

**STATE OF ILLINOIS
POLLUTION CONTROL BOARD
JAMES R. THOMPSON CENTER
100 W. RANDOLPH ST, SUITE 11-500
CHICAGO, IL. 60601**

RECEIVED
CLERK'S OFFICE

SEP 09 2009

STATE OF ILLINOIS
Pollution Control Board

PETER AREDOVICH,)	
)	
Complainant,)	
)	
v.)	PCB 29009-102
)	
ILLINOIS STATE TOLL HIGHWAY)	
AUTHORITY,)	
)	
Respondent.)	

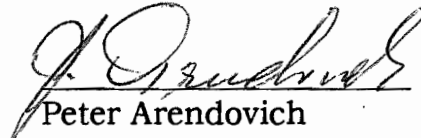
NOTICE OF MOTION

To: Robert T. Lane AAG
Illinois State Toll Highway Authority
2700 Ogden Ave.
Downers Grove, IL.60515

PLEASE TAKE NOTICE that on September 9, 2009 a motion for *Leave to File an Amended Complaint* was filed with the Clerk of the Illinois Pollution Control Board, James R. Thompson Center, 100 W. Randolph Street, Suite 11-500, Chicago, IL 60601 , a copy of which is attached hereto and hereby served upon you.

CERTIFICATE OF SERVICE

I, Peter Arendovich, deposes and states that a copy of the foregoing was served upon the above named by first class mail on the 9th day of September, 2009.


Peter Arendovich
1388 Gordon Lane
Lemont, IL.60439
630-257-8753

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JAMES R. THOMPSON CENTER
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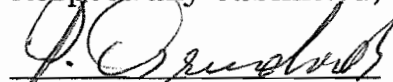
**MOTION FOR THE FILING OF THE
COMPLAINANT'S FIRST AMENDED COMPLAINT**

NOW COMES the Complainant, Peter Arendovich and moves this Board for an order granting the filing of the Complainant's First Amended Complaint. In support of this motion, the Complainant states as follows:

1. The Respondent has filed a motion on July 15, 2009, to strike and dismiss the original Complaint as frivolous.
2. The Complainant has corrected the legal deficiencies of the Complaint in answer to the Respondent's Motion to Strike and Dismiss
3. A copy of the First Amended Complaint is attached to this motion and made a part thereof.

WHEREFORE, the Complainant prays this board to grant an order allowing the filing of the First Amended Complaint.

Respectfully submitted,



Peter Arendovich
1388 Gordon Lane
Lemont, IL.60439
630-257-8753

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STATE OF ILLINOIS
Pollution Control Board

PCB 29009-102

FIRST AMENDED COMPLAINT

NOW COMES the Complainant, Peter Arendovich, pursuant to 415 ILCS 5/31(d) (1) and 35 Ill. Admn. Code 900.102 et seq. and complains of the Respondent, the Illinois State Toll Highway Authority as follows:

1. The Illinois State Toll Highway Authority, (ISTHA), has violated 23 CFR Part 772.13(c) and 23 USC 109(h) and 35 Ill. Adm. Code, Subtitle H, Chapter I, Section 900.102 by failing to provide the required noise abatement policies and procedures required under the provisions of both federal and state law.
2. ISTHA co-operated with the Federal Highway Administration in the planning and construction of I-355 through Cook and Will Counties.
3. A required Environmental Impact Statement, (EIS), was prepared by the Respondent and included the required noise abatement studies. The EIS indicates the location of the Complainant's residence as section 25 shown on the EIS exhibit

2-16. A Copy of the exhibit is attached hereto as Complainant's Ex A.

4. Table 4-15 of the EIS details the Results of the Noise Abatement Analysis and section 25, including the Complainant's residence as well as 23 other residences, states that a noise reduction barrier is likely to be implemented and that the potential noise reduction is to be 9 dB(A). (A copy is attached hereto as Exhibit B). The EIS establishes that heavy trucks generate 86dBA and the reduction of 9 dBA fails to comply with state and federal noise levels as is shown on charts 74 through 79 of Exhibit C.

5. The Complainant has consistently complained to ISTHA regarding the excessive noise levels of the constructed Tollway. ISTHA has failed to properly address the Complainants concerns. The Complainant hired the acoustical engineering firm, S&V Solutions to conduct detailed scientific studies in accordance with the measurement procedures set forth under the provisions of 35 Ill. Admn. Code Section 900.103. A detailed scientific study of the noise levels experienced at the Complainant's residence has been conducted and a copy of the detailed analysis and report is attached hereto as Exhibit C. The study's conclusions states as follows:

"The data shows that from Tuesdays through Fridays the noise generated by the highway is above the noise level indicated on Title 23

Chart (A) shows heavy trucks generate 86 db at a distance of 50 feet from the source.

Your property is about 150 feet from the source and the bedroom wall is 350 feet from the source.

Taking into account Chart (A), the generated noise by heavy trucks at 60 MPH is about 86 dB. Based on the

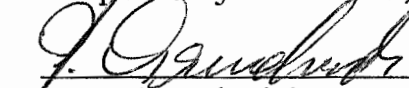
acoustic distance law, where the amount of decibels decrease by 5 every time distance is doubled (inverse square law), it is very unlikely the noise will dissipate to legal levels 150 feet away, nor at 350 ft. by your bedroom where the readings were taken. This is shown on charts from #74 through #89.

On charts #74 through #79 the high point which is above 65 db correlates with heavy truck noise decibels (db) and heavy truck traveling frequencies, passing at a given point.”

