mckenzie group
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Sydney | Melbourne | Brisbane | Gold Coast
www.mckenzie-group.com.au | email@mckenzie-group.com.au

CONSTRUCTION CERTIFICATE No. J/74556/01

Issued under the Environmental Planning and Assessment Act 1979 Sections 6.4 and 6.7

Owner

Name:	NSW Land & Housing Corporation
Address:	Level 5, 219-241 Cleveland Street, Strawberry Hills, NSW 2012

Property details

Address	Ivanhoe Estate comprising Ivanhoe Place, Wilcannia Way, Nyngan Way, Narromine Way and Cobar Way, part of 2-4 Lyonpark Road and portions of Shrimptons Creek adjacent to to the centre line of the creek, Macquarie Park
Lot/Portion No:	100, 1
DP No:	1262209, 859537
Municipality:	City of Ryde

Description and value of development

Description: Stage 1 development application for the redevelopment of the Ivanhoe Estate, including:

- site preparation works, including removal of trees, demolition, bulk earthworks and excavation
- construction of new roads, bridge over Shrimptons Creek and new road connection to Lyonpark Road
- construction of two residential apartment buildings (Building A1 and Building C1) with basement car parking:
- Building A1 with 269 apartments, 233 car parking spaces and a child centre
- Building C1 with 471 apartments and 346 car parking spaces
- landscaping and public domain works
- amalgamation and subdivision.

Value of work: $30,951,250.00

Building Code of Australia building classification

Part:	A1 – Bulk Excavation
Use:	Residential (When Complete)
BCA classification:	2, 7a (When Complete)

Determination

Approved/Refused:	Approved
Date of Determination:	20 May 2021

Plans and specifications approved

- MGC Approved Plans prepared by Enstruct numbered: A1-ST-002-00[A]

Attachments

1. Fire safety schedule.
2. Conditions of approval
3. Application form for Construction Certificate.
4. Record of Site Inspection made by Registered Certifier in accordance with Clause 143B (EP&A Regulations 2000) prior to issue of Construction Certificate.
5. Long Service Levy Receipt prepared by Long Service Corporation dated 7 September 2020
6. Letter of Owner's Consent prepared by Frasers Property dated 6 April 2018
7. Pre-Construction Dilapidation Report prepared by Greenplus Property Services dated 10 November 2020
8. Pre-Construction Dilapidation Report for Display Suit prepared by Greenplus Property Services dated 10 November 2020
9. Pre-Construction Dilapidation Report for External Ground & Elevations prepared by Greenplus Property Services dated 10 November 2020
10. Construction Noise & Vibration Management Plan Rev A prepared by Mainland Civil dated 19 November 2020
11. Letter regarding Consent Condition B42 Construction Noise & Vibration Management Plan prepared by Mainland Civil dated 23 November 2020
12. Letter regarding Consent Condition B25 Pre-Construction Dilapidation Report prepared by Mainland Civil dated 23 November 2020
13. Letter regarding Consent Conditions B18 & B19 Compliance Reporting prepared by Frasers Property dated 23 November 2020
14. Letter regarding Consent Conditions B60 Interim Site Audit Advice prepared by Enviroview dated 18 November 2020
15. Letter regarding Consent Condition B96 Temporary Stormwater Works prepared by Frasers Property dated 12 October 2020
16. Design Statement for Street Lighting Works prepared by Shelmerdines Consulting Engineers dated 30 March 2020
17. Certification of Compliance for Civil Works prepared by Our Garden Path dated 22 December 2020
18. Preliminary Findings for Independent Environmental Audit prepared by Environmental Earth Sciences dated 7 December 2020
19. Plan for Signage & Linemarking Works prepared by ADW Johnson numbered: 200001(1)-ENG-751[F]
20. Email Correspondence regarding Consent Condition B102 prepared by Frasers Property dated 12 October 2020
21. Email Correspondence regarding Consent Condition B97 & B98 prepared by Frasers Property dated 23 September 2020
22. Email Correspondence regarding Consent Condition B38 prepared by Shelmerdines Consulting Engineers dated 28 September 2020
23. Email Correspondence regarding Consent Condition B102 prepared by Frasers Property dated 24 September 2020
24. Plans for Excavation Works prepared by Enstruct Group dated 28 April 2021
25. Geotechnical Monitoring Plan prepared by Douglas Partners dated 12 May 2021
26. Design Certificate for Structural works prepared by Enstruct Group dated 28 April 2021
27. Letter regarding Consent Condition B101 prepared by Frasers Property dated 1 July 2020
28. Design Consultant Statement prepared by BatesSmart dated 6 May 2021
29. Geotechnical Monitoring Plan prepared by Douglas Partners dated 12 May 2021

Development Consent

Certificate no.:	SSD 8903	SSD 8903 MOD 1	SSD 8903 MOD 2
Date of Determination:	30 April 2020	11 November 2020	7 May 2021

Certificate / Registered Certifier

McKenzie Group Consulting (NSW) Pty Ltd, certify that the work, if completed in accordance with these plans and specifications will comply with the Environmental Planning and Assessment Regulation 2000 as referred to in Section 6.8 of the Environmental Planning and Assessment Act 1979.

Signature

Signed on behalf of the Company, McKenzie Group Consulting (NSW) Pty Ltd
(ACN 093 211 995), Registered Body Corporate No. ABC 6
Signed by: Paul Curjak
Category of Accreditation: Building Surveyor – Unrestricted
Registered Certifier No.: BDC2773

Date of endorsement	**20 May 2021**
Certificate Number	**J/74556/01**

Note: Prior to commencement of work section 6.6 of the Environmental Planning and Assessment Act 1979 must be satisfied.

ATTACHMENT 1

Existing Fire Safety Schedule

Issued under the Environmental Planning and Assessment Regulation 2000 Clause 168

No existing fire safety schedule

Proposed Fire Safety Schedule

Issued under the Environmental Planning and Assessment Regulation 2000 Clause 168

N/A for this stage

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CONSTRUCTION CERTIFICATE No. J/74556/01

Issued under the Environmental Planning and Assessment Act 1979 Sections 6.4 and 6.7

Owner

Name: NSW Land & Housing Corporation

Address: Level 2, 1C Homebush Bay Drive, Rhodes NSW 2138

Property details

Address: Ivanhoe Estate comprising Ivanhoe Place, Wilcannia Way, Nyngan Way, Narromine Way and Cobar Way, part of 2-4 Lyonpark Road and portions of Shrimptons Creek adjacent to the centre line of the creek, Macquarie Park

Lot/Portion No: 100, 1

DP No: 1262209, 859537

Municipality: City of Ryde Council

Description and value of development

Description: Stage 1 development application for the redevelopment of the Ivanhoe Estate, including:

- site preparation works, including removal of trees, demolition, bulk earthworks and excavation
- • construction of new roads, bridge over Shrimptons Creek and new road connection to Lyonpark Road
- construction of two residential apartment buildings (Building A1 and uilding C1) with basement car parking:
  - Building A1 with 269 apartments, 233 car parking spaces and a child centre
  - Building C1 with 471 apartments and 346 car parking spaces
- landscaping and public domain works
- amalgamation and subdivision.

Value of work: $170,735,145.00

Building Code of Australia building classification

Part: C1 – Bulk Excavation

Use: Residential (When Complete)

BCA classification: 2, 7a (When Complete)

Determination

Approved/Refused: Approved

Date of Determination: 14 May 2021

Plans and specifications approved

- MGC Approved Plans prepared by Enstruct Group numbered: C1-ST-001-50[A]

Attachments

1. Fire safety schedule.
2. Conditions of approval
3. Application form for Construction Certificate.
4. Record of Site Inspection made by Registered Certifier in accordance with Clause 143B (EP&A Regulations 2000) prior to issue of Construction Certificate.
5. Long Service Levy Receipt prepared by Long Service Corporation dated 27 April 2021
6. Design Verification Certificate prepared by Candalepas Associates dated 3 March 2021
7. Design Certificate for Structural Works prepared by Enstruct Group dated 16 April 2021
8. Environmental Audit Report as per Consent Conditions B5&9 prepared by Environmental Earth Sciences dated 17 December 2020
9. Consolidated Development Consent prepared by Mister for Planning & Public Spaces dated 2020
10. Community Communication Strategy Ver 2.0 prepared by Elton Consulting dated 23 June 2020
11. Finishes & Materials Schedule prepared by Angelo Canalepas & Associates dated 7 April 2021

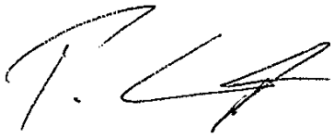
12. Cover Letter regarding Conditions B18 & B19 Compliance Reporting prepared by Frasers Property dated 23 November 2020
13. Complaints & Enquires as per Consent Conditions B23 prepared by Ivanhoe Estate
14. Pre-Construction Dilapidation Report as per Consent Condition B25 prepared by Greenplus Property Services dated 10 November 2020
15. Pre-Construction Dilapidation Report as per Consent Condition B25 prepared by Greenplus Property Services dated 10 November 2020
16. Integrated Management Plan Rev F as per Consent Condition B40 prepared by Mainland Civil dated 23 March 2021
17. Contamination Report as per Consent Condition B55 & B56 prepared by Environmental Earth Sciences dated 10 December 2019
18. Letter of Compliance for Remediation strategy as per Consent Condition B58 prepared by Enviroview dated 5 February 2021
19. Contaminated Land Remediation Plan as per Consent Condition B60 prepared by Environmental Earth Sciences dated 18 January 2021
20. Contamination Report and Certificate for Consent Condition B61 prepared by Mainland Civil dated 24 November 2020
21. Asbestos Waste Management Report as per Consent B65 prepared by Mainland Civil dated 11 December 2020
22. Letter regarding Clarification of Conditions B56, B57, B59, B60 & B63 prepared by EPA NSW dated 27 July 2020
23. Letter regarding Consent Condition B101 Access to Gross Polutant Traps prepared by Frasers Property dated 1 July 2020
24. Email Correspondence regarding Access to shrimp tons Creek prepared by Frasers Property dated 2 July 2020
25. External Finished Note as per Consent Condition B15
26. Notice of Anticipated Requirements prepared by Sydney Water dated 21 January 2020
27. Programme for Stage 1 Civil Works as per Consent Condition R11 dated 4 March 2021
28. National Engineering Register Portfolio for Yongchuan Gao
29. Development Consent prepared by Mister for Planning & Public Spaces dated 30 April 2020
30. DA Stamped Plans as per Consent Condition B6 prepared by BatesSmart dated 31 January 2020
31. Construction Site Plan as per Consent Condition R4 prepared by Enstruct Group dated 1 April 2021
32. Design Verification Certificate prepared by Candalepas Associates dated 8 March 2021
33. Integrated Management Plan Rev F prepared by Mainland Civil dated 23 March 2021
34. Construction Traffic Management Plan Ver 1.1 prepared by The Traffic Planner dated 4 January 2021
35. Construction Noise & Vibration Management Plan prepared by Mainland Civil dated 13 April 2021
36. Email Correspondence regarding Integrated Management Plan prepared by Frasers Property dated 4 May 2021
37. Email Correspondence regarding Consent Conditions B97 & B98 prepared by Frasers Property dated 23 September 2020
38. Civil & Structural Design Certificate prepared by ADW Johnson dated 3 September 2020
39. Bank Guarantee as per Consent Condition B96 Temporary Stormwater Works prepared by Frasers Property dated 12 October 2020
40. Design of temporary works & Stormwater Design as per Consent Condition B98 prepared by ADW Johnson dated 3 September 2020
41. CCTV Report & Video Footage as per Consent Condition B99 & B100 prepared by DrainTech Solutions dated 22 September 2020
42. Geotechnical Monitoring Plan prepared by Douglas Partners dated 13 May 2021
43. Structural Plans prepared by Enstruct Group numbered: C1-ST-001-50[A], C1-ST-002-00[A], C1-ST-002-01[A], C1-ST-002-10[A], C1-ST-002-21[A], C1-ST-002-22[A], C1-ST-002-23[A], C1-ST-002-24[A], C1-ST-002-25[A], C1-ST-002-26[A],

Development Consent			
Certificate no.:	SSD 8903	SSD 8903 MOD 1	SSD 8903 MOD 2
Date of Determination:	30 April 2020	11 November 2020	7 May 2021

Certificate / Registered Certifier

McKenzie Group Consulting (NSW) Pty Ltd, certify that the work, if completed in accordance with these plans and specifications will comply with the Environmental Planning and Assessment Regulation 2000 as referred to in Section 6.8 of the Environmental Planning and Assessment Act 1979.

Signature



Signed on behalf of the Company, McKenzie Group Consulting (NSW) Pty Ltd
(ACN 093 211 995), Registered Body Corporate No. ABC 6
Signed by: Paul Curjak
Category of Accreditation: Building Surveyor – Unrestricted
Registered Certifier No.: BDC2773

Date of endorsement	**14 May 2021**
Certificate Number	**J/74556/01**

Note: Prior to commencement of work section 6.6 of the Environmental Planning and Assessment Act 1979 must be satisfied.

ATTACHMENT 1

Existing Fire Safety Schedule

Issued under the Environmental Planning and Assessment Regulation 2000 Clause 168

No existing fire safety schedule

Proposed Fire Safety Schedule

Issued under the Environmental Planning and Assessment Regulation 2000 Clause 168

N/A for this stage

Long Service Corporation

7 September 2020

FRASERS PROPERTY IVANHOE P/L
PO BOX 3307
RHODES NSW 2138

Levy Receipt

Receipt No.
00441550

Received from: (Name of person or organisation paying for levy) | the amount of

FRASERS PROPERTY IVANHOE P/L	**$108,329.00**

Payment details:

Cheque	**110796**	**$108,329.00**	**FRASERS PROPERTY AHL LIMITED**

being payment for Long Service Levy as detailed below

Levy Payment Form number	0359971
Council/Department/Authority	RYDE COUNCIL, CITY OF
C.C. Number	SSD 8903
Work address	LOT 100 DP1262209 1 IVANHOE PLACE MACQUARIE PARK NSW 2113
Estimated value of work	$30,951,250.00
Levy payable (No exemption)	**$108,329.00**
Total levy paid	**$108,329.00**
Credit Card Surcharge (non-refundable)	**$0.00**
Total Amount Paid	**$108,329.00**

Signed: (Signature of authorised person) | Date

7/9/2020

454584

6 April 2018

Company Secretary
LIF Pty Limited
Lvl 12, 28 Margaret Street
Sydney NSW 2000

Dear Sir/Madam,

2-4 Lyonpark Road, Macquarie Park
Works Agreement

As you know, Frasers Property Australia **(FPA)** is the developer of the Ivanhoe Estate.

FPA will be lodging a State Significant Development Application **(SSD DA)** to complete the first stage **(Stage 1)** of physical works on the site with the Department of Planning and Environment **(DoPE)**. These works will be consistent with the vision set under the Ivanhoe Estate Masterplan, and pursuant to the terms of the Masterplan. An approval to the Stage 1 SSD DA will enable works to be completed including the construction of the bridge crossing, road extension to Lyonpark Road and modifications to the existing carparks over land owned by LIF Pty Limited **(LGS)** being Lot 1 in DP 859537 **(LGS Site)**.

Pursuant to clause 3.3(b) of the Works Agreement, FPA now seeks LGS's consent as landowner of Lot 1 in DP 859537 to the lodgement of the Stage 1 SSD DA. To assist LGS in providing this consent, we have attached:

1. overview of the Stage 1 SSD DA which relate to the LGS site (**Annexure A**); and
2. key extracts from the Stage 1 SSD DA EIS, which relate to the LGS site (**Annexure B**); and
3. template landowners consent letter (**Annexure C**).

As required by clause 3.3(d) of the Works Agreement, please return the template landowners consent letter signed by LGS within 5 business days from the date of this letter.

This is an exciting milestone in the development of the Ivanhoe Estate and we look forward to progressing the Works Agreement in line with our aligned objectives.

Yours sincerely,

Cameron Jackson
Development Director
Frasers Property Australia

Copy:
Scott Armstrong – LIF Pty Limited
John Ifield – Origin Properties

Frasers Property Australia Pty Limited
Level 2, 1C Homebush Bay Drive, Rhodes NSW 2138 Australia
ABN: 89 600 448 726

ANNEXURE A

Overview

The Stage 1 SSD DA will be submitted to DoPE by FPA on behalf of NSW Land and Housing Corporation who own the 17 parcels of land that make up Ivanhoe Estate. To facilitate the orderly development of the Ivanhoe Estate and to enhance the permeability of the local road network, the Stage 1 SSD DA includes a bridge crossing over Shrimptons Creek to accommodate a road reserve extension to Lyonpark Road over land owned by Local Government Super (LGS) being 2-4 Lyonpark Road, Macquarie Park legally known as Lot 1 DP 859537 (The **Site**).

The SSD DA for Stage 1 will include the Site to facilitate the bridge crossing and road extension to be constructed as part of this application. The extent of the LGS site area is detailed in a survey prepared by ADW Johnson and depicted in orange cross hatching in **Figure 1**.

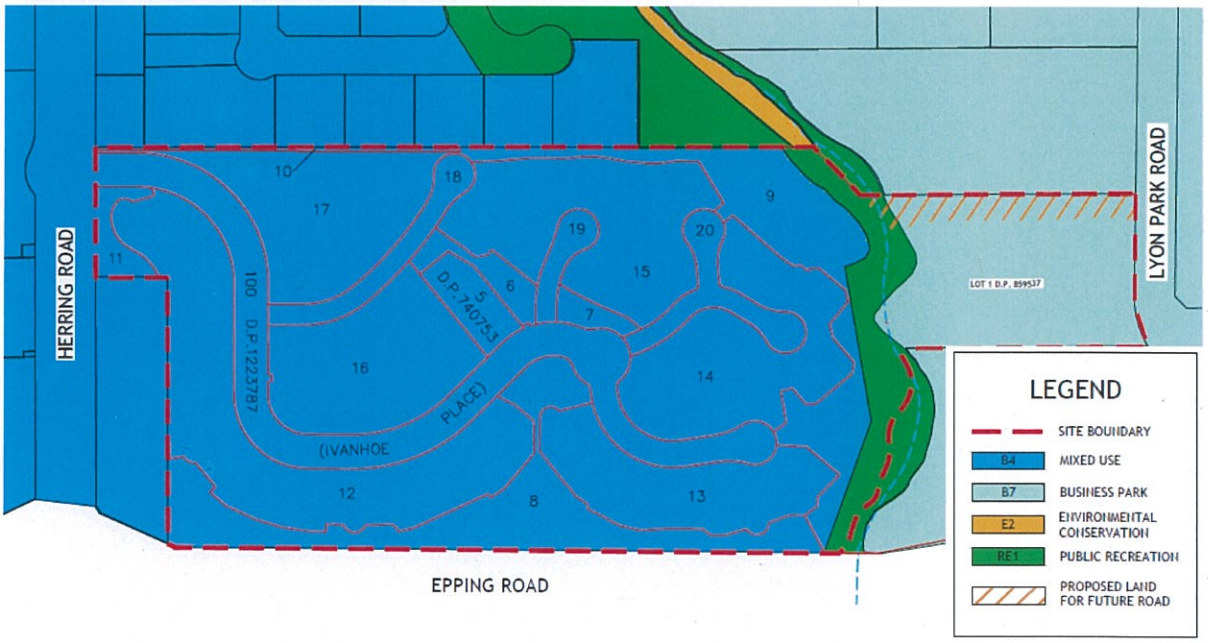


Figure 1 Extent of LGS Land affected by the proposed road extension (cross hatched in orange)
Source: ADW Johnson

Masterplan Road Network

The street network for the revitalised Ivanhoe Estate was established under the Ivanhoe Estate Masterplan SSD DA. This network has been designed according to the hierarchy of Main Street and Neighbourhood Streets to create a legible and efficient street network. Main Street connects Ivanhoe Estate to the wider Macquarie Park area, via a signalised intersection at Herring Road and across a new bridge and road extension to Lyonpark Road through the LGS Site. **Figure 2** depicts the road network and hierarchy established under the Ivanhoe Estate Masterplan SSD DA, which the Stage 1 SSDA DA is pursuant to and consistent with.

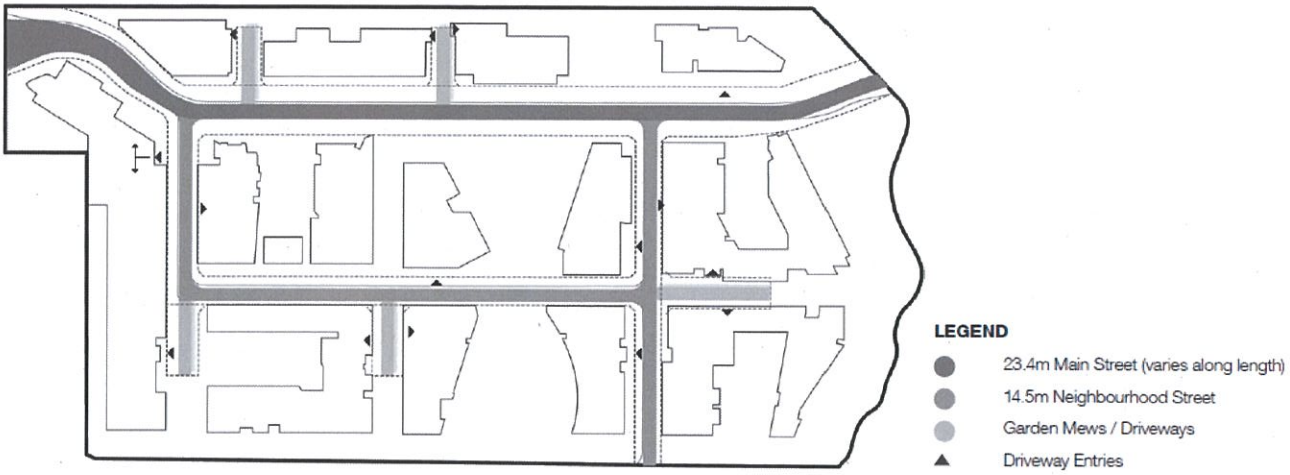


Figure 2 Ivanhoe road layout
Source: Bates Smart

Detailed Design of the Bridge & Road Extension

The proposed bridge crossing and road extension to Lyonpark Road under the Ivanhoe Estate Masterplan SSD DA has been developed as part of the Stage 1 SSD DA this application and is detailed in Concept Civil Engineering Plans prepared by ADW Johnson and a Shrimptons Creek Bridge design package prepared by McGregor Coxall. The proposed landscaping treatments are detailed in Landscape Plans prepared by Hassell.

The bridge, road extension and carpark modifications will be constructed during Stage 1B as detailed in the Staging Plan shown in **Figure 3** below.

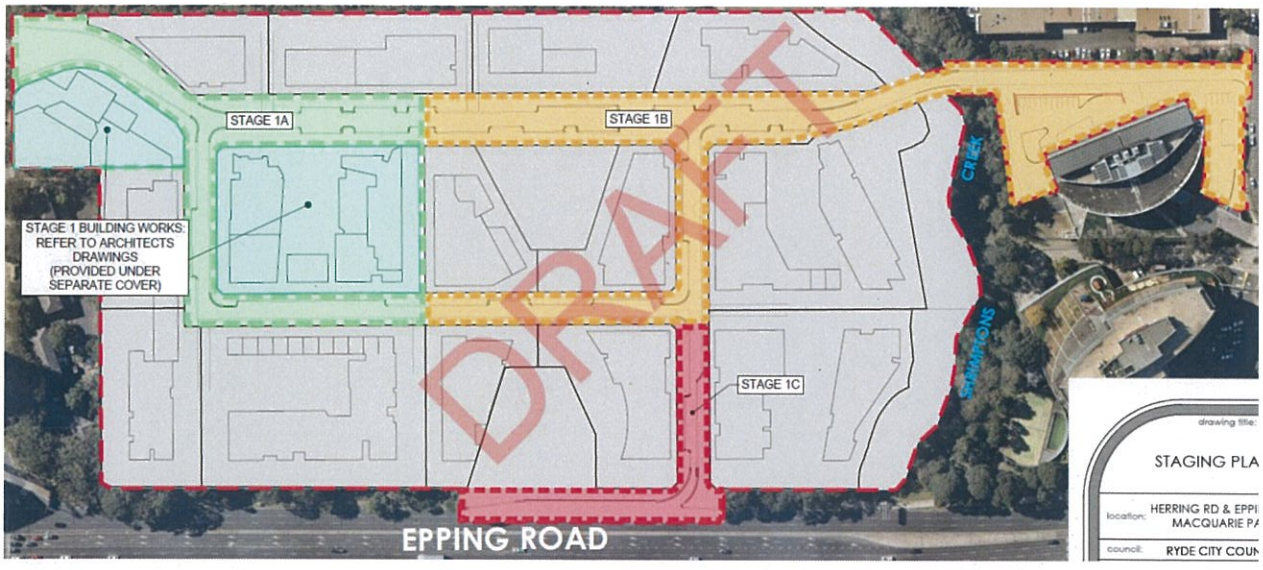


Figure 3 The staging of roads, earthworks, and servicing
Source: ADW Johnson

The Bridge

It is proposed to construct a bridge spanning Shrimptons Creek to connect Main Street and Herring Road in the north with Lyonpark Road in the south, facilitating a new entry/exit point to the Ivanhoe Estate. The proposed bridge will be approximately 51 metres long with an overall width of approximately 12 metres, which comprises two standard 3.5m wide traffic lanes, a 1.5m wide side walk and a 3.5m shared path (see **Figure 4** below). A 1.4m high barrier is also proposed on both sides of the bridge. It is intended that the bridge will be dedicated to City of Ryde Council (Council) as a local public road. Accordingly, the proposed bridge design as detailed below, is subject to change through the approval process as directed by Council.

The proposed bridge has been designed in accordance with the relevant Australian Standards and Roads and Maritime technical directions, and comprises the following:

- A bridge deck constructed from reinforced concrete and steel girders that spans between two abutments.
- The abutments are faced with stonework gabion walls and are supported by angled steel pylons that reference the trunks of the Eucalyptus forest within the Shrimptons Creek Corridor.
- The bridge elevation is proposed to be finished with steel that is treated to naturally weather, requiring minimal maintenance over the life of the structure.
- Public domain lighting is also to be incorporated into the upper deck of the bridge for safety, and uplighting is to be incorporated into the bridge soffits to create a visually striking form.

Refer to **Figure 5** below.

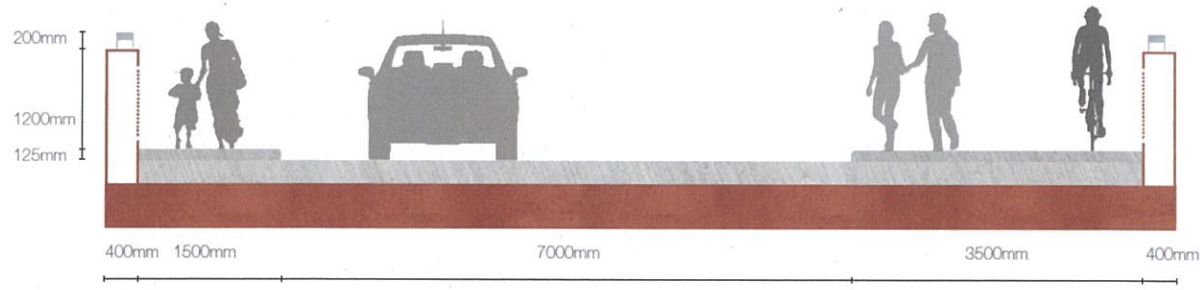


Figure 4 Cross section of the proposed bridge

Source: McGregor Coxall

Figure 5 Elevation of the proposed bridge

Source: McGregor Coxall

Lyonpark Road Connection

It is proposed to connect Lyonpark Road to the bridge, through the LGS owned portion of the site at 2-4 Lyonpark Road, in order to facilitate through-traffic. The proposed road extension to Lyonpark Road comprises a variable width road reserve that fronts the existing LGS commercial building and connects Lyonpark Road with the bridge described above. As indicated in **Figure 6** below, the new road will also incorporate two entry/exit points to the existing at-grade LGS carpark surrounding the office building and the relocation of parking on site. There will be no net reduction in the provision of on-site open air car parking within the LGS car park.

The proposed road extension will be lined with street trees and landscaped verges that separate the road from the pedestrian/cycle pathways. Further groundcover planting and street trees will also be incorporated into the car park modification areas, and landscaped retaining walls will attenuate the transition between the Shrimptons Creek Corridor and the LGS site (refer to **Figure 6** below).

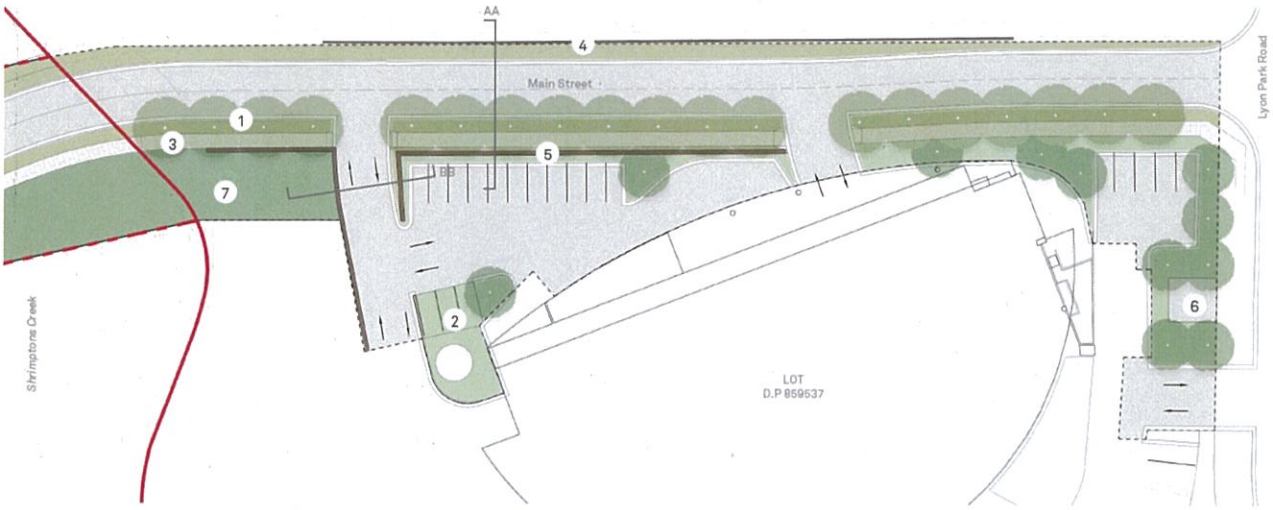


Figure 6 Proposed landscaping treatment

Source: Hassell

Lyonpark Road Intersection

The new intersection with Lyonpark Road will operate as an unsignalised 'T intersection', operating under a 'give way' sign. ADW Johnson have provided an indicative layout of the likely intersection upgrade (see **Figure 7** below), which will be subject to further design.

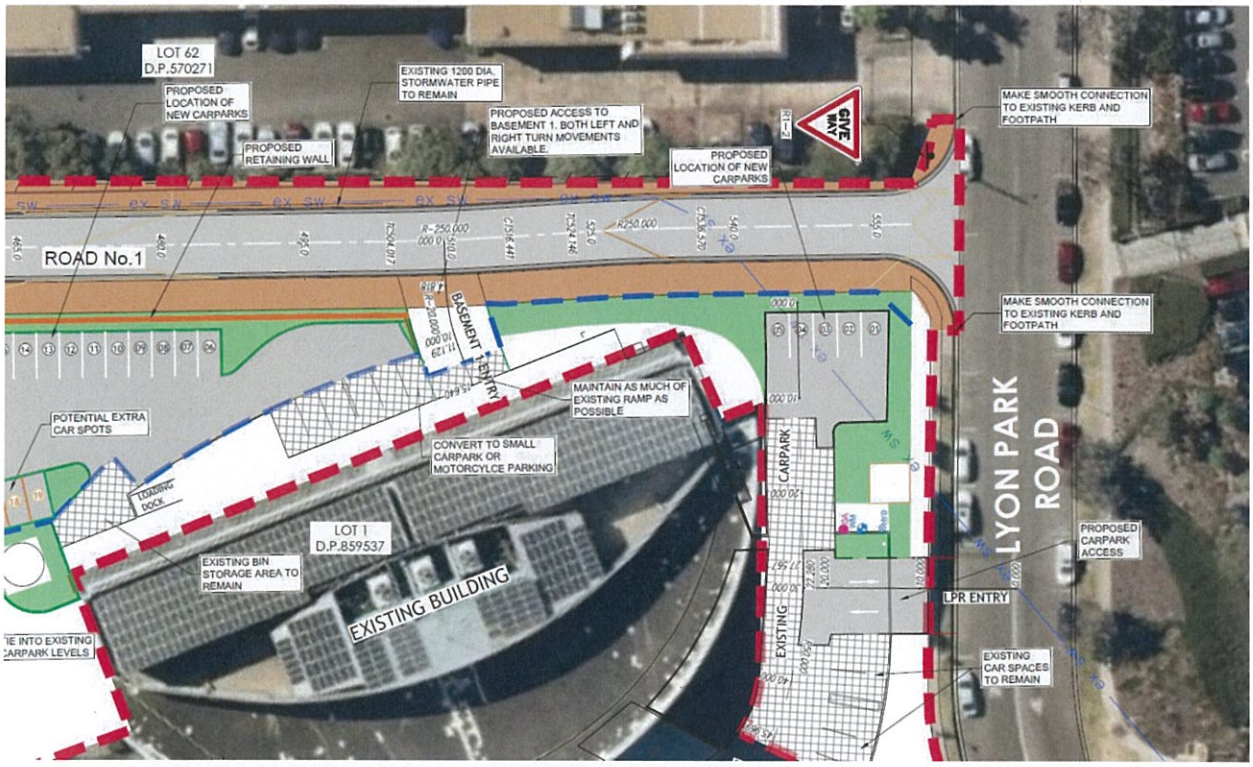


Figure 7 Engineering plan detailing the connection to Lyonpark Road

Source: ADW Johnson

Amendments to the Existing LGS Carpark

As described above, the proposed connection to Lyonpark Road will require amendments to the existing at-grade LGS car park. There will be no net reduction in the provision of on-site open air car parking within the LGS car park.

LGS Nominated Design Standards

The following are design and construction standards nominated by LGS and the relevant response from the Consortium on these standards:

1. Car spaces comply with relevant authority requirements and are of a width and length matching, or exceeding existing car space dimensions:

   Our current design has been done to AS 2890.1, the Australian Standard for off street car parking. Based on this the proposed carpark dimension are 2.4m wide x 4.8m long. Based on the LGS Site survey the current carparks are generally 2.5m wide and 4.8m long. It is noted noted that they do vary and one bay of three (3) carparks is currently over 5m long. Whilst not proposed, the additional length of around 0.2m could be accommodated into the proposed carpark if required.

2. Line marking, car space numbering and access control systems be provided at no cost to LIF, with access control systems being based on a design that provides equivalent level of control as that currently provided.

   We reviewed the current access system when we undertook the original design and believe that the same level of control can be maintained.

3. Truck manoeuvring swept paths indicated on the drawings are based on the assumption that all car spaces are occupied.

   All current turning paths have been based on the car spaces being occupied.

ANNEXURE B

How the LGS Site is referenced in the SSD DA

The Environmental Impact Statement (EIS) prepared by Ethos Urban documents that the Stage 1 SSD DA is inclusive of the Site given the bridge crossing, road extension to Lyonpark Road and car park modification works. The following excerpts from the EIS relate to the description of the site and the proposed works, with references to the LIF owned land, and are reproduced below. Specific sections relevant to LGS are highlighted yellow.

