



NOISE MONITORING RESULTS

For The

Proposed Helistop

At

Adventist Hinsdale Hospital

120 North Oak Hinsdale, IL 60521

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SUMMARY

The results summarize the data collected by Barry Technologies Inc. December 1 through December 3, 2009 at Adventist Hinsdale Hospital in Hinsdale, IL. The purpose for conducting noise monitoring at this site was to evaluate the effects of Helicopter noise on the hospital and surrounding community for a proposed Helistop. Using four Larson & Davis sound meters, sound data was collected during a simulated Helicopter landing at the Hospital. Noise data was collected for an additional 48 hours to establish existing community noise levels.

Barry Technologies, Inc. (BTI) placed a Noise Meter atop the parking garage on the west side of the Hospital near where the proposed Helistop is to be constructed. Three additional Noise Meters were placed in the surrounding community. The locations of the Noise Meters were titled Site 1 – 4.

Site 1 – Adventist Hinsdale Hospital Parking Garage (West)

Site 2 – Residence at 335 Flagg Court (North of Hospital)

Site 3 – Park Area directly to the west of Hospital

Site 4 – Residence at 14 N. Oak (South of Hospital)

Arrangements were made for a Helicopter from the University of Chicago Areomedical Network (UCAN) to fly over Adventist Hinsdale Hospital to simulate conditions of an arrival and departure at the proposed Helistop. On December 1, 2009 between 1:57 p.m. and 2:06 p.m. the UCAN Helicopter, made two passes and executed hovering maneuvers above the proposed Helistop location.

Noise data from the UCAN Helicopter was collected at the Noise Meter locations, Sites 1 – 4, simultaneously. The Meters were left in place for an additional 48 hours, until December 3, 2009 at 2:00 p.m. to capture existing community noise.

Helicopter Results

Helicopter testing began at 13:56:00 hours on December 1, 2009 and continued until 14:05:00 hours. The Twin Engine Dauphin 2 UCAN Helicopter approached Adventist Hinsdale Hospital from the East and made two passes. The proposed flight routes for the Adventist Helistop are to and from the Northwest (NW) or Southwest (SW) directions. Each pass simulated the proposed flight arrival (ARR) and departure (DEP) routes for the proposed Helistop. Times and locations are shown in **Table 1**.

Monitoring Sites 1 - 4 measured sound pressure levels dBA (Decibel A-Weighted) values in 1second Time Histories (a measurement every second). L Max decibel values are the highest single level recorded during the test. **Tables 2 and 3** show the L Max values and recorded times during the Helicopter passes. **Figures 1 and 2** show the Charted 1 second values during the Helicopter passes.

Table 1
Helicopter Pass Start Times, Stop Times, and Locations

Pass	Start Time	Stop Time	Location
1	13:56:00	14:00:40	ARR. From N, Hover and DEP to NW
2	14:00:45	14:05:00	ARR. From SW, Hover and DEP to S

Table 2
Helicopter Pass 1

Location	Time	L Max
Site1	13:59:39	91.6
Site 2	13:59:34	81.0
Site 3	14:00:16	82.9
Site 4	14:00:00	83.0

Table 3
Helicopter Pass 2

Location	Time	L Max
Site 1	14:03:43	89.6
Site 2	14:02:39	82.0
Site 3	14:04:19	83.0
Site 4	14:04:06	83.0

Community Results

The Noise Meters collected existing Community Noise Levels after the Helicopter test on December 1, 2009 until 2:00 p.m. on December 3, 2009. An hourly average (Leq) was computed for each hour and was used to compile Daytime and Nighttime averages shown in **Table 4**. Daytime hours used were from 8:00 a.m. – 10:00 p.m. and Nighttime hours from 10:00 p.m. – 8:00 a.m.

Located to the south of Adventist Hinsdale Hospital are train tracks that significantly contribute to the communities noise levels. Data collected during the test include numerous train events, both Commuter and Freight trains. **Table 5** shows the L Max values for a Freight train passing on December 1, 2009 between 2:40 p.m. and 2:43 p.m.

Table 4 – Day / Night Averages

Day time / Night time	Site 1	Site 2	Site 3	Site 4
Day 12/1 (13:00- 22:00)	65.6	56.1	60.5	62.8
Night 12/1 22:00 – 12/2 08:00	63.8	51.3	56.8	61.7
Day 12/2 08:00 – 22:00	64.3	51.7	55.7	64.3
Night 12/2 22:00 – 12/3 08:00	68.4	48.0	57.1	62.6

Table 5 – Freight Train

Location	Time	L Max
Site 1	14:40:52	84.0
Site 2	14:41:19	71.0
Site 3	14:41:21	76.4
Site 4	14:40:44	87.0

As part of the testing procedure, a one hour observation of community noise was done to confirm sources of noise recorded by the Noise Meters. During the observation period from 2:00 p.m. until 3:00 p.m. on December 1, 2009 a total of seven Commuter Trains and one Freight Train were recorded. Burlington Northern Railway reports the Hinsdale community average more than 144 train operations per day (Freight and Commuter).

Conclusion

The effects of noise on a community take into account how loud a noise is as well as how often the noise occurs. The proposed Helistop at Adventist Hinsdale Hospital is estimated to average one emergency operation per month. In comparison with the frequency of Freight and Commuter Train Noise currently experienced by the community surrounding Adventist Hinsdale Hospital, the addition of one Helicopter operation per month will not result in a measurable increase in noise.

