

**MANAGING DIRECTORS**

MATTHEW PALAVIDIS  
VICTOR FATTORETTO

**DIRECTORS**

MATTHEW SHIELDS  
BEN WHITE



**75 Mary Street, St Peters**

**Noise Impact Assessment**

---

**SYDNEY**

A: 9 Sarah St Mascot NSW 2020

T: (02) 8339 8000

F: (02) 8338 8399

SYDNEY MELBOURNE BRISBANE CANBERRA

LONDON DUBAI SINGAPORE GREECE

[www.acousticlogic.com.au](http://www.acousticlogic.com.au)

ABN: 11 068 954 343

The information in this document is the property of Acoustic Logic Consultancy Pty Ltd ABN 11 068 954 343 and shall be returned on demand. It is issued on the condition that, except with our written permission, it must not be reproduced, copied or communicated to any other party nor be used for any purpose other than that stated in particular enquiry, order or contract with which it is issued.

## DOCUMENT CONTROL REGISTER

|                           |                                           |
|---------------------------|-------------------------------------------|
| <b>Project Number</b>     | 20141164.1                                |
| <b>Project Name</b>       | 75 Mary Street, St Peters                 |
| <b>Document Title</b>     | Noise Impact Assessment                   |
| <b>Document Reference</b> | 20141164.1/1012A/R2/BW                    |
| <b>Issue Type</b>         | Email                                     |
| <b>Attention To</b>       | Intergrated Group Services<br>Mays Chalak |

| <b>Revision</b> | <b>Date</b> | <b>Document Reference</b> | <b>Prepared<br/>By</b> | <b>Checked<br/>By</b> | <b>Approved<br/>By</b> |
|-----------------|-------------|---------------------------|------------------------|-----------------------|------------------------|
| 0               | 7/10/2014   | 20141164.1/0710A/R0/BW    | BW                     |                       | BW                     |
|                 |             |                           |                        |                       |                        |
| 2               | 10/12/2015  | 20141164.1/1012A/R2/BW    | BW                     |                       | BW                     |
|                 |             |                           |                        |                       |                        |
|                 |             |                           |                        |                       |                        |
|                 |             |                           |                        |                       |                        |
|                 |             |                           |                        |                       |                        |
|                 |             |                           |                        |                       |                        |
|                 |             |                           |                        |                       |                        |
|                 |             |                           |                        |                       |                        |
|                 |             |                           |                        |                       |                        |

## TABLE OF CONTENTS

|            |                                             |           |
|------------|---------------------------------------------|-----------|
| <b>1</b>   | <b>INTRODUCTION</b>                         | <b>3</b>  |
| <b>2</b>   | <b>SITE DESCRIPTION</b>                     | <b>3</b>  |
| <b>3</b>   | <b>SURROUNDING NOISE SOURCES</b>            | <b>2</b>  |
| <b>3.1</b> | <b>TOPOGRAPHY</b>                           | <b>2</b>  |
| <b>3.2</b> | <b>ENVIRONMENTAL NOISE LEVELS</b>           | <b>2</b>  |
| <b>3.3</b> | <b>TRAFFIC NOISE LEVELS</b>                 | <b>3</b>  |
| 3.3.1      | Measurement Location                        | 3         |
| 3.3.2      | Attended Measurement Equipment              | 3         |
| 3.3.3      | Unattended Noise Monitoring Equipment       | 3         |
| 3.3.4      | Results of Traffic Noise Level Measurements | 3         |
| <b>3.4</b> | <b>BACKGROUND NOISE LEVELS</b>              | <b>4</b>  |
| 3.4.1      | Monitoring Period                           | 4         |
|            | Monitoring Equipment                        | 4         |
| 3.4.2      | Monitoring Locations                        | 4         |
| 3.4.3      | Noise Monitoring Results                    | 4         |
| 3.4.4      | Existing Background Noise Levels            | 4         |
| <b>4</b>   | <b>NOISE IMPACTS</b>                        | <b>5</b>  |
| <b>4.1</b> | <b>PROJECT TRAFFIC ACOUSTIC CRITERIA</b>    | <b>5</b>  |
| <b>4.2</b> | <b>PROJECT AIRCRAFT ACOUSTIC CRITERIA</b>   | <b>6</b>  |
| <b>4.3</b> | <b>EXTERNAL AIRCRAFT NOISE LEVELS</b>       | <b>6</b>  |
| <b>4.4</b> | <b>DISCUSSION</b>                           | <b>7</b>  |
| <b>5</b>   | <b>EVALUATION OF NOISE INTRUSION</b>        | <b>8</b>  |
| <b>5.1</b> | <b>RECOMMENDED GLAZING</b>                  | <b>8</b>  |
| <b>5.2</b> | <b>ROOF/ CEILING CONSTRUCTIONS</b>          | <b>9</b>  |
| <b>5.3</b> | <b>EXTERNAL WALLS</b>                       | <b>9</b>  |
| <b>5.4</b> | <b>VENTILATION</b>                          | <b>9</b>  |
| <b>6</b>   | <b>NOISE EMISSIONS FROM THE SITE</b>        | <b>10</b> |
| <b>6.1</b> | <b>ACOUSTIC OBJECTIVES</b>                  | <b>10</b> |
| 6.1.1      | Intrusiveness Criterion                     | 10        |
| 6.1.2      | Amenity Criterion                           | 11        |
| 6.1.3      | Proposed Noise Objectives                   | 11        |
| 6.1.4      | Plant Noise Emissions                       | 12        |
| <b>7</b>   | <b>CONCLUSION</b>                           | <b>13</b> |
|            | <b>APPENDIX 1 – NOISE MONITORING DATA</b>   | <b>14</b> |

## **1 INTRODUCTION**

This is the Acoustic Report that accompanies the Planning Proposal for Precinct 75, prepared on behalf of Caliph Pty Ltd.

This document is structured in two parts:

1. An analysis of the site, which has informed the architectural response.
2. An assessment of the overall design response.

This report provides an NIA for the existing site, from external noise sources and to surrounding activities.

It also details noise level criteria for noise emissions from the proposed development.

Attended and unattended noise monitoring has been conducted in order to determine the existing environmental noise levels surrounding the site including traffic and air craft noise levels around the perimeter of the site. Additionally, unattended noise monitoring was conducted in order to determine background noise levels in the area.

This study will set noise levels criteria applicable to the project based on Council and other relevant statutory/regulatory requirements for services associated with the development.

## **2 SITE DESCRIPTION**

Figure 1 is an illustration of the existing development.

