

**Construction Compliance Report
Stage 1A Civils at Ivanhoe Estate
Conditions B20 and B21 SSDA 8903**

Under Condition B20 of SSDA 8903, as modified (**Stage 1 Approval**), a Construction Compliance Report is required every six months from the date of the commencement of construction, for the duration of construction. The report must include the matters set out in Condition B21 of the Stage 1 Approval. This letter and the information provided below is intended to be a Construction Compliance Report for those purposes.

Contractor: Mainland Civil Pty Limited

Works: Stage 1A Civils

Period: 11 December 2020 to 10 June 2021

Requirement	Comment
B21(a) - Environmental monitoring	No issues were identified in respect of dewatering, dust or noise from the monitoring results. Please see attached the following monitoring results undertaken via the Contractor: - Dewatering - Dust Monitoring - Noise Monitoring
B21(b) – Complaints received	Nil.
B21(c) – Review of CEMP and Environmental Management Strategy	Outside of the Independent Environmental Audit mentioned below, there were nil reviews of the Construction Environmental Management Plan or the Environmental Management Strategy and associated sub-plans.
B21(d) – Modifications	Nil which relates to these works.
B21(e) – Independent Environmental Audit	Please see attached an Independent Environmental Audit (preliminary findings) dated 17 December 2020 which was commissioned. No action was required to be taken in response to this audit.
B21(f) – Incidents	Nil.
B21(g) – Other matters	Nil other matters and nil requests by the Planning Secretary.

Feel free to contact me if you have any queries.

Kind Regards,

Chris Koukoutaris
Senior Development Manager
Frasers Property Australia Pty Limited
T +61 2 9767 2223
E chris.koukoutaris@frasersproperty.com.au

PROJECT NUMBER: 1378

PROJECT: Ivanhoe Estate, Macquarie park

Name of Tester	Date	Time	pH Meter Reading	Turbidity Reading	Discharged to (Stormwater / Sewer)?	Area of Site being de-watered	Any substances visible on the surface of water?	Any Odour present?	Test Water Acceptable for Discharge?	Discharge Duration	Total Volume Discharged
Sai	24/3	10:30am	6.99	26.3	Storm water	Sediment Basin	Yes / <input checked="" type="radio"/> No	Yes / <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes / No	10hrs	400kL
Sai	25/3	8:15am	6.93	29.4	Storm water	Sediment Basin	Yes / <input checked="" type="radio"/> No	Yes / <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes / No	10hrs	400kL
Mitch	8/5	8:00am	6.74	21.8	Stormwater	Sed Basin	Yes / <input checked="" type="radio"/> No	Yes / <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes / No	6hrs	250kL
Mitch	9/5	8:15am	6.78	22.3	Stormwater	Sed Basin	Yes / <input checked="" type="radio"/> No	Yes / <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes / No	4hrs	150kL
Mitch	12/6	9:00am	6.81	25.7	Stormwater	Sed Basin	Yes / <input checked="" type="radio"/> No	Yes / <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes / No	6hrs	250kL
							Yes / No	Yes / No	Yes / No		
							Yes / No	Yes / No	Yes / No		
							Yes / No	Yes / No	Yes / No		
							Yes / No	Yes / No	Yes / No		
							Yes / No	Yes / No	Yes / No		
							Yes / No	Yes / No	Yes / No		

The acceptance criteria for the discharge of water into any water body or storm water system is:

pH	Turbidity (NTU)
6.5 – 8.0	0 – 50

Source: ANZECC Guidelines for Fresh and Marine Water Quality 2000 – Tables 3.3.2 and 3.3.3

TEST REPORT

March 15, 2021

Mainland Civil Pty Ltd
PO Box 529
KOGARAH, NSW 2217Your Reference: 1 Ivanhoe Place, Macquarie Park
Job Number: 53034**Attention:** Salvatore Panto

Dear Salvatore,

In accordance with your instructions, Airsafe conducted air monitoring for dust fall out at the above site.

The following samples were processed on the dates indicated.

Samples:	1 Dust Fall Out Gauge
Date of Sampling:	27/01/21 – 26/02/2021
Date of Analysis:	12/03/21
Date of Preliminary Report Sent:	None issued

The results and associated quality control are contained in the following pages of this report.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully
AIRSAFE OHC PTY LTDJoshua Martin
Occupational Hygienist
B.Sc. Grad.Cert OH.
Master of Occupational Hygiene (underway)
Assoc. Member AIOH

PROJECT: 1 Ivanhoe Place, Macquarie Park

JOB NO: 53034

Background:

Airsafe was requested by Salvatore Panto of Mainland Civil Pty Ltd to conduct monthly air monitoring for dust fallout at one specified location during construction works at the site.

Monitoring Location:

Gauge ID	Details	GPS Coordinates	Height of sampling Point (AHD)	Classification
SH – 190304	Adjacent neighboring unit block, Western fencing	-37.781010 151.115880	1.8M	Industrial

Environmental Guidelines:

The Environment Protection Authority (EPA) has issued guidelines for dust fallout (insoluble solids). The unit of measure is grams per square metre per month ($\text{g/m}^2/\text{month}$). Additional analysis for total solids, ash, combustible matter and soluble solids can aid in the identification of dust sources, if required.

Current Background	Permitted Increase	Maximum Allowable
2 $\text{g/m}^2/\text{month}$	2 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$
3 $\text{g/m}^2/\text{month}$	1 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$
4 $\text{g/m}^2/\text{month}$	0 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$

Method:

Dust fallout was collected in accordance with AS 3580.10.1 Methods for Sampling and Analysis of Ambient Air Method 10.1: Determination of Particulate Matter-Deposited Matter-Gravimetric Method. One location (Western fence, entrance to site adjacent unit block) was tested; using a 150-mm diameter funnel feeding into a 4-litre bottle mounted 1.8 metres above the ground.

As best as possible, the gauge was sited in accordance with AS 3580.1.1 Methods for Sampling and Analysis of Ambient Air Part 1.1: Guide to Siting Air Monitoring Equipment, but there was a grove of trees above the sample.

Weather information for the month (at Maquarie NSW) was obtained from the Australian Bureau of Meteorology.

Analysis was completed by Envirolab Services, Chatswood (NATA 2901) using Sieving, desiccation, filtration, ashing & gravimetry.

Weather Data:

BOM Weather Data	MAQUARIE P	
Date	Rain	Wind (9am/3pm/Maximum)
27 January	0.0mm	28/24/- km/h
28 January	0.0mm	22/8/- km/h
29 January	2.2mm	26/28/- km/h
30 January	3.9mm	6/13/- km/h
31 January	2.0mm	26/24/- km/h
01 February	0.4mm	7/17/- km/h
02 February	32.9mm	17/24/-km/h
03 February	0.0mm	15/17-km/h
04 February	0.0mm	0/30-km/h
05 February	0.0mm	6/6/-km/h
06 February	0.0mm	11/13/-km/h
07 February	0.5mm	15/22/-km/h
08 February	1.0mm	22/20/-km/h
09 February	1.0mm	17/20/-km/h
10 February	0.0mm	11/15/-km/h
11 February	0.0mm	7/22/-km/h
12 February	0.0mm	19/26/-km/h
13 February	13.9mm	19/22/-km/h
14 February	17.3mm	19/22/-km/h
15 February	0.0mm	22/37/-km/h
16 February	5.9mm	19/22/-km/h
17 February	7.6mm	20/33/-km/h
18 February	1.8mm	20/2/-km/h
19 February	12.1mm	22/15/-km/h
20 February	0.3mm	4/13/-km/h
21 February	0.0mm	6/19/-km/h
22 February	0.0mm	15/28/-km/h
23 February	0.0mm	22/26/-km/h
24 February	0.0mm	13/19/-km/h
25 February	3.0mm	9/7//-km/h
26 February	0.0mm	11/22/-km/h

Results:

Gauge ID	Airsafe Sample ID	Insoluble solids (g/m ² /month)	Adjusted insoluble solids (g/m ² /month)*
SH – 190304	55773-1	3.0	0.0

Notes to table:

* Adjusted insoluble solids indicates for each gauge the amount of insoluble solids detected above/below the insoluble solids detected within the control gauge.

N/A Sample not tested

Discussion and Conclusion:

Dust fallout on the site complied with the environmental guideline, with a result of less than 4 grams per square metre per month (g/m²/month).

Air monitoring for dust fallout has been conducted at a Mainland Civil site in Ivanhoe Place, Macquarie Park. The result complied with the recommended guidelines.

Note:

The results relate only to the samples tested. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

This report has been prepared for the benefit of the client and no other party. AIRSAFE assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of AIRSAFE or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

In accordance with the scope of services, AIRSAFE has relied upon the data and has conducted field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report. On all sites, varying degrees of non-uniformity of conditions are encountered. Hence no monitoring, common testing or sampling technique can eliminate the possibility that monitoring or testing results/samples are not totally representative of actual situations. The conclusions are based upon the data and the field monitoring and/or testing and are therefore merely indicative of the conditions of the site at the time of preparing the report.

It should also be recognised that site conditions, including the extent and concentration of contaminants, can change with time.

Within the limitations imposed by the scope of services, the monitoring, testing, sampling and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable Occupational Hygiene consultants under similar circumstances. No other warranty, expressed or implied, is made.

GAUGE LOCATIONS



Figure 1. Site location (adapted from maps.google.com.au; accessed on (15.03.2021).

ANALYSIS RESULTS



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 customerservice@envirolab.com.au
 www.envirolab.com.au

CERTIFICATE OF ANALYSIS 263528


Client Details	
Client	Airsafe Laboratories
Attention	Simon Gorham
Address	93 Beattie St, Balmain, NSW, 2041

Sample Details	
Your Reference	55773
Number of Samples	1 dust gauge
Date samples received	05/03/2021
Date completed instructions received	05/03/2021

Analysis Details
<p>Please refer to the following pages for results, methodology summary and quality control data.</p> <p>Samples were analysed as received from the client. Results relate specifically to the samples as received.</p> <p>Results are reported on a dry weight basis for solids and on an as received basis for other matrices.</p>

Report Details	
Date results requested by	12/03/2021
Date of Issue	12/03/2021
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By
 Diego Bigolin, Team Leader, Inorganics

Authorised By

 Nancy Zhang, Laboratory Manager

EnviroLab Reference: 263528
 Revision No: R00



Client Reference: 55773

Dust Deposition AS 3580.10.1		
Our Reference		263528-1
Your Reference	UNITS	55773-1
Date Sampled		27/01/21- 26/02/21
Type of sample		dust gauge
Dust Gauge Start Date	--	27/01/2021
Dust Gauge End Date	--	26/02/2021
Dust - No. of Days Collected	--	30
Date prepared	-	12/03/2021
Date analysed	-	12/03/2021
Insoluble Solids	g/m ² /month	3.0
Combustible Matter	g/m ² /month	3.0
Ash	g/m ² /month	<0.1
Soluble Matter	g/m ² /month	20
Total Solids	g/m ² /month	23

Client Reference: 55773

Method ID	Methodology Summary
AS 3580.10.1	Analysis of dust gauges by AS 3580.10.1 (analysis only).

Client Reference: 55773

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Client Reference: 55773

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

TEST REPORT

April 08 2021

Mainland Civil Pty Ltd
PO Box 529
KOGARAH, NSW 2217

Your Reference: 1 Ivanhoe Place, Macquarie Park
Job Number: 53034

Attention: Salvatore Panto

Dear Salvatore,

In accordance with your instructions, Airsafe conducted air monitoring for dust fall out at the above site.

The following samples were processed on the dates indicated.

Samples:	1 Dust Fall Out Gauge
Date of Sampling:	28/02/21 – 29/03/2021
Date of Analysis:	08/03/21
Date of Preliminary Report Sent:	None issued

The results and associated quality control are contained in the following pages of this report.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully
AIRSAFE OHC PTY LTD



Joshua Martin
Occupational Hygienist
B.Sc. Grad.Cert OH.
Master of Occupational Hygiene (underway)
Assoc. Member AIOH

PROJECT: 1 Ivanhoe Place, Macquarie Park

JOB NO: 53034

Background:

Airsafe was requested by Salvatore Panto of Mainland Civil Pty Ltd to conduct monthly air monitoring for dust fallout at one specified location during construction works at the site.

Monitoring Location:

Gauge ID	Details	GPS Coordinates	Height of sampling Point (AHD)	Classification
SH – 190304	Adjacent neighboring unit block, Western fencing	-37.781010 151.115880	1.8M	Industrial

Environmental Guidelines:

The Environment Protection Authority (EPA) has issued guidelines for dust fallout (insoluble solids). The unit of measure is grams per square metre per month ($\text{g/m}^2/\text{month}$). Additional analysis for total solids, ash, combustible matter and soluble solids can aid in the identification of dust sources, if required.

Current Background	Permitted Increase	Maximum Allowable
2 $\text{g/m}^2/\text{month}$	2 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$
3 $\text{g/m}^2/\text{month}$	1 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$
4 $\text{g/m}^2/\text{month}$	0 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$

Method:

Dust fallout was collected in accordance with AS 3580.10.1 Methods for Sampling and Analysis of Ambient Air Method 10.1: Determination of Particulate Matter-Deposited Matter-Gravimetric Method. One location (Western fence, entrance to site adjacent unit block) was tested; using a 150-mm diameter funnel feeding into a 4-litre bottle mounted 1.8 metres above the ground.

As best as possible, the gauge was sited in accordance with AS 3580.1.1 Methods for Sampling and Analysis of Ambient Air Part 1.1: Guide to Siting Air Monitoring Equipment, but there was a grove of trees above the sample.

Weather information for the month (at Maquarie NSW) was obtained from the Australian Bureau of Meteorology.

Analysis was completed by Envirolab Services, Chatswood (NATA 2901) using Sieving, desiccation, filtration, ashing & gravimetry.

