



Forth Replacement Crossing

**Employer's Delivery Team
Construction Noise Monitoring Report**

**Principal Contract and M9J1a Contract
(September 2012)**



An agency of  **The Scottish Government**



FORTH REPLACEMENT CROSSING

**EMPLOYER'S DELIVERY TEAM
CONSTRUCTION NOISE MONITORING REPORT
PRINCIPAL CONTRACT AND M9J1A CONTRACT
(SEPTEMBER 2012)**

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FORTH REPLACEMENT CROSSING

**EMPLOYER'S DELIVERY TEAM
CONSTRUCTION NOISE MONITORING REPORT**

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REPORTS**

1. INTRODUCTION

1.1 This report sets out the results of the construction noise monitoring undertaken on the Forth Replacement Crossing project.

1.2 The noise monitoring periods covered in this report are as follows:

- Principal Contract: September 2012 – refer to Section 2 of this report.
- M9 Junction 1a Contract: September 2012 – refer to Section 3 of this report.

1.3 Noise monitoring from the Fife ITS Contract is reported separately.

2. PRINCIPAL CONTRACT NOISE MONITORING

NOISE MONITORING LOCATIONS

2.1 Continuous noise monitoring was carried out at the fixed monitor locations in Table 2.1 below. The main construction activities carried out adjacent to the monitor locations are also listed.

Monitoring Location	Monitoring Period	Main Construction Activities
Whinny Hill (M1)	September 2012	<ul style="list-style-type: none"> • Drilling for blasting • Blasting • Breaking and excavation of rock • Haulage of rock
Tigh-Na-Grian (M3)	September 2012	<ul style="list-style-type: none"> • On-going works at Beamer Rock • Caisson Excavation • N1 excavation
Port Edgar (M6)	September 2012	<ul style="list-style-type: none"> • On-going works at Beamer Rock • Dredging at South shores • ST excavation • S4 excavation • S5 excavation • Caisson works • Drainage works
Butlaw Fisheries (M7)	September 2012	<ul style="list-style-type: none"> • On-going works at Beamer Rock • Dredging at South shores • Caisson works • ST excavation • S4 excavation • S5 excavation • Concreting at S7 & S8 • S6 Access Track Drainage
Inchgarvie Lodge (M10)	September 2012	<ul style="list-style-type: none"> • On-going works at Beamer Rock • Dredging at South shores • Caisson works • ST excavation • S4 excavation • S5 excavation • Concreting at S7 & S8 • S6 Access Track Drainage • Drainage works • Excavation of material from launch
Linn Mill (M11)	September 2012	<ul style="list-style-type: none"> • Excavation of material from launch • Drainage works • Cut/Fill of West SUDS pond

Clufflat Brae (M13)	September 2012	<ul style="list-style-type: none"> • Drainage works • Excavation of material from launch • Cut of east SUDS pond and installation of bund
Springfield (M14)	September 2012	<ul style="list-style-type: none"> • Excavation of material from launch • Cut of East SUDS pond and installation
Echline Field (M15)	September 2012	<ul style="list-style-type: none"> • Cut/Fill from Queensferry gyratory • Fill to bunds
Scotstoun (M16)	September 2012	<ul style="list-style-type: none"> • Import of materials • Utility works • Soil stripping
Dundas Home Farm (M17)	September 2012	<ul style="list-style-type: none"> • Utilities works • Soil Stripping
Newton (M18)	September 2012	<ul style="list-style-type: none"> • No works

Table 2.1 Principal Contract – Long Term Monitoring Locations

NOISE MONITORING RESULTS

- 2.2 Monitoring results from the Principal contract are contained in Appendix A of this report. The results are presented in a report containing noise charts using the template contained in the Construction Noise Monitoring Information Note which is available on the project website at http://www.transportscotland.gov.uk/files/documents/projects/forth-replacement/FRC_Construction_Noise_Monitoring_Information_Note_2_.pdf.
- 2.3 Some exceedances of the maximum noise level thresholds occurred in September, however the majority of these are not considered to be due to construction works being carried out. Exceedances of the maximum noise level threshold at Butlaw Fisheries, Clufflat Brae and Linn Mill were attributed to construction works.
- 2.4 Exceedances of the monthly average threshold occurred at Scotstoun, Butlaw Fisheries, Linn Mill and Inchgarvie.
- 2.5 All exceedances were investigated in accordance with the project Code of Construction Practice.

2.6 All exceedance reports are available on request from the FRC Team, contactable via email at enquiries@forthreplacementcrossing.info. A summary of the information included in the exceedance reports is provided in Table 2.2 below.

Monitoring Location	Contractor's Exceedance Report Reference	Exceedance
Butlaw Fisheries (M7)	NVIRs	During September the maximum noise threshold was exceeded on 43 occasions (daytime, 13; evening, 14; night time, 26). Five exceedances (1 day, 3 evening and 1 night) were due to the dredging works on the southern shore. However, a large number of exceedances were attributed to a range of non-construction factors, including waves on the shore, wind and birds (particularly during the early hours of the morning).
Clufflat Brae (M13)	NVIRs	During September the maximum noise threshold was exceeded on 49 occasions (daytime, 15; evening, 11; night time, 23). Four daytime exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter, largely associated with both the construction of the East SUDS pond. A number of the exceedances were also found to be due to birds, adverse weather conditions and people at the nearby properties, in particular children playing.
Inchgarvie Lodge (M10)	NVIRs	During September the maximum noise threshold was exceeded on 33 occasions (daytime, 12; evening, 9; night time, 12). No exceedances were found to be due to construction works. However, investigations found birds, adverse weather and movements at the property to be the main contributing factors to the exceedances at this location.
Linn Mill (M11)	NVIRs	During September the maximum noise threshold was exceeded on 50 occasions (daytime, 15; evening, 10; night time, 25). Seven exceedances were due to construction works, in particular excavators, in close proximity to the meter. However, the majority of exceedances were caused by a number of non-construction factors, notably adverse weather conditions and birds.
Tigh-Na-Grian (M3)	NVIRs	During September the maximum noise threshold was exceeded on 35 occasions (daytime, 17; evening, 0; night time, 18). Exceedances were due to non-construction

Monitoring Location	Contractor's Exceedance Report Reference	Exceedance
		factors including people at nearby properties and birds.
Dundas Home Farm (M17)	NVIRs	During September the maximum noise threshold was exceeded on 10 occasions. Exceedances were not attributable to construction works. Exceedances were largely due to gardening activities near the meter.
Echline Field (M15)	NVIRs	No information available due to loss of power source.
Springfield (M14)	NVIRs	During September the maximum noise threshold was exceeded on 11 occasions. No exceedances at this location were due to construction activities. The majority of non-construction related exceedances were due to residents at the nearby properties.
Scotstoun (M16)	NVIRs	During September the maximum noise threshold was exceeded on 23 occasions. Exceedances were attributed to vehicles passing by on the adjacent road.
Whinny Hill (M1)	NVIRs	During September the maximum noise threshold was exceeded on 14 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including birds and wind.

Table 2.2 Principal Contract – Summary of Noise Threshold Exceedances

3. M9 J1A CONTRACT NOISE MONITORING

NOISE MONITORING LOCATIONS

3.1 Continuous noise monitoring was carried out at the fixed monitor locations in Table 3.1 below. The main construction activities carried out adjacent to the monitor locations are also listed.

Monitoring Location	Monitoring Period	Main Construction Activities
93/95 King Edwards Way (CNV02)	September 2012	<ul style="list-style-type: none"> • Fencing works north & south of Gateside • Installation of rip-rap at Niddry Burn • Communications and ITS works on M9 • Gantries 2, 3 & 4 erected
15-17 Buie Rigg (CNV07)	September 2012	<ul style="list-style-type: none"> • Communications and ITS works along westbound diverge • Pavement works on eastbound diverge & M9 Spur • Safety Barrier on Eastbound diverge • Concrete pours for Gantry 10 piles • Gantry 11 Pile cap • Concrete pours at Newmains Bridge • Concrete pours at M901 Overbridge • Gantry 10 erected
8 Kirklands Park Grove (CNV16)	September 2012	<ul style="list-style-type: none"> • Communications and ITS works along westbound diverge • Pavement works on eastbound diverge & M9 Spur • Safety Barrier works on eastbound diverge • Concrete pours for Gantry 10 piles • Gantry 11 Pile cap • Concrete pours at Newmains Bridge • Concrete pours at M901 Overbridge • Gantry 10 erected

Table 3.1 M9 J1a Contract – Long Term Monitoring Locations

NOISE MONITORING RESULTS

3.2 Monitoring results from the M9 Junction 1a contract are contained in Appendix B of this report. The results are presented in charts using the template contained in the Construction Noise Monitoring Information Note which is available on the project website at http://www.transportscotland.gov.uk/files/documents/projects/forth-replacement/FRC_Construction_Noise_Monitoring_Information_Note_2_.pdf.

- 3.3 Some exceedances of the maximum noise level thresholds occurred in September, however the majority of these are not considered to be due to construction works being carried out. Three exceedances were attributed to construction works at King Edwards Way, one exceedance was attributed to construction works at Buie Rigg and one exceedance was attributed to construction works at Kirklands Park Grove.
- 3.4 All exceedances of the maximum noise level thresholds were investigated in accordance with the project Code of Construction Practice.
- 3.5 All monthly average total construction noise levels were within the relevant thresholds.
- 3.6 Summary information regarding the exceedances of the maximum noise level thresholds is provided In Table 3.2 below. Copies of the exceedance reports are contained in Appendix B to this report.

Monitoring Location	Contractor's Exceedance Report Reference	Exceedance
93/95 King Edwards Way (CNV02)	NERs 142 - 156	During September the maximum noise threshold was exceeded on 18 occasions (daytime, 5; evening, 5; night, 8). However, only 3 of the exceedances are attributed to construction works. The exceedances are attributed to the erection of ITS gantries and the removal of varioguard on the M9. (See NERs 149 & 155).
15-17 Buie Rigg (CNV07)	NER 157 - 162	During September the maximum noise threshold was exceeded on 6 occasions during the night time period. However, only 1 exceedance is attributed to construction works. The exceedance is attributed to plant movements associated with traffic managements works on the M9 Spur. (See NER 159)
8 Kirklands Park Grove (CNV16)	NERs 163 - 168	During September the maximum noise threshold was exceeded on 6 occasions (day time, 1; night, 5). However, only 1 exceedance is attributed to construction works. The exceedance is attributed to plant movements associated with traffic managements works on the M9 Spur. (See NER 166)

Table 3.2 M9 J1a Contract – Summary of Noise Threshold Exceedance

APPENDIX A -

**PRINCIPAL CONTRACT - CONSTRUCTION
NOISE MONITORING REPORTS**



Contractor



Forth Crossing Bridge Constructors

HOCHTIEF Solutions
 American Bridge International
 DRAGADOS
 Morrison Construction

Project

FORTH REPLACEMENT CROSSING

Document title

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- 3. Noise Monitoring Results**

1 Introduction

- 1.1** Monitoring of construction noise is being undertaken by FCBC during the construction of the new Forth Crossing and the associated road network. This report covers the month of September 2012. The objective of this report is to detail the monitoring that has been undertaken across the site during this period and to present the construction noise monitoring results acquired for September 2012.
- 1.2** Monitoring of construction noise has been undertaken in accordance with the Code of Construction Practice (CoCP) and the Noise and Vibration Management Plan (NVMP).

2 Noise Monitoring Locations

- 2.1** During September 2012, construction noise was monitored using permanent, continuous noise monitoring devices at the locations listed in Table 1. The majority of the monitors were installed throughout November and December 2011, with additional monitors installed at Scotstoun Park (Arup's Office) and Newton during February and a further sound level meter installed at Whinny Hill during March.
- 2.2** At some monitoring locations, the noise monitoring devices are accompanied by associated weather stations. Weather stations are present at Echline Field, Tigh-Na-Grian, Clufflat Brae, Dundas Home Farm, Butlaw Fisheries, Linn Mill and Whinny Hill.
- 2.3** Various construction works were undertaken across the site during September 2012. The main construction activities undertaken in the locality of each of the noise meters during the period have been listed in Table 1.

Table 1: Monitoring Locations

Ref.	Monitoring Location	Crossing or Network	Main Construction Activities During September 2012
M1	Whinny Hill	Network	Drilling for blasting Blasting Breaking and excavation of rock Haulage of rock N.B. No evening, night time or Sunday daytime construction in vicinity.
M3	Tigh-Na-Grian	Crossing	On-going works at Beamer Rock Caisson Excavation N1 excavation
M6	Port Edgar	Crossing	On-going works at Beamer Rock Dredging at South shores ST excavation S4 excavation S5 excavation Caisson works Drainage works
M7	Butlaw Fisheries	Crossing	On-going works at Beamer Rock Dredging at South shores Caisson works ST excavation S4 excavation S5 excavation Concreting at S7 & S8 S6 Access Track Drainage
M10	Inchgarvie Lodge	Crossing	On-going works at Beamer Rock Dredging at South shores Caisson works ST excavation S4 excavation S5 excavation Concreting at S7 & S8 S6 Access Track Drainage Drainage works Excavation of material from launch
M11	Linn Mill	Network (close proximity to Crossing)	Excavation of material from launch Drainage works Cut/Fill of West SUDS pond
M13	Clufflat Brae	Network (close proximity to Crossing)	Drainage works Excavation of material from launch Cut of East SUDS pond and installation of bund

M14	Springfield	Network	Excavation of material from launch Cut of East SUDS pond and installation N.B. No evening, night time or Sunday daytime construction in vicinity.
M15	Echline Field	Network	Cut/Fill from Queensferry gyratory Fill to bunds N.B. No evening, night time or Sunday daytime construction in vicinity.
M16	Scotstoun	Network	Import of materials Utility works Soil stripping N.B. No evening, night time or Sunday daytime construction in vicinity.
M17	Dundas Home Farm	Network	Utilities works Soil Stripping N.B. No evening, night time or Sunday daytime construction in vicinity.
M18	Newton	Network	No works

3 Noise Monitoring Results

3.1 All noise monitoring results for construction days have been presented in charts using the template provided in the Construction Noise Monitoring Information Note, as available on the project website (http://www.transportscotland.gov.uk/files/documents/projects/forth-replacement/FRC_Construction_Noise_Monitoring_Information_Note_2_.pdf). All charts can be found in the appendices of this report.

3.2 With regard to the noise monitoring results charts, the following should be noted:

- All locations are considered as either 'Main Crossing' or 'Network Connections', as set out in Table 1. Main Crossing works are undertaken during the day, evening and night time periods. Network connection works, however, are undertaken during the daytime only. The inclusion of data in the graphs reflects this. Although Linn Mill and Clufflat Brae are considered as network locations, the potential for marine works near the south shore to be heard has been recognised. As a result, evening and night time data has been included for these locations although no network connection construction activities have been undertaken during these periods.
- Noise data for days, evening and nights on which no construction works were conducted have been excluded from the monthly average results presented in the graph. However, noise results (L_{Aeq} and $L_{Amax, F}$) for any days, evenings and nights on which no construction works have been conducted have been presented in the graphs in greyed out areas.
- An average for Sunday construction noise data has been included on the graphs where applicable; in locations where no Sunday works have been undertaken no average is shown.
- As set out in the CoCP, the assessment time for evening, nights and Sunday daytime is 1 hour periods. To present the construction noise results for these periods, therefore, the maximum $L_{Amax, F}$ (fast time response) and maximum L_{Aeq} within the overall evening/night time period has been taken. It should be noted, therefore, that the average shown for these periods is an average of only the highest L_{Aeq} results.

- Where noise data is missing for days, evening or nights during which construction works were conducted, this has been indicated. Due to a loss of power supply to the meter at Echline, no data is available for this monitoring location for September 2012. FCBC and a third party worked throughout September to connect the mains power supply to the new enclosure built in August to house the monitoring equipment at Echline Corner. The monitoring equipment will be moved to the new location imminently and the equipment is due to be fully functioning in early October. A loss of power, caused by a third party, resulted in periods of missing data at Inchgarvie in September; this device will be fully functioning in early October. An error with the device at Tigh-Na-Grian resulted in the loss of data on 1 and 2 September. Similarly, device error is also responsible for missing data for Scotstoun on 29 and 30 September.

- 3.3** Results demonstrate that the monthly average total construction noise results for daytime were within the threshold limits for all monitoring locations for September 2012, with the exception of Scotstoun. The monthly average total construction noise results for the evening period were within the threshold for all locations throughout September 2012, with the exception of Butlaw Fisheries. For night-time, results show exceedances of the threshold at Butlaw Fisheries, Linn Mill and Inchgarvie, with all other monitoring locations within the threshold.
- 3.4** The daytime Sunday average (for applicable monitoring locations) was found to be within the threshold for all monitoring locations during August 2012, with the exception of Butlaw Fisheries. For the evening period, the Sunday average was below the threshold for all monitoring locations. The Sunday night time average was exceeded at Butlaw Fisheries, whilst all other locations were below the threshold.
- 3.5** During September, adverse weather conditions significantly influenced the night time monthly averages at Butlaw Fisheries, Linn Mill and Inchgarvie (including night time Sunday average at Butlaw Fisheries) and the evening average and Sunday day time average at Butlaw Fisheries. As marine works were on-going during these periods, the results have been included in the graphs presented in Appendix A. However, additional calculations have been made, whereby the periods affected by adverse weather have been removed from the average calculated; during the excluded periods wind, rain and waves (at Butlaw Fisheries) were found to cause all exceedances recorded. The graphs indicating the results when the nights affected by adverse weather are removed are shown in Appendix B. For each location this demonstrates that the monthly average noise level is within the threshold value for September.

- 3.6** The exceedance of the daytime average at Scotstoun is due to increased background noise levels due to the location of the meter directly adjacent to the road. Traffic noise at this location is further increased during periods of wet weather which were frequent throughout September 2012.
- 3.7** During September 2012, some exceedances of the maximum noise thresholds also occurred. Each exceedance of the threshold was investigated using triggered audio recordings, records of construction works (i.e. site programmes and diaries, daily marine reports and dredging reports) and analysis of weather station data, where required. A Noise and Vibration Investigative Report (NVIR) spread sheet has been produced detailing the results of the investigation for each exceedance. Where the exceedances are due to construction works, a detailed NVIR has been completed which details the results of the investigation in addition to any additional mitigation measures required.
- 3.8** Investigations of the exceedances of the maximum noise level thresholds show the majority to have occurred as a result of non-construction related noise. Several spells of adverse weather conditions throughout September were found to result in a large number of exceedances, particularly during night time periods, though a number of exceedances due to adverse weather also occurred during daytime and evening periods at a number of monitoring locations. A large number of the exceedances, particularly those occurring between dawn and 8 am, were due to bird calls. Additionally, local noises at nearby properties were also found to be contributing factors to maximum noise level exceedances and at some locations, notably Scotstoun, existing traffic noise had an effect on maximum noise levels during the period covered in this report.
- 3.9** Where an exceedance due to construction works was identified, the works were investigated as soon as practicably reasonable and a detailed NVIR was completed, within which any additional mitigation measures were recognised.
- 3.10** The daytime L_{Amax} thresholds at Clufflat Brae and Linn Mill were exceeded during September as a result of construction works on a total of 11 occasions. Intermittent noise from plant operating in close proximity to the noise meters at these locations was found to cause exceedances on each of these instances. In particular, the exceedances at Clufflat Brae were caused by plant movements and excavators associated with the construction of the East SUDS pond, which is in very close proximity to the meter.

- 3.11** Some exceedances due to marine works were also recorded. The dredging works at the southern shore were found to be the cause of five exceedances at Butlaw Fisheries. Attended monitoring has highlighted that the vast majority of such exceedances arise from excavated rock material falling from bucket and landing on the steel hull of the split barge. Dredging operators are aware of the need to keep noise to a minimum, and try hard to eradicate isolated incidents such as these by carefully placing material into the barge at all times and lowering bucket as slowly as possible. However, this proves extremely challenging and occasionally loose rocks do fall onto the barge. The sidewalks of the barges have recently been lined with absorbent material so as to reduce noise levels exhibited by such activities.
- 3.12** A summary of the findings for exceedances occurring at each of the locations can be found in Table 2. All construction related exceedances are detailed in Table 3; further information on related remedial actions is detailed in the relevant NVIR.

Table 2: Summary of Exceedances at Monitoring Locations

Monitoring Location	Summary of Exceedance Details
Butlaw Fisheries	During September the maximum noise threshold was exceeded on 43 occasions (daytime, 13; evening, 14; night time, 26). Five exceedances (1 day, 3 evening and 1 night) were due to the dredging works on the southern shore. However, a large number of exceedances were attributed to a range of non-construction factors, including waves on the shore, wind and birds (particularly during the early hours of the morning).
Clufflat Brae	During September the maximum noise threshold was exceeded on 49 occasions (daytime, 15; evening, 11; night time, 23). Four daytime exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter, largely associated with both the construction of the East SUDS pond. A number of the exceedances were also found to be due to birds, adverse weather conditions and people at the nearby properties, in particular children playing.
Inchgarvie Lodge	During September the maximum noise threshold was exceeded on 33 occasions (daytime, 12; evening, 9; night time, 12). No exceedances were found to be due to construction works. However, investigations found birds, adverse weather and movements at the property to be the main contributing factors to the exceedances at this location.
Linn Mill	During September the maximum noise threshold was exceeded on 50 occasions (daytime, 15; evening, 10; night time, 25). Seven exceedances were due to construction works, in particular excavators, in close proximity to the meter. However, the majority of exceedances were caused by a number of non-construction factors, notably adverse weather conditions and birds.
Tigh-Na-Grian	During September the maximum noise threshold was exceeded on 35 occasions (daytime, 17; evening, 0; night time, 18). Exceedances were due to non-construction factors including people at nearby properties and birds.
Dundas Home Farm	During September the maximum noise threshold was exceeded on 10 occasions. Exceedances were not attributable to construction works. Exceedances were largely due to gardening activities near the meter.
Springfield	During September the maximum noise threshold was exceeded on 11 occasions. No exceedances at this location were due to construction activities. The majority of non-construction related exceedances were due to residents at the nearby properties.

Scotstoun	During September the maximum noise threshold was exceeded on 23 occasions. Exceedances were attributed to vehicles passing by on the adjacent road.
Whinny Hill	During September the maximum noise threshold was exceeded on 14 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including birds and wind.