The existing environmental noise sources affecting the site are as follows:

- Traffic noise from surrounding roadways;
- Aircraft noise impact from Sydney Airport.

It is anticipated that the future acoustic environment impacting the proposed development will not be altered significantly from those conditions currently experienced at the site.



Figure 1 – Site plan

### 3 SURROUNDING NOISE SOURCES

Environment noise impacting the site includes traffic noise from surrounding street, aircraft noise from Sydney Airport.

Traffic noise from the surrounding perimeter roadways will be the main source of noise impacting upon the proposed development. The surrounding roadways carry medium to low traffic volumes.

#### 3.1 TOPOGRAPHY

The topography of the site and surrounding land of the proposed development is generally flat and the acoustic assessment has taken this into account.

#### 3.2 ENVIRONMENTAL NOISE LEVELS

Environmental noise constantly varies in level, due to fluctuations in local noise sources including road traffic. Accordingly, a 15 minute measurement interval is normally utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters.

In the case of environmental noise three principle measurement parameters are used, namely  $L_{10}$ ,  $L_{90}$  and  $L_{eq}$ .

The  $L_{10}$  and  $L_{90}$  measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The  $L_{10}$  parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the  $L_{90}$  level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The  $L_{90}$  parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source depends on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the  $L_{90}$  level.

The  $L_{eq}$  parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period.  $L_{eq}$  is important in the assessment of traffic noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of industrial noise.

### 3.3 TRAFFIC NOISE LEVELS

As part of this investigation, traffic noise from the surrounding perimeter roadways has been measured. The results of this measurement will be used to determine the treatments required to reduce noise levels to within the project acoustic objectives.

Measurements included attended and unattended noise levels measurements conducted at the locations as detailed in Figure 1 above.

#### 3.3.1 Measurement Location

Traffic noise measurement locations are detailed above in figure 1. Measurements were conducted during a period in which traffic volumes were at their peak during a typical afternoon rush hour period of 4.30pm to 6.30pm on the 26<sup>th</sup> September, 2014.

#### 3.3.2 Attended Measurement Equipment

Measurements were taken using a Norsonic-140 precision sound level analyser, set to A-weighted fast response. The sound level meter was calibrated before and after the measurements using a RION NC73 precision sound calibrator, and no significant drift was recorded.

#### 3.3.3 Unattended Noise Monitoring Equipment

Unattended noise measurements were obtained using an Acoustic Research Laboratories Pty Ltd noise logger between the period of the 26<sup>th</sup> September and the 3<sup>rd</sup> October, 2014. The logger was programmed to store 15-minute statistical noise levels throughout the monitoring period. The noises monitors were calibrated at the beginning and the end of the measurement using a Rion NC-73 calibrator. No significant drift was detected. All measurements were taken on A-weighted fast response mode. There were no significant periods of adverse weather conditions during the measurement period. The results of noise logging are included in Appendix A.

#### 3.3.4 Results of Traffic Noise Level Measurements

The results of measured traffic noise levels at the locations around the site as detailed in Figure 1 above are detailed in the table below.

**Table 1 – Measured Traffic Noise Levels**

| <b>Location</b>     | <b>Traffic Noise Level, <math>L_{Aeq}</math> (15 min) dB(A)</b> |
|---------------------|-----------------------------------------------------------------|
| Mary Street, North  | 68                                                              |
| Mary Street, South  | 67                                                              |
| Edith Street, North | 67                                                              |
| Edith Street, South | 65                                                              |

### 3.4 BACKGROUND NOISE LEVELS

Existing background noise levels have been measured at a representative location on the site as indicated in Figure 1 of this report, in order to characterise the existing background noise levels within and surrounding the proposed development.

#### 3.4.1 Monitoring Period

Unattended noise monitoring was conducted during the period of 26<sup>th</sup> September to 3<sup>rd</sup> October 2014 in order to measure the existing background noise levels. Noise monitoring data is provided in Appendix 1 below.

#### Monitoring Equipment

Unattended noise measurements were obtained using an Acoustic Research Laboratories Pty Ltd noise logger. The logger was programmed to store 15-minute statistical noise levels throughout the monitoring period. The noise monitors were calibrated at the beginning and the end of the measurement using a Rion NC-73 calibrator. No significant drift was detected. All measurements were taken on A-weighted fast response mode. There were no significant periods of adverse weather conditions during the measurement period.

#### 3.4.2 Monitoring Locations

Figure 1 in Section 1 of this document presents an illustration of the site, including unmanned and manned noise monitoring positions.

#### 3.4.3 Noise Monitoring Results

Unattended monitoring was undertaken within the site in order to determine the existing acoustic environment. The unattended monitor results will be used to determine the variation between day, evening and night time noise levels. Monitoring locations are indicated in Figure 1 in Section 1 of this document.

#### 3.4.4 Existing Background Noise Levels

Background noise levels during day time are dominated by general vehicular traffic movements. The EPA NSW Industrial Noise Policy details specific steps in determining the background noise level for assessment of the day, evening and night time periods. Table 2 summarises the background determined at the monitoring location, based on the guidelines set out in the EPA NSW Industrial Noise Policy and the results of unattended noise monitoring.

**Table 2 - Measured Background Noise Levels**

| <b>Description</b>                                     | <b>Day Noise Level<br/>7am to 6pm<br/>(dB(A))</b> | <b>Evening Noise<br/>Level 6pm to<br/>10pm (dB(A))</b> | <b>Night Noise Level 10pm to<br/>7am (dB(A))</b> |
|--------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------|--------------------------------------------------|
| Minimum Repeatable<br>Background L <sub>90,15min</sub> | 47                                                | 44                                                     | 37                                               |

## 4 NOISE IMPACTS

### 4.1 PROJECT TRAFFIC ACOUSTIC CRITERIA

The determination of an acceptable level of traffic noise within the residential/commercial spaces requires consideration of the activities carried out within the space and the degree to which noise will interfere with those activities

As sleep is the activity most affected by traffic noise, bedrooms are the most sensitive rooms. Higher levels of noise are acceptable in living areas without interfering with activities such as reading, listening to television, etc. Noise levels in utility spaces such as kitchens, bathrooms, laundries, etc can be higher.

In the absence of any specific criteria in the Council DCP, noise intrusion into the development has been assessed in accordance with AS2107-2000 "Recommended Design Sound Levels and Reverberation Times for Building Interiors" will be adopted.

