Draft Field Sampling Plan
Traffic and Noise Monitoring at Area IV
Santa Susana Field Laboratory
Ventura County, California

Prepared for:

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1.0 Purpose

The future final soil cleanup and demolition of buildings from Area IV of the Santa Susana Field Laboratory (SSFL) will primarily involve movement of heavy construction equipment and demolished building materials by truck up and down roads to and from the site. The primary haul route from SSFL is via surface streets through residential areas. Increased level of truck traffic is expected to increase ambient noise levels in residential areas. The effects of increased truck traffic will be disclosed in an environmental review of the impacts of the cleanup and demolition activities.

This document provides the objectives and procedures for the collection of traffic data and ambient noise levels in support of the disclosure of impacts. The objective of this monitoring plan is to describe all activities that will be implemented to quantify baseline noise levels along the transportation routes, and establish an overall sound level for use in assessing noise impacts of the roadway. Also, traffic and pedestrian data that could be used to support an analysis of traffic and public safety impacts will be collected.

Two local routes are to be monitored for current noise levels. Both routes originate at SSFL with the first route involving Woolsey Canyon Road to Valley Circle Boulevard (and Lake Manor Drive) going north, then on Plummer Street to Topanga Canyon Boulevard in Chatsworth, California (see Attachment 1). The second route follows Woolsey Canyon Road to Valley Circle Boulevard going south, then east on Roscoe Boulevard to Topanga Canyon Boulevard (see Attachment 1). Trucks currently travel from SSFL using these routes to transport waste materials and the same route is anticipated during the final cleanup of Area IV. The noise levels associated with current truck traffic will be monitored to provide data on noise levels that may be expected from trucks that will be employed during the remediation of SSFL Area IV.

This plan describes an automated method of conducting traffic and noise monitoring. The process involves the use of automated traffic and noise monitoring equipment placed at the monitoring locations. This monitoring will be performed by a subcontracted local (Los Angeles area) small business. In the event that field or other conditions warrant a manual method of data collection, a backup method of data collection was developed. The backup method (Manual Option) employs a team of technicians to monitor the noise equipment and make traffic and pedestrian counts.

2.0 Personnel

The Traffic and Noise Monitoring Task Group (Task Group) will consist of:

- A Noise Monitoring Task Leader (Task Leader) who will be responsible for field monitoring logistics, monitoring equipment operations supervision, data logistics, and will provide guidance and assistance to the teams during either automated or manual traffic and noise monitoring.
- The Deputy Traffic and Noise Monitoring Task Leader (Deputy Task Leader) who will have the primary responsibility for pre-monitoring research, obtaining permissions for monitoring (or ensuring the permissions have been completed), coordinating with The Boeing Company (Boeing), investigating weather conditions, and assisting the Task Leader as needed. The Deputy Task Leader will also assist with the monitoring, as needed.
- Personnel from the subcontracted small business will be responsible for calibrating, maintaining, and placing automated noise monitoring, and traffic and pedestrian counting equipment.

- For the backup Manual Option – Ten technicians would be required (in addition to the Task Leader and Deputy Task Leader) to operate and maintain the monitoring equipment, as well as make traffic and pedestrian counts.

3.0 Equipment

- Five sound level meters and compatible mounting equipment (a sixth monitor may be included as a backup)
- Copy of instrument operator manuals
- Noise Monitor Calibrator
- Alkaline Batteries for the Noise Monitors
- GPS units
- Traffic data recorders
- Automated video cameras
- Copies of Applicable Regulations and Requirements (see Section 11.0)
- Digital Cameras
- Cell Phones
- First Aid Kit
- Additional equipment required for backup Manual Option
    - Clipboards
    - Copies of the Data Sheets (see Attachment 3)
    - Twelve Orange Safety Vests
    - Folding Chairs
    - Large Ice Chests with Water (small-sized insulated cooler will be provided for each team)
    - Sunscreen
    - Protective Clothing for the climate and environmental conditions (personal protective clothing will depend on the conditions at the monitoring stations, such as temperature, ultraviolet ray intensity, adverse weather, and the presence of venomous snakes, and could include items such as wide-brimmed hats, sturdy shoes, arm and leg coverings, and snake chaps).