Table 3: Summary of Construction Exceedances at Monitoring Locations

Monitor	Date	Period	Description	NVIR No.
Butlaw Fisheries	03/09/12	Evening	Dredging	B.N.030912
	05/09/12	Day		B.D.050912
	19/09/12	Night		B.N.190912
	22/09/12	Evening		B.E.220912
	26/09/12	Evening		B.E.260912
Clufflat Brae	04/09/12	Day	SUDs pond construction works	C.D.040912
	05/09/12	Day		C.D.050912
	06/09/12	Day		C.D.060912
	07/09/12	Day		C.D.070912
Linn Mill	10/09/12	Day	Operation of plant in close proximity to meter	L.D.100912
	11/09/12	Day		L.D.110912
	12/09/12	Day		L.D.120912
	13/09/12	Day		L.D.130912
	18/09/12	Night		L.N.180912
	19/09/12	Day		L.D.190912
	20/09/12	Day		L.D.200912



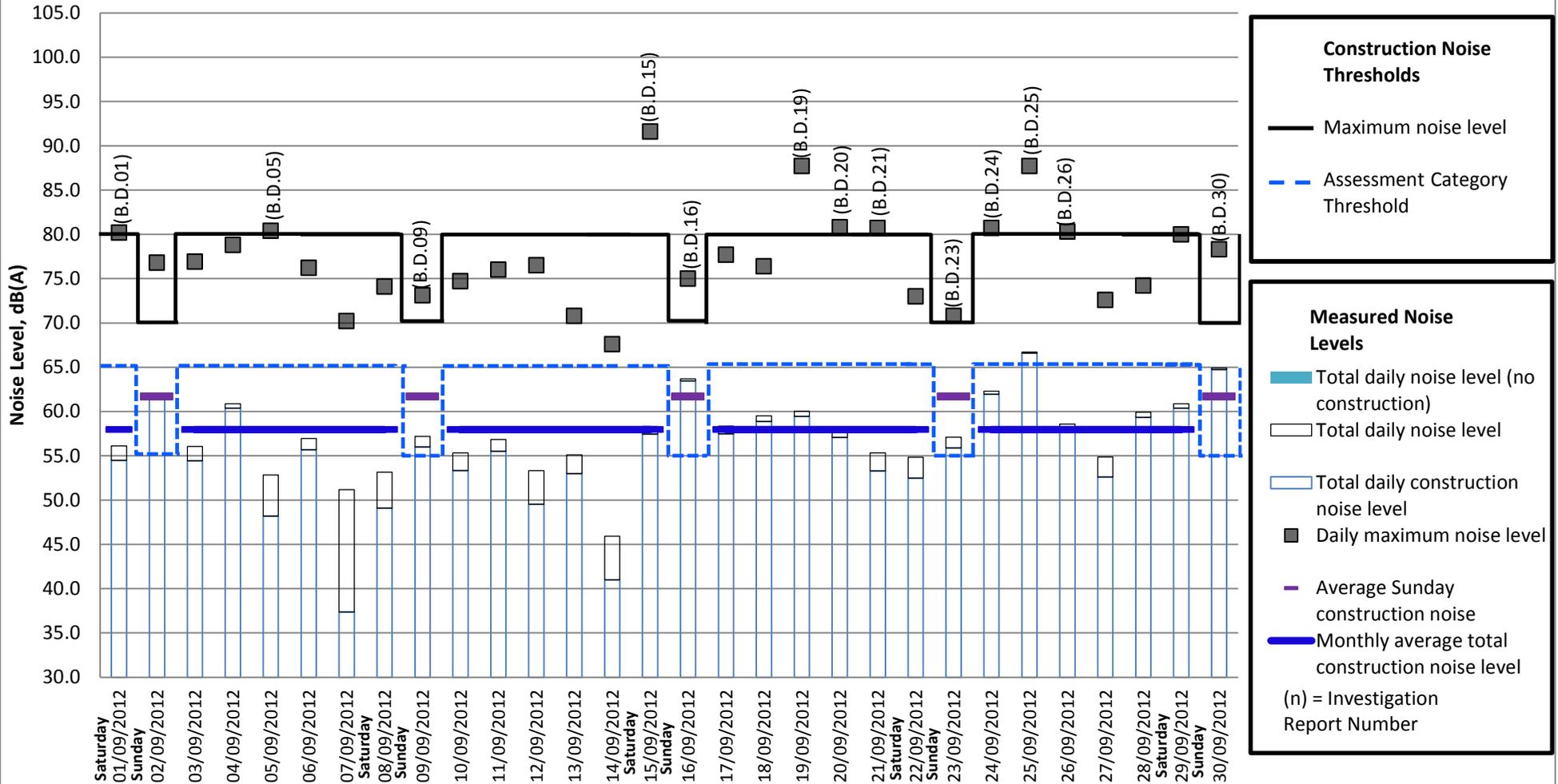
Forth Crossing Bridge Constructors

HOCHTIEF Solutions
American Bridge International
DRAGADOS
Morrison Construction

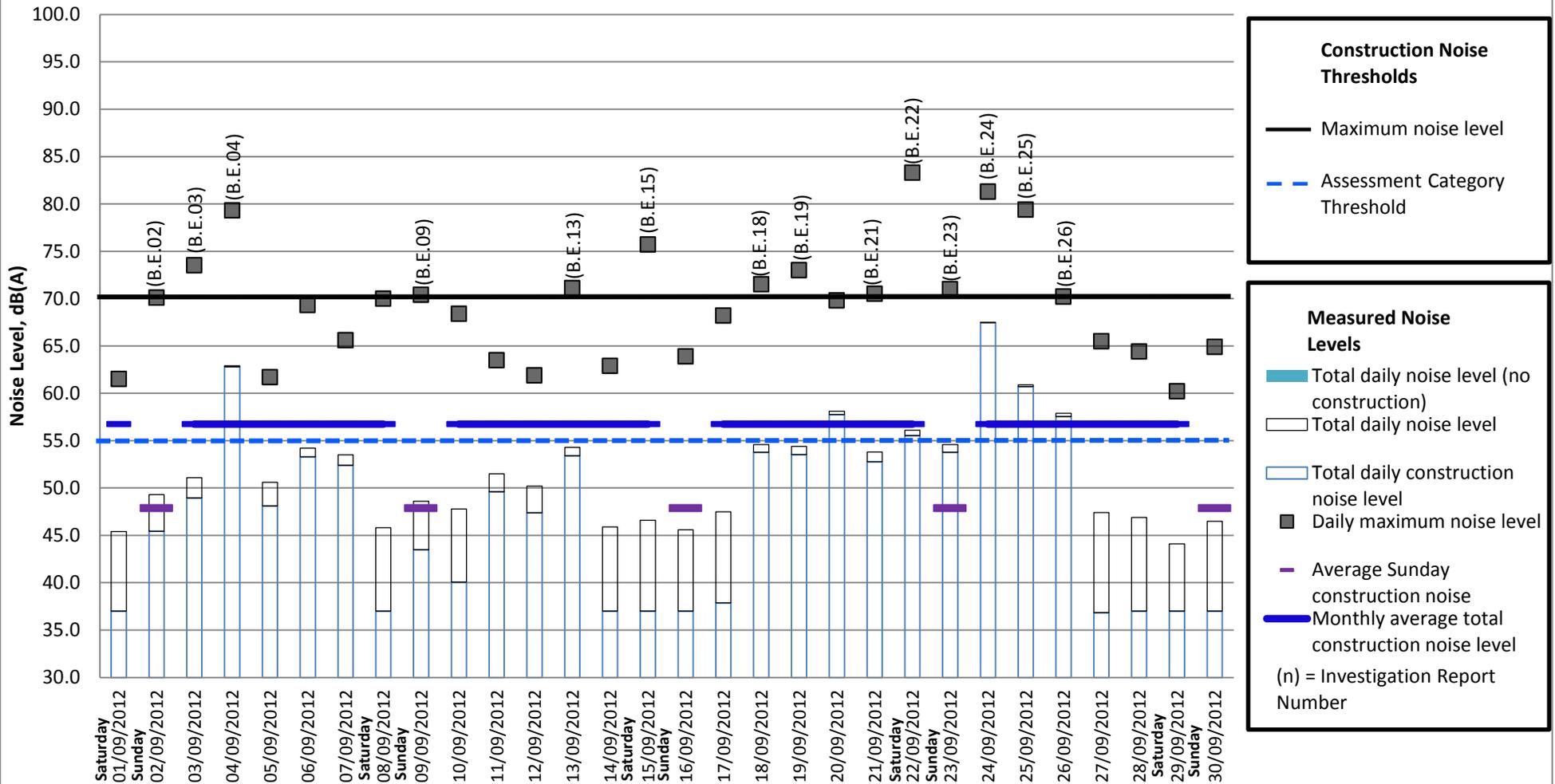
APPENDIX A

Measured Daytime Noise Levels at Butlaw Fisheries

Measurement period: September 2012

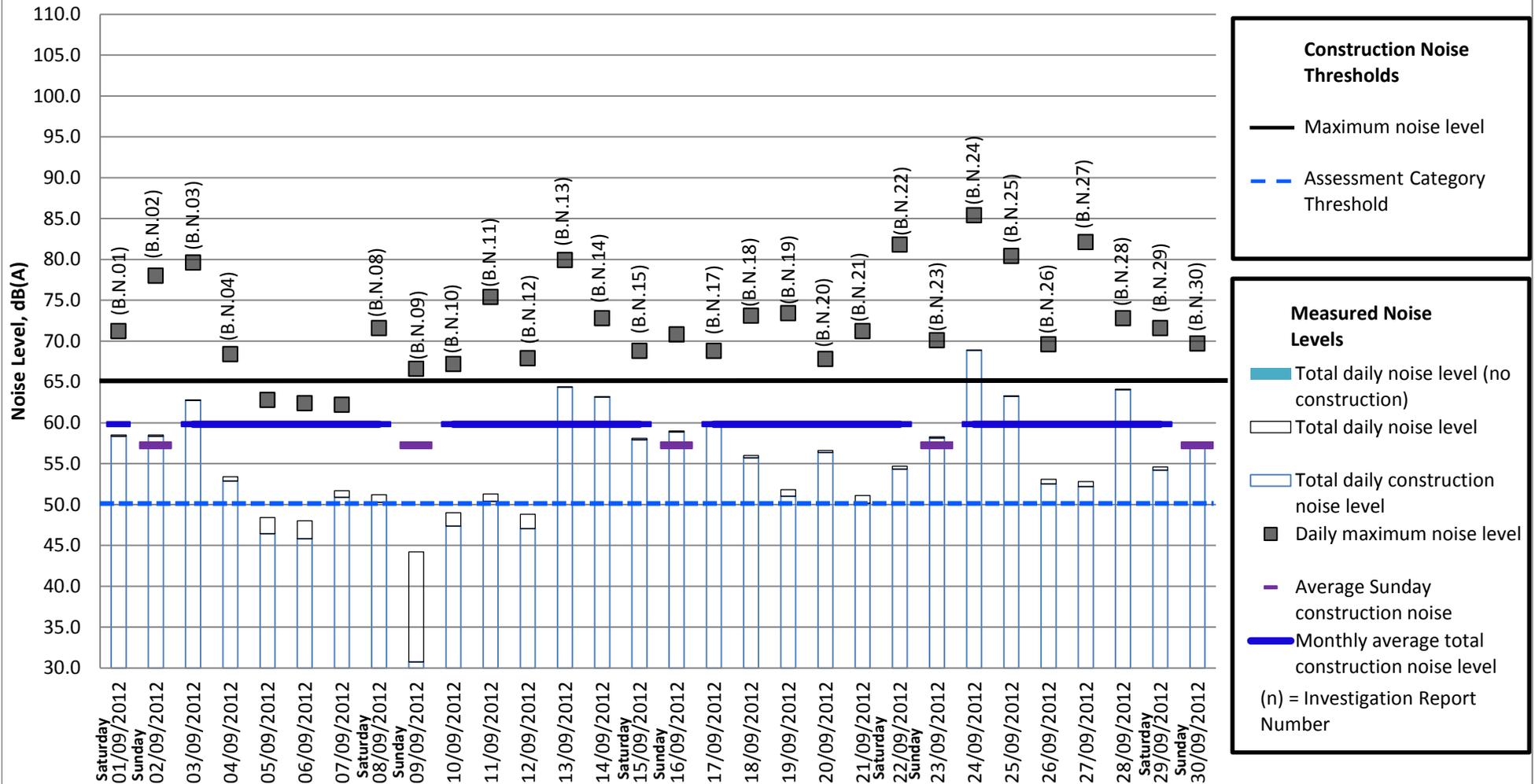


Measured Evening Noise Levels at Butlaw Fisheries Measurement period: September 2012



Note: This location was affected by adverse weather (including increased noise levels due to waves on the shore) during this period on 4/09/12, 13/09/12, 14/09/12, 24/09/12 and 25/09/12.

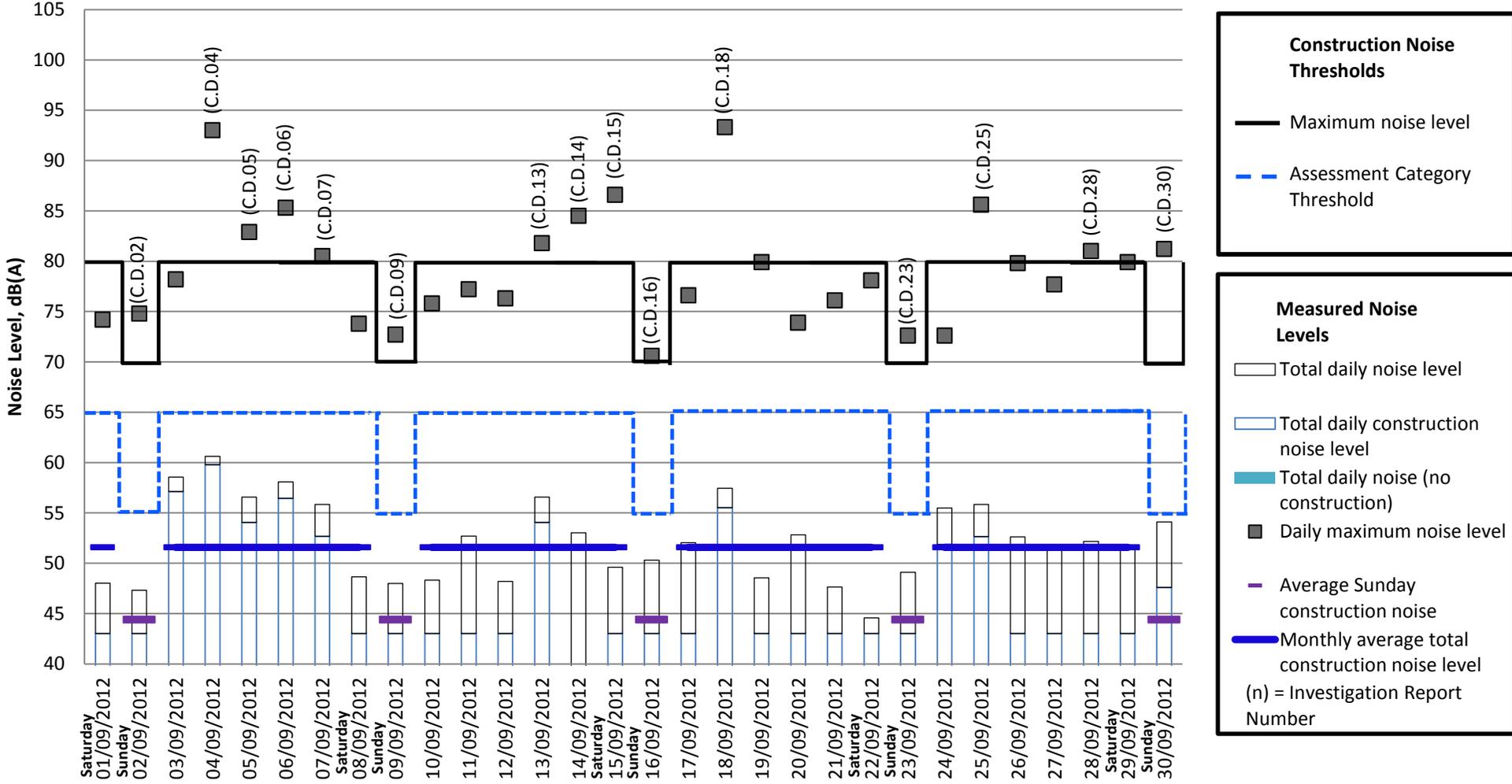
Measured Night time Noise Levels at Butlaw Fisheries Measurement period: September 2012



Note: This location was affected by adverse weather (including increased noise levels due to waves on the shore) during this period on 02/09/12, 03/09/12, 13/09/12, 14/09/12, 15/09/12, 16/09/12, 17/09/12, 18/09/12, 20/09/12, 23/09/12, 24/09/12, 25/09/12, 27/09/12, 28/09/12, 29/09/12 and 30/09/12.

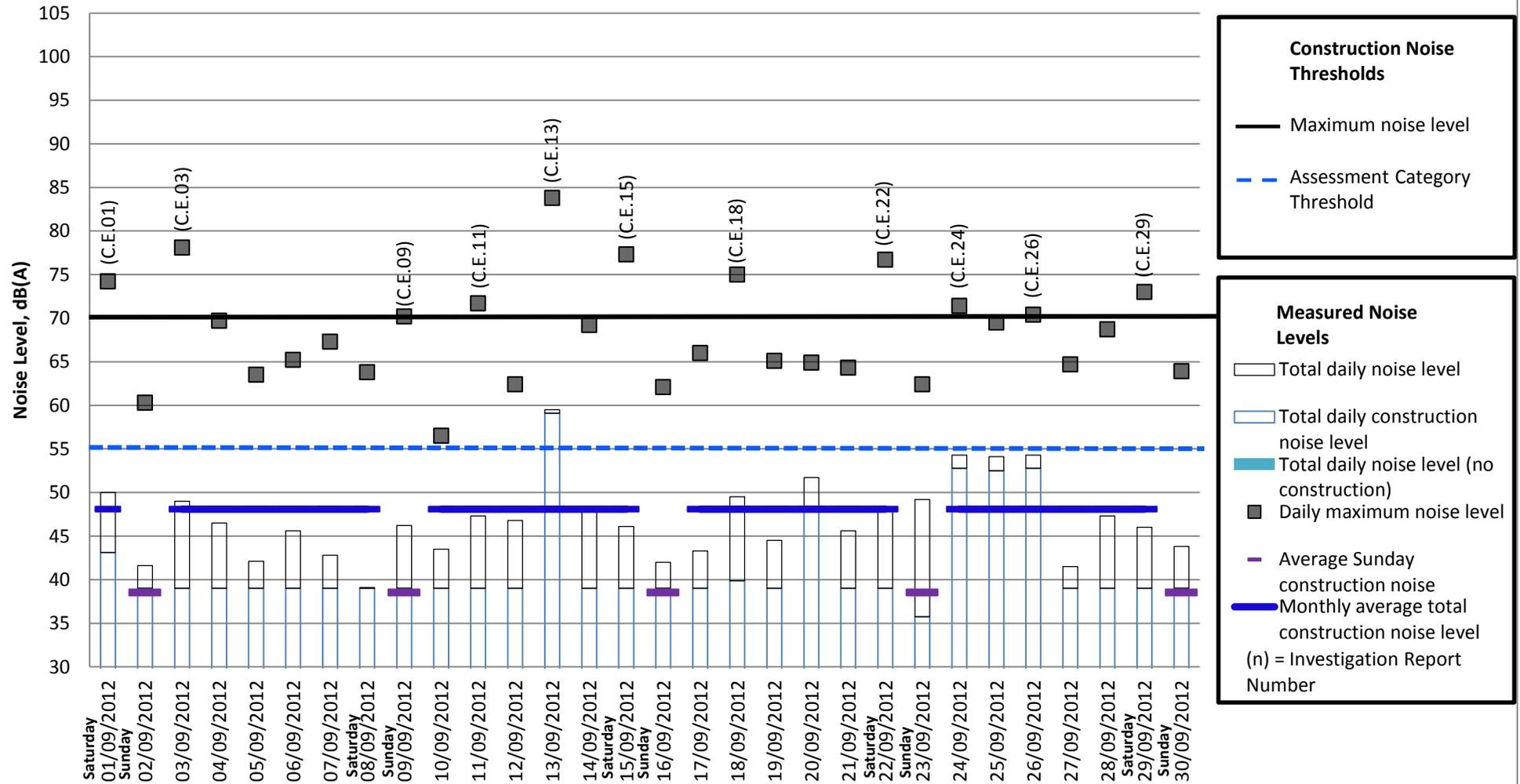
Measured Daytime Noise Levels at Clufflat Brae

Measurement period: September 2012



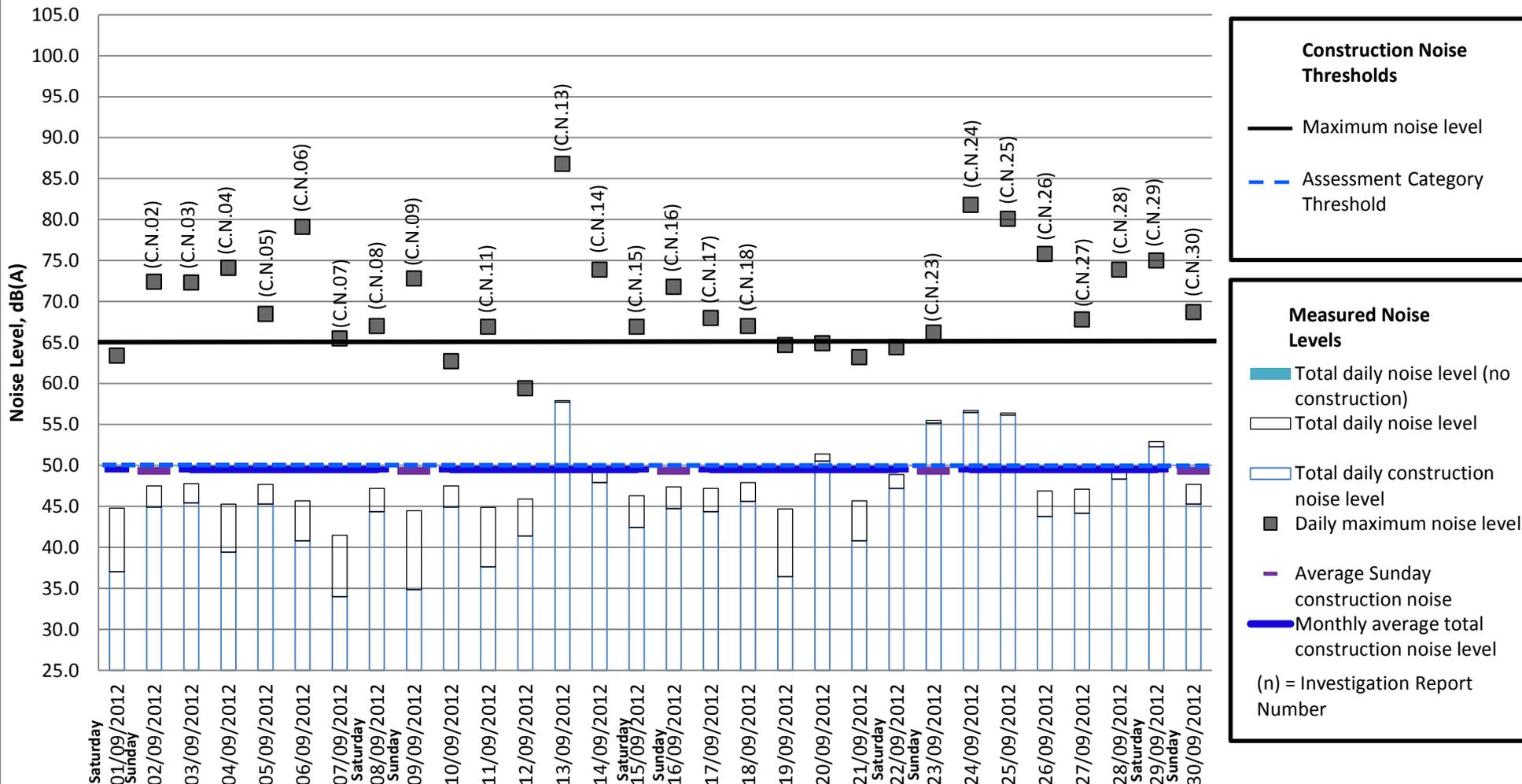
Measured Evening Noise Levels at Clufflat Brae