The Australian Standard AS2107-2000 "Recommended Design Sound Levels and Reverberation Times for Building Interiors" recommends maximum design sound levels for different areas of occupancy in the residential development while AS 3671 -1989 "Road Traffic Noise Intrusion - Building Siting and Construction" recommends that an appropriate  $L_{eq}$  or  $L_{10}$  traffic noise descriptor be used for the occupancy being assessed. Traffic noise criteria for AS2107-2000 is presented in the table below, based on developments near minor roadways.

**Table 3 - Traffic Noise Criteria for All Spaces**

| Space/Activity Type | Noise Level dB(A) $L_{eq}$ |
|---------------------|----------------------------|
| Bedrooms            | 35 (9 hour)                |
| Living Areas        | 40 (24 hour)               |
| Retail Areas        | 50 (15 Hour)               |

## 4.2 PROJECT AIRCRAFT ACOUSTIC CRITERIA

The acceptability of aircraft noise exposure is assessed using Australian Standard AS 2021-2000 "Aircraft Noise Intrusion - Building Siting and Construction".

The standard sets criteria for allowable levels of aircraft noise exposure depending on the proposed land use for the site being assessed.

The acceptability of a site in terms of aircraft noise exposure is assessed using the Australian Noise Exposure Forecast System (ANEF). Three basic parameters influence perception of aircraft noise: the frequency of aircraft movement's overhead, the noise level and duration of individual aircraft movements, and the time of the day in which they occur. ANEF was developed to provide a rating system that reflects actual human response to these factors so that the noise exposure of a particular location can be readily assessed.

The proposed site has a portion of the site which is located between the ANEF 25 and 30 contours, based on the Sydney ANEF 2023/24 Plan. Therefore, the proposed site must be assessed to ensure that internal noise levels are limited to those recommended in AS2021.

AS2021 states that a full evaluation of internal noise levels should be carried out for locations with an aircraft noise exposure close to or exceeding ANEF 20. This full evaluation requires an examination of likely levels of internal noise from aircraft flyovers.

AS2021 stipulates the internal noise levels listed in Table 4 for residential buildings. These levels will be used to assess aircraft noise intrusion into the residential levels of the development.

**Table 4 - Aircraft Noise Levels within Residential Buildings**

| <b>ACTIVITY</b>        | <b>INDOOR DESIGN SOUND LEVEL FROM<br/>AIRCRAFT FLYOVER, dB(A)</b> |
|------------------------|-------------------------------------------------------------------|
| Bedrooms               | 50                                                                |
| Other habitable spaces | 55                                                                |
| Bathrooms              | 60                                                                |

## 4.3 EXTERNAL AIRCRAFT NOISE LEVELS

Aircraft noise levels at the site were determined using AS 2021. The Standard gives aircraft noise levels for aircraft landing and taking off for locations near airports. The location of the runways was obtained from the Sydney Airport ANEF 2033.

Based on the distance from the site to the runways, the flight path and the site elevation, AS 2021 predicts that the loudest typical aircraft movement will be from a 747-400 aircraft taking off from the Main Runway. The noise level at the site as indicated by the standard is 82dB(A). This noise level will be used to predict the resultant internal noise levels.

#### 4.4 DISCUSSION

The proposed location of the project within the 20 to 25 ANEF contour (based on the 2033 ANEF chart) with a predicted external noise level from aircraft fly over's of 82 dB(A) does not represent an area with an excessive noise level and is similar to other sites which have been developed for residential use within the Sydney area.

All internal noise levels within the development will be less than the required criteria within the Australian Standards and will result in an acceptable acoustic amenity for future tenants.

The proposed development site is not affected by other significant noise sources such as roadways and train lines which can result in a consistent noise level for example the residential properties within the Zetland's precinct which are within close proximity to the major Eastern Distributor Roadway.

It is noted that many multi story residential buildings within the Sydney region have included suitable acoustic treatments to ensure internal noise levels comply with the relevant council and Australian standards.

Additionally treatments to the external balconies or gardens of residential buildings with exposure to environmental noise sources, greater than that of the proposed development, are not required to comply with the relevant standards.

## 5 EVALUATION OF NOISE INTRUSION

Noise intrusion into the apartments was assessed using the measured levels in the sections above and the internal noise level criteria which is compliant with Council requirement, AS2021:2000 and AS2107:2000 criteria as detailed in the section above.

Calculations were performed taking into account the orientation of windows, barrier effects (where applicable), roof, the total area of glazing, facade transmission loss and room sound absorption characteristics. In this way the likely interior noise levels can be predicted.

Aircraft, traffic and substation noise intrusion into the proposed development is assessed using the measured external noise levels reported above as a basis. Internal noise levels will primarily be as a result of noise transfer through the windows and doors as these are relatively light building elements that offer less resistance to the transmission of sound. Noise transfer through the masonry elements will not be significant and need not be considered further.

In all cases, the selected glazing type (refer below) reduces internal noise levels to within the nominated criteria for the various space types.

### 5.1 RECOMMENDED GLAZING

The glazing thicknesses recommended are those needed to satisfy acoustic requirements and do not take into account other requirements such as structural, safety or other considerations. These additional considerations may require the glazing thickness to be increased beyond the acoustic requirement. It is noted that no skylights are nominated on the drawings. Where windows are not nominated they shall be standard glazing without acoustic seals.

A preliminary review of traffic, aircraft and substation noise intrusion has revealed that upgraded single glazing with acoustic seals will be required to comply with design noise levels as detailed within AS/NZS 2107:2000. Experience with similar projects indicates that single upgraded glazing will ensure internal noise levels are achieved and are both possible and practical.

Table 6 below lists the recommended glazing types and nominates indicative selections which will ensure internal noise levels assemblies for this project. Details of specific glazing selections will be provided as part of the CC submission.

**Table 5 - Recommended Glazing**

| Facade      | Building/Section | Room Type    | Nominal Indicative Glazing Selection | Seals |
|-------------|------------------|--------------|--------------------------------------|-------|
| All Facades | All Levels       | Living Rooms | 10.38mm Laminated                    | Yes   |
|             |                  | Bedrooms     | 10.38mm Laminated                    | Yes   |

In addition to meeting the minimum glazing thickness requirements given, the design of the window mullions, perimeter seals and the installation of the windows/doors in the building openings shall not reduce the STC rating of the glazing assembly below the values nominated in Table 7 below. Note that mohair type seals will not be acceptable for the windows requiring acoustic seals.

**Table 6 - Minimum STC of Glazing**

| <b>Glazing Assembly</b> | <b>Acoustic Seals</b> | <b>Minimum STC of Installed Window</b> |
|-------------------------|-----------------------|----------------------------------------|
| 10.38mm Laminated       | Yes                   | 35                                     |

## **5.2 ROOF/ CEILING CONSTRUCTIONS**

Proposed external roof / ceilings constructed from concrete will be acoustically satisfactory for environmental noise intrusion.