2.2 Site Description

The Ivanhoe Estate site is approximately 8.2 hectares in area and comprises 17 individual allotments, as shown in ***Table 1****. The entire Ivanhoe Estate site, including all the internal roads, is owned and managed by LAHC. As noted above, the Masterplan site also incorporates adjoining land, being a portion of Shrimptons Creek and Lot 1 DP 859537 (2-4 Lyon Park Road). 2-4 Lyonpark Road is owned by LIF Pty Ltd as trustee for Local Government Super and the ownership of Shrimptons Creek is currently being determined by NSW Land and Property Information. In the interim, land ownership for Shrimptons Creek is established in accordance with the 'ad medium filum' legal precedent, whereby the owner of a lot adjacent to a creek also owns a portion of the creek up to the centre point.*

An aerial photo of the site is included at ***Figure 4*** *below.*

Table 1 Legal Description of the Site

Lot	*Deposited Plan*	*Owner*
5	*740753*	*LAHC*
6	*861433*	
7	*861433*	
8	*861433*	
9	*861433*	
10	*861433*	
11	*861433*	
12	*861433*	
13	*861433*	
14	*861433*	
15	*861433*	
16	*861433*	
17	*861433*	
18	*861433 (internal road)*	
19	*861433 (internal road)*	
20	*861433 (internal road)*	
100	*1223787 (internal road)*	
1	*859537*	*LIF Pty Ltd*
All of Shrimptons Creek adjacent to Lot 9 DP 861433 up to the centre line the creek.		*LAHC*
The portion of Shrimptons Creek adjacent to Lot 1 DP 859537 up to the centre line of the creek.		*LIF Pty Ltd*

Figure 4 Aerial image of the site

Source: Nearmap & Ethos Urban

3.2 Amalgamtion and Subdivision

*As discussed in **Section 2.2** above, Ivanhoe Estate is presently segregated into seventeen allotments that correspond to pattern of dwellings and the road network. It is proposed to rationalise this lot layout by amalgamating the existing allotments and subdividing the site to align with the new vision established for the Estate under the Masterplan. Subdivision Plans have been prepared by Beveridge Williams (**Appendix R**) detailing the proposed lot layouts that will be delivered over 8 stages.*

***Table** below outlines the extent of the proposed lots, any easements created, and the relevant stage in which the lot is proposed to be delivered as part of the construction and dedication of land under the Masterplan. The outline of the proposed lots has also been replicated at **Figure 18** below.*

Table 2 Summary of the proposed lots and staging

Stage	Lot	Size (m^2)	Purpose	Easement
Stage 1	11	3,086	Lot for Building A1	An existing easement over the A1 lot that permits the neighbouring site to the north west to drain water through the Estate, and a new easement corresponding to the overland flow path (discussed further in **Section** Error! Reference source not found.).

Stage	Lot	Size (m^2)	Purpose	Easement
	12	6,097	Lot for Building C1	An easement for public access over the C1 lot relating to the Town Plaza (discussed further in **Section** Error! Reference source not found.).
	13	-	Residue lot to be subdivided in a subsequent stage	
	14	4,194	Lot for part of Main Street	An easement over the proposed road lot enabling services within the lot, and temporary public access before the lot is dedicated to Council.
	15	2,516	Lot for part of a neighbourhood street	An easement over the proposed road lot enabling services within the lot, and temporary public access before the lot is dedicated to Council.
Stage 2	21	2,047	Lot for Building A2	N/A
	22	5,520	Lot for Building C2	An easement for public access around the building footprint, enabling the general public to access the Village Green that is being delivered as part of a future application and will be dedicated to Council.
	23	1,827	Lot for Building C3	N/A
	24	3,291	Lot for Building B1	An easement for right of carriageway along the southern boundary of the lot.
	25	3,109	Lot for Building B2 (the future school)	An easement for a right of carriageway along the northern boundary of the lot, and an easement for public access over the southern boundary of the lot.
	26	-	Residue lot to be subdivided in a subsequent stage	
	27		Lot for the remaining part of Main Street	An easement over the proposed road lot enabling services within the lot, and temporary public access before the lot is dedicated to Council.
	28	2,789	Lot for part of a neighbourhood street	An easement over the proposed road lot enabling services within the lot, and temporary public access before the lot is dedicated to Council.
Stage 2A	100	-	Lot for the Lyonpark road bridge and road extension	An easement for drainage through the proposed road connection, over the Local Government Super land.
	101	-	Lot for the remaining LGS site	N/A
Stage 3	31	3,512	Lot for Building A3	An easement for public access and services relating to the neighbourhood mew that is being delivered as part of a future application.
	32	6,952	Lot for Building D1	An easement for public access and services relating to the neighbourhood mew that is being delivered as part of a future application.
	33	-	Residue lot to be subdivided in a subsequent stage	
Stage 4	41	4,372	Lot for Building D2	An easement for public access relating to the neighbourhood mew and forest playground that are being delivered as part of future applications.
	42	-	Residue lot to be subdivided in a subsequent stage	
Stage 5	51	4,016	Lot for Building D3	An easement for public access relating to the forest playground being delivered as part of a future application.

Stage	Lot	Size (m^2)	Purpose	Easement
	52	-	Residue lot to be subdivided in a subsequent stage	
	53	1,074	Lot for part of a neighbourhood street	An easement over the proposed road lot enabling services within the lot, and temporary public access before the lot is dedicated to Council.
Stage 6	61	7,007m^2	Lot for building D4	An easement for public access relating to the neighbourhood mew that is being delivered as part of a future application.
	62	-	Residue lot to be subdivided in a subsequent stage	
	-	-	Lot for new public reserve along Shrimptons Creek	
Stage 7	71	2,837m^2	Lot for Building B3	An easement for public access relating to the school garden that is being delivered as part of a future application.
	72	2,139m^2	Lot for Building B1	N/A
	73	-	Residue lot to be subdivided in a subsequent stage	
	-	-	Lot for new public reserve along Shrimptons Creek	
Stage 8	81	6,355m^2	Lot for new Building C4	N/A
	-	-	Lot for new public reserve along Shrimptons Creek	

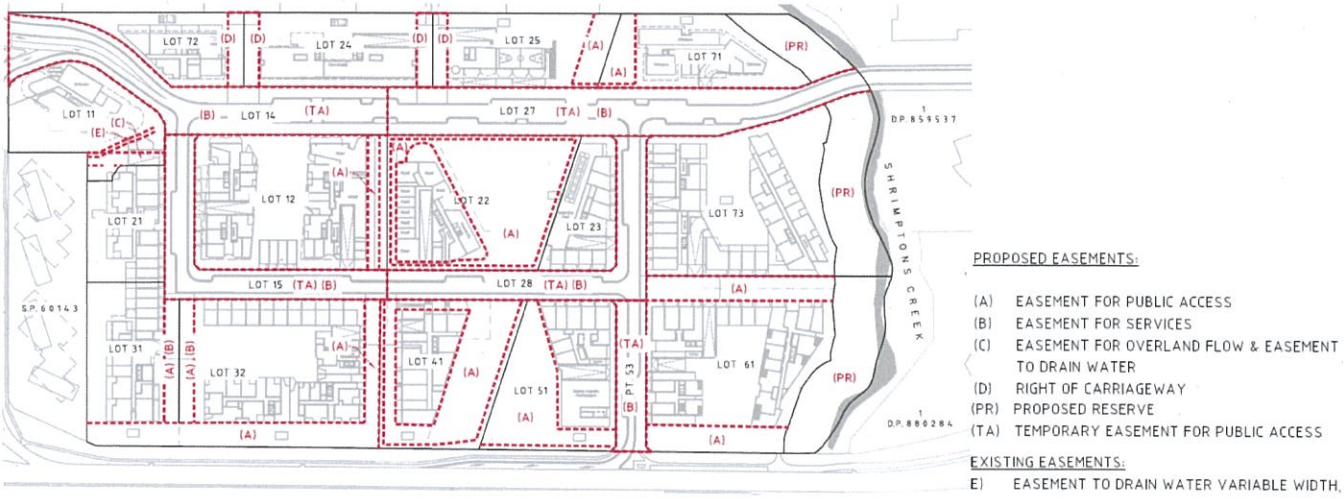


Figure 18 Layout of the proposed lots and easements

Source: Beveridge Williams

3.3 Road Network

This application proposes to deliver the road network considered under the Masterplan, including public domain areas within the road reserves and the bridge crossing to Lyonpark Road that will enable vehicles to enter and exit the Estate from the south. These works are detailed in the Civil Plans and discussed in the report prepared by ADW Johnson at ***Appendix S****. The staging of works is discussed in* ***Section 1.0*** *below.*

An overview of the proposed road network for the Estate is as follows:

- *Road No. 1, also known as Main Street, connects Herring Road and Lyonpark Road via a new bridge connection (discussed further below). The road is 7 metres wide, accommodating one lane of traffic in each*

*direction. There are parking bays provided in sections along the road, and road verges ranging from 3.5m-8.2m that will accommodate a pedestrian footpath, shared zone, and landscaping (see **Figure 20** below).*

- *Road No. 2 is an 'L-shaped' neighbourhood street that creates an internal loop between Main Street and Road No. 3. The road is 6 metres wide with a 3 metre wide road verge on either side, and is interspersed with parking bays. The road accommodates one lane of traffic in each direction and pedestrian footpaths on both sides. See **Figure 21** below.*
- *Road No. 3 is also a neighbourhood street and connects the new vehicle entry point off Epping Road (discussed further below) and Main Street. The road is 6 metres wide with a 3 metre wide road verge on either side, and is interspersed with parking bays. A portion of this road has been designed for one-way traffic to benefit cars entering the site via the 'left turn only' intersection with Epping Road. The remainder of this road accommodates one lane of traffic in each direction. See the cross-section at **Figure 21** below.*

Figure 19 Proposed road network

Source: ADW Johnson

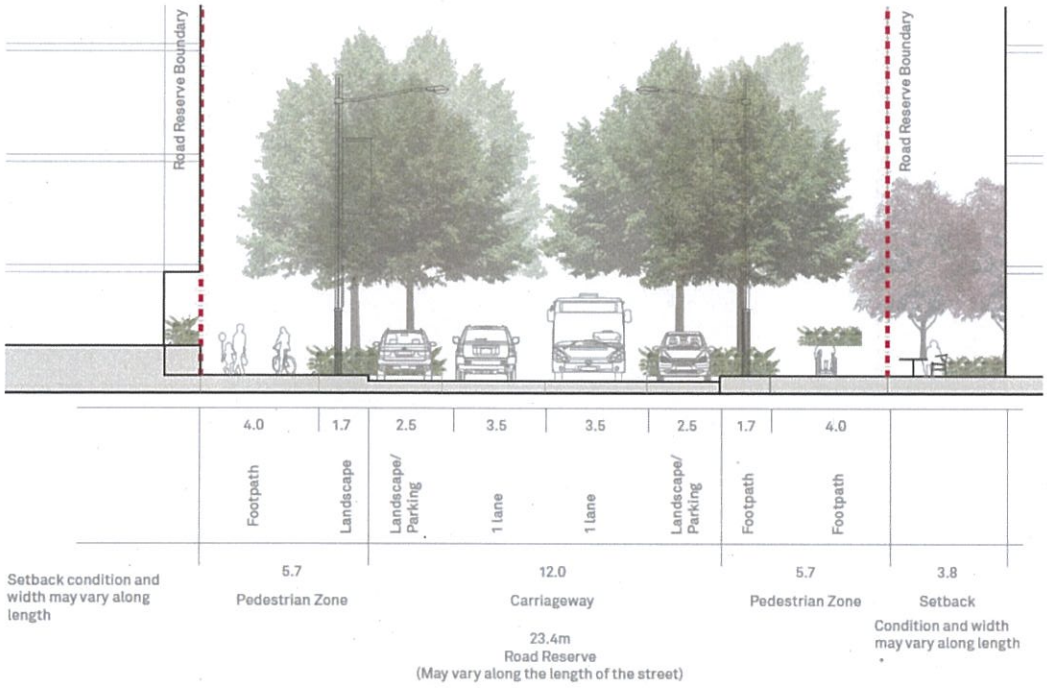


Figure 20 Cross section of Main Street

Source: Hassell

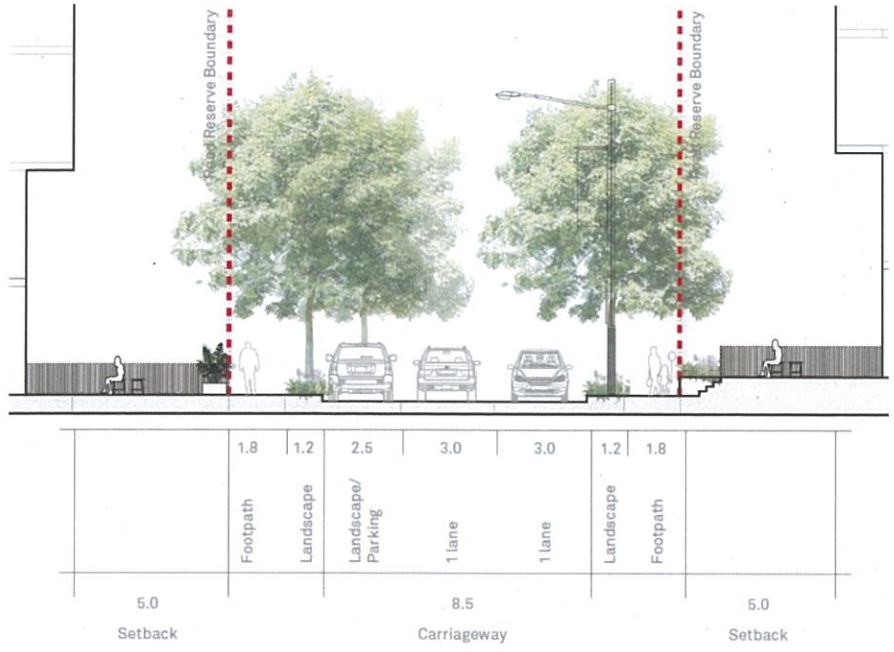


Figure 21 Cross section of the Neighbourhood Street typology

Source: Hassell

3.3.4 Lyonpark Road Connection

It is proposed to connect Lyonpark Road to the bridge, through the Local Government Super (LGS) owned portion of the site at 2-4 Lyonpark Road, in order to facilitate through-traffic. The proposed road up to Lyonpark Road comprises a variable width road reserve that fronts the existing LGS commercial building and connects Lyonpark Road with the bridge described above. As indicated in ***Figure 24*** *below, the new road will also incorporate two entry/exit points to the existing at-grade LGS carpark surrounding the office building and the relocation of parking on site. There will be no net reduction in the provision of on-site open air car parking within the LGS site.*

The proposed road will be lined with street trees and landscaped verges that separate the road from the pedestrian/cycle pathways. Further groundcover planting and street trees will also be incorporated into the car park, and landscaped retaining walls will attenuate the transition between the Shrimptons Creek Corridor and the site (refer to ***Figure 24*** *below).*

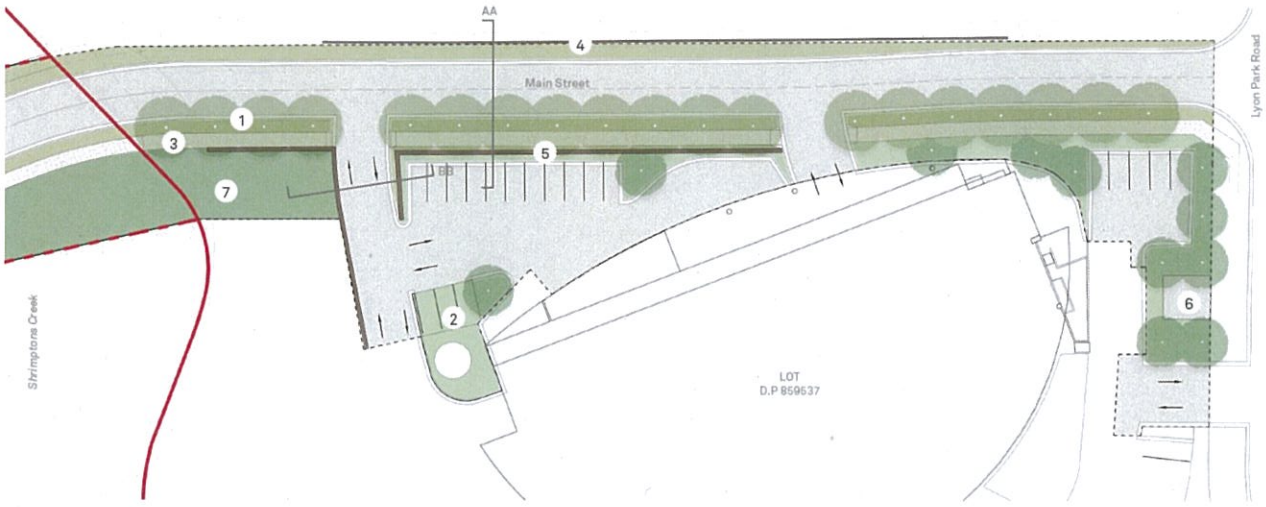


Figure 24 Connection to Lyonpark Road and the proposed treatment to the LGS car park

Source: Hassell

3.3.5 Lyonpark Road Intersection

The new intersection with Lyonpark Road will operate as an unsignalised 'T intersection', operating under a 'give way' sign. ADW Johnson have provided an indicative layout of the likely intersection upgrade (see ***Figure 25*** *below), which will be subject to further design.*

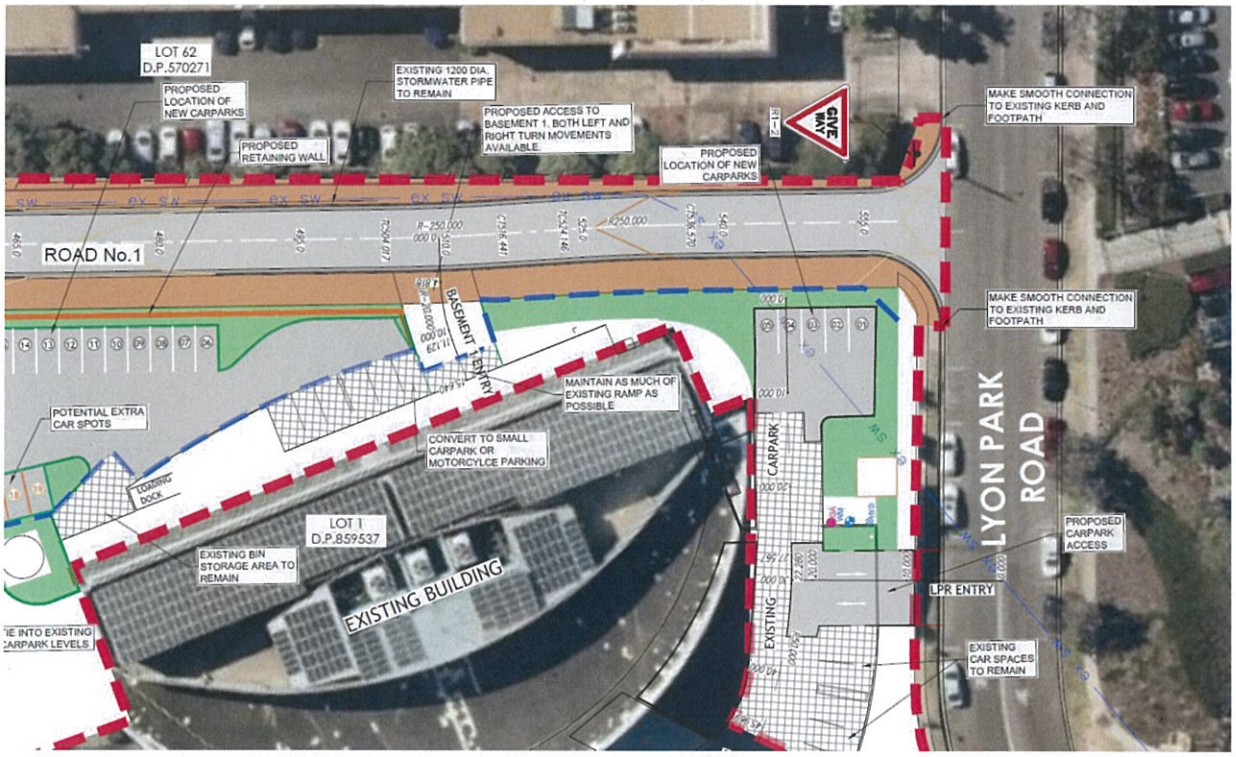


Figure 25 Indicative intersection with Lyonpark Road

3.11 Development Staging

The detailed civil and site preparation works and associated biodiversity offsets considered under this application will be delivered in stages, to correspond to the staged construction of buildings considered under the Masterplan and to align with the staged dedication of land to Council as part of ongoing Voluntary Planning Agreement negotiations.

The proposed bulk earthworks, road construction and servicing will be delivered over three stages as shown in ***Figure 40*** *and discussed below:*

- *Stage 1A – this stage involves bulk earthworks within the Building A1 and C1 sites and the partial construction of Roads No. 1 and No. 2, from Herring Road into the development site. Before the remainder of the road network is constructed, temporary turning heads will be provided at the termination of Roads No. 1 and No. 2 at the Stage 1A and 1B boundary. This stage of the development also involves connecting the existing potable water trunk main in Herring Road to the internal road network, lead in works, the construction of substations, and connecting the existing gas trunk main to the retail centre.*
- *Stage 1B – this stage involves bulk earthworks and the completion of Roads No. 1 and 2, the Shrimptons Creek Bridge, road extension to Lyonpark Road, and car park modifications within the LGS Site, as well as the construction of the two-way traffic component of Road No. 3. As the road network is largely completed in Stage 1B, only a small turning head (in the form of a T head) is required at the termination of Road No. 3. This stage of the development will also deliver the internal services network, including the construction of substations.*
- *Stage 1C – this stage involves bulk earthworks and the completion of Road No. 3 and its connection to Epping Road. It also involves delivering the remainder of the internal services network, connecting the internal network to the existing potable water trunk main in Epping Road and the construction of substations.*

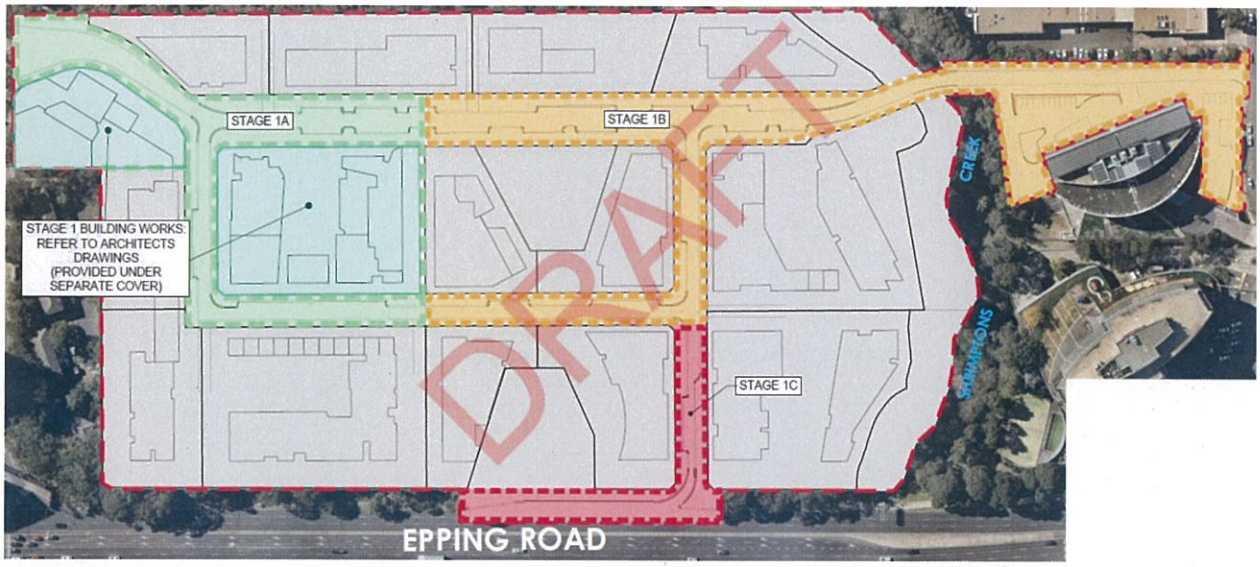


Figure 40 The staging of roads, earthworks, and servicing

Source: ADW Johnson

5.1 Relevant EPIs, Policies and Guidelines

*The relevant strategies, environmental planning instruments, policies and guidelines as set out in the SEARs are addressed in **Table 7**. A complete breakdown of the SEARs and relevant sections of the report can be found at **Appendix A**.*

Table 7 Summary of consistency with relevant Strategies, EPIs, Policies and Guidelines

...

Ryde Local Environment Plan 2014	*The Stage 1 DA remains consistent with the Concept Plan, which establishes the relevant development standards and land uses for the staged development of the site. Notwithstanding this, an assessment against the relevant provisions in the LEP have been considered below.*	
	Cl. 2.2 – Zone	*Residential, retail and centre based child care centres are permissible with consent in the B4 Mixed Use zone. The 2-4 Lyonpark Road site is zoned B7 Business Park, where roads are permissible with consent.*

7.3 Consistency with the Concept DA

*Under Section 4.24 of the EP&A Act, whilst a Concept DA remains in-force, any further detailed application in respect to the site cannot be inconsistent with the consent for the Concept Proposal. This detailed DA has been made with reference to the concurrent Ivanhoe Estate Masterplan and is consistent with, and pursuant to, the Masterplan. An assessment against the key features of the Masterplan has been provided in **Table 1** below. Detailed discussions concerning the mitigation measures and strategies proposed under the Masterplan are addressed in the following components of **Section 5**.*

Table 1 Consistency with the Concept Plan (Ivanhoe Estate Masterplan)

Component	Discussion
Land Uses	*The proposed residential, retail and child care centre uses are consistent with what was considered under the Masterplan. The suitability of these uses was addressed in the Masterplan, and has been further demonstrated in the following sections of the EIS. The detailed fit-out and operation of the non-residential tenancies will be subject to separate and future applications.*

Component	Discussion
Gross Floor Area and Floor Space Ratio	*The first stage of development is compliant with the GFA and FSR established for the Estate. Refer to the breakdown in* ***Section*** *Error! Reference source not found. below.*
Built Form	*Buildings A1 and C1 fit within the building envelopes established under the Masterplan, and have been designed to be consistent with the Ivanhoe Estate Design Guidelines, as demonstrated at* ***Appendix A*** *and* ***B*** *and discussed further in* ***Section*** *Error! Reference source not found..*
Building Heights	*Building A1 will achieve a maximum height of 75m and Building C1 will achieve heights of 45m to 65m, which remain under the maximum building heights nominated in the Masterplan.*
Access Arrangements	*The proposed development will deliver the road network detailed in the Masterplan, including the external connection to Lyonpark Road. This is discussed further in* ***Section*** *Error! Reference source not found. below. External road upgrades, such as signalising the intersection between Main Street and Herring Road, will be the subject of a separate and future application.*
Public Domain	*The proposed development will deliver public domain areas associated with the internal road network, including the Town Plaza area between Blocks C1 and C2. These areas will achieve the relevant design guidelines established under the Masterplan as demonstrated at* ***Appendix B*** *and discussed further in* ***Section*** *Error! Reference source not found. below.*
ESD	*Buildings A1 and C1 have been designed to achieve the sustainability targets nominated under the Masterplan, as demonstrated in the ESD Report at* ***Appendix O*** *and discussed in* ***Section*** *Error! Reference source not found..*
Development Staging	*The delivery of Buildings A1 and C1 is consistent with the indicative staging plan contained in the Masterplan, ensuring that social housing is provided concurrently with market housing.*
Design Guidelines	*An assessment against the Design Guidelines has been undertaken for Buildings A1 and C1 (see* ***Appendix B****). The assessment demonstrates each building is consistent with the Design Guidelines. An assessment of the broader proposal against the Design Guidelines is provided at* ***Section 5.5*** *and* ***Section*** *Error! Reference source not found. below.*

5.10 Transport, Traffic, Parking and Access

5.10.1 Site Access

*The road network considered under the Masterplan will be delivered in this application, to maximise the amount of public domain being delivered in the first stage of the development. ADW Johnson have completed an assessment of the detailed design of the road network (**Appendix L**) and confirm that:*

- *The proposed roads are consistent with the Austroads design guidelines and the provisions of the Ryde DCP, with some sections being wider than recommended to accommodate improved landscaping and pedestrian / shared pathways. The proposed extension to Lyonpark Road is the only exception, and is narrower than the Ryde DCP cross sections, being constrained by the existing commercial building on the LGS site. Notwithstanding this, the road is capable of accommodating two-way traffic, a segregated pedestrian pathway, and landscaping in the road reserve, and will deliver on a key objective of the DCP by connecting Herring Road and Lyonpark Road. Ason Group confirms that this road connection is "still considered to be safe and suitable for the proposed development".*
- *The majority of the proposed roads have a longitudinal grade of less than 5%. The maximum grade is 12.5%, consistent with the maximum permitted in the DCP, which corresponds to the topographical high-point on Herring Road and extending into the site. The minimum road grade is 0.75%, corresponding to the approach to the proposed bridge over Shrimpton's Creek, in order to locate the low point within Road 1 as close as possible to the creek without adversely affecting the bridge design.*
- *All internal road intersections can accommodate the turning circle of a 12.5m truck, in accordance with the Austroads design guidelines.*
- *The bridge connecting the Estate with Lyonpark Road has been designed in accordance with the relevant Austroads standards, and with AS5100 Bridge Design Code with reference to relevant Roads and Maritime technical directions where applicable.*

5.19 Contamination

The site has been subject to numerous investigations completed by DLA Environmental Services including a including a Detailed Site Investigation in 2016, which undertook soil sampling at 26 locations across the Ivanhoe Estate site and six locations at 2-4 Lyonpark Road. A Supplementary Site Investigation has also been completed, which undertook targeted soil sampling from nine boreholes.

5.26 Geotechnical

The existing ground water and soil conditions for bother the Ivanhoe Estate and 2-4 Lyonpark Road were assessed as part of the Masterplan Application, which confirmed the following of relevance to the Stage 1 application:

- *The site is not affected by Acid Sulfate Soils and is at an elevation above those associated with Acid Sulfate Soils. The site is outside of areas mapped for salinity potential and any salinity presented within the Glenorie soil landscape are not likely to be present in significant volumes on the site; and*
- *The depth of groundwater below the site is likely to be at a depth of approximately 5 – 10 metres. The Geotechnical Assessment that accompanied the Masterplan Application details that any potential groundwater seepage can be readily managed using 'sump and pump methods'.*

*The recommended strategies for development under the Geotechnical Assessment prepared by Douglas Partners (**Appendix G**), will be implemented when completing the construction drawings and works on the site.*

ANNEXURE C

[TO BE PLACED ON LETTERHEAD]

Ms Carolyn McNally
Secretary
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms McNally

RE: CONSENT TO LODGE STATE SIGNIFICANT DEVELOPMENT APPLICATION FOR PROPERTY: 2-4 LYON PARK ROAD, MACQUARIE PARK (LOT 1 DP 859537)

LIF Pty Ltd (ABN 92 099 664 285) as trustee for the Local Government Property Fund (ABN 38 870 339 380), **(Owner),** being the registered proprietor of the Property comprising lot 1 in DP 859537, hereby consents and authorises NSW Land and Housing Corporation to lodge a State Significant Detailed Development Application (SSD DA) for Stage 1 of the Ivanhoe Estate Masterplan redevelopment. The works to be undertaken within our property as part of the Stage 1 SSD DA and for which we hereby give consent to include:

- Construction of part of a proposed bridge and abutments,
- Construction of a public road reserve extension through to Lyonpark Road, and
- Modifications to the existing open-air car park spaces within our site, and associated landscaping and site works.

This application is consistent with, and pursuant to, the Ivanhoe Estate Masterplan.

Should you have any queries about this matter, please do not hesitate to contact the undersigned.

Yours faithfully

Director

GREENPLUS PROPERTY SERVICES
PROPERTY RISKS RESOLVED

PRE-CONSTRUCTION DILAPIDATION INSPECTION

HERRING ROAD

In Conjunction with Re-development of
MidTown at 1 Ivanhoe Avenue, Macquarie Park

On Behalf of:
Mainland Civil Constructions

Prepared By:
GreenPlus Property Services

Inspection on 10 November 2020

Job Number: 820049.1 (Rv.)

GreenPlus Property Services Pty Ltd. ABN 109 404 051 82-84 Dickson Avenue, Artarmon, NSW 2064
Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com

Table of Contents

DOCUMENT CONTROL:

Revision	Issued By	Sign	Date of Issue	Note
Rv.1	Steven Ju, Manager EA Qualified Civil Engineer, ID 3030870		19 / Nov. / 2020	
	Blake Gao, CPEng, NER, ID 2809663			

1.0 ABOUT THIS DILAPIDATION SURVEY

1.1. Project Brief

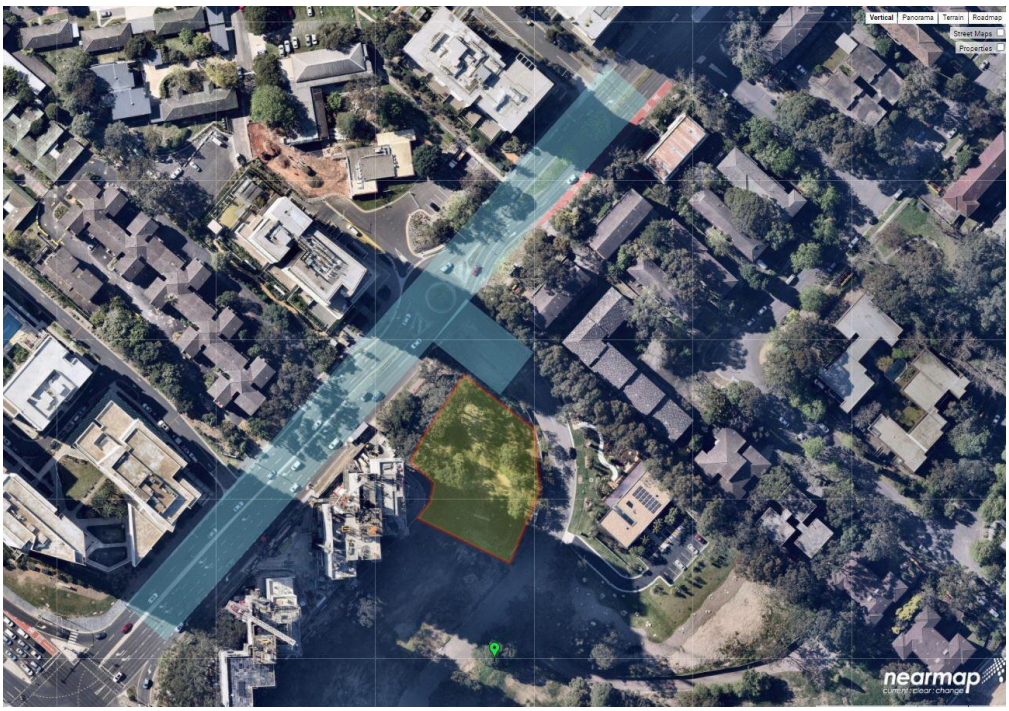


Figure 1: Aerial Photo Of The Proposed Construction Site As Hatched In Yellow With The Inspected Road Section Hatched In Blue

(Courtesy: Nearmap)

Note:
This aerial photo may not reflect the true condition of the site as the time of inspection.

Proposed construction:	Stage 1 construction of a deep excavation (estimated 20m) and construction of new apartment building
Relevant DA	N/A
Status of construction	Pre-constrcution
Inspection instructed by:	Adrian Grdic, Senior Project Engineer, Mainland Civil
Location of construction	1 Ivanhoe Avenue, Macquarie Park NSW
Inspected Areas:	Both sides of Herring Road between Epping Road and Windsor Drive;
Date of Inspection(s)	10 November 2020
Weather during inspection(s)	Sunny
Report prepared by:	Steven Ju, Engineer Australia Qualified Civil Engineer (EA-ID: 3030870) Manager, GreenPlus Property Services

Project Review and Quality Control	Blake Gao, CPEng, NER (2809663)
Type of Inspected Property	○ Public Roads, including carriage way, footpath, landscape, traffic and parking signs, drains to ground surface, kerb lines etc.

1.2. Structure and Materials

The roads are generally constructed of asphalt bitumen vehicle roadway with concrete kerb stones. Concrete pavement to the footpaths. Metal grill stormwater drains along the kerb lines.

2.0 METHODOLOGY

It was understood that an estimated 20m deep excavation to be carried out to the northern end of the site. The inspected road is estimated 35m wide, which is considered within the potential influential zone of the excavation.

This dilapidation report is a result of walking through both sides of the road and a visual inspection for an assessment of the level of defect to both structural and aesthetics aspects. The following assessment tools and standards are followed to achieve a reasonable assessment.

a) We carry out the preparation and procedure of inspection in accordance with

- "AS 4349 Inspection of Buildings – General Requirements",
- "Royal Institute of Chartered Surveyors (RICS) Guidance Note 63/2010 Building Surveys and Technical Due Diligence Of Commercial Property

b) Our assessment of the commonly occurred damages is guided by the below measurement standards;

- Table C1 Classification of damage with reference to walls (Appendix C of AS2870 -1996)

Description of Typical Damage	Approximate Crack Width Limit	Damage category
Hairline cracks	< 0.1 mm	**0**
Fine cracks	< 1 mm	**1**
Cracks noticeable	< 5mm	**2**
Distinct Cracking	5mm to 15mm(or a number of cracks 3mm or more in one group)	**3**
Extensive Damage where extensive repair work involving breaking-out and replacement	15mm to 25mm but also depends on number of cracks.	**4**

- Table C2 Classification of damage with reference to concrete floors (Appendix C of AS2870 -1996)

Description of Typical Damage	Approximate Crack Width Limit	Change in Offset from a 3m Straight Edge Centred Over Defect	Damage category
Hairline cracks, insignificant movement of slab from level.	<0.3mm	<8mm	**0**
Fine but noticeable cracks. Slab reasonably level.	<1.0mm	<10mm	**1**
Distinct cracks. Slab noticeably curved or changed in level.	<2.0mm	<15mm	**2**

Wide cracks. Obvious curvature or change in level.	2mm to 4mm	15mm to 25mm	**3**
Gaps in slab. Disturbing curvature or change in level.	4mm to 10mm	>25mm	**4**

A cracking gauge or a measure tape, ruler has been put against the evidently noted defects with a photo taken to record a representative gratitude of their defective nature.

c) Visual inspection was carried out to achieve a record the following aspects;

- The general condition of the client instructed areas that are visually accessible, predominately focusing on the building members and the existing structures
- The existing building defects such as cracking, structure deformation, displacement, but exclusive of any loose furniture, tenant fixture and fitting, any wear and tear or defects from lack of maintenance;
- The distressed road surface, such as potholes, deterioration to the kerb stones, cracking to footpath pavement, impact damage to traffic signs, ect

Damages and defects described or highlighted in the attached photographic record are considered of being visually noticeable. Other defect/damage that may have not been highlighted or describe could be classified as being very minor or negligible.

