Cultural and Tribal Cultural Resources

This alternative would not result in potential cultural and tribal resource impacts, as there would be no ground disturbance.

Energy

This alternative would not result in energy impacts related to the physical construction and operation of the stadium lights.

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.

Transportation

This alternative would eliminate the transportation impacts generated by additional attendees and construction of the proposed stadium lights.

16.5 COMPARISON OF ALTERNATIVES

The alternatives are summarized and compared in a matrix format in [Table 16-1, Comparison of Project Alternatives to the Proposed Project](#).

Table 16-1 Comparison of Project Alternatives to the Proposed Project

Environmental Impact	Proposed Project Level of Impact	Alternative #1 Alternate Location for Practices and Games	Alternative #2 Eliminate Some Athletic Programs
Aesthetics			
Impact 5-1. The Light Poles Would be Visible from and towards County-Designated Visually "Sensitive" and "Highly Sensitive" Areas and Change the Visual Character and Quality of the Site	LTS	NI Avoids Impact	NI Avoids Impact
Impact 5-2. The Proposed Project Would Add Lighting to the Existing Lighted Campus Environment.	SU	NI Avoids Impact	NI Avoids Impact
Air Quality			
Impact 6-1. Fugitive Dust Emissions During Construction Would Not Exceed the Air District Thresholds and Degrade Air Quality	LTS	NI Avoids Impact	NI Avoids Impact
Impact 6-2. Criteria Air Pollutants During Operations Would Not Exceed Air District Thresholds and Degrade Air Quality	LTS	LTS Increases Impact	NI Avoids Impact
Impact 6-3. Operation of Construction Equipment Could Expose Sensitive Receptors to Minimal Toxic Air Contaminants	LTS	NI Avoids Impact	NI Avoids Impact
Biological Resources			
Impact 7-1. Special-Status Plant Species	NI	NI	NI
Impact 7-2. Potential Effect on Special-Status Species (Hoary Bat)	LTSM	NI Avoids Impact	NI Avoids Impact
Impact 7-3. Potential Effect on Special-Status Species (Nesting Raptors and Migratory Birds)	LTSM	NI Avoids Impact	NI Avoids Impact
Impact 7-4. Potential Effect on Sensitive Biological Resources (Light and Glare)	LTS	NI Avoids Impact	NI Avoids Impact
Impact 7-5. Federally- and State-Protected Wetlands or Waters of the U.S.	NI	NI	NI

Environmental Impact	Proposed Project Level of Impact	Alternative #1 Alternate Location for Practices and Games	Alternative #2 Eliminate Some Athletic Programs
(Intermittent or Ephemeral Drainage)			
Impact 7-6. Trimming Regulated Trees	LTS	NI Avoids Impact	NI Avoids Impact
Impact 7-7. Interference with Movement of Wildlife Species or with Established Wildlife Corridors	LTS	NI Avoids Impact	NI Avoids Impact
Impact 7-8. Sensitive Natural Communities	NI	NI	NI
Cultural and Tribal Cultural Resources			
Potential to Accidentally Discover Unknown Buried Historic Resources or Unique Archaeological Resources during Earth Moving Activities	LTSM	NI Avoids Impact	NI Avoids Impact
Possibility of an Accidental Discovery of Human Remains during Construction Activities.	LTSM	NI Avoids Impact	NI Avoids Impact
Energy			
Impact 8-1. The Proposed Field Lighting and Associated Anticipated Increase in Traffic Will Consume Energy During Construction and Operation	LTS	LTS Increases Impact	NI Avoids Impact
Impact 8-2. No Conflict with State or Local Plans for Renewable Energy or Energy Efficiency	NI	NI	NI
Greenhouse Gas Emissions			
Impact 9-1. Generate Greenhouse Gas Emissions	LTS	LTS Increases Impact	NI Avoids Impact
Impact 9-2. No Conflict with the Applicable Plans to Reduce Greenhouse Gas Emissions	NI	NI	NI
Noise			
Impact 10-1. Project-Generated Traffic Noise Would Not Increase Existing Noise Levels	NI	NI	NI
Impact 10-2. Nighttime Stadium Events Would	LTS	NI Avoids Impact	NI Avoids Impact

Environmental Impact	Proposed Project Level of Impact	Alternative #1 Alternate Location for Practices and Games	Alternative #2 Eliminate Some Athletic Programs
Cause an Occasional Noise Increase			
Impact 10-3. Construction Activities Could Cause a Substantial Temporary Noise Increase	LTSM	NI Avoids Impact	NI Avoids Impact
Impact 10-4. Construction Activities Could Cause Temporary Excessive Groundborne Vibration	LTS	NI Avoids Impact	NI Avoids Impact
Transportation			
Impact 11-1. An Increase in Event Attendance Would Increase Vehicle Miles Traveled but Would Not Conflict with CEQA Guidelines Section 15064.3	LTS	LTS Impact Could be Greater	NI Avoids Impact
Impact 11-2. No Substantial Increase in Hazards due to Design Features or Incompatible Uses	LTS	NI Avoids Impact	NI Avoids Impact
Impact 11-3. 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
Project Objectives	Met	Not Met	Not Met

SOURCE: EMC Planning Group 2021

NOTE: NI – No Impact; LTS – Less Than Significant; LTSM – Less-Than-Significant with Mitigation; SU – Significant and Unavoidable

16.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Alternative 2, Eliminate Some Athletic Programs, would avoid all of the proposed project's environmental impacts, including the significant and unavoidable lighting impacts, and therefore, would be considered the environmentally superior alternative. However, this alternative does not meet any of the project objectives.

Alternative 1, Alternate Locations for Practices and Games, would eliminate the proposed project's significant and unavoidable lighting impacts; however, may somewhat increase impacts associated with transportation, air quality, energy, greenhouse gas emissions, and noise. Therefore, Alternative 1 would be the next environmentally superior alternative. However, this alternative does not meet any of the project objectives.

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