

22 December 2020

Eric Hausfield Suite 7, 76 Henry Street, Penrith NSW 2751 Land Development Certificates

IVANHOE ESTATE - DEVELOPMENT CONSENT SSDA 8903 CONDITION B42 – CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN

- B42. 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
 - b) identify nearby sensitive receivers and land uses;
 - c) identify the noise management levels for the project;
 - d) identify the construction methodology and equipment to be used and the key sources of noise and vibration;
 - e) details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;
 - 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
 - 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
 - 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.

Prior to the commencement of works, a copy of the CNVMP demonstrating compliance with the above must be submitted to the Planning Secretary.

Dear Eric,

In accordance with Development Consent SSDA 8903 Condition B42 please find attached the Construction Noise and Vibration Management Plan (CNVMP) prepared by Mainland Civil Pty Ltd. This CNVMP has been provided to both the City of Ryde Council and the EPA for their input with the aim of providing an open line of communication with both parties for consultation on the matter. It has also been provided to the project environmental consultant Environmental Earth Sciences for their review and comment. I have attached the formal correspondence provided and any response received to date.

Kind Regards,

Tim Saviane | Project Manager | Mainland Civil P 02 8566 1111 | M 0422 418 072 | F 02 8566 1100 Email | tim_saviane@mainlandcivil.com.au Web | www.mainlandcivil.com.au 192-194 Railway Parade, Kogarah, NSW 2217 | PO Box 529, Kogarah NSW 2217

MAINLAND CIVIL PTY LTD ABN 67 104 311 828

192-194 Railway Parade, Kogarah, NSW 2217 PO Box 529, Kogarah, NSW 2217 Tel (02) 8566 1111 Fax (02) 8566 1100



Tim Saviane

From:	Linda Lenihan <llenihan@eesigroup.com></llenihan@eesigroup.com>
Sent:	Wednesday, 2 December 2020 8:50 AM
To:	Tim Saviane; Peter Statham
Cc:	Chris Koukoutaris; Joe Avgoustis; Eric Hausfeld; James Barwood; Alex Ciecko; Peter Josevski; Salvatore Panto
Subject:	RE: SWC & Prior to Commencement Items - EIS - Environmental Conditions (120077)

Hi Tim,

Thank you for providing the CNVMP.

On review, the CNVMP details the information required to satisfy *Condition B42* and I require no further information in relation to construction noise and vibration.

Regards, Linda.



Would you like to learn more about our soil recycling capabilities? <u>Click</u> <u>here to find out more</u>

Linda Lenihan – Senior Environmental Scientist 82-84 Dickson Ave Artarmon NSW 2064 P: +61 2 9922 1777 M: +61 438 125 570 Ilenihan@eesigroup.com www.eesigroup.com

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From: Tim Saviane <Tim_Saviane@mainlandcivil.com.au> Sent: Tuesday, 1 December 2020 7:49 AM

To: Linda Lenihan <llenihan@eesigroup.com>; Peter Statham <Peter.Statham@frasersproperty.com.au> Cc: Chris Koukoutaris <chris.koukoutaris@frasersproperty.com.au>; Joe Avgoustis <Joe.Avgoustis@frasersproperty.com.au>; Eric Hausfeld <Eric@LDC.com.au>; James Barwood <jbarwood@eesigroup.com>; Alex Ciecko <aciecko@mckenzie-group.com.au>; Peter Josevski <Peter_Josevski@Mainlandcivil.com.au>; Salvatore Panto <Salvatore_Panto@mainlandcivil.com.au> Subject: RE: SWC & Prior to Commencement Items - EIS - Environmental Conditions (120077)

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Hi Linda,

Tim Saviane

From:	Anna Timbrell <anna.timbrell@epa.nsw.gov.au></anna.timbrell@epa.nsw.gov.au>
Sent:	Tuesday, 8 December 2020 6:25 PM
То:	Tim Saviane
Cc:	Peter Josevski; Peter Statham; Joe Avgoustis; Chris Koukoutaris; Sarah Thomson
Subject:	RE: SSDA 8903 - Condition B42 - Construction Noise and Vibration Management
	Plan

Hi Tim

Thank you for your email regarding the *Ivanhoe Estate Redevelopment* project (SSD 8903) at Macquarie Park.

