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Figures

None

12 Noise

Chapter 12 evaluates potential noise impacts from Program implementation on human receptors. Impacts of Program noise on fish and wildlife are addressed in Chapter 4, Biological Resources—Aquatic and Chapter 5, Biological Resources—Terrestrial. Results of the evaluation are provided at a programmatic level. Section 12.1, Environmental Setting, presents an overview of the physical properties and environmental noise; and contains federal, state, and local ordinances, plans, and regulations that are applicable to the Program. Section 12.2, Environmental Impacts and Mitigation Measures, presents the following:

- > Environmental concerns and evaluation criteria used to determine whether the Program alternatives would cause significant impacts on noise levels throughout the region
- > Evaluation methods and assumptions
- > Discussion of noise impacts of the Program alternatives
- > Cumulative impacts summary
- > A summary of environmental impacts due to noise

Appendix D, Noise Analysis Technical Report includes additional detailed information regarding the physical properties of noise; federal, state, and local noise regulations; and equipment use noise generated by each of the Program alternatives. Table 2-7 presents the District's list of equipment that could generate noise. Handheld equipment is not included in this table.

12.1 Environmental Setting

12.1.1 Overview of Environmental Sound

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. Several noise measurement scales are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense, etc. A relationship exists between the subjective noisiness or loudness of a sound and its intensity. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

Several methods are used to characterize sound. The most common is the A-weighted sound level, or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq} . The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

Because the sensitivity to noise increases during the evening and at night—excessive noise interferes with the ability to sleep—24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a 5-dB penalty added to evening (7:00 pm to 10:00 pm) and a 10-dB addition to nocturnal (10:00 pm to 7:00 am) noise levels. The day/night average sound level (L_{dn}) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this 3-hour period are grouped into the daytime period.

Noise changes both in level and frequency spectrums as it travels from the source to the receiver. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise is reduced depends on a variety of factors, including the noise source type as well as the region over which the noise source propagates. Noise generated by a point source, such as equipment at a construction site, drops off at a rate of 6 dBA per doubling of distance. Traffic noise attenuates, or is reduced, at a different rate. The movement of vehicles makes the noise source appear to emanate from a line as opposed to a single point when viewed over a period of time. Noise levels drop-off at a rate of about 3 dBA per doubling of distance for this type of source near hard surfaces, such as paved areas or bodies of water. However, ground type also plays into how much of a drop off over distance will occur. Surfaces, such as plowed fields, crops, or grass, absorb some of the sound energy as the sound passes over; therefore, noise is reduced by 4.5 dBA for every doubling of the distance in such areas.

12.1.2 Community Noise Levels

Community noise levels depend on the intensity of nearby human activity. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45- to 60-dBA range, and high above 60 dBA. In rural and undeveloped areas, L_{dn} can fall below 35 dBA. Levels above 75 to 80 dBA are more common near major freeways and airports. Although people often accept the higher levels associated with very noisy urban areas, they nevertheless are considered to be adverse to public health.

Typical noise levels from both mobile and stationary sources, including noise sources not associated with the Program but provided for comparison purposes, are included in Table 12-1. Appendix D provides additional information on equipment noise levels at 400 feet from the source.

Table 12-1 Typical Stationary and Mobile Noise Source Sound Levels in dBA

Noise Source	Sound Level in dBA
Sprayer, hand-held	10-20
Noise at ear level from rustling leaves	20
Room in a quiet dwelling at midnight	32
Soft whisper at 5 feet	34
Large department store	50 to 65
Room with window air conditioner	55
Leaf blower/vac	55-105
Conversational speech	60 to 75
Pump station equipment with noise abatement	62
Sprayer, powered, truck- or trailer-mounted	65-105
Passenger car at 50 feet	69
Vacuum cleaner in private home at 10 feet	69
Tractor, agricultural	76-110
Ringling alarm at 2 feet	80
Brush/weed cutter	90-97
Roof-top air conditioner	85
Small bulldozer (Cat D3) or excavator (Cat 320)	74-80
Heavy bulldozer at 50 feet	87
All-terrain vehicle (ATV)	87-109

Table 12-1 Typical Stationary and Mobile Noise Source Sound Levels in dBA

Noise Source	Sound Level in dBA
Heavy city traffic	90
Lawn mower	91-98
Chainsaw	100-120
Jet aircraft at 500 feet overhead	115
Human pain threshold	120
Construction blast	120 to 145 at 50 feet

Sources: Equipment manufacturer specification sheets, Noise Control Reference Handbook, Industrial Acoustics Company

Note:

Bold indicates equipment used in the Program.

12.1.3 Noise Level Acceptance Criteria

The surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. In rural and undeveloped areas away from roads and other human activity, the day-to-night difference is normally small. Because of diurnal activity, nighttime ambient levels in urban environments are about 7 dB lower than the corresponding daytime levels. Nighttime noise is a concern because of the likelihood of disrupting sleep. Noise levels above 45 dBA at night can result in the onset of sleep interference. At 70 dBA, sleep interference effects become considerable (USEPA 1974).

12.1.4 Sensitive Receptors

Some land uses are generally regarded as being more sensitive to noise than others due to the types of population groups or activities involved. The definition of sensitive receptors varies by jurisdiction, but in general sensitive population groups include children and the elderly and sensitive land uses include residential (single- and multifamily, mobile homes, dormitories, and similar uses), guest lodging, parks and outdoor recreation areas, hospitals, nursing homes and other long-term medical care facilities, and educational facilities, including schools, libraries, churches, and places of public assembly.

12.1.5 Regulatory Setting

Federal and state guidelines and local ordinances pertaining to environmental noise within the Service Area are cited in this section.

12.1.5.1 Federal Regulations

The federal noise standards or guidelines discussed in this section are relevant to the implementation of Program alternatives. Noise regulations and standards are provided for the following agencies:

- > USEPA
- > Federal Aviation Administration (FAA)

12.1.5.1.1 US Environmental Protection Agency

The USEPA has developed guidelines on recommended maximum long-term noise levels to protect public health and welfare (USEPA 1974). The USEPA does not enforce these guidelines, but rather offers them as a planning tool for state and local agencies. Table 12-2 provides examples of protective noise levels recommended by the USEPA. They are applicable to noise generated on federal lands, such as national wildlife refuges.

Table 12-2 USEPA-Designated Long-Term Noise Safety Levels

Effects	Noise Level	Area
Hearing Loss	$L_{eq}(24) < 70$ dB	All areas
Outdoor Activity Interference and Annoyance	$L_{dn} < 55$ dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	$L_{eq}(24) < 55$ dB	Outdoor areas where people spend limited amounts of time, such as schoolyards, playgrounds, etc.
Indoor Activity Interference and Annoyance	$L_{dn} < 45$ dB	Indoor residential areas
	$L_{eq}(24) < 45$ dB	Other indoor areas with human activities such as schools, etc.

Source: USEPA 1974

Notes:

$L_{eq}(24)$ = sound energy averaged over a 24-hour period.

L_{dn} = L_{eq} with a 10-dB nighttime weighting.

12.1.5.1.2 Federal Aviation Administration

The major parts of CFR Title 14: Aeronautics and Space, Chapter I: Federal Aviation Administration, Department of Transportation, Subchapter C, for fixed-wing aircraft noise and Subchapter H for helicopter noise, were reviewed for applicability to Program flight operations, specifically:

Part 91: Flight Operations

Portions of Part 91 are provided to describe operational restrictions associated with different aircraft types. Altitude limitations governing agricultural operations are given in Part 137, Agricultural Operations. They are included because the FAA considers aerial spraying to be an agricultural use, even if it is not specifically used for agricultural purposes.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

- (a) *Anywhere*. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
- (b) *Over congested areas*. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
- (c) *Over other than congested areas*. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

Section 137.49 – Operations over other than Congested Areas

Notwithstanding Part 91 of this chapter, during the actual dispensing operation, including approaches, departures, and turnarounds reasonably necessary for the operation, an aircraft may be operated over other than congested areas below 500 feet above the surface and closer than 500 feet to persons, vessels, vehicles, and structures, if the operations are conducted without creating a hazard to persons or property on the surface.

