

# GORDON BRICKEN & ASSOCIATES

ACOUSTICAL and ENERGY ENGINEERS

August 31, 2006

REC'D SEP 05 2006

A C O U S T I C A L      A N A L Y S I S

R A I N B O W      D I S P O S A L

T R A S H      T R A N S F E R      S I T E

C I T Y      O F      H U N T I N G T O N      B E A C H

Prepared by:

Gordon Bricken  
President

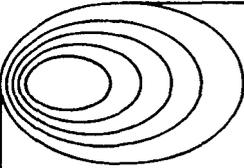
/mmb

Prepared for:

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**GORDON BRICKEN & ASSOCIATES**  
ACOUSTICAL and ENERGY ENGINEERS

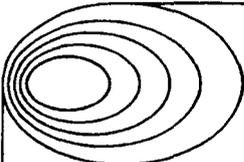
S U M M A R Y  
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This analysis has been completed to determine the noise exposure and the necessary mitigation measures for the proposed modification of the Rainbow Disposal Trash Transfer Facility site located in the City of Huntington Beach.

Measurements of the existing noise levels were conducted at several locations. These measurements served as the baseline for comparing the conditions that exist at the present time and those that will exist after the modifications are completed.

The study found that:

1. The modifications will result in a reduction in the site noise levels.
2. The site will comply with the terms of the City's Noise Ordinance.



# GORDON BRICKEN & ASSOCIATES

## ACOUSTICAL and ENERGY ENGINEERS

### 1.0 INTRODUCTION

This report presents the results of a noise impact study of the proposed modifications to the Rainbow Disposal Trash Transfer site located on Nichols Street in the City of Huntington Beach.

A vicinity map showing the general location of the site is presented on Exhibit 1 -- Site Location Map. The site plan is shown on Exhibit 2.

### 2.0 AREA DESCRIPTION

The surrounding land uses are as follows:

North....Industrial uses.

East.....An elementary school is across Nichols Street.  
The nearest residential uses are located on  
Emerald Lane.

South....Industrial uses

West.....Industrial uses.

### 3.0 APPLICABLE NOISE CRITERIA

The Noise Ordinance of the City of Huntington Beach establishes limits based on Noise Zones. In this setting only the terms of Zone 1 (residential) and Zone 4 (industrial) would apply. The school will be considered to fall into the residential designation. The allowed limits are given in Table 1 on the following page.

TABLE 1  
NOISE ORDINANCE LIMITS (1)

<u>ALLOWED DURATION</u>	<u>ALLOWED LIMIT</u>				<u>SYMBOL</u>
	<u>RESIDENTIAL</u>		<u>INDUSTRIAL</u>		
	<u>DAY</u>	<u>NIGHT</u>	<u>DAY</u>	<u>NIGHT</u>	
30 minutes in hour	55	50	70	70	L50
15 minutes in hour	60	55	75	75	L25
5 minutes in hour	65	60	80	80	L8
1 minute in hour	70	65	85	85	L2
Anytime in hour	75	70	90	90	Lmax

- (1) a. Day = 7:00 A.M. to 10:00 P.M.  
Night = 10:00 P.M. to 7:00 A.M.  
b. Residential = Zone 1, Industrial = Zone 2.

The limits may be increased to equal the ambient if the ambient is higher. The site will be subject to the Day and Night provisions of the Noise Ordinance since work starts at 6:00 A.M.

#### 4.0 EXISTING OPERATIONS

To understand the proposed project, it is useful to first understand the present operation. The description will refer to the site plan shown on Exhibit 2.

Trash is brought to the site where it is transferred to trucks that will carry the trash to a landfill or will package recyclable material for transmittal to commercial users. The trash is brought to the site via two primary means. Residential trash pickups come to the site and traverse a path between the existing transfer building and the existing Materials Recovery (MRF) building. This step is shown on Exhibit 3. The trucks come around on the west side and circle down the north side and into the primary dumping area. The trucks are unloaded on the outside of the transfer building. Front loaders push the trash into the building. This area is shown on Exhibit 4. The trucks exit to Nichols Street if there are other pickups.

Trash is also brought to the site by the public. The public vehicles enter the site south of where the trash trucks enter the site. The vehicles proceed to an open area, unload the material and proceed back out the same as way. The entrance area and unloading area are shown on Exhibit 5.

The other major operation is for the trash transfer trucks. Empty trucks enter off Nichols Street, and proceed down a ramp and stop under the transfer building. A sorting process is taking place in the transfer building. Recyclable materials are

sorted and conveyed via belts into the MRF building. The remaining trash is loaded onto the trash transfer truck. When the truck trailer is full, the truck proceeds up a ramp to the west side of the building and exits the site along the west and north sides of the site.

The recyclable material is sorted a second time and packaged onto pallets in the MRF building. There is a loading dock on the west side of the building.

#### 5.0 EXISTING NOISE LEVELS

Measurements were conducted at six locations in and around the existing project site. The measurement locations are shown on Exhibit 6. The descriptions are as follows:

1. Position #1 was at the edge of the primary dumping area that is shown on Exhibit 4. This location is a nominal 150 feet from the unloading operations. It was 100 feet from the west property line.
2. Position #2 was at the entrance area shown on Exhibit 3. It was ten feet from the west property line.
3. Position #3 was a nominal 60 feet from the public dumping operations shown on Exhibit 5. It was 170 feet from the south property line and 255 from the west property line.
4. Position #4 was at the sidewalk on the east side of Nichols Street opposite the public entrance, shown in the upper photo on Exhibit 5.
5. Position #5 was at the sidewalk on the east side of Nichols Street opposite the trash truck entrance shown on the upper photo on Exhibit 3.
6. Position #6 was on Emerald Lane at the school parking lot. The upper photo shown on Exhibit 7 is a view looking east from the project site opposite the entrance mentioned for Position #5. The school play yard is in the foreground and a two-story apartment building is in the background. The apartment building and the measurement setup are shown in the lower photo on Exhibit 7.

The measurements were conducted using an Ono Sokki Model LA1250 Type 2 Sound Level Meter and a Bruel and Kjaer Model 2317 Portable Level Recorder. The measurement records are contained in Appendix 1.

The relationship of the measured data to the Noise Ordinance is provided in both a tabular and graphical form. All Positions in theory have a site noise component and a ambient noise component. At Positions #1, #2, #3 and #6, the project levels are high enough as to define the total noise level. However, at Positions #4 and #5, the ambient is sufficiently high as to make it necessary to clearly separate the two contributions to avoid misinterpreting the impact of the Rainbow site. The graphical version of the measured data are plotted on the Exhibits contained in Appendix 2 which include the non-site ambient plot for Positions #4 and #5. Inspection of the Rainbow and Non-Rainbow curves indicates that the common difference at the two locations is the maximum noise level. In both cases, the maximum levels are produced by traffic on Nichols Street. Therefore, under the terms of the Noise Ordinance the allowed maximum levels becomes the non-Rainbow maximum level. The tabulation of the noise levels at each position with the corrections for Positions #4 and #5 are given in Tables 3 and 4.

TABLE 3

EXISTING MEASURED SITE NOISE LEVELS  
COMPARED TO THE ALLOWED DAYTIME LEVELS (1)

<u>POSITION</u>	<u>PARAMETER</u>	<u>Lmax</u>	<u>L2</u>	<u>L8</u>	<u>L25</u>	<u>L50</u>
#1	Measured	81	77	75	74	73
	Allowed	90	85	80	75	70
	Difference	- 9	- 8	- 5	- 1	+ 3
#2	Measured	82	78	76	74	70
	Allowed	90	85	80	75	70
	Difference	- 8	- 7	- 4	- 1	0
#3	Measured	100	84	81	78	75
	Allowed	90	85	80	75	70
	Difference	+10	- 1	+ 1	+ 3	+ 5
#4	Measured	72	62	61	59	58
	Allowed	81	70	65	60	55
	Difference	- 9	- 8	- 4	- 1	+ 3
#5	Measured	79	68	66	62	58
	Allowed	87	70	65	60	55
	Difference	- 8	- 2	+ 1	+ 2	+ 3
#6	Measured	67	67	56	55	54
	Allowed	75	70	65	60	55
	Difference	- 8	- 3	- 9	- 5	- 1

- (1) a. Daytime is 7:00 A.M. to 10:00 P.M.  
b. Minus means the measured level is less than allowed.  
Plus means the measured level higher than allowed.