Measurement period: September 2012

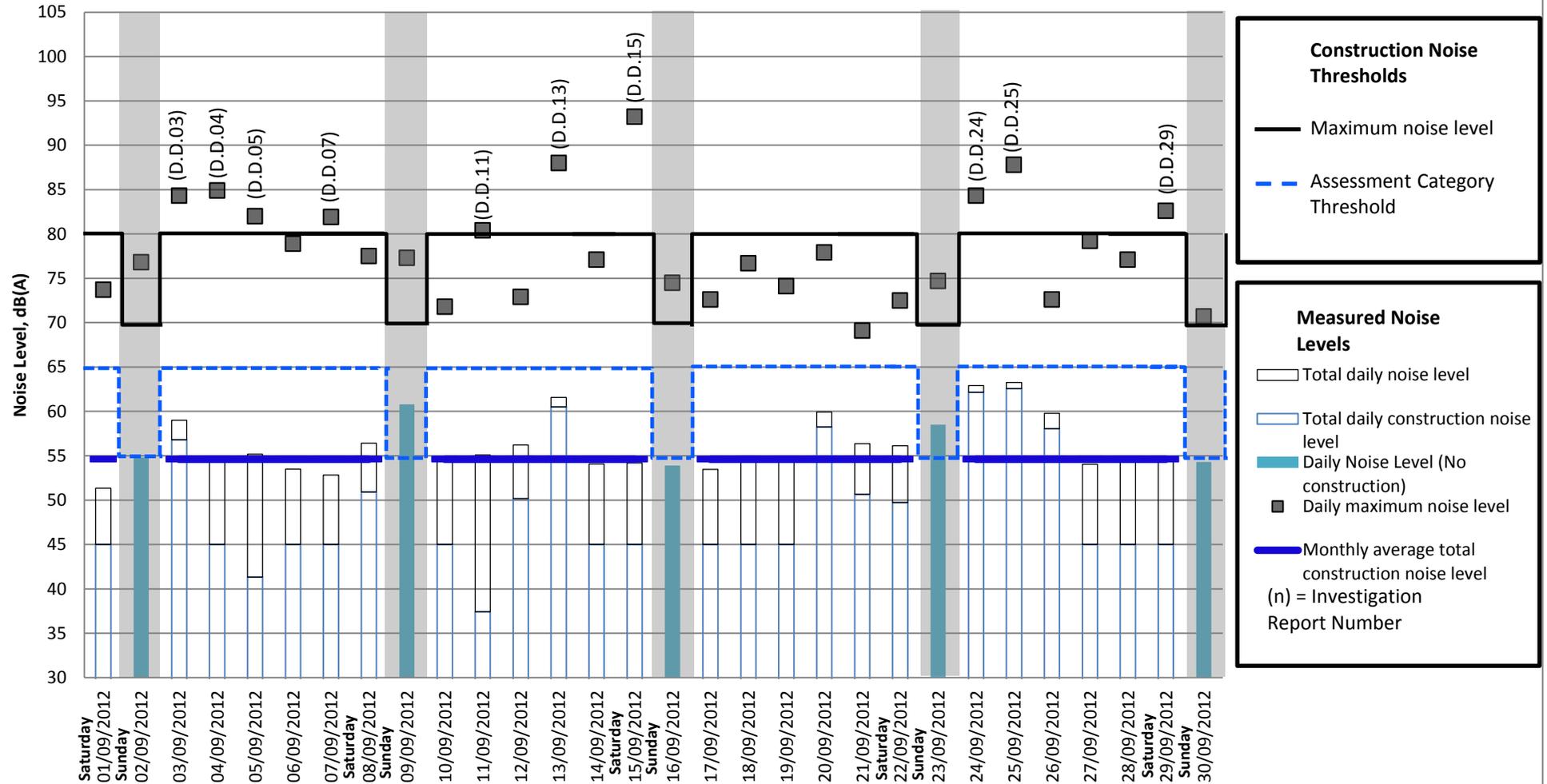


Measured Night-time Noise Levels at Clufflat Brae

Measurement period: September 2012

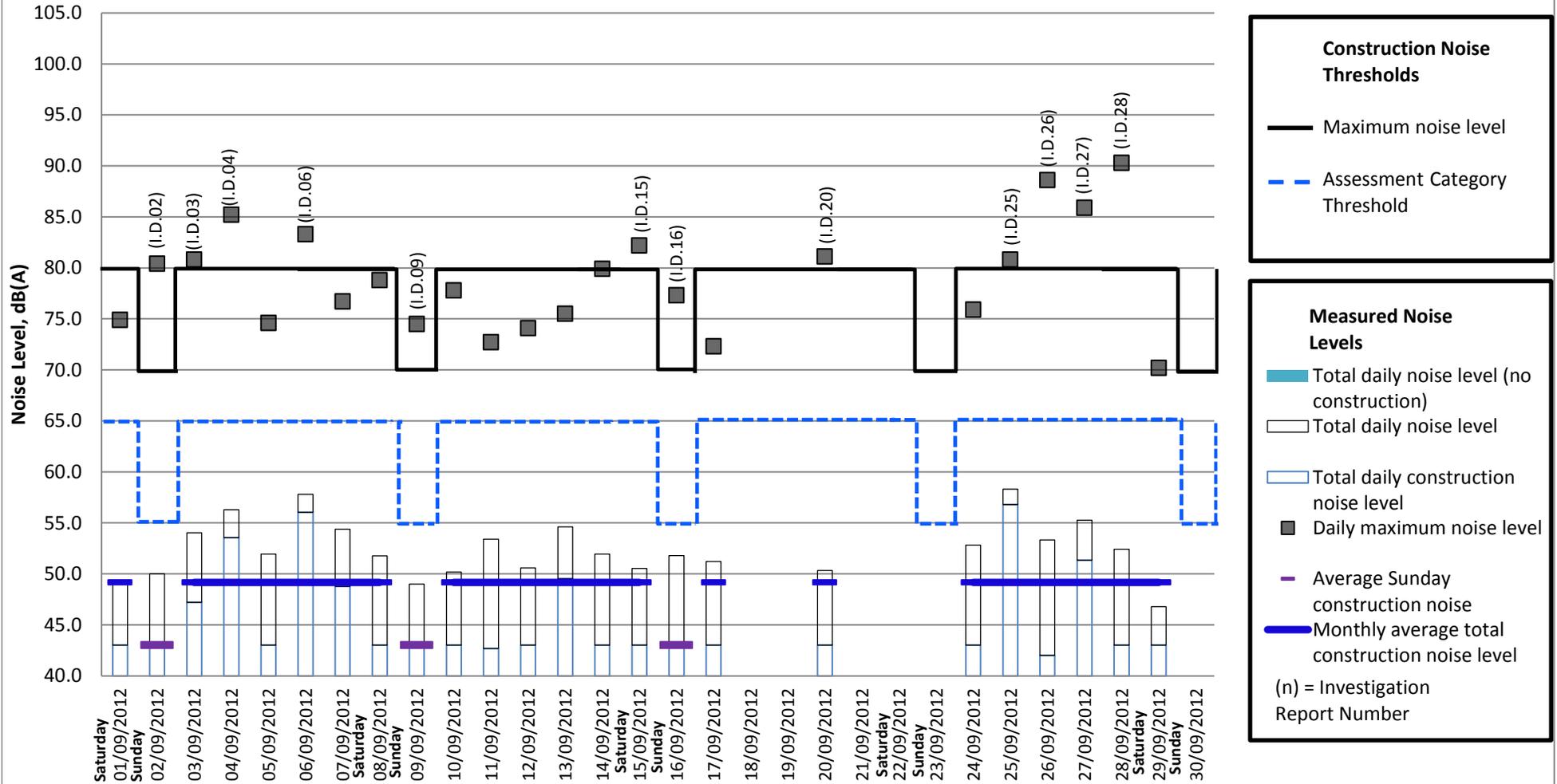


Measured Daytime Noise Levels at Dundas Home Farm Measurement period: September 2012



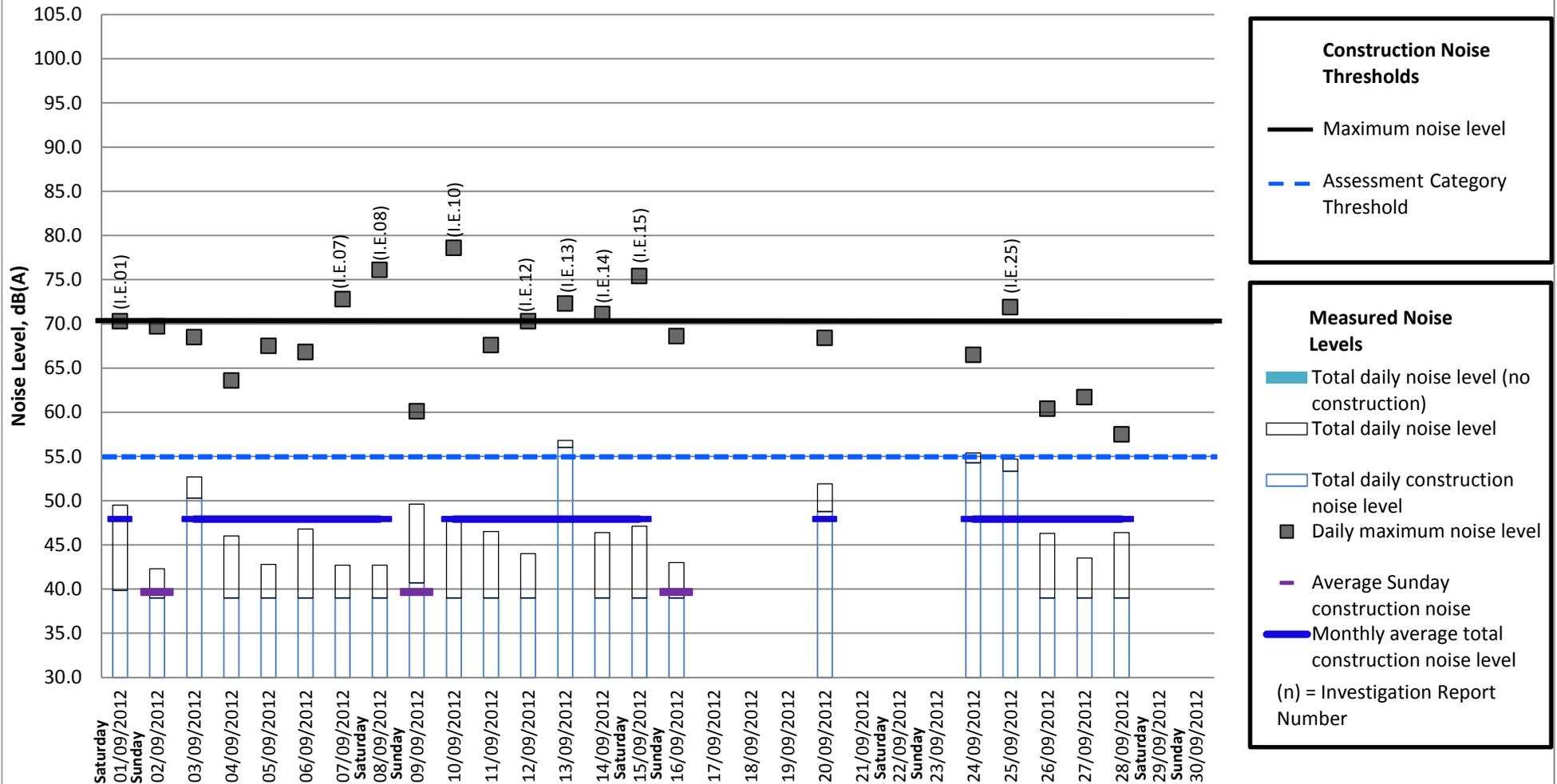
Note: The grey areas of the chart represent days on which no construction works have been undertaken at this location; no Sunday works have been undertaken at this location

Measured Daytime Noise Levels at Inchgarvie Measurement period: September 2012



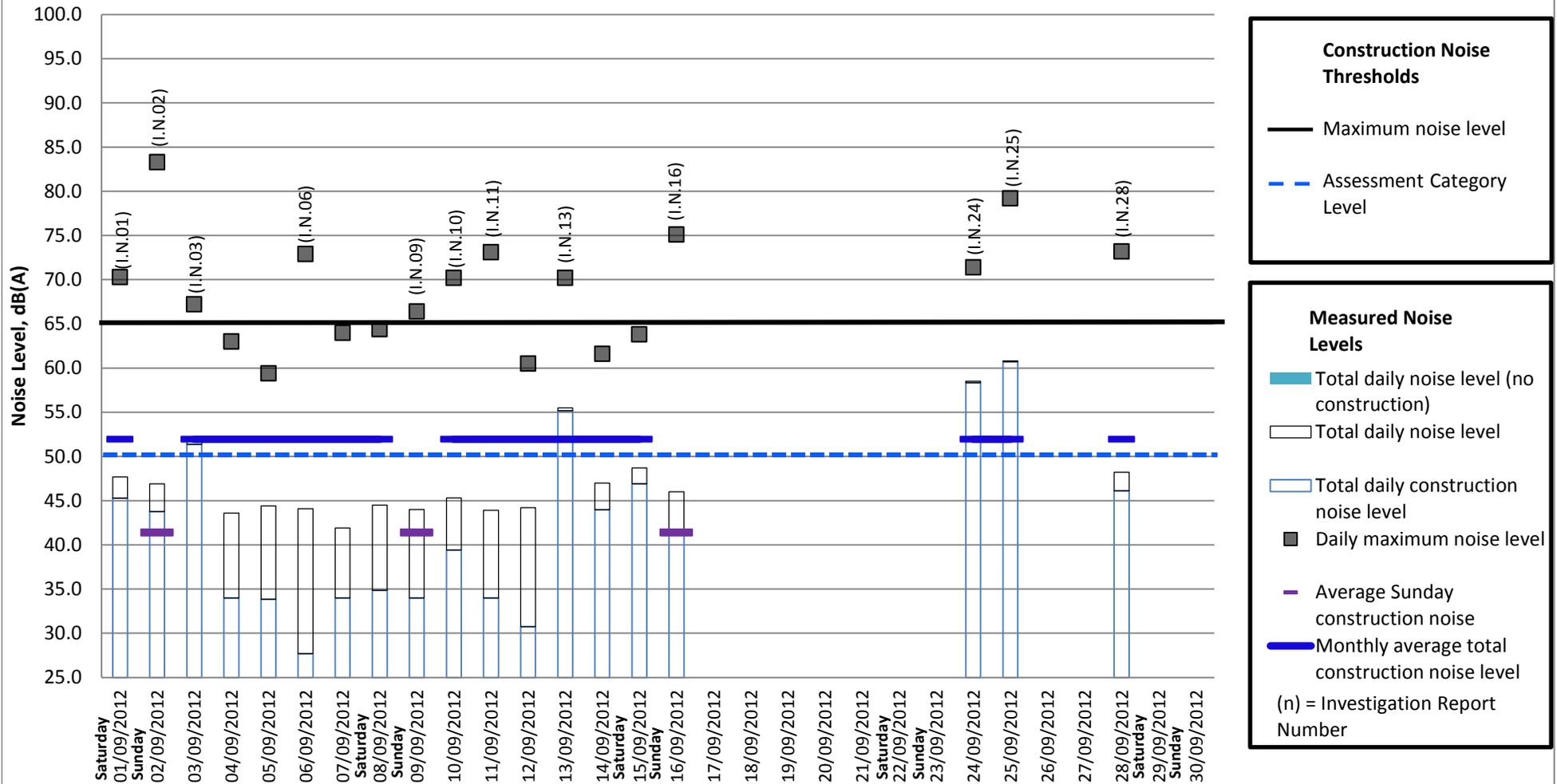
Note: Due to a loss of the power supply at this location caused by a third party, daytime data is missing for 18/09/12, 19/09/12, 21/09/12, 22/09/12, 23/09/12 and 30/09/12.

Measured Evening Noise Levels at Inchgarvie Measurement period: September 2012



Note: Due to a loss of the power supply at this location caused by a third party, evening data is missing for 18/09/12, 19/09/12, 21/09/12, 22/09/12, 23/09/12, 29/09/12 and 30/09/12. This location was affected by adverse weather conditions on 13/09/12, 24/09/12 and 25/09/12.

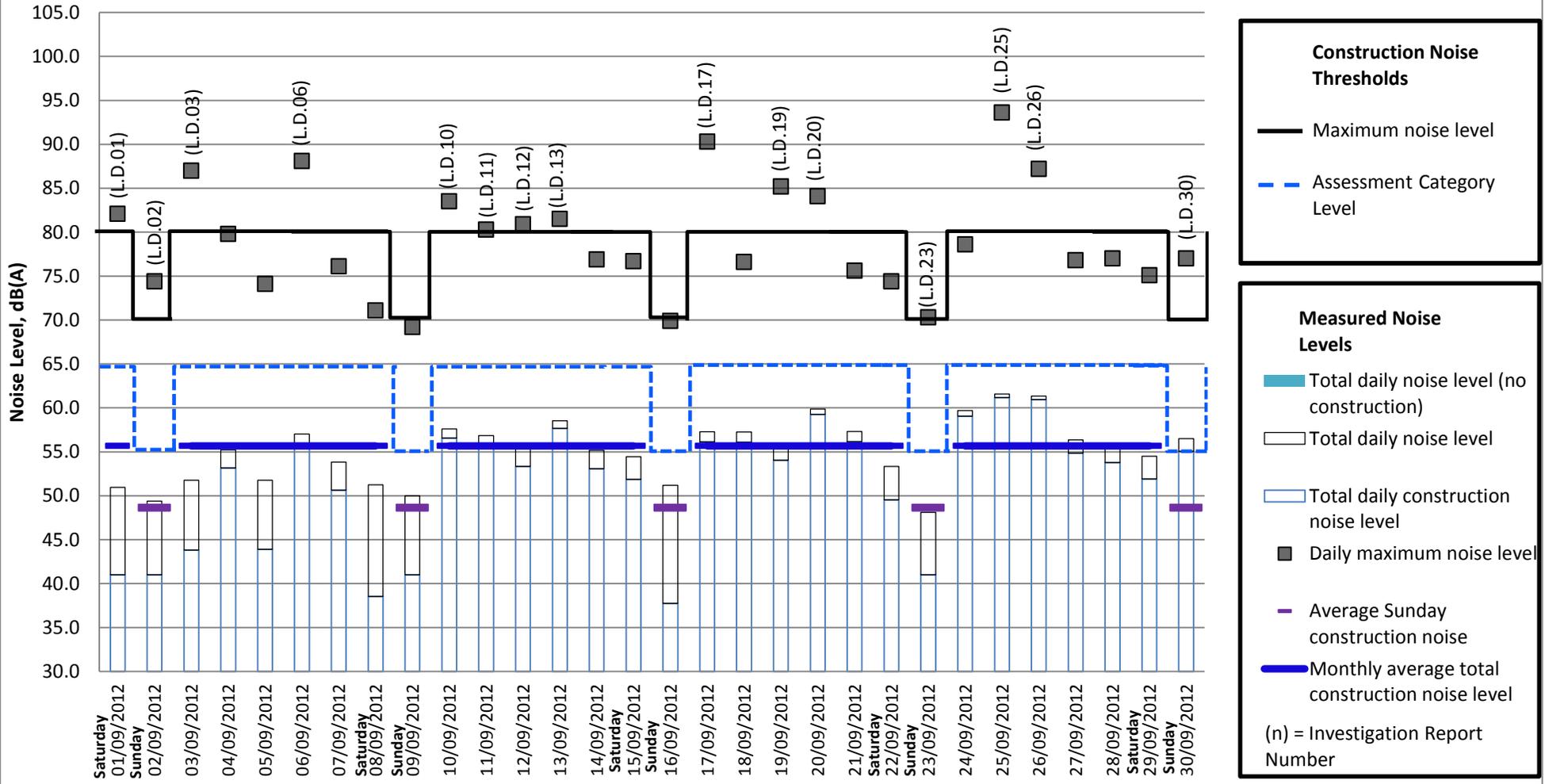
Measured Night-time Noise Levels at Inchgarvie Measurement period: September 2012



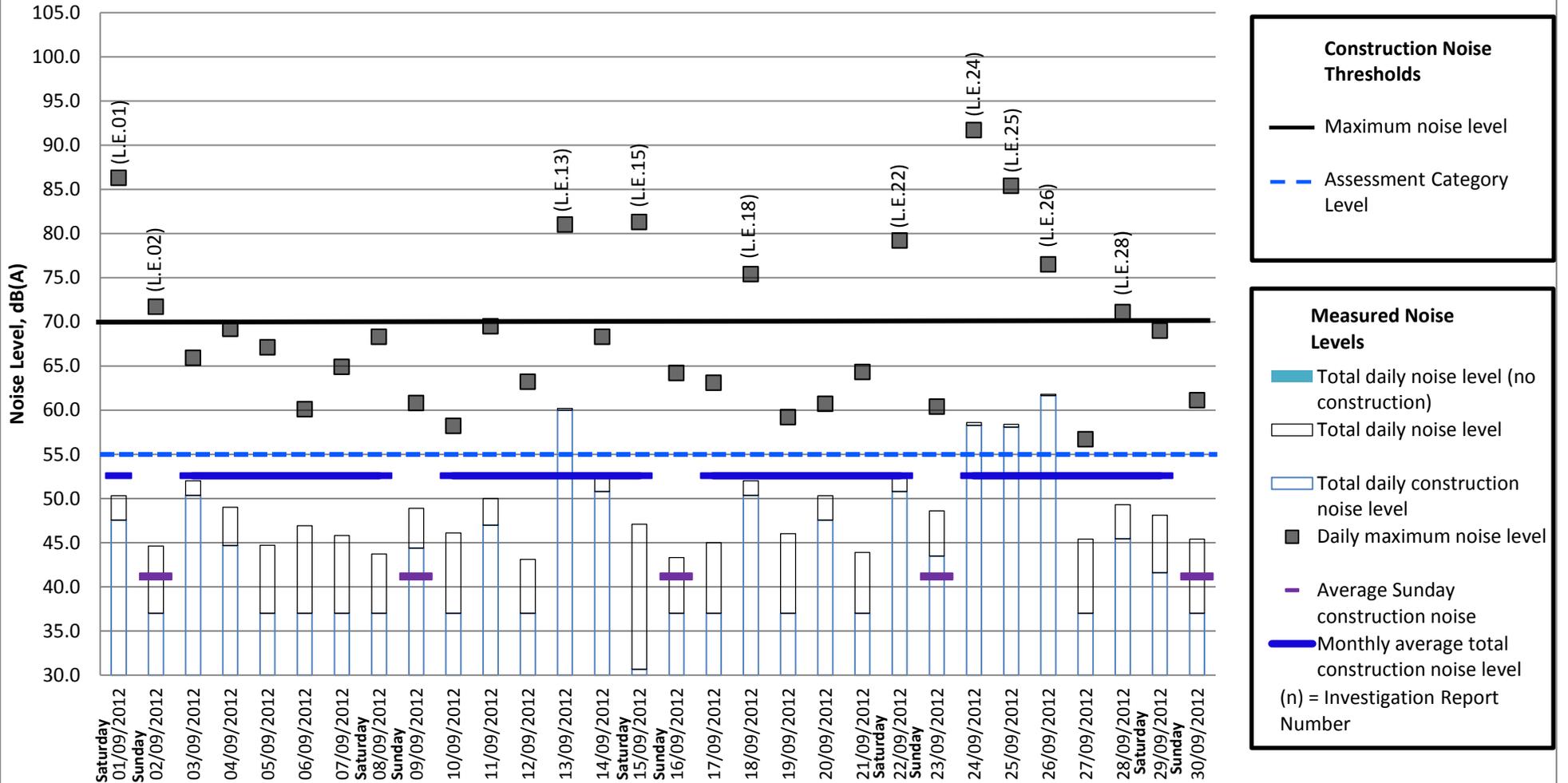
Note: Due to a loss of the power supply at this location caused by a third party, nighttime data is missing for the period 17/09/12 to 23/09/12, 26/09/12, 27/09/12, 29/09/12 and 30/09/12. This location was affected by adverse weather conditions of 13/09/12, 24/09/12 and 25/09/12.