3.0 FINDINGS AND RECOMMENDATIONS

Following our site inspection, we consider the condition of the inspected public roads are generally sound in structure and there is no structurally alarming issue or destress noted. .

However, the following defects are considered visually evident and recommended to be monitored during the construction;

- Evident cracking note to the carriage way approaching roundabout fronting the site entry. Potholes and slight subsidence also noted to this location (see photo 277 to 287);
- Exposed soil ground along the west bound foot path fronting the ParkView construction site (see photo 044 to 051, 086 to 105);
- Two traffic sign poles to site entry driveway were noted leaning from possible impact damage (see photo 036, 037) ;
- Wheel damage to the footpath to the site entry (see photo 038);

Detailed condition can be found in the photographic schedule in **Section 6: Photographic Schedule**. The visually evident damages have been highlighted with arrows or circles.

4.0 EXCLUSIONS AND LIMITATIONS

This dilapidation survey was carried out for the purpose of identifying any visually evident as at the date of the inspection only.

The inspection was carried out in way of walk through and visual examination only. Damages and defects described in the condition schedule or highlighted in photographic record are considered as being visually evident. Other damages and defects not highlighted or described in the photographic record could be classified as being minor magnitude.

This report must NOT be the sole reference to assess the course of any defects recorded. This report can only be used as a visual reference to assist the assessment of any suspected impact to the building(s) from the said construction activities. A conclusion of the cause of any defects must be further investigated with other supporting engineering investigations, such as, engineering monitoring, vibration monitoring and ground water assessments.

This Schedule does not constitute a building survey. We only intended to record the condition of the property at the visually accessible areas. Our inspections to the internal areas can be restricted by parked vehicles, stored goods and occupancy of other users within this area.

We advise that we have not inspected:

- Parts of the building built-in, covered up or otherwise made inaccessible, and therefore cannot comment as to whether they are free from defect or infestation.
- Any underground drainage / stormwater system;
- Natural ground, natural creeks or anywhere formed naturally;
- Internal inspections to any plant, equipment and machinery or where services are covered up or hidden by the buildings structural elements or finishes;

We have not undertaken any work of:

- CCTV investigation to any pipes, underground installation;
- Testing on any services or for any deleterious materials;
- Any specific engineering or environmental nature, such as engineering calculations, structural analysis, underground investigation or testing;

We have not commented on:

- Any measurements as the report is limited to our interpretation of the condition of the building as apparent from the inspection; or
- Any environmental issues, hazardous materials and the like.

5.0 ACKNOWLEDGEMENT OF CONDITION

We confirm that this pre-construction dilapidation report is an accurate record of the general overall condition of the inspected areas at the time of inspection.

Signed on behalf of

Party with Interests

Name.....

Company.....

Address.....

.....

.....*Date*.....

Signed on behalf of

Party with Interests

Name.....

Company.....

Address.....

.....

.....*Date*.....

6.0 PHOTOGRAPHIC SCHEDULE

001

002

003_Note cracking damage

004

005

006_Note pothole

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019

020_Note slight subsidence

021_Note slight subsidence

022_Note cracking damage

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024

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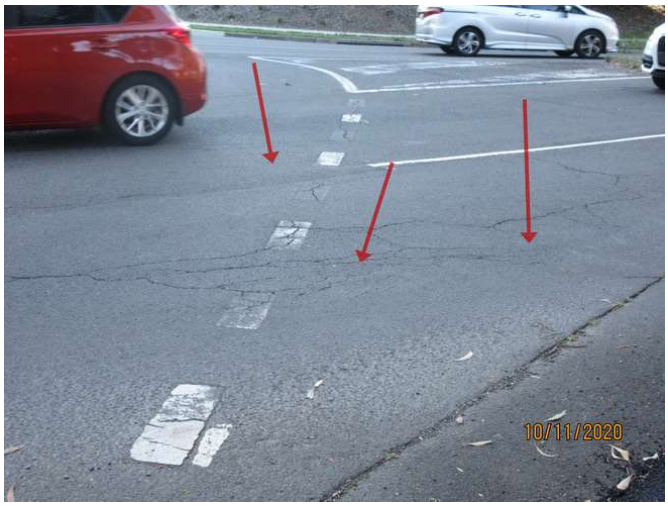
025_Note slight subsidence

026_Note slight subsidence

027

028_Note cracking damage

029_Note cracking damage



030_Note cracking damage

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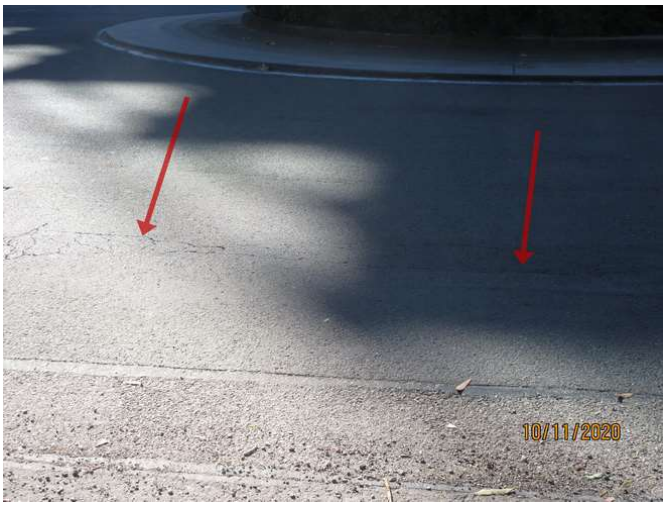
031_Note cracking damage

032

033_Note cracking damage

034_Note cracking damage



035_Note cracking damage

036_Note impact damage to traffic sign

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037_Note impact damage to traffic sign

038_Note cracking damage to footpath

039_Note cracking damage

040

041_Note exposed soil ground along footpath

042

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043

044

045_Note cracking damage

046

047_Note cracking damage_Note exposed soil ground along footpath

048_Note slight subsidence

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049_Note slight subsidence

050

051_Note exposed soil ground along footpath

052

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055

056_Note cracking damage

057_Note slight subsidence

058_Note cracking damage

059

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061

062_Note cracking damage

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077_Note exposed soil ground along footpath

078_Note exposed soil ground along footpath

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082

083_Note cracking damage

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090_Note exposed soil ground along footpath

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093_Note exposed soil ground along footpath

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098_Note exposed soil ground along footpath

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148_Note cracking damage

149_Note cracking damage

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154_Note cracking to medium strip

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162_Note localised pothole

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167_Note cracking damage

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180_Note cracking damage

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182_Note cracking damage

183_Note cracking damage

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210_Note cracking damage

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212_Note cracking damage

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215_Note cracking damage

216_Note cracking damage

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218_Note cracking damage

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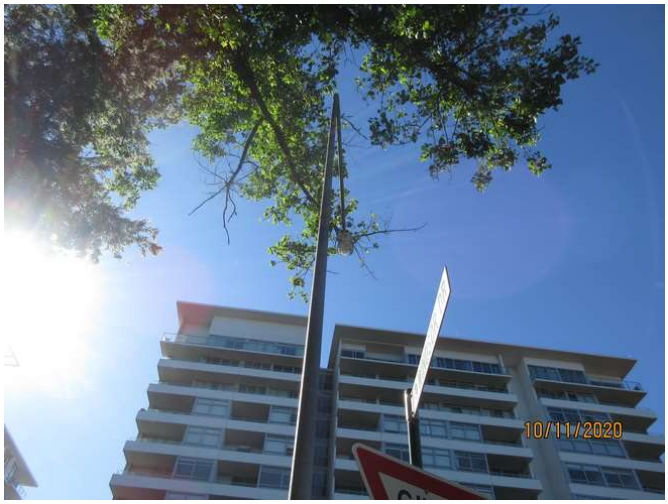

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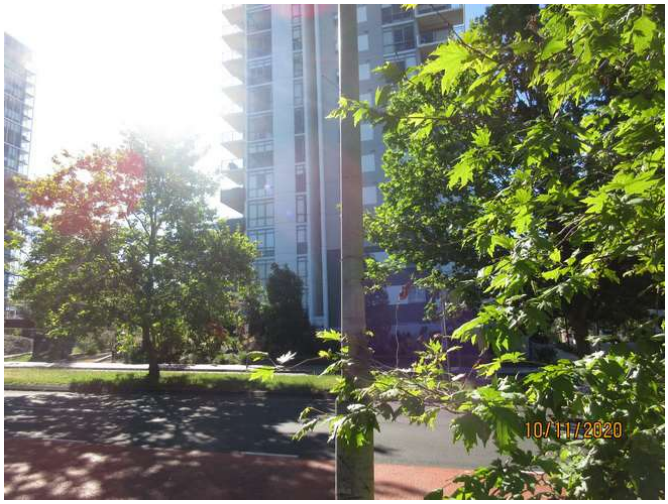

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266_Note impact damage

267_Note impact damage

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275_Note cracking to kerb stone

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277_Note cracking damage

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279_Note cracking damage

280_Note cracking damage

281_Note pothole next to roundabout

282_Note cracking damage

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285_Note cracking damage

286_Note cracking damage

287_Note cracking damage

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GreenPlus Property Services
Property Division of Environmental Earth Sciences

GREENPLUS PROPERTY SERVICES
PROPERTY RISKS RESOLVED

PRE-CONSTRUCTION DILAPIDATION INSPECTION

DISPLAY SUIT

In Conjunction with Re-development of
MidTown at 1 Ivanhoe Avenue, Macquarie Park

On Behalf of:
Mainland Civil Constructions

Prepared By:
GreenPlus Property Services

Inspection on 10 November 2020

Job Number: 820049.2 (Rv.1)

Greenplus Property Worldwide Pty Ltd ACN 109 404 051 82-84 Dickson Avenue, Artarmon, NSW 2064
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Table of Contents

Document Control:

Revision	Issued By	Sign	Date of Issue	Note
Rv.1	Steven Ju, Manager EA Qualified Civil Engineer, ID 3030870		19 / Nov. / 2020	
	Blake Gao, CPEng, NER, ID 2809663			

1.0 THIS DILAPIDATION SURVEY

1.1 Project Brief

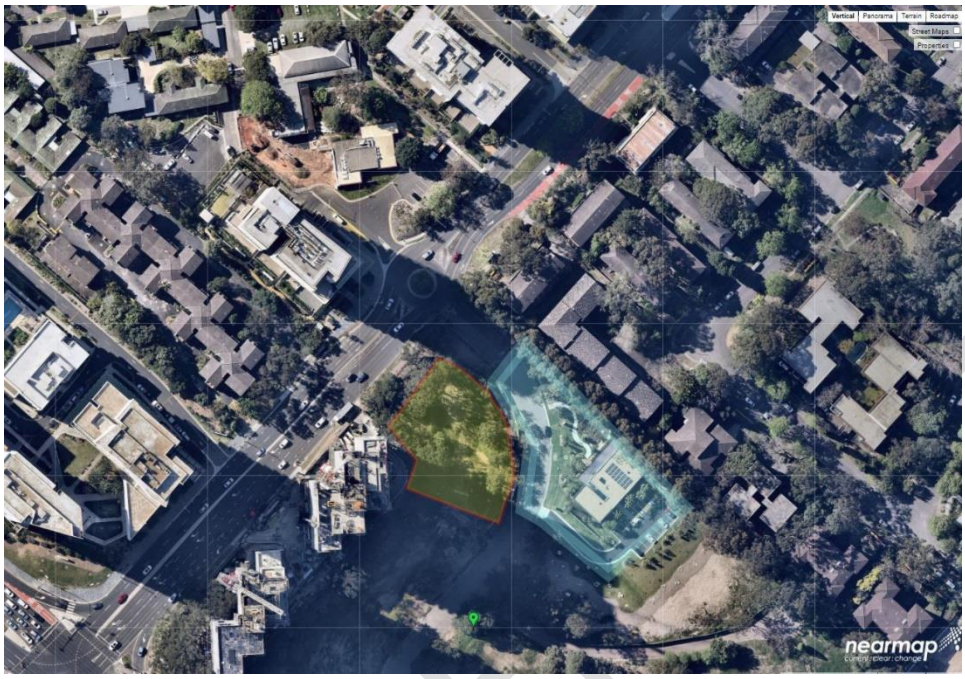

Figure 1: Proposed Construction Site as the Hatched Area in Yellow with the Inspected Property in Hatched Blue

(Courtesy: October, NearMap)

Note:
This aerial photo may not reflect the true condition of the site as the time of inspection.

Proposed construction:	Stage 1 construction of a deep excavation (estimated 20m) and construction of new apartment building
Relevant DA	N/A
Status of construction	Pre-construction
Inspection instructed by:	Adrian Grdic, Senior Project Engineer, Mainland Civil
Location of construction	1 Ivanhoe Avenue, Macquarie Park NSW
Inspected Areas:	Both sides of Herring Road between Epping Road and Windsor Drive;
Date of Inspection(s)	10 November 2020
Weather during inspection(s)	Sunny
Report prepared by:	Steven Ju, Engineer Australia Qualified Civil Engineer (EA-ID: 3030870) Manager, GreenPlus Property Services

Project Review and Quality Control	Blake Gao, CPEng, NER (2809663)
Type of Inspected Property	○ Two-level concrete structure with metal roof and an external car park to the rear lower ground

2.0 METHODOLOGY

It was understood that an estimated 20m deep excavation to be carried out to the northern end of the site. The inspected property is located 30m east to the proposed construction area, which is considered within the potential influential zone of the excavation.

Visual inspection to all safely accessible internal and external areas was carried out to obtain a record of conditions in regarding to the following aspects;

- The general condition of the client instructed property, known as the display suit at project site, and predominately focusing on the any potential structural defect;
- Areas with the exposed base building structural member and external ground areas;

Usually, a visually evident cracking or opening will be measured by a cracking gauge, as in the below Figure 2, to record an indicative width of a cracking defect to a building structure.

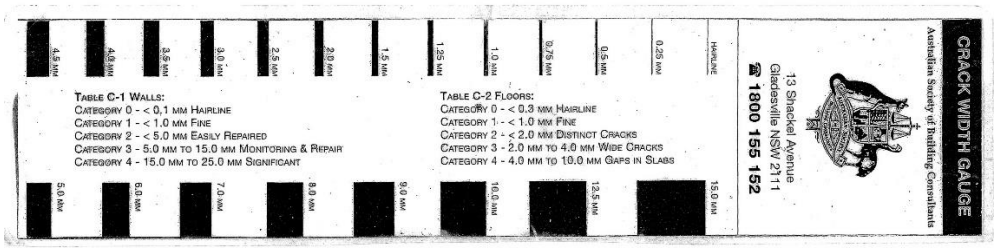

Figure 2: Wheel Measure and Indicative Cracking Gauge used during Site Inspection

Damages and defects have been described or highlighted in the photographic record in the Appendix. Other defect/damage that may have not been highlighted or describe could be classified as being too fine to be noticed or negligible.

Our assessment of the conditions is guided by the below Classification of Damages;

- ○ Category of Damage (0 – 5) as defined in 'Building Response to Ground Movements', Burland, J.2012, ICE Manual of Geotechnical Engineering
- ○ AS 4349 Inspection of Buildings – General Requirements,
- ○ Royal Institute of Chartered Surveyors (RICS) Guidance Note 63/2010 Building Surveys And Technical Due Diligence Of Commercial Property
- ○ Table C1: Classification of damage with reference to walls (Appendix C of AS2870 -1996)
- ○ Table C2 Classification of damage with reference to concrete floors (Appendix C of AS2870 -1996)

Category of Damage	Normal Degree of Severity	Description of Typical Damage Ease of repair is underlined. Note: Crack width is only one factor in assessing category of damage and should not be used on its own as a direct measure of it.
0	Negligible	Hairline cracks less than about 0.1 mm
1	Very Slight	Fine cracks which are easily treated during normal decoration. Damage generally restricted to internal wall finishes. Close inspection may reveal some cracks in external brickwork or masonry. Typical crack widths up to approximately 1 mm.
2	Slight	Cracks easily filled. Re-decoration probably required. Recurrent cracks can masked by suitable linings. Cracks may be visible externally and some repointing may be required to ensure watertightness. Doors and windows may stick slightly. Typical crack widths 2-3 mm but may be up to approximately 5 mm locally.
3	Moderate	The cracks require some opening up and can be patched by a mason. Repointing of external brickwork and possibly a small amount of brickwork to be replaced. Doors and windows sticking. Service pipes may fracture. Watertightness often impaired. Typical crack widths are approximately 5-15 mm, or several closely spaced cracks > 3 mm.
4	Severe	Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Windows and door frames distorted, floors sloping noticeably[1]. Walls leaning[1] or bulging noticeably, some loss of bearing in beams. Service pipes disrupted. Typical crack widths are 15-25 mm, depending on the number of cracks.
5	Very Severe	This requires a major repair job involving partial or complete rebuilding. Beams lose bearing, walls lean badly and require shoring. Windows broken with distortion. Danger of instability. Typical cracks widths are > 25 mm, depending on the number of cracks.
[1] Note: Local deviation of slope, from the horizontal or vertical, of more than 1/100 will normally be clearly visible. Overall deviations in excess of 1/150 are undesirable.		

Reference: 'Building Response to Ground Movements', Burland, J. 2012, I.C.E. Manual of Geotechnical Engineering

Figure 3: Category of Damage (0 – 5) as defined in 'Building Response to Ground Movements', Burland, J.1977, ICE Manual of Geotechnical Engineering

Description of Typical Damage	Approximate Crack Width Limit	Damage category
Hairline cracks	< 0.1 mm	**0**
Fine cracks	< 1 mm	**1**
Cracks noticeable	< 5mm	**2**
Distinct Cracking	5mm to 15mm(or a number of cracks 3mm or more in one group)	**3**
Extensive Damage where extensive repair work involving breaking-out and replacement	15mm to 25mm but also depends on number of cracks.	**4**

Figure 4: Table C1 Classification of damage with reference to walls (Appendix C of AS2870 -1996) in conjunction with "Burland" damage category

Description of Typical Damage	Approximate Crack Width Limit	Change in Offset from a 3m Straight Edge Centred Over Defect	Damage category
Hairline cracks, insignificant movement of slab from level.	<0.3mm	<8mm	**0**
Fine but noticeable cracks. Slab reasonably level.	<1.0mm	<10mm	**1**

Distinct cracks. Slab noticeably curved or changed in level.	<2.0mm	<15mm	**2**
Wide cracks. Obvious curvature or change in level.	2mm to 4mm	15mm to 25mm	**3**
Gaps in slab. Disturbing curvature or change in level.	4mm to 10mm	>25mm	**4**

Figure 5: Table C2 Classification of damage with reference to concrete floors (Appendix C of AS2870 - 1996) in conjunction with "Burland" damage category

3.0 IDENTIFYING THE DEFECTS

This inspection was carried out in conjunction with the proposed excavation works. This report serves as a base line condition survey to the inspected property.

4.0 GENERAL CONDITIONS AND FINDINGS OF MAJOR DEFECTS

- Items Requires Immediate Attention

Following our inspection to this building, we consider the inspected building is recently construction in a generally new condition. There is no structurally alarming defect noted.

- Overall Conditions

The overall condition is considered new and good. There was a water leakage to the bottom of metal sheet covered retaining wall to the lower ground store room.

Detailed condition of the inspected areas at the time of our inspection can be found in **Section 9.0: Photographic Schedule** with the damages highlighted in the picture with a brief description underneath each photo.

5.0 EXCLUSIONS AND LIMITATIONS

Inspection was carried out to inspection to areas that instructed by the Client. The inspections were carried out to visually identify conditions of the buildings and the internal fit-outs. Our inspection is focus on the understanding of the conditions of the base building structures.

The inspection was carried out in way of walk through and visual examination only. Damages and defects described in the above condition assessment or highlighted in photographic record are considered of being visually evident. Other defect/damage not having been highlighted or describe in the photographic record could be classified as being minor magnitude. It shall be noted that visual identification of a crack with a width less than 1mm from distance will not be practical. Visual inspection can also be affected by distortions such as strong light, misleading image on reflective surface or complex textures on natural building materials, from which observation error would be expectable;

It shall be noted that all measuring tools used during our site inspection including the measuring wheel, cracking gauge and the metal ruler used are noted calibrated by any NATA accredited organisation. The measurement result is indicative must not be considered as with the same quality from a engineering survey by a registered surveyor.

Our inspections can be restricted by parked vehicles, installed plants, pipes, ducts, stored goods, installed fence or hoarding lines. Our visual inspection may also subject by the human visual limits under some circumstances, such as low visibility. Visual inspection to marble surface, textured materials can be distorted by its natural textures and mineral lines.

Evident cracks noted during our inspection have been compared against a crack gauge at their representative locations. It shall be note that we did not carry out any engineering survey. Neither our

crack gauge has been calibrated by a NATA accredited institute. Derivation between the recorded measurement and its true value could be up to ±0.5mm.

This Schedule does not constitute an engineering survey. It is prepared for the purpose to recording the visible condition of the accessible properties and their exposed finishes only. This document cannot be used as a sole reference to conclude the cause of the defects noted. Any defect to a building can be the result of combined factors, including but not limited to the age of the property, vibration of nearby constructions, inherited improper workman ship, misuse of the property, wear and tear, seasonal change of the ground conditions etc. The cause of the defects shall be concluded by further investigation of all possible factors.

We cannot visually inspect the foundation of the building by way of a safe walk-in approach. No comment was made to the structural impact to the foundation of the subject building. However, we recommend a separate investigation of the foundations to be carried out during the tunnelling works. This investigation and assessment could be a combination of CCTV visual inspection, tunnelling stability monitoring, structural monitoring survey, vibration monitoring.

We advise that we have not inspected the below areas;

- Parts of the building built-in, covered up or otherwise made inaccessible, and therefore cannot comment as to whether they are free from defect or infestation.
- Any underground drainage / stormwater system
- Natural ground, nature landscape or anywhere that naturally formed;
- Any internal area of any building, construction or temporary installations;
- Internal inspections to any plant, equipment and machinery or where services are covered up or hidden by the building structural element or finishes.
- Any shafts or tunnels with clearance lower than 500mm;

We have not undertaken any work of;

- Testing on function of any services or for any deleterious materials.
- Any specific engineering or environmental nature, such as engineering calculations, structural analysis, underground investigation, testing or

We have not comment on;

- Any measurements as the report is limited to our interpretation of the condition of the building as apparent from the inspection.
- Any environmental issues, hazardous materials and the like.

Photographed and Reported By

Steven Ju

6.0 ACKNOWLEDGEMENT OF CONDITION

We confirm that this dilapidation condition report is an accurate record of the general overall condition of the inspected areas.

Signed on behalf of

Client

Name.....

Company.....

Address.....

.....

.....*Date*.....

Signed on behalf of

Party with Interests

Name.....

Company.....

Address.....

.....

.....*Date*.....

7.0 FLOOR PLANS
(Not Available)

8.0 PHOTOGRAPHIC SCHEDULES

001

002_Note slight surface cracking and scratch damage

003

004

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006_Note slight surface cracking and scratch damage

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007_Note slight surface cracking and scratch damage

008_Road drains generally noted with leave blockage

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052_Note slight surface cracking and scratch damage

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055_Note slight surface cracking and scratch damage

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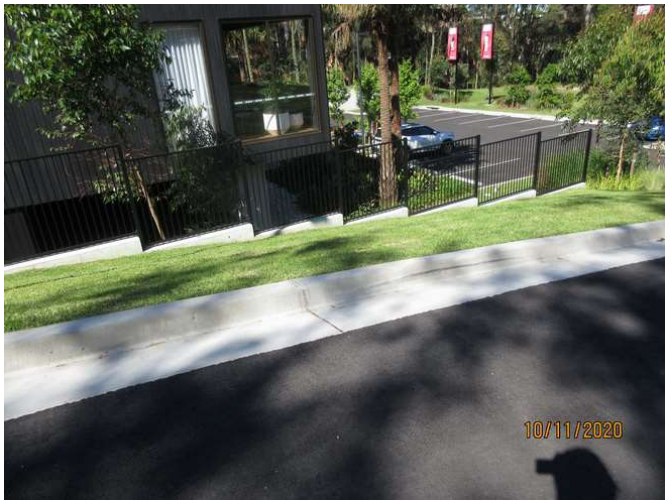

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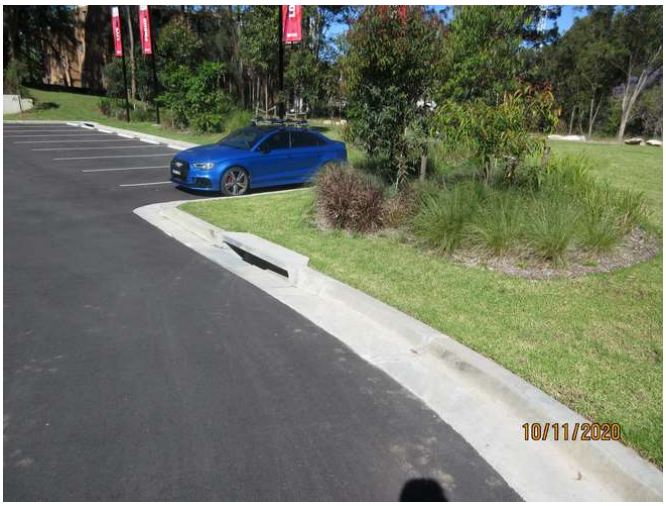

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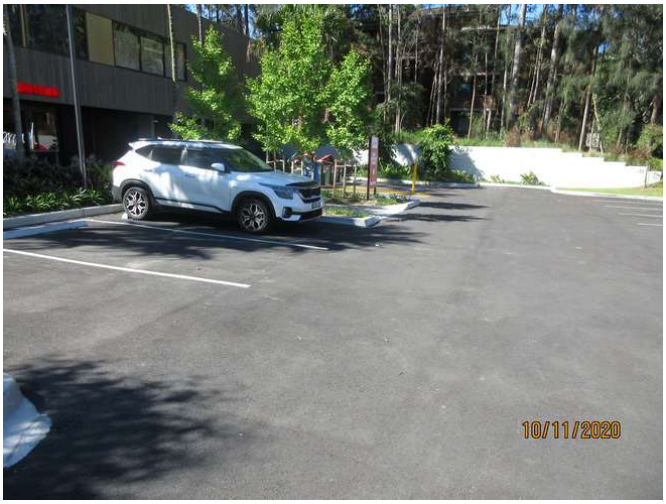

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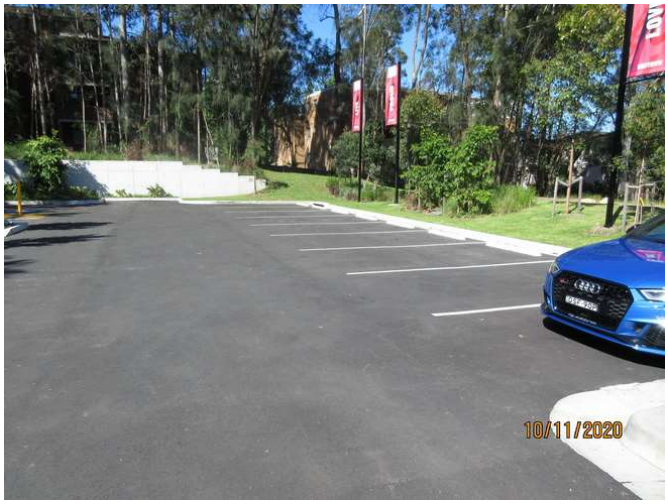

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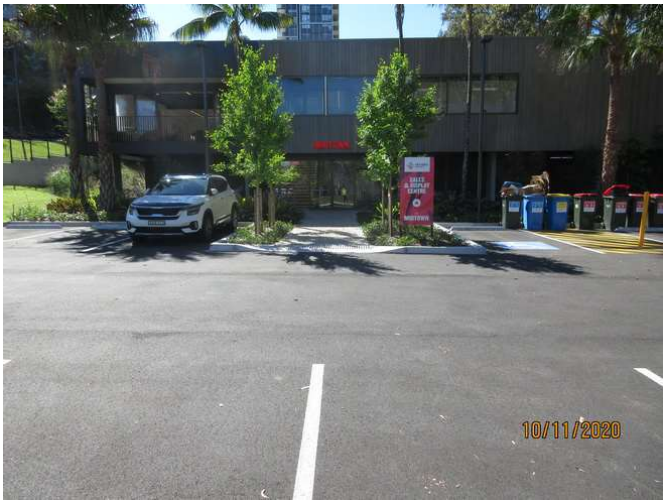

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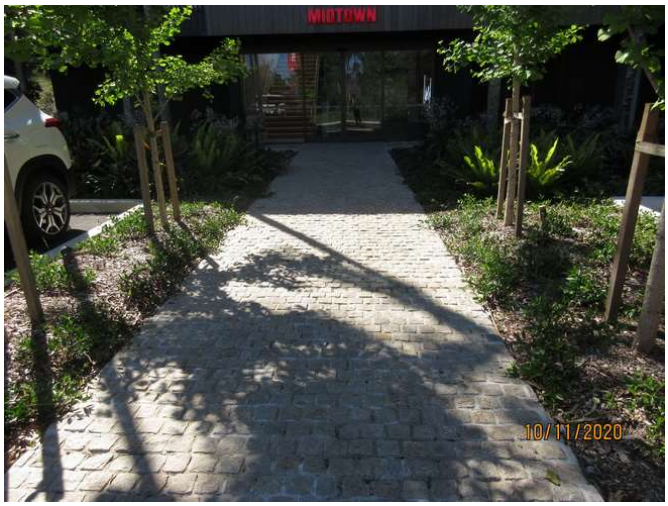

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131_Slight paint peeling damage

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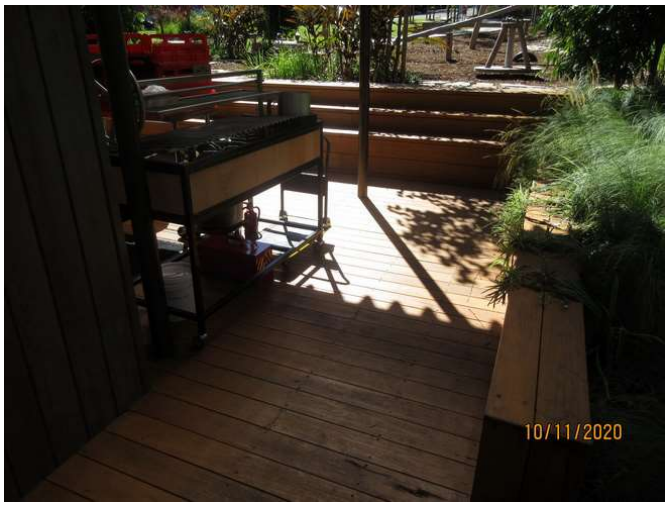

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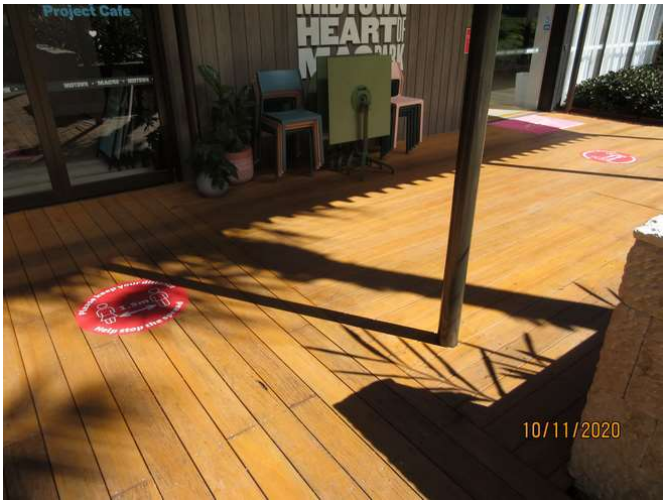

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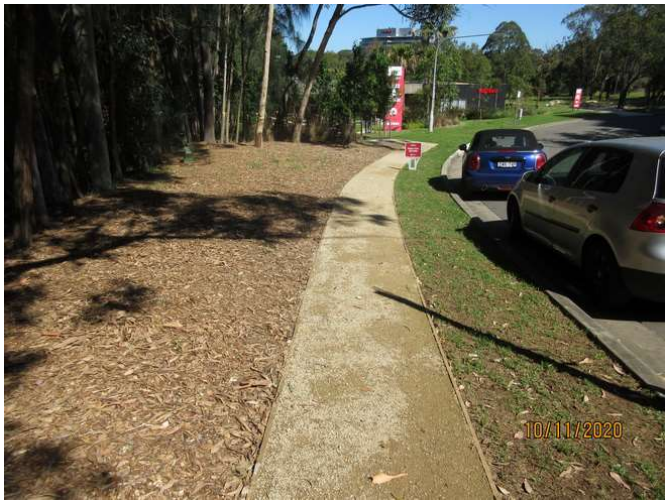

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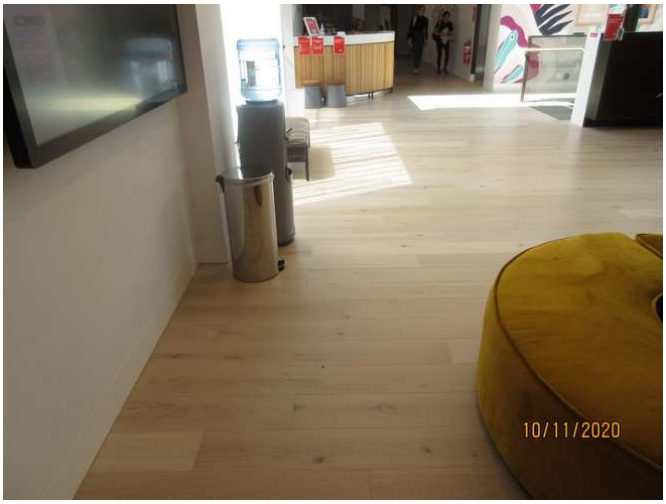

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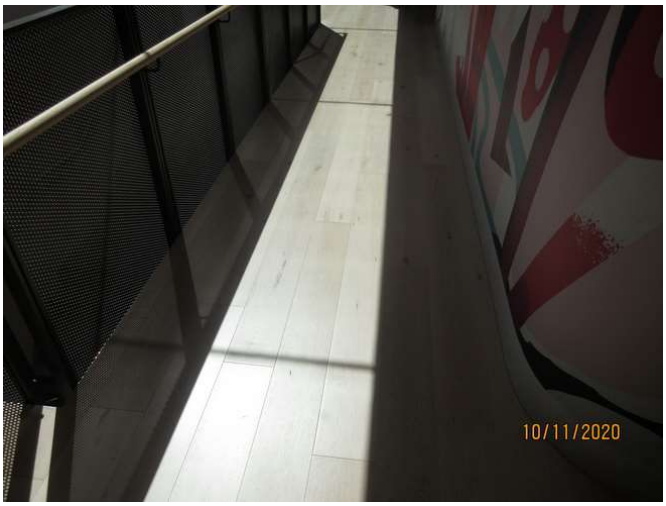

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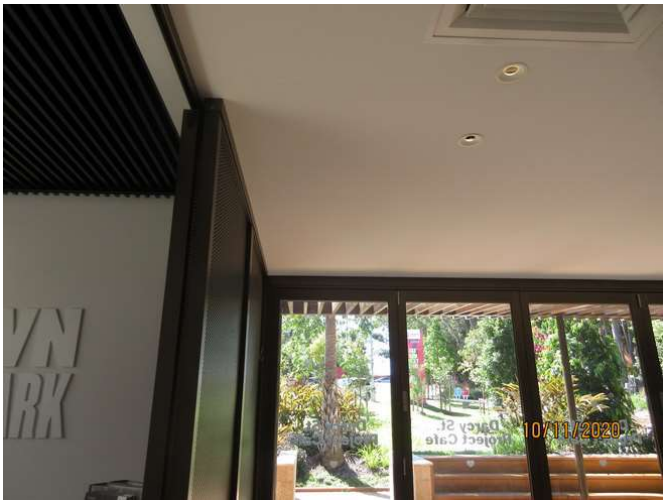