4.0 General Information

Prior to the field sampling event, the Deputy Task Leader will conduct research and pre-monitoring data collection and analysis activities (see Section 5.0). The Deputy Task Leader will provide the finalized traffic and noise monitoring plan to the Task Group for their review and the Task Leader will conduct a meeting to answer any questions concerning the plan.

Traffic and noise monitoring will take place over a period of four days; one of the proposed dates will be a day on which material will be hauled from the facility. Monitoring will occur on three days on which no material will be hauled to allow the recording of data during "background" conditions. The backup Manual Option would involve three days of monitoring, one day with trucks operating, and two days for recording background conditions.

5.0 Pre-Monitoring Data Collection and Analysis

Before the traffic and noise monitoring field study, the Task Group will perform several activities critical to the field monitoring logistics. First, the Deputy Task Leader will determine if any City/County/State traffic or noise studies have been completed previously for the proposed hauling route. This will involve Internet searches and contacting the City and County of Los Angeles Planning and Transportation Departments, as well as the California Department of Transportation and the California Governor's Office of Planning and Research. The data will then be reviewed and may be used to further refine monitoring locations and schedules.

The Deputy Task Leader will also contact the appropriate organizations and determine ownership of vacant lots to obtain any permits or permissions necessary to monitor traffic and noise at the specific locations along the transportation route. Alternately, the small subcontracted small business may take the lead with this responsibility and the Deputy Task Leader would verify that any needed permissions or permits were obtained prior to monitoring.

The Deputy Task Leader will contact Boeing to verify that trucks will be operating at SSFL and traveling along the transportation route during the time of the planned field monitoring. The Deputy Task Leader will develop a list of emergency contact names (including the local police department) and phone numbers.

Subcontracted small business personnel will identify all existing noise sensitive locations in the study area that may be impacted by haul-route traffic noise impacts associated with the proposed project. They will also evaluate the existing noise barriers in the project study area. The existing noise barriers will be reviewed based on height, construction material (masonry block) and the potential for gaps or decorative cutouts that may diminish the barrier's effective noise reduction.

Applicable internal SAIC safety procedures (see Section 11 for list of potentially applicable procedures) will be reviewed and applied as needed.

Additional requirements for the backup Manual Option:

- The Deputy Task Leader will investigate the forecasted weather conditions at the proposed monitoring stations prior to the field monitoring event, noting that at a temperature of 85° F, California Heat Illness Prevention Regulations take effect.
- The Task Leader and Deputy Task Leader will review the instrument manuals prior to mobilizing to the field so that they will understand how to calibrate, operate, and troubleshoot any potential problems with the sound level meter. The Task Leader will then prepare a sound level meter operations training program for the Task Group. The Task Leader will also obtain the applicable software and download it onto a laptop computer in order to become familiar with the software and hardware and their requirements.

6.0 Monitoring Locations

Noise monitoring locations were selected based on the distance to sensitive receptors (members of the public), the most likely positions for personal exposure to noise, and areas where trucks most likely will stop, slow down, accelerate, or travel unimpeded. Preliminary locations have been identified as follows (see Attachment 1 for a map of locations):

