

NOISE IMPACT ANALYSIS

CENTENNIAL HIGH SCHOOL MODERNIZATION

PROJECT

CITY OF COMPTON

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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Compton
CMU	Concrete Masonry Unit
CNEL	Community Noise Equivalent Level
dB	Decibel
dba	A-weighted decibels
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
EPA	Environmental Protection Agency
FTES	Full Time Equivalent Students
HVAC	Heating Ventilation & Air Conditioning System
Hz	Hertz
Ldn	Day-night average noise level
Leq	Equivalent sound level
Lmax	Maximum noise level
ONAC	Federal Office of Noise Abatement and Control
OSHA	Occupational Safety and Health Administration
PPV	Peak particle velocity
RMS	Root mean square
SEL	Single Event Level or Sound Exposure Level
STC	Sound Transmission Class
VdB	Vibration velocity level in decibels

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Noise Impact Analysis has been prepared to determine the noise impacts associated with the proposed Centennial High School Modernization project (proposed project). The following is provided in this report:

- A description of the study area and the proposed project;
- Information regarding the fundamentals of noise;
- Information regarding the fundamentals of vibration;
- A description of the local noise guidelines and standards;
- An evaluation of the current noise environment;
- An analysis of the potential short-term construction-related noise impacts from the proposed project; and,
- An analysis of long-term operations-related noise impacts from the proposed project.

1.2 Site Location and Study Area

The proposed project is located at Centennial High School at 2606 North Central Avenue in the northwest corner of the City of Compton (City). The approximately 33-acre project site is bounded El Segundo Boulevard, commercial and industrial uses to the north, Parmelee Avenue, a vacant lot proposed for residential development, single-family residences, Compton Creek and the Dr. Ronald McNair Elementary School to the east, West 131st Street and single-family residences to the south, and North Central Avenue and single- and multi-family residences to the west. The project study area is shown in Figure 1.

Sensitive Receptors in Project Vicinity

The nearest sensitive receptors are the single-family homes on the east side of Parmelee Avenue that are as near as 75 feet to the east and on the south side of W 131st Street that are as near as 80 feet south of the proposed areas to be disturbed on the project site. On the west side of North Central Avenue, there are multi-family homes as near as 110 feet west and single-family homes as near as 150 feet west of the proposed areas to be disturbed on the project.

1.3 Proposed Project Description

The proposed project involves redeveloping the Centennial High School campus with new academic, administrative, athletic, and support facilities while maintaining the functional organization of the campus. Existing improvements on the campus would be demolished and removed, and new school facilities would be constructed to enhance the educational program and improve access to and within the school. The proposed site plan is shown in Figure 2.

The Proposed Project would maintain the layout of the existing campus. School buildings would remain in the western portion of the campus, and athletic and recreational facilities would be in the eastern portion. The main visitor entrance would remain on Central Avenue; the existing school marquee would be relocated on Central Avenue, near the southern driveway. The campus would include seven new buildings and three parking and loading areas north, west, and south of the buildings. Although the layout remains similar, individual building locations would change. The locations of the track and football stadium,

baseball and softball fields, and the practice football/soccer field are located generally in their current locations. The tennis courts and outdoor basketball courts would be relocated to the mid-northern portion of the campus.

The Proposed Project would include a new aquatic complex constructed in the center of the campus, adjacent and east of the gymnasium. A new field house would also be constructed north of the stadium close to the softball and baseball fields. Circulation improvements, including enhanced pedestrian and fire access connectivity and outdoor learning areas are integrated throughout the campus.

School Buildings

The existing one-story buildings and structures would be demolished and replaced with seven permanent buildings, ranging from one to two stories in height. The reconstructed school would include 209,506 square feet of building space and 46 teaching stations.

Administrative Building (Building A)

The main entrance to the school would be via the Administration Building (Building A) as well as between Building A and the main classroom building (Building C), which is to its south. Building A would be single-story at a height of 27 feet and would encompass an area of 18,898 square feet. Building A serves as the main visitor entry point from the southwest corner of the building from the eastern lot along Central Avenue. Student access would be from the southeast portion of the building from the interior of the campus. The building would include separate public and student reception areas at the southern end of the building, career and counselor offices, tutoring spaces, a parent center, health facility, conference rooms, teacher workrooms, restrooms, and administrative offices.

Academic Building (Building C)

The main classroom building, Academic Building (Building C), is proposed south of the Administration Building. Building C would be oriented northeast to southwest and have a “Y” shape structure. The building would be two stories at a height of 42 feet and include a building area of 85,289 square feet. The building would include a library/media center, science labs, seminar rooms, arts, special education rooms, restroom facilities, and support and storage spaces. The building would include stairways and elevators.

Dining and CTE Building (Building D)

The Dining and Career Technical Education (CTE) Building (Building D) would be east of the Academic Building and north of the southern parking lot along 131st Street. Building D would be one story at a height of 34 feet and include 17,937 square feet of floor area, including 2,200 square feet of exterior covered area. The CTE Building would include the student dining commons; faculty lounge, full kitchen for onsite cooking capabilities; classroom and laboratory spaces for culinary arts, EMT (emergency medical technician) training, and maker/digital design labs; restroom facilities; and rooms for the student union and student store.

Performing Arts Center (Building P)

The Performing Arts Center (Building P) would anchor the campus at the intersection of El Segundo Boulevard and Central Avenue and in the northwest corner of the campus. Public entrance would be via a lobby in the southeast corner of the building via the northern parking lot along El Segundo Boulevard. Student access from the interior of the campus would be from the southern wall of the building.

Building P would include an area of 42,585 square feet and be oriented northwest to southeast. Although the building would be single-story, it would be the tallest of the seven buildings on the campus with a height of 53 feet at the top of the parapet slope located over the auditorium stage. The auditorium would include 858 spectator seats and be used for drama performances, musicals, acoustic and amplified concerts, rehearsals, as well as lectures and presentations. A fly tower and catwalk system would be constructed over the stage and include ropes and pulleys that enable a stage crew to fly components such as curtains, lights, scenery/backdrop, stage effects and, sometimes, people across the stage. The service yard and scene shop would be located behind the stage in the northeast portion of the building. Building P would include 6 classrooms for dance/drama, band/orchestra, chorus, digital music, video production, and computer/E-sports rooms along the western side of the building.

Gymnasium (Building G)

The Gymnasium (Building G) would be centrally located within the general area of the existing gymnasium, east of a courtyard between the administration and main classroom buildings. Building G would be one story at a height of 40 feet and encompass a total area 36,296 square feet. The building would be “L” shaped and would surround the new swimming pool located to the east and south of the building.

The main entrance to Building G would be from the northwest corner of the building. The building would include a lobby, ticket booth, concessions room, restroom facilities, officials changing rooms, and boys and girls’ locker rooms and shower and restroom facilities, team rooms, offices, and a training/treatment room. The east wing of the building, north of the pool, would include a weight room, wrestling room, fitness room, restroom facilities, offices, and storage spaces. The gym would include home and visitor bleacher seating for 1,564 spectators, which is 80 more seats than the existing facility with 1,484 seats.

Pool Building (Building O) and New Aquatic Center

The new aquatics center and outdoor swimming pool would be constructed east and south of Building G. A new single-story pool building (Building O) would form the eastern side of the aquatic center. The pool house would be approximately 3,371 square feet and contain the pool’s mechanical and electrical equipment and the heating and water treatment systems, men and women restroom facilities, and storage spaces.

The swimming pool would be rectangular and oriented north-south. It would be 33-meter (108 feet) long and 25-yard (75 feet) wide. It would include 13 lanes, and an approximately 800 square foot area of shallow water for non-competitive activities. The pool depths would range from 3 feet 6 inches in the northern end to 12 feet 3 inches in the southern end. The pool would include two diving boards on the southern end and an accessible lift on the northern end. A concrete deck would surround the pool. Aluminum bleachers for up to 200 spectators would be installed on the west side of the pool, against the eastern wall of the gymnasium. Fencing would be installed on the south side of the deck, connecting the north and south ends of the new pool house to the gymnasium. The pool would offer both competitive and recreational uses.

Field Housing (Building H)

A new single-story, 5,130 square feet fieldhouse (Building H) would be constructed east of Building O, between the stadium and ballfields. The fieldhouse would include separate boys and girls team rooms, ticket and concessions room, men and women restroom facilities for the home and visitor teams, and storage spaces.

Outdoor Athletic Facilities

All existing outdoor athletic facilities—except for the stadium field lights—would be demolished, and new replacement facilities would be constructed. The stadium, practice football/soccer field, and two baseball fields would remain generally in their current locations and orientations on the campus.

Basketball and Tennis Courts

The existing basketball and tennis courts would be relocated to the mid-northern portion of the campus. Four outdoor basketball courts would be constructed north of the gymnasium, and eight tennis and pickleball courts would be north of the basketball courts and softball field along El Segundo Boulevard. The basketball and tennis courts would be oriented north-south.

Stadium and Practice Field

The existing artificial turf and rubber track at the stadium would be replaced with new in-kind materials. New home and visitor access-compliant aluminum bleacher stands would replace the existing bleacher stands and include seating for up to 2,900 spectators (1,450 seats on each side), which is less than the existing capacity of 3,273 seats. A new press box of 390 square feet would be installed on the home side of the bleachers. A new PA system would be installed, as well as a new electronic scoreboard, which would be located at the southeast end of the field. The reconstructed track and football field would include pole vault and long jump facilities in the areas between the end goals and track. Two shot-put rings would be installed in the southern end of the practice field west of the stadium. The practice field would also be installed with synthetic turf. No field lights would be installed at the practice field.

Baseball and Softball Fields

The varsity baseball and softball fields would include synthetic turf. New backstops, home and visitor dugouts, and aluminum portable home and visitor bleacher stands for up to 75 spectators would be placed behind the backstop at each field. Bullpens would be installed next to both the home and visitor dugouts at each field, and batting cages would be installed north of the varsity baseball field. A new electronic scoreboard would be installed behind right field of each ballfield. New field lighting would also be installed at both fields for their use in the evening.

Other Outdoor Spaces

Outdoor learning and gathering spaces would be developed throughout the campus. The student cafeteria plaza with picnic benches would be east of the dining commons in the Dining and CTE Building. A garden would be installed north of the staff lot, between the Innovation Center and Dining and CTE Building. The garden would allow curriculum on food systems, biology, and environmental science. A shed and raised garden beds would be installed in the garden, as well as concrete seat walls for students to gather. Other student gathering spaces would be developed in the areas south of the Performing Arts Center and east of the Administration Building; between the Academic Building and Dining and CTE Building; between the varsity softball field and track and field; and the area between the lunch courtyard and practice field. The outdoor spaces would include seating, including concrete seat walls and stepped-seating walls. They would be landscaped and planted with trees to provide shading. Seat walls are also proposed at the front of the school, next to the loading zone and in the southeast corner of the campus, near the intersection of Central Avenue and 131st Street.

Access and Circulation

Outdoor The Proposed Project would include three parking lots west, north, and south of the proposed school buildings. Each lot would include a loading zone along the interior curb that would be separated from the parking area. The parking facilities, would provide a total of 327 off-street parking spaces (or approximately 87 more stalls than existing conditions) and include accessible, van accessible, and electrical charging stations as follows:

- The west parking lot along Central Avenue would be designated for visitors. It would be approximately 1 acre and include 56 parking spaces, including 2 accessible stalls and 1 van accessible stall, and 13 EV stalls. Two driveways would provide access to this lot, including a right-in and right-out from the southern driveway, and a right-out only from the northern driveway. A bike rack would be installed in the southeast corner of the lot. School bus loading would occur in the west lot.
- The north lot along El Segundo Boulevard would be for staff parking and the main parking facility for events at the Performing Arts Center. This lot is approximately 1 acre and contains 90 parking spaces, including 3 accessible stalls, a van stall, bicycle parking, and 25 EV stalls. Two driveways would be provided: a right-in only from the western driveway, and a right-out only from the eastern driveway.
- The south parking lot, accessed from 131st Street, would be for student parking. It would be approximately 1.5 acres and contains 181 parking spaces, including 5 accessible stalls, 1 van stall, and 35 EV stalls. The bike rack would be installed in the northwest corner of the lot. Two driveways would be provided, including a right-in only from the eastern driveway, and a right-out only from the western driveway. Student loading would occur in the south lot.