Section 137.51 – Operation over Congested Areas: General

- (a) Notwithstanding Part 91 of this chapter, an aircraft may be operated over a congested area at altitudes required for the proper accomplishment of the agricultural aircraft operation if the operation is conducted:
- (1) With the maximum safety to persons and property on the surface, consistent with the operation, and
 - (2) In accordance with the requirements of paragraph (i) of this section
 - (i) No person may operate an aircraft over a congested area except in accordance with the requirements of this paragraph.
 - (3) Prior written approval must be obtained from the appropriate official or governing body of the political subdivision over which the operations are conducted.
 - (4) Notice of the intended operation must be given to the public by some effective means, such as daily newspapers, radio, television, or door-to-door notice.
 - (5) A plan for each complete operation must be submitted to, and approved by appropriate personnel of the FAA Flight Standards District Office having jurisdiction over the area where the operation is to be conducted. The plan must include consideration of obstructions to flight, the emergency landing capabilities of the aircraft to be used, and any necessary coordination with air traffic control.
 - (6) Single engine aircraft must be operated as follows:
 - (i) Except for helicopters, no person may take off a loaded aircraft, or make a turnaround over a congested area.
 - (ii) No person may operate an aircraft over a congested area below the altitudes prescribed in Part 91 of this chapter except during the actual dispensing operation, including the approaches and departures necessary for that operation.
 - (iii) No person may operate an aircraft over a congested area during the actual dispensing operation, including the approaches and departures for that operation, unless it is operated in a pattern and at such an altitude that the aircraft can land, in an emergency, without endangering persons or property on the surface.
 - (7) Multiengine aircraft must be operated as follows:
 - (i) No person may take off a multiengine airplane over a congested area except under conditions that will allow the airplane to be brought to a safe stop within the effective length of the runway from any point on takeoff up to the time of attaining, with all engines operating at normal takeoff power, 105 percent of the minimum control speed with the critical engine inoperative in the takeoff configuration or 115 percent of the power-off stall speed in the takeoff configuration, whichever is greater, as shown by the accelerate stop distance data. In applying this requirement, takeoff data is based upon still-air conditions, and no correction is made for any uphill gradient of 1 percent or less when the percentage is measured as the difference between elevations at the end points of the runway divided by the total length. For uphill gradients greater than 1 percent, the effective takeoff length of the runway is reduced 20 percent for each 1 percent grade.
 - (ii) No person may operate a multiengine airplane at a weight greater than the weight that, with the critical engine inoperative, would permit a rate of climb of at least 50 feet per minute at an altitude of at least 1,000 feet above the elevation of the highest ground or obstruction within the area to be worked or at an altitude of 5,000 feet, whichever is

higher. For the purposes of this subdivision, it is assumed that the propeller of the inoperative engine is in the minimum drag position, that the wing flaps and landing gear are in the most favorable positions, and that the remaining engine or engines are operating at the maximum continuous power available.

- (iii) No person may operate any multiengine aircraft over a congested area below the altitudes prescribed in Part 91 of this chapter except during the actual dispensing operation, including the approaches, departures, and turnarounds necessary for that operation.

Section 137.53 – Operation over Congested Areas: Pilots and Aircraft

- (a) General. No person may operate an aircraft over a congested area except in accordance with the pilot and aircraft rules of this section.
- (b) Pilots. Each pilot in command must have at least:
 - (1) 25 hours of pilot-in-command flight time in the make and basic model of the aircraft, at least 10 hours of which must have been acquired within the preceding 12 calendar months.
 - (2) 100 hours of flight experience as pilot in command in dispensing agricultural materials or chemicals.
- (c) Aircraft
 - (1) Each aircraft must:
 - (i) If it is an aircraft not specified in paragraph (c)(1)(ii) of this section, have had within the preceding 100 hours of time in service a 100-hour or annual inspection by a person authorized by Part 65 or 145 of this chapter, or have been inspected under a progressive inspection system.
 - (ii) If it is a large or turbine-powered multiengine civil airplane of U.S. registry, have been inspected in accordance with the applicable inspection program requirements of Section 91.409 of this chapter.
 - (2) If other than a helicopter, it must be equipped with a device capable of jettisoning at least one-half of the aircraft's maximum authorized load of agricultural material within 45 seconds. If the aircraft is equipped with a device for releasing the tank or hopper as a unit, there must be a means to prevent inadvertent release by the pilot or other crewmember.





12.1.5.2 State Regulations

California Government Code Section 65302(f) encourages each local government entity to conduct noise studies and implement a noise element as part of its General Plans. In addition, the California Office of Planning and Research published guidelines for evaluating the compatibility of various land uses as a function of community exposure to permanent or long-term noise sources, and they are listed in Table 12-3. In general, noise levels less than 60-dBA L_{dn} are acceptable for all land uses, including residences, schools, and other noise-sensitive receptors.

Table 12-3 Land Use Compatibility for Community Noise Environment

Land Use Category	Community Noise Exposure – L _{dn} or CNEL in dBA							
	50	55	60	65	70	75	80	
Residential – Low-Density Single Family, Duplex, Mobile Home	Green	Green	Green	Green	Green	Green	Green	Green
Residential – Multifamily	Green	Green	Green	Green	Green	Green	Green	Green
Transient Lodging – Motel, Hotel	Green	Green	Green	Green	Green	Green	Green	Green
Schools, Libraries, Churches, Hospitals, Nursing Homes	Green	Green	Green	Green	Green	Green	Green	Green
Auditorium, Concert Hall, Amphitheaters	Green	Green	Green	Green	Green	Green	Green	Green
Sports Arena, Outdoor Spectator Sports	Green	Green	Green	Green	Green	Green	Green	Green
Playgrounds, Neighborhood Parks	Green	Green	Green	Green	Green	Green	Green	Green
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Green	Green	Green	Green	Green	Green	Green	Green
Office Buildings, Business Commercial and Professional	Green	Green	Green	Green	Green	Green	Green	Green
Industrial, Manufacturing, Utilities, Agriculture	Green	Green	Green	Green	Green	Green	Green	Green

Legend

	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.
	Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable: New construction or development generally should not be undertaken.

Source: State of California 1998

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibel(s)

L_{dn} = Day-Night Noise Level

12.1.5.3 Local Regulations

A listing of noise ordinances for Alameda County and the cities of Alameda, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City is included herein and relevant provisions are summarized in Table 12-4. Cities and counties in California are required to include a noise element in their general plans, which include policies intended to achieve noise compatibility between land uses. These policies typically establish average noise levels that are acceptable at different land uses and are usually the same as or similar to those recommended by the state (Table 12-3). The standards established in noise elements for the Program Area are intended to establish land use compatibility for planning purposes and are not intended to address temporary and sporadic sources of noise such as would be generated by the Proposed Program (IMMP) addressed in this PEIR. Noise elements are, therefore, not discussed further.

Alameda County and many of the cities in the ACMAD Service Area specify allowable hours and allowable noise levels during certain times of day. The District's IMMP would cause temporary impacts similar to construction-type equipment, such as trucks and chainsaws. Therefore, construction noise standards may be used as a method to describe allowable temporary noise. The cities of Alameda, San Leandro, and Alameda County, exempt emergency actions that are intended to protect, maintain, or restore public health and safety, such as the IMMP. Several jurisdictions also allow variances to be issued by local authorities.

12.2 Environmental Impacts and Mitigation Measures

The noise impacts evaluation is provided below. The evaluation qualitatively and quantitatively compares probable noise levels against the impact significance criteria presented in Section 12.2.1.

12.2.1 Evaluation Concerns and Criteria

Temporary noise increases within the Program Area would be associated with the use of vehicles, backpack sprayers, ancillary equipment, sprayers, and aerial applications similar to current use of this equipment.

For this evaluation, impacts from Program noise sources would be considered significant if noise levels would:

- > Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- > Result in a substantial temporary increase in ambient noise levels above levels existing without the Program.

The CEQA Guidelines, and most cities and counties, do not provide a definition of what constitutes a substantial noise increase for the second bullet point above. A common practice has been to assume that minimally perceptible to clearly noticeable increases of 3 to 5 dBA represent a significant increase in ambient noise levels. A sliding scale is commonly used to identify the significance of noise increases, allowing greater increases at lower absolute sound levels than at higher sound levels. This approach is based on research that relates changes in noise to the percentage of individuals that would be highly annoyed by the change (Federal Interagency Committee on Noise 1992). The significance criteria for changes in noise from Program operations would be a 3-dBA CNEL increase in noise levels if the existing noise level already exceeds the acceptable range for the land use, or a 5-dBA CNEL increase in noise if the existing noise level is in the acceptable range and the resulting level remains within the acceptable range for the land use.