Measured Daytime Noise levels at Linn Mill

Measurement period: September 2012

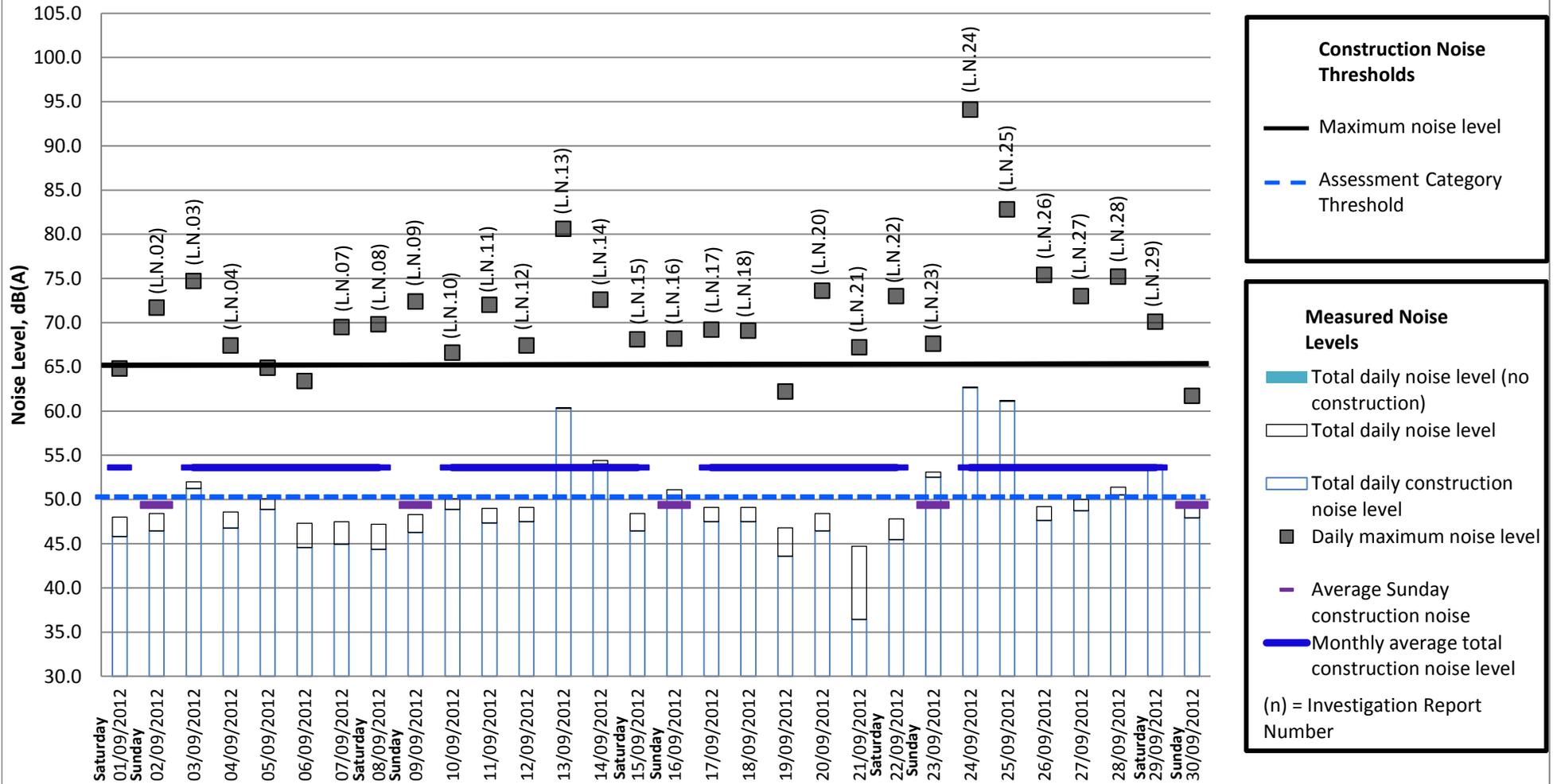


Measured Evening Noise Levels at Linn Mill Measurement period: September 2012



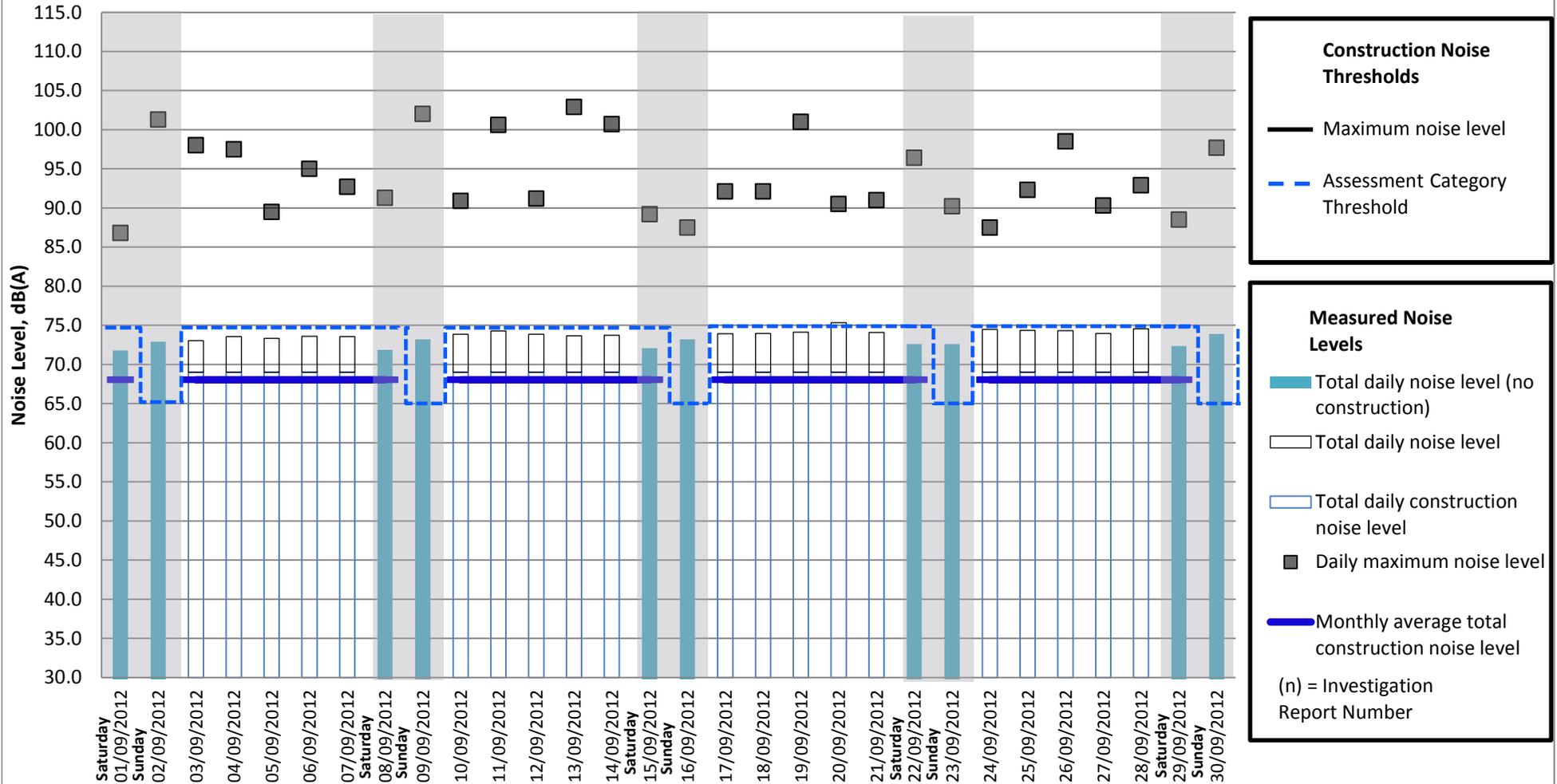
Note: This location was affected by adverse weather during this period on 13/09/12, 24/09/12, 25/09/12 and 26/09/12.

Measured Night-time Noise Levels at Linn Mill Measurement period: September 2012



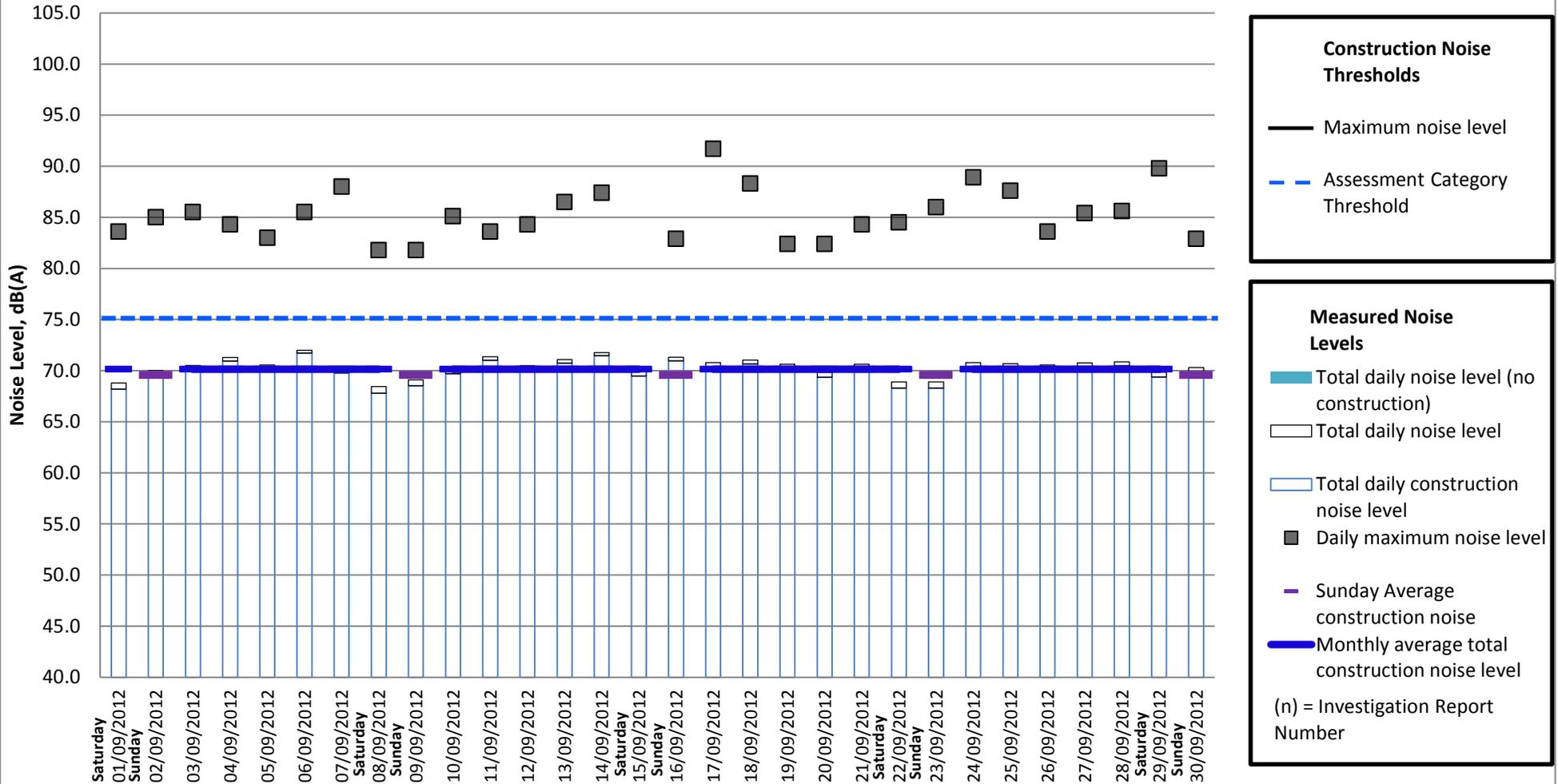
Note: This location was affected by adverse weather during this period on 3/09/12, 13/09/12, 14/09/12, 24/09/12, 25/09/12, 28/09/12 and 29/09/12.

Measured Daytime Noise Levels at Newton Measurement period: September 2012

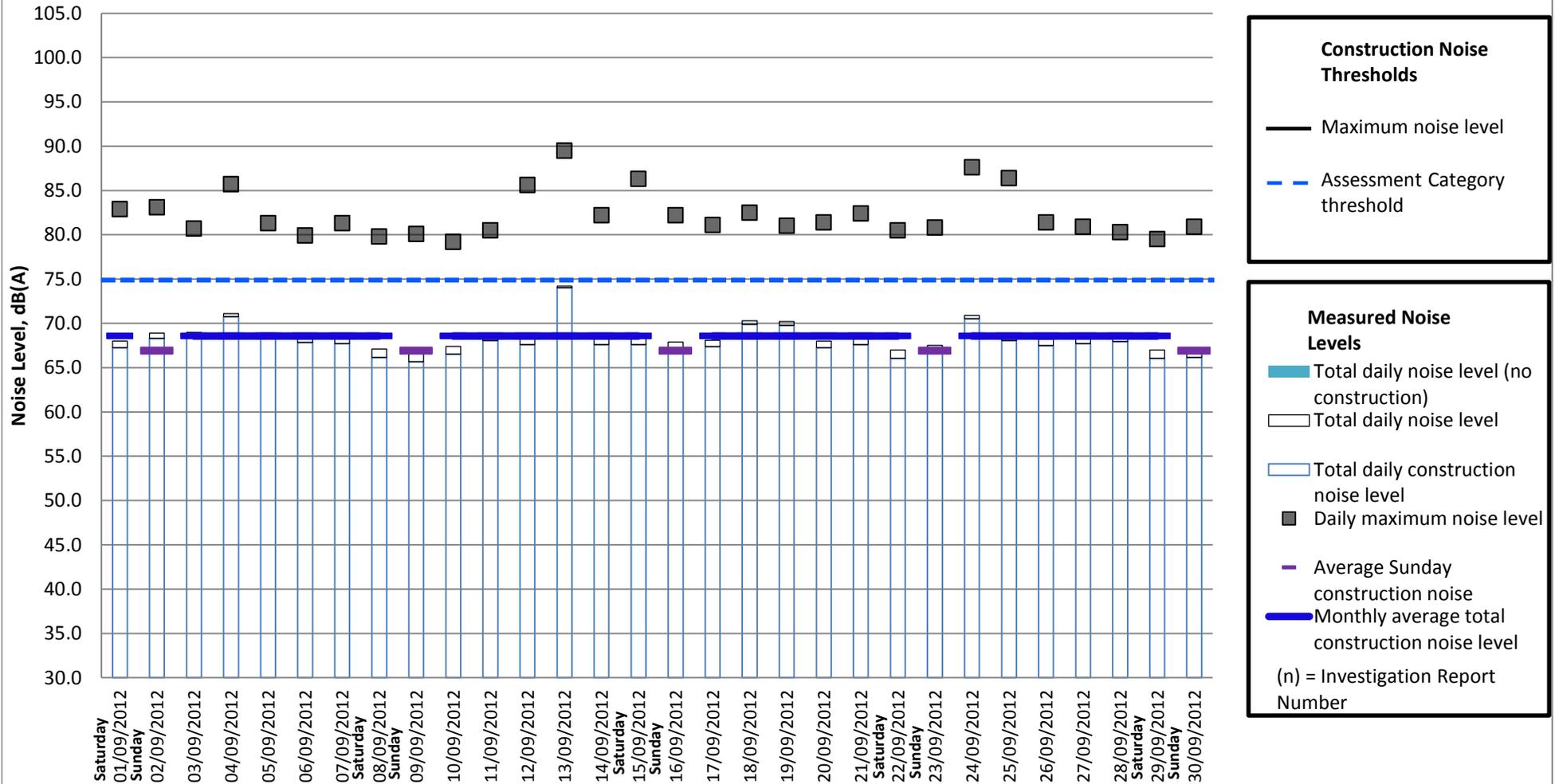


Note: The grey areas of the chart represent days on which no construction works have been conducted; no works have been conducted near this location on Saturday or Sunday. It should be noted that the measured noise levels Mon - Fri can not be attributed to construction works due to the considerable distance (1.75 kilometers) between this monitoring location and the closest construction works.

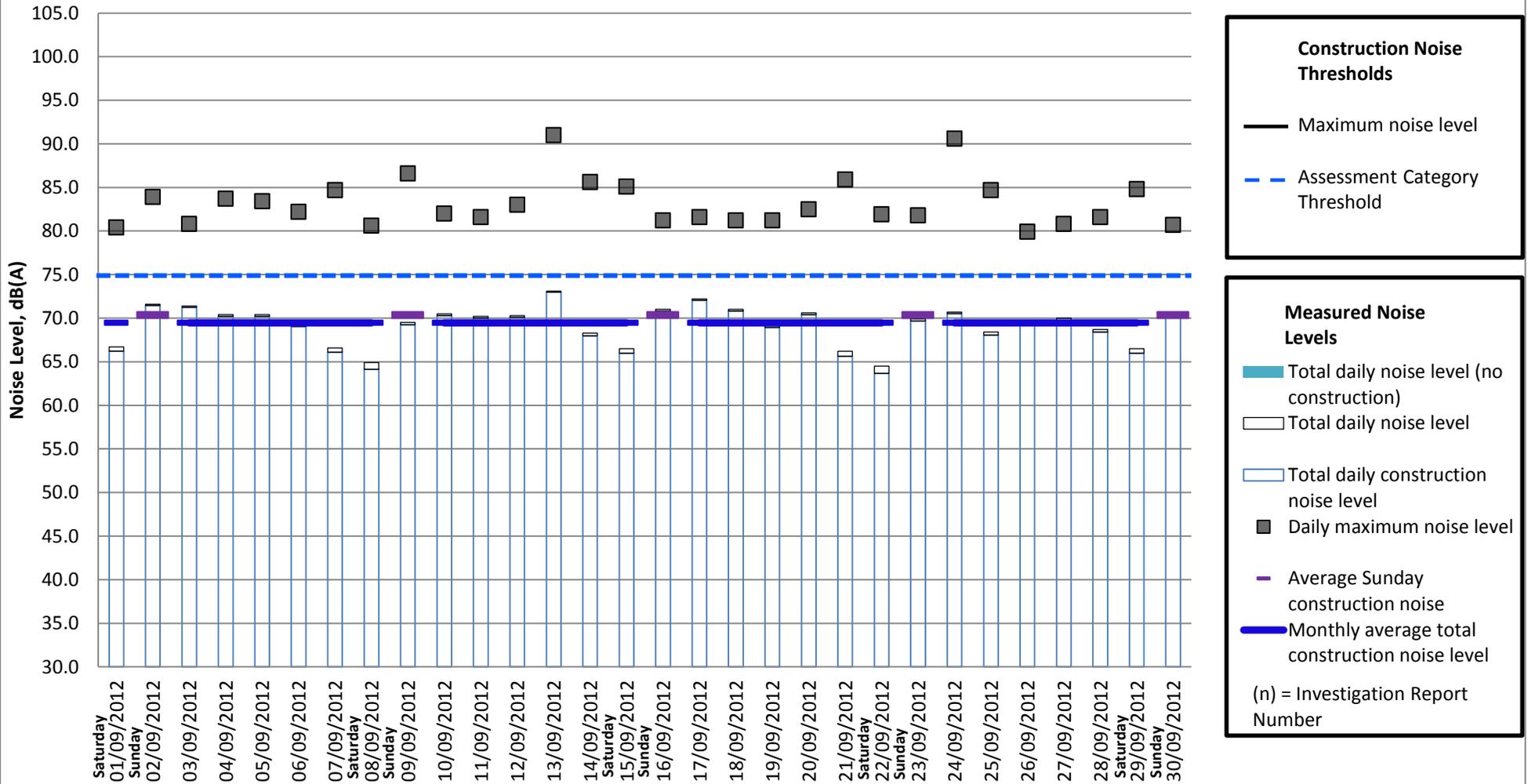
Measured Daytime Noise Levels at North Leg Measurement period: September 2012