The entire campus would be secured to limit trespass. Fencing would be installed along the perimeter of the campus near the recreational facilities, as well as between buildings on the western side of the campus. Pedestrian access would be funneled through a few controlled entries. During the school day, visitor entrance would be through the Administration Building and gates located between the Administration and Academic Buildings. Pedestrian access would also be available from gates located in the staff and student parking lots that would be locked after school hours.

A number of pedestrian access gates would be strategically located throughout the perimeter of the campus, including from an existing access point on Parmalee Avenue, between the stadium and baseball field, close to the new field house; southwest of the stadium; at the northwest and southwest corners of the campus, and on either sides of the driveways at the north lots. The gates would be unlocked, accordingly, for school and sports events. Pedestrian paths would be provided from these access points to link pedestrians to school buildings, outdoor learning areas, the student cafeteria plaza, and recreational facilities. The campus would include internal north-south and east-west fire lanes for emergency vehicle access. Vehicle access would be from gates at the staff lot, student lot, and entrance on Parmalee Avenue.

Landscaping

The campus would include various landscaping and hardscape features throughout the campus, including along the perimeters on El Segundo Boulevard and Central Avenue, within the parking lots, strategic areas around buildings, along pedestrian paths, and student gathering areas. Various types of permeable pavers

would be used. Landscaped areas would include native and adaptive drought-tolerant plant palettes that support pollinator habitats. Trees, shrubs, and ground covers would be planted throughout the campus. At least 84 trees would be planted to provide shading opportunities. A high-efficiency irrigation system would be installed in all landscaped areas. Bioswales, rain gardens, and other water-retention features would also be installed to address water quality and erosion control.

Construction

The general sequence of construction activities would involve: (1) demolition and clearing, (2) site preparation, utilities, and grading, (3) building construction, and (4) athletic and site work. Demolition activities commence in August 2026 and last approximately 8 months. Construction would last 40 months and end in August 2030, for the campus to open for the 2030-31 school year.

Typical construction hours would be from Monday to Friday, 7:00 AM to 3:00 PM. As necessary, construction may end at 7:00 PM and occur on Saturdays. Construction parking and staging would occur onsite.

1.4 Standard Noise Regulatory Conditions

The proposed project will be required to comply with the following regulatory conditions from the City of Compton and State of California.

City of Compton Municipal Code

The following lists the noise and vibration regulations from the Municipal Code that are applicable, but not limited to the proposed project.

- Section 7-12-.11 Operational Noise Level Limits
- Section 7-12.22 Construction Limits

State of California Rules

The following lists the State of California noise regulations that are applicable, but not limited to the proposed project.

- California Vehicle Code Section 2700-27207 – On Road Vehicle Noise Limits
- California Vehicle Code Section 38365-38350 – Off-Road Vehicle Noise Limits

1.5 Summary of Analysis Results

The following is a summary of the proposed project's impacts with regard to the State CEQA Guidelines noise checklist questions.

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.

Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact.

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.

1.6 Mitigation Measures for the Proposed Project

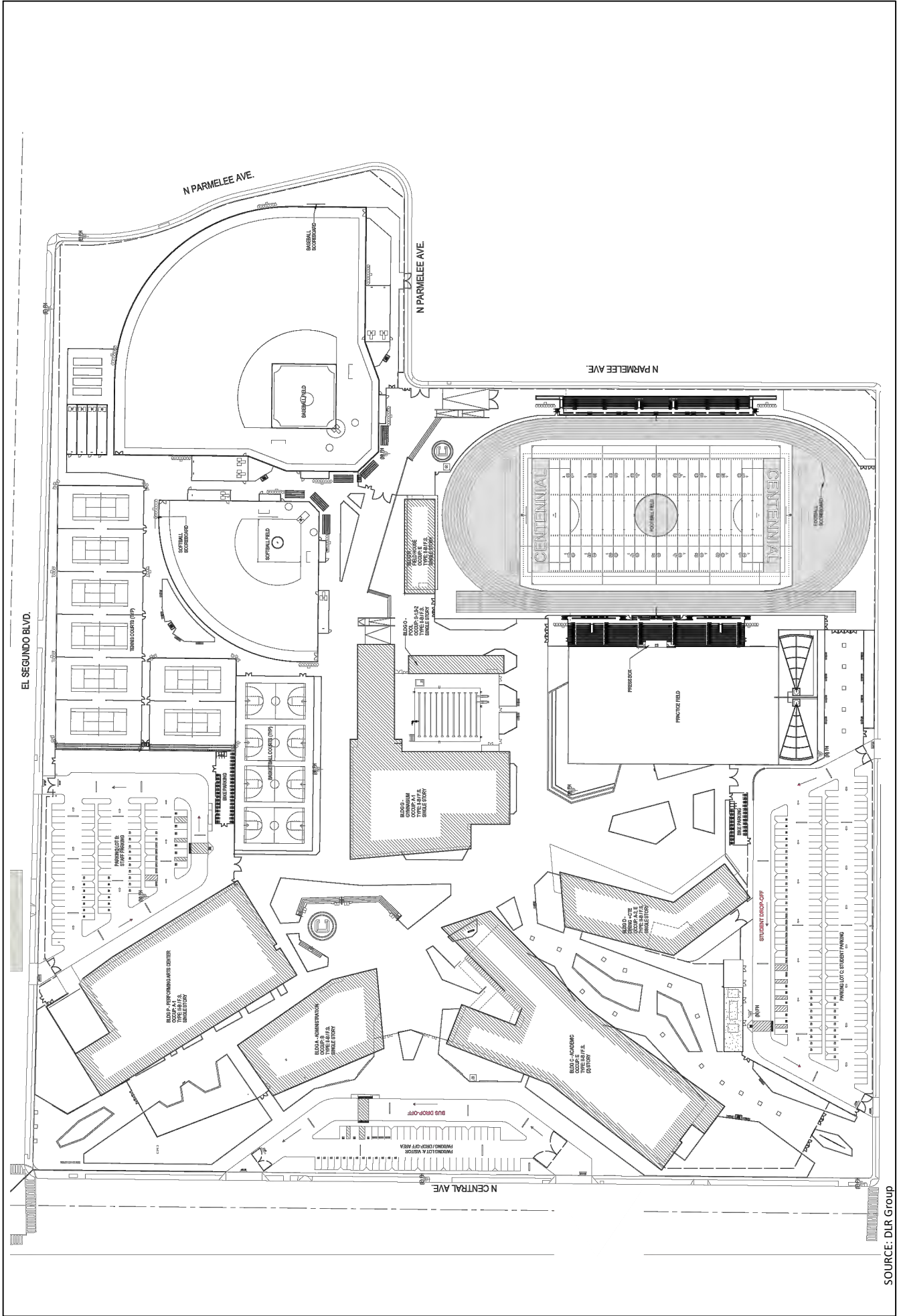
This analysis found that through adherence to the noise and vibration regulations detailed in Section 1.4 above were adequate to limit all noise and vibration impacts to less than significant levels. No mitigation measures are required for the proposed project with respect to noise and vibration impacts.



Figure 1
Project Location Map

SOURCE: Los Angeles County GIS-NET Public.





SOURCE: DLR Group

Figure 2
Proposed Site Plan

2.0 NOISE FUNDAMENTALS

Noise is defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear.

2.1 Noise Descriptors

Noise Equivalent sound levels are not measured directly, but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The peak traffic hour Leq is the noise metric used by California Department of Transportation (Caltrans) for all traffic noise impact analyses.

The Day-Night Average Level (Ldn) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of ten decibels to sound levels at night between 10 p.m. and 7 a.m. While the Community Noise Equivalent Level (CNEL) is similar to the Ldn, except that it has another addition of 4.77 decibels to sound levels during the evening hours between 7 p.m. and 10 p.m. These additions are made to the sound levels at these time periods because during the evening and nighttime hours, when compared to daytime hours, there is a decrease in the ambient noise levels, which creates an increased sensitivity to sounds. For this reason, the sound appears louder in the evening and nighttime hours and is weighted accordingly. The City of Compton relies on the CNEL noise standard to assess transportation-related impacts on noise sensitive land uses.

2.2 Tone Noise

A pure tone noise is a noise produced at a single frequency and laboratory tests have shown that humans are more perceptible to changes in noise levels of a pure tone. For a noise source to contain a “pure tone,” there must be a significantly higher A-weighted sound energy in a given frequency band than in the neighboring bands, thereby causing the noise source to “stand out” against other noise sources. A pure tone occurs if the sound pressure level in the one-third octave band with the tone exceeds the average of the sound pressure levels of the two contiguous one-third octave bands by:

- 5 dB for center frequencies of 500 hertz (Hz) and above
- 8 dB for center frequencies between 160 and 400 Hz
- 15 dB for center frequencies of 125 Hz or less

2.3 Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground

absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiate uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

2.4 Ground Absorption

The sound drop-off rate is highly dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA/DD is typically observed over soft ground with landscaping, as compared with a 6.0 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. For line sources a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3.0 dBA/DD drop-off rate for hard-site conditions. Caltrans research has shown that the use of soft-site conditions is more appropriate for the application of the Federal Highway Administration (FHWA) traffic noise prediction model used in this analysis.

3.0 GROUND-BORNE VIBRATION FUNDAMENTALS

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

3.1 Vibration Descriptors

There are several different methods that are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or the root mean square (rms) amplitude of the vibration velocity. Due to the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels and is denoted as (L_v) and is based on the rms velocity amplitude. A commonly used abbreviation is “VdB”, which in this text, is when L_v is based on the reference quantity of 1 micro inch per second.

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration.

3.3 Vibration Propagation

The propagation of ground-borne vibration is not as simple to model as airborne noise. This is due to the fact that noise in the air travels through a relatively uniform median, while ground-borne vibrations travel through the earth which may contain significant geological differences. There are three main types of vibration propagation; surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground’s surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a “push-pull” fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or “side-to-side and perpendicular to the direction of propagation.”

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 REGULATORY SETTING

The project site is located in the City of Compton. Noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

4.1 Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Promulgating noise emission standards for interstate commerce
- Assisting state and local abatement efforts
- Promoting noise education and research

The Federal Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees. For example, the Occupational Safety and Health Administration (OSHA) agency prohibits exposure of workers to excessive sound levels. The Department of Transportation (DOT) assumed a significant role in noise control through its various operating agencies. The Federal Aviation Administration (FAA) regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration (FTA). Transit noise is regulated by the FTA, while freeways that are part of the interstate highway system are regulated by the Federal Highway Administration (FHWA). Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being sited adjacent to a highway or, alternately that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Although the proposed project is not under the jurisdiction of the FTA, the *Transit Noise and Vibration Impact Assessment Manual* (FTA Manual), prepared by the FTA, September 2018, is a guidance document from a government agency that provides specific guidance for construction noise. The FTA recommends developing construction noise criteria on a project-specific basis that utilizes local noise ordinances if possible. However, local noise ordinances usually relates to nuisance and hours of allowed activity and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the noise impacts of a construction project. Project construction noise criteria should take into account the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land uses. The FTA standards are based on extensive studies by the FTA and other governmental agencies on the human effects and reaction to noise and a summary of the FTA findings for a Detailed Analysis of construction noise are provided below in Table A. It should be noted that even though the project has been analyzed based on the General Assessment methodology, the more stringent Detailed Analysis construction noise thresholds have been utilized in this analysis.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation sources, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

Table A – FTA Construction Noise Criteria

Land Use	Day (dBA Leq(8-hour))	Night (dBA Leq(8-hour))	30-day Average (dBA Ldn)
Residential	80	70	75
Commercial	85	85	80*
Industrial	90	90	85*

Notes:

* 24-hour Leq not Ldn.

Source: Federal Transit Administration, 2018.

4.2 State Regulations

Noise Standards

California Department of Health Services Office of Noise Control

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the “Land Use Compatibility for Community Noise Environments Matrix,” which allows the local jurisdiction to clearly delineate compatibility of sensitive uses with various incremental levels of noise.