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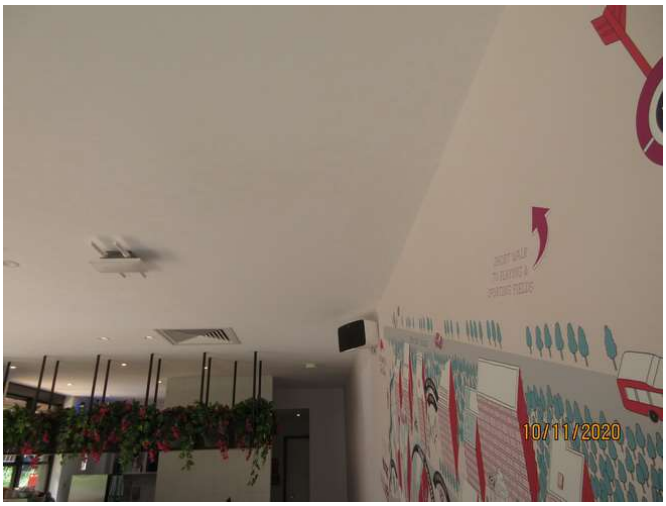

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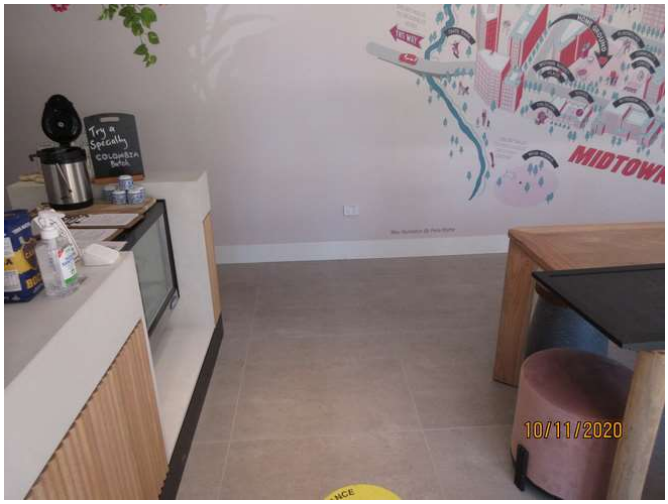

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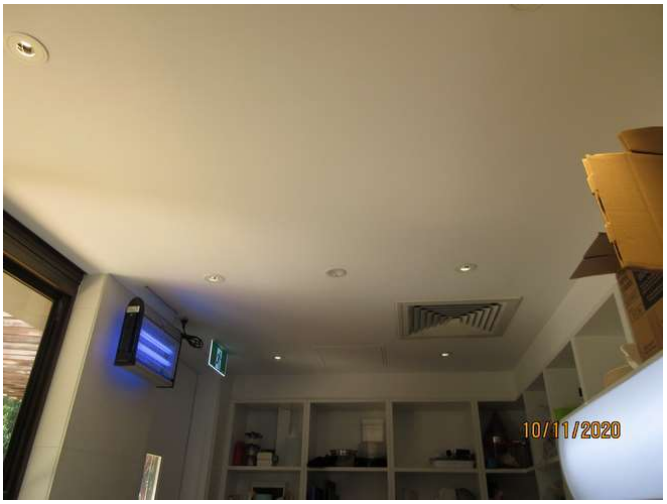

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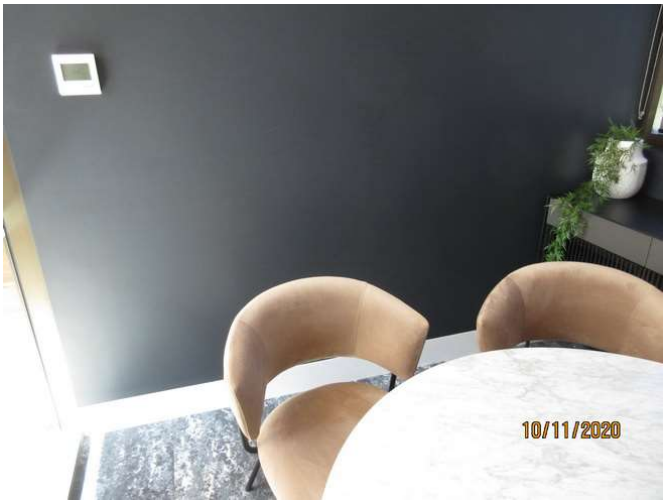

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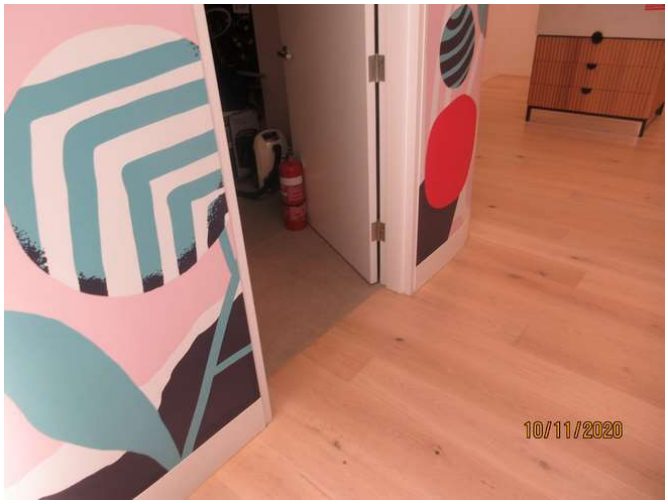

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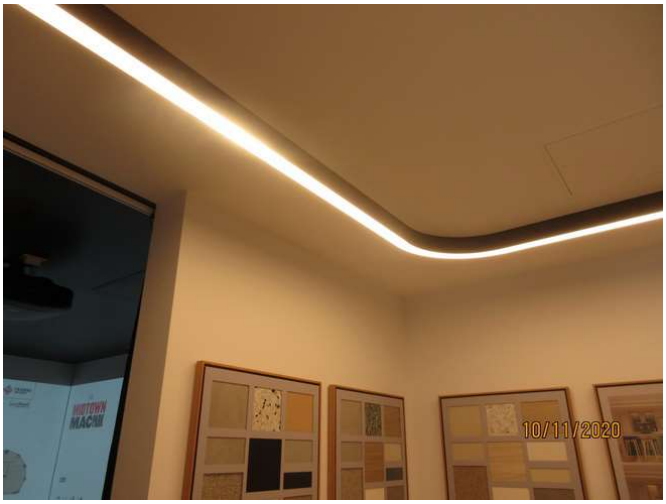

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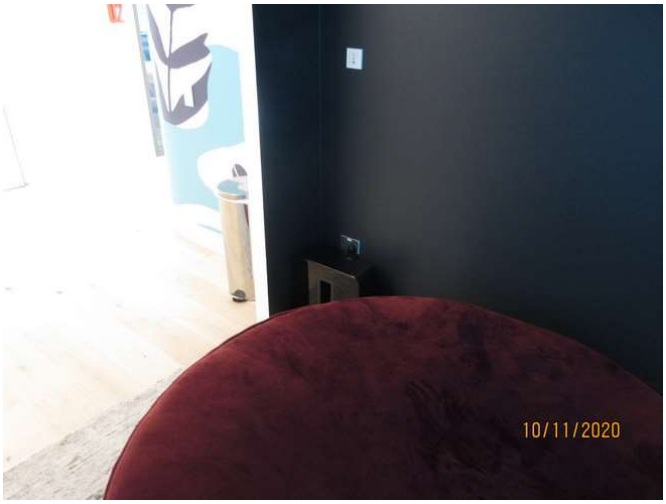

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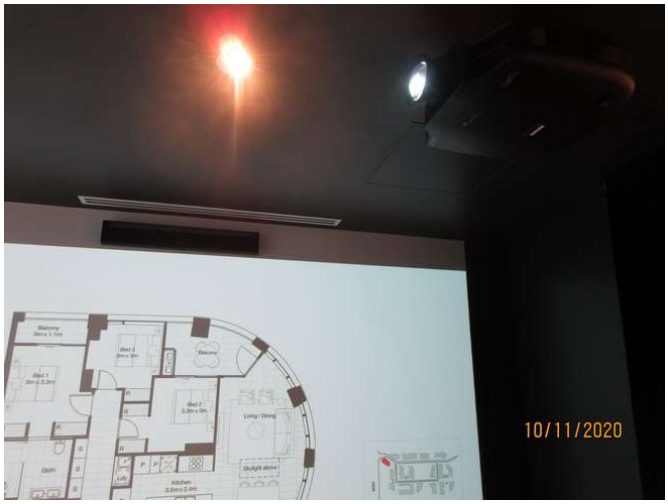

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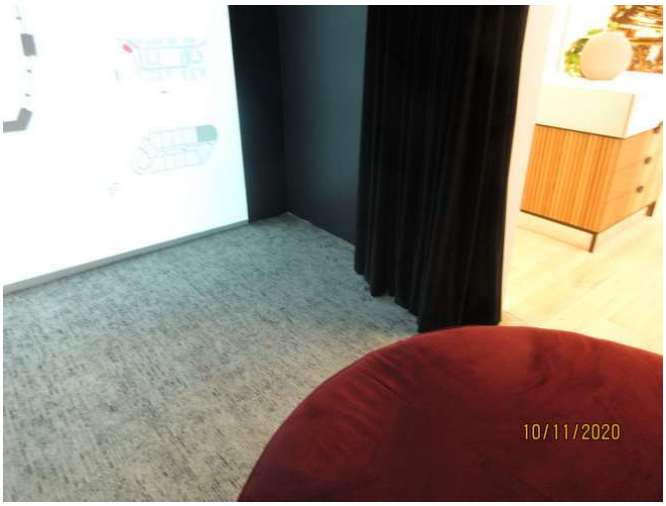

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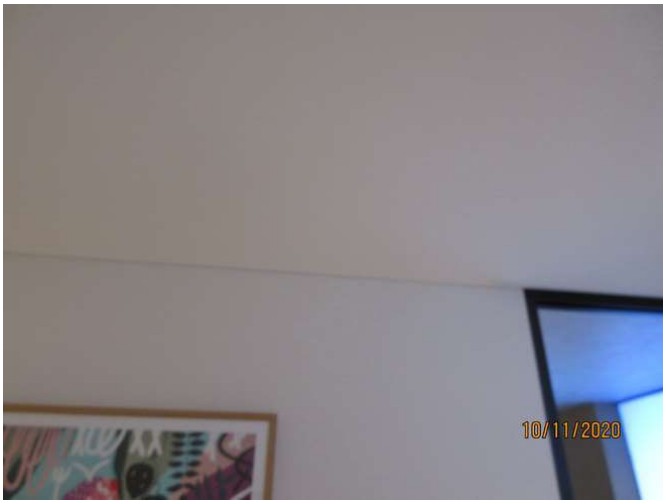

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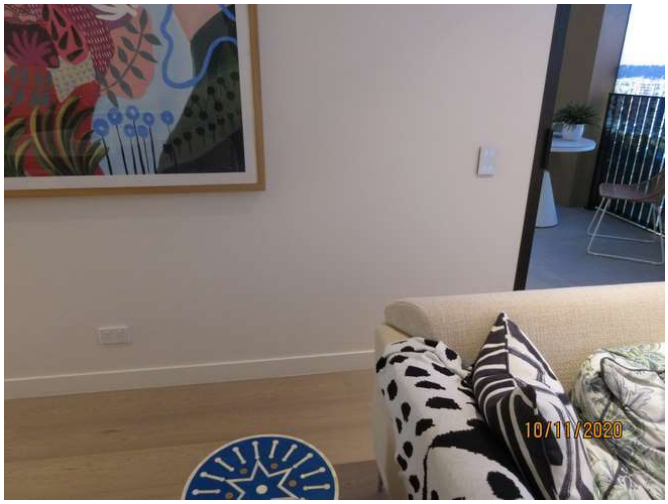

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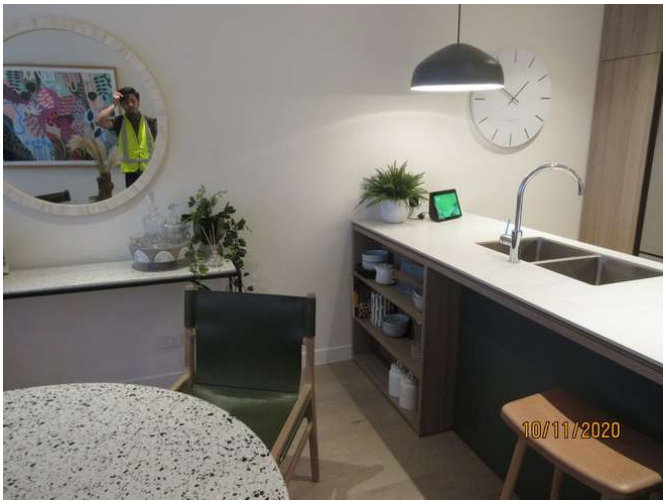

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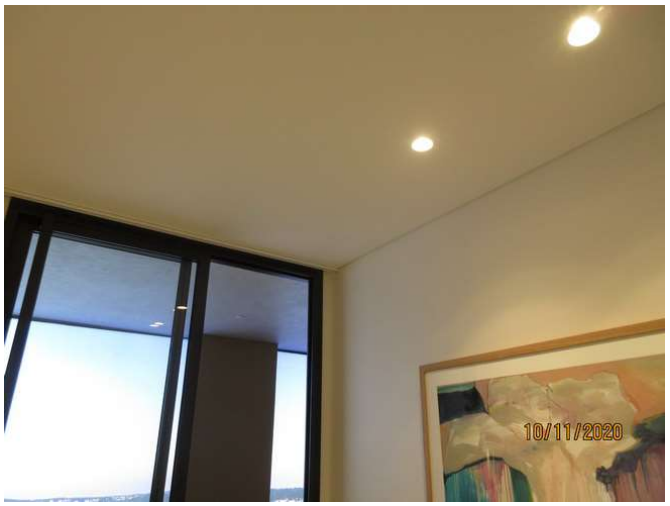

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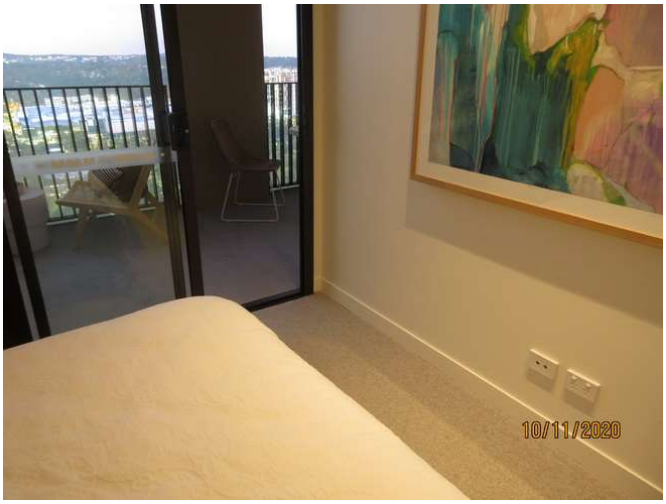

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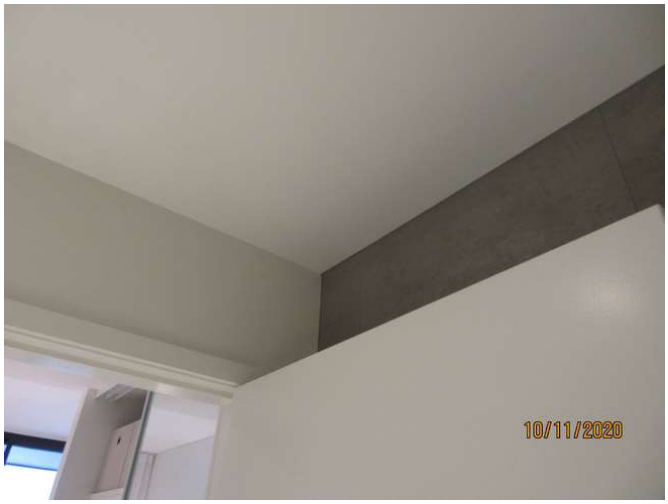

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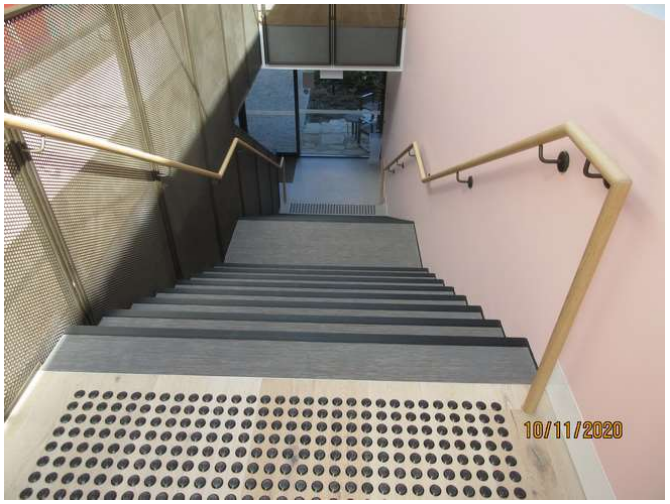

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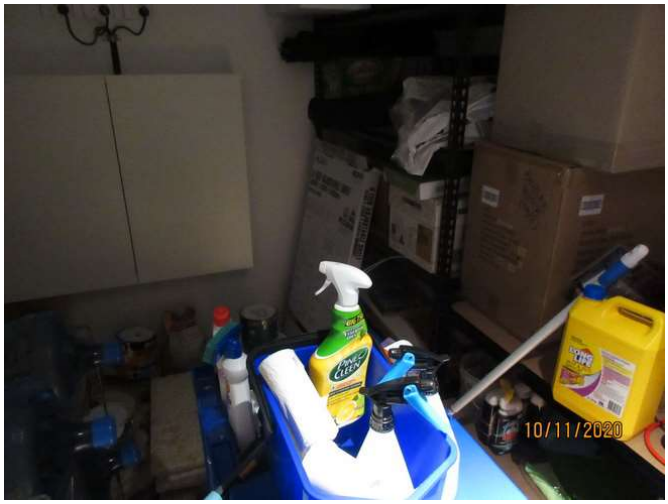

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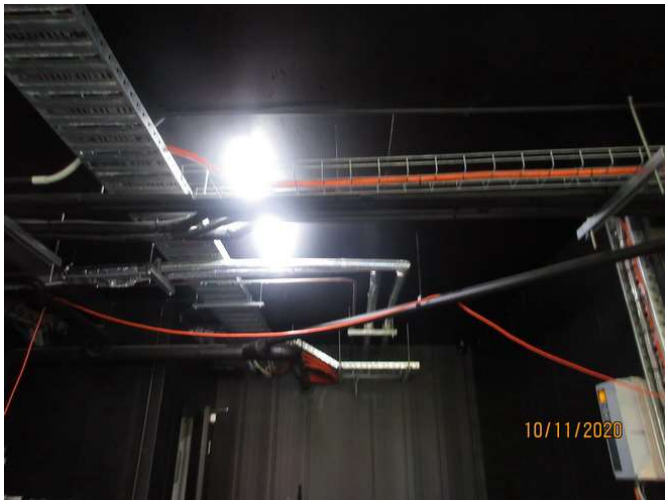

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377_Water seapage from back og the retaining wall

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Contact us

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GreenPlus Property Services
Property Division of Environmental Earth Sciences

GREENPLUS PROPERTY SERVICES
PROPERTY RISKS RESOLVED

PRE-CONSTRUCTION DILAPIDATION INSPECTION

155 Herring Road, 1-3 Lachlan Avenue and 1, 3, 5, 7 Peach Tree Road (External Ground and Elevations)

In Conjunction with Re-development of
MidTown at 1 Ivanhoe Avenue, Macquarie Park

On Behalf of:
Mainland Civil Constructions

Prepared By:
GreenPlus Property Services

Inspection on 10 November 2020

Job Number: 820049.3 (Rv.1)

Greenplus Property Worldwide Pty Ltd ACN 109 404 051 82-84 Dickson Avenue, Artarmon, NSW 2064
Phone: +61 2 9922 1777 Fax: +61 2 9922 1010 **Web:** www.eesigroup.com

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Document Control:

Revision	Issued By	Sign	Date of Issue	Note
Rv.1	Steven Ju, Manager EA Qualified Civil Engineer, ID 3030870		19 / Nov. / 2020	
	Blake Gao, CPEng, NER, ID 2809663			

1.0 THIS DILAPIDATION SURVEY

1.1 Project Brief

Figure 1: Proposed Construction Site as the Hatched in Yellow with the Inspection Properties Hatched in Blue

(Courtesy: October, NearMap)

Note:
This aerial photo may not reflect the true condition of the site as the time of inspection.

Proposed construction:	Stage 1 construction of a deep excavation (estimated 20m) and construction of new apartment building
Relevant DA	N/A
Status of construction	Pre-constrcution
Inspection instructed by:	Adrian Grdic, Senior Project Engineer, Mainland Civil
Location of construction	1 Ivanhoe Avenue, Macquarie Park NSW
Inspected Areas:	Both sides of Herring Road between Epping Road and Windsor Drive;
Date of Inspection(s)	10 November 2020
Weather during inspection(s)	Sunny
Report prepared by:	Steven Ju, Engineer Australia Qualified Civil Engineer (EA-ID: 3030870) Manager, GreenPlus Property Services

Project Review and Quality Control	Blake Gao, CPEng, NER (2809663)
Type of Inspected Property	○ External grounds and building elevations

2.0 METHODOLOGY

It was understood that an estimated 20m deep excavation to be carried out to the northern end of the site. The closest ones of the inspected properties (155 Herring Road, 1-3 Lachlan Avenue), is located at about 25m to 30m east to the proposed construction area, which is considered within the potential influential zone of the excavation.

Considering the future development along the eastern fenceline, inspections were also carried out the external ground and the building elevations of 1, 3, 5, 7 Peach Tree Road.

Visual inspection to all safely accessible internal and external areas was carried out to obtain a record of conditions in regarding to the following aspects;

- The general condition of the client instructed property, known as the display suit at project site, and predominately focusing on the any potential structural defect;
- Areas with the exposed base building structural member and external ground areas;

Usually, a visually evident cracking or opening will be measured by a cracking gauge, as in the below Figure 2, to record an indicative width of a cracking defect to a building structure.

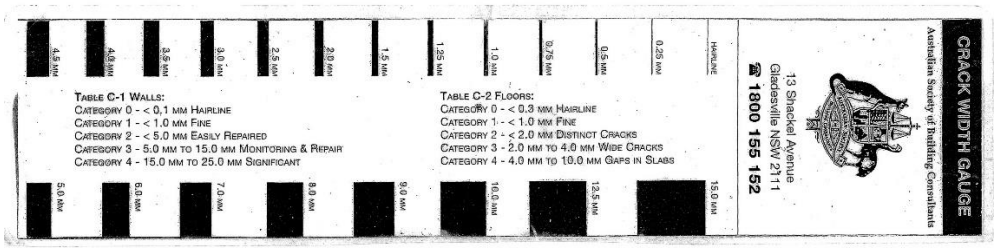


Figure 2: Wheel Measure and Indicative Cracking Gauge used during Site Inspection

Damages and defects have been described or highlighted in the photographic record in the Appendix. Other defect/damage that may have not been highlighted or describe could be classified as being too fine to be noticed or negligible.

Our assessment of the conditions is guided by the below Classification of Damages;

- Category of Damage (0 – 5) as defined in 'Building Response to Ground Movements', Burland, J.2012, ICE Manual of Geotechnical Engineering
- AS 4349 Inspection of Buildings – General Requirements,
- Royal Institute of Chartered Surveyors (RICS) Guidance Note 63/2010 Building Surveys And Technical Due Diligence Of Commercial Property
- Table C1: Classification of damage with reference to walls (Appendix C of AS2870 -1996)
- Table C2 Classification of damage with reference to concrete floors (Appendix C of AS2870 -1996)

Category of Damage	Normal Degree of Severity	Description of Typical Damage Ease of repair is underlined. Note: Crack width is only one factor in assessing category of damage and should not be used on its own as a direct measure of it.
0	Negligible	Hairline cracks less than about 0.1 mm
1	Very Slight	Fine cracks which are easily treated during normal decoration. Damage generally restricted to internal wall finishes. Close inspection may reveal some cracks in external brickwork or masonry. Typical crack widths up to approximately 1 mm.
2	Slight	Cracks easily filled. Re-decoration probably required. Recurrent cracks can masked by suitable linings. Cracks may be visible externally and some repointing may be required to ensure watertightness. Doors and windows may stick slightly. Typical crack widths 2-3 mm but may be up to approximately 5 mm locally.
3	Moderate	The cracks require some opening up and can be patched by a mason. Repointing of external brickwork and possibly a small amount of brickwork to be replaced. Doors and windows sticking. Service pipes may fracture. Watertightness often impaired. Typical crack widths are approximately 5-15 mm, or several closely spaced cracks > 3 mm.
4	Severe	Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Windows and door frames distorted, floors sloping noticeably[1]. Walls leaning[1] or bulging noticeably, some loss of bearing in beams. Service pipes disrupted. Typical crack widths are 15-25 mm, depending on the number of cracks.
5	Very Severe	This requires a major repair job involving partial or complete rebuilding. Beams lose bearing, walls lean badly and require shoring. Windows broken with distortion. Danger of instability. Typical cracks widths are > 25 mm, depending on the number of cracks.
[1] Note: Local deviation of slope, from the horizontal or vertical, of more than 1/100 will normally be clearly visible. Overall deviations in excess of 1/150 are undesirable.		

Reference: 'Building Response to Ground Movements', Burland, J. 2012, I.C.E. Manual of Geotechnical Engineering

Figure 3: Category of Damage (0 – 5) as defined in 'Building Response to Ground Movements', Burland, J.1977, ICE Manual of Geotechnical Engineering

Description of Typical Damage	Approximate Crack Width Limit	Damage category
Hairline cracks	< 0.1 mm	**0**
Fine cracks	< 1 mm	**1**
Cracks noticeable	< 5mm	**2**
Distinct Cracking	5mm to 15mm(or a number of cracks 3mm or more in one group)	**3**
Extensive Damage where extensive repair work involving breaking-out and replacement	15mm to 25mm but also depends on number of cracks.	**4**

Figure 4: Table C1 Classification of damage with reference to walls (Appendix C of AS2870 -1996) in conjunction with "Burland" damage category

Description of Typical Damage	Approximate Crack Width Limit	Change in Offset from a 3m Straight Edge Centred Over Defect	Damage category
Hairline cracks, insignificant movement of slab from level.	<0.3mm	<8mm	**0**
Fine but noticeable cracks. Slab reasonably level.	<1.0mm	<10mm	**1**

Distinct cracks. Slab noticeably curved or changed in level.	<2.0mm	<15mm	**2**
Wide cracks. Obvious curvature or change in level.	2mm to 4mm	15mm to 25mm	**3**
Gaps in slab. Disturbing curvature or change in level.	4mm to 10mm	>25mm	**4**

Figure 5: Table C2 Classification of damage with reference to concrete floors (Appendix C of AS2870 - 1996) in conjunction with "Burland" damage category

3.0 IDENTIFYING THE DEFECTS

This inspection was carried out in conjunction with the proposed excavation works. This report serves as a base line condition survey to the inspected property.

4.0 GENERAL CONDITIONS AND FINDINGS OF MAJOR DEFECTS

- Items Requires Immediate Attention

Following our inspection to the external areas of this building, there is signs of structurally alarming defect that may compromise the designed use of the building,

Defects Noted

The following defects shall be considered and may need to be monitoring during the future constrcutions;

155 Herring Road

- Cracking noted to the external staircase (see photo 030 to 040);
- Slight ground subsidence (36mm) along the suspected underground drain (see phot 080-084)
- Distressed non-structurally supporting brick walls note to the northern external ground (see photo 092 to 100)

1-3 Lachlan Avenue

- The building appears in a structural good condition
- Cracking damage is generally noted to the concrete parking ground under the building

1 Peach Tree Road

- The brick walls to building elevation and the supporting structures under 1st floor appear to be in a generally good order;
- Concrete spalling damage note to the concrete edge slab (see Photo 008 to 038, 085 to 089)

3 Peach Tree Road

- The brick walls to building elevation and the supporting structures under 1st floor appear to be in a generally good order;
- Distressed non-structurally supporting brick walls note to the front garbage area and the front landscape retaining wall (see photo 014 to 017)

5 Peach Tree Road

- The brick walls to building elevation and the supporting structures under 1st floor appear to be in a generally good order;
- Minor distress to the rear boundary retaining wall with evident water seepage from bottom of the wall (see photo 098 to 110);

- Cracking damage is generally noted to the concrete parking ground under the building

7 Peach Tree Road

- Cracking damage is generally noted to the concrete parking ground under the building
- Evident ground subsidence along the road next to the neighbouring deep excavation (see photo 056)

Detailed condition of the inspected areas at the time of our inspection can be found in **Section 8.0: Photographic Schedule** with the damages highlighted in the picture with a brief description underneath each photo.

5.0 EXCLUSIONS AND LIMITATIONS

Inspection was carried out to inspection to areas that instructed by the Client. The inspections were carried out to visually identify conditions of the buildings and the internal fit-outs. Our inspection is focus on the understanding of the conditions of the base building structures.

The inspection was carried out in way of walk through and visual examination only. Damages and defects described in the above condition assessment or highlighted in photographic record are considered of being visually evident. Other defect/damage not having been highlighted or describe in the photographic record could be classified as being minor magnitude. It shall be noted that visual identification of a crack with a width less than 1mm from distance will not be practical. Visual inspection can also be affected by distortions such as strong light, misleading image on reflective surface or complex textures on natural building materials, from which observation error would be expectable;

It shall be noted that all measuring tools used during our site inspection including the measuring wheel, cracking gauge and the metal ruler used are noted calibrated by any NATA accredited organisation. The measurement result is indicative must not be considered as with the same quality from a engineering survey by a registered surveyor.

Our inspections can be restricted by parked vehicles, installed plants, pipes, ducts, stored goods, installed fence or hoarding lines. Our visual inspection may also subject by the human visual limits under some circumstances, such as low visibility. Visual inspection to marble surface, textured materials can be distorted by its natural textures and mineral lines.

Evident cracks noted during our inspection have been compared against a crack gauge at their representative locations. It shall be note that we did not carry out any engineering survey. Neither our crack gauge has been calibrated by a NATA accredited institute. Derivation between the recorded measurement and its true value could be up to ±0.5mm.

This Schedule does not constitute an engineering survey. It is prepared for the purpose to recording the visible condition of the accessible properties and their exposed finishes only. This document cannot be used as a sole reference to conclude the cause of the defects noted. Any defect to a building can be the result of combined factors, including but not limited to the age of the property, vibration of nearby constructions, inherited improper workman ship, misuse of the property, wear and tear, seasonal change of the ground conditions etc. The cause of the defects shall be concluded by further investigation of all possible factors.

We cannot visually inspect the foundation of the building by way of a safe walk-in approach. No comment was made to the structural impact to the foundation of the subject building. However, we recommend a separate investigation of the foundations to be carried out during the tunnelling works. This investigation and assessment could be a combination of CCTV visual inspection, tunnelling stability monitoring, structural monitoring survey, vibration monitoring.

We advise that we have not inspected the below areas;

- Parts of the building built-in, covered up or otherwise made inaccessible, and therefore cannot comment as to whether they are free from defect or infestation.
- Any underground drainage / stormwater system

- Natural ground, nature landscape or anywhere that naturally formed;
- Any internal area of any building, construction or temporary installations;
- Internal inspections to any plant, equipment and machinery or where services are covered up or hidden by the building structural element or finishes.
- Any shafts or tunnels with clearance lower than 500mm;

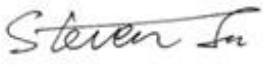
We have not undertaken any work of;

- Testing on function of any services or for any deleterious materials.
- Any specific engineering or environmental nature, such as engineering calculations, structural analysis, underground investigation, testing or

We have not comment on;

- Any measurements as the report is limited to our interpretation of the condition of the building as apparent from the inspection.
- Any environmental issues, hazardous materials and the like.

Photographed and Reported By



Steven Ju

6.0 ACKNOWLEDGEMENT OF CONDITION

We confirm that this dilapidation condition report is an accurate record of the general overall condition of the inspected areas.

Signed on behalf of

Client

Name.....

Company.....

Address.....

.....

.....*Date*.....

Signed on behalf of

Party with Interests

Name.....

Company.....

Address.....

.....

.....*Date*.....

