

Thursday 31 January 2019

ICONFM Australia Pty Ltd  
23 Balintore Drive  
CASTLE HILL NSW 2154

Our Reference 180974-03L-DD

**For the attention of Mr Sohail Shamsi**

**Environmental Noise Assessment  
Proposed Place of Public Worship  
1 Larapinta Place, Glenhaven**

## **1.0 INTRODUCTION**

Acoustic Consulting Engineers Pty Ltd was commissioned by ICONFM Australia Pty Ltd to prepare a noise assessment for the proposed place of public worship at 1 Larapinta Place, Glenhaven.

This report presents the findings from the assessment of environmental noise from the proposal. The findings from the noise assessment are site specific and have been prepared for the particular investigation described in this report. The report should not be used in any other context or for any other purposes.

## **2.0 PROJECT DESCRIPTION**

### **2.1 Site Description**

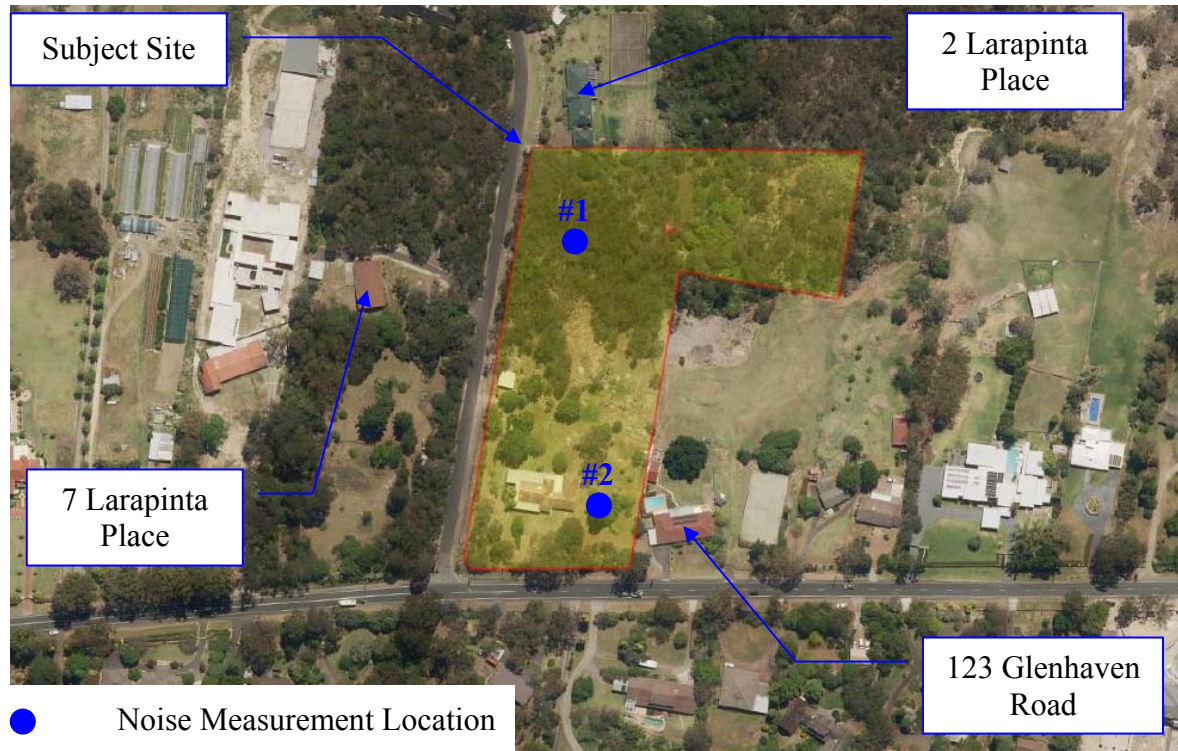
The subject site at 1 Larapinta Place, Glenhaven (corner of Larapinta Place and Glenhaven Road) is a large block of land with a residential dwelling (currently vacant) approximately 35m to Glenhaven Road to the south. *Figure 1* shows the location of the subject site and surrounding.

### **2.2 Proposal Description**

The proposal is to re-develop the site to provide a building for a place of public service and amenities and car-parking. *Figure 2* shows the site plan and *Figure 3* shows the floor plans for the proposed place of public worship, consisting of:

- *Basement Level:* under-covered parking for seventy-eight (78) cars and two (2) mini-buses;
- *Ground Floor:* at-grade parking for twenty-five (25) cars and two (2) mini-buses, main prayer hall, a reception area, a child minding room, amenities and internal circulation; and
- *First Floor:* mezzanine level prayer hall, four (4) classrooms, an office, a board room, an administrative room and internal circulation.

**Figure 1** Site Location and Surrounding



**Figure 2** Site Plan

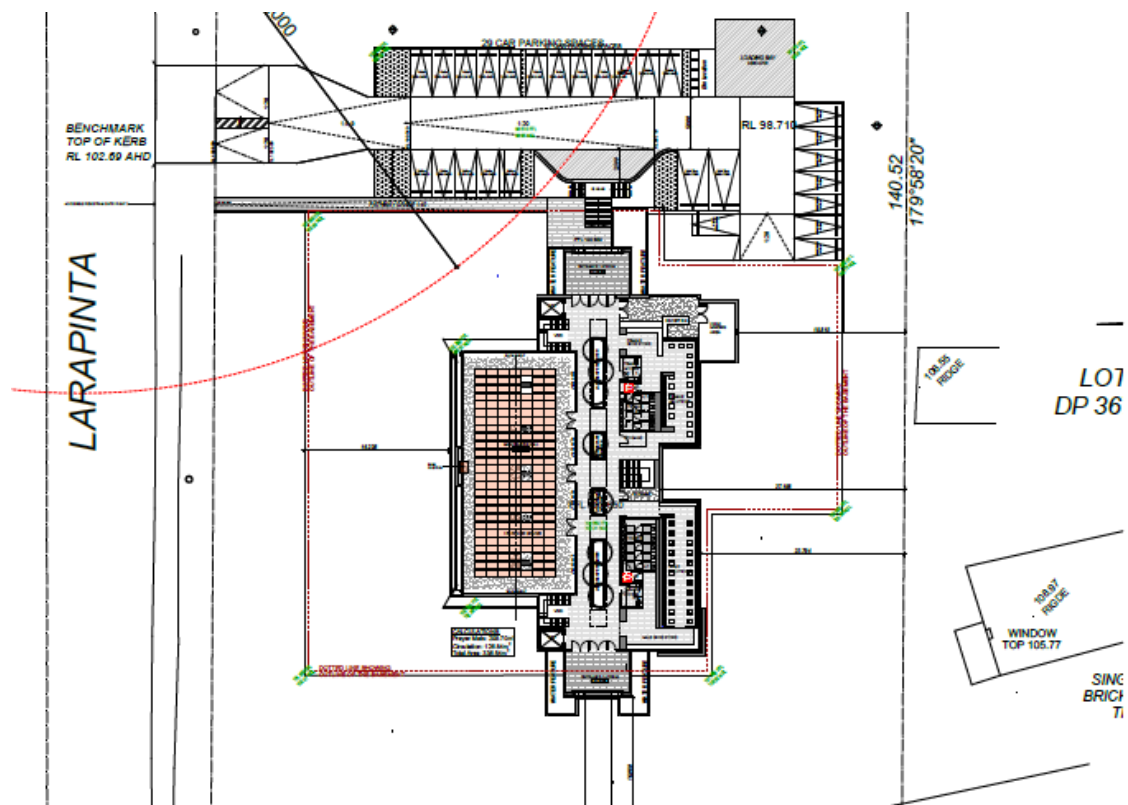
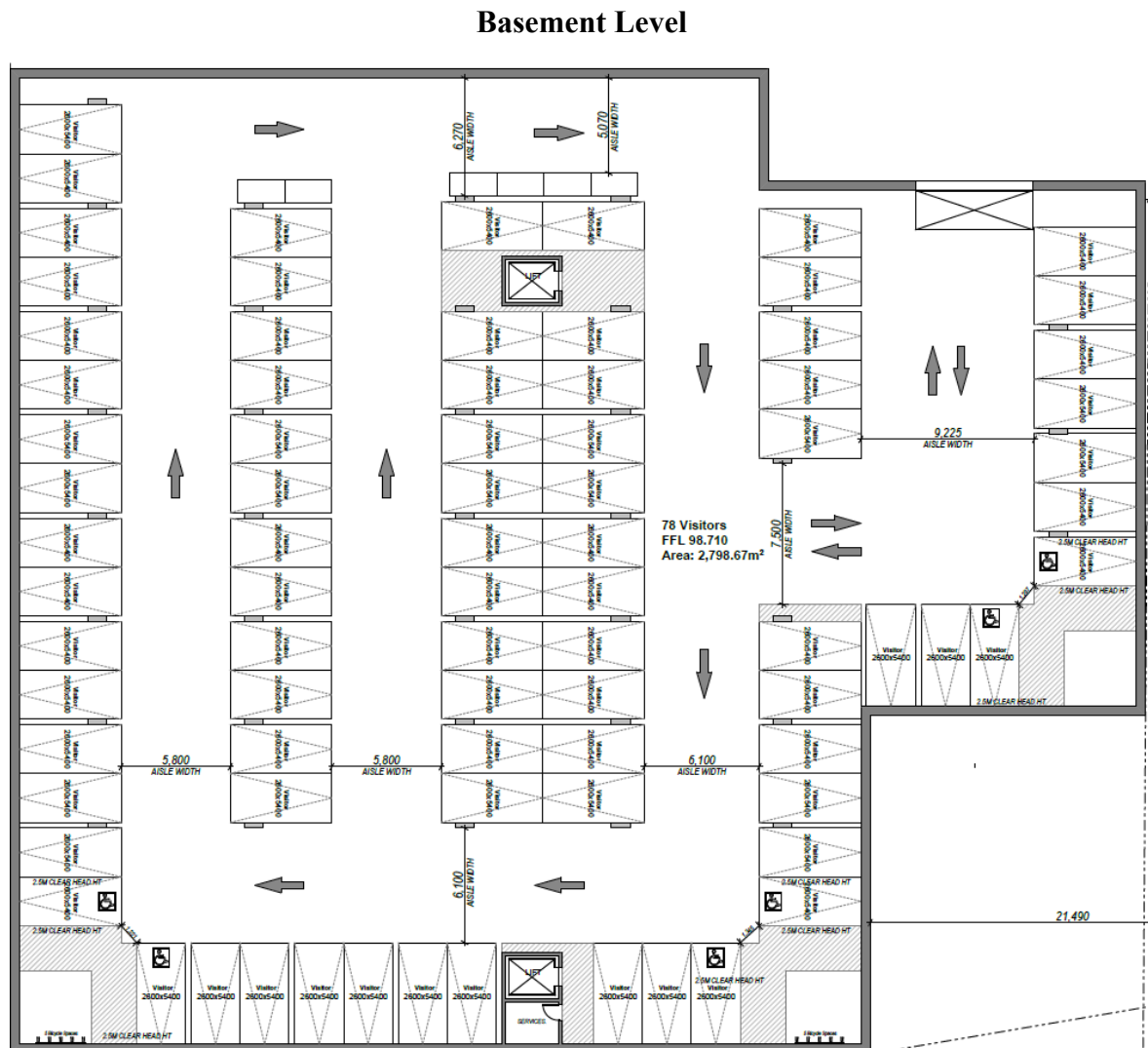
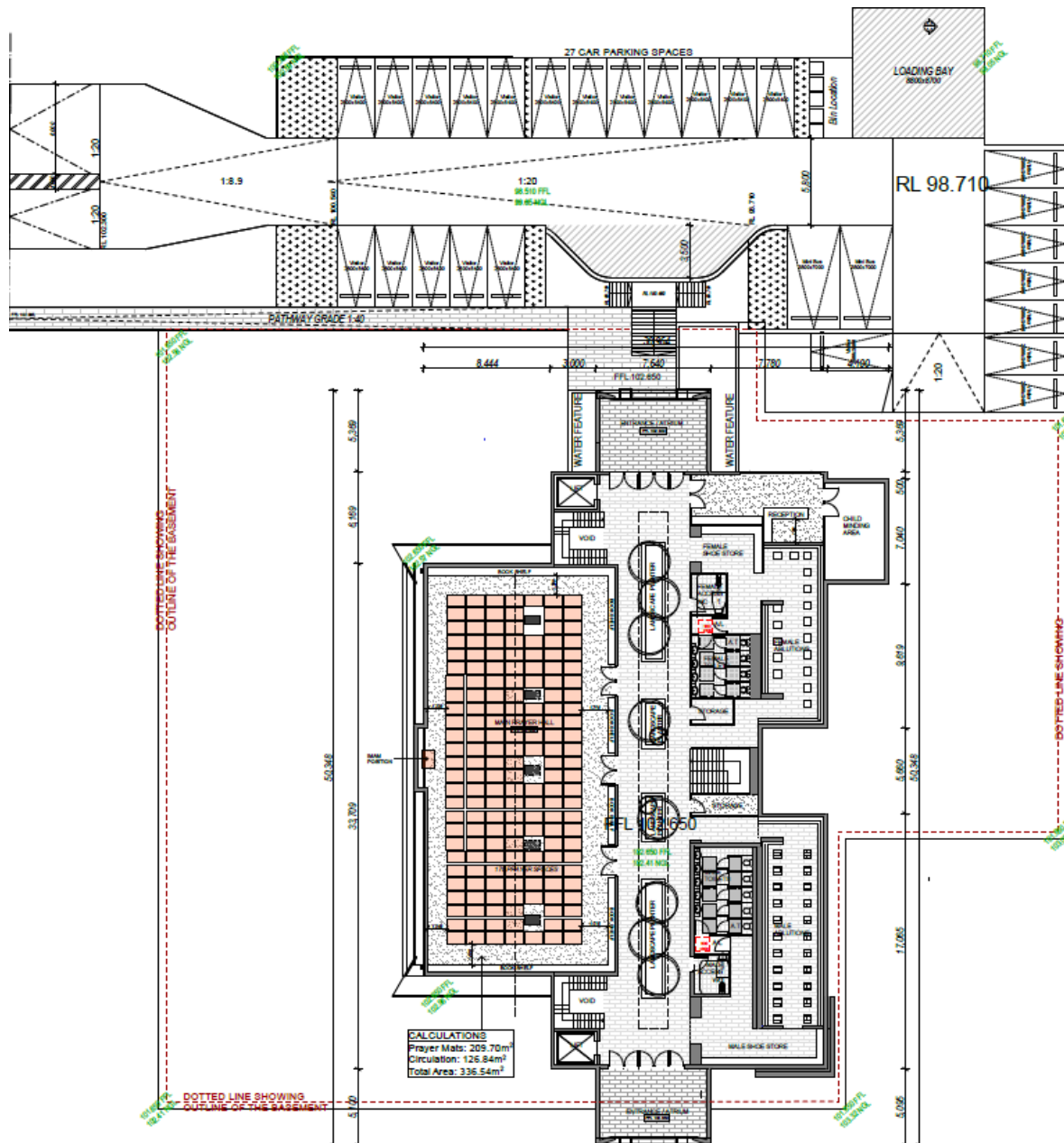


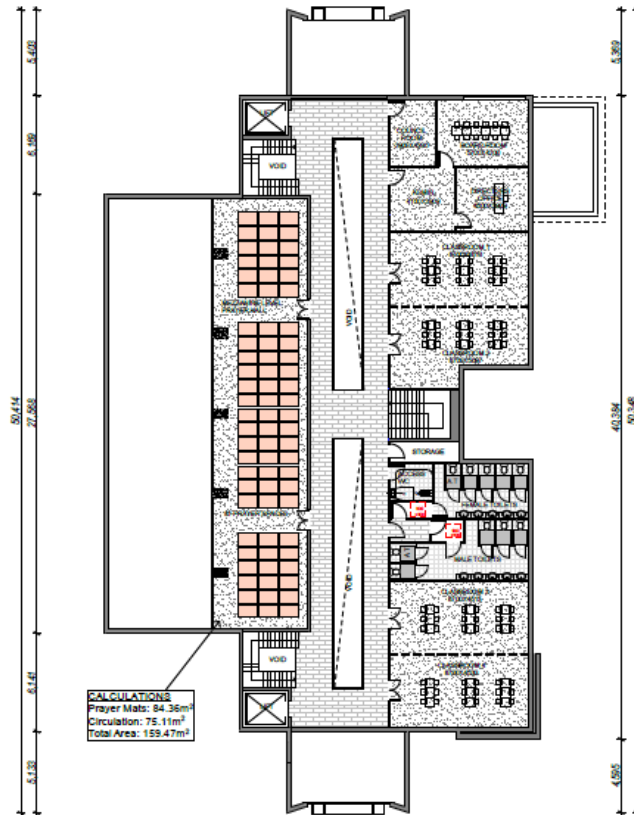
Figure 3 Floor Plan



## Ground Level



## First Level



## 2.3 Potential Acoustic Issues

The proposed development will be a purpose-built place of public worship facility to provide the following regular activities associated with Islamic faith:

- daily early morning/night, morning, afternoon and evening prayer services;
- weekly midday prayer services on Fridays;
- youth services and counselling; and
- general administration activities.