Measured Evening Noise Levels at North Leg Measurement period: September 2012

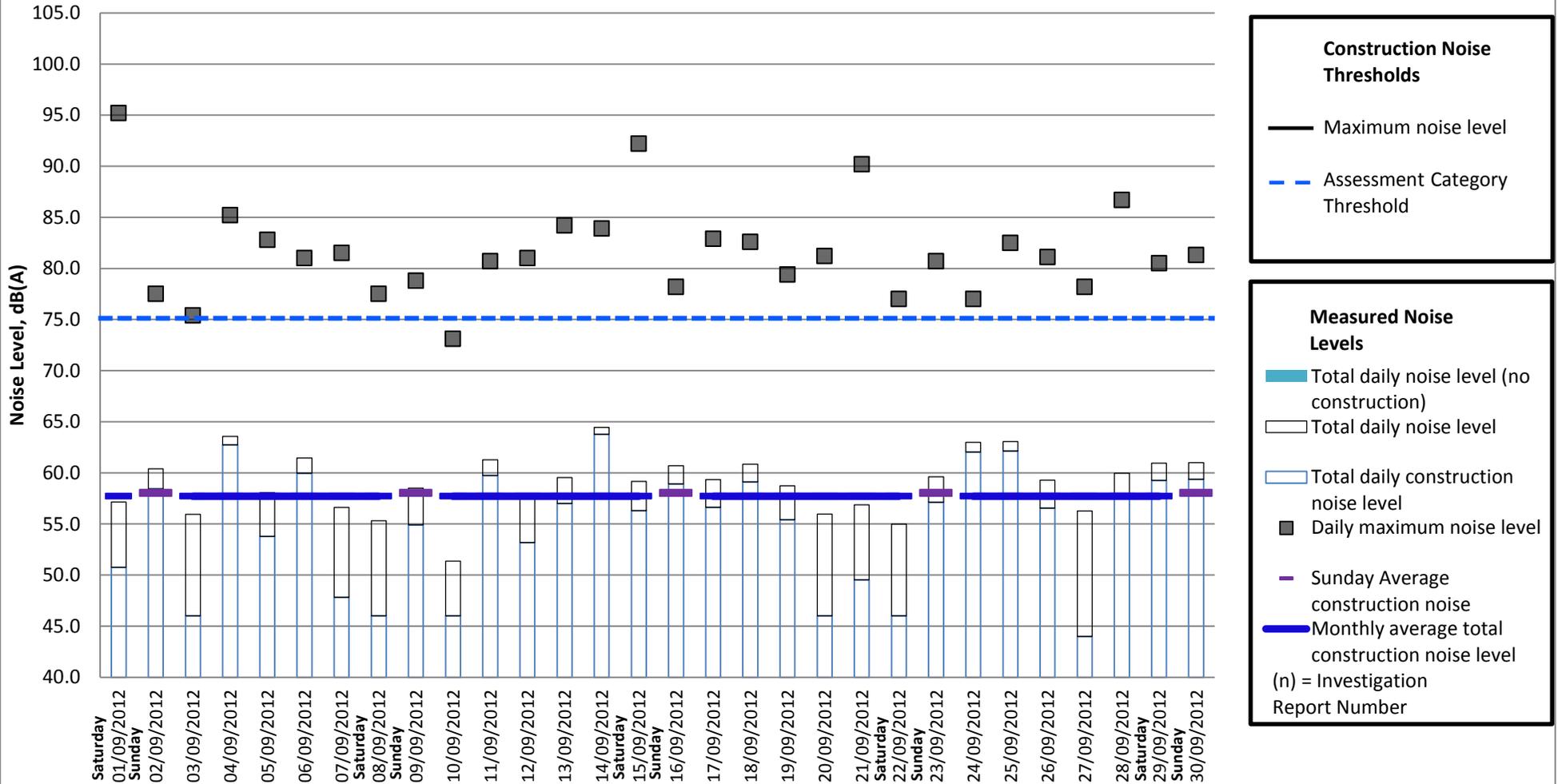


Measured Night-time Noise Levels at North Leg Measurement period: September 2012



Measured Daytime Noise Levels at Port Edgar

Measurement period: September 2012



Construction Noise Thresholds

- Maximum noise level
- Assessment Category Threshold

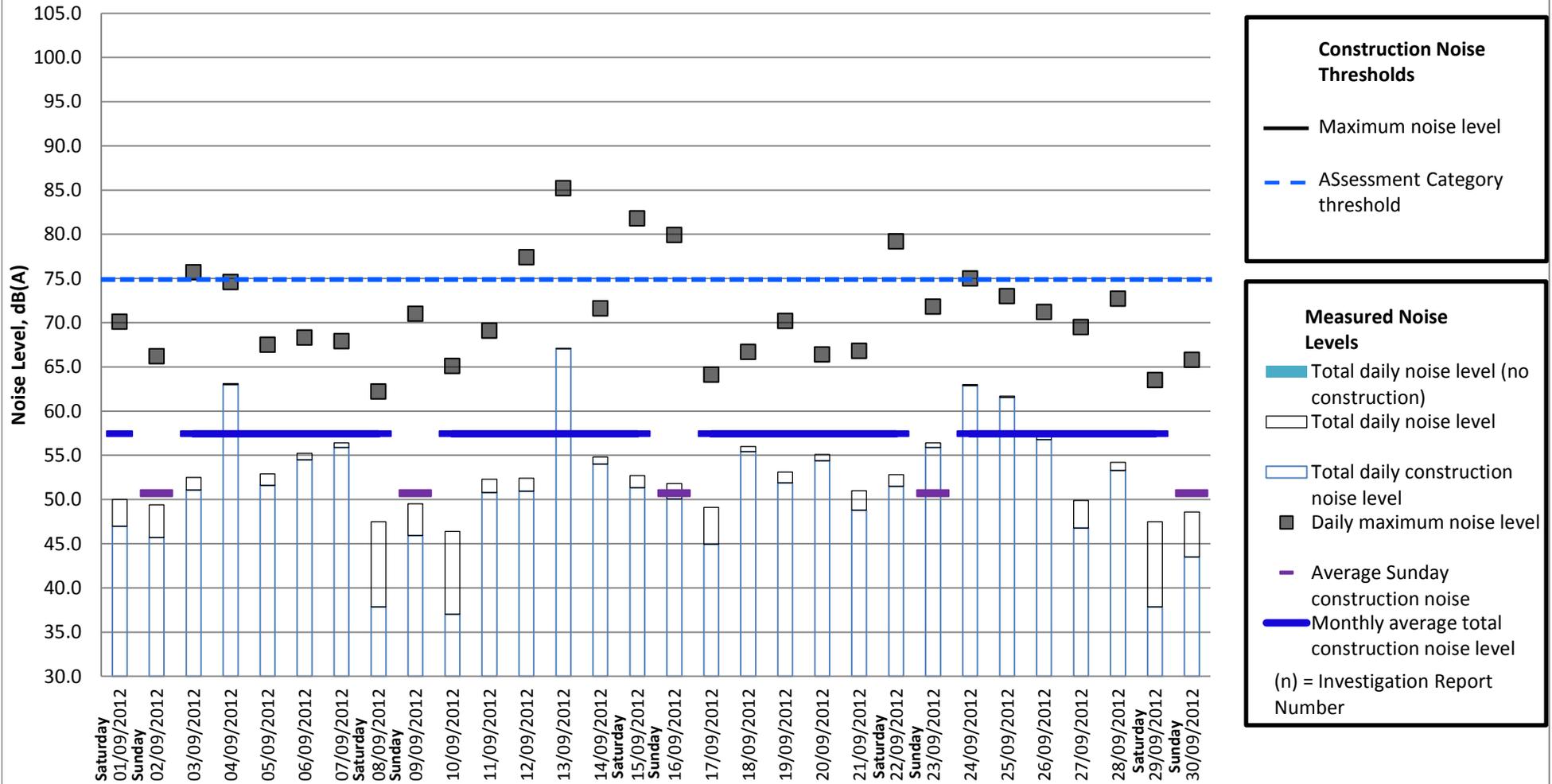
Measured Noise Levels

- Total daily noise level (no construction)
- Total daily noise level
- Total daily construction noise level
- Daily maximum noise level
- Sunday Average construction noise
- Monthly average total construction noise level

(n) = Investigation Report Number

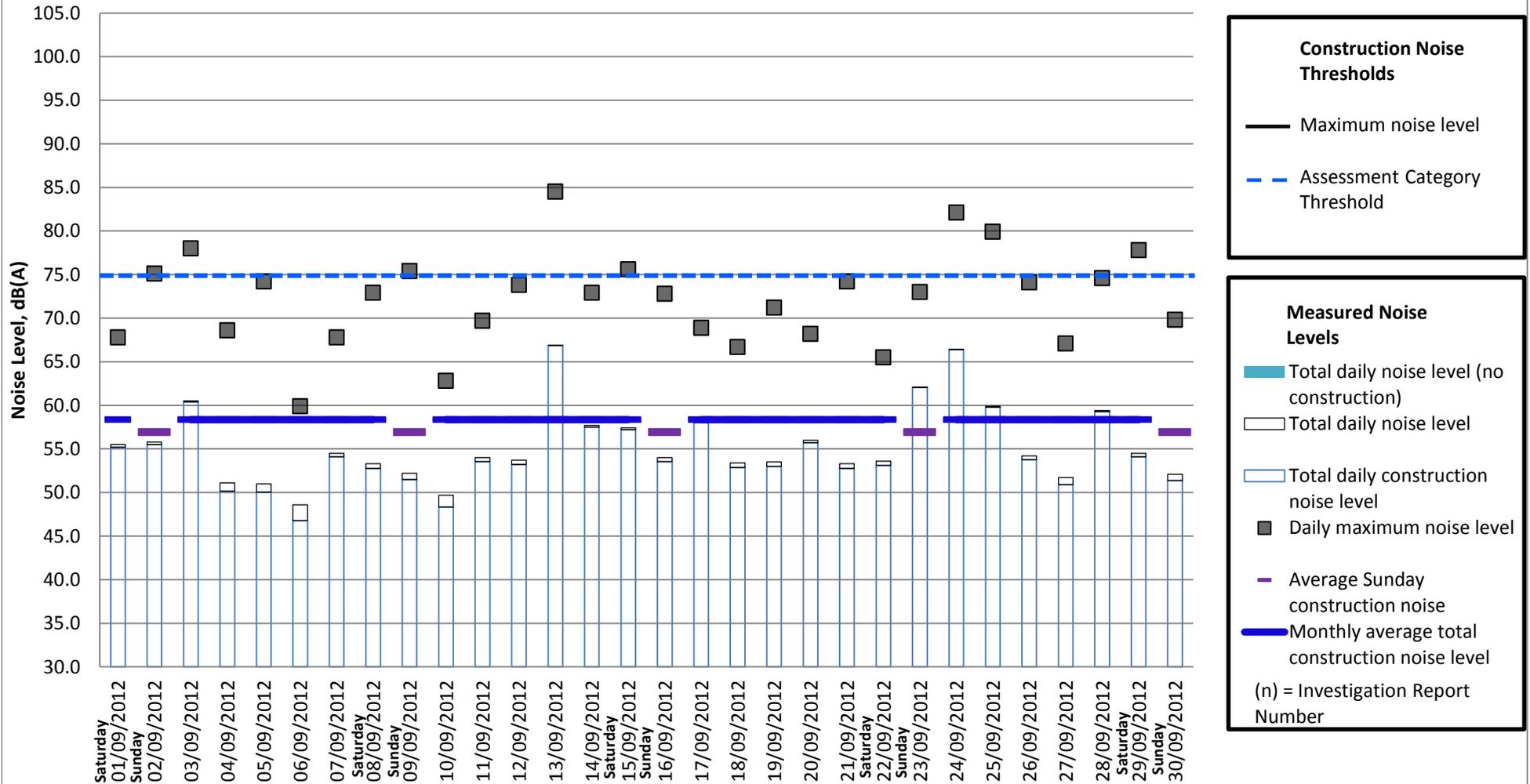
Measured Evening Noise Levels at Port Edgar

Measurement period: September 2012

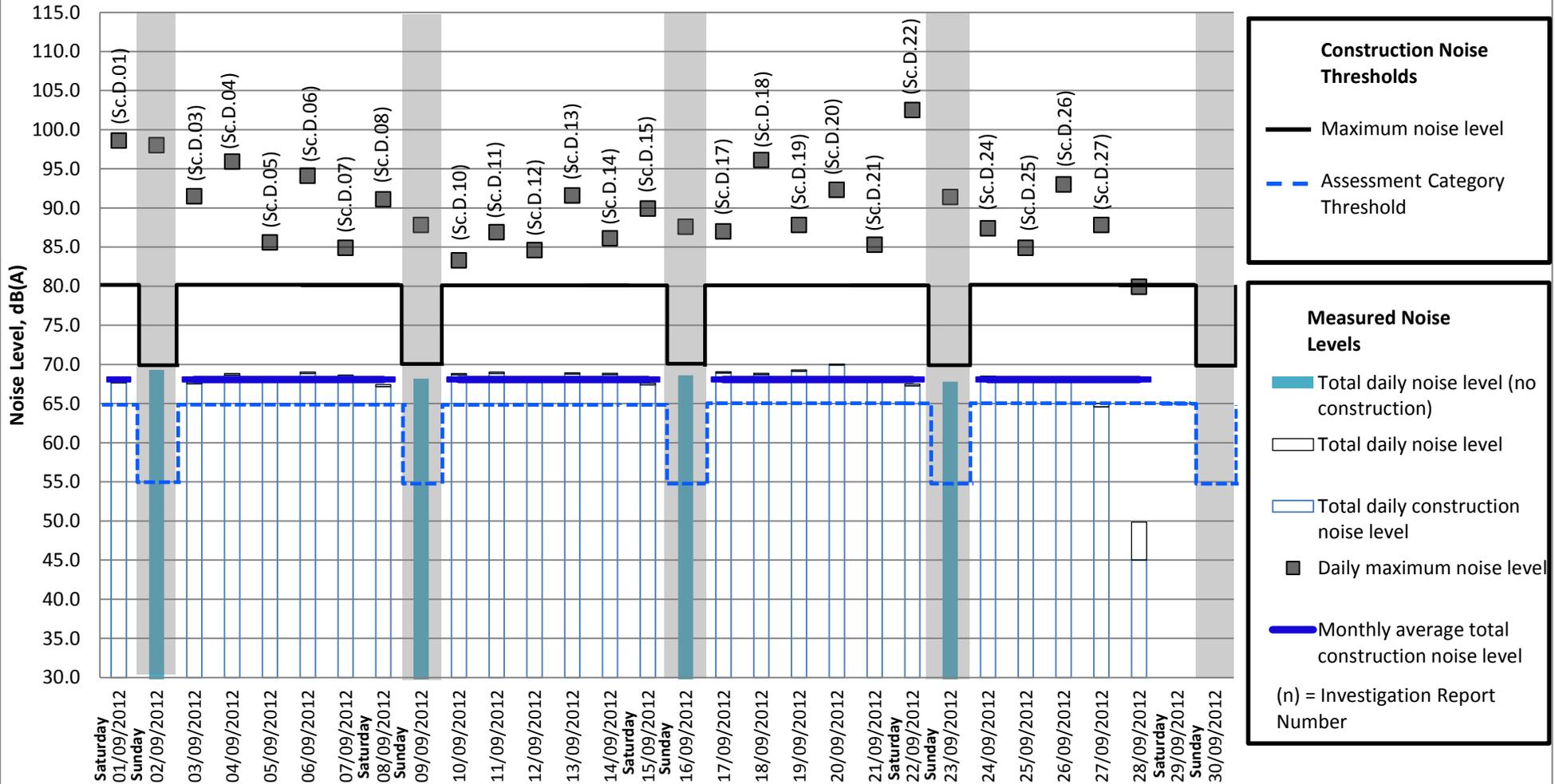


Measured Night-time Noise Levels at Port Edgar

Measurement period: September 2012

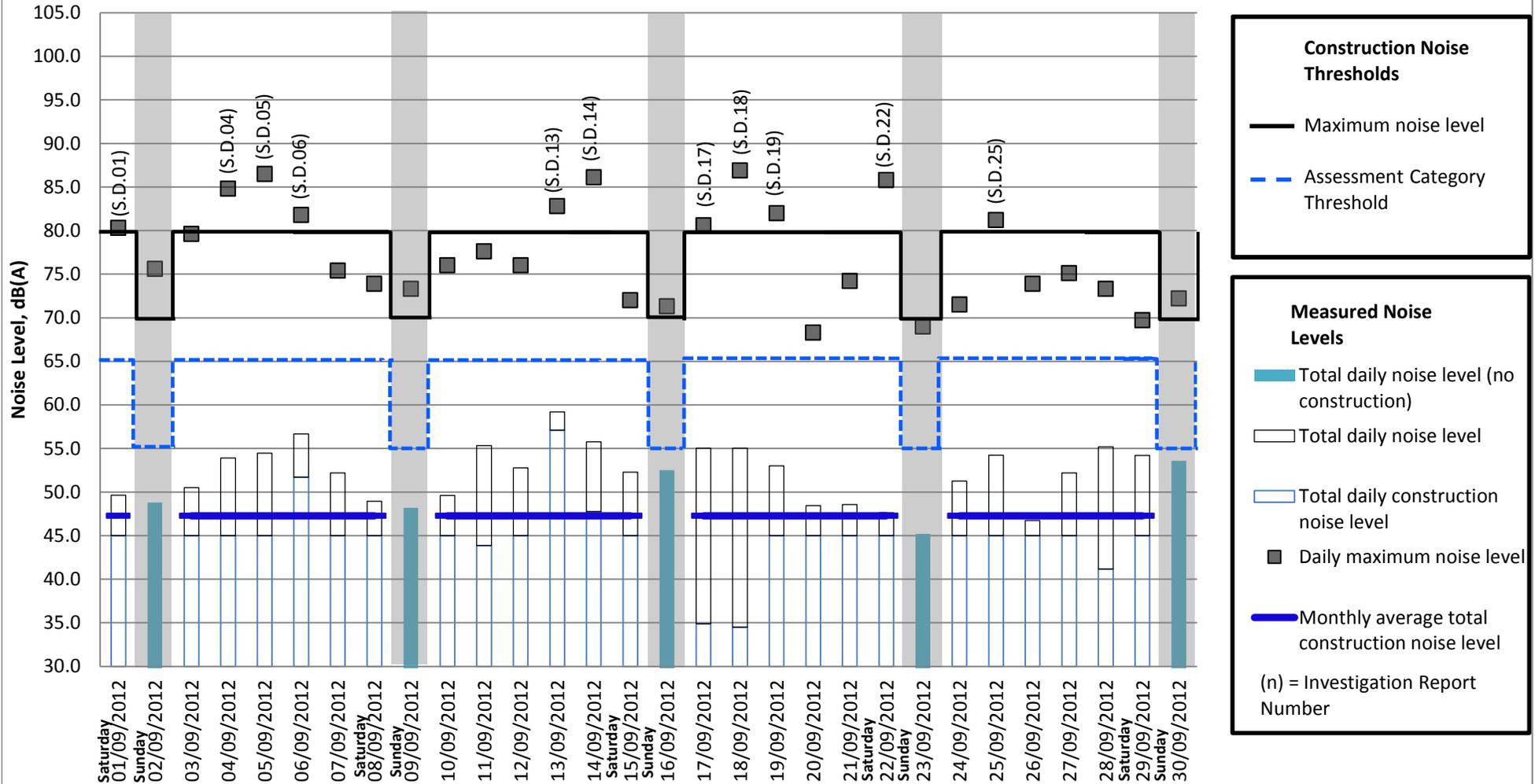


Measured Daytime Noise Levels at Scotstoun Measurement period: September 2012



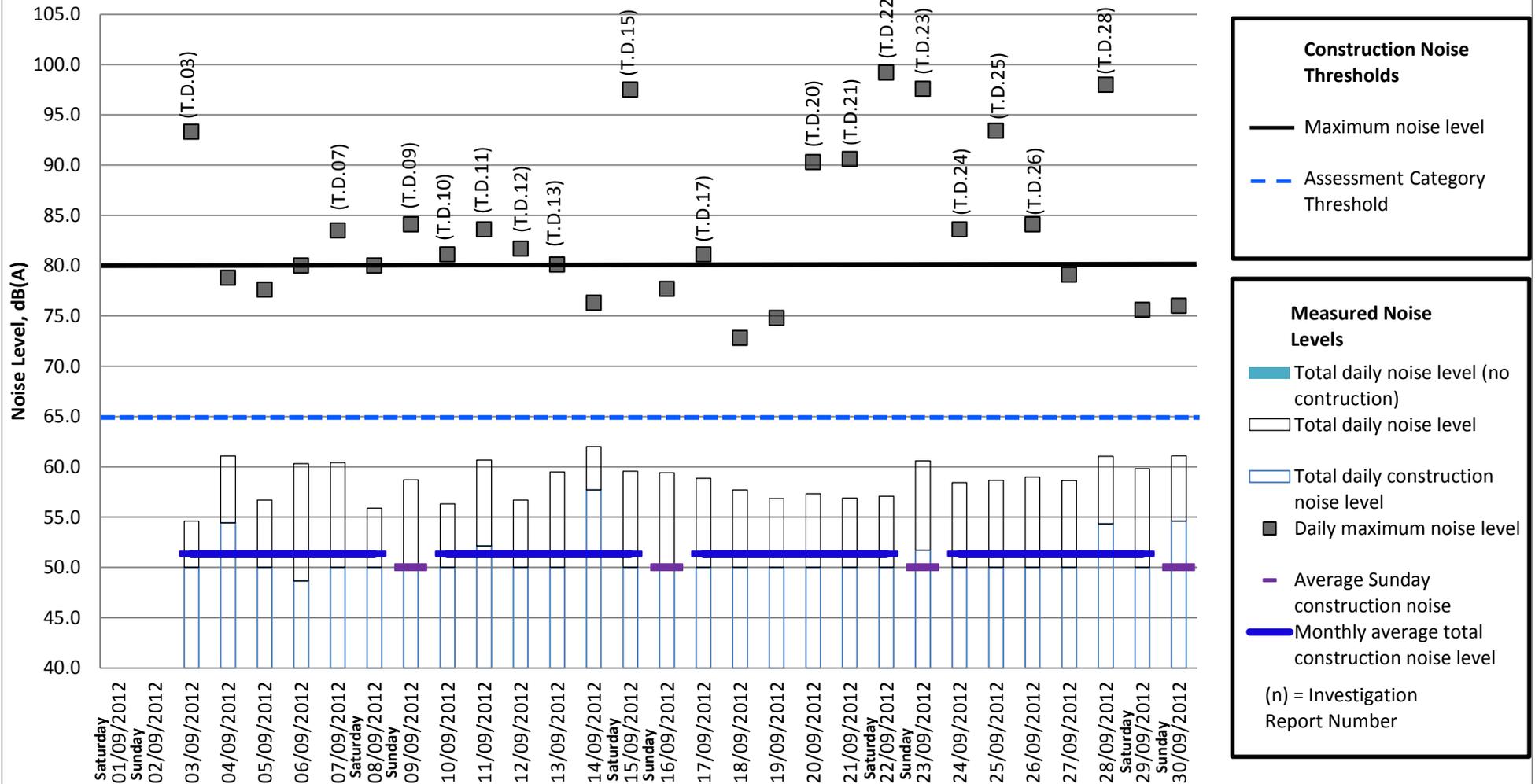
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location. Data is missing for this location on 29/09/12 and 30/09/12 due to an error with the device.

Measured Daytime Noise Levels at Springfield Measurement period: September 2012



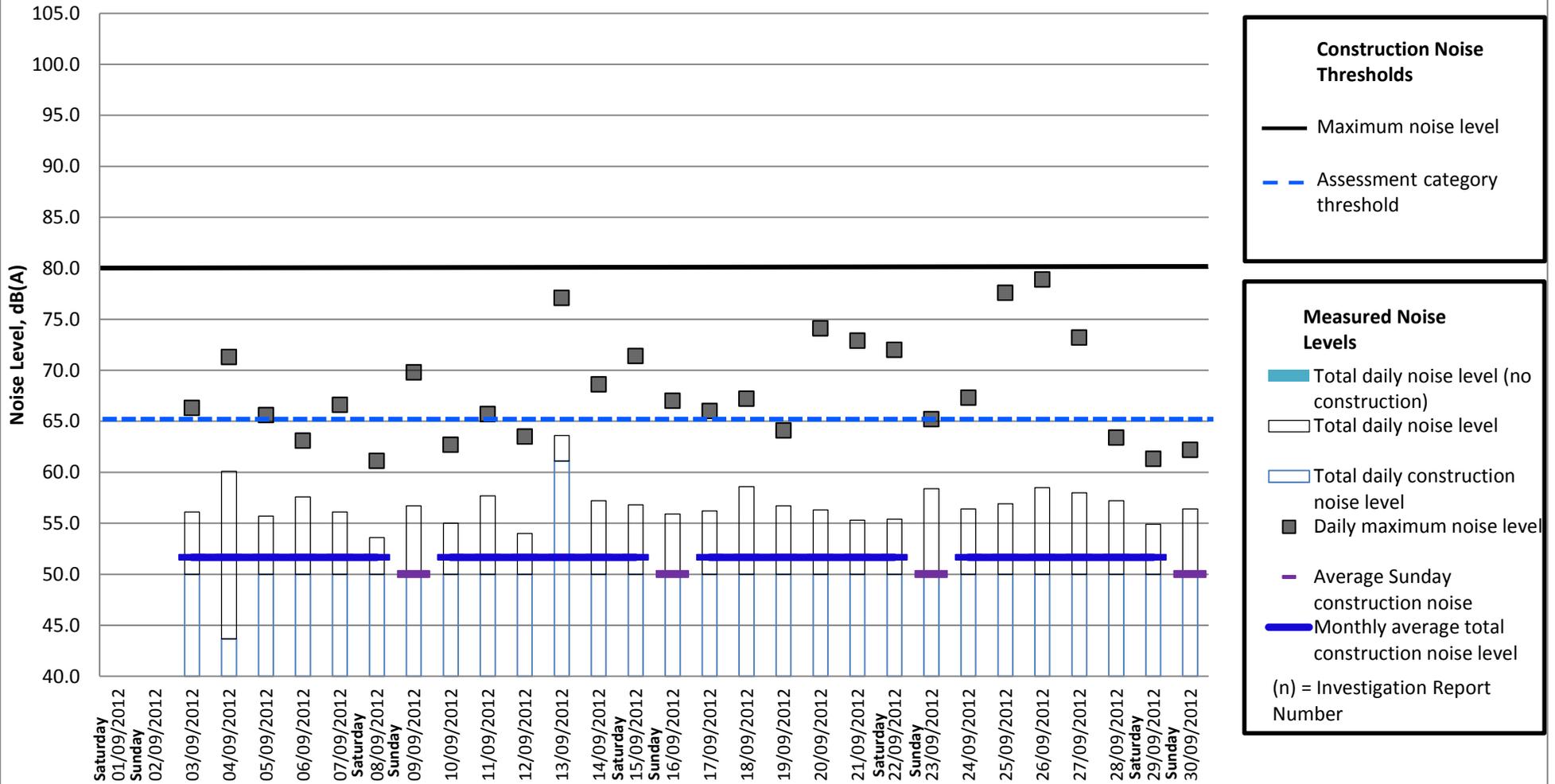
Note: The grey areas of the chart represent days on which no construction works have been conducted.