- Near the entrance to Mountain View Mobile Home Estates (MVMHE) on Woolsey Canyon Road
    - On the south side of Woolsey Canyon Road and on a steep portion with a tight curve, at the upper end of Woolsey Canyon Road near SSFL.
    - Traffic and noise monitoring at this location is intended to provide data on uphill truck climbing and downhill truck braking.
- Near or at the Chatsworth Lake Market, 23400 Lake Manor Drive, Chatsworth Lake Manor, California
    - Traffic along this stretch is slowed to 25 miles per hour in a very quiet community setting, and a traffic light is present near the proposed monitoring location that may represent an area where trucks accelerate and brake.
- Pedestrian sidewalk near the intersection of Plummer Street and North Fox Hill Lane
    - Trucks will be traveling up a slight hill and entering a residential area where elevated areas of homes face Plummer Street.
- Intersection of Plummer Street and Topanga Canyon Boulevard
    - Topanga Canyon, (California Route 27) is a major truck route between U.S. Highway 101 and California Highway 118. Noise measurements at this point will provide a baseline for noise that is produced by traffic along this road that is not associated with SSFL.
- Intersection of Roscoe Boulevard and Fallbrook Avenue
    - Roscoe Boulevard is a primary route for truck traffic coming from SSFL. The route is primarily residential and trucks will be braking or accelerating at the monitoring location depending on the traffic signal.

Specific automated traffic monitoring and video equipment locations will be determined at a later date, but will include 3 locations (one along Woolsey Canyon Road, one along the Plummer Street route, and one along the Roscoe Boulevard route).

The specific point where a monitoring station will be established at each proposed monitoring location is subject to change due to approval and/or permission from property owners, community input or concerns, and any unsafe conditions that may be discovered during the initial field reconnaissance at each of the proposed monitoring locations.

7.0 Monitoring Procedure

Up to five 96-hour noise level measurements and three 15-minute noise level measurements at identified sensitive receptor locations will be collected in order to assess the existing noise environment. Additionally, three (3) vehicle axle and pedestrian counts will be obtained through continuous traffic counting devises and video cameras operating simultaneously with the noise level measurements to evaluate the existing traffic volume, vehicle mix and pedestrian traffic. The following activities will take place at identified locations:

- Calibrate noise dosimeter;
- Place discretely in a hidden location;
- Place the traffic data recorder across the street;
- Place the video camera in a hidden location; and
- Check the equipment at regularly scheduled intervals.

For the backup Manual Option each field team will conduct the following activities to perform traffic and noise monitoring:

- Arrive at the designated monitoring location;
- Verify cell phone reception and contact the Task Leader;
- Place the sound level meter on a tripod that will be positioned at least three feet from the closest edge of the road, and as far from vertical walls as possible;
- Verify that the condition of the batteries in the meter is acceptable for the proposed monitoring period;
- Calibrate the sound level meter before the monitoring period;
- Activate the sound level meter and verify that noise readings are being logged;
- Record data on Site Data and Acoustic Data sheets (see Attachment 3), noting latitude and longitude, weather conditions and sketching a map of the monitoring station;
- Check the sound level meter every 30 minutes to ensure that the meter is functioning and actively recording data;
- Record the time and numbers of vehicles that travel pass the monitoring station (in both directions) during the monitoring period on the Vehicle Data sheet (see Attachment 3). Vehicles will be designated as an "Auto", "Medium Truck", "Heavy Truck", "Bus", "Motorcycle", "Other", and "SSFL Waste Truck";
- Record information on pedestrians (time, number of pedestrians and bikers, direction of movement, relative age of pedestrians) on the Pedestrian Data sheet (see Attachment 3);
- Report to the Task Leader by cell phone every hour after arrival (the time of day a call is made or received will be logged on the Communications Log, Attachment 3);
- Verify the calibration of the sound level meter and the condition of the batteries in the meter at the end of the monitoring period;
- Remove the sound level meter from the tripod at the end of the monitoring period; and
- Report to the Task Leader at the end of the monitoring period, and return monitoring equipment and log sheets to the Task Leader.

Following the field sampling event, the Task Leader, with the assistance of the Deputy Task Leader, will verify that all written data collected in the field is entered into an electronic format, ensure that all data undergoes Quality Assurance/Quality Control analysis, and deliver all data to the Traffic and Noise Resources Subject Matter Experts (TNR SMEs) for analysis of impacts. The Task Leader may assist the NR SMEs with the analysis of the traffic and noise data.