I note receipt of

• the *Construction Noise and Vibration Management Plan*, Rev A, dated 19.11.20, prepared by Mainland Civil to satisfy condition B42 of SSD 8903, which includes the requirement to consult with the EPA.

As the EPA is the Appropriate Regulatory Authority (ARA) for the project, it must maintain a regulatory arm's length from commenting on post-approval management plans. The EPA's comments and recommendations for this project, including for noise and vibration impacts, were provided as part of the exhibition and Response to Submissions process.

The EPA will not be endorsing or approving the above document.

Kind regards

Anna Timbrell

Environmental Planner Regulatory Operations Metro North NSW Environment Protection Authority D 02 9274 6345 | E anna.timbrell@epa.nsw.gov.au

www.epa.nsw.gov.au @NSW EPA

The EPA acknowledges the traditional custodians of the land and waters where we work. As part of the world's oldest surviving culture, we pay our respect to Aboriginal elders past, present and emerging.

Report pollution and environmental incidents 131 555 or +61 2 9995 5555

From: Tim Saviane <Tim_Saviane@mainlandcivil.com.au>
Sent: Tuesday, 8 December 2020 3:40 PM
To: Anna Timbrell <Anna.Timbrell@epa.nsw.gov.au>
Cc: Peter Josevski <Peter_Josevski@Mainlandcivil.com.au>; Peter Statham
<Peter.Statham@frasersproperty.com.au>; Joe Avgoustis <Joe.Avgoustis@frasersproperty.com.au>; Chris
Koukoutaris <Chris.Koukoutaris@frasersproperty.com.au>
Subject: SSDA 8903 - Condition B42 - Construction Noise and Vibration Management Plan

Hi Anna,

Thanks for returning my call this afternoon. As discussed we are preparing to commence work on a construction project at Ivanhoe Place, Macquarie Park. We have a DA condition requiring us to prepare a Construction Noise and Vibration Management Plan in consultation with the EPA. I have attached our letterhead outlining the DA condition along with the Construction Noise and Vibration Management Plan we have prepared for the project. I would like to offer you the opportunity to provide any input you may have into this management plan or provide any comments otherwise regarding this document.

Thanks,

Tim Saviane | Project Manager | Mainland Civil P 02 8566 1111 | M 0422 418 072 | F 02 8566 1100 Email | tim_saviane@mainlandcivil.com.au Web | www.mainlandcivil.com.au 192-194 Railway Parade, Kogarah, NSW 2217 | PO Box 529, Kogarah NSW 2217



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PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Tim Saviane

From:	Tim Saviane
Sent:	Tuesday, 22 December 2020 12:33 PM
То:	'cityofryde@ryde.nsw.gov.au'
Cc:	'Peter Statham'; 'Joe Avgoustis'; 'Chris Koukoutaris'; Peter Josevski
Subject:	RE: SSDA 8903 - Condition B42 - Construction Noise and Vibration Management
-	Plan

Attention: City of Ryde Council,

I am writing to you in regards to the Development Consent SSDA 8903 for the Ivanhoe Estate Project. More specifically the document provided to you on the 8th December 2020 relating to the Construction Noise and Vibration Management Plan in which we requested your consultative input as required for condition B42 of the development consent. As of this date we are yet to receive a response to this document submission and make the assumption that you have no further input to add to this document. As such we intend to progress with the formalisation of this document noting that we had attempted to consult with Council on the matter.

Please feel free to contact myself if you require any further information on this matter or at any time should you wish to provide any input into this document.

