October 2021 | Initial Study

SPORTS FACILITIES LIGHTING AT SIX HIGH SCHOOLS

San Bernardino City Unified School District

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PLACEWORKS

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Abbreviations and Acronyms

AAQS	ambient air quality standards
AB	Assembly Bill
AQMD	air quality management district
AQMP	air quality management plan
AVHS	Arroyo Valley High School
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHS	Cajon High School
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DSA	Division of the State Architect
fc	foot-candle
FHSZ	fire hazard severity zone
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
ISHS	Indian Springs High School
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LST	localized significance thresholds
MRZ	mineral resources zone
MT	metric ton
NO_X	nitrogen oxides
O_3	ozone

Abbreviations and Acronyms

PM	particulate matter
ppm	parts per million
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
RPS	renewable portfolio standard
SB	Senate Bill
SBCFD	San Bernardino County Fire District
SBCUSD	San Bernardino City Unified School District
SBHS	San Bernardino High School
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SGHS	San Gorgonio High School
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
VOC	volatile organic compound

1. Introduction

San Bernardino City Unified School District (SBCUSD or District) is proposing to install competitive sports lighting at its six high schools—Arroyo High School, Cajon High School, Indian Springs High School, Pacific High School, San Bernardino High School, and San Gorgonio High School. The proposed project is required to undergo an environmental review pursuant to the California Environmental Quality Act (CEQA). This initial study provides an evaluation of the potential environmental consequences associated with this proposed project.

1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The completion of the environmental compliance process is governed by two principal regulations: CEQA and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). CEQA was enacted in 1970 by the California Legislature to disclose to decision makers and the public the significant environmental effects of proposed activities and to identify ways to avoid or reduce the environmental effects through feasible alternatives or mitigation measures. Compliance with CEQA applies to California government agencies at all levels: local, regional, and state agencies, boards, commissions, and special districts (such as school districts and water districts).

SBCUSD is lead agency for the proposed project and is therefore required to analyze the potential environmental effects associated with the project.

Public Resources Code Section 21080(a) states that analysis of a project's environmental impact is required for any "discretionary projects proposed to be carried out or approved by public agencies…." In this case, SBCUSD has determined that an initial study is required to determine whether there is substantial evidence that implementation of the project would result in environmental impacts. An initial study is a preliminary environmental analysis to determine whether an environmental impact report (EIR), a mitigated negative declaration (MND), or a negative declaration (ND) is required for a project (CEQA Guidelines Section 15063). An initial study must have a project description; a description of the environmental setting; an identification of environmental effects by checklist or other similar form; an explanation of environmental effects; a discussion of mitigation for significant environmental effects; an evaluation of the project's consistency with existing, applicable land use controls; the names of persons who prepared the study; and identification of data sources (CEQA Guidelines Section 15063(d)).

When an initial study identifies substantial evidence of the potential for significant environmental impacts, the lead agency must prepare an EIR (CEQA Guidelines Section 15064); however, if all impacts can be mitigated to a less than significant level, the lead agency can prepare an MND that incorporates mitigation measures into the project (CEQA Guidelines Section 15070).

1.1.1 Environmental Process

A "project" means the whole of an action that has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following:

- An activity directly undertaken by any public agency, including but not limited to public works construction and related activities clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100 to 65700.

- An activity undertaken by a person which is supported in whole or in part through public agency contacts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.

- An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies (CCR § 15378[a]).

The proposed actions by SBCUSD constitute a "project" because the activity would result in a direct physical change in the environment and would be undertaken by a public agency. All "projects" in the State of California are required to undergo an environmental review to determine the environmental impacts associated with implementation of the project.

1.1.2 Initial Study

This initial study was prepared in accordance with CEQA and the CEQA Guidelines, as amended, to determine if the project could have a significant impact on the environment. The purposes of this initial study, as described in the State CEQA Guidelines Section 15063, are to 1) provide the lead agency with information to use as the basis for deciding whether to prepare an EIR or ND; 2) enable the lead agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for an ND; 3) assist the preparation of an EIR, if one is required; 4) facilitate environmental assessment early in the design of a project; 5) provide documentation of the factual basis for the finding in an ND that a project will not have a significant effect on the environment; 6) eliminate unnecessary EIRs; and 7) determine whether a previously prepared EIR could be used with the project. The findings in this initial study have determined that an MND is the appropriate level of environmental documentation for this project.

1.1.3 Mitigated Negative Declaration

The MND includes information necessary for agencies to meet statutory responsibilities related to the proposed project. State and local agencies will use the MND when considering any permit or other approvals necessary to implement the project. A preliminary list of the environmental topics that have been identified for study in the MND is provided in the Initial Study Checklist (Chapter 2).

One of the primary objectives of CEQA is to enhance public participation in the planning process, because public involvement is an essential feature of CEQA. Community members are encouraged to participate in the

environmental review process, request to be notified, monitor newspapers for formal announcements, and submit substantive comments at every possible opportunity afforded by the District. The environmental review process provides several opportunities for the public to participate through public notice and public review of CEQA documents and public meetings.

1.2 PROJECT LOCATION

The Project Area refers to all improvement areas in six high schools—Arroyo Valley High School (AVHS), Cajon High School (CHS), Indian Springs High School (ISHS), Pacific High School (PHS), San Bernardino High School (SBHS), and San Gorgonio High School (SGHS)—as described below, collectively. Various improvement areas in each of the six schools is refer to as project site. All six high schools are in the City of San Bernardino, San Bernardino County.

The City of San Bernardino is in southwest San Bernardino County and in the northern part of the Upper Santa Ana River Valley. The city is bounded by the San Bernardino Mountains in the San Bernardino National Forest on its northeast side. It is surrounded by the City of Highland to the east, the cities of Redlands and Loma Linda to the southeast, the City of Colton to the south, and the City of Rialto and unincorporated San Bernardino County to the west. See Figure 1, *Regional Location*, and Figure 2, *Location of Six High Schools*.

Arroyo Valley High School. AVHS is at 1881 W. Baseline Street, San Bernardino, CA 92411. The project site consists of the tennis courts, swimming pool, baseball fields, softball fields, and soccer fields on the AVHS campus. AVHS is bounded by Baseline Street to the north; Madison Street, multifamily residences, and Wilson Street Park to the east; single-family residences to the south; and industrial uses to the west. Vehicular access to the campus is from N. Pennsylvania Avenue via W. 9th Street along the southern border of the campus. See Figure 3, *Local Vicinity, Arroyo Valley High School*.

Cajon High School. CHS is at 1200 W. Hill Dr., San Bernardino, CA 92407. The project site consists of the tennis courts, swimming pool, baseball fields, softball fields, and soccer fields on the CHS campus. CHS is bounded by Northpark Boulevard to the north, Mountain Drive to the east, W. Hill Drive to the south, and a storm drainage channel to the west. Vehicular access to the campus is from W. Hill Drive to the south and Mountain Drive to the east. The CHS campus borders unincorporated San Bernardino County to the south across W. Hill Drive. See Figure 4, *Local Vicinity, Cajon High School*.

Indian Springs High School. ISHS is at 650 North Del Rosa Drive, San Bernardino, CA 92410. The project site consists of the tennis courts, baseball fields, softball fields, and soccer fields on the ISHS campus. ISHS is bounded by 9th Street to the north, 6th Street to the south, Del Rosa Drive to the east, and residential uses and vacant lots to the west. The ISHS campus borders the City of Highland on its west and south sides. Vehicular access to the campus is from 6th Street along the south side of the campus and from Del Rosa Drive along the east side of the campus. See Figure 5, *Local Vicinity, Indian Springs High School*.

Pacific High School. PHS is at 1020 Pacific Street, San Bernardino, CA 92404. The project site consists of the tennis courts, swimming pool, baseball fields, softball fields, and soccer fields on the PHS campus. PHS is bounded by Pacific Street on the south, Perris Hill Park Road on the west, Perris Hill Park to the north, and residential uses to the east. Vehicular access to the campus is from Perris Hill Park Road to the west and Pacific

Street to the south. The area south of Pacific Street is in unincorporated San Bernardino County. See Figure 6, *Local Vicinity, Pacific High School*.

San Bernardino High School. SBHS is at 1850 North E Street, San Bernardino, CA 92405. The project site consists of eight tennis courts, aquatic center (one swimming pool and one diving pool), baseball fields, softball fields, and soccer fields on the SBHS campus. SBHS is bounded by North G Street on the west, West 17th Street on the south, North E Street on the east, and 20th Street on the north. Vehicular access to the campus is from North F Street and West 17th Street along the southern boundary and North 20th Street along the northern boundary. See Figure 7, *Local Vicinity, San Bernardino High School*.

San Gorgonio High School. SGHS is at 2299 Pacific Street, San Bernardino, CA 92404. The project site consists of the tennis courts (eight tennis courts to the north out of ten), aquatic center (one swimming pool and one diving pool), varsity baseball field, varsity softball field, and one practice field on the SGHS campus. SGHS is bounded by Pacific Street to the north, Arden Avenue to the east, Highland Creek to the south, and single-family residences to the west. Vehicular access to the campus is from Pacific Street along the northern boundary and Arden Avenue along the eastern boundary. SGHS borders the City of Highland to the west and south. See Figure 8, *Local Vicinity, San Gorgonio High School*.

1.3 ENVIRONMENTAL SETTING

1.3.1 Existing Land Use

San Bernardino City Unified School District

The San Bernardino City Unified School District provides public education in nearly the entire city of San Bernardino; part of the city of Highland; small parts of the cities of Redlands, Colton, and Rialto; and parts of unincorporated San Bernardino County north and west of the city of San Bernardino. The District operates 51 elementary schools, 11 middle schools, 10 high schools, alternative programs, and an adult school. In addition, 14 public charter schools are chartered through the District. Total District enrollment during the 2019/20 school year was 53,037 students (CDE 2020).

Arroyo Valley High School

AVHS is a comprehensive high school serving students in grades 9 through 12. AVHS is developed with classroom buildings, library, auditorium, cafeteria, portable classrooms, surface parking lot, and various athletic facilities. Athletic facilities includes a football stadium, varsity softball field, varsity baseball field, varsity baseball practice field, varsity softball practice field, two soccer fields that overlap with the baseball and softball practice fields, a swimming pool, eight tennis courts, and hardcourts (ten basketball courts and three half courts).

The 2019/20 school year enrollment for the school was 2,732 students, which was the highest enrollment in the past five years. The lowest enrollment was 2,605 students in the 2016/17 school year.

Cajon High School

CHS is a comprehensive high school serving students in grades 9 through 12. CHS is developed with classrooms, gymnasium, library, kitchen/dining, theater, and administration buildings, surface parking lot, and various athletic facilities. Athletic facilities include a football stadium, ten tennis courts, two swimming pools, hardcourts (six basketball courts), one varsity baseball field, one varsity softball field, and two practice fields with one that overlaps with the varsity softball field.

The 2019/20 school year enrollment for the school was 2,959 students, which is the highest enrollment in the past five years. The lowest enrollment was 2,812 students in the 2018/19 school year.

Indian Springs High School

ISHS a comprehensive high school serving students in grades 9 through 12. ISHS is developed with classrooms, a gymnasium, multipurpose room, library, childcare center, surface parking lots, and various athletic facilities. Athletic facilities include a football stadium, a swimming pool, varsity baseball field, varsity softball field, a practice field, three soccer fields, eight tennis courts, and hardcourts (twelve basketball courts).

The 2019/20 school year enrollment for the school was 1,888 students, which is the highest enrollment in the past five years. The lowest enrollment was 1,760 students in the 2016/17 school year.

Pacific High School

PHS is a comprehensive high school serving students in grades 9 through 12. PHS is developed with classrooms, kitchen/cafeteria, auditorium, library, admin, amphitheater, and various athletic facilities. Athletic facilities include a football stadium, aquatic facility (a training pool and a diving pool), varsity baseball field, varsity softball field, a practice field that overlaps with the varsity softball field, 12 tennis courts, 12 basketball courts, and handball courts.

The 2019/20 school year enrollment for the school was 1,084 students, which is the lowest enrollment in the past five years. The highest enrollment was 1,350 students in the 2015/16 school year.

San Bernardino High School

SBHS is a comprehensive high school serving students in grades 9 through 12. SBHS is developed with classrooms, gymnasium, cafeteria, auditorium, library, admin, four surface parking lots, and various athletic facilities. Athletic facilities include a football stadium; aquatic facility with a swimming pool and a diving pool; varsity baseball field; varsity softball field; two practice fields, one of which overlaps with the varsity softball field; eight tennis courts; handball courts; and hardcourts.

The 2019/20 school year enrollment for the school was 1,565 students, which is the lowest enrollment in the past five years. The highest enrollment was1,621 students in the 2015/16 school year.

San Gorgonio High School

SGHS is a comprehensive high school serving students in grades 9 through 12. SGHS is developed with classrooms, gymnasium, cafeteria, auditorium, library, admin, two surface parking lots, and various athletic

facilities. Athletic facilities include a football stadium; aquatic facilities with one swimming pool and one diving pool; a varsity baseball field; a varsity softball field; two practice fields, one of which overlaps with both the varsity baseball and softball fields; ten tennis courts; handball courts; and hardcourts..

The 2019/20 school year enrollment for the school was 1,836 students, which is the lowest enrollment in the past five years. The highest enrollment was 2,076 students in the 2016/17 school year.

1.3.2 Surrounding Land Use

Arroyo Valley High School. AVHS is surrounded by industrial uses are to the east; institutional, commercial, residential, and vacant lot to the north; residential and Wilson Street Park to the east; and single-family residences to the south. Wilson Street Park is also developed with residences. Other major uses in the area include Cajon Wash to the west, Anne Shirrells Park and Dr. Martin Luther King Jr. Middle School to the north across Baseline Street, and Maple Street Park and Johnson Hall Center to the south across 9th Street.

Cajon High School. CHS is surrounded by residential uses on all four sides except for the northwestern corner, which is the California State University, San Bernardino.

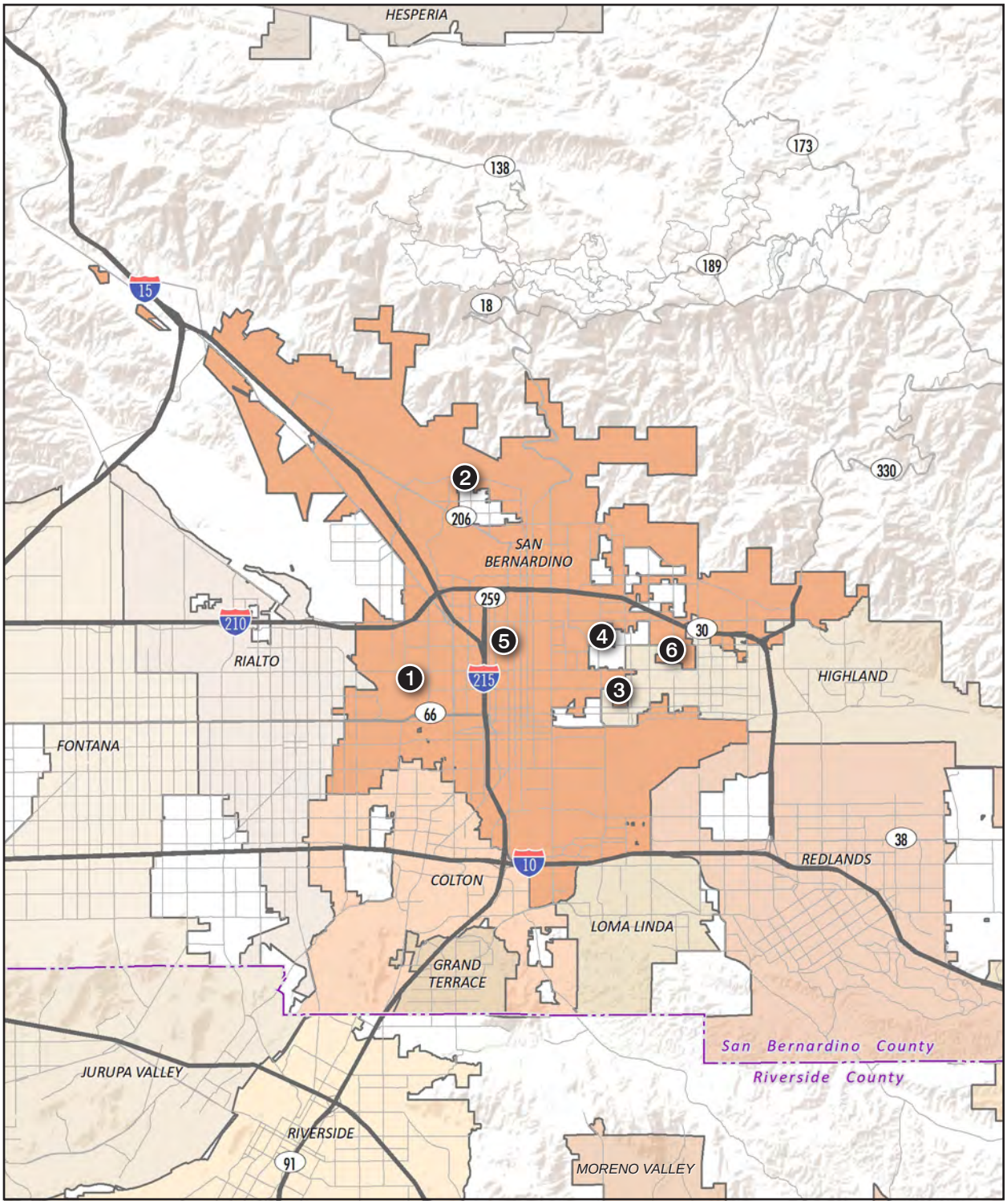
Indian Springs High School. The project site is surrounded by single-family detached residences and vacant land to the east, south, and west and by vacant land and multifamily residences to the north. Bing Wong Elementary School is across 9th Street from the northwest corner of the Indian Springs High School, and Curtis Middle School is also across 9th Street at the northwest corner of Del Rosa Drive and 9th Street. San Bernardino International Airport is about 0.4 mile southeast of the site. The City of Highland bounds the campus to the west and south.

Pacific High School. PHS is at the foot of Perris Hill and surrounded by residential uses to the south and east. West across Perris Hill Park Road is a flood control channel and beyond that are commercial office uses. Roger Anton Elementary School is to the southwest of PHS, and Perris Hill Park is north of Perris Hill.

San Bernardino High School. SBHS is surrounded predominantly by residential uses, and institutional uses are at the southwest and southeast corners. Institutional and commercial uses are near the northeast corner of the campus.

San Gorgonio High School. SGHS is surrounded by residential uses to the north, west, and south and Speicher Memorial Park to the east. The SGHS campus is shaped like an inverted "L," and shares parts of its southern and western boundaries with an approximately 10-acre property containing three transmission towers. Highland Creek borders the campus to the south, and south of Highland Creek is the City of Highland.

Figure 1 - Regional Location
1. Introduction



1. Arroyo Valley High School
2. Cajon High School
3. Indian Springs High School
4. Pacific High School
5. San Bernardino High School
6. San Gorgonio High School

Note: Unincorporated county areas are shown in white.

Source: ESRI, 2020

0 3
Scale (Miles)

1. Introduction

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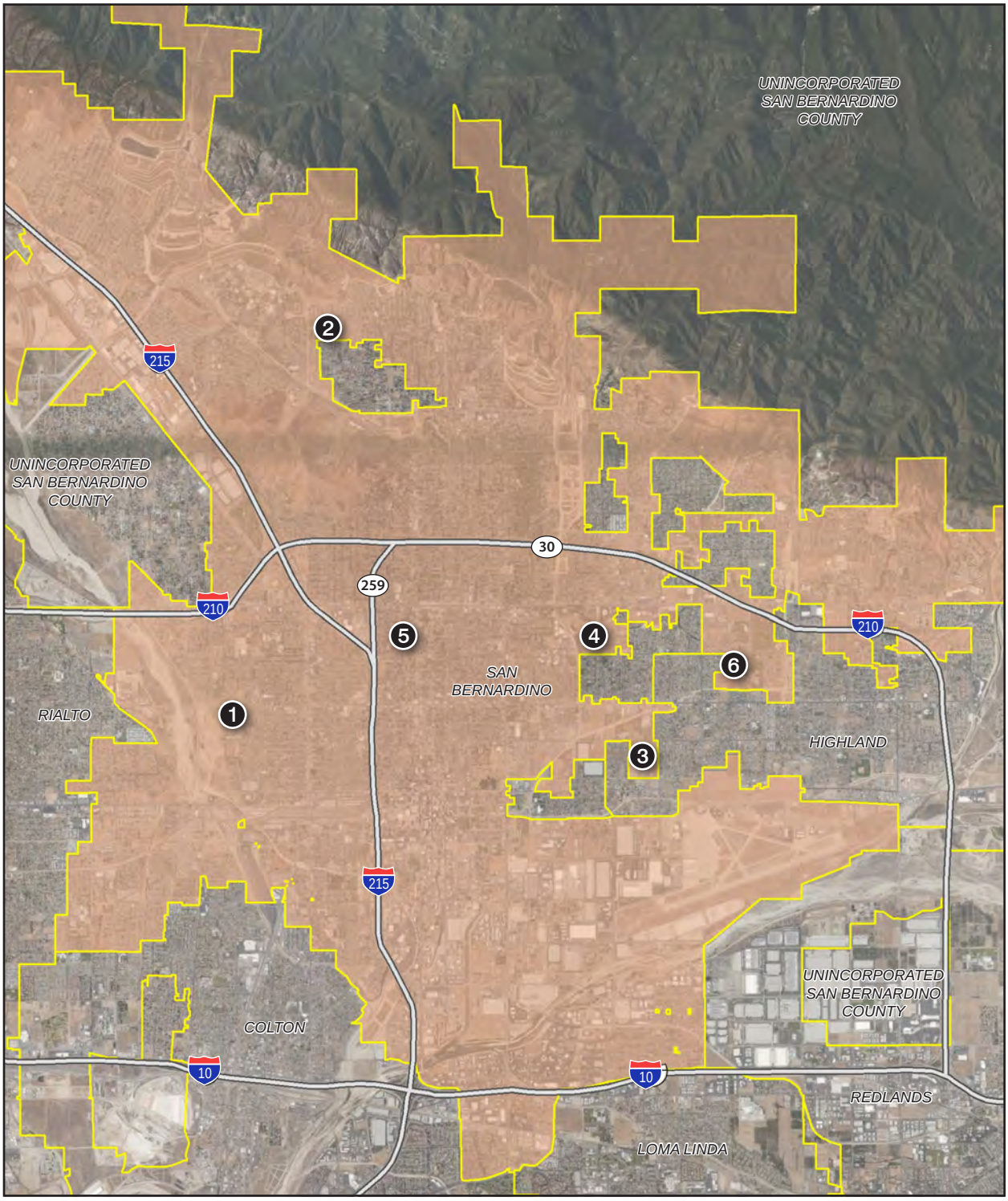
Figure 2 - Location of Six High Schools
1. Introduction



1. Arroyo Valley High School
2. Cajon High School
3. Indian Springs High School
4. Pacific High School
5. San Bernardino High School
6. San Gorgonio High School

0 8,000
Scale (Feet)

Source: ESRI, 2020

1. Introduction

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Figure 3 - Local Vicinity, Arroyo Valley High School

Source: Nearmap, 2020

1. Introduction

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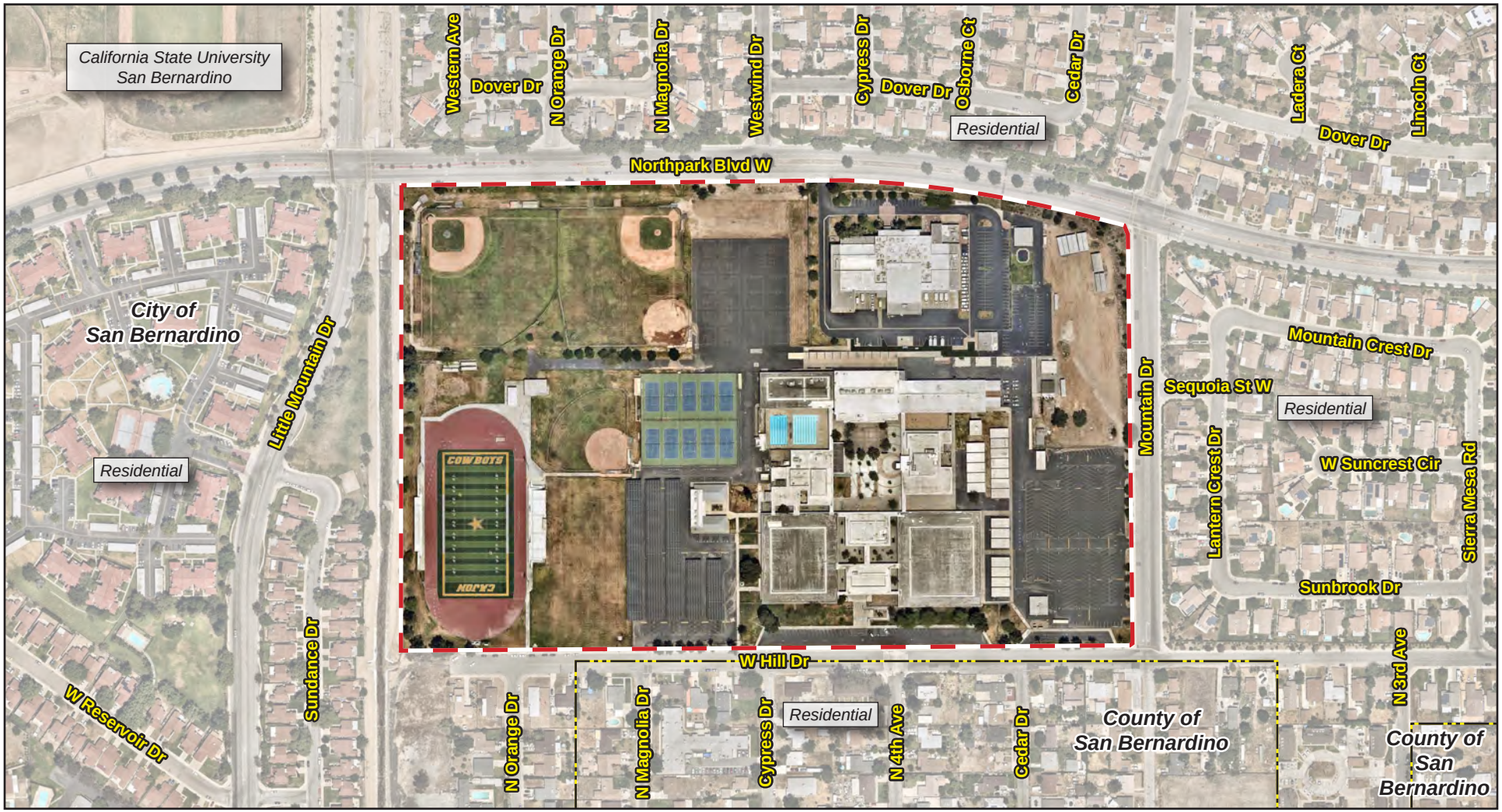
Figure 4 - Local Vicinity, Cajon High School
1. Introduction



Source: Nearmap, 2020

1. Introduction

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Figure 5 - Local Vicinity, Indian Springs High School
1. Introduction

Source: Nearmap, 2020

1. Introduction

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Figure 6 - Local Vicinity, Pacific High School

Source: Nearmap, 2020

1. Introduction

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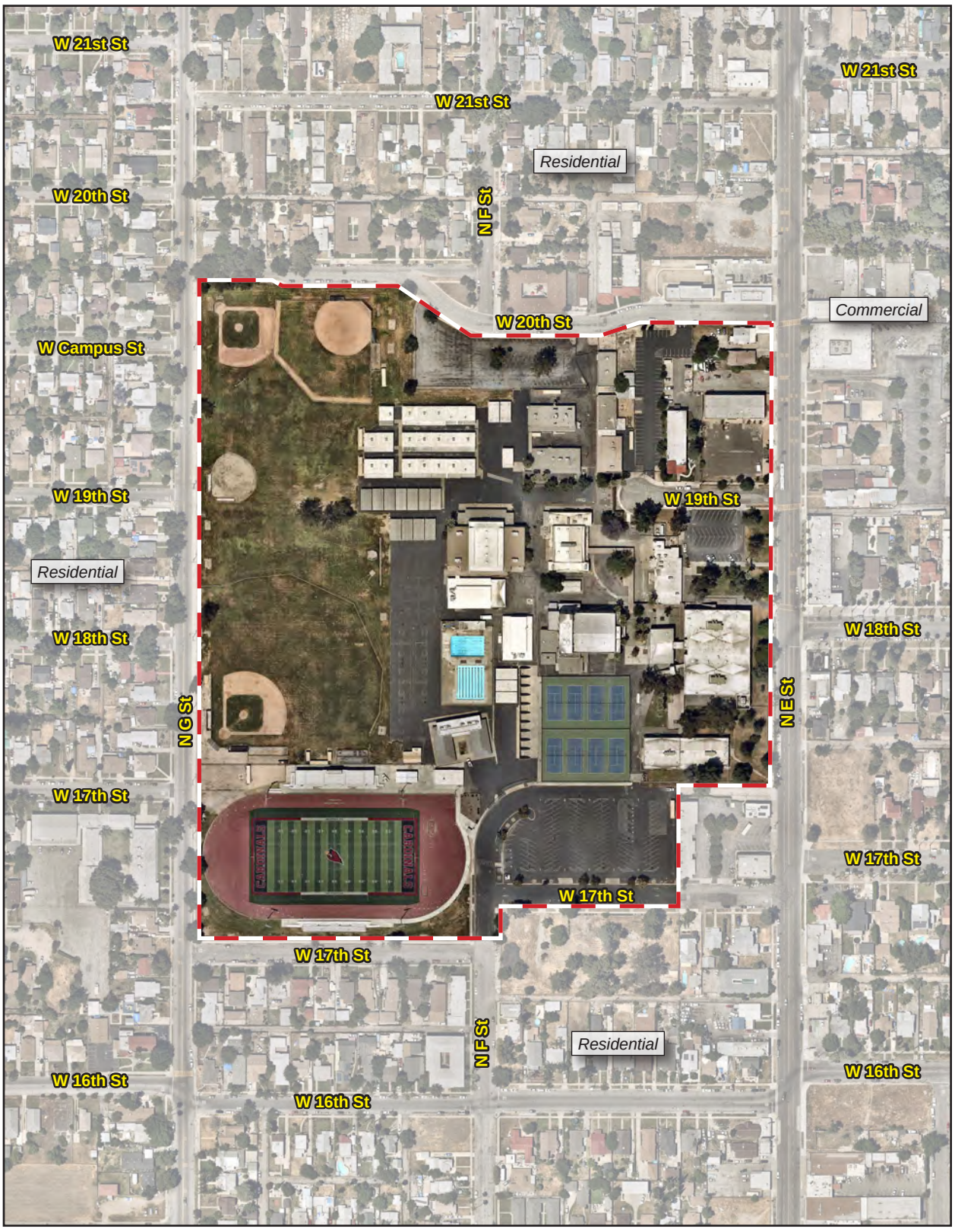
Figure 7 - Local Vicinity, San Bernardino High School



Project Boundary

0 350
Scale (Feet)

Source: Nearmap, 2020

1. Introduction

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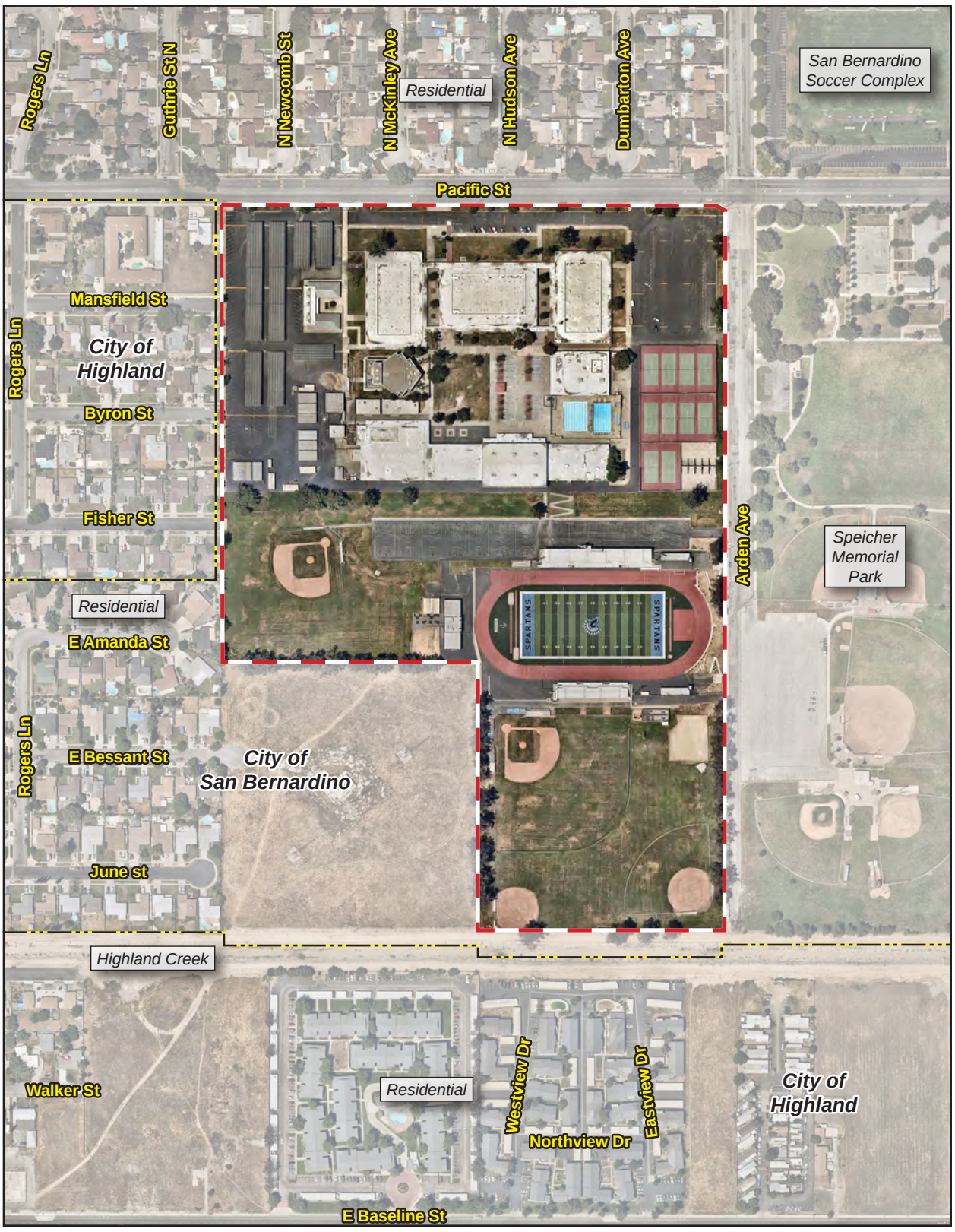
Figure 8 - Local Vicinity, San Gorgonio High School
1. Introduction



Source: Nearmap, 2020

1. Introduction

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1.4 PROJECT DESCRIPTION

1.4.1 Proposed Land Use

The San Bernardino City Unified School District plans to add competitive sports lighting to its six comprehensive high schools:

- Arroyo Valley High School
- Cajon High School
- Indian Springs High School
- Pacific High School
- San Bernardino High School
- San Gorgonio High School

The proposed lighting improvements are prompted by the passage of Senate Bill (SB) 328, which requires high schools to start no earlier than 8:30 am. Instituting a later start time is expected to reduce the negative impacts of sleep deprivation on adolescents and give them multiple health, safety, and learning benefits. However, with the later start time, schools will also end later, which will affect sports activities unless the athletic fields and courts are lighted for evening use.