Except for the weekly prayer service on Friday afternoon and special events, the above activities are expected to generate up to fifty (50) and twenty-five (25) worshippers at any time during daytime and night-time respectively. During Friday afternoon, special events (Eid (two (2) time per year)), Easter Friday afternoon and Ramadan (evening prayer services), up to 250 worshippers are expected.

It is noted that noise from worshippers praying will be minimal and independent of the number of worshippers as the worshippers do not make noise during praying, except for people movements inside the prayer area, breathing and occasional coughing.

Potential noise sources generated by the proposed place of public worship include noise from:

- operational noise using natural voice/speech;
- operational noise using amplified sound system during Friday afternoon, Ramadan and special event prayers;
- air-conditioning equipment;
- vehicular noise in the car-park; and
- additional road traffic noise on public roads

Operational noise from worshipping will mainly be due to a worshipper performing the Azan (Islamic call to prayer) for several minutes prior to prayers and the Imam performing the recitals during prayers.

Amplified speech (religious worshipping) will only be used on Friday afternoon, Ramadan and special events. At other times, the numbers of attendees will be low and natural voice will be used (ie. sound system will not be used).

#### **2.4 Potential Noise Sensitive Receivers**

Potential noise sensitive receivers (*Figure 1*) are the existing residences at:

- 2 Larapinta Place to the north
- 7 Larapinta Place to the west;
- 123 Glenhaven Road to the east; and
- residences to the south of Glenhaven Road

### **3.0 NOISE MEASUREMENT**

#### **3.1 Background Noise**

Existing background noise environment was measured at two (2) representative locations. The measured noise levels represent the existing noise environment at the nearest residences potentially affected by the proposed place of public worship.

Measurement instrumentation consisted of Type 1 SVAN977 sound and vibration analysers and prepolarised condenser microphones Type 1 ACO Pacific 7052E. The instrument was programmed to measure, calculate and record statistical noise levels at 15-minute intervals.

As environmental noise varies with time and the human ear is not equally sensitive to noise at different frequencies, A-weighted statistical levels are used to describe environmental noise. The common parameters used to describe environmental noise are the  $L_{Amax}$ ,  $L_{A1}$ ,  $L_{A10}$ ,  $L_{A90}$  and  $L_{Aeq}$  levels measured over 15-minute intervals.



The  $L_{Amax}$  level is the maximum A-weighted sound pressure level over the sampling period. The  $L_{A1}$ ,  $L_{A10}$  and  $L_{A90}$  levels are the A-weighted sound pressure levels exceeded for 1%, 10% and 90% of the sampling periods respectively. The  $L_{A90}$  level is usually referred to as the background noise level. The  $L_{Aeq}$  level is the A-weighted continuous equivalent (energy average) sound pressure level over the sampling period.

Appendices 1 and 2 provide graphical presentation of the measured “A-weighted and Fast Response” common statistical noise levels at 15-minute intervals. Table 1 presents the measured existing day, evening, night and should period (6:00am – 7:00am) rating  $L_{A90}$  background noise levels during the monitoring.

**Table 1      Measured Existing  $L_{A90}$  Noise Level, dB(A)**

Measurement Date	Measured Existing $L_{A90}$ Noise Level, dB(A)			
	Day (7am–6pm)	Evening (6pm–10pm)	Night (10pm–7am)	Should Period (6am–7am)
<i>Location 1 (refer to Figure 1)</i>				
Saturday 24 March 2018		36.4	31.4	
Sunday 25 March 2018	37.8	36.3	31.6	32.9
Monday 26 March 2018	36.3	37.1	29.1	40.0
Tuesday 27 March 2018	34.6	38.3	28.2	45.3
Wednesday 28 March 2018	35.1	39.9	31.2	41.8
Thursday 29 March 2018	36.2	39.3	30.6	39.5
Friday 30 March 2018	31.8	35.9	31.0	31.1
Saturday 31 March 2018	36.2	34.1	28.8	33.1
Sunday 1 April 2018	32.5	36.2	28.9	27.9
Monday 2 April 2019				27.6
<b>Rating Background Level</b>	<b>36</b>	<b>36</b>	<b>30</b>	<b>33</b>
<i>Location 2 (refer to Figure 1)</i>				
Saturday 24 March 2018		42.1	33.0	
Sunday 25 March 2018	46.7	40.2	31.5	34.7
Monday 26 March 2018	46.0	39.3	25.2	46.6
Tuesday 27 March 2018	45.1	44.9	27.2	54.2
Wednesday 28 March 2018	44.8	45.7	28.2	49.1
Thursday 29 March 2018	47.4	44.5	28.9	48.6
Friday 30 March 2018	39.6	38.3	31.2	32.6
Saturday 31 March 2018	43.2	37.7	28.2	34.4
Sunday 1 April 2018	42.0	42.0	29.2	28.1
Monday 2 April 2019				29.7
<b>Rating Background Level</b>	<b>45</b>	<b>42</b>	<b>30</b>	<b>35</b>

With reference to the Environment Protection Authority (EPA) Noise Policy for Industry (NPfI),

- day is from 7:00am-6:00pm, Monday to Saturday and 8:00am-6:00pm, Sunday
- evening is from 6:00pm-10:00pm
- night is from 10:00pm-7:00am, Monday to Saturday and 10:00pm-8:00am, Sunday. For environmental noise assessment purposes, minimum night-time rating background noise level is set at 30dB(A)

### **3.2 Noise Emissions from the Site**

#### ***3.2.1 Operational Noise***

Operational noise from worshipping will mainly be due to a worshipper performing the Azan (Islamic call to prayer) for several minutes prior to prayers and the Imam performing the recitals during prayers.

Previous measurements at existing places of public worship (mosques) at 15-19 Enterprise Avenue, Padstow (United Muslim Australia), 19 Sunblest Crescent, Mount Druitt (Madrasah Qubaa) and 1 Ferngrove Place, Chester Hill (Unity for Our Community) show space average indoor noise levels of 57-73dB(A)  $L_{Aeq,1min}$  during Islamic call to prayers (Azan) and the Imam performing the Recital using amplified sound system.

At times other than Friday afternoons and during special events, when the numbers of attendees will be low and natural voice will be used (ie. sound system will not be used), noise from religious worshipping would be lower.

However, for assessment purposes, an indoor space average noise level of 75dB(A)  $L_{Aeq,15min}$  with the use of amplified sound system is adopted.

#### ***3.2.2 Noise from Mechanical Plant***

Noise from mechanical plant will mainly be split air-conditioning systems. As the proposal is conceptual and development application has not been approved, mechanical plant has not been selected.

#### ***3.2.3 Noise Vehicles inside the Car-park***

Previous measurements show average sound exposure level (SEL) from a car pass-by at slow speed of typically 63dB(A) at 7m, equating to an SEL sound power level of 88dB(A).

#### ***3.2.4 Noise Vehicles inside the Car-park***

From previous measurements, typical maximum sound power levels from vehicular activities in the car-park are 90dB(A), 94dB(A) and 88dB(A) from car door closing, engine start-up and car moving/accelerating respectively.



### 3.2.5 Forecast Traffic Generation by Proposal

Tables 2 and 3 present the forecast hourly traffic generation during regular and special event operations, extracted from Tables 10 and 12 of the Updated Parking and Traffic Assessment Report (Report No. 18-043-3) prepared by Stanbury Traffic Planning dated January 2019.

Table 4 provides forecast peak-hour day/evening/night traffic generations by the proposal.

**Table 2 Forecast Hourly Traffic Generation during Regular Operation**

Time	Operational Activity	Hourly Traffic Generation		
		Inbound Trip	Outbound Trip	Total Trip
5am-6am	Morning Prayer Service	9	9	18
6am-7am	Morning Prayer Service	9	9	18
7am-8am	–	–	–	–
8am-9am	Administration/Youth Service/ Counselling	10	–	10
9am-10am	Youth Services/Counselling	6	–	6
10am-11am	Youth Services/Counselling	–	6	6
11am-12midday	Youth Services/Counselling	–	6	6
12midday-1pm	Midday Prayer Service	87	–	87
1pm-2pm	Midday Prayer Service	–	87	87
2pm-3pm	Youth Services/Counselling	6	–	6
3pm-4pm	Youth Service/Counselling/ Afternoon Prayer Service	15	9	24
4pm-5pm	Youth Service/Counselling/ Afternoon Prayer Service	15	15	30
5pm-6pm	Youth Service/Counselling/Sunset Prayer Service	9	15	24
6pm-7pm	Administration/Youth Service/ Counselling/Sunset Prayer Service	9	19	28
7pm-8pm	Sunset/Evening Prayer Service	18	18	36
8pm-9pm	Sunset/Evening Prayer Service	18	18	36

**Table 3**      **Forecast Hourly Traffic Generation during Special Event Operation**

Time	Operational Activity	Hourly Traffic Generation		
		Inbound Trip	Outbound Trip	Total Trip
5am-6am	Morning Prayer Service	9	9	18
6am-7am	Eid/Morning Prayer Service	96	9	105
7am-8am	–	–	–	–
8am-9am	Administration/Youth Service/Counselling	10	–	10
9am-10am	Youth Service/Counselling/Eid Prayer Service	6	87	93
10am-11am	Youth Services/Counselling		6	6
11am-12midday	Youth Service/Counselling/Easter Midday Service	87	6	93
12midday-1pm	–	–	–	–
1pm-2pm				
2pm-3pm	Youth Service/Counselling/Easter Midday Service	6	87	93
3pm-4pm	Youth Service/Counselling/Afternoon Prayer Service	15	9	24
4pm-5pm		15	15	30
5pm-6pm	Youth Service/Counselling/Sunset Prayer Service	9	15	24
6pm-7pm	Youth Service/Counselling/Administration/Sunset/Ramadan Prayer Service	78	19	97
7pm-8pm	Sunset Prayer Service	9	9	18
8pm-9pm		9	9	18
9pm-10pm	Ramadan Prayer Service	–	69	69

**Table 4**      **Forecast Peak-hour Traffic Generation by Proposal**

Time	Peak-hour Traffic Generation by Proposal	
	Regular Operation	Special Event Operation
Day	87 (once per week)	93 (three (3) times per year)
Evening	36	97 (Ramadan)
Night	18	105 (twice per year)

Vehicles entering the site will be via Glenhaven Road and Larapinta Place. There are no nearby residences on Larapinta Place (except for 7 Larapinta Place which is located approximately 45m from road). The nearest residences on Glenhaven Road are approximately 20m from the road.

## 4.0 NOISE ASSESSMENT OBJECTIVE

### 4.1 Operational Noise

The Environment Protection Authority (EPA) Noise Policy for Industry (NPfI, October 2017) recommends project noise trigger level as a benchmark for assessing and managing noise from large industrial and agricultural sources. The project noise trigger level is not a noise limit, but a trigger level above which feasible and reasonable mitigation measure should be identified.

In the event that feasible and reasonable mitigation measure cannot reduce noise from the development under consideration to within the project noise trigger level, the residual noise level (noise level above the trigger level) should be assessed and reported.

Although the EPA:NPfI states that project noise trigger level as a benchmark for assessing and managing noise from large industrial and agricultural sources that may not be applicable to the types of noise sources councils need to address, in the absence of Council's specific guidelines, the EPA:NPfI is used as a reference to assess operational noise from the facility.

The EPA:NPfI recommends the:

- $L_{Aeq,15min}$  operational noise levels the development not to exceed the day/evening/night rating background  $L_{A90}$  noise levels by more than 5dB(A) at the residential receivers; and
- $L_{Aeq,period}$  noise levels (period being entire day/evening/night) from the development to be at least 5dB below the recommended amenity noise levels from existing and/or future industrial sources for the particular receiver areas.

Due to different averaging periods, the intrusiveness noise level (determined over 15-minute period) and amenity noise level (determined over an assessment period (day/evening/night)) may lead to situations where the same numerical value does not necessarily represent the same amount of noise for different time periods. To standardise the time periods for the intrusiveness and amenity noise levels, the NPfI assumes a default correction of +3dB to convert the  $L_{Aeq,period}$  to  $L_{Aeq,15min}$  noise level.

Table 5 presents the recommended  $L_{Aeq,15min}$  operational noise levels from the proposed place of public worship, established from the measured background noise levels presented in Table 1 and the EPA:NPfI guideline. The recommended amenity noise levels are based on a rural residential area.

**Table 5 Recommended  $L_{Aeq,15min}$  Noise Assessment Objective, dB(A)**

Time of Day		Recommended $L_{Aeq,15min}$ Noise Level		
		Intrusiveness Level	Amenity Level	Trigger Level
<i>Residences on Larapinta Place</i>				
Day	(7:00am-6:00pm)	41	48	41
Evening	(6:00pm-10:00pm))	41	43	41
Night	(10:00pm-7:00am)	35	38	35
Shoulder Period (2 times per year)	(6:00am – 7:00am)	38	–	38
<i>Residences on Glenhaven Road</i>				
Day	(7:00am-6:00pm)	50	48	48
Evening	(6:00pm-10:00pm))	47	43	43
Night	(10:00pm-7:00am)	35	38	35
Shoulder Period (2 times per year)	(6:00am – 7:00am)	40	–	40

## 4.2 Road Traffic Noise

Vehicles entering/leaving the subject site will be via Larapinta Place and Glenhaven Road. Larapinta Place a local road and Glenhaven Road is a sub-arterial road.

The NSW Road Noise Policy recommends the following road traffic noise assessment objectives for existing residences affected by additional traffic on existing sub-arterial roads generated by land use developments:

- *Local Road:* 55dB(A)  $L_{Aeq,1hr}$  (daytime peak-hour from 7:00am-10:00pm) and 50dB(A)  $L_{Aeq,1hr}$  (night-time peak-hour from 10:00pm-7:00am); and
- *Sub-arterial Road:* 60dB(A)  $L_{Aeq,15hr}$  (daytime, 7:00am-10:00pm) and 55dB(A)  $L_{Aeq,9hr}$  (night-time, 10:00pm-7:00am)

## 4.3 Night-time Transient Noise

Noise from on-site night-time transient noise activities would be due to car door closing, engine start-up and cars manoeuvring inside the car-park.

As the forecast night-time traffic generation during regular operation is minimal and the basement car-park can accommodate up to seventy-eight (78) vehicles, noise from on-site night-time transient noise activities inside the basement car-park will be readily controlled.

However, there will be two (2) mornings/nights (6am – 7am) per year during Eid special events when the basement car-park would be full.

As a *screen test*, the EPA:NPfI recommends  $L_{Amax}$  noise levels from developments not to exceed the higher of 52dB(A) and the background noise level plus 15dB when assessed outside a bedroom window.

Where the  $L_{Amax}$  noise levels from a development to exceed the recommended screen test level, a detailed maximum noise level event be undertaken.

## 5.0 RECOMMENDATION

The following measures are recommended to control and minimise noise emissions from the proposed place of public worship at 1 Larapinta Place, Glenhaven:

- external windows/doors of the prayer hall and classrooms shall achieve a weight sound reduction index of not less than  $R_w$ 32;
- external windows/doors of for the prayer halls and classrooms shall be closed during operation;
- external access doors to the building shall be fitted with self-closing mechanism;
- except for Friday afternoon and special events, worshippers shall be requested/ instructed to park their vehicles inside the Basement Car-park to minimise noise from vehicular activities;
- refuse collection and deliveries shall be undertaken during daytime only; and
- location of outdoor air-conditioning condenser units, specification and selection of air-conditioning equipment and rated sound power levels shall be reviewed by a qualified acoustic consultant during the Design/Construction Certificate (CC) phase

## 6.0 NOISE PREDICTION AND ASSESSMENT

### 6.1 Operational Noise

The noise prediction is based on external windows/doors of the prayer halls and classrooms in closed positions during operation and space average noise levels of 75dB(A)  $L_{Aeq,15min}$  inside the prayer halls (when amplified sound system is used) and 65dB(A) inside classrooms.

Taking account of distance separation and noise reduction across the building facade, the predicted operational noise levels at the nearest residences due to religious worshipping and classroom activities are in the order of 25dB(A)  $L_{Aeq,15min}$  when amplified sound system is used.

Outside Friday afternoon and special events, when amplified sound system will not be used, operational noise will be lower.

## 6.2 Noise from Air-Conditioning

As the proposal is conceptual and the development application has not been approved, mechanical plant (air-conditioning equipment) has not been selected or finalised and details of equipment noise levels are not available at this time. It is normal that mechanical plant is selected during the Design/Construction Certificate (CC) Phase of the project.

From previous studies, sound power levels for the each outdoor air-condenser installed for the places of public worship were 66dB(A) (Mitsubishi Model SRC71ZMA-S) for 19 Sunblest Crescent, Mount Druitt (Madrasah Qubaa) and 73dB(A) (Daikin Model RZQ140LV1) for 1 Ferngrove Place, Chester Hill (Unity for Our Community).

The following assumptions are made for the purpose of assessing noise from mechanical plant:

- up to eight (8) split air-conditioning units would be provided for the proposed development and all mechanical equipment could be operating simultaneously during daytime and evening, although this is unlikely;
- up to two (2) air-conditioning units could be operating simultaneously during night-time (early morning hour), although air-conditioning is unlikely to be required around 5:00am/6:00am and given the duration of the early morning prayers is typically 15 minutes;
- a sound power level of 73dB(A) for each outdoor air-condenser; and
- outdoor air-condenser units will be located on ground level on the western side of the building

Based on the above assumptions and taking account of distance separation, the predicted noise levels from air-conditioning equipment at the most affected receiver are 39dB(A)  $L_{Aeq,15min}$  during daytime and evening and 33dB(A)  $L_{Aeq,15min}$  during night-time and comply with the noise assessment objectives in *Table 4*.