TABLE 4

EXISTING MEASURED SITE NOISE LEVELS  
COMPARED TO THE ALLOWED NIGHTTIME LEVELS (1)

<u>POSITION</u>	<u>PARAMETER</u>	<u>Lmax</u>	<u>L2</u>	<u>L8</u>	<u>L25</u>	<u>L50</u>
#1	Measured	81	77	75	74	73
	Allowed	90	85	80	75	70
	Difference	- 9	- 7	- 5	- 1	+ 3
#2	Measured	82	78	76	74	70
	Allowed	90	85	80	75	70
	Difference	- 8	- 7	- 4	- 1	0
#3	Measured	100	84	81	78	75
	Allowed	90	85	80	75	70
	Difference	+10	- 1	+ 1	+ 3	+ 5
#4	Measured	72	62	61	59	58
	Allowed	81	65	60	55	50
	Difference	- 9	- 3	+ 1	+ 4	+ 7
#5	Measured	79	68	66	62	58
	Allowed	87	65	60	55	50
	Difference	- 8	+ 3	+ 6	+ 7	+ 8
#6	Measured	67	67	56	55	54
	Allowed	70	65	60	55	50
	Difference	- 3	+ 2	- 4	0	+ 4

- (1) a. Nighttime is 10:00 P.M. to 7:00 A.M.  
b. Minus means the measured level is less than allowed.  
Plus means the measured level higher than allowed.

Positions #1 and #3 are not exactly at the property line, so some reduction is needed to transfer the data to the property line location. At Position #1, the projected property line level reduction would be four dBA. This would imply that all parameters would be less than the allowed limits. At Position #3, the reduction for the south property line is 14 dBA and the reduction for the west property line is nine (9) dBA. These adjustments indicate that the levels would be less than the allowed values.

The measurements indicate that the only locations where the existing site exceeds the allowed limits of the Noise Ordinance are at the off-site Positions #4, #5 and #6.

## 7.0 PROJECT NOISE LEVELS

The project's plan is depicted on Exhibit 8. The project proposes several changes in the site, which are as follows:

1. The existing Transfer Station #1 will be enlarged and the primary dumping area will be enclosed in the building. The route of the trash trucks will be similar except the trash trucks will enter the building to dump their loads. This will also include the green waste portion of the dumping area.
2. A secondary recycling building will be constructed about where the public dump area is located on the existing site.
3. An additional Transfer Station will be adjacent to the secondary recycling building. This location is south of the present public dumping area in an area that is currently vacant but has had a transfer station in recent times. The transfer trucks for the new building will enter on the west side and exit on the east side along a route that parallels the south property line. The truck route will be within 50 feet of the property line. Vehicles using this Station will enter into the building before dumping loads.
4. The maintenance operation will be moved from behind the office building to a structure at the north property line.

The changes in the noise levels will be addressed by the measurement position as follows:

1. The dumping operation will be shielded from Position #1 by the building. The exact design of this building is not known in detail but similar buildings yield a noise reduction of at least 10 dBA.
2. Position #2 will be affected to some degree by any of the changes, although the main noise is from truck movements which will remain. The changes will occur in the L2 through L50 parameters, which are affected to some extent by the existing primary dumping area. The net noise reduction in these parameters will be at least 5 dBA.
3. Position #3 is eliminated. A new position was identified as Position #3A directly south of the location of Position #3.

4. The existing Position #4 site noise is created mainly by the operations of the public dumping area. This will decrease by at least 10 dBA except for the maximum value, which is set by the vehicles on the access road.
5. The existing Position #5 site noise is created mainly by the operations of the primary dumping area. This will decrease by at least 10 dBA except for the maximum value, which is set by the vehicles on the access road.
6. The existing Position #6 site noise is created mainly by the operations of the primary dumping area. This will decrease by at least 10 dBA except for the maximum value, which is set by vehicles on the access road.

The net effects are seen in Tables 5 and 6 on the following pages.

TABLE 5

PROJECTED PROPOSED SITE NOISE LEVELS  
COMPARED TO THE ALLOWED DAYTIME LEVELS (1)

<u>POSITION</u>	<u>PARAMETER</u>	<u>Lmax</u>	<u>L2</u>	<u>L8</u>	<u>L25</u>	<u>L50</u>
#1	Measured	71	67	65	64	63
	Allowed	90	85	80	75	70
	Difference	-19	-18	-15	-11	-7
#2	Measured	82	73	71	69	65
	Allowed	90	85	80	75	70
	Difference	-8	-12	-9	-6	-5
#3A	Measured	90	74	71	68	65
	Allowed	90	85	80	75	70
	Difference	0	-11	-9	-7	-5
#4	Measured	72	52	51	49	48
	Allowed	81	70	65	60	55
	Difference	-9	-18	-14	-11	-7
#5	Measured	79	58	56	52	48
	Allowed	87	70	65	60	55
	Difference	-8	-12	-9	-8	-7
#6	Measured	67	57	46	45	44
	Allowed	75	70	65	60	55
	Difference	-8	-13	-19	-15	-11

- (1) a. Nighttime is 10:00 P.M. to 7:00 A.M.  
b. Minus means the measured level is less than allowed.  
Plus means the measured level higher than allowed.

TABLE 4

PROJECTED PROPOSED SITE NOISE LEVELS  
COMPARED TO THE ALLOWED NIGHTTIME LEVELS (1)