The District plans to light the tennis courts, varsity and junior varsity baseball and softball fields, and swimming pools for all six schools—except for Indian Springs High School and San Gorgonio High School, where swimming pools are already equipped with sports lighting. Football/track stadiums at all six schools were also previously renovated with artificial turf and lights and are not part of this project. Public address (PA) systems are not part of the proposed sports lighting project for all six schools.

The proposed sports lighting project would allow extended use of the listed athletic facilities into evening hours for the benefit of existing students. No additional sports programs would be added that could increase participants or spectators. The proposed project would require limited demolition of hardscape and softscape to install lighting poles at the existing sports facilities. No structural demolition would be required.

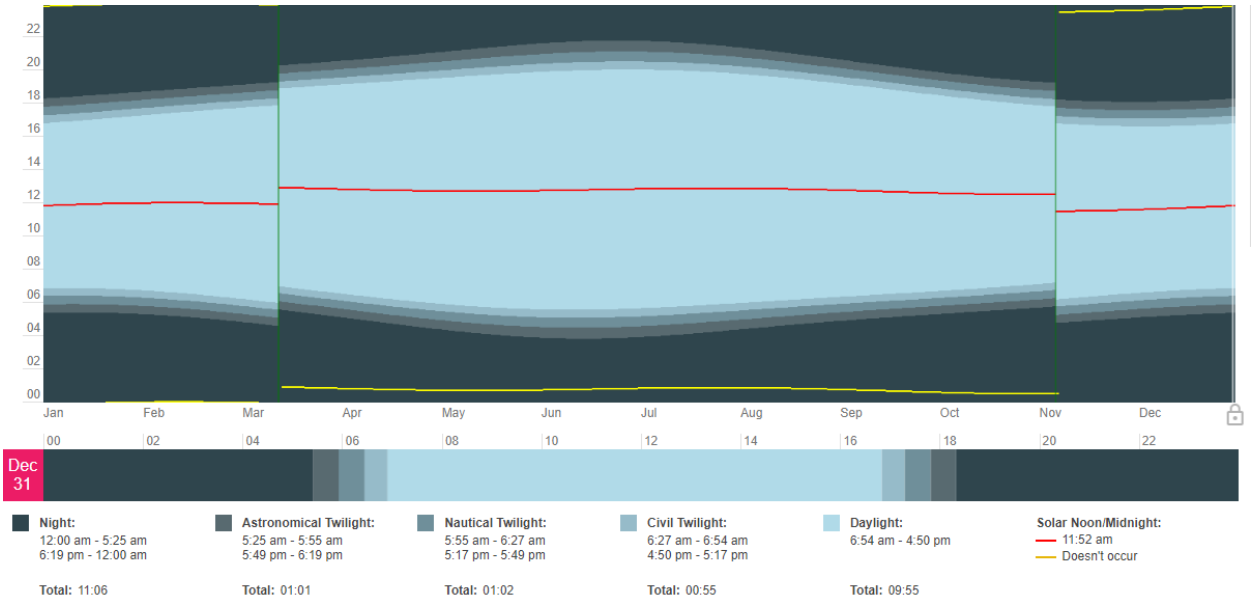
As with the existing conditions, the newly lit athletic facilities would be available for use by community groups after school hours when the facilities are not in use by students and during weekends, as provided by the District's use policy under the Civic Center Act.

The lighting has been designed to meet the California Interscholastic Federation field lighting recommendations for competitive events. Sports lighting would consist of concrete bases with galvanized steel poles between 50 and 90 feet tall, with LED luminaires mounted at various heights.

1. Introduction

As shown in *Exhibit A, 2021 Sun Graph for San Bernardino*, from November to February, daylight is available until around 4:30 pm or 5:30 pm when the sun starts to set; from March to October, daylight is available until around 7 pm and as late as around 8 pm from May to July (Timeanddate.com 2021). In general, all activities are scheduled to end by 7:30 pm. For most days, operating hours for the lights would be up to three hours during winter months and one to two hours during spring and autumn months. Details of the proposed facilities and activities schedule at each school are further described, below.

Exhibit A: 2021 Sun Graph for San Bernardino



Note: The red line representing solar noon period reflects daylight saving time beginning in early March to early November.

Arroyo Valley High School

The District proposes to light the tennis courts, swimming pool, JV softball field, JV baseball field, varsity baseball field, and varsity softball field by installing 38 light poles—ten 50-foot poles, six 60-foot poles, twelve 70-foot poles, and ten 80-foot poles—and providing 213 LED luminaries mounted at various heights, from 16 to 80 feet. The light pole locations are shown on Figure 9, *Arroyo Valley High School Lighting Pole Locations*, and the types of LED luminaires, mounting heights, and electricity load are shown on Figure 10, *Arroyo Valley High School Lighting System Summary*. Appendix A, *Lighting Plans for Arroyo Valley High School*, provides a close-up view of the light pole locations and illumination summary.

Tennis Courts

There are eight tennis courts at Arroyo Valley High School, and ten 50-foot light poles would be provided, five on the east side of the courts and five on the west side. Eight poles would be equipped with three LED luminaires, and two poles would have six luminaires. Average light levels for the eight courts would range from approximately 52 footcandles (fc) to 55 fc, with a guaranteed average of 50 fc.

Swimming/Water Polo Pool

The swimming pool would be lit by four light poles, two 60-foot poles on the west and south corners of the pool, exclusively for the pool, and two 80-foot poles on the east and north corners of the pool shared with the JV softball field and JV baseball field, respectively. The two 60-foot poles would be equipped with four LED luminaires, and the two 80-foot poles would be equipped with eight and ten LED luminaries. The average light levels for the pool would be approximately 51 fc.

Baseball and Softball Fields

The District would provide lighting to all four ball fields: the varsity baseball, JV baseball, varsity softball, and JV softball fields.

Eight light poles would be installed on the varsity baseball field: six 70-foot light poles with four to five LED luminaires and two 80-foot poles with eight to nine luminaires. The average light levels for the varsity baseball infield and outfield would be approximately 52 fc and 32 fc, respectively. Varsity softball field would be equipped with six light poles: two 70-foot poles with seven luminaires each, and four 60-foot poles with four to five luminaires. The average light levels for the varsity softball infield and outfield would be approximately 54 fc and 33 fc, respectively.

The JV baseball field would be equipped with six light poles: two 70-foot poles with five to six luminaires each, and four 80-foot poles with seven to ten luminaires each. The average light levels for the JV softball infield and outfield would be approximately 58 fc and 33 fc, respectively.

The JV softball field would be equipped with six light poles: two 70-foot poles with four luminaires each, and four 80-foot poles with five to eight luminaires each. The average light levels for the JV baseball infield and outfield would be approximately 52 fc and 33 fc, respectively.

Activities Schedule

The proposed activities schedule for Arroyo Valley HS is shown in Table 1. All activities are scheduled to end by 7:30 pm, and no new sports programs are proposed project, so no additional participants or spectators are anticipated.

1. Introduction

Table 1 Proposed Arroyo Valley High School Sports Activities Schedule

Use/Activity	Season (Month)	Number per Season	Participants	Spectators	Hours of Operation	
					Start	End
Tennis Courts (8 courts)						
Practices	July - June	Daily	30-40		4:00 pm	6:30 pm
Games/Events	Aug – Nov, Feb - May	Daily	30-40	20	3:00 pm	7:30 pm
Swimming Pool						
Practices	July – June	Daily	20-30		4:00 pm	6:30 pm
Games/Events	Aug - May	Daily	50-70	40	3:00 pm	7:00 pm
JV SB Practice Field (BB and SB games usually not played on the same day; all fields used for practices)						
Practices	Jan – June	Daily	20-30		4:00 pm	7:00 pm
Games/Events	Feb - June	Daily	30-40	50-70	3:00 pm	7:30 pm
JV BB Field						
Practices	Nov - June	Daily	30-40		4:00 pm	7:00 pm
Games/Events	Feb - May	Daily	50-60	60-70	3:00 pm	7:30 pm
Var BB Field						
Practices	Nov - June	Daily	30 - 40		4:00 pm	7:00 pm
Games/Events	Feb - May	Daily	50 - 60	60 - 70	3:00 pm	7:00 pm
Varsity SF Field						
Practices	Nov - June	Daily	30 - 40		4:00 pm	7:00 pm
Games/Events	Feb - May	Daily	50 - 60	60 - 70	3:00 pm	7:30 pm

Cajon High School

The District proposes to light the tennis courts, swimming pool, varsity baseball field, varsity softball field, JV baseball field, and JV softball field by installing 24 light poles—seven 60-foot poles, thirteen 70-foot poles, and four 80-foot poles—and provide a total of 162 LED luminaries mounted at heights, from 16 feet to 80 feet. The light pole locations are shown on Figure 11, *Cajon High School Lighting Pole Locations*, and the types of LED luminaires, mounting heights, and electricity load are shown on Figure 12. Appendix B, *Lighting Plans for Cajon High School*, provides a close-up view of the light pole locations and illumination summary.

Tennis Courts

Six light poles would be installed to light the ten tennis courts: five 60-foot poles to light the tennis courts exclusively, and one 70-foot pole to light the tennis courts and the varsity softball field. Five 60-foot poles would be equipped with four to eight LED luminaires, and the 70-foot pole would have eight luminaires using a back-to-back mounting configuration to light both the tennis courts and the varsity softball field. The average light levels for the tennis courts would be approximately 52 fc.

Swimming/Water Polo Pool

Four 60-foot light poles would light the pool with four LED luminaires per pole, three mounted at 60 feet and one mounted at 40 feet. The average light levels for the larger pool, smaller pool, and pool deck would be approximately 59 fc, 61 fc, and 40 fc, respectively.

Baseball and Softball Fields

Eight light poles would provide lighting to the varsity baseball field: five 70-foot light poles would be equipped with 5 to 16 luminaires, and three 80-foot poles would be equipped with eight to ten luminaires. Six of the light poles would provide lights exclusively to the varsity baseball field, and two eastern poles would provide back-to-back luminaire configuration to light the JV baseball and JV softball fields. The average light levels for the infield and outfield would be approximately 51 fc and 31 fc, respectively.

Seven light poles would light the JV baseball field, five 70-foot poles and two 80-foot poles. Two infield lights would be used exclusively to light the JV baseball field, and five light poles would light either the varsity baseball and/or JV softball fields. The number of luminaires per pole would range from 5 to 16. The average light levels for the infield and outfield would be approximately 51 fc and 32 fc, respectively.

Four light poles would light the JV softball field, three 70-foot poles and one 80-foot pole. All four poles would be the same poles that light the JV baseball field. The average light levels for the infield and outfield would be approximately 53 fc and 32 fc, respectively.

Four 70-foot light poles would light the varsity softball field, with four to eight luminaries per pole. Three of the four poles would provide lights exclusively to the varsity softball field, and one pole would provide a dual mounting configuration to provide lights to both the varsity softball field and the tennis courts. The average light levels for the infield and outfield would be approximately 50 fc and 32 fc, respectively.

Activities Schedule

The proposed activities schedule for Cajon HS is shown in Table 2. All activities are scheduled to end by 7:30 pm, except for the community use of the baseball fields, which may end at 8:30 pm. Two community groups already use the baseball fields, but the hours would be adjusted to account for the later start. No new sports programs would be accommodated by the proposed project, and no additional participants or spectators are anticipated.

1. Introduction

Table 2 Cajon High Schools Sports Activities Schedule

Use/Activity	Season (Month)	Number per Season	Participants	Spectators	Hours of Operation	
					Start	End
Tennis Courts (10 courts)						
Practices	All year long	Daily	20-40	10	4 PM	6:30 PM
Games/Events	Aug-Nov; Feb-May	20	60	40	3 PM	7:30 PM
Swimming Pool						
Practices	All year long	Daily	40-80	0-20	4 pm	7a/6:30 pm
Games/Events	Aug-June	14	40-80	30-50	3 pm	7:30 pm
Community Use?	June & July	Occasionally	Various		--	7:30 pm
Varsity BB Field (all 3 fields [4th is shared] can be used at the same time)						
Practices	All year long	Daily	40		7:30 pm	7:30 pm
Games/Events	Feb-June	25	40-60	40	7:30 pm	7:30 pm
Varsity SF Field						
Practices	All year long	Daily	40		4:30 pm	7:30 pm
Games/Events	Feb-June	25	40-60	40	3:30 pm	7:30 pm
JV SF Field						
Practices	All year long	Daily	20-40		4 pm	7:00 pm
Games/Events	Feb-June	25	30-50	10-50	3 pm	7:00 pm
JV BB Field						
Practices	All year long	Daily	20-40		4:30p	7:30p
Games/Events	Feb-June	25	30-50	10-50	3:30p	7:30p
Community Use						
Newmark LL	Jan-June	Daily	50-60	0-30	5:30p	8:30p
Adult Baseball	June-Oct	Weekends	30-40	20-40	All Day	All Day

Indian Springs High School

The District proposes to light the tennis courts, varsity baseball field, varsity softball field, JV baseball field, JV softball field, and practice fields by installing a 31 light poles—eight 60-foot poles, twelve 70-foot poles, and eleven 80-foot poles—and provide 199 LED luminaries mounted at heights from 16 feet to 80 feet. The light pole locations are shown on Figure 13, *Indian Springs High School Lighting Pole Locations*, and the types of LED luminaires, mounting heights, and electricity load are shown on Figure 14. Appendix C, *Lighting Plans for Indian Springs High School*, provides a close-up view of the light pole locations and illumination summary.

Tennis Courts

Eight light poles would provide lighting to eight tennis courts. Seven 60-foot poles would each have three to seven luminaires, and one 80-foot pole would have 10 luminaires. The average light levels for the tennis courts would be 51 fc for the northern five courts and 58 fc for the southern three courts.

Baseball and Softball Fields

The varsity baseball, JV baseball, varsity softball, practice south, and practice north fields would be lighted.

The varsity softball field would be lighted with four light poles—one 60-ft pole, two 70-foot poles, and one 80-foot pole. Each pole would be equipped with four to eleven luminaires. Two of the four light poles would have back-to-back luminaire mounting to light the varsity baseball field to the north. The average light levels for the infield and outfield would be approximately 52 fc and 31 fc, respectively.

The varsity baseball field would be lighted with eight poles, three 70-foot poles and five 80-foot poles. Each pole would be equipped with 3 to 18 luminaires. Five of the eight light poles would have back-to-back luminaire mounting to light the adjacent JV baseball field, varsity softball field, and practice field north. The average light levels for the infield and outfield would be approximately 54 fc and 32 fc, respectively.

The JV baseball field would be lighted with seven poles, four 70-foot poles and three 80-foot poles. Each pole would be equipped with 4 to 18 luminaires. Two of the seven poles would have back-to-back luminaire mounting to light the varsity baseball field. The average light levels for the infield and outfield would be approximately 54 fc and 34 fc, respectively.

The practice softball field would be lighted with four poles, two 70-foot poles and two 80-foot poles. The 70-foot poles would each have three luminaires, and the 80-foot poles would each have eight luminaires. The average light levels for the infield and outfield would be approximately 51 fc and 34 fc, respectively.

The practice south field overlaps the practice softball field and would be lighted by four poles that light the practice softball field, one pole that lights the tennis courts, one pole that lights the varsity softball field, and one 70-foot pole that would exclusively serve the south practice field with five luminaires. The average light levels for the practice south field would be 30.1 fc.

The practice north field would be lighted with four poles, two 70-poles with five luminaires each, and two 80-foot poles that also light the varsity baseball field with back-to-back mounting. The average light levels for the practice north field would be 30.1 fc.

Activities Schedule

The proposed activities schedule for Indian Springs HS is shown in Table 3. As shown, all activities are scheduled to end by 7:30 pm. No new sports programs would be accommodated by the proposed project, and no additional participants or spectators are anticipated.

1. Introduction

Table 3 Indian Springs High School Sports Activities Schedule

Use/Activity	Season (Month)	Number per Season	Participants	Spectators	Hours of Operation	
					Start	End
Tennis Courts (8 courts)						
Practices	Feb – Nov	M-F	30	0	4 PM	6:30 PM
Games/Events	Feb – June/ Aug – Nov	M-F	40 – 50	20 – 50	3 PM	7:30 PM
Varsity BB Field						
Practices	Oct – June	M – F	40	0	4 pm	7 pm
Games/Events	Feb – June	M - F	40 – 60	50 – 100	3:15pm	7:30 pm
JV BB Field						
Practices	Oct – June	M – F	40	0	4 pm	7 pm
Games/Events	Feb – June	M-F	40 – 60	50 – 100	3:15pm	7:30 pm
Var SB Field						
Practices	Oct – June	M – F	40	0	4 pm	7 pm
Games/Events	Feb – June	M-F	40 – 60	50 – 100	3:15pm	7:30pm
Practice SB Field/Practice South						
Practices	Oct – June	M – F	40	0	4 pm	7 pm
Games/Events	Feb – June	M-F	40 – 60	50 – 100	3:15pm	7:30 pm
Soccer Field 1/Practice North						
Practices	Oct – June	M – F	40	0	4 pm	7 pm
Games/Events	Feb – June	M-F	40 – 60	50 – 100	3:15pm	7:30 pm

Pacific High School

The District proposes to light the tennis courts, swimming pool, varsity baseball field, and varsity softball field by installing 22 light poles—seven 50-foot poles, six 60-foot poles, seven 70-foot poles, and two 80-foot poles—with 123 LED luminaries mounted at heights from 16 feet to 80 feet. The light pole locations are shown on Figure 15, *Pacific High School Lighting Pole Locations*, and the types of LED luminaires, mounting heights, and electricity load are shown on Figure 16. Appendix D, *Lighting Plans for Pacific High School*, provides a close-up view of the light pole locations and illumination summary.

Tennis Courts

Eight light poles would provide lighting to nine of twelve tennis courts, and three tennis courts in the northeast quadrant would not be lighted. Seven 50-foot poles would be equipped with three to nine LED luminaires, and one 60-foot pole would be equipped with three luminaires. The average light levels for the tennis courts would be 53 to 54 fc.

Swimming/Water Polo Pool

Four 60-foot light poles would light the pool with three to seven LED luminaires per pole. One pole at the southeast corner of the swimming pool would have back-to-back mounting to provide lighting to both the pool and the varsity softball field. The average light levels for the training pool on the north, diving pool on the south, and the pool deck would be approximately 52 fc, 54 fc, and 38 fc, respectively.

Baseball and Softball Fields

Seven light poles would provide lighting to the varsity baseball field, five 70-foot poles and two 80-foot poles. Five 70-foot light poles would be equipped with four to six luminaires, and two 80-foot poles would each be equipped with ten LED luminaires. The average light levels for the infield and outfield would be approximately 52 fc and 33 fc, respectively.

Four light poles would provide lighting to the varsity softball field, two 60-foot poles and two 70-foot poles. Two 60-foot light poles would be equipped with four and seven luminaires, and two 70-foot poles would each be equipped with nine LED luminaires. The 60-foot pole with seven luminaires would provide back-to-back mounting to light both the varsity softball field and the swimming pool. The average light levels for the infield and outfield would be approximately 51 fc and 35 fc, respectively.

Activities Schedule

The proposed activities schedule for Pacific HS is shown in Table 4. All activities are scheduled to end by 7:30 pm, except for the community use of the varsity baseball field on weekends, which would end at 8:00 pm. No new sports programs would be accommodated by the proposed project, and no additional participants or spectators are anticipated.

Table 4 Pacific High Schools Sports Activities Schedule

Use/Activity	Season (Month)	Number per Season	Participants	Spectators	Hours of Operation	
					Start	End
Tennis Courts (12 courts – only 9 courts will be lit)						
Practices	August-May	Daily	20	5	4 PM	6:30 PM
Games/Events	August-May	2 PW	30	25	3 PM	7:30 PM
Community Use?	Occasionally					
Swimming Pool						
Practices	July-May	daily	20-25	0	4:00	6:30 pm
Games/Events	August-May	2PW	20	25	3:00	7:00
Varsity SF Field						
Practices	Jan-May	Daily	30	0	4:00	6:30
Games/Events	Mar-Jun	2 PW	30	40	3:15	7:00
Community Use?	No					
Var BB Field						
Practices	Year round	Daily	30	0	4:00 pm	7:00 pm
Games/Events	Feb-May	2 per week	50	50	3:15 pm	7:30 pm
Community Use?	Year round	WKNDS	50	100	All day	8:00 pm

San Bernardino High School

The District proposes to light the tennis courts, swimming pool, varsity baseball field, varsity softball field, and north soccer field by installing 22 light poles—four 60-foot poles, six 70-foot poles, six 80-foot poles, and two 90-foot poles—with 117 LED luminaries mounted at heights from 16 feet to 90 feet. The light pole locations are shown on Figure 17, *San Bernardino High School Lighting Pole Locations*, and the types of LED luminaires,

mounting heights, and electricity load are shown on Figure 18. Appendix E, *Lighting Plans for San Bernardino High School*, provides a close-up view of the light pole locations and illumination summary.

Tennis Courts

Six light poles would provide lighting to eight tennis courts—four 60-foot poles and two 70-foot pole totaling 25 luminaires. The average light levels for the tennis courts would be approximately 52 fc.

Swimming and Diving Pools

Four 60-foot light poles would light the swimming and diving pools, with four luminaires per pole. The average light levels for the swimming pool on the north, diving pool on the south, and the pool deck would be approximately 50 fc, 51 fc, and 39 fc, respectively.

Baseball, Softball, and Soccer Fields

Eight light poles would provide lighting to the varsity baseball field, six 80-foot poles and two 90-foot poles. The six 80-foot baseball field light poles would be equipped with five luminaires per pole, and two 90-foot poles would each be equipped with nine LED luminaires. The average light levels for the infield and outfield would be approximately 51 fc and 33 fc, respectively.

Four 70-foot light poles would provide lighting to the varsity softball field with a total of 28 luminaires. The two 70-foot poles in the outfield would also provide light to the north practice soccer field. The average light levels for the infield and outfield would be approximately 56 fc and 33 fc, respectively. The north practice soccer field would have average light level of approximately 10 fc.

Activities Schedule

The proposed activities schedule for San Bernardino HS is shown in Table 5. All activities are scheduled to end by 7:30 pm. No new sports programs would be accommodated by the proposed project, and no additional participants or spectators are anticipated.

Table 5 San Bernardino High Schools Sports Activities Schedule

Use/Activity	Season (Month)	Number per Season	Participants	Spectators	Hours of Operation	
					Start	End
Tennis Courts (8 courts)						
Practices	June – May	M – S	20	0	4 pm	6:30 pm
Games/Events	Aug – Nov/ Feb – May	2-4	45	20	3 pm	7:30 pm
Varsity BB Field						
Practices	Sept -May	M – S	20 – 30	0	4 pm	7 pm
Games/Events	Feb – May	M -S	30-40	15 – 30	3 pm	7:30 pm
Community Use?	Yes					
Varsity SB Field						
Practices	Aug – June	M-S	20 – 30	0	4 pm	7 pm
Games/Events	Feb – May	M – S	20-30	20-50	3:00	7:30
Community Use?						
North JV Soccer Field						
Practices	Oct – Feb	M – S	20	20	4 pm	7:30 pm

San Gorgonio High School

The District proposes to light the tennis courts, swimming pool, varsity baseball field, varsity softball field, JV baseball field, and JV softball field by installing 24 light poles—six 50-foot poles, eight 60-foot poles, eight 70-foot poles, and two 80-foot poles—with 114 LED luminaries mounted at various heights from 16 feet to 80 feet. The light pole locations are shown on Figure 19, *San Gorgonio School Lighting Pole Locations*, and the types of LED luminaires, mounting heights, and electricity load are shown on Figure 20. Appendix F, *Lighting Plans for San Gorgonio High School*, provides a close-up view of the light pole locations and illumination summary.

Tennis Courts

Six 50-foot light poles would provide lighting to eight tennis courts: four poles with three luminaries per pole, and two poles with six luminaires per pole. The average light levels for the four northern tennis courts would be 55 fc, and the four southern tennis courts would be 52 fc.

Baseball and Softball Fields

Eight light poles would provide lighting to the varsity baseball field: six 70-foot light poles would be equipped with four or five luminaires per pole, and two 80-foot poles would each be equipped with nine LED luminaires. The average light levels for the infield and outfield would be approximately 53 fc and 33 fc, respectively.

Six light poles would provide lighting to the varsity softball field: four 60-foot light poles would be equipped with four luminaires per pole, and two 80-foot poles would be equipped with seven LED luminaires per pole. The average light levels for the infield and outfield would be approximately 53 fc and 34 fc, respectively.

1. Introduction

Activities Schedule

The proposed activities schedule for San Gorgonio HS is shown in Table 6. All activities are scheduled to end by 7:30 pm. Although some community uses of the baseball fields are anticipated, the uses are existing, and hours of operation would be scheduled to not go past 8:30 pm so that the adjacent residential uses are not adversely impacted. No new sports programs would be accommodated by the proposed project, and no additional participants or spectators are anticipated.

Table 6 San Gorgonio High Schools Sports Activities Schedule

Use/Activity	Season (Month)	Number per Season	Participants	Spectators	Hours of Operation	
					Start	End
Tennis Courts (8 courts)						
Practices	Aug-May	Daily	15-30	0	4pm	6:30pm
Games/Events	Aug-Nov & Feb-May	1-2 wkly	30-60	20-30	3pm	7:30pm
Varsity BB Field						
Practices	Sept - May	Daily	20-50	0	4pm	7pm
Games/Events	Feb - May	1-3 wkly	40-50	20-80	3pm	7:30pm
Community Use?	July - June	1-5/week	20-50	10-60	TBA	TBA
Varsity SB Field (JV field would be similar, but JV field will not be lighted)						
Practices	Sept - May	Daily	20-50	0	4pm	7pm
Games/Events	Feb - May	1-3 wkly	40-50	20-80	3pm	7pm
Community Use?	Occasionally	Weekends	20-50	10-60	TBA	TBA

1.4.2 Project Phasing

The project construction is anticipated to take about six months and is tentatively scheduled to start in late January 2022 and to finish by July 2022.

1.5 EXISTING ZONING AND GENERAL PLAN

Arroyo Valley High School: Industrial, Commercial, Multiple family Residential, and Single Family Residential in the General Plan land use plan; Office Industrial Park, Commercial General -1, Residential Medium, and Residential Suburban on the zoning map.

Cajon High School: Specific Plan in the General Plan; Public Facilities on the zoning map.

Indian Springs High School: Single Family Residential in the General Plan; Residential Suburban on the zoning map.

Pacific High School: Public/Quasi-Public in the General Plan; Public Facilities on the zoning map.

San Bernardino High School: Public/Quasi-Public in the General Plan; Public Facilities on the zoning map.

San Gorgonio High School: Public/Quasi-Public in the General Plan; Public Facilities on the zoning map.

