

Chapter 13. Noise

Affected Environment

Data Sources

The Hamilton Army Airfield disposal and reuse EIS (U.S. Army Corps of Engineers 1996a) provided the basis for this discussion.

Noise-Sensitive Receptors in the Project Vicinity

Land uses with residences, hospitals, libraries, recreation areas, and other similar uses are generally considered to be sensitive to noise. The existing noise-sensitive uses in the project area are:

- u the New Hamilton Partnership commercial and residential development located adjacent to the HAAF parcel and proposed access route and
- u existing Bel Marin Keys development located north of the HAAF and SLC parcels.

Existing Noise Conditions

Existing noise conditions near the project areas are governed primarily by the distance from and the amount of traffic on the local roadways. Roadways in the project area include U.S. Highway 101, Nave Drive, Bel Marin Keys Boulevard, Ignacio Boulevard, Main Gate Road, and State Access Road. Existing noise levels were estimated for the Hamilton Army Airfield disposal and reuse EIS, with traffic noise levels determined using the Federal Highway Administration Traffic Noise Prediction Model (FHWA-77-RD-108). Table 13-1 presents the traffic noise level (day-night average sound level [L_{dn}], the average sound exposure over a 24-hour period), expressed in decibels (dB) at a distance of 100 feet from the centerline of the roadway. Distances to the 70-, 65-, and 60-dB- L_{dn} traffic noise contours are

also summarized in Table 13-1. The results indicate that U.S. Highway 101 is the dominant source of traffic noise in the project area.

Existing traffic noise at the sensitive receptors described previously has been estimated based on the traffic noise results presented in Table 13-1. The traffic noise at each receptor area varies depending on the proximity of the area to U.S. Highway 101 (Table 13-2). The existing noise levels at the New Hamilton Partnership development and BMKV is 45–50 dB- L_{dn} .

Noise Standards and Regulation

Various federal, state, and local agencies have developed guidelines for evaluating land use compatibility under different sound-level ranges. The following sections summarize those guidelines.

Federal Guidelines

The federal Noise Control Act of 1972 established a requirement that all federal agencies administer their programs to promote an environment free of noise that jeopardizes public health or welfare. EPA was given the responsibility for:

- u providing information to the public regarding identifiable effects of noise on public health or welfare,
- u publishing information on the levels of environmental noise that will protect public health and welfare within an adequate margin of safety,
- u coordinate federal research and activities related to noise control, and
- u establish federal noise emission standards for selected products distributed in interstate commerce.

EPA identified indoor and outdoor noise limits to protect against effects on public health and welfare. Outdoor limits of 55 dB- L_{dn} and indoor limits of 45 dB- L_{dn} are identified as desirable to protect against speech interference and sleep disturbance for residential areas and areas with educational and healthcare facilities.

The U.S. Department of Housing and Urban Development has established guidelines for evaluating noise impacts on residential projects. Sites are generally considered acceptable if they are exposed to outdoor noise levels of 65 dB- L_{dn} or less, normally unacceptable if they are exposed to levels of 65–75 dB- L_{dn} , and unacceptable if exposed to levels of 75 dB- L_{dn} or greater.

State Guidelines

In 1987, the California Department of Health Services published guidelines for the noise elements of local general plans. These guidelines include a sound level/land use compatibility chart that categorizes various outdoor L_{dn} ranges by land use. These guidelines identify the normally acceptable range for low-density residential uses as less than 65 dB and conditionally acceptable levels as 55–70 dB.

Local Guidelines

The Marin County Noise Element was adopted in 1994. The noise element also provides guidelines for noise exposure levels at certain types of land uses. The guidelines state that residential, public, and institutional uses should not be subjected to noise levels above 60 dB- L_{dn} .

The City of Novato General Plan states that the compatibility standard of 60 dB- L_{dn} is to be applied to residential areas.

Environmental Consequences and Mitigation Measures

Approach and Methods

Analytical Methods

Noise impacts were evaluated by comparison of anticipated noise levels with reference noise levels developed by EPA, the distances to sensitive noise receptors, and local noise guidelines. Noise levels were measured in A-weighted decibels (dBA), a composite frequency-weighting scheme that approximates the way the human ear responds to sound levels.