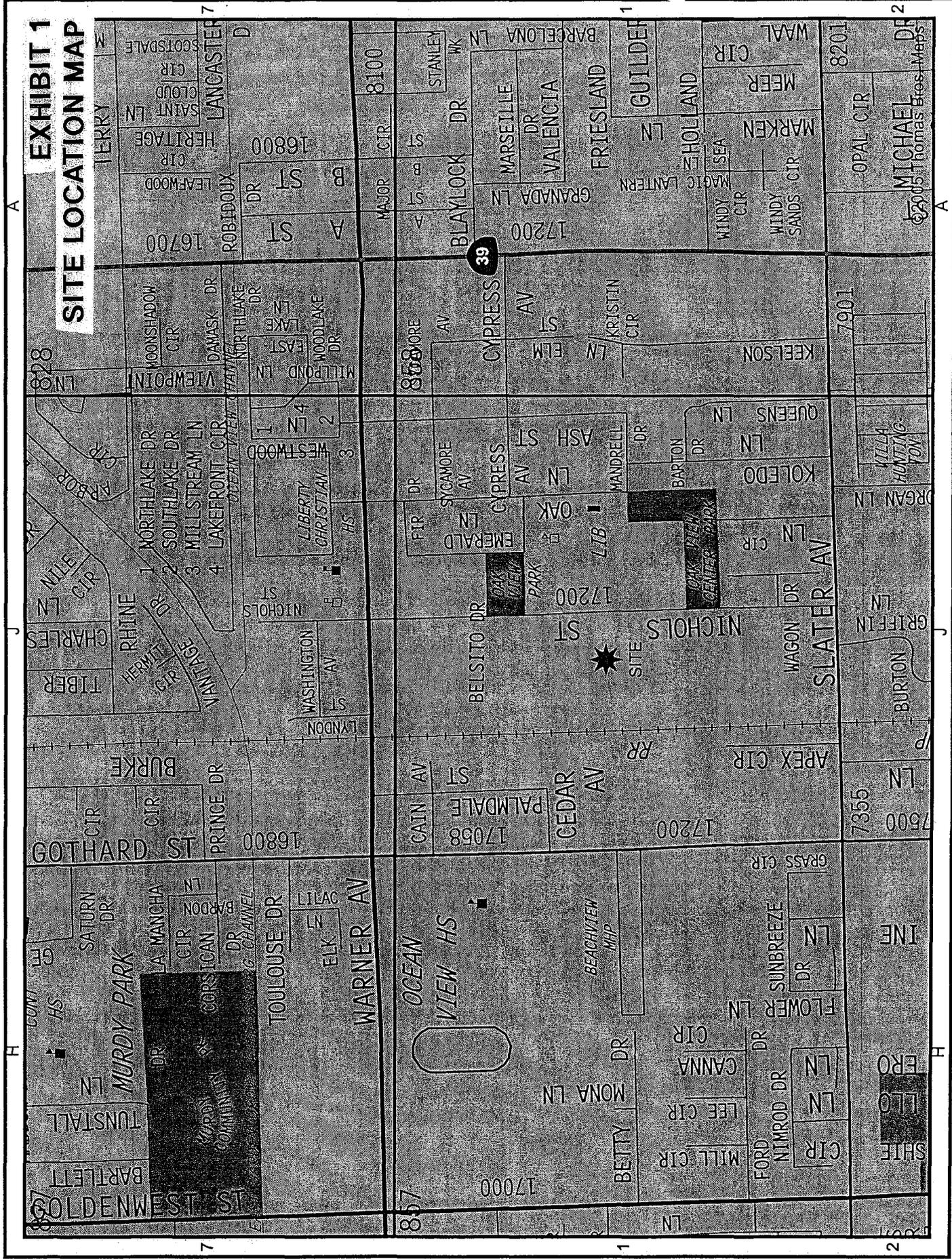
<u>POSITION</u>	<u>PARAMETER</u>	<u>Lmax</u>	<u>L2</u>	<u>L8</u>	<u>L25</u>	<u>L50</u>
#1	Measured	81	67	65	64	63
	Allowed	90	85	80	75	70
	Difference	-19	-17	-15	-11	- 7
#2	Measured	82	73	71	69	65
	Allowed	90	85	80	75	70
	Difference	- 8	-12	- 9	- 6	- 5
#3A	Measured	90	74	71	68	65
	Allowed	90	85	80	75	70
	Difference	- 8	-11	- 9	- 7	- 5
#4	Measured	72	65	51	49	48
	Allowed	81	65	60	55	50
	Difference	- 9	0	- 9	- 6	- 2
#5	Measured	79	58	56	52	48
	Allowed	87	65	60	55	50
	Difference	- 8	- 7	- 4	- 3	- 2
#6	Measured	67	57	46	45	44
	Allowed	70	65	60	55	50
	Difference	- 3	- 8	- 4	-10	- 6

- (1) a. Nighttime is 10:00 P.M. to 7:00 A.M.  
b. Minus means the measured level is less than allowed.  
Plus means the measured level higher than allowed.

#### 8.0 CONCLUSIONS

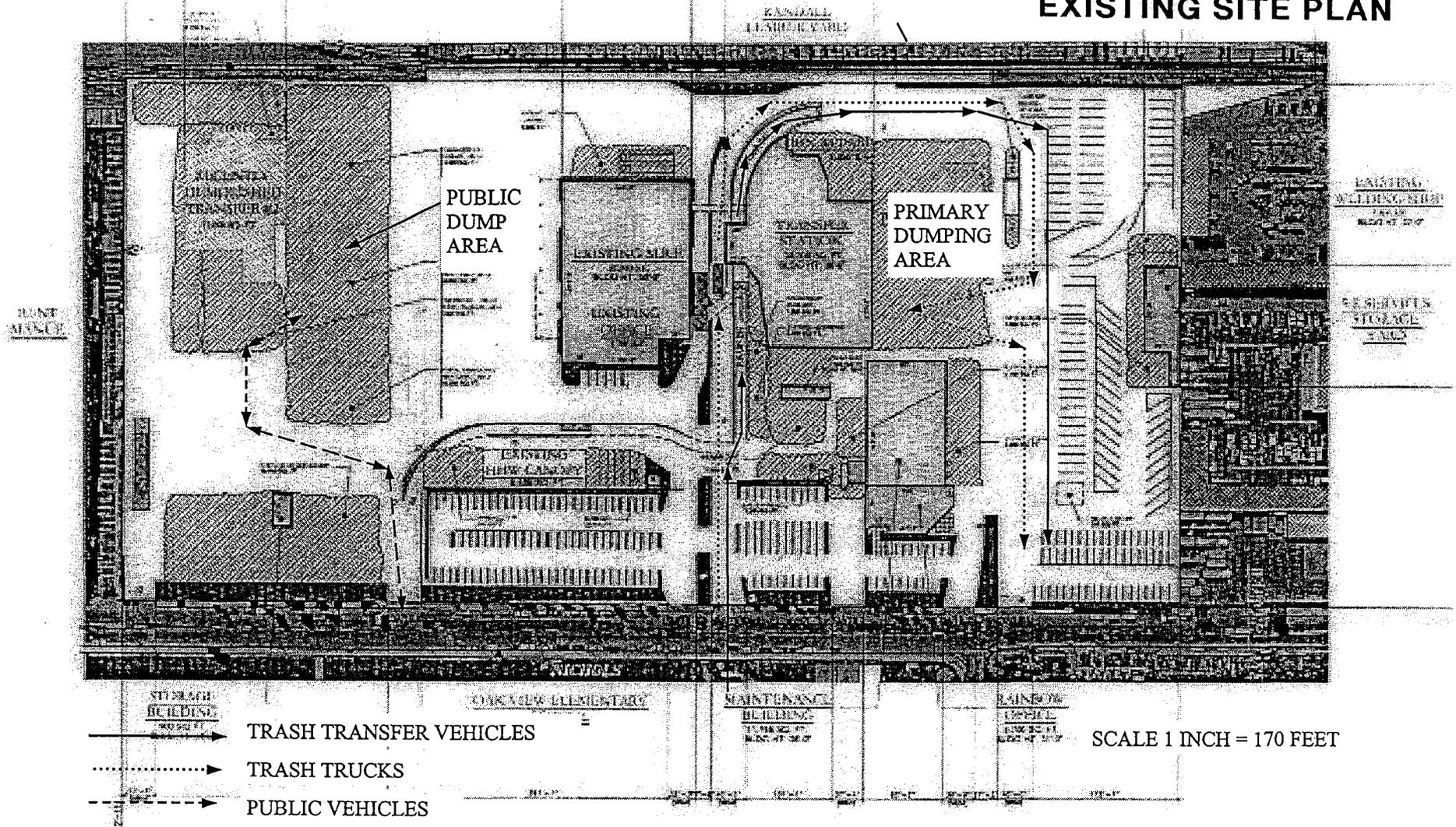
The proposed projects will reduce the noise levels and all locations will comply with the Noise Ordinance.

