



# ANAC Subcommittee

## Overview of:

- Quieter Home Program
- Curfew Violations
- Noise Monitoring

July 19, 2017

# What is the Quieter Home Program?



## Residential Sound Insulation

Voluntary retrofit and/or replacement of windows and doors to decrease interior noise levels in home by 5 decibels. Mechanical treatments may be provided. Completed 3,500, approximately 6,000 potentially eligible.



## Program Costs

Program is paid by Federal Grants. But owners may have to pay incidental costs such as major code violations, portions of mechanical treatments. Average cost per home is \$30,000.

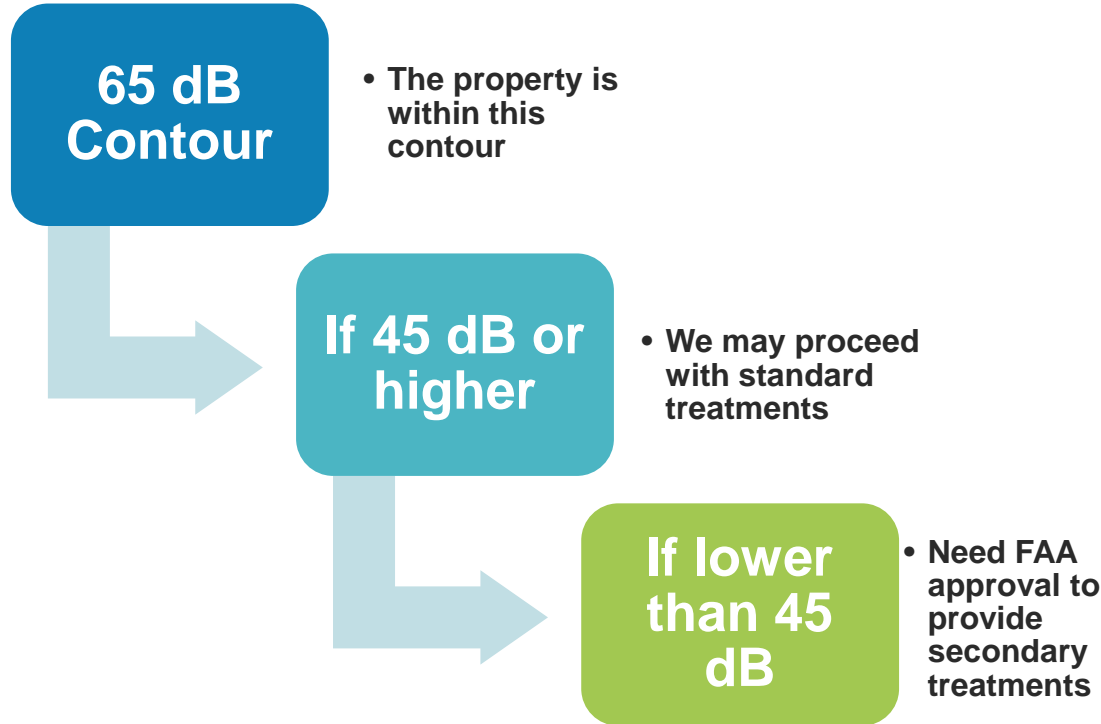


## Locations Around Airport

Currently working both east and west of the airport in Pt. Loma/Ocean Beach, Bankers Hill and South Park/Golden Hill.



# Eligibility Requirements



The Federal Aviation Administration (FAA) requires both exterior and interior noise requirements.

## Acoustical Testing

We may acoustically test a home to determine the average interior noise levels of all habitable rooms. The average of tested rooms must be 45 dB or higher to receive standard treatments.

## Secondary Treatments

If the home's average interior noise level is below 45, property may be eligible for secondary treatments. Currently, we are working with the FAA to determine what those treatments are. The home will be put on hold until we get approval from the FAA for treatments.

# Program Management

The Airport Authority provides overall Program Management. This includes Project and Contract Management, Homeowner Coordination and Inspections.

Contractor is selected through public bid to install the sound insulation treatments.

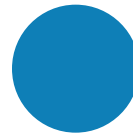
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## Architectural and Engineering Services

Design services are provided through an on-call agreement with The Jones Payne Group (JPG). The JPG team consists of architects and engineers responsible for producing custom designs that will meet all federal, state and local requirements.