Weather Data:

BOM Weather Data	MAQUARIE PARK	
Date	Rain	Wind (Maximum/9am/3pm/)
28 February	0.0mm	km/h
01 March	0.0mm	48/4/20 km/h
02 March	0.0mm	80/17/9 km/h
03 March	0.0mm	31/15/13 km/h
04 March	22.4mm	46/28/15 km/h
05 March	8.0mm	54/15/19 km/h
06 March	40.6mm	44/13/20 km/h
07 March	0.0mm	44/7/28 km/h
08 March	18.8mm	33/15/17 km/h
09 March	7.2mm	37/17/4km/h
10 March	4.2mm	24/12/13 km/h
11 March	0.0mm	28/13/19 km/h
12 March	0.8mm	28/11/17 km/h
13 March	0.0mm	37/13/24 km/h
14 March	0.0mm	65/41/22 km/h
15 March	12.6mm	48/22/15 km/h
16 March	15.0mm	48/7/19 km/h
17 March	10.4mm	28/11/13 km/h
18 March	0.0mm	35/9/19 km/h
19 March	0.2mm	25/13/19 km/h
20 March	0.0mm	22/19/13 km/h
21 March	0.0mm	48/4/20 km/h
22 March	0.0mm	39/13/29 km/h
23 March	0.6mm	48/6/15 km/h
24 March	6.0mm	39/1/22 km/h
25 March	0.4mm	39/6/24 km/h
26 March	19.4mm	50/20/28 km/h
27 March	0.6mm	28/9/20km/h
28 March	0.0mm	39/5/16km/h
29 March	13.4mm	41/2/24 km/h

Results:

Gauge ID	Airsafe Sample ID	Insoluble solids (g/m ² /month)	Adjusted insoluble solids (g/m ² /month)*
SH – 190304	56130-1	1.4	0.0

Notes to table:

* Adjusted insoluble solids indicates for each gauge the amount of insoluble solids detected above/below the insoluble solids detected within the control gauge.

N/A Sample not tested

Discussion and Conclusion:

Dust fallout on the site complied with the environmental guideline, with a result of less than 4 grams per square metre per month (g/m²/month).

Air monitoring for dust fallout has been conducted at a Mainland Civil site in Ivanhoe Place, Macquarie Park. The result complied with the recommended guidelines.

Note:

The results relate only to the samples tested. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

This report has been prepared for the benefit of the client and no other party. AIRSAFE assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of AIRSAFE or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

In accordance with the scope of services, AIRSAFE has relied upon the data and has conducted field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report. On all sites, varying degrees of non-uniformity of conditions are encountered. Hence no monitoring, common testing or sampling technique can eliminate the possibility that monitoring or testing results/samples are not totally representative of actual situations. The conclusions are based upon the data and the field monitoring and/or testing and are therefore merely indicative of the conditions of the site at the time of preparing the report.

It should also be recognised that site conditions, including the extent and concentration of contaminants, can change with time.

Within the limitations imposed by the scope of services, the monitoring, testing, sampling and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable Occupational Hygiene consultants under similar circumstances. No other warranty, expressed or implied, is made.

GAUGE LOCATIONS



Figure 1. Site location (adapted from maps.google.com.au; accessed on (15.03.2021)).

ANALYSIS RESULTS



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 12 Ashley St Chatswood NSW 2067
 ph 02 9910 6200 fax 02 9910 6201
 customerservice@envirolab.com.au
 www.envirolab.com.au

CERTIFICATE OF ANALYSIS 265427

Client Details	
Client	Airsafe Laboratories
Attention	Simon Gorham
Address	93 Beattie St, Balmain, NSW, 2041

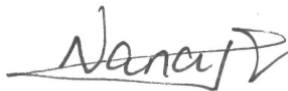
Sample Details	
Your Reference	56130, 1 Ivanhoe Place Macquarie Park
Number of Samples	1 dust gauge
Date samples received	30/03/2021
Date completed instructions received	30/03/2021

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details	
Date results requested by	08/04/2021
Date of Issue	06/04/2021
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By
 Nick Sarlamis, Inorganics Supervisor

Authorised By

 Nancy Zhang, Laboratory Manager

Envirolab Reference: 265427
 Revision No: R00



Client Reference: 56130, 1 Ivanhoe Place Macquarie Park

Dust Deposition AS 3580.10.1		
Our Reference		265427-1
Your Reference	UNITS	56130-1
Date Sampled		28/01/21- 29/03/21
Type of sample		dust gauge
Dust Gauge Start Date	–	28/01/2021
Dust Gauge End Date	–	29/03/2021
Dust - No. of Days Collected	–	61
Date prepared	-	31/03/2021
Date analysed	-	31/03/2021
Insoluble Solids	g/m ² /month	1.4
Combustible Matter	g/m ² /month	0.7
Ash	g/m ² /month	0.7
Soluble Matter	g/m ² /month	3.8
Total Solids	g/m ² /month	5.2

Client Reference: 56130, 1 Ivanhoe Place Macquarie Park

Method ID	Methodology Summary
AS 3580.10.1	Analysis of dust gauges by AS 3580.10.1 (analysis only).

Client Reference: 56130, 1 Ivanhoe Place Macquarie Park

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Client Reference: 56130, 1 Ivanhoe Place Macquarie Park

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

TEST REPORT

May 12, 2021

Mainland Civil Pty Ltd
PO Box 529
KOGARAH, NSW 2217Your Reference: 1 Ivanhoe Place, Macquarie Park
Job Number: 56774**Attention:** Salvatore Panto

Dear Salvatore,

In accordance with your instructions, Airsafe conducted air monitoring for dust fall out at the above site.

The following samples were processed on the dates indicated.

Samples:	1 Dust Fall Out Gauge
Date of Sampling:	29/03/21 – 30/04/2021
Date of Analysis:	04/05/21
Date of Preliminary Report Sent:	None issued

The results and associated quality control are contained in the following pages of this report.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully
AIRSAFE OHC PTY LTDJoshua Martin
Occupational Hygienist
B.Sc. Grad.Cert OH.
Master of Occupational Hygiene (underway)
Assoc. Member AIOH

PROJECT: 1 Ivanhoe Place, Macquarie Park

JOB NO: 56774

Background:

Airsafe was requested by Salvatore Panto of Mainland Civil Pty Ltd to conduct monthly air monitoring for dust fallout at one specified location during construction works at the site.

Monitoring Location:

Gauge ID	Details	GPS Coordinates	Height of sampling Point (AHD)	Classification
SH – 190304	Adjacent neighboring unit block, Western fencing	-37.781010 151.115880	1.8M	Industrial

Environmental Guidelines:

The Environment Protection Authority (EPA) has issued guidelines for dust fallout (insoluble solids). The unit of measure is grams per square metre per month ($\text{g/m}^2/\text{month}$). Additional analysis for total solids, ash, combustible matter and soluble solids can aid in the identification of dust sources, if required.

Current Background	Permitted Increase	Maximum Allowable
2 $\text{g/m}^2/\text{month}$	2 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$
3 $\text{g/m}^2/\text{month}$	1 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$
4 $\text{g/m}^2/\text{month}$	0 $\text{g/m}^2/\text{month}$	4 $\text{g/m}^2/\text{month}$

Method:

Dust fallout was collected in accordance with AS 3580.10.1 Methods for Sampling and Analysis of Ambient Air Method 10.1: Determination of Particulate Matter-Deposited Matter-Gravimetric Method. One location (Western fence, entrance to site adjacent unit block) was tested; using a 150-mm diameter funnel feeding into a 4-litre bottle mounted 1.8 metres above the ground.

As best as possible, the gauge was sited in accordance with AS 3580.1.1 Methods for Sampling and Analysis of Ambient Air Part 1.1: Guide to Siting Air Monitoring Equipment, but there was a grove of trees above the sample.

Weather information for the month (at Maquarie NSW) was obtained from the Australian Bureau of Meteorology.

Analysis was completed by Envirolab Services, Chatswood (NATA 2901) using Sieving, desiccation, filtration, ashing & gravimetry.

Weather Data:

BOM Weather Data	MAQUARIE PARK	
Date	Rain	Wind (9am/3pm/Maximum)
29 March	0.0mm	28/24/- km/h
30 March	4.2mm	22/8/- km/h
31 March	7.2mm	26/28/- km/h
01 April	0.0mm	6/13/- km/h
02 April	0.0mm	26/24/- km/h
03 April	0.0mm	7/17/- km/h
04 April	0.0mm	17/24/-km/h
05 April	0.0mm	15/17-km/h
06 April	0.6mm	0/30-km/h
07 April	0.0mm	6/6/-km/h
08 April	0.0mm	11/13/-km/h
09 April	0.5mm	15/22/-km/h
10 April	0.2mm	22/20/-km/h
11 April	0.0mm	17/20/-km/h
12 April	0.0mm	11/15/-km/h
13 April	0.0mm	7/22/-km/h
14 April	0.0mm	19/26/-km/h
15 April	0.0mm	19/22/-km/h
16 April	0.0mm	19/22/-km/h
17 April	0.0mm	22/37/-km/h
18 April	0.0mm	19/22/-km/h
19 April	0.0mm	20/33/-km/h
20 April	0.0mm	20/2/-km/h
21 April	0.0mm	22/15/-km/h
22 April	0.0mm	4/13/-km/h
23 April	0.0mm	6/19/-km/h
24 April	0.0mm	15/28/-km/h
25 April	0.0mm	22/26/-km/h
26 April	0.0mm	13/19/-km/h
27 April	0.0mm	22/26/-km/h
28 April	0.0mm	13/19/-km/h
29 April	0.0mm	22/26/-km/h

Results:

Gauge ID	Airsafe Sample ID	Insoluble solids (g/m ² /month)	Adjusted insoluble solids (g/m ² /month)*
SH – 190304	55773-1	8.7	4.7

Notes to table:

* Adjusted insoluble solids indicates for each gauge the amount of insoluble solids detected above/below the insoluble solids detected within the control gauge.

N/A Sample not tested

Discussion and Conclusion:

Dust fallout on the site were above with the environmental guideline, with a result 8.7grams per square metre per month (g/m²/month).

Air monitoring for dust fallout has been conducted at a Mainland Civil site in Ivanhoe Place, Macquarie Park. The result is above with the recommended guidelines.

Appropriate strategies to suppress and minimise dust must be employed if similar work is carried out in following months.

Note:

The results relate only to the samples tested. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

This report has been prepared for the benefit of the client and no other party. AIRSAFE assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of AIRSAFE or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

In accordance with the scope of services, AIRSAFE has relied upon the data and has conducted field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report. On all sites, varying degrees of non-uniformity of conditions are encountered. Hence no monitoring, common testing or sampling technique can eliminate the possibility that monitoring or testing results/samples are not totally representative of actual situations. The conclusions are based upon the data and the field monitoring and/or testing and are therefore merely indicative of the conditions of the site at the time of preparing the report.

It should also be recognised that site conditions, including the extent and concentration of contaminants, can change with time.

Within the limitations imposed by the scope of services, the monitoring, testing, sampling and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable Occupational Hygiene consultants under similar circumstances. No other warranty, expressed or implied, is made.

GAUGE LOCATIONS



Figure 1. Site location (adapted from maps.google.com.au; accessed on (15.03.2021).

ANALYSIS RESULTS



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 12 Ashley St Chatswood NSW 2067
 ph 02 9910 6200 fax 02 9910 6201
 customerservice@envirolab.com.au
 www.envirolab.com.au

CERTIFICATE OF ANALYSIS 268220

Client Details	
Client	Airsafe Laboratories
Attention	Simon Gorham
Address	93 Beattie St, Balmain, NSW, 2041


Sample Details	
Your Reference	56774, 1 Ivanhoe Place Macquarie Park
Number of Samples	1 dust gauge
Date samples received	04/05/2021
Date completed instructions received	04/05/2021

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details	
Date results requested by	07/05/2021
Date of Issue	05/05/2021
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By
 Priya Samarawickrama, Senior Chemist

Authorised By

 Nancy Zhang, Laboratory Manager

EnviroLab Reference: 268220
 Revision No: R00



Client Reference: 56774, 1 Ivanhoe Place Macquarie Park

Dust Deposition AS 3580.10.1		
Our Reference		268220-1
Your Reference	UNITS	56774-1
Date Sampled		29.03.2021- 30.04.2021
Type of sample		dust gauge
Dust Gauge Start Date	--	29/03/2021
Dust Gauge End Date	--	30/04/2021
Dust - No. of Days Collected	--	33
Date prepared	-	05/05/2021
Date analysed	-	05/05/2021
Insoluble Solids	g/m ² /month	8.7
Combustible Matter	g/m ² /month	2.5
Ash	g/m ² /month	6.2
Soluble Matter	g/m ² /month	1.1
Total Solids	g/m ² /month	9.7

Client Reference: 56774, 1 Ivanhoe Place Macquarie Park

Method ID	Methodology Summary
AS 3580.10.1	Analysis of dust gauges by AS 3580.10.1 (analysis only).

Client Reference: 56774, 1 Ivanhoe Place Macquarie Park

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Client Reference: 56774, 1 Ivanhoe Place Macquarie Park

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

TEST REPORT

May 28, 2021

Mainland Civil Pty Ltd
PO Box 529
KOGARAH, NSW 2217

Your Reference: 1 Ivanhoe Place, Macquarie Park
Job Number: 57144

Attention: Salvatore Panto

Dear Salvatore,

In accordance with your instructions, Airsafe conducted air monitoring for dust fall out at the above site.

The following samples were processed on the dates indicated.

Samples:	1 Dust Fall Out Gauge
Date of Sampling:	30/04/21 – 24/05/2021
Date of Analysis:	27/05/21
Date of Preliminary Report Sent:	None issued

The results and associated quality control are contained in the following pages of this report.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully
AIRSAFE OHC PTY LTD



Joshua Martin
Occupational Hygienist
B.Sc. Grad.Cert OH.
Master of Occupational Hygiene (underway)
Assoc. Member AIOH

PROJECT: 1 Ivanhoe Place, Macquarie Park

JOB NO: 57144

Background:

Airsafe was requested by Salvatore Panto of Mainland Civil Pty Ltd to conduct monthly air monitoring for dust fallout at one specified location during construction works at the site.