8.0 Detailed Schedule

Day 1 through Day 4 – Field Monitoring Phase

Noise, traffic, and pedestrian monitoring equipment will be situated at the identified locations on Day 1. Technicians will check the security of the equipment and re-calibrate instruments at scheduled intervals through Day 4. All equipment will be picked up at the after the end of Day 4 monitoring activities.

Backup Manual Option Schedule:

- *Day 1 – Training and Equipment Check*

Activities on Day 1 of the traffic and noise monitoring field study will include pre-monitoring reconnaissance and equipment checks and calibration. The Task Leader and Deputy Task Leader will:

- Travel to each monitoring location and conduct an inspection for safety (sun exposure, too much local traffic) or technical issues that may exist,
- Make final decisions concerning the specific monitoring locations and times and notify the Task Group of modified monitoring plans,
- Verify that cell phone coverage is available at each monitoring location,
- Gather equipment (clipboards, log sheets, folding chairs, ice chest, safety equipment),
- Send a reminder to Technicians to charge their cell phones,
- Conduct safety training, including safe vehicle operations and heat illness, and
- Distribute noise monitoring equipment, and train Technicians on the use of all equipment.

- *Day 2 through Day 4 – Field Monitoring Phase*

The Task Group members will meet at 5:00 AM each day to receive a safety briefing and to review and discuss any issues that may have occurred during operations on the previous day. The Task Group members will arrive at their designated monitoring locations no later than 5:40 AM so they may begin setting up monitoring equipment. Vehicles parked at the monitoring stations will be positioned to provide personal protection against errant vehicles, if possible. Two team members will be stationed at each of the five monitoring locations. The planned monitoring period at each location will be from 6:00 AM to 6:00 PM and from 9:00 to 10:00 PM on each day. Completed log sheets (see Attachment 3), will be submitted to the Task Leader, and data from each sound level meter will be printed and downloaded to a laptop computer at the end of each day.

The duration of the field monitoring phase and any of the proposed meeting and/or monitoring times may be adjusted based upon conditions that may be encountered during field operations.

- *Day 5 –Debrief*

The Task Leader will conduct a debriefing with the Task Group to review the activities that were conducted during the field monitoring phase of the study, and to assemble a list of lessons learned and suggestions for improvement that may be shared with the project team and applied for future traffic noise monitoring surveys. The field team will assemble, clean, and pack all field equipment, and the Task Leader, or Deputy Task Leader, will arrange for transportation/shipment of equipment to its intended destination.

9.0 Safety Requirements and Hazard Identification

Task Group members will employ safe driving techniques when traveling to and from their work areas, park their vehicles to provide personal protection from errant vehicle traffic, if possible, and wear orange safety vests in traffic areas to increase visibility. Task Group members will not stand or sit closer than six feet from the closest edge of the road at monitoring stations, except when performing routine function such as equipment installation and checks of monitoring equipment.

Additional hazards and/or requirements, such as security, the potential for wildfires, etc., will be identified by the Task Leader during pre-task planning and after conducting field reconnaissance on

Day 1 of the mobilization. Appropriate steps will be taken to ensure that such issues have been addressed and mitigated prior to beginning the traffic and noise monitoring survey. The Task Leader will review applicable safety procedures (including internal SAIC Environmental, Safety and Health [ESH] procedures listed in Section 11) to ensure that the traffic and noise survey may be conducted safely.