From previous studies, it is considered that quieter equipment is available and should be selected. With the selection of quieter equipment, air-conditioning equipment will be lower. Additionally, if walls/fences are provided to hide the outdoor air-condenser units for aesthetic reason, the walls/fences may be designed to further noise reduction.

It is recommended that noise from mechanical plant associated with the proposed development be reviewed a qualified acoustic consultant during the Design/Construction Certificate (CC) phase when details of equipment selection and sound power levels are available to ensure the noise assessment objectives are achieved.

## 6.3 Noise from On-site Traffic

Except for Friday afternoon and special events, car-parking will comfortably be accommodated by the basement level car-park.

During Friday afternoon prayer services, Eid morning prayer services (two (2) times per year) and Easter afternoon prayer services, both the basement level car-park and at-grade ground level car-park would be used.

With the forecast traffic generations of 105 vehicle trips during two (2) mornings/nights per year from Eid special event, the predicted noise level at the nearest residence (123 Glenhaven Road) from vehicle movements in the car-parks is in the order of 30dB(A)  $L_{Aeq,15min}$  and comfortably comply with the assessment objectives presented in *Table 5*.

#### **6.4 Additional Road Traffic Noise on Public Road**

With the forecast traffic generation of 105 vehicle trips during the peak-hour for Eid special event (two (2) mornings/nights per year), the predicted road traffic noise levels generated by the proposed place of public worship is 42dB(A)  $L_{Aeq,peak-hour}$  at the nearest residences on Larapinta Place (7 Larapinta Place).

The predicted road traffic noise levels readily comply with the assessment objectives of 55dB(A)  $L_{Aeq,1hr}$  (daytime) and 50dB(A)  $L_{Aeq,1hr}$  (night-time) for a local road (Larapinta Place).

Glenhaven Road is a sub-arterial road and the road traffic noise assessment objectives are in terms of the energy average levels over 15-hour (daytime) and 9-hour (night-time). When averaged over 15-hour (daytime) and 9-hour (night-time), road traffic noise generated on Glenhaven Road by the proposed development will be minimal.

#### **6.5 Night-time Transient Noise**

During Eid special event operation (two (2) mornings/nights per year), forecast traffic generation by the proposal will be 105 vehicle movements during the morning hour from 6:00am – 7:00am. For these events, both the basement level and at-grade ground level car-parks will be used.

From previous measurements, typical maximum sound power levels from vehicular activities in the car-park are 90dB(A), 94dB(A) and 88dB(A) from car door closing, engine start-up and car moving/accelerating respectively.

Taking account of distance separation, the predicted  $L_{Amax}$  noise level at the nearest receiver (123 Glenhaven Road) from vehicular activities in the at-grade ground level car-park is 51dB(A).

The predicted  $L_{Amax}$  noise levels from vehicular activities in the car-park comply with the “*screen test*” assessment level of 52dB(A)  $L_{Amax}$ .

It is noted that the Eid special event morning/night prayer services (6:00am – 7:00am) is considered to be night-time hour by the EPA:NPfI) will only take place twice per year.



During regular night-time operation, the basement level car-park will comfortably accommodate car-parking and hence noise from transient activities associated with car-door closing, engine start-up and car manoeuvring will be contained inside the basement level car-park.

## 7.0 SUMMARY

This report provides the findings from the noise assessment for the proposed place of public worship at 1 Larapinta Place, Glenhaven.

The findings from the site inspection, noise measurements, prediction and assessment show that:

- operational noise from religious worshipping and classroom activities will comply with the assessment objectives;
- noise from vehicles in the car-park will comply with the assessment objectives;
- noise from road traffic generation will comply with the assessment objectives; and
- night-time transient noise levels in the car-park will comply with the “*screen test*” assessment objective

Mechanical plant has not been selected or finalised and details of equipment noise levels are not available at this time. Albeit, mechanical plant would mainly consist of split air-conditioning systems. With equipment specification/selection based on acoustic performance and appropriate siting for the outdoor condensers, noise from mechanical plant would be controlled to within the assessment objectives.

It is recommended that acoustic issues be reviewed by a qualified acoustic engineer following development approval and if required control measures be implemented to ensure the noise assessment objectives are achieved.

The findings from the noise assessment relate to acoustic considerations only. If required, other issues should be consulted with others.

We trust the information in this report is satisfactory. Please do not hesitate to contact our office should further information or clarification be required.

Yours sincerely,



Dan Dang  
Principal Acoustic Engineer  
**Acoustic Consulting Engineers Pty Ltd**

**Appendix 1**  
**NOISE MEASUREMENT RESULTS**  
**(Location 1)**

**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

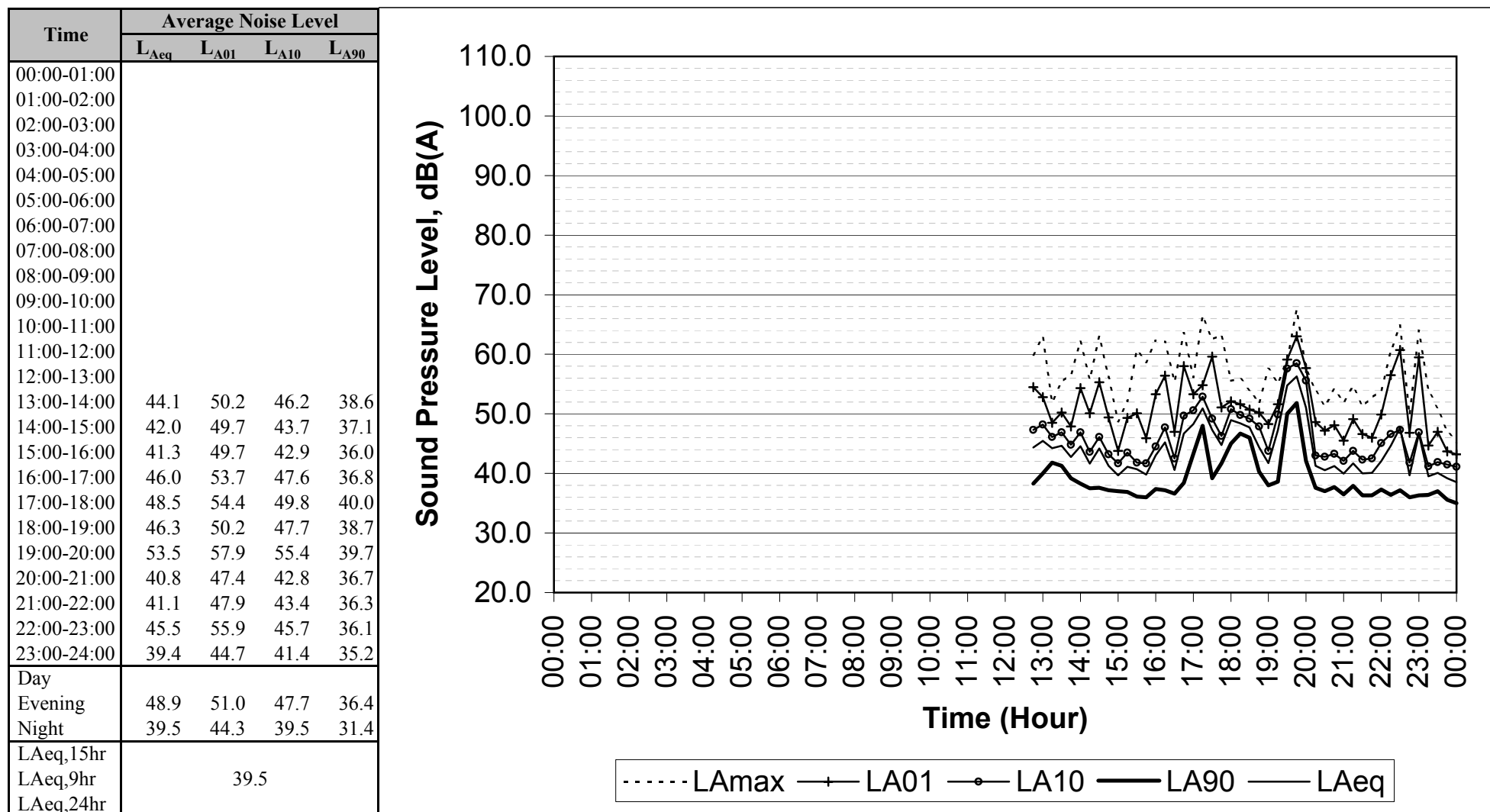
**Project Title**

Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Saturday, 24 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

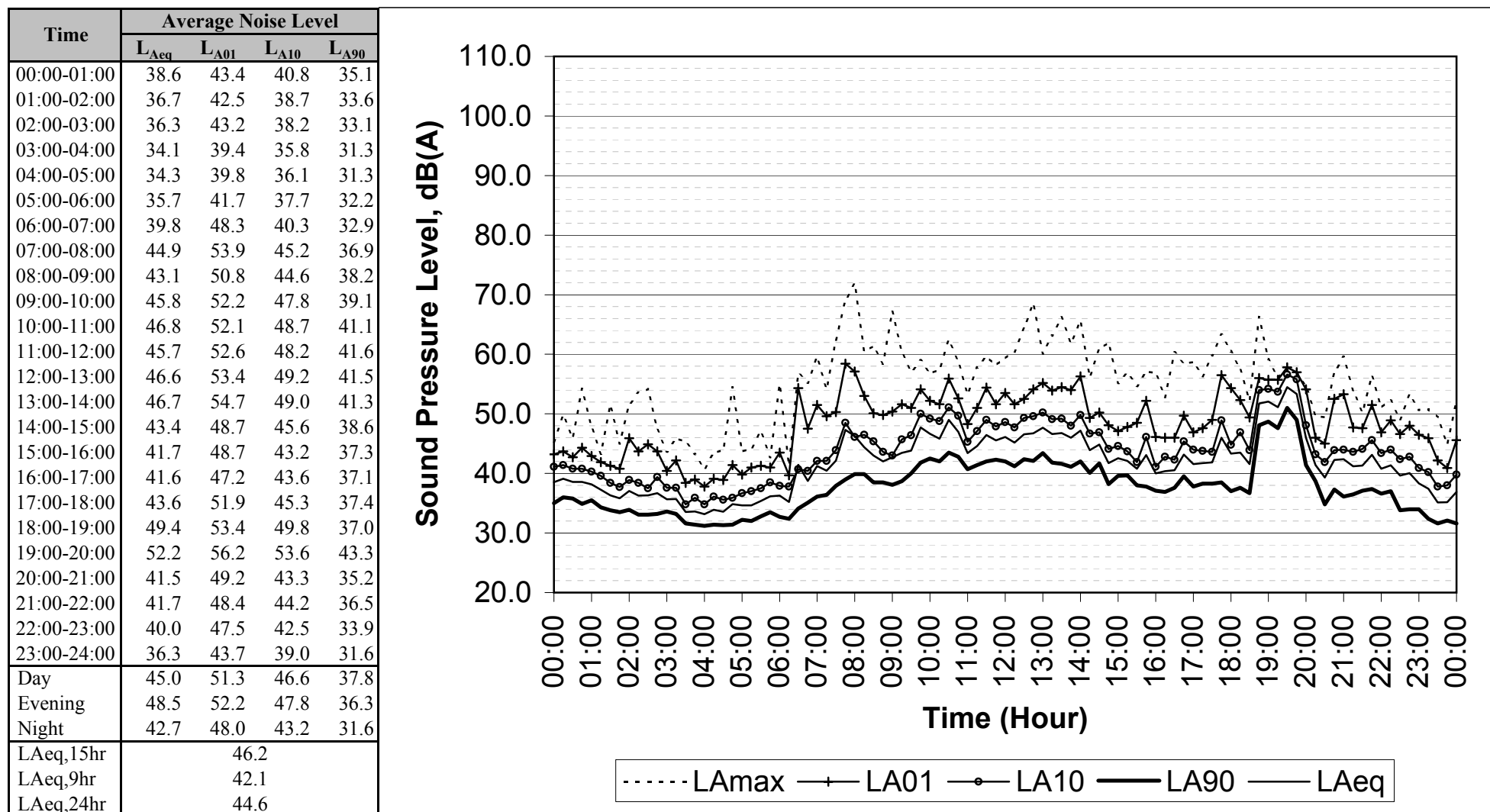
**Project Title**

Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Sunday, 25 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**

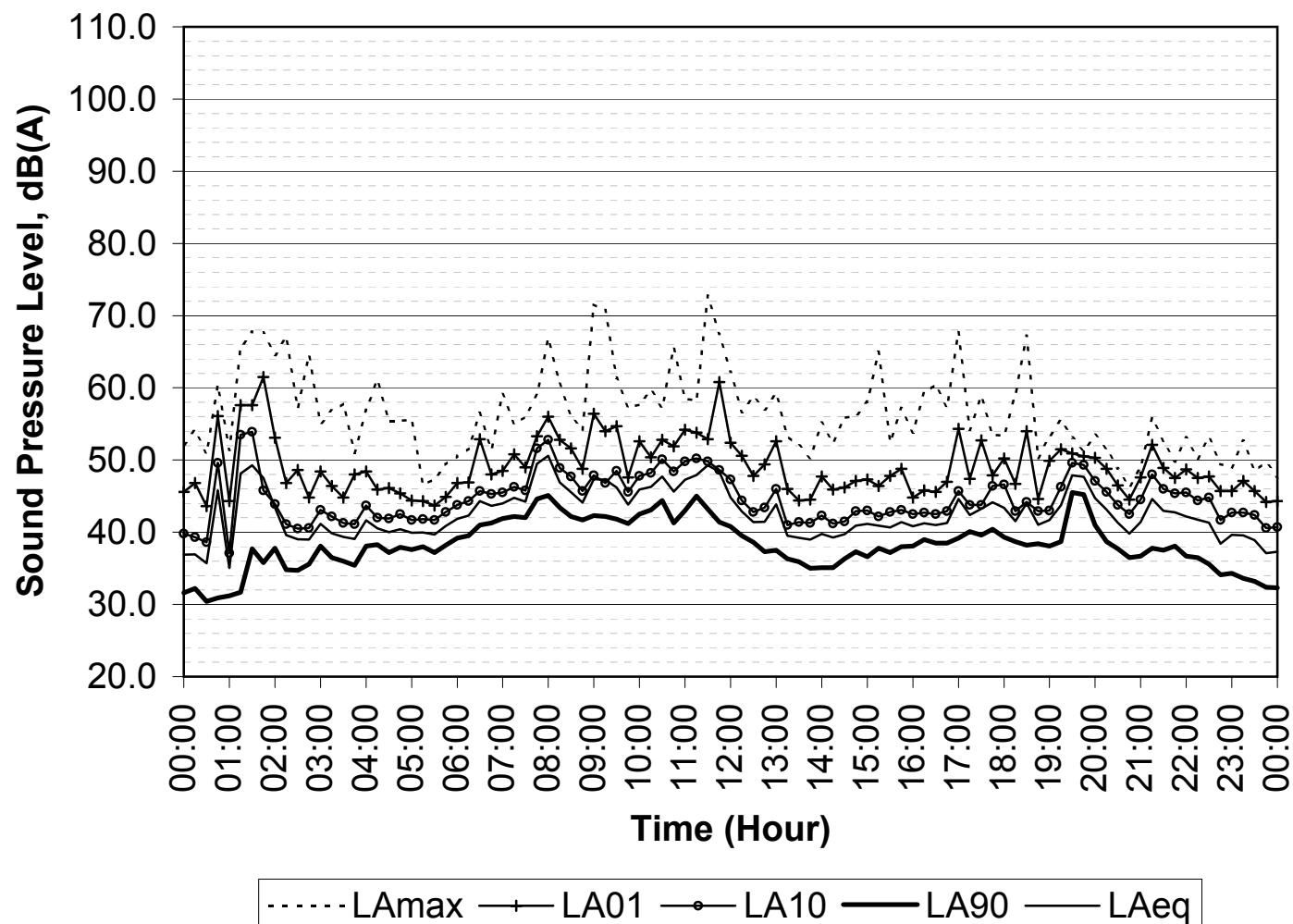
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Monday, 26 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	41.0	47.7	41.2	30.6
01:00-02:00	47.6	57.5	49.3	32.9
02:00-03:00	39.8	47.2	41.3	34.7
03:00-04:00	40.1	46.9	42.1	35.6
04:00-05:00	40.2	45.5	42.0	37.3
05:00-06:00	40.7	44.9	42.5	37.4
06:00-07:00	43.6	49.1	45.2	40.0
07:00-08:00	48.1	52.3	49.1	42.1
08:00-09:00	46.2	52.4	47.6	41.9
09:00-10:00	46.0	52.2	47.2	41.4
10:00-11:00	46.8	52.3	49.1	41.8
11:00-12:00	47.9	55.0	49.0	41.0
12:00-13:00	42.5	50.1	44.2	37.4
13:00-14:00	39.4	45.7	41.5	35.0
14:00-15:00	40.3	46.6	42.2	35.5
15:00-16:00	41.0	47.0	42.7	37.4
16:00-17:00	42.3	48.2	43.5	38.5
17:00-18:00	43.3	49.6	45.2	39.4
18:00-19:00	42.2	48.8	43.3	38.1
19:00-20:00	46.4	50.8	48.1	39.4
20:00-21:00	41.6	46.9	44.1	36.6
21:00-22:00	43.2	49.3	46.2	36.9
22:00-23:00	40.5	46.7	43.4	34.2
23:00-24:00	38.3	45.3	41.6	32.3
Day	45.0	50.1	45.5	36.3
Evening	43.8	49.0	45.5	37.1
Night	43.9	48.1	42.7	29.1
$L_{Aeq,15hr}$	44.7			
$L_{Aeq,9hr}$	43.9			
$L_{Aeq,24hr}$	44.0			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**