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project																																																
Alameda County	Alameda County Code of Ordinances, Title 6 Health and Safety, Chapter 6.60 Noise	<p>6.60.040 - Exterior noise level standards.</p> <p>A. It is unlawful for any person at any location within the unincorporated area of the county to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any single- or multiple-family residential, school, hospital, church, public library or commercial properties situated in either the incorporated or unincorporated area to exceed the noise level standards as set forth in Table 6.60.040A or Table 6.60.040B following:</p> <p>Table 6.60.040A Receiving Land Use — Single- Or Multiple-Family Residential, School, Hospital, Church Or Public Library Properties Noise Level Standards, dB(A)</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Cumulative Number of Minutes in any one hour time period</th> <th>Daytime - 7 a.m. to 10 p.m.</th> <th>Nighttime - 10 p.m. to 7 a.m.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>30</td> <td>50</td> <td>45</td> </tr> <tr> <td>2</td> <td>15</td> <td>55</td> <td>50</td> </tr> <tr> <td>3</td> <td>5</td> <td>60</td> <td>55</td> </tr> <tr> <td>4</td> <td>1</td> <td>65</td> <td>60</td> </tr> <tr> <td>5</td> <td>0</td> <td>70</td> <td>65</td> </tr> </tbody> </table> <p>Table 6.60.040B Receiving Land Use — Commercial Properties Noise Level Standards, dB(A)</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Cumulative Number of Minutes in any one hour time period</th> <th>Daytime - 7 a.m. to 10 p.m.</th> <th>Nighttime - 10 p.m. to 7 a.m.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>30</td> <td>65</td> <td>60</td> </tr> <tr> <td>2</td> <td>15</td> <td>70</td> <td>65</td> </tr> <tr> <td>3</td> <td>5</td> <td>75</td> <td>70</td> </tr> <tr> <td>4</td> <td>1</td> <td>80</td> <td>75</td> </tr> <tr> <td>5</td> <td>0</td> <td>85</td> <td>80</td> </tr> </tbody> </table>	Category	Cumulative Number of Minutes in any one hour time period	Daytime - 7 a.m. to 10 p.m.	Nighttime - 10 p.m. to 7 a.m.	1	30	50	45	2	15	55	50	3	5	60	55	4	1	65	60	5	0	70	65	Category	Cumulative Number of Minutes in any one hour time period	Daytime - 7 a.m. to 10 p.m.	Nighttime - 10 p.m. to 7 a.m.	1	30	65	60	2	15	70	65	3	5	75	70	4	1	80	75	5	0	85	80	The general noise regulations and time of day restrictions for exterior noise would apply, and the proposed work includes the potential use of gas/electrical powered tools and off road vehicles. Exceptions are made for the protection of public health.
Category	Cumulative Number of Minutes in any one hour time period	Daytime - 7 a.m. to 10 p.m.	Nighttime - 10 p.m. to 7 a.m.																																																
1	30	50	45																																																
2	15	55	50																																																
3	5	60	55																																																
4	1	65	60																																																
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Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project								
		<p>6.60.050 - Prohibited noise disturbances.</p> <p>B. Notwithstanding any of the provisions of this chapter, the following acts are prohibited within the unincorporated area of the county of Alameda, subject only to the exceptions of Section 6.60.070:</p> <p>A. Electric/Gas Powered Tools in Residential Areas:</p> <p>a. Operation or use in residential areas between the hours of seven p.m. and seven a.m. on a weekday or between the hours of seven p.m. and eight a.m. on a weekend, of any electric or gasoline powered leaf blower, sweeper, vacuum, lawn mower, trimmer, edger, hedger or similar tool or device which produces sound which is plainly audible at a distance of fifty (50) feet from such device.</p> <p>6.60.060 - Vehicle noise limits.</p> <p>A. Recreational Motorized Vehicles Operating Off A Public Highway. No person shall operate or cause to be operated any recreational motorized vehicle off a public highway in such a manner as to create a noise disturbance or exceed the standards set forth in Section 6.60.040 of this chapter.</p> <p>6.60.070 - Special provisions or exceptions.</p> <p>a. Public Health, Welfare and Safety Activities. The provisions of this chapter shall not apply to construction or maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including, but not limited to street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.</p>									
Alameda	City of Alameda, California Municipal Code, Chapter IV Offenses and Public Safety, Article II Noise Regulations	<p>4-10.4 - Exterior Noise Standards.</p> <p>b. Exterior noise level when measured at any single or multiple family residential, school, hospital, church, public library or commercial properties situated in the city do not conform to the provisions of this subsection when they exceed the noise level standards as set forth in Table I or Table II following:</p> <p>Table I Receiving Land Use — Single Or Multiple Family Residential, School, Hospital, Church Or Public Library Properties Noise Level Standards, dB(A)</p> <table border="1" data-bbox="527 1242 1617 1377"> <thead> <tr> <th data-bbox="527 1242 682 1323">Category</th> <th data-bbox="682 1242 1108 1323">Cumulative Number of Minutes in any one hour time period</th> <th data-bbox="1108 1242 1350 1323">Daytime - <u>7</u> a.m. to 10 p.m.</th> <th data-bbox="1350 1242 1617 1323">Nighttime - <u>10</u> p.m. to <u>7</u> a.m.</th> </tr> </thead> <tbody> <tr> <td data-bbox="527 1323 682 1377"><u>1</u></td> <td data-bbox="682 1323 1108 1377">30</td> <td data-bbox="1108 1323 1350 1377">55</td> <td data-bbox="1350 1323 1617 1377">50</td> </tr> </tbody> </table>	Category	Cumulative Number of Minutes in any one hour time period	Daytime - <u>7</u> a.m. to 10 p.m.	Nighttime - <u>10</u> p.m. to <u>7</u> a.m.	<u>1</u>	30	55	50	The general noise regulations and time of day restrictions for exterior noise would apply, and the proposed work includes the use of off road vehicles. Exceptions are made for the protection of public health.
Category	Cumulative Number of Minutes in any one hour time period	Daytime - <u>7</u> a.m. to 10 p.m.	Nighttime - <u>10</u> p.m. to <u>7</u> a.m.								
<u>1</u>	30	55	50								

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards				Applicability to Project																								
		2	15	60	55																									
		3	5	65	60																									
		4	1	70	65																									
		5	0	75	70																									
<p>Table II Receiving Land Use — Commercial Properties Noise Level Standards, dB(A)</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Cumulative Number of Minutes in any one hour time period</th> <th>Daytime - 7 a.m. to 10 p.m.</th> <th>Nighttime - 10 p.m. to 7 a.m.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>30</td> <td>65</td> <td>60</td> </tr> <tr> <td>2</td> <td>15</td> <td>70</td> <td>65</td> </tr> <tr> <td>3</td> <td>5</td> <td>75</td> <td>70</td> </tr> <tr> <td>4</td> <td>1</td> <td>80</td> <td>75</td> </tr> <tr> <td>5</td> <td>0</td> <td>85</td> <td>80</td> </tr> </tbody> </table> <p>4-10.6 – Motor Vehicle Noise Limits.</p> <p>a. Recreational Motorized Vehicles Operating Off A Public Highway. No person shall operate or cause to be operated any recreational motorized vehicle off a public highway in such a manner as to create a noise disturbance or exceed the standards set forth in Section 4-10.4 of this section.</p> <p>4-10.7 - Special Provisions (Exceptions).</p> <p>d. Public Health, Welfare and Safety Activities. The provisions of this section shall not apply to construction or maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including, but not limited to street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.</p>							Category	Cumulative Number of Minutes in any one hour time period	Daytime - 7 a.m. to 10 p.m.	Nighttime - 10 p.m. to 7 a.m.	1	30	65	60	2	15	70	65	3	5	75	70	4	1	80	75	5	0	85	80
Category	Cumulative Number of Minutes in any one hour time period	Daytime - 7 a.m. to 10 p.m.	Nighttime - 10 p.m. to 7 a.m.																											
1	30	65	60																											
2	15	70	65																											
3	5	75	70																											
4	1	80	75																											
5	0	85	80																											

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project								
Berkeley	Berkeley Municipal Code, Chapter 13.40 Community Noise	<p>13.40.030 – General noise regulations</p> <p>A. Notwithstanding any other provisions of this chapter, and in addition thereto, it shall be unlawful for any person to willfully or negligently make or continue, or cause to be made or continued, any loud, unnecessary, or unusual noise which disturbs the peace and quiet of any neighborhood or which causes any discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. Noncommercial nonamplified public speaking and public assembly activities conducted on any public space or public right-of-way shall be exempt from the operation of this section.</p> <p>13.40.050 – Exterior noise standards</p> <p>A. Maximum permissible sound levels shall be determined by the zoning district of the property subject to the noise, not the property from which the noise originates.</p> <ol style="list-style-type: none"> 1. The noise standards for the various categories of land use in Table 13.40-1 or 13.40-2 shall, unless otherwise specifically indicated in other codes, apply to all such property within a designated zone. 2. No person shall operate or cause to be operated any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the sound level when measured on any other property to exceed: <ol style="list-style-type: none"> a. The noise standard for that land use as specified in Table 13.40-1 for a cumulative period of more than 30 minutes in any hour; or b. The noise standard for that land use as specified in Table 13.40-1 plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or c. The noise standard for that land use as specified in Table 13.40-1 plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or d. The noise standard for that land use as specified in Table 13.40-1 plus 15 dBA for a cumulative period of more than 1 minute in any hour; or e. The noise standard for that land use as specified in Table 13.40-1 plus 20 dBA for any period of time. <p>Table 13.40-1 Exterior Noise Limits (Levels not to be exceeded more than 30 minutes any hour)</p> <table border="1" data-bbox="527 1235 1507 1398"> <thead> <tr> <th>Zoning District</th> <th>Time Period</th> <th>Noise Level (dBA)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">R-1, R-2, R-1A, R-2A, and ESR</td> <td>7:00 a.m. – 10:00 p.m.</td> <td>55</td> </tr> <tr> <td>10:00 p.m. – 7:00 a.m.</td> <td>45</td> </tr> </tbody> </table>	Zoning District	Time Period	Noise Level (dBA)	R-1, R-2, R-1A, R-2A, and ESR	7:00 a.m. – 10:00 p.m.	55	10:00 p.m. – 7:00 a.m.	45	The general noise regulations and time of day restrictions for exterior noise would apply, and the proposed work includes the use of power tools and pumps.
Zoning District	Time Period	Noise Level (dBA)									
R-1, R-2, R-1A, R-2A, and ESR	7:00 a.m. – 10:00 p.m.	55									
	10:00 p.m. – 7:00 a.m.	45									