Regards,

Tim Saviane | Project Manager | Mainland Civil P 02 8566 1111 | M 0422 418 072 | F 02 8566 1100 Email | tim_saviane@mainlandcivil.com.au Web | www.mainlandcivil.com.au 192-194 Railway Parade, Kogarah, NSW 2217 | PO Box 529, Kogarah NSW 2217



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From: Tim Saviane
Sent: Tuesday, 8 December 2020 11:16 AM
To: 'cityofryde@ryde.nsw.gov.au' <cityofryde@ryde.nsw.gov.au>
Cc: Peter Statham <Peter.Statham@frasersproperty.com.au>; Joe Avgoustis

<Joe.Avgoustis@frasersproperty.com.au>; Chris Koukoutaris <chris.koukoutaris@frasersproperty.com.au>; Peter Josevski <Peter_Josevski@Mainlandcivil.com.au> Subject: SSDA 8903 - Condition B42 - Construction Noise and Vibration Management Plan

Attention: City of Ryde Council,

I am writing to you with regards to the Development Consent SSDA 8903 for the Ivanhoe Estate project. In accordance with condition B42 of this development consent, please find attached the Construction Noise and Vibration Management Plan for your review and consultation. Could you please let me know once you have reviewed this plan if there are any amendments you require to be made.

Regards,

Tim Saviane | Project Manager | Mainland Civil P 02 8566 1111 | M 0422 418 072 | F 02 8566 1100 Email | tim_saviane@mainlandcivil.com.au Web | www.mainlandcivil.com.au 192-194 Railway Parade, Kogarah, NSW 2217 | PO Box 529, Kogarah NSW 2217



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Construction Noise & Vibration Management Plan

for

Ivanhoe Estate – Macquarie Park Frasers Property

Approvals			
Name	Title	Signature	Date*
Prepared by: Adrian Grdic	Senior Project Engineer		19/11/20
Approved by: Mitch Cole	Environmental Manager	Ja-	19/11/20

* The date shown is when the document was originally issued. For revision history refer to the document control table

DATE: 19/11/20

DOCUMENT CONTROL

Report Revision History					
Rev No.	Date	Description	Prepared By	Reviewed By	
A	19/11/2020	For Construction Certificate	Adrian Grdic	Mitch Cole	

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1. INTRODUCTION

The noise & vibration management plan identifies the limitations and control measures for noise and vibration during the course of work by Mainland Civil at the Ivanhoe Estate at Macquarie Park development. This management plan references the detailed analysis and recommendations within the Acoustic Logic *"Master Plan for Ivanhoe Estate, Macquarie Park – Additional Noise Monitoring 30/1/2020*".

2. LOCATION OF WORKS

The location of the works is between Epping Road and Herring Road in Macquarie as shown on map below.

Stage 1A of the Staging Plan forms this contract for civil works and Building A1 bulk earthworks



3. LEGAL REQUIREMENTS

3.1 DEVELOPMENT CONSENT CONDITIONS

This CNVMP has been prepared to address the conditions of Development Consent SSD8903 for the project as outlined below.

CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN

- B42. 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):
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 - e) details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;
 - 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
 - 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
 - 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.

Prior to the commencement of works, a copy of the CNVMP demonstrating compliance with the above must be submitted to the Planning Secretary.

3.2 STANDARDS & GUIDELINES

In preparing this plan, Mainland Civil have considered the following guidelines and standards:

- DECC Interim Construction Noise Guideline
- German Standard DIN4150-1999 Structural vibration Part 3: Effects of Vibration on Structures

4. CONSTRUCTION ACTIVITIES

Summary of the activities and plant required to complete Ivanhoe Estate works.

Scope of works:

- Services location
- Tree Lopping
- · Bulk excavation and construction of two new site internal roads
- Bulk excavation to a new building basement
- Piling
- Anchoring
- Concrete works

The plant and equipment required to complete these works includes:

- Excavators
- Saw attachments
- Bobcat
- Rollers
- Hook Bin Trucks
- Truck and Trailers
- Concrete saws
- Concrete trucks
- Concrete pumps
- Anchoring rig
- Dozer
- Grader

The works are scheduled to begin on 25th November 2020 and are planned to end late 2021.