Measured Daytime Noise Levels at Tigh-Na-Grian Measurement period: September 2012



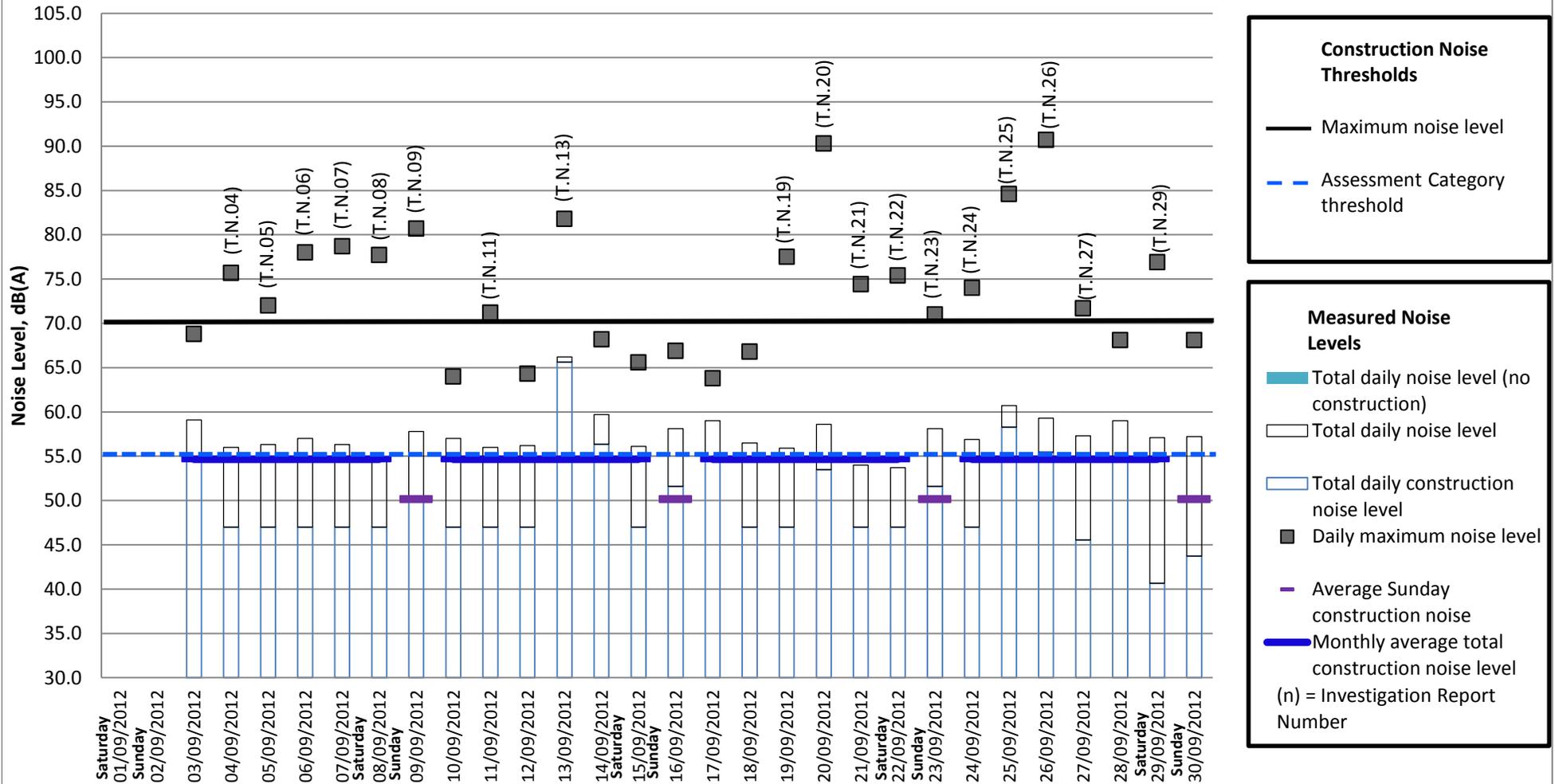
Note: Data is missing for this location on 01/09/12 and 02/09/12 due to an error with the device.

Measured Evening Noise Levels at Tigh-Na-Grian Measurement period: September 2012



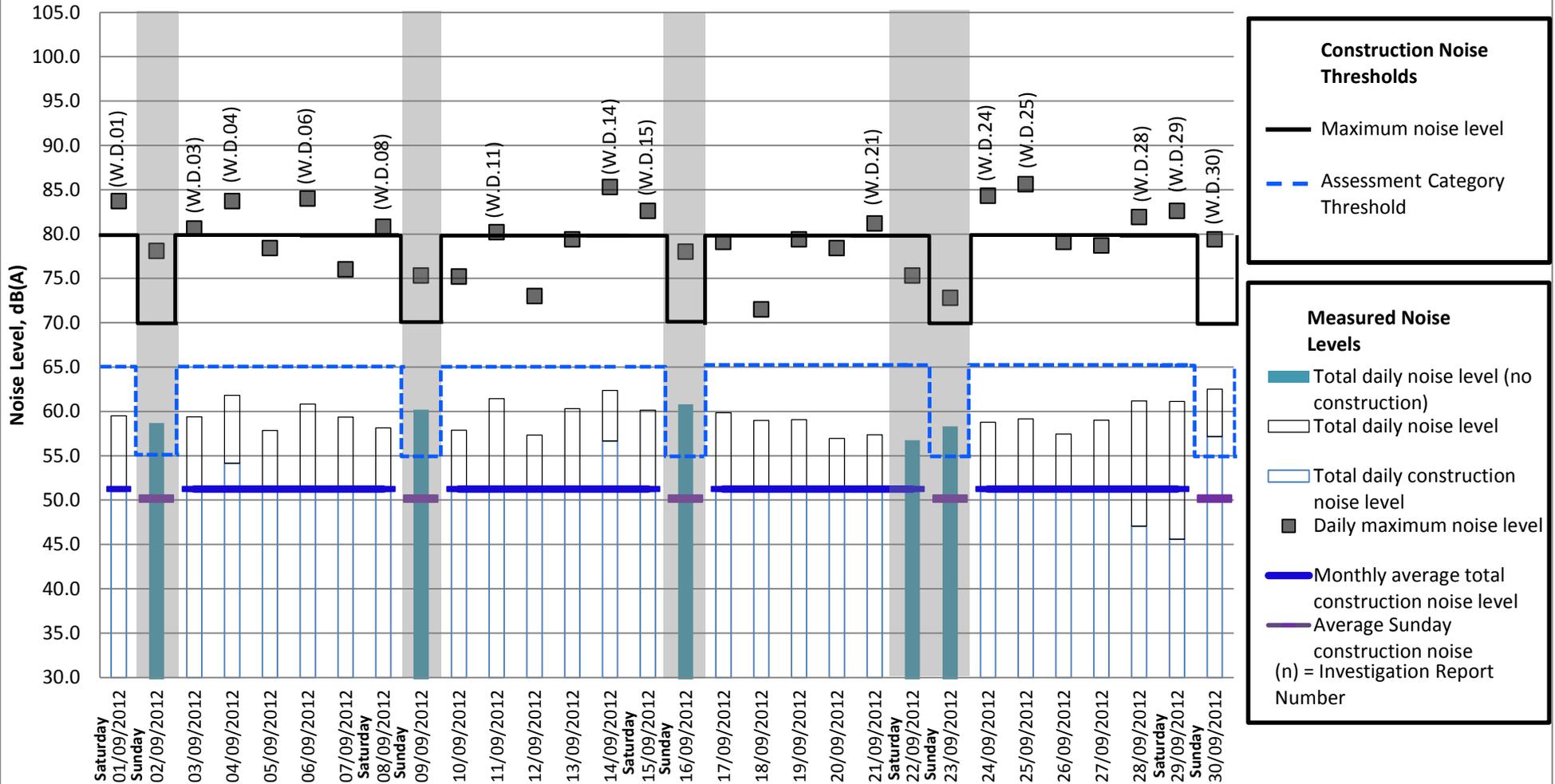
Note: Data is missing for this location on 01/09/12 and 02/09/12 due to an error with the device.

Measured Night-time Noise Levels at Tigh-Na-Grian Measurement period: September 2012



Note: Data is missing for this location on 01/09/12 and 02/09/12 due to an error with the device.

Measured Daytime Noise Levels at Whinny Hill Measurement period: September 2012



Note: The grey areas of the chart represent days on which no construction works have been conducted.



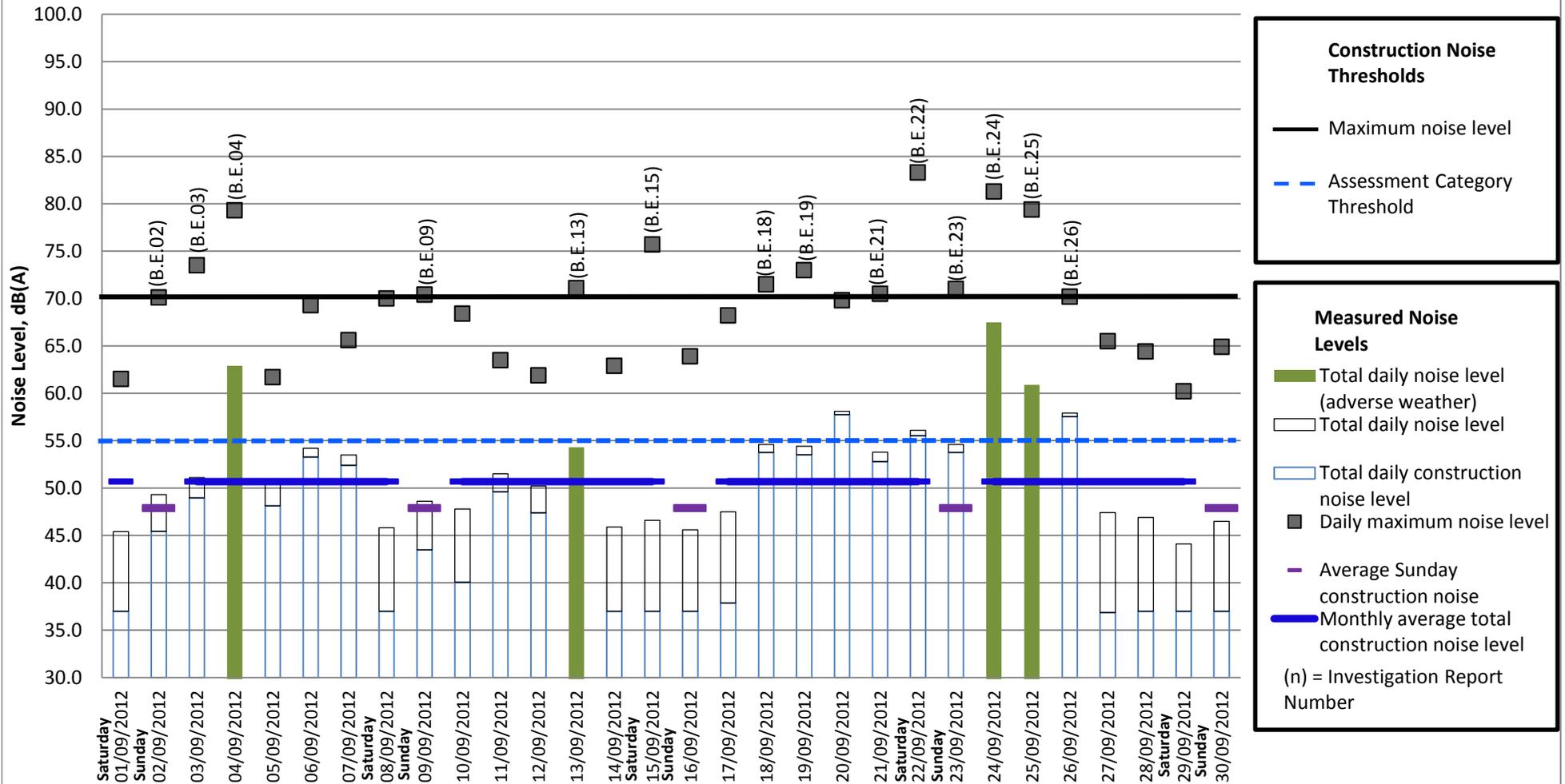
Forth Crossing Bridge Constructors

HOCHTIEF Solutions
American Bridge International
DRAGADOS
Morrison Construction

APPENDIX B

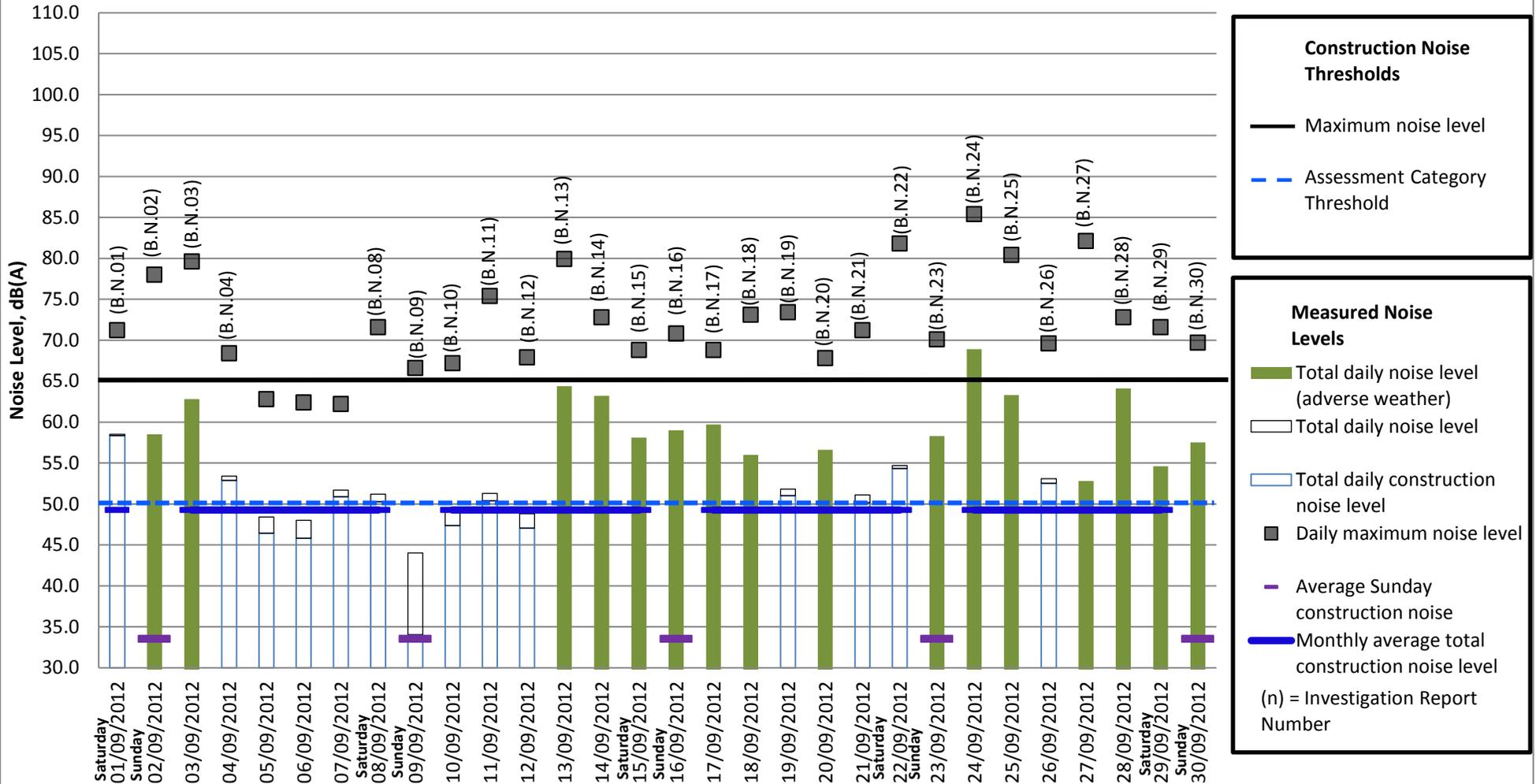
Measured Evening Noise Levels at Butlaw Fisheries

Measurement period: September 2012



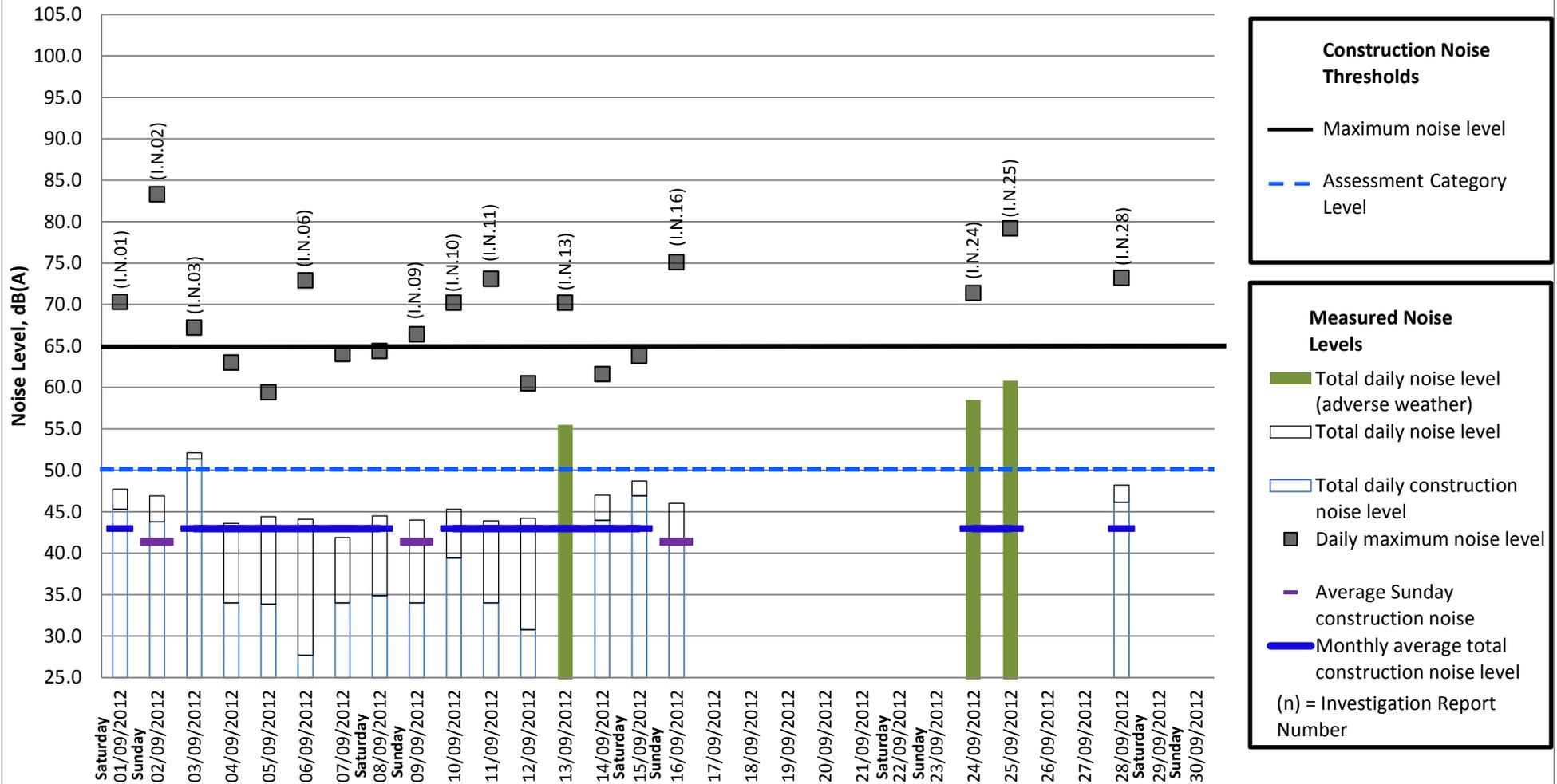
Note: This location was affected by adverse weather (including increased noise levels due to waves on the shore) during this period on 4/09/12, 13/09/12, 14/09/12, 24/09/12 and 25/09/12.

Measured Night time Noise Levels at Butlaw Fisheries Measurement period: September 2012



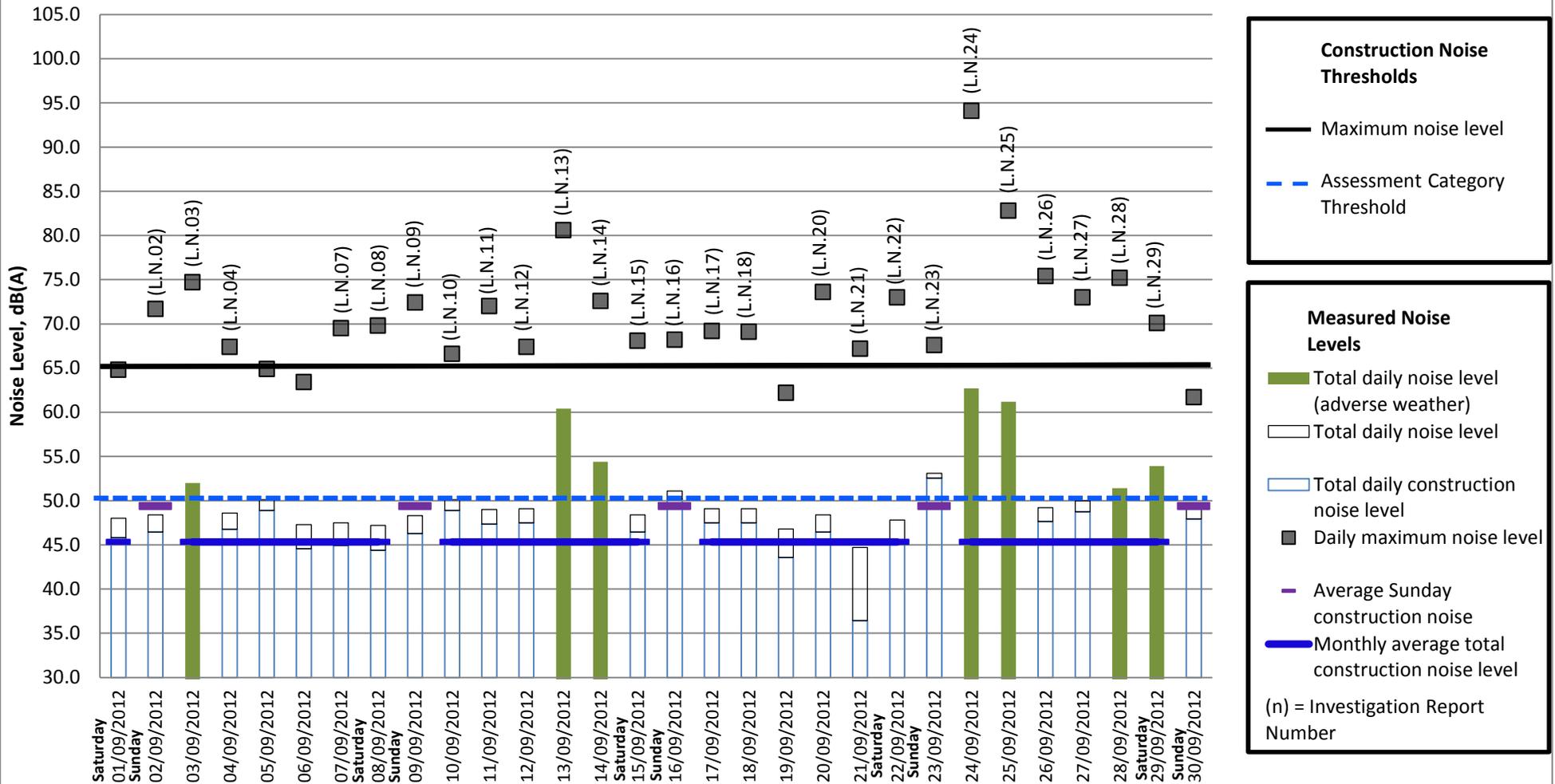
Note: This location was affected by adverse weather (including increased noise levels due to waves on the shore) during this period on 02/09/12, 03/09/12, 13/09/12, 14/09/12, 15/09/12, 16/09/12, 17/09/12, 18/09/12, 20/09/12, 23/09/12, 24/09/12, 25/09/12, 27/09/12, 28/09/12, 29/09/12 and 30/09/12.