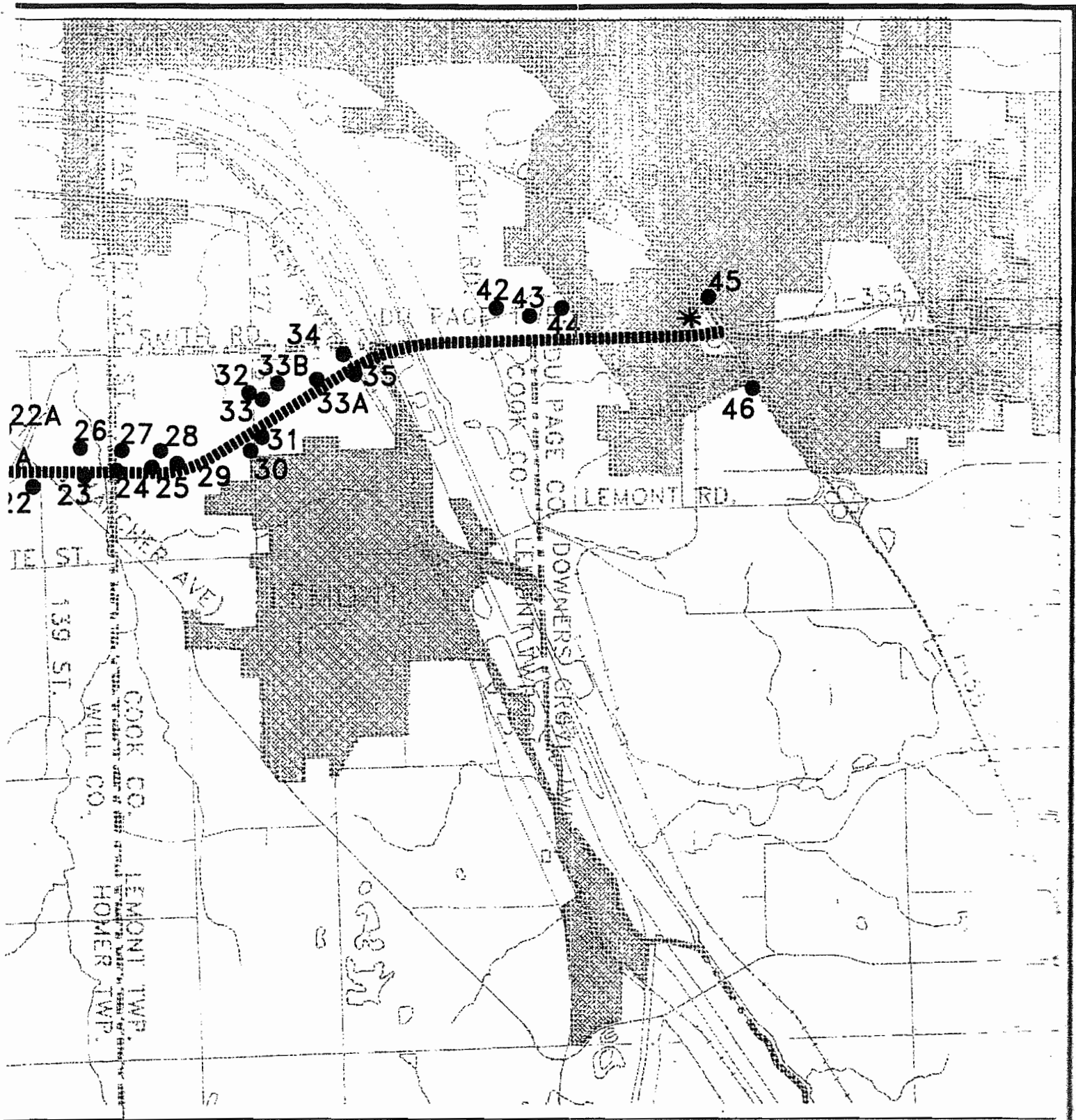
6. The noise levels recorded in the detailed scientific study are in excess of the required maximums established by federal and state regulations. FHWA regulations contained in IDOT’s Traffic Noise Assessment Manual at 2-2 indicate that the maximum dBA for residential areas is 67 dBA. A copy of IDOT’s FHWA NOISE ABATEMENT CRITERIA is attached hereto as Exhibit D.
7. All of the graphs included in the attached study show that the noise levels generated by the Tollway are consistently above the maximums established under state and federal regulations.

WHEREFORE the Complainant prays this Board to find ISTHA in violation of 35 Ill. Adm. Code, Subtitle H, Chapter I, Section 900.102 and to order the Respondent to construct proper noise abatement barriers as originally proposed in the Environmental Impact Study and in accordance with federal and state laws.

Respectfully submitted,



Peter Arendovich
1388 Gordon Lane
Lemont, IL.60439
630-257-8753



TO
PLAZA

FAP ROUTE 340
NOISE SENSITIVE
RECEPTORS
EXHIBIT "A"
EXHIBIT 2-16

Table 4-15
Results of Noise Abatement Analysis

Receptor	No. of Structures Represented	Barrier Height In Feet	Barrier Length In Feet	Cost* (\$25/Sq. Ft.)	Reduction Potential dB(A)	Likely To Be Implimented	If Reasonable With
SOUTHERN SECTION							
1 (R)	20	15	1200	\$450,000	7	YES	-
2 (R)	18	15	1000	\$375,000	6	YES	-
5(R)	16	15	6800	\$2,550,000	1	NO	2
11(R)	13	25	7680	\$4,800,000	2	NO	2
14A (P)	70	25	8800	\$5,500,000	4-6	NO	1
15 (R)	1	25	1600	\$1,000,000	7-8	NO	1
15A (R)	8	25	1000	\$625,000	7-8	YES	-
MIDDLE SECTION							
15B(R)	9	15	1500	\$562,500	2-3	NO	2
16(R)	16	15	1500	\$562,500	2-3	NO	2
16A (R)	22	25	4700	\$2,937,500	4	NO	2
17 (R)	12	-	-	-	-	NO	2
17A (R)	4	25	2200	\$1,375,000	13	NO	1
18 (R)	17	25	10200	\$6,375,000	2	NO	1,2
19 (R)	17	25	10200	\$6,375,000	2	NO	1,2
21A (R)	2	25	5400	\$3,375,000	8-9	NO	1,2
21B(R)	17	25	10200	\$6,375,000	2	NO	1,2
25 (R)	22	25	3700	\$1,400,000	9	YES	-
28 (R)	1	25	2200	\$1,375,000	9	NO	1,2
29 (R)	3	25	2600	\$1,625,000	9	NO	1,2
30(R)	2	15	1700	\$637,500	2	NO	1,2
31(R)	3	15	1300	\$487,500	2	NO	1,2
32(R)	5	15	2300	\$862,500	2	NO	1,2
NORTHERN SECTION							
33 (R)	3	15	3500	\$1,312,500	4-6	NO	1
33A (P)	88	25	3000	\$1,875,000	4	NO	2
33B (R)	1	25	11200	\$7,000,000	2	NO	1,2
34(R)	6	15	3400	\$1,275,000	4-6	NO	1,2
35(R)	4	15	3400	\$1,275,000	4-6	NO	1
42 (R)	3	25	1400	\$875,000	6-8	NO	1
43 (R)	2	25	2600	\$1,625,000	6-8	NO	1
44 (R)	2	25	2200	\$1,375,000	4-6	NO	1
45 (R)	20	25	1400	\$875,000	5	YES	-
46 (R)	25	15	5000	\$1,875,000	6-7	YES	-

Notes:

Receptors 16A and 17 share a common noise abatement barrier.