California Noise Insulation Standards

Title 24, Chapter 1, Article 4 of the California Administrative Code (California Noise Insulation Standards) requires noise insulation in new hotels, motels, apartment houses, and dwellings (other than single-family detached housing) that provides an annual average noise level of no more than 45 dBA CNEL. When such structures are located within a 60-dBA CNEL (or greater) noise contour, an acoustical analysis is required to ensure that interior levels do not exceed the 45-dBA CNEL annual threshold. In addition, Title 21, Chapter 6, Article 1 of the California Administrative Code requires that all habitable rooms, hospitals, convalescent homes, and places of worship shall have an interior CNEL of 45 dB or less due to aircraft noise.

Government Code Section 65302

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

California Vehicle Code Section 27200-27207 – On-Road Vehicle Noise

California Vehicle Code Section 27200-27207 provides noise limits for vehicles operated in California. For vehicles over 10,000 pounds noise is limited to 88 dB for vehicles manufactured before 1973, 86 dB for vehicles manufactured before 1975, 83 dB for vehicles manufactured before 1988, and 80 dB for vehicles manufactured after 1987. All measurements are based at 50 feet from the vehicle.

California Vehicle Section 38365-38380 – Off-Road Vehicle Noise

California Vehicle Code Section 38365-38380 provides noise limits for off-highway motor vehicles operated in California. 92 dBA for vehicles manufactured before 1973, 88 dBA for vehicles manufactured before 1975, 86 dBA for vehicles manufactured before 1986, and 82 dBA for vehicles manufactured after December 31, 1985. All measurements are based at 50 feet from the vehicle.

Vibration Standards

Title 14 of the California Administrative Code Section 15000 requires that all state and local agencies implement the California Environmental Quality Act (CEQA) Guidelines, which requires the analysis of exposure of persons to excessive groundborne vibration. However, no statute has been adopted by the state that quantifies the level at which excessive groundborne vibration occurs.

Caltrans issued the *Transportation and Construction Vibration Guidance Manual*, April 2020. The Manual provides practical guidance to Caltrans engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects. However, this manual is also used as a reference point by many lead agencies and CEQA practitioners throughout California, as it provides numeric thresholds for vibration impacts. Thresholds are established for continuous (construction-related) and transient (transportation-related) sources of vibration, which found that the human response becomes distinctly perceptible at 0.25 inch per second PPV for transient sources and 0.04 inch per second PPV for continuous sources.

4.3 Local Regulations

The City of Compton General Plan and Municipal Code establish the following applicable policies related to noise and vibration.

City of Compton General Plan Noise Element

The City of Compton 1990 General Plan contains the noise standards shown below in Table B.

Table B – City of Compton General Plan Noise Standards

Land Use Category	Community Noise Exposure Limit (CNEL dBA)	
	Interior	Exterior
Residential: Single-family, Duplex, Multiple-family	45	65
Residential: Mobile Homes	--	65
Hotel, Motel, Transient Lodging	45	--
Commercial Retail Bank, Restaurant	55	--
Office Building, Research and Development, Professional Offices, City Office Building	50	--
Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	--
Gymnasium (Multipurpose)	50	--
Sports Club	55	--
Manufacturing, Warehousing, Wholesale, Utilities	65	--
Movie Theaters	45	--
Hospital, Schools' Classroom	45	65
Church, Library	45	--
Parks	--	65

Source: City of Compton General Plan, 1990, Table N-2.

City of Compton Municipal Code

The City of Compton Municipal Code establishes the following applicable standards related to noise.

Section 7-12.11 Machinery, Equipment, Fans and Air Conditioning.

It shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient noise level by more than five decibels. For the purposes of this section, "noise level" shall mean measured sound level with the following values added as corrections for time duration and character of the noise:

- a. Add one and only one of the following corrections for time duration:
 1. Noise persists for more than five minutes out of any one hour.
 2. Noise persists for more than one minute but not more than five minutes out of any one hour.
 3. Noise persists for one minute or less out of any one hour.
- b. Add one and only one of the following corrections for unusual character:
 1. Noise has no unusual character.
 2. Noise contains a piercing pure tone.
 3. Noise is impulsive or rattling in nature.
 4. Noise carries speech, music or other information content.

Section 7-12.22 Construction or Repairing of Buildings, Pile Drivers, Hoists, Steam Shovels.

No person shall cause or permit any work to be done or do any work on the erection (including excavation), unless the noise caused thereby is confined within a building, or use any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist, unless the noise caused thereby is confined within a building, other than between the hours of 7:00 a.m. and 7:00 p.m. on Monday through Saturday, except in cases of urgent necessity in the interest of public health and safety and then only with a permit from the Building Official. No such permit shall be granted for a period of more than three days, but maybe renewed from time to time so long as the emergency exists.

5.0 EXISTING NOISE CONDITIONS

To determine the existing noise levels, noise measurements have been taken in the vicinity of the project site. The field survey noted that noise within the proposed project area is generally characterized by vehicle traffic on the nearby roadways and from activities at the School.

5.1 Noise Measurements taken in Project Vicinity

The following describes the measurement procedures, measurement locations, and noise measurement results of the noise measurements taken in the project vicinity.

Noise Measurement Equipment

The noise measurements were taken using a Larson-Davis Model 831 Type 1 precision sound level meter programmed in “slow” mode to record noise levels in “A” weighted form as well as the frequency spectrum of the noise broken down into 1/3 octaves. The sound level meter and microphone were mounted on a tripod five feet above the ground and were equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200. The accuracy of the calibrator is maintained through a program established through the manufacturer and is traceable to the National Bureau of Standards. The noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (ANSI S1.4-2014 standard).

Noise Measurement Locations

The noise monitoring locations were selected in order to obtain noise levels in the vicinity of the project site. Descriptions of the noise monitoring sites are provided below in Table C and are shown in Figure 4. Appendix A includes a photo index of the study area and noise level measurement locations.

Noise Measurement Timing and Climate

The noise measurements were recorded between 10:55 a.m. and 11:50 a.m. on Thursday, March 26, 2026. During the noise measurements, the sky was partly cloudy, the temperature was 81 degrees Fahrenheit, the humidity was 45 percent, barometric pressure was 29.78 inches of mercury, and the wind was blowing at an average rate of 3 miles per hour.

Noise Measurement Results

The results of the noise level measurements are presented in Table C and the noise monitoring data printouts are included in Appendix B.

Table C – Existing (Ambient) Noise Measurement Results

Site No.	Description	Primary Noise Source	Start Time of Measurement	Measured Noise Level	
				dBA Leq	dBA Lmax
1	Located south of the School, in the front yard at 1800 W 131 st Street, approximately 30 feet south of 131 st Street centerline.	Vehicles on 131 st Street	10:55 a.m.	55.0	75.2
2	Located west of the School (northern portion), next to the apartments at 12909 Central Avenue, approximately 65 feet west of Central Avenue centerline.	Vehicles on Central Avenue	11:17 a.m.	65.3	74.8
3	Located west of the School (southern portion) in the front yard of 13103 Central Avenue, approximately 85 feet west of Central Avenue centerline and 35 feet south of 131 Street centerline.	Vehicles on Central Avenue	11:35 a.m.	65.5	78.4

Notes: Noise measurements taken with a Larson-Davis Model 831 Type 1 precision sound level meter on Thursday, March 26, 2026.



Figure 3
 Field Noise Monitoring Locations

6.0 MODELING PARAMETERS AND ASSUMPTIONS

6.1 Construction Noise

The noise impacts from construction of the proposed project have been analyzed through use of the FHWA's Roadway Construction Noise Model (RCNM). The FHWA compiled noise measurement data regarding the noise generating characteristics of several different types of construction equipment used during the Central Artery/Tunnel project in Boston. Table D below provides a list of the construction equipment anticipated to be used for each phase of construction as detailed in the CalEEMod model run from the *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*, prepared by Vista Environmental, April 15, 2026.

Table D – Construction Equipment Noise Emissions and Usage Factors

Equipment Description	Number of Equipment	Acoustical Use Factor ¹ (percent)	Spec 721.560 Lmax at 50 feet ² (dBA, slow ³)	Actual Measured Lmax at 50 feet ⁴ (dBA, slow ³)
Demolition				
Excavator	2	40	85	81
Tractor/Loaders/Backhoes	4	40	84	N/A
Skid Steer Loader (Front End Loader)	2	40	80	79
Rubber Tired Dozer	2	40	85	82
Off-Hwy Truck (Dump Truck)	4	40	84	76
Site Preparation and Utilities				
Excavator	2	40	85	81
Tractor/Loaders/Backhoes	2	40	84	N/A
Skid Steer Loader (Front End Loader)	2	40	80	79
Off-Hwy Truck (Dump Truck)	1	40	84	76
Grading				
Scrapers	2	40	85	84
Rubber Tired Dozers	2	40	85	82
Roller	1	20	85	81
Grader	1	40	85	83
Excavators	2	40	85	81
Tractor/Loaders/Backhoes	4	40	84	N/A
Skid Steer Loader (Front End Loader)	2	40	80	79
Off-Hwy Truck (Dump Truck)	2	40	84	76
Building Construction				
Excavator	2	40	85	81
Tractor/Loaders/Backhoes	2	40	84	N/A
Skid Steer Loader (Front End Loader)	2	40	80	79
Cranes	2	16	85	81
Welders	4	40	73	74
Forklifts (Gradall)	8	40	85	83

Table D – Construction Equipment Noise Emissions and Usage Factors

Equipment Description	Number of Equipment	Acoustical Use Factor¹ (percent)	Spec 721.560 Lmax at 50 feet² (dBA, slow³)	Actual Measured Lmax at 50 feet⁴ (dBA, slow³)
Man Lift	8	20	85	75
Off-Hwy Truck (Dump Truck)	3	40	84	76
Paving				
Pavers	2	50	85	77
Paving Equipment	2	50	85	77
Rollers	2	20	85	80
Architectural Coating				
Pressure Washer (Compressor)	2	40	80	78
Man Lift	5	20	85	75
Paint (Air Compressor)	5	40	80	78

Notes:

¹ Acoustical use factor is the percentage of time each piece of equipment is operational during a typical workday.

² Spec 721.560 is the equipment noise level utilized by the RCNM program.

³ The “slow” response averages sound levels over 1-second increments. A “fast” response averages sound levels over 0.125-second increments.

⁴ Actual Measured is the average noise level measured of each piece of equipment during the Central Artery/Tunnel project in Boston, Massachusetts primarily during the 1990s.

Source: Federal Highway Administration, 2006.

Table D also shows the associated measured noise emissions for each piece of equipment from the RCNM model and measured percentage of typical equipment use per day. Construction noise impacts to the nearby sensitive receptors have been calculated according to the equipment noise levels and usage factors listed in Table D and through use of the RCNM. For each phase of construction, all construction equipment was analyzed based on being placed in the middle of the nearest structure to be renovated, which is based on the analysis methodology detailed in FTA Manual for a General Assessment. However, in order to provide a conservative analysis, up to 20 pieces of equipment per phase was analyzed, which is the RCNM model limit, instead of just the two noisiest pieces of equipment as detailed in the FTA Manual. The RCNM model printouts are provided in Appendix C.

6.2 Vibration

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. Table E gives approximate vibration levels for particular construction activities. The data in Table E provides a reasonable estimate for a wide range of soil conditions.

Table E – Vibration Source Levels for Construction Equipment

Equipment		Peak Particle Velocity (inches/second)	Approximate Vibration Level (L_v) at 25 feet
Pile driver (impact)	Upper range	1.518	112
	typical	0.644	104
Pile driver (sonic)	Upper range	0.734	105
	typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drill		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Federal Transit Administration, 2020.

The construction-related vibration impacts have been calculated through the vibration levels shown above in Table E and through typical vibration propagation rates. The equipment assumptions were based on the equipment lists provided above in Table D.

7.0 IMPACT ANALYSIS

7.1 CEQA Thresholds of Significance

Consistent with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, a significant impact related to noise would occur if a proposed project is determined to result in:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation of excessive groundborne vibration or groundborne noise levels; or
- 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.

7.2 Generation of Noise Levels in Excess of Standards

The proposed project would not generate 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. The following section calculates the potential noise emissions associated with the temporary construction activities and long-term operations of the proposed project and compares the noise levels to the City standards.