Monitoring Location:

Gauge ID	Details	GPS Coordinates	Height of sampling Point (AHD)	Classification
SH – 190304	Adjacent neighboring unit block, Western fencing	-37.781010 151.115880	1.8M	Industrial

Environmental Guidelines:

The Environment Protection Authority (EPA) has issued guidelines for dust fallout (insoluble solids). The unit of measure is grams per square metre per month ($g/m^2/month$). Additional analysis for total solids, ash, combustible matter and soluble solids can aid in the identification of dust sources, if required.

Current Background	Permitted Increase	Maximum Allowable
2 $g/m^2/month$	2 $g/m^2/month$	4 $g/m^2/month$
3 $g/m^2/month$	1 $g/m^2/month$	4 $g/m^2/month$
4 $g/m^2/month$	0 $g/m^2/month$	4 $g/m^2/month$

Method:

Dust fallout was collected in accordance with AS 3580.10.1 Methods for Sampling and Analysis of Ambient Air Method 10.1: Determination of Particulate Matter-Deposited Matter-Gravimetric Method. One location (Western fence, entrance to site adjacent unit block) was tested; using a 150-mm diameter funnel feeding into a 4-litre bottle mounted 1.8 metres above the ground.

As best as possible, the gauge was sited in accordance with AS 3580.1.1 Methods for Sampling and Analysis of Ambient Air Part 1.1: Guide to Siting Air Monitoring Equipment, but there was a grove of trees above the sample.

Weather information for the month (at Macquarie NSW) was obtained from the Australian Bureau of Meteorology.

Analysis was completed by Envirolab Services, Chatswood (NATA 2901) using Sieving, desiccation, filtration, ashing & gravimetry.

Weather Data:

BOM Weather Data	MAQUARIE PARK	
Date	Rain	Wind speed (Maximum)
30 April	0.0mm	28 km/h
01 May	0.0mm	30 km/h
02 May	0.0mm	31 km/h
03 May	0.0mm	26 km/h
04 May	0.0mm	33 km/h
05 May	18.0mm	35 km/h
06 May	25.4mm	69 km/h
07 May	16.4mm	39 km/h
08 May	0.4mm	24 km/h
09 May	0.0mm	26 km/h
10 May	0.0mm	37 km/h
11 May	0.0mm	33 km/h
12 May	0.4mm	37 km/h
13 May	0.8mm	31 km/h
14 May	0.0mm	50 km/h
15 May	0.0mm	65 km/h
16 May	0.0mm	50 km/h
17 May	0.0mm	43 km/h
18 May	0.0mm	30 km/h
19 May	0.0mm	26 km/h
20 May	0.0mm	28 km/h
21 May	0.0mm	28 km/h
22 May	1.4mm	30 km/h
23 May	0.2mm	30 km/h
24 May	1.0mm	31 km/h

Results:

Gauge ID	Airsafe Sample ID	Insoluble solids (g/m ² /month)	Adjusted insoluble solids (g/m ² /month)*
SH – 190304	55773-1	6.3	6.3

Notes to table:

* Adjusted insoluble solids indicates for each gauge the number of insoluble solids detected above/below the insoluble solids detected within the control gauge.

N/A Sample not tested

Discussion and Conclusion:

Air monitoring for dust fallout has been conducted at a Mainland Civil site in Ivanhoe Place, Macquarie Park. The result is above with the recommended guidelines.

Dust fallout on the site were above with the environmental guideline, with a result 6.3grams per square metre per month (g/m²/month).

Appropriate strategies to suppress and minimise dust must be employed if similar work is carried out in following months.

Note:

The results relate only to the samples tested. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

This report has been prepared for the benefit of the client and no other party. AIRSAFE assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of AIRSAFE or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

In accordance with the scope of services, AIRSAFE has relied upon the data and has conducted field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report. On all sites, varying degrees of non-uniformity of conditions are encountered. Hence no monitoring, common testing or sampling technique can eliminate the possibility that monitoring or testing results/samples are not totally representative of actual situations. The conclusions are based upon the data and the field monitoring and/or testing and are therefore merely indicative of the conditions of the site at the time of preparing the report.

It should also be recognised that site conditions, including the extent and concentration of contaminants, can change with time.

Within the limitations imposed by the scope of services, the monitoring, testing, sampling and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable Occupational Hygiene consultants under similar circumstances. No other warranty, expressed or implied, is made.

GAUGE LOCATIONS



Figure 1. Site location (adapted from maps.google.com.au; accessed on (15.03.2021)).

ANALYSIS RESULTS



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 12 Ashley St Chatswood NSW 2067
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 customerservice@envirolab.com.au
 www.envirolab.com.au

CERTIFICATE OF ANALYSIS 269869

Client Details	
Client	Airsafe Laboratories
Attention	Joshua Martin
Address	93 Beattie St, Balmain, NSW, 2041

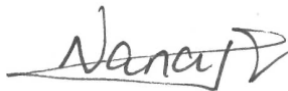
Sample Details	
Your Reference	57144, 1 Ivanhoe Place, Macquarie Park NSW 2113
Number of Samples	1 dust gauge
Date samples received	25/05/2021
Date completed instructions received	25/05/2021

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details	
Date results requested by	28/05/2021
Date of Issue	27/05/2021
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By
 Priya Samarawickrama, Senior Chemist

Authorised By

 Nancy Zhang, Laboratory Manager

Envirolab Reference: 269869
 Revision No: R00



Client Reference: 57144, 1 Ivanhoe Place, Macquarie Park NSW 2113

Dust Deposition AS 3580.10.1		
Our Reference		269869-1
Your Reference	UNITS	57144-1
Date Sampled		30.04.2021 - 24.05.2021
Type of sample		dust gauge
Dust Gauge Start Date	–	30/04/2021
Dust Gauge End Date	–	24/05/2021
Dust - No. of Days Collected	–	25
Date prepared	-	26/05/2021
Date analysed	-	26/05/2021
Insoluble Solids	g/m ² /month	6.3
Combustible Matter	g/m ² /month	1.8
Ash	g/m ² /month	4.5
Soluble Matter	g/m ² /month	1.4
Total Solids	g/m ² /month	7.7

Client Reference: 57144, 1 Ivanhoe Place, Macquarie Park NSW 2113

Method ID	Methodology Summary
AS 3580.10.1	Analysis of dust gauges by AS 3580.10.1 (analysis only).

Client Reference: 57144, 1 Ivanhoe Place, Macquarie Park NSW 2113

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Client Reference: 57144, 1 Ivanhoe Place, Macquarie Park NSW 2113

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

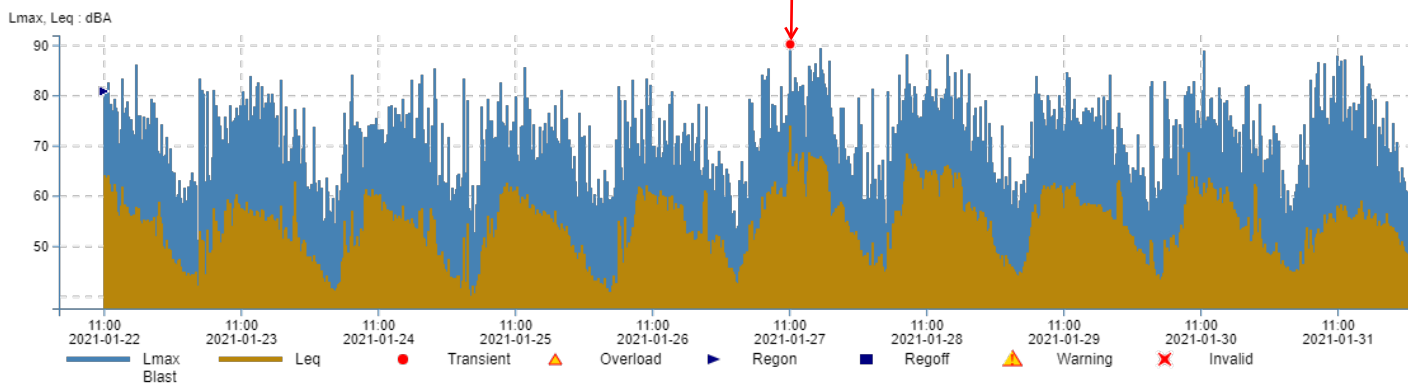
Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.



Project Macquarie Park Ivanhoe Place
 Project maintainer Simon Osterman
 Customer Mainland Civil
 Customer contact Salvatore Panto (+61415544805)
 Time frame 2021-01-01 00:00 - 2021-01-31 23:59 (Australia/Sydney)

Measure point MP_2
 Location Hoarding Site Entrance
 Sensor type S50
 Serial no. 10015
 Master(s) serial no. 2439
 Latest calibration 2018-02-16
 Standard Lmax + Leq
 40-115 dBA Fast
 Unit dBA
 Quantity Sound Pres.Level, Eqv.Sound Pres.L
 Interval time 15 min
 Max Lmax: 90.100 dBA, Leq: 73.90 dBA

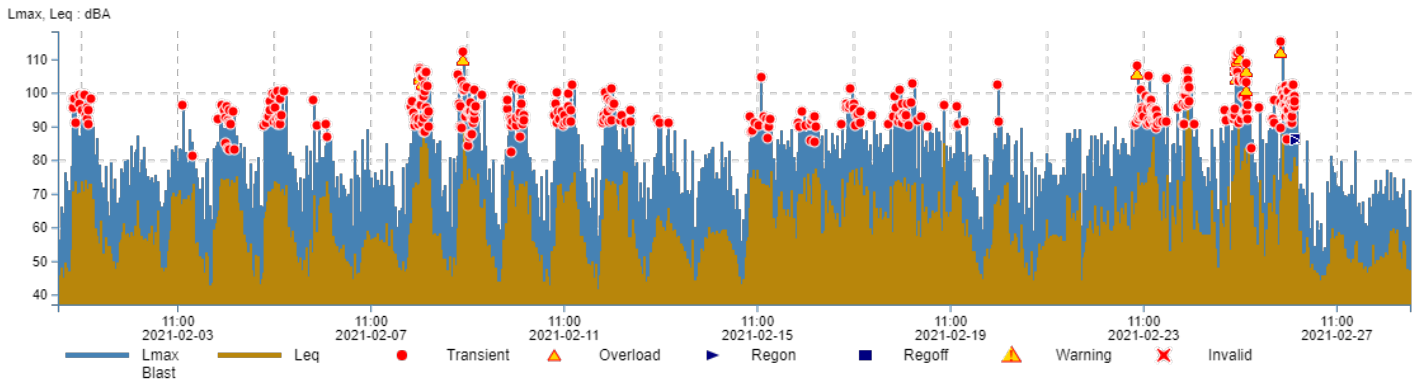
Non Construction Noise:
 Maybe Car



X-span 2021-01-22 03:15:40 - 2021-01-31 23:59:00
 Y-span Lmax, Leq : dBA: 37.67 - 92.045

	Lmax	Leq
Max	90.100 dBA	73.90 dBA
Date	2021-01-27	2021-01-27
Time	11:15:00	11:15:00

Project Macquarie Park Ivanhoe Place
Project maintainer Simon Osterman
Customer Mainland Civil
Customer contact Salvatore Panto (+61415544805)
Time frame 2021-02-01 00:00 - 2021-02-28 23:59 (Australia/Sydney)
Measure point MP_2
Location Hoarding Site Entrance
Sensor type S50
Serial no. 10015
Master(s) serial no. 2439
Latest calibration 2018-02-16
Standard Lmax + Leq
 40-115 dBA Fast
Unit dBA
Quantity Sound Pres.Level, Eqv.Sound Pres.L
Interval time 15 min
Max Lmax: 115.100 dBA, Leq: 94.80 dBA

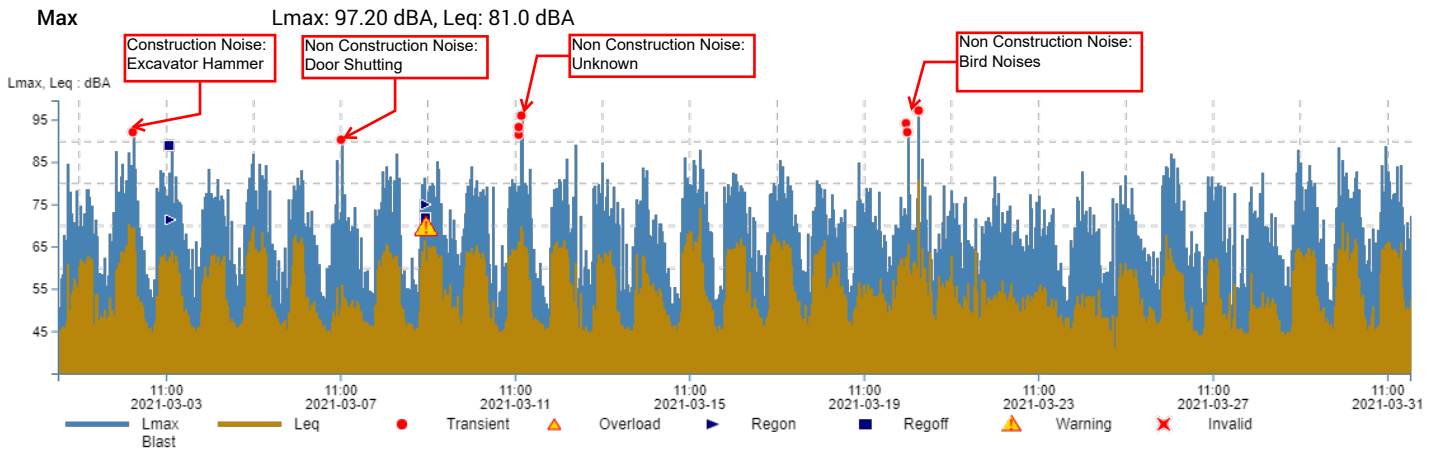


X-span 2021-02-01 00:00:00 - 2021-02-28 23:59:00

Y-span Lmax, Leq : dBA: 37.26 - 118.42

	Lmax	Leq
Max	115.100 dBA	94.80 dBA
Date	2021-02-26	2021-02-24
Time	07:15:00	09:00:00