Additional requirements for backup Manual Option:

- *Exposure to temperature extremes and severe weather* --Task Group members will receive training on the risks of heat illness. If the daytime temperature should reach 85° F, then shade as defined by Cal/OSHA regulations will be provided for those who may be stationed outside. For manual traffic and noise monitoring will be suspended in the event of severe weather (lightning within 10 miles of site, heavy rain, and any severe weather warnings). Task Group members will wear clothing that is appropriate for weather conditions, including hats, long-sleeved shirts, long pants, and sturdy shoes (specific clothing items will be identified when the field sampling dates have been determined).
- *Biological hazards* -- Insect bites and potential exposure to hazardous plants and animals (poison ivy/oak, venomous snakes, and other wildlife), will be identified at monitoring locations prior to implementation of this plan. If venomous snakes are suspected to be present at a proposed monitoring point, then snake chaps, or similar protective clothing, will be required. Mitigation steps, which may include relocating a monitoring point, or in the case of the backup Manual Option, requiring that monitoring be conducted from the vehicle, changing personal protective equipment, etc. will be evaluated and communicated to the team prior to the commencement of traffic and noise monitoring.

- *Emergency Medical Services* -- Each team member will be required to contact the Task Leader on an hourly basis (the operability and coverage to be confirmed in advance). Access to and response times of emergency response organizations, 911 coverage, and the physical safety of each proposed monitoring location will be evaluated prior to implementation of this plan. Changes in the proposed monitoring locations will be made, as needed, to mitigate hazards/safety issues that may be identified during the visit to each location.

10.0 Data Analysis

The data collected during this investigation will be used to develop a traffic and noise baseline for truck transportation activities. Additionally, noise data collected when Boeing trucks are traversing the route(s) will be used to estimate potential impacts that may occur during truck transport activities that may occur in association with future soil cleanup and demolition activities at SSFL Area IV. Pedestrian and traffic data will be also be evaluated as part of a safety evaluation associated with potential truck transportation activities.

Parameters that will be recorded by and downloaded from each sound level meter include:

- SPL (Sound Pressure Level) – the sound level at a specific unit of time
- Peak Level – the highest instantaneous sound level that the microphone detects
- Maximum Level – the highest sampled sound level during the instrument's run time allowing for fast response time

- Minimum Level – the lowest level sampled sound level during the instrument's run time allowing for fast response time
- L_{AVG} (Average Noise Level) – the average sound level measured over a specified period
- L_{eq} (h) (1-hour A-weighted equivalent sound level) – energy average of A-weighted sound levels occurring during a one-hour period

The data from the traffic counting devices will be analyzed to provide information on the total volume of traffic, the classifications of vehicles, and the number of trucks traveling from SSFL. Data from the video will give information on the number of pedestrians and bicyclists. The data from the sound level meters will be compared with applicable County of Los Angeles exterior noise level requirements. The noise level measurements will be used to model the noise impacts with the predicted impacts from increased truck traffic. Also, analysis of the data may include recommended mitigation measures to reduce potential noise impacts due to truck traffic.

For the backup Manual Option, Field teams will collect sound level meter measurements, equipment calibration information, traffic types and volumes, the number of pedestrians and bicyclists, meteorological data, and information on monitoring locations, such as site mapping and topography (Please refer to the data sheets in Attachment 3). The Task Leader will collect traffic and noise monitoring log sheets from each field team and download the data from each sound level meter to a laptop computer at the end of each day.

11.0 Applicable Regulations and Requirements

American National Standards Institute, Procedures for Outdoor Measurement of Sound Pressure Level, ANSI/ASA S12.18-1994 (R2009).

American National Standards Institute, Specification for Sound Level Meters, ANSI S1.4-1983 (R2006).

California Code of Regulations, Title 8, Chapter 4, Subchapter 7, Group 2, Article 10, §3395. Heat Illness Prevention.

California Health and Safety Code, Division 28, §46000. Noise Control Act.

California Code of Regulations, Title 14, Division 6, Chapter 3, Article 5, §15064. Determining the Significance of the Environmental Effects Caused by a Project.

Noise Control Ordinance of the County of Los Angeles, Chapter 12.08 Los Angeles, California County Code.

Science Applications International Corporation (SAIC), 2007, Engineering and Infrastructure Business Unit Procedures, E&I EC&HS procedures including, as applicable: Procedure 4.1, Accident Reporting; Procedure 13, Personal Protective Equipment; Procedure 24, Regulatory Agency Inspections and Incident Reporting; Procedure 110, Vehicle Operation.