# Eligible Treatments

FAA reviews and must approve all designs. FAA regulations limit the work to windows, doors, caulking and weather stripping in habitable spaces only and a ventilation system where one does not currently exist.



## Carpentry

Window and door installation, framing, drywall.



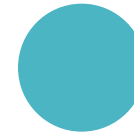
## Painting

Touch up painting in disturbed areas, painting/staining new wood windows or doors.



## Mechanical /Electrical

Ventilation or air conditioning and related electrical, if ventilation does not currently exist.



## HazMat

Testing for and abatement of Asbestos Containing Material or Lead Based Paint in disturbed areas.

# Eligible Treatments (cont.)

## ● Notable Changes from Previous Policy

Can no longer treat:

- Bathroom windows
- Closet windows
- Fireplace
- Kitchen vents
- Mail slots
- Pet doors
- Attic (insulation)

## ● Heating, Ventilation and Air Conditioning (HVAC)

Heat is not an eligible treatment. If homeowners want a single HVAC system they will have to provide the program a compatible heating system to add air conditioning and ventilation to.

# Program Process



## Design

Wait list duration varies depending on noise contour and length of ownership. Once selected, Design process typically takes about 8 months (homeowner information meeting through contract award).



## Construction

After the contract is awarded to the lowest responsible and responsive bidder, we may issue an NTP within one month. The Contractor will then take measurements of each home, electronically submit shop drawings and product submittals. Once all of the shops and submittals are approved the Contractor can order products. Once products arrive and are inspected, construction will begin. This process typically takes about 6 months (NTP through construction completion).



# Questions?



**SAN DIEGO**  
INTERNATIONAL AIRPORT  
**QUIETER HOME PROGRAM**

# Curfew Over the Years

Year	Change
1976	No Takeoffs allowed between midnight and 6:00 a.m. No Stage 1 aircraft arrivals between midnight and 6:00 a.m.
1979	Extended curfew from 11:30 p.m. until 6:30 a.m. Allowed a 15 minute grace period
1980	Prohibited loud stage 1 aircraft exceeding specific dB level between 10:00 p.m. to 7:00 a.m. (examples: DC-8's and B707's)
1985	Prohibited those loud aircraft from operating at the airport
1987-89	Modifications to non-stage 3 aircraft operations. Penalties increased to \$1,000, \$3,000, and \$5,000 on an annual basis. Grace period removed. No operator could publish a departure time after 11:15 p.m.
2006	Penalties changed to \$2,000, \$6,000 and \$10,000 in a 6-month timeframe. Number of penalized violations from previous 6 months is multiplied to each violation.

# Curfew Violations Over the Years

Year	Total Curfew Violations	Fines Assessed
2013	60	\$ 166,000
2014	47	\$ 178,000
2015	55	\$ 152,165
2016	84	\$ 564,000
2017	36*	\$ 130,000**

\*Number of Potential violations through July 10, 2017.

\*\*Amount of penalties assessed through June 7, 2017.

# CURFEW PENALTIES EXPLAINED

1st  
Violation  
**\$2,000**

2nd  
Violation  
**\$6,000**

3rd  
Violation  
**\$10,000**

Compliance Period #1 = January 1<sup>st</sup> – June 30<sup>th</sup>  
Compliance Period #2 = July 1<sup>st</sup> – December 31<sup>st</sup>

MULTIPLIED BY  
Number of Penalized Violations in Previous Compliance  
Period

# Curfew Violation Process

Every departure during the hours of 11:30 p.m. to 6:30 a.m.



Staff reviews all departures daily to find any potential curfew violations. Medical flights are exempt.



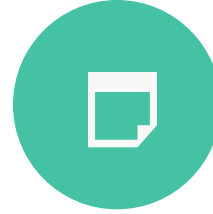
For all violations, a certified letter is sent notifying them of the violation and requesting information as to why they violated.



Staff contacts the operator via email to gain information as to why the violation occurred.



Staff puts together a investigation package with the factual information surrounding the flight. This information is sent to the CVRP members.



CVRP meetings are held every other month and reviews each violation. Operators are invited to attend to add information before the CVRP members.