Project Macquarie Park Ivanhoe Place
Project maintainer Simon Osterman
Customer Mainland Civil
Customer contact Salvatore Panto (+61415544805)
Time frame 2021-03-01 00:00 - 2021-03-31 23:59 (Australia/Sydney)
Measure point MP_2
Location Hoarding Site Entrance
Sensor type S50
Serial no. 10015
Master(s) serial no. 2439
Latest calibration 2018-02-16
Standard Lmax + Leq
 40-115 dBA Fast
Unit dBA
Quantity Sound Pres.Level, Eqv.Sound Pres.L
Interval time 15 min

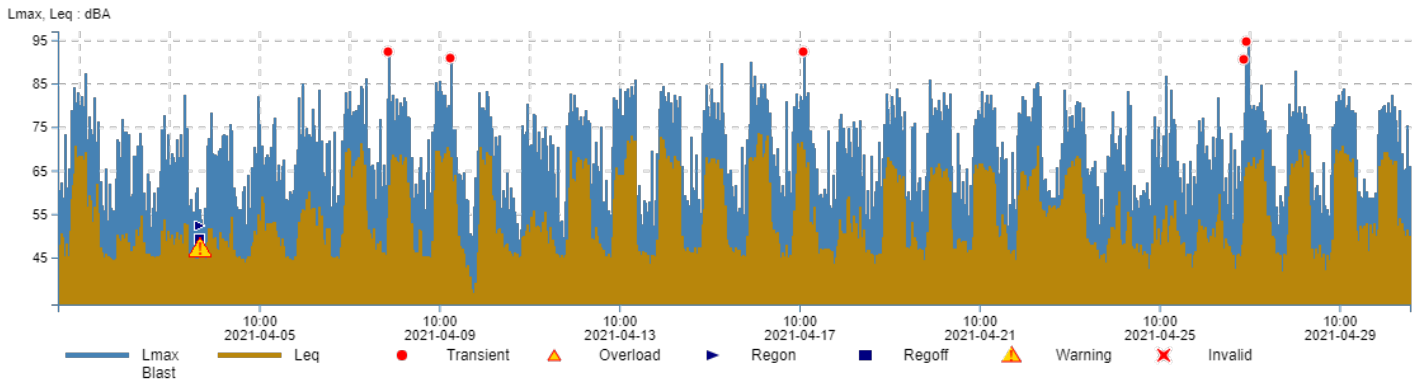


X-span 2021-03-01 00:00:00 - 2021-03-31 23:59:00

Y-span Lmax, Leq : dBA: 35.11 - 99.71

	Lmax	Leq
Max	97.20 dBA	81.0 dBA
Date	2021-03-20	2021-03-20
Time	17:00:00	17:00:00

Project Macquarie Park Ivanhoe Place
Project maintainer Simon Osterman
Customer Mainland Civil
Customer contact Salvatore Panto (+61415544805)
Time frame 2021-04-01 00:00 - 2021-04-30 23:59 (Australia/Sydney)
Measure point MP_2
Location Hoarding Site Entrance
Sensor type S50
Serial no. 10015
Master(s) serial no. 2439
Latest calibration 2018-02-16
Standard Lmax + Leq
 40-115 dBA Fast
Unit dBA
Quantity Sound Pres.Level, Eqv.Sound Pres.L
Interval time 15 min
Max Lmax: 94.70 dBA, Leq: 73.60 dBA

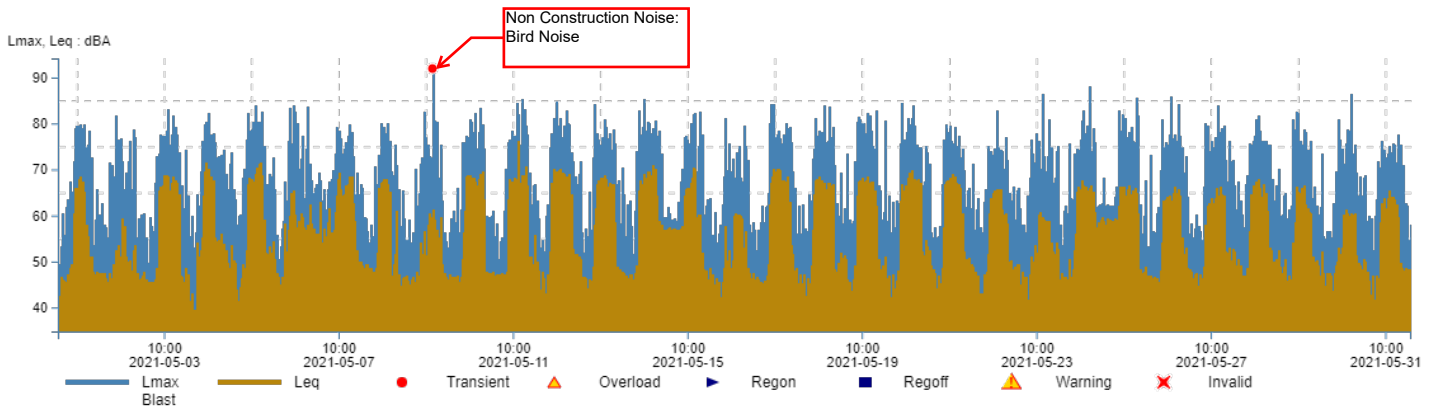


X-span 2021-04-01 00:00:00 - 2021-04-30 23:59:00

Y-span Lmax, Leq : dBA: 34.33 - 97.14

	Lmax	Leq
Max	94.70 dBA	73.60 dBA
Date	2021-04-27	2021-04-16
Time	08:30:00	11:30:00

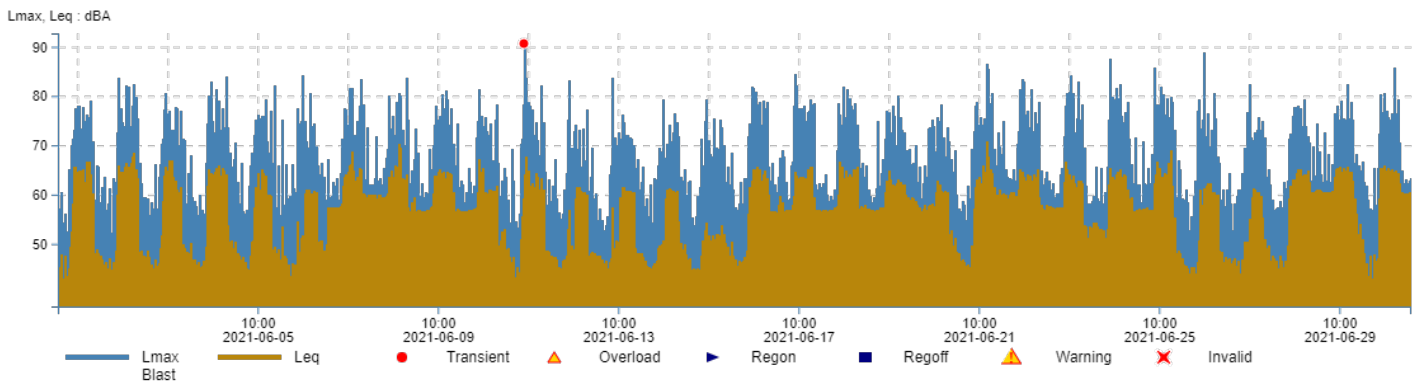
Project Macquarie Park Ivanhoe Place
Project maintainer Simon Osterman
Customer Mainland Civil
Customer contact Salvatore Panto (+61415544805)
Time frame 2021-05-01 00:00 - 2021-05-31 23:59 (Australia/Sydney)
Measure point MP_2
Location Hoarding Site Entrance
Sensor type S50
Serial no. 10015
Master(s) serial no. 2439
Latest calibration 2018-02-16
Standard Lmax + Leq
 40-115 dBA Fast
Unit dBA
Quantity Sound Pres.Level, Eqv.Sound Pres.L
Interval time 15 min
Max Lmax: 91.90 dBA, Leq: 76.100 dBA



X-span 2021-05-01 00:00:00 - 2021-05-31 23:59:00
Y-span Lmax, Leq : dBA: 34.94 - 94.27

	Lmax	Leq
Max	91.90 dBA	76.100 dBA
Date	2021-05-09	2021-05-11
Time	13:30:00	12:30:00

Project Macquarie Park Ivanhoe Place
Project maintainer Simon Osterman
Customer Mainland Civil
Customer contact Salvatore Panto (+61415544805)
Time frame 2021-06-01 00:00 - 2021-06-30 23:59 (Australia/Sydney)
Measure point MP_2
Location Hoarding Site Entrance
Sensor type S50
Serial no. 10015
Master(s) serial no. 2439
Latest calibration 2018-02-16
Standard Lmax + Leq
 40-115 dBA Fast
Unit dBA
Quantity Sound Pres.Level, Eqv.Sound Pres.L
Interval time 15 min
Max Lmax: 90.70 dBA, Leq: 70.70 dBA

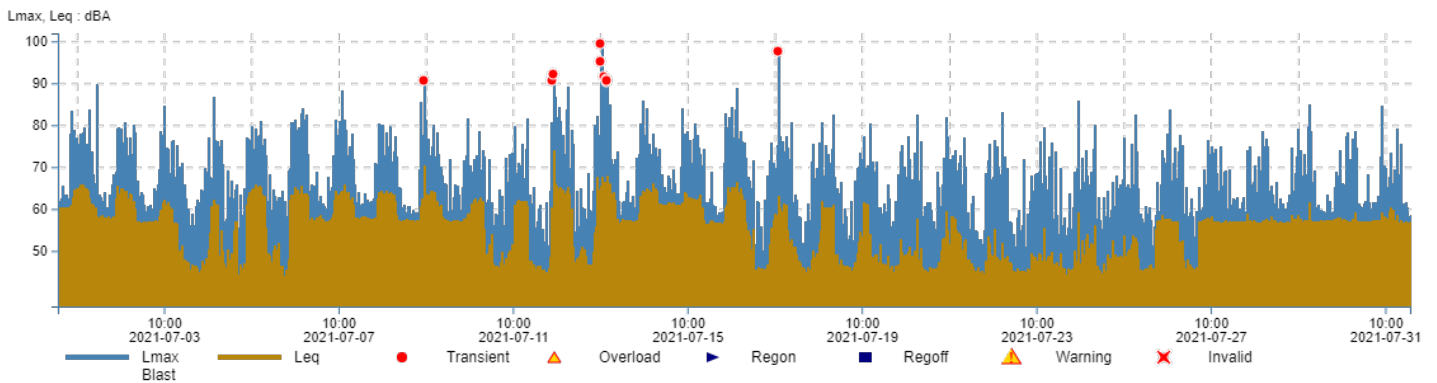


X-span 2021-06-01 00:00:00 - 2021-06-30 23:59:00

Y-span Lmax, Leq : dBA: 37.41 - 92.84

	Lmax	Leq
Max	90.70 dBA	70.70 dBA
Date	2021-06-11	2021-06-21
Time	07:45:00	14:00:00

Project Macquarie Park Ivanhoe Place
Project maintainer Simon Osterman
Customer Mainland Civil
Customer contact Salvatore Panto (+61415544805)
Time frame 2021-07-01 00:00 - 2021-07-31 23:59 (Australia/Sydney)
Measure point MP_2
Location Hoarding Site Entrance
Sensor type S50
Serial no. 10015
Master(s) serial no. 2439
Latest calibration 2018-02-16
Standard Lmax + Leq
 40-115 dBA Fast
Unit dBA
Quantity Sound Pres.Level, Eqv.Sound Pres.L
Interval time 15 min
Max Lmax: 99.40 dBA, Leq: 74.100 dBA



X-span 2021-07-01 00:00:00 - 2021-07-31 23:59:00

Y-span Lmax, Leq : dBA: 36.93 - 102.035

	Lmax	Leq
Max	99.40 dBA	74.100 dBA
Date	2021-07-13	2021-07-12
Time	10:15:00	07:45:00

17 December 2020

Frasers Property Ivanhoe Pty Ltd

Level 2
Homebush Bay Drive
Rhodes NSW 2138

Attention: **Chris Koukoutaris**
Senior Development Manager

**Preliminary findings - independent environmental audit at Stage 1 Ivanhoe Estate,
Macquarie Park, NSW**

1 Introduction

Environmental Earth Sciences NSW was engaged by Frasers Property Australia (Frasers) to conduct an initial independent environmental audit of Stage 1 Ivanhoe Estate, Macquarie Park, NSW in accordance with the State Significant Development (SSD) Conditions of Consent within SSD 8903, and the Department of Planning and Environment's (2015) *Independent Audit Guideline* and (2018) *Independent Audit – Post Approval Requirements* guidance.

An independent audit was required by the conditions of consent to demonstrate and verify Frasers' project and their contractor's compliance with the environmental management framework for the project.

Frasers engaged Mainland Civil as the principal contractor for the Stage 1 project. Mainland Civil prepared an Integrated Management Plan (IMP) detailing the quality, safety, and environmental aspects of the Stage 1 project:

- Mainland Civil Pty Ltd (2020a), *Integrated Management Plan, Ivanhoe Estate, Macquarie Park* (dated 10 December 2020, Revision E) (the 'IMP').