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project									
		<table border="1" data-bbox="527 303 1507 565"> <tr> <td data-bbox="527 303 884 399">R-3 and above</td> <td data-bbox="884 303 1220 399">7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.</td> <td data-bbox="1220 303 1507 399">60 55</td> </tr> <tr> <td data-bbox="527 399 884 495">Commercial</td> <td data-bbox="884 399 1220 495">7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.</td> <td data-bbox="1220 399 1507 495">65 60</td> </tr> <tr> <td data-bbox="527 495 884 565">Industry</td> <td data-bbox="884 495 1220 565">Anytime</td> <td data-bbox="1220 495 1507 565">70</td> </tr> </table> <p data-bbox="527 574 1633 1424"> 3. If the measured ambient noise level is greater than the level permissible within any of the noise limit categories above, the sound level when measured on any other property shall not exceed: <ul style="list-style-type: none"> a. The ambient noise level for a cumulative period of more than 30 minutes in any hour; or b. The ambient noise level plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or c. The ambient noise level plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or d. The ambient noise level plus 15 dBA for a cumulative period of more than 1 minute in any hour; or e. The ambient noise level plus 20 dBA for any period of time. 4. If the measurement location is on a boundary between two different zones, the sound level limit applicable to the quieter noise zone shall apply. 5. If possible, the ambient noise level may be measured at the same location along the property line utilized in subsection A.2 of this section with the alleged offending noise source inoperative. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the ambient noise level may be determined by traveling away from the noise source to a point where a steady state decibel reading is achieved. If this test is not possible, the noise level measured while the source is in operation shall be compared directly to the noise level standards. B. The classification of additional areas of the community not listed in Table 13.40-1 in terms of environmental noise zones shall be determined by the EHD. Industrial noise limits are intended primarily for use at the boundary of industrial zones rather than for noise reduction within the zone. (Ord. 7122-NS § 5, 2009; Ord. 5500-NS § 1 (part), 1982) </p>	R-3 and above	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	60 55	Commercial	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	65 60	Industry	Anytime	70	
R-3 and above	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	60 55										
Commercial	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	65 60										
Industry	Anytime	70										

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project
		<p>13.40.070 Prohibited Acts</p> <p>A. Noise Disturbances Prohibited. No person shall unnecessarily make, continue, or cause to be made or continued, any noise disturbance prohibited by Section 13.40.030.A that is not otherwise specifically listed in subsection B of this section.</p> <p>B. Specific Prohibitions. The following acts, and the causing or permitting thereof, are declared to be in violation of this chapter:</p> <p>11. Domestic Power Tools, Machinery.</p> <p>a. Operating or permitting the operation of any mechanically powered saw, sander, drill, grinder, lawn or garden tool, or similar tool before 7:00 a.m. on a weekday (or before 9:00 a.m. on a weekend or holiday) or after 7:00 p.m. on a weekday (or after 8:00 p.m. on a weekend or holiday) such that the sound therefrom across a residential or commercial real property line violates Section 13.40.050 or 13.40.060.</p> <p>b. Any motor, machinery, pump, such as swimming pool equipment, etc., shall be sufficiently enclosed or muffled and maintained so as not to create a Noise Disturbance in accordance with Section 13.40.050 or 13.40.060.</p>	
Dublin	Dublin Municipal Code, Title 5 Public Welfare, Chapter 5.28 Noise	<p>5.28.020 Unreasonable noise prohibited.</p> <p>A. It is unlawful and a nuisance for any person within the city persistently to maintain, emit, cause, mechanically or otherwise, or permit any animal owned by him or in his possession or control to make any loud, or disturbing, or unnecessary, or unusual or habitual noise or any noise which annoys or disturbs or injures or endangers the health, repose, peace or safety of any reasonable person of normal sensitivity present in the area.</p> <p>B. The standards which shall be considered in determining whether a violation of the provisions of this chapter exists shall include, but shall not be limited to the following:</p> <ol style="list-style-type: none"> 1. The level, intensity, character and duration of the noise; 2. The level, intensity and character of background noise, if any; 3. The time when and the place and zoning district where the noise occurred; 4. The proximity of the noise to residential sleeping facilities; and 5. Whether the noise is recurrent, intermittent or constant. (Ord. 4-84 § 2) 	The general noise regulations and time of day restrictions for the prohibition of unreasonable noise would apply
Emeryville	Emeryville Municipal Code, Title 5 Public Welfare	<p>5-13.05 Construction Noise</p> <p>(a) General construction noise on private and public projects shall be limited to weekdays from 7:00 a.m. to 6:00 p.m. Pile driving and similarly loud activities shall be limited to weekdays from 8:00 a.m. to 5:00 p.m.</p> <p>(d) Conditions of approval for land use approvals pursuant to Chapter 4 of Title 9 shall set the same</p>	The proposed work includes temporary impacts, similar to construction.

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project
	,Chapter 13 Noise	<p>construction noise hours as this chapter, except in the following situations:</p> <ul style="list-style-type: none"> a. More restrictive construction noise hours may be established when appropriate given the surrounding neighborhood, type of noise or other unique factors. b. Planning Commission or City Council approvals granted prior to final passage of this chapter shall prevail over this chapter. c. The City Council may allow construction noise beyond the hours contained in this chapter, upon request of a developer, owner or contractor for a waiver, following the procedure set forth in Section 5-13.06. 	
Fremont	Fremont Municipal Code, Title 9 Public, Peace, Morals, and Welfare, Chapter 9.25 Noise,	<p>9.25.010 Motor vehicles.</p> <ul style="list-style-type: none"> (a) No person shall drive a motorcycle or motor-driven cycle as such vehicles are defined in the California Vehicle Code, including but not limited to motorscooters, motor bikes and minibikes, upon any property which is not a public street, or a private street approved by the city. (b) Exceptions. This section shall not apply in any of the following instances: <ul style="list-style-type: none"> (1) Where such vehicle is being driven upon property by the resident, regular occupant, or authorized visitor for the purpose of ingress or egress to such property. (2) Where such use is permitted pursuant to a conditional use permit or otherwise in accordance with the zoning ordinance of the city (Title 18). (Ord. 874 § 1, 12-7-71; Ord. 879 § 1, 1-25-72. 1990 Code § 3-8600.) 	The proposed work would include the use of off road motor vehicles, however, the majority of the use would be as an authorized visitor for ingress or egress to the property.
Hayward	Hayward Municipal Code, Chapter 4 Public Welfare, Morals, and Conduct, Article 1 Public Nuisances	<p>SEC 4-1.02 UNREASONABLE NOISES.</p> <p>It shall be unlawful for any person to disturb the peace, quiet, and comfort of the community, or any portion thereof, or neighborhood therein, by creating or causing to be created any unreasonable noises, as hereinafter defined, in the City of Hayward.</p> <p>SEC. 4-1.03.1 NOISE RESTRICTION BY DECIBEL.</p> <ul style="list-style-type: none"> (a) Residential Property Noise Limits. <ul style="list-style-type: none"> 1. No person shall produce or allow to be produced by human voice, machine, device, or any combination of same, on residential property, a noise level at any point outside of the property plane that exceeds seventy (70) dBA between the hours of 7:00 a.m. and 9:00 p.m. or sixty (60) dBA between the hours of 9:00 p.m. and 7:00 a.m. 2. No person shall produce or allow to be produced by human voice, machine, device, or any combinations of same, on multifamily residential property, a noise level more than sixty (60) dBA three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located. 	The general noise regulations and time of day restrictions for noise would apply, and the proposed work includes temporary impacts, similar to construction.

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project
		<p>(b) Commercial and Industrial Property Noise Limits. Except for commercial and industrial property abutting residential property, no person shall produce or allow to be produced by human voice, machine, device, or any other combination of same, on commercial or industrial property, a noise level at any point outside of the property plane that exceeds seventy (70) dBA. Commercial and industrial property that abuts residential property shall be subject to the residential property noise limits set forth in subsections (a)(1) and (2) above.</p> <p>(c) Public Property Noise Limits. Except as otherwise provided in these regulations, no person shall produce or allow to be produced on public property, by human voice, machine, device, or any combination of same, a noise level that exceeds sixty (60) dBA at a distance of 25 feet or more from the source. Noise from activities of the City of Hayward is exempted from these regulations.</p> <p>SEC. 4-1.03.4 CONSTRUCTION AND ALTERATION OF STRUCTURES; LANDSCAPING ACTIVITIES.</p> <p>Unless otherwise provided pursuant to a duly-issued permit or a condition of approval of a land use entitlement, the construction, alteration, or repair of structures and any landscaping activities, occurring between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays, and 7:00 a.m. and 7:00 p.m. on other days, shall be subject to the following:</p> <p>(a) (a)No individual device or piece of equipment shall produce a noise level exceeding eighty-three (83) dBA at a distance of twenty-five (25) feet from the source. If the device or equipment is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close as possible to twenty-five (25) feet from the equipment.</p> <p>(b) (b)The noise level at any point outside of the property plane shall not exceed eighty-six (86) dBA.</p> <p>(c) (c)During all other times, the decibel levels set forth in Section 4-1.03.1 shall control.</p>	
Livermore	Livermore Municipal Code,	<p>9.36.040 Blowers, fans and combustion engines.</p> <p>The operation of any noise-creating blower, power fan or internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, is prohibited, unless the noise from such blower or fan is muffled and such engine is equipped with a muffler device to deaden such noise in such a manner so as not to be plainly audible at a distance of either 75 feet from the source of the noise, or between the hours of 6:00 p.m. Saturday to 7:00 a.m. Monday; 8:00 p.m. to 7:00 a.m. on Monday, Tuesday, Wednesday and Thursdays; 8:00 p.m. Friday to 9:00 a.m. on Saturday or at all on city-observed holidays. (Ord. 1672 § 1, 2002; Ord. 1128 § 2, 1983; 1960 code § 13B.3(g))</p>	The proposed work includes temporary impacts, similar to the use of blowers, fans, and combustion engines.
Newark		No Noise specific ordinances	
Oakland	Oakland, California Code of	<p>8.18.010 - Excessive and annoying noises prohibited.</p> <p>A. It is unlawful for any person to create or allow to be created any excessive or annoying noise as defined herein. Any violation of the regulations specified herein shall be punishable as an</p>	The general noise regulations and time of day restrictions for noise