Construction-Related Noise

The general sequence of construction activities would involve: (1) demolition and clearing, (2) site preparation, utilities, and grading, (3) building construction, and (4) athletic and site work. Demolition activities commence in August 2026 and last approximately 8 months. Construction would last 40 months and end in August 2030, for the campus to open for the 2030-31 school year. Typical construction hours would be from Monday to Friday, 7:00 AM to 3:00 PM. As necessary, construction may end at 7:00 PM and occur on Saturdays. Construction parking and staging would occur onsite. Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities.

Section 7-12.22 of the Municipal Code restricts construction activities from occurring between the hours of 7:00 p.m. and 7:00 a.m. on Monday through Saturday. The City construction noise standards do not provide any limits to the noise levels that may be created from construction activities that occur during the allowable hours of construction. As such, in order to determine if the proposed construction activities would create a significant substantial temporary noise increase, the FTA construction noise criteria thresholds detailed above in Section 4.1 have been utilized, which shows that a significant construction noise impact would occur if construction noise exceeds 80 dBA during the daytime at the nearby homes.

Construction noise levels to the nearby sensitive receptors have been calculated through use of the RCNM and the parameters and assumptions detailed in Section 6.1 of this report including Table D – Construction Equipment Noise Emissions and Usage Factors. The results are shown below in Table F and the RCNM printouts are provided in Appendix C.

Table F – Construction Noise Levels at the Nearby Sensitive Receptors

Construction Phase	Construction Noise Level (dBA Leq) at:			
	Single-Family Homes to East ¹	Single-Family Homes to South ²	Apartments to West ³	Single-Family Homes to West ⁴
Demolition	66	66	66	66
Site Preparation and Utilities	63	63	63	63
Grading	67	68	67	67
Building Construction	67	68	68	67
Paving	58	59	59	58
Painting	60	61	60	60
FTA Construction Noise Threshold⁵	80	80	80	80
Exceed Thresholds?	No	No	No	No

¹ The single-family homes to the east of the project site are located as near as 725 feet from the center of project site.

² The single-family homes to the south of the project site are located as near as 655 feet from the center of the project site.

³ The apartments to the west of the project site are located as near as 690 feet from the center of the project site.

⁴ The single-family homes to the west of the project site are located as near as 730 feet from the center of the project site.

⁵ The FTA Construction noise thresholds are detailed above in Table A.

Source: RCNM, Federal Highway Administration, 2006

Table F shows that the greatest noise impacts would occur during the grading, and building construction phases, with noise levels as high as 68 dBA Leq at the nearest single-family homes to the south and the apartments to the west. All calculated construction noise levels shown in Table F are within the FTA daytime construction noise standard of 80 dBA at the nearby homes. Therefore, through adherence to allowable construction times provided in Section 7-12.22 of the Municipal Code, the construction activities for the proposed project would not create a substantial temporary increase in ambient noise levels that are in excess of applicable noise standards. Impacts would be less than significant.

Operational-Related Noise

The proposed project would consist of the modernization of a high school that includes addition of an aquatics center and new parking lot areas on the south and west sides and the relocation of the tennis courts from the south side to the north side and basketball courts from the middle to the north side, where there are no nearby noise sensitive land uses. The proposed project would also include adding lighting to the baseball, softball, and practice football/soccer field, which would allow some practices and games to shift to later in the afternoon or evening. Since these fields are located over 500 feet away from the nearest homes and generally the overall amount operations on these fields are not expected to materially change, no new noise impacts would be generated from the improvements to these facilities. In addition, the classroom buildings would remain in similar places to where they currently exist and no change in the noise generated from the classroom buildings are anticipated from development of the proposed project.

Since development of the proposed project would not result in an increase in staff or student enrollment, the proposed project is not anticipated to generate any new vehicle trips to the School. As such, no roadway noise impacts are anticipated to be created from operation of the proposed project.

Potential noise impacts associated with the operations of the proposed project would limited to onsite activities associated with the operation of the aquatics center and new parking lots on the south and west sides of the project site.

The Municipal Code does not include any noise standards specific to aquatic centers and parking lots, however Section 7-12.11 of the Municipal Code limits the noise created from onsite machinery, equipment, fans and air conditioning units from exceeding the ambient noise level by more than five decibels at any nearby property. In order to provide a conservative analysis the ambient plus five dB noise increase standard has been utilized to analyze the noise impacts from the aquatic center and parking lots.

In order to determine the noise impacts from the operation of pool activities and parking lots, reference noise measurements for similar operations were taken of each source and are shown in Table G and the reference noise measurement printouts are provided in Appendix D.

Table G – Operational Noise Levels at the Nearby Sensitive Receptors

Noise Source	Reference Noise Measurements ¹		Calculated Noise Levels (dBA Leq) at ² :			
	Distance Receptor to Source (feet)	Reference Noise Level (dBA Leq)	Single-Family Homes to East ¹	Single-Family Homes to South ²	Apartments to West ³	Single-Family Homes to West ⁴
Aquatic Center ³	30	71.8	47	47	45	45
Parking Lots ⁴	6	65.1	23	44	37	36
Combined Noise Level from New Sources			47	48	46	45
Measured Ambient Noise Level (dBA Leq)			55.0	55.0	65.3	65.5
City Noise Standard (Ambient + 5 dB)			60.0	60.0	70.3	70.5
Exceed City Noise Standard?			No	No	No	No

Notes:

¹ The reference noise measurements printouts are provided in Appendix D.

² The noise levels were calculated based on standard geometric spreading of sound with a drop-off rate of 6 dB per doubling of distance.

³ The aquatic center was based on a noise measurement 30 feet from Long Beach Community College Liberal Arts Campus pool hosting a swim meet.

⁴ The parking lot was based on a noise measurement 10 feet from the parking lot at Auburndale Intermediate School, which is a similar sized school to the proposed project.

Table G shows that the proposed project’s worst-case (i.e., during a swim meet) operational noise from the simultaneous operation of the new noise sources on the project site would create noise levels as high as 47 dBA Leq at the single-family homes to the east, 48 dBA Leq at the single-family homes to the south, 46 dBA Leq at the apartments to the west, and 45 dBA Leq at the single-family homes to the west, which would all be within the City’s noise standard of ambient noise plus 5 dBA. Therefore, the operational activities for the proposed project would not create a substantial temporary increase in ambient noise levels that are in excess of applicable noise standards. Impacts would be less than significant.

Level of Significance

Less than significant impact.

7.3 Generation of Excessive Groundborne Vibration

The proposed project would not expose persons to or generation of excessive groundborne vibration or groundborne noise levels. The following section analyzes the potential vibration impacts associated with the construction and operations of the proposed project.

Construction-Related Vibration Impacts

The general sequence of construction activities would involve: (1) demolition and clearing, (2) site preparation, utilities, and grading, (3) building construction, and (4) athletic and site work. Vibration impacts from construction activities associated with the proposed project would typically be created from the operation of heavy off-road equipment. The nearest sensitive receptors are the single-family homes on the east side of Parmelee Avenue that are as near as 75 feet to the east and on the south side of W 131st Street that are as near as 80 feet south of the proposed areas to be disturbed on the project site. There are also multi-family homes as near as 110 feet west and single-family homes as near as 150 feet west of the proposed areas to be disturbed on the project. However, due to the propagation characteristics of vibration, only the nearest sensitive receptor that consists of the homes 75 feet to the east have been analyzed.

Since neither the City's General Plan nor the Municipal Code provides a quantifiable vibration level for construction activities, Caltrans guidance that is detailed above in Section 4.2 has been utilized, which defines the threshold of perception from transient sources at 0.25 inch per second PPV.

The primary source of vibration during construction would be from the operation of a vibratory roller. From Table E above a vibratory roller would create a vibration level of 0.21 inch per second PPV at 25 feet. Based on typical propagation rates, the vibration level at the nearest home (75 feet away) would be 0.06 inch per second PPV. The vibration level at the nearest home to where heavy off-road equipment would operate would be below the 0.25 inch per second PPV threshold detailed above. Impacts would be less than significant.

Operations-Related Vibration Impacts

The proposed project would consist of the modernization of an existing school. The on-going operation of the proposed project would not include the operation of any known vibration sources. Therefore, a less than significant vibration impact is anticipated from the operation of the proposed project.

Level of Significance

Less than significant impact.

7.4 Aircraft Noise

The proposed project would not expose people residing or working in the project area to excessive noise levels from aircraft. The nearest airport is Compton/Woodley Airport that is located approximately 1.5 miles south of the project site. The project site is located outside of the 60 dBA CNEL noise contours of Compton/Woodley Airport. A less than significant impact would occur from aircraft noise.

Level of Significance

Less than significant impact.

8.0 REFERENCES

California Department of Transportation (Caltrans), *Technical Noise Supplement to the Traffic Noise Analytics Protocol*, September 2013.

California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, April 2020.

City of Compton, *City of Compton General Plan*, 1990.

City of Compton, *City of Compton, CA Municipal Code*, July 22, 2025.

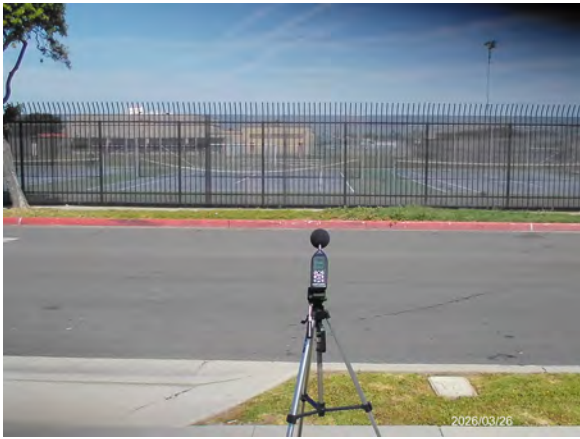
Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, September 2018.

U.S. Department of Transportation, *FHWA Roadway Construction Noise Model User's Guide*, January, 2006.

Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*, April 15, 2026.

APPENDIX A

Field Noise Measurements Photo Index



Noise Measurement Site 1 - looking north



Noise Measurement Site 1 - looking northeast



Noise Measurement Site 1 - looking east



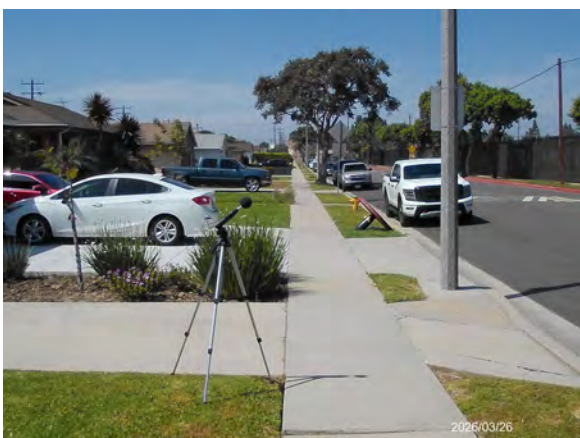
Noise Measurement Site 1 - looking southeast



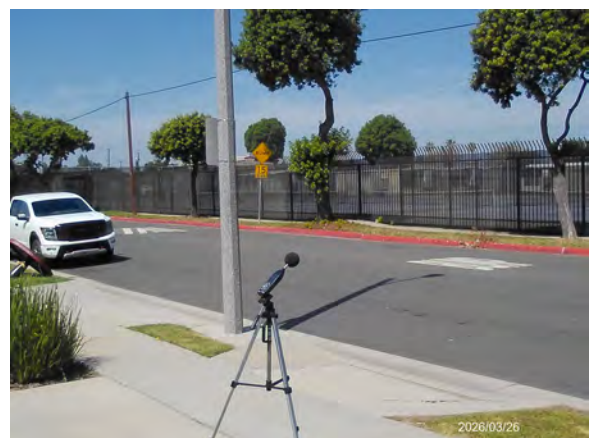
Noise Measurement Site 1 - looking south