1.6 DISTRICT ACTION REQUESTED

- Adopt the Mitigated Negative Declaration
- Adopt the Mitigation Monitoring and Reporting Program
- Approve the project

1. Introduction

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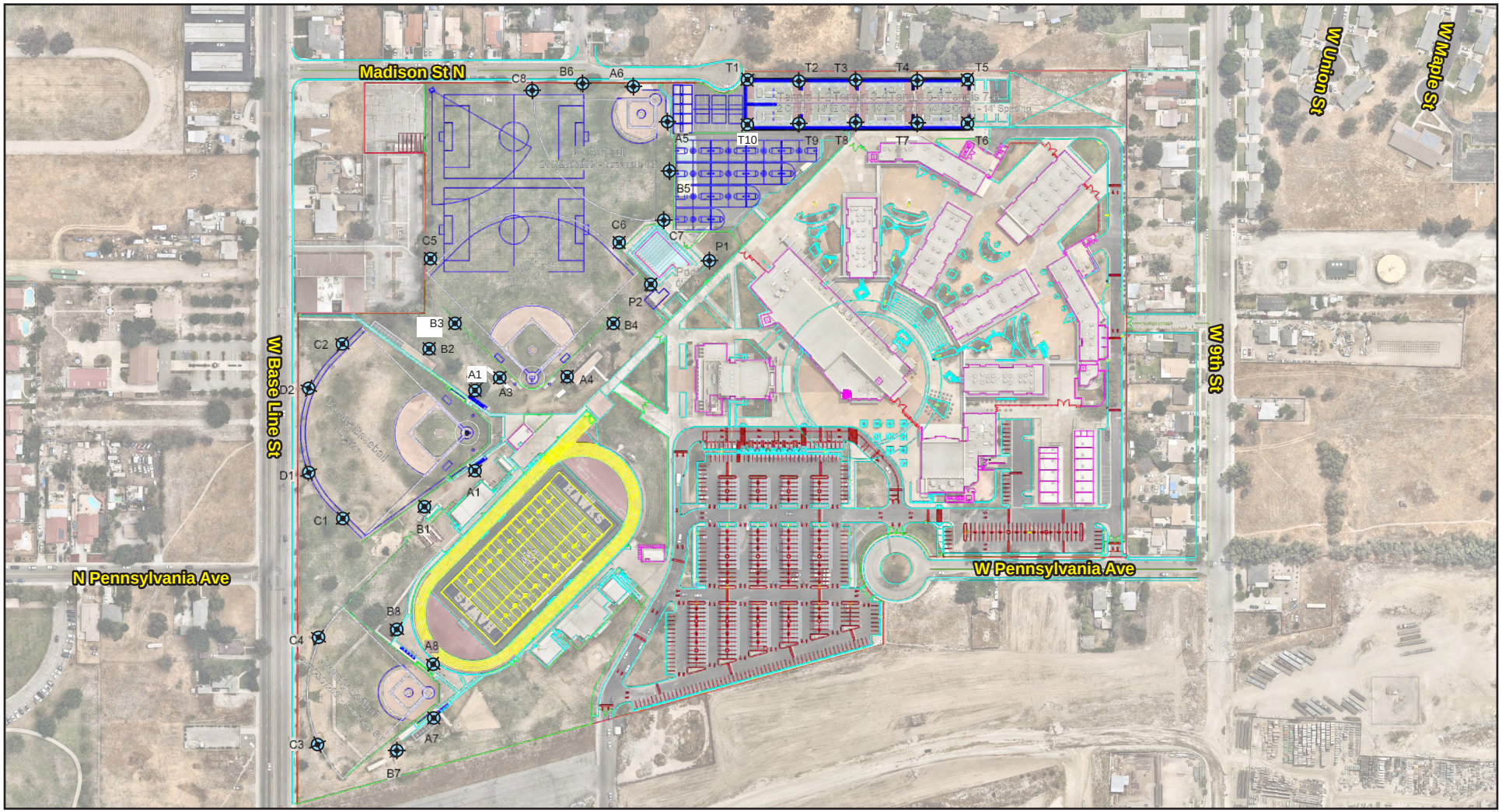
Figure 9 - Arroyo Valley High School Lighting Pole Locations



Lighting Pole Locations

0 325
Scale (Feet)

Source: Base Map: Nearmap, 2021; Site Plan: MUSCO, 2021

1. Introduction

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Figure 10 - Arroyo Valley High School Lighting System Summary

1. Introduction

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	70'	70'	4	TLC-LED-1500	5.72 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A3	70'	70'	4	TLC-LED-1200	4.68 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
A4	70'	70'	4	TLC-LED-1200	4.68 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
		50'	1	TLC-LED-900	0.89 kW	C
A5-A6	70'	70'	3	TLC-LED-900	2.67 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
A7	60'	60'	3	TLC-LED-900	2.67 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
		50'	1	TLC-LED-600	0.58 kW	B
A8	60'	60'	3	TLC-LED-900	2.67 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
B1	80'	80'	6	TLC-LED-1500	8.58 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
		50'	1	TLC-LED-600	0.58 kW	A
B2	80'	80'	6	TLC-LED-1500	8.58 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
		50'	2	TLC-LED-400	0.80 kW	A
B3-B4	80'	80'	8	TLC-LED-1500	11.44 kW	C
		80'	1	TLC-LED-400	0.40 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
B5-B6	80'	80'	5	TLC-LED-1200	5.85 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
B7-B8	70'	70'	6	TLC-LED-1200	7.02 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
C1-C2, D1-D2	70'	70'	3	TLC-LED-1500	4.29 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
C3-C4	60'	60'	4	TLC-LED-900	3.56 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
C5	80'	80'	5	TLC-LED-1500	7.15 kW	C
		16'	2	TLC-BT-575	1.15 kW	C
C6	80'	80'	5	TLC-LED-1500	7.15 kW	C
		80'	2	TLC-LED-900	1.78 kW	H
		16'	2	TLC-BT-575	1.15 kW	C
		40'	1	TLC-LED-400	0.40 kW	I
C7	80'	80'	4	TLC-LED-1500	5.72 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
		80'	2	TLC-LED-900	1.78 kW	H
		60'	1	TLC-LED-400	0.40 kW	I
C8	80'	80'	4	TLC-LED-1500	5.72 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
P1-P2	60'	60'	2	TLC-LED-900	1.78 kW	H
		40'	2	TLC-LED-400	0.80 kW	I
T1, T10	50'	50'	3	TLC-LED-600	1.74 kW	E
T2	50'	50'	3	TLC-LED-600	1.74 kW	E
		50'	3	TLC-LED-600	1.74 kW	F
T3, T8	50'	50'	6	TLC-LED-600	3.48 kW	F
T4	50'	50'	3	TLC-LED-600	1.74 kW	F
		50'	3	TLC-LED-600	1.74 kW	G
T5-T6	50'	50'	3	TLC-LED-600	1.74 kW	G
T7	50'	50'	3	TLC-LED-600	1.74 kW	G
		50'	3	TLC-LED-600	1.74 kW	F
T9	50'	50'	3	TLC-LED-600	1.74 kW	F
		50'	3	TLC-LED-600	1.74 kW	E
38			***213***		***204.39 kW***	

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
JV Baseball (Infield)	Horizontal Illuminance	51.6	37	60	1.62	1.39	C	45
JV Baseball (Outfield)	Horizontal Illuminance	33.2	20	46	2.38	1.66	C	45
JV Softball (Infield)	Horizontal Illuminance	56.2	46	67	1.45	1.22	D	30
JV Softball (Outfield)	Horizontal Illuminance	34.2	20	53	2.64	1.71	D	30
JVBB Bullpen	Horizontal	24.8	15	32	2.10	1.65	C	45
North Spill (100' offset)	Horizontal	0.01	0	0.04	0.00		A,B,C,D,E, F,G,H,I	213
North Spill (100' offset)	Max Candela (by Fixture)	2607	0	12280	0.00		A,B,C,D,E, F,G,H,I	213
North Spill (100' offset)	Max Vertical Illuminance Metric	0.02	0	0.13	0.00		A,B,C,D,E, F,G,H,I	213
North Spill	Horizontal	1.89	0	12.3	0.00		A,B,C,D,E, F,G,H,I	213
North Spill	Max Candela (by Fixture)	25133	0	57636	0.00		A,B,C,D,E, F,G,H,I	213
North Spill	Max Vertical Illuminance Metric	2.36	0	11	0.00		A,B,C,D,E, F,G,H,I	213
Pool Deck	Horizontal	30.3	1	54	98.87	30.34	H,I	14
Pool Egress	Horizontal	8.80	0	19	177.19		I	6
Pool	Horizontal	50.9	34	63	1.84	1.50	H,I	14
Tennis 1-2	Horizontal Illuminance	55	37	68	1.81	1.49	E	12
Tennis 3-4	Horizontal Illuminance	52.5	39	64	1.64	1.35	F	24
Tennis 5-6	Horizontal Illuminance	51.6	40	63	1.56	1.29	F	24
Tennis 7-8	Horizontal Illuminance	53	35	67	1.89	1.51	G	12
VBB 1st Base Bullpen/Batting Cage	Horizontal	27.5	18	41	2.31	1.53	A	43
VBB 3rd Base Bullpen	Horizontal	27.2	20	32	1.63	1.36	A	43
VSB Batting Cage	Horizontal	26.9	14	37	2.65	1.92	B	33
Varsity Baseball (Infield)	Horizontal Illuminance	52.2	40	59	1.49	1.30	A	43
Varsity Baseball (Outfield)	Horizontal Illuminance	32.6	21	46	2.17	1.55	A	43
Varsity Softball (Infield)	Horizontal Illuminance	54.4	45	62	1.39	1.21	B	33
Varsity Softball (Outfield)	Horizontal Illuminance	33.9	21	45	2.10	1.61	B	33
West Spill (100' Offset)	Horizontal	0.01	0	0.08	0.00		A,B,C,D,E, F,G,H,I	213
West Spill (100' Offset)	Max Candela (by Fixture)	1348	45.8	3815	83.30	29.44	A,B,C,D,E, F,G,H,I	213

Source: MUSCO, 2021

1. Introduction

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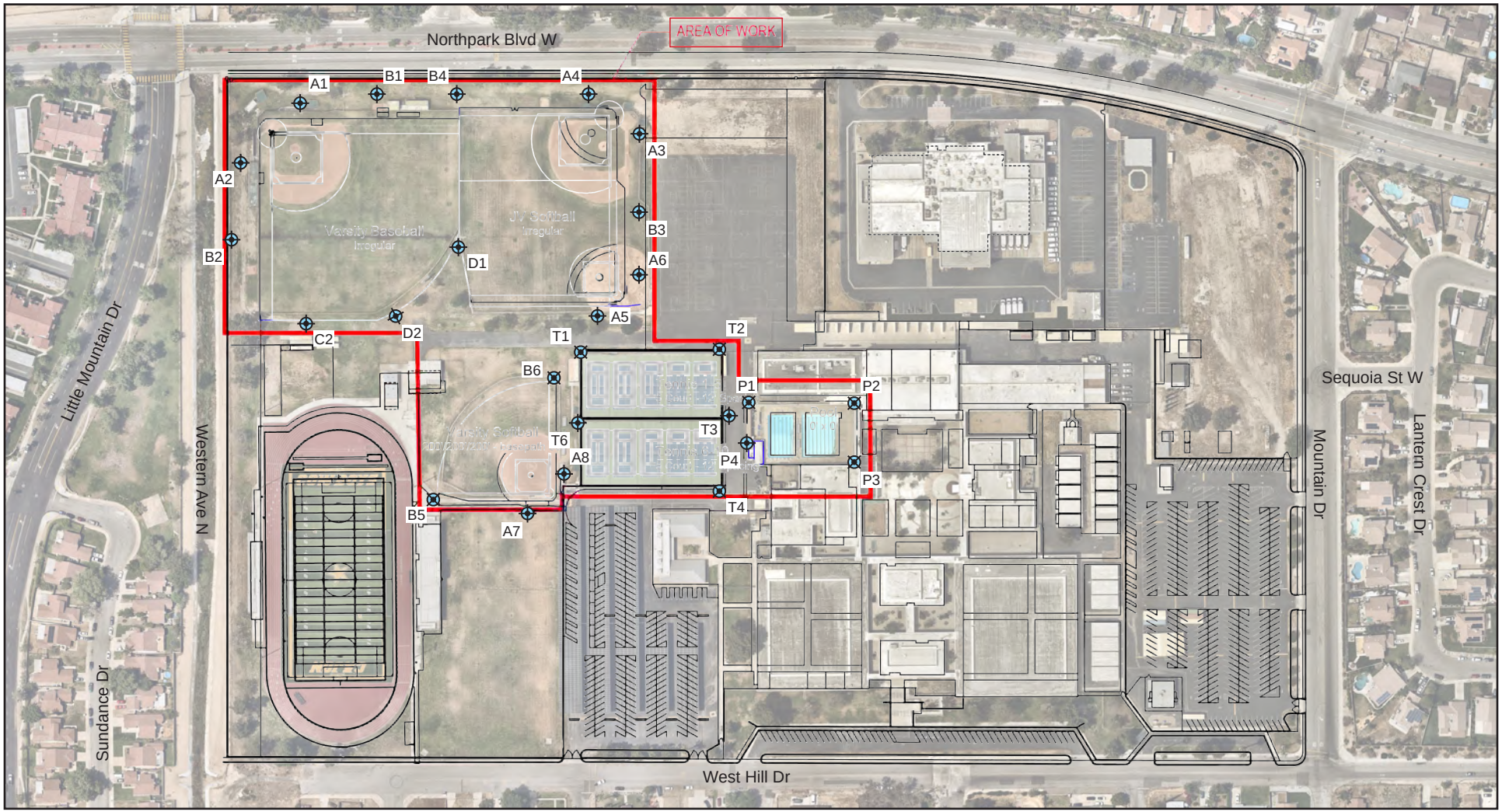
Figure 11 - Cajon High School Lighting Pole Locations

1. Introduction



Lighting Pole Locations

0 260
Scale (Feet)

Source: Base Map: Nearmap, 2021; Site Plan: MUSCO, 2021

1. Introduction

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Figure 12 - Cajon High School Lighting System Summary

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2, D2	70'	70'	4	TLC-LED-1200	4.68 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A3-A4	70'	70'	3	TLC-LED-1200	3.51 kW	C
		70'	1	TLC-LED-1500	1.43 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
A5-A6	70'	70'	4	TLC-LED-1200	4.68 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
A7	70'	70'	1	TLC-LED-1200	1.17 kW	B
		70'	2	TLC-LED-900	1.78 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
A8	70'	70'	4	TLC-LED-1200	4.68 kW	G
		70'	1	TLC-LED-1200	1.17 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
		70'	2	TLC-LED-900	1.78 kW	B
B1-B2	80'	80'	1	TLC-LED-1200	1.17 kW	A
		80'	7	TLC-LED-1500	10.01 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B3	80'	80'	6	TLC-LED-1500	8.58 kW	C
		16'	3	TLC-BT-575	1.73 kW	C
B4	80'	80'	2	TLC-LED-1200	2.34 kW	A
		80'	5	TLC-LED-1500	7.15 kW	C
		16'	1	TLC-BT-575	0.58 kW	A
		16'	2	TLC-BT-575	1.15 kW	C
B5-B6	70'	70'	4	TLC-LED-1500	5.72 kW	B
		16'	2	TLC-BT-575	1.15 kW	B
C2	70'	70'	4	TLC-LED-1200	4.68 kW	A
		70'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
D1	70'	70'	7	TLC-LED-1500	10.01 kW	C
		16'	1	TLC-BT-575	0.58 kW	A
		70'	4	TLC-LED-1200	4.68 kW	A
		70'	1	TLC-LED-400	0.40 kW	C
		16'	3	TLC-BT-575	1.73 kW	C
P1-P4	60'	60'	3	TLC-LED-900	2.67 kW	H
		40'	1	TLC-LED-400	0.40 kW	I
T1-T2	60'	60'	4	TLC-LED-1200	4.68 kW	F
T3	60'	60'	4	TLC-LED-1200	4.68 kW	F
		60'	4	TLC-LED-1200	4.68 kW	G
T4	60'	60'	4	TLC-LED-1200	4.68 kW	G
T6	60'	60'	4	TLC-LED-1200	4.68 kW	G
		60'	4	TLC-LED-1200	4.68 kW	F
26			***162***		***176.38 kW***	

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
JV Baseball (Infield)	Horizontal Illuminance	51.3	44	60	1.38	1.17	C,D	47
JV Baseball (Outfield)	Horizontal Illuminance	31.9	23	48	2.09	1.39	C,D	47
JV Softball (Infield)	Horizontal Illuminance	53.4	36	68	1.89	1.48	D,C	47
JV Softball (Outfield)	Horizontal Illuminance	32.4	21	48	2.24	1.54	D,C	47
JVBB 1st Base Bullpen	Horizontal	26	17	37	2.14	1.53	C,D,E	47
Pool 1	Horizontal	59.4	45	70	1.55	1.32	H	12
Pool 2	Horizontal	61.5	46	71	1.52	1.34	H	12
Pool Deck	Horizontal	39.7	9	68	7.84	4.41	H	12
Pool Egress	Horizontal	6.32	0	14	83.32		I	4
Tennis 1-5	Horizontal Illuminance	52.3	36	67	1.87	1.45	F	16
Tennis 6-10	Horizontal Illuminance	52.1	38	72	1.91	1.37	G	16
VBB 1st Base Bullpen	Horizontal	24.8	21	29	1.36	1.18	A	47
VBB 3rd Base Bullpen	Horizontal	28	14	35	2.44	2.00	A	47
Varsity Baseball (Infield)	Horizontal Illuminance	51.1	39	59	1.50	1.31	A	47
Varsity Baseball (Outfield)	Horizontal Illuminance	30.9	21	47	2.23	1.47	A	47
Varsity Softball (Infield)	Horizontal Illuminance	50.2	42	61	1.46	1.19	B	20
Varsity Softball (Outfield)	Horizontal Illuminance	31.5	20	44	2.23	1.58	B	20

Source: MUSCO, 2021

1. Introduction

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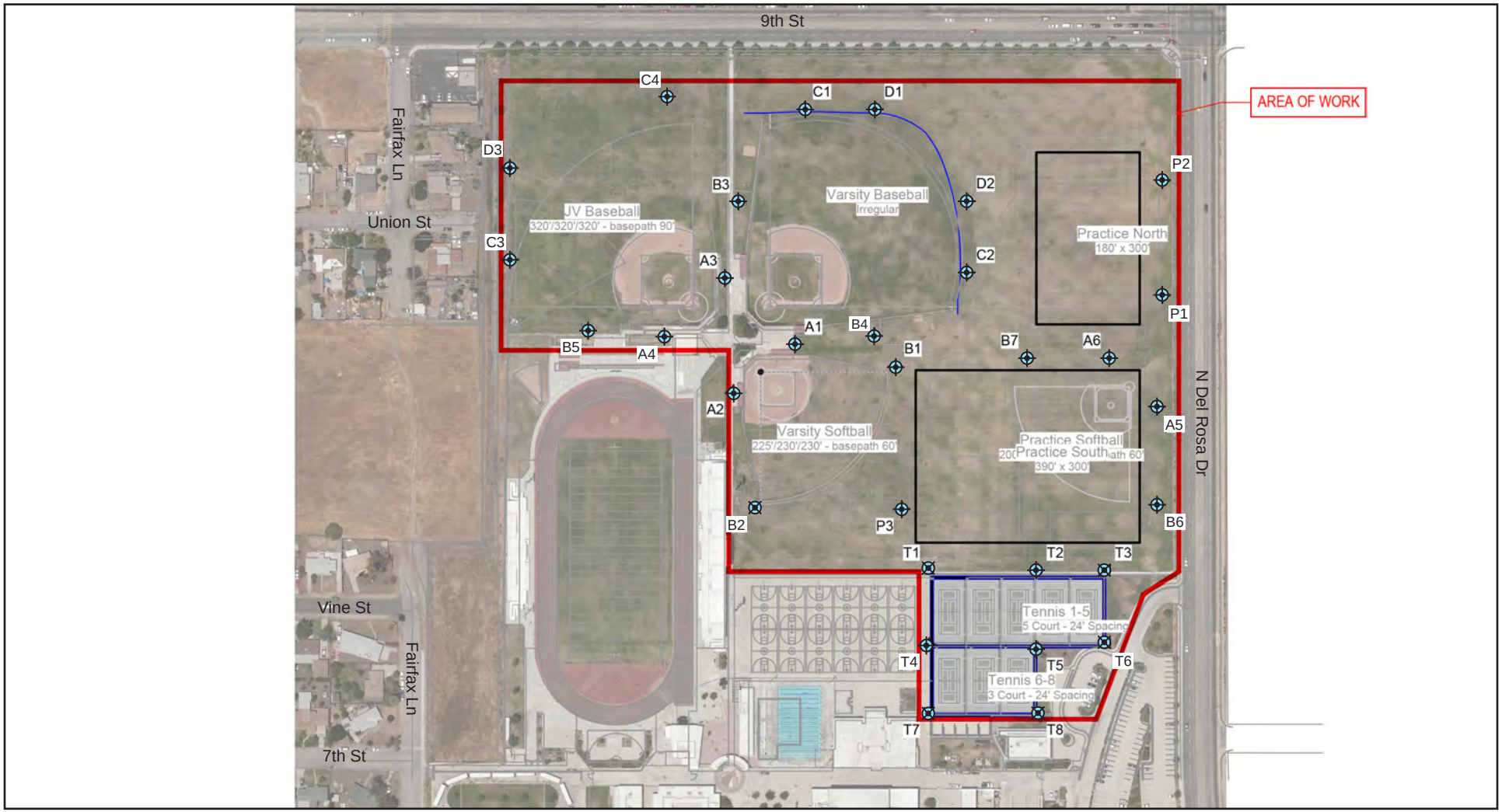
Figure 13 - Indian Springs High School Lighting Pole Locations



Lighting Pole Locations

0 260
Scale (Feet)

Source: MUSCO, 2021

1. Introduction

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Figure 14 - Indian Springs High School Lighting System Summary
1. Introduction

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1	70'	70'	4	TLC-LED-1200	4.68 kW	A
		16'	1	TLC-BT-575	0.58 kW	B
		70'	3	TLC-LED-1200	3.51 kW	B
		16'	1	TLC-BT-575	0.58 kW	A
A2	60'	60'	3	TLC-LED-1200	3.51 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
A3	70'	70'	4	TLC-LED-1200	4.68 kW	A
		70'	4	TLC-LED-1200	4.68 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
		16'	1	TLC-BT-575	0.58 kW	A
A4	70'	70'	4	TLC-LED-1200	4.68 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
A5-A6	70'	70'	1	TLC-LED-1200	1.17 kW	F
		70'	2	TLC-LED-900	1.78 kW	F
B1	80'	80'	5	TLC-LED-1500	7.15 kW	B
		16'	2	TLC-BT-575	1.15 kW	B
		80'	4	TLC-LED-1500	5.72 kW	H
B2	70'	70'	5	TLC-LED-1500	7.15 kW	B
		16'	2	TLC-BT-575	1.15 kW	B
B3	80'	80'	8	TLC-LED-1500	11.44 kW	A
		80'	8	TLC-LED-1500	11.44 kW	C
		22'	1	TLC-BT-575	0.58 kW	C
		16'	1	TLC-BT-575	0.58 kW	A
B4	80'	80'	8	TLC-LED-1500	11.44 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B5	80'	80'	6	TLC-LED-1500	8.58 kW	C
		80'	2	TLC-LED-900	1.78 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
B6-B7	80'	80'	8	TLC-LED-1200	9.36 kW	F
C1	80'	80'	2	TLC-LED-1200	2.34 kW	A
		80'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
C2	80'	80'	5	TLC-LED-1200	5.85 kW	G
		80'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
		80'	2	TLC-LED-1200	2.34 kW	A
C3	70'	70'	1	TLC-LED-1200	1.17 kW	C
		70'	3	TLC-LED-1500	4.29 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
C4	80'	80'	3	TLC-LED-1500	4.29 kW	C
		80'	1	TLC-LED-900	0.89 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
D1	70'	70'	3	TLC-LED-1200	3.51 kW	A
		70'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
D2	80'	80'	5	TLC-LED-1200	5.85 kW	G
		80'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
		80'	3	TLC-LED-1200	3.51 kW	A
D3	70'	70'	4	TLC-LED-1500	5.72 kW	C
P1-P2	70'	70'	5	TLC-LED-1200	5.85 kW	G
P3	70'	70'	5	TLC-LED-1500	7.15 kW	H
T1	60'	60'	1	TLC-LED-1200	1.17 kW	D
		60'	2	TLC-LED-900	1.78 kW	D
T2	80'	80'	6	TLC-LED-1500	8.58 kW	H

Pole / Fixture Summary (Continued)

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
		60'	2	TLC-LED-1200	2.34 kW	D
		60'	2	TLC-LED-900	1.78 kW	D
T3, T6	60'	60'	3	TLC-LED-900	2.67 kW	D
T4	60'	60'	3	TLC-LED-1200	3.51 kW	E
		60'	2	TLC-LED-1200	2.34 kW	D
		60'	1	TLC-LED-900	0.89 kW	D
T5	60'	60'	3	TLC-LED-1200	3.51 kW	D
		60'	3	TLC-LED-1200	3.51 kW	E
		60'	1	TLC-LED-900	0.89 kW	D
T7-T8	60'	60'	3	TLC-LED-1200	3.51 kW	E
31			***199***		***231.39 kW***	

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
9th St. Spill	Horizontal	0	0	0.01	0.00		A,B,C,D,E, F,G,H	199
9th St. Spill	Max Candela (by Fixture)	1939	133	4827	36.36	14.60	A,B,C,D,E, F,G,H	199
9th St. Spill	Max Vertical Illuminance Metric	0.02	0	0.04	62.11		A,B,C,D,E, F,G,H	199
Del Rosa Drive Spill	Horizontal	0.01	0	0.06	0.00		A,B,C,D,E, F,G,H	199
Del Rosa Drive Spill	Max Candela (by Fixture)	3702	0.44	15921	36405.21	8414.25	A,B,C,D,E, F,G,H	199
Del Rosa Drive Spill	Max Vertical Illuminance Metric	0.04	0	0.18	0.00		A,B,C,D,E, F,G,H	199
JV Baseball Blanket Grid	Horizontal	26.6	0	65	272.23		C	42
JV Baseball (Infield)	Horizontal Illuminance	54	39	65	1.67	1.38	C	42
JV Baseball (Outfield)	Horizontal Illuminance	33.7	22	53	2.36	1.53	C	42
JVBB 1st Base Bullpen	Horizontal	22.8	5	37	7.34	4.56	C	42
JVBB 3rd Base Bullpen	Horizontal	14.9	4	34	8.67	3.73	C	42
Practice North	Horizontal Illuminance	30.1	20	37	1.81	1.51	G	20
Practice Softball (Infield)	Horizontal Illuminance	51.3	44	59	1.34	1.17	F	22
Practice Softball (Outfield)	Horizontal Illuminance	33.8	20	46	2.27	1.69	F	22
Practice South	Horizontal Illuminance	30.1	21	42	1.98	1.43	F,H	37
Tennis 1-5	Horizontal Illuminance	51	38	70	1.87	1.34	D	20
Tennis 6-8	Horizontal Illuminance	58.1	40	69	1.74	1.45	E	12
VBB 1st Base Bullpen	Horizontal	23.9	12	32	2.64	1.99	A	46
VBB 3rd Base Bullpen	Horizontal	20.2	8	29	3.50	2.53	A	46
VSB 1st Base Bullpen	Horizontal	11.5	1	32	24.15	11.50	B	22
VSB 3rd Base Bullpen	Horizontal	13.8	3	29	8.74	4.60	B	22
Varsity Baseball (Infield)	Horizontal Illuminance	54	41	65	1.60	1.32	A	46
Varsity Baseball (Outfield)	Horizontal Illuminance	31.6	24	46	1.95	1.32	A	46
Varsity Softball (Infield)	Horizontal Illuminance	52.2	38	64	1.69	1.37	B	22
Varsity Softball (Outfield)	Horizontal Illuminance	30.7	21	43	2.11	1.46	B	22
West Spill	Horizontal	0.30	0	1.51	0.00		A,B,C,D,E, F,G,H	199
West Spill	Max Candela (by Fixture)	8986	2.65	29960	11308.30	3391.07	A,B,C,D,E, F,G,H	199
West Spill	Max Vertical Illuminance Metric	0.52	0	2.17	0.00		A,B,C,D,E, F,G,H	199

Source: MUSCO, 2021

1. Introduction

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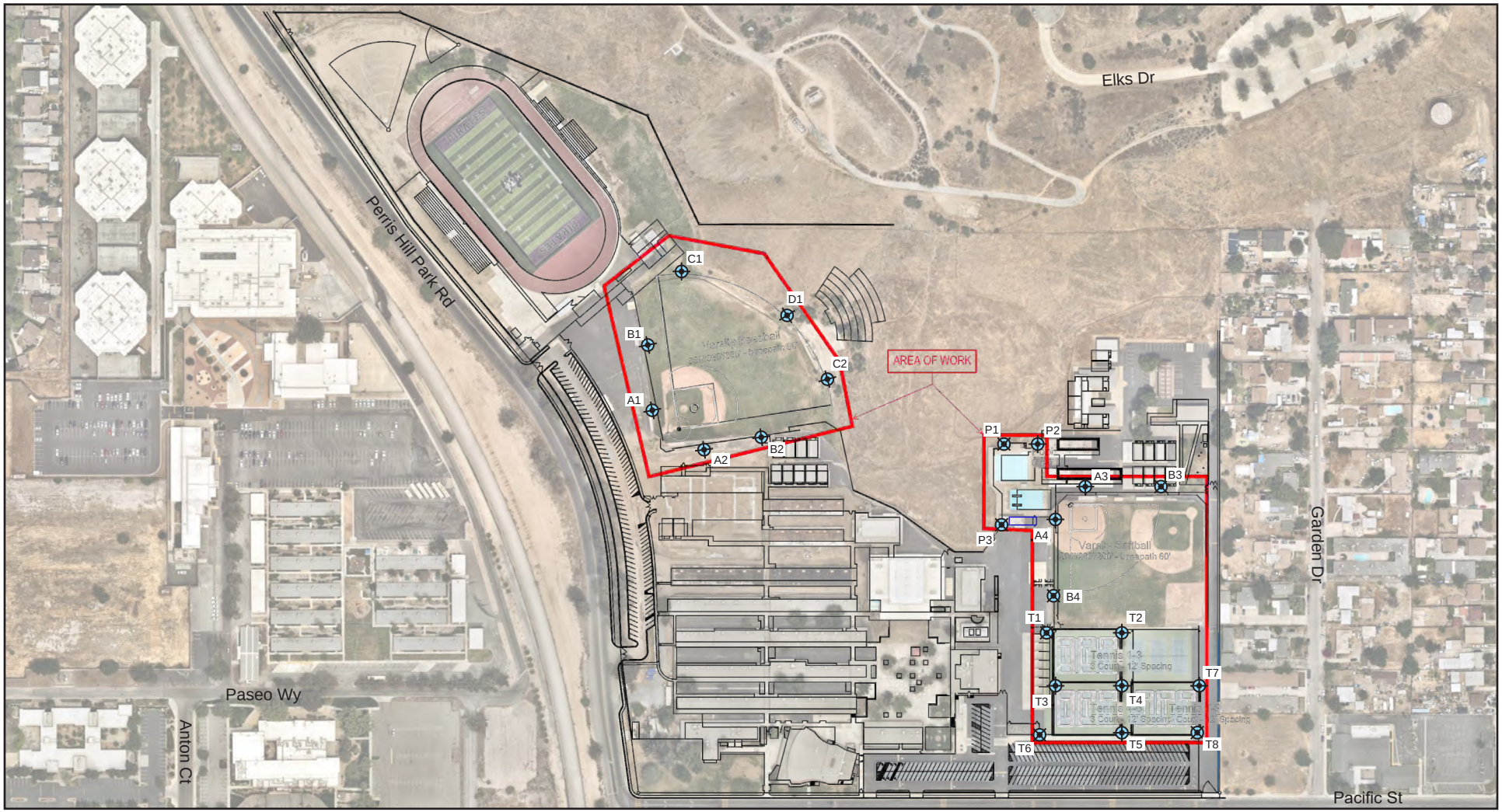
Figure 15 - Pacific High School Lighting Pole Locations



Lighting Pole Locations

0 330
Scale (Feet)

Source: Base Map: Nearmap, 2021; Site Plan: MUSCO, 2021

1. Introduction

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Figure 16 - Pacific High School Lighting System Summary