## **5.3 EXTERNAL WALLS**

Proposed external concrete or masonry wall elements will be acoustically satisfactory for environmental noise intrusion.

## **5.4 VENTILATION**

As the recommended internal noise levels cannot be achieved with windows open, an alternative outside air supply system or air conditioning system will be required to be installed in accordance with AS2021:2000 requirements for aircraft noise.

The alternative ventilation system that is installed should be acoustically designed to ensure that the acoustic performance of the recommended constructions is not reduced and provide ventilation complying with the BCA with windows closed.

## **6 NOISE EMISSIONS FROM THE SITE**

As detailed plant selections are not available at this stage it is not possible to carry out a detailed examination of the ameliorative measures that may be required to achieve the noise targets.

Plant will be acoustically treated to prevent noise emissions from adversely impacting the surrounding properties. This may include selecting the quietest plant practicable, or treating the plant with enclosures, barriers, duct lining and silencers, etc as required to comply with the sound level requirements of local council. A detailed assessment of noise emissions associated with services within the building will be conducted at CC stage of the development.

Experience with similar projects indicates that it would be possible to achieve Council requirements with appropriate treatment of the plant. This treatment would be determined at the Construction Certificate stage.

### **6.1 ACOUSTIC OBJECTIVES**

External noise emission from the project site shall be assessed to the requirements of the EPA Industrial Noise Policy guidelines. The recommended assessment objectives vary depending on the potentially affected receivers, the time of day, and the type of noise source. The EPA Industrial Noise Policy has two requirements which both have to be complied with, namely an amenity criterion and an intrusiveness criterion.

#### **6.1.1 Intrusiveness Criterion**

The guideline is intended to limit the audibility of noise emissions at residential receivers and requires that noise emissions measured using the  $L_{eq}$  descriptor not exceed the background noise level by more than 5dB(A). Where applicable, the intrusive noise level should be penalised (increased) to account for any annoying characteristics such as tonality.

Background noise levels adopted are presented in Section 3.5. Noise emissions from the site should comply with the noise levels presented below when measured at nearby property boundary.

### 6.1.2 Amenity Criterion

The guideline is intended to limit the absolute noise level from all noise sources to a level that is consistent with the general environment.

The EPA's Industrial noise policy sets out acceptable noise levels for various localities. Table 2.1 on page 16 of the policy indicates 4 categories to distinguish different residential areas. They are rural, suburban, urban and urban/industrial interface. This site is categorised by all nearby receivers as suburban.

For the purposes of this condition:

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- Evening is defined as the period from 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and public holidays.

### 6.1.3 Proposed Noise Objectives

Noise emissions to all receivers are to be assessed using the Industrial Noise Policy Amenity and Intrusiveness criteria, as set out below.

**Table 7 - Noise Emission Requirements – All Receivers**

| Receiver Type | Time of Day                             | Measured Background Noise level dB(A) L <sub>90</sub> | Resulting Intrusiveness Noise Objective dB(A)L <sub>eq</sub> | Amenity Noise Objective dB(A)L <sub>eq</sub> |
|---------------|-----------------------------------------|-------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------|
| Suburban      | Day                                     | <b>47</b>                                             | 52                                                           | 55                                           |
|               | Evening                                 | 44                                                    | 49                                                           | <b>45</b>                                    |
|               | Night                                   | 37                                                    | 42                                                           | <b>40</b>                                    |
| Commercial    | All times of the day, evening and night | 65                                                    | 65                                                           | <b>65</b>                                    |

Note: **Bold** numbers indicate the relevant noise level criteria for surrounding locations during the specified time of day.

#### **6.1.4 Plant Noise Emissions**

A detailed review of all external mechanical plant has not been undertaken at present due to plant selection not currently being available. A fully detailed assessment of treatments will be conducted once plant selections are finalised.

Acoustic treatments should be determined in order for plant noise emissions to comply with requirements outlined in the INP as detailed in this report. Where required, it is envisaged that acoustic treatments could include acoustic barriers, lined ducting and attenuators on any intake or discharge louvers or openings.

Experience with similar projects indicates that compliance with the nominated criteria is both possible and practical using standard practices.

## 7 CONCLUSION

This report provides the results of Environmental Noise Study for the proposed development located at 75 Mary Street, St Peters. Noise at the site has been measured and noise goals have been set in accordance with the requirements of the local council and relevant statutory/regulatory authorities.

Determination of noise assessment criteria based on the EPA's Industrial Noise Policy have been determined based on both manned and unmanned noise monitoring conducted at the proposed development and Australian standards.

Traffic noise has been measured, and Aircraft noise has been calculated, and a preliminary assessment of this is provided in Section 5 of this report. Noise emissions from the site will need to comply with acoustic criteria presented in Section 6.

We trust this information is satisfactory. Please contact us should you have any further queries.

Report prepared by,

A handwritten signature in black ink that reads "B.G. White." The signature is written in a cursive, slightly slanted style.