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project															
	<p>Ordinances, Title 8 Health and Safety, Chapter 8.18 Nuisances</p> <p>Oakland Planning Code, Title 17 Planning, Chapter 17.120 Performance Standards</p>	<p>infraction.</p> <p>C. Excessive and Annoying Noises a Nuisance. The following acts, and the causing or permitting thereof, shall be considered disturbing the peace and shall constitute an infraction.</p> <p>9. Domestic Power Tools, Machinery. Operating or permitting the operation of any mechanically powered saw, sander, drill, grinder, lawn or garden tool, or similar tool between nine p.m. and six a.m. so as to create a noise disturbance across a real property line or at any time to violate the applicable noise provisions of the Oakland Planning Code;</p> <p>10. Sensitive Uses. Creation of any noise within or adjacent to a hospital or medical care facility, nursing home, school, court, day care, church, or similar facility, so as to interfere with the functions of such activity;</p> <p>11. Noise resulting from construction and demolition activities, the operation of commercial refrigeration units, air conditioning systems, compressors, commercial exhaust systems, ventilation units, and other commercial or industrial noises associated with land use activities, shall be regulated pursuant to standards contained within the noise regulations of the Oakland Planning Code.</p> <p>17.120.050 Noise.</p> <p>All activities shall be so operated that the noise level inherently and regularly generated by these activities across real property lines shall not exceed the applicable values indicated in subsection A, B, or C as modified where applicable by the adjustments indicated in subsection D or E. Further noise restrictions are outlined in Section 8.18.010 of the Oakland Municipal Code.</p> <p>(a) Temporary Construction or Demolition Which Exceed the Following Noise Level Standards.</p> <p>1. The daytime noise level received by any residential, commercial, or industrial land use which is produced by any nonscheduled, intermittent, short-term construction or demolition operation (less than ten (10) days) or by any repetitively scheduled and relatively long-term construction or demolition operation (ten (10) days or more) shall not exceed the maximum allowable receiving noise levels described in Table 17.120.04.</p> <p>Table 17.120.04 establishes the maximum allowable receiving noise levels:</p> <p>TABLE 17.120.04 Maximum Allowable Receiving Noise Level Standards, dBA</p> <table border="1" data-bbox="527 1198 1425 1401"> <thead> <tr> <th></th> <th>Daily 7a.m. to 7p.m.</th> <th>Weekends 9a.m to 8p.m.</th> </tr> </thead> <tbody> <tr> <td>Short-term Operational</td> <td></td> <td></td> </tr> <tr> <td>Residential</td> <td>80</td> <td>65</td> </tr> <tr> <td>Commercial, Industrial</td> <td>85</td> <td>70</td> </tr> <tr> <td>Long-term Operational</td> <td></td> <td></td> </tr> </tbody> </table>		Daily 7a.m. to 7p.m.	Weekends 9a.m to 8p.m.	Short-term Operational			Residential	80	65	Commercial, Industrial	85	70	Long-term Operational			<p>would apply, and the proposed work includes temporary impacts, similar to construction.</p>
	Daily 7a.m. to 7p.m.	Weekends 9a.m to 8p.m.																
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Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project						
		<table border="1" data-bbox="527 305 1430 386"> <tr> <td data-bbox="527 305 894 342">Residential</td> <td data-bbox="894 305 1146 342">65</td> <td data-bbox="1146 305 1430 342">55</td> </tr> <tr> <td data-bbox="527 342 894 386">Commercial, Industrial</td> <td data-bbox="894 342 1146 386">70</td> <td data-bbox="1146 342 1430 386">60</td> </tr> </table> <p data-bbox="527 435 1602 540">2. The nighttime noise level received by any land use and produced by any construction or demolition activity between weekday hours of seven (7) p.m. and seven (7) a.m. or between eight (8) p.m. and nine (9) a.m. on weekends and federal holidays shall not exceed the applicable nighttime noise level standards outlined in this section.</p>	Residential	65	55	Commercial, Industrial	70	60	
Residential	65	55							
Commercial, Industrial	70	60							
Piedmont	Piedmont Municipal Code, Chapter 12 Offenses-Miscellaneous	<p data-bbox="527 557 783 581">12.8.2 Prohibited Noise.</p> <p data-bbox="527 589 1619 621">In addition to the prohibition described in paragraph 12.8.1, the following noise is specifically prohibited:</p> <p data-bbox="527 630 1619 735">(a) Construction and Demolition. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition activities between the hours of 6:00 p.m. and 8:00 a.m. each day, Sunday evening through Saturday morning, and between the hours of 6:00 p.m. and 9:00 a.m. Saturday evening through Sunday morning.</p> <p data-bbox="527 743 1619 857">(b) Gasoline-Powered Blower. It shall be unlawful for any person to operate a gasoline-powered device used to blow leaves, dirt or other debris off sidewalks, driveways, lawns or other surfaces within any area of the City except that gasoline-powered leaf blowers may be used by public agencies on publicly-owned or operated facilities. (Ord. No. 517 N.S., 3/90)</p>	The general noise regulations and time of day restrictions for noise would apply, and the proposed work includes temporary impacts, similar to construction.						
Pleasanton	Pleasanton Municipal Code, Title 9 Health and Safety, Chapter 9.04 Noise Regulations	<p data-bbox="527 870 768 894">9.04.100 Construction.</p> <p data-bbox="527 902 1619 1016">Notwithstanding any other provision of this chapter, between the hours of 8:00 a.m. and 8:00 p.m. daily, except Sunday and holidays, when the exemption shall apply between 10:00 a.m. and 6:00 p.m., construction, alteration or repair activities which are authorized by a valid city permit shall be allowed if they meet at least one of the following noise limitations:</p> <p data-bbox="621 1024 1619 1105">A. No individual piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible; or</p> <p data-bbox="621 1114 1619 1170">B. The noise level at any point outside of the property plane of the project shall not exceed 86 dBA. (Prior code § 4-9.07(d))</p>	The general noise regulations and time of day restrictions for noise would apply, and the proposed work includes temporary impacts, similar to construction.						
San Leandro	San Leandro Municipal Code, Chapter 4-1, Article 11	<p data-bbox="527 1183 846 1208">4-1-1115 PROHIBITED ACTS</p> <p data-bbox="527 1216 1619 1362">It is the intent of this Article to prohibit all disturbing, excessive and offensive noises except those specifically exempted by Section 4-1-1120 and those permitted under an exception permit issued pursuant to 4-1-1125. Notwithstanding any other provisions of this Article, the following acts, which are not in any way exclusive, are declared to be disturbing, excessive and offensive noises in violation of Section 4-1-1110:</p> <p data-bbox="527 1370 1619 1419">(b) Construction-related Noise Near Residential Uses. Construction work or related activity which is adjacent to or across a street or right of way from a residential use, except between the hours of 7</p>	The general noise regulations and time of day restrictions for noise would apply, and the proposed work includes temporary impacts, similar to construction.						