Measured Night-time Noise Levels at Inchgarvie Measurement period: September 2012



Note: Due to a loss of the power supply at this location caused by a third party, nighttime data is missing for the period 17/09/12 to 23/09/12, 26/09/12, 27/09/12, 29/09/12 and 30/09/12. Adverse weather was found to significantly influence the noise levels at this location on 13/09/12, 24/09/12 and 25/09/12; when this is factored into the monthly average results for this location the average is found to be within the threshold level.

Measured Night-time Noise Levels at Linn Mill Measurement period: September 2012

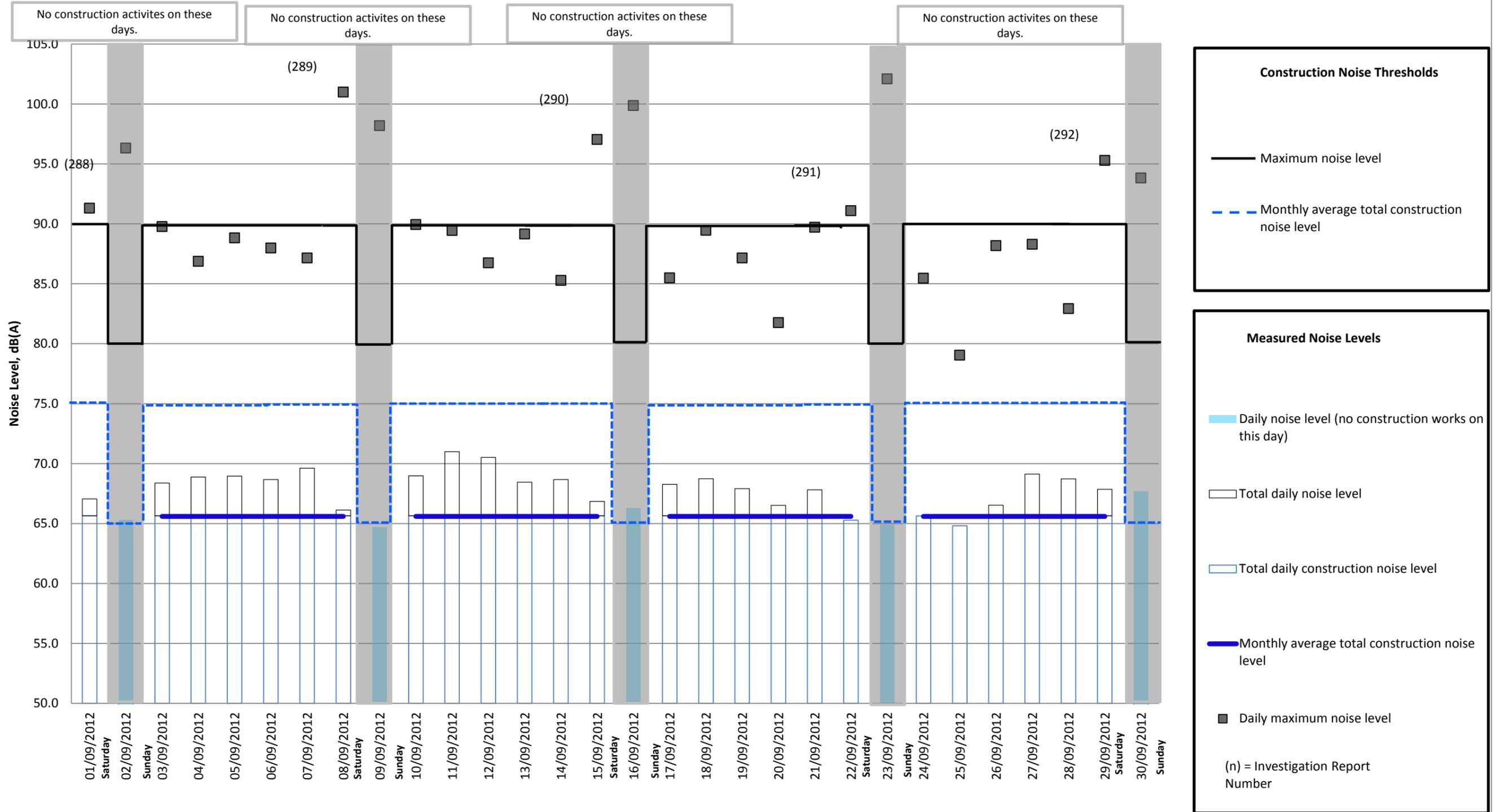


Note: This location was affected by adverse weather during this period on 3/09/12, 13/09/12, 14/09/12, 24/09/12, 25/09/12, 28/09/12 and 29/09/12.

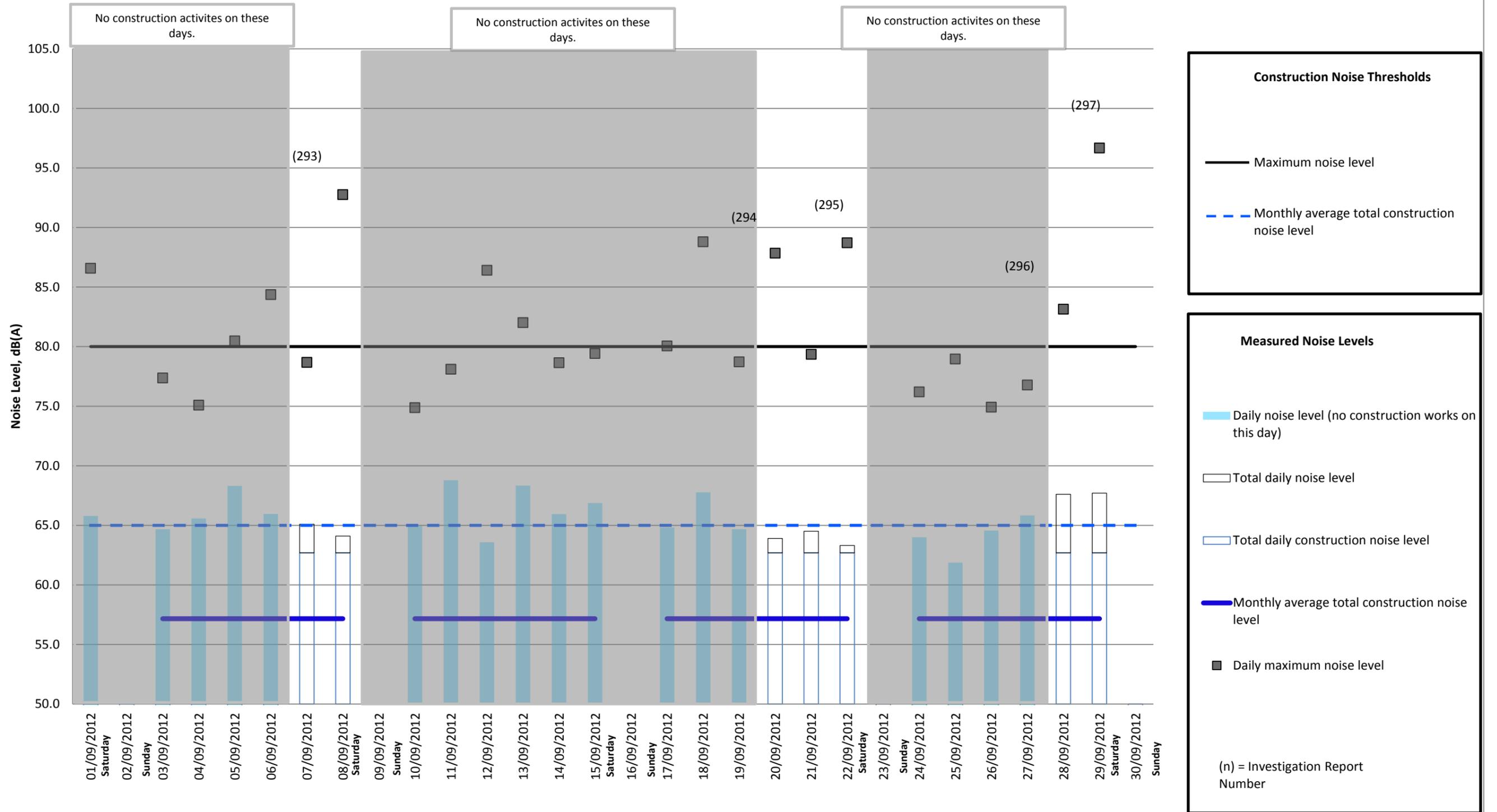
APPENDIX B -

**M9 J1A CONTRACT - CONSTRUCTION
NOISE MONITORING REPORTS**

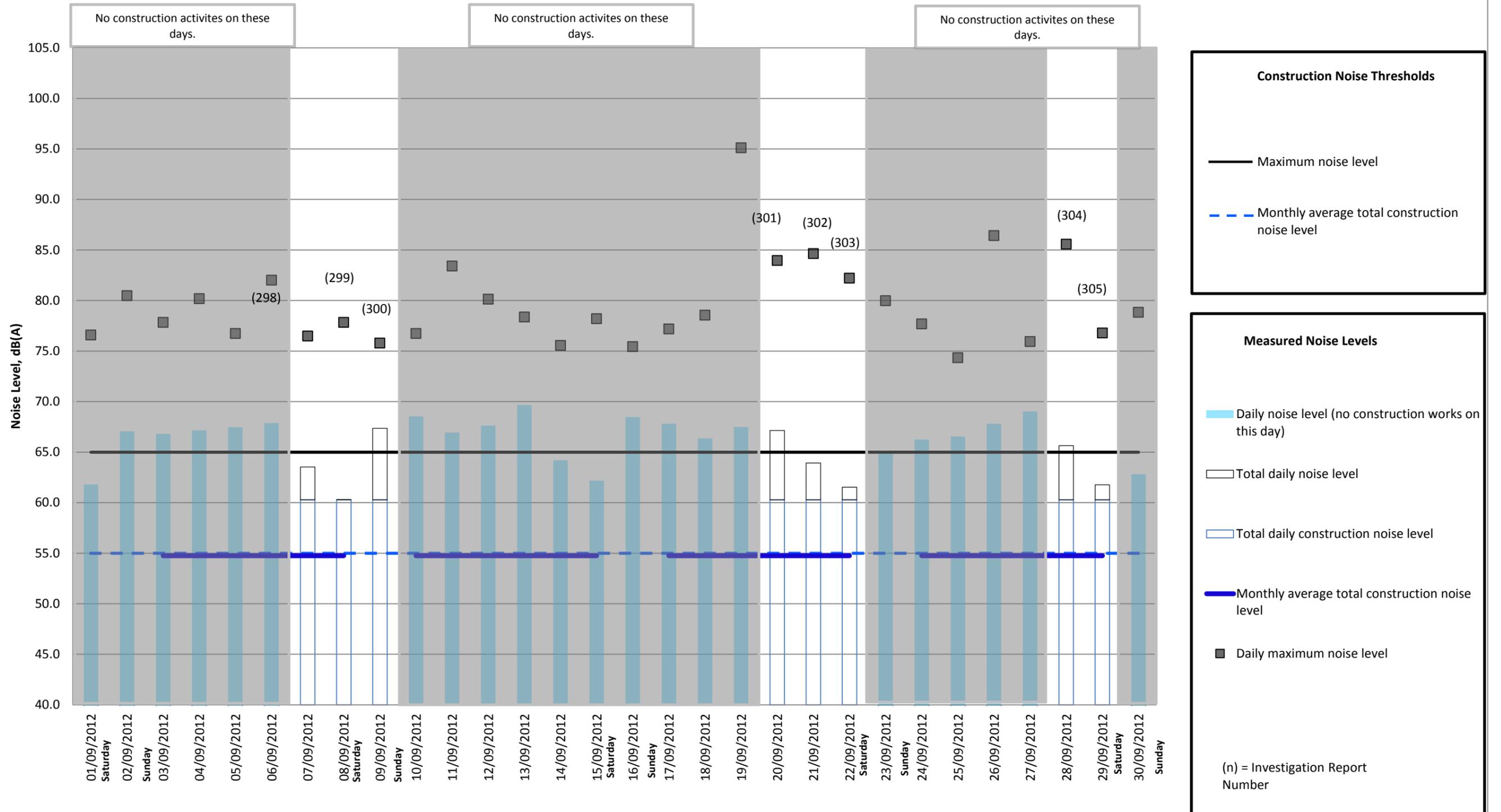
Measured daytime noise levels, 93/95 King Edwards Way (CNV02) Measurement period 1st September to 30th September 2012



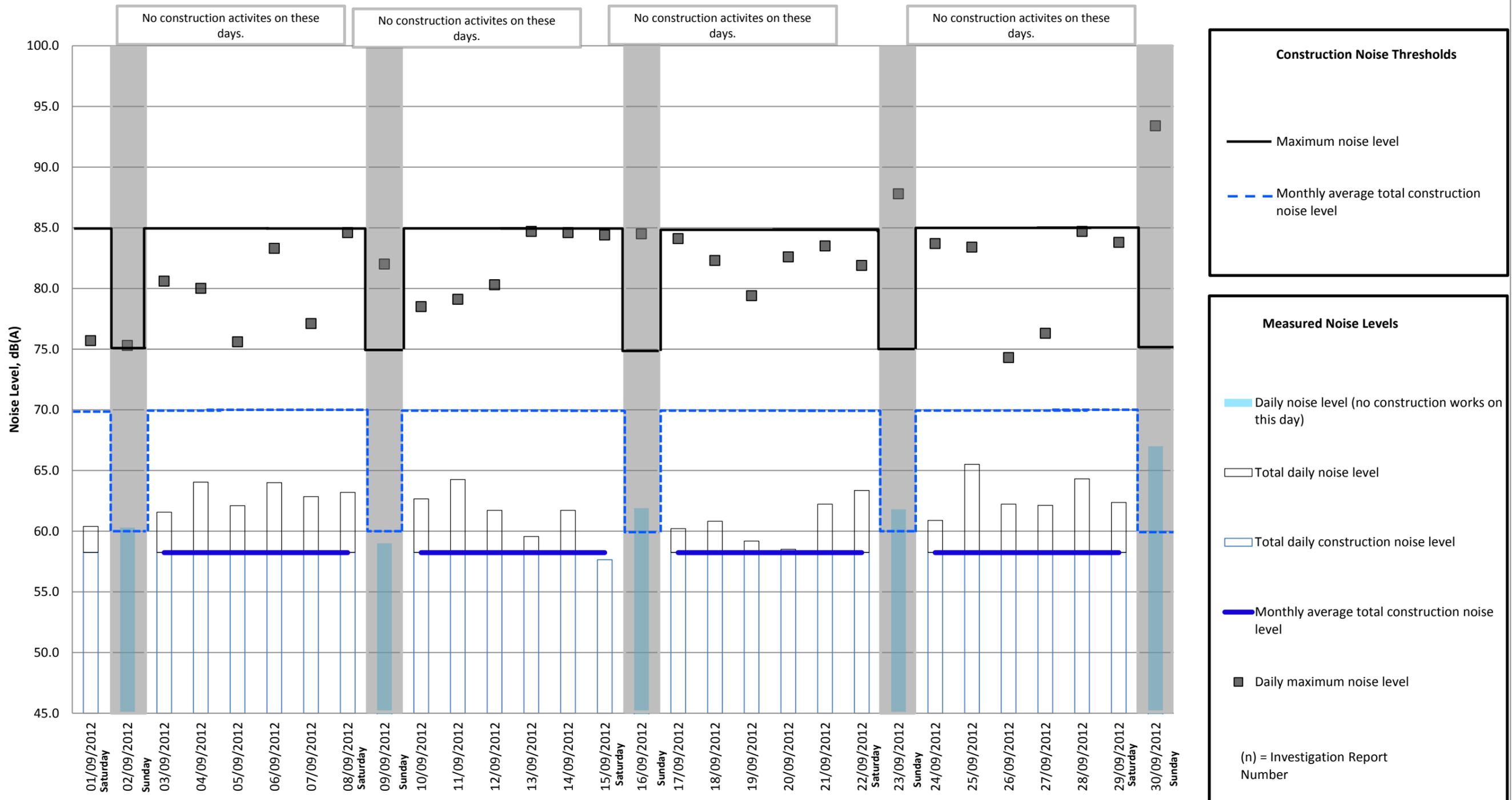
Measured evening noise levels, 93/95 King Edwards Way (CNV02) Measurement period 1st September to 30th September 2012



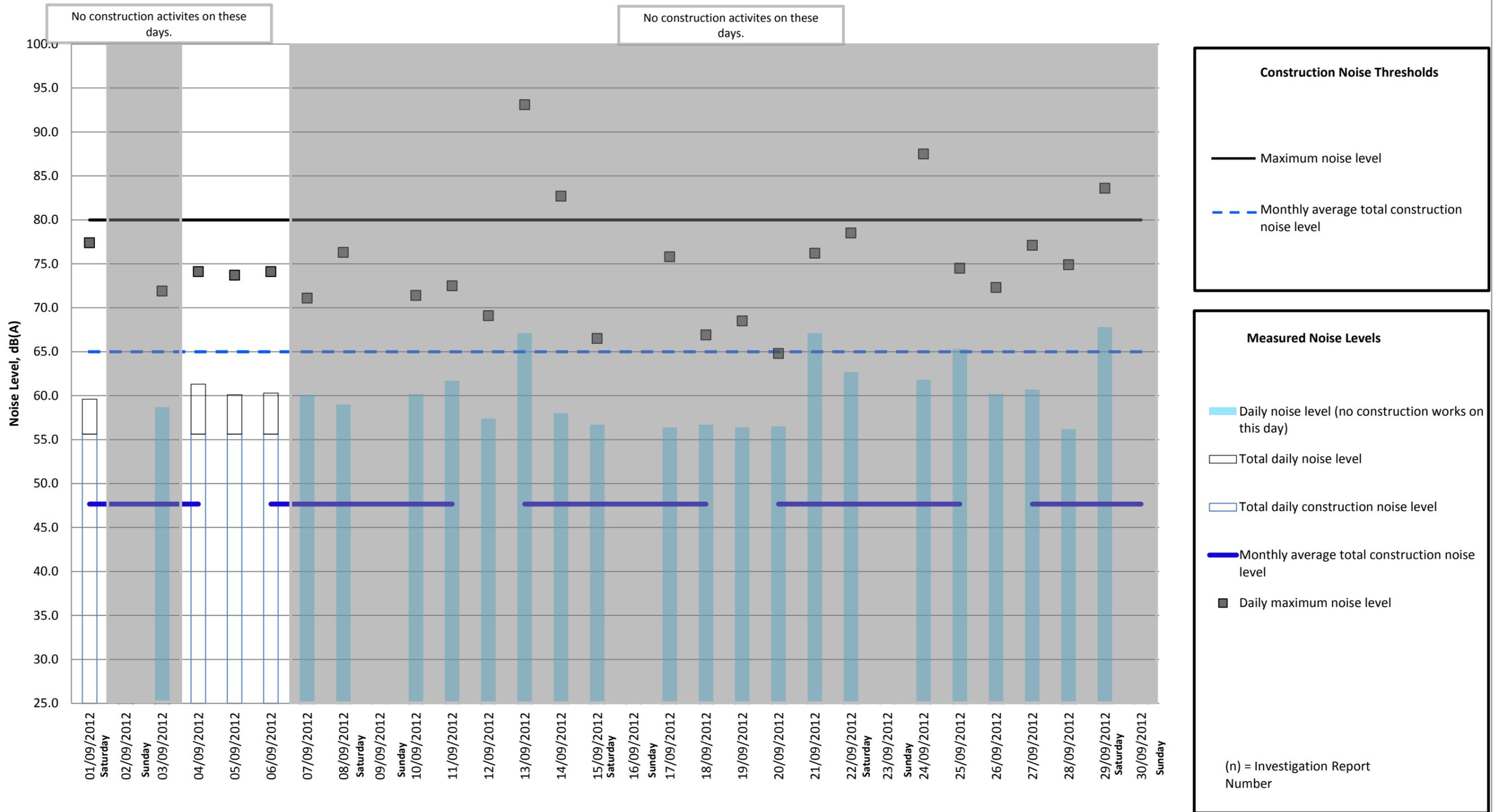
Measured night-time noise levels, 93/95 King Edwards Way (CNV02) Measurement period 1st Setpember to 30th September 2012



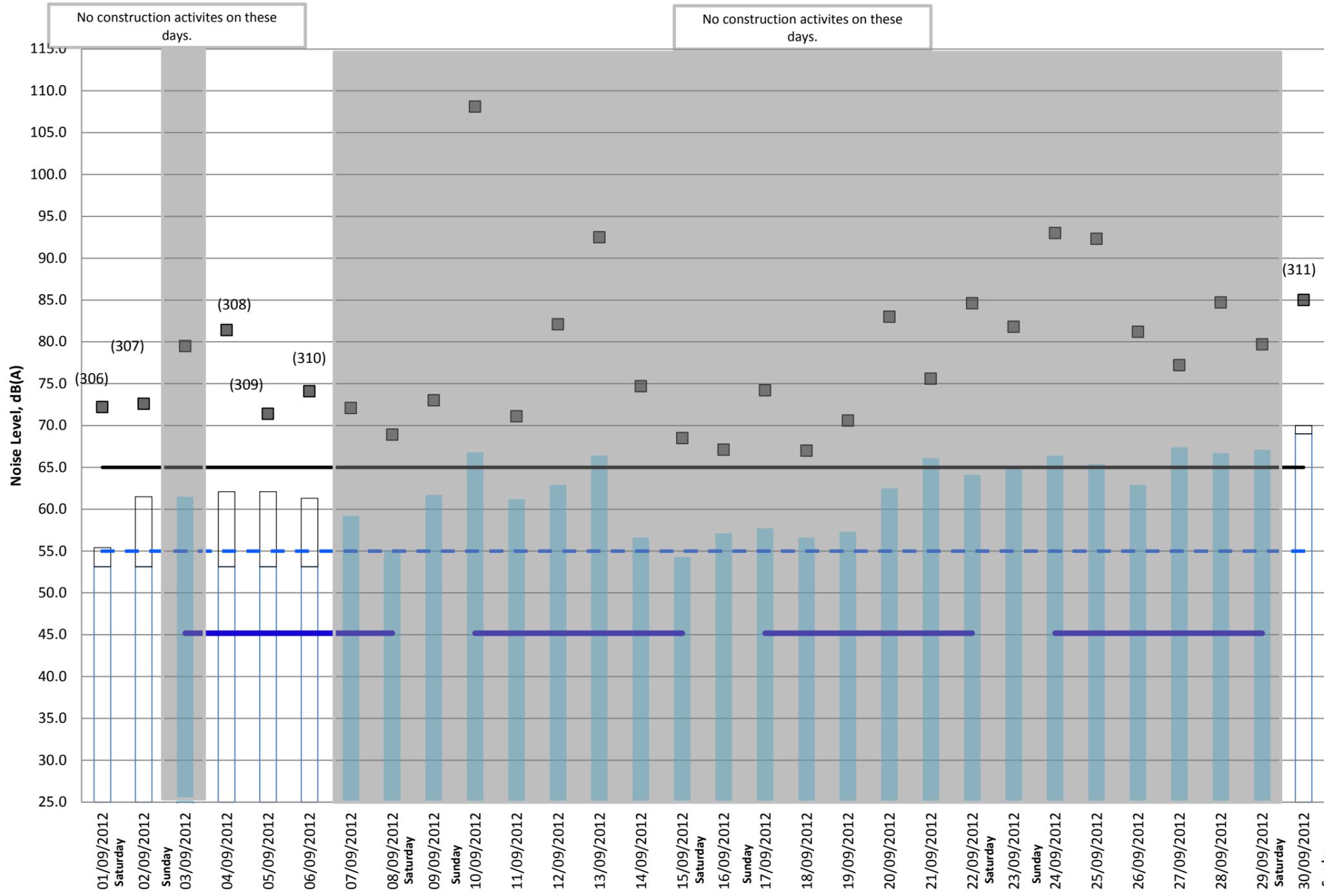
Measured daytime noise levels, Buie Rigg (CNV07) Measurement period 1st September to 30th September 2012