# EXHIBIT 1 SITE LOCATION MAP



\* SITE: 17045 Nichols St, Huntington Beach, CA 92647, 857J1

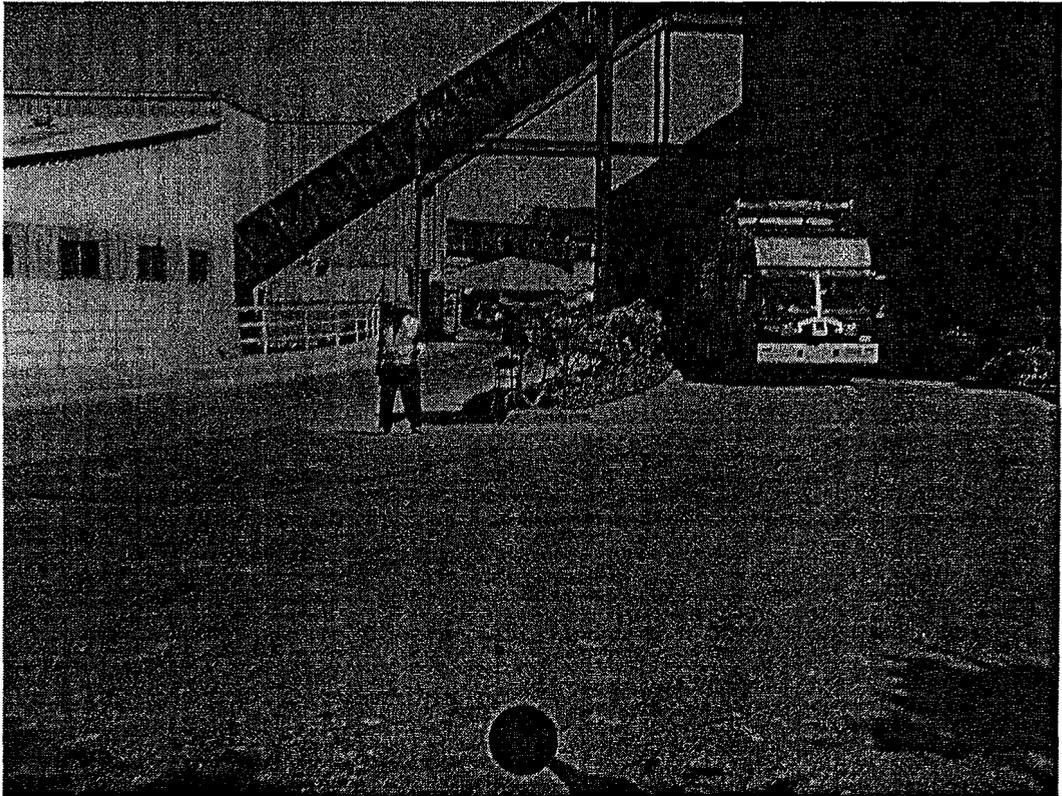
# EXHIBIT 2 EXISTING SITE PLAN



**EXHIBIT 3**



**VIEW AT TRASH TRUCK ENTRANCE**



**VIEW OF TRASH TRUCK AT ENTRANCE**

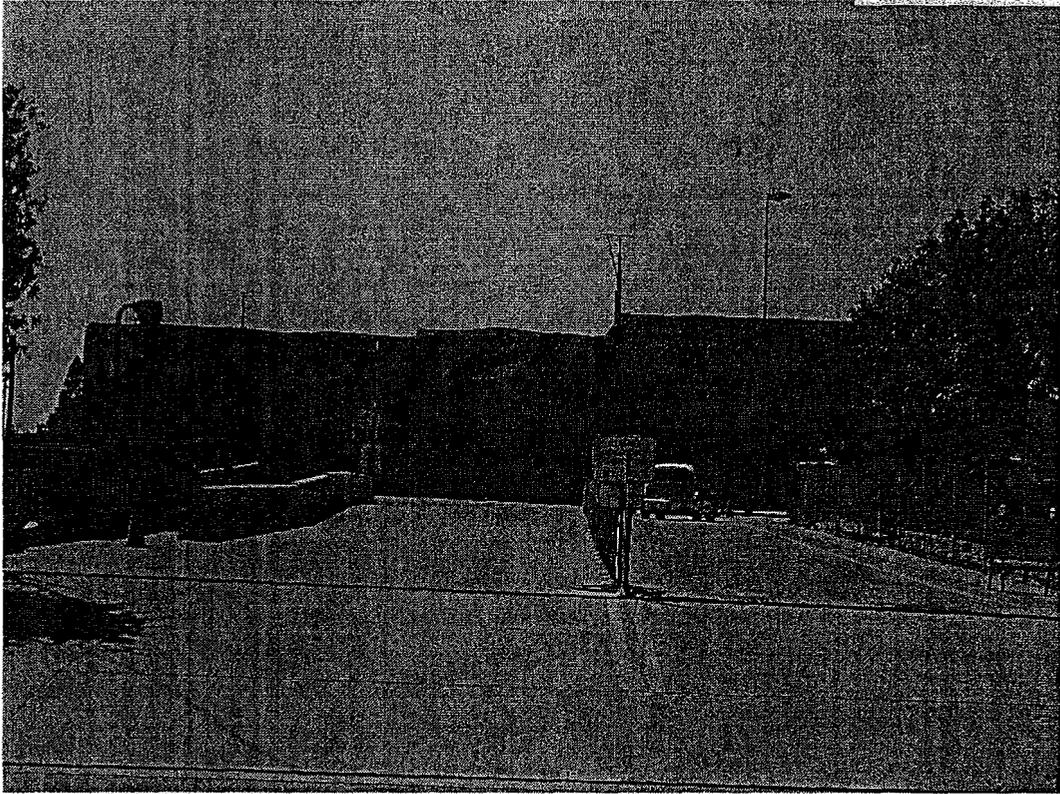


VIEW OF TRASH TRUCK DUMPING AREA



VIEW OF GREEN WASTE AREA

EXHIBIT 5



VIEW AT PUBLIC ENTRANCE



VIEW OF PUBLIC AREA WASTE DUMP AREA



**EXHIBIT 7**

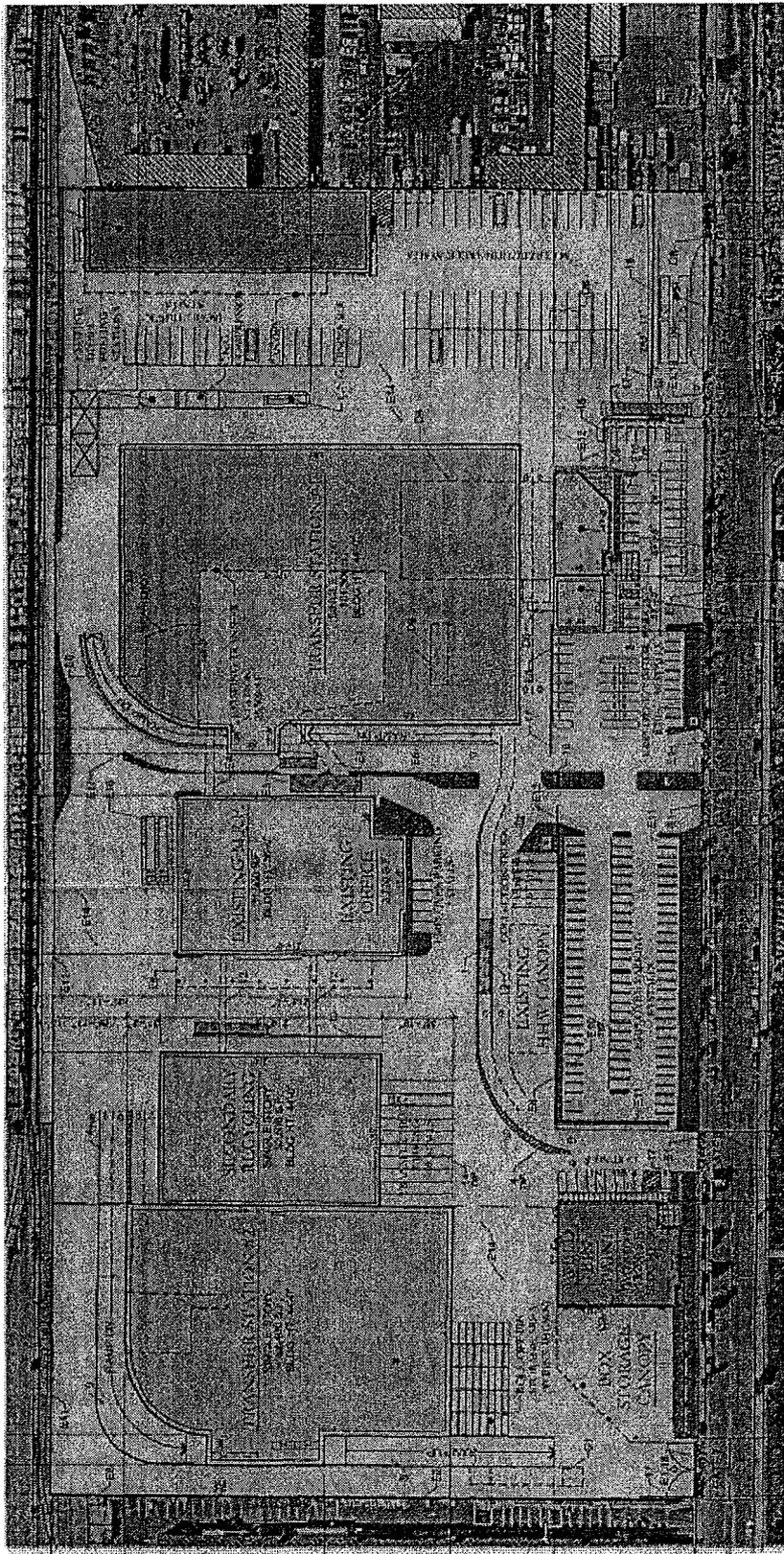


**VIEW OF SCHOOL FROM TRASH TRUCK ENTRANCE OFF NICHOLS**

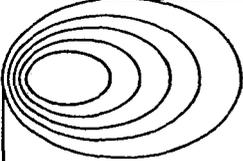