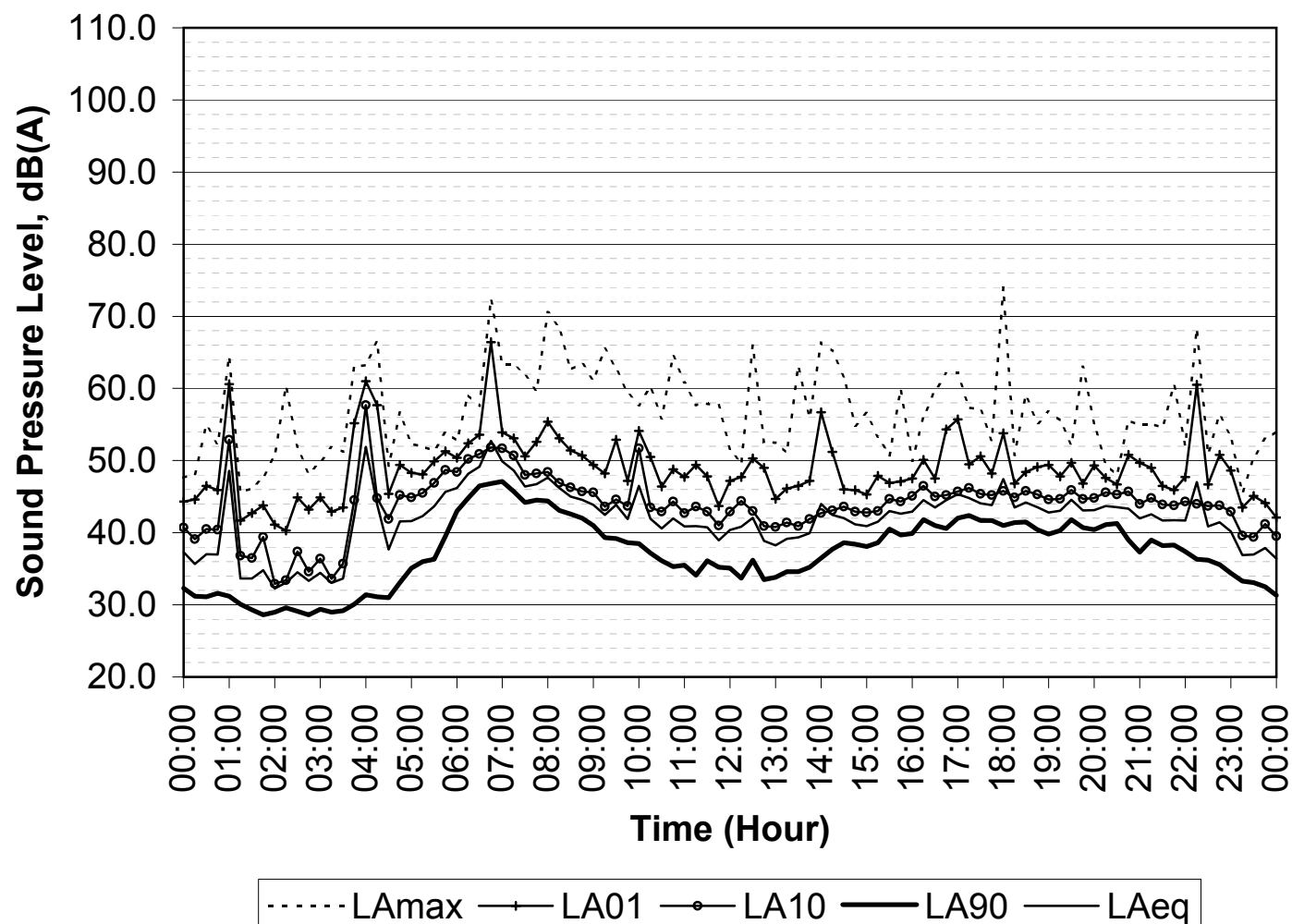
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Tuesday, 27 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	43.3	49.4	43.2	31.1
01:00-02:00	33.7	42.3	36.4	28.7
02:00-03:00	33.9	43.3	35.5	28.8
03:00-04:00	46.4	50.7	42.9	29.1
04:00-05:00	41.7	50.2	44.2	31.0
05:00-06:00	44.7	49.9	47.4	36.1
06:00-07:00	50.3	56.6	51.2	45.3
07:00-08:00	47.4	52.9	48.8	44.3
08:00-09:00	45.0	51.2	46.1	41.3
09:00-10:00	44.1	50.6	45.9	38.5
10:00-11:00	41.4	48.4	43.4	35.4
11:00-12:00	40.3	47.0	42.6	34.4
12:00-13:00	40.3	47.9	42.3	33.6
13:00-14:00	41.1	49.1	41.7	34.6
14:00-15:00	41.7	47.1	43.1	37.8
15:00-16:00	42.6	47.4	44.3	38.9
16:00-17:00	44.5	51.9	45.6	40.7
17:00-18:00	45.3	50.5	45.7	41.2
18:00-19:00	43.5	48.4	45.2	40.0
19:00-20:00	43.5	48.4	45.0	40.3
20:00-21:00	43.2	48.7	45.2	37.8
21:00-22:00	41.9	47.3	44.2	37.6
22:00-23:00	43.4	51.7	43.6	34.8
23:00-24:00	37.1	43.7	39.9	31.7
Day	43.8	49.5	44.6	34.6
Evening	43.6	48.6	45.0	38.3
Night	40.7	44.8	39.9	28.2
$L_{Aeq,15hr}$	43.8			
$L_{Aeq,9hr}$	40.7			
$L_{Aeq,24hr}$	44.0			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**

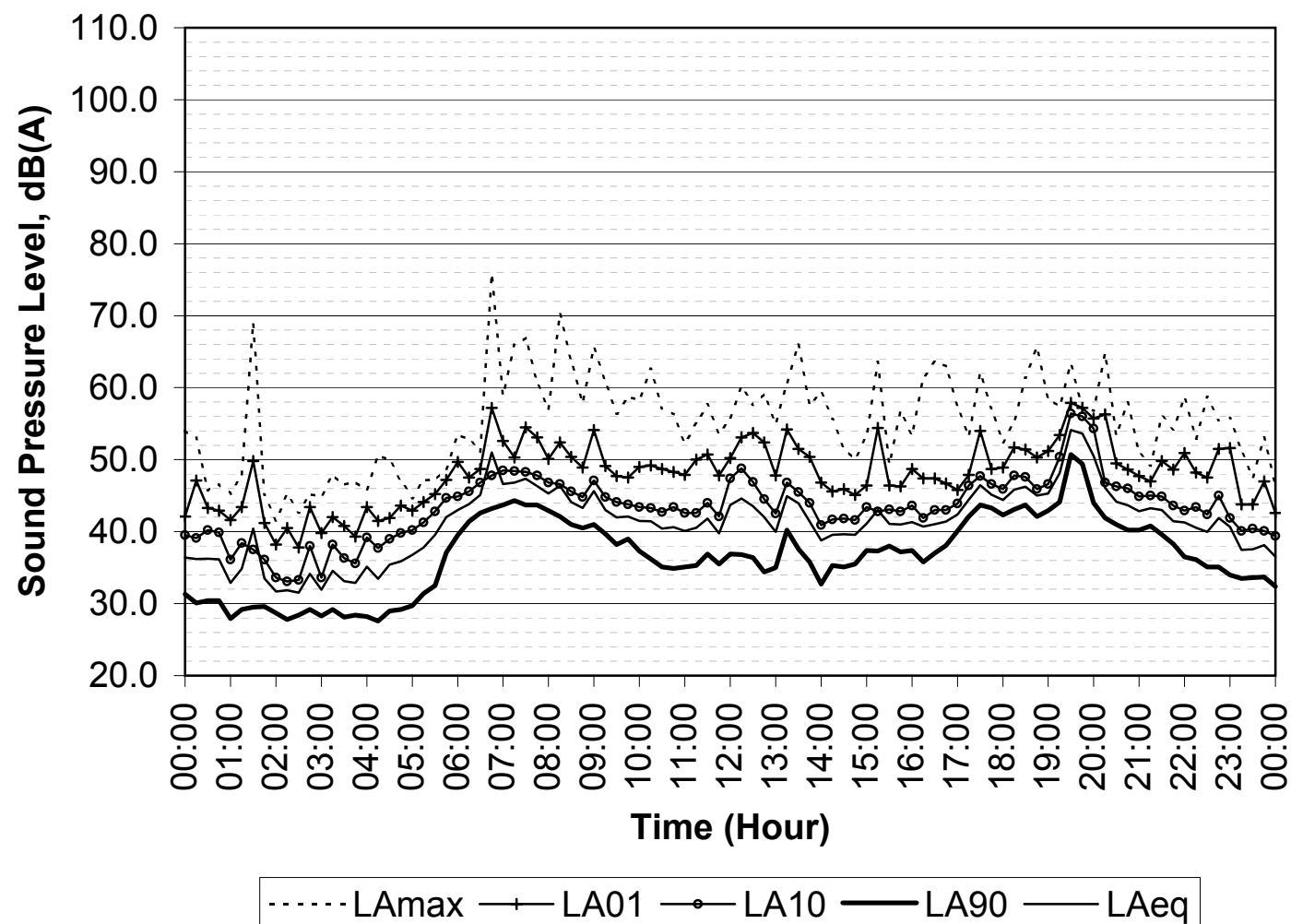
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Wednesday, 28 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	35.6	43.7	38.8	28.6
01:00-02:00	36.5	43.2	36.4	28.9
02:00-03:00	32.5	40.4	34.5	28.0
03:00-04:00	34.0	41.4	37.3	28.1
04:00-05:00	35.5	42.5	39.2	28.0
05:00-06:00	41.1	46.6	43.4	31.7
06:00-07:00	47.6	51.5	47.2	41.8
07:00-08:00	46.5	52.0	47.8	43.1
08:00-09:00	45.0	51.5	46.0	40.7
09:00-10:00	42.2	48.3	44.0	37.6
10:00-11:00	40.7	48.5	43.0	35.0
11:00-12:00	41.7	49.7	44.0	35.4
12:00-13:00	42.9	51.8	45.7	34.6
13:00-14:00	42.9	50.7	44.3	33.6
14:00-15:00	40.0	45.8	42.1	35.2
15:00-16:00	41.7	49.0	43.1	37.2
16:00-17:00	41.4	46.8	43.0	36.2
17:00-18:00	45.2	49.9	46.7	42.2
18:00-19:00	45.6	51.2	47.0	42.3
19:00-20:00	52.2	56.1	54.3	44.0
20:00-21:00	44.4	50.5	46.0	40.2
21:00-22:00	42.3	49.1	44.1	37.0
22:00-23:00	40.8	49.7	43.2	34.3
23:00-24:00	37.4	44.3	40.0	32.7
Day	43.3	49.5	44.6	35.1
Evening	48.0	51.6	48.0	39.9
Night	38.7	44.0	39.6	31.2
$L_{Aeq,15hr}$	45.1			
$L_{Aeq,9hr}$	38.7			
$L_{Aeq,24hr}$	44.0			





**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**

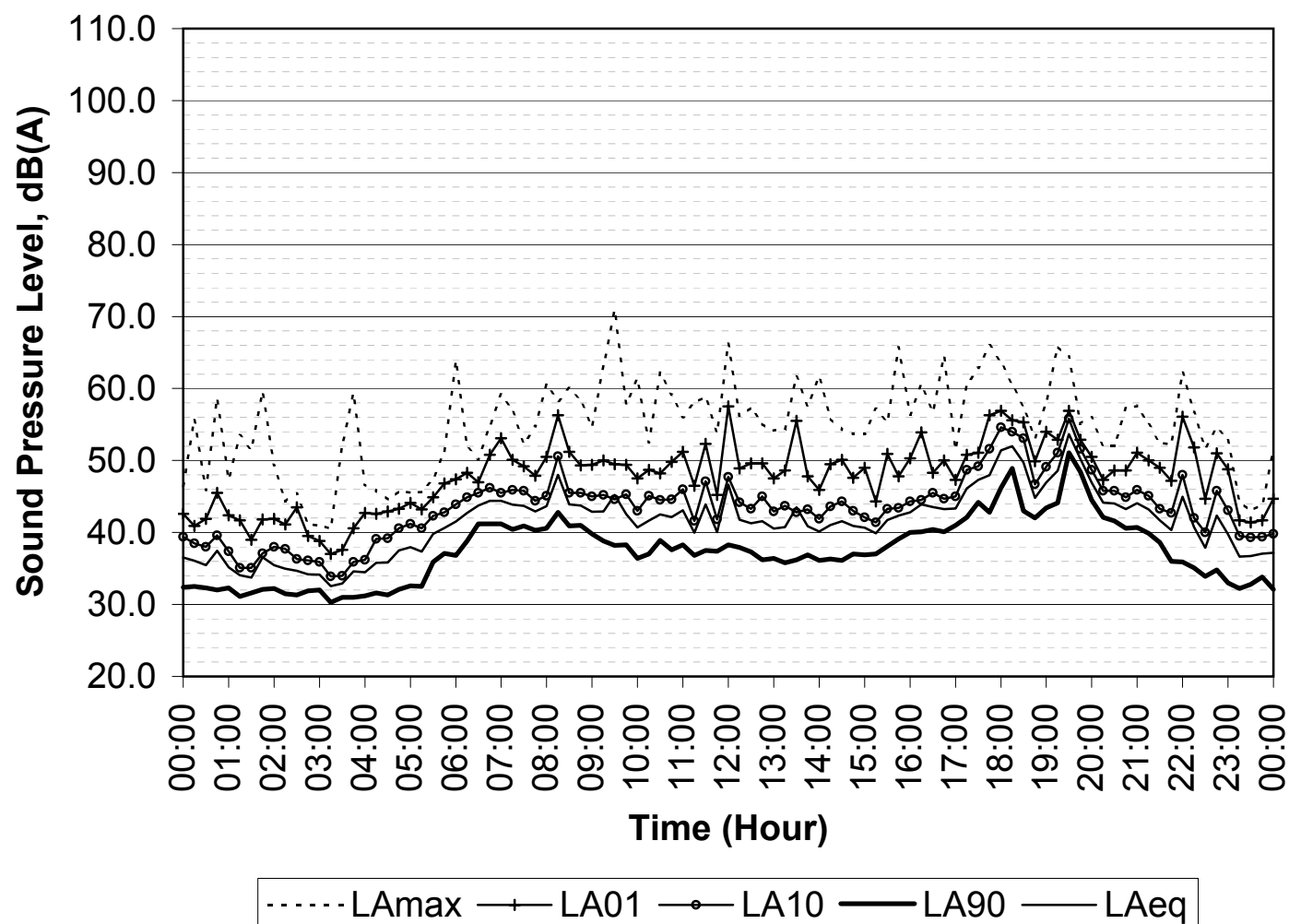
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Thursday, 29 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	36.1	42.7	38.4	32.1
01:00-02:00	35.1	41.1	36.3	31.3
02:00-03:00	34.5	40.7	36.5	31.4
03:00-04:00	33.7	39.5	35.0	30.5
04:00-05:00	36.9	43.2	40.0	31.4
05:00-06:00	40.1	45.6	42.4	33.5
06:00-07:00	43.9	49.8	45.5	39.5
07:00-08:00	43.5	49.4	45.3	40.3
08:00-09:00	45.1	51.6	46.7	40.1
09:00-10:00	43.1	49.1	44.5	36.9
10:00-11:00	42.4	49.5	45.1	37.2
11:00-12:00	43.6	50.4	44.6	37.0
12:00-13:00	41.3	48.9	43.9	36.3
13:00-14:00	41.5	49.5	42.9	35.9
14:00-15:00	41.1	49.1	43.3	36.2
15:00-16:00	41.8	48.3	43.1	37.3
16:00-17:00	43.5	49.9	44.9	40.1
17:00-18:00	48.7	53.8	51.0	42.3
18:00-19:00	49.2	53.7	50.7	42.3
19:00-20:00	50.6	53.3	51.8	44.2
20:00-21:00	43.9	48.9	45.6	40.6
21:00-22:00	42.9	50.6	44.8	35.9
22:00-23:00	40.5	49.1	42.7	33.3
23:00-24:00	36.9	42.4	39.5	32.1
Day	43.4	49.9	44.8	36.2
Evening	48.3	51.7	48.6	39.3
Night	38.5	43.7	39.0	30.6
$L_{Aeq,15hr}$	45.3			
$L_{Aeq,9hr}$	38.5			
$L_{Aeq,24hr}$	44.0			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**

