



**Los Angeles Department of Water and Power
Construction Noise Monitoring Report
Silver Lake Reservoir Complex Bypass Project
April 8, 2015**

Project Construction Site: Work Area #2

Monitoring Date: April 8, 2015

Monitoring Time: 9:32 a.m. to 11:36 a.m.

Relevant Atmospheric Conditions: Approximately 59° F, sunny and clear

Monitoring Equipment: One (1) Larson Davis LXT1 sound level meter and one (1) Larson Davis 824 sound level meter.

Project Area Description

The noise monitoring results presented in this report are for construction activities that occurred within Work Area #2, located along West Silver Lake Drive between Tesla Avenue and Hawick Street in Los Angeles, California. The closest noise-sensitive uses to the project construction site are the existing single-family residential uses fronting the west side of West Silver Lake Drive, approximately 30 feet south of the active construction area. These noise-sensitive receivers had direct line-of-sight to the construction activities. Noise level measurements were completed at the following two locations (please refer to the attached graphic): 2337 West Silver Lake (Measurement Location 1), and 2327 West Silver Lake Drive (Measurement Location 2). See the attached graphic for the construction site location, locations of the closest receivers, and noise level measurement locations.

Construction Activity Monitored

On-site construction included the operation of a mobile drill rig, Bobcat S220 skid-steer loader, Grove RT 588 crane, and Grove RT 58C crane. The construction activities monitored consisted of beam installation along West Silver Lake Drive in preparation for subsequent shoring activities. The primary activities included drilling of boreholes by the drill rig, transportation of excavated dirt material within the construction area by the skid-steer loader, and loading of metal beams into the boreholes by the cranes. The boreholes were created approximately eight feet apart from each other along West Silver Lake Drive. The primary construction activities occurred directly east of Measurement Location 1, which was where the drill rig operated. The skid-steer loader and cranes maneuvered within the construction area periodically as needed to transport dirt material and the beams, respectively.

Summary of Construction Noise Level Measurement Results

The noise level measurements and observations at the construction site are summarized in the attached charts and monitoring log, respectively. As shown in the charts, the average hourly construction noise levels measured during the first hour were 81.7 dBA L_{eq} at Measurement Location 1 and 73.1 dBA L_{eq} at Measurement Location 2, while the average hourly construction noise levels measured during the second hour were 81.7 dBA L_{eq} at Measurement Location 1 and 70.8 dBA L_{eq} at Measurement Location 2. A comparison of the measured construction noise levels at Locations 1 and 2

to the baseline noise levels measured at Work Area #2, which were conducted by ESA on March 10, 2015, is shown in **Table 1**.

**TABLE 1
SUMMARY OF CONSTRUCTION NOISE MEASUREMENTS**

Noise Measurement Location	Measurement Date	Measurement Time Periods	Construction Hour	Construction Noise Level L _{eq} dBA	Work Area #2 Baseline Noise Level L _{eq} dBA ^a
1. 2337 West Silver Lake Drive	04/08/15	09:32 – 10:32 A.M.	1	81.7	60.1
		10:35 – 11:35 A.M.	2	81.7	60.1
2. 2327 West Silver Lake Drive	04/08/15	09:36 – 10:36 A.M.	1	73.1	60.1
		10:37 – 11:37 A.M.	2	70.8	60.1

^a To establish the existing baseline noise level for Work Area #2, two separate noise measurements were taken in front of single-family residences located along West Silver Lake Drive on March 10, 2015 to provide a representative sample of noise levels occurring along that stretch of the road. The baseline noise level shown in this table represents the average of the two separate noise measurements.