(P) - Represents proposed residential developments

(R) - Represents existing residence

* The cost includes preliminary analysis design, final design and related construction costs.

1 - Not economically reasonable or feasible based on cost compared to benefit.

2 - Does not provide substantial noise abatement. 4-67

EXHIBIT "B"

Date: June 13, 2009

To: Peter Arendovich, Lemont Resident

From: David Larson, Acoustical Consultant

Ref: I-355 Traffic Noise Level

Dear Peter:

I am writing to share the results of the noise monitoring I did at your residence for traffic noise coming from I-355. The equipment used is listed below:

1. Bruel & Kjaer type 2144 acoustics analyzer and data collector.
2. Bruel & Kjaer type 2639 microphone preamplifier.
3. Bruel & Kjaer type 4155 condenser microphone.
4. Bruel & Kjaer type 4231 portable acoustic calibrator.

This data analyzer/collector was placed on your premises with a microphone located in two positions:

Position 1: The microphone was placed at a distance of 340 ft from the bridge to your home's balcony tripod that held the mic 5 ft above the ground. The total height from the ground to the microphone was 14 feet. Wind speed and direction was taken from weather reports.

Position 2 was taken at a distance of 120 ft from the bridge onto your lot. The microphone was placed on a tripod 5 ft from the ground. Wind speed and direction was taken from weather reports.

The calibration was based on the standard portable B&K calibrator which was applied to the microphone at the beginning and end of the measurement session.

Data was taken at each position over several different periods of time during the day and night. The analyzer was set up to measure A-weighted sound level in intervals of one measurement every second or one measurement every 10 seconds.

The data was recorded on a floppy disk. This data from the disk was then analyzed and converted to an MS-Excel spreadsheet chart to be studied and to be compared to the value based on which the EIS was approved.

The following data was collected on a test made for 4 hours in length with 10 seconds intervals. Notice the noise generated in decibels in weighed scale A (dBA) at different times:

Chart 81	June 7 2008	Saturday	from 13.55 pm to 18.31 pm
Chart 83	June 10 2008	Tuesday	from 10.00 am to 14.36 am
Chart 85	June 10 2008	Tuesday	from 15.00 pm to 19.30 pm
Chart 87	June 11 2008	Wednesday	from 6.00 am to 10.36 am
Chart 88	June 11 2008	Wednesday	from 13.30 pm to 18.06 pm

Chart 90 June 12 2008 Thursday
 Chart 89 June 12 2008 Thursday

from 13.30 pm to 19.06 pm
 from 6.00 am to 19.38 am

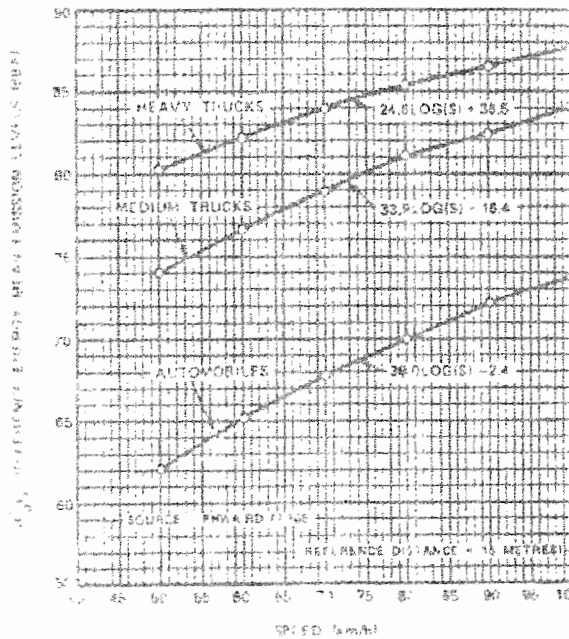
You can see a fluctuation in the noise at different times during rush hours (in the morning from 5.30 am to about 8.00 am, and again in the afternoon from about 3.00 pm to about 7.00 pm).

Data was also collected during a test made for 27 minutes at an interval length of 1 second. Notice the noise generated in decibels weighed scale a (dBA) at different times

Chart 74 June 5 2008 Thursday from 7.00 am to 7.27 am
 Chart 75 June 5 2008 Thursday from 6.00 pm to 6.27 pm
 Chart 77 June 6 2008 Friday from 6.00 am to 6.27 am
 Chart 78 June 6 2008 Friday from 6.30 am to 6.57 am
 Chart 79 June 6 2008 Friday from 7.20 am to 7.47 am

In this set of charts it shows that even on Fridays the noise level measured on the A weighed scale is above the level indicated in the Title 23.

Chart (A) Is a chart provided by the FHA, This chart shows different size vehicles traveling at different speed and the noise level generated in decibel weighed scale A



- LEGEND
- 1. AUTOMOBILES ALL VEHICLES WITH TWO AXLES AND FOUR WHEELS.
 - 2. MEDIUM TRUCKS ALL VEHICLES WITH TWO AXLES AND SIX WHEELS.
 - 3. HEAVY TRUCKS ALL VEHICLES WITH THREE OR MORE AXLES.

National Reference Energy Mean Emission Levels as a Function of Speed

Chart A

Conclusions

1. The data shows that from Tuesdays through Fridays the noise generated by the highway is above the noise level indicated on Title 23.
2. Chart (A) shows heavy trucks generate 86 db at a distance of 50 ft from the source.
3. Your property is about 150 ft. from the source and the bedroom wall is 350 ft from the source.
4. Taking into account Chart (A), the generated noise by heavy trucks at 60 mph is about 86 dB. Based on the acoustic distance law, where the amount of decibels decrease by 5 every time the distance is doubled (the inverse square law), it is very unlikely the noise will dissipate to legal levels 150 ft. away, nor at 350 ft. by your bedroom where the reading were taken. This is shown on charts from # 74 though #89.
5. On charts # 74 through #79 the high point which is above 65 db correlates with heavy trucks noise decibels (db) and heavy truck traveling frequencies, passing by at a given point.

Best Regards,



David A. Larson, S&V Solutions, Inc.