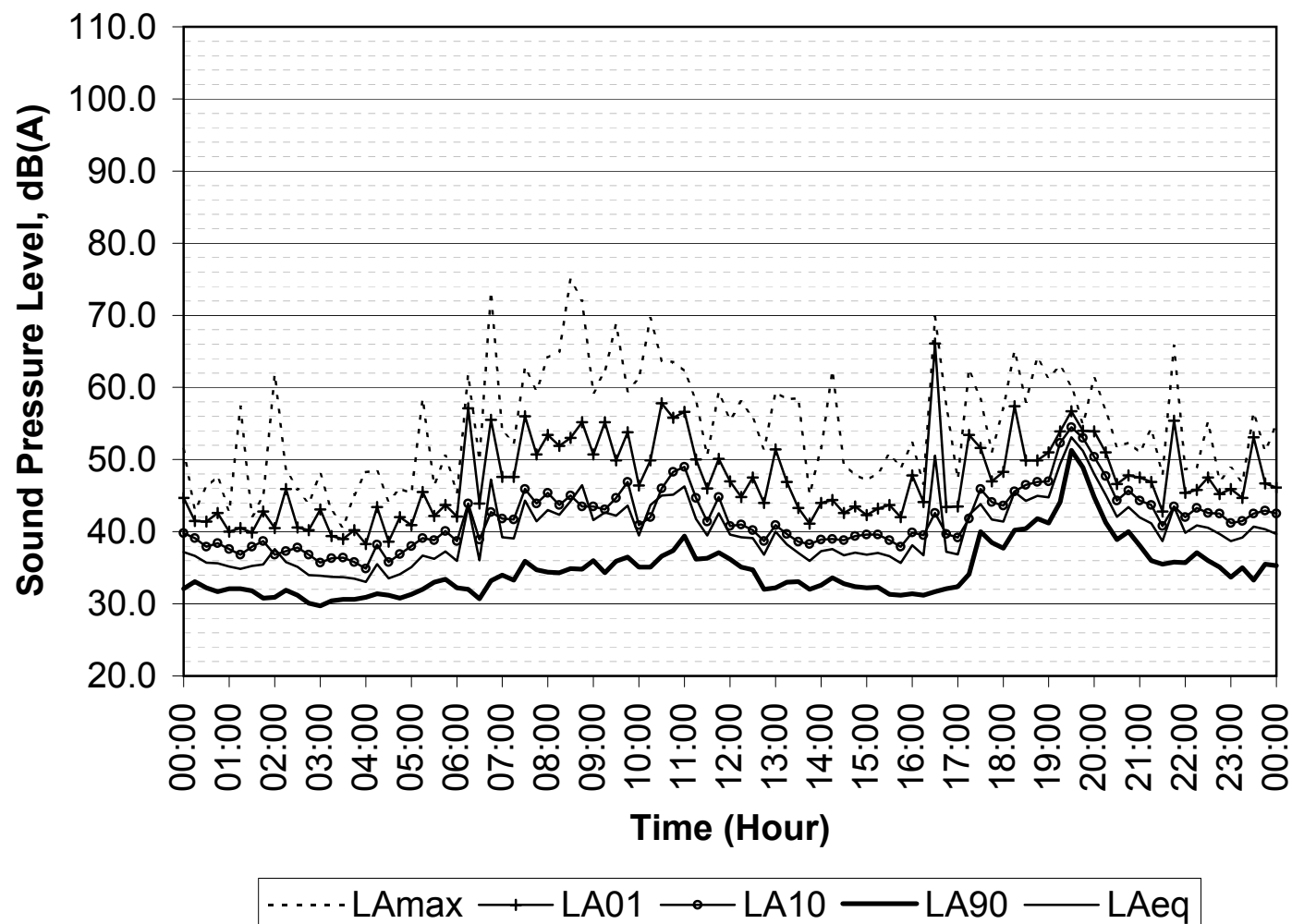
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Friday, 30 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	35.8	41.4	38.3	31.8
01:00-02:00	35.9	40.9	37.6	30.8
02:00-03:00	34.8	42.5	36.9	29.8
03:00-04:00	33.5	39.2	35.9	30.5
04:00-05:00	34.6	41.2	37.2	30.9
05:00-06:00	36.6	43.4	39.2	32.1
06:00-07:00	43.4	51.0	41.8	31.1
07:00-08:00	42.4	51.9	44.2	33.6
08:00-09:00	44.1	52.7	43.9	34.5
09:00-10:00	42.2	51.3	43.9	34.5
10:00-11:00	45.1	55.0	46.3	35.6
11:00-12:00	41.1	48.3	42.9	36.2
12:00-13:00	38.9	46.9	40.2	32.1
13:00-14:00	37.2	43.8	38.9	32.2
14:00-15:00	37.1	43.2	39.2	32.3
15:00-16:00	37.0	44.2	39.1	31.2
16:00-17:00	45.1	49.3	40.3	31.4
17:00-18:00	42.4	50.1	43.9	35.2
18:00-19:00	44.9	52.1	46.5	40.3
19:00-20:00	50.8	54.6	52.6	44.3
20:00-21:00	43.3	48.2	45.5	38.3
21:00-22:00	41.2	47.6	42.5	35.6
22:00-23:00	40.0	46.1	42.4	34.1
23:00-24:00	40.0	47.7	42.4	33.8
Day	42.0	48.8	42.0	31.8
Evening	46.7	50.8	46.9	35.9
Night	38.0	43.3	39.4	31.0
$L_{Aeq,15hr}$	43.9			
$L_{Aeq,9hr}$	38.0			
$L_{Aeq,24hr}$	42.6			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**

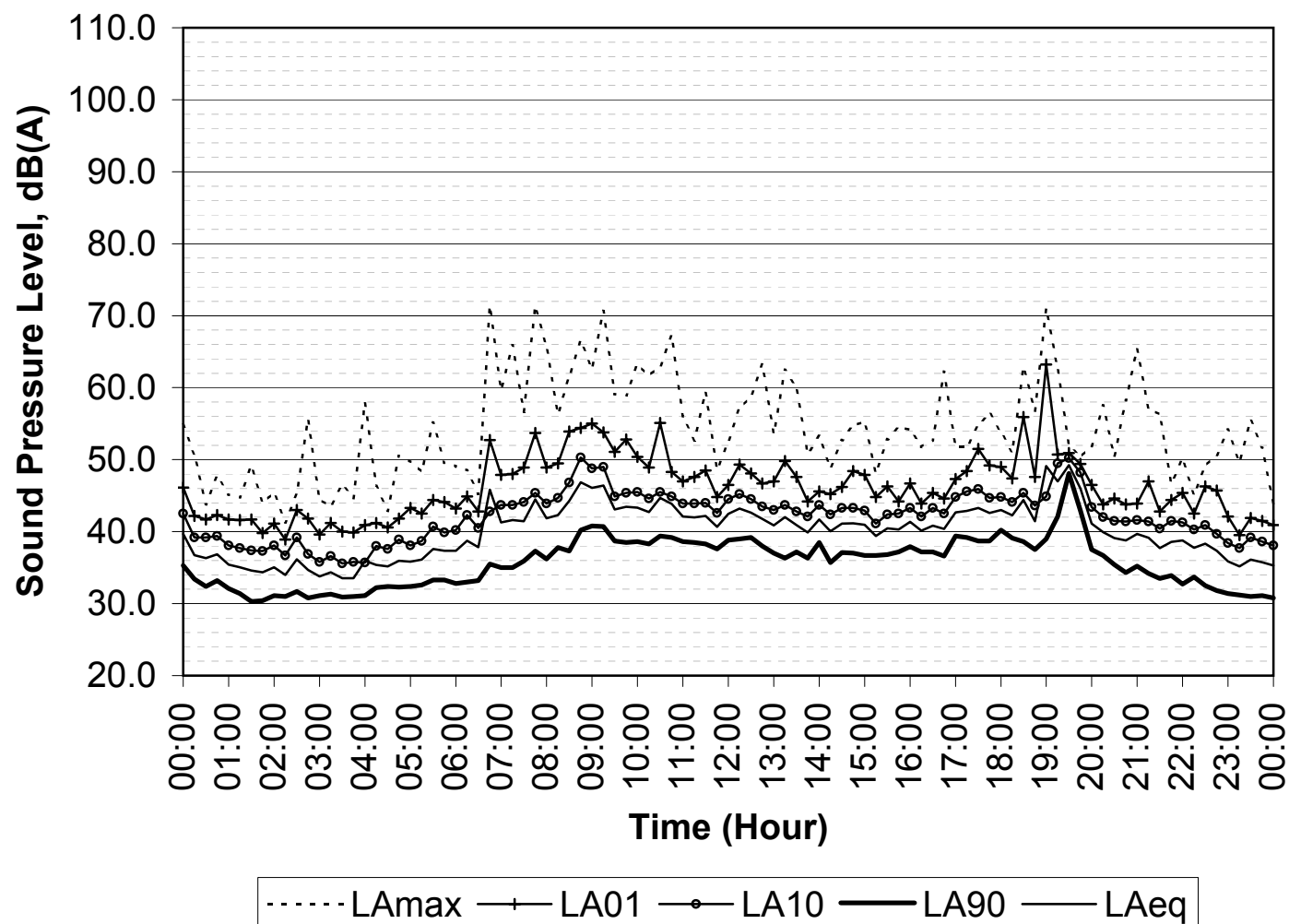
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Saturday, 31 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	36.4	42.0	39.0	32.2
01:00-02:00	34.8	41.1	37.6	30.3
02:00-03:00	34.7	40.8	37.2	30.9
03:00-04:00	34.5	40.5	35.9	30.9
04:00-05:00	35.6	41.7	38.2	32.2
05:00-06:00	37.1	43.6	39.9	32.7
06:00-07:00	42.1	47.1	42.3	33.1
07:00-08:00	42.5	49.9	44.3	35.3
08:00-09:00	45.2	53.2	47.7	37.5
09:00-10:00	44.3	52.0	46.2	38.5
10:00-11:00	43.5	49.8	44.7	38.4
11:00-12:00	41.9	46.9	43.8	37.8
12:00-13:00	42.2	47.8	44.1	37.3
13:00-14:00	41.2	46.8	43.1	36.3
14:00-15:00	40.8	46.9	43.0	36.0
15:00-16:00	40.4	45.5	42.3	36.7
16:00-17:00	41.1	45.3	43.2	36.8
17:00-18:00	42.9	49.5	45.3	38.7
18:00-19:00	45.4	53.5	44.5	37.8
19:00-20:00	46.7	49.4	47.8	38.9
20:00-21:00	39.4	44.0	41.6	34.6
21:00-22:00	38.6	44.9	41.2	32.9
22:00-23:00	37.4	44.2	39.8	31.5
23:00-24:00	35.6	41.0	38.4	30.9
Day	42.6	48.5	44.3	36.2
Evening	44.0	48.2	44.0	34.1
Night	34.9	40.9	36.7	28.8
$L_{Aeq,15hr}$	43.0			
$L_{Aeq,9hr}$	34.9			
$L_{Aeq,24hr}$	41.7			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**

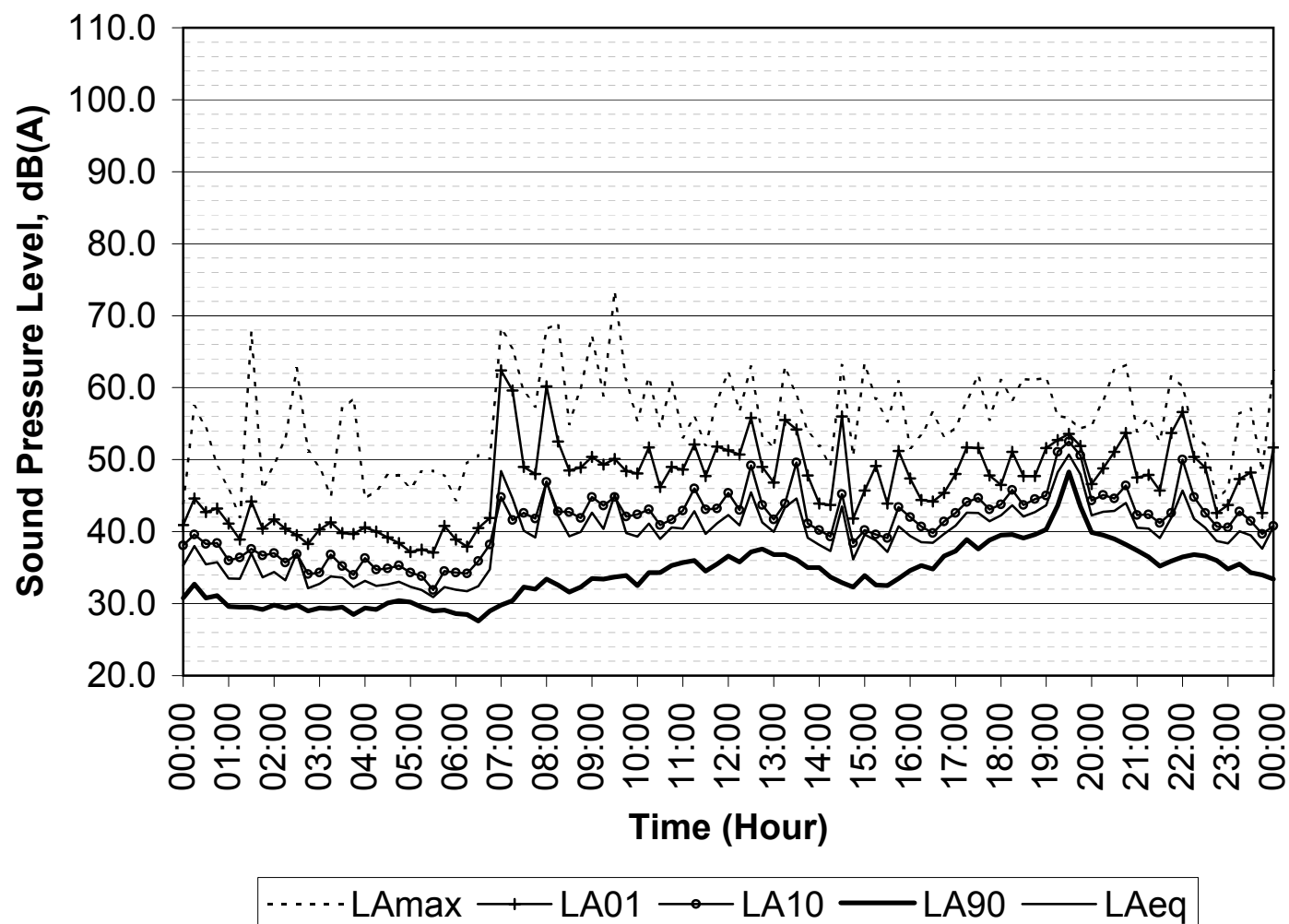
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Sunday, 1 April 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	36.0	42.9	38.1	30.0
01:00-02:00	34.9	41.3	36.9	29.3
02:00-03:00	34.3	39.6	35.3	29.1
03:00-04:00	33.2	40.4	35.6	28.7
04:00-05:00	32.6	38.7	34.8	29.5
05:00-06:00	31.8	38.6	33.6	28.7
06:00-07:00	42.8	45.7	38.3	27.9
07:00-08:00	43.9	54.2	43.2	30.9
08:00-09:00	41.3	50.1	43.1	31.8
09:00-10:00	41.9	49.0	43.2	32.8
10:00-11:00	40.3	48.9	42.2	34.3
11:00-12:00	41.7	50.7	44.4	34.8
12:00-13:00	42.5	50.6	44.4	36.1
13:00-14:00	42.1	50.4	43.7	35.0
14:00-15:00	40.1	46.8	40.8	32.5
15:00-16:00	39.2	47.9	41.0	32.5
16:00-17:00	39.5	45.5	41.1	35.0
17:00-18:00	42.3	49.4	43.9	38.0
18:00-19:00	43.1	49.5	44.8	39.3
19:00-20:00	48.2	51.2	49.6	41.0
20:00-21:00	42.7	50.3	44.6	37.6
21:00-22:00	42.5	51.0	44.1	35.4
22:00-23:00	40.1	46.4	42.2	35.2
23:00-24:00	39.6	47.5	41.2	33.6
Day	41.5	49.3	42.9	32.5
Evening	44.7	49.9	45.4	36.2
Night	38.3	43.5	38.3	28.9
$L_{Aeq,15hr}$	42.8			
$L_{Aeq,9hr}$	37.6			
$L_{Aeq,24hr}$	41.5			