Impact Mechanisms

Implementation of the Hamilton wetland restoration project would require the use of heavy construction equipment. Figure 13-1 illustrates the noise levels produced by various types of construction equipment. Properly maintained equipment will produce noise levels near the middle of the indicated ranges. Activities such as levee and berm construction and offloading and placing dredged materials may occur throughout the project area, depending on the alternative. The types of construction equipment used for earthmoving typically generate noise levels of 70–90 dBA at a distance of 50 feet when the equipment is operating. Electric-powered pumps used to off-load dredged material generate considerably less noise than the 70-82 dBA typically generated by pumps powered by internal combustion engines (Figure 13-1).

Construction equipment operations can vary from intermittent to fairly continuous use, with multiple pieces of equipment operating concurrently. A worst-case construction scenario may consist of concurrent operation of a bulldozer (87 dBA), a backhoe (90 dBA), a grader (90 dBA) and a front loader (82 dBA) in the same general area. Peak construction-period noise from this combination of equipment would be about 94 dBA from the construction site.

Table 13-2 summarizes noise levels as a function of distance from an active construction site with the previously described equipment in operation. Episodes of noise levels greater than 60 dBA will occasionally occur at locations within about 1,900 feet of a construction site. Episodes of noise levels greater than 70 dBA will occur at areas within about 750 feet of a construction site.

Visitor traffic along roadways to site access points may also increase noise levels. However, it is expected that visitor traffic will be substantially less than that of active recreation parks (e.g., ball fields, equestrian facilities). It is likely that there will be no measurable increase in noise levels at sensitive receptors along roadways leading to the site.

Thresholds of Significance

According to the State CEQA Guidelines and professional judgment, a project is considered to have a significant impact on noise if it would:

- u increase noise levels to 60 dBA or
- u increase noise levels by 3 dBA in areas where noise levels already exceed 60 dBA.

Impacts and Mitigation Measures of Alternative 1: No Action

Under Alternative 1, the HAAF parcel would be placed in caretaker status and uses of the SLC parcel would not change. Because cleanup activities on the HAAF parcel would be completed, noise generated by these activities would decrease.

| CONSTRUCTION EQUIPMENT | Noise Level (dBA) at 50 feet | | | | | |
|---|------------------------------|----|----|----|-----|-----|
| | 60 | 70 | 80 | 90 | 100 | 110 |
| Equipment Powered by Internal Combustion Engines | | | | | | |
| Earthmoving | | | | | | |
| Compactors (rollers) | | ■ | | | | |
| Front loaders | | ■ | ■ | | | |
| Backhoes | | ■ | ■ | ■ | | |
| Tractors | | | ■ | ■ | ■ | |
| Scrapers, graders | | | ■ | ■ | ■ | |
| Pavers | | | | ■ | | |
| Trucks | | | ■ | ■ | ■ | |
| Materials Handling | | | | | | |
| Concrete mixers | | | ■ | ■ | ■ | |
| Concrete pumps | | | | ■ | | |
| Cranes (movable) | | | ■ | ■ | | |
| Cranes (derrick) | | | | ■ | | |
| Stationary | | | | | | |
| Pumps | | ■ | | | | |
| Generators | | ■ | ■ | | | |
| Compressors | | | ■ | ■ | | |
| Impact Equipment | | | | | | |
| Pneumatic wrenches | | | | ■ | | |
| Jackhammers and rock drills | | | ■ | ■ | ■ | |
| Pile drivers (peaks) | | | | | ■ | ■ |
| Other | | | | | | |
| Vibrators | | ■ | ■ | | | |
| Saws | | | ■ | ■ | | |

Source: U.S. Environmental Protection Agency 1971.



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Figure 13-1
Construction Equipment Noise Ranges

Impacts and Mitigation Measures Common to Alternatives 2, 3, 4, and 5

Impact 13.1: Potential Increases in Traffic Noise Levels

Implementation of the project would result in increases in traffic associated with construction and operation of the restoration site. As indicated in Chapter 11, "Transportation", most traffic to the site would be routed over the proposed access route through the GSA sale parcel (Figure 3-4). Because materials for levee construction are available onsite, traffic generated during the construction phase would consist primarily of workers commuting to the site. The low number of daily trips (38) is not expected to affect noise conditions in the area crossed by the proposed access easement. The impact on sensitive noise receptors as a result of increased traffic during the construction phase is considered less than significant.