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	70'	70'	4	TLC-LED-1200	4.68 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A3	60'	60'	3	TLC-LED-900	2.67 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
A4	60'	60'	3	TLC-LED-900	2.67 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
		60'	1	TLC-LED-400	0.40 kW	G
		60'	2	TLC-LED-900	1.78 kW	F
B1-B2	80'	80'	8	TLC-LED-1500	11.44 kW	A
		80'	1	TLC-LED-400	0.40 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B3-B4	70'	70'	7	TLC-LED-1500	10.01 kW	B
		16'	2	TLC-BT-575	1.15 kW	B
C1-C2	70'	70'	4	TLC-LED-1200	4.68 kW	A
		16'	2	TLC-BT-575	1.15 kW	A
D1	70'	70'	4	TLC-LED-1200	4.68 kW	A
P1	60'	60'	2	TLC-LED-400	0.80 kW	G
		60'	1	TLC-LED-900	0.89 kW	F
P2	60'	60'	2	TLC-LED-400	0.80 kW	G
		60'	1	TLC-LED-400	0.40 kW	F
		60'	1	TLC-LED-600	0.58 kW	F
		60'	1	TLC-LED-900	0.89 kW	F
P3	60'	60'	1	TLC-LED-400	0.40 kW	G
		60'	3	TLC-LED-900	2.67 kW	F
T1-T2	50'	50'	3	TLC-LED-900	2.67 kW	C
T3	50'	50'	3	TLC-LED-900	2.67 kW	D
		50'	3	TLC-LED-900	2.67 kW	C
T4	50'	50'	3	TLC-LED-900	2.67 kW	C
		50'	3	TLC-LED-900	2.67 kW	D
		50'	3	TLC-LED-900	2.67 kW	E
T5	50'	50'	3	TLC-LED-900	2.67 kW	D
		50'	3	TLC-LED-900	2.67 kW	E
T6	60'	60'	3	TLC-LED-900	2.67 kW	D
T7-T8	50'	50'	3	TLC-LED-900	2.67 kW	E
22			***123***		***122.14 kW***	

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Blanket Grid	Horizontal	21.9	0	64	130.78		B	26
Diving Pool	Horizontal	54	35	67	1.91	1.54	F,G	15
Pool Deck	Horizontal	37.9	12	64	5.14	3.16	F,G	15
Pool Egress	Horizontal	11.2	1	23	22.57	11.21	G	6
Tennis 1-3	Horizontal Illuminance	53.3	38	64	1.70	1.40	C	12
Tennis 4-6	Horizontal Illuminance	53.3	37	68	1.82	1.44	D	12
Tennis 7-9	Horizontal Illuminance	54.2	39	71	1.83	1.39	E	12
Training Pool	Horizontal	51.8	35	69	1.97	1.48	F,G	15
Varsity Baseball (Infield)	Horizontal Illuminance	52.2	39	62	1.59	1.34	A	46
Varsity Baseball (Outfield)	Horizontal Illuminance	32.8	21	45	2.10	1.56	A	46
Varsity Softball (Infield)	Horizontal Illuminance	51.3	39	64	1.67	1.31	B	26
Varsity Softball (Outfield)	Horizontal Illuminance	33.6	23	44	1.94	1.46	B	26

Source: MUSCO, 2021

1. Introduction

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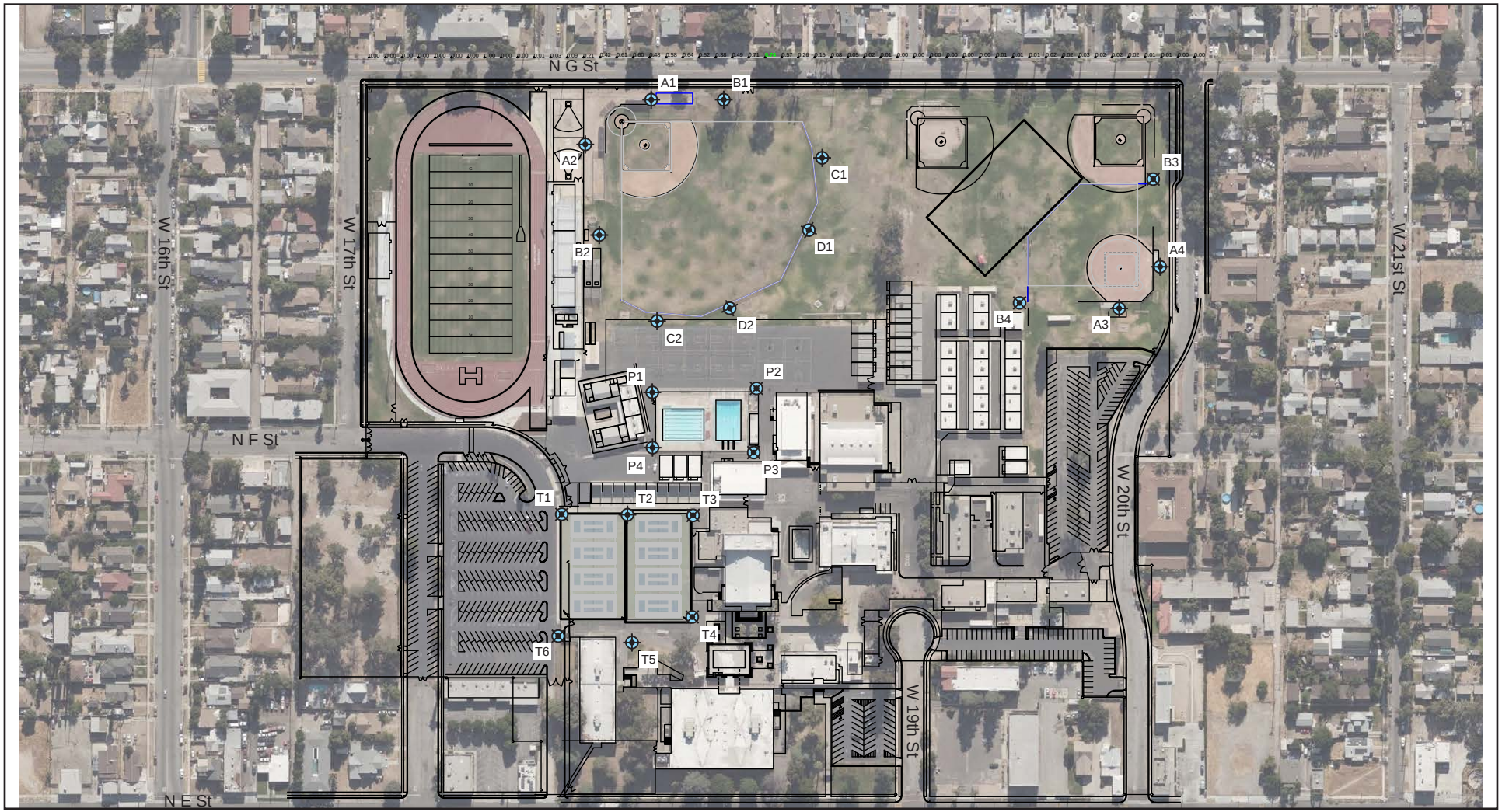
Figure 17 - San Bernardino High School Lighting Pole Locations



Lighting Pole Locations

0 270
Scale (Feet)

Source: MUSCO, 2021

1. Introduction

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Figure 18 - San Bernardino High School Lighting System Summary

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	80'	80'	4	TLC-LED-1200	4.68 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A3-A4	70'	70'	1	TLC-LED-1200	1.17 kW	D
		70'	2	TLC-LED-900	1.78 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
B1-B2	90'	90'	8	TLC-LED-1500	11.44 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B3-B4	70'	70'	5	TLC-LED-1500	7.15 kW	D
		70'	3	TLC-LED-1500	4.29 kW	I
		16'	2	TLC-BT-575	1.15 kW	D
C1-C2, D1-D2	80'	80'	4	TLC-LED-1500	5.72 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
P1-P4	60'	60'	1	TLC-LED-1200	1.17 kW	E
		60'	2	TLC-LED-900	1.78 kW	E
		50'	1	TLC-LED-600	0.58 kW	F
T1	60'	60'	3	TLC-LED-1200	3.51 kW	G
T2	60'	60'	3	TLC-LED-1200	3.51 kW	G
		60'	2	TLC-LED-1200	2.34 kW	H
		60'	1	TLC-LED-900	0.89 kW	H
T3	60'	60'	2	TLC-LED-1200	2.34 kW	H
		60'	1	TLC-LED-900	0.89 kW	H
T4	60'	60'	3	TLC-LED-1200	3.51 kW	H
T5	70'	70'	4	TLC-LED-1200	4.68 kW	G
		70'	3	TLC-LED-1200	3.51 kW	H
T6	70'	70'	3	TLC-LED-1200	3.51 kW	G
22			***117***		***134.76 kW***	

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Diving Pool	Horizontal	58.7	46	67	1.43	1.28	E	12
East Spill	Horizontal	0.09	0	0.38	1162.81		A,B,C,D,E, F,G,H	111
East Spill	Max Candela (by Fixture)	8661	1007	18889	18.77	8.60	A,B,C,D,E, F,G,H	111
East Spill	Max Vertical Illuminance Metric	0.22	0	0.86	185.39		A,B,C,D,E, F,G,H	111
North Spill	Horizontal	0.15	0	0.74	0.00		A,B,C,D,E, F,G,H	111
North Spill	Max Candela (by Fixture)	8602	65.1	25239	387.50	132.07	A,B,C,D,E, F,G,H	111
North Spill	Max Vertical Illuminance Metric	0.28	0	1.23	7775.62		A,B,C,D,E, F,G,H	111
Pool Deck	Horizontal	40.1	15	67	4.47	2.67	E	12
Pool Egress	Horizontal	7.76	3	14	4.71	2.59	F	4
Soccer Practice	Horizontal Illuminance	9.83	2	30	16.87	4.92	I	6
Swimming Pool	Horizontal	55	38	68	1.76	1.45	E	12
Tennis 1-4	Horizontal Illuminance	53.3	35	64	1.81	1.52	G	13
Tennis 5-8	Horizontal Illuminance	50.5	34	63	1.84	1.48	H	12
VBB 3rd Base Bullpen	Horizontal	20.8	15	27	1.82	1.39	A	48
Varsity Baseball (Infield)	Horizontal Illuminance	50.9	42	60	1.42	1.21	A	48
Varsity Baseball (Outfield)	Horizontal Illuminance	33.4	21	49	2.39	1.59	A	48
Varsity Softball (Infield)	Horizontal Illuminance	55.7	45	68	1.50	1.24	C,D	22
Varsity Softball (Outfield)	Horizontal Illuminance	33.1	19	46	2.45	1.74	C,D	22

Source: MUSCO, 2021

1. Introduction

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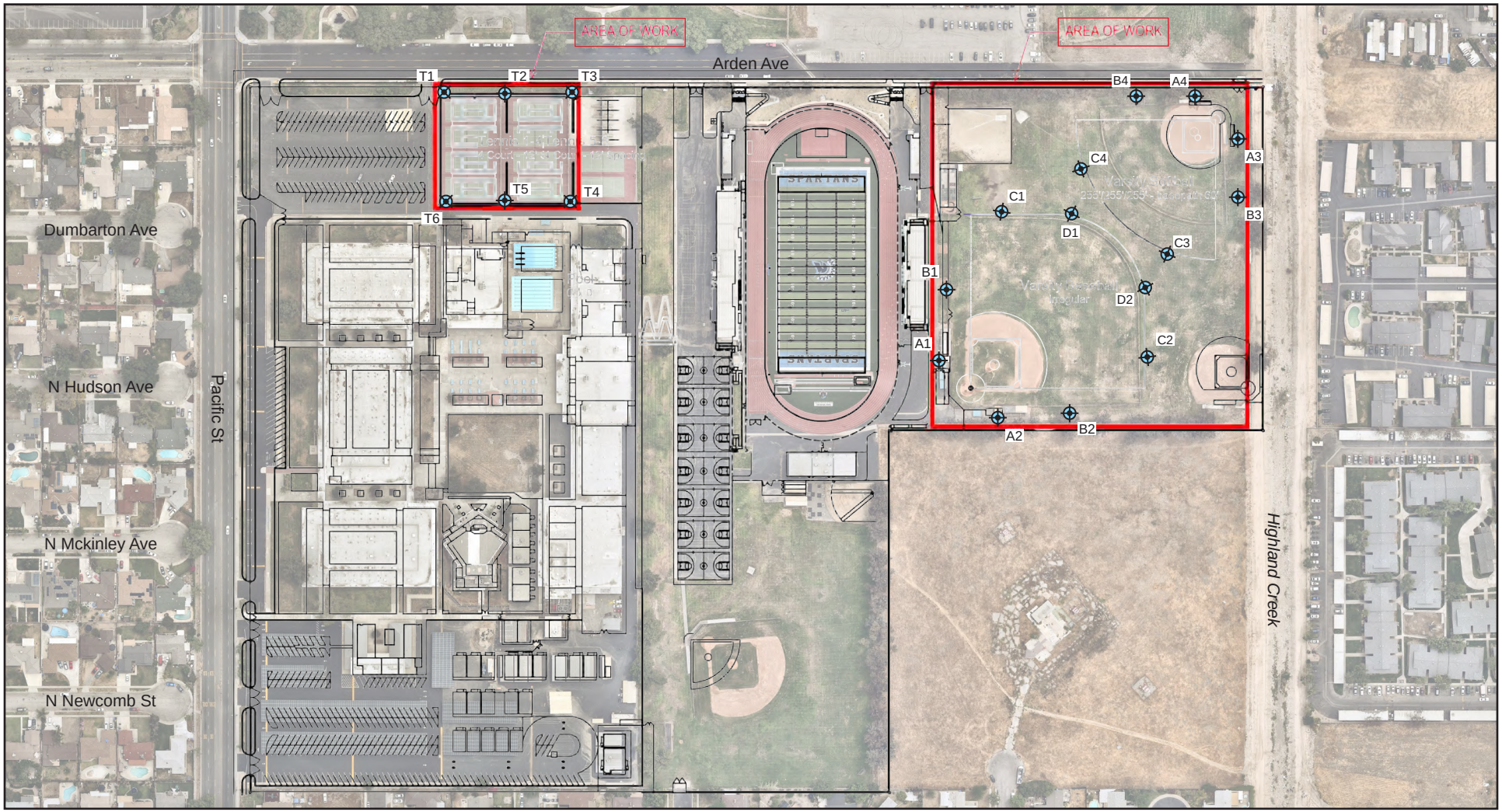
Figure 19 - San Gorgonio High School Lighting Pole Locations

1. Introduction



Lighting Pole Locations

0 270
Scale (Feet)

Source: MUSCO, 2021

1. Introduction

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Figure 20 - San Gorgonio High School Lighting System Summary
1. Introduction

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	70'	70'	4	TLC-LED-1200	4.68 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A3-A4	60'	60'	3	TLC-LED-900	2.67 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
B1-B2	80'	80'	8	TLC-LED-1500	11.44 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B3-B4	70'	70'	6	TLC-LED-1200	7.02 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
C1-C2, D1-D2	70'	70'	3	TLC-LED-1200	3.51 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
C3-C4	60'	60'	3	TLC-LED-1200	3.51 kW	B
T1, T6	50'	50'	2	TLC-LED-1200	2.34 kW	C
		50'	1	TLC-LED-900	0.89 kW	C
T2	50'	50'	2	TLC-LED-1200	2.34 kW	C
		50'	2	TLC-LED-1200	2.34 kW	D
		50'	1	TLC-LED-900	0.89 kW	D
		50'	1	TLC-LED-900	0.89 kW	C
T3-T4	50'	50'	2	TLC-LED-1200	2.34 kW	D
		50'	1	TLC-LED-900	0.89 kW	D
T5	50'	50'	2	TLC-LED-1200	2.34 kW	D
		50'	2	TLC-LED-1200	2.34 kW	C
		50'	1	TLC-LED-900	0.89 kW	C
		50'	1	TLC-LED-900	0.89 kW	D
20			***98***		***106.57 kW***	

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Baseball Spill Grid	Horizontal	0.35	0	2.39	0.00		A,B	74
Baseball Spill Grid	Max Candela (by Fixture)	9775	0.81	66186	82127.99	12067.66	A,B	74
Baseball Spill Grid	Max Vertical Illuminance Metric	0.55	0	3.24	0.00		A,B	74
Bullpen BB 1st baseline	Horizontal	14.2	6	20	3.24	2.36	A	44
Bullpen BB 3rd Baseline	Horizontal	17.6	5	39	7.19	3.52	A	44
Bullpen SB 1st baseline	Horizontal	17	8	39	4.79	2.12	B	30
Bullpen SB 3rd baseline	Horizontal	18.3	8	43	5.19	2.29	B	30
Tennis 1-4	Horizontal Illuminance	55.1	40	65	1.61	1.38	C	12
Tennis 5-8	Horizontal Illuminance	51.8	40	60	1.51	1.30	D	12
Tennis Spill Grid	Horizontal	0	0	0.01	0.00		C,D	24
Tennis Spill Grid	Max Candela (by Fixture)	596	0	3071	0.00		C,D	24
Tennis Spill Grid	Max Vertical Illuminance Metric	0.01	0	0.04	0.00		C,D	24
Varsity Baseball (Infield)	Horizontal Illuminance	52.6	42	59	1.40	1.25	A	44
Varsity Baseball (Outfield)	Horizontal Illuminance	33.3	24	44	1.84	1.39	A	44
Varsity Softball (Infield)	Horizontal Illuminance	53.3	45	61	1.34	1.18	B	30
Varsity Softball (Outfield)	Horizontal Illuminance	33.5	23	45	1.90	1.46	B	30

Source: MUSCO, 2021

1. Introduction

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2. Environmental Checklist

2.1 PROJECT INFORMATION

1. **Project Title:** Sports Facilities Lighting at Six High Schools Project.

2. **Lead Agency Name and Address:**
   San Bernardino City Unified School District
   956 West 9th Street
   San Bernardino, CA 92411

3. **Contact Person and Phone Number:**
   Tom Pace, Director, Facilities Planning & Development
   909.388.6100

4. **Project Location:**
   - **Arroyo Valley High School:** 1881 W. Baseline Street, San Bernardino, CA 92411. The project site consists of the tennis courts, swimming pool, baseball fields, softball fields, and soccer fields on the Arroyo Valley HS campus.
   - **Cajon High School:** 1200 W. Hill Drive, San Bernardino, CA 92407. The project site consists of the tennis courts, swimming pool, baseball fields, softball fields, and soccer fields on the Cajon HS campus.
   - **Indian Springs High School:** 650 North Del Rosa Drive, San Bernardino, CA 92410. The project site consists of the tennis courts, baseball fields, softball fields, and soccer fields on the Indian Springs HS campus.
   - **Pacific High School:** 1020 Pacific Street, San Bernardino, CA 92404. The project site consists of the tennis courts, swimming pool, baseball fields, softball fields, and soccer fields on the Pacific HS campus.
   - **San Bernardino High School:** 1850 North E Street, San Bernardino, CA 92405. The project site consists of eight tennis courts, aquatic center (one swimming pool and one diving pool), baseball fields, softball fields, and soccer fields on the San Bernardino HS campus.
   - **San Gorgonio High School:** 2299 Pacific Street, San Bernardino, CA 92404. The project site consists of the tennis courts (eight tennis courts to the north out of ten), aquatic center (one swimming pool and one diving pool), varsity baseball field, varsity softball field, and one practice field on the San Gorgonio HS campus.

5. **Project Sponsor's Name and Address:**
   San Bernardino City Unified School District
   956 West 9th Street
   San Bernardino, CA 92411

2. Environmental Checklist

6. General Plan Designation:

- **Arroyo Valley High School:** Industrial, Commercial, Multiple Family Residential, and Single Family Residential
- **Cajon High School:** Specific Plan
- **Indian Springs High School:** Single Family Residential
- **Pacific High School:** Public/Quasi-Public
- **San Bernardino High School:** Public/Quasi-Public
- **San Gorgonio High School:** Public/Quasi-Public

7. Zoning:

- **Arroyo Valley High School:** Office Industrial Park, Commercial General-1, Residential Medium, and Residential Suburban
- **Cajon High School:** Public Facilities
- **Indian Springs High School:** Residential Suburban
- **Pacific High School:** Public Facilities
- **San Bernardino High School:** Public Facilities
- **San Gorgonio High School:** Public Facilities

8. Description of Project:

The San Bernardino City Unified School District plans to add competitive sports lighting to its six comprehensive high schools—Arroyo Valley, Cajon, Indian Springs, Pacific, San Bernardino, and San Gorgonio High Schools. The proposed lighting improvements are prompted by the passage of Senate Bill (SB) 328, which requires high schools to start no earlier than 8:30 am. With the later start time, schools will also end later, which will affect sports activities unless the athletic fields and courts are lighted for evening use.

The District plans to light the tennis courts, varsity and junior varsity baseball and softball fields, and swimming pools for all six schools—except for Indian Springs High School and San Gorgonio High School, where swimming pools are already equipped with sports lighting. The proposed sports lighting project would allow extended use of the listed athletic facilities into evening hours for the benefit of existing students. No additional sports programs would be added that could increase participants or spectators. The proposed project would require limited demolition of hardscape and softscape to install lighting poles at the existing sports facilities. No structural demolition would be required.

9. Surrounding Land Uses and Setting:

- Arroyo Valley High School: AVHS is surrounded by industrial uses to the east; institutional, commercial, residential, and vacant lot to the north; residential and Wilson Street Park to the east; and single-family residences to the south. Wilson Street Park is also developed with residences. Other major uses in the area includes Cajon Wash to the west, Anne Shirrells Park and Dr. Martin Luther King Jr. Middle School to the north across Baseline Street, and Maple Street Park and Johnson Hall Center to the south across 9th Street.

- Cajon High School: CHS is surrounded by residential uses on all four sides, except for the northwestern corner, which is the California State University, San Bernardino.
- Indian Springs High School: The project site is surrounded by single-family detached residences and vacant land to the east, south, and west and by vacant land and multifamily residences to the north. Bing Wong Elementary School is across 9th Street from the northwest corner of the Indian Springs High School, and Curtis Middle School is also across 9th Street at the northwest corner of Del Rosa Drive and 9th Street. San Bernardino International Airport is about 0.4 mile southeast of the site. The City of Highland bounds the campus to the west and south.
- Pacific High School: PHS is at the foot of Perris Hill and surrounded by residential uses to the south and east. West across Perris Hill Park Road is a flood control channel, and beyond that are commercial office uses. Roger Anton Elementary School is to the southwest of PHS, and Perris Hill Park is north of Perris Hill.
- San Bernardino High School: SBHS is surrounded predominantly by residential uses, and institutional uses are at the southwest and southeast corners. Institutional and commercial uses are near the northeast corner of the campus.
- San Gorgonio High School: SGHS is surrounded by residential uses to the north, west, and south and Speicher Memorial Park to the east. The campus shares portions of its south and west boundaries with an approximately 10-acre property with three transmission towers. Highland Creek borders the campus to the south, and south of Highland Creek is in the City of Highland.

10. Other Public Agencies Whose Approval Is Required (e.g., permits, financing approval, or participating agreement):

- Division of State Architect -Approval of construction plans
- San Bernardino County Fire District – Review and approval of emergency access plans

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

> Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.94 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

The District received a request for notification of projects from the Gabrieleno Band of Mission Indians - Kizh Nation (Kizh Nation) pursuant to Assembly Bill 52 (AB 52). The District notified the Kizh Nation of the proposed project in a written letter dated August 12, 2021, via email. The Kizh Nation

responded requesting a consultation in an email dated August 13, 2021. The District requested a meeting with the Kizh Nation in an email dated August 18, 2021, to begin consultation process. However, no response was received from the Kizh Nation. The District emailed the Kizh Nation again on September 10, 2021, requesting to meet to consult, and no response has been received as of September 20, 2021. The District, in good faith, has initiated the consultation but no consultation has taken place as of October 7, 2021.

2.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

2.3 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

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

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

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

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

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

Signature	*Date*
Thomas Pace	

2.4 EVALUATION OF ENVIRONMENTAL IMPACTS

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

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

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

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

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

   a) **Earlier Analyses Used.** Identify and state where they are available for review.

   b) I**mpacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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

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

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

9. The explanation of each issue should identify:

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

2. Environmental Checklist

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3. Environmental Analysis

Section 2.4 provided a checklist of environmental impacts. This section provides an evaluation of the impact categories and questions contained in the checklist and identifies mitigation measures, if applicable.

3.1 AESTHETICS

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. The city provides prominent scenic views of the San Bernardino and San Gabriel Mountains throughout the city. A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the public. No scenic vista is officially designated by the City of San Bernardino General Plan. The proposed project would provide sports lighting to existing sport facilities, and implementation of the proposed project would not obstruct or alter views of these mountain ranges. Impacts would be less than significant.

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

No Impact. The proposed project would install nighttime lighting on existing sport facilities within six high schools. The project sites are already developed with various sports facilities used for school programs. State Route (SR) 330, which passes through the city near the northeast city limits is identified as an eligible scenic highway by the California State Scenic Highway System Map (Caltrans 2021). The City's General Plan Circulation Element designates SR 210 (formerly SR 30) south of SR 330 as a scenic route (San Bernardino

2005). The nearest school from these two scenic routes is San Gorgonio High School, approximately 1.8 miles and 2.4 miles to the west. Due to the distance and intervening development, San Gorgonio High School is not visible from the scenic routes. The remaining five high schools are farther to the west and also would not be visible from the scenic routes. No scenic resources would be damaged, and no impact would occur.

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

Less Than Significant Impact. The proposed project would providing nighttime sports lighting to the existing baseball fields, softball fields, tennis courts, and swimming/diving pools at six high schools in the City of San Bernardino. The City of San Bernardino is an urbanized area, and all existing high schools are permitted uses under the existing zoning for each school. Implementation of the proposed project would not conflict with any zoning and other regulations governing scenic quality. The sports lighting poles would range from 60 to 90 feet tall, and provision of sports lighting to the high schools' existing athletic facilities would be compatible with the existing uses. The light poles would not obstruct any protected views or degrade scenic quality. Impacts would be less than significant.

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

Less Than Significant Impact with Mitigation Incorporated. The two major causes of light pollution are glare and spill light.

All six high school campuses are fully developed with high school facilities, and the proposed lighting fixtures would be installed on existing sports facilities as described in Section 1.4, *Project Description*. The existing school generates nighttime light from parking lots, building lights (interior and exterior), and football/track stadiums that were previously improved with lights. Surrounding land uses also generate lights from streetlights, vehicle lights, and building lights, typical in urban neighborhoods.

Terminology

The foot-candle (fc) is a unit based on English measurements. Although foot-candles are considered obsolete in some scientific circles, they are nevertheless used because many existing light meters are calibrated in foot-candles. Moonlight produces approximately 0.01 fc, and sunlight can produce up to 10,000 fc. The general benchmarks for light levels are shown in Table 7.

Table 7 General Light Levels Benchmark

Outdoor Light	Foot-Candles
Direct Sunlight	10,000
Full Daylight	1,000
Overcast Day	100
Dusk	10
Twilight	1
Deep Twilight	0.1
Full Moon	0.01
Quarter Moon	0.001
Moonless Night	0.0001
Overcast Night	0.00001
Gas station canopies	25–30
Typical neighborhood streetlight and parking garage	1.0–5.0

Horizontal foot-candle. The amount of light received on a horizontal surface such as a roadway or parking lot pavement.

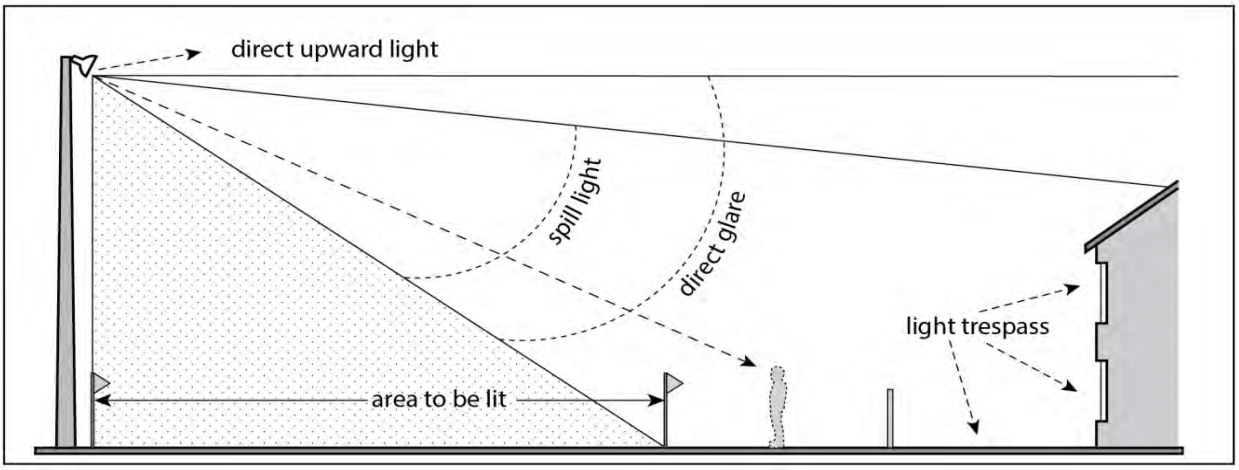
Vertical foot-candle. The amount of light received on a vertical surface such as a billboard or building façade.

Glare means lighting entering the eye directly from a light fixture or indirectly from reflective surfaces that causes visual discomfort or reduced visibility. Glare can be generated by building-exterior materials, surface-paving materials, vehicles traveling or parked on roads and driveways, and sports lights. Any highly reflective façade material is a concern because buildings can reflect bright sunrays. The concepts of spill light, direct glare, and light trespass are illustrated in Exhibit B, *Spill Light, Direct Glare, and Light Trespass*, adapted from the Institution of Lighting Engineers (ILE 2003).

Direct glare is caused by looking at an unshielded lamp or a light at maximum candlepower. Direct glare is dependent on the brightness of the light source, the contrast in brightness between the light source and the surrounding environment, the size of the light source, and its position.

3. Environmental Analysis

Exhibit B: Spill Light, Direct Glare, and Light Trespass



Illuminance is the amount of light on a surface or plane, typically expressed in a horizontal plane (e.g., on the ground) or in a vertical plane (e.g., on the side of a building).

Lumen means the unit of measure used to quantify the amount of visible light produced by a light source or emitted from a luminaire (as distinct from "watt," a measure of power consumption).

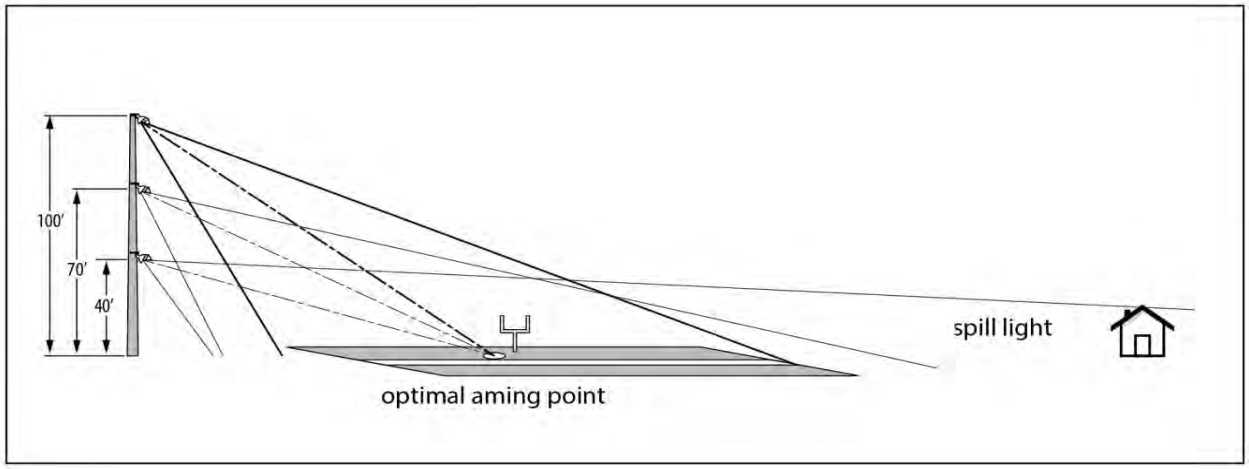
Luminaire means outdoor electrically powered illuminating devices that include a light source, outdoor reflective or refractive surfaces, lenses, electrical connectors and components, and all parts used to mount the assembly, distribute the light, and/or protect the light source, whether permanently installed or portable. An important component of luminaires is their shielding:

- **Fully shielded.** A luminaire emitting no light above the horizontal plane.
- **Shielded.** A luminaire emitting less than 2 percent of its light above the horizontal plane.
- **Partly shielded.** A luminaire emitting less than 10 percent of its light above the horizontal plane.
- **Unshielded.** A luminaire that may emit light in any direction.