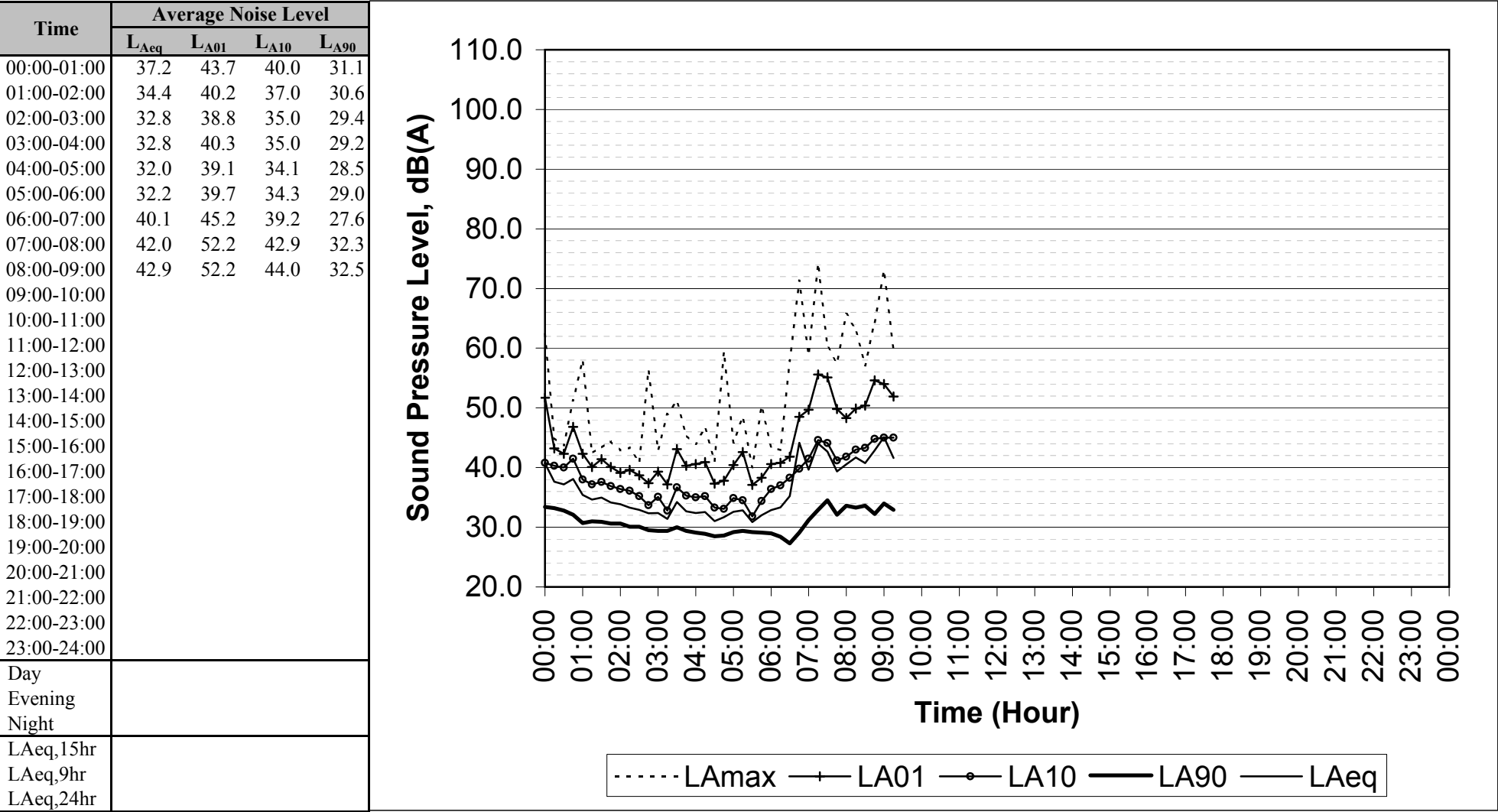
**Measurement Location**     1 Laraprinta Road, Glenhaven  
Location 1

**Project Title**                     Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date**             Monday, 2 April 2018

**Notes**

- 1. Tabulated  $L_{Aeq}$  are logarithmically averaged
- 2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
- 3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels



**Appendix 2**  
**NOISE MEASUREMENT RESULTS**  
**(Location 2)**

**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

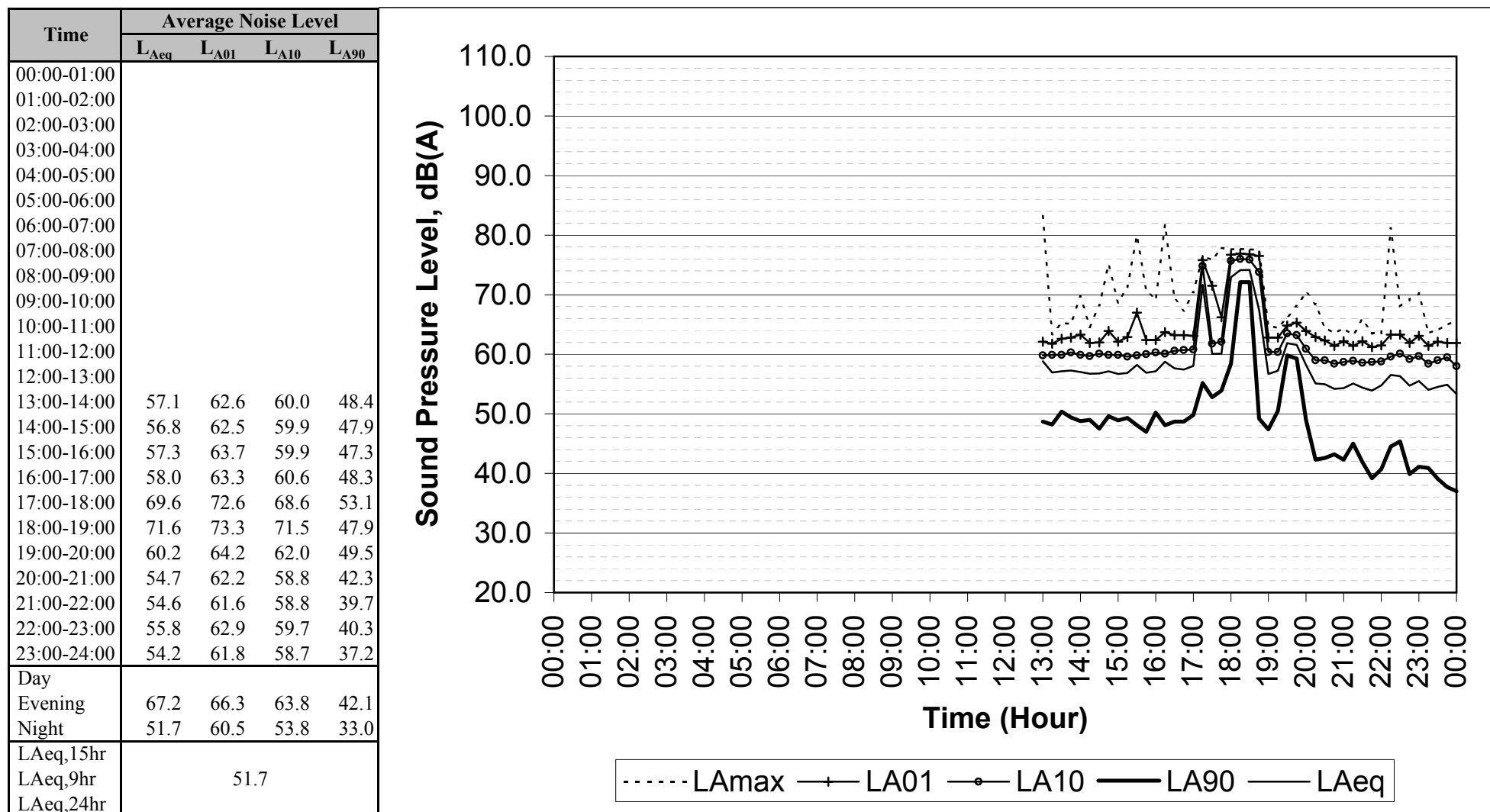
**Project Title**

Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Saturday, 24 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels





**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

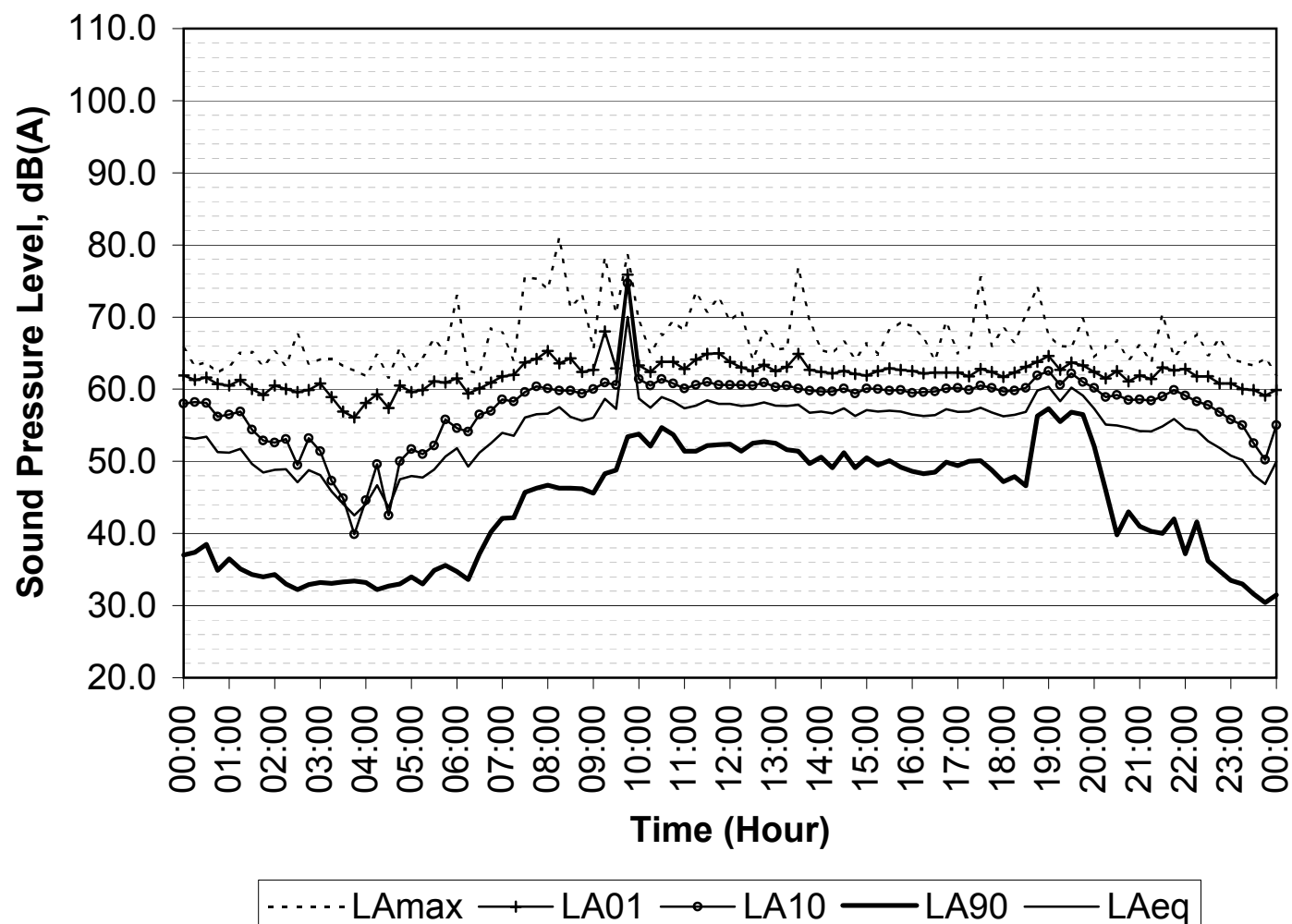
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Sunday, 25 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	52.4	61.0	57.3	35.4
01:00-02:00	49.9	60.3	54.2	34.1
02:00-03:00	48.3	60.1	51.8	32.4
03:00-04:00	44.3	57.5	44.2	33.1
04:00-05:00	46.7	59.2	48.5	32.4
05:00-06:00	50.1	60.9	53.4	33.5
06:00-07:00	52.1	60.6	56.6	34.7
07:00-08:00	55.9	63.8	59.6	43.3
08:00-09:00	56.4	63.3	59.8	45.8
09:00-10:00	64.8	67.5	64.4	48.5
10:00-11:00	58.1	63.2	60.7	51.6
11:00-12:00	58.0	64.5	60.7	51.6
12:00-13:00	57.9	62.9	60.6	51.7
13:00-14:00	57.3	63.3	60.0	50.0
14:00-15:00	56.9	62.2	59.8	49.1
15:00-16:00	56.8	62.7	59.8	48.8
16:00-17:00	56.7	62.3	59.9	48.4
17:00-18:00	56.9	62.2	60.1	47.7
18:00-19:00	58.7	63.5	61.1	47.0
19:00-20:00	58.9	63.0	61.0	53.1
20:00-21:00	54.7	61.8	58.8	40.2
21:00-22:00	54.9	62.5	59.1	38.0
22:00-23:00	52.6	61.3	57.2	33.9
23:00-24:00	49.0	59.7	53.2	30.7
Day	58.9	63.5	60.6	46.7
Evening	57.3	62.6	60.0	40.2
Night	54.7	61.3	55.3	31.5
$L_{Aeq,15hr}$	58.4			
$L_{Aeq,9hr}$	53.2			
$L_{Aeq,24hr}$	56.9			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

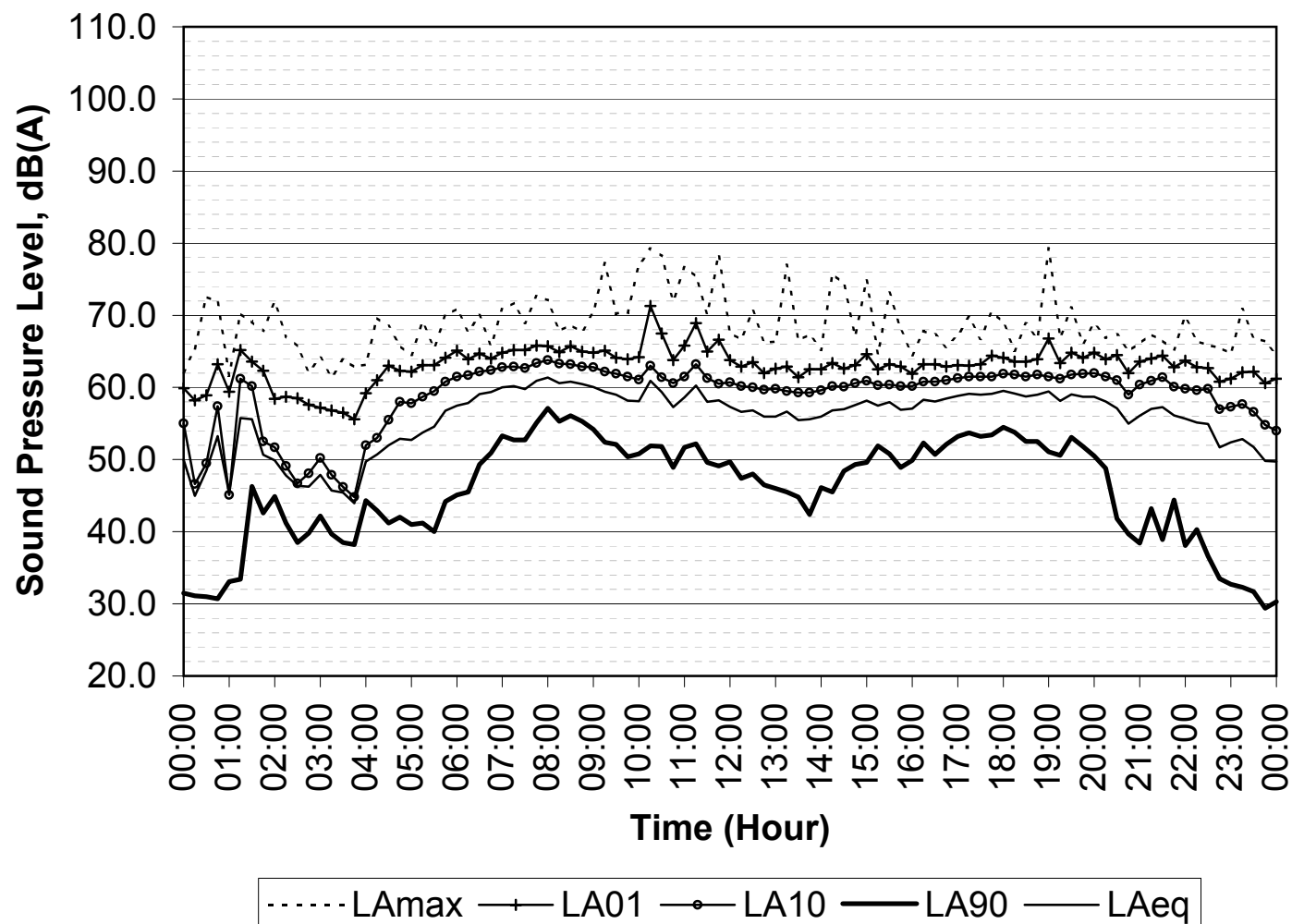
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Monday, 26 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	49.4	59.9	49.7	30.8
01:00-02:00	53.8	62.4	56.4	36.2
02:00-03:00	47.1	58.0	48.5	38.9
03:00-04:00	46.8	57.0	47.7	38.3
04:00-05:00	52.2	62.1	56.1	41.1
05:00-06:00	55.9	63.9	60.1	40.4
06:00-07:00	59.2	64.4	62.3	46.6
07:00-08:00	60.6	65.5	63.2	52.7
08:00-09:00	60.5	65.1	63.1	54.5
09:00-10:00	58.7	64.3	61.7	50.5
10:00-11:00	59.2	67.1	61.6	49.7
11:00-12:00	58.6	66.1	61.4	49.3
12:00-13:00	56.3	62.8	59.9	46.2
13:00-14:00	55.9	62.3	59.4	43.1
14:00-15:00	57.4	63.4	60.5	46.4
15:00-16:00	57.4	62.6	60.3	49.2
16:00-17:00	58.4	63.1	61.0	51.1
17:00-18:00	59.2	63.7	61.6	53.3
18:00-19:00	59.1	64.5	61.7	51.5
19:00-20:00	58.7	64.3	61.7	50.5
20:00-21:00	56.7	63.5	60.5	38.8
21:00-22:00	56.6	63.7	60.6	38.3
22:00-23:00	53.8	61.9	58.4	32.9
23:00-24:00	51.2	61.5	55.8	29.7
Day	58.6	64.2	61.3	46.0
Evening	58.1	64.0	61.2	39.3
Night	54.2	61.2	52.1	25.2
$L_{Aeq,15hr}$	58.5			
$L_{Aeq,9hr}$	54.2			
$L_{Aeq,24hr}$	57.4			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