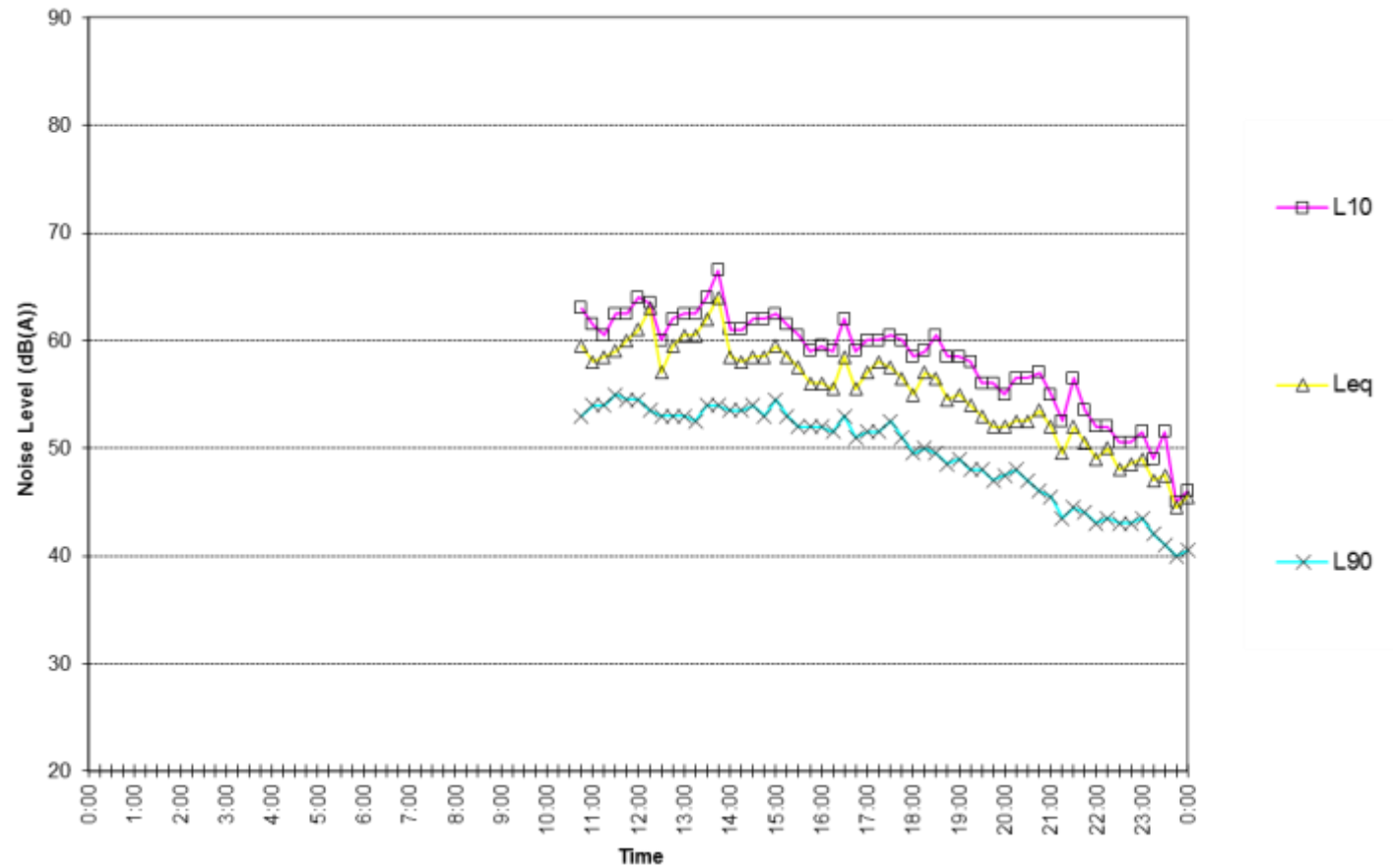
ACOUSTIC LOGIC CONSULTANCY PTY LTD

Ben White

## **APPENDIX 1 – NOISE MONITORING DATA**

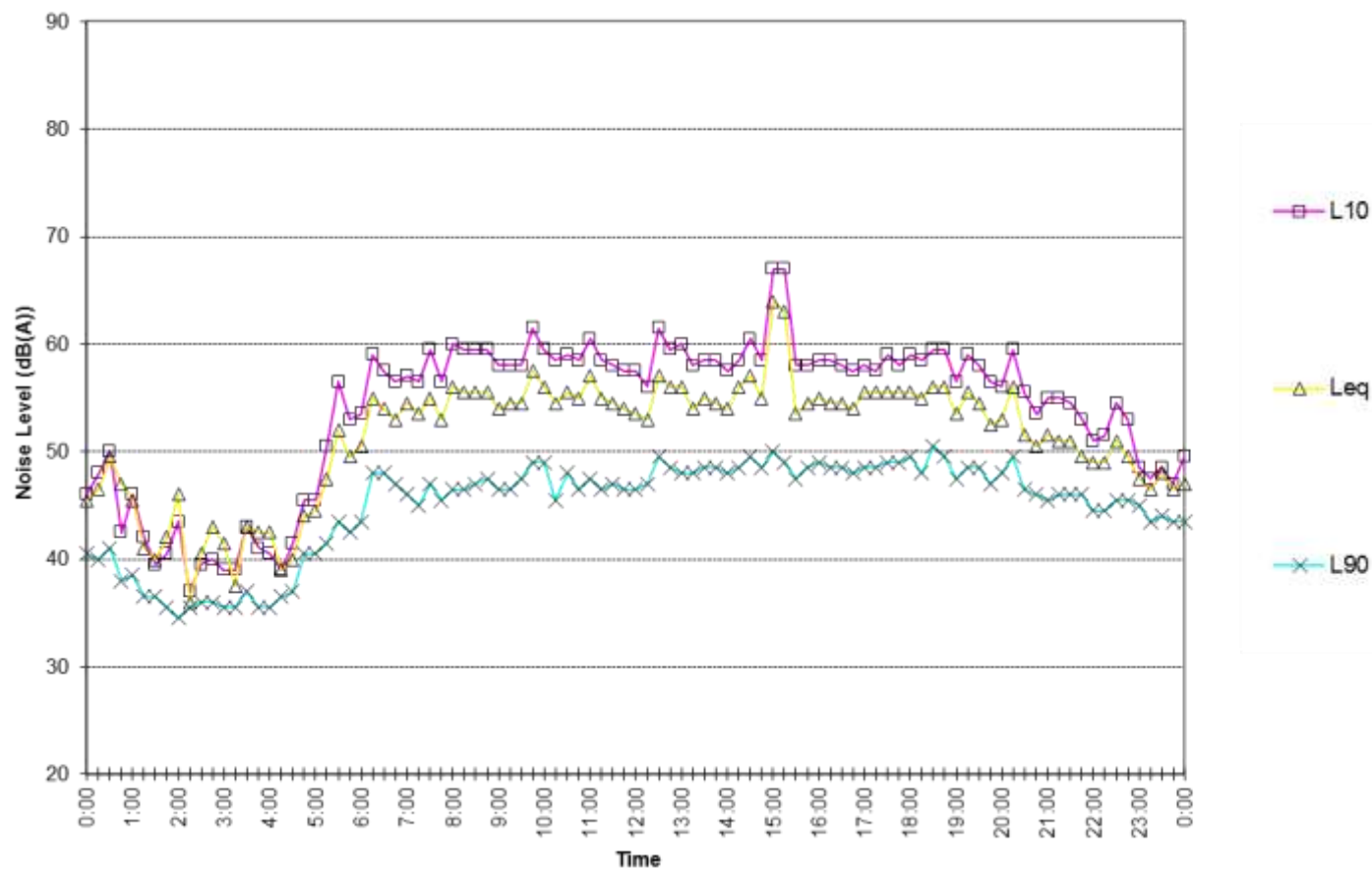
## Mary Street, St Peters

Friday September 26, 2014