Light trespass means light that falls beyond the property on which it originates. The amount of trespass is expressed in foot-candles and is measured in the vertical plane at five feet above grade at the property line of the site on which the light(s) is located. If the adjacent property is a street, alley, or sidewalk, the point at which trespassing light is measured is the center of the street, alley, sidewalk, or right-of-way. Field measurements to determine light trespass compliance do not include the effect of light produced by streetlights.

As a general rule, taller poles allow fixtures to be aimed more directly on the playing surface, which reduces the amount of light spilling into surrounding areas. Proper fixture angles ensure even light distribution across the playing area and reduce spill light, as shown in Exhibit C, *Pole Heights and Lighting Angles*.

Exhibit C: Pole Heights and Lighting Angles



Sky Glow is light that reflects into the night sky and reduces visibility of the sky and stars. It is a concern in many jurisdictions, especially those with observatories.

San Bernardino Municipal Code Section 19.20.030 provides the following guidance related to exterior lights. However, the municipal code does not have any specific spill light threshold levels.

> **Glare**: No glare incidental to any use shall be visible beyond any boundary line or the parcel.
>
> **Lighting**: Exterior lighting shall be energy-efficient and shielded or recessed so that direct glare and reflections are contained within the boundaries of the parcel, and shall be directed downward and away from adjoining properties and public rights-of-way. No lighting shall blink, flash, or be of unusually high intensity or brightness. All lighting fixtures shall be appropriate in scale, intensity, and height to the use it is serving. Security lighting shall be provided at all entrances/exits.

Some of the design elements for light control and reduced spill lighting impact include mounting height and steep aiming angles, various lighting modes, visors and shielding, reflective housing around the lamp, number of lamps, and appropriate light levels. Higher poles could increase off-site glare, and shorter poles could increase off-site spill light and detrimentally affect lighting levels and performance. The proposed lighting poles incorporate all these elements, and each element can be arranged individually to control and minimize any potential spill lighting impacts. Each light assembly would be adjusted, and additional shields would be installed as necessary to ensure that light levels at the sensitive receptors do not exceed the light threshold and to reduce sky glow impacts. For the purposes of this analysis, an industry standard of 0.8 fc was used for a significance determination because 0.8 fc would be close to twilight light levels.

Arroyo Valley High School:

Spill light data from the lighted sports facilities at Arroyo Valley High School is included in Appendix A, *Arroyo Valley High School Lighting Plans*. The varsity baseball and varsity softball fields are set back approximately 90 feet

from the residences to the north, which is adequate buffer to reduce spill light impacts. As shown in Appendix A, the spill light levels along the northern boundary of W. Baseline Street would not exceed 0.08 fc.

There are residences east across Madison Street close to the JV softball field. The spill light levels along the eastern edge of Madison Street North right-of-way would range from 0.01 fc to 2.53 fc (see Appendix A). However, as shown on Figure 21, *Arroyo Valley High School Spill Light Levels Near Madison Street North*, the residential structure north of West 11th Street at 1738 West 11th Street and the residential structure south of West 11th Street at 1735 West 11th Street are set back approximately 15 feet and 30 feet from the Madison Street North right-of-way, respectively, and the spill light levels would not exceed 0.7 fc at these two residential structures. There are also trees along the side yard of 1735 West 11th Street to partially block the spill light. Furthermore, lights would typically be turned off by no later than 8:30 pm, and therefore would not interfere with the typical sleeping pattern of residents.

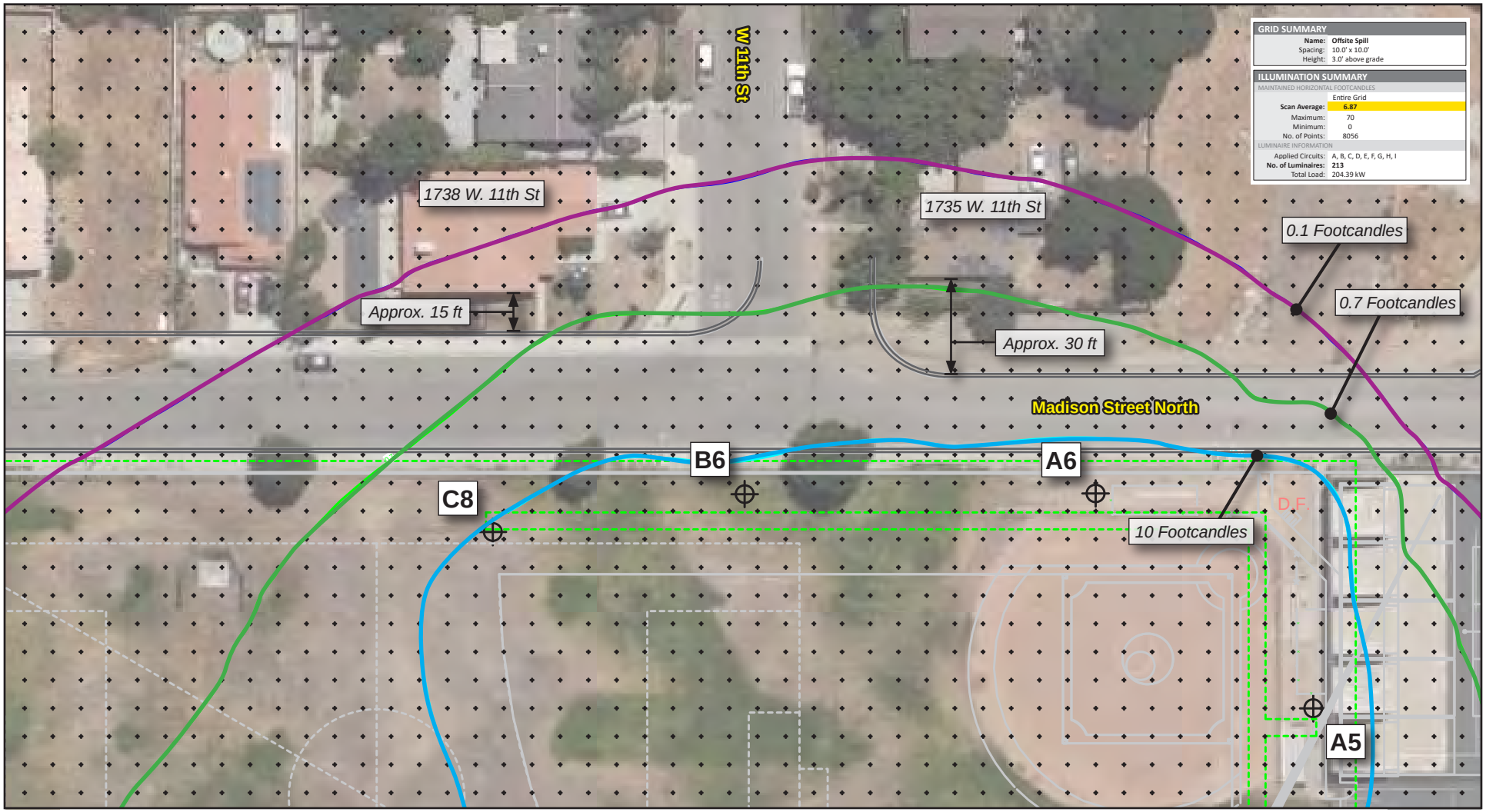
Figure 22, *Arroyo Valley High School Spill Light Levels Near Tennis Courts*, shows spill light levels around the tennis courts that adjoins residences to the east on West Temple Street. Figure 22 shows lighting levels on a 10 ft x 10 ft grid, and blue, green, and light blue contour lines illustrate cutoff of horizontal light levels at 0.1 fc, 1.0 fc, and 2.0 fc, respectively. As shown, the residential structures are approximately 55 feet to 60 feet from the tennis courts, and the spill light at about 30 feet from the tennis courts would range from about 0.3 fc to 0.5 fc. The levels would be reduced to 0.0 fc at the residences at 50 feet from the tennis courts. Additionally, trees between the tennis courts and the residences further block the spill light from the residences. Therefore, the proposed project would not exceed the spill light industry standard of 0.8 fc. The LED luminaires would be shielded and directed downward and away from the adjacent sensitive uses and public rights-of-way so that glare impacts are minimized. Spill light and glare impacts to the adjacent sensitive uses would be less than significant.

Cajon High School

As shown on Figure 11, the varsity baseball and softball fields are located along the school boundaries to the north and could potentially result in spill light impacts to adjacent residences. The tennis courts, swimming pools, and JV baseball and softball fields do not abut any off-site sensitive uses. Figure 23, *Cajon High School Spill Light Levels Near Residences,* shows blue, green, and light blue contour lines along the residences to the north near Northpark Boulevard, illustrating cutoff of horizontal light levels at 0.1 fc, 1.0 fc, and 2.0 fc, respectively. As shown on Figure 23, the light levels would not exceed 1.0 fc beyond the landscaped median on Northpark Boulevard and the light levels would then be reduced to 0.3 fc or less along the north edge of the Northpark Boulevard, approximately 100 feet from the school's north property line. Therefore, the threshold standard of 0.8 fc for sensitive uses would not be exceeded. The school's west property line is approximately 220 feet from the residences to the west, and similar to the light levels to the north, the light levels are anticipated to be less than 0.3 fc along the residences (see Appendix B, *Cajon High School Lighting Plans*). Spill light impacts would be less than significant.

The LED luminaires would be shielded and directed downward and away from the adjacent sensitive uses and public rights-of-way so that glare impacts are minimized. Therefore, spill light and glare impacts to the adjacent sensitive uses would be less than significant.

Figure 21 - Arroyo Valley High School Spill Light Levels Near Madison Street North



10 Footcandles 0.7 Footcandles 0.1 Footcandles Light Pole Locations

Notes: Contour lines indicate cutoff of horizontal light at 10.0 fc ( ), 0.7 fc ( ), and 0.1 fc ( ) with all fixtures enabled.

0 55
Scale (Feet)

Source: MUSCO, 2021

3. Environmental Analysis

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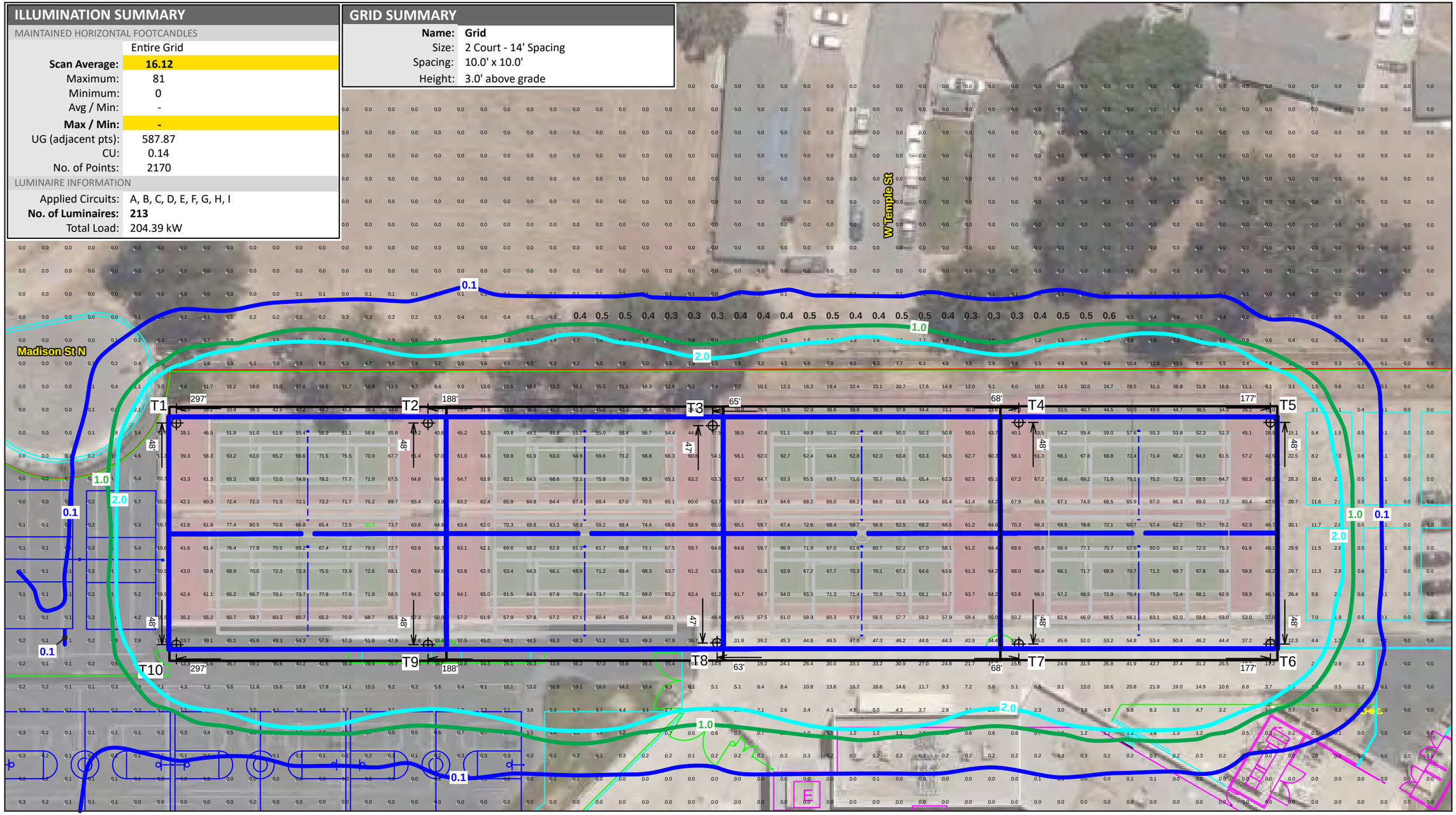
Figure 22 - Arroyo Valley High School Spill Light Levels Near Tennis Courts

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	**16.12**
Maximum:	81
Minimum:	0
Avg / Min:	-
Max / Min:	**-**
UG (adjacent pts):	587.87
CU:	0.14
No. of Points:	2170
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G, H, I
No. of Luminaires:	**213**
Total Load:	204.39 kW

GRID SUMMARY	
Name:	**Grid**
Size:	2 Court - 14' Spacing
Spacing:	10.0' x 10.0'
Height:	3.0' above grade



Notes: Contour lines indicate cutoff of horizontal light at 2.0 fc ( ), 1.0 fc ( ), and 0.1 fc ( ) with all fixtures enabled.

0 40
Scale (Feet)

Source: MUSCO, 2021

3. Environmental Analysis

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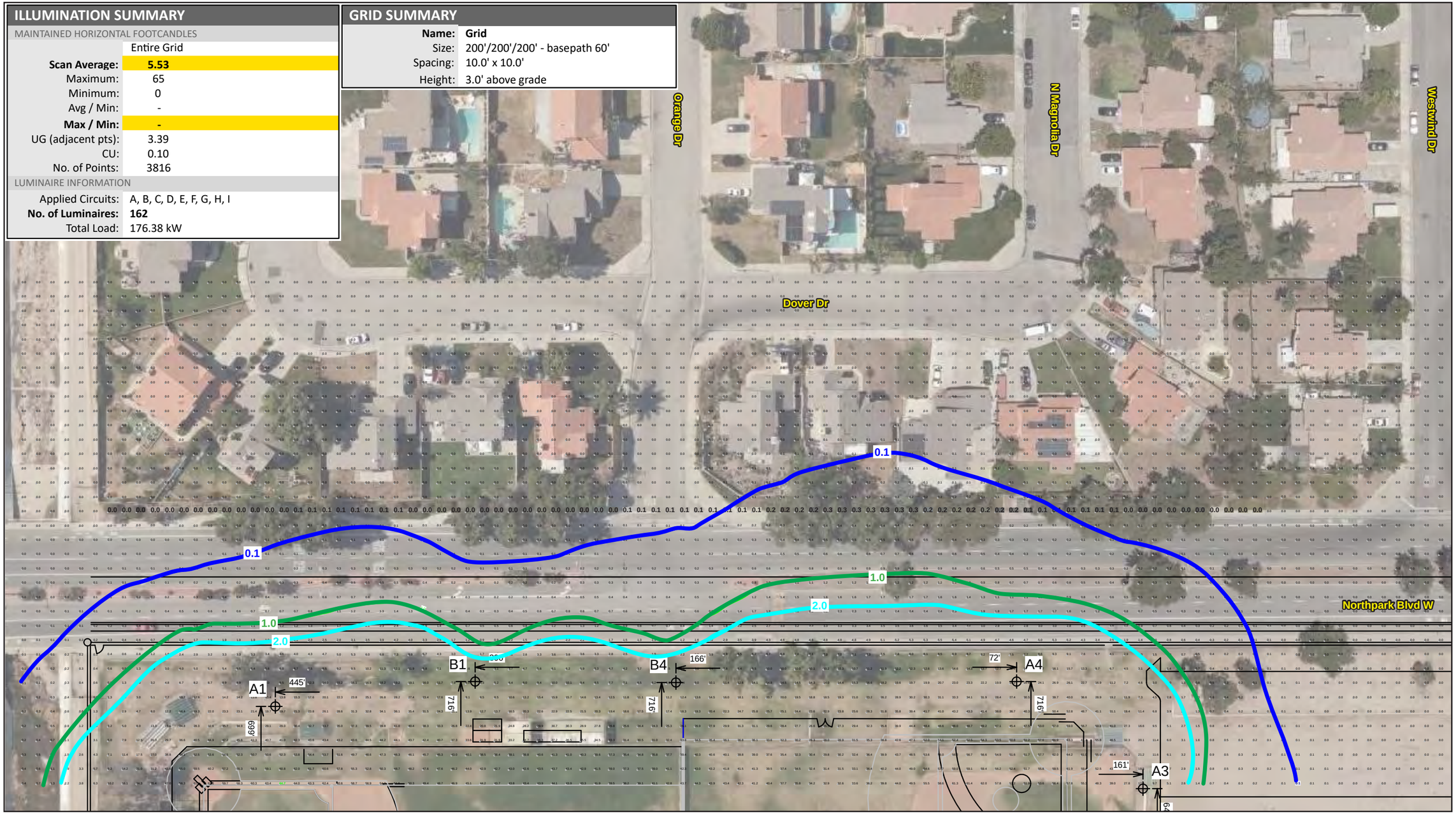
Figure 23 - Cajon High School Spill Light Levels Near Residences



Notes: Contour lines indicate cutoff of horizontal light at 2.0 ( ), 1.0 fc ( ), and 0.1 fc ( ) with all fixtures enabled.

Source: MUSCO, 2021

3. Environmental Analysis

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Indian Springs High School

As shown on Figure 13, only the varsity softball field is adjacent to residential uses and could potentially result in spill light impacts to the west and north. Figure 24, *Indian Springs High School Spill Light Levels Near Residences,* shows spill light levels along the western property line abutting residences. As shown, the green contour line that illustrates spill light level cutoff at 1.0 fc would extend slightly beyond one residence at 7671 Fairfax Lane, and the spill light levels for other abutting residences would range from 0.1 fc to 0.7 fc. However, the spill light levels at 7671 Fairfax Lane would be reduced to 0.8 fc at less than 5 feet from the property line, and to 0.5 fc after another 10 feet. Moreover, the spill light levels exceeding 0.8 fc would only be unoccupied backyard area being used for storage without any habitable structures. The actual residence is approximately 50 feet from the property line and would not be adversely impacted by the spill light, which would not exceed 0.1 fc. The residences north across 9th Street are over 150 feet from the light poles, and the spill light levels along the north boundary of the 9th Street right-of-way would not exceed 0.01 fc (see Appendix C, *Indian Springs High School Lighting Plans*). Therefore, spill light impacts from the proposed project would be less than significant.

The LED luminaires would be shielded and directed downward and away from the adjacent sensitive uses and public rights-of-way so that glare impacts are minimized. Therefore, glare impacts to the adjacent sensitive uses would be less than significant.

Pacific High School

As shown on Figure 15, the lighted tennis courts and the varsity softball field are close to residences to the east. The varsity baseball field is not near any sensitive uses. Figure 25, *Pacific High School Spill Light Levels Near Residences,* demonstrates that spill light levels would not exceed 0.1 fc near the residences to the east (see Appendix D, *Pacific High School Lighting Plans*). The LED luminaires would be shielded and directed downward and away from the adjacent sensitive uses and public rights-of-way so that glare impacts are minimized. Therefore, glare impacts to the adjacent sensitive uses would be less than significant.

San Bernardino High School

As shown on Figure 17, residences are located across North G Street and West 20th Street close to the newly lit baseball, softball, and soccer fields. The spill light levels along the North G Street right-of-way to the west would range from 0.0 fc to 0.74 fc as shown on Appendix E, *San Bernardino High School Lighting Plans*. The spill light levels along West 20th Street right-of-way to the north would not exceed 0.38 fc. The spill light levels along these residential property lines are included in Appendix E, *San Bernardino High School Lighting Plans*. The LED luminaires would be shielded and directed downward and away from the adjacent sensitive uses and public rights-of-way so that glare impacts are minimized. Therefore, glare impacts to the adjacent sensitive uses would be less than significant.

San Gorgonio High School

As shown on Figure 19, the newly lit sports facilities are not close to any sensitive uses. The tennis courts and the ballfields are adjacent to Speicher Memorial Park to the east, separated by Arden Avenue. The nearest residential structures to the ballfields to the south are approximately 250 feet away. The spill light levels east of

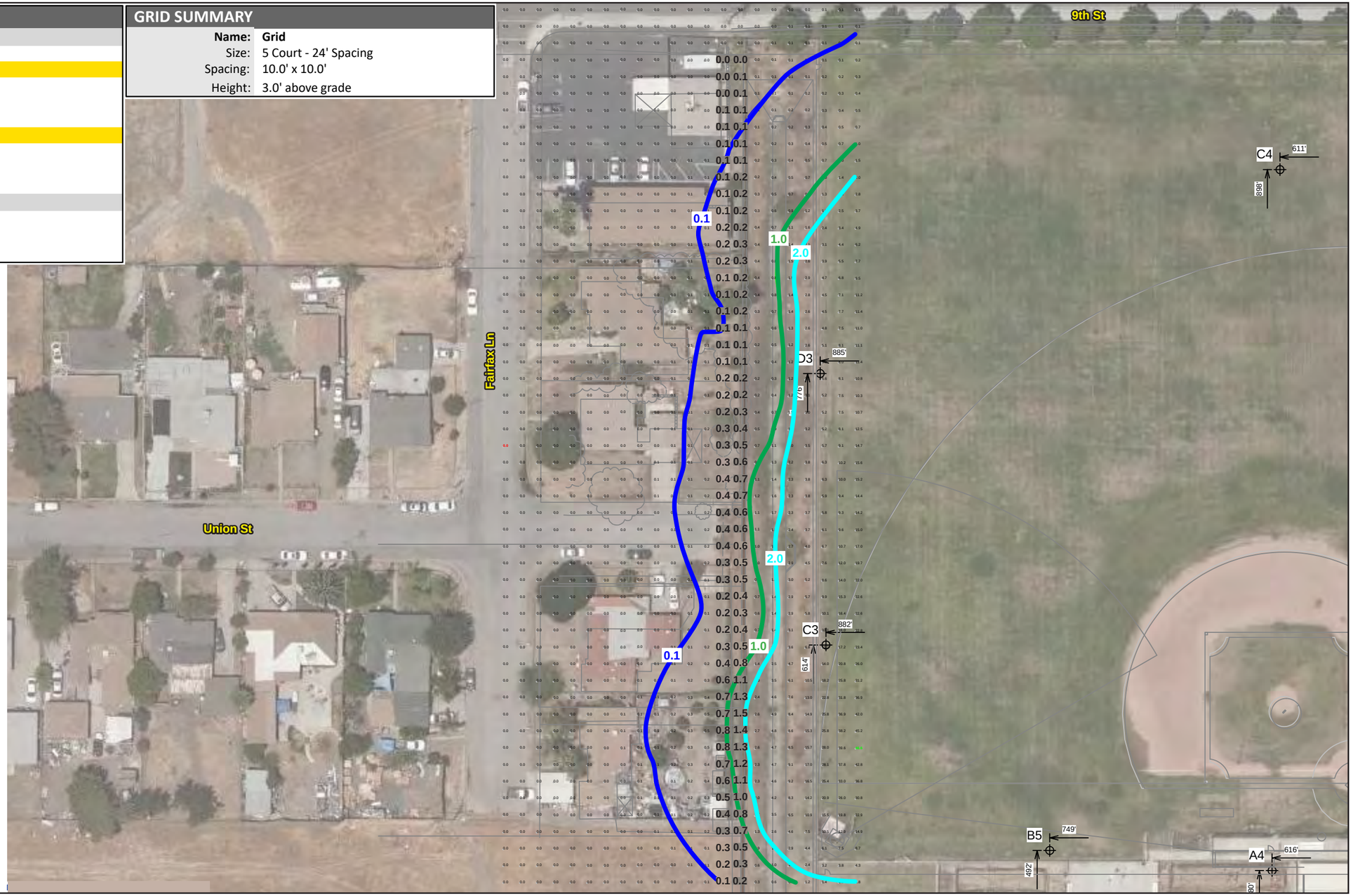
3. Environmental Analysis

Arden Street and at the residential property line to the south would be 0.0 fc, as included in Appendix F, *San Gorgonio High School Lighting Plans*. The LED luminaires would be shielded and directed downward and away from the adjacent sensitive uses and public rights-of-way so that glare impacts are minimized. Therefore, glare impacts to the adjacent sensitive uses would be less than significant.

Figure 24 - Indian Springs High School Spill Light Levels Near Residences

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	**2.0**
Maximum:	47
Minimum:	0
Avg / Min:	5225.76
Max / Min:	**120378.45**
UG (adjacent pts):	4.23
CU:	0.01
No. of Points:	1166
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G, H
No. of Luminaires:	**199**
Total Load:	231.39 kW

GRID SUMMARY	
Name:	**Grid**
Size:	5 Court - 24' Spacing
Spacing:	10.0' x 10.0'
Height:	3.0' above grade



Notes: Contour lines indicate cutoff of horizontal light at 2.0 ( ), 1.0 fc ( ), and 0.1 fc ( ) with all fixtures enabled.

Source: MUSCO, 2021

0 60
Scale (Feet)

3. Environmental Analysis

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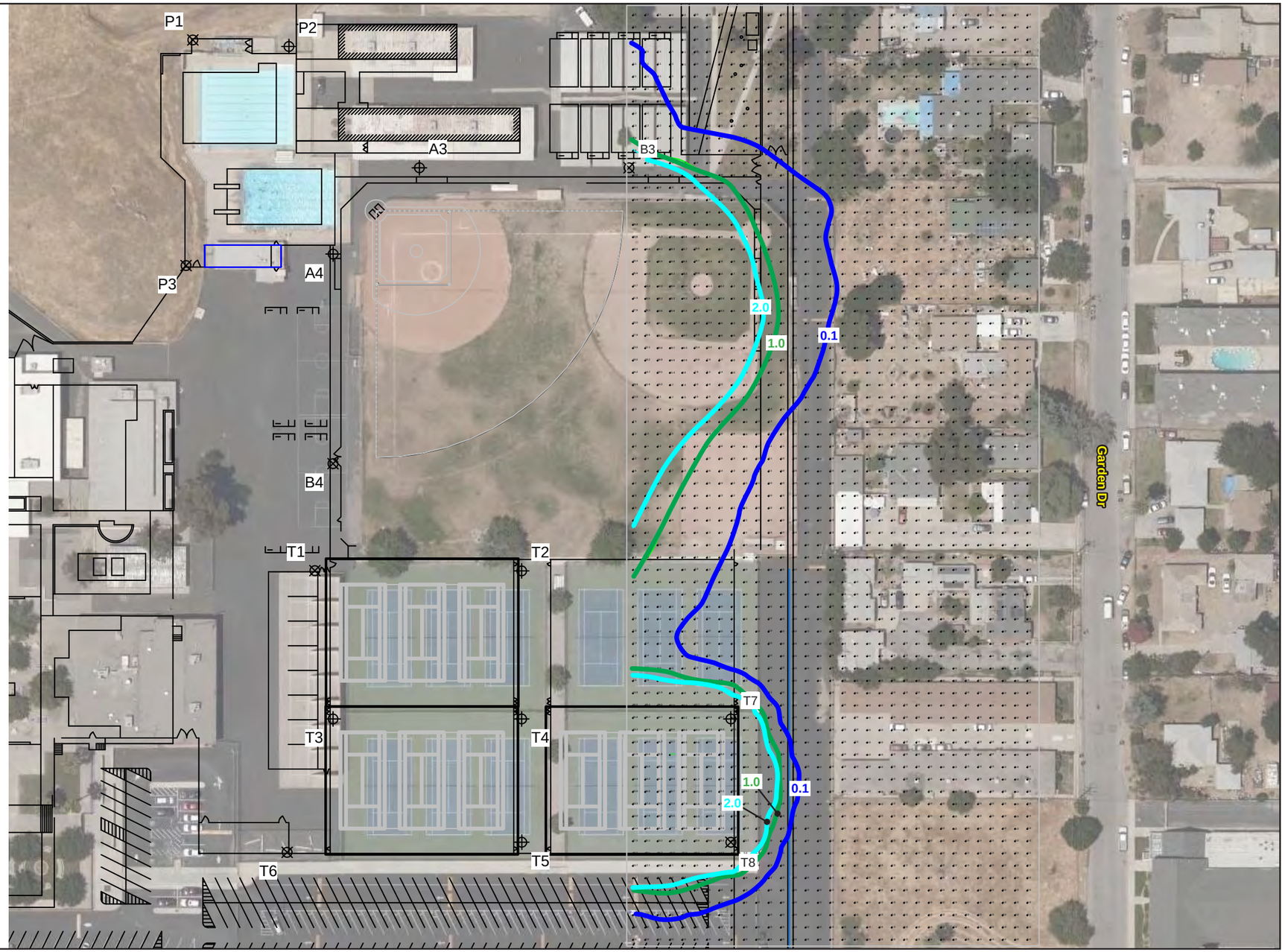
Figure 25 - Pacific High School Spill Light Levels Near Residences

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES	Entire Grid
Scan Average:	**3.98**
Maximum:	73
Minimum:	0
Avg / Min:	-
Max / Min:	**-**
UG (adjacent pts):	35.53
CU:	0.07
No. of Points:	2508
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G
No. of Luminaires:	**123**
Total Load:	122.14 kW

GRID SUMMARY

Name:	**Grid**
Spacing:	10.0' x 10.0'
Height:	3.0' above grade



Notes: Contour lines indicate cutoff of horizontal light at 2.0 ( ), 1.0 fc ( ), and 0.1 fc ( ) with all fixtures enabled.

Source: MUSCO, 2021

0 100
Scale (Feet)

3. Environmental Analysis

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3.2 AGRICULTURE AND FORESTRY RESOURCES

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:					
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				X
d)	Result in the loss of forest land or conversion of forest land to non-forest use?				X
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

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

No Impact. The proposed project would install nighttime sports lighting on six existing high school sport facilities. There are no agricultural uses within the Project Site, and the proposed project would not convert any specially designated farmland identified on the state's Farmland Mapping and Monitoring Program. All six high schools are designated as Urban and Built-Up Land (DOC 2020). No impact would occur, and no mitigation measures are required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The proposed project would install nighttime sports lighting on six existing high school sport facilities, and all six high schools are not zoned for agricultural use. Arroyo Valley High School is zoned Office Industrial Park, Commercial General -1, Residential Medium, and Residential Suburban; Indian Springs High

School is zoned Residential Suburban; and Cajon High School, San Bernardino High School and San Gorgonio High School are all zoned Public Facilities on the zoning map. Implementation of the proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. No impact would occur, and no mitigation measures are required.