Noise Measurement Site 1 - looking southwest



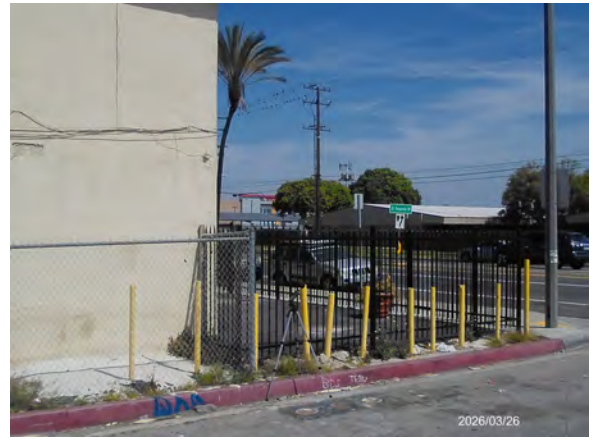
Noise Measurement Site 1 - looking west



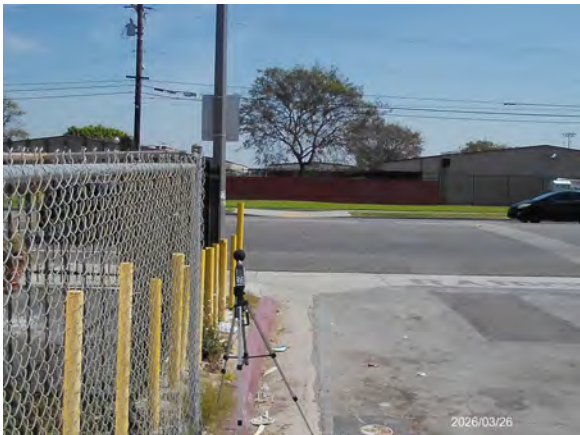
Noise Measurement Site 1 - looking northwest



Noise Measurement Site 2 - looking north



Noise Measurement Site 2 - looking northeast



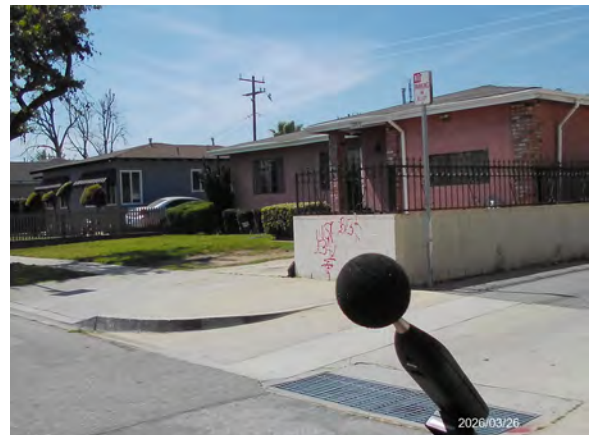
Noise Measurement Site 2 - looking east



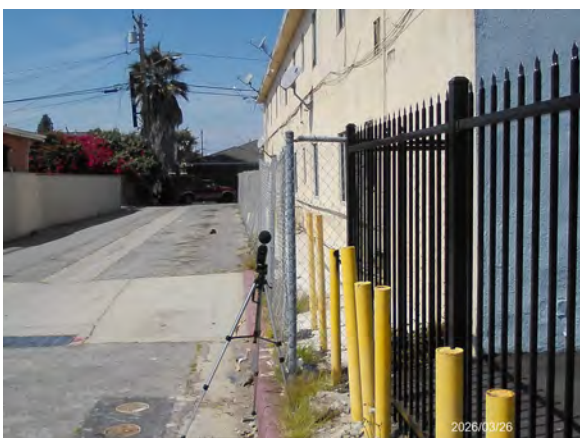
Noise Measurement Site 2 - looking southeast



Noise Measurement Site 2 - looking south



Noise Measurement Site 2 - looking southwest



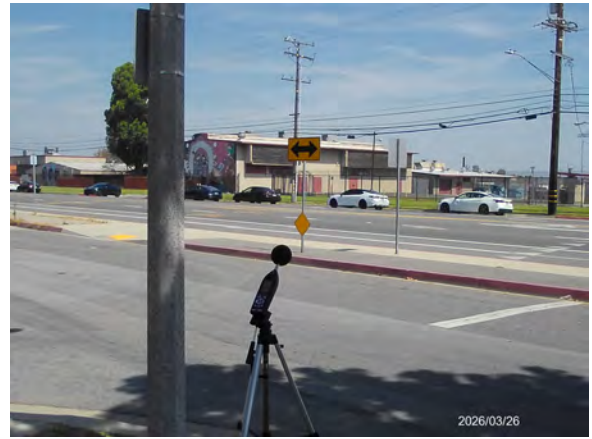
Noise Measurement Site 2 - looking west



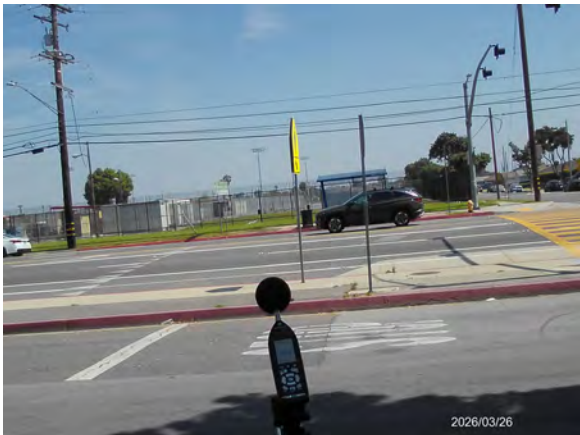
Noise Measurement Site 2 - looking northwest



Noise Measurement Site 3 - looking north



Noise Measurement Site 3 - looking northeast



Noise Measurement Site 3 - looking east



Noise Measurement Site 3 - looking southeast



Noise Measurement Site 3 - looking south



Noise Measurement Site 3 - looking southwest



Noise Measurement Site 3 - looking west



Noise Measurement Site 3 - looking northwest

APPENDIX B

Field Noise Measurements Printouts

Measurement Report

Report Summary

Meter's File Name	831_Data.001.s	Computer's File Name	831_0002509-20260326 105527-831_Data.001.lbin	
Meter	831 0002509	Firmware	2.403	
User	GT	Location	South of School in front yard of 1800 W 131st Street	
Job Description	Centennial HS Modernization			
Note	Approx 30 ft south of 131st St CL			

Measurement

Start Time	2026-03-26 10:55:27	Duration	0:15:00.0		
End Time	2026-03-26 11:10:27	Run Time	0:15:00.0	Pause Time	0:00:00.0
Pre-Calibration	2026-03-26 10:49:35	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	55.0 dB		
LAE	84.5 dB	SEA	--- dB
EA	31.6 µPa²h		
LZ _{peak}	94.3 dB		2026-03-26 10:55:27
LAS _{max}	75.2 dB		2026-03-26 11:01:57
LAS _{min}	41.8 dB		2026-03-26 10:58:30
LA _{eq}	55.0 dB		
LC _{eq}	65.2 dB	LC _{eq} - LA _{eq}	10.2 dB
LAI _{eq}	57.4 dB	LAI _{eq} - LA _{eq}	2.4 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	2	0:00:17.7
LAS > 85.0 dB	0	0:00:00.0
LZpk > 135.0 dB	0	0:00:00.0
LZpk > 137.0 dB	0	0:00:00.0
LZpk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight		
55.0 dB	55.0 dB	---		
LDEN	LDay	LEve	LNight	
55.0 dB	55.0 dB	---	---	---

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	55.0 dB		65.2 dB		68.4 dB	
LS _(max)	75.2 dB	2026-03-26 11:01:57	79.4 dB	2026-03-26 11:01:57	85.6 dB	2026-03-26 10:55:27
LF _(max)	77.4 dB	2026-03-26 11:01:57	80.8 dB	2026-03-26 11:01:57	89.9 dB	2026-03-26 10:55:27
LI _(max)	78.8 dB	2026-03-26 11:01:57	82.5 dB	2026-03-26 11:01:47	92.5 dB	2026-03-26 10:55:27
LS _(min)	41.8 dB	2026-03-26 10:58:30	58.8 dB	2026-03-26 10:57:02	61.4 dB	2026-03-26 11:06:27
LF _(min)	40.2 dB	2026-03-26 11:06:19	56.8 dB	2026-03-26 11:02:32	59.1 dB	2026-03-26 11:02:32
LI _(min)	41.7 dB	2026-03-26 10:58:28	59.6 dB	2026-03-26 10:57:02	62.1 dB	2026-03-26 10:56:56
L _{Peak(max)}	90.3 dB	2026-03-26 11:01:56	92.6 dB	2026-03-26 11:01:56	94.3 dB	2026-03-26 10:55:27

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	58.3 dB
LAS 10.0	54.1 dB
LAS 33.3	47.9 dB
LAS 50.0	46.6 dB
LAS 66.6	45.6 dB
LAS 90.0	44.0 dB

Measurement Report

Report Summary

Meter's File Name	831_Data.002.s	Computer's File Name	831_0002509-20260326 111725-831_Data.002.lbin	
Meter	831 0002509	Firmware	2.403	
User	GT	Location	West of School (North) next to Apartments at 12909 Central Ave	
Job Description	Centennial HS Modernization			
Note	North terminus of Central Ave Frontage Street and 65 ft west of Central Ave CL			

Measurement

Start Time	2026-03-26 11:17:25	Duration	0:15:00.0		
End Time	2026-03-26 11:32:25	Run Time	0:15:00.0	Pause Time	0:00:00.0
Pre-Calibration	2026-03-26 10:49:32	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	65.3 dB		
LAE	94.8 dB	SEA	--- dB
EA	338.8 $\mu\text{Pa}^2\text{h}$		
LZ _{peak}	98.3 dB		2026-03-26 11:21:23
LAS _{max}	74.8 dB		2026-03-26 11:32:11
LAS _{min}	42.9 dB		2026-03-26 11:26:43
LA _{eq}	65.3 dB		
LC _{eq}	72.8 dB	LC _{eq} - LA _{eq}	7.5 dB
LAI _{eq}	67.0 dB	LAI _{eq} - LA _{eq}	1.7 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	43	0:06:22.6
LAS > 85.0 dB	0	0:00:00.0
LZpk > 135.0 dB	0	0:00:00.0
LZpk > 137.0 dB	0	0:00:00.0
LZpk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight		
65.3 dB	65.3 dB	---		
LDEN	LDay	LEve	LNight	
65.3 dB	65.3 dB	---	---	

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	65.3 dB		72.8 dB		74.3 dB	
LS _(max)	74.8 dB	2026-03-26 11:32:11	88.7 dB	2026-03-26 11:21:23	89.0 dB	2026-03-26 11:21:23
LF _(max)	80.7 dB	2026-03-26 11:18:39	90.4 dB	2026-03-26 11:21:22	90.7 dB	2026-03-26 11:21:22
LI _(max)	84.3 dB	2026-03-26 11:18:39	91.3 dB	2026-03-26 11:21:22	91.6 dB	2026-03-26 11:21:22
LS _(min)	42.9 dB	2026-03-26 11:26:43	60.2 dB	2026-03-26 11:26:44	63.1 dB	2026-03-26 11:26:39
LF _(min)	42.2 dB	2026-03-26 11:26:43	58.1 dB	2026-03-26 11:26:44	60.3 dB	2026-03-26 11:26:39
LI _(min)	42.8 dB	2026-03-26 11:26:43	61.4 dB	2026-03-26 11:26:44	63.3 dB	2026-03-26 11:26:39
L _{Peak(max)}	97.8 dB	2026-03-26 11:18:39	97.4 dB	2026-03-26 11:21:23	98.3 dB	2026-03-26 11:21:23

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	70.4 dB
LAS 10.0	69.3 dB
LAS 33.3	65.5 dB
LAS 50.0	62.9 dB
LAS 66.6	60.2 dB
LAS 90.0	54.1 dB

Measurement Report

Report Summary

Meter's File Name	831_Data.003.s	Computer's File Name	831_0002509-20260326 113536-831_Data.003.ldbin	
Meter	831 0002509	Firmware	2.403	
User	GT	Location	West of SW Corner of School in front yard of 13103 Central Ave	
Job Description	Centennial HS Modernization			
Note	Approx 85 ft west of Central Ave CL & 35 ft south of 131st St CL			