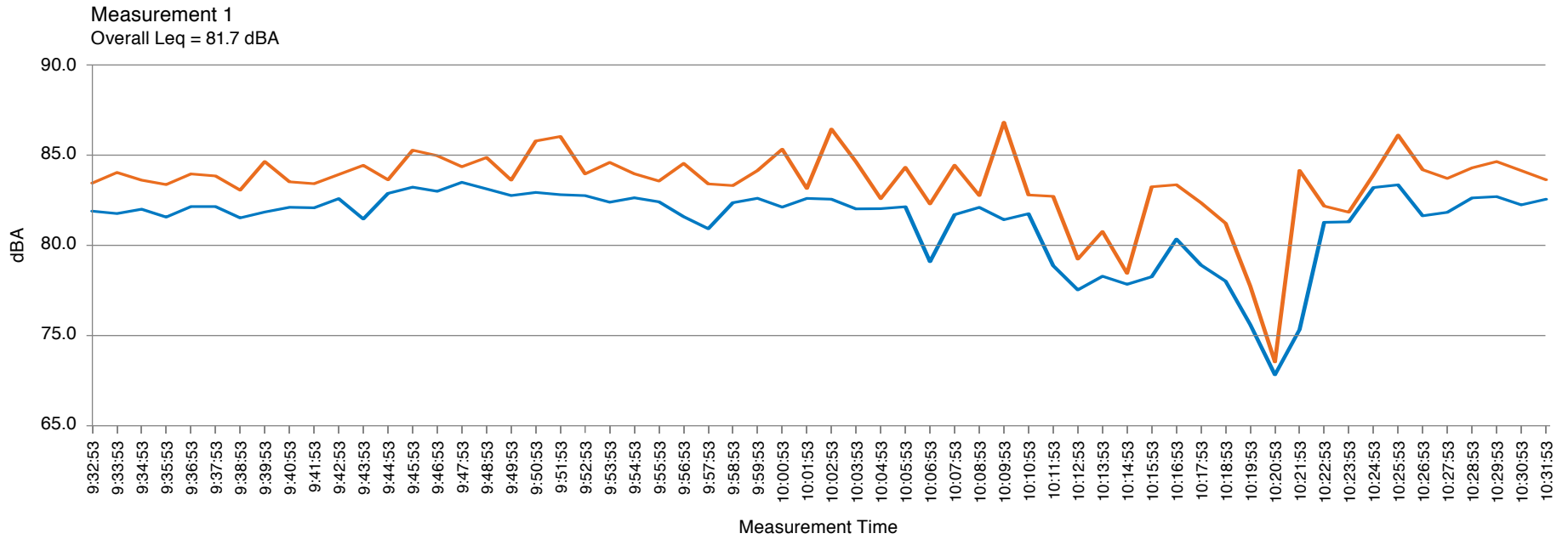
The dominant source of noise at the construction site was associated with the operation of the drill rig, which ran constantly during the drilling of the boreholes. As the drill rig operated directly east from Measurement Location 1, the noise levels measured at this location were higher than those at Measurement Location 2. The equipment that operated nearest to Measurement Location 2 was the Bobcat S220 skid-steer loader and the Grove RT 588 crane, both of which operated on the south side of the drill rig. The Bobcat S220 skid-steer loader operated frequently and maneuvered back and forth across the construction area to transport excavated dirt material from the boreholes, while the Grove RT 588 crane operated less frequently and was only used to transport the beams over to the drilling area for placement into the borehole when the drilling operations were near completion. The Grove RT 58C, which operated on the north side of the drill rig, was only used to lift and reposition the metal beams. No direct placement of metal beams into the boreholes was performed by the Grove RT 58C.