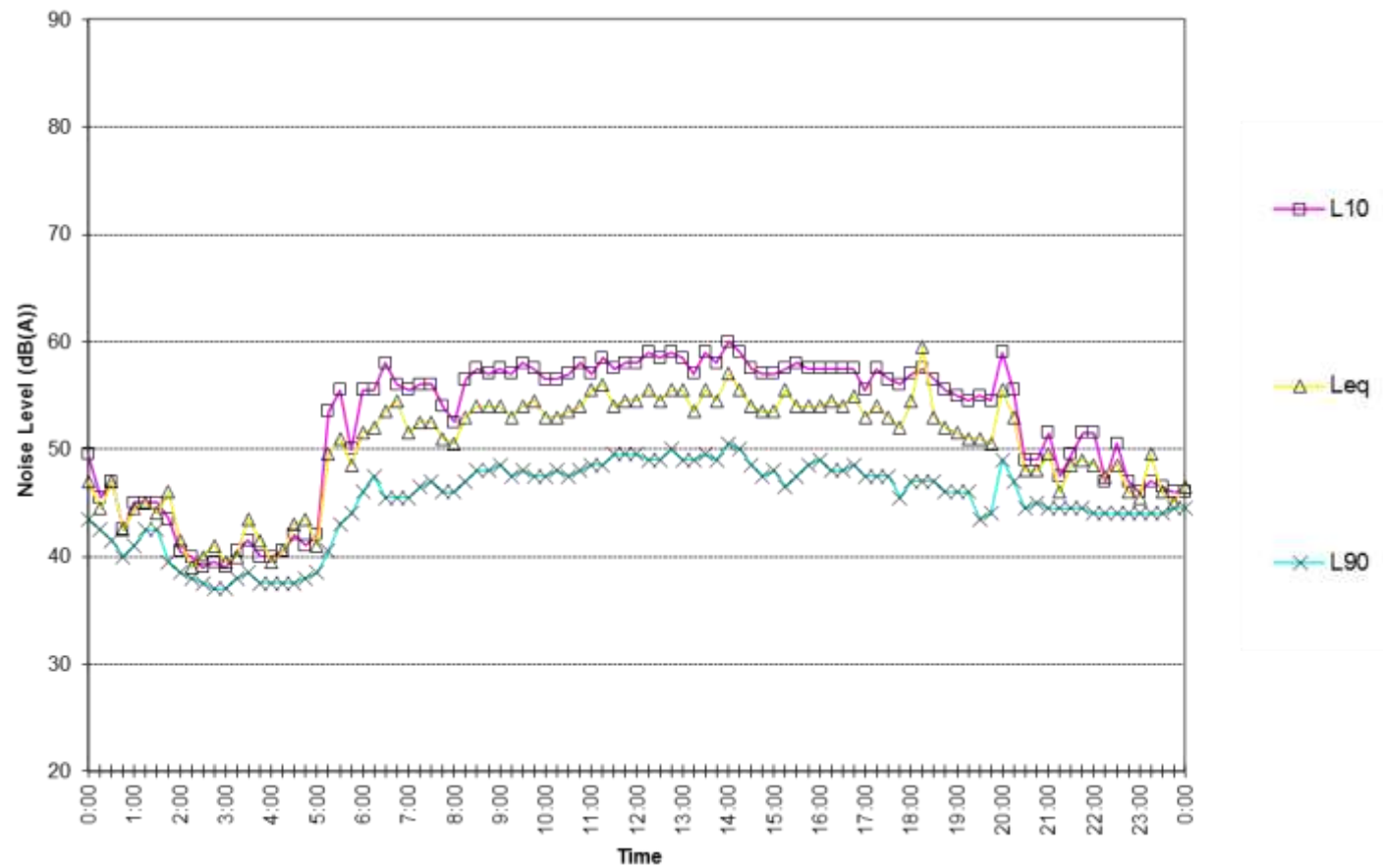
## Mary Street, St Peters

Saturday September 27, 2014



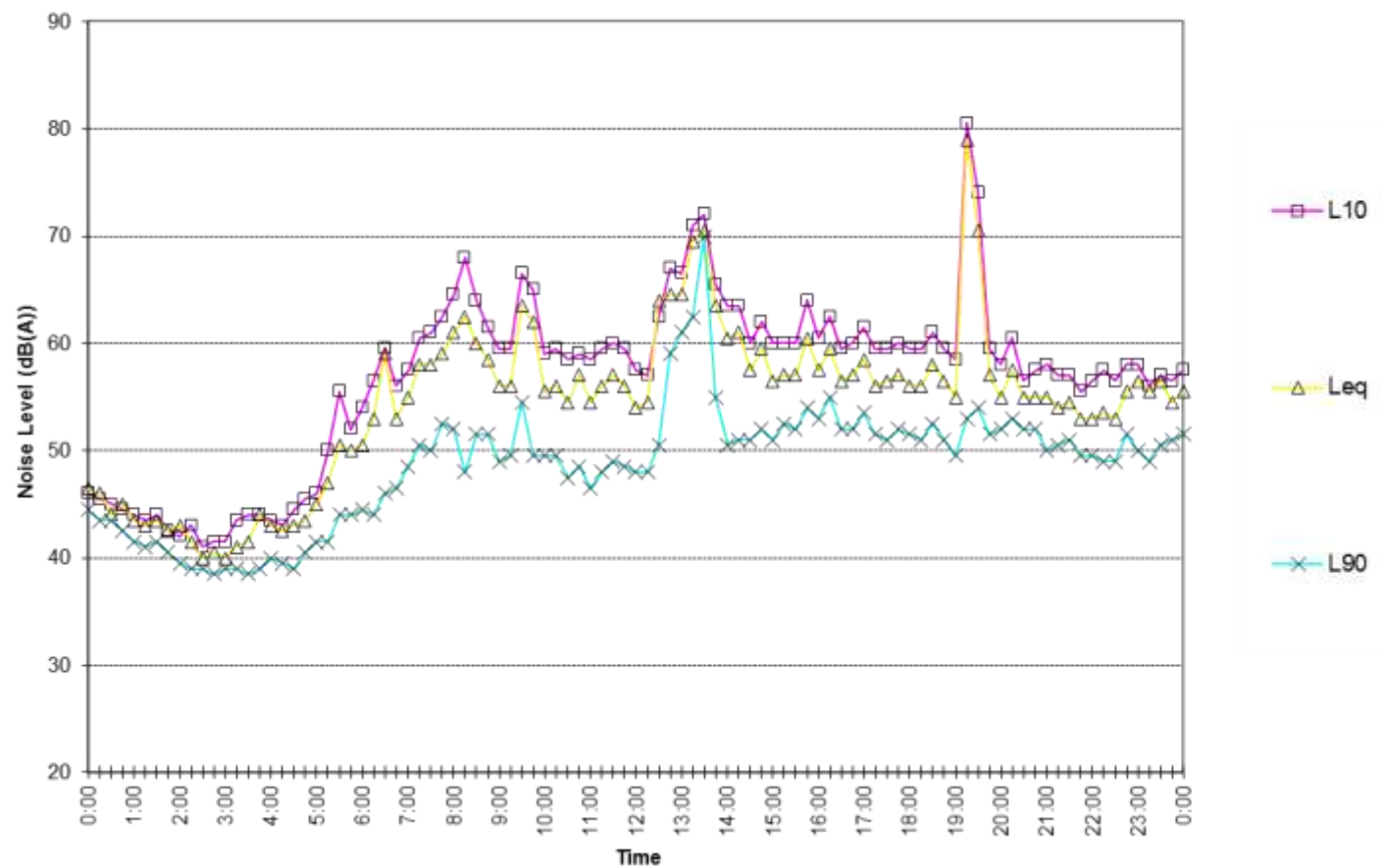
## Mary Street, St Peters

Sunday September 28, 2014