5. COMMUNICATION TOOLS

The following communication tools will be used by Mainland Civil during the construction at Ivanhoe Estate:

- Site notice board showing the following approved work hours, contact person with phone, fax, mobile numbers and email contact, site activities and time frames.
- 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.
- Formal complaint register logging public complaints see appendix A

6. NEAREST RECEIVERS

The nearest properties potentially affected by civil construction activities are located shown on the drawing and table below extracted from Acoustic Logic *"Master Plan for Ivanhoe Estate, Macquarie Park – Additional Noise Monitoring 30/1/2020"*.



- Receiver 1 (R1) Multistorey residential/commercial mixed use building (currently under construction)
- Receiver 2 (R2) Multistorey residential/commercial mixed use development
- Receiver 3 (R3) Existing multistorey residential building
- Receiver 4 (R4) Existing residential dwellings
- Receiver 5 (R5) Commercial building
- Receiver 6 (R6) Commercial building
- Receiver 7 (R7) Commercial building

7. NOISE MONITORING PLAN

Pre-commencement noise monitoring locations extracted from Acoustic Logic "Master Plan for *Ivanhoe Estate, Macquarie Park – Additional Noise Monitoring 30/1/2020*" are shown below. Stage 1A works are located near monitoring location #3 and are also next to the nearest receiver. 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.



Noise emission limits are defined in Acoustic Logic *"Master Plan for Ivanhoe Estate, Macquarie Park – Additional Noise Monitoring 30/1/2020"*

Location	Time	Noise Objectives
R1 to R4	Day	48 dB(A)L _{eq, 15min} `
	Evening	43 dB(A)L _{eq, 15min}
	Night	38 dB(A)L _{eq, 15min}
		52 dB(A)L _{max, F}
Commercial Boundaries	when in use	63 dB(A)L _{eq, 15min}

Table 11 - Summarised Noise Emission Criteria

Noise Control Measures

As a standard measure on all sites, prior to the commencement of and during site activities, Mainland Civil will

- Require of all its plant hire suppliers that they comply with the WHS Act and Regulations 2017;
- Require of all its tool hire suppliers that they comply with the WHS Act and Regulations 2017;
- Require of all its sub-contractors that they comply with the WHS Act and Regulations2017;
- Monitor the noise levels and carry out noise hazard assessments;
- Give priority control measures to noise sources which contribute to the highest noise exposures affecting the largest number of people;
- Assess and implement control measures to reduce to, or below, the standards set out in the WHS Regulations 2017. Further reductions in noise levels will be carried out where practicable.

The following noise control measures shall be taken into consideration in the hazard assessments to reduce noise levels, in the order in which they are listed;

- 1. Engineering treatment at the source, such as
 - Eliminating or replacing machinery or equipment by those that produce no or lesser noise levels;
 - Replace noisy machinery or equipment with newer ones;
 - Modify the noise source by design changes;
 - Maintain machinery or equipment at a high standard eliminating faulty part, loose bearings, poor lubrication etc.;
 - Correct the specific elements on the machine or equipment that is causing the noise;
 - Separate the noisy elements which do not need to be an integral part of the machine or equipment without prejudice to the safety of their operation;
 - Isolate the vibrating parts to reduce noise.
- 2. Engineering treatment of the noise transmission path, such as isolation of the noise transmission path from other persons by providing adequate distance between the source and listeners or the erection of noise barriers.
- 3. Administrative noise control measures, such as job rotation, job redesign and rosters.
- 4. Personal hearing protection, such as ear muffs, ear plugs or acoustic helmets.