Table 12-4 Relevant Local Noise Standards in the Alameda County Mosquito Abatement District Service Area

Jurisdiction	Source	Summary of Applicable Standards	Applicability to Project
		<p>a.m. and 7 p.m. on weekdays, or between 8 a.m. and 7 p.m. on Sunday and Saturday. No such construction is permitted on Federal holidays. As used in this Article, "construction" shall mean any site preparation, assembly, erection, substantial repair, alteration, demolition or similar action, for or on any private property, public or private right-of-way, streets, structures, utilities, facilities, or other similar property. Construction activities carried on in violation of this Article may be enforced as provided in Section 4-11-1130, and may also be enforced by issuance of a stop work order and/or revocation of any or all permits issued for such construction activity.</p> <p>4-1-1120 EXEMPTIONS</p> <p>The following activities shall be exempt from the provisions of this title:</p> <p>(c) Federal or State Preempted Activities. The provisions of this Article shall not apply to any other activity the noise level of which is regulated by state or federal law.</p> <p>(e) Public Health, Welfare and Safety Activities. The provisions of this Article shall not apply to construction maintenance and repair operations conducted by public agencies, franchisees of the City and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, trash collection, street sweeping, tree removal, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, stormdrains, roads, sidewalks, etc.</p>	<p>Exceptions are made for the protection of public health.</p>
Union City	Union City Municipal Code, Title 9 Peace, Safety and Morals, V. Offenses Against the Public Peace, Chapter 9.40 Community Noise	<p>Article 5. Special Provisions</p> <p>9.40.053 Construction.</p> <p>Notwithstanding any other provision of this chapter, between the hours of eight a.m. and eight p.m. daily except Saturday, when the exemption herein shall apply between nine a.m. and eight p.m. and Sundays and holidays, when the exemption herein shall apply between ten a.m. and six p.m., construction, alteration, or repair activities which are authorized by valid City permit shall be allowed if they meet at least one of the following noise limitations:</p> <p>A. No individual piece of equipment shall produce a noise level exceeding eighty-three dBA at a distance of twenty-five feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to twenty-five feet from the equipment as possible.</p> <p>B. The noise level at any point outside the property plane of the project shall not exceed eighty-six dBA. (Ord. 275-86 § 1, 1986)</p>	<p>The general noise regulations and time of day restrictions for noise would apply, and the proposed work includes temporary impacts, similar to construction.</p>

Other CEQA Guidelines Appendix G criteria for noise impacts include impacts from permanent increases in noise levels, ground-borne vibration, and impacts from nearby airports and airstrips. With regard to vibration, Program equipment with the highest vibratory potential would include light trucks. While these vehicles may produce vibration, the levels would not be expected to be perceptible over existing vibration from delivery or highway truck traffic, and vibration levels would not reach thresholds for human annoyance or structural damage. With regard to permanent increases in noise levels, noise from the Program would be temporary and would last only for the duration of each activity. No potential exists to produce permanent increases in noise as a result of the Program. Finally, with regard to airports and airstrips, the Program would not result in the location of any new receptors near airports or airstrips. Therefore, these three criteria have been dismissed from the analysis and are not discussed further.

Concerns raised during public scoping, comments made during other District activities, and historical questions raised by individuals include:

- > Noise-related impacts on humans, in particular consistency with local noise regulations
- > Noise-related impacts on wildlife

The potential to exceed noise standards and result in substantial temporary noise levels above those existing (and without the Program equipment in use) within the Program Area are evaluated for each Program alternative. Impacts of Program noise on wildlife are addressed in Chapter 4, Biological Resources—Aquatic and Chapter 5, Biological Resources—Terrestrial.

12.2.2 Evaluation Methods and Assumptions

The methodology and assumptions of this noise impact evaluation for Program alternatives are provided below.

12.2.2.1 Methodology

The methodology used to prepare this programmatic noise impact section is as follows:

- > Reviewed transcripts from public scoping meetings for local districts on the PEIR held in 2012.
- > Reviewed federal, state, and selected county and municipal noise regulations, plans, ordinances, and/or guidelines for general noise issues and issues related to Program-specific noise sources.
- > Obtained source-specific noise data for Program-specific noise sources where available.
- > Estimated noise levels for specific and categorical equipment types proposed for Program operations where specific noise data were not available at 50 feet and 400 feet from point of measure.
- > Compared Proposed Program activities with those that currently occur under the existing mosquito control program (existing conditions).
- > Determined probable noise impacts associated with the alternatives proposed in Chapter 2 based on the above significance thresholds. The impact analysis is based on detailed information regarding equipment and vehicle types and usage, and land uses where they would be used provided by the District. Detailed information regarding the noise generated by each type of equipment and vehicles that would be used is shown in Appendix D, Table 4-1.

12.2.2.2 Assumptions

The following assumptions were used in the assessment of potential noise impacts from the Program alternatives:

- > Impacts are addressed at a programmatic level based on categories of land use types. Site-specific evaluation of noise sources and potential impacts is beyond the scope of this programmatic evaluation.

Also, the District has implemented BMPs to avoid and minimize impacts from their Program activities. The analysis of impacts considered the implementation of the following BMPs (from Table 2-6: BMPs A8, A11, and A12, respectively) that are used by the District for operations that generate noise expected to be of concern to the public.

- > Vehicles driving on levees to travel through tidal marsh, or to access sloughs or channels for surveillance or treatment activities will travel at speeds no greater than 10 miles per hour to minimize noise and dust disturbance.
- > Operation of noise-generating equipment (e.g., chainsaws, brush-cutters) will abide by the time-of-day restrictions established by the applicable local jurisdiction (i.e., City and/or County) if such noise activities would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship) located in the applicable local jurisdiction. Shut down all motorized equipment when not in use.
- > For operations that generate noise expected to be of concern to the public, the following measures will be implemented:
 - Measure 1: Provide Advance Notices: A variety of measures are implemented depending on the magnitude/nature of the activities undertaken by the District, and may include, but are not limited to, press releases, the District website, social media, and posted signs. Public agencies and elected officials also may be notified of the nature and duration of the activities, including the Board of Supervisors or City Council, environmental health and agricultural agencies, emergency service providers, and airports.
 - Measure 2: Provide Mechanism to Address Complaints: District staff is available during regular business hours to respond to service calls and address concerns about nighttime operations.

12.2.3 Surveillance Alternative

The Surveillance Alternative would involve both ground surveillance and water surveillance. Typically, ground surveillance would require the periodic use of light trucks, such as pickup trucks and jeeps, and ATVs and would take place in all land use types. Water surveillance would require the use of ATVs, and occasionally, boats and most frequently would occur in agricultural and open-space areas including wildlife refuges, where noise-sensitive human receptors are typically not located. Table 12-5 also shows the range of noise levels that vehicles and equipment typically would generate at 50- and 400-foot distances from the source. As indicated, noise attenuates, or is reduced, rapidly as the distance from the noise source increases. Detailed information regarding the average number of hours per day and the number of days in a quarter that equipment and vehicles would be used is included in Appendix D. Most equipment would only be operated a few hours per day for varying periods of time throughout the year.

Table 12-5 Surveillance Alternative—Primary Equipment Use, Noise Levels, and Land Use Types

Activity	Application Equipment	Predicted Noise Level (dBA)		Land Use Types				
		50 feet	400 feet	Residential	Commercial	Industrial	Agricultural	Open Space
Ground Surveillance	Light trucks	83	65	•	•	•	•	•
	ATVs	87	69				•	•
Water Surveillance	ATVs	87	69				•	•

12.2.3.1 *Exceedance of Noise Standards*

As discussed in Section 12.1.5.3, many jurisdictions specifically exempt activities intended to protect public health and safety, such as those implemented under the Proposed Program, from their noise standards. The District BMPs (Table 2-6) include requiring operation of noise-generating equipment to abide by the time-of-day restrictions established by the applicable local jurisdiction if such noise activities would be audible to receptors located in the applicable local jurisdiction (BMP A11); thus, this alternative would be consistent with the time-of-day standards established by each of the local jurisdictions.

Alameda County and all cities within the Service Area except Fremont, Newark, and Dublin identify noise limits allowed during certain times of day. As noted above, the BMPs include requiring operation of noise-generating equipment to abide by the time-of-day restrictions established by the applicable local jurisdiction if such noise activities would be audible to receptors located in the applicable local jurisdiction. Noise from this alternative would be periodic, limited to brief periods of time spread out over multiple days in multiple locations, minimizing the amount of time any sensitive receptor was exposed to increased noise. The only land-based equipment operated near residential and commercial development would be light trucks, which are commonly used in such areas and would not increase noise levels beyond the established thresholds given that only a few trucks would be used and they would be in proximity to such uses only for a brief period of time.

ATVs primarily would be used in agricultural and open-space areas, as well as industrial areas, which are typically not considered noise-sensitive receptors. No thresholds for agricultural and open-space land uses have been established by local jurisdictions, and the guidelines established by the USEPA and State of California are intended to protect receptors in such areas from long-term sources of noise, not temporary, sporadic sources such as would occur under the Program. Boats, including an airboat in the future, would be used in open-space areas, although they could be used within approximately 100 yards of residential areas. Airboats would be used primarily in marshes and sloughs managed for wildlife. Given the temporary, sporadic increase in noise at any given location, noise from the Surveillance Alternative would not exceed regulatory standards.

Impact N-1: Use of equipment and vehicles would increase noise levels during operations, but this increase would not exceed regulatory thresholds. This impact is **less than significant** based on the frequency and duration of the activity, resulting noise levels, and compliance with BMPs. No mitigation is required.

12.2.3.2 *Substantial Temporary Increase in Noise Levels*

Noise from the use of light trucks generally would not be distinguishable from ambient noise levels because it takes a doubling of traffic to increase noise levels by only 3 dB. The types of light trucks that would be used (e.g., pickup trucks and jeeps) are common, and a limited number of vehicles would be used and would be dispersed over a large area. Use of ATVs and boats would occur in agricultural and open-space areas; they generally would not be used in proximity to noise sensitive receptors, although certain types of open-space areas may have increased sensitivity to noise, such as those used by recreation users seeking quiet. Given the limited numbers of vehicles that would be used sporadically for brief periods of time over a large area and the limited duration that they would be used in any given location, noise levels would not increase by 3- to 5-dBA CNEL in proximity to noise-sensitive receptors. The District also is already implementing the types of activities that are part of this alternative; thus, this alternative represents a continuation of existing conditions, and noise levels from Program activities would not increase beyond those that already occur. In addition, BMP A8 would require reduced vehicle speed on levees, reducing noise levels in these areas. Furthermore, BMP 14 requires that all equipment and vehicles will be maintained and properly tuned in accordance with the manufacturer's specifications, not only improving air quality but reducing noise as well. In addition, BMPs A11 and A12 would be implemented as appropriate by providing advance notification of noise-generating activities expected to be of concern to the public and providing a means for registering public complaints about noise, thus further minimizing the potential for public annoyance.