29 CRF 1926, Occupational Safety and Health Administration, Department of Labor, "Safety and Health Regulations for Construction".

Additional regulations and requirements may be identified for the final plan.

12.0 References

American National Standards Institute, Acoustical Terminology, ANSI S1.1-1994(R2004).

Larson Davis, Inc., 2003, *Model 820 Technical Reference Manual.*

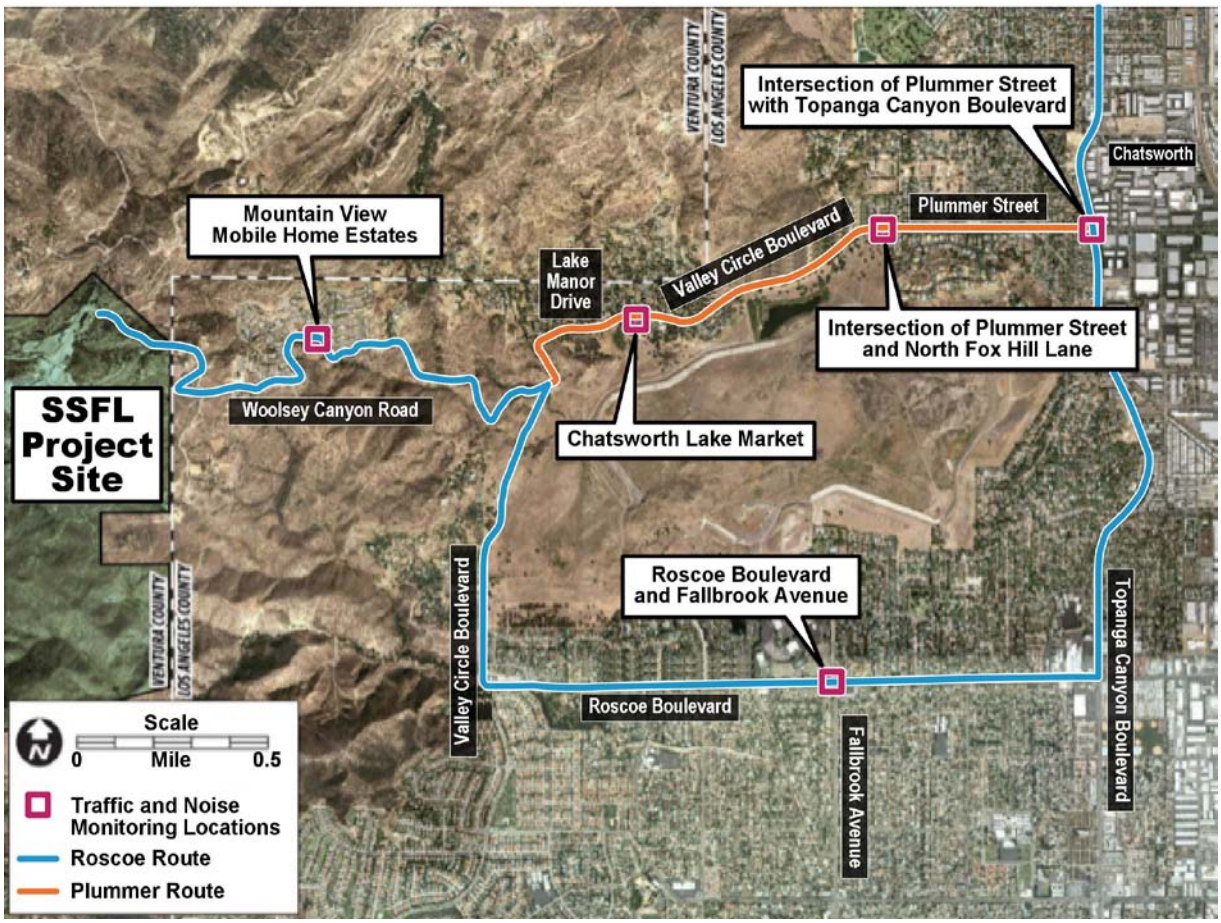
Manual of Uniform Traffic Control Devices, 2011, http://mutcd.fhwa.dot.gov/.