**VIEW OF NEAREST RESIDENCE**

**EXHIBIT 8  
PROPOSED SITE PLAN**



SCALE 1" = 170 FEET



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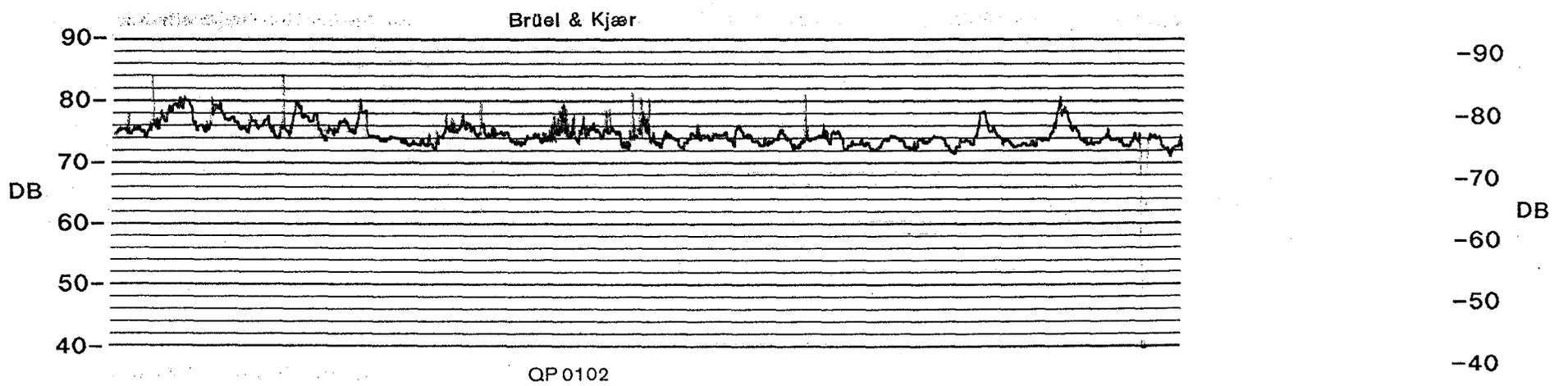
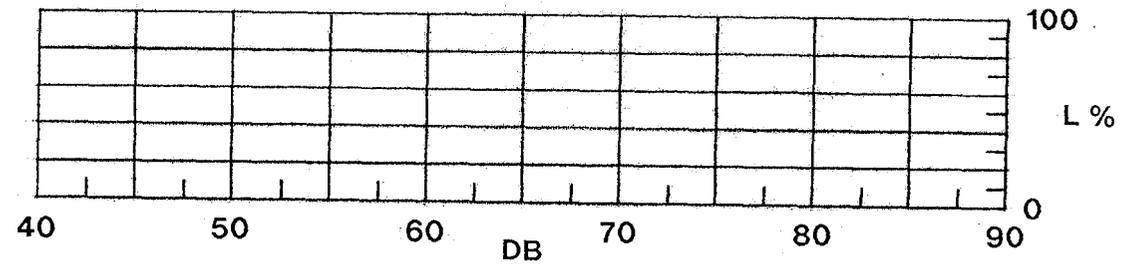
A P P E N D I X      1

MEASUREMENT RECORDS

1621 East Seventeenth Street, Suite K  
Phone (714) 835-0249

Santa Ana, California 92705-8518  
FAX (714) 835-1957

DATE 8/29/06  
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LOCATION P1

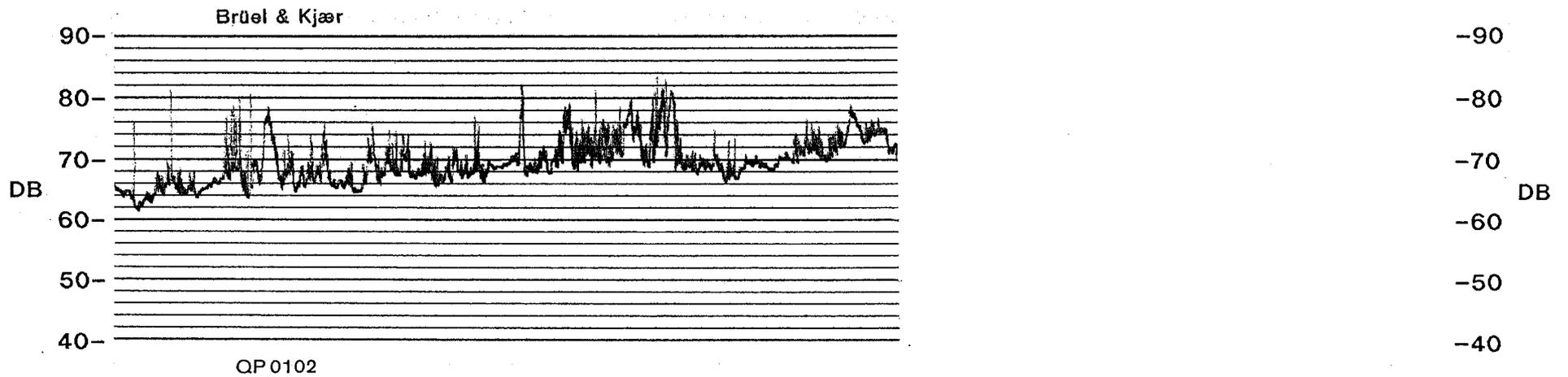
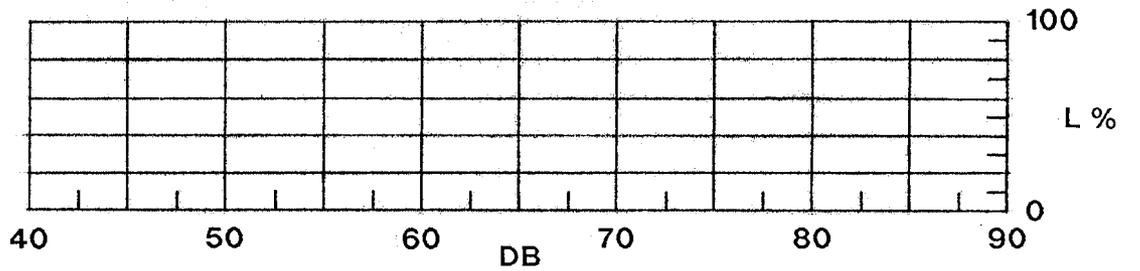