Impact N-2: Use of equipment and vehicles would cause a temporary increase in noise levels during operations. This increase would not be substantial and, therefore, is **less than significant** based on the frequency and duration of the activity, resulting noise levels, comparability to noise resulting from existing activities, and implementation of BMPs. No mitigation is required.

12.2.4 Physical Control Alternative

The Physical Control Alternative involves a variety of actions, some of which would not directly result in noise generated by the District; they include educating and advising landowners regarding appropriate methods to control mosquitoes. Some activities, such as ditching and debris removal in natural channels, would require the implementation of maintenance activities within marshes and wetlands, which typically are in undeveloped areas and not in proximity to noise-sensitive receptors. Other activities would take place in more urban areas, such as those including localized management associated with wastewater treatment facilities.

The number and type of vehicles and equipment required vary, as shown in Table 12-6, but typically, ground management would require the periodic use of light trucks, such as pickup trucks and jeeps, and hand tools. In addition to the primary vehicles and equipment that would be used by the District, Table 12-6 also shows the range of noise levels that they typically would generate at 50- and 400-foot distances from the source. This table also shows the land use types where activities would occur.

Table 12-6 Physical Control Alternative—Primary Equipment Use, Noise Levels, and Land Use Types

Activity	Application Equipment	Predicted Noise Level (dBA)		Land Use Types				
		50 feet	400 feet	Residential	Commercial	Industrial	Agricultural	Open Space
Ground Application/Mgt	Light trucks	83	65	•	•	•	•	•
	Brush cutter, chain saw	63-70	45-50					•

12.2.4.1 Exceedance of Noise Standards

The discussion under the Surveillance Alternative is generally applicable to the Physical Control Alternative because similar types of vehicles and equipment would be used, or they would generate similar amounts of noise and be used for a similar length of time. Noise generated by the Physical Control Alternative would not exceed noise standards because time-of-day restrictions would be followed under BMP A11 (Table 2-6). Also, use of some of the equipment occurs only in industrial, agricultural, and open space areas, avoiding land use conflicts. Furthermore, the temporary and sporadic use of a few light trucks, would not exceed any thresholds.

Impact N-1: Use of equipment and vehicles would increase noise levels during operations, but this increase would not exceed regulatory thresholds. This impact is **less than significant** based on the frequency and duration of the activity, resulting noise levels, and compliance with BMPs. No mitigation is required.

12.2.4.2 **Substantial Temporary Increase in Noise Levels**

The discussion under the Surveillance Alternative is generally applicable to the Physical Control Alternative because similar types of vehicles and equipment would be used, or they would generate similar amounts of noise and be used for a similar length of time. The types of activities that would occur under this alternative already are being implemented by the Districts and noise impacts, therefore, would be comparable to those that already occur. In addition, BMPs A8, A11, A12, and A14 (Table 2-6) would be implemented as appropriate.

Impact N-2: Use of equipment and vehicles would cause a temporary increase in noise levels during operations. This increase would not be substantial, and therefore is **less than significant** based on the frequency and duration of the activity, resulting noise levels, comparability to noise resulting from existing activities, and implementation of BMPs. No mitigation is required.

12.2.5 **Vegetation Management Alternative**

Certain elements of the Vegetation Management Alternative would not directly generate noise, such as teaching landowners how to perform vegetation management on their property. At other times, District staff may periodically undertake vegetation management activities, which require the use of hand tools or other mechanical means (i.e., heavy equipment) for vegetation removal or thinning and may sometimes apply herbicides (chemical pesticides with specific toxicity to plants) to improve surveillance or reduce mosquito habitats. Vegetation removal or thinning primarily occurs in aquatic habitats to assist with the control of mosquitoes and in terrestrial habitats to help with access to mosquito producing sources.

To reduce the potential for mosquito breeding associated with water retention and infiltration structures, District staff may, in consultation with appropriate resource agencies and any required permits, systematically clear weeds and other obstructing vegetation in wetlands and retention basins (or request the structures' owners to perform this task). Tools ranging from shovels and pruners to chainsaws and weed eaters up to heavy equipment may be used at times to clear plant matter that either prevents access to mosquito breeding sites or that prevents good water management practices that would minimize mosquito populations. Generally, however, District "brushing" activities rely almost entirely on hand tools.

Currently the District is not engaging in any activities under the Vegetation Management Alternative that generate noise but any future noise generating activities would be similar to those reported under the Physical Control Alternative, Section 12.2.4. The number and type of vehicles and equipment required would be similar to those shown in Table 12-6. Typically, vegetation management would require the periodic use of light trucks, such as pickup trucks and jeeps, and ATVs, as well as equipment such as mowers, chain saws, and weed eaters. In addition to the vehicles and equipment that would be used by the District, Table 12-6 shows the range of noise levels that they typically would generate at 50- and 400-foot distances from the source and the land uses that would be affected. Shovels and other hand tools that generate no noise or minimal noise are not included in this table.

12.2.5.1 **Exceedance of Noise Standards**

The discussion under the Surveillance Alternative is generally applicable to the Vegetation Management Alternative because similar types of vehicles and equipment would be used, or they would have comparable noise levels and also would be used for brief periods of time over multiple locations. Noise generated would be similar to that which already occurs for other Alternatives and would not exceed noise standards because time-of-day restrictions would be followed under BMP A11 (Table 2-6). Also, use of some of the equipment occurs only in industrial, agricultural, and open space areas, avoiding land use conflicts. Furthermore, the temporary and sporadic use of a few light trucks, would not exceed any thresholds.

Impact N-1: Use of equipment and vehicles would increase noise levels during operations, but this increase would not exceed regulatory thresholds. This impact is **less than significant** based on the frequency and duration of the activity, resulting noise levels, and compliance with BMPs. No mitigation is required.

12.2.5.2 Substantial Temporary Increase in Noise Levels

The discussion under the Surveillance Alternative generally is applicable to the Vegetation Management Alternative because similar types of vehicles and equipment would be used, or they would have comparable noise levels and also would be used for brief periods of time over multiple locations. Noise generated would be similar to that which already occurs and would not result in a substantial temporary increase in noise levels. In addition, BMPs A8, A11, A12, and A14 (Table 2-6) would be implemented as appropriate.

Impact N-2: Use of equipment and vehicles would cause a temporary increase in noise levels during operations. This increase would not be substantial, and therefore is **less than significant** based on the frequency and duration of the activity, resulting noise levels, comparability to noise resulting from existing activities, and implementation of BMPs. No mitigation is required.

12.2.6 Biological Control Alternative

The Biological Control Alternative involves the use of mosquito pathogens, parasites, and predators (i.e., mosquitofish). The parasites are not commercially available at present. The other options would generate noise, from the periodic use of light trucks (for distribution of mosquitofish at artificial waterbodies only). As mentioned in previous chapters, pathogens are discussed under the Chemical Control Alternative because their potential environmental impacts are generally similar to those of chemical pesticide applications. Examples of bacteria pathogenic to mosquitoes are Bs, the several strains of Bti, and *Saacharopolyspora spinosa*.(or spinosad).

Light Trucks are the primary source of noise for the Biological Control Alternative, as shown in Table 12-7, which also shows the range of noise levels that they typically would generate at 50- and 400-foot distances from the source and the land uses that would be affected.

Table 12-7 Biological Control –Primary Equipment Use, Noise Levels, and Land Use Types

Activity	Application Equipment	Predicted Noise Level (dBA)			Land Use Types				
		50 feet	400 feet	500 feet	Residential	Commercial	Industrial	Agricultural	Open Space
Ground Application/Mgt	Light trucks	83	65	—	•	•	•	•	•

12.2.6.1 Exceedance of Noise Standards

The Biological Control Alternative would have noise levels associated with ground applications involving light trucks only that would be used for brief periods of time over multiple locations. The brief increase in noise from the periodic use of vehicles will not exceed noise standards.

Impact N-1: Use of equipment and vehicles would increase noise levels during operations, but this increase would not exceed regulatory thresholds. This impact is **less than**

significant based on the frequency and duration of the activity, resulting noise levels, and compliance with BMPs. No mitigation is required.

12.2.6.2 Substantial Temporary Increase in Noise Levels

The Biological Control Alternative would have noise levels associated with the use of light trucks that would be used for brief periods of time over multiple locations. Noise generated would be similar to that which already occurs and would not result in a substantial temporary increase in noise levels.

Impact N-2: Use of equipment and vehicles would cause a temporary increase in noise levels during operations. This increase would not be substantial and, therefore, is **less than significant** based on the frequency and duration of the activity, resulting noise levels, comparability to noise resulting from existing activities, and implementation of BMPs. No mitigation is required.