<u>Training</u>

Once the noise hazards have been assessed and the control measures decided upon, they will be conveyed to all site personnel by means of a tool box meeting. At this meeting, hazards and their control will be tabled for open discussion to allow the consultation process to involve the personnel themselves. Any suggestion will be discussed and if found to be practicably better, then it will be implemented accordingly.

Spot sound level check readings will be undertaken where high levels are obtained and control measures are implemented to test their effectiveness. A trained operator will be nominated to operate the Sound Level Meter.

Where hearing protectors are to be issued, then the user of this personal protective equipment will be trained in its use and maintenance.

8. VIBRATION MANAGEMENT PLAN

When planning for construction work that may include potential vibrations, Mainland Civil will make all practical efforts to protect adjacent buildings and the amenity of the occupiers of those buildings. The table below details the vibration goals based on German Standard DIN4150-3 (1999-02).

Table 4. DIN 4150: Part 3 Structural Damage Criteria					
		Peak Particle Velocity (mm/s)			
Group	Type of Structure	At Foundation			Plane of Floor of Uppermost Story
		1 Hz to 10 Hz	10 Hz - 50 Hz	50 Hz - 100 Hz	All frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 at 10 Hz increasing to 40 at 50 Hz	40 at 50 Hz increasing to 50 at 100 Hz	40
2	Dwellings and buildings of similar design and/or use	5	5 at 10 Hz increasing to 15 at 50 Hz	15 at 50 Hz increasing to 20 at 100 Hz	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 at 10 Hz increasing to 8 at 50 Hz	8 at 50 Hz increasing to 10 at 100 Hz	8

Mainland Civil works that are expected to cause vibration include:

- Excavation of sandstone
- Hammering and sawing sandstone
- Anchoring (drilling) in sandstone

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 shown in the location map above.

Vibration Control Measures

Where possible Mainland Civil will utilise or undertake the following to mitigate vibration impact onto adjacent structures:

- Use less disruptive attachments such as rippers instead of hydraulic breakers if ground conditions allow
- Remove contact points against adjacent structures
- Pull material away rather than hammer against adjacent structures
- Where practical, position plant 5m away from adjacent property boundaries

9. APPENDIX A – FORMAL NOTIFICATION / COMPLAINTS PROCEDURE

Complaints can be received from the public or their representative, via the following means:

- In person at our head office at 192-194 Railway Parade Kogarah;
- By phone enquires 24/7 telephone number 0401 160 994 (signage on the front site entrance)
- By email via to Mitch Cole (Mainland Civil HSEQ Manager) mitch cole@mainlandcivil.com.au under the 'Contact Us' page

Workers will report any complaints received to the site Supervisor, and will be recorded by and tracked in the log sheet maintained by the onsite HSEQ Manager. All site complaints will be recorded using Mainland Civil's "Complaints Form" and will be filed by the HSEQ Manager into the 'Complaints Register' which will be readily available for inspection by the client or City of Ryde Council

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 Project Manager.



COMPLAINTS REPORT

PROJECT NUMBER:	PROJECT:	NAME:			
DETAILS OF COMPLAINT					
When was the complaint received? Date:	/ / Time: am/	pm			
Describe in detail exactly the complaint that	has been made:				
Name of person / business making complain	 it:				
Details of person / business (address, phone	e no, email):				
How was complaint made? (i.e verbally, ema	ail, etc)				
Actions taken in response to complaint:					
Details of how you followed up with person /	business making complaint:				
Date of follow up:					
Actions to avoid repeat of complaint:					
Reported by:					
THE HSE MANAGER & CLIENT MUST BE INFORMED OF THE COMPLAINT.					
HSE Manager:	Signature:	Date:			
Foreman / Site Engineer:	Signature:	Date:			

COMPLAINTS REGISTER



PROJECT NUMBER: ______ PROJECT: ______

Complaint No.	Date & Time Received	How was Complaint received (ie verbal, email, etc)	Personnel Details of Person Making Complaint	Description of Complaint	Actions Taken