815-899-2021 office, 815-899-2115 FAX, 815-762-5333 cellular

email: techinfo@svsolutions.com

Appendix 1: inverse square law

When sound propagates freely in space the level of sound decays with one over the square of distance. This is commonly called the inverse square law and can be written as follows:

$$L_2 = L_1 - 20 \times \text{LOG} (X_2/X_1)$$

Where L_2 is the level of sound a distance X_2 , and L_1 is the level of sound at distance X_1 .

Please remember this law applies on to purely free field radiation. Across a grassy field, or a paved parking lot, or down a gravel road (as examples) one will see less decay with distance.

Appendix 2: multiple sources

If two noise sources of equal strength and uncorrelated with each other (such as two trucks on a highway) are added, such as they would if passing the same point at about the same time, then the total level would be 3 dB higher than one truck:

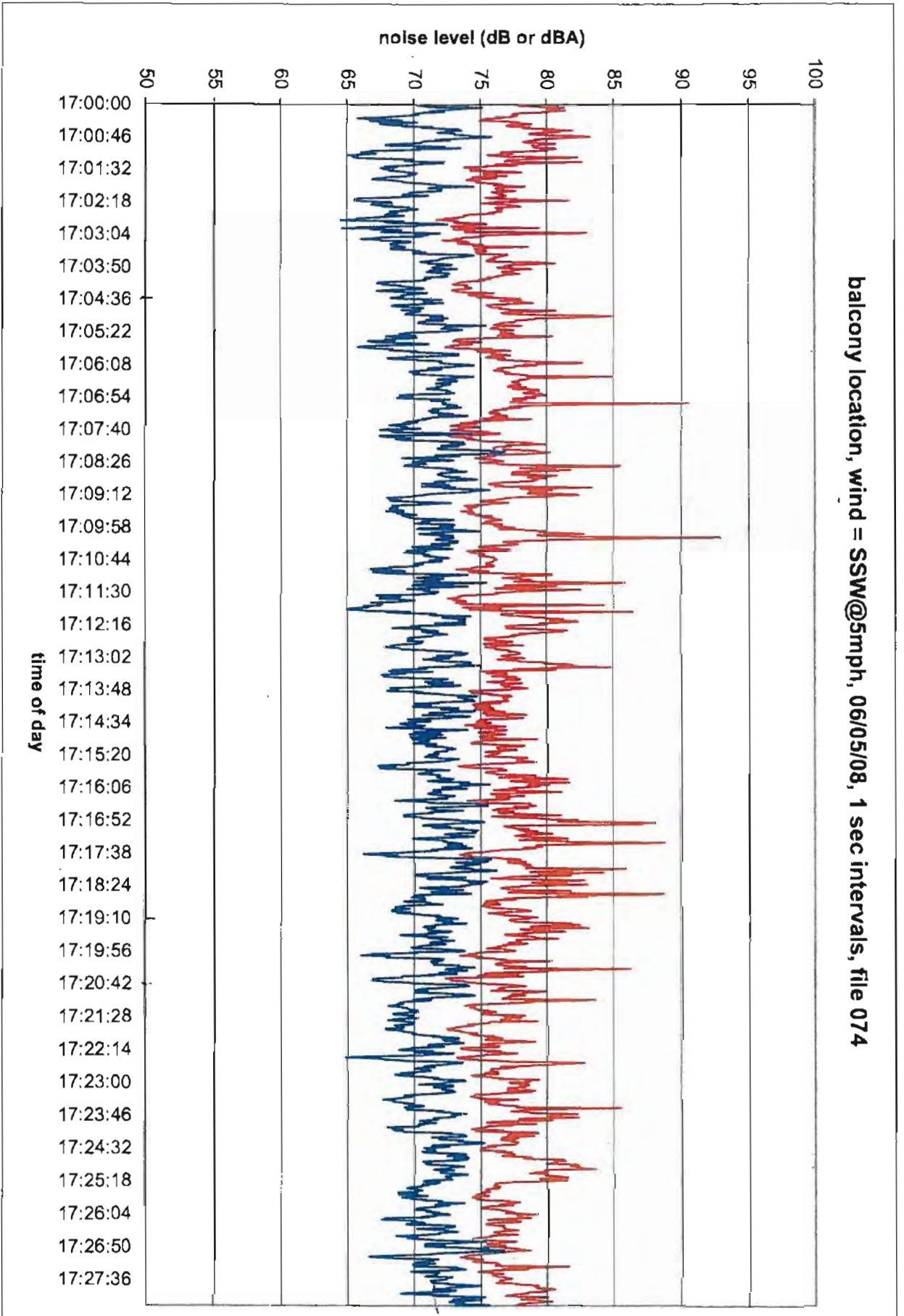
Lets us say that a fleet of trucks are all rated to produce 80 dBA total noise at 100 feet.