DATE 8/29/06

CHART SPEED .3mm

SCALE A

LOCATION P2

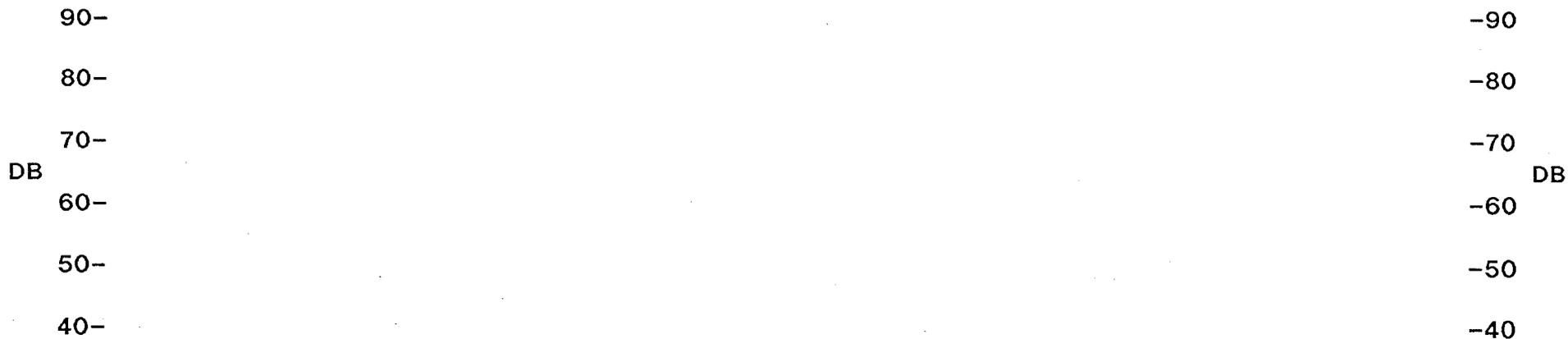
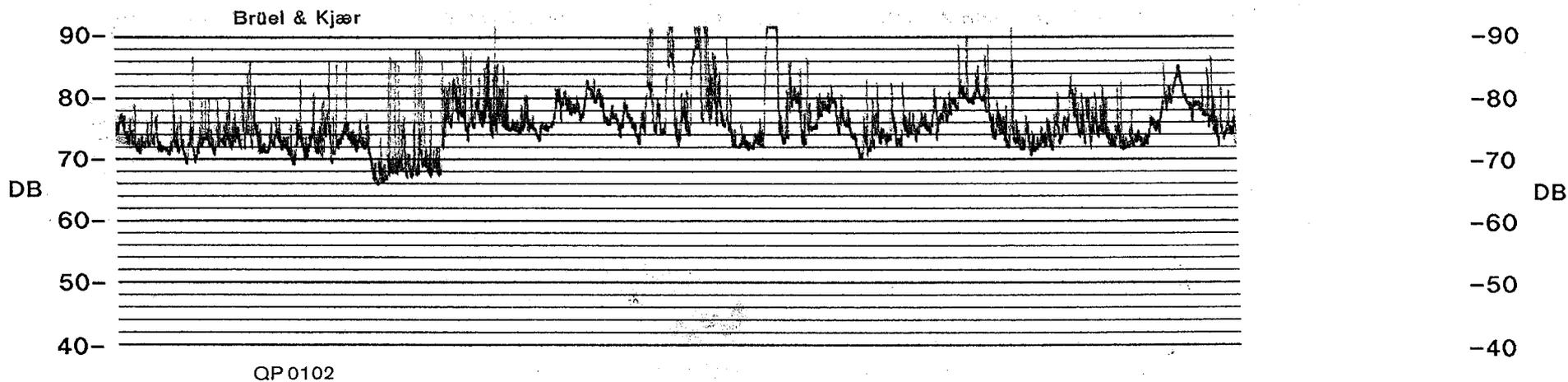
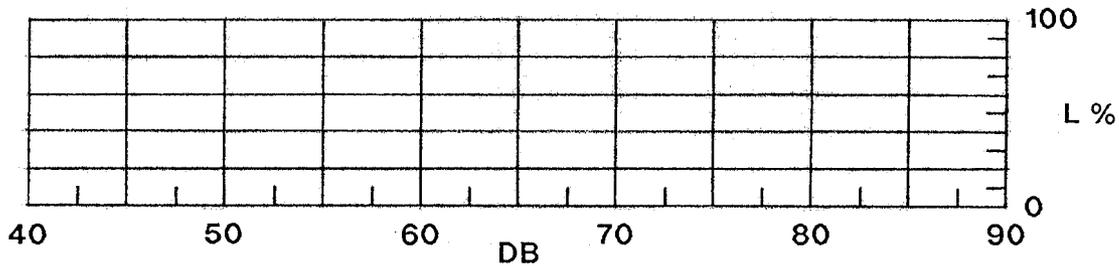


DATE 8/29/06

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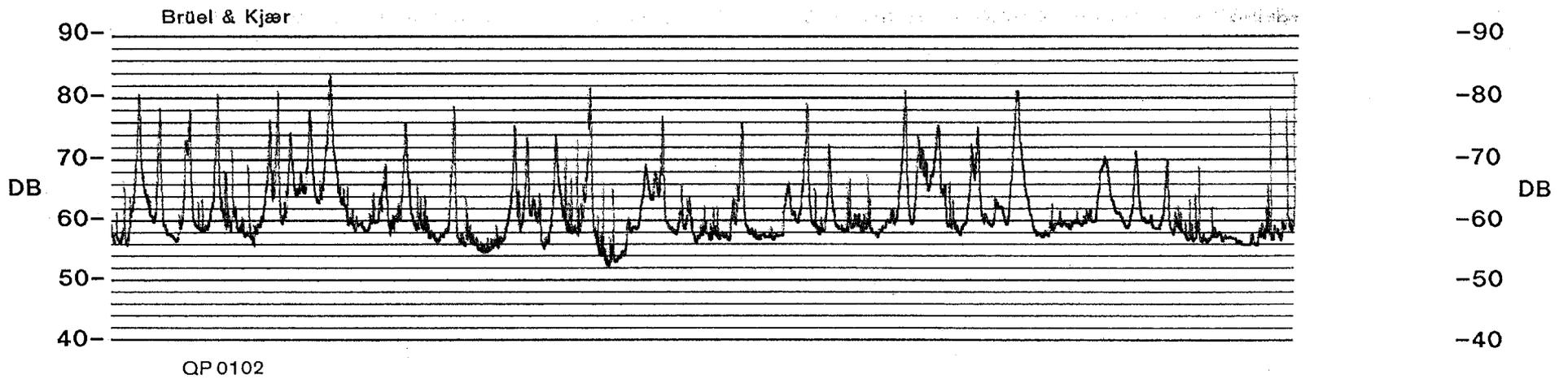
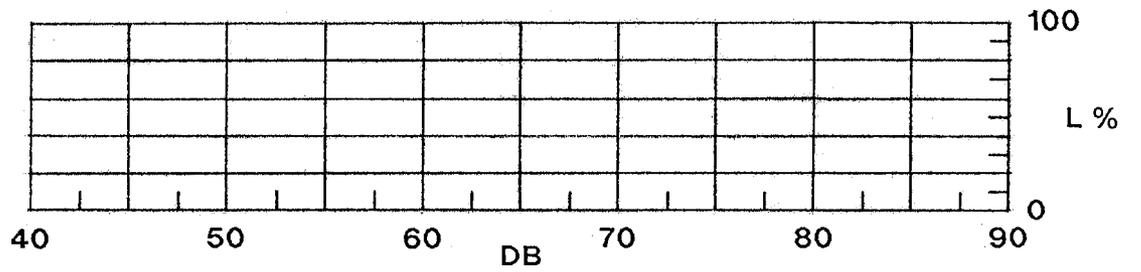