7.0 FLOOR PLANS
(Not Available)

8.0 PHOTOGRAPHIC SCHEDULES

No 1-3_001

No 1-3_002

No 1-3_003_Note the cracking damage

No 1-3_004

No 1-3_005

No 1-3_006_Note damaged eave line soffit board

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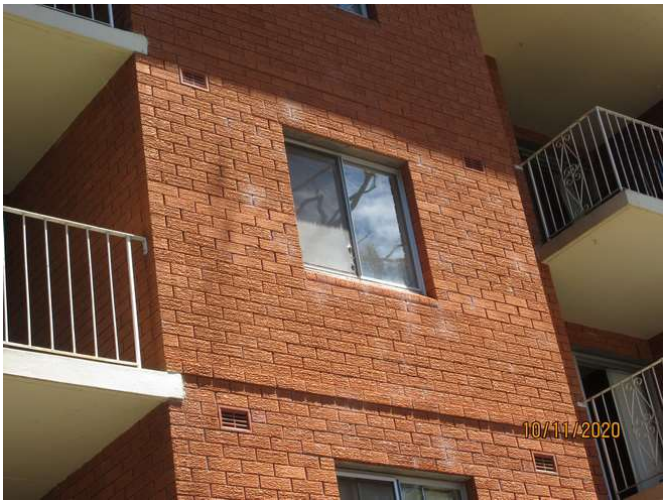
No 1-3_007

No 1-3_008



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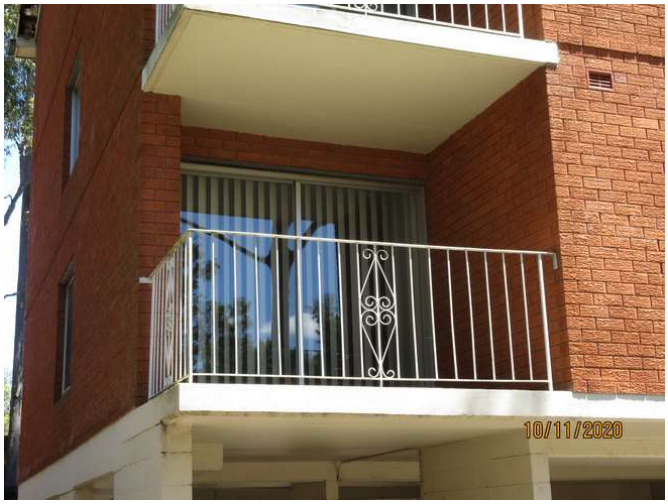

No 1-3_010

No 1-3_011

No 1-3_012

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No 1-3_013

No 1-3_014_Note the gap

No 1-3_015

No 1-3_016

No 1-3_017

No 1-3_018

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No 1-3_019

No 1-3_020

No 1-3_021

No 1-3_022

No 1-3_023

No 1-3_024

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No 1-3_025

No 1-3_026

No 1-3_027

No 1-3_028

No 1-3_029

No 1-3_030

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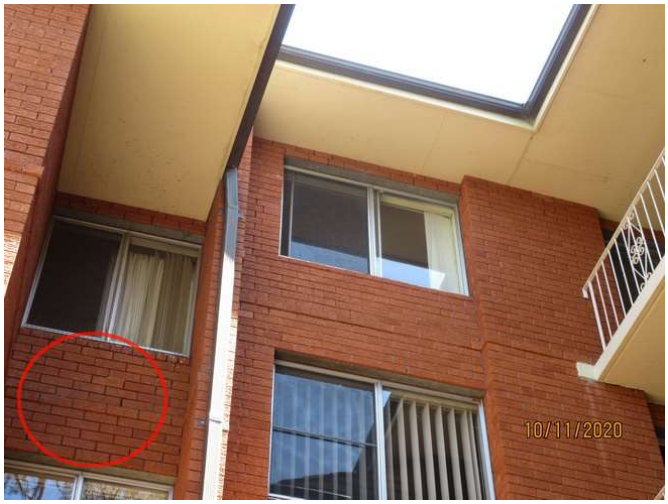

No 1-3_032_Note spalling to course joint lines

No 1-3_033

No 1-3_034

No 1-3_035

No 1-3_036

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No 1-3_037

No 1-3_038

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No 1-3_043

No 1-3_044

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No 1-3_047

No 1-3_048

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No 1-3_049

No 1-3_050_Note the cracking damage

No 1-3_051_Note the cracking damage

No 1-3_052_Note the cracking damage

No 1-3_053

No 1-3_054_Note the cracking damage

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No 1-3_055

No 1-3_056

No 1-3_057_Note the cracking damage

No 1-3_058_Note the cracking damage

No 1-3_059

No 1-3_060

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No 1-3_061

No 1-3_062

No 1-3_063

No 1-3_064_Note the cracking damage

No 1-3_065_Note the cracking damage

No 1-3_066_Note damaged eave line soffit board

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No 1-3_067_Note spalling to course joint lines

No 1-3_068_Note spalling to course joint lines

No 1-3_069_Note the cracking damage

No 1-3_070

No 1-3_071

No 1-3_072

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No 1-3_073

No 1-3_074

No 1-3_075

No 1-3_076_Note the cracking damage

No 1-3_077

No 1-3_078_Note the cracking damage

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No 1-3_079

No 1-3_080

No 1-3_081

No 1-3_082

No 1-3_083

No 1-3_084_Note the cracking damage

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No 1-3_085_Note the cracking damage

No 1-3_086_Note the cracking damage

No 1-3_087_Note the cracking damage

No 1-3_088

No 1-3_089

No 1-3_090

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No 1-3_091

No 1-3_092

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No 1-3_096

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No 1-3_101

No 1-3_102

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No 1-3_103

No 1-3_104

No 1-3_105

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No 1-3_107

No 1-3_108

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No 1-3_109

No 1-3_110

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No 1-3_112

No 1-3_113

No 1-3_114

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No 1-3_115

No 1-3_116

No 1-3_117

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No 1-3_119

No 1-3_120

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No 1-3_126

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No 1-3_131

No 1-3_132

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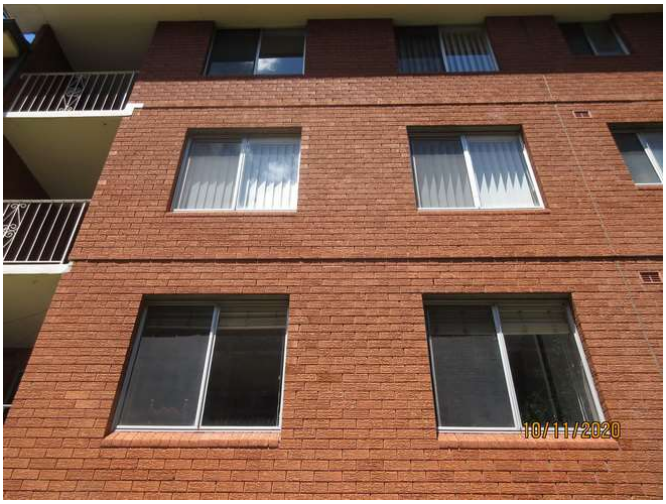

No 1-3_133

No 1-3_134

No 1-3_135

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No 1-3_137

No 1-3_138

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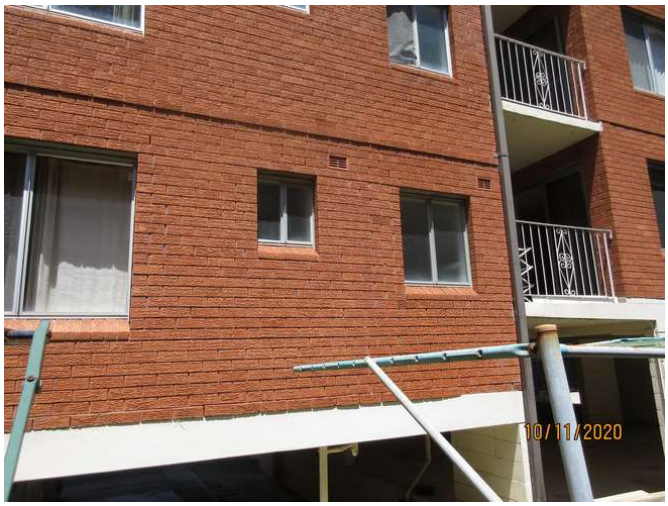
No 1-3_139

No 1-3_140

No 1-3_141

No 1-3_142

No 1-3_143_Note the cracking damage



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No 1-3_161

No 1-3_162

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No 1-3_163

No 1-3_164

No 1-3_165

No 1-3_166

No 1-3_167_Note the cracking damage

No 1-3_168

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No 1-3_169_Note the cracking damage

No 1-3_170_Note the cracking damage

No 1-3_171

No 1-3_172_Note 1.0mm cracking width at representative location

No 1-3_173_Note the cracking damage

No 1-3_174_Note the cracking damage

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No 1-3_175_Note the cracking damage

No 1-3_176_Note the cracking damage

No 1-3_177

No 1-3_178

No 1-3_179

No 1-3_180_Note the cracking damage

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No 1-3_181

No 1-3_182_Note the cracking damage

No 1-3_183_Note the cracking damage

No 1-3_184_Note an estimated 3.5mm cracking width at representative location

No 1-3_185

No 1-3_186

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No 1-3_187

No 1-3_188

No 1-3_189

No 1-3_190

No 1-3_191

No 1-3_192_Note the cracking damage

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No 1-3_193

No 1-3_194

No 1-3_195_Note an estimated 1.0mm cracking width at representative location

No 1-3_196_Note the cracking damage

No 1-3_197

No 1-3_198_Note an estimated 1.5mm cracking width at representative location

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No 1-3_199

No 1-3_200_Note the cracking damage

No 1-3_201

No 1-3_202_Note an estimated 1.5mm cracking width at representative location

No 1-3_203_Note the cracking damage

No 1-3_204

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No 1-3_205_Note an estimated 1.5mm cracking width at representative location

No 1-3_206_Note the cracking damage

No 1-3_207

No 1-3_208_Note an estimated 1.5mm cracking width at representative location

No 1-3_209_Note the cracking damage

No 1-3_210

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No 1-3_211_Note an estimated 2.0mm cracking width at representative location

No 1-3_212_Note the cracking damage

No 1-3_213_Note the cracking damage

No 1-3_214_Note an estimated 1.0mm cracking width at representative location

No 1-3_215_Note the cracking damage

No 1-3_216

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No 1-3_217_Note an estimated 3.0mm cracking width at representative location

No 1-3_218_Note the cracking damage

No 1-3_219

No 1-3_220_Note an estimated 1.0mm cracking width at representative location

No 1-3_221_Note the cracking damage

No 1-3_222

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No 1-3_223_Note an estimated 2.0mm cracking width at representative location

No 1-3_224

No 1-3_225

No 1-3_226

No 1-3_227

No 1-3_228

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No 1-3_229

No 1-3_230

No 1-3_231

No 1-3_232_Note the cracking damage

No 1-3_233_Note the cracking damage

No 1-3_234_Note the cracking damage

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No 1-3_235_Note the cracking damage

No 1-3_236

No 1-3_237

No 1-3_238_Note an estimated 1.0mm cracking width at representative location

No 1-3_239

No 1-3_240

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No 1-3_241

No 1-3_242

No 1-3_243_Note the cracking damage

No 1-3_244

No 1-3_245_Note an estimated 2.0mm cracking width at representative location

No 1-3_246

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No 1-3_247

No 1-3_248

No 1-3_249_Note the cracking damage

No 1-3_250_Note the cracking damage

No 1-3_251

No 1-3_252_Note an estimated 1.0mm cracking width at representative location

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No 1-3_253_Note the cracking damage

No 1-3_254

No 1-3_255_Note an estimated 2.0mm cracking width at representative location

No 1-3_256_Note the cracking damage

No 1-3_257

No 1-3_258_Note an estimated 1.5mm cracking width at representative location

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No 1-3_259_Note the cracking damage

No 1-3_260

No 1-3_261_Note an estimated 1.5mm cracking width at representative location

No 1-3_262_Note the cracking damage

No 1-3_263

No 1-3_264_Note an estimated 1.5mm cracking width at representative location

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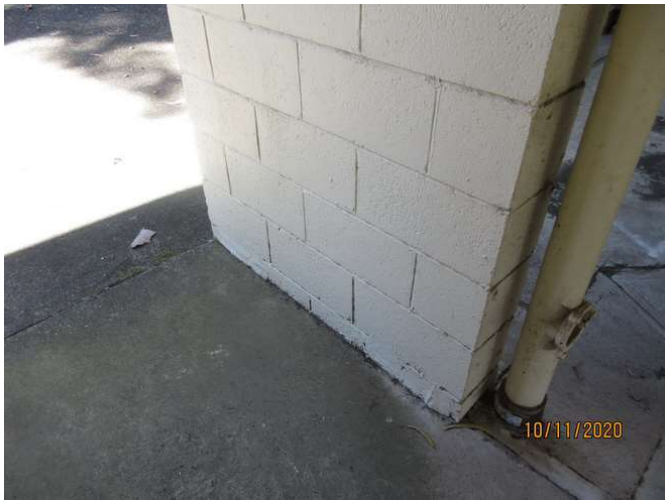
No 1-3_265



No 1-3_266

No 1-3_267

No 1-3_268

No 1-3_269_Note the cracking damage

No 1-3_270_Note the cracking damage

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No 1-3_271

No 1-3_272_Note an estimated 1.0mm cracking width at representative location

No 1-3_273_Note the cracking damage

No 1-3_274

No 1-3_275_Note an estimated 0.5mm cracking width at representative location

No 1-3_276

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No 1-3_277

No 1-3_278

No 1-3_279

No 1-3_280

No 1-3_281

No 1-3_282

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No 1-3_283

No 1-3_284

No 1-3_285

No 1-3_286

No 1-3_287

No 1-3_288

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No 1-3_289

No 1-3_290

No 1-3_291

No 1-3_292

No 1-3_293

No 1-3_294

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No 1-3_295

No 1-3_296

No 1-3_297

No 1-3_298

No 1-3_299_Note the cracking damage

No 1-3_300

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No 1-3_301_Note the cracking damage

No 1-3_302_Note an estimated 0.5mm cracking width at representative location

No 1-3_303_Note the cracking damage

No 1-3_304_Note the cracking damage

No 1-3_305_Note an estimated 0.5mm cracking width at representative location

No 1-3_306_Note the cracking damage

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No 1-3_307_Note the cracking damage

No 1-3_308_Note the cracking damage

No 1-3_309_Note the cracking damage

No 1-3_310_Note the cracking damage

No 1-3_311_Note the cracking damage

No 1-3_312_Note the cracking damage

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No 1-3_313_Note the cracking damage

No 1-3_314

No 1-3_315

No 1-3_316_Note the cracking damage

No 1-3_317_Note an estimated 2.0mm cracking width at representative location

No 1-3_318

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No 1-3_319_Note an estimated 1.5mm cracking width at representative location

No 1-3_320

No 1-3_321

No 1-3_322_Note the cracking damage

No 1-3_323

No 1-3_324

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No 1-3_325_Note the cracking damage

No 1-3_326

No 1-3_327

No 1-3_328_Note the cracking damage

No 1-3_329

No 1-3_330_Note an estimated 1.5mm cracking width at representative location

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No 1-3_331

No 1-3_332

No 1-3_333

No 1-3_334

No 1-3_335_Note the cracking damage

No 1-3_336_Note the cracking damage

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No 1-3_337

No 1-3_338_Note an estimated 2.0mm cracking width at representative location

No 1-3_339_Note the cracking damage

No 1-3_340_Note the cracking damage

No 1-3_341_Note the cracking damage

No 1-3_342_Note the cracking damage

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No 1-3_343_Note the cracking damage

No 1-3_344

No 1-3_345_Note an estimated 1.0mm cracking width at representative location

No 1-3_346

No 1-3_347_Note an estimated 1.0mm cracking width at representative location

No 1-3_348_Note the cracking damage

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No 1-3_349_Note the cracking damage

No 1-3_350

No 1-3_351_Note an estimated 1.5mm cracking width at representative location

No 1-3_352

No 1-3_353

No 1-3_354_Note the cracking damage

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No 1-3_355

No 1-3_356_Note the cracking damage

No 1-3_357

No 1-3_358_Note an estimated 1.0mm cracking width at representative location

No 1-3_359_Note the cracking damage

No 1-3_360

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No 1-3_361_Note an estimated 1.0mm cracking width at representative location

No 1-3_362

No 1-3_363

No 1-3_364

No 1-3_365_Note the cracking damage

No 1-3_366_Note the cracking damage

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No 1-3_367

No 1-3_368_Note an estimated 2.0mm cracking width at representative location

No 1-3_369

No 1-3_370

No 1-3_371

No 1-3_372

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No 1-3_373_Note the cracking damage

No 1-3_374_Note the cracking damage

No 1-3_375_Note an estimated 1.0mm cracking width at representative location

No 1-3_376_Note the cracking damage

No 1-3_377

No 1-3_378_Note an estimated 1.0mm cracking width at representative location

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No 1-3_379_Note the cracking damage

No 1-3_380

No 1-3_381_Note an estimated 1.0mm cracking width at representative location

No 1-3_382_Note the cracking damage

No 1-3_383_Note the cracking damage

No 1-3_384_Note the cracking damage

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No 1-3_385_Note the cracking damage

No 1-3_386_Note the cracking damage

No 1-3_387_Note an estimated 1.5mm cracking width at representative location

No 1-3_388_Note the cracking damage

No 1-3_389_Note an estimated 1.5mm cracking width at representative location

No 1-3_390

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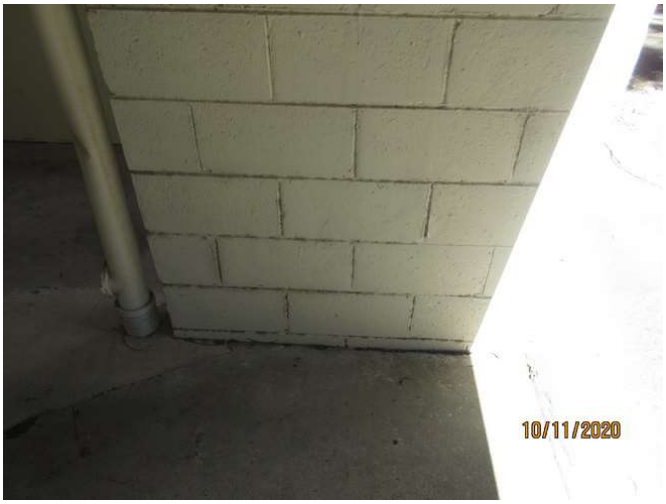
No 1-3_391

No 1-3_392



No 1-3_393

No 1-3_394

No 1-3_395

No 1-3_396

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No 1-3_397

No 1-3_398

No 1-3_399_Note the cracking damage

No 1-3_400_Note the dropping in level

No 1-3_401_60mm dropping in level

No 1-3_402

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No 1-3_403_Note the cracking damage

No 1-3_404

No 1-3_405_Note the cracking damage

No 1-3_406_Note the cracking damage

No 1-3_407_Note the cracking damage

No 1-3_408

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No 1-3_409

No 1-3_410_Note an estimated 3.0mm cracking width at representative location

No 1-3_411_Note the cracking damage

No 1-3_412

No 1-3_413_Note an estimated 0.5mm cracking width at representative location

No 1-3_414

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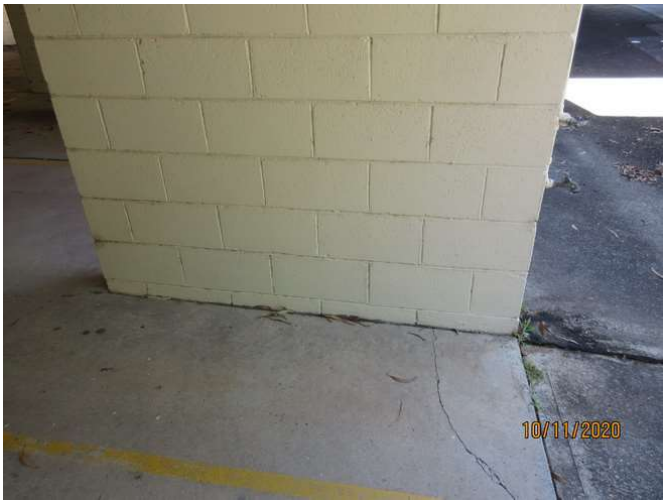

No 1-3_415

No 1-3_416_Note the cracking damage

No 1-3_417

No 1-3_418_Note an estimated 3.5mm cracking width at representative location

No 1-3_419

No 1-3_420_Note the cracking damage

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No 1-3_421_Note the cracking damage

No 1-3_422_Note the cracking damage

No 1-3_423_Note an estimated 1.5mm cracking width at representative location

No 1-3_424_Note the cracking damage

No 1-3_425

No 1-3_426_Note an estimated 1.0mm cracking width at representative location

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No 1-3_427_Note the cracking damage

No 1-3_428_Note the cracking damage

No 1-3_429

No 1-3_430_Note an estimated 2.0mm cracking width at representative location

No 1-3_431

No 1-3_432

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No 1-3_433

No 1-3_434_Note the cracking damage

No 1-3_435

No 1-3_436_Note an estimated 1.5mm cracking width at representative location

No 1-3_437

No 1-3_438

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No 1-3_439

No 1-3_440

No 1-3_441

No 1-3_442

No 1-3_443

No 1-3_444

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No 1-3_445_Note the cracking damage

No 1-3_446

No 1-3_447_Note the cracking damage

No 1-3_448_Note the cracking damage

No 1-3_449_Note the cracking damage

No 1-3_450_Note the cracking damage

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No 1-3_451_Note the cracking damage

No 1-3_452_Note an estimated 1.5mm cracking width at representative location

No 1-3_453

No 1-3_454

No 1-3_455

No 1-3_456

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No 1-3_457_Note the cracking damage

No 1-3_458_Note the cracking damage

No 1-3_459

No 1-3_460_Note an estimated 1.5mm cracking width at representative location

No 1-3_461

No 1-3_462

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No 1-3_463_Note the cracking damage

No 1-3_464

No 1-3_465_Note an estimated 1.0mm cracking width at representative location

No 1-3_466_Note the cracking damage

No 1-3_467_Note the cracking damage

No 1-3_468_Note the cracking damage

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No 1-3_469

No 1-3_470

No 1-3_471

No 1-3_472

No 1-3_473_Note the cracking damage

No 1-3_474

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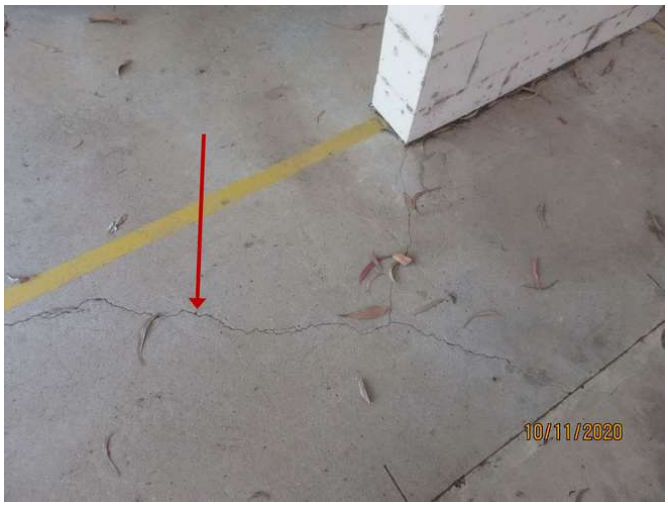
No 1-3_475_Note an estimated 1.0mm cracking width at representative location

No 1-3_476

No 1-3_477

No 1-3_478

No 1-3_479



No 1-3_480_Note the cracking damage

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No 1-3_481

No 1-3_482_Note an estimated 1.0mm cracking width at representative location

No 1-3_483_Note the cracking damage

No 1-3_484_Note the cracking damage

No 1-3_485

No 1-3_486_Note an estimated 1.0mm cracking width at representative location

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No 1-3_487

No 1-3_488_Note the cracking damage

No 1-3_489

No 1-3_490

No 1-3_491_Note the cracking damage

No 1-3_492

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No 1-3_493_Note an estimated 1.5mm cracking width at representative location

No 1-3_494_Note the cracking damage

No 1-3_495_Note the cracking damage

No 1-3_496

No 1-3_497_Note an estimated 2.0mm cracking width at representative location

No 1-3_498

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No 1-3_499

No 1-3_500

No 1-3_501_Note the cracking damage

No 1-3_502_Note the cracking damage

No 1-3_503

No 1-3_504_Note an estimated 1.5mm cracking width at representative location

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No 1-3_505

No 1-3_506

No 1-3_507_Note structual distress to block wall

No 1-3_508_Note CAT-3 structual distress to block wall

No 1-3_509_Note structual distress to block wall

No 1-3_510_Note an estimated 5.5mm cracking width at representative location

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No 1-3_511

No 1-3_512

No 1-3_513

No 1-3_514

No 1-3_515_Note the cracking damage

No 1-3_516_Note the cracking damage

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No 1-3_517_Note an estimated 0.5mm cracking width at representative location

No 1-3_518

No 1-3_519

No 1-3_520

No 1-3_521

No 1-3_522_Note the cracking damage

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No 1-3_523_Note the cracking damage

No 1-3_524_Note the cracking damage

No 1-3_525_Note the cracking damage

No 1-3_526

No 1-3_527_Note an estimated 1.0mm cracking width at representative location

No 1-3_528_Note the cracking damage

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No 1-3_529_Note the cracking damage

No 1-3_530_Note the cracking damage

No 1-3_531_Note an estimated 1.0mm cracking width at representative location

No 1-3_532_Note the cracking damage

No 1-3_533_Note the cracking damage

No 1-3_534

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No 1-3_535

No 1-3_536_Note the cracking damage

No 1-3_537_Note the cracking damage

No 1-3_538_Note an estimated 1.0mm cracking width at representative location

No 1-3_539

No 1-3_540_Note the cracking damage

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No 1-3_541

No 1-3_542

No 1-3_543_Note the cracking damage

No 1-3_544_Note the cracking damage

No 1-3_545_Note an estimated 0.75mm cracking width at representative location

No 1-3_546

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No 1-3_547_Note the cracking damage

No 1-3_548

No 1-3_549

No 1-3_550_Note the cracking damage

No 1-3_551_Note the cracking damage

No 1-3_552_Note the cracking damage

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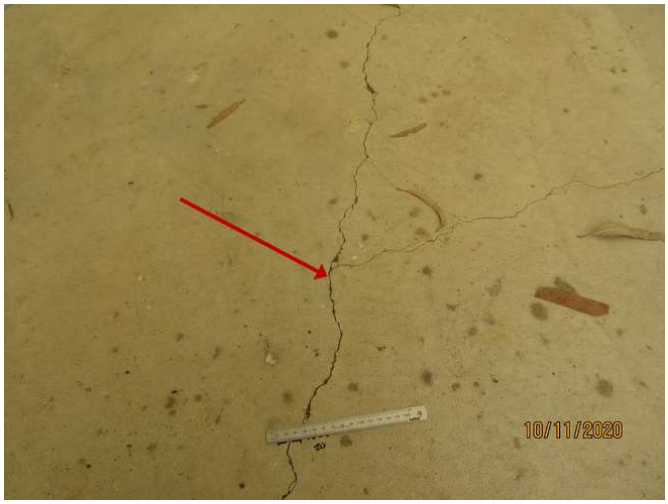
No 1-3_553_Note the cracking damage

No 1-3_554_Note an estimated 1.0mm cracking width at representative location

No 1-3_555_Note the cracking damage



No 1-3_556_Note the cracking damage

No 1-3_557_Note the cracking damage

No 1-3_558_Note an estimated 1.0mm cracking width at representative location

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No 1-3_559_Note the cracking damage

No 1-3_560

No 1-3_561_Note an estimated 2.0mm cracking width at representative location

No 1-3_562

No 1-3_563_Note the cracking damage

No 1-3_564

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No 1-3_565

No 1-3_566

No 1-3_567_Note the cracking damage

No 1-3_568

No 1-3_569_Note the cracking damage

No 1-3_570

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No 1-3_571

No 1-3_572_Note the cracking damage

No 1-3_573

No 1-3_574_Note an estimated 1.0mm cracking width at representative location

No 1-3_575

No 1-3_576

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No 1-3_577

No 1-3_578

No 1-3_579

No 1-3_580

No 1-3_581

No 1-3_582

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No 1-3_583

No 1-3_584

No 1-3_585

No 1-3_586

No 1-3_587

No 1-3_588

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No 1-3_589

No 1-3_590_Note the cracking damage

No 1-3_591

No 1-3_592_Note an estimated 0.5mm cracking width at representative location

No 1-3_593

No 1-3_594

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No 1-3_595

No 1-3_596

No 1-3_597

No 1-3_598

No 1-3_599

No 1-3_600

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No 1-3_601

No 1-3_602

No 1-3_603

No 1-3_604

No 1-3_605

No 1-3_606

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No 1-3_607

No 1-3_608_Note impact to metal railing fence

No 1-3_609

No 1-3_610

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No 155_001

No 155_002

No 155_003

No 155_004

No 155_005

No 155_006

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No 155_007

No 155_008

No 155_009

No 155_010

No 155_011

No 155_012

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No 155_013

No 155_014

No 155_015

No 155_016

No 155_017

No 155_018

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No 155_019

No 155_020

No 155_021

No 155_022

No 155_023

No 155_024

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No 155_025

No 155_026

No 155_027

No 155_028

No 155_029

No 155_030_Note the opening to staircase edge

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No 155_031_Note the opening to staircase edge

No 155_032_Note the cracking damage

No 155_033

No 155_034_Note an estimated 0.5mm cracking width at representative location

No 155_035_Spalling damage to concrete retaining wall

No 155_036_Spalling damage to concrete retaining wall

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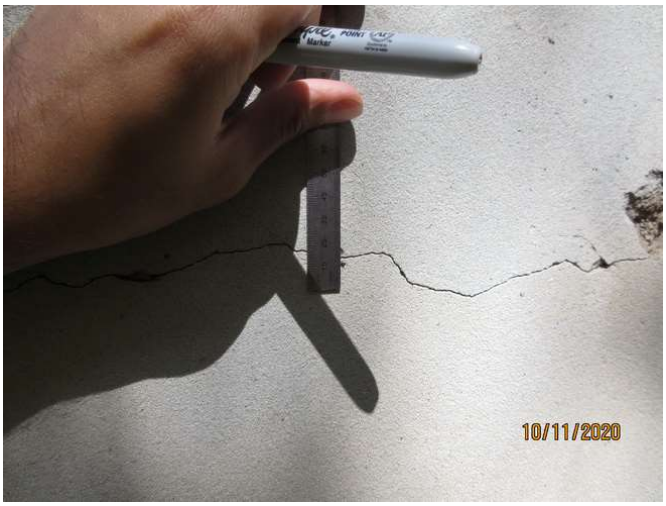
No 155_037

No 155_038

No 155_039_Note the cracking damage

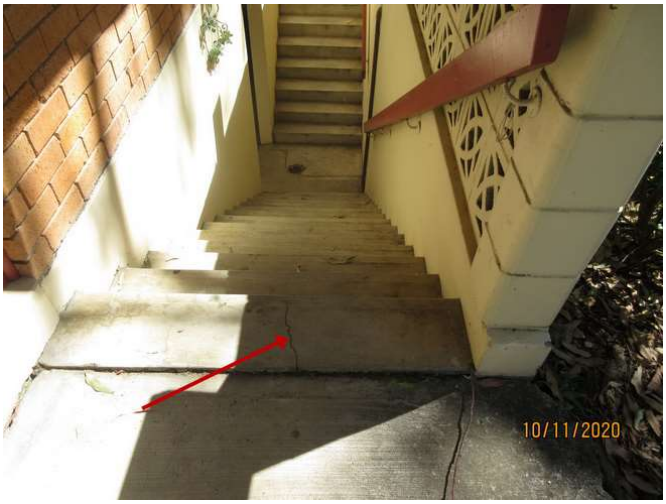
No 155_040_Note the cracking damage



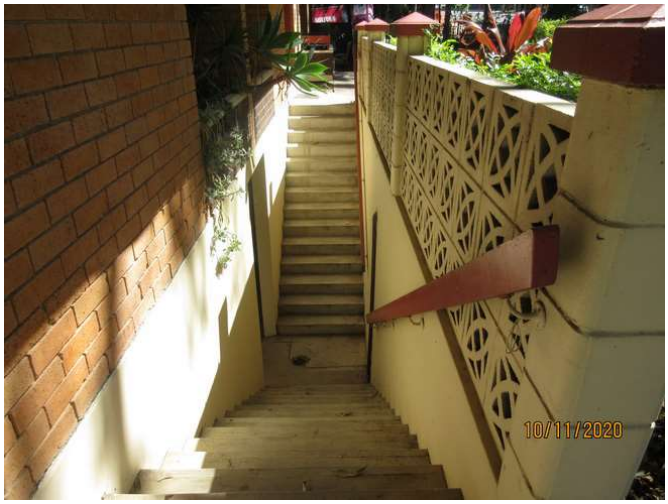
No 155_041

No 155_042

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com



No 155_043_Note the cracking damage



No 155_044

No 155_045_Note the cracking damage

No 155_046_Note the cracking damage

No 155_047

No 155_048_Note the cracking damage

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
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No 155_049

No 155_050

No 155_051

No 155_052

No 155_053

No 155_054

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No 155_055

No 155_056

No 155_057

No 155_058

No 155_059

No 155_060

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No 155_061

No 155_062

No 155_063

No 155_064

No 155_065

No 155_066

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
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No 155_067

No 155_068

No 155_069

No 155_070

No 155_071

No 155_072

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
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No 155_073

No 155_074

No 155_075

No 155_076

No 155_077

No 155_078

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No 155_079

No 155_080_Subsidence along underground drain

No 155_081_Subsidence along underground drain

No 155_082_Subsidence along underground drain

No 155_083_Note cracking damage

No 155_084

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No 155_085

No 155_086

No 155_087

No 155_088

No 155_089

No 155_090

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No 155_091

No 155_092_Distressed brick wall

No 155_093

No 155_094

No 155_095

No 155_096_Note an estimated 28.0mm opening on top

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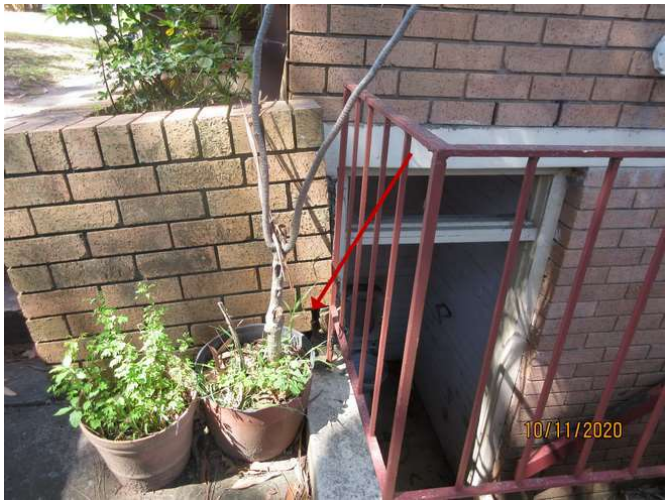
Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com

No 155_097

No 155_098

No 155_099_Distressed brick wall



No 155_100_Distressed brick wall

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No1_001

No1_002

No1_003_Note evident cracking to concrete driveway

No1_004_Note evident cracking to concrete driveway

No1_005_Note evident cracking to concrete driveway

No1_006_Note evident cracking to concrete driveway

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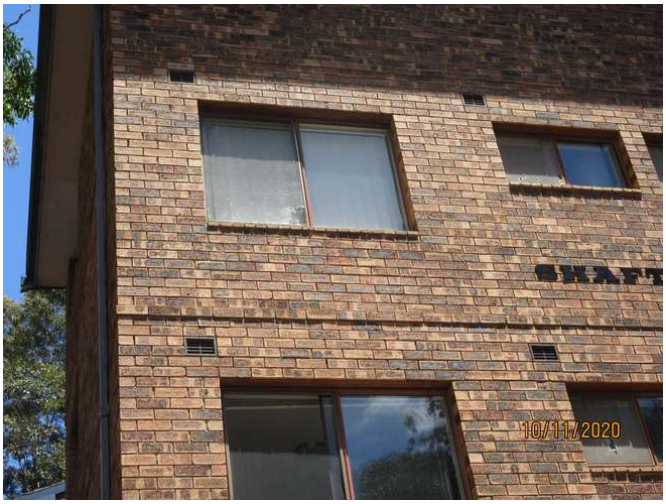
No1_007

No1_008_Note slight concrete spalling



No1_009

No1_010_Note slight concrete spalling

No1_011_Note slight concrete spalling

No1_012_Note slight concrete spalling

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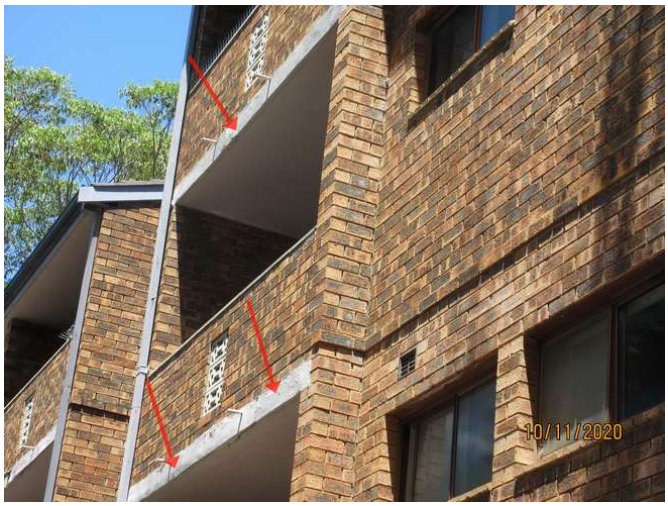
No1_013_Note slight concrete spalling

No1_014

No1_015

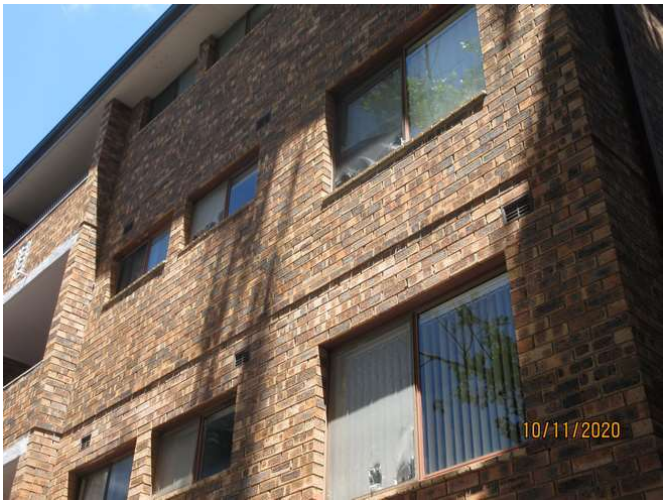
No1_016

No1_017

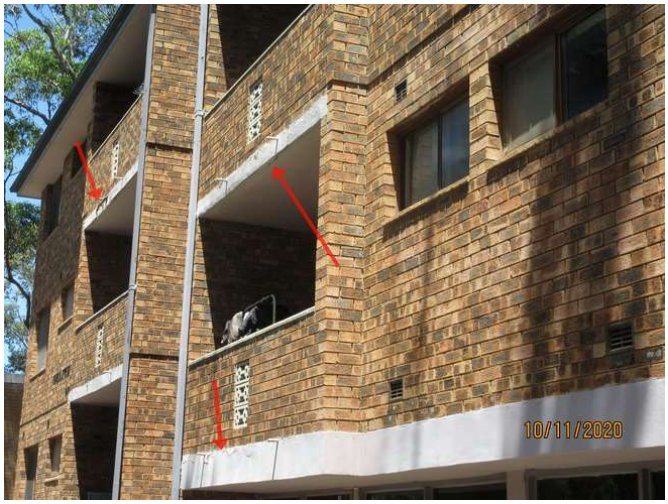


No1_018_Note slight concrete spalling

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com



No1_019

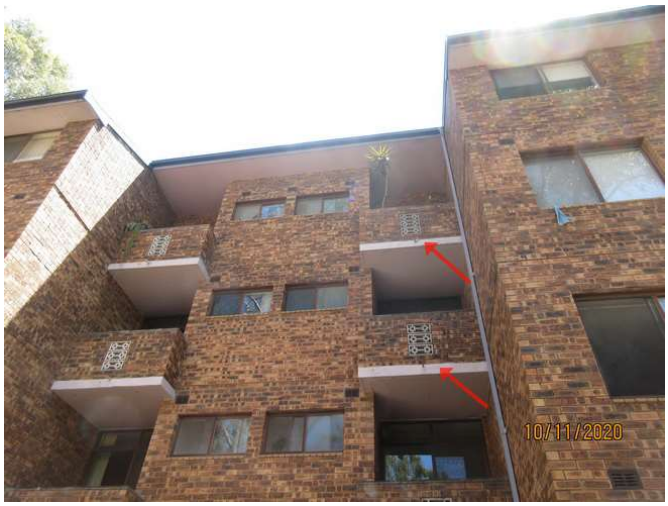


No1_020_Note slight concrete spalling

No1_021

No1_022

No1_023



No1_024_Note slight concrete spalling

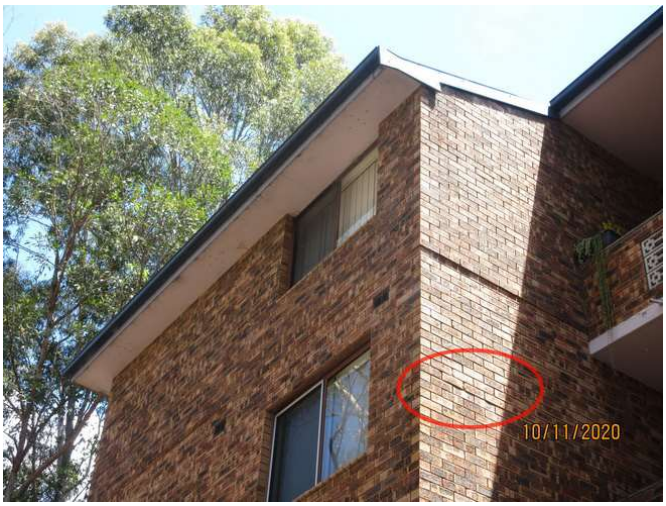
GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com