After the construction phase of the restoration project is completed, traffic to the site would consist of trips made for maintenance and monitoring purposes and trips made by visitors. Trips made for maintenance and monitoring purposes would be infrequent and would not affect postconstruction noise levels. Visitors to the site would be restricted to the New Hamilton Partnership flood control levee and probably would travel to the site over existing roadways. Although no formal recreation use plan has been developed for the site, the number of trips made for recreational purposes is not expected to substantially increase traffic through the New Hamilton Partnership development. The slight increase in traffic is not expected to affect noise levels in the New Hamilton Partnership development. The impact on sensitive noise receptors as a result of increased traffic over the postconstruction phase is considered less than significant.

Impact 13.2: Temporary Increases in Noise Levels to More Than 60 dBA during Construction

As described in "Impact Mechanisms", implementation of the proposed action would result in noise levels exceeding 60 dBA at distances up to 1,900 feet from grading and other earthworking activities. Sensitive noise receptors include the New Hamilton Partnership property and wildlife areas at Pacheco Pond/Ignacio Reservoir. Although temporary, this impact would be considered significant. To reduce this impact to a less-than-significant level, the construction contractor shall implement Mitigation Measure 13.2.

Mitigation Measure 13.2: Employ Noise-Reducing Construction Practices.

To reduce noise levels to the maximum extent practicable, the wetland construction contractor shall employ the following noise-reducing construction practices:

- u Restrict construction within 1,000 feet of residences to daytime hours. No construction shall be performed within 1,000 feet of an occupied dwelling unit on Sundays, on legal holidays, or between the hours of 10 p.m. and 7 a.m. on other days.
- u All equipment shall have sound control devices no less effective than those provided as original equipment. All motorized equipment shall have muffled exhaust.

- u As directed by the appropriate jurisdictional agency, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activities, or notifying adjacent residents in advance of construction.

Impacts and Mitigation Measures Unique to Alternative 3

Impact 13.3: Increased Noise from Use of Hydraulic Off-Loaders and Supplemental Booster Pumps

The electric-powered shallow water and deep water hydraulic off-loaders would be located approximately ~~34,000 feet~~ 15,000 feet (2.8 miles) and 24,000 feet (4.5 miles), respectively, offshore and would not contribute significantly to ambient noise levels onshore because of the relatively low noise level and distance from sensitive receptors. Similarly, electric-powered supplemental booster pumps would be located offshore and would not contribute significantly to ambient noise levels onshore. Because of the relatively low noise levels produced by electric-powered equipment and the distance between the off-loaders and sensitive noise receptors, noise levels at sensitive receptors will be well below desirable limits. The impact on sensitive noise receptors as a result of off-loading dredged materials during the construction phase is considered less than significant and no mitigation is required.

Impacts and Mitigation Measures Unique to Alternative 4

No impacts and mitigation measures would be unique to Alternative 4.

Impacts and Mitigation Measures Unique to Alternative 5

The noise impacts associated with use of the hydraulic off-loaders and supplemental booster pumps during the construction phase of Alternative 5 would be similar to those described for Alternative 3 in Impact 13.3. This impact is considered less than significant and no mitigation is required.

Potential Issues and Resolutions under the Bel Marin Keys V Scenario

Potential Issue: Potential Increases in Traffic Noise Levels

Noise effects associated with increased traffic during the construction and operation phases of the restoration project would be similar to those described in Impact 13.1. This potential issue is considered less than significant.

Potential Issue: Temporary Increases in Noise Levels to More than 60 dBA during Construction

As described in "Impact Mechanisms", implementation of the proposed action would result in noise levels exceeding 60 dBA at distances up to 1,900 feet from grading and other earthworking activities. Sensitive noise receptors include the New Hamilton Partnership property, wildlife areas at Pacheco Pond/Ignacio Reservoir, and the existing Bel Marin Keys development. Although temporary, this potential issue would be considered significant and unavoidable. A potential resolution to this issue could be similar to Mitigation Measure 13.2.

Potential Issue: Increased Noise Levels from Use of Hydraulic Off-Loaders and Supplemental Booster Pumps

Noise effects associated with use of the hydraulic off-loaders and supplemental booster pumps during the construction phase of the restoration project would be similar to those described in Impact 13.3. This potential issue is considered less than significant.