2 Objectives

The objective of the independent environmental audit was to comply with Development Consent Conditions B5 – B9 of the:

- Minister for Planning and Public Spaces, *Development Consent, Section 4.38 of the Environmental Planning and Assessment Act 1979*, Consolidated Consent (dated: 10 November 2020; reference: SSD 8903 MOD 1):

Part B: Prior to commencement of works / issue of a crown building works certificate / issue of subdivision work certificate:



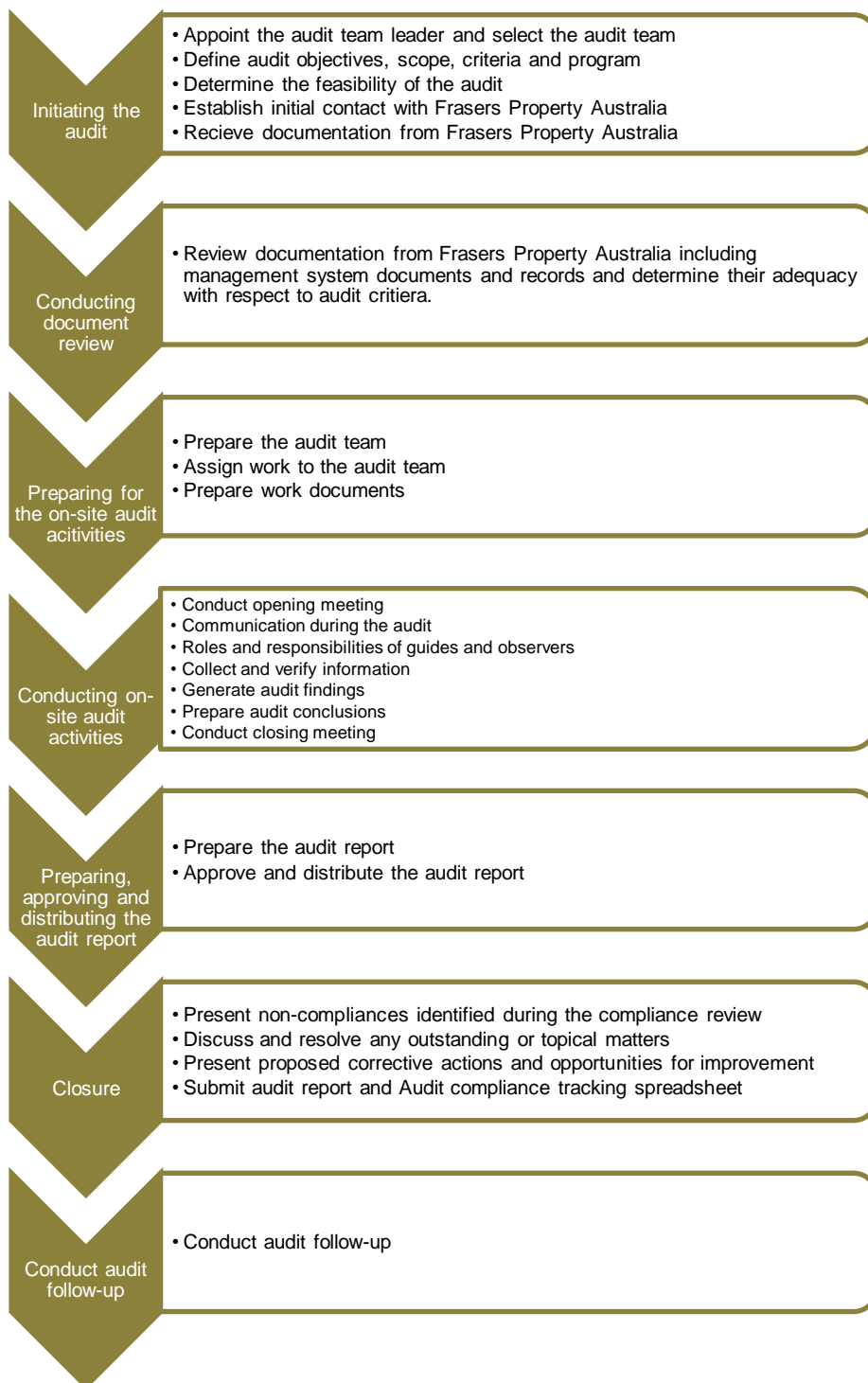
- *B5: No later than one month before the commencement of construction or within another timeframe agreed with the Planning Secretary, a program of independent environmental audits must be prepared for the development in accordance with AS/NZS ISO 19011:2014 Guidelines for auditing management systems (Standards Australia, 2014) and submitted to the Planning Secretary for information.*
- *B6: the scope of each audit must be defined in the program. The program must ensure that environmental performance of the development in relation to each compliance requirement that forms the audit scope is assessed at least once in each audit cycle.*
- *B7: the environmental audit program prepared and submitted to the Planning Secretary in accordance with Conditions B5 and B6 must be implemented and completed for the duration of the development.*
- *B8: all independent environmental audits of the development must be conducted by a suitable qualified, experienced and independent team of experts and be documented in an audit report which:*
 - *assesses the environmental performance of the development and its effects on the surrounding environment including the community;*
 - *assesses whether the development is complying with the terms of the consent;*
 - *reviews the adequacy of any document required under this consent; and*
 - *recommends measures or actions to improve the environmental performance of the development and improvements to any document required under this consent.*
- *B9: within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Planning Secretary, a copy of the audit report must be submitted to the Planning Secretary, and any other NSW agency that requests it, together with a response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.*

The following Conditions were also reviewed for compliance as part of the audit:

- Construction Environmental Management Plan (Condition B40).
- Construction Noise and Vibration Management Plan (Condition B42).
- Air Quality and Odour Management Plan (Condition B43).
- Construction Waste Management Plan (Condition B44).
- Construction Soil and Water Management Plan (Condition B45).
- Unexpected Contamination Finds Protocol (UFP) (Condition B59).
- Hazardous Materials Management Plan (Conditions B64 and B65).

3 Audit Methodology

The compliance audit methodology was based upon the principles within AS/NZS ISO 19011:2014 *Guidelines for auditing management systems*, and consideration of Standards Australia HB 203:2012 Managing environment-related risk and AS/NZS ISO 14001:2016 Environmental management systems – requirements with guidance for use, as summarised below.



The audit was conducted in accordance with the environmental management systems review actions and suggestions included in **Appendix A**.

3.1 Document review

The documents reviewed prior to the on-site audit include:

- Minister for Planning and Public Spaces, *Development Consent, Section 4.38 of the Environmental Planning and Assessment Act 1979*, Consolidated Consent (dated: 10 November 2020; reference: SSD 8903 MOD 1).
- Mainland Civil Pty Ltd (2020a), *Integrated Management Plan, Ivanhoe Estate, Macquarie Park* (dated 10 December 2020, Revision E) (the 'IMP').
- Mainland Civil Pty Ltd (2020b), *Construction Noise and Vibration Management Plan for Ivanhoe Estate - Macquarie Park, Frasers Property* (dated 19/11/2020, Revision A) (the 'CNVMP').
- Mainland Civil Pty Ltd (2020c), *Asbestos Management Plan, Ivanhoe Estate – Stage 1, Ivanhoe Place, Macquarie Park, Frasers Property Pty Ltd* (dated 11 December 2020, Revision A) (the 'AMP').

3.2 Audit team

The audit team comprised:

- Mark Stuckey – Environmental Management Systems (EMS) Lead Auditor; and Environmental Auditor – Contaminated Land in New South Wales.
- Geordie McMillan – Principal / Certified Environmental Practitioner (Site Contamination) SC41089.
- Linda Lenihan – Senior Environmental Scientist / auditor assistant.

3.3 Onsite audit

The initial site inspection is proposed for January 2021 with an annual audit conducted 12 months later throughout the duration of the project, unless there are significant changes to the development plans within the 12-month timeframe.

4 Conclusion

The audit advice is interim and subject to review of request information and site inspections in 2021.

Refer to **Appendix A** for detailed audit findings.

5 Limitations

This report has been prepared by Environmental Earth Sciences NSW ACN 109 404 006 in response to and subject to the following limitations:

1. The specific instructions received from Frasers Property Australia;
2. The specific scope of works set out in PO120125_V1 issued by Environmental Earth Sciences NSW for and on behalf of Frasers Property Australia, is included in Scope of Work of this report;
3. May not be relied upon by any third party not named in this report for any purpose except with the prior written consent of Environmental Earth Sciences NSW (which consent may or may not be given at the discretion of Environmental Earth Sciences NSW);
4. This report comprises the formal report, documentation sections, tables, figures and appendices as referred to in the index to this report and must not be released to any third party or copied in part without all the material included in this report for any reason;
5. The report only relates to the site referred to in the scope of works being located at Stage 1 Ivanhoe Estate, Macquarie Park, NSW (“the site”);
6. This report is not a geotechnical or planning report suitable for planning or zoning purposes; and
7. Our General Limitations set out at the back of the body of this report.

Should you have any queries, please do not hesitate to contact us on (02) 9922 1777.

For and on behalf of
Environmental Earth Sciences NSW

Project Manager
Linda Lenihan
Senior Environmental Scientist

120077_EMS Audit_V2

Project Director / Internal Reviewer
Geordie McMillan
Principal / Certified Environmental
Practitioner (Site Contamination)

ENVIRONMENTAL EARTH SCIENCES GENERAL LIMITATIONS

Scope of services

The work presented in this report is Environmental Earth Sciences response to the specific scope of works requested by, planned with and approved by the client. It cannot be relied on by any other third party for any purpose except with our prior written consent. Client may distribute this report to other parties and in doing so warrants that the report is suitable for the purpose it was intended for. However, any party wishing to rely on this report should contact us to determine the suitability of this report for their specific purpose.

Data should not be separated from the report

A report is provided inclusive of all documentation sections, limitations, tables, figures and appendices and should not be provided or copied in part without all supporting documentation for any reason, because misinterpretation may occur.

Subsurface conditions change

Understanding an environmental study will reduce exposure to the risk of the presence of contaminated soil and or groundwater. However, contaminants may be present in areas that were not investigated, or may migrate to other areas. Analysis cannot cover every type of contaminant that could possibly be present. When combined with field observations, field measurements and professional judgement, this approach increases the probability of identifying contaminated soil and or groundwater. Under no circumstances can it be considered that these findings represent the actual condition of the site at all points.

Environmental studies identify actual sub-surface conditions only at those points where samples are taken, when they are taken. Actual conditions between sampling locations differ from those inferred because no professional, no matter how qualified, and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden below the ground surface. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from that predicted. Nothing can be done to prevent the unanticipated. However, steps can be taken to help minimize the impact. For this reason, site owners should retain our services.

Problems with interpretation by others

Advice and interpretation is provided on the basis that subsequent work will be undertaken by Environmental Earth Sciences NSW. This will identify variances, maintain consistency in how data is interpreted, conduct additional tests that may be necessary and recommend solutions to problems encountered on site. Other parties may misinterpret our work and we cannot be responsible for how the information in this report is used. If further data is collected or comes to light we reserve the right to alter their conclusions.

Obtain regulatory approval

The investigation and remediation of contaminated sites is a field in which legislation and interpretation of legislation is changing rapidly. Our interpretation of the investigation findings should not be taken to be that of any other party. When approval from a statutory authority is required for a project, that approval should be directly sought by the client.

Limit of liability

This study has been carried out to a particular scope of works at a specified site and should not be used for any other purpose. This report is provided on the condition that Environmental Earth Sciences NSW disclaims all liability to any person or entity other than the client in respect of anything done or omitted to be done and of the consequence of anything done or omitted to be done by any such person in reliance, whether in whole or in part, on the contents of this report. Furthermore, Environmental Earth Sciences NSW disclaims all liability in respect of anything done or omitted to be done and of the consequence of anything done or omitted to be done by the client, or any such person in reliance, whether in whole or any part of the contents of this report of all matters not stated in the brief outlined in Environmental Earth Sciences NSW's proposal number and according to Environmental Earth Sciences general terms and conditions and special terms and conditions for contaminated sites.

To the maximum extent permitted by law, we exclude all liability of whatever nature, whether in contract, tort or otherwise, for the acts, omissions or default, whether negligent or otherwise for any loss or damage whatsoever that may arise in any way in connection with the supply of services. Under circumstances where liability cannot be excluded, such liability is limited to the value of the purchased service.

6 References

AS/NZS ISO 19011:2014 *Guidelines for auditing management systems*.

Department of Planning and Environment (2015), *Independent Audit Guideline*.

Minister for Planning and Public Spaces, *Development Consent, Section 4.38 of the Environmental Planning and Assessment Act 1979*, Consolidated Consent (dated: 10 November 2020; reference: SSD 8903 MOD 1).

Mainland Civil Pty Ltd (2020a), *Integrated Management Plan, Ivanhoe Estate, Macquarie Park* (dated 10 December 2020, Revision E) (the 'IMP').

Mainland Civil Pty Ltd (2020b), *Construction Noise and Vibration Management Plan for Ivanhoe Estate - Macquarie Park, Frasers Property* (dated 19/11/2020, Revision A) (the 'CNVMP').

Mainland Civil Pty Ltd (2020c), *Asbestos Management Plan, Ivanhoe Estate – Stage 1, Ivanhoe Place, Macquarie Park, Frasers Property Pty Ltd* (dated 11 December 2020, Revision A) (the 'AMP').