DATE 8/29/06

CHART SPEED .3mm

SCALE A

LOCATION P4

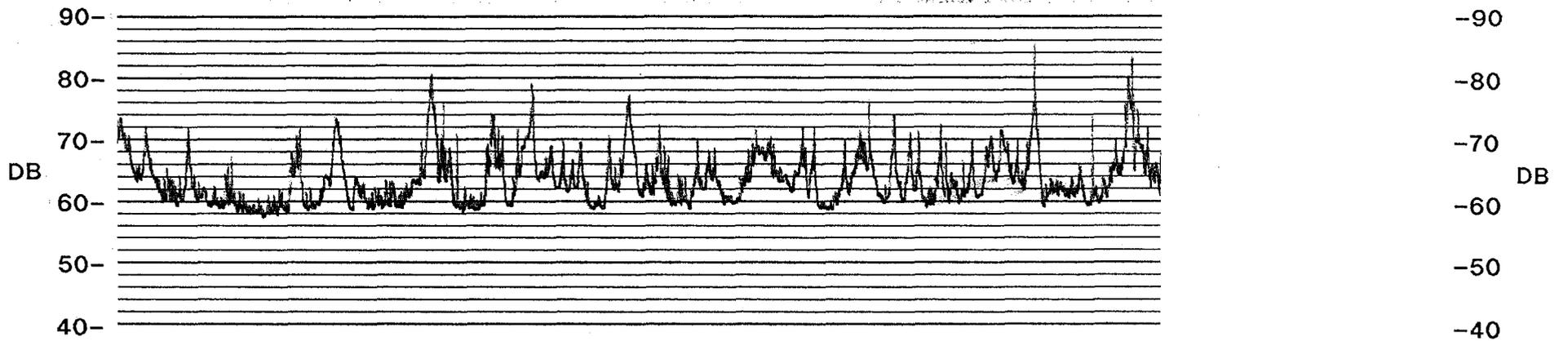
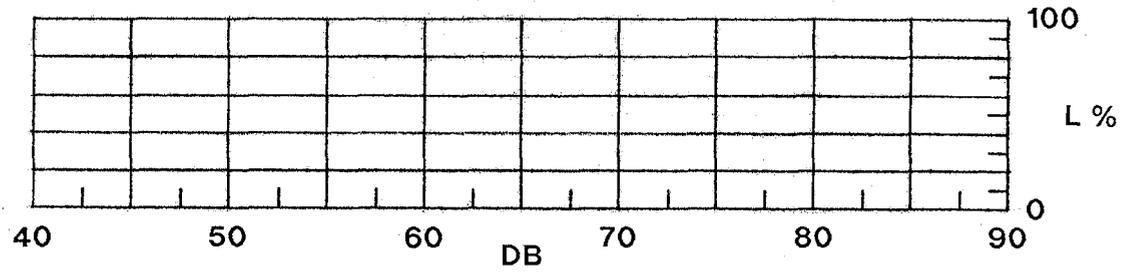


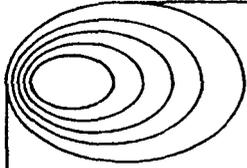
DATE 8/29/06

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SCALE A

LOCATION P5





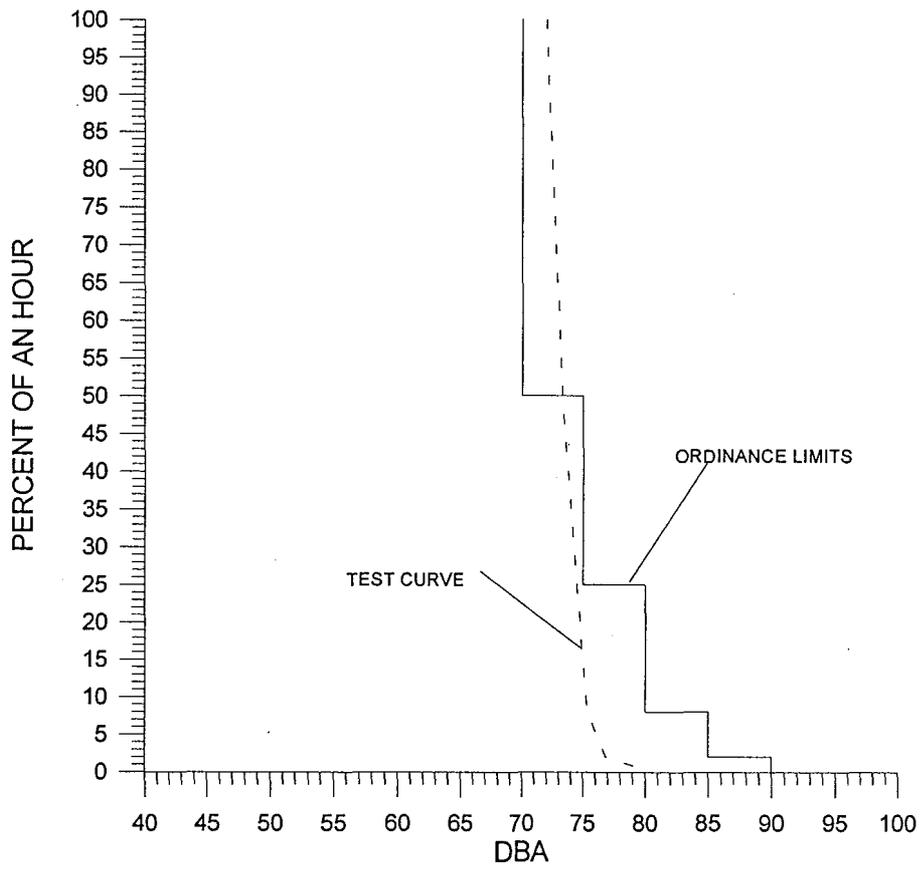
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A P P E N D I X      2

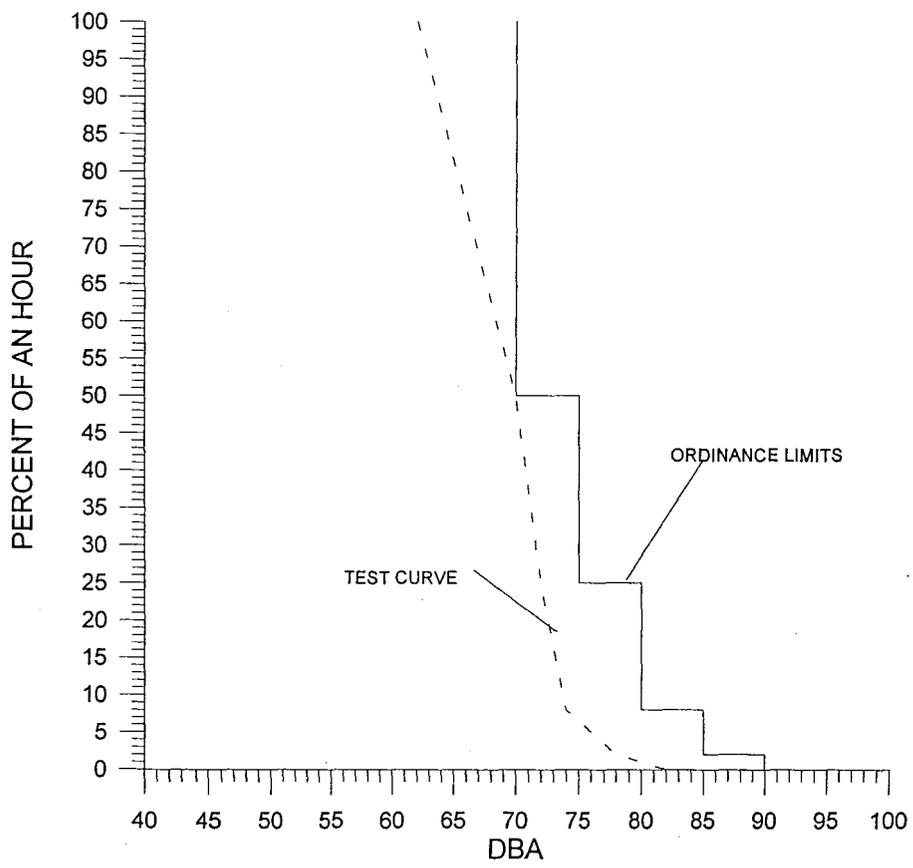
MEASUREMENT GRAPHS COMPARED TO THE NOISE ORDINANCE

1621 East Seventeenth Street, Suite K      Santa Ana, California 92705-8518  
Phone (714) 835-0249      FAX (714) 835-1957