Measurement

Start Time	2026-03-26 11:35:36	Duration	0:15:00.0		
End Time	2026-03-26 11:50:36	Run Time	0:15:00.0	Pause Time	0:00:00.0
Pre-Calibration	2026-03-26 10:49:32	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA _{eq}	65.5 dB		
LAE	95.0 dB	SEA	--- dB
EA	354.8 µPa²h		
LZ _{peak}	103.5 dB		2026-03-26 11:44:16
LAS _{max}	78.4 dB		2026-03-26 11:44:16
LAS _{min}	45.6 dB		2026-03-26 11:49:29
LA _{eq}	65.5 dB		
LC _{eq}	75.2 dB	LC _{eq} - LA _{eq}	9.7 dB
LAI _{eq}	66.7 dB	LAI _{eq} - LA _{eq}	1.2 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	40	0:07:10.5
LAS > 85.0 dB	0	0:00:00.0
LZpk > 135.0 dB	0	0:00:00.0
LZpk > 137.0 dB	0	0:00:00.0
LZpk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight		
65.5 dB	65.5 dB	---		
LDEN	LDay	LEve	LNight	
65.5 dB	65.5 dB	---	---	

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	65.5 dB		75.2 dB		78.7 dB	
L _{S(max)}	78.4 dB	2026-03-26 11:44:16	96.6 dB	2026-03-26 11:44:16	97.0 dB	2026-03-26 11:44:16
L _{F(max)}	81.2 dB	2026-03-26 11:44:16	99.3 dB	2026-03-26 11:44:16	99.6 dB	2026-03-26 11:44:16
L _{I(max)}	81.6 dB	2026-03-26 11:44:16	99.7 dB	2026-03-26 11:44:16	100.0 dB	2026-03-26 11:44:16
L _{S(min)}	45.6 dB	2026-03-26 11:49:29	60.3 dB	2026-03-26 11:44:59	64.4 dB	2026-03-26 11:49:22
L _{F(min)}	44.6 dB	2026-03-26 11:49:29	59.0 dB	2026-03-26 11:44:59	62.3 dB	2026-03-26 11:49:15
L _{I(min)}	45.5 dB	2026-03-26 11:44:58	61.3 dB	2026-03-26 11:44:59	64.8 dB	2026-03-26 11:49:22
L _{Peak(max)}	88.6 dB	2026-03-26 11:46:36	103.7 dB	2026-03-26 11:44:16	103.5 dB	2026-03-26 11:44:16

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	70.4 dB
LAS 10.0	69.0 dB
LAS 33.3	65.7 dB
LAS 50.0	63.4 dB
LAS 66.6	60.3 dB
LAS 90.0	52.8 dB

APPENDIX C

RCNM Model Construction Noise Calculations

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to East	Residential	55	55	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	725	0
Excavator	No	40		80.7	725	0
Tractor	No	40	84		725	0
Tractor	No	40	84		725	0
Tractor	No	40	84		725	0
Tractor	No	40	84		725	0
Front End Loader	No	40		79.1	725	0
Front End Loader	No	40		79.1	725	0
Dozer	No	40		81.7	725	0
Dozer	No	40		81.7	725	0
Dump Truck	No	40		76.5	725	0
Dump Truck	No	40		76.5	725	0
Dump Truck	No	40		76.5	725	0
Dump Truck	No	40		76.5	725	0

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Excavator	57.5	53.5	N/A	N/A	N/A	N/A
Excavator	57.5	53.5	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Front End Loader	55.9	51.9	N/A	N/A	N/A	N/A
Front End Loader	55.9	51.9	N/A	N/A	N/A	N/A
Dozer	58.4	54.5	N/A	N/A	N/A	N/A
Dozer	58.4	54.5	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Total	61	66	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Demolition

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)			Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
		Daytime	Evening	Night				
SFHs to South	Residential	55.0	55.0	55.0				
Description	Impact Device	Usage(%)						
Excavator	No	40			80.7	655	0	
Excavator	No	40			80.7	655	0	
Tractor	No	40		84		655	0	
Tractor	No	40		84		655	0	
Tractor	No	40		84		655	0	
Tractor	No	40		84		655	0	
Front End Loader	No	40			79.1	655	0	
Front End Loader	No	40			79.1	655	0	
Dozer	No	40			81.7	655	0	
Dozer	No	40			81.7	655	0	
Dump Truck	No	40			76.5	655	0	
Dump Truck	No	40			76.5	655	0	
Dump Truck	No	40			76.5	655	0	
Dump Truck	No	40			76.5	655	0	

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Excavator	58.4	54.4	N/A	N/A	N/A	N/A
Excavator	58.4	54.4	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A
Dozer	59.3	55.3	N/A	N/A	N/A	N/A
Dozer	59.3	55.3	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Total	62	66	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Demolition

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)			Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
		Daytime	Evening	Night				
MFHs to West	Residential	65.3	65.3	65.3				
Description	Impact Device	Usage(%)						
Excavator	No	40			80.7	690	0	
Excavator	No	40			80.7	690	0	
Tractor	No	40		84		690	0	
Tractor	No	40		84		690	0	
Tractor	No	40		84		690	0	
Tractor	No	40		84		690	0	
Front End Loader	No	40			79.1	690	0	
Front End Loader	No	40			79.1	690	0	
Dozer	No	40			81.7	690	0	
Dozer	No	40			81.7	690	0	
Dump Truck	No	40			76.5	690	0	
Dump Truck	No	40			76.5	690	0	
Dump Truck	No	40			76.5	690	0	
Dump Truck	No	40			76.5	690	0	

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Dozer	58.9	54.9	N/A	N/A	N/A	N/A
Dozer	58.9	54.9	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Total	61	66	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Demolition

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to West	Residential	65.5	65.5	65.5

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	730	0
Excavator	No	40		80.7	730	0
Tractor	No	40	84		730	0
Tractor	No	40	84		730	0
Tractor	No	40	84		730	0
Tractor	No	40	84		730	0
Front End Loader	No	40		79.1	730	0
Front End Loader	No	40		79.1	730	0
Dozer	No	40		81.7	730	0
Dozer	No	40		81.7	730	0
Dump Truck	No	40		76.5	730	0
Dump Truck	No	40		76.5	730	0
Dump Truck	No	40		76.5	730	0
Dump Truck	No	40		76.5	730	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A
Dozer	58.4	54.4	N/A	N/A	N/A	N/A
Dozer	58.4	54.4	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Total	61	66	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Site Preparation & Utilities

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
SFHs to East	Residential	55	55	55

				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator		No	40		80.7	725	0
Excavator		No	40		80.7	725	0
Tractor		No	40	84		725	0
Tractor		No	40	84		725	0
Front End Loader		No	40		79.1	725	0
Front End Loader		No	40		79.1	725	0
Dump Truck		No	40		76.5	725	0

				Results			
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		57.5	53.5	N/A	N/A	N/A	N/A
Excavator		57.5	53.5	N/A	N/A	N/A	N/A
Tractor		60.8	56.8	N/A	N/A	N/A	N/A
Tractor		60.8	56.8	N/A	N/A	N/A	N/A
Front End Loader		55.9	51.9	N/A	N/A	N/A	N/A
Front End Loader		55.9	51.9	N/A	N/A	N/A	N/A
Dump Truck		53.2	49.2	N/A	N/A	N/A	N/A
Total		61	63	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Site Preparation & Utilities

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to South	Residential	55.0	55.0	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	655	0
Excavator	No	40		80.7	655	0
Tractor	No	40	84		655	0
Tractor	No	40	84		655	0
Front End Loader	No	40		79.1	655	0
Front End Loader	No	40		79.1	655	0
Dump Truck	No	40		76.5	655	0

Equipment	Calculated (dBA)			Results			
	*Lmax	Leq	Day Lmax	Leq	Noise Limits (dBA)		
					Evening		
					Leq	Lmax	Leq
Excavator	58.4	54.4	N/A	N/A	N/A	N/A	N/A
Excavator	58.4	54.4	N/A	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A	N/A
Total	62	63	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Site Preparation & Utilities

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFHs to West	Residential	65.3	65.3	65.3

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	690	0
Excavator	No	40		80.7	690	0
Tractor	No	40	84		690	0
Tractor	No	40	84		690	0
Front End Loader	No	40		79.1	690	0
Front End Loader	No	40		79.1	690	0
Dump Truck	No	40		76.5	690	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Noise Limits (dBA) Evening	
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Total	61	63	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Site Preparation & Utilities

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to West	Residential	65.5	65.5	65.5

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	730	0
Excavator	No	40		80.7	730	0
Tractor	No	40	84		730	0
Tractor	No	40	84		730	0
Front End Loader	No	40		79.1	730	0
Front End Loader	No	40		79.1	730	0
Dump Truck	No	40		76.5	730	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Total	61	63	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)			Equipment			
		Daytime	Evening	Night	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
SFHs to East	Residential	55	55	55				
		Impact Device	Usage(%)					
Scraper		No	40		83.6	725	0	
Scraper		No	40		83.6	725	0	
Dozer		No	40		81.7	725	0	
Dozer		No	40		81.7	725	0	
Roller		No	20		80	725	0	
Grader		No	40	85		725	0	
Excavator		No	40		80.7	725	0	
Excavator		No	40		80.7	725	0	
Tractor		No	40	84		725	0	
Tractor		No	40	84		725	0	
Tractor		No	40	84		725	0	
Tractor		No	40	84		725	0	
Front End Loader		No	40		79.1	725	0	
Front End Loader		No	40		79.1	725	0	
Dump Truck		No	40		76.5	725	0	
Dump Truck		No	40		76.5	725	0	

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Scraper	60.4	56.4	N/A	N/A	N/A	N/A
Scraper	60.4	56.4	N/A	N/A	N/A	N/A
Dozer	58.4	54.5	N/A	N/A	N/A	N/A
Dozer	58.4	54.5	N/A	N/A	N/A	N/A
Roller	56.8	49.8	N/A	N/A	N/A	N/A
Grader	61.8	57.8	N/A	N/A	N/A	N/A
Excavator	57.5	53.5	N/A	N/A	N/A	N/A
Excavator	57.5	53.5	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Front End Loader	55.9	51.9	N/A	N/A	N/A	N/A
Front End Loader	55.9	51.9	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Total	62	67	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Grading

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)			Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
		Daytime	Evening	Night				
SFHs to South	Residential	55.0	55.0	55.0				
Description	Impact Device	Usage(%)						
Scraper	No	40			83.6	655	0	
Scraper	No	40			83.6	655	0	
Dozer	No	40			81.7	655	0	
Dozer	No	40			81.7	655	0	
Roller	No	20			80	655	0	
Grader	No	40		85		655	0	
Excavator	No	40			80.7	655	0	
Excavator	No	40.0			80.7	655	0	
Tractor	No	40		84		655	0	
Tractor	No	40		84		655	0	
Tractor	No	40		84		655	0	
Tractor	No	40		84		655	0	
Front End Loader	No	40			79.1	655	0	
Front End Loader	No	40			79.1	655	0	
Dump Truck	No	40			76.5	655	0	
Dump Truck	No	40.0			76.5	655	0	

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Scraper	61.2	57.3	N/A	N/A	N/A	N/A
Scraper	61.2	57.3	N/A	N/A	N/A	N/A
Dozer	59.3	55.3	N/A	N/A	N/A	N/A
Dozer	59.3	55.3	N/A	N/A	N/A	N/A
Roller	57.7	50.7	N/A	N/A	N/A	N/A
Grader	62.7	58.7	N/A	N/A	N/A	N/A
Excavator	58.4	54.4	N/A	N/A	N/A	N/A
Excavator	58.4	54.4	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Total	63	68	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Grading

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)			Equipment Spec	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
		Daytime	Evening	Night				
MFHs to West	Residential	65.3	65	65				
Description	Impact Device	Usage(%)		Lmax (dBA)				
Scraper	No	40			83.6	690	0	
Scraper	No	40			83.6	690	0	
Dozer	No	40			81.7	690	0	
Dozer	No	40			81.7	690	0	
Roller	No	20			80	690	0	
Grader	No	40	85			690	0	
Excavator	No	40			80.7	690	0	
Excavator	No	40			80.7	690	0	
Tractor	No	40		84		690	0	
Tractor	No	40		84		690	0	
Tractor	No	40		84		690	0	
Tractor	No	40		84		690	0	
Front End Loader	No	40			79.1	690	0	
Front End Loader	No	40			79.1	690	0	
Dump Truck	No	40			76.5	690	0	
Dump Truck	No	40			76.5	690	0	