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

No Impact. The proposed project would occur within the boundaries of existing high schools and all six high schools are not zoned for forest land or timberland. Implementation of the proposed project would not conflict with existing zoning for forest land or timberland. No impact would occur, and no mitigation measures are required.

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

No Impact. The proposed project would occur within the boundaries of existing high schools and no forest land would be converted. No impact would occur, and no mitigation measures are required.

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

No Impact. The proposed project would occur within the boundaries of existing high schools and no farmland or agricultural land would be converted to nonagricultural use or nonforest use. No impact would occur, and no mitigation measures are required.

3.3 AIR QUALITY

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:					
a)	Conflict with or obstruct implementation of the applicable air quality plan?			X	
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c)	Expose sensitive receptors to substantial pollutant concentrations?			X	
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

3. Environmental Analysis

This section addresses the impacts of the proposed project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. A background discussion on the air quality regulatory setting, meteorological conditions, existing ambient air quality in the vicinity of the project site, and air quality modeling can be found in Appendix G.

The primary air pollutants of concern for which ambient air quality standards (AAQS) have been established are ozone (O_3), carbon monoxide (CO), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb). Areas are classified under the federal and California Clean Air Act as either in attainment or nonattainment for each criteria pollutant based on whether the AAQS have been achieved. The South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (South Coast AQMD), is designated nonattainment for O_3, and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM_{10} under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2021).

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

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

Less Than Significant Impact. South Coast AQMD adopted the 2016 Air Quality Management Plan on March 3, 2017. Regional growth projections are used by South Coast AQMD to forecast future emission levels in the SoCAB. For southern California, these regional growth projections are provided by the Southern California Association of Governments (SCAG) and are partially based on land use designations included in city/county general plans. Typically, only large, regionally significant projects have the potential to affect the regional growth projections. In addition, the consistency analysis is generally only required in connection with the adoption of General Plans, specific plans, and significant projects.

The proposed project would install numerous light poles to existing sports facilities at six high schools. No new permanent buildings would be developed and no increase in staff due to the proposed lighting would occur. Therefore, the project would not have the potential to substantially affect SCAG's demographic projections. Additionally, as demonstrated below, the regional emissions that would be generated by the operational phase of the proposed project would be less than the South Coast AQMD regional emissions thresholds and would therefore not be considered a substantial source of air pollutant emissions that would have the potential to affect the attainment designations in the SoCAB. Therefore, the proposed project would not affect the regional emissions inventory or conflict with strategies in the AQMP and impacts would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. The following describes project-related impacts from regional short-term construction activities and regional long-term operation of the proposed project.

3. Environmental Analysis

Regional Short-Term Construction Impacts

The proposed project would result in the installation of competitive sports lighting to existing sports facilities at six high schools: Arroyo Valley High School, Cajon High School, Indian Springs High School, Pacific High School, San Bernardino High School, and San Gorgonio High School. Installation of the competitive sports lighting would occur over a six-month period. Construction of the proposed project would generate criteria air pollutants associated with construction equipment exhaust and fugitive dust from demolition, site preparation, and light pole installation. The proposed project construction-related emissions shown in Table 8 are quantified using California Emissions Estimator Model, version 2020.4.0 (CalEEMod) and are based on the construction duration and equipment mix for the project provided by the project architect. Construction emissions were modeled for Arroyo Valley High School as a worst-case scenario. Therefore, emissions from Arroyo Valley High School, representing the single school maximum daily emissions, were doubled to represent the overlap of construction activities at two schools concurrently as a conservative analysis. Arroyo Valley High School would have the most light poles installed. As shown in the table, the maximum daily emissions for VOC, NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$ from construction-related activities would be less than their respective South Coast AQMD regional significance threshold values. Therefore, air quality impacts from project-related construction activities would be less than significant.

Table 8 Maximum Daily Regional Construction Emissions

Construction Phase	Criteria Air Pollutant Emissions (lbs/day)[1,2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Single School[3]						
Demolition, Demolition Debris Haul, Site Preparation, & Site Preparation Soil Haul Overlap	3	25	31	<1	2	1
Demolition, Demolition Debris Haul, Site Preparation, Site Preparation Soil Haul, & Light Pole Installation Overlap	3	25	31	<1	2	1
Maximum Daily Construction Emissions						
Maximum Daily Emissions	3	25	31	<1	2	1
South Coast AQMD Regional Significance Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No
Overlap of Two Schools[4]						
Maximum Daily Emissions[4]	5	50	61	<1	3	2
South Coast AQMD Regional Significance Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2020.4.0
Notes: Totals may not total to 100 percent due to rounding.
1 Construction phasing and equipment is based on the preliminary information for the project provided by the project architect. Where specific information regarding proposed project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment and phasing for comparable projects.
2 Includes implementation of fugitive dust control measures under South Coast AQMD Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule-1186-compliant sweepers.
3 Based on Arroyo Valley High School, which is assumed to represent the worst-case scenario.
4 Based on the single school maximum daily emissions multiplied by two to account for the overlap of construction activities at two schools concurrently.

Regional Long-Term Operation-Phase Impacts

Typical long-term air pollutant emissions are generated by area sources (e.g., landscape fuel use, aerosols, architectural coatings, and asphalt pavement), energy use (natural gas), and mobile sources (i.e., on-road vehicles). Though the proposed project would result in competitive sports lighting for various sports facilities at the six high schools, the project would not result in increase in staff or students or introduce new community events. There would be no new trips generated. In addition, the lighting equipment would result in electricity demand only and would not result in direct generation of criteria air pollutants. Thus, the proposed project would not generate operation-related criteria air pollutant emissions that would exceed the South Coast AQMD regional operation-phase significance thresholds. Therefore, impacts to the regional air quality associated with operation of the project would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The following describes changes in localized impacts from short-term construction activities and long-term operation of the proposed project.

Localized Construction Impacts

A project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevated levels. Unlike the construction emissions shown in the regional emissions analysis in Table 8, which are described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects. The screening-level localized significance thresholds (LST) are the amount of project-related emissions at which localized concentrations (ppm or $\mu g/m^3$) could exceed the California AAQSs for criteria air pollutants for which the SoCAB is designated nonattainment and are based on the proposed project site size and distance to the nearest sensitive receptor. The California AAQS, which are the most stringent AAQS, were established to provide a margin of safety in the protection of the public health and welfare. The screening-level LSTs are designed to protect sensitive receptor areas most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise.

Air pollutant emissions generated by construction activities are anticipated to cause temporary increases in air pollutant concentrations. Table 9 shows the maximum daily construction emissions (pounds per day) generated during on-site construction activities at a given school compared with the South Coast AQMD's screening-level LSTs. Emissions shown in the table are based on construction activities for Arroyo Valley High School, which would represent the worst-case scenario, and are used as a proxy for the other school sites. As shown in the table, the construction of the proposed project would not generate construction-related on-site emissions that would exceed the screening-level LSTs. Therefore, impacts would be less than significant.

3. Environmental Analysis

Table 9 Maximum Daily On-Site Localized Construction Emissions

Construction Activity	Pollutants (lbs/day)[1,2]			
	NO_X	CO	PM_{10}[3]	$PM_{2.5}$[3]
South Coast AQMD ≤1.00-acre LST	118	667	4	3
Demolition, Demolition Debris Haul, Site Preparation, & Site Preparation Soil Haul Overlap	17	20	1	1
Demolition, Demolition Debris Haul, Site Preparation, Site Preparation Soil Haul, & Light Pole Installation Overlap	23	29	1	1
Exceeds Screening-Level LST?	No	No	No	No

Sources: CalEEMod Version 2020.4.0; South Coast AQMD 2008, 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment occurring on the project site are included in the analysis. For the project site in Source Receptor Area (SRA) 34, NO_x, PM_{10} and $PM_{2.5}$ and CO screening-level LSTs are based on a reference distance of 82 feet (25 meters) to the nearest residential receptor

1 Based on information provided by the District. Where specific information regarding project-related construction activities or processes was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by the South Coast AQMD.

2 Based on Arroyo Valley High School, which is assumed to represent the worst-case scenario.

3 Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

Construction Health Risk

The South Coast AQMD currently does not require health risk assessments to be conducted for short-term emissions from construction equipment. Emissions from construction equipment primarily consist of diesel particulate matter (DPM). The Office of Environmental Health Hazard Assessment adopted new guidance for the preparation of health risk assessments in March 2015 (OEHHA 2015). It has also developed a cancer risk factor and noncancer chronic reference exposure level for DPM, but these factors are based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM. The South Coast AQMD currently does not require the evaluation of long-term excess cancer risk or chronic health impacts for a short-term project. The proposed project would be constructed over an approximately six-month period. Overall, the construction duration would only be a month at each individual school. The relatively short duration, compared to a 30-year time frame, would limit exposures to on-site and off-site receptors. In addition, exhaust emissions from off-road vehicles associated with overall project-related construction activities would not exceed the screening-level LSTs. For these reasons, it is anticipated that construction emissions would not pose a threat to off-site receptors near the proposed project, and project-related construction health impacts would be less than significant.

Operation

Localized Operation-Phase Impacts

Land uses that have the potential to generate substantial stationary sources of emissions that would require a permit from South Coast AQMD include industrial land uses, such as chemical processing and warehousing operations where substantial truck idling could occur on-site. The proposed project is limited to the installation of light poles at various athletic fields, courts, and pools at the six high schools and would not include uses typically associated with generating substantial stationary sources of emissions. Emissions of NO_2, CO, PM_{10},

and $PM_{2.5}$ generated at the project site (off-site mobile-source emissions are not included in the LST analysis) from on-site area sources would not expose receptors to substantial concentrations of criteria air pollutants. Therefore, operational criteria air pollutant emissions would not exceed the California AAQS and would be a less than significant impact.

Carbon Monoxide Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

The SoCAB has been designated attainment under both the national and California AAQS for CO. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact (BAAQMD 2017). As stated above, operation of the proposed project would not generate new trips. Therefore, the project would not increase CO hotspots at intersections in the vicinity of the project site, and no impact would occur.

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

Less Than Significant Impact. The proposed project would not result in objectionable odors. The threshold for odor is if a project creates an odor nuisance pursuant to South Coast AQMD Rule 402, Nuisance, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The proposed project would not fall within the aforementioned land uses; no operational odors are anticipated.

During the development of the proposed project, emissions from construction equipment, such as diesel exhaust, may generate odors. However, these odors would be low in concentration, temporary, disperse rapidly, and are not expected to affect a substantial number of people. Any odors produced during the light pole

installation process are not expected to be significant or highly objectionable and would be in compliance with South Coast AQMD Rule 402. Therefore, impacts would be less than significant.

3.4 BIOLOGICAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

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

Less Than Significant Impact. Special status species include those listed as endangered or threatened under the federal Endangered Species Act or California Endangered Species Act; species otherwise given certain designations by the California Department of Fish and Wildlife; and plant species listed as rare by the California Native Plant Society. The areas to be disturbed by the proposed project are developed with the existing swimming/diving pool, tennis courts, baseball fields, and softball fields. Only one of the six high schools is within a potential habitat for sensitive wildlife or within a biological resource area mapped by the Natural Resources and Conservation Element of the City's General Plan—Arroyo Valley High School is in the San Bernardino Kangaroo Rat Critical Habitat Plan. However, areas to be disturbed by the sports lighting installation at Arroyo Valley High School are already disturbed and developed with tennis courts, swimming

pool, baseball fields, and softball fields, and there is no suitable breeding or foraging habitat on-site for any sensitive species, including San Bernardino kangaroo rat. Project development would not impact any special status species. No mitigation measures are required.

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

No Impact. Sensitive natural communities are natural communities that are considered rare in the region by regulatory agencies; that are known to provide habitat for sensitive animal or plant species; or are known to be important wildlife corridors. Riparian habitats are those occurring along the banks of rivers and streams. There are no wetlands mapped on the National Wetlands Mapper maintained by the US Fish and Wildlife Service within the boundaries of the six high schools (USFWS 2020). Although there is an unnamed riverine adjacent to Cajon High School, and Warm Creek is adjacent to San Gorgonio High School, they are concrete channels outside of the high school boundaries. The proposed lighting installation would occur within the limits of the existing high schools and would not impact the adjacent drainage channels. The project site does not contain any sensitive natural community or riparian habitat. No impact would occur.

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

No Impact. Wetlands are defined under the federal Clean Water Act as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include areas such as swamps, marshes, and bogs. There are no wetlands mapped on the National Wetlands Mapper maintained by the US Fish and Wildlife Service within the boundaries of the six high schools (USFWS 2020). Implementation of the proposed project would not impact any wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. Wildlife movement corridors facilitate movement of species between large patches of natural habitat. The proposed project would provide sports lighting to existing sports facilities at six high schools. All six high school sites are already disturbed and being used for various sports activities and do not provide connection for wildlife populations. The proposed project would not remove any trees, which can be used by migratory birds. No impact would occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The City's Municipal Code Section 19.28.100 discourages removal of healthy, shade providing, aesthetically valuable trees and requires a permit for removal in the event that more than five trees are to be

removed within 36-month period. The proposed project would not require removal of any trees. No impact would occur.

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

No Impact. The City of San Bernardino General Plan designated critical habitats for the San Bernardino kangaroo rat and coastal California gnatcatcher, the Delhi Sands Flower-Loving Fly Colton Recovery Unit, and the Cajon Conservation Bank. It also identified biological resource areas, riparian corridors, percolated basins, and creeks and channels in the city and its sphere of influence. The only one of the six high school campuses that is part of these potential habitats for sensitive wildlife is Arroyo Valley High School, which is within the San Bernardino kangaroo rat critical habitat.

The proposed project would install sports lighting within the boundaries of the existing high schools. The proposed project would not conflict with the provisions of a habitat conservation plan or natural community conservation plan. No impact would occur, and no mitigation measures are required.

3.5 CULTURAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?			X	

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

No Impact. Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally a resource is considered "historically significant" if it meets one of the following criteria:

i) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

ii) Is associated with the lives of persons important in our past;

iii) Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

iv) Has yielded, or may be likely to yield, information important in prehistory or history.

The proposed sports lighting would be installed on the existing tennis courts, swimming pool, and baseball and softball fields of six high schools. None of the six high schools are listed as historical resources in the National Register of Historic Places, California Historical Landmarks and Points of Historical Interest, or State Historic Structures, and the proposed project would not demolish any structures that can potentially meet any of the criteria listed above. Therefore, there are no resources on the project site that would be considered "historically significant." No impact to historical resource would occur.

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

Less Than Significant Impact With Mitigation Incorporated. Implementation of the proposed project would result in limited soil disturbance to install light poles and utilities. Augers would be used to drill holes to install light poles within the existing sports facilities. No grading or excavation would be required. The proposed project would occur within the existing high school boundaries that have already been developed with various athletic facilities—swimming pools, tennis courts, and baseball and softball fields—therefore, the potential discovery of archaeological resources would be minimal. However, if any buried resources are unearthed during any of the ground-disturbing activities, a customary caution and a halt-work would be required to ensure that adverse impacts to archaeological resources do not occur. Mitigation Measure CUL-1 requires that if any evidence of cultural resources is discovered, all work within the vicinity of the find will stop until a qualified archaeological consultant can assess the find and make recommendations. Therefore, impacts to archaeological resources would be reduced to a less than significant impact with mitigation.

Mitigation Measures

CUL-1 If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall cease, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find(s). If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted and will be reported to the San Bernardino City Unified School District.

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

Less Than Significant Impact. The proposed project would not require grading or excavation. Augers would be used to drill holes to install light poles within the existing sports facilities. In the unlikely event that human remains are uncovered during project construction, Government Code Sections 27460 et seq. mandate that there shall be no further excavation or soil disturbance until the county coroner has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner, and cause of death, and the required recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in PRC Section 5097.98.

Pursuant to California Health and Safety Code Section 7050.5, the coroner shall make his or her determination within two working days of notification of the discovery of the human remains. If the coroner determines that the remains are not subject to his or her authority and has reason to believe that they are those of a Native American, he or she shall contact the Native American Heritage Commission within 24 hours. Compliance with existing regulations would ensure that impacts to human remains would be less than significant.

3.6 ENERGY

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

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

Less Than Significant Impact. The proposed project would result in short-term construction and long-term operational energy consumption. The following discusses the potential energy demands from activities associated with the construction and light poles.

Short-Term Construction Impacts

Construction of the proposed project would create temporary increased demands for electricity and vehicle fuels compared to existing conditions and would result in short-term transportation-related energy use.

Electrical Energy

Electricity use during construction of the proposed project would vary during different phases of construction. Light pole installation could result in the use of electricity-powered equipment, but mostly construction equipment is anticipated to be gasoline- or diesel-powered. Therefore, electricity usage during construction activities would be minimal, and project-related construction activities would not result in wasteful or unnecessary electricity demands. Impacts would be less than significant.

Natural Gas Energy

It is not anticipated that construction equipment used for the proposed project would be powered by natural gas, and no natural gas demand is anticipated during construction. No impact with respect to wasteful natural gas usage would occur.

Transportation Energy

Transportation energy use during construction of the proposed project would come from delivery vehicles, haul trucks, and construction employee vehicles. In addition, transportation energy demand would come from use of off-road construction equipment. It is anticipated that the majority of off-road construction equipment, such as is used during demolition and site preparation, would be gasoline or diesel powered. The use of energy resources by these vehicles would fluctuate according to the phase of construction.

To limit wasteful and unnecessary energy consumption, the construction contractors are anticipated to minimize nonessential idling of construction equipment during construction, in accordance with 13 California Code of Regulations (CCR) Section 2449. In addition, construction trips would not result in unnecessary use of energy since all six school are within two miles or less of state or interstate freeways (I-215, SR-210, SR-259, and SR-330) that provide the most direct routes from various areas of the region. Furthermore, electrical energy would be available for use during construction from existing power lines and connections, precluding the use of less efficient generators. All construction equipment would cease operating upon completion of project construction. Thus, energy use during construction of the proposed project would not be considered inefficient, wasteful, or unnecessary. Impacts would be less than significant.

Long-Term Impacts During Operation

Transportation Energy and Natural Gas Energy

The proposed project would not result in new sport programs or community events or increase students and staff to generate new trips that would consume additional transportation energy or natural gas energy. Energy consumption related to natural gas and transportation would be less than significant.

Electrical Energy

Operation would consume electricity to power the proposed light poles. Electrical service to the proposed project would be provided by Southern California Edison (SCE) through connections to existing off-site electrical lines and new on-site infrastructure. Implementation of the proposed project would result in 820,406 kilowatt hours of electricity use per year (see Appendix G).

Though the proposed project would increase electricity demand, lights would be limited to the hours of 4:30 pm to 8:00 pm November through February and 6:00 pm to 8:00 pm March through October. Therefore, operation of the proposed project would not result in wasteful or unnecessary electricity demands and would not result in a significant impact related to electricity.

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

No Impact.

California Renewables Portfolio Standard

The state's electricity grid is transitioning to renewable energy under California's Renewable Energy Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

3. Environmental Analysis

Electricity production from renewable sources is generally considered carbon neutral. Executive Order S-14-08, signed in November 2008, expanded the state's renewable portfolios standard (RPS) to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). SB 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. In 2018, Governor Brown signed SB 100, which supersedes the SB 350 requirements. The RPS for publicly owned facilities and retail sellers now consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 established a new RPS requirement of 50 percent by 2026. The bill also established a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under SB 100 the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

The statewide RPS goal is not directly applicable to individual development projects, but to utilities and energy providers such as SCE, which is the utility that would provide all of electricity needs for the proposed project. Therefore, implementation of the proposed project would not conflict or obstruct plans for renewable energy and energy efficiency, and no impact would occur.

3.7 GEOLOGY AND SOILS

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

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

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

Less Than Significant Impact. The Alquist-Priolo Earthquake Fault Zoning Act was signed into California law in 1972 to reduce losses from surface fault rupture. California created this law following the destructive 1971 San Fernando earthquake (magnitude 6.6), which was associated with extensive surface fault ruptures that damaged numerous structures.

Alquist-Priolo earthquake fault zones are regulatory zones surrounding the surface traces of active faults in California.[1] Wherever an active fault exists, if it has the potential for surface rupture, a structure for human occupancy cannot be placed over the fault and must be a minimum distance from the fault (generally 50 feet). An active fault, for the purposes of the Alquist-Priolo Act, is one that has ruptured in the last 11,000 years (DOC 2021a).

San Bernardino is surrounded by earthquake faults, and the San Andreas Fault and the San Jacinto Fault are the two of the major fault lines that run through the city (San Bernardino 2005). However, none of the six high schools are within an Alquist-Priolo Earthquake special study zone, and provided that the light poles are installed in accordance with the applicable California Building Code (CBC) and Division of the State Architect (DSA) criteria for seismic safety, less than significant impacts from these major faults are anticipated (DOC 2021b).

ii) Strong seismic ground shaking?

Less Than Significant Impact. Southern California is a seismically active region. Impacts from ground shaking could occur many miles from an earthquake epicenter. The potential severity of ground shaking depends on many factors, including the distance from the originating fault, the earthquake magnitude, and the nature of the earth materials beneath a given site. All six high schools are in San Bernardino, and two

[1] A trace is a line on the earth's surface defining a fault.

major faults run through the city, the San Andreas Fault and the San Jacinto Fault, so all six schools have the potential for strong ground shaking. Considering the seismic history of the region and the nearby faults, the project would be designed in compliance with seismic requirements of the CBC and the DSA criteria for seismic safety. Compliance with established standards would reduce the risk of structural collapse or other shaking-related hazards to a less than significant level.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction refers to loose, saturated sand or gravel deposits that lose their load-supporting capability when subjected to intense shaking. According to the City's General Plan, much of the city is susceptible to liquefaction because of its high water table. Therefore, the potential for liquefaction exists for all six high schools. However, the proposed project would be designed in compliance with seismic requirements of the CBC and the DSA criteria for seismic safety, including from liquefaction impacts. Compliance with established standards would reduce the risk of liquefaction hazards to a less than significant level.

iv) Landslides?

Less Than Significant Impact. Landslides are a type of erosion in which masses of earth and rock move downslope as a single unit. Susceptibility of slopes to landslides and lurching (earth movement at right angles to a cliff or steep slope during ground shaking) depend on several factors that are usually present in combination—steep slopes, condition of rock and soil materials, presence of water, formational contacts, geologic shear zones, and seismic activity. All high school campuses except the Pacific High School campus and adjacent properties are flat and exhibit no unusual geographic features or slopes (San Bernardino 2005). In the absence of significant ground slopes, the potential for landslides is considered negligible. Although Pacific High School is adjacent to slopes with elevation differences of over 150 feet, installation of light poles would not place the existing ball fields, pool, and tennis courts any closer to the slopes. Additionally, the light poles would not impact the stability of the adjacent soils by grading or excavation. The proposed project would be designed in compliance with seismic requirements of the CBC and the DSA criteria for seismic safety, and the proposed project would not result in significant safety impacts due to landslides. Impacts would be less than significant.

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

Less Than Significant Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed, or dissolved and removed from one place and transported to another. The project site is developed with swimming pools, tennis courts, and turf baseball and softball fields. Implementation of the proposed project would require limited softscape and hardscape demolition to drill holes for the installation of the light poles and trenching for the utilities. The areas to be disturbed would be approximately nine square feet per pole, and the number of poles to be installed at each school would range from 20 poles at San Bernardino High School to 36 poles at Arroyo Valley High School. Therefore, the area disturbed for the project would be approximately180 square feet to 324 square feet for each school. Utilities trenching would be approximately 18 inches wide and 24 inches deep and total about 0.12 to 0.18 acre per

school. Considering the limited areas to be disturbed and exposed, the proposed project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.

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

Less Than Significant Impact. As discussed in Sections 3.7.a.iii and 3.7.a.iv, impacts from liquefaction and landslides would be less than significant since the light poles would be installed in compliance with the applicable seismic requirements of the CBC and DSA.

Lateral spreading is a phenomenon where large blocks of intact, nonliquefied soil move downslope on a large, liquefied substratum. The mass moves toward an unconfined area, such as a descending slope or stream-cut bluff, and has been known to move on slope gradients as little as one degree. The topography of the sports facilities at all six high schools is generally flat. Therefore, impacts from lateral spreading would be less than significant.

Subsidence and collapse are generally due to substantial overdraft of groundwater or underground petroleum reserves. Collapsible soils may appear strong and stable in their natural (dry) state, but they rapidly consolidate under wetting, generating large and often unexpected settlements. Seismically induced settlement consists of dynamic settlement of unsaturated soil (above groundwater) and liquefaction-induced settlement (below groundwater). These settlements occur primarily in low-density sandy soil due to the reduction in volume during and shortly after an earthquake. The City of San Bernardino and all six highs schools are in areas of recorded subsidence due to groundwater pumping (USGS 2021). The City's General Plan also identified potential subsidence areas in the city, and all high schools except Cajon High School are within potential subsidence areas (San Bernardino 2005). However, the light poles would be installed in compliance with the applicable CBC and DSA requirements. Therefore, potential impacts related to subsidence and collapsible soil would be reduced to a less than significant level.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. Highly expansive soils swell when they absorb and shrink as they dry, and can cause structural damage to building foundations. Therefore, they are less suitable for development than nonexpansive soils. The soils on the six high schools consist of Tujunga gravelly loamy sand (TvC), Tujunga loamy sand (TuB), Hanford coarse sandy loam (HaC), and Greenfield sandy loam (GtC). These are all well-drained sandy soils with low to very low runoff class rates and low shrink-swell or expansion characteristics. Moreover, the light poles would be installed in compliance with the applicable CBC and DSA requirements. Therefore, potential impacts related to subsidence and collapsible soil would be reduced to a less than significant level.

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

No Impact. The proposed project would not use any septic tanks or alternative waste water disposal system. No impact would occur.

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

Less Than Significant Impact With Mitigation Incorporated. Paleontological resources or fossils are the remains of ancient plants and animals that can provide scientifically significant information about the history of life on earth. Paleontological "sensitivity" is defined as the potential for a geologic unit to produce scientifically significant fossils. This sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities that are recorded from that unit. All six high schools are anticipated to be underlain by Quaternary Alluvium (Q) geologic unit that includes Alluvial Wash Deposits (Qw), Alluvial Fan Deposits (Qf) from Late Holocene, Young Alluvial Valley Deposits (Qya), and Young Alluvial Fan Deposits (Qyf) from Holocene to Late Pleistocene (DOC 2021c). These younger Quaternary deposits typically do not contain significant fossils. Additionally, implementation of the proposed project would not require grading or excavation, and no unique geologic features would be impacted. However, soil borings to characterize soil types at six high school were not conducted, and the type of soils underlying them have not been confirmed. Therefore, the potential for discovering paleontological resources remains if light pole installation disturbs soils beyond previously disturbed artificial fill and the underlain sediments are older Quaternary deposits with some potential for discovery of paleontological resources. Therefore, a mitigation measure has been incorporated to reduce impacts to a less than significant level.

Mitigation Measures

GEO-1 A qualified paleontologist shall be on call in the event that paleontological resources are found during ground-disturbing activities. The paleontologist shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossils. The paleontologist shall be empowered to temporarily halt or divert equipment to allow for the removal of abundant or large specimens in a timely manner.

3.8 GREENHOUSE GAS EMISSIONS

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as greenhouse gases (GHGs), into the atmosphere. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. The panel identified other GHGs that contribute to global warming to a lesser extent, such as nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[2]

Information on manufacture of cement, steel, and other "life cycle" emissions that would occur as a result of the project are not applicable and are not included in the analysis.[3] Black carbon emissions are not included in the GHG analysis because the California Air Resources Board (CARB) does not include this short-lived climate pollutant in the state's Senate Bill 32 inventory but treats it separately. A background discussion on the GHG regulatory setting and GHG modeling are in Appendix G to this Initial Study.

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

Less Than Significant Impact. Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global climate

[2] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

[3] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (CNRA 2018). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

Project-related construction- and operation-phase GHG emissions are shown in Table 10. Implementation of the proposed project would install numerous light poles and light fixtures to light existing sports fields, tennis courts, and pools for six schools. Annual average construction emissions were amortized over 30 years and included in the emissions inventory to account for one-time GHG emissions from the construction phase of the project. The amortized construction emissions in the table are based on the total emissions associated with construction activities for Arroyo Valley High School, which is the worst-case scenario, multiplied by six to account for construction-related GHG emissions for all six schools. Overall, development and operation of the proposed project would not generate net annual emissions that exceed the South Coast AQMD bright-line threshold of 3,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year (South Coast AQMD 2010). Therefore, the proposed project's cumulative contribution to GHG emissions would be less than significant.

Table 10 Project-Related Operation GHG Emissions

Source	GHG ($MTCO_2e$/Year)
Lighting	232
Amortized Construction Emissions[1,2]	14
Total	246
South Coast AQMD Bright-Line Threshold	3,000 $MTCO_2e$/Yr
Exceeds Bright-Line Threshold?	No

Source: CalEEMod, Version 2020.4.0.
Notes: $MTCO_2e$: metric ton of carbon dioxide equivalent
[1] Total construction emission are amortized over 30 years per South Coast AQMD Working Group methodology (South Coast AQMD 2009).
[2] Emissions associated with Arroyo Valley High School, which would be the worst-case scenario, is used as a proxy for the other five schools.

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

No Impact. Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's Regional Transportation Plan / Sustainable Communities Strategy. A consistency analysis with these plans is presented below.

CARB Scoping Plan

On December 24, 2017, CARB adopted the Final 2017 Climate Change Scoping Plan Update (Scoping Plan) to address the 2030 interim target established by SB 32 to achieve a 40 percent reduction below 1990 levels by 2030 (CARB 2017b). The CARB Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

Since adoption of the 2008 Scoping Plan, which was adopted to achieve the GHG reduction goals of Assembly Bill 32 (AB 32), state agencies have adopted programs identified in the plan, and the legislature has passed

additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the Corporate Average Fuel Economy standards, and other early action measures as necessary to ensure the state is on target to achieve the GHG emissions reduction goals of AB 32 and SB 32. Also, new buildings are required to comply with the latest applicable Building Energy Efficiency Standards and CALGreen. Though measures in the Scoping Plan apply to state agencies and not to the proposed project, the project's GHG emissions would be reduced by statewide compliance with measures that have been adopted since AB 32 and SB 32 were adopted (e.g., reduction in mobile emissions due to auto makers' compliance with the Corporate Average Fuel Economy standards). Therefore, the proposed project would not obstruct implementation of the CARB Scoping Plan, and impacts would be less than significant.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SCAG adopted the 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy (Connect SoCal) in September 2020. Connect SoCal identifies that land use strategies that focus on new housing and job growth in areas rich with destinations, and mobility options are consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in Connect SoCal is to plan for the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands and farmlands (SCAG 2020). Connect SoCal's transportation projects help more efficiently distribute population, housing, and employment growth, and forecast development is generally consistent with regional-level general plan data to promote active transportation and reduce GHG emissions. The projected regional development, when integrated with the proposed regional transportation network in Connect SoCal, would reduce per-capita GHG emissions related to vehicular travel and achieve the GHG reduction per capita targets for the SCAG region.

The Connect SoCal Plan does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides governments and developers with incentives for consistency. The proposed project is a high school lighting project at six existing high schools with existing athletic fields that would not generate new trips. Therefore, the proposed project would not interfere with SCAG's ability to implement the regional strategies outlined in the Connect SoCal Plan, and impacts would be less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

A hazardous material is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment (Health and Safety Code § 25501(o)). The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases).