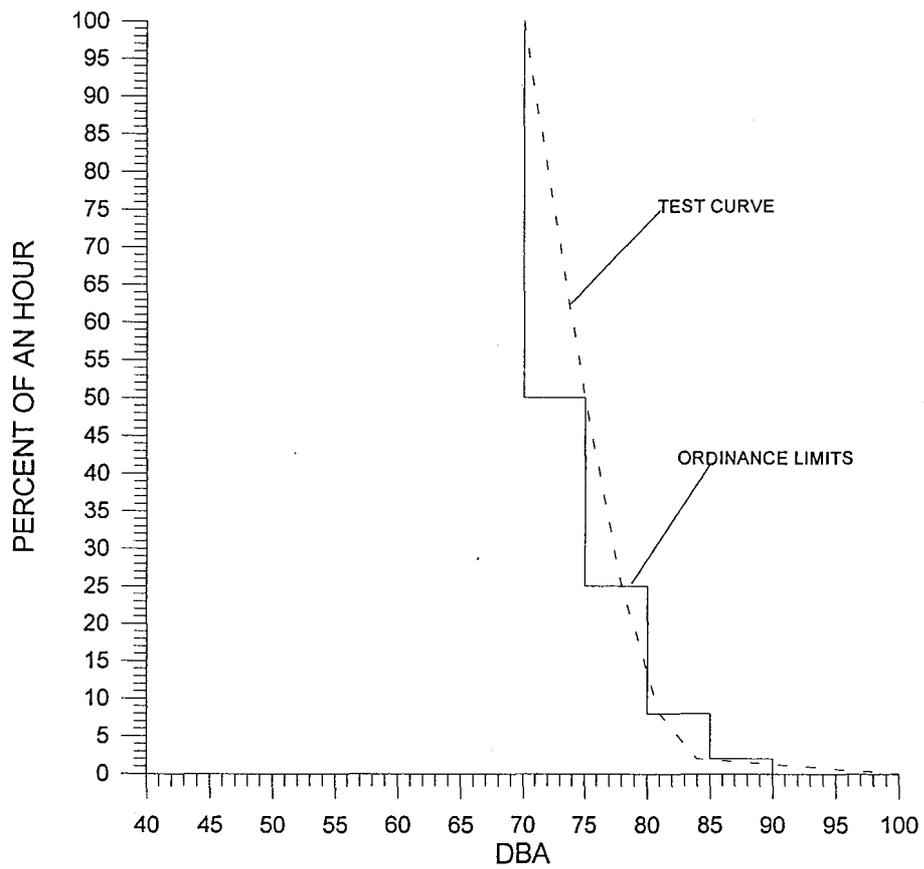
### POSITION #1 COMPARED TO ZONE 4 ORDINANCE



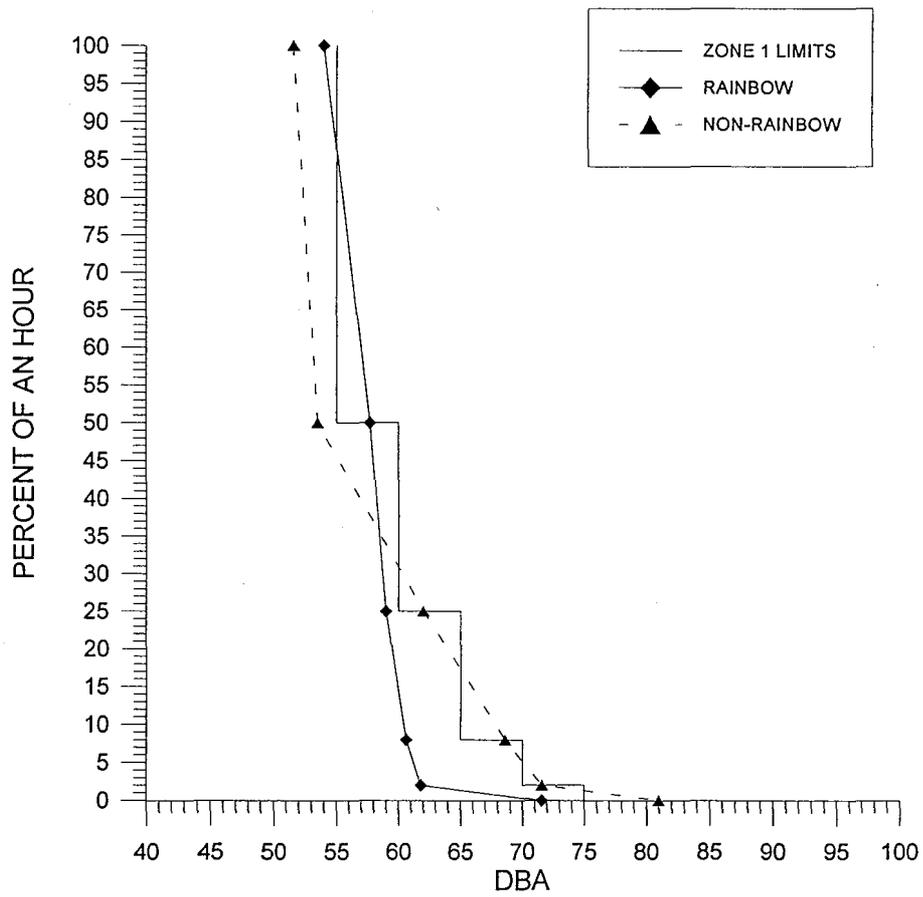
### POSITION #2 COMPARED TO ZONE 4 ORDINANCE



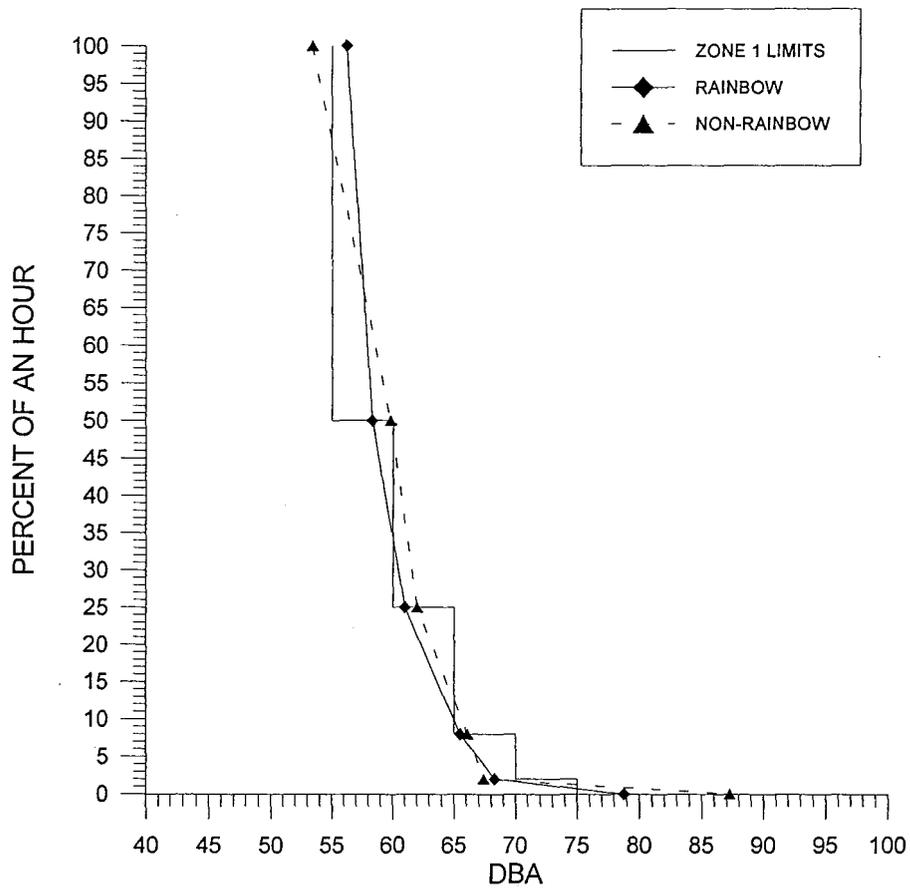
POSITION #3 COMPARED TO ZONE 4 ORDINANCE



POSITION #4 COMPARED TO ZONE 1 ORDINANCE LIMITS AND NON-RAINBOW AMBIENT



POSITION #5 COMPARED TO ZONE 1 ORDINANCE  
LIMITS AND NON-RAINBOW AMBIENT



POSITION #6 COMPARED TO ZONE 1 ORDINANCE LIMITS