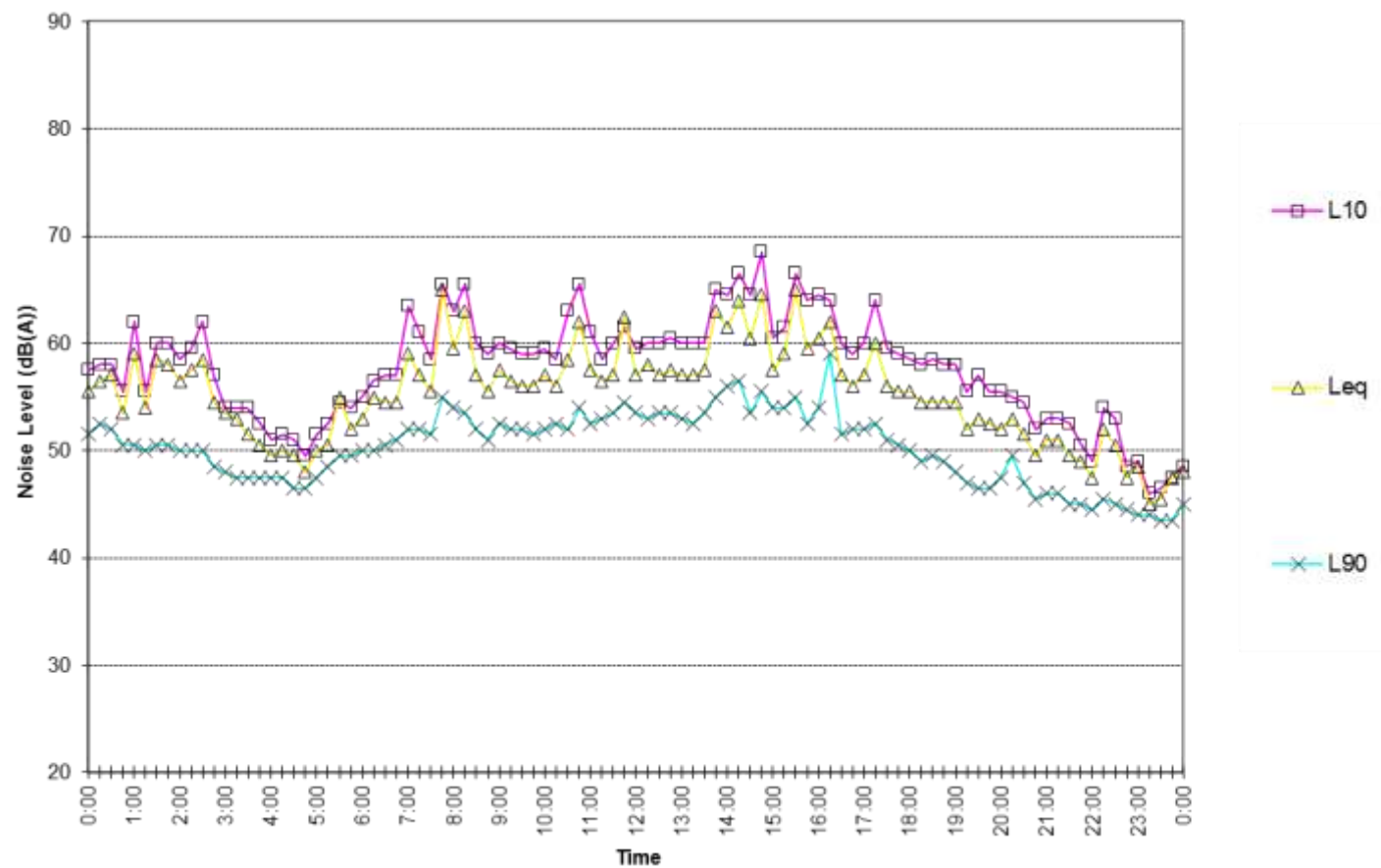
## Mary Street, St Peters

Monday September 29, 2014



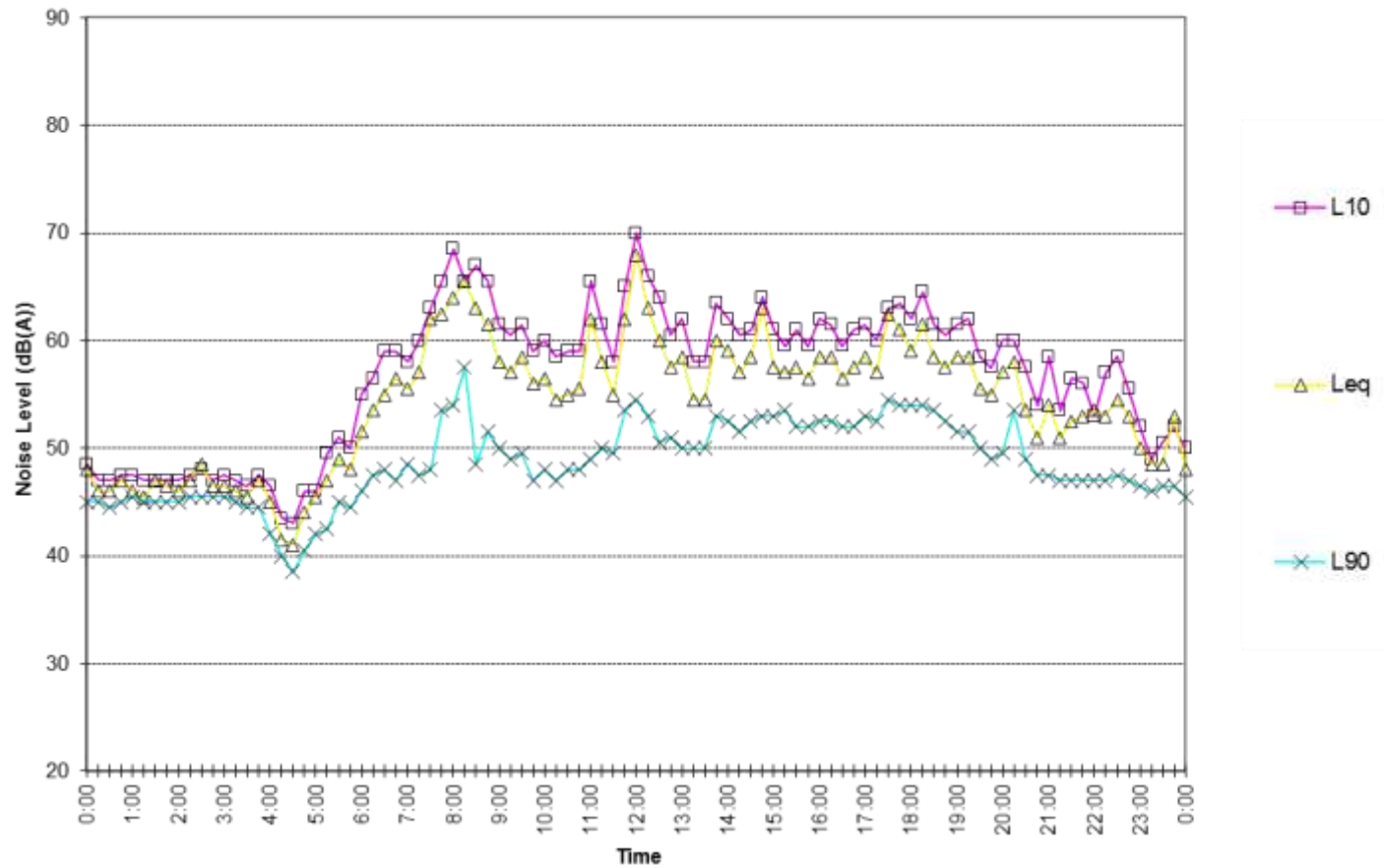
## Mary Street, St Peters

Tuesday September 30, 2014