3. Environmental Analysis

Hazardous wastes are hazardous substances that no longer have a practical use, such as materials that have been spent, discarded, discharged, spilled, contaminated, or are being stored until they can be disposed of properly (22 CCR Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific criteria in CCR Title 22.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

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

No Impact. Installation of nighttime sports lighting at six existing high schools would not require extensive use of hazardous materials or substances. No routine transport, use, or disposal of hazardous materials currently occurs on-site, and no new or expanded handling of hazardous materials would result from project implementation. No impact is anticipated.

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

No Impact. Installation and operation of nighttime sports lighting at six high schools would not create a significant hazard to the public or the environment. The location of the existing sports facilities would not

change, and the proposed project would not place students or public any closer to existing hazardous conditions or materials. Use of hazardous materials during construction or operation of the proposed project is not anticipated. No impact would occur.

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

Less Than Significant Impact. Installation and operation of nighttime sports lighting at six high schools would not emit hazardous emissions or involve handling hazardous materials, substances, or waste. No hazardous materials are used in operating and maintaining sports lighting at existing high schools' sports facilities. Construction of sports lighting facilities would not involve hazardous materials other than diesel fuels used for construction equipment such as backhoes, augers, concrete saws, etc. Therefore, impacts would be less than significant.

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

No Impact. California Government Code Section 65962.5 requires the California Environmental Protection Agency to compile a list (updated at least annually) of hazardous waste and substances release sites, known as the Cortese List or California Superfund. Section 65962.5 requires compiling lists of the following types of hazardous materials sites: hazardous waste facilities; hazardous waste discharges for which the State Water Quality Control Board has issued certain types of orders; public drinking water wells containing detectable levels of organic contaminants; underground storage tanks with reported unauthorized releases; and solid waste disposal facilities from which hazardous waste has migrated. Five environmental lists were searched for hazardous materials sites on the six high schools.

- GeoTracker. State Water Resources Control Board (SWRCB 2020)
- EnviroStor. Department of Toxic Substances Control (DTSC 2020).
- EJScreen. US Environmental Protection Agency (USEPA 2020).
- EnviroMapper. US Environmental Protection Agency (USEPA 2020).
- Solid Waste Information System. California Department of Resources Recovery and Recycling (CalRecycle 2020).

None of the six high schools are on any of the databases. The project would not create a hazard to the public because of a hazardous materials site pursuant to Government Code Section 65962.5. No impact is anticipated.

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

No Impact. Two of the six high school, Indian Springs High School and San Gorgonio High School, are within the Airport Influence Area of the San Bernardino International Airport (San Bernardino 2005). The other four high schools, Arroyo Valley, Cajon, Pacific, and San Bernardino, are outside of any airport influence area. Indian Springs High School is approximately 1.2 miles from the runway of the airport, and San Gorgonio is approximately 1.8 miles from the runway. However, these schools are outside of the 65 CNEL noise contour and outside of the ultimate flight paths (SBIAA 2010a, 2010b). The runway of the San Bernardino International Airport runs east-west, and both Indian Springs High School and San Gorgonio High School are north of the runway. The proposed project would not interfere with inbound or outbound flights. Although the two high schools are within the limits of recommended Federal Aviation Regulations Part 77, which establishes standards for obstruction of air navigation, the maximum light pole height would be 90 feet, less than the obstruction standard of 200 feet above ground level. Implementation of the proposed project would not result in safety hazards or excessive noise impacts for people residing or working in the project area. No impact would occur.

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

Less Than Significant Impact. The proposed project would occur within the existing high school boundaries, and operation of the lighted sports facilities would not impair or interfere with any existing vehicular or pedestrian emergency response plan or evacuation plan. All construction staging would be within the high school boundaries, and no off-site roadway or lane closures are anticipated. Therefore, impacts would be less than significant.

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

Less Than Significant Impact. Five of the six high schools—Arroyo Valley, Indian Springs, Pacific, San Bernardino, and San Gorgonio—are not in or near a very high fire hazard severity zone (FHSZ) on the California Department of Forestry and Fire Protection's (CAL FIRE) FHSZs map (CAL FIRE 2021). Cajon High School is in a very high FHSZ. However, installation of sports lighting at the existing swimming pool, tennis courts, and four ballfields of Cajon High School would not change the existing school boundaries to place the sports facilities or students any closer to wildland fires. Impacts would be less than significant.

3.10 HYDROLOGY AND WATER QUALITY

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			X	
i) result in a substantial erosion or siltation on- or off-site;			X	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
iv) impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

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

Less Than Significant Impact. A significant impact would occur if the project discharges water that does not meet the quality standards of agencies that regulate surface water quality and discharges into the stormwater drainage system. During construction, water quality impacts could occur from discharge of soil through erosion, sediments, and other pollutants. The State Water Resources Control Board's National Pollutants Discharge Elimination System (NPDES) program regulates industrial pollutant discharges, including construction activities for sites larger than one acre. Because each pole would disturb about 9 square feet, the proposed project could disturb from about 180 square feet (9 square feet x 20 poles) to 342 square feet of area (9 square feet x 38 poles) at each campus, the NPDES program would not be applicable, and a significant construction water quality impact is not anticipated. Also, after the holes for the light poles are drilled, they would be cured with concrete, so soil erosion and sediment impacts would be minimized. Utilities trenching would also be temporary and limited. Construction of the proposed project would not violate any water quality standards.

The proposed project would not change the land uses of the existing sports facilities causing a violation of any water quality standards or waste discharge requirements. Long-term water quality impacts generally result from impervious surfaces (e.g., buildings, roads, parking lots, and walkways), which prevent water from soaking into the ground and can increase the concentration of pollutants in stormwater runoff, such as oil, fertilizers, pesticides, trash, soil, and animal waste. The project would be constructed on existing high school campuses, and the impervious surfaces created by the proposed project would be negligible (up to 342 square feet per campus). Impacts would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. The six high school campuses are not used for intentional groundwater recharge. And the proposed project would not create additional demand for groundwater because it would accommodate existing sports programs for students already attending the schools. The project does not include new groundwater wells that would extract groundwater from the aquifer. Construction and operation of the proposed project would not lower the groundwater table or deplete groundwater supplies. Therefore, the project would not interfere with groundwater recharge. No impact would occur.

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

i) Result in a substantial erosion or siltation on- or off-site?

Less Than Significant Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed or dissolved, and moved from one place to another. Precipitation, running water, waves, and wind are all agents of erosion. Ordinarily, erosion proceeds imperceptibly, but when the natural equilibrium of the environment is changed, the rate of erosion can greatly accelerate. This can create aesthetic as well as engineering problems on undeveloped sites. Accelerated erosion in an urban area can cause damage by undermining structures; blocking storm drains; and depositing silt, sand, or mud on roads and in tunnels. Eroded materials can eventually be deposited in local waters, where the carried silt remains suspended in the water for some time, constituting a pollutant and altering the normal balance of plant and animal life.

The project site is already developed with sports facilities—tennis courts, swimming pools, and turf baseball and softball fields—that are subject to imperceptible urban erosion and siltation. The areas disturbed by the proposed project would be limited to the number of poles to be installed per school, which would range from 20 to 36 poles per school. It is anticipated that each hole drilled for the light pole would be approximately 9 square feet, and once the hole is drilled, it would be backfilled with concrete and cured within a week. Therefore, impacts from erosion or siltation from installation of poles would be less than significant.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less Than Significant Impact. The project site is already developed with sports facilities—tennis courts, swimming pools, and turf baseball and softball fields—as part of six existing high schools. The areas impacted by the proposed project would be limited to the number of poles to be installed per school, which would range from 20 to 38. Considering that each pole with concrete base would impact approximately 9 square feet, the proposed project could result in an additional 180 square feet (9 square feet x 20 poles) to 342 square feet of impervious areas (9 square feet x 38 poles). Assuming that swimming pools and tennis courts are already covered by impervious surfaces, the actual softscape areas to be developed with light poles would be less than 180 square feet to 342 square feet. Therefore, considering the total acreage of the high schools, the increase in impervious areas is negligible, and the proposed project would not substantially increase the rate or amount of surface runoff to result in on- or off-site flooding. Impacts would be less than significant.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. The proposed project would result in a negligible increase in the overall impervious surface areas of the six high schools. Therefore, the proposed project would not substantially change the volume and quality of the runoff from existing sports facilities. The areas impacted by the proposed project would be limited to the number of poles installed, which would range from 20 to 38 poles per school. Considering that each pole's concrete base would impact approximately 9 square feet, the proposed project could result in an additional 180 square feet (9 square feet x 20 poles) to 342 square feet of impervious areas (9 square feet x 38 poles). Assuming that swimming pools and tennis courts are already covered by impervious surfaces, the actual softscape areas that would be developed with light poles would be less than 180 square feet to 342 square feet. Therefore, implementation of the proposed project would not substantially increase runoff water to existing drainage systems compared to existing conditions. Project-related changes to the existing sport facilities at six high schools would not create additional sources of polluted runoff. Impacts would be less than significant.

iv) Impede or redirect flood flows?

Less Than Significant Impact. Arroyo Valley, Indian Springs, and San Bernardino High Schools are outside of 100-year flood zones mapped by the Federal Emergency Management Agency. All six high schools are outside of 100-year flood zones mapped by the Federal Emergency Management Agency (FEMA 2021). Pacific High School is in Zone Z, an area with reduced risk due to levee, and Cajon High School and San Gorgonio High School are in Zone X with the 0.2 percent annual chance flood hazard (FEMA 2008a, 2008b, 2008c). Arroyo Valley, Indian Springs, and San Bernardino High Schools are outside of any mapped flood zones (FEMA 2016, 2016b, 2008d). As discussed in 3.10(c)(ii), the proposed project would not substantially increase the overall quantity of impervious areas or runoff speed, and any impacts on flooding would be negligible. The proposed project would not increase the flooding hazard at any of

the existing schools. The project would not impede or redirect flood flows. Impacts would be less than significant.

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

No Impact. A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. Indian Springs High School and San Gorgonio High School are within the dam inundation area of the Seven Oaks Dam, as mapped by the City's General Plan, Figure S-2, Seven Oaks Dam Inundation. However, the proposed project would serve the existing sports programs and would not expose more people or structures to potential inundation impacts. As discussed in Section 3.10(c)(ii), the proposed project would not increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. All other schools are outside of the dam inundation area. Additionally, the campus nearest to the Pacific Ocean is Arroyo Valley High School, about 50 miles away, and the proposed project would not be impacted by tsunami. The proposed project would not increase the risk of releasing pollutants due to project inundation. No impact would occur.

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

No Impact. The proposed project would not obstruct or conflict with the implementation of a water quality control plan or sustainable water management plan. Considering the size and scale of the proposed project, the proposed project would not create substantial water quality impacts during construction and operation, and therefore would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact would occur.

3.11 LAND USE AND PLANNING

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

a) Physically divide an established community?

No Impact. The proposed project would occur on six existing high schools' athletic facilities. No community would be physically divided, and no impact would occur.

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

No Impact. The proposed project would occur on six existing high schools' athletic facilities. No land use changes would occur. The addition of lighting would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.12 MINERAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

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

No Impact. In 1975, the State legislature adopted the Surface Mining and Reclamation Act (SMARA). This designated Mineral Resources Zones that were of statewide or regional importance. The classifications used to define MRZs are:

- **MRZ-1:** Areas where the available geologic information indicates no significant mineral deposits or a minimal likelihood of significant mineral deposits.
- **MRZ-2:** Areas where the available geologic information indicates that there are significant mineral deposits or that there is a likelihood of significant mineral deposits.
- **MRZ-3:** Areas where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined.
- **MRZ-4:** Areas where there is not enough information available to determine the presence or absence of mineral deposits.

Several areas in the San Bernardino region have been classified MRZ-2. Arroyo Valley High School, Indian Springs High School, and San Gorgonio High School are within MRZ-2, and Cajon High School, San Bernardino High School, and Pacific High School are in MRZ-1 or in areas outside of MRZs. Although three of the six schools are in MRZ-2 where there could be mineral resources, these sites are developed as high schools, and no mineral resources are being extracted. Implementation of the proposed project would not result in the loss of availability of a known mineral resource. No impact to known mineral resources would occur.

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

No Impact. Several areas in the San Bernardino region have been classified MRZ-2. Arroyo Valley High School, Indian Springs High School, and San Gorgonio High School are in MRZ-2, and Cajon High School, San Bernardino High School, and Pacific High School are in MRZ-1 or outside of MRZs. Although three of the six schools are in MRZ-2 where there could be mineral resources, these sites are developed as high schools and are not locally important mineral resource recovery sites. Implementation of the proposed project would not result in the loss of a locally important mineral resource recovery site. Additionally, these areas are not delineated on the City's General Plan as mineral resource recovery sites. No impact would occur.

3.13 NOISE

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal, state, and city governments have established criteria to protect public health and safety and to prevent the disruption of certain human activities, such as classroom instruction, communication, or sleep. Additional information on noise and vibration fundamentals and applicable regulations are contained in Appendix H.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			X	

Existing Noise Environment

Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration. These uses include residences, schools, hospital facilities, houses of worship, and open space/recreation areas where quiet environments are necessary for the enjoyment, public health, and safety of the community. The nearest sensitive receptors to the project sites are:

- **Arroyo Valley High School**. To the north is Woodward Leadership Academy; to the east are single-family homes and Church of Christ; to the south are single-family homes, Johnson Hall Park, and Maple Street Park.
- **Cajon High School.** To the northwest is CSU San Bernardino's Adventure, Recreation Wellness Center; to the north, south, and east are single-family homes; and to the west are multifamily and single-family residential uses.
- **Indian Springs High School.** To the north are multifamily residential uses, Bing Wong Elementary, and Curtis Middle School; to the west are single-family homes; to the south are single-family homes, Christian Center Chapel, and Freedom House Church; and to the east are vacant land and single-family homes.
- **Pacific High School.** To the north is Perris Hill Park; to the east are single family homes and The Church of Jesus Christ of Latter-day Saints; to the south are single-family homes; and to the west are Teddy Bear Tymes Child Care Center and single-family homes.
- **San Bernardino High School.** The project site is surrounded by single-family homes to the north, east, south and west. In addition, the First Church of Christ, Scientist and Vineyard Christian Fellowship are to the southwest, and Greater Cornerstone Church of God is to the south.
- **San Gorgonio High School.** To the north are single-family homes; to the east is Speicher Memorial Park; to the south are multifamily residential uses and mobile homes; and to the west are single-family homes.

Ambient Noise Measurements

To determine a baseline noise level at different environments within the project area, ambient noise monitoring was conducted in the vicinity of the six high schools on various dates in the City of San Bernardino. Staff conducted noise monitoring at and near the six different school sites on June 1, and June 2, 2021. All measurements were short-term (15-minutes) and during the evening hours of 7:00 pm to 10:00 pm.

The primary noise source at all measurement locations was traffic. Urban and residential activity (such as dogs barking) and aircraft overflights also contributed to the overall noise environment. Meteorological conditions during the measurement period were favorable for outdoor sound measurements and were noted to be representative of the typical conditions for the season. Generally, conditions included clear skies with temperatures varying between 75 to 80 degrees Fahrenheit (°F) with winds averaging 4 miles per hour (mph) or less. All sound level meters were equipped with a windscreen during measurements.

All sound level meters used (Larson Davis LxT) for noise monitoring satisfy the American National Standards Institute (ANSI) standard for Type 1 instrumentation.[4] The sound level meters were set to "slow" response and "A" weighting (dBA). The meters were calibrated prior to and after the monitoring period. All measurements were at least five feet above the ground and away from reflective surfaces. Approximate noise measurement locations are described in the following paragraphs and shown on Figures 26 through 31; results are summarized in Table 11.

- **Arroyo Valley High School, Short-Term Location (ST-1)** was near 1934 W. Baseline Road, approximately 20 feet north from the westbound travel lane centerline. A 15-minute noise measurement

[4] Monitoring of ambient noise was performed using Larson-Davis model LxT sound level meters.

began at 7:03 pm on Tuesday, June 1, 2021. The noise environment is characterized primarily by traffic noise from W. Baseline Road. Noise levels generally ranged from 70 dBA to 80 dBA. A helicopter was observed during the time of measurement and was approximately 59 dBA.

- **Arroyo Valley High School, Short-Term Location (ST-2)** was near 1139 Madison Street approximately 17 feet east from the northbound travel lane centerline. A 15-minute noise measurement began at 7:45 pm on Tuesday, June 1, 2021. The noise environment is characterized primarily by traffic noise from West Baseline Road. Traffic along Madison Street was minimal. Secondary noise sources included dogs barking, car doors closing, and aircraft overflights.
- **Cajon High School, Short-Term Location (ST-3)** was along Northpark Boulevard, bordering 1295 Dover Drive. The measurement location was approximately 30 feet north of the westbound travel lane centerline. A 15-minute noise measurement began at 8:42 pm on Tuesday, June 1, 2021. The noise environment is characterized primarily by traffic noise from Northpark Boulevard. Traffic generally ranged from 69 dBA to 77 dBA. Noise levels were generally around 50 dBA in the absence of local traffic. Secondary noise sources included neighborhood dogs barking. No aircraft overflights occurred during the time of measurement.
- **Indian Springs High School, Short-Term Location (ST-4)** was near 7671 Fairfax Lane residence, at the dead end of Union Street. A 15-minute noise measurement began at 9:27 pm on Wednesday, June 2, 2021. The noise environment is characterized primarily residential uses such as dogs barking, as well as sprinklers from the high school fields. Noise levels ranged between 47 dBA to 55 dBA.
- **Pacific High School, Short-Term Location (ST-5)** was on school property near the 1680 Garden Drive property line. A 15-minute noise measurement began at 7:41 pm on Wednesday, June 2, 2021. The noise environment is characterized primarily by traffic noise from Pacific Street. Traffic noise levels ranged between 55 dBA to 60 dBA. Secondary noise sources included aircraft overflights.
- **San Bernardino High School, Short-Term Location (ST-6)** was near 656 North 20th Street approximately 25 feet north from the westbound travel lane centerline. A 15-minute noise measurement began at 7:03 pm on Wednesday, June 2, 2021. This is a low traffic area and the noise environment is characterized primarily by children playing in front yards. Noise levels generally ranged between 55 to 67 dBA. Secondary noise sources included minimal vehicle passes-by, aircraft overflights, and car doors closing.
- **San Bernardino High School, Short-Term Location (ST-7)** was near 1816 North G Street approximately 17 feet west from the southbound travel lane centerline. A 15-minute noise measurement began at 6:57 pm on Wednesday, June 2, 2021. The noise environment is characterized primarily by traffic noise from North G Street. Traffic noise levels ranged between 66 dBA to 77 dBA. Ambient noise levels during periods of no traffic ranged between 55 dBA and 60 dBA. Minimal traffic was observed along Madison Street and the few vehicle passes-by generated noise levels between 63 dBA to 71 dBA. Secondary noise sources included dogs barking.

Figure 26 - Approximate Noise Monitoring Location Map, Arroyo Valley High School

Project Boundary

ST-X Short-Term Noise Measurement Locations (2)

0 450
Scale (Feet)

Source: Nearmap, 2020

3. Environmental Analysis

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Figure 27 - Approximate Noise Monitoring Location Map, Cajon High School

Project Boundary

ST-X Short-Term Noise Measurement Locations (1)

0 400
Scale (Feet)

Source: Nearmap, 2020

3. Environmental Analysis

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Figure 28 - Approximate Noise Monitoring Location Map, Indian Springs High School

Project Boundary

ST-X Short-Term Noise Measurement Locations (1)

0 400
Scale (Feet)

Source: Nearmap, 2020

3. Environmental Analysis

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Figure 29 - Approximate Noise Monitoring Location Map, Pacific High School

Project Boundary

ST-X Short-Term Noise Measurement Locations (1)

0 500
Scale (Feet)

Source: Nearmap, 2020

3. Environmental Analysis

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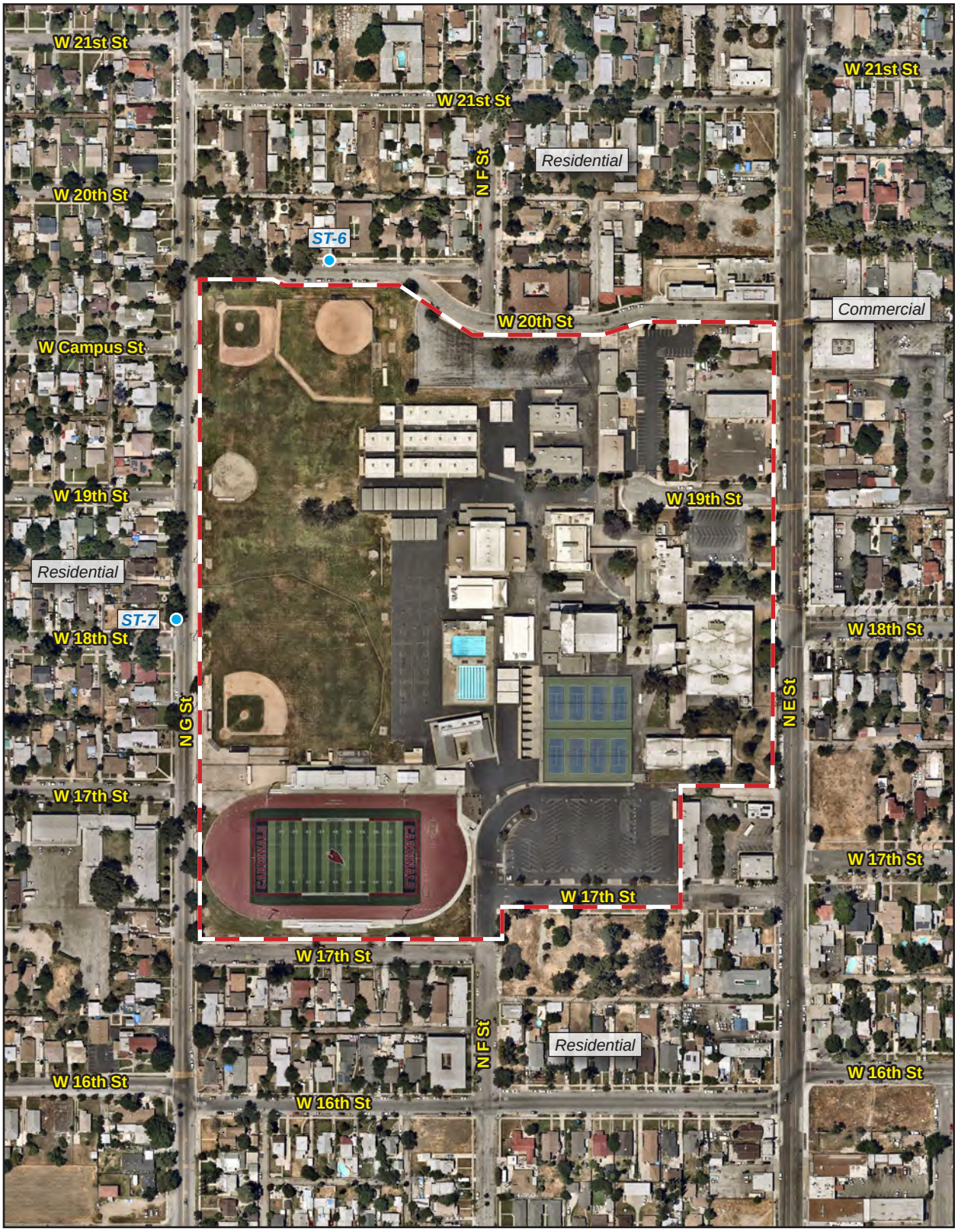
Figure 30 - Approximate Noise Monitoring Location Map, San Bernardino High School



Project Boundary

ST-X Short-Term Noise Measurement Locations (2)

0 350
Scale (Feet)

Source: Nearmap, 2020

3. Environmental Analysis

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Figure 31 - Approximate Noise Monitoring Location Map, San Gorgonio High School

Source: Nearmap, 2020

3. Environmental Analysis

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- **San Gorgonio High School, Short-Term Location (ST-8)** was on school property near the Casa Del Sol apartments property line. A 15-minute noise measurement began at 8:47 pm on Wednesday, June 2, 2021. The noise environment is characterized primarily by crickets. Ambient noise levels were generally between 56 dBA and 58 dBA. Secondary noise sources included cheering from crowds during a Little League game at Speicher Memorial Park and aircraft overflights. Cheering was up to 62 dBA and aircraft overflights were up to 58 dBA.

Table 11 Short-Term Noise Measurements Summary in A-Weighted Sound Levels

Monitoring Location	Description	15-Minute Noise Level, dBA		
		L_{eq}	L_{max}	L_{min}
ST-1	Arroyo High School near 1934 W. Baseline Road 6/1/2021, 7:03 PM	72.1	84.7	51.9
ST- 2	Arroyo High School near 1139 Madison Street 6/1/2021, 7:45 PM	53.9	71.7	44.2
ST-3	Cajon High School near 1295 Dover Drive 6/1/2021, 8:42 PM	65.7	80.9	45.8
ST-4	Indian Springs High School near 7671 Fairfax Lane 6/2/2021, 9:27 PM	53.1	75.5	46.0
ST-5	Pacific High School near 1680 Garden Drive 6/2/2021, 7:41 PM	52.4	67.7	44.2
ST-6	San Bernardino High School near 656 North 20th Street 6/2/2021, 7:03 PM	57.7	77.1	50.4
ST-7	San Bernardino High School near 1816 North G Street 6/2/2021, 6:57 PM	65.6	82.1	50.4
ST-8	San Gorgonio High School on-site near Casa Del Sol Apartments 6/2/2021, 8:47 PM	57.6	63.0	48.4

Applicable Standards

The proposed project includes the installation of lights on various playfields at the six high schools in the City of San Bernardino. Though all school sites are within the city limits of San Bernardino, some border other municipal jurisdictions. Indian Springs High School is near the City of Highland to the south, east, and west near sensitive receptors. San Gorgonio High School also is near the City of Highland to the south. Cajon High School is near unincorporated County of San Bernardino (neighborhood of Arrowhead Farms). Therefore, for the purposes of this analysis, the County of San Bernardino's noise standards are applied to the neighborhood of Arrowhead Farms. Where the nearest receptors are in Highland, the City of Highland's noise standards are used for analyzing noise impacts. Summarized below are the City of San Bernardino and the City of Highland noise standards.

County of San Bernardino

The County of San Bernardino Code of Ordinances Section 83.01.080, Noise, provides community-wide noise standards. It exempts construction, maintenance, repair, or demolition activities between the hours of 7:00 am to 7:00 pm. It also sets exterior noise standards for stationary sources for residential uses. Exterior noise from

stationary sources shall not exceed 55 dBA L_{eq} during the hours of 7:00 am to 10:00 pm and shall not exceed 45 dBA L_{eq} during the hours of 10:00 pm to 7:00 am at residential properties.

City of San Bernardino

The City of San Bernardino Municipal Code Chapter 8.54, Noise Control, exempts construction, erection, alteration, repair, addition, movement, demolition or improvement to any building or structure between the hours of 8:00 pm to 7:00 am (Sec. 8.54.070). Chapter 8.54, however, does not quantify exterior noise standards from noise sources to receiving land uses. This is established under Chapter 19.20, Property Developmental Standards. Section 19.20.030.15(A) states that no exterior noise level shall exceed 65 dBA in residential areas.

City of Highland

The City of Highland Municipal Code Chapter 8.50, Noise Control, provides regulations for the purpose of implementing goals and objectives from the city's general plan noise element and to establish community-wide noise standards. Section 8.50.060(L) exempts noise related to construction, repair, or excavation work performed pursuant to a valid written agreement with the city or any of its political subdivisions, which agreement provides for noise mitigation measures. The general plan's noise element establishes exterior noise standards by land use, as shown in Table 12.

Table 12 City of Highland Exterior Noise Standards

Type of Land Use	7:00 am–10:00 pm L_{eq}	10:00 pm–7:00 am L_{eq}
Residential	60 dBA CNEL	55 dBA CNEL
Agricultural/Equestrian	65 dBA CNEL	60 dBA CNEL
Commercial	70 dBA CNEL	65 dBA CNEL
Manufacturing or Industrial	75 dBA CNEL	75 dBA CNEL
Open Space	75 dBA CNEL	75 dBA CNEL

Source: Highland Municipal Code, Section 8.50, Noise Control.
Notes: L_{eq} = Equivalent-energy sound level
dBA = A-weighted sound pressure level.
CNEL: Community Noise Equivalent Level

Construction Vibration

Neither the City of San Bernardino nor the City of Highland has specific limits or thresholds for vibration. The Federal Transit Administration (FTA) provides criteria in inches per second peak particle velocity (in/sec PPV) for acceptable levels of ground-borne vibration for various types of buildings. This analysis uses the FTA criteria shown in Table 13.

Table 13 Groundborne Vibration Criteria: Architectural Damage

Building Category		PPV (in/sec)
I.	Reinforced concrete, steel, or timber (no plaster)	0.5
II.	Engineered concrete and masonry (no plaster)	0.3
III.	Non-engineered timber and masonry buildings	0.2
IV.	Buildings extremely susceptible to vibration damage	0.12

Source: Federal Transit Administration (FTA) 2018.
PPV = peak particle velocity

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

Less Than Significant Impact. Two types of short-term noise impacts could occur during construction: (1) mobile-source noise from transport of workers, material deliveries, and debris and soil haul and (2) stationary-source noise from use of construction equipment. Existing uses surrounding the project site would be exposed to construction noise. Construction equipment for the installation of the light poles at each school includes a backhoe, auger drill rig, and a concrete saw. The concrete saw would not be used at every proposed pole location, but on an as-needed basis, such as on the concrete around the swimming pools. Neither blasting nor pile-driving techniques would be required. The installation of light poles at all six high schools would take an estimated six months to complete. On average, one month of construction would be needed per school.

Construction Vehicles

The transport of workers and materials to and from the construction site could potentially increase noise levels along local access roadways to the six high schools. Individual construction vehicle passes-by and haul trucks may create momentary noise levels of up to 85 dBA (L_{max}) at 50 feet from the vehicle, but these occurrences would generally be temporary and short lived, because lighting improvements are anticipated to take approximately one month at each school.

Construction Equipment

Noise generated during construction is based on the type of equipment used, the location of the equipment relative to sensitive receptors, and the timing and duration of the noise-generating activities. Noise levels from construction activities are dominated by the loudest piece of construction equipment. The dominant noise source is typically the engine, although work piece noise (such as dropping of materials) can also be noticeable.

The noise produced at each activity is dominated by the loudest piece of equipment needed for light pole installation. Construction noise quite often exhibits a high degree of variability because factors such as noise attenuation due to distance, type of equipment, and the load and power requirements to accomplish tasks result in different noise levels at a given sensitive receptor. Construction equipment provided by the applicant included a backhoe, auger drill rig, and a concrete saw.

3. Environmental Analysis

Some heavy equipment can have maximum, short-duration noise levels of 85 dBA at 50 feet. Construction noise impacts at sensitive receptors are determined based on loudness and noise exposure duration at a sensitive receptor. Construction equipment noise was modeled using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). RCNM modeling indicates that the loudest piece of equipment (concrete saw) would be up to 82.6 dBA L_{eq} at a distance of 50 feet.

Offsite Receptors

Numerous light poles are proposed for installation at various athletic fields. The closest sensitive receptor property line to project construction activities (light pole installation) is approximately 25 feet east of the Arroyo Valley High School tennis courts. Though light pole installation would generate construction noise that would elevate ambient noise, it would be short term. Light pole installation would take up to a week to complete. The approximate installation schedule would begin with the construction crew drilling and setting the concrete pole bases on the first day followed by a four-day concrete curing period. Then, on the following construction workday, the crew would return to install the light pole. Most of the noise would occur on the first and last day of this process. This process would allow for the installation of several bases and light poles at a time. Therefore, noise receptors within 50 feet would not experience substantially prolonged elevated noise levels from the light pole installation process. Temporary construction noise impacts to receptors in the vicinity of each school site would be less than significant.