Two trucks passing at 100 feet = 83 dBA

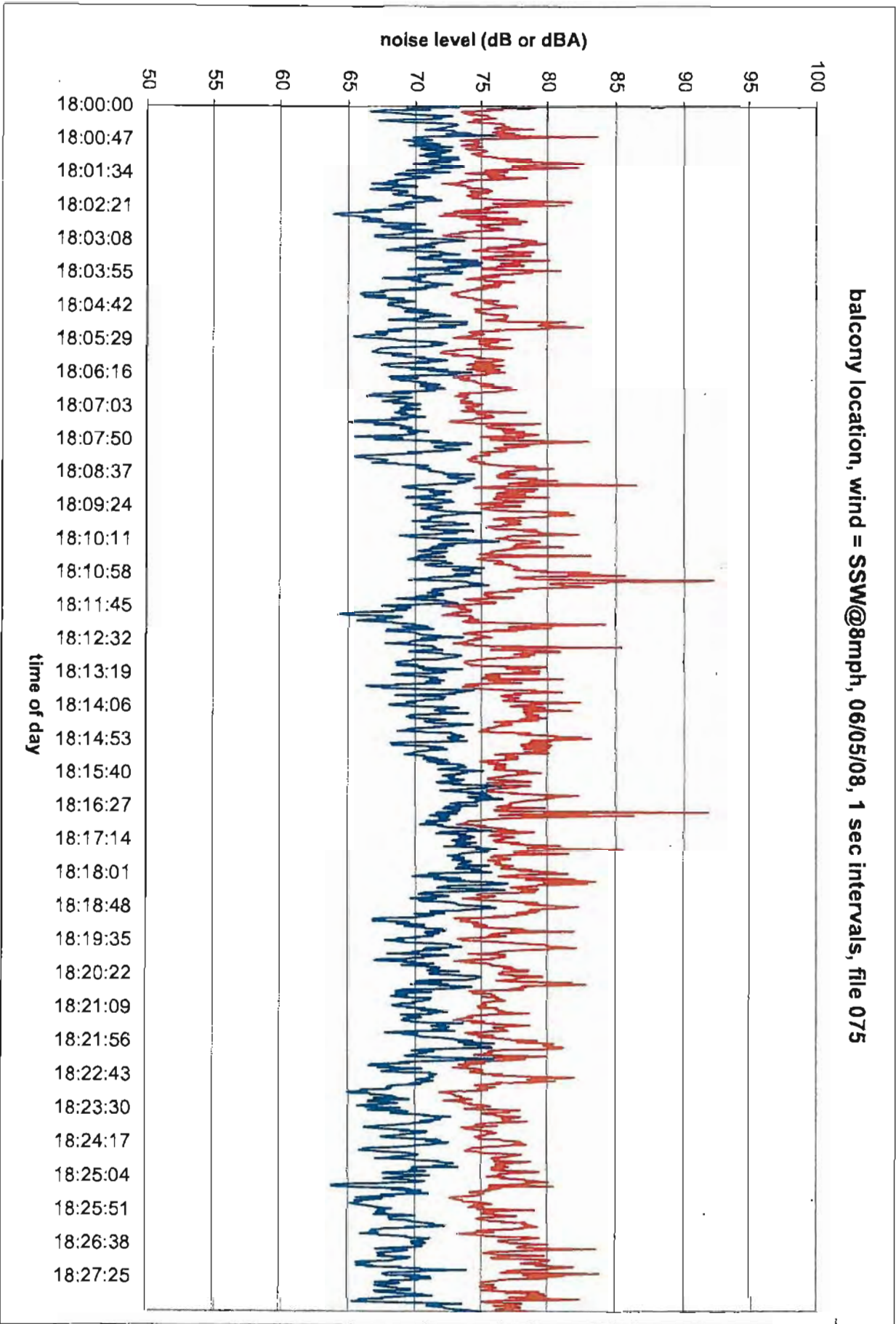
Four trucks passing at 100 feet = 86 dBA

Eight trucks passing at 100 feet = 89 dBA

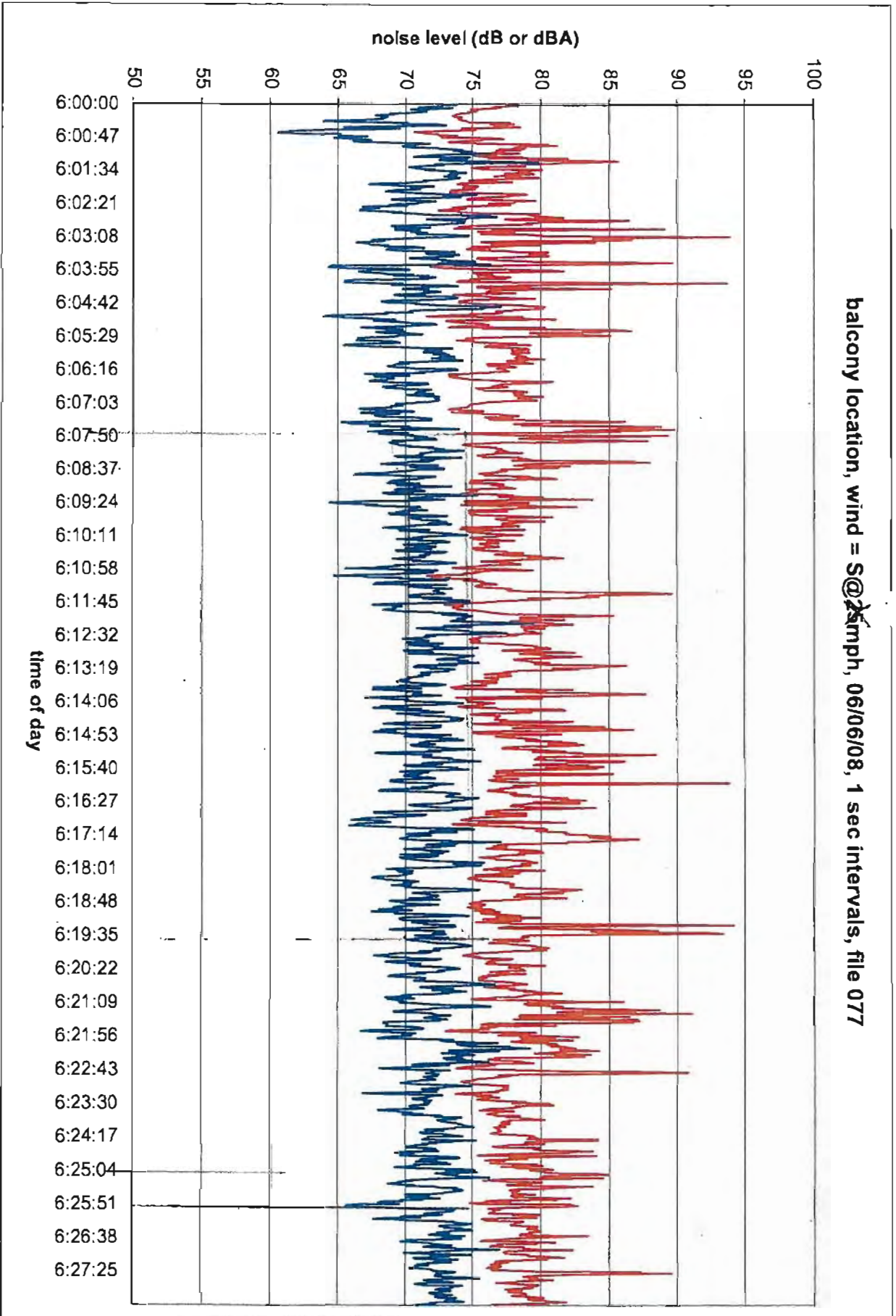
balcony location, wind = SSW@5mph, 06/05/08, 1 sec intervals, file 074