Measured evening noise levels, Buie Rigg (CNV07) Measurement period 1st September to 30th September 2012



Measured night-time noise levels, Buie Rigg (CNV07) Measurement period 1st September to 30th September 2012



Construction Noise Thresholds

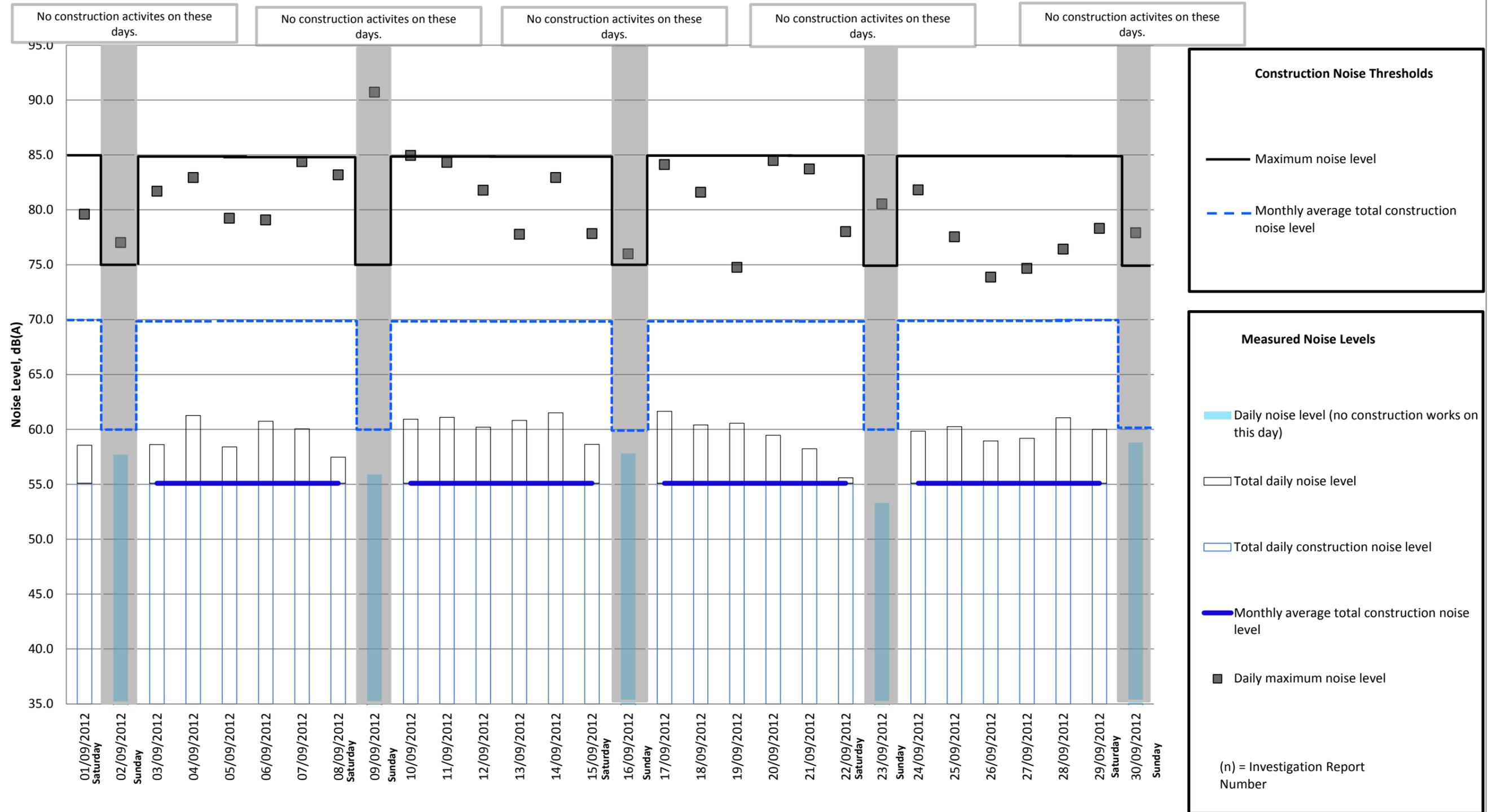
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

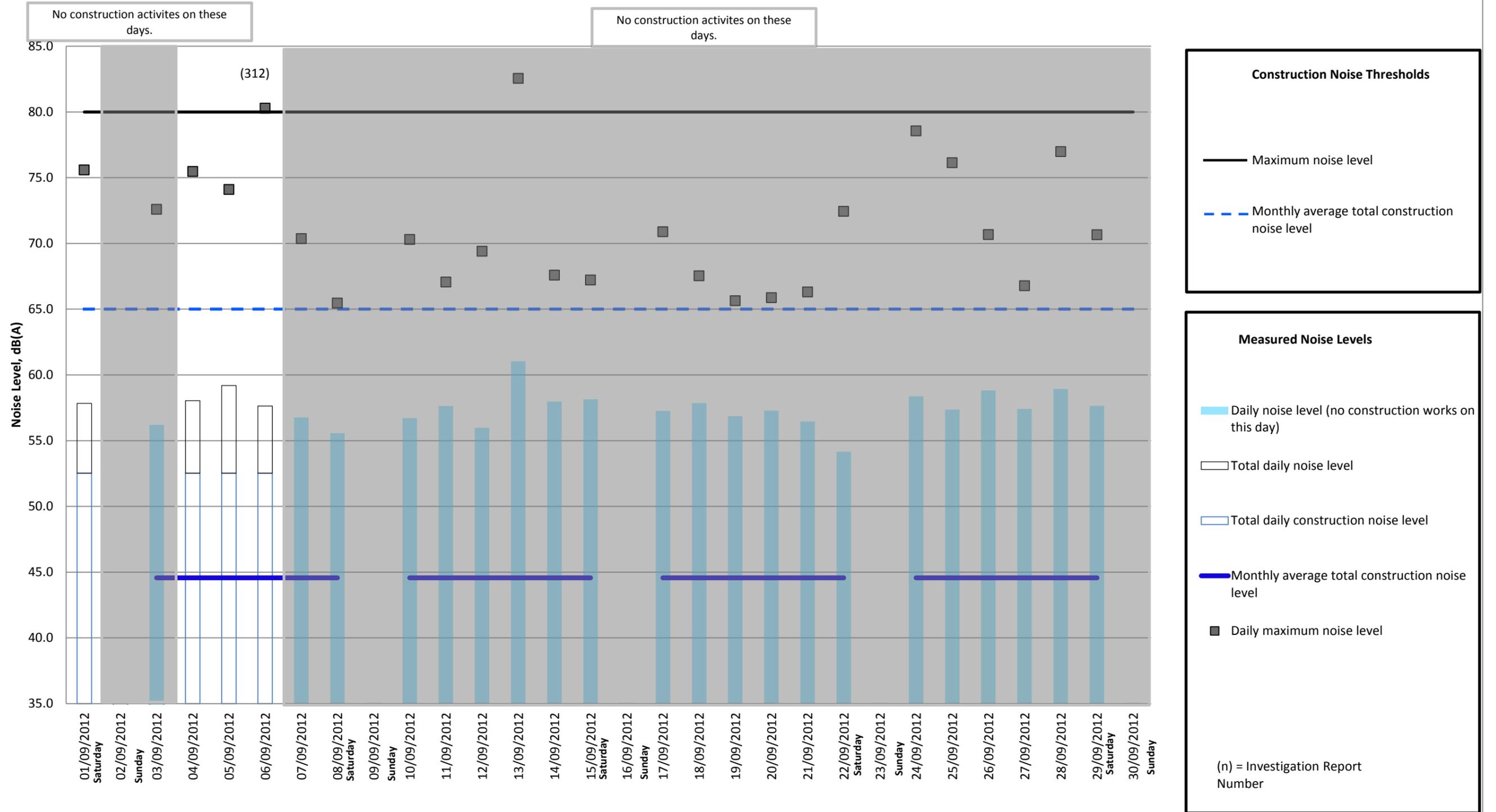
- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

Measured daytime noise levels, 8 Kirklands Park Grove (CNV16) Measurement period 1st September to 30th September 2012



Measured evening noise levels, 8 Kirklands Park Grove (CNV16) Measurement period 1st September to 30th September 2012



Construction Noise Thresholds

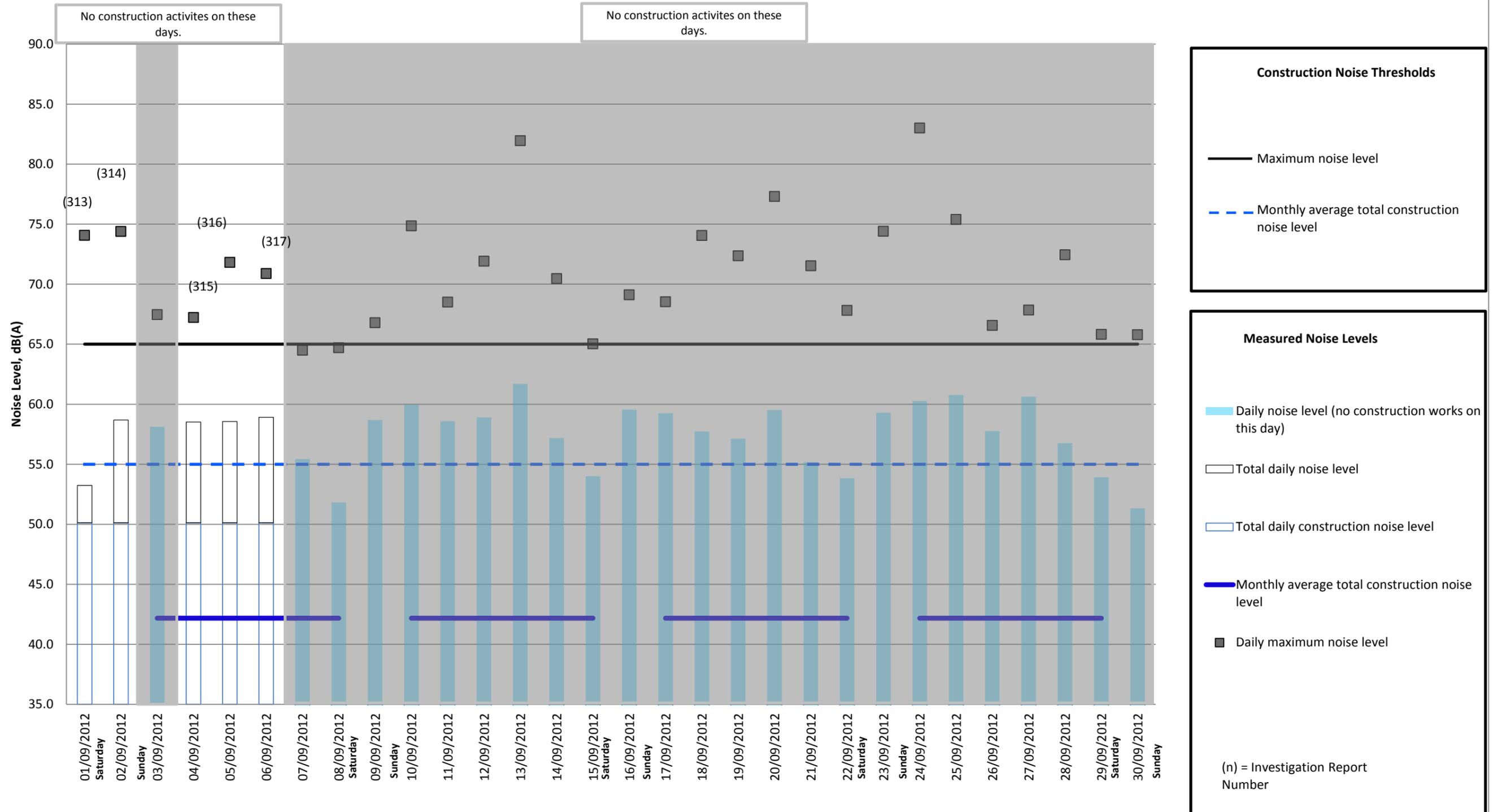
- Maximum noise level
- - - Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

Measured night-time noise levels, 8 Kirklands Park Grove (CNV16) Measurement period 1st September to 30th September 2012



 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 3-09-12	NER. 142
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 1st</u> – CNV02 Exceedences 288: Maximum Noise Level: 91.3 dB (A) at 5pm 1 st September An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise recordings available from the monitoring equipment would appear to indicate that dogs were barking near the property (See attached noise file) Therefore it is considered that it is unlikely that construction activities caused this exceedence Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date03-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date03-09-12... Project Manager / Assist Project Manager			



Exced 284.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 10-09-12	NER. 143
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 8th – CNV02</u> Exceedences 289: Maximum Noise Level: 101 dB (A) at 1pm 8 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise recordings available from the monitoring equipment would appear to indicate that dogs were barking near the property (See attached noise file) Therefore it is considered that it is unlikely that construction activities caused this exceedence Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date10-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date10-09-12... Project Manager / Assist Project Manager			



Exced 285.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 17-09-12	NER. 144
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 15th – CNV02</u> Exceedences 290: Maximum Noise Level: 97 dB (A) at 3pm 15 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the works diary for this day shows that works finished at 1pm as it was a Saturday. Therefore it is considered that it is unlikely that construction activities caused this exceedence Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date17-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date17-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 24-09-12	NER. 145
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 22nd</u> – CNV02 Exceedences 291: Maximum Noise Level: 91.1 dB (A) at 3pm 22 nd September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise recordings available from the monitoring equipment would appear to indicate that dogs were barking near the property (See attached noise file) Therefore it is considered that it is unlikely that construction activities caused this exceedence Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date24-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date24-09-12... Project Manager / Assist Project Manager			



Exced 286.wav

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 01-10-12	NER. 146
	NOISE EXCEEDENCE REPORT		
<p>Summary of Finding(s): <u>September 29th – CNV02</u></p> <p>Exceedences 292: Maximum Noise Level: 95.3 dB (A) at 2pm 29th September</p> <p>An analysis was carried out using the following data:</p> <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) <p>Findings:</p> <p>Analysis of the site diary shows that works were complete in this area at 1pm. Further works (including Gantry erection) were planned for later in the night but these were not ongoing at 2pm.</p> <p>Therefore it is considered that it is unlikely that construction activities caused this exceedence</p> <p>Corrective Action Required:</p> <p>Maintain current monitoring and surveillance levels</p> <p>SignatureRoland Tarrant..... Date01-10-12.....</p>			
<p>NER Closed</p> <p>Works have been inspected and completed as described above.</p> <p>SignatureSeamus O'Brien.....Date01-10-12...</p> <p style="text-align: center;">Project Manager / Assist Project Manager</p>			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 10-09-12	NER. 147
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 08th – CNV02</u> Exceedences 293: Maximum Noise Level: 92.8 dB (A) at 7pm 08 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to remove Cats eyes on the M9 EB did not commence until later in the night at CH1800. There were no works ongoing within 300m from this receptor at this time. Therefore it is considered that it is unlikely that construction activities caused this exceedence Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date10-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date10-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 21-09-12	NER. 148
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 20th – CNV02</u> Exceedences 294: Maximum Noise Level: 87.8 dB (A) at 9pm 20 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to lift Varioguard from the M9 did not commence until after 9pm at CH600. There were no works ongoing within 300m from this receptor at this time. Therefore it is considered that it is unlikely that construction activities caused this exceedence Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date21-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date21-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 24-09-12	NER. 149
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 22nd – CNV02</u> Exceedences 295: Maximum Noise Level: 88.7 dB (A) at 9pm 22 nd September 303: Maximum Noise Level: 82.2 dB (A) at 10pm 22 nd September An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to install Gantry Nos 1,2,3 and 4 on the M9 were ongoing at this time. It is possible that works associated with the installation of these Gantries may have contributed to or caused the exceedence. Letters were sent to local residents in advance of the works taking place and the works were programmed so that they were completed by 1pm. There were no complaints received due to the works on this night. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date24-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date24-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 29-09-12	NER. 150
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 29th – CNV02</u> Exceedences 296: Maximum Noise Level: 83.1 dB (A) at 7pm 28 th September 304: Maximum Noise Level: 85.6 dB (A) at 11pm 28 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to install Gantry No's 17, 5 and 6 on the M9 were ongoing at this time. These locations are more than 300m from the sensitive receptor and it is unlikely that noise from construction activities resulted in the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date29-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date29-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 01-10-12	NER. 151
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 29th – CNV02</u> <p>Exceedences 297: Maximum Noise Level: 96.7 dB (A) at 6pm 29th September 305: Maximum Noise Level: 76.1 dB (A) at 4am 30th September</p> <p>An analysis was carried out using the following data:</p> <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) <p>Findings:</p> <p>Analysis of the site diary shows that works to install Gantry No's 17, 5 and 6 on the M9 were ongoing at this time. These locations are more than 300m from the sensitive receptor and it is unlikely that noise from construction activities resulted in the exceedence.</p> <p>Corrective Action Required:</p> <p>Maintain current monitoring and surveillance levels</p> <p>SignatureRoland Tarrant..... Date29-09-12.....</p>			
NER Closed <p>Works have been inspected and completed as described above.</p> <p>SignatureSeamus O'Brien.....Date29-09-12...</p> <p style="text-align: center;">Project Manager / Assist Project Manager</p>			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 10-09-12	NER. 152
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 10th – CNV02</u> Exceedences 298: Maximum Noise Level: 76.5 dB (A) at 10pm 7 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to move the varioguard on the M9 commenced at CH1800 at 9pm on the night in question. These works are located in excess of 300m from the sensitive receptor and progressed in a westward direction. It is considered unlikely that noise from construction activities resulted in the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date10-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date10-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 10-09-12	NER. 153
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 10th – CNV02</u> Exceedences 299: Maximum Noise Level: 77.8 dB (A) at 12am 8 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to remove Cats eyes on the M9 commenced at CH1800 at 9pm on the night in question. These works are located in excess of 300m from the sensitive receptor and progressed in a westward direction. It is considered unlikely that noise from construction activities resulted in the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date10-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date10-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 10-09-12	NER. 154
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 10th – CNV02</u> Exceedences 300: Maximum Noise Level: 75.8 dB (A) at 6am 9 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to remove Cats eyes on the M9 commenced at CH1800 were completed before midnight on the night in question. It is considered unlikely that noise from construction activities resulted in the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date10-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date10-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 21-09-12	NER. 155
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 20th – CNV02</u> Exceedences 301: Maximum Noise Level: 84 dB (A) at 11pm 20 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to remove Varioguard on the M9 commenced at 9pm at CH 600 on the night in question. It is considered possible that noise from the activity may have contributed to or caused the exceedence. There were no complaints received in relation to the works on the night in question. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date21-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date21-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 22-09-12	NER. 156
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 21st – CNV02</u> Exceedences 302: Maximum Noise Level: 84.6 dB (A) at 7am 22 nd September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to remove Varioguard on the M9 commenced at 9pm at CH 550 on the night in question but that the works were completed before midnight. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date22-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date22-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 03-09-12	NER. 157
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 1st – CNV07</u> Exceedences 306: Maximum Noise Level: 72.2 dB (A) at 10pm 01 st September An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to place varioguard on the M9 Loop took place on this night. This area is approximately 250-300m from the sensitive receptor. Previous monitoring of this type of works has shown that noise levels at this distance away should not approach exceedence levels. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date03-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date03-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 03-09-12	NER. 158
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 2nd – CNV07</u> Exceedences 307: Maximum Noise Level: 72.6 dB (A) at 6am 02 nd September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to place varioguard on the M9 Loop took place on this night. However, the works were complete before 6am when the exceedence occurred. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date03-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date03-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 05-09-12	NER. 159
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 04th – CNV07</u> Exceedences 308: Maximum Noise Level: 81.4 dB (A) at 11pm 04 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to place a contraflow on the M9 spur took place on this night. It is possible that construction plant was operating intermittently in this area at the time of the exceedence. The works were planned in advance and were programmed to take place as early in the evening as possible to minimise disruption. Evening and night time working are required as works of this nature are not allowable during the daytime in order to maintain the road network capacity. Noise minimisation measures were in place and a PCNV covering the works was submitted to the Noise Liaison Group. Therefore it is considered possible that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date05-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date05-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 06-09-12	NER. 160
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 06th – CNV07</u> Exceedences 309: Maximum Noise Level: 70.2 dB (A) at 6am 05 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to lay median surfacing on this night. However, the works were completed before 6am on the night in question. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date06-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date06-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 07-09-12	NER. 161
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 07th – CNV07</u> Exceedences 310: Maximum Noise Level: 74.1 dB (A) at 10pm 06 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that no works were carried out in this area at this time by SRB. Some works were carried out by BEAR Scotland on the spur to repair CAT1 Defects. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date07-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date07-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 30-09-12	NER. 162
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 07th – CNV07</u> Exceedences 311: Maximum Noise Level: 85 dB (A) at 11pm 30 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that the Spur Northbound was closed to facilitate switching the varioguard layout on the loop. At this time, these activities were concentrated in the loop section which is approximately 300m from the sensitive receptor. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date30-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date30-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 7-09-12	NER. 163
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 06th – CNV16</u> Exceedences 312: Maximum Noise Level: 80.3 dB (A) at 8pm 06 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of noise files (attached) shows that residents of the property were shouting in the vicinity of the sensitive receptor. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date07-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date07-09-12... Project Manager / Assist Project Manager			



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 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 3-09-12	NER. 164
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 01st – CNV16</u> Exceedences 313: Maximum Noise Level: 74dB (A) at 11pm 01 st September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of noise files (attached) shows that works were taking place on the spur at CH500, over 300m from the sensitive receptor location. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date03-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date03-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 3-09-12	NER. 165
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 02nd</u> – CNV16 Exceedences 314: Maximum Noise Level: 74.4 dB (A) at 10pm 02 nd September An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of noise files (attached) shows that works were taking place on the spur at CH500, over 300m from the sensitive receptor location. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date03-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date03-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 5-09-12	NER. 166
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 04th – CNV16</u> Exceedences 315: Maximum Noise Level: 66.9 dB (A) at 10pm 04 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to place a contraflow on the M9 spur took place on this night. It is possible that construction plant was operating intermittently in this area at the time of the exceedence. The works were planned in advance and were programmed to take place as early in the evening as possible to minimise disruption. Evening and night time working are required as works of this nature are not allowable during the daytime in order to maintain the road network capacity. Noise minimisation measures were in place and a PCNV covering the works was submitted to the Noise Liaison Group. Therefore it is considered possible that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date05-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date05-09-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 6-09-12	NER. 167
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 05th – CNV16</u> Exceedences 316: Maximum Noise Level: 66.9 dB (A) at 7am 06 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that works to lay median surfacing on this night. However, the works were completed before 6am on the night in question. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date06-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date06-09-12... Project Manager / Assist Project Manager			

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 07-09-12	NER. 168
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>September 07th – CNV16</u> Exceedences 317: Maximum Noise Level: 7.9 dB (A) at 7am morning of the 7 th September An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diary shows that no works were carried out in this area at this time by SRB. Some works were carried out by BEAR Scotland on the spur to repair CAT1 Defects. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels. SignatureRoland Tarrant..... Date07-09-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date07-09-12... Project Manager / Assist Project Manager			