12.2.7 Chemical Control Alternative

A variety of activities would be implemented under the Chemical Control Alternative. Some activities, such as treating by hand, would not result in noise impacts, other than from the use of vehicles to access the treatment sites. Others would require more extensive use of vehicles and equipment.

The District would use a variety of techniques and equipment to apply mosquito larvicides, including handheld sprayers, backpack sprayers and blowers, truck- or ATV-mounted spray rigs, and helicopters or other aircraft. The District uses conventional pickup trucks and ATVs as larvicide vehicles. Equipment used in ground applications of larvicidal formulations include spray rigs, handheld sprayers (handcans or spray bottles), and backpack sprayers and blowers. Handheld sprayers (handcans) are standard 2- or 3-gallon garden style pump-up sprayers used to treat very small isolated areas. Backpack sprayers are either hand pump-up for liquid applications and have a 2.5 or 5-gallon tank or are gas powered. When large areas are simultaneously producing mosquito larvae at densities exceeding District treatment thresholds, then the District may use a helicopter or other aircraft to apply larvicides. Aerial application of larvicides is a relatively infrequent activity for the District, typically occurring only a few times each year/once every few years, with each application covering around 100 to 1,000 acres. Aerial application of liquid larvicides typically occurs during daylight hours and at an altitude above the treatment site of less than 40 feet. Granular applications would occur during daylight hours at a less-than-50-foot altitude.

The most common form of adulticide application is via insecticide aerosols at very low dosages using ULV- equipment mounted on trucks or handheld for small localized ground applications. Barrier or residual treatments for adult mosquitoes consist of an application using a material generally applied with a compressed air sprayer to the preferred foliage, buildings, or resting areas of the mosquito species.

Aerial applications using helicopters or other aircraft are used to obtain effective control in areas bordered by extensive mosquito production sites or with small, narrow, or inaccessible network of roads. The flight parameters differ by species and habitat. Typically operations fly during hours of daylight so their applications begin either at morning's first light or before sunset and work into twilight. The aircraft can be flown at a less than 200-foot altitude, which may make it easier to hit the target area. Swath widths vary from operation to operation but are normally set somewhere between 400 and 1,200 feet. Aerial applications may be conducted over, but are not limited to, the following land uses within the Program Area: salt marsh, diked marsh, seasonal wetlands; evaporation ponds and wastewater ponds, and recreational areas.

The number and type of vehicles and equipment required would vary, as shown in Table 12-8, which also shows the range of noise levels that they typically would generate at 50- and 400-foot distances from the source and the land uses that would be affected. Noise from helicopters also is shown at a 500-foot distance. All land use types potentially could be treated through aerial applications, although those shown are the most likely to be affected.

Table 12-8 Chemical Control Alternative—Primary Equipment Use, Noise Levels, and Land Use Types

Activity	Application Equipment	Predicted Noise Level (dBA) ^a			Land Use Types				
		50 feet	400 feet	500 feet	Residential	Commercial	Industrial	Agricultural	Open Space
Ground Application/Mgt	Light trucks	83	65	—	•	•	•	•	•
	ATVs	87	69					•	•
	Sprayers	63-66	45-48		•	•	•	•	•
Water Applications/Mgt	ATVs	87	69	—				•	•
	Sprayers	63-66	45-48					•	•
Aerial Applications	Helicopters and fixed-wing aircraft ^a			83-89					•

Notes:

^a Noise from aircraft used for agricultural operations, such as those expected to be used for aerial applications, is not regulated by the FAA and, therefore, no noise information is available. Noise likely would be comparable to that of helicopters.

12.2.7.1 Exceedance of Noise Standards

The discussions under the Surveillance Alternative is generally applicable to the Chemical Control Alternative because, with the exception of aerial applications, similar types of vehicles and equipment would be used, or they would have comparable noise levels and also would be used for brief periods of time over multiple locations. Helicopters or other aircraft would be used under this alternative; they would be used only briefly in any given area and generally would operate in open-space, although other land use types could be affected as well.

Impact N-1: Use of equipment and vehicles would increase noise levels during operations, but this increase would not exceed regulatory thresholds. This impact is **less than significant** based on the frequency and duration of the activity, resulting noise levels, and compliance with BMPs. No mitigation is required.

Impact N-3: Aircraft use would temporarily increase noise levels during operations, but would not exceed regulatory thresholds. This impact is **less than significant** based on the frequency and duration of the activity and resulting noise levels. No mitigation is required.

12.2.7.2 Substantial Temporary Increase in Noise Levels

The discussions under the Surveillance Alternative is generally applicable to the Chemical Control Alternative because, with the exception of aircraft, similar types of vehicles and equipment would be used, or they would have similar noise levels and also would be used for brief periods of time over multiple locations.

Helicopters/fixed-wing aircraft also would be used, but only for brief periods up to several times a year, and they would affect any given area only briefly. Most of this activity would take place over open-space areas that are not populated. In addition, BMPs A11 and A12 (Table 2-6) would be implemented as appropriate by providing advance notification of noise-generating activities expected to be of concern to the

public and providing a means for registering public complaints about noise, thus further minimizing the potential for public annoyance.

Impact N-2: Use of equipment and vehicles would cause a temporary increase in noise levels during operations. This increase would not be substantial and, therefore, is **less than significant** based on the frequency and duration of the activity, resulting noise levels, comparability to noise resulting from existing activities, and implementation of BMPs. No mitigation is required.

Impact N-4: Aircraft use would temporarily increase noise levels during operations, but this increase would not be substantial. This impact is **less than significant** based on the frequency and duration of the activity, resulting noise levels, and implementation of BMPs. No mitigation is required.

12.2.8 Other Activities

Other activities primarily includes travel to and from meetings or public education events; light trucks would be used. Table 12-9 shows the range of noise levels that they typically would generate at 50- and 400-foot distances from the source and the land uses that would be affected.

Table 12-9 Other Activities–Primary Equipment Use, Noise Levels, and Land Use Types

Activity	Application Equipment	Predicted Noise Level (dBA)		Land Uses Types				
		50 feet	400 feet	Residential	Commercial	Industrial	Agricultural	Open Space
Ground Application/Mgt	Light trucks	83	65	•	•	•	•	•

12.2.8.1 Exceedance of Noise Standards

The Other Activities would have noise levels associated with light trucks only that would be used for brief periods of time over multiple locations. The brief increase in noise from the periodic use of vehicles would not exceed noise standards.

Impact N-1: Use of equipment and vehicles would increase noise levels during operations, but this increase would not exceed regulatory thresholds. This impact is **less than significant** based on the frequency and duration of the activity, resulting noise levels, and compliance with BMPs. No mitigation is required.

12.2.8.2 Substantial Temporary Increase in Noise Levels

The Other Activities would have noise levels associated with the use of light trucks that would be used for brief periods of time over multiple locations. Noise generated would be similar to that which already occurs and would not result in a substantial temporary increase in noise levels.

Impact N-2: Use of equipment and vehicles would cause a temporary increase in noise levels during operations. This increase would not be substantial and, therefore, is **less than significant** based on the frequency and duration of the activity, resulting noise levels,

comparability to noise resulting from existing activities, and implementation of BMPs. No mitigation is required.

12.2.9 Cumulative Impacts

Cumulative noise impacts are discussed in Section 13.10. In summary, the potential for cumulative impacts is low, and any impacts that did occur would be of short duration and less than significant. **The incremental noise impacts from any of the Program alternatives, individually or in combination for the entire Program, would not be cumulatively considerable and would not trigger cumulative noise impacts in a given area.**

12.2.10 Environmental Impacts Summary

Table 12-10 is a summary of all of the potential noise impacts associated with the Program alternatives in comparison to existing conditions. The number of each statement correlates to its number in the text.

Table 12-10 Summary of Alternative Noise Impacts

Impact Statement	Surveillance	Physical Control	Vegetation Management	Biological Control	Chemical Control	Other
Effects on Noise						
Impact N-1: Use of equipment and vehicles would increase noise levels during operations, but this increase would not exceed regulatory thresholds. This impact is less than significant based on the frequency and duration of the activity, resulting noise levels, and compliance with BMPs. No mitigation is required.	LS	LS	LS	LS	LS	LS
Impact N-2: Use of equipment and vehicles would cause a temporary increase in noise levels during operations. This increase would not be substantial and, therefore, is less than significant based on the frequency and duration of the activity, resulting noise levels, comparability to noise resulting from existing activities, and implementation of BMPs. No mitigation is required.	LS	LS	LS	LS	LS	LS
Impact N-3: Aircraft use would temporarily increase noise levels during operations, but would not exceed regulatory thresholds. This impact is less than significant based on the frequency and duration of the activity and resulting noise levels. No mitigation is required.	na	na	na	na	LS	na
Impact N-4: Aircraft use would temporarily increase noise levels during operations, but this increase would not be substantial. This impact is less than significant based on the frequency and duration of the activity, resulting noise levels, and implementation of BMPs. No mitigation is required.	na	na	na	na	LS	na

- LS = Less-than-significant impact
- N = No impact
- na = Not applicable
- SM = Potentially significant but mitigable impact
- SU = Significant and unavoidable impact

12.2.11 Mitigation and Monitoring

No mitigation measures or monitoring are required because no significant impacts were identified.