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Scraper	60.8	56.8	N/A	N/A	N/A	N/A
Scraper	60.8	56.8	N/A	N/A	N/A	N/A
Dozer	58.9	54.9	N/A	N/A	N/A	N/A
Dozer	58.9	54.9	N/A	N/A	N/A	N/A
Roller	57.2	50.2	N/A	N/A	N/A	N/A
Grader	62.2	58.2	N/A	N/A	N/A	N/A
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Total	62	67	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Grading

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)			Equipment			
		Daytime	Evening	Night	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
SFHs to West	Residential	65.5	65.5	65.5				
Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)		
Scraper	No	40		83.6	730	0		
Scraper	No	40		83.6	730	0		
Dozer	No	40		81.7	730	0		
Dozer	No	40		81.7	730	0		
Roller	No	20		80	730	0		
Grader	No	40	85		730	0		
Excavator	No	40		80.7	730	0		
Excavator	No	40		80.7	730	0		
Tractor	No	40	84		730	0		
Tractor	No	40	84		730	0		
Tractor	No	40	84		730	0		
Tractor	No	40	84		730	0		
Front End Loader	No	40		79.1	730	0		
Front End Loader	No	40		79.1	730	0		
Dump Truck	No	40		76.5	730	0		
Dump Truck	No	40		76.5	730	0		

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Scraper	60.3	56.3	N/A	N/A	N/A	N/A
Scraper	60.3	56.3	N/A	N/A	N/A	N/A
Dozer	58.4	54.4	N/A	N/A	N/A	N/A
Dozer	58.4	54.4	N/A	N/A	N/A	N/A
Roller	56.7	49.7	N/A	N/A	N/A	N/A
Grader	61.7	57.7	N/A	N/A	N/A	N/A
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Total	62	67	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)			Equipment			
		Daytime	Evening	Night	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
SFHs to East	Residential	55	55	55				
		Impact Device	Usage(%)		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator		No	40			80.7	725	0
Excavator		No	40			80.7	725	0
Tractor		No	40		84		725	0
Tractor		No	40		84		725	0
Front End Loader		No	40			79.1	725	0
Front End Loader		No	40			79.1	725	0
Crane		No	16			80.6	725	0
Crane		No	16			80.6	725	0
Welder / Torch		No	40			74	725	0
Gradall		No	40			83.4	725	0
Gradall		No	40			83.4	725	0
Gradall		No	40			83.4	725	0
Gradall		No	40			83.4	725	0
Gradall		No	40			83.4	725	0
Gradall		No	40			83.4	725	0
Gradall		No	40			83.4	725	0
Dump Truck		No	40			76.5	725	0
Dump Truck		No	40			76.5	725	0
Dump Truck		No	40			76.5	725	0
Man Lift		No	20			74.7	725	0

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Building Construction

	Calculated (dBA)		Results			
			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Equipment						
Excavator	57.5	53.5	N/A	N/A	N/A	N/A
Excavator	57.5	53.5	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Tractor	60.8	56.8	N/A	N/A	N/A	N/A
Front End Loader	55.9	51.9	N/A	N/A	N/A	N/A
Front End Loader	55.9	51.9	N/A	N/A	N/A	N/A
Crane	57.3	49.4	N/A	N/A	N/A	N/A
Crane	57.3	49.4	N/A	N/A	N/A	N/A
Welder / Torch	50.8	46.8	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Gradall	60.2	56.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A
Man Lift	51.5	44.5	N/A	N/A	N/A	N/A
Total	61	67	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Building Construction

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)			Equipment			
		Daytime	Evening	Night	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
SFHs to South	Residential	55.0	55.0	55				
		Impact Device	Usage(%)		Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator		No	40			80.7	655	0
Excavator		No	40			80.7	655	0
Tractor		No	40		84.0		655	0
Tractor		No	40		84.0		655	0
Front End Loader		No	40			79.1	655	0
Front End Loader		No	40			79.1	655	0
Crane		No	16			80.6	655	0
Crane		No	16			80.6	655	0
Welder / Torch		No	40			74	655	0
Gradall		No	40			83.4	655	0
Gradall		No	40			83.4	655	0
Gradall		No	40			83.4	655	0
Gradall		No	40			83.4	655	0
Gradall		No	40			83.4	655	0
Gradall		No	40			83.4	655	0
Gradall		No	40			83.4	655	0
Dump Truck		No	40			76.5	655	0
Dump Truck		No	40			76.5	655	0
Dump Truck		No	40			76.5	655	0
Man Lift		No	20			74.7	655	0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Building Construction

	Calculated (dBA)		Results			
	*Lmax	Leq	Noise Limits (dBA)		Lmax	Leq
			Day	Evening		
Equipment			Lmax	Leq	Lmax	Leq
Excavator	58.4	54.4	N/A	N/A	N/A	N/A
Excavator	58.4	54.4	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.8	N/A	N/A	N/A	N/A
Crane	58.2	50.2	N/A	N/A	N/A	N/A
Crane	58.2	50.2	N/A	N/A	N/A	N/A
Welder / Torch	51.7	47.7	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Dump Truck	54.1	50.1	N/A	N/A	N/A	N/A
Man Lift	52.4	45.4	N/A	N/A	N/A	N/A
Total	62	68	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Building Construction

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)			Equipment			
		Daytime	Evening	Night	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
MFHs to West	Residential	65	65	65.3				
		Impact Device	Usage(%)		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator		No	40			80.7	690	0
Excavator		No	40			80.7	690	0
Tractor		No	40		84		690	0
Tractor		No	40		84		690	0
Front End Loader		No	40			79.1	690	0
Front End Loader		No	40			79.1	690	0
Crane		No	16			80.6	690	0
Crane		No	16			80.6	690	0
Welder / Torch		No	40			74	690	0
Gradall		No	40			83.4	690	0
Gradall		No	40			83.4	690	0
Gradall		No	40			83.4	690	0
Gradall		No	40			83.4	690	0
Gradall		No	40			83.4	690	0
Gradall		No	40			83.4	690	0
Gradall		No	40			83.4	690	0
Dump Truck		No	40			76.5	690	0
Dump Truck		No	40			76.5	690	0
Dump Truck		No	40			76.5	690	0
Man Lift		No	20			74.7	690	0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Building Construction

	Calculated (dBA)		Results			
	*Lmax	Leq	Day	Noise Limits (dBA)		
Equipment			Lmax	Leq	Lmax	Leq
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Excavator	57.9	53.9	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Front End Loader	56.3	52.3	N/A	N/A	N/A	N/A
Crane	57.8	49.8	N/A	N/A	N/A	N/A
Crane	57.8	49.8	N/A	N/A	N/A	N/A
Welder / Torch	51.2	47.2	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Gradall	60.6	56.6	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Dump Truck	53.7	49.7	N/A	N/A	N/A	N/A
Man Lift	51.9	44.9	N/A	N/A	N/A	N/A
Total	61	68	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026

Case Description: Centennial HS Modernization - Building Construction

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)			Equipment			
		Daytime	Evening	Night	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
SFHs to West	Residential	65.5	65.5	65.5				
		Impact Device	Usage(%)		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator		No	40			80.7	730	0
Excavator		No	40			80.7	730	0
Tractor		No	40		84		730	0
Tractor		No	40		84		730	0
Front End Loader		No	40			79.1	730	0
Front End Loader		No	40			79.1	730	0
Crane		No	16			80.6	730	0
Crane		No	16			80.6	730	0
Welder / Torch		No	40			74	730	0
Gradall		No	40			83.4	730	0
Gradall		No	40			83.4	730	0
Gradall		No	40			83.4	730	0
Gradall		No	40			83.4	730	0
Gradall		No	40			83.4	730	0
Gradall		No	40			83.4	730	0
Gradall		No	40			83.4	730	0
Dump Truck		No	40			76.5	730	0
Dump Truck		No	40			76.5	730	0
Dump Truck		No	40			76.5	730	0
Man Lift		No	20			74.7	730	0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Building Construction

	Calculated (dBA)		Results		Noise Limits (dBA)		Leq
	*Lmax	Leq	Day Lmax	Evening Leq	Day Leq	Evening Lmax	
Equipment							
Excavator	57.4	53.4	N/A	N/A	N/A	N/A	N/A
Excavator	57.4	53.4	N/A	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A	N/A
Crane	57.3	49.3	N/A	N/A	N/A	N/A	N/A
Crane	57.3	49.3	N/A	N/A	N/A	N/A	N/A
Welder / Torch	50.7	46.7	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Gradall	60.1	56.1	N/A	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A	N/A
Dump Truck	53.2	49.2	N/A	N/A	N/A	N/A	N/A
Man Lift	51.4	44.4	N/A	N/A	N/A	N/A	N/A
Total	61	67	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Paving

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
SFHs to East	Residential	55	55	55.0

				Equipment			
				Spec	Actual	Receptor	Estimated
Description		Impact		Lmax	Lmax	Distance	Shielding
		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Paver		No	50		77.2	725	0
Paver		No	50		77.2	725	0
Paver		No	50		77.2	725	0
Paver		No	50		77.2	725	0
Roller		No	20		80	725	0
Roller		No	20		80	725	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		54.0	51.0	N/A	N/A	N/A	N/A
Paver		54.0	51.0	N/A	N/A	N/A	N/A
Paver		54.0	51.0	N/A	N/A	N/A	N/A
Paver		54.0	51.0	N/A	N/A	N/A	N/A
Roller		56.8	49.8	N/A	N/A	N/A	N/A
Roller		56.8	49.8	N/A	N/A	N/A	N/A
	Total	57	58	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Paving

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to South	Residential	55.0	55.0	55.0

Description	Impact Device	Usage(%)	Equipment	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)			
Paver	No	50		77.2	655	0
Paver	No	50		77.2	655	0
Paver	No	50		77.2	655	0
Paver	No	50		77.2	655	0
Roller	No	20		80	655	0
Roller	No	20		80	655	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Paver	54.9	52	N/A	N/A	N/A	N/A
Paver	54.9	51.9	N/A	N/A	N/A	N/A
Paver	54.9	51.9	N/A	N/A	N/A	N/A
Paver	54.9	51.9	N/A	N/A	N/A	N/A
Roller	57.7	50.7	N/A	N/A	N/A	N/A
Roller	57.7	50.7	N/A	N/A	N/A	N/A
Total	58	59	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Paving

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFHs to West	Residential	65.3	65.3	65.3

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50	77.2	77.2	690	0
Paver	No	50	77.2	77.2	690	0
Paver	No	50	77.2	77.2	690	0
Paver	No	50	77.2	77.2	690	0
Roller	No	20	80	80	690	0
Roller	No	20	80	80	690	0

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Paver	54.4	51.4	N/A	N/A	N/A	N/A
Paver	54.4	51.4	N/A	N/A	N/A	N/A
Paver	54.4	51.4	N/A	N/A	N/A	N/A
Paver	54.4	51.4	N/A	N/A	N/A	N/A
Roller	57.2	50.2	N/A	N/A	N/A	N/A
Roller	57.2	50.2	N/A	N/A	N/A	N/A
Total	57	59	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Paving

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to West	Residential	65.5	65.5	65.5

Description	Impact Device	Usage(%)	Equipment	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)			
Paver	No	50		77.2	730	0
Paver	No	50		77.2	730	0
Paver	No	50		77.2	730	0
Paver	No	50		77.2	730	0
Roller	No	20		80	730	0
Roller	No	20		80	730	0

Equipment	Calculated (dBA)		Results		Noise Limits (dBA)	
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Paver	53.9	50.9	N/A	N/A	N/A	N/A
Paver	53.9	51	N/A	N/A	N/A	N/A
Paver	53.9	51	N/A	N/A	N/A	N/A
Paver	53.9	51	N/A	N/A	N/A	N/A
Roller	56.7	50	N/A	N/A	N/A	N/A
Roller	56.7	50	N/A	N/A	N/A	N/A
Total	57	58	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Painting

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to East	Residential	55.0	55.0	55.0