Standards Australia HB 203:2012 *Managing environment-related risk and AS/NZS ISO 14001:2016 Environmental management systems*

APPENDIX A: EMS REVIEW ACTIONS AND SUGGESTIONS

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
POLICY	4.2	Has the organisation (top management) defined and documented its environmental policy?	Yes	Appendix A Environmental and Sustainability Policy. 1.4 Mainland Policies : Policies are reviewed annually in consultation with Safety and Environmental Management and Managing Directors.	
	4.2a	Is the policy appropriate to the organisation's activities and their potential environmental impacts (nature & scale)?	Yes	Project involves road construction and bulk excavation for a building basement. Complete site establishment and civil excavation and construction works.	
	4.2b	Does the policy include commitments to continual improvement and prevention of pollution? Have methods been established to monitor continual improvement and prevention of pollution?	Yes	Set environmental and sustainability objectives and targets to ensure continuous improvement. Seek to minimise construction related aspects and impacts including noise, vibration, groundwater, air quality, land contamination, amenity and heritage.	
	4.2c	Does the policy commit to compliance with environmental legislation and regulations? Does the policy identify any other requirements to which the organisation subscribes (& commit to comply)?	Yes	Comply with all relevant government legislation, policies and planning instruments, ISO14001:2015 and by meeting obligations required for Australian Government environmental and sustainability reporting.	
	4.2d	Does the policy provide a framework for (setting &) reviewing environmental objectives and targets?	Yes under HSEQ Manager duties.	Policy states: "Set environmental and sustainability objectives and targets to ensure continuous improvement". Policy does not provide a framework for reviewing environmental objectives and targets. 5.8.5 Proactive/Reactive Management Strategies & Response Mechanisms: regular site management meetings to review environmental control in place for dust and odour. HSEQ Manager: Periodic reviews and audits of the business activities are conducted and any reoccurrence of incidents are known and controls applied.	
	4.2e	Has policy been communicated and implemented (documented & maintained) to all persons working for or on behalf of Mainland Civil?	Yes	Communicate and make this policy available to staff and interested parties and encourage stakeholder engagement.	
	4.2f	Is the policy communicated to all persons working for and with Mainland Civil?			
4.2g	Is policy available to the public?				
PLANNING		Does the organisation have a procedure to identify the appropriate environmental aspects of its activities products & services, which it can control or influence?	Yes	5 - Environmental Management, Table 5.1: Environmental Objectives and targets: identifies the following environmental aspects: soil and water control, dust, noise and vibration. Hazardous materials, contaminated materials, construction waste management and complaints. The procedures for the environmental aspects are detailed in the following sections 5.7 Soil and water management plan, 5.4: Dust management and 5.8: Air Quality and odour management plan. 5.5 Noise (and vibration) management plan and separate CNVMP report 4.8: Hazardous material and 5.6.7 contaminated / hazardous materials. 5.6: Construction waste management plan (CWMP) and 2.3: complaints.	
	4.3.1	Does the aspects evaluation process take into account planned or new developments, new or modified activities, products and services?	Yes	The project is the construction of a new development. 5.4.2: Dust and debris mitigation and control methods: Mainland Civil will take all necessary steps to limit creation of any dust and debris nuisance, which might arise during the preparation of the site and during construction.	
		Does the aspects evaluation lead to logical conclusions regarding significance?		4.7.4: Site inspections : If any inadequate, unsafe or environmentally unsuitable situations are identified which may be deemed serious or life threatening, or significant or threatening to the environment, then a 'Non-conformance Report' will be instigated detailing the corrective and/or preventive action required.	
		Is information relating to environmental aspects kept up to date?	Yes	1.6 Project Objectives and Targets: The (objectives and targets) are realistic, minimise any hazards and risks and ensure the facilitation of continual improvement and have been developed based on the following requirements: Significant safety and environmental aspects and impacts.	
		Have significant environmental aspects been considered in developing and maintaining the EMS?	Yes	5: Environmental Management, Table 5.1: Environmental Objectives and targets 5.4.1: Significant potential dust generating activities. 5.5.2: Significant potential noise generating activities and protection of noise.	
		Have aspects having legal and/or regulatory reporting, monitoring or operational requirements been identified as "significant" aspects?			
		Has a procedure been developed and implemented to identify applicable regulatory, legal and other requirements?	Yes	1.8: Legal and other requirements, Table 1.8 details Commonwealth Laws, National Codes of Practice, NSW Legislation, NSW Codes of Practice and other Legislation and Guidelines. Table 1.8 updated to include codes of practice and guidelines for management of asbestos.	
	4.3.2	Has the organisation determined how identified legal & other requirements apply to its environmental aspects?	Yes	5: Environmental Management: Mainland Civil operates under an ISO 14001 accredited Environmental Management System (EMS), Mainland Civil's Environmental Management provides the framework for the onsite construction managers to implement specified corporate standards and practices in a consistent manner.	
		Are current copies of all applicable regulatory and other requirements accessible to personnel as necessary?	Yes	1.4: Mainland Policies: The policies are outlined in the site inductions to all site personnel and are displayed on the site notice boards, lunch rooms and site management plans, to be available to relevant interested parties, as appropriate.	

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
PLANNING		Have environmental objectives and targets been established at each relevant function and level in the organisation?	Yes		
		Are Objectives and Targets documented?	Yes	5.1: Environmental Objectives and Targets	
	4.3.3	Have programmes for the achievement of environmental objectives and targets been established and implemented?	Yes	<ul style="list-style-type: none"> 5.4: Dust Management Plan - details dust and debris mitigation and control methods. 5.5: Noise and vibration management plan: identify general activities that will be carried out and associated noise sources. Mainland Civil Pty Ltd (2020), Construction Noise and Vibration Management Plan for Ivanhoe Estate - Macquarie Park, Frasers Property (dated 19/11/2020, Revision A) (the 'CNVMP'). <ul style="list-style-type: none"> 5.6: Construction Waste Management Plan 5.7: Soil and water management plan - Table 5.7.2- Soil and Water Sources and Mitigation Methods 5.8: Air quality and odour management plan. 5.6: Construction waste management plan (CWMP). 5.6.2: Requirements for managing construction waste types / streams. 5.6.7.4: Management Practices: for hazardous waste. 	
		Are programmes updated?	Yes	3.10: Project audits: 3.10.1: Internal audits: During the course of the works on this project, the HSEQ Manager will conduct regular internal reviews on the IMP to ensure that it is being implemented and conforms to Mainland Civil's certified Environmental Management System. On completion of the actions to address Non-Conformances, the document is to be submitted back to the Systems Coordinator/Manager to be closed out, IMP updated and reissued and relevant changes made to policies.	
		Have responsibilities been assigned for environmental management programmes at each appropriate function and level? (Do programs include means and time-frame for achieving?)	Yes	1.12: Roles, responsibilities and authorities - responsibilities of Project Manager: <ul style="list-style-type: none"> Monitor the implementation of the project IMP and report to the Construction Manager and HSEQ Manager on all Safety and Environmental issues. Providing leadership to the Project in following and supporting the IMP in a public manner to help develop a positive environmental culture supporting environmental policy and review the performance reports and take strategic actions to continuously improve the IMP. 	
IMPLEMENTATION AND OPERATION	4.4.1	Have responsibilities and authorities for environmental management been defined and documented (& communicated)?	Yes	1.12: Roles, responsibilities and authorities - responsibilities of Project Manager, Health, Safety, Environment & Quality (HSEQ) Manager, Senior Project Engineer, Site Engineer, Site Supervisor and offsite Construction Manager.	
		Has a Management Representative been assigned?	Yes	Project Manager: Tim Saviane.	
		(Have essential resources been provided by management?)	Yes	1.12: Roles, responsibilities and authorities. Project Manager responsibilities: Allocate sufficient human and financial resources to implement the IMP.	
		Have the roles, responsibilities, and authorities for the Management Representative been defined?	Yes	Refer to 1.12: Roles, responsibilities and authorities .	
	4.4.2	Are any person(s) working for or on behalf of the organisation, who can cause significant environmental impacts, competent on the basis of education, training and or experience?	Yes	7.2: Site supervisor / receiver responsibilities includes: Engage suitable suppliers engaged to perform any service are suitable, competent and legally able to perform the task as required, with consideration to Fatigue and other influences. <ul style="list-style-type: none"> Worker (heavy Vehicle Person) or driver must ensure that all reasonable steps have been taken or applied to: Your Fit for Duty, competent, have been provided training, information and resources that is required to perform the task safely. 1.13: Roles, responsibilities & authorities: Offsite - Director - Stuart Muir: Ensure that all personnel that are employed are competent in the tasks they are employed to perform . 	
		Have procedures been established to assure all employees are aware of the Environmental Policy (importance of conformance, consequences of departure), actual and potential impacts and their responsibilities?	Yes	2: Communication and Consultation - 2.1 Tool box Meetings : During the course of the works, the Site Supervisor or Site Management Team will conduct pre-start Tool Box talks and Daily Prestart Meetings as part of keeping up the safety and environmental awareness of workers. Specific safety and environmental issues can be addressed, accidents/near misses can be reviewed, SWEMS Statements can be presented, safety alerts discussed or any other health, safety or environmental related issues tabled. It is an open forum for discussion and will be recorded on the "Tool Box Meeting" form, which will be signed off by all those present. These documents can be made available to Frasers Property upon request.	
	4.4.3	Are procedures maintained for communication of environmental issues between various levels of the organisation?	Yes	2.2.4: Onsite communication and Workplace Health, Safety and Environment (WHSE) consultation methods.	
	Are procedures maintained for receiving, documenting and responding to communications from external interested parties?	Yes	2.3.2: Complaints handling procedure.		
	Has the organisation recorded its decision on external communications on its significant environmental aspects?	Yes	5 - Environmental Management, Table 5.1: Environmental Objectives and target: "No complaints received from the community, Frasers Property or the environmental regulator (including on behalf of a local resident)".		

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
IMPLEMENTATION AND OPERATION	4.4.4	Have the main elements of the EMS, and their interaction, been described in paper or electronic form?	Yes	Electronic copy	
		Does documentation of main EMS elements provide direction to related documentation?	Yes	1.8: Legal and other requirements.	
	4.4.5a/b	Is there a procedure for controlling documents?	Yes	Document control table and register of Amendments and Distribution Register in the IMP before Contents page.	
		Do procedures include approval of, and reviewing and updating of documents?			
	4.4.5c	Are changes to documents and current revision status identified?	Yes		
	4.4.5d	Are current versions of all required documents available at all essential locations?	Yes	The current version of the IMP is readily available to managers, employees and key stakeholders.	
	4.4.5e	Is all documentation legible, readily identifiable?	Yes	Several spelling typos throughout document.	
	4.4.5f	Are relevant documents of external origin identified and their distribution controlled?	Yes	Document of external origin identified in IMP. For example: Figure 5.7.3a: General notes: Basin to be constructed and maintained in accordance with Blue Book and Basin to be constructed in accordance with Geotechnical Report (Reference: 86043.03; dated 8 September 2020).	
	4.4.5g	Are obsolete documents promptly removed or otherwise protected from unintended use?	Yes	Document control shall be in accordance with Mainland Civil's HSEQ Standards, ensuring: <ul style="list-style-type: none"> The Integrated Management Plan (IMP) is maintained and up to date; The current version of the IMP is readily available to managers, employees and key stakeholders; and The site HSEQ Manager will retain all superseded (obsolete) pages the IMP for a minimum of 7 years. 	
	4.4.6	Are activities associated with significant environmental aspects planned and carried out under specified conditions?	Yes		
	4.4.6a	Have documented procedures been established for operations associated with significant environmental aspects, where their absence could lead to a deviation from policy and objectives and targets?	Yes	3.5: A Non Conformance Report will be raised for: <ul style="list-style-type: none"> Specification deviation or work that fails to meet quality standards Non-compliance with the site rules Non-compliance with Health, Safety and Environmental Legislation requirements Repeated safety or housekeeping issues identified during inspections. The Non-Conformance shall be completed and issued to the offending party. Non Conformances shall be registered in the office non-conformance register. The Project Manager / Site Supervisor will decide on the appropriate disposition and corrective actions. Non-conformances raised as a result of a Safety or Environmental issue to be reviewed by the HSEQ Manager to confirm if systems need to be updated and if any company wide alerts, correspondence are required.	
	4.4.6b	Are operating criteria stipulated in the procedures?	Yes		
	4.4.6c	Have procedures been established relating to the significant environmental aspects of materials and services purchased and used by the organisation?	Yes	3.6: Product & Services and Section 7: Heavy Vehicle Management (Sub-Plan).	
	4.4.6c	Are procedures in place to communicate relevant procedures and/or requirements, regarding significant environmental aspects of purchased products or services, to suppliers including contractors?	Yes	1.5: Procurement process: Suppliers and subcontractors will be made aware of Mainland Civil's environmental requirements and their obligations as an environmental supplier. Project specific information relating to the environmental requirements will be included in procurement and subcontract documentation through the contract and scope of works and the performance of suppliers and subcontractors measured and reported.	
	4.4.7	Have procedures been implemented to identify the potential for and respond to accidents and emergencies?	Yes	Appendix B: Project Safety and Environmental Risk Register and Control Measures.	
		Are procedures in place to prevent and mitigate impacts of accidents and emergencies?	Yes	<ul style="list-style-type: none"> 4.7: Safe Work and Environmental Method Statements (SWEMS). 4.7.1: General: 4.7.2: Safe Work Procedures (SWPs) Appendix B: Project Safety and Environmental Risk Register and Control Measures. 4.7.4: Site inspections: On a weekly basis the Site Engineers along with the assistance of the HSEQ Manager and/or Site Supervisors will complete a Weekly Site Safety and Environmental Walk (Appendix C) to inspect and identify where controls are adequate, inadequate or not relevant. If any inadequate, unsafe or environmentally unsuitable situations are identified which may be deemed serious or life threatening, or significant or threatening to the environment, then a 'Non-conformance Report' will be instigated detailing the corrective and/or preventive action required. 4.7.5: Plant and equipment pre-start checks. 	
Are emergency preparedness and response procedures reviewed and revised as appropriate (in particular after an occurrence)?		Yes	Appendix D: Emergency Response Procedures.		
	Are emergency procedures tested where practicable?	Yes	Appendix D: The site team is to ensure that firefighting equipment e.g. Fire Extinguishers are tested and tagged every biannually.		