SAIC EHS Manual and E2IBU EHS Procedures, 2011, (online on SAIC's internal website).

U.S. Department of Transportation, Federal Highway Administration, 1996, *Measurement of Highway-Related Noise*, FHWA-PD-96-046.

23 CFR 772, Federal Highway Administration, Department of Transportation, "Procedures for Abatement of Highway Traffic Noise and Construction Noise".

ATTACHMENT 1
Traffic and Noise Monitoring Locations



Planned Noise Monitoring Locations
(Note: Locations may be changed based upon the ability to obtain permission of property owners, safety concerns, or other issues.)

- Near the entrance to the Mountain View Mobile Home Estates on Woolsey Canyon Road
- Near the Chatsworth Lake Market, 23400 Lake Manor Drive, Chatsworth Lake Manor, California
- Pedestrian sidewalk near the intersection of Plummer Street and North Fox Hill Lane
- Intersection of Plummer Street and Topanga Canyon Boulevard
- Intersection of Roscoe Boulevard and Fallbrook Avenue

ATTACHMENT 2

Larson Davis Sound Level Meters*

Model 820

The Model 820 is the perfect environmental noise analyzer, maintaining all of the features of the 812 but with added memory, modem capability, daily and exceedance histories.

The 1/2" condenser microphones used with Model 820 allow for a wider dynamic range and greater level of accuracy. The Models 812 and 820 meet the IEC and ANSI requirements for Type 1, Precision Integrating Sound Level Meters.

Fundamental to each of these instruments is an integrating sound level meter. Each features true RMS and dual Peak detectors that operate simultaneously. Each has Slow, Fast, and Impulse detector rates. Each has A and C frequency weighting filters.

Application

- Sound Level Measurements
- Community Noise Assessment
- Environmental Noise Monitoring
- Statistical Analysis
- Transportation Noise/Passby Measurement
- Sonic boom/artillery fire measurements
- Production Line Testing
- Remote Outdoor Noise Monitoring (Model 820)

Features

- ANSI/IEC Type 1 integrating SLM
- 110 dB dynamic range
- Long Term logging capabilities: Interval, Time, Daily and Event histories (820 only)
  Statistics - user selectable 6 Ln values
- Slow, Fast and Impulse Detectors
- True RMS with two separate Peak detectors
- A & C weighting
- Condenser microphone - extension cables up to 20 feet available
- 64K bytes of memory (812) / 256 K bytes of memory (820
- AC/DC Output
- RS-232 Interface
- Remote communications via modem (820 only)

*** A Larson-Davis Sound Level Meter is depicted here; a comparable monitor may be substituted.**

ATTACHMENT 3
Traffic and Noise Monitoring Data Sheets for Backup Manual Option Only

SSFL Area IV Traffic and Noise Monitoring Plan (Manual Option)

Equipment Checklist **DATE:**

Site #:	**Location:**		
Item #	**Quantity**	**Instrument**	**Serial #**

Form Prepared By: _____

SSFL Area IV Traffic and Noise Monitoring Plan (Manual Option)

Site Data **DATE:**

Site #:	**Location (street address and latitude/longitude):**	
Road Direction:	**Grade:**	**Nearby Landmark:**
Site Surface:	**Ground Surface Material:**	
Plan View:		

Form Prepared By: _____

Elevation View:

Date	Temperature (°C)	Relative Humidity (%)	Wind Speed (km/h)	Wind Direction	Cloud Cover Class	Weather Conditions