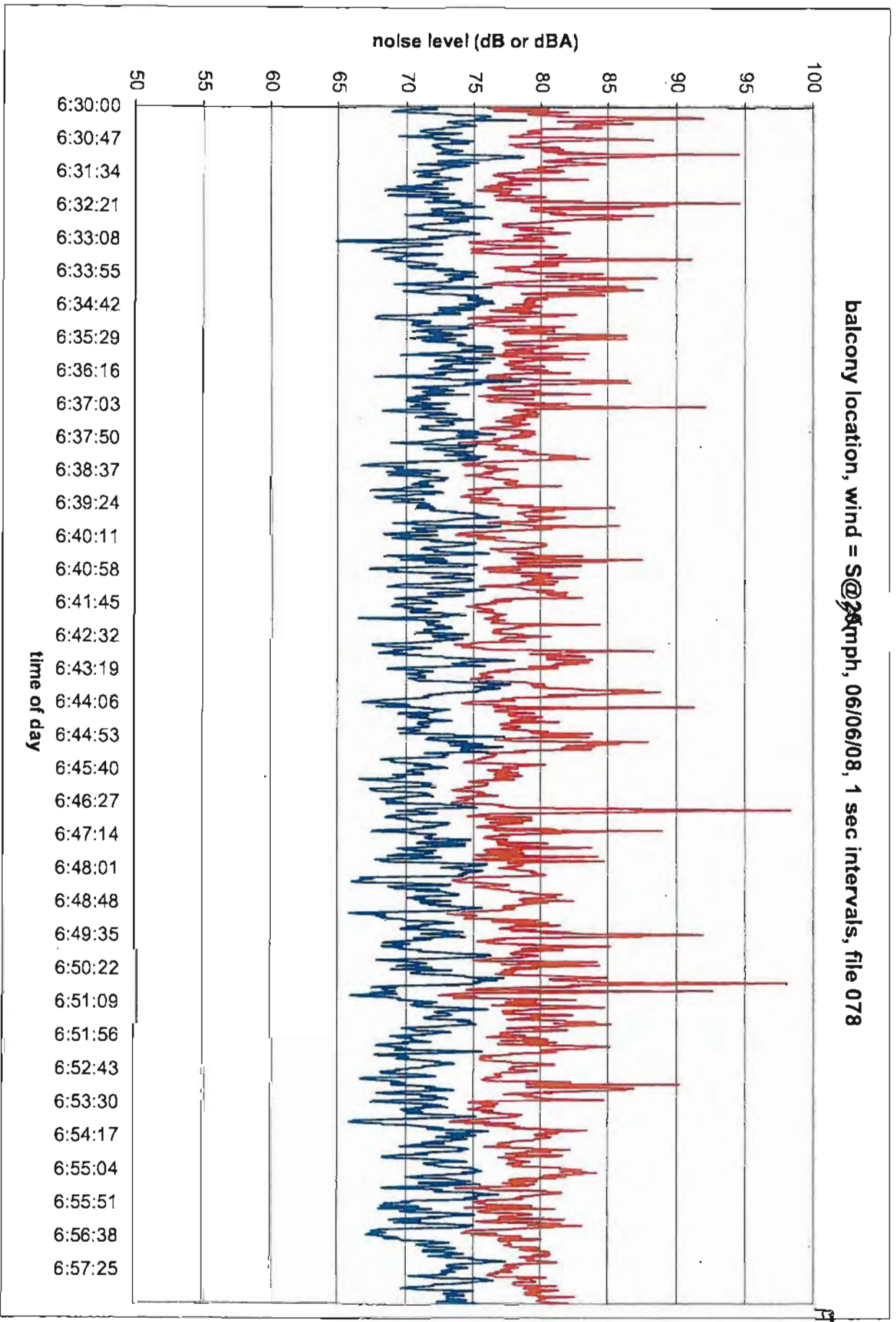


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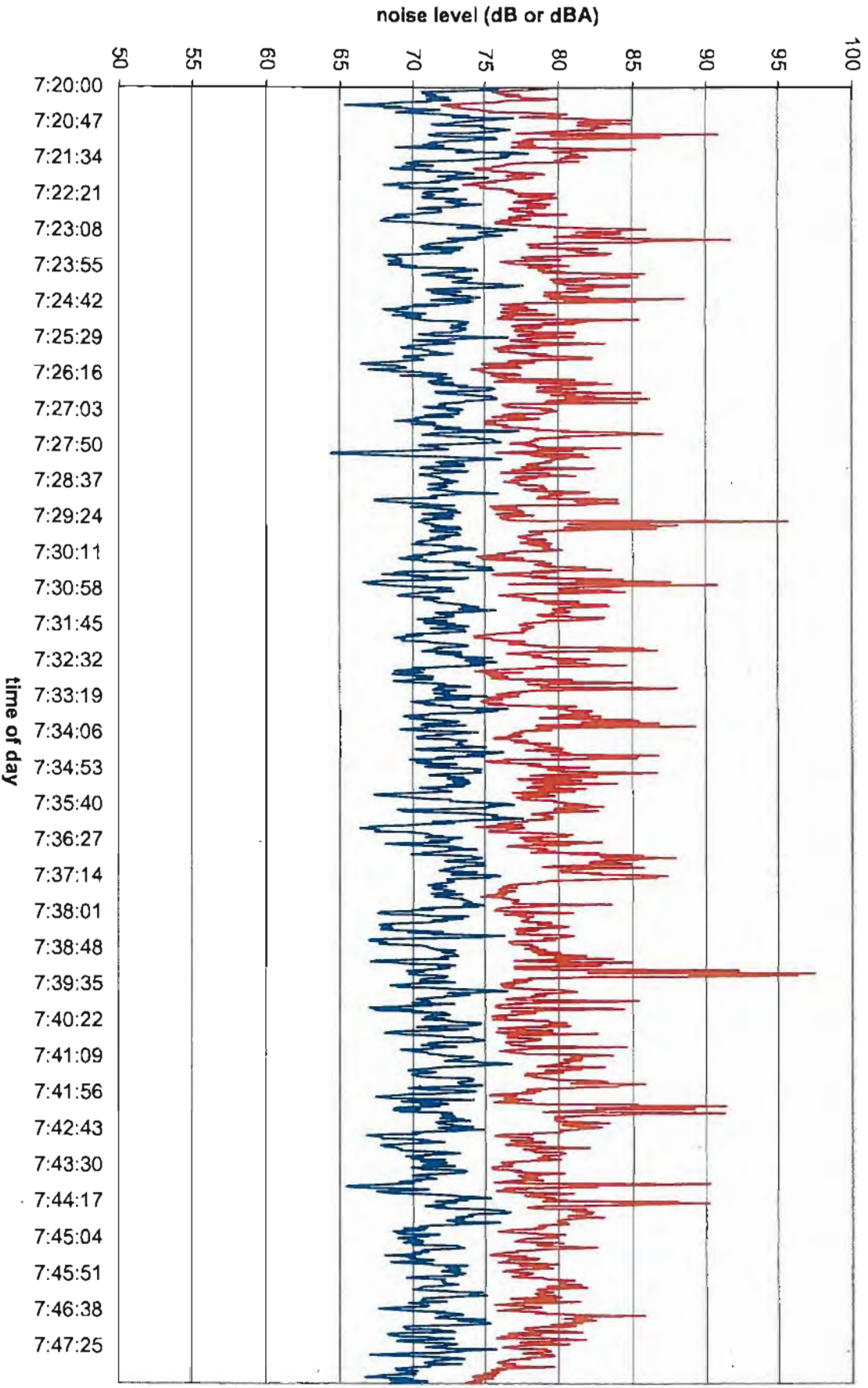