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
CHECKING	4.5.1	Are there procedures for monitoring key characteristics of operations that can have significant impacts?	Yes	<ul style="list-style-type: none"> • <i>Table 5.1: Environmental Objectives and targets</i> lists the following environmental aspects for the project: soil and water control, dust, noise and vibration, hazardous materials, contaminated materials, construction waste management and complaints. The ongoing environmental monitoring of the above environmental aspects are detailed in the following sections of the IMP: • <i>5.6.2: Requirements for managing construction waste types:</i> The types and quantities of each type of material to be excavated from each location are monitored on a daily record of loads chart and recorded in a cartage summary document. • <i>5.7.6: Erosion and sediment control inspection checklist:</i> site sediment controls to be monitored on a daily basis. • <i>5.6.7.4: Management Practice s:</i> the use of water spray must be monitored to ensure runoff does not occur or controls must be implemented to capture any runoff. • <i>5.8.4: Onsite monitoring and recording :</i> Onsite dust monitors will be installed near construction workfaces and monitored monthly. • <i>5.8.8: Contingency management strategies:</i> this section details strategies for control of dust, odour, asbestos fibres and plant. • <i>7.7: Speeding Management :</i> Heavy Vehicle Risk Register: control measure for noise from vehicles and plant: • noise levels to be regularly monitored and personnel are to wear class iv or better ear plugs if levels exceed 85dba; and • regular noise monitoring to be carried out. 	
		Are records available to track performance and conformance with objectives and targets?	Yes	3.3: <i>Document and data control.</i>	
		Is all monitoring equipment appropriately maintained and calibrated or verified (& records of this process maintained)?	Yes	3.9: <i>Calibration: Mainland Civil maintains a log or register of all inspection, measuring and testing equipment and provides independent certification of calibrations. The calibrations are carried out as per the manufacturer's written recommendations and records of such work will be maintained on site. This includes; water testing kits, noise meters, air monitors and laser meters. If requested by Frasers Property, the certifications and results of any testing or calibrations will be provided.</i>	
	4.5.2	Is there a procedure for periodically evaluating compliance with legal and regulatory requirements?	Yes	3.2: <i>Project quality objectives and targets: Internal and external audit: To complete regular internal and external audits to monitor and maintain compliance. Regular site audits every 8 weeks and external audits bi-annually.</i>	
		Are records of these evaluations kept?	Yes	3.10.1: <i>Internal audits: Record all findings in an Internal Review Report to declare the review has been conducted.</i>	
		Has the organisation fully evaluated its compliance with legal and regulatory requirements and implemented corrective action where necessary?	Yes	1.8: <i>Legal and other requirements,</i> Table 1.8 details Commonwealth Laws, National Codes of Practice, NSW Legislation, NSW Codes of Practice and other Legislation and Guidelines. Table 1.8 updated to include codes of practice and guidelines for management of asbestos.	
		Does the organisation evaluate its compliance with other requirements to which it subscribes?	Yes		
		Are records of these evaluations kept?	Yes	3.10.2: <i>External audits: An independent environmental audit for Mainland Civil's HSEQ Certification will be completed for Ivanhoe Estate by a suitably qualified person/team approved by the site HSEQ Manager as a requirement for Mainland's certification.</i>	

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
CHECKING	4.5.3	Are there procedures for identifying and correcting nonconformities and mitigating any environmental impacts?	Yes	<p>3.10.1: The objective of an Internal Review is to:</p> <ul style="list-style-type: none"> Identify any action, process or procedure that may lead to or has caused a non-conformance or does not comply with current road laws and regulations. Report any action, process or procedure that has or may cause a non-conformance to the Compliance Manager. Investigate why a non-conformance happened / what was the root cause. On completion, the onsite HSEQ Manager will prepare and submit a report to the onsite Project Manager and Site Supervisor, detailing the findings (including any non-conformances) and list any actions to be taken. <p>Section 3.5: Non-conformance and Corrective Action Prevention - Non Conformance Report will be raised for:</p> <ul style="list-style-type: none"> Specification deviation or work that fails to meet quality standards Non-compliance with the site rules Non-compliance with Health, Safety and Environmental Legislation requirements Repeated safety or housekeeping issues identified during inspections. <p>The Non-Conformance shall be completed and issued to the offending party. Non Conformances shall be registered in the office non-conformance register</p> <p>The Project Manager / Site Supervisor will decide on the appropriate disposition and corrective actions.</p> <p>Nonconformances raised as a result of a Safety or Environmental issue to be reviewed by the HSEQ Manager to confirm if systems need to be updated and if any company wide alerts, correspondence are required.</p>	
		Are the causes of any nonconformities investigated and corrective and preventive actions timely, appropriate and effective?	Yes	<p>3.5: A Non Conformance Report will be raised for:</p> <ul style="list-style-type: none"> Specification deviation or work that fails to meet quality standards Non-compliance with the site rules Non-compliance with Health, Safety and Environmental Legislation requirements Repeated safety or housekeeping issues identified during inspections. <p>The Non-Conformance shall be completed and issued to the offending party. Non Conformances shall be registered in the office non-conformance register.</p> <p>The Project Manager / Site Supervisor will decide on the appropriate disposition and corrective actions. Non-conformances raised as a result of a Safety or Environmental issue to be reviewed by the HSEQ Manager to confirm if systems need to be updated and if any company wide alerts, correspondence are required.</p>	
		Are the results of corrective and preventive actions recorded?	Yes	3.5: Non Conformances shall be registered in the office non-conformance register.	
		Is the effectiveness of corrective and preventive actions reviewed?	Yes	3.5: Nonconformances raised as a result of a Safety or Environmental issue to be reviewed by the HSEQ Manager to confirm if systems need to be updated and if any company wide alerts, correspondence are required.	
	4.5.4	Have procedures been implemented for identification, maintenance, disposal and retention of environmental records?	Yes	7.2: Roles and Responsibilities: Project Manager All records (such as cartage and tip dockets) are kept and secured with all records of business related activity.	
		Are environmental records legible, readily retrievable, protected and traceable?	Yes	7.2: HSEQ Manager: Records are kept and secured and all records of business related activity, purchasing, maintenance repairs, work related or driving (including rest times) are recorded and reviewed.	
		Are there sufficient records to demonstrate conformance to the requirements of this standard?	Yes		
	4.5.5	Have internal EMS audit procedures been developed and implemented?	Yes	<ul style="list-style-type: none"> 3.10.3: Heavy Vehicle Audits: HSEQ National Manager will conduct regular internal reviews on the contractors to verify operation of system processes and act appropriately by taking corrective actions to minimize the likelihood of a non-conformance reoccurring in compliance with current road transport legislation. To achieve this, all documents records, processes and procedures are subject to regular reviews to verify that all results and activities conform to our policies, procedures and comply with current Acts and Regulations. 3.10.1: Internal audits - refer to 4.6 below. 	
		Do internal audits determine whether the EMS conforms to planned arrangements & has been properly implemented & maintained?	Yes	3.10.3: Findings after any review are to be monitored to gauge whether processes or procedures should be amended or introduced into the management system to better ensure compliance with road transport laws.	
		Are audit frequencies and topics based on the environmental importance of the activity concerned and the results of prior audits?	Yes		
		Do audit procedures cover how results are reported and how results are provided to management?	Yes	3.10.1: Internal audits: Report any action, process or procedure that has or may cause a non-conformance to the Compliance Manager.	
		Do audit procedures adequately define scope, frequency, methods and responsibilities?	Yes	3.10.1: Internal audits: During the course of the works on this project, the HSEQ Manager will conduct regular internal reviews on the IMP to ensure that it is being implemented and conforms to Mainland Civil's certified Environmental Management System.	
		Does the selection of auditors and performance of audits ensure that the audit process is impartial and objective?	Yes	Section 3.10.2: External Audits: Auditors will meet the qualification criteria in AS/NZS ISO 19011:2002 Guidelines for quality and/or environmental management systems auditing. This guideline is superseded by 19011:2014.	
		Has the audit system been fully and effectively implemented?	Yes		
	Do audit reports and records indicate a reliable system which can be used as a tool in the third party audit process?	Yes			

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
MANAGEMENT REVIEW	4.6	Do periodic management reviews take place to ensure the continuing suitability, adequacy and effectiveness of the EMS / IMP?	Yes	3.10.1: Internal audits: The IMP will be reviewed every 3 months or unless changes are made prior by HSEQ Manager.	
		Are the reviews undertaken by top management?	Yes	3.10.1: HSEQ Manager will conduct regular internal reviews on the IMP to ensure that it is being implemented and conforms to Mainland Civil's certified Environmental Management System.	
		Do management review inputs include	Yes		
		· Internal audits	Yes	3.2:Project Quality Objectives and Targets: To complete regular internal audits to monitor and maintain compliance. Regular site audits every 8 weeks. 3.10.1 : Internal audits: The IMP will be reviewed every 3 months or unless changes are made prior by HSEQ Manager.	
		· Compliance with legal & other requirements	Yes	3.10.1: The objective of an Internal Review is to: Monitor the management system to seek further improvement and review generated documents, processes and procedures and for any legislative changes .	
		· External communications			
		· Environmental performance			
		· Complaints	Yes	5.5 Noise: 5.5.1: Compliance requirements: Include a pro-active and reactive strategy for dealing with complaints including achieving the construction noise goals, particularly with regard to verbal and written response. Refer to 2.3.2: Complaints Handling Procedure: All environment complaints received from the public and/or regulatory agency are investigated by the site HSEQ Manager. Any changes required to the HSEQ documentation are to be communicated to all relevant staff in a site tool-box discussion. The effectiveness of corrective and preventive actions taken will be reviewed by the onsite HSEQ Manager and Construction Manager.	
		· Follow up from previous reviews	Yes		
		· Recommendations for improvement	Yes	3.10.1: The objective of an Internal Review is to: • Monitor the management system to seek further improvement and review generated documents, processes and procedures and for any legislative changes. • Identify any action, process or procedure that may lead to or has caused a non-conformance or does not comply with current road laws and regulations. • Report any action, process or procedure that has or may cause a non-conformance to the Compliance Manager. • Investigate why a non-conformance happened / what was the root cause. On completion, the onsite HSEQ Manager will prepare and submit a report to the onsite Project Manager and Site Supervisor, detailing the findings (including any non-conformances) and list any actions to be taken.	
· Developments in legal requirements	Yes	3.10.1: Monitor the management system to seek further improvement and review generated documents, processes and procedures and for any legislative changes.			
		Does management review result in changes as appropriate to the policy, objectives, targets & other elements of the EMS? etc.	Yes	3.10.1: On completion of the actions to address Non-Conformances, the document is to be submitted back to the Systems Coordinator/Manager to be closed out, and the IMP updated and reissued.	Does not specify changes to policy.
		Are management reviews documented?	Yes	3.10.1: Internal audits: Record all findings in an Internal Review Report to declare the review has been conducted.	

Notes:

Compliant

Non-compliant

Recommending further information



TABLE B - REVIEW OF DEVELOPMENT CONSENT CONDITIONS

Condition	Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations
B40. Construction Environmental Management Plan (CEMP)			
Prior to the commencement of any works, the Applicant shall prepare and implement a Construction Environmental Management Plan (CEMP) for the development and be submitted to the Certifier. The CEMP must be prepared in consultation with, and address:			
a	describe the relevant stages and phases of construction including work program outlining relevant timeframes for each stage/phase;	The Yes	
b	describe all activities to be undertaken on the site during site establishment and construction of the development;	Yes	
c	include a Dust Management Plan, incorporating the mitigation measures outlined in the Air Quality Assessment, prepared by WSP, dated October 2018.	Yes	
d	clearly outline the stages/phases of construction that require ongoing environmental management monitoring and reporting;	Yes	
e	detail statutory and other obligations that the Applicant is required to fulfil during site establishment and construction, including approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;	Yes	
f	be prepared in consultation with Council and include specific consideration of measures to address any requirements of Council during site establishment and construction;	Yes	
g	describe the roles and responsibilities for all relevant employees involved in the site establishment and construction of the works;	Yes	
h	detail how the environmental performance of the site preparation and construction works will be monitored, and what actions will be taken to address identified potential environmental impacts, including but not limited to noise, traffic and air impacts;	Yes	

TABLE B - REVIEW OF DEVELOPMENT CONSENT CONDITIONS

Condition	Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations	
B40. Construction Environmental Management Plan (CEMP)				
i	include measures to ensure adequate groundwater entitlement is sourced in order to account for groundwater flows into the construction excavations, unless any exemption applies;	5.7.4: <i>Construction site rainwater testing, treatment and discharge:</i> Groundwater entitlement is not expected to flow into the excavation zones. According to <i>Douglas Partners Groundwater Monitoring</i> report (dated 30 July 2018, project 86043.01 Revision 5.005.Rev0), the ground water levels are typically below the bulk excavation levels of the works and therefore groundwater entitlement into the construction excavations is not expected and highly unlikely.	Yes	
j	management of groundwater during construction;	<i>Table 5.7.2: Stormwater and/or infiltrated groundwater (considered unlikely due depth of excavation) .</i> Water management: control measures include pH and turbidity testing prior to discharge.	Yes	
k	document and incorporate all relevant sub environmental management plans (Sub-Plans), control plans, studies and monitoring programs required under this part of the consent; and	Refer to point 'h' above.	Yes	
l	include arrangements for community consultation and complaints handling procedures during construction.	2.3.2: <i>Complaints Handling Procedure: All environment complaints received from the public and/or regulatory agency are investigated by the site HSEQ Manager.</i> <i>Appendix E: Mainland Civil Site Rules: Any comments, suggestions or complaints from the public in regard to safety and environmental issues in or around the site are to be reported to the Site Supervisor.</i>	Yes	

TABLE B - REVIEW OF DEVELOPMENT CONSENT CONDITIONS

Condition	Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations	
B42. Construction Noise and Vibration Management Plan (CNVMP)				
Prior to the commencement of any works, a Construction Noise and Vibration Management Plan (CNVMP) prepared by a suitably qualified person shall be submitted to the Certifier. The CNVMP must be prepared in consultation with, and address the relevant requirements of, Council and the EPA. The CNVMP shall address (but not be limited to):				
a	be prepared in accordance with the EPA's Interim Construction Noise Guideline	Mainland Civil Pty Ltd (2020), <i>Construction Noise and Vibration Management Plan for Ivanhoe Estate - Macquarie Park, Frasers Property</i> (dated 19/11/2020, Revision A) (the 'CNVMP' report). The CNVMP report was prepared in accordance with • Department of Environment & Climate Change (DECC) (2009), <i>Interim Construction Noise Guideline</i> (DECC, 2009); and • German Standard DIN4150-3:1999 <i>Structural vibration Part 3: Effects of Vibration on Structures</i> .	Yes	Please identify the suitably qualified person, experience and credentials to demonstrate compliance to B42
b	identify nearby sensitive receivers and land uses;	<i>Section 6 of the CNVMP: Nearest Receivers</i> - seven receivers identified and land uses listed.	Yes	
c	identify the noise management levels for the project;	<i>7: Noise monitoring plan - Table 11 : Summarised Noise Emission Criteria</i> - noise levels for residential and commercial land uses. Residential day time noise level objective of 48 dB(A)Leq (15 min) is well below the <i>highly noise affected 75 dB(A)Leq (15 min)</i> as recommended in DECC (2009). Commercial noise objective of 63 dB(A)Leq (15 min) is below the LAeq (15 min) 70 dB(A) for offices, retail outlets as recommended in Section 4.1.3 of DECC (2009).	Yes	
d	identify the construction methodology and equipment to be used and the key sources of noise and vibration;	<i>4: Construction Activities:</i> details plant and activities required to complete works. <i>8: Vibration Management Plan : Mainland Civil works that are expected to cause vibration include:</i> • <i>Excavation of sandstone;</i> • <i>Hammering and sawing sandstone; and</i> • <i>Anchoring (drilling) in sandstone.</i>	Yes	
e	details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;	<i>7: Noise monitoring plan:</i> Noise control measures. <i>8: Vibration Management Plan</i> - vibration control measures.	Yes	
f	be consistent with and incorporate all relevant recommendations and noise and vibration mitigation measures outlined in the Stage 1 DA Acoustic Assessment, prepared by Acoustic Logic, dated 15 October 2019	<i>6: Nearest Receivers</i> - details the nearest properties likely to be affected from the report <i>Acoustic Logic (2020), Master Plan for Ivanhoe Estate, Macquarie Park – Additional Noise Monitoring 30/1/2020</i> .	Yes	
g	ensure all potentially impacted sensitive receivers are informed by letterbox drops prior to the commencement of construction of the nature of works to be carried out, the expected noise levels and duration, as well as contact details for a construction community liaison officer; and	<i>5: Communication Tools:</i> "Prior to the commencement of site works, notice will be provided to nearest receivers via letter drop informing of the upcoming works, the expected noise levels, durations and contact details of the community liaison officer".	Yes	Mainland Civil / Frasers to provide example of letter issued.
h	include a suitable proactive construction noise and vibration monitoring program which aims to ensure the construction noise and vibration criteria in this consent are not exceeded.	<i>7 : Noise monitoring plan:</i> A full time noise monitor will be installed at monitoring location #3 for the duration of Stage 1A works. Periodic noise monitoring will be conducted at other locations as required. In the event that a noise complaint is received then the monitoring frequency may be increased following a formal review. <i>8: Vibration Management Plan : Mainland Civil works that are expected to cause vibration include:</i> • <i>Excavation of sandstone;</i> • <i>Hammering and sawing sandstone; and</i> • <i>Anchoring (drilling) in sandstone.</i> As these works have been identified as high risk activities for vibration, a full time vibration monitor shall be installed at the same location as the noise monitor.	Yes	