No1_025

No1_026

No1_027

No1_028



No1_029_Note protruding wall bricks

No1_030

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
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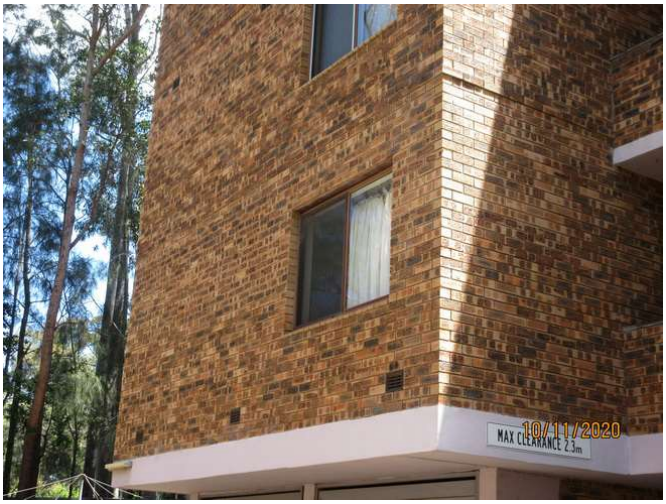
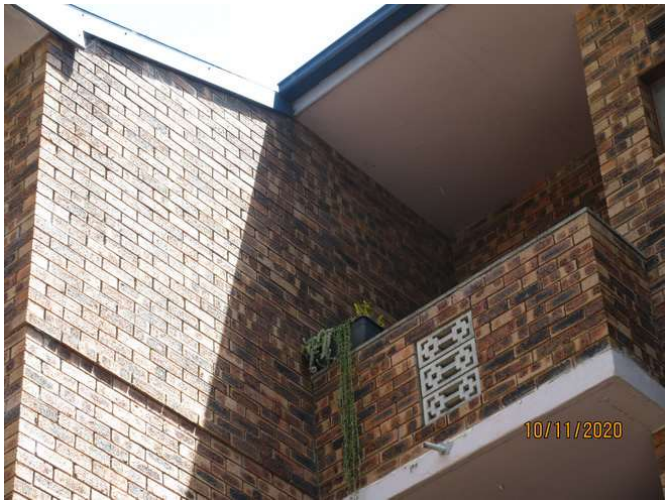
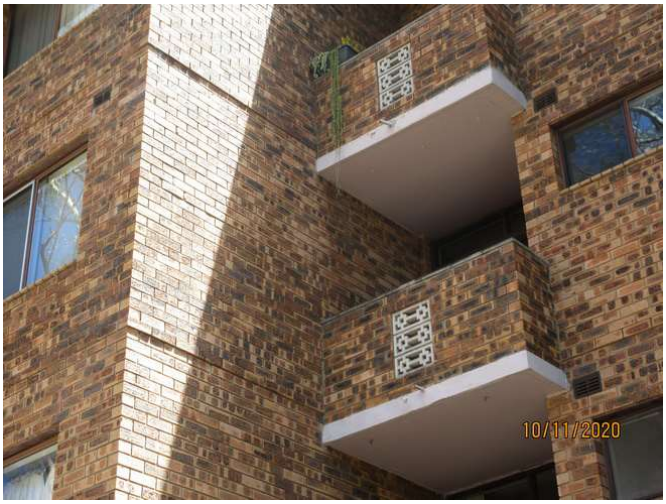


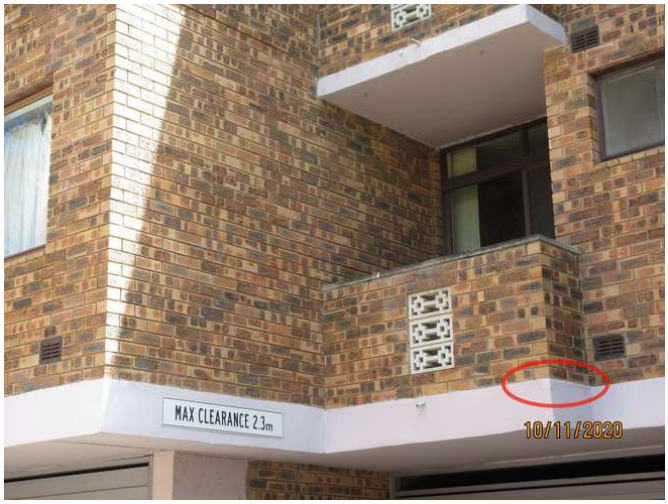
No1_031



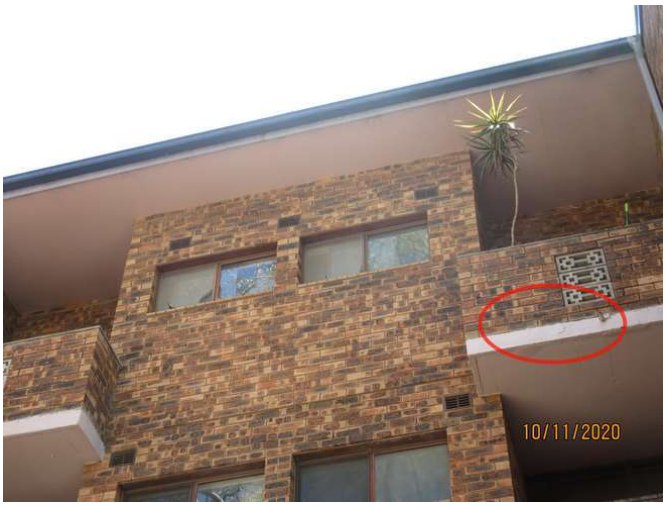
No1_032



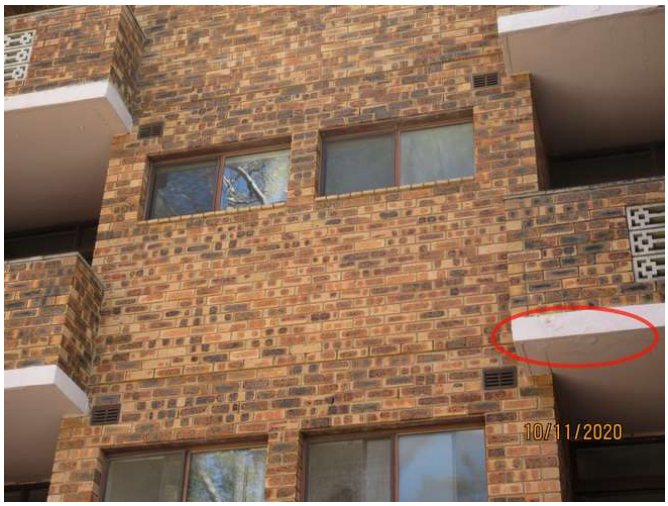
No1_033



No1_034_Note slight concrete spalling



No1_035_Note slight concrete spalling



No1_036_Note slight concrete spalling

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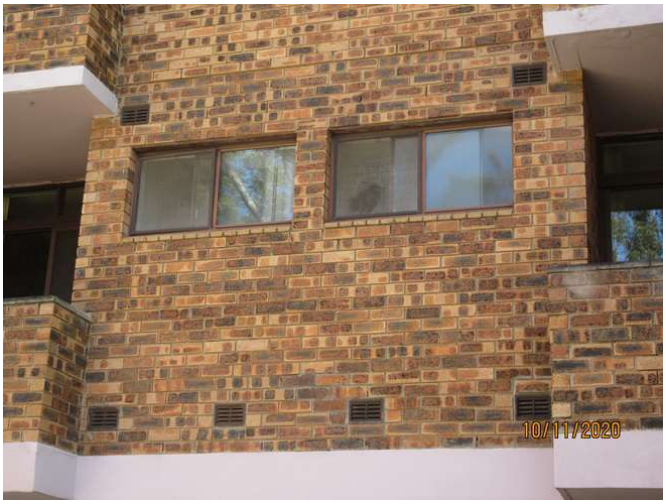
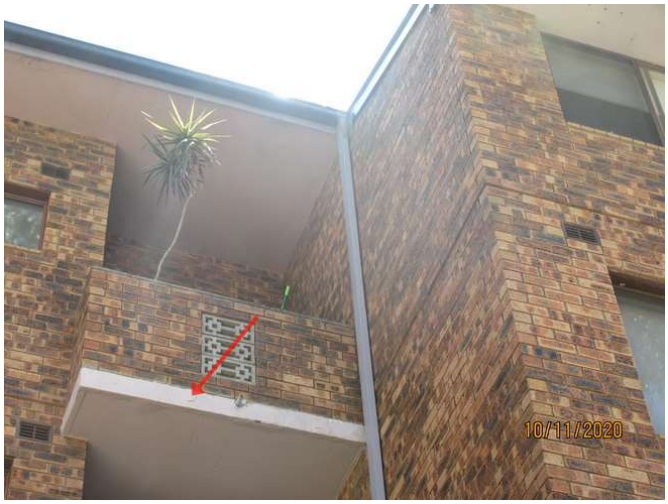
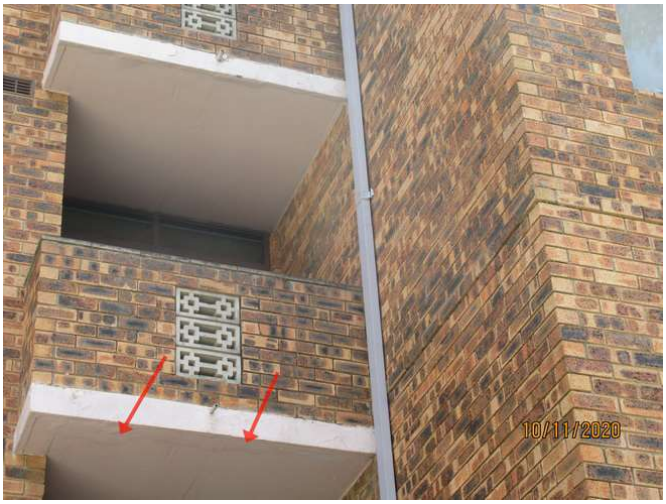


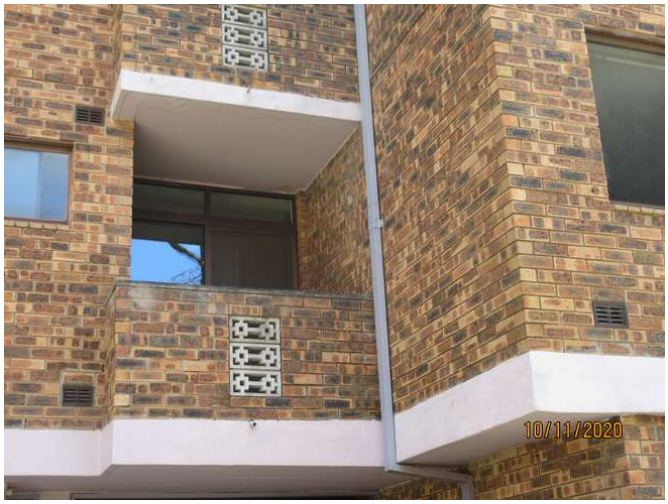
No1_037



No1_038_Note slight concrete spalling

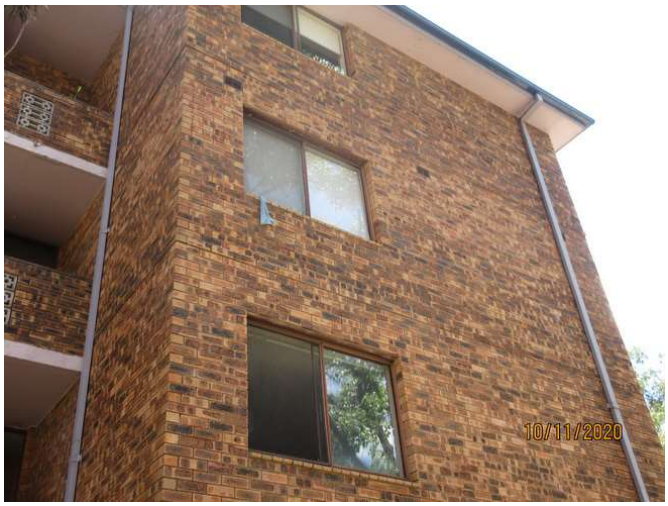


No1_039_Note slight concrete spalling



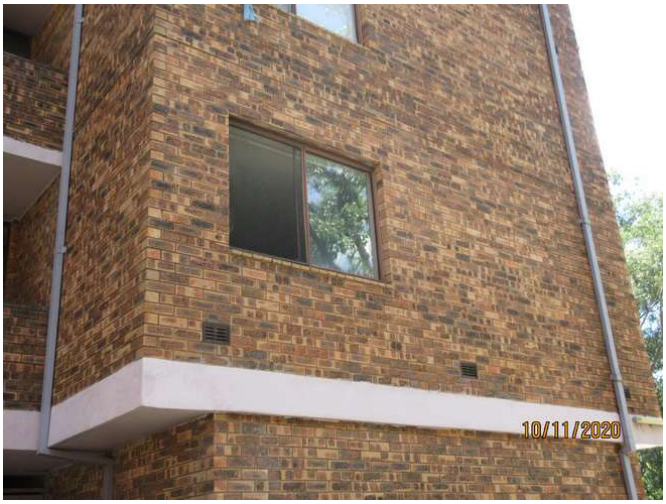
No1_040

No1_041



No1_042

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com



No1_043

No1_044

No1_045_Note evident cracking to concrete driveway

No1_046_Note evident cracking to concrete driveway

No1_047_Note evident cracking to concrete driveway

No1_048_Note evident cracking to concrete driveway

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No1_049

No1_050

No1_051_Note slight concrete spalling

No1_052_Note slight concrete spalling

No1_053

No1_054

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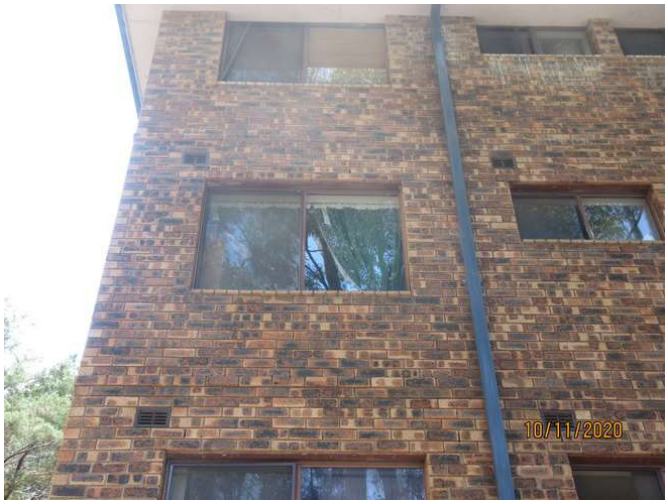
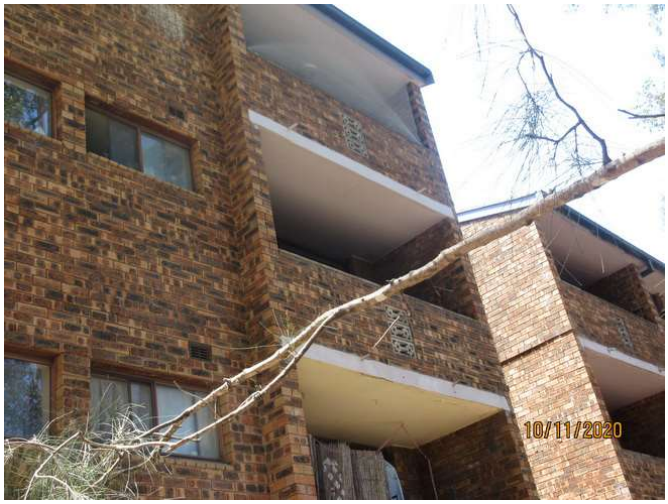
No1_055



No1_056

No1_057



No1_058

No1_059

No1_060

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No1_061

No1_062

No1_063

No1_064

No1_065_Note slight concrete spalling

No1_066

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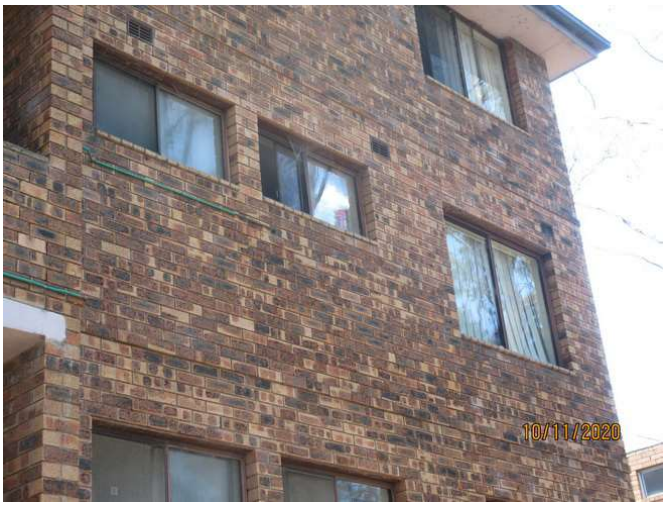
No1_067_Note slight concrete spalling

No1_068

No1_069

No1_070



No1_071

No1_072_Note slight concrete spalling

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No1_073

No1_074

No1_075

No1_076

No1_077

No1_078

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No1_079

No1_080

No1_081

No1_082

No1_083

No1_084

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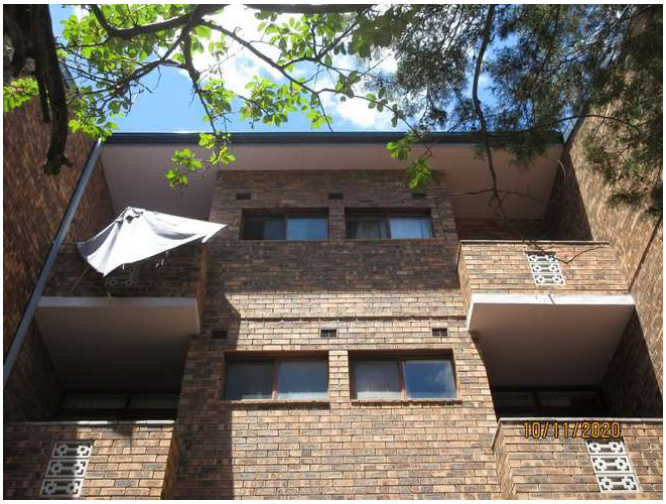
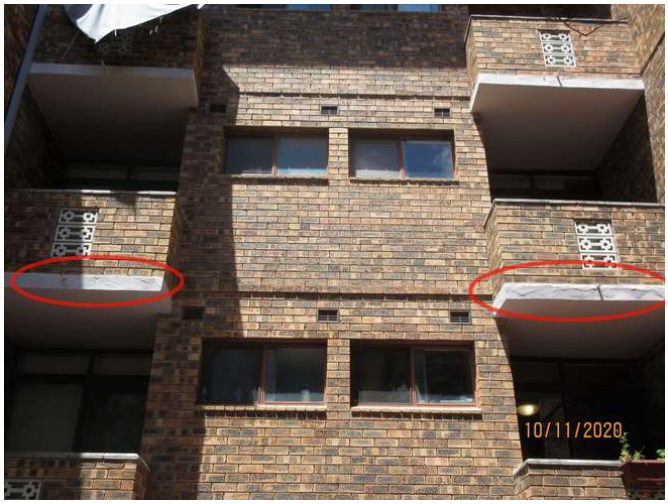
Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com

No1_085_Note slight concrete spalling

No1_086



No1_087



No1_088_Note slight concrete spalling

No1_089_Note slight concrete spalling

No1_090

GreenPlus Property Australia **ABN** 109 404 051 82-84 Dickson Avenue Artarmon, NSW 2064
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No1_091

No1_092

No1_093

No1_094_Note dropping in levelling to the eastern driveway

No1_095_Note evident cracking to concrete driveway

No1_096

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No1_097

No1_098

No1_099

No1_100

No1_101

No1_102

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No1_103

No1_104

No1_105

No1_106

No1_107

No1_108

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No1_109

No1_110

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No 3_001

No 3_002

No 3_003_Note distressed wall

No 3_004_Note distressed wall

No 3_005

No 3_006_Note an estimated 13.0mm cracking width on top

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No 3_007_Note an estimated 59.0mm displacement on top

No 3_008_Note distressed wall

No 3_009

No 3_010

No 3_011_Note distressed wall

No 3_012_Note distressed wall

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No 3_013_Note distressed wall

No 3_014_Note the gap

No 3_015

No 3_016_Note an estimated 15mm width of opening

No 3_017_Note distressed wall

No 3_018

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No 3_019_Note distressed wall

No 3_020_Note an estimated 28.0mm width of opening

No 3_021

No 3_022

No 3_023

No 3_024

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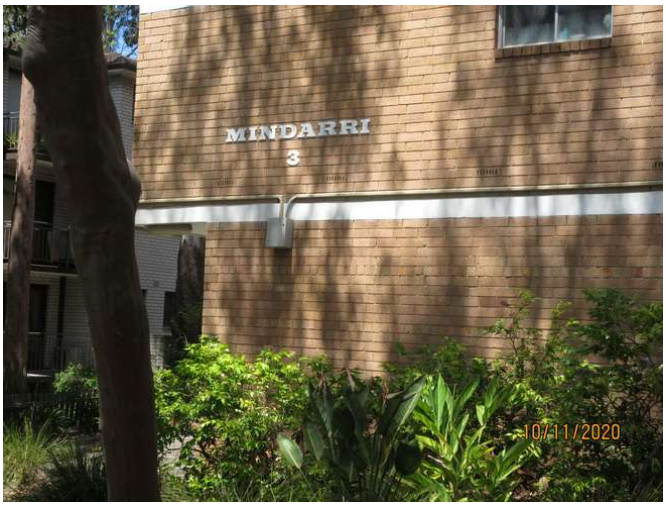
No 3_025

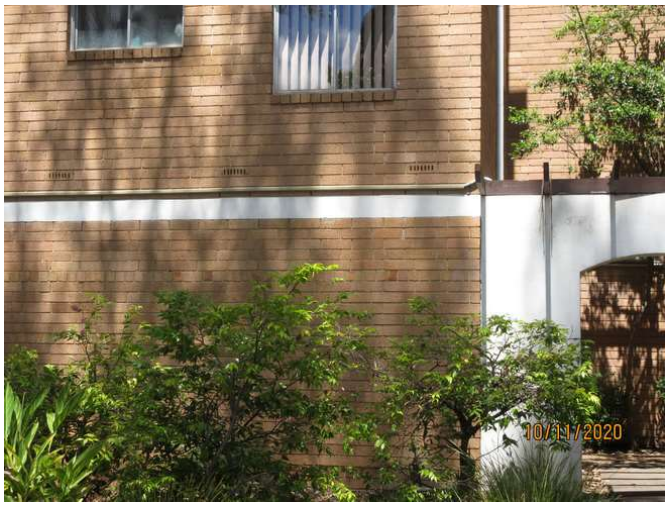
No 3_026

No 3_027

No 3_028



No 3_029



No 3_030

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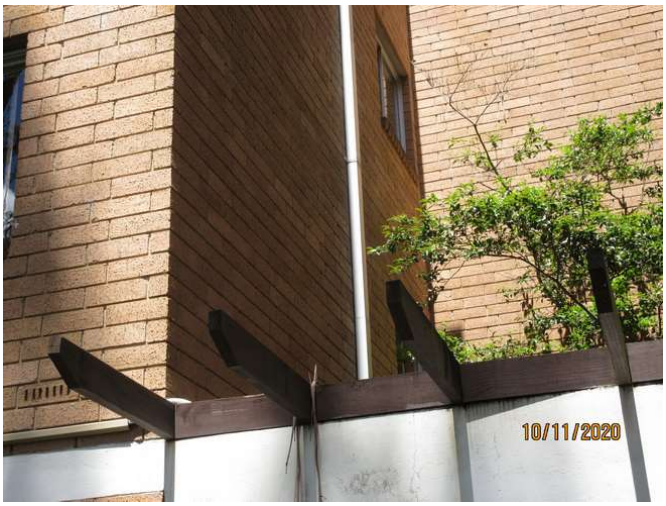
No 3_031

No 3_032

No 3_033

No 3_034



No 3_035

No 3_036

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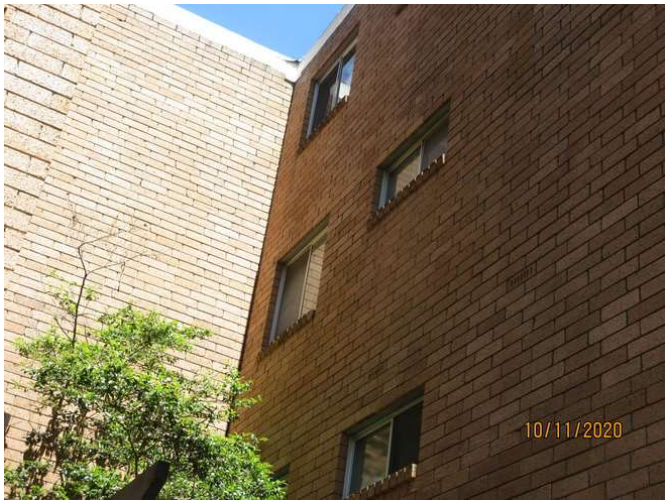
No 3_037

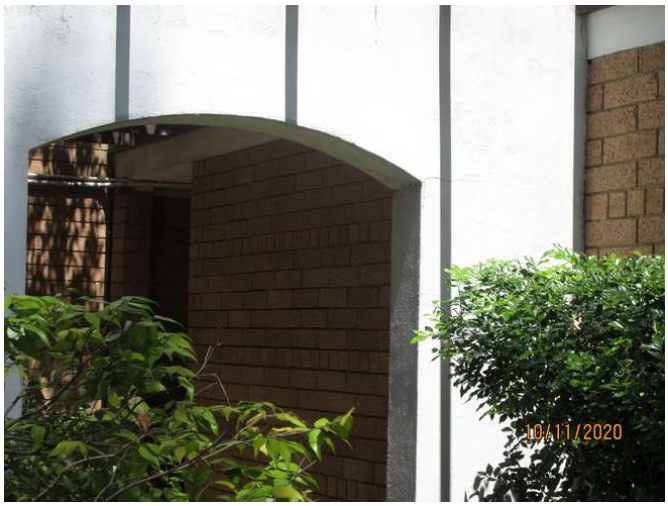


No 3_038

No 3_039

No 3_040

No 3_041_Note the cracking damage



No 3_042

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No 3_043

No 3_044

No 3_045

No 3_046

No 3_047

No 3_048

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No 3_049

No 3_050

No 3_051

No 3_052

No 3_053

No 3_054

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No 3_055

No 3_056

No 3_057

No 3_058

No 3_059

No 3_060

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No 3_061

No 3_062

No 3_063

No 3_064_Note the cracking damage

No 3_065_Note the cracking damage

No 3_066

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No 3_067

No 3_068_Note the cracking damage

No 3_069

No 3_070

No 3_071

No 3_072

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No 3_073

No 3_074

No 3_075

No 3_076

No 3_077

No 3_078

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No 3_079

No 3_080

No 3_081

No 3_082

No 3_083

No 3_084

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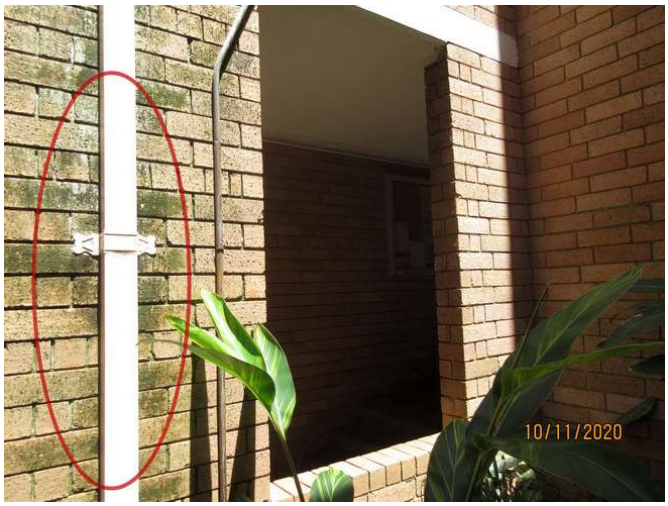
No 3_085

No 3_086

No 3_087_Note the sign of overflow roof water

No 3_088_Note the sign of overflow roof water

No 3_089_Note the sign of overflow roof water



No 3_090_Note the sign of overflow roof water

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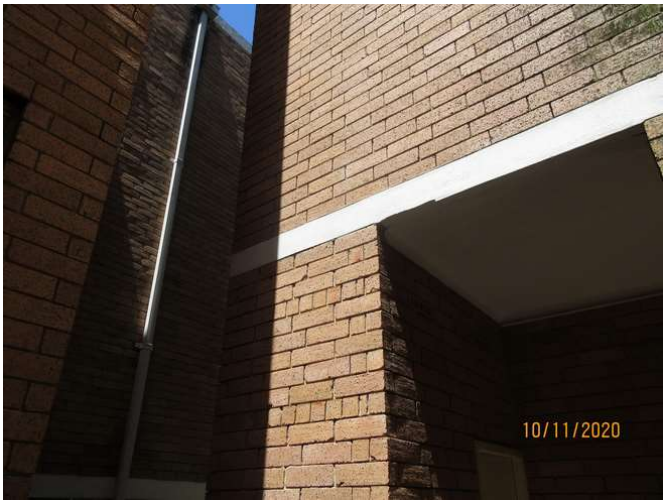

No 3_091

No 3_092

No 3_093

No 3_094

No 3_095

No 3_096

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No 3_097

No 3_098_Note the cracking damage

No 3_099_Note the cracking damage

No 3_100

No 3_101

No 3_102

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No 3_103

No 3_104

No 3_105

No 3_106

No 3_107

No 3_108

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No 3_109

No 3_110

No 3_111

No 3_112

No 3_113

No 3_114

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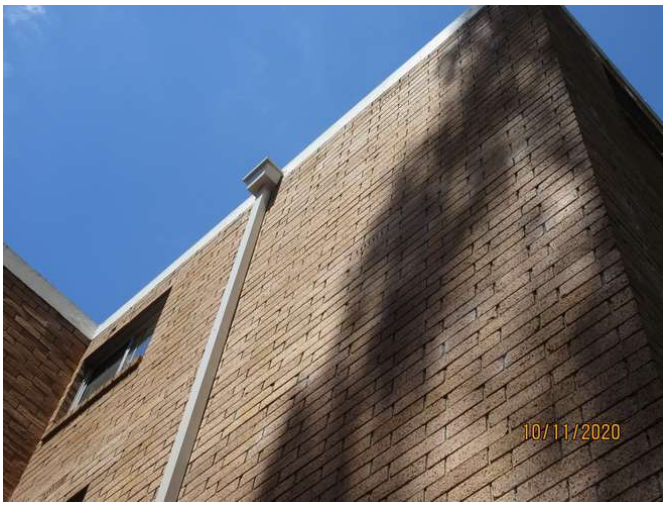
No 3_115

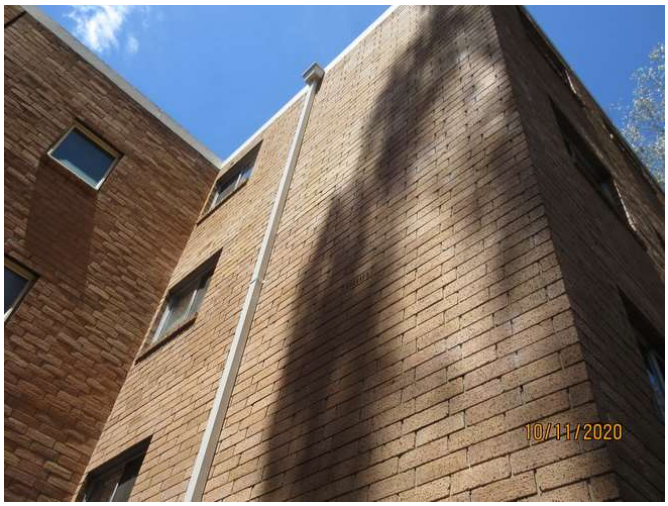
No 3_116

No 3_117

No 3_118



No 3_119



No 3_120

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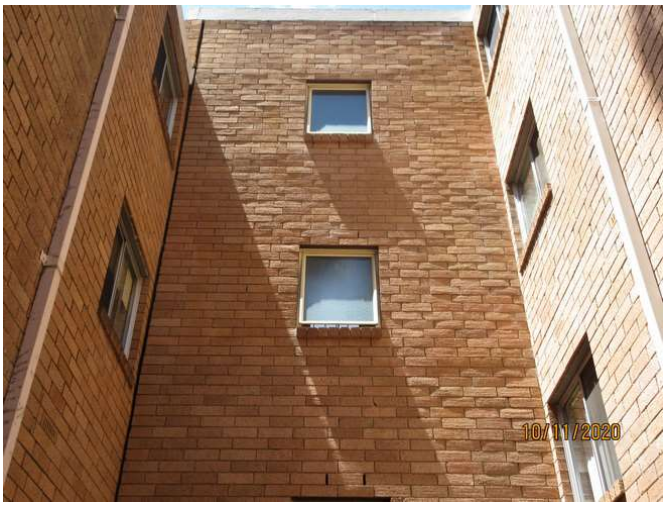
No 3_121

No 3_122_Note the cracking damage

No 3_123_Note the cracking damage

No 3_124



No 3_125

No 3_126

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No 3_127

No 3_128_Note the sign of overflow roof water

No 3_129

No 3_130

No 3_131

No 3_132

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No 3_133

No 3_134_Note the cracking damage

No 3_135_Note the cracking damage

No 3_136

No 3_137

No 3_138

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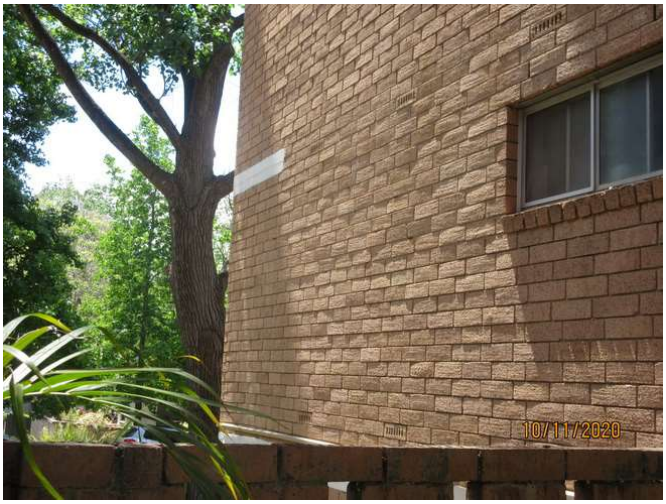
No 3_139