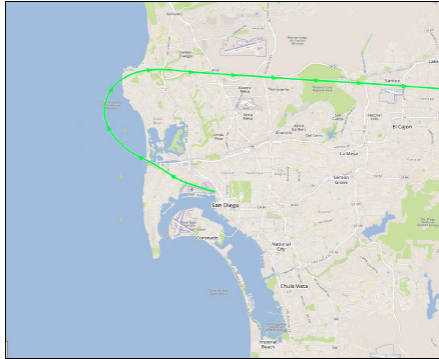
CVRP Members vote on whether to penalized the operation or not. Carriers are notified via letter on the outcome.

# Curfew Violation Investigation

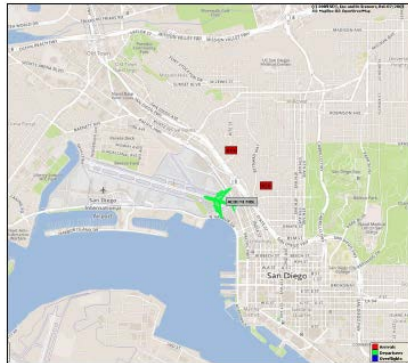


**N175BL, GLF4**  
 April 12, 2017 @ 0551L  
 Liberty Mutual Insurance Co.  
 Gulfstream (G450) Stage 3  
 Curfew Violation

- Memo overview and ATC Transcription
- Departure Path
- RMT Noise Exceedance



**N175BL, GLF4**  
 April 12, 2017 @ 0551L  
 Liberty Mutual Insurance Co.  
 Gulfstream (G450) Stage 3  
 Curfew Violation



SAN DIEGO COUNTY  
 REGIONAL AIRPORT AUTHORITY

Memorandum to Violation File

**Date:** May 24, 2017  
**To:** Curfew Violation Review Panel (CVRP)  
**From:** Sjohnna Knack, Program Manager, Airport Noise Mitigation  
**RE:** Liberty Mutual Insurance Co. (N175BL), April 12, 2017 at 05:51 a.m.

**General Flight Information:**

On April 12, 2017, N175BL operated by Liberty Mutual Insurance Co., a Gulf Stream Aerospace GIV-X (G450) Stage 3 aircraft, departed San Diego International Airport (SAN) at 5:51 a.m.

N175BL landed at SAN on April 9, 2017 at 12:58 p.m. This aircraft departed to Bedford-Hansom Airport, Massachusetts. N175BL was a general aviation aircraft which has no scheduled departure time.

**Operation Investigation:**

Based on information provided by the chief pilot at Liberty Mutual, business needs drove departure prior to curfew ending. While the scheduling department did not know about the curfew the pilots were aware of breaking curfew. Liberty Mutual has made note in their scheduling software of the curfew and understand they are responsible for a \$2,000 fine.

There were zero (0) noise complaints associated with this departure.

**ATC Communication:**

Time (L)	Party	Transmission
0544	N175BL	Lindbergh Ground, November 175 Bravo Lima, like to taxi from Signature with information Mike.
0545	GND	N175 Bravo Lima, Lindbergh Ground, good morning, Runway 27 taxi via Hotel Charlie upon departure fly heading 290 vector is for noise abatement expect to resume the Z000 ONE Departure.
	N175BL	Okay, we will taxi via Hotel and Charlie, we will expect 290 heading for noise abatement on the Z000 ONE Departure, November 175 Bravo Lima.
	GND	November 5 Bravo Lima, verify information Mike?



# Curfew Violation Investigation (cont.)

- Noise Level Summary
- Curfew Log
- Ops Log
- Emails from Operator



## San Diego International Airport Noise Level Summary April 12, 2017

Time	RMT	Max Level (dB)	Duration (s)	SENEL (dB)	Threshold (dB)	A/D	EW
0:38:17	1	87.3	12	93.2	72.0	A	W
4:10:28	1	85.6	12	93.0	72.0	A	W
5:00:23	1	88.1	15	95.1	73.0	A	W
5:02:44	1	88.6	14	95.6	73.0	A	W
5:20:38	1	88.4	14	95.3	73.0	A	W
5:51:49	7	80.6	20	87.5	65.0	D	W
6:31:33	7	86.9	30	95.0	65.0	D	W
6:32:50	7	94.7	31	100.6	65.0	D	W
6:33:46	7	85.3	50	95.1	65.0	D	W
6:35:06	7	80.5	45	91.7	65.0	D	W
6:36:45	7	80.2	32	90.4	65.0	D	W
6:37:42	7	84.1	36	93.5	65.0	D	W
6:39:09	7	84.6	32	93.3	65.0	D	W
6:40:34	7	87.2	60	97.0	65.0	D	W
6:42:24	7	88.0	29	95.7	65.0	D	W
6:43:42	7	83.1	35	92.2	65.0	D	W
6:44:21	7	88.2	30	96.7	65.0	D	W
6:45:40	7	87.9	32	96.4	65.0	D	W
6:48:16	7	92.5	44	100.1	65.0	D	W
6:49:55	7	85.7	45	94.5	65.0	D	W
7:09:08	7	86.3	37	94.7	65.0	D	W
7:09:44	1	83.9	9	89.8	73.0	A	W
7:11:18	1	84.2	10	90.2	73.0	A	W