TABLE B - REVIEW OF DEVELOPMENT CONSENT CONDITIONS

Condition	Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations	
B43. Air Quality and Odour Management Plan (AQOMP)				
Prior to the commencement of any works, an Air Quality and Odour Management Plan (AQOMP) must be prepared and submitted to the Certifier. The AQOMP must recommend measures to minimise and manage any odours arising from excavation, stockpiling and removal of contaminated soils including, but not limited to:				
a	staged excavation to limit the surface area of exposed odorous material;	5.8.1: Sequencing and staging of works will be geared to minimise the area of excavated surfaces open concurrently for extended periods of time and therefore minimise the impact of potential odours.	Yes	
b	application of odour suppressants;	5.8.2: <i>Material Classification and Odour Suppressants</i> - in consultation with environmental consultant. Two options for odour suppression and control are provided.	Yes	
c	effective covering of stockpiles and truckloads of excavation spoil; and	5.8.3: <i>Minimising the transfer of excavated material within the site and loading from the source of the excavation is ideal however when this is not possible and stockpiles are generated they will be limited to 2m in height. If there is a requirement to go higher due to space/loading requirements, material stockpiles will need to be wetted during the day and covered over night. All trucks carting material off site will cover their loads prior to leaving the site.</i>	Yes	
d	expedited removal of odorous material from the development to a facility legally able to accept those wastes.	5.8.2: <i>Once waste classification for the odorous material is obtained, the material will be removed and transported to a facility licenced to accept the waste.</i>	Yes	
	The AQOMP must include proactive and reactive management strategies, key performance indicators (KPIs), monitoring measures, record keeping, response mechanisms, contingency and compliance reporting measures.	5.8.5: <i>Proactive/Reactive Management Strategies & Response Mechanisms.</i> 5.8.7: <i>Compliance protocol.</i> 5.8.8: <i>Contingency Management Strategies includes KPIs.</i> 5.8.4: <i>Onsite Monitoring and Recording and Table 5.8.6: KPIs.</i>	Yes	

Condition	Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations
B44. Construction Waste Management Plan (CWMP)			
Prior to the commencement of any works and prior to the issue of any Crown Building Works for each building, the Applicant must prepare a Construction Waste Management Plan (CWMP) in consultation with Council. A copy of the plan must be provided to the Certifier. The CWMP must include, but is not limited to, the following information:			
a the estimated volume or weight of materials that will be reused, recycled or removed from the site;	5.6.2: <i>Requirements for managing construction waste types / streams</i> and Table 5.6.2 details the estimated volume of material to be recycled and disposed offsite. 80,000m ³ of excavation material to be recycled offsite.	Yes	
b on-site material storage areas during construction;	5.6.1: <i>General: Identification of a designated area for the storage and collection of waste and recyclable materials to be provided on the site.</i> 5.6.7.3: <i>Onsite Management: storage of contaminated soil/ material onsite prior to disposal in an exclusion zone.</i> 5.7.5.1: <i>Spoil temporary stockpile location: Any spoil that is to be reused on site will be stockpiled in the temporary stockpile. Material stockpiled will be wetted down to minimise dust.</i>	Yes	
c materials and methods used during construction to minimise waste;	5.6.4 <i>Reusing and Recycling waste</i> : sand and rock, concrete, asphalt.	Yes	
d provide details demonstrating compliance with the relevant legislation, particularly with regard to the removal of asbestos and hazardous waste, the method of containment and control of emission of fibres to the air;	Table 1.8 updated to include codes of practice and guidelines for management and removal of asbestos. NSW EPA (2014) - <i>Waste Classification Guidelines - Part 1: Classifying Waste</i> also referenced in Table 1.8. • 5.3: <i>Unexpected Finds Protocol: If the contamination source is verified as asbestos, SafeWork NSW will be notified and approval obtained prior to handling and removal of contaminated material from site. Remediation is to be undertaken as per the Site Environmental Consultants' instruction, Asbestos Management Plan, Asbestos Removal SWMS in accordance with Protection of the Environment Operations (Waste) Regulation 2014.</i> • 5.6.7: details <i>Hazardous Waste</i> (including potential asbestos) under the following subsections: • 5.6.7.1: <i>Contaminated soil source, location, quantity and characteristics:</i> • 5.6.7.2: <i>Training requirements</i> • 5.6.7.3: <i>Onsite management: Engagement of hygienist to undertake fibre air monitoring. Dust suppression and wetting down of unknown finds/asbestos fibres.</i> • 5.6.7.4.: <i>Management Practices.</i> • 5.6.7.5.: <i>Waste tracking.</i> • 5.6.7.6: <i>Monitoring: All airborne fibre monitoring will be conducted in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust [NOHSCH:3003(2005)] and analysed at a NATA-accredited laboratory .</i> 5.6.7.7.: <i>Clearance inspection.</i>	Yes	
e nomination of the end location of all waste and recycling generated from a facility authorised to accept the material type for processing or disposal; and	5.6.6: <i>Table 5.6.6a – Recycling and Disposal Facilities: lists the recycling and / or waste facility that are nominated to accept the various material types to be disposed offsite. Should the unexpected finds be classified as asbestos, this will disposed at licensed facility who can legally accept asbestos.</i>	Yes	
f identification within the CWMP of the responsibility for the transferral of waste and recycling bins within the property to the collection point.	5.6.6: <i>Recycling and disposal facilities - Table 5.6.6b – Personnel Responsible for waste transfer.</i>	Yes	

TABLE B - REVIEW OF DEVELOPMENT CONSENT CONDITIONS

Condition	Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations
B45. Construction Soil and Water Management Plan (CSWMP)			
A Construction Soil and Water Management Plan (CSWMP) must be prepared to manage soil and water impacts during construction of the development. The CSWMP must be prepared in consultation with Council and a copy provided to Council, prior to the issue of a Crown Building Works Certificate for each building.			
The CSWMP must be prepared in accordance with the provisions of the "Blue Book" Part 1 [Landcom (2004) <i>Managing Urban Stormwater: Soils and Construction</i> , 4th edition]. The CSWMP must consider likely stages of the works and provide for appropriate control of sediment and erosion for each stage and include, but not be limited to:			
a	location and extent of all necessary sediment and erosion control measures for the site;	5.7: <i>Soil and Water Management Plan: Figure 5.7.2d – Erosion and Sediment Control Plan</i> shows the proposed location of the sediment basin. <i>Table 5.7.2: Soil and Water Sources and Mitigation Methods</i> - provides mitigation measures for soil (sand) management, sediment fines, import of bulk supplies of material and water management for works including excavation and service trenching.	Yes
b	catchment plan;	5.7.3: <i>Temporary sediment basin</i> .	Yes
c	sediment basin(s) locations including details showing how runoff from the entire site will be directed to the sediment basin(s). Requirements for sediment basins are specified below;	<i>Figure 5.7.2d: Erosion and Sediment Control Plan</i> shows the proposed location of the sediment basin. <i>Figure 5.7.3a: Basin Detail Plan</i> shows runoff from the entire site will be directly to the temporary sediment basin.	Yes
d	all relevant details and calculations of the sediment basins including sizes, depths, flocculation, outlet design, all relevant sections, pump out systems, and depths;	Calculations of the sediment basin are included in <i>Figure 5.7.3a</i> . Details of the sediment basin are included in <i>Section 5.7.3: Temporary sediment basin</i> : size 20 m x 35 m, depth / max ponding level 0.54 m, minimum volume of 1065 m ³ , outlet pipes with sieve-style filtration system. Refer to 5.7.4. for Flocculation methodology.	Yes
e	all details of basement and other excavation pump out and dewatering treatment systems including flocculation and any proposed discharge from the site from dewatering and pump out systems. Requirements for dewatering are specified below;	5.7.4: <i>Construction site rainwater testing, treatment and discharge: Temporary sump pits will be excavated during the basement bulk excavation, with all water collected to be pumped to the temporary sediment basin. Treatment will occur within the basin prior to discharge.</i>	Yes
f	identification and management of any stormwater run-on to the site from adjacent sites;	5.7.4: <i>In the event that stormwater run-on from adjacent neighbours enters the site, an investigation will take place. This will involve determining the source of the run-on and creating a plan to effectively manage it.</i>	Yes
g	location of any temporary stockpiles (soil, spoil, topsoil or otherwise) and accompanying sediment and erosion control measures;	<i>Figure 5.7.2d - Erosion and Sediment Control Plan</i> shows indicative location of stockpile. <i>Table 5.7.2: Soil and Water Sources and Mitigation Methods</i> : provides mitigation measures for soil (sand) management, sediment fines, import of bulk supplies of material and water management.	Yes
h	location and details of all vehicle wash down bays and associated erosion and sediment control measures such as earthen bunds; and	<i>Figure 5.7.2d - Erosion and Sediment Control Plan</i> shows indicative vehicle washdown bay location. <i>Table 5.7.2: Soil and Water Sources and Mitigation Methods</i> .	Yes
i	a daily and weekly site inspection checklist consistent with IECA Best Practice Erosion and Sediment Control documents.	5.7.6: <i>Erosion and sediment control inspection checklist: These controls are also visually monitored daily by the site supervisor to ensure they comply. In conjunction with the above figure 5.7.6a, extract from the weekly HSE walk, Mainland will implement the Weekly site inspection checklist prepared by the International erosion Control Association (IECA). A copy of this form is located in Appendix C of this Report.</i>	Yes
A Sediment Basin is required for every catchment discharging from the site as part of any CSWMP. Sediment basin(s) are to be designed as follows:			
a	according to the NSW Blue Book (section 6.3.4 and Appendix E). The calculations of the sediment basin size must be submitted with the CSWMP	Calculations of the sediment basin are included in Figure 5.7.3a.	Yes
b	using type D soils (unless otherwise demonstrated by an analysis of site soils by a qualified geotechnical);	<i>Figure 5.7.3a: General notes</i> : Basin to be constructed and maintained in accordance with Blue Book and Basin to be constructed in accordance with Geotechnical Report (Reference: 86043.03; dated 8 September 2020).	Yes
c	for all events up to the peak flow rate from the 1 in 10-year ARI event for the site for the 5-day rainfall event; and		Recommending further information
d	to include a gypsum flocculent to be added to the sediment basin in accordance with Appendix E of the Blue Book.	Section 5.7.4: gypsum, liquid alum or flocculent blocks to be used as flocculent.	Cannot find reference to this. Please provide evidence that these events were factored for the sediment basin design. Yes

TABLE B - REVIEW OF DEVELOPMENT CONSENT CONDITIONS

Condition	Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations
B59			
Prior to the commencement of any works and following additional testing (Condition B55), an updated Unexpected Contamination Finds Protocol (UFP), prepared by a suitably qualified and experienced expert, shall be provided to the Certifier. The UFP must be implemented for the duration of construction works.	5.3 <i>Unexpected Finds Protocol:</i>	Yes	
B64			
The Applicant shall comply with any notification requirements to SafeWork NSW concerning the handling and removal of any asbestos.	<ul style="list-style-type: none"> Mainland Civil Pty Ltd (2020c), Asbestos Management Plan, Ivanhoe Estate – Stage 1, Ivanhoe Place, Macquarie Park, Frasers Property Pty Ltd (dated 11 December 2020, Revision A. 	Yes	
B65			
Prior to the commencement of any work, the Applicant is required to satisfy the requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 ‘asbestos wastes’.	Part 7 of 2014 regulation details transport, disposal and management of asbestos waste. <i>Part 7 - Clauses 78 - 81 - are detailed in Section 9 of the AMP and Section 3 details the contravtors / consultants who will be engaged if asbestos is found onsite:</i> <ul style="list-style-type: none"> Asbestos Removal Licence Holder: Mainland Civil Pty Ltd, Friable Asbestos Removal License No. AD213265 Waste Disposal Site: Veolia, Horsley Park Waste Management Facility, 716-736 Wallgrove Road, Horsley Park, NSW, 2175 - Environment Protection Licence No. 11584. Cartage Contractor: Bulk Transport Solutions Pty Ltd. Licensed Asbestos Assessor: Guangzhou Ju – LAA001176 - Environmental Earth Sciences International. Asbestos Removal Supervisors: Brett Talbot, Mark Anderson – Mainland Civil. 	Yes	

Notes:

Complaint

Non-compliant

Recommending further information