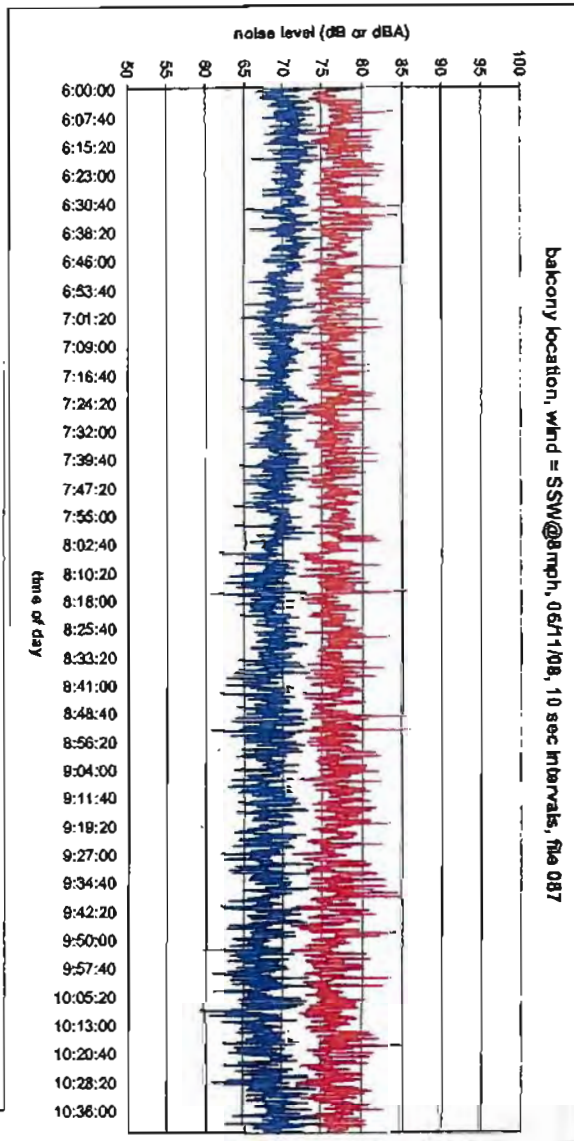
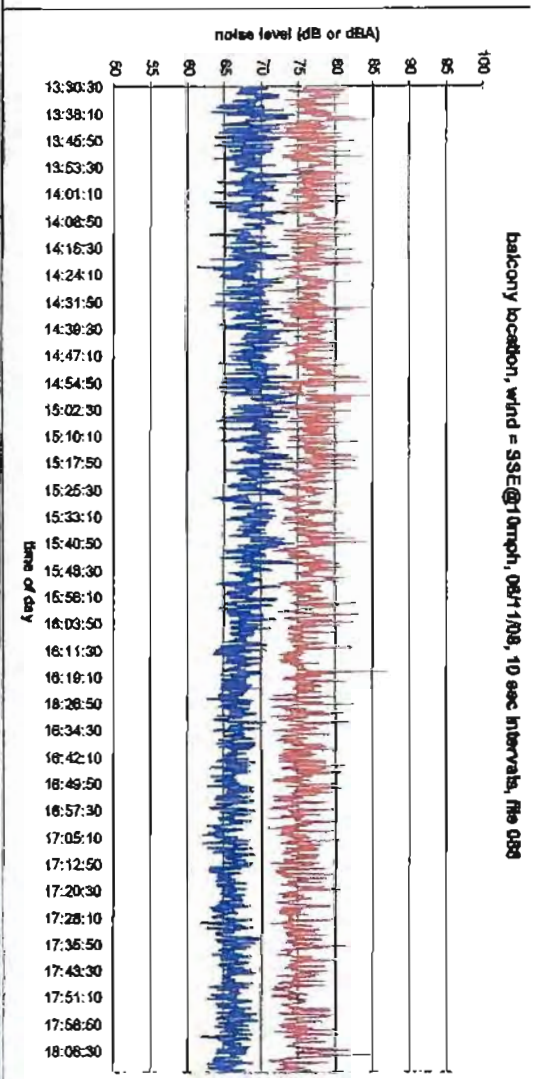
balcony location, wind = S@25mph, 06/06/08, 1 sec intervals, file 077