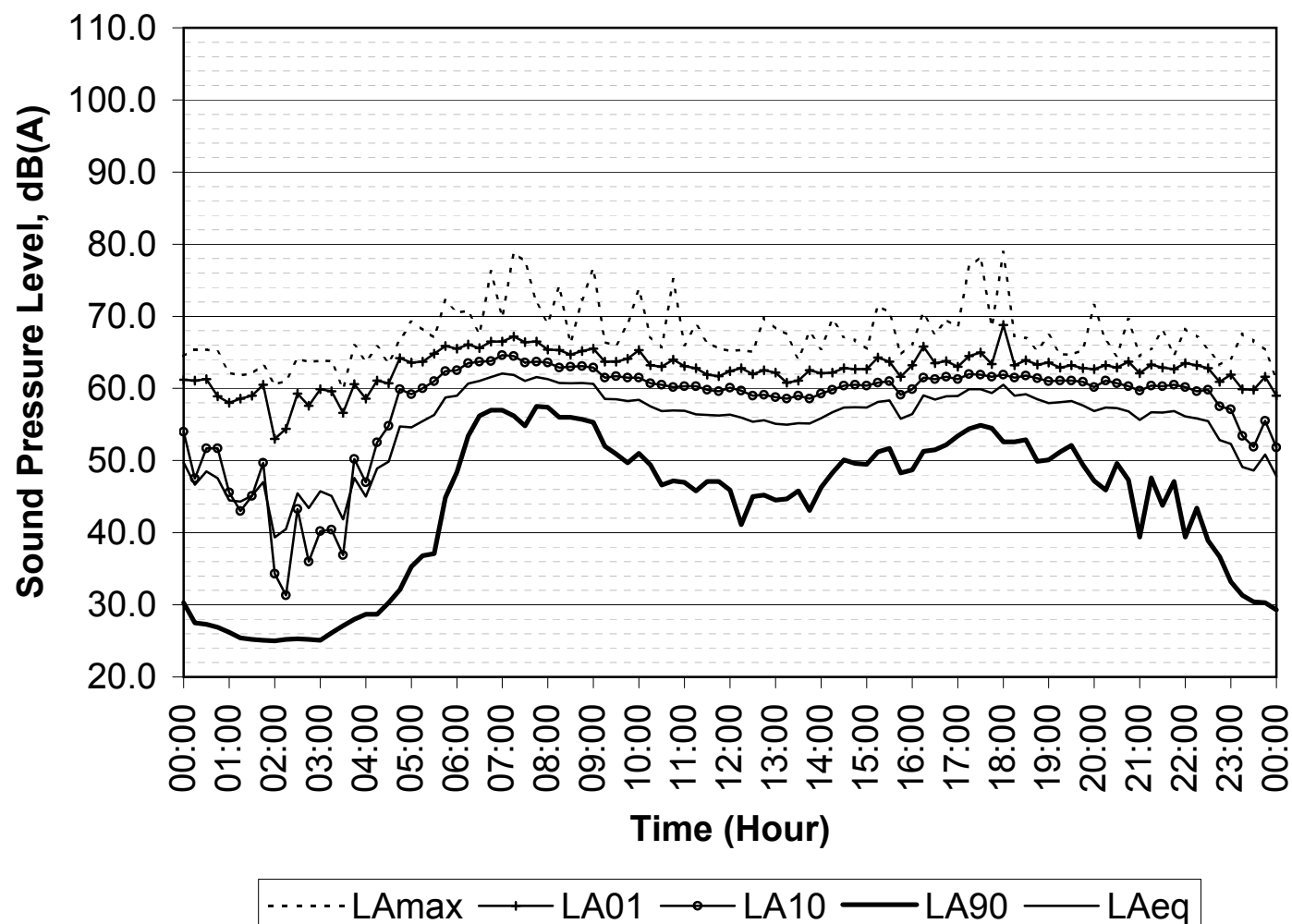
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Tuesday, 27 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	47.0	59.8	49.1	26.4
01:00-02:00	44.7	57.8	43.0	25.0
02:00-03:00	44.2	57.8	37.7	25.1
03:00-04:00	45.3	58.9	43.6	26.4
04:00-05:00	52.8	62.4	56.6	29.2
05:00-06:00	57.6	65.0	61.5	36.9
06:00-07:00	61.4	66.2	63.9	54.2
07:00-08:00	61.5	66.4	63.9	55.2
08:00-09:00	60.7	65.2	63.0	55.4
09:00-10:00	58.4	64.2	61.6	50.1
10:00-11:00	57.1	63.3	60.4	46.7
11:00-12:00	56.3	62.2	60.0	45.8
12:00-13:00	55.5	62.4	59.2	42.1
13:00-14:00	55.3	61.6	58.9	43.6
14:00-15:00	57.2	62.6	60.3	48.7
15:00-16:00	57.3	63.2	60.2	48.4
16:00-17:00	58.9	64.0	61.4	51.4
17:00-18:00	59.9	65.4	61.9	53.1
18:00-19:00	58.7	63.5	61.4	50.0
19:00-20:00	57.8	62.9	60.8	47.9
20:00-21:00	56.8	63.0	60.5	41.4
21:00-22:00	56.6	63.1	60.4	40.7
22:00-23:00	54.4	62.2	58.5	34.3
23:00-24:00	49.2	60.1	53.2	29.6
Day	58.5	63.6	61.0	45.1
Evening	57.9	63.5	60.9	44.9
Night	52.7	60.1	51.8	27.2
$L_{Aeq,15hr}$	58.4			
$L_{Aeq,9hr}$	52.7			
$L_{Aeq,24hr}$	57.4			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

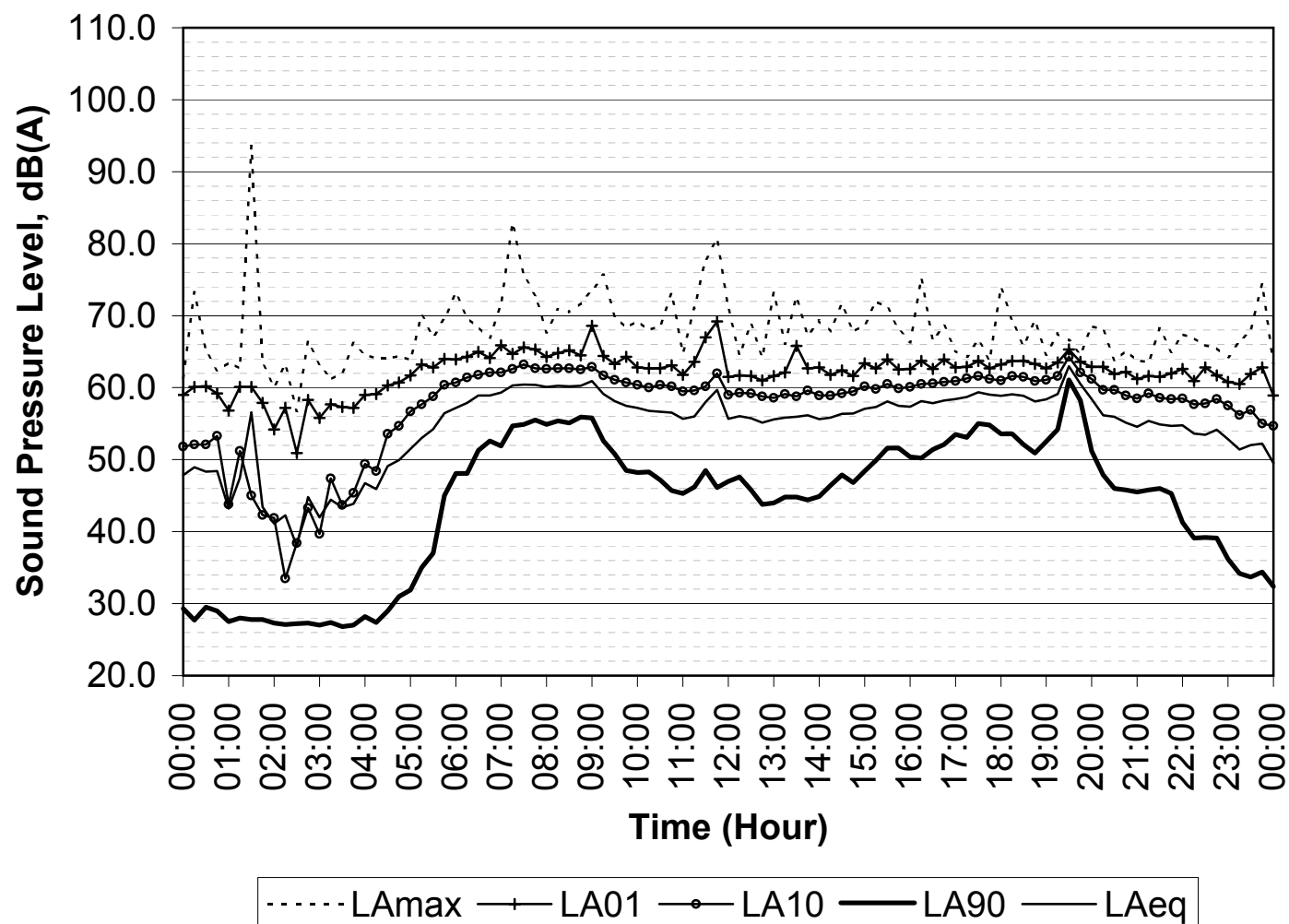
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Wednesday, 28 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	47.7	59.1	50.3	27.6
01:00-02:00	51.3	58.1	45.1	27.5
02:00-03:00	42.4	55.6	38.7	27.0
03:00-04:00	44.8	57.8	46.5	26.9
04:00-05:00	49.6	60.5	53.4	27.9
05:00-06:00	55.5	63.5	59.4	35.6
06:00-07:00	58.8	64.8	61.9	49.1
07:00-08:00	60.3	65.0	62.8	54.8
08:00-09:00	60.4	65.8	62.7	55.2
09:00-10:00	58.0	63.7	61.0	48.3
10:00-11:00	56.4	62.6	60.0	45.4
11:00-12:00	57.6	65.3	60.2	46.1
12:00-13:00	55.6	61.5	59.0	43.9
13:00-14:00	55.9	63.4	59.1	44.5
14:00-15:00	56.4	62.3	59.5	46.5
15:00-16:00	57.6	62.9	60.1	50.1
16:00-17:00	58.2	63.3	60.7	50.6
17:00-18:00	59.0	63.1	61.3	53.3
18:00-19:00	58.6	63.4	61.3	51.3
19:00-20:00	60.6	63.8	62.3	52.1
20:00-21:00	55.5	62.1	59.2	45.6
21:00-22:00	54.9	61.9	58.7	42.5
22:00-23:00	53.5	61.6	57.9	37.1
23:00-24:00	51.4	61.0	55.7	32.8
Day	58.1	63.6	60.6	44.8
Evening	58.2	62.8	60.5	45.7
Night	52.4	60.0	51.8	28.2
$L_{Aeq,15hr}$	58.1			
$L_{Aeq,9hr}$	52.4			
$L_{Aeq,24hr}$	56.9			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

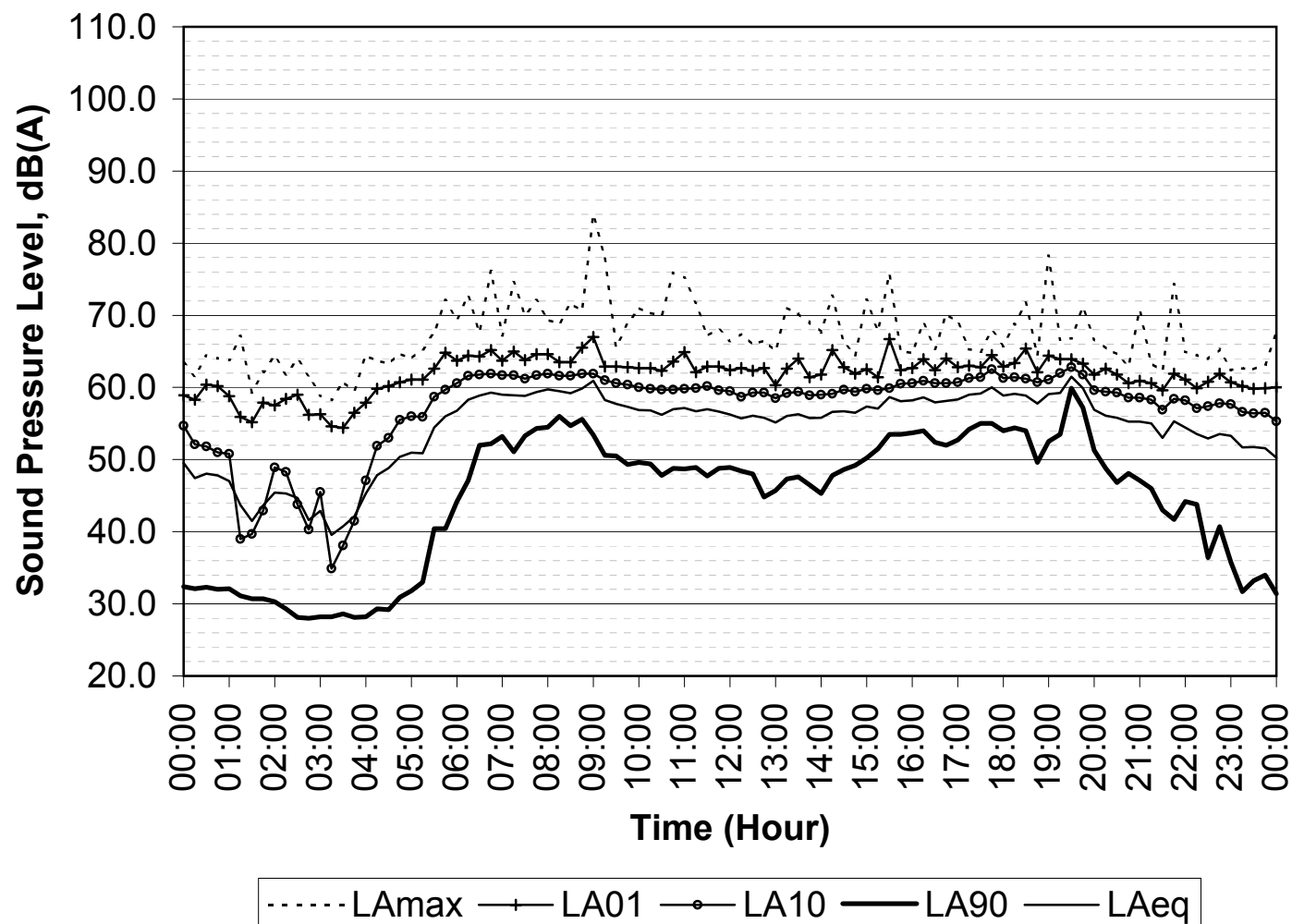
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Thursday, 29 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	47.6	59.4	51.4	32.0
01:00-02:00	43.8	56.6	42.6	30.4
02:00-03:00	43.9	57.5	44.5	28.0
03:00-04:00	42.5	55.9	40.4	28.1
04:00-05:00	49.7	60.5	54.1	29.2
05:00-06:00	55.0	63.1	58.7	35.2
06:00-07:00	58.9	64.4	61.8	48.6
07:00-08:00	59.2	64.5	61.6	51.8
08:00-09:00	59.9	64.9	61.8	53.8
09:00-10:00	57.6	62.8	60.5	49.4
10:00-11:00	56.8	63.4	59.8	48.1
11:00-12:00	56.7	62.6	59.8	48.0
12:00-13:00	55.7	62.0	59.0	45.1
13:00-14:00	56.0	62.5	59.1	45.7
14:00-15:00	56.8	63.1	59.5	48.0
15:00-16:00	58.1	63.3	60.2	52.1
16:00-17:00	58.3	63.3	60.7	52.1
17:00-18:00	59.3	63.3	61.6	54.1
18:00-19:00	58.7	63.8	61.1	50.5
19:00-20:00	59.7	63.2	61.6	52.0
20:00-21:00	55.6	61.5	59.0	46.9
21:00-22:00	54.5	60.8	58.0	42.1
22:00-23:00	53.3	60.8	57.5	36.0
23:00-24:00	51.3	60.0	56.2	31.5
Day	57.9	63.3	60.3	47.4
Evening	57.9	62.4	60.1	44.5
Night	50.0	59.2	53.2	28.9
$L_{Aeq,15hr}$	57.9			
$L_{Aeq,9hr}$	50.0			
$L_{Aeq,24hr}$	56.6			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