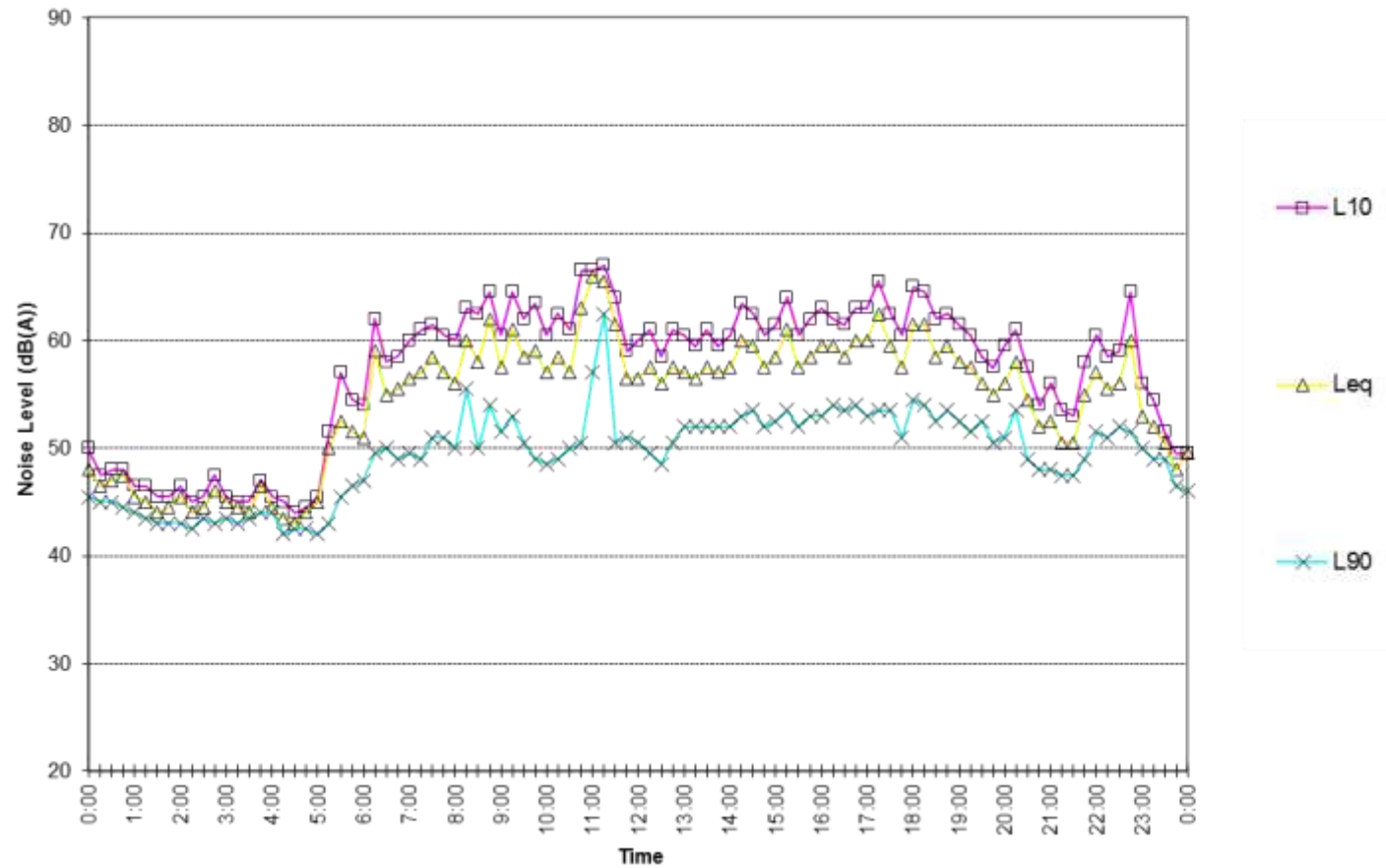
## Mary Street, St Peters

Wednesday October 1, 2014



## Mary Street, St Peters

Thursday October 2, 2014



## Mary Street, St Peters

Friday October 3, 2014