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40	77.7	77.7	725	0
Compressor (air)	No	40	77.7	77.7	725	0
Man Lift	No	20	74.7	74.7	725	0
Man Lift	No	20	74.7	74.7	725	0
Man Lift	No	20	74.7	74.7	725	0
Man Lift	No	20	74.7	74.7	725	0
Man Lift	No	20	74.7	74.7	725	0
Man Lift	No	20	74.7	74.7	725	0
Compressor (air)	No	40	77.7	77.7	725	0
Compressor (air)	No	40	77.7	77.7	725	0
Compressor (air)	No	40	77.7	77.7	725	0
Compressor (air)	No	40	77.7	77.7	725	0
Compressor (air)	No	40	77.7	77.7	725	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Noise Limits (dBA) Evening	
Compressor (air)	54.4	50.5	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.5	N/A	N/A	N/A	N/A
Man Lift	51.5	44.5	N/A	N/A	N/A	N/A
Man Lift	51.5	44.5	N/A	N/A	N/A	N/A
Man Lift	51.5	44.5	N/A	N/A	N/A	N/A
Man Lift	51.5	44.5	N/A	N/A	N/A	N/A
Man Lift	51.5	44.5	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.5	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.5	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.5	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.5	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.5	N/A	N/A	N/A	N/A
Total	54	60	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Painting

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to South	Residential	55.0	55.0	55.0

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40	77.7	77.7	655	0
Compressor (air)	No	40	77.7	77.7	655	0
Man Lift	No	20	74.7	74.7	655	0
Man Lift	No	20	74.7	74.7	655	0
Man Lift	No	20	74.7	74.7	655	0
Man Lift	No	20	74.7	74.7	655	0
Man Lift	No	20	74.7	74.7	655	0
Man Lift	No	20	74.7	74.7	655	0
Compressor (air)	No	40	77.7	77.7	655	0
Compressor (air)	No	40	77.7	77.7	655	0
Compressor (air)	No	40	77.7	77.7	655	0
Compressor (air)	No	40	77.7	77.7	655	0
Compressor (air)	No	40	77.7	77.7	655	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Compressor (air)	55.3	51.3	N/A	N/A	N/A	N/A
Compressor (air)	55.3	51.3	N/A	N/A	N/A	N/A
Man Lift	52.4	45.4	N/A	N/A	N/A	N/A
Man Lift	52.4	45.4	N/A	N/A	N/A	N/A
Man Lift	52.4	45.4	N/A	N/A	N/A	N/A
Man Lift	52.4	45.4	N/A	N/A	N/A	N/A
Man Lift	52.4	45.4	N/A	N/A	N/A	N/A
Compressor (air)	55.3	51.3	N/A	N/A	N/A	N/A
Compressor (air)	55.3	51.3	N/A	N/A	N/A	N/A
Compressor (air)	55.3	51.3	N/A	N/A	N/A	N/A
Compressor (air)	55.3	51.3	N/A	N/A	N/A	N/A
Compressor (air)	55.3	51.3	N/A	N/A	N/A	N/A
Total	55	61	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Painting

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFHs to West	Residential	65.3	65.3	65.3

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40	77.7	77.7	690	0
Compressor (air)	No	40	77.7	77.7	690	0
Man Lift	No	20	74.7	74.7	690	0
Man Lift	No	20	74.7	74.7	690	0
Man Lift	No	20	74.7	74.7	690	0
Man Lift	No	20	74.7	74.7	690	0
Man Lift	No	20	74.7	74.7	690	0
Man Lift	No	20	74.7	74.7	690	0
Compressor (air)	No	40	77.7	77.7	690	0
Compressor (air)	No	40	77.7	77.7	690	0
Compressor (air)	No	40	77.7	77.7	690	0
Compressor (air)	No	40	77.7	77.7	690	0
Compressor (air)	No	40	77.7	77.7	690	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Noise Limits (dBA) Evening	
Compressor (air)	54.9	50.9	N/A	N/A	N/A	N/A
Compressor (air)	54.9	50.9	N/A	N/A	N/A	N/A
Man Lift	51.9	44.9	N/A	N/A	N/A	N/A
Man Lift	51.9	44.9	N/A	N/A	N/A	N/A
Man Lift	51.9	44.9	N/A	N/A	N/A	N/A
Man Lift	51.9	44.9	N/A	N/A	N/A	N/A
Man Lift	51.9	44.9	N/A	N/A	N/A	N/A
Compressor (air)	54.9	50.9	N/A	N/A	N/A	N/A
Compressor (air)	54.9	50.9	N/A	N/A	N/A	N/A
Compressor (air)	54.9	50.9	N/A	N/A	N/A	N/A
Compressor (air)	54.9	50.9	N/A	N/A	N/A	N/A
Compressor (air)	54.9	50.9	N/A	N/A	N/A	N/A
Total	55	60	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/16/2026
 Case Description: Centennial HS Modernization - Painting

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFHs to West	Residential	65.5	65.5	65.5

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40	77.7	77.7	730	0
Compressor (air)	No	40	77.7	77.7	730	0
Man Lift	No	20	74.7	74.7	730	0
Man Lift	No	20	74.7	74.7	730	0
Man Lift	No	20	74.7	74.7	730	0
Man Lift	No	20	74.7	74.7	730	0
Man Lift	No	20	74.7	74.7	730	0
Man Lift	No	20	74.7	74.7	730	0
Compressor (air)	No	40	77.7	77.7	730	0
Compressor (air)	No	40	77.7	77.7	730	0
Compressor (air)	No	40	77.7	77.7	730	0
Compressor (air)	No	40	77.7	77.7	730	0
Compressor (air)	No	40	77.7	77.7	730	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Noise Limits (dBA) Evening	
Compressor (air)	54.4	50.4	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.4	N/A	N/A	N/A	N/A
Man Lift	51.4	44.4	N/A	N/A	N/A	N/A
Man Lift	51.4	44.4	N/A	N/A	N/A	N/A
Man Lift	51.4	44.4	N/A	N/A	N/A	N/A
Man Lift	51.4	44.4	N/A	N/A	N/A	N/A
Man Lift	51.4	44.4	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.4	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.4	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.4	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.4	N/A	N/A	N/A	N/A
Compressor (air)	54.4	50.4	N/A	N/A	N/A	N/A
Total	54	60	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

APPENDIX D

Operational Reference Noise Measurements

General Information

Serial Number 02509
 Model 831
 Firmware Version 2.314
 Filename 831_Data.001
 User GT
 Job Description LBCC 2041 Facilities Master Plan
 Location Approx 30 ft north of pool and 5 ft south of scoreboard

Measurement Description

Start Time Friday, 2018 March 30 12:24:51
 Stop Time Friday, 2018 March 30 12:34:52
 Duration 00:10:00.5
 Run Time 00:10:00.5
 Pause 00:00:00.0
 Pre Calibration Friday, 2018 March 30 12:23:28
 Post Calibration
 Calibration Deviation ---

Note

Noise from swim meet at pool 30 ft from pool and 60 ft from loud speaker
 76F, 29.91 in Hg, 51% hu, 2 mph wind, hazy sky

Overall Data

LAEq		71.8	dB
LASmax	2018 Mar 30 12:34:05	89.5	dB
LApeak (max)	2018 Mar 30 12:34:05	100.5	dB
LASmin	2018 Mar 30 12:32:15	56.5	dB
LCeq		73.2	dB
LAEq		71.8	dB
LCeq - LAeq		1.4	dB
LA1eq		78.1	dB
LAEq		71.8	dB
LA1eq - LAeq		6.2	dB
Ldn		71.8	dB
LDay 07:00-22:00		71.8	dB
LNight 22:00-07:00		---	dB
Lden		71.8	dB
LDay 07:00-19:00		71.8	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		99.6	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00		77.5	dBA
LAS10.00		75.3	dBA
LAS33.30		70.1	dBA
LAS50.00		67.6	dBA
LAS66.60		65.3	dBA
LAS90.00		62.4	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)		28 / 489.8	s
LAS > 85.0 dB (Exceedence Counts / Duration)		2 / 2.8	s
LApeak > 135.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)		0 / 0.0	s

Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRM831
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Gain	+0 dB
Under Range Limit	26.1 dB
Under Range Peak	75.8 dB
Noise Floor	17.0 dB
Overload	143.4 dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	58.3	61.4	64.5	63.1	61.2	59.2	64.8	69.9	62.3	60.1	43.3	34.0
LZSmax	80.3	74.2	70.6	73.0	69.5	66.1	81.7	89.2	75.4	77.9	59.7	47.9
LZSmin	49.2	55.8	60.8	57.2	56.6	53.6	53.7	52.4	48.0	43.0	33.5	23.8

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	52.9	54.4	53.8	56.2	57.5	56.5	60.5	61.7	53.2	53.9	55.6	61.5
LZSmax	73.7	77.7	69.9	70.3	71.4	69.4	65.9	68.2	62.5	60.4	65.8	72.8
LZSmin	40.5	39.9	43.6	48.1	49.2	50.1	56.1	57.5	47.9	48.5	51.3	53.5
Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	58.9	54.3	54.5	55.6	53.2	54.3	56.5	59.5	62.3	62.9	67.9	62.4
LZSmax	67.1	68.4	64.7	63.3	60.9	63.5	68.0	75.3	80.7	77.9	88.4	82.7
LZSmin	52.6	49.1	48.5	48.9	47.4	47.6	49.1	48.9	48.8	48.7	47.1	46.2
Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	58.7	55.5	57.7	59.7	51.6	45.6	40.6	38.0	35.1	31.8	28.4	23.6
LZSmax	70.1	68.7	75.4	78.6	67.7	60.1	52.0	58.6	48.3	45.1	43.1	38.1
LZSmin	44.3	43.3	41.5	39.8	36.4	32.9	30.4	27.9	25.4	21.4	17.7	13.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	30 Mar 2018 12:23:25	-25.8
PRM831	07 Mar 2018 13:40:34	-25.8
PRM831	28 Feb 2018 12:16:10	-25.9
PRM831	30 Jan 2018 23:18:32	-26.2
PRM831	30 Jan 2018 13:42:45	-26.2
PRM831	30 Jan 2018 13:32:25	-26.0
PRM831	30 Jan 2018 10:54:43	-26.0
PRM831	06 Jan 2018 13:07:04	-26.0
PRM831	19 Dec 2017 10:41:35	-25.5
PRM831	25 Oct 2017 08:21:25	-25.2
PRM831	11 Oct 2017 12:05:04	-25.5

Measurement Report

Report Summary

Meter's File Name	LxT_Data.001	Computer's File Name	SLM_0006082_LxT_Data_001.51.lbin
Meter	LxT1		
Firmware	2.404		
User	GT	Location	
Description	CNUSD Auburndale IS New GYM and ELOP		
Note	On Fence for School, approx 10 ft from School Parking Lot		
Start Time	2024-04-29 11:02:33	Duration	24:00:00.0
End Time	2024-04-30 11:02:33	Run Time	24:00:00.0
		Pause Time	0:00:00.0

Results

Overall Metrics

LA _{eq}	58.5 dB		
LAE	107.9 dB	SEA	--- dB
EA	6.8 mPa²h		
EA8	2.3 mPa²h		
EA40	11.3 mPa²h		
LZS _{peak}	119.3 dB	2024-04-29 14:29:59	
LAS _{max}	102.8 dB	2024-04-29 14:29:59	
LAS _{min}	36.2 dB	2024-04-30 00:43:00	
LA _{eq}	58.5 dB		
LC _{eq}	67.1 dB	LC _{eq} - LA _{eq}	8.6 dB
LAI _{eq}	65.0 dB	LAI _{eq} - LA _{eq}	6.5 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	2	0:00:13.2
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
--- dB	--- dB	0.0 dB	
LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	58.5 dB		--- dB		--- dB	
LS _(max)	102.8 dB	2024-04-29 14:29:59	--- dB		--- dB	
LS _(min)	36.2 dB	2024-04-30 00:43:00	--- dB		--- dB	
L _{Peak(max)}	--- dB		--- dB		119.3 dB	2024-04-29 14:29:59

Overloads

Count	Duration
0	0:00:00.0

Statistics

LAS 5.0	58.8 dB
LAS 10.0	56.8 dB
LAS 33.3	52.9 dB
LAS 50.0	51.0 dB
LAS 66.6	49.0 dB
LAS 90.0	45.7 dB