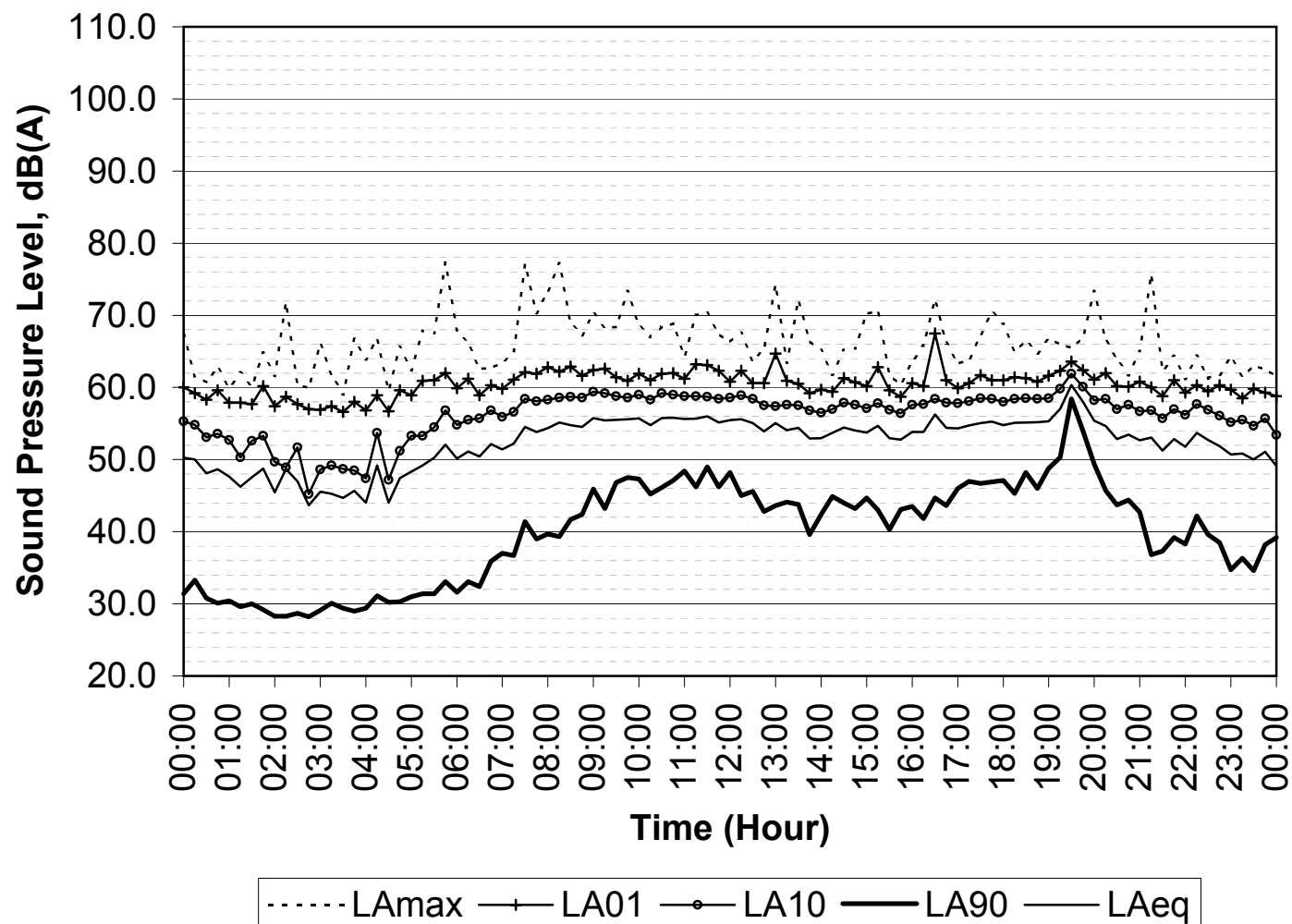
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Friday, 30 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	48.7	58.8	53.6	30.2
01:00-02:00	47.2	58.3	51.5	28.6
02:00-03:00	46.6	57.6	48.6	28.2
03:00-04:00	45.0	57.2	48.5	29.1
04:00-05:00	47.6	58.5	51.4	30.2
05:00-06:00	50.5	61.0	54.9	31.4
06:00-07:00	51.3	60.1	56.0	32.6
07:00-08:00	53.8	62.0	57.9	37.4
08:00-09:00	55.1	62.3	58.8	40.0
09:00-10:00	55.6	61.7	58.9	44.3
10:00-11:00	55.5	61.5	58.8	45.5
11:00-12:00	55.6	62.4	58.6	46.2
12:00-13:00	54.9	62.1	58.1	43.0
13:00-14:00	53.7	60.1	57.1	40.4
14:00-15:00	54.0	60.4	57.4	43.4
15:00-16:00	53.6	60.4	57.2	41.1
16:00-17:00	54.8	62.2	58.0	42.3
17:00-18:00	55.0	61.1	58.3	46.8
18:00-19:00	55.2	61.3	58.5	45.5
19:00-20:00	58.1	62.4	60.0	49.7
20:00-21:00	53.5	60.8	57.4	43.0
21:00-22:00	52.3	59.8	56.4	37.0
22:00-23:00	52.4	60.0	56.5	35.8
23:00-24:00	50.3	59.1	54.8	35.1
Day	54.7	61.4	58.0	39.6
Evening	55.4	61.2	58.2	38.3
Night	48.5	57.7	50.4	31.2
$L_{Aeq,15hr}$	54.9			
$L_{Aeq,9hr}$	48.5			
$L_{Aeq,24hr}$	53.6			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

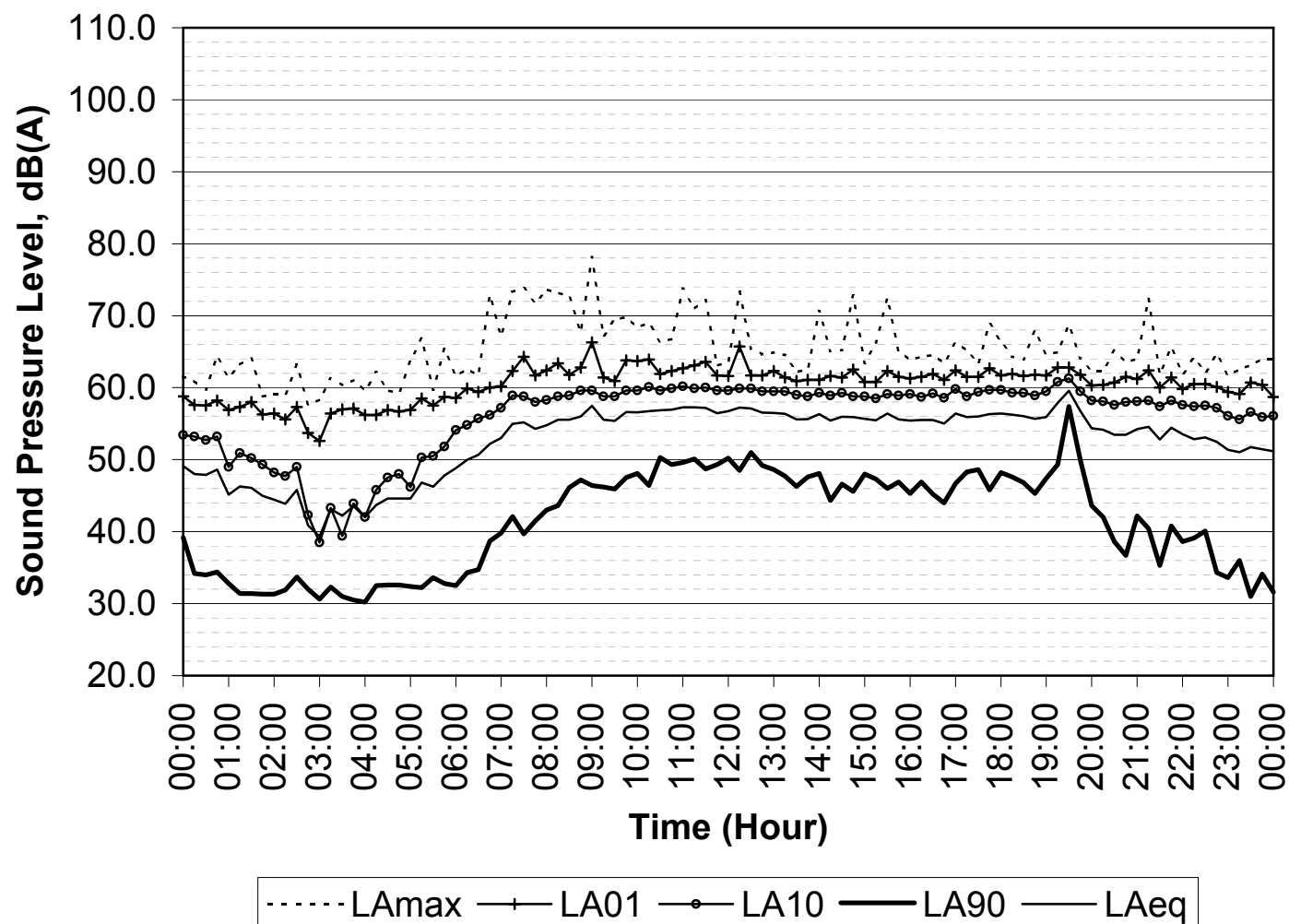
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Saturday, 31 March 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	47.6	57.6	52.0	33.2
01:00-02:00	45.5	57.0	49.7	31.3
02:00-03:00	43.2	54.8	44.4	31.0
03:00-04:00	42.8	56.7	42.2	30.3
04:00-05:00	44.4	56.7	46.9	32.4
05:00-06:00	47.5	58.3	51.7	32.3
06:00-07:00	51.6	59.9	56.0	34.4
07:00-08:00	54.8	62.7	58.5	40.2
08:00-09:00	56.2	63.6	59.2	44.4
09:00-10:00	56.1	62.5	59.2	46.0
10:00-11:00	57.0	62.7	60.0	47.3
11:00-12:00	56.9	62.5	59.8	48.9
12:00-13:00	56.9	62.9	59.7	48.5
13:00-14:00	56.0	61.1	59.2	46.7
14:00-15:00	55.7	61.6	59.0	44.7
15:00-16:00	55.7	61.5	58.9	45.5
16:00-17:00	55.6	61.7	59.1	44.4
17:00-18:00	56.2	61.9	59.4	46.5
18:00-19:00	56.0	61.8	59.3	45.8
19:00-20:00	57.5	61.9	60.0	45.3
20:00-21:00	53.8	61.0	58.0	37.3
21:00-22:00	53.9	60.9	57.9	36.3
22:00-23:00	52.5	60.1	57.1	33.8
23:00-24:00	51.4	59.7	56.1	31.2
Day	56.1	62.2	59.2	43.2
Evening	55.7	61.5	58.9	37.7
Night	48.9	58.1	50.2	28.2
$L_{Aeq,15hr}$	56.0			
$L_{Aeq,9hr}$	48.9			
$L_{Aeq,24hr}$	54.5			





**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

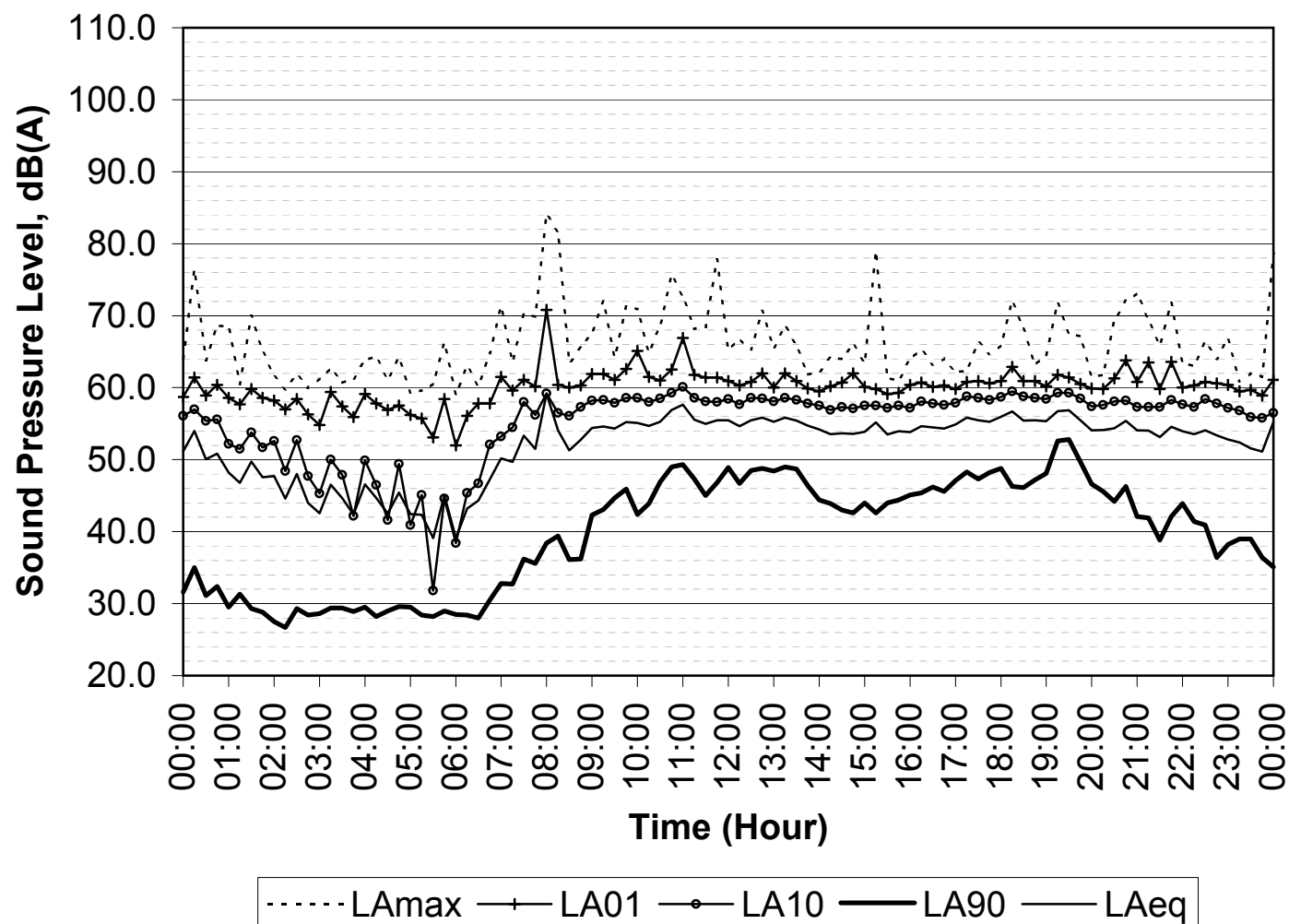
Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Sunday, 1 April 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

Time	Average Noise Level			
	$L_{Aeq}$	$L_{A01}$	$L_{A10}$	$L_{A90}$
00:00-01:00	51.3	59.8	55.1	30.0
01:00-02:00	48.1	58.6	52.4	27.9
02:00-03:00	45.3	56.6	48.5	27.2
03:00-04:00	45.3	58.0	47.5	29.1
04:00-05:00	44.0	57.1	44.6	28.4
05:00-06:00	42.1	54.8	40.0	28.3
06:00-07:00	47.1	58.3	49.4	28.1
07:00-08:00	55.0	62.9	57.0	33.6
08:00-09:00	53.3	60.7	57.0	36.1
09:00-10:00	54.8	62.7	58.4	42.6
10:00-11:00	56.3	63.0	59.0	44.8
11:00-12:00	55.4	61.4	58.3	45.5
12:00-13:00	55.3	60.8	58.2	47.2
13:00-14:00	55.1	60.6	58.1	45.0
14:00-15:00	53.7	60.8	57.2	42.7
15:00-16:00	54.2	59.7	57.4	43.0
16:00-17:00	54.6	60.2	57.9	45.5
17:00-18:00	55.6	60.8	58.6	47.6
18:00-19:00	55.8	61.2	58.8	46.2
19:00-20:00	55.9	60.9	58.6	47.5
20:00-21:00	54.5	61.4	57.8	42.7
21:00-22:00	54.0	61.7	57.7	39.7
22:00-23:00	53.5	60.5	57.7	36.9
23:00-24:00	52.9	59.8	56.3	35.5
Day	55.1	61.3	58.0	42.0
Evening	55.2	61.4	58.3	42.0
Night	50.0	58.3	50.7	29.2
$L_{Aeq,15hr}$	54.9			
$L_{Aeq,9hr}$	49.3			
$L_{Aeq,24hr}$	53.6			



**Measurement Location** 1 Laraprinta Road, Glenhaven  
Location 2

**Project Title**

Proposed Place of Public Worship  
1 Laraprinta Road, Glenhaven

**Measurement Date** Monday, 2 April 2018

**Notes**

1. Tabulated  $L_{Aeq}$  are logarithmically averaged
2. Tabulated  $L_{A01}$  and  $L_{A10}$  are arithmetically averaged
3. Tabulated  $L_{A90}$  are the lowest 10-percentile levels