SOURCE: ESRI

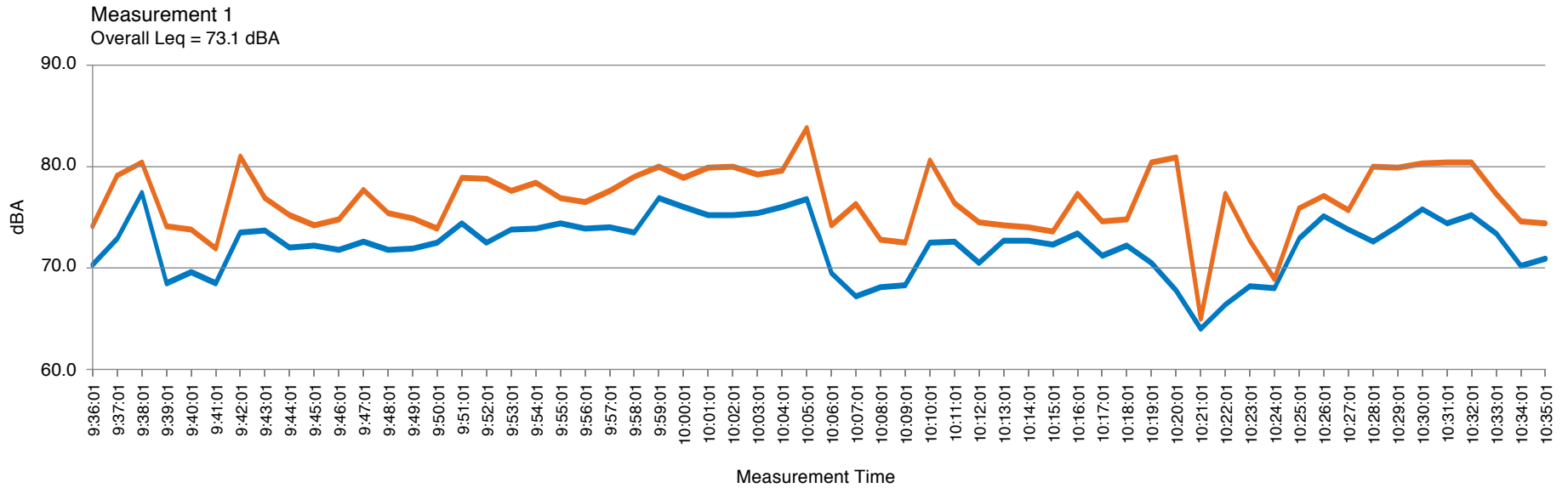
LADWP SLRC Bypass Project . 130500.22

Work Area #2 - Construction Area and Noise Measurement Sites



— Lmax
— Leq

SOURCE: ESA



Baseline Noise Monitoring Log

Project: LADWP SLRC Bypass Project Monitoring (D130500.22)

Work Site: 2

Date: 4/8/15

Monitoring Locations:

Monitor 1 - 2337 W. Silver Lake Drive; Approximately 30 feet from boundary of construction area

Monitor 2 - 2327 W. Silver Lake Drive; Approximately 30 feet from boundary of construction area

Construction Equipment Operated: Mobile drilling rig; Bobcat S220 (skid-steer loader); Grove RT 588 (Crane); Grove RT 58C (Crane)

<u>Time</u>	<u>Noise Source</u>	<u>Notes</u>
Hour 1		
9:32 AM	Drill rig	Drilling into borehole.
9:35 AM	Bobcat S220	Bobcat idling; workers shoveling.
9:36 AM	Drill rig	Drilling into borehole.
9:37 AM	Bobcat S220	Maneuvering across work area transporting dirt material; back-up alarm sounding frequently.
9:38 AM	Bobcat S220; Passenger car	Bobcat back-up alarm; Passenger car driving by.
9:40 AM	Drill rig	Drill turning/releasing dirt; Bobcat shuts off.
9:43 AM	Bobcat S220	Earthmoving and transporting dirt materials; back-up alarm sounding.
9:45 AM	Bobcat S220	Earthmoving and transporting dirt materials; back-up alarm sounding.
9:46 AM	Drill rig; Bobcat S220	Drill spinning to release dirt; Bobcat moves back and forth across work area.
9:48 AM	Bobcat S220	Back-up alarm.
9:51 AM	Drill rig; Bobcat S220	Drill spinning to release dirt; Bobcat moves back and forth across work area.
9:52 AM	Bobcat S220	Bobcat transporting dirt material.
9:54 AM	Bobcat S220	Bobcat transporting dirt material.
9:57 AM	Drill rig; Bobcat S220	Drill spins off dirt, then stops; Bobcat continues operating.
9:58 AM	Drill rig	Drill started back up.
10:00 AM	Drill rig	Drill pulls up and releases dirt.
10:03 AM	Drill rig	Drill pulls up and releases dirt.
10:04 AM	Bobcat S220	Back-up alarm.

10:05 AM	Drill rig	Rig continues drilling; Bobcat turns off.
10:06 AM	Drill rig	Drill spins off dirt.
10:07 AM	Drill stopped	
10:10 AM	Drill rig; Grove RT 588	Drill releasing dirt; Grove 588 maneuvers up to drill rig, engine revving.
10:11 AM	Drill rig	Drill starts back up.
10:12 AM	Drill shuts off	
10:13 AM	Grove RT 588	Picks up metal beam, lifting beam to a vertical position.
10:14 AM	Drill rig	Mobile drill rig moves away from borehole.
10:16 AM	Drill rig	Drill starts up.
10:17 AM	Grove RT 588	Lowers beam into borehole.
10:18 AM	Drill rig	Maneuvers drill position.
10:19 AM	Drill rig	Drill lowered.
10:20 AM	Drill rig; Grove RT 588	Engines idling only.
10:21 AM	Drill shut off	
10:22 AM	Drill rig; Grove RT 588	Drill started up/Grove idling.
10:25 AM	Grove RT 588	Maneuvering and positioning crane
10:26 AM	Drill rig; Grove RT 588	Grove moves back away from drill rig; drill rig spins off dirt.
10:28 AM	Drill rig; Bobcat S220	Drill releasing dirt; Bobcat starts engine and maneuvers back & forth near drill.
10:30 AM	Bobcat S220	Bobcat moving dirt material.
10:30 AM	Drill rig	Drill releasing dirt.