No 3_140



No 3_141

No 3_142

No 3_143

No 3_144

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No 3_145

No 3_146

No 3_147

No 3_148

No 3_149

No 3_150

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No 3_151

No 3_152

No 3_153

No 3_154

No 3_155

No 3_156

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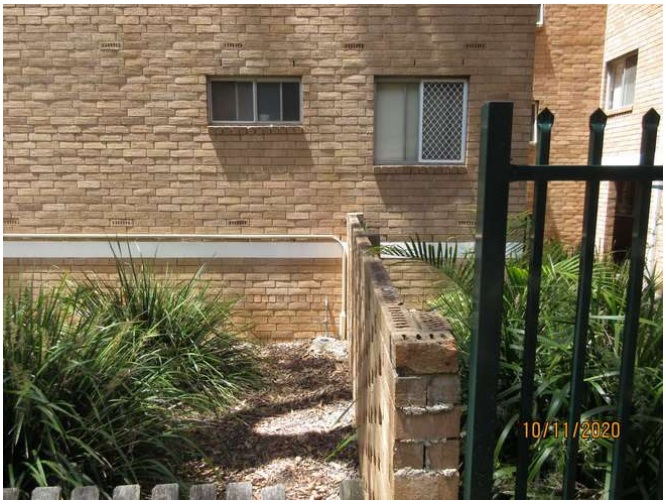

No 3_157

No 3_158

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No 5_001

No 5_002

No 5_003

No 5_004

No 5_005

No 5_006

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No 5_007

No 5_008

No 5_009

No 5_010

No 5_011

No 5_012

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No 5_013

No 5_014

No 5_015

No 5_016

No 5_017

No 5_018

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No 5_019

No 5_020_Note mould build up and dampness damage

No 5_021_Note mould build up and dampness damage

No 5_022

No 5_023

No 5_024_Note re-addressing to course joints

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No 5_025_Note re-addressing to course joints

No 5_026_Note re-addressing to course joints

No 5_027_Note re-addressing to course joints

No 5_028

No 5_029

No 5_030

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No 5_031

No 5_032_Note mould build up and dampness damage

No 5_033

No 5_034

No 5_035

No 5_036

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No 5_037

No 5_038

No 5_039

No 5_040_Note water damage

No 5_041

No 5_042

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No 5_043_Note water damage

No 5_044_Note water damage

No 5_045

No 5_046

No 5_047

No 5_048_Note water damage

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No 5_049

No 5_050

No 5_051

No 5_052

No 5_053

No 5_054

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No 5_055

No 5_056

No 5_057

No 5_058

No 5_059

No 5_060

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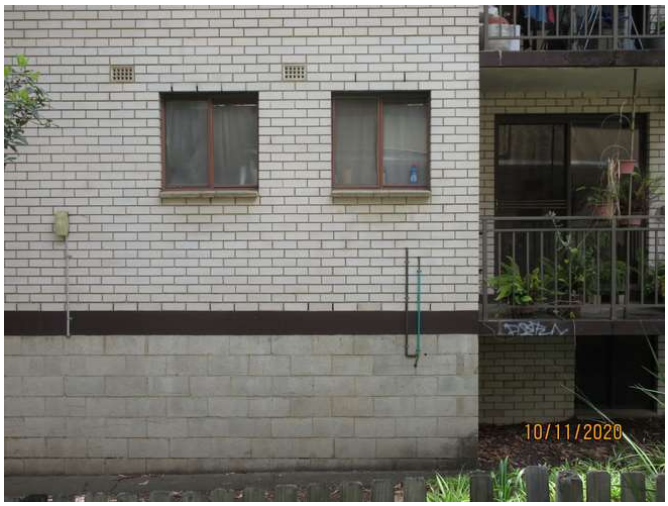
No 5_061

No 5_062

No 5_063

No 5_064

No 5_065



No 5_066

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No 5_067

No 5_068

No 5_069

No 5_070

No 5_071

No 5_072

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No 5_073

No 5_074

No 5_075

No 5_076

No 5_077

No 5_078

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No 5_079

No 5_080

No 5_081

No 5_082

No 5_083

No 5_084

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No 5_085_Note distressed wall

No 5_086

No 5_087

No 5_088_Note dislodged downpipe

No 5_089

No 5_090

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No 5_091

No 5_092_Note loose bracket and impact damage

No 5_093

No 5_094

No 5_095

No 5_096

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No 5_097

No 5_098_Note groudn water leakage

No 5_099

No 5_100

No 5_101

No 5_102

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No 5_103_Note distressed retaining boundary wall

No 5_104

No 5_105

No 5_106

No 5_107_Note the cracking damage

No 5_108_Note the cracking damage

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No 5_109

No 5_110_Note an estimated 3.0mm cracking width at representative location

No 5_111_Note distressed wall

No 5_112

No 5_113

No 5_114

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No 5_115_Note the cracking damage

No 5_116

No 5_117

No 5_118_Note an estimated 2.0mm cracking width at representative location

No 5_119_Note cracking generally noted to concrete slab

No 5_120

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No 5_121_Note cracking generally noted to concrete slab

No 5_122

No 5_123

No 5_124_Note an estimated 1.0mm cracking width at representative location

No 5_125_Note cracking generally noted to concrete slab

No 5_126_Note an estimated 2.0mm cracking width at representative location

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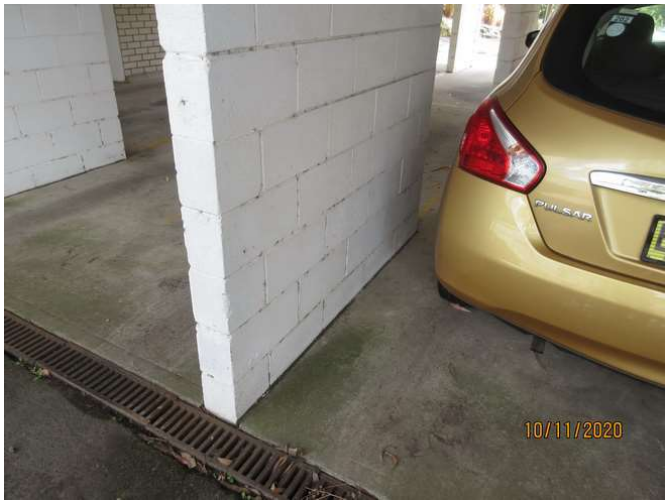
No 5_127

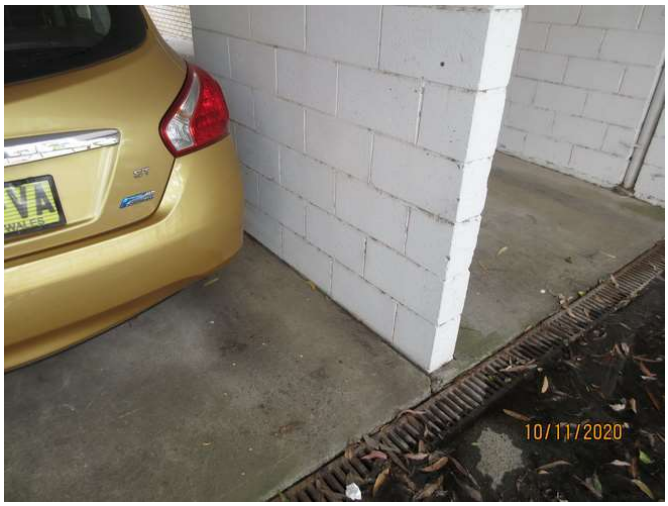
No 5_128

No 5_129



No 5_130

No 5_131



No 5_132

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No 5_133

No 5_134

No 5_135

No 5_136

No 5_137

No 5_138

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No 5_139

No 5_140

No 5_141

No 5_142

No 5_143

No 5_144_Note an estimated 2.0mm cracking width at representative location

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No 5_145

No 5_146

No 5_147

No 5_148

No 5_149

No 5_150

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No 5_151_Note an estimated 1.5mm cracking width at representative location

No 5_152

No 5_153_Note an estimated 1.0mm cracking width at representative location

No 5_154

No 5_155

No 5_156

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No 5_157

No 5_158

No 5_159_Note an estimated 2.0mm cracking width at representative location

No 5_160

No 5_161_Note an estimated 1.5mm cracking width at representative location

No 5_162

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No 5_163_Note an estimated 1.0mm cracking width at representative location

No 5_164

No 5_165_Note an estimated 1.0mm cracking width at representative location

No 5_166

No 5_167_Note an estimated 1.5mm cracking width at representative location

No 5_168

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No 5_169

No 5_170

No 5_171

No 5_172

No 5_173_Note an estimated 1.0mm cracking width at representative location

No 5_174

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No 5_175

No 5_176

No 5_177

No 5_178

No 5_179_Note an estimated 1.5mm cracking width at representative location

No 5_180

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Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com

No 5_181

No 5_182_Note an estimated 1.5mm cracking width at representative location

No 5_183

No 5_184

No 5_185

No 5_186

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No 5_187

No 5_188

No 5_189

No 5_190_Note an estimated 1.0mm cracking width at representative location

No 5_191

No 5_192

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No 5_193

No 5_194_Note an estimated 2.0mm cracking width at representative location

No 5_195

No 5_196

No 5_197_Note an estimated 1.5mm cracking width at representative location

No 5_198

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No 5_199

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No 5_202

No 5_203_Note an estimated 2.0mm cracking width at representative location

No 5_204

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No 5_205_Note an estimated 1.5mm cracking width at representative location

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No 5_211

No 5_212

No 5_213_Note an estimated 2.0mm cracking width at representative location

No 5_214

No 5_215

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No 5_217_Note an estimated 1.5mm cracking width at representative location

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No 5_223

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No 5_226_Note an estimated 1.0mm cracking width at representative location

No 5_227

No 5_228

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No 5_230

No 5_231_Note an estimated 1.5mm cracking width at representative location

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No 5_235

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No 5_240_Note an estimated 1.5mm cracking width at representative location

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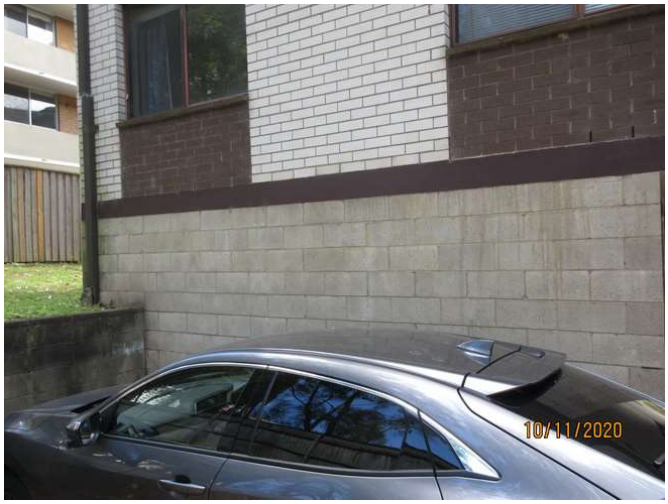

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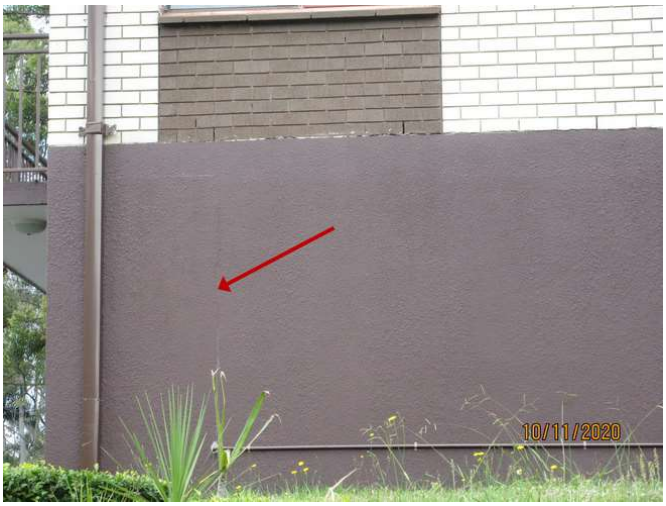

No 7_011_Note cracking damage

No 7_012

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No 7_013_Note cracking damage

No 7_014

No 7_015

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Phone: +61 2 9922 1777 **Fax:** +61 2 9922 1010 **Web:** www.eesigroup.com

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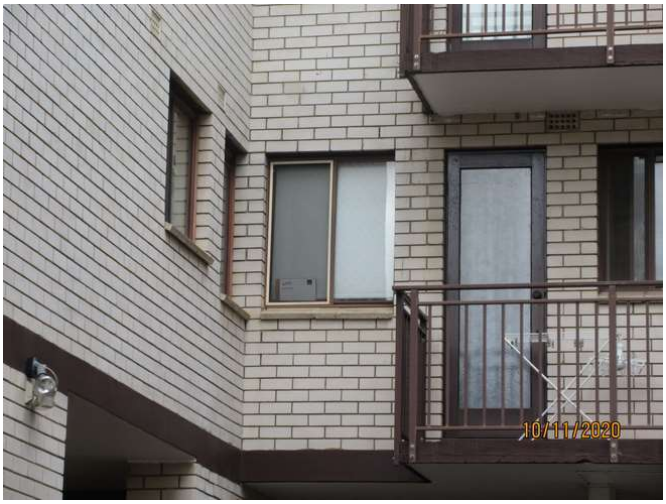
No 7_020_Note stepped cracking to wall



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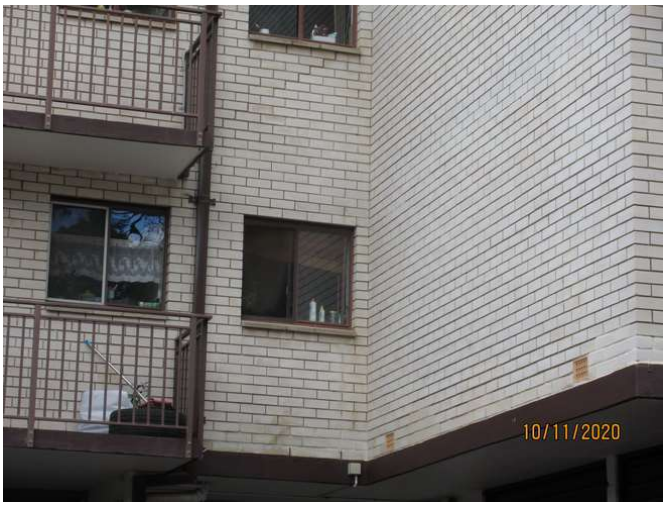

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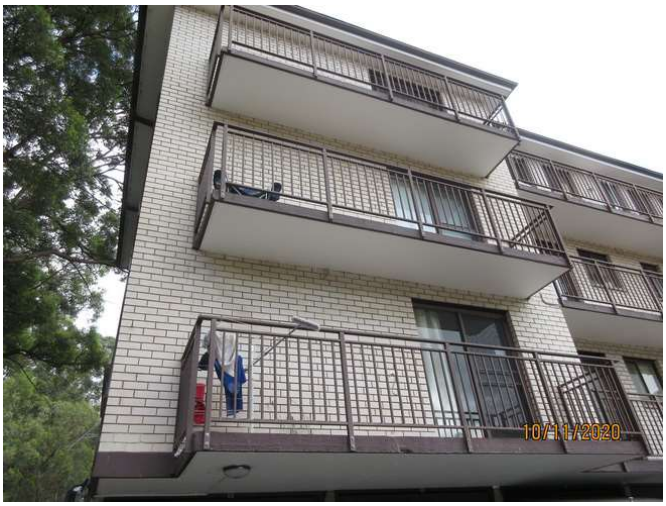

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No 7_055

No 7_056_Note elevation dropping next to deep excavation

No 7_057

No 7_058

No 7_059

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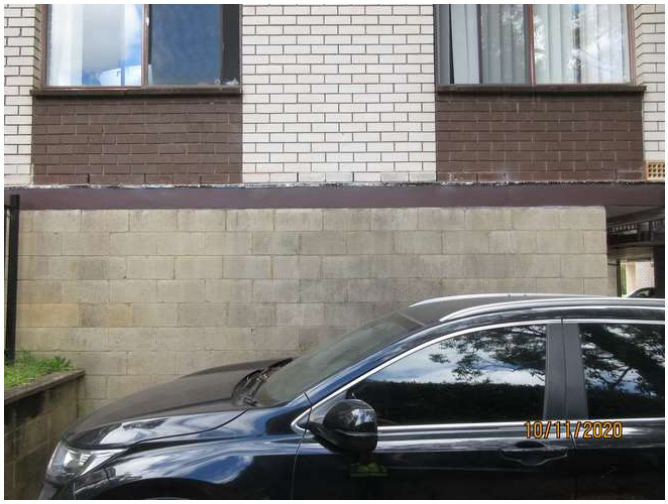

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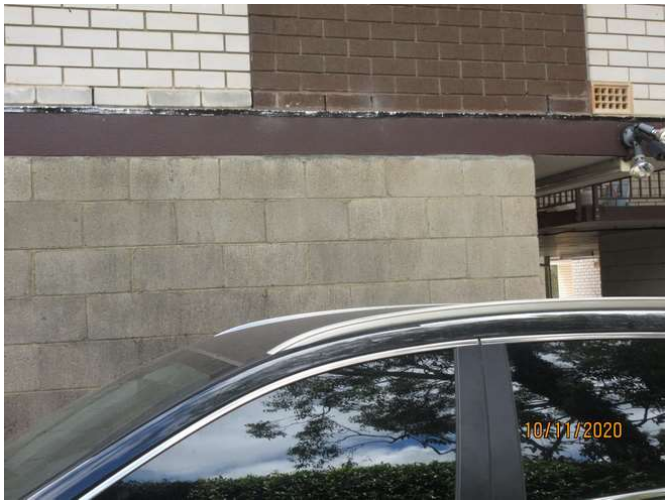

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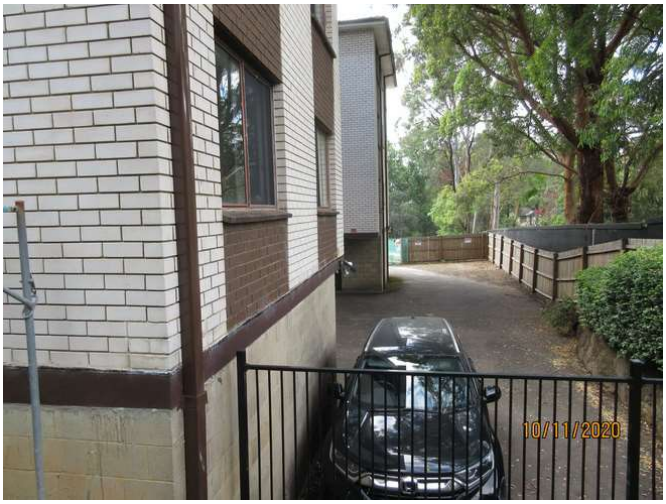

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No 7_145

No 7_146

No 7_147

No 7_148_Note distressed road surface

No 7_149_Note distressed road surface

No 7_150_Note distressed road surface

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No 7_151_Note distressed road surface

No 7_152

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No 7_157

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No 7_163

No 7_164

No 7_165_Cracking generally noted to concrete slab

No 7_166_Cracking generally noted to concrete slab

No 7_167

No 7_168_Note an estimated 1.5mm cracking width at representative location

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No 7_169

No 7_170

No 7_171_Note an estimated 1.5mm cracking width at representative location

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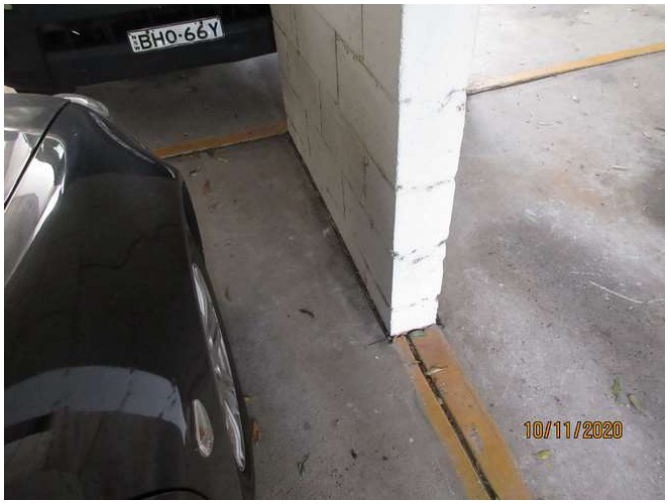

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No 7_205_Note an estimated 2.0mm cracking width at representative location

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No 7_208_Note an estimated 1.5mm cracking width at representative location

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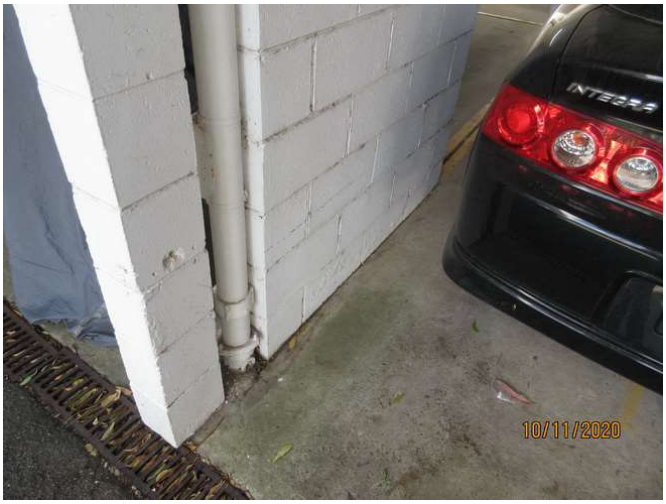

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No 7_218

No 7_219

No 7_220

No 7_221_Note an estimated 0.5mm cracking width at representative location

No 7_222

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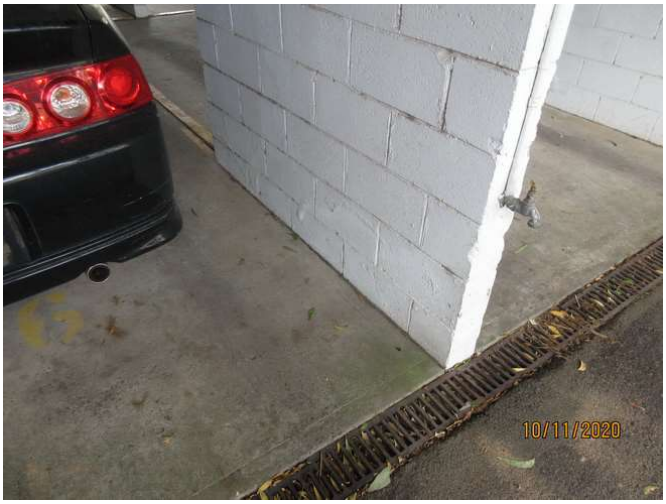

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No 7_228_Note an estimated 1.0mm cracking width at representative location

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GreenPlus Property Services
Property Division of Environmental Earth Sciences

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		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

Table of Contents

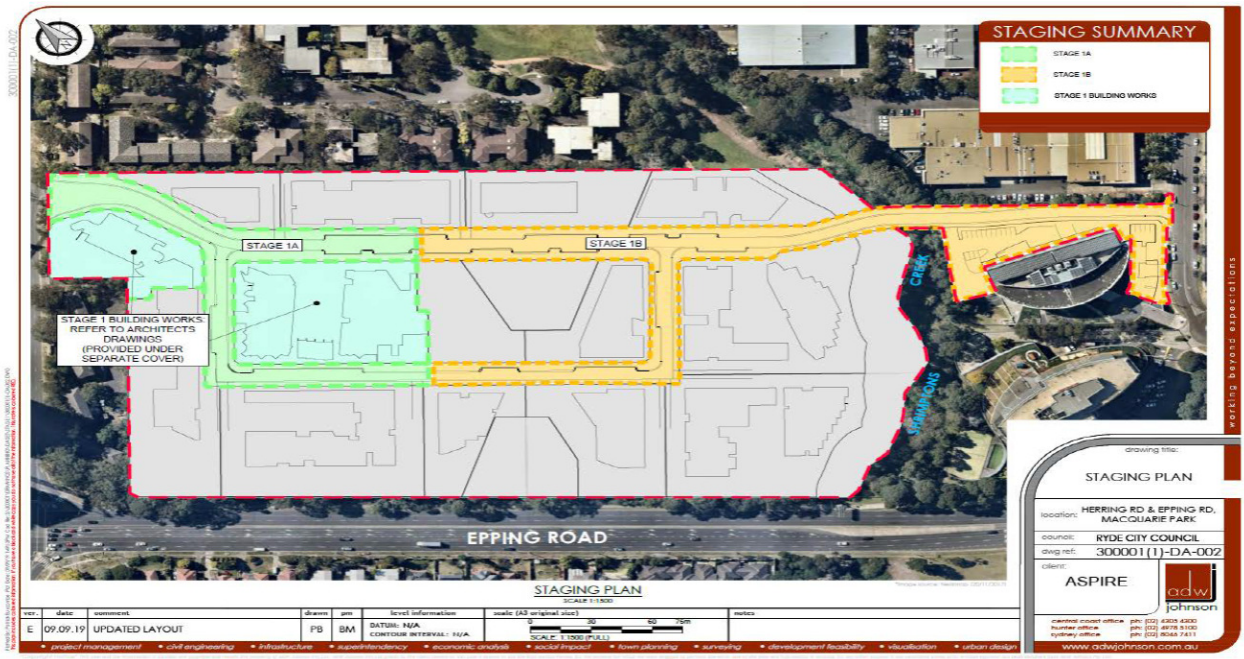
1. INTRODUCTION

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):

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;

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

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*"

Table 11 -Summarised Noise Emission Criteria

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)$L_{eq,\ 15min}$

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.

Training

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

Group	Type of Structure	Peak Particle Velocity (mm/s)			
		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

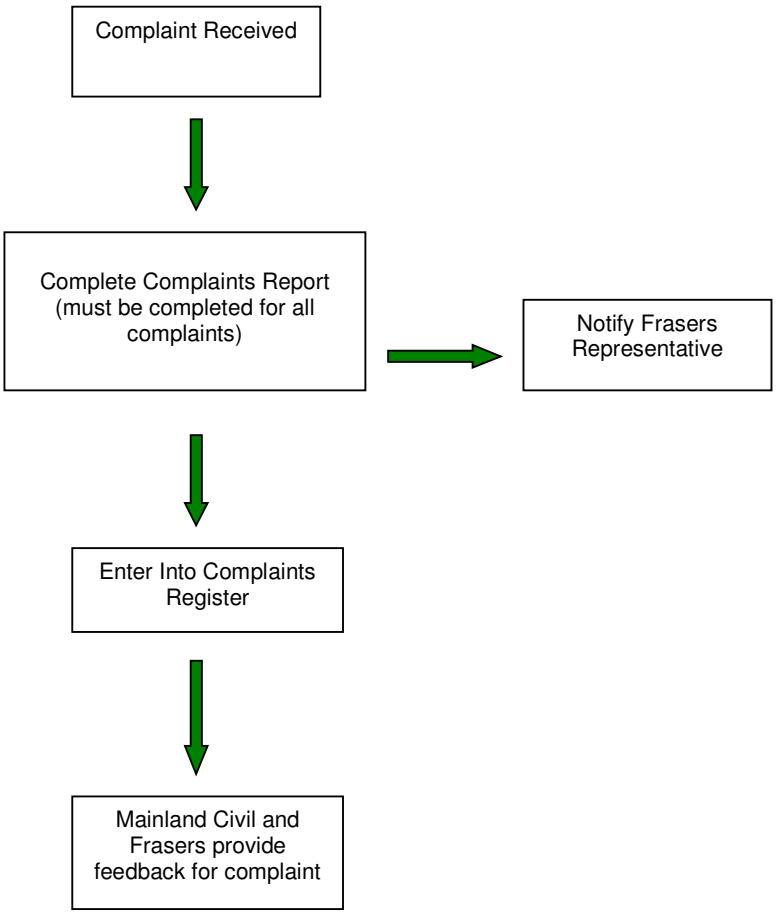
9. APPENDIX A – FORMAL NOTIFICATION / COMPLAINTS PROCEDURE

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 complaint:	
Details of person / business (address, phone no, email):	
How was complaint made? (i.e verbally, email, 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

23 November 2020

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

CONDITION B42 – CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN (CNVMP)

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;

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

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.

Dear Eric,

In accordance with planning condition B42 please find attached the Construction Noise and Vibration Management Plan Revision A prepared by Adrian Grdic and Mitch Cole of Mainland Civil Pty Ltd.

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

23 November 2020

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

CONDITION B25 – PRE-CONSTRUCTION DILAPIDATION REPORT

The applicant is to engage a suitably qualified structural engineer to prepare a Pre-Construction Dilapidation Report, detailing the current structural condition of all existing adjoining buildings, infrastructure and roads within the zone of influence. The report shall be submitted to the Certifier and Council, prior to issue of the relevant Crown Building Works Certificate for Building A1, or any works commencing, whichever is earlier.

Dear Eric,

In accordance with planning condition B25 please find attached the Pre-Construction Dilapidation Reports 820049.1, 820049.2 and 820049.3 prepared by Steven Ju and Blake Gao of Greenplus Property Services. As noted in the Document Control signatories on page 2, Blake Gao is a qualified structural engineer CPEng, NER, ID 2809663.

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

23rd November 2020

Eric Hausfield
Suite 7
76 Henry Street
Penrith

CONDITION B18 and B19 COMPLIANCE REPORTING

Dear Eric

Frasers Property Ivanhoe Pty Ltd needs to comply with following two conditions:

B18. A Pre-Construction Compliance Report must be prepared for the development and submitted to the Certifier before the commencement of any construction. A copy of the compliance report must be provided to the Department at compliance@planning.nsw.gov.au before the commencement of construction.

B19. The Pre-Construction Compliance Report must include:

(a) Details of how the terms of this consent that must be addressed before the commencement of construction have been complied with; and
(b) The expected commencement date for construction.

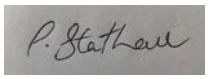
In Order to comply with Condition B18 please find attached with this letter a copy of the Pre-Construction Compliance Report. This has been submitted to the Department email address: **compliance@planning.nsw.gov.au**

In Order to comply with Condition B19 (a) the attached report outlines how the conditions of consent are compiled with.

As Part of Condition B19 (b) Frasers Property Ivanhoe Pty Ltd are to advise the expected commencement date for construction. Currently the forecast to commence is November 30th 2020.

Feel free to contact me if you have any queries.

Kind Regards,



Peter Statham
Project Manager
Frasers Property Australia Pty Limited
T +61 2 9767 2071
E Peter.Statham@fraserspropery.com.au

Ref: IA 0301-2019

18 November 2020

Chris Koukoutaris
Frasers Property Ivanhoe Pty Ltd
Level 2, 1C Homebush Bay Drive
RHODES NSW 2138

Via email only: Chris.Koukoutaris@fraserspropery.com.au

Dear Chris,

RE: Interim Site Audit Advice – Confirmation of engagement of NSW EPA Accredited Contaminated Land Site Auditor.

James Davis of Enviroview Pty Ltd has been engaged to provide the services of a NSW EPA Contaminated Land Accredited Site Auditor, accredited under Part 4 of the *Contaminated Land Management Act 1997* (NSW) (the Act), to conduct a Site Audit in relation to the site identified as Ivanhoe Estate comprising Ivanhoe Place, Wilcannia Way, Nyngan Way, Narromine Way and Cobar Way, and part of 2-4 Lyonpark Road, Macquarie Park, NSW (the 'Site'), in accordance with the Act and relevant guidelines made or approved under s 105 of that Act.

The objective of the Site Audit is to provide a Site Audit Report and Site Audit Statement to certify that in the Auditor's opinion, in relation to contaminated land, the site is suitable for the land use commensurate with the proposed development of the site.

The Site Audit is a requirement of conditions of development consent of the approved State Significant Development SSD 8903 and specifically in relation to the conditions B58 and D52 that relate to the engagement of a Site Auditor Accredited by the NSW EPA under the Act to review certain reports and the issuing of a Site Audit Report and Site Audit Statement certifying that the site is suitable from a contamination perspective for the proposed use.

The purpose of this interim advice is to confirm that a Site Auditor has been engaged to undertake the Site Audit in relation to the conditions of development consent. This Interim Advice may be presented as proof of that engagement as required by condition B60 of the development consent conditions. Notification of the commencement of a Statutory Site Audit has also been made to the NSW EPA as is required under the Act.

It is a requirement of the NSW EPA that the Site Auditor specifies that an interim advice does not constitute a Site Audit Statement or a Site Audit Report, does not pre-empt the final Site Audit conclusions and clarifies that a Site Audit Statement will be issued at the end of the audit process.

If you require additional information or clarification, please do not hesitate to contact me.

Yours sincerely

James Davis
NSW EPA Contaminated Land Site Auditor
Enviroview Pty Ltd

Shelmerdines
Consulting Engineers

30 March 2020
EW: 6820_DC

City of Ryde
Locked Bag 2069
NORTH RYDE NSW 1670

Attention: **Ms Margie Azmi**

IVANHOE ESTATE CNR OF EPPING AND HERRING RD, MACQUARIE PARK
STREET LIGHTING DESIGN

We confirm the lighting design detailed within drawing no.'s 6820-ES-301 through 6820-ES-315 for the above project has been designed to meet the following lighting standards and inclusive of City of Ryde Council's lighting guidelines for all public roads within the above development:

- Category V5 of AS/NZS 1158 Lighting for roads and public spaces.
  Part 1.1 Vehicular Traffic (Category V) Lighting-Performance and design requirements
- Category P2 of AS/NZS 1158 Lighting for roads and public spaces
  Part 3.1 Pedestrian Area (Category P) Lighting-Performance and design requirements
- Category PX2 of AS/NZS 1158Lighting for roads and public spaces
  Part 4 Lighting of Pedestrian Crossings

.
Shelmerdines Consulting Engineers possess appropriate Professional Indemnity Insurance.

Full Name of Designer: Elbert Wang

Qualifications: B.E. Elec

Address of Designer: 55 Hume Street, Crows Nest

Business Telephone No: 9436 3021

Name of Employer: Shelmerdines Consulting Engineers

Yours faithfully
SHELMERDINES

Elbert Wang

LEG2020/10006

FRASERS PROPERTY

12th October 2020

Wayne Rylands
Ryde Council City Works Directorate
1 Pope Street, Ryde
NSW 2112

CONDITION B96 Temporary Stormwater Works Bank Guarantee

Dear Ryde Council City Works Directorate

In accordance with the Development Consent SSD 8903 Planning Condition B96: Frasers Ivanhoe Pty Ltd is providing a Bank Guarantee for $200,000.

The Bank Guarantee Number is DG894823416 and Provided by ANZ .

The Details of the Condition are as follows:

B96. All temporary stormwater works must be designed and undertaken in accordance with the relevant aspects of the Council's DCP 2014 Part 8.2, Australian Rainfall and Runoff (ARR) 2019, NSW Floodplain Development Manual 2005 and any other relevant Australian Standards.

Detailed design plans of the temporary works stormwater design, calculations and other supporting documentations prepared by a Chartered Civil Engineer (registered on the NER of Engineers Australia) must be submitted to, and approved by, the Certifier prior to the commencement of the relevant works. A copy of the approved plans and documentation must be provided to Council prior to the commencement of the relevant works.

The detailed design of temporary works drainage shall be subject to any amendments warranted by Council's City Works Directorate as a result of the review and approval of the temporary works design plans.
To ensure satisfactory performance of the excavation, laying of pipes, back filling, disposal of excess soil and restoration including new kerb and gutter works, the Applicant must maintain all trunk drainage works until dedication to Council.

A bond in the form of a cash deposit or Bank Guarantee of $200,000 shall be lodged with Council prior to the issue of any Crown Building Works Certificate to guarantee this requirement will be met. The bond will be released on dedication to Council.

For any queries feel free to contact me on the details below. Kind Regards,

P. Statham

Peter Statham
Project Manager
Frasers Property Australia Pty Limited
T +61 2 9767 2071
E Peter.Statham@fraserspropery.com.au

RECEIVED
12 OCT 2020
CUSTOMER SERVICE CENTRE

FRASERS
PROPERTY

ANZ
ABN 11 005 357 522
TSC Operations-Australia Guarantees
Level 5, Core AB, 833 Collins St
Docklands, VIC 3008
Tel: 1300 091 233
Fax: 1300 072 851
SWIFT: ANZBAU3MXXX
www.anz.com

ORIGINAL

Guarantee
No. DG894823418

Beneficiary:
Ryde City Council
ABN 81 621 292 610 Australia

Applicant:
Frasers Property AHL Limited
ABN 12 008 443 696
Level 2, Building C, 1 Homebush
Bay Drive, Rhodes NSW 2138 Australia
Ref: P-510

Date of issue:
September 22, 2020

Guarantee Amount:
Not Exceeding AUD 200,000.00
Two Hundred Thousand
Australian Dollars

Special Conditions:

Description of Contract / Agreement:
Australia and New Zealand Banking Group Limited ('ANZ') asks the Beneficiary to accept this bank guarantee ('Undertaking') in connection with a contract or agreement between the Beneficiary and Applicant for:
Project Name: Ivanhoe - Midtown
Stage: Stage 1
Purpose: Condition B96 - SSD 8903 - Stormwater Drainage
DA No: SSD 8903.