N175  
BL

**Legend:**  
 Time = Time of overflight over RMT  
 RMT = Remote Monitoring Terminal Location (7 = Liberty Station RMT)  
 Max Level = Maximum decibel (dB) level the aircraft made during the overflight  
 Duration = Duration the aircraft was above the RMT threshold  
 SENEL = Single Event Noise Exposure Level (duration plus max level)  
 Threshold = The dB threshold each RMT is set to that triggers an event  
 A/D = Arrival or Departure  
 E/W = East RWY 09 or West RWY 27

### San Diego International Airport SAN Curfew Log

04/11/2017 to 04/12/2017  
2330L 0630L

Date	Time	Flight ID	Make/Model	Arr./Dep.	Runway	Remarks
4/11/2017	23:35	BWA1194	B738	A	27	
4/11/2017	23:43	DAL1686	B738	A	27	
4/11/2017	23:48	BKX5840	E75L	A	27	
4/11/2017	23:47	ASA488	B739	A	27	
4/11/2017	23:51	UAL194	B738	A	27	
4/11/2017	23:57	BWA1621	B737	A	27	
4/12/2017	0:01	BWA935	B737	A	27	
4/12/2017	0:39	ASA892	B738	A	27	
4/12/2017	4:11	FDX1889	B752	A	27	
4/12/2017	5:01	UP8922	B763	A	27	
4/12/2017	5:03	FDX1794	B763	A	27	
4/12/2017	5:21	FDX1422	B763	A	27	
4/12/2017	5:51	N175BL	GLF4	D	27	Curfew Violation

**Becker Caroline**

From: Breen, Sean <Sean.Breen@LibertyMutual.com>  
 Sent: Wednesday, May 03, 2017 1:07 PM  
 To: Becker Caroline  
 Subject: Re: Curfew Violation 4/12/2017 @ 0551

Perfect. We've made a note in our scheduling software and, as I said, I don't see this being a problem for us going forward.

Sean T. Breen, CAM  
 Chief Pilot  
 Liberty Mutual Insurance

On May 3, 2017, at 16:05, Becker Caroline <[cbecker@san.org](mailto:cbecker@san.org)> wrote:

Thank you for the return email Sean. Just for your own information we do not have any restrictions on arrivals into the airport we are open for arrivals 24/7 but our curfew for departures is 2330-0630.

Thanks again!

Caroline Becker  
 Noise Mitigation Specialist | Airport Noise Mitigation  
 T 619-400-2789 | F 619-2670  
[cbecker@san.org](mailto:cbecker@san.org)