Hour 2

10:36 AM	Drill rig; Bobcat S220	Drill rig and Bobcat both operating.
10:37 AM	Drill rig; Bobcat S220	Drill Rig and Bobcat both operating.
10:38 AM	Bobcat S220; Passenger cars	Bobcat operating and sounding back-up alarm; Cars driving by.
10:39 AM	Drill rig; Bobcat S220	Drill releasing dirt and moving; Bobcat transporting material.
10:40 AM	Bobcat shuts off	Drill rig continues to operate.
10:41 AM	Drill rig	Drill spins off dirt.
10:42 AM	Passenger cars	Driving by.
10:43 AM	Grove RT 58C	Picking up metal beam.
10:47 AM	Grove RT 58C	maneuvers crane position.
10:48 AM	Drill rig	Drill spins off dirt.
10:50 AM	Drill rig	Drill spins off dirt.
10:51 AM	Grove RT 588	Maneuvers crane to pick up metal beam.
10:52 AM	Drill rig	Drill spins off dirt.

10:53 AM	Grove RT 588	Lifts beam from stack and moves toward drilling area.
10:54 AM	Grove RT 588	Engine revving, producing high noise level.
10:55 AM	Drill shuts off	Grove RT 588 continues transporting beam over to drill area.
10:57 AM	Drill rig	Drill spins off dirt.
10:59 AM	Grove RT 588	Places beam down into drilled borehole and backs-up (alarm sounds).
11:00 AM	Drill rig	Drill spins off dirt.
11:01 AM	Grove RT 588	Lifts beam from stack and transports over to drilling area.
11:02 AM	Drill rig; Grove RT 588	Drill spins off dirt; Grove revs engine.
11:04 AM	Drill rig; Grove RT 588	Drill spins off dirt; Grove revs engine and moves metal beam.
11:06 AM	Drill rig; Grove RT 588	Drill spins off dirt; Grove maneuvers closer to drill rig.
11:07 AM	Grove RT 588	Grove revving engine
11:08 AM	Drill rig	Drill spins off dirt.
11:09 AM	Truck driving by	
11:09 AM	Drill rig	Drill spins off dirt; Grove engine stops.
11:10 AM	Grove RT 58C	Operates on left side of drill rig, maneuvering crane to pick up metal beam.
11:11 AM	Bus driving by	
11:12 AM	Drill rig	Drill spins off dirt.
11:14 AM	Drill rig	Drill pulls up from borehole and spins off dirt.
11:17 AM	Drill rig	Drill spins off dirt.
11:18 AM	Drill rig; Grove RT 58C	Drill operating; Grove maneuvering crane position.
11:19 AM	Drill rig	Drill spins off dirt; loud clanking sound.
11:20 AM	Drill rig	Loud clanking sound.
11:22 AM	Drill rig	Drill spins off dirt.
11:24 AM	Drill rig; Grove RT 58C	Drill spins off dirt; Grove maneuvering crane position.
11:27 AM	Grove RT 58C; Grove RT 588	Grove 58C (left of drill rig) starts engine and backs up; Grove 588 (right of drill rig) starts engine.
11:28 AM	Grove RT 588	Lowering crane.
11:29 AM	Drill rig; Grove RT 588	Drill spins off dirt; Grove lifts beam to vertical position
11:31 AM	Drill rig	Drill spins off dirt.
11:32 AM	Grove RT 588	Grove lifting beam.
11:33 AM	Drill rig	Drill pulled into horizontal position and engine stops.
	Cars driving by	
11:34 AM	Hammering; Grove RT 588	Grove maneuvering beam to place into borehole.
11:35 AM	Grove RT 588	Grove maneuvering beam.

11:36 AM
11:36 AM

Grove RT 588
Drill rig

Grove lowering beam.
Drill starts up.