On-Site Receptors

Though construction would take one month at each high school (on average), construction could occur while school is in session. As mentioned above, the loudest piece of equipment used for this process is up to 82.6 dBA L_{eq} at a distance of 50 feet. Some classrooms would be within 50 feet of proposed light poles. Construction noise would temporarily elevate interior noise levels at classrooms near the proposed light poles. However, most of the light pole installation locations are greater than 50 feet from classroom buildings, and the installation process is anticipated to last for up to one week. Construction noise impacts would be short-term and, therefore, less than significant to on-site receptors.

Operational Stationary Noise

The proposed lighting project would not increase the number of existing bleachers nor propose new spectator bleachers. For all six schools, the District plans to light the tennis courts, varsity and junior varsity baseball and softball fields, some soccer/practice fields, and swimming/water polo pools, as shown on Figures 9 through 20. The evening use of the fields and pools would not be past 7:30 pm. PlaceWorks staff has previously collected noise measurement data at various sports fields, and Table 14 shows the reference noise levels based on the previously collected data. The previously collected measurement data is in Appendix H.

Table 14 Reference Recreational Noise Levels

Monitoring Location	Description	L_{eq}	L_{min}	L_{max}
Softball/Baseball Fields at 72 feet	Approximately 72 feet east of the home plate of the softball diamond. Approximately 22 players and two spectators	56.9	47.1	80.3
Soccer Fields at 15 feet	Approximately 15 feet from soccer field and 39 total spectators, including coaches	59.8	46.4	86.5
Tennis Courts at 20 feet	Conducted in the center isle between two sets of 4 singles tennis courts approximately 20 feet from each set of tennis courts area. There were 2 single player tennis courts and 3 multiple player tennis courts within a 50-foot radius of noise monitoring.	63.6	77.1	53.9

Based on the noise measurement data in Table 14, attenuated noise levels were calculated at the nearest sensitive receptors to sports facilities at each high school, as summarized in Table 15 and described in the following paragraphs. As shown, predicted noise levels from project operation of the athletic fields at the nearest sensitive receptors would not exceed the City of San Bernardino's exterior noise standard of 65 dBA L_{eq}. Detailed distance calculation data are in Appendix H.

Table 15 Summary of Project-Related Evening Stationary Noise Levels

High School	Predicted Noise Levels at Nearest Sensitive Receptors (dBA L_{eq})[1]		
	Softball/Baseball Fields[2]	Tennis Courts[3]	Soccer Fields[4]
Arroyo High School	56	49	45
Cajon High School to San Bernardino Receptors	50	29	NA
Cajon High School to Arrowhead Farms Receptors	40	32	NA
Indian Springs High School	44	30	32
Pacific High School	57	38	NA
San Bernardino High School	55	32	NA
San Gorgonio High School	49	30	NA

Notes: Noise levels are predicted based on the previously collected noise measurement data in Table 14, *Reference Recreation Noise Levels*. See Appendix H for various distance calculations.
NA = Not Applicable.
[1] Rounded to the nearest whole number.
[2] Distance is from the home plate of the softball/baseball fields to the nearest residential property line.
[3] Distance is from the centerline of the tennis courts to the nearest residential property line.
[4] Distance is from the edge of the soccer field to the nearest residential property line.

Arroyo Valley High School

Arroyo Valley High School proposes to light its softball and baseball fields, soccer fields, swimming pool, and tennis courts. The nearest sensitive receptors (residential uses) to the baseball and softball fields are approximately 80 feet to the east along Madison Street, and the nearest sensitive receptors to the tennis courts are approximately 70 feet to the east on W. Temple Street. The residences to the north along W. Base Line Street are over 400 feet from the home plate of the varsity softball and baseball fields. Table 14 shows that active use of softball and baseball fields generates noise levels of approximately 56.9 dBA L_{eq} at 72 feet, and soccer fields generate noise levels of approximately 59.8 dBA L_{eq} at 15 feet. At 80 feet, noise levels would attenuate to

approximately 56 dBA L_{eq} or less. The swimming pool is farther than the softball field and would generate less noise at the nearest sensitive receptors. Reference noise levels from tennis courts at 20 feet are approximately 64 dBA L_{eq}. At 70 feet, noise levels would attenuate to approximately 49 dBA L_{eq}. Therefore, noise levels associated with various sports facilities with nighttime lighting would not exceed the City's exterior noise standard of 65 dBA L_{eq}.

Cajon High School

Cajon High School proposes to light its softball and baseball fields, tennis courts, and swimming pools. The nearest fields to sensitive receptors (residential uses) are the baseball and softball fields, approximately 150 feet to the north along Northpark Boulevard in the city of San Bernardino. As shown in Table 11, existing ambient noise levels at sensitive receptors along Northpark Boulevard are 65.7 dBA L_{eq}. Table 14 shows that active use of softball and baseball fields generate noise levels of approximately 56.9 dBA L_{eq} at 72 feet. At 150 feet, noise levels would attenuate to approximately 50.3 dBA $L_{eq.}$ Therefore, existing noise levels are greater than noise levels that would be generated by baseball and softball fields. Tennis courts and swimming pools are farther away and would generate less noise than the baseball and softball fields at the nearest sensitive receptors. Noise levels associated with the athletic fields with proposed evening lighting would not exceed the City's exterior noise standard of 65 dBA L_{eq} at the nearest receptor property line.

The nearest receptors in the unincorporated county (neighborhood of Arrowhead Farms) to proposed lighting are approximately 500 feet to the south. At 500 feet, noise would attenuate to approximately 42 dBA L_{eq} or less. Therefore, noise levels associated with the athletic fields with proposed evening lighting would not exceed the County's exterior daytime and nighttime noise standard of 50 and 45 dBA L_{eq} at the nearest receptor property line in the unincorporated neighborhood of Arrowhead Farms.

Indian Springs High School

Indian Springs High School proposes to light its softball and baseball fields, tennis courts, and soccer fields. The nearest fields to sensitive receptors are the baseball and softball fields approximately 300 feet to the east of residential uses along Fairfax Lane. As shown in Table 11, existing ambient noise levels at sensitive receptors along Fairfax Lane are 53.1 dBA L_{eq}. Table 14 shows that active use of softball and baseball fields generate noise levels of approximately 56.9 dBA L_{eq} at 72 feet. At 300 feet, noise levels would be approximately 44.3 dBA L_{eq}. Therefore, existing noise levels are greater than noise levels that would be generated by baseball and softball fields at the receptor property line. Tennis courts and soccer fields are farther away and would generate less noise than the baseball and softball fields at the nearest sensitive receptors. Noise levels associated with the athletic fields with proposed evening lighting would not exceed the City's exterior noise standard of 65 dBA L_{eq} at the nearest receptor property line.

Pacific High School

Pacific High School proposes to light its softball and baseball fields, tennis courts, and swimming pools. The nearest field to sensitive receptors is the softball field approximately 300 feet to the west of the residential uses along Garden Drive. As shown in Table 11, existing ambient noise levels at sensitive receptors along Garden Drive are 52.4 dBA L_{eq}. Table 14 shows that active use of softball (and baseball) fields generates noise levels of approximately 56.9 dBA L_{eq} at 72 feet. At 300 feet, noise levels would be approximately 44.3 dBA L_{eq}. The

tennis courts and pools are farther away and would generate less noise than the baseball and softball fields at the nearest sensitive receptors. Therefore, existing noise levels are greater than noise levels that would be generated by baseball and softball fields at the receptor property line. Noise levels associated with the athletic fields with proposed evening lighting would not exceed the City's exterior noise standard of 65 dBA L_{eq} at the nearest receptor property line.

San Bernardino High School

San Bernardino High School proposes to light its softball and baseball fields, soccer field, tennis courts, and swimming pools. The nearest fields to sensitive receptors are the softball fields and baseball field approximately 85 feet to the east and south from residential uses along North G Street and West 20th Street. As shown in Table 11, existing ambient noise levels at these sensitive receptors along are 65.6 and 57.7 dBA L_{eq}, respectively. Table 14 shows that active use of softball and baseball fields generate noise levels of approximately 56.9 dBA L_{eq} at 72 feet. At 85 feet, noise levels would be approximately 55.2 dBA L_{eq}. The tennis courts and pool are farther away and would generate less noise than the baseball and softball fields at the nearest sensitive receptors. Therefore, existing noise levels are greater than noise levels that would be generated by baseball and softball fields at the receptor property line. Noise levels associated with the athletic fields with proposed evening lighting would not exceed the City's exterior noise standard of 65 dBA L_{eq} at the nearest receptor property line.

San Gorgonio High School

San Gorgonio High School proposes to light its softball and baseball fields and tennis courts. The nearest proposed lit athletic areas to sensitive receptors are the softball baseball fields approximately 170 feet from the Casa Del Sol apartment homes along East Baseline Street. As shown in Table 11, existing ambient noise levels at the property line near these sensitive receptors are 57.6 dBA L_{eq}. Table 14 shows that active use of softball and baseball fields generate noise levels of approximately 56.9 dBA L_{eq} at 72 feet. At 170 feet, noise levels would be approximately 49.2 dBA L_{eq}. The tennis courts are farther away and would generate less noise than the baseball and softball fields at the nearest sensitive receptors. Therefore, existing noise levels are greater than noise levels that would be generated by baseball and softball fields at the receptor property line. Noise levels associated with the athletic fields with proposed evening lighting would not exceed the City's exterior noise standard of 65 dBA L_{eq} at the nearest receptor property line.

Conclusion

In summary, evening ambient noise monitoring shows that noise generated by various sports facilities in the evening hours would not generate noise levels greater than existing conditions, nor would they exceed the City of San Bernardino's exterior noise standard of 65 dBA L_{eq}. The two schools that border the City of Highland, which has an exterior noise standard of 60 dBA CNEL (daytime 7:00 am to 10:00 pm) for residential uses, are Indian Springs High School and Gorgonio High School. These two schools would generate noise levels of up to 55.2 dBA L_{eq}. CNEL is a 24-hour average noise level, and an average noise level of 55.2 dBA L_{eq} during evening use of athletic fields would not significantly contribute to a CNEL value that would exceed 60 dBA CNEL. Therefore, noise impacts associated with newly lit fields would be less than significant.

3. Environmental Analysis

Traffic Noise

The proposed lighting project would not result in an increase of students or staff, nor would there be new community uses for the lighted fields. Traffic noise would not increase because the project would not generate new trips. Therefore, no impact would occur.

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

Less Than Significant Impact. Potential vibration impacts associated with development projects are usually related to the use of heavy construction equipment during the demolition and grading phases of construction. Construction can generate varying degrees of ground vibration depending on the construction procedures and equipment. Construction equipment generates vibration that spreads through the ground and diminishes with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The effects from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures

Architectural Damage

For reference, a peak particle velocity of 0.20 in/sec PPV is used as the limit for nonengineered timber and masonry buildings (which would apply to the off-site surrounding residential structures) (FTA 2018). Table 16 shows typical construction equipment vibration levels and estimated vibration levels at a distance of 45 feet. Proposed light poles locations are shown on Figures 9 through 20. The nearest construction activity associated with light pole installation to a residential building would occur at the Pacific High School site. The proposed light poles at the tennis courts are approximately 45 west of a single-story multi-family residential building. At 45 feet, construction vibration levels would be up to 0.037 in/sec PPV, which would not exceed the threshold of 0.2 in/sec PPV. All proposed light poles at the five other high schools would be approximately 50 feet or greater from off-site structures. Therefore, vibration impacts would be less than significant.

Table 16 Vibration Impact Levels for Typical Construction Equipment

Equipment	Reference Levels at 25 Feet (in/sec PPV)	Residences at 45 Feet East[1] (in/sec PPV)
Large Bulldozer	0.089	0.037
Caisson Drilling	0.089	0.037
Loaded Trucks	0.076	0.031
Jackhammer	0.035	0.014
Small Bulldozer	0.003	0.001

Source: FTA 2018.\
In/sec PPV = inches per second peak particle velocity
[1] As measured from the edge of construction site using Google Earth Pro.

Operational Vibration

The operation of the proposed project would not include any substantial long-term vibration sources at any of the six sites. Thus, no significant vibration effects from operations sources would occur.

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

Less Than Significant Impact. The nearest airport to all six school sites is the San Bernardino International Airport (SBIA). Distances from each site to the SBIA vary between 1.2 miles to 6.7 miles. The only site within 2 miles of the SBIA is Indian Springs High School, at 1.2 miles to the north. However, existing airport noise contours show that Indian Springs High School is outside of the 65 CNEL noise contour. Therefore, impacts would be less than significant.

3.14 POPULATION AND HOUSING

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

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

No Impact. The proposed project would be served by existing roads and other infrastructure. No new roads, expanded utility lines, or housing would be constructed or required as part of the project. The proposed project would serve students already living in the area. No impacts related to population growth would occur.

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

No Impact. No housing exists on the six high school campuses. The proposed project would not require relocation or construction of replacement housing; therefore, no impact would occur.

3.15 PUBLIC SERVICES

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?				X
Parks?			X	
Other public facilities?				X

a) Fire protection?

Less Than Significant Impact. The San Bernardino County Fire District (SBCFD) Division 6 provides fire and emergency medical services to the City of San Bernardino, including all six high schools. The nearest SBCFD stations to the six schools are: to

- **Arroyo Valley High School,** Station No. 222 at 1201 W 9th Street in San Bernardino, approximately 0.8 mile to the east
- **Cajon High School,** Station No. 227 at 282 W 40th St, San Bernardino, approximately 1.3 miles to the southeast
- **Indian Springs High School,** Station No. 233 at 165 S Leland Norton Way in San Bernardino, approximately 0.8 mile to the south
- **Pacific High School,** Station No. 226 at 1920 Del Rosa Ave N, San Bernardino, approximately 0.5 mile to the east
- **San Bernardino High School,** Station No. 224 at 2641 N E St, San Bernardino, 0.5 mile to the north
- **San Gorgonio High School,** Station No. 226, approximately 0.8 mile to the southeast

The proposed project is intended to extend usable hours of the existing sports facilities by installing lighting so that existing sports programs are not impacted by the passage of SB 328, which requires high schools to start no earlier than 8:30 am. Therefore, the proposed project would not increase enrollment or capacity of any

of the schools, including bleacher seat capacity. Additionally, the proposed project would not modify any existing fire lanes at any of the schools. The project sites are already served by SBCFD, and the proposed project would accommodate the existing school programs and students. Therefore, the nighttime use of the school sports facilities would not substantially increase the fire protection demands compared to the existing conditions. Project implementation would have a less than significant impact on fire protection facilities, and no mitigation measures would be required.

b) Police protection?

Less Than Significant Impact. All six sites and surrounding areas are already served by existing polices forces, and the proposed project would not substantially increase the need for police protection services because the student enrollment and capacity would not increase. SBCUSD has its own police force, which patrols all District sites. This project would not require SBDPD to expand or build new facilities, and impacts would be less than significant. No mitigation measures would be required.

c) Schools?

No Impact. The proposed project would not increase the demand for new or expanded public schools. No impact would occur.

d) Parks?

Less Than Significant Impact. Impacts to public parks are generally caused by population or employment growth. The proposed project would provide improvements to existing school athletic facilities and would not induce growth or influence housing in the area to create additional demands for parks. Therefore, no physical impacts to parks and recreation would occur.

e) Other public facilities?

No Impact. Physical impacts to public services are usually associated with population in-migration and growth, which increase the demand for public services and facilities. The project would not result in impacts associated with the provision of other new or physically altered public facilities (e.g., libraries, hospitals, childcare, teen or senior centers). The project would not induce population growth. No impacts to other public facilities would occur.

3.16 RECREATION

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

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

No Impact. Implementation of the proposed project would allow extended use of the existing District sports facilities by installing nighttime sports lighting at six high schools. The proposed project would accommodate the existing school programs and students already served by the District. Implementation of the proposed project would not increase the number of people served by the existing parks or other recreational facilities or displace existing recreational facilities so that the use of other parks or recreational facilities would be increased. No impact would occur.

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

Less Than Significant Impact. Implementation of the proposed project would allow extended use of the existing District sports facilities by installing nighttime sports lighting at six high schools. Physical effects of providing sports lighting are addressed throughout this Initial Study. No other construction or expansion of recreational facilities other than the proposed project would be required as part of the proposed project. As discussed in various sections of this Initial Study, the proposed project would not result in adverse physical effect on the environment with mitigation. No other mitigation measures are required.

3.17 TRANSPORTATION

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?			X	

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

Less Than Significant Impact. Construction of the proposed project would entail large construction equipment, transportation of equipment to and from the construction sites, and worker vehicles. However, construction traffic would be temporary, and all construction activity and staging areas would occur within the respective campuses. Therefore, the proposed project would not obstruct traffic lanes or have any long-term effects on the circulation system.

At project completion, the proposed project would allow existing athletic programs to continue without interruption even with the later start school hours. The proposed project would mainly serve students already on campus, and the new lights would allow students to participate in practices and games even when daylight is gone. No new programs or uses are proposed with the newly lit sports facilities at six high schools, and no increase in participants or attendance are anticipated. No roadways, transit system, or bicycle and pedestrian facilities would be impacted by the proposed project. Therefore, the proposed project would not conflict with any programs, plans, ordinances, or policies addressing the circulation system. Impacts would be less than significant.

b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Less Than Significant Impact. CEQA Guidelines section 15064.3 eliminates auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts:

> Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided ... (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.

3. Environmental Analysis

The City adopted the City of San Bernardino Traffic Impact Analysis Guidelines (TIA Guidelines) in August 2020. The TIA Guidelines provides screening thresholds that can identify when a proposed land use project would result in a less than significant impact without a detailed, project-level analysis. Screening has three steps:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

A land use project needs only to meet one of the listed screening thresholds to result in a less than significant impact. The Project Type Screening allows projects that are local serving to be screened from further VMT analysis. The City's Guidelines requires a project that uses the designation of "local-serving" to demonstrate that its users would be existing within the community; that the project would not generate new "demand" for the project land uses; and that the land use meets existing demand that would shorten the distance that residents, employees, or visitors would otherwise travel. All six high schools serve local students within the District boundaries. The proposed project would allow existing school athletic programs to continue with the later school start time, and would not generate new trip demand to result in additional VMT. Therefore, the City's project type screening would apply to the proposed project, and the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). Impacts would be less than significant.

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

Less Than Significant Impact. The proposed project would occur within the existing high school boundaries and would not modify the existing on- or off-site circulation systems. No new land uses would be created that could potentially increase or impact any design features of the existing high school facilities. All construction staging would also occur within the existing school boundaries. No sharp curves or dangerous intersections would be created due to project implementation. Impacts would be less than significant.

d) Result in inadequate emergency access?

Less Than Significant Impact. The proposed project would not result in inadequate emergency access. The proposed project would accommodate existing sports programs at six existing high schools and would not increase attendance by participants or spectators from existing conditions. The proposed project would allow practices and games to start later and end later, and no modification to layout or configuration of the existing sports facilities or emergency access would occur. The path of travel for the existing sports facilities demonstrating adequate access are shown in Appendix I of the Initial Study. Additionally, it is anticipated that the sports lighting would not be turned off immediately after practices or games so that cleanup and exit could occur safely. Impacts would be less than significant.

3.18 TRIBAL CULTURAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES.				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				X
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

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

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

No Impact. The proposed sports lighting would be installed on the existing tennis courts, swimming pool, and baseball and softball fields of six existing high schools. The area to be disturbed by the proposed project are not in the listings or eligible for listing on the California Register of Historical Resources, or in a local register of historical resources (San Bernardino 2005). Therefore, implementation of the proposed project would not impact tribal cultural resources pursuant to Public Resources Code Section 21074(a)(1). No impact to historical resource would occur.

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

3. Environmental Analysis

Less Than Significant Impact With Mitigation Incorporated. As part of the AB 52 process, Native American tribes must submit a written request to the District to be notified of projects within their traditionally and culturally affiliated area. District must provide written, formal notification to those tribes within 14 days of deciding to undertake a project. The tribe must respond to the District within 30 days of receiving this notification if they want to engage in consultation on the project, and the District must begin the consultation process within 30 days of receiving the tribe's request. Consultation concludes under these circumstances 1) the parties agree to mitigation measures to avoid a significant effect on a tribal cultural resource; 2) a party, acting in good faith and after reasonable effort, concludes mutual agreement cannot be reached; or 3) a tribe does not engage in the consultation process or provide comments.

Pursuant to Public Resources Code Section 21080.3.1, the District received a request for notification of projects from the Gabrieleno Band of Mission Indians - Kizh Nation (Kizh Nation). Therefore, the District notified the Kizh Nation in a written letter dated August 12, 2021, via email. The Kizh Nation responded requesting a consultation in an email dated August 13, 2021. The District requested a meeting with the Kizh Nation in an email dated August 18, 2021, to begin consultation process. However, no response was received from the Kizh Nation. The District emailed the Kizh Nation again on September 10, 2021, requesting to meet to consult, and no response has been received as of October 7, 2021. The District, in good faith, has initiated consultation but the tribe did not engage in the consultation process.

The proposed sports lighting would be installed on the existing tennis courts, swimming pool, and baseball and softball fields of six existing high schools. None of the six high schools are identified as historically significant in a California Register of Historic Resources or meets any of the criteria for listing in the National Register of Historic Places. The proposed project would install 20 to 36 light poles at six high schools, and each pole would disturb about 9 square feet of area. Therefore, approximately 180 square feet to 324 square feet of areas within the existing sports facilities would be disturbed. Additionally, approximately 18-inch-wide and 24-inch-deep utilities trenching would be necessary to provide connection from the poles to electrical panels. Because the campuses have already been developed, the utilities trenching would occur within the artificial fill layer of the soil and would not disturb native soils that may contain tribal cultural resources. However, although the likelihood of discovering tribal cultural resources is minimal, the potential for discovering previously unidentified subsurface tribal cultural resources exists. Therefore, a mitigation measure has been incorporated to reduce impacts to a less than significant level.

Mitigation Measures

TCR-1 Prior to any ground disturbing construction activities, the San Bernardino City Unified School District (District) shall retain a Native American monitor approved by the Gabrieleño Band of Mission Indians - Kizh Nation (Kizh Nation). The tribal monitor shall only be present on-site during the construction phases that involve ground-disturbing activities. Ground-disturbing activities are defined by the Kizh Nation as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching within the project area. The tribal monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site

monitoring shall end when the grading and excavation activities are completed or when the tribal representatives and monitor have indicated that the project site has a low potential for affecting tribal cultural resources.

Upon discovery of any tribal cultural resources, construction activities shall cease in the immediate vicinity of the find until the tribal monitor can assess the find. The evaluation of all tribal cultural resources unearthed by project construction activities shall be evaluated by a qualified archaeologist and/or tribal monitor approved by the Kizh Nation. If the resources are Native American in origin, the Kizh Nation shall coordinate with the District regarding treatment and curation of these resources. Typically, the tribe will request reburial or preservation for educational purposes. The District may continue work on other parts of the project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If the tribal monitor determines a resource to constitute a "historical resource" or "unique archaeological resource," time and funding sufficient to allow for implementation of avoidance measures or appropriate mitigation must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Section 21083.2(b) for unique archaeological resources. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. The District shall be responsible for ensuring that a public, nonprofit institution with a research interest in the materials, such as the San Bernardino County Museum, curate any historic archaeological material that is not Native American in origin if such an institution agrees to accept the material. If no institution accepts the archaeological material, the District shall offer it to a local historical society for educational purposes or retain the material and use it for educational purposes.

3.19 UTILITIES AND SERVICE SYSTEMS

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			**X**	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				**X**
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				**X**

3. Environmental Analysis

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

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

Less Than Significant Impact.

Water Treatment

The San Bernardino Municipal Water Department provides water services to the city, including the six high schools. The proposed project involves installation of sports lighting to existing athletic facilities within six existing high schools. The proposed project would not increase the existing student capacity or expand school programs to require additional water demand. Therefore, the overall demand for water treatment would not increase. The proposed project would not require the relocation or construction of new or expanded water treatment facilities; impacts would be less than significant.

Wastewater Treatment

The San Bernardino Municipal Water Department also provides wastewater collection and treatment services to the city, including the six high schools. All six high schools are currently developed and served by existing wastewater facilities. Installation of sports lighting to existing athletic facilities would not increase wastewater demands. The proposed project would not increase the existing student capacity or expand school programs. The project would not require the relocation or construction of new or expanded wastewater treatment facilities; impacts would be less than significant.

Stormwater Drainage

Installation of sports lighting to existing athletic facilities at six high schools would not result in substantial increase of impervious surfaces at existing campuses. A total of 22 to 36 poles would be installed at different athletic facilities on each of the six high school campuses, and each pole would cover approximately nine square feet. Assuming that light poles on tennis courts and swimming pools would be installed on hardscapes, the increase in impervious surfaces due to installation of light poles would be negligible[5] and would not change the

[59] square feet per pole x a maximum of 36 poles = 324 square feet.

stormwater volume, rate, or pattern. The proposed project would not result in the relocation or construction of storm water drainage. Impacts would be less than significant.

Electric Power

Electricity is provided by Southern California Edison. The proposed project would require connecting to existing and new electric power infrastructure for operation. Trenching for power lines would be necessary to connect to existing electrical facilities within the campuses. Though the proposed project would result in a higher electricity demand than existing conditions, the increase would be negligible to a regional provider like SCE. The proposed project would use LED luminaires that are energy efficient and last longer than metal halide or high-pressure sodium lights. Implementation of the proposed project would not result in major construction related to electrical power facilities that could cause significant environmental impacts. Impacts would be less than significant.

Natural Gas

Natural gas service is provided by the Southern California Gas Company. The proposed project would not require use of natural gas during operation. However, if necessary, there are available SoCalGas lines to connect to because the sites are already developed and operating as high schools. The project would not require the construction of new or expanded facilities. No impact would occur.

Telecommunications

There are existing telecommunications facilities and services in the immediate area for the proposed project to connect to, if necessary. However, the proposed project would not require additional telecommunications facilities demand. The project would not require off-site construction or relocation of utilities, and therefore would not cause significant environmental effects from such action. Impacts would be less than significant.

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

No Impact. The proposed project involves installation of sports lighting to existing athletic facilities within six existing high schools. The proposed project would not increase the existing student capacity or expand school programs to require additional water demand. No impact to existing water supplies would occur.

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

No Impact. The proposed project involves installation of sports lighting to existing athletic facilities within six existing high schools. No restrooms or other facilities generating wastewater would be developed as part of the proposed project. The proposed project would not increase the existing student capacity or expand school programs to require additional wastewater demand. No impact would occur.

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

Less Than Significant Impact. The proposed project involves installation of sports lighting to existing athletic facilities within six existing high schools. During construction, the proposed project would generate some demolition debris from clearance and waste and debris from construction. However, construction solid waste generation would be minimal due to the relatively small-scale construction effort and lack of any buildings on the project site to be disturbed by the proposed project. CALGreen Section 5.408.1.1 requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. The proposed project would comply with the required regulation pertaining to construction and demolition waste and would not exceed the capacity of regional landfills or impair the attainment of solid waste reduction goals in the city. The proposed project would not increase the existing student capacity or expand school programs that may result in increased demand for solid waste. Therefore, the proposed project would not result in additional solid waste during operation. Impacts would be less than significant.

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

Less Than Significant Impact. The proposed project is required to comply with federal, state, and local statutes and regulations related to solid waste and would continue this practice. CALGreen Section 5.408 requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operation be recycled and/or salvaged for reuse. Solid waste demand from the proposed sports lighting at six high schools would be minimal and would not impact the City's ability to comply with AB 939 and maintain the 15-year countywide solid waste landfill capacity. Project development would not conflict with laws governing solid waste disposal, and impacts would be less than significant.

3.20 WILDFIRE

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

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

Less Than Significant Impact. Arroyo Valley High School, Indian Springs High School, Pacific High School, San Bernardino High School, and San Gorgonio High School are not in or near a very high fire hazard severity zone (FHSZ) designated by CAL FIRE in local responsibility areas for the City of San Bernardino (CAL FIRE 2021). Though Cajon High School is in a very high FHSZ, installation of sports lighting at existing swimming pool, tennis courts, and four ballfields at Cajon High School would not increase student capacity or other school programs that would affect the existing emergency response plan or emergency evacuation plan. Impacts would be less than significant.

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

Less Than Significant Impact. Arroyo Valley High School, Indian Springs High School, Pacific High School, San Bernardino High School, and San Gorgonio High School are not in or near a very high FHSZ (CAL FIRE 2021). Cajon High School is in a very high FHSZ, but installation of sports lighting at existing swimming pool, tennis courts, and four ballfields would not exacerbate wildfire risks. The light poles are made of steel on a concrete base and would be installed on flat ground. The proposed project would not result in increased exposure to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant.

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

Less Than Significant Impact. Arroyo Valley High School, Indian Springs High School, Pacific High School, San Bernardino High School, and San Gorgonio High School are not in or near a very high FHSZ (CAL FIRE 2021). Cajon High School is in a very high FHSZ, but it is an existing high school served by existing infrastructure. Installation of sports lighting and necessary utility lines would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. Impacts would be less than significant.

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

Less Than Significant Impact. Arroyo Valley High School, Indian Springs High School, Pacific High School, San Bernardino High School, and San Gorgonio High School are not in or near a very high FHSZ (CAL FIRE 2021). Though Cajon High School is in a very high FHSZ, installation of sports lighting and necessary utility lines would have minimal impact on the existing drainage and runoff. The sports lighting would be installed on flat surfaces of existing sports facilities, and no slope instability would occur. Implementation of the proposed project would not expose people or structures to significant downslope or downstream flooding or landslide. Impacts would be less than significant.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?			X	
c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			X	
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact. As discussed under Section 3.4, *Biological Resources*, the proposed project would not degrade the quality of the environment or substantially reduce the habitat of a fish or wildlife species. The project site does not contain a sensitive plant or animal community. As discussed under Section 3.5, *Cultural Resources*, and Section 3.7, *Geology and Soils*, the project site has been disturbed previously, and considering the limited scale of the proposed project, adverse impacts to buried archaeological resources and/or fossils are not anticipated. However, a customary caution and a halt-work during earth-disturbing activities measure has been incorporated as a mitigation measure to further ensure that impacts are less than significant. Additionally, a tribal monitor from the Kizh Nation would monitor earth-disturbing activities as part of mitigation. With mitigation, the project would not eliminate important examples of major periods of California history or prehistory.

b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?

Less Than Significant Impact. As discussed through this Initial Study, without mitigation, the proposed project would not have short-term and/or long-term environmental impacts except during earth-disturbing activities for archaeological, paleontological, and tribal cultural resources impacts. With implementation of the mitigation measure, the short-term construction impact would also be reduced to a less than significant level. Therefore, the proposed project would not result in failure to achieve short-term or long-term environmental goals. Impacts would be less than significant.

c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less Than Significant Impact. A cumulative impact could occur if the project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonably foreseeable future projects for each resource area. Because the proposed project would accommodate existing sports programs within the boundaries of the existing high school campuses, the impacts would be limited to short-term construction, and would not be cumulatively considerable. Impacts would be less than significant.

d) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. The project would comply with applicable local, state, and federal laws governing general welfare and environmental protection. The implementation of required mitigation measures

specified in this Initial Study would reduce impacts to less than significant. Project impacts on human beings, either directly or indirectly, would be less than significant.

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Appendix A Lighting Plans for Arroyo Valley High School

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Appendix B Lighting Plans for Cajon High School

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Appendix C Lighting Plans for Indian Springs High School

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Appendix D Lighting Plans for Pacific High School

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Appendix E Lighting Plans for San Bernardino High School

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Appendix F Lighting Plans for San Gorgonio High School

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Appendix G Air Quality/GHG/Energy Data

Appendix

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Appendix H Noise Data

Appendix

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Appendix I Path of Travel Plans

Appendix

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