Classes of Cloud Cover

Class	Description
1	Heavily overcast
2	Lightly overcast (either with continuous sun or the sun obscured intermittently by clouds 20% to 80% of the time)
3	Sunny (sun essentially unobscured by clouds at 80% of the time)
4	Clear night (less than 50% cloud cover)
5	Overcast night (50% or more cloud cover)

Form Prepared By: _____

SSFL Area IV Traffic and Noise Monitoring Plan
(Manual Option)

Communications Log **DATE:**

Site #:	**Location:**
Time	**Nature of Message**

Form Prepared By: _____

SSFL Area IV Traffic and Noise Monitoring Plan (Manual Option)

Acoustic Data **DATE:**

Site #:	**Location:**			
Manufacturer:		**Model:**	**Serial #:**	
Preamplifier Serial #:		**Microphone Serial #:**		
Calibrator Manufacturer:		**Calibrator Model:**	**Calibrator Serial #:**	
Detector: Fast	**Frequency Weighting: A**		**Microphone Polarization: 200 V**	

Time	Event	Duration (sec)	Sound Level (dB)	Comments

Problems Encountered:

Suggestions:

Form Prepared By: _____

SSFL Area IV Traffic and Noise Monitoring Plan (Manual Option)

Pedestrian Data **DATE:**

Site #:	**Location:**				
Time	**Direction**	**Walking Adult**	**Walking Child**	**Biking Adult**	**Biking Child**

Form Prepared By: _____

SSFL Area IV Traffic and Noise Monitoring Plan (Manual Option)

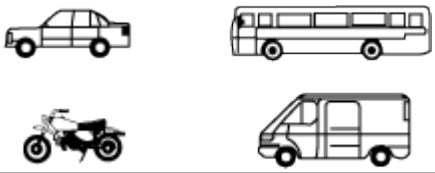
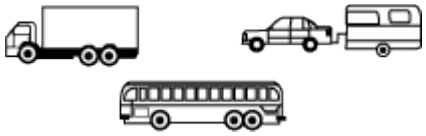
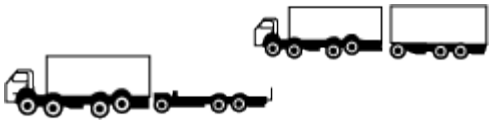
Vehicle Data **DATE:**

Site #:	**Location:**								
Time	**Direction of Travel**	**Auto**	**Medium Truck**	**Heavy truck**	**Bus**	**Motor-cycle**	**Other**	**SSFL**	**Comments**

Form Prepared By: _____

Vehicle Types

Type	Axles	Weight	Description
Automobile	2	Less than 4500 kg (9900 lb)	Designated primarily for transportation of nine or fewer passengers (car or van) or transportation of cargo (light truck)
Medium Truck	2	4500 kg – 12,000 kg (9900 lb – 26,400 lb)	Cargo vehicles with 6 tires
Heavy Truck	3 or more	Greater than 12,000 kg (26,400 lb)	Cargo vehicles
Buses	2 or 3		Designated for transportation of nine or more passengers
Motorcycle			Vehicles with 2 or 3 tires, open-air driver and/or passenger compartment
Other			Motor home, electric car

2 Axles		Private / commercial vehicles with 2 axles, 2 axle vehicles Motorcycles with 3 or fewer wheels without a trailer in tow
3 Axles		Private / commercial vehicles including 3 axle trucks or buses 2 axle Cars, trucks or motorcycles with single axle trailer in tow
4 Axles		Private / commercial vehicles including buses or trucks with 4 axles 2 axle vehicles with 2 axle trailer in tow 3 axle vehicles with single axle trailer in tow
5 Axles		Private / commercial vehicles including buses or trucks with 5 axles 2-4 axle vehicles with multiple axle trailers in tow totaling 5 axles
6 Axles		Private / commercial vehicles with 6 axles including trucks with multiple trailers totaling 6 axles
7 Axles		Private / commercial vehicles totaling 7 axles or more including trucks with multiple trailers