

**Noise Monitoring Plan
Durgin Road Asphalt Plant
11125 Durgin Road SE
Thurston County, Washington**

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Prepared for

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FIGURE

<u>Figure</u>	<u>Title</u>
1	Sound Level Measurement Locations

TABLE

<u>Table</u>	<u>Title</u>
1	Noise Limits for the Facility Affecting Nearby Residential Receivers

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INTRODUCTION

This plan for quarterly noise monitoring has been prepared in support of a Special Use Permit to allow Lakeside Industries (Lakeside) to use recycled asphalt at Lakeside’s Durgin Road Asphalt Plant (Facility).

The Facility is located at 11125 Durgin Road SE, in unincorporated Thurston County (Thurston County Parcel No. 21817140200). The Facility is bordered to the west and south by a gravel mine owned and operated by Nielsen Pacific Limited. To the north, the Facility is bordered by Durgin Road SE, followed by land developed with single-family residential homes. To the east, the Facility is bordered by railroad tracks followed by undeveloped and residential land, including a campground. The Nisqually reservation is located approximately 0.75 miles east of the Facility.

As part of the permitting process, Section 17.20.110 of the Thurston County Code of Ordinances (TCC) specifies that quarterly noise monitoring be conducted after initiation of mining or other permitted activity to demonstrate compliance with the noise limits identified in Chapter 173-60 of the Washington Administrative Code (WAC), described in the Applicable Regulations section of this document. With the permission of Thurston County, the frequency of noise monitoring may be reduced after 2 years of noise monitoring with no violations. This Noise Monitoring Plan outlines Thurston County requirements, the noise monitoring locations, the methods to be used for the monitoring, and the expected data and deliverables.

APPLICABLE REGULATIONS

TCC Section 17.20.110 – Mineral Extraction and Asphalt Production, Noise adopts Chapter 173 WAC as follows.

Chapter 173-60 WAC provides maximum permissible environmental noise levels based on the environmental designation for noise abatement (EDNA) of the source and receiving properties. TCC 17.20.110 states that “mineral extraction and asphalt plant activity within the residential zoning districts of the county shall be considered a Class ‘A’ EDNA pursuant to WAC 173-60-030(2).” The applicable maximum permissible noise level for the Facility (EDNA Class A) and a residential receiving property (EDNA Class A) are shown in Table 1.

Table 1: Noise Limits for the Facility Affecting Nearby Residential Receivers (dBA)

Descriptor	L25	L8.3	L2.5	Lmax
Residential Receiver (Class A) (a)	55/45	60/50	65/55	70/60
(a) The operational noise limits are displayed for daytime/nighttime hours. Source: WAC 173-60-040				

The noise limits shown in Table 1 are allowed to be exceeded for certain periods of time:
5 A-weighted decibels (dBA) for no more than 15 minutes in any hour, 10 dBA for no more than

5 minutes of any hour, or 15 dBA for no more than 1.5 minutes of any hour. These allowed increases can be described in terms of the percentage of time a certain level is exceeded, using statistical noise descriptors (L_{ns}). For example, L_{25} represents a sound level that is exceeded 25 percent of the time, or 15 minutes in an hour. Similarly, $L_{8.33}$ and $L_{2.5}$ are the sound levels that are exceeded 8.33 and 2.5 percent of the time, or 5 and 1.5 minutes in an hour, respectively. At no time can the allowable sound level be exceeded by more than 15 dBA, represented by the maximum sound level (L_{max}).

TCC 17.20.110 requires that noise levels be monitored by a technician with the qualifications promulgated in Chapter 173-58 WAC, or acceptable qualifications as determined by the designated authority, using instruments that meet the qualifications of Chapter 173-58 WAC, at the property boundaries, at least quarterly after the initiation of the mining or other permitted activity. Monitoring shall be conducted during normal operating conditions and periods. The department may reduce the quarterly requirement for noise monitoring after 2 years of compliant noise monitoring with no violations. If there are more than two identified noise violations within 1 year, noise monitoring shall return to quarterly.

NOISE MONITORING PROGRAM

The following process will be implemented for each monitoring event.

Measurement Location

Sound level measurements will be conducted at two general locations, representative of adjacent EDNA Class A properties likely to be affected by onsite operations (shown on Figure 1):

- North of the Facility, on the north side of Durgin Road SE, representing the nearest homes to the Facility
- East of the Facility, on the east side of the berm between the Facility and the railroad tracks, representing the nearest potentially affected properties east of the railroad tracks.

Specific locations will be determined based on conditions observed at the time measurements are taken and right-of-entry availability.

Duration and Timing

Each sound level measurement will be conducted for a minimum of 1 hour at each location. Measurements will be conducted during periods of Facility operations when asphalt recycling is occurring. Measurements will be scheduled when ambient conditions including wind speed and precipitation will not affect the equipment or measurement readings (in accordance with WAC 173-58-040).

Measurement Procedures

The measurements described above would be subject to the following conditions:

- Sound levels will be measured using a Class 1 sound level meter with the microphone mounted on a tripod at a height of approximately 5 feet above ground. The microphone will be fitted with an acoustically neutral windscreen. The sound level meter will be calibrated immediately before the measurements begin, and the meter will have been factory-calibrated and certified within the previous 12 months. The meter will be set to a “fast” response and A-weighting.
- Compliance measurements will be taken for at least 1 hour during periods when wind speed is less than 10 miles per hour. Higher wind speeds can be tolerated if the sound level meter is downwind of the noise source and an exaggerated sound level is acceptable and/or when the wind is “across” the sound path from the Facility to the offsite location.
- If sound level contributions from discrete, transitory noise sources not associated with the Facility are encountered (such as trains, loud offsite traffic, aircraft, dogs, etc.) and the measurement personnel believe these sources are affecting the measured sound level, personnel will take time-stamped notes of intrusive noise events. The sound level measurement results discussed in the noise monitoring reports will include both the total measured sound levels and the sound levels calculated after exclusion of these discrete, extraneous noises, if such exclusion is possible.

Consultant Qualification and Instrumentation

TCC 17.20.110 requires that noise levels be monitored by a technician with the qualifications promulgated in Chapter 173-58 WAC. All monitoring personnel will be trained in the use of sound measuring equipment and proper site selection.

Equipment used for the sound level measurements must meet the requirements established in Chapter 173-58 WAC. Sound levels will be measured using a Class 1 or Class 2 sound level meter fitted with an acoustically neutral windscreen. The sound level meter will be calibrated immediately before the measurements begin, and the meter will have been factory-calibrated and certified within the previous 12 months.

REPORTING

Results of the sound level measurements will be documented in noise monitoring reports suitable for presentation to Thurston County’s Public Health and Social Services Department and Community Planning and Economic Development Department. The reports shall be retained by Lakeside for a minimum of a 7-year period and made available upon request of the designated authority. Reports will summarize the results and describe the following:

- Instrumentation used in the measurements (including factory calibration reports in an appendix)
- Measurement locations (including a figure)
- Measurement beginning times and durations
- Maximum sound level (L_{max}) and the sound levels exceeded 2.5, 8.3 and 25 percent of the time ($L_{2.5}$, $L_{8.33}$, and L_{25})

- Description of any transitory noise sources not associated with the Facility
- Description of the meteorology during the measurement period, including estimated temperature and wind conditions.

The reports shall compare the measurements with the environmental noise limits established by Chapter 173-60 WAC.

RESPONSE TO COMPLAINTS

In the event of a noise complaint, Lakeside will initiate an investigation to identify the source within 72 hours and identify action necessary to correct the noise issue and develop an implementation plan for corrective action within 60 days.