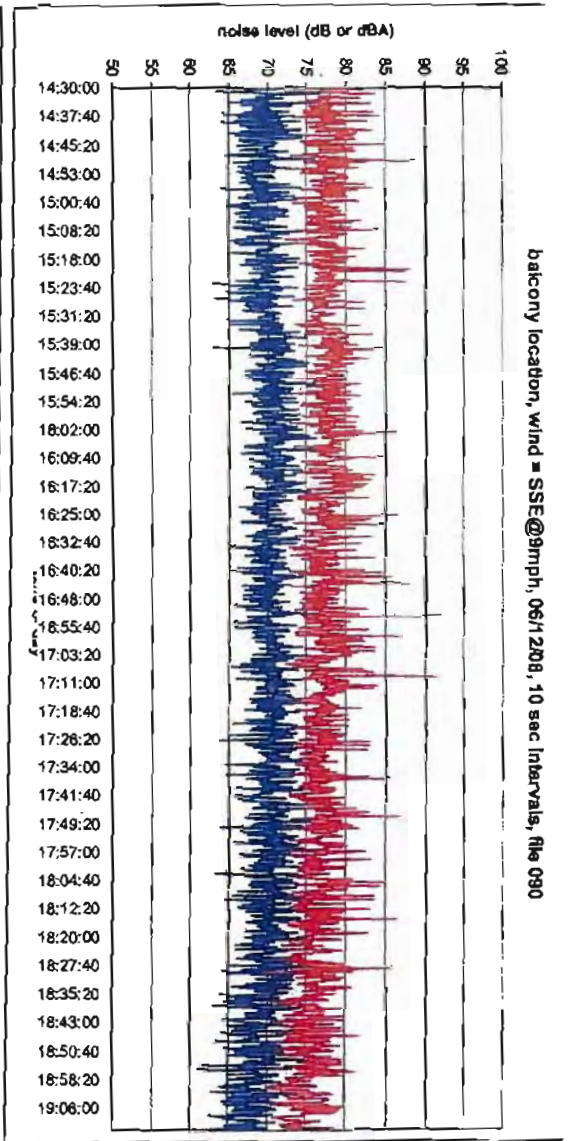
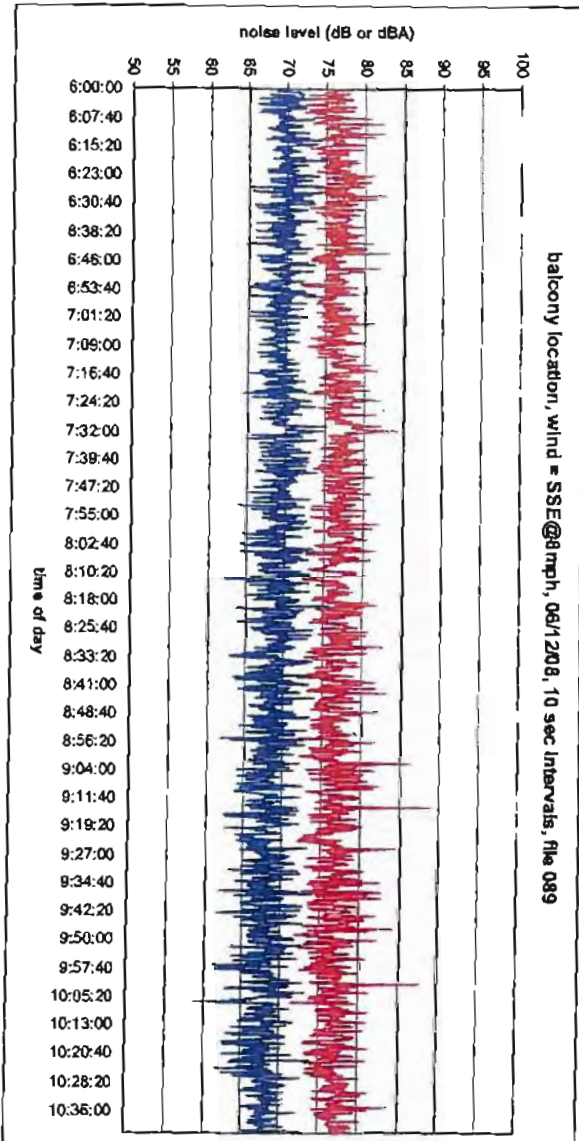




balcony location, wind = S@15mph, 06/06/08, 1 sec intervals, file 079







"Special efforts shall be made in the development of a project to comply with Federal, State, and local requirements for noise control; to consult with the appropriate officials to obtain the views of the affected community regarding noise impacts and abatement measures; and to mitigate highway-related noise impacts, where feasible and reasonable."

This policy statement sets forth the intent of the traffic noise analyses, the identification of traffic noise impacts, and the need to offer mitigation where reasonable and feasible criteria have been achieved.

2.3 Traffic Noise Impacts and Applicability

2.3.1 FHWA Regulations

Five separate **Noise Abatement Criteria (NAC)**, based on land use, are used by FHWA to assess potential noise impacts as defined by 23 CFR 772. The FHWA considered several approaches to define impact levels, but generally based the criteria on noise levels associated with the interference of speech communication. The NAC are therefore a balance of what is desirable and what is generally achievable.²

A traffic noise impact occurs when noise levels approach, meet or exceed the NAC criteria listed in the following table or when the predicted noise levels are substantially higher than the **existing noise level**.

TABLE 2-1
FHWA NOISE ABATEMENT CRITERIA - HOURLY WEIGHTED SOUND LEVEL

Activity Category	$L_{eq}(h)$, dBA	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Residences, picnic areas, recreation areas, playgrounds, active sports areas, parks, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	---	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

FHWA has deferred to the State agencies to define the noise level that "approaches" the NAC and to define a substantial increase in traffic noise levels. It should be noted that the NAC are not used as goals for noise attenuation design criteria or design targets. Instead, the NAC are noise impact thresholds for considering abatement when they are approached, met, or exceeded. Noise abatement measures are required to be considered as part of the project if impacts are identified.

Examples of Activity Category A include a monastery, an outdoor prayer area and an amphitheater. Activity Category B lists specific examples, but other land uses not specifically listed include cemeteries, campgrounds, and trails. Activity Category C examples include commercial and industrial land uses.

The NAC and noise procedure regulations apply to Type I and Type II (retrofit) projects only; however, the implementation of a Type II program is optional. **Type I and Type II projects** are defined as follows:

Type I projects. A proposed Federal or Federal-aid highway project for the construction of a highway on new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. Noise abatement is financed with funds appropriated for the proposed project.

Type II or Retrofit projects. A proposed noise abatement project on an existing **fully controlled-access State highway** or Interstate in an urban area.

2.3.2 IDOT Noise Policy

The IDOT *Noise Policy* establishes the traffic noise analyses requirements for all Type I or Type II projects whether they are federally funded or State-only funded, which includes cost-sharing projects with local funds. The traffic noise impact determination is based on the FHWA NAC as set forth in IDOT's policy found in Chapter 26-6.05(c) (Analysis and Reporting) of the BDE Manual. IDOT has established the following criteria to define the occurrence of a traffic noise impact.

- **Design year** (typically 20 years into the future) traffic noise levels are predicted to approach, meet, or exceed the NAC, with approach defined as 1 **dBA** less than NAC

Or,

- Design year (typically 20 years into the future) traffic noise levels are predicted to substantially increase (greater than 14 dBA) over existing traffic-generated noise levels

Based on the approach definition determined by IDOT, Table 2-2 provides the noise levels at which a traffic noise impact would occur and would require consideration of traffic noise abatement for the design year.

**TABLE 2-2
IDOT TRAFFIC NOISE LEVELS WARRANTING ABATEMENT EVALUATION**

Activity Category	$L_{50}(h)$, dBA
A	56 (Exterior)
B	66 (Exterior)
C	71 (Exterior)
D	76 (Exterior)
E	51 (Interior)