# Questions?



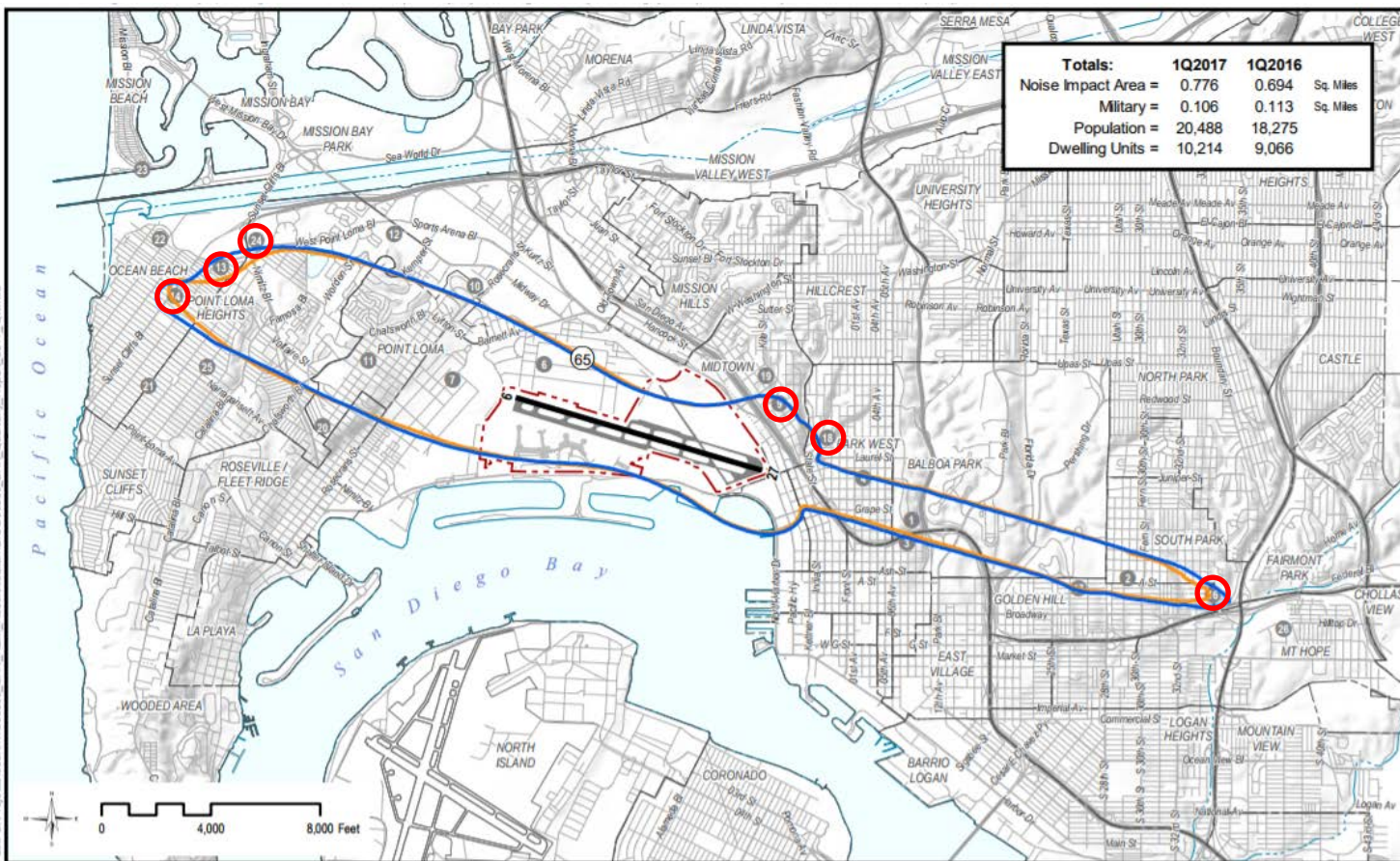
# Noise Monitoring

- Noise monitoring required by California Regulation to validate the location of the noise impact boundary
- SAN noise monitoring system includes 23 remote monitoring terminals (RMT), only 6 to 10 are required by Regulation
- Each RMT measures aircraft noise per the California Regulation 24/7/365
- In addition, the aircraft noise measurements are used to determine noise level exceedances and to confirm curfew violations as documented in the Airport Use Regulation



# Noise Contours and Monitor Locations

Totals:	1Q2017	1Q2016	
Noise Impact Area =	0.776	0.694	Sq. Miles
Military =	0.106	0.113	Sq. Miles
Population =	20,488	18,275	
Dwelling Units =	10,214	9,066	



○ = Sites required to determine noise impact boundary.



- 2017 1st Quarter 65 dB CNEL Contour
- 2016 1st Quarter 65 dB CNEL Contour
- Airport Property
- Runway
- RMT Site Location
- Roads
- River / Stream

Comparison of the 2016 and 2017 First Quarter 65 dB Community Noise Equivalent Level (CNEL) Contours

# Noise Monitoring Site Costs



## Initial Design and Outreach with City of San Diego = \$10,000

- Requires plan check and community approval



## Pole and Electrical Source = \$30,000

- Each pole is constructed of steel
- It will either require electrical power or solar panels
- Cost includes construction



## Computer and Microphone = \$ 20,000

- Cost includes the computer, modem, cables and microphone



## Annual Maintenance= \$5,000

- This includes repairs, calibration and other maintenance costs

# Questions?