Guarantee Amount
In consideration of the Beneficiary accepting this Undertaking and its terms, ANZ undertakes unconditionally to pay the Beneficiary on written demand from time to time any sum or sums up to an aggregate amount not exceeding: Australian Dollars Two Hundred Thousand Only (AUD 200,000.00) ('Amount').

Undertaking:
ANZ will pay the Amount or any part of it to the Beneficiary upon presentation of this original Undertaking (accompanied by a written demand) at ANZ Trade and Supply Chain, Level 18, 242 Pitt Street, Sydney, NSW, 2000 without reference to the Applicant and even if the Applicant has given ANZ notice not to pay the money, and without regard to the performance or non-performance of the Applicant or Beneficiary under the terms of the contract or agreement.

RECEIVED
12 OCT 2020
CUSTOMER SERVICE CENTRE

ORIGINAL

By accepting this Undertaking, the Beneficiary acknowledges and agrees that ANZ may rely entirely on any demand or notice as presented to it and has no responsibility or obligation to investigate the authenticity or correctness of the matters stated in a demand or notice, the signatures on the same, the positions of such signatories or the capacity or entitlement of the Beneficiary to give and execute the demand or notice.

Any alterations to the terms of the contract or agreement or any extensions of time or any other forbearance by the Beneficiary or Applicant will not impair or discharge ANZ's liability under the Undertaking.

This Undertaking remains in force until the first to occur of:
- The Beneficiary notifies ANZ in writing that the Undertaking is no longer required.
- This original Undertaking is returned to ANZ Trade and Supply Chain, Level 5, Core AB, 833 Collins Street, Docklands VIC 3008.
- ANZ has paid to the Beneficiary the Amount or the balance outstanding of the Amount.
- 4.00pm on the September 23, 2024, in the State or Territory of presentation ('Expiry date'). If the Expiry date is not a business day in the State or Territory, then the Expiry date shall be deemed to occur on the next business day.

Notwithstanding anything stated in this Undertaking, ANZ has the right to terminate it at any time by paying the Beneficiary the Amount or the balance outstanding of the Amount, or any lesser amount that the Beneficiary may require.

This Undertaking is personal to the Beneficiary. The Beneficiary cannot assign, transfer, charge or otherwise deal with its rights under this Undertaking and ANZ will not recognize any purported assignment, transfer, charge or other dealing.

This Undertaking will be governed by the laws of the place of presentation.

Executed at Melbourne for and on behalf of Australia and New Zealand Banking Group Limited ABN 11 005 357 522

Regards,

Anandan Redd

Authorised Signature(s)

May Zheng

ANZ
ABN 11 005 357 522
TSC Operations-Australia Guarantees
Level 5, Core AB, 833 Collins St
Docklands, VIC 3008
Tel: 1300 091 233
Fax: 1300 072 851
SWIFT: ANZBAU3MXXX
www.anz.com

Frasers Property AHL Limited
ABN 12 008 443 696
Level 2, Building C, 1 Homebush
Bay Drive, Rhodes NSW 2138 Australia

September 22, 2020

Re: Our Guarantee No.: DG894823418
Your Reference: P-510
Beneficiary: Ryde City Council

Dear Customer,

We enclose a copy of the above-mentioned Guarantee issued in accordance with your instructions.

Please review the content of this document carefully and notify us within 2 working days if you have any concerns as to the terms and conditions thereof.

Guarantee No.:	DG894823418
Amount:	Australian Dollars Two Hundred Thousand
Beneficiary:	Ryde City Council
Effective Date:	September 22, 2020
Expiry Date:	September 23, 2024

Unless otherwise instructed herein, all correspondence and enquiries regarding this transaction should be directed to our Customer Service Centre at the above address, telephone: 1300 091 233. Please indicate our reference number in all your correspondence or telephone enquiries.

This document is computer-generated, and requires no signature.

Guarantee
No. DG894823418

Beneficiary:
Ryde City Council
ABN 81 621 292 610 Australia

Applicant:
Frasers Property AHL Limited
ABN 12 008 443 696
Level 2, Building C, 1 Homebush
Bay Drive, Rhodes NSW 2138 Australia
Ref: P-510

Date of issue:
September 22, 2020

Guarantee Amount:
Not Exceeding AUD 200,000.00
Two Hundred Thousand
Australian Dollars

Special Conditions:

Description of Contract / Agreement:
Australia and New Zealand Banking Group Limited ('ANZ') asks the Beneficiary to accept this bank guarantee ('Undertaking') in connection with a contract or agreement between the Beneficiary and Applicant for:
Project Name: Ivanhoe - Midtown
Stage: Stage 1
Purpose: Condition B96 - SSD 8903 - Stormwater Drainage
DA No: SSD 8903.

Guarantee Amount
In consideration of the Beneficiary accepting this Undertaking and its terms, ANZ undertakes unconditionally to pay the Beneficiary on written demand from time to time any sum or sums up to an aggregate amount not exceeding: Australian Dollars Two Hundred Thousand Only (AUD 200,000.00) ('Amount').

Undertaking:
ANZ will pay the Amount or any part of it to the Beneficiary upon presentation of this original Undertaking (accompanied by a written demand) at ANZ Trade and Supply Chain, Level 18, 242 Pitt Street, Sydney, NSW, 2000 without reference to the Applicant and even if the Applicant has given ANZ notice not to pay the money, and without regard to the performance or non-performance of the Applicant or Beneficiary under the terms of the contract or agreement.

By accepting this Undertaking, the Beneficiary acknowledges and agrees that ANZ may rely entirely on any demand or notice as presented to it and has no responsibility or obligation to investigate the authenticity or correctness of the matters stated in a demand or notice, the signatures on the same, the positions of such signatories or the capacity or entitlement of the Beneficiary to give and execute the demand or notice.

Any alterations to the terms of the contract or agreement or any extensions of time or any other forbearance by the Beneficiary or Applicant will not impair or discharge ANZ's liability under the Undertaking.

This Undertaking remains in force until the first to occur of:
- The Beneficiary notifies ANZ in writing that the Undertaking is no longer required.
- This original Undertaking is returned to ANZ Trade and Supply Chain, Level 5, Core AB, 833 Collins Street, Docklands VIC 3008.
- ANZ has paid to the Beneficiary the Amount or the balance outstanding of the Amount.
- 4.00pm on the September 23, 2024, in the State or Territory of presentation ('Expiry date'). If the Expiry date is not a business day in the State or Territory, then the Expiry date shall be deemed to occur on the next business day.

Notwithstanding anything stated in this Undertaking, ANZ has the right to terminate it at any time by paying the Beneficiary the Amount or the balance outstanding of the Amount, or any lesser amount that the Beneficiary may require.

This Undertaking is personal to the Beneficiary. The Beneficiary cannot assign, transfer, charge or otherwise deal with its rights under this Undertaking and ANZ will not recognize any purported assignment, transfer, charge or other dealing.

This Undertaking will be governed by the laws of the place of presentation.

Executed at Melbourne for and on behalf of Australia and New Zealand Banking Group Limited ABN 11 005 357 522

Regards,

Authorised Signature(s)

our garden path

Certification of Compliance for Mainland Civil Ivanhoe Estate Project – Macquarie Park

Date: 22/12/2020

Att: Greg Paul
Aura Tree Services
greg@auratreeservices.com.au

CC: Peter Josevski
Mainland Civil
peter_josevski@mainlandcivil.com.au

RE: ***Certificate of Compliance relating to Tree Protection Fencing at extent of TPZ for trees to remain on site re Clause C39 Conditions Consent.***

This certification is in relation to Tree Protection Fencing and marking of trees for removal based on supplied plans and reports. Recommendations are as follows, excerpt from Ivanhoe Estate Redevelopment Arboricultural Impact Assessment prepared by Eco logical Australia February 2020.

6.2 Hold points, inspection and certification

The approved tree protection plan must be available onsite prior to the commencement of works, and throughout the entirety of the project. To ensure the tree protection plan is implemented, hold points have been specified in the schedule of works below. It is the responsibility of the principal contractor to complete each of the tasks.

Once each stage is reached, the work will be inspected and certified by the project arborist and the next stage may commence. Alterations to this schedule may be required due to necessity, however, this shall be through consultation with the project arborist only.

Table 4: Schedule of works

Pre-construction	Prior to demolition and site establishment indicate clearly (with spray paint on trunks) trees marked for removal only.
	Tree protection (for trees that will be retained) shall be installed prior to demolition and site establishment, this will include mulching of areas within the TPZ

Condition of Consent is as follows.

PROTECTION OF TREES

C39. The Applicant must ensure:

(a) no street trees on public land are trimmed or removed unless it forms a part of this development consent or is required in an emergency to avoid the loss of life or damage to property;

(b) all trees that are not approved for removal are to be suitably protected by way of tree guards, barriers or other measures to protect the root systems, trunk and branches during construction, in accordance with AS 4970:2009; and

(c) any removal works are to be undertaken by a qualified arborist recognised within the Australian Qualification Framework, with a minimum five years of continual experience within the industry of operational amenity arboriculture and covered by appropriate and current types of insurance to undertake such works and in accordance with AS 4373:2007.

Arboricultural conditions have been met with the following:

- *Tuesday 22nd December 2020 Vicki Beecher attended site for a Pre - construction meeting with Project engineer Peter Josevski from Mainland Civil confirming all trees identified for removal within above supplied report had been marked with an orange X and that all trees to remain onsite were within Tree Protection Fencing which had been clearly signed.*
- *At time of inspection all tree fencing complied with Tree Protection measures as specified, fencing is situated to either extent of TPZ's of trees marked to be retained or where is practicably possible.*
- *All trees identified for removal within above report dated April 2018, have been marked with an orange X with spray paint on trunk at 1.4mtr from ground level. Arboricultural requirements have been completed – see end of this certification.*

This letter confirms I, Vicki Beecher, have been engaged as the project arborist. I have inspected the site and am the author of this arboricultural documentation.

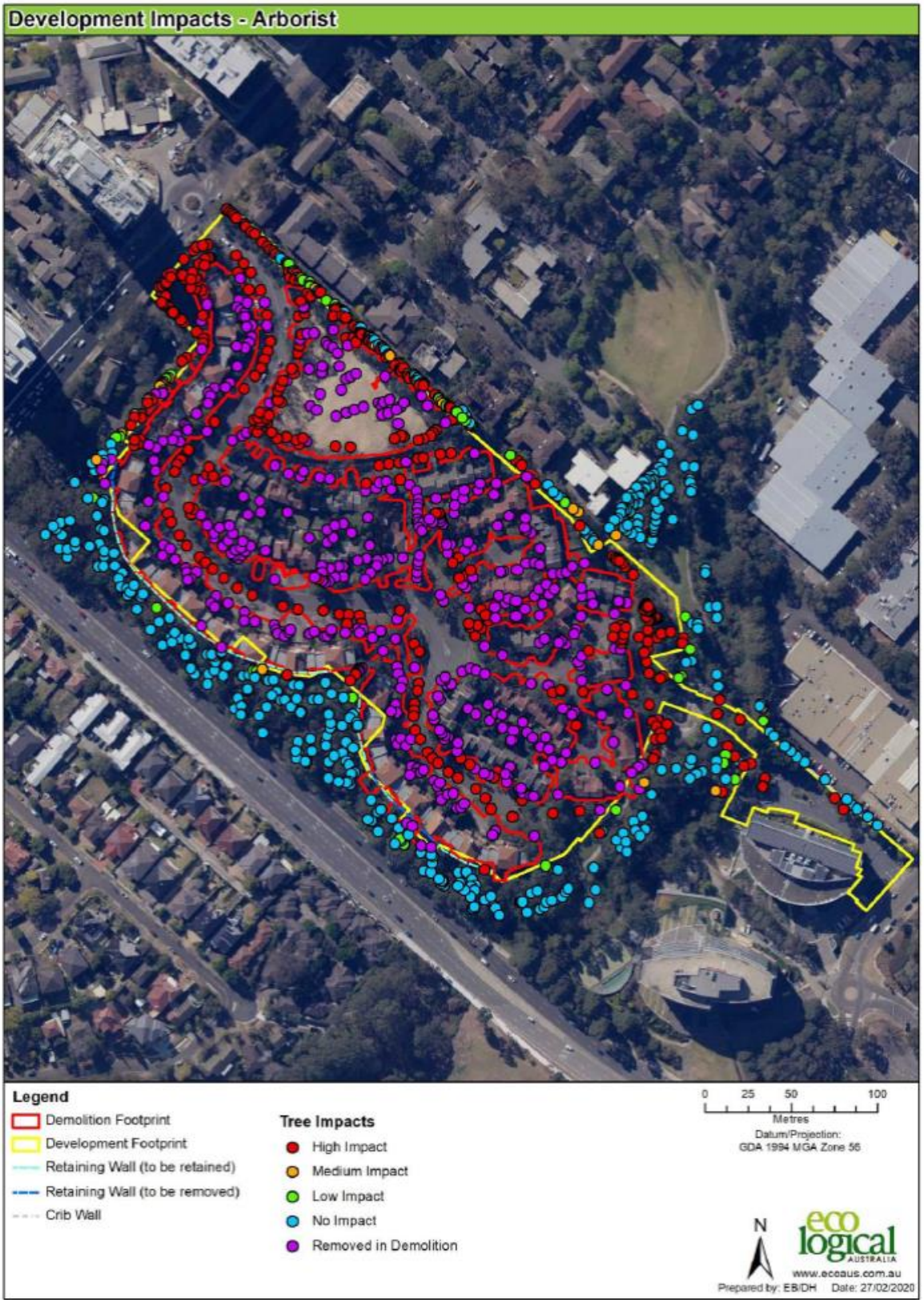


Image 1: Tree location plan. Source: Eco logical, 2020

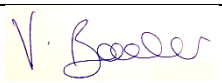
Plate 1: Indicative tree marking for trees to be removed.

Plate 2: Representative example of chain mesh fence covered with black shade cloth used for Tree Protection Fencing at base of contour – outside of Mainland Civils limit of works and at outer extension of TPZ.

Plate 3: Example of Tree protection signage on TPF.

Statement of Authorship

This certification of the plan is by Vicki Beecher BSc Hons. With over 20 years' experience in arboricultural matters.

Name	Signature	Date
Vicki Beecher		22/12/2020

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

7 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 (2015) *Independent Audit Guideline.*

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 (2020), *Integrated Management Plan, Ivanhoe Estate, Macquarie Park* (dated 2 December 2020, Revision D) (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 implement and completed with 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 environmental 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.*

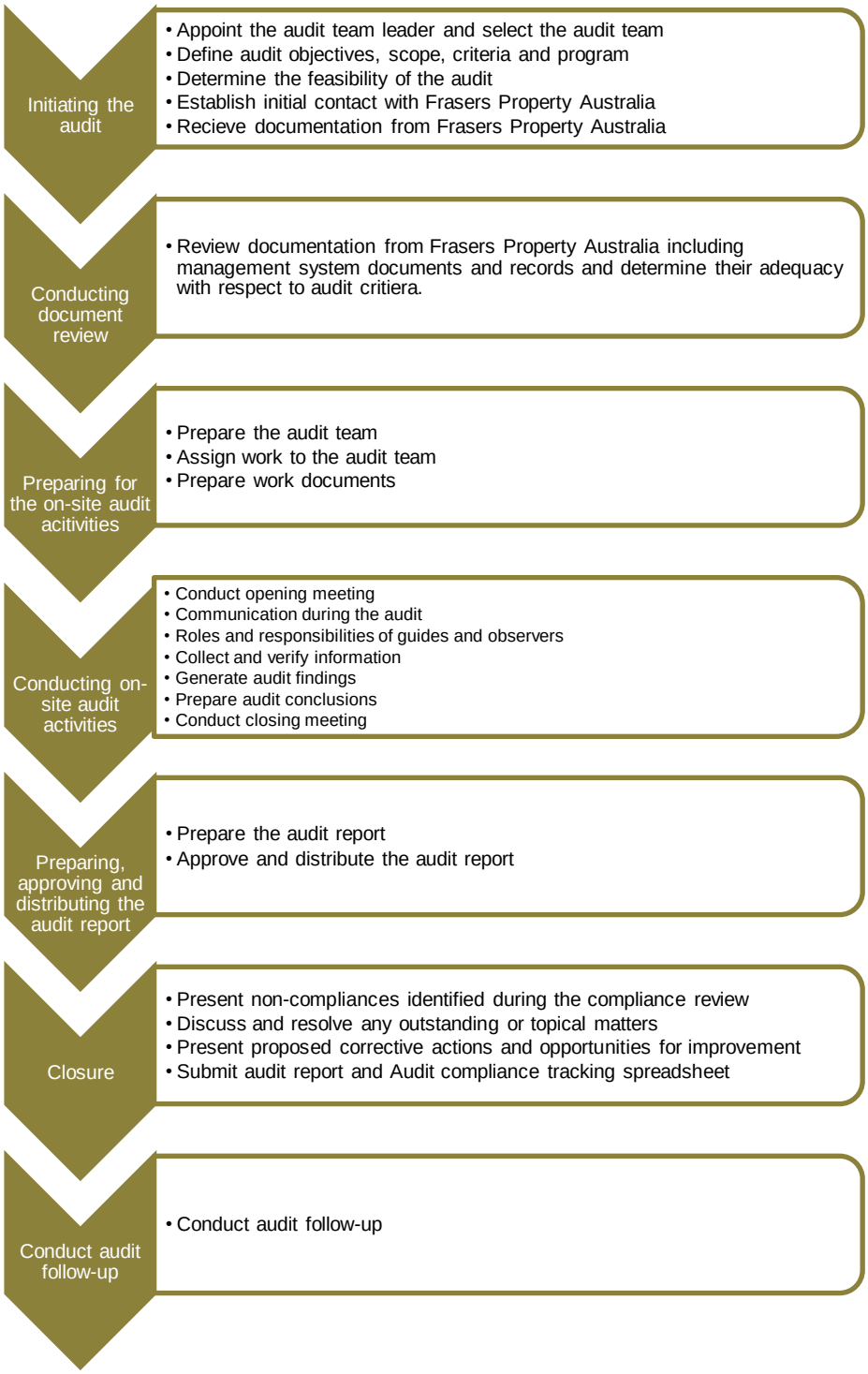
- *B9: within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Planning Secretary, a copy of the audit report must be submitted to the Planning Secretary, and any other NSW agency that requests it, together with a response to any recommendations 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 (202*0), Integrated Management Plan, Ivanhoe Estate, Macquarie Park* (dated 2 December 2020, Revision D) (the 'IMP').
- 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').

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

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

120077_EMS Audit_V1

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

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 (202*0), Integrated Management Plan, Ivanhoe Estate, Macquarie Park* (dated 2 December 2020, Revision D) (the 'IMP').

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').

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. Section 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 buidling 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	*Appendix A Environmental and Sustainability Policy: 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?		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.	
	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	4.3.1	Does the organisation have a procedure to identify the appropriate environmental aspects of its activities products & services, which it can control or influence?	Yes	*Section 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 managment 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.*	
		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. Section 5.4.2: Dust and debris mitigation and control methods: *Mainland Civil will take all necessary steps to limit the 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?		Unknown	Section 5.4.2 to refer to specific dust and debris nuisance management measures.
		Is information relating to environmental aspects kept up to date?	Yes	*Section 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	*Section 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?			
	4.3.2	Has a procedure been developed and implemented to identify applicable regulatory, legal and other requirements?	Yes	*Section 1.8: Legal and other requirements,* Table 1.8 discusses: Commonwealth Laws, National Codes of Practice and NSW Legislation.	Recommend incorporating: • National Environment Protection Council (NEPC) (2013) – National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013). • NSW Government Codes of Practice - Construction Work (2019), • Managing electrical Risks (2019), • Managing the Risk of Falls in the Workplace, • WorkCover NSW (2014) - Managing Asbestos in or on Soil. • Safe Work Australia (2019) - How to Manage and Control Asbestos in the Workplace. • Safe Work Australia (2019) - How to Safely Remove Asbestos Code of Practice.
		Has the organisation determined how identified legal & other requirements apply to its environmental aspects?	Yes	*Section 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?		Unknown	Recommend Mainland Civil demonstrate where these can be accessed as part of site and project inductions.

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
PLANNING	4.3.3	Have environmental objectives and targets been established at each relevant function and level in the organisation?		Unknown	
		Are Objectives and Targets documented?	Yes	5.1 Environmental Objectives and Targets	
		Have programmes for the achievement of environmental objectives and targets been established and implemented?	Yes	5.4: Dust Management Plan - details dust and debris mitigiation 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'). 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 4.8: Hazardous material and 5.6.7 contaminated / hazardous materials.	
		Are programmes updated?		Unknown	
		Have responsibilities been assigned for environmental management programmes at each appropriate function and level?	Yes	*Section 1.12: Roles, responsibilities and authorities* - responsibilites of Project Manager: 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.	
		(Do programs include means and time-frame for achieving?)			
IMPLEMENTATION AND OPERATION	4.4.1	Have responsibilities and authorities for environmental management been defined and documented (& communicated)?	Yes	*Section 1.12: Roles, responsibilities and authorities* - responsibilites of Project Manager, Health, Safety, Environment & Quality (HSEQ) Manager, Senior Project Engineer, Site Engineer, Site Supervisor and offiste Construction Manager.	
		Has a Management Representative been assigned?	Yes	Project Manager: Tim Saviane.	
		(Have essential resources been provided by management?)	yes	*Section 1.12: Roles, responsibilities and authorities. Project Maanger 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 *Section 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?		Unknown	
		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	Section 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	*Section 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	*Section 2.3.2: Complaints handling procedure*	
		Has the organisation recorded its decision on external communications on its significant environmental aspects?	Yes	*Section 5 - Environmental Management, Table 5.1: Environmental Objectives and target: "No compliants received from the community, Frasers Property or the environmental regulator (including on behalf of a local resident)".*	
	4.4.4	Have the main elements of the EMS, and their interaction, been described in paper or electronic form?		Electronic copy	
		Does documentation of main EMS elements provide direction to related documentation?			
	4.4.5a/	Is there a procedure for controlling documents?			
	b	Do procedures include approval of, and reviewing and updating of documents?			
	4.4.5c	Are changes to documents and current revision status identified?			
	4.4.5d	Are current versions of all required documents available at all essential locations?			
	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?			
	4.4.5g	Are obsolete documents promptly removed or otherwise protected from unintended use?			

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
IMPLEMENTATION AND OPERATION	4.4.6	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		
	4.4.6b	Are operating criteria stipulated in the procedures?			
	4.4.6c	Have procedures been established relating to the significant environmental aspects of materials and services purchased and used by the organisation?		*Section 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?			
	4.4.7	Have procedures been implemented to identify the potential for and respond to accidents and emergencies?		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	*Section 4.7: Safe Work and Environmental MEthod Statements (SWEMS). Section 4.7.2: Safe Work Procedures (SWPs)* *Appendix B: Project Safety and Environmental Risk Register and Control Measures* *Section 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.* *Section 4.7.5: Plant and equipment pre-start checks.*	NSW Government Code of Practice Construction Work (2019) lists the following as high risk construction: Work involving a risk of a person falling more than 2 metres, Work carried out in or near a confined space, Work carried out in or near a shaft or trench with an excavated depth greater than 1.5 metres or is carried out in or near a tunnel, Work carried out on or near: – pressurised gas distribution mains or piping – chemical, fuel or refrigerant lines – energised electrical installations or services. Work involving, or is likely to involve, the disturbance of asbestos.
		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.*	
CHECKING	4.5.1	Are there procedures for monitoring key characteristics of operations that can have significant impacts?	Yes	Table 5.1: Environmental Objectives and targets 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: Section 5.6.2: Requirements for managing construction waste types: 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. Section 5.7.6: Erosion and sediment control inspection checklist: site sediment controls to be monitored on a daily basis. Section 5.6.7.4: Management Practices: the use of water spray must be monitored to ensure runoff does not occur or controls must be implemented to capture any runoff. Section 5.8.4: Onsite monitoring and recording: Onsite dust monitors will be installed near construction workfaces and monitored monthly. Section 5.8.8: Contingency management strategies - this section details stragies for control of dust, odour, asbestos fibres and plant. Section 7.7: Speeding Management - 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		
		Is all monitoring equipment appropriately maintained and calibrated or verified (& records of this process maintained)?	Yes	*Section 3.9: 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.*	
		Is there a procedure for periodically evaluating compliance with legal and regulatory requirements?			
		Are records of these evaluations kept?			

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
CHECKING	4.5.2	Has the organisation fully evaluated its compliance with legal and regulatory requirements and implemented corrective action where necessary?		*Section 1.8: Legal and other requirements,* Table 1.8 discusses: Commonweatlh Laws, National Codes of Practice and NSW Legislation.	• National Environment Protection Council (NEPC) (2013) – National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013). • NSW Government Codes of Practice - Construction Work (2019), • Managing electrical Risks (2019), • Managing the Risk of Falls in the Workplace, • WorkCover NSW (2014) - Managing Asbestos in or on Soil. • Safe Work Australia (2019) - How to Manage and Control Asbestos in the Workplace. • Safe Work Australia (2019) - How to Safely Remove Asbestos Code of Practice.
		Does the organisation evaluate its compliance with other requirements to which it subscribes?	Yes		
		Are records of these evaluations kept?			
	4.5.3	Are there procedures for identifying and correcting nonconformities and mitigating any environmental impacts?	yes	*Section 3.10.1: The objective of an Internal Review is to:* *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.* *Section 3.5:Non-conformance and Corrective Action Prevention - Non Conformance Report will be raised for:* • *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. 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.*	
		Are the causes of any nonconformities investigated and corrective and preventive actions timely, appropriate and effective?		Unknown	
		Are the results of corrective and preventive actions recorded?	Yes	*Section 3.5: Non Conformances shall be registered in the office non-conformance register.*	
		Is the effectiveness of corrective and preventive actions reviewed?	Yes	*Section 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?		*7.2: Roles and Responsibilities: Prpject Manager All records (such as cartage and tip dockets) are kept and secured with all records of business related activity. 7.2: HSEQ Managber: Records are kept and secured and all records of business relalted activity, purchasing, maintenance repairs, work related or driving (including rest times) are recorded and reviewed.*	
		Are environmental records legible, readily retrievable, protected and traceable?			
		Are there sufficient records to demonstrate conformance to the requirements of this standard?			
	4.5.5	Have internal EMS audit procedures been developed and implemented?	Yes	*Section 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 incompliance 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. Section 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?			
		Do audit procedures adequately define scope, frequency, methods and responsibilities?			

TABLE A - EMS REVIEW ACTIONS AND SUGGESTIONS

Req	Ref	Clause	Rating	Auditor's Notes / Comments / Supporting Documentation	Comments and Recommendations
		Does the selection of auditors and performance of audits ensure that the audit process is impartial and objective?		*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.*	AS/NZS ISO 19011:2014 Guidelines for auditing management systems.
		Has the audit system been fully and effectively implemented?			
		Do audit reports and records indicate a reliable system which can be used as a tool in the third party audit process?			
MANAGEMENT REVIEW	4.6	Do periodic management reviews take place to ensure the continuing suitability, adequacy and effectiveness of the EMS / IMP?	Yes	*Section 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	*Section 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	---		
		· Internal audits	Yes	*Section 3.2:Project Quality Objectives and Targets: To complete regular internal audits to monitor and maintain compliance. Regular site audits every 8 weeks. Section 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	*Section 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	*Section 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 *Section 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	*Section 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	*Section 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	*Section 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	*Section 3.10.1: Internal audits: Record all findings in an Internal Review Report to declare the review has been conducted.*	

Notes:

Complaint

Non -complaint

Recommending further information

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;	Section 1.10: Construction Staging & Timeframe The project consists of three stages: *Stage 1 – Roadworks – Week 1 to Week 26* *Stage 2 – Roadworks – Week 8 to Week 26* *Stage 3 – Bulk Excavation to A1 – Week 23 to Week 40*	Yes	
b	describe all activities to be undertaken on the site during site establishment and construction of the development;	Section 1.9: Scope of Works: lists the activities to be undertaken.		The activites are listed in Section 1.9, but not described in the Integrated Management Plan (IMP). Recommend updating.
c	include a Dust Management Plan, incorporating the mitigation measures outlined in the Air Quality Assessment, prepared by WSP, dated October 2018.	Section 5.4: Dust Management: migration measures are detailed in Section *5.4.2: Dust and debris mitigation and control measures.*		Air Quality Assessment, prepared by WSP, dated October 2018 is not referenced in the report. Are the migitiation measures in 5.4.2 derived from the WSP report?
d	clearly outline the stages/phases of construction that require ongoing environmental management monitoring and reporting;	Section 5: Environmental Management, Table 5.1: Environmental Objectives and targets 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: Section *5.6.2:* Requirements for managing construction waste types*: 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* . Section 5.7.6: Erosion and sediment control inspection checklist: site sediment controls to be monitored on a daily basis. Section 5.6.7.4: Management Practices: *the use of water spray must be monitored to ensure runoff does not occur or controls must be implemented to capture any runoff.* Section 5.8.4: Onsite monitoring and recording: O*nsite dust monitors will be installed near construction workfaces and monitored monthly.* Section 5.8.8: Contingency management strategies - this section details stragies for control of dust, odour, asbestos fibres and plant. Section 7.7: Speeding Management - 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.*	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;	Section 1.8: Legal and other requirements, Table 1.8 details Commonwealth Laws, National Codes of Practice and NSW Legislation.		• National Environment Protection Council (NEPC) (2013) – *National Environment Protection (Assessment of Site Contamination) Measure 1999* (Amended 2013). • NSW Government Codes of Practice - *Construction Work* (2019), • *Managing electrical Risks* (2019), • *Managing the Risk of Falls in the Workplac* e, • WorkCover NSW (2014) - *Managing Asbestos in or on Soil.* • Safe Work Australia (2019) - H*ow to Manage and Control Asbestos in the Workplace* . • Safe Work Australia (2019) - H*ow to Safely Remove Asbestos Code of Practice.*

Condition		Notes / Comments / Supporting Documentation	Rating / Compliant	Auditor Comments and Recommendations
B40. Construction Environmental Management Plan (CEMP)				
f	be prepared in consultation with Council and include specific consideration of measures to address any requirements of Council during site establishment and construction;	See point 'd' above.	Yes	
g	describe the roles and responsibilities for all relevant employees involved in the site establishment and construction of the works;	Section 1.13: Roles, responsibilities and authorities - responsibilites of onsite Project Manager, Health, Safety, Environment & Quality (HSEQ) Manager, Senior Project Engineer, Site Engineer, Site Supervisor and offsite Director and Construction Manager.	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;	Table 5.1: Environmental Objectives and targets identifies the following environmental impacts / aspects: soil and water control, dust, noise and vibration, hazardous materials, contaminated materials, construction waste management and complaints. The procedures to address the environmental impacts / aspects are detailed in the following Sections 5.7 Soil and water management plan 5.4: Dust managment and 5.8: Air Quality and odour management plan. 5.5: Noise (and vibration) management plan and separate CNVMP report (refer to Condition B42 below). 4.8: Hazardous material and 5.6.7 Hazardous waste. 5.6: Construction waste management plan (CWMP) and 2.3: complaints. Section 6: Traffic management plan (TMP), Table 6.0: Traffic Sources and Mitigation Methods - details the control measures associated with traffic.	Yes	
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;			No reference in the IMP. Is this condition a requirement for this project?
j	management of groundwater during construction;	Table 5.7.2: *Stormwater and/or infiltrated groundwater (considered unlikely due depth of excavation)* . 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.	Section 2.3.2: Complaints Handling Procedure: *All environment complaints received from the public and/or regulatory agency are investigated by the site HSEQ Manager.* 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.*	Yes	

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), *Construction Noise and Vibration Management Plan for Ivanhoe Estate - Macquarie Park, Frasers Property* (dated 19/11/2020, Revision A) (the 'CNVMP' report). The CNVMP report was prepared in accordance with • Department of Environment & Climate Change (DECC) (2009), *Interim Construction Noise Guideline* (DECC, 2009); and • German Standard DIN4150-3:1999 *Structural vibration Part 3: Effects of Vibration on Structures.*	Yes	
b	identify nearby sensitive receivers and land uses;	Section 6: Nearest Receivers - seven receivers identifed and land uses listed.	Yes	
c	identify the noise management levels for the project;	Section 7: Noise monitoring plan - Table 11: Summarised Noise Emission Criteria - 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 *highly noise affected 75 dB(A)Leq (15 min)* as recommended in DECC (2009). Commerical 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;	Section 4 - Construction Activities. Details plant and activites required to complete works. Section 8: Vibration Management Plan: *Mainland Civil works that are expected to cause vibration include:* *- Excavation of sandstone;* *- Hammering and sawing sandstone; and* *- Anchoring (drilling) in sandstone.*	Yes	
e	details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;	Section 7: Noise monitoring plan - Noise control measures. Section 8: Vibration Management Plan - 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	Section 6: Nearest Receivers - details the nearest properties likely to be affected from the report Acoustic Logic (2020), *Master Plan for Ivanhoe Estate, Macquarie Park – Additional Noise Monitoring 30/1/2020.*	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	Section 5: Communication Tools: "*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	
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.	Section 7: Noise monitoring plan: 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.* Section 8: Vibration Management Plan: *Mainland Civil works that are expected to cause vibration include:* *- Excavation of sandstone;* *- Hammering and sawing sandstone; and* *- 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.*	Yes	Section 5.5.4: Vibration of the IMP states: *The construction site is surround by container storage areas, there are no buildings within the vicinity of the site therefore vibration monitoring is not considered required.* This contradicts Section 8 of the CNVMP: *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.* Please ensure consistency within the CNVMP and Noise Monitoring Plans before Auditor review.

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;	Section 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;	Section 5.8.2: Material Classifciation and Odour Suppressants - in consultation with environmental consultant.		Perhaps list some odour suppressants
c	effective covering of stockpiles and truckloads of excavation spoil; and	Section 5.8.3: M*inismising 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 wetted during the day and covered over night. All trucks carting material off site will cover their loads prior to leaving the site.*	Yes	
d	expedited removal of odorous material from the development to a facility legally able to accept those wastes.	Section 5.8.2: *Once waste classification for the odourous material is obtained, the material will be removed and transported to a facility* *liscenced to accept the waste.*	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.	Section 5.8.5: Proactive/Reactive Management Strategies & Response Mechanisms. Section 5.8.7: Compliance protocol. Section 5.8.8: Contingency Management Strategies includes KPIs. Section 5.8.4: Onsite Monitoring and Recording and Table 5.8.6: KPIs.	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;	Section 5.6.2 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;	Section 5.6.1 General: *Identification of a designated area for the storage and collection of waste and recyclable materials to be provided on the site* . Section 5.6.7.3: Onsite Management: storage of contaminated soil/ material onsite prior to disposal in an exclusion zone. Section 5.7.5: 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.*	Yes	While Section 5.7.5 states that material to be reused onsite is to be stockpile, Table 5.6.2 states there is no material to be reused onsite.
c	materials and methods used during construction to minimise waste;	Section 5.6.4 Reusing and Recycling waste: sand and rock, concrete, asphalt.	Yes	Perhaps remove reference to 'reusing" as mateiral is proposed to be 'recycled'.
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;	Section 5.3 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 Enviromenment Operations (Waste) Regulation 2014. Section 5.6.7.3: Onsite management: Engagement of hygienist to undertake fibre air monitoring for the duration of the contaminated works. *Dust suppression and wetting down of unknown finds/asbestos fibres.* Section 5.6.7.6: monitoring: All airborne fibre monitoring will be conducted in accordance with the G*uidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust [NOHSCH:3003(2005)] and analysed at a NATA-accredited laboratory* .		Please reference the NSW EPA (2014) - Waste Classification Guidelines - Part 1: Classifying Waste. • Western Australia Department of Health (WA DoH) (2009) – *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* . • WA DoH (2018) – *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – Summary Updat* e. • WorkCover NSW (2014) - *Managing Asbestos in or on Soil* . • NSW Government Code of Practice - *How to Manage and Control Asbestos in the Workplace* (2019). • NSW Government Code of Practice - *How to Safely Remove Asbestos* (2019).
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	Section 5.6.6: Table 5.7.6 – Recycling and Disposal Facilities.	Yes	Please reference the NSW EPA (2014) - *Waste Classification Guidelines - Part 1: Classifying Waste* . Please include asbestos will be disposed at a facility that can legally accept asbestos. Dial A Dump has two Environment Protection Licences (EPL) - one for their recycling centre and one for the waste facility that accepts asbestos waste (EPL 13426 - Premises: Genesis Facility).
f	identification within the CWMP of the responsibility for the transferral of waste and recycling bins within the property to the collection point.	Section 5.6.6 - Table 5.6.6b – Personnel Responsible for waste transfer.	Yes	

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) Managing Urban Stormwater: Soils and Construction* , 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;	Section 5.7: Soil and Water Management Plan: Figure 5.7.2d – Erosion and Sediment Control Plan shows the propsoed location of the sediment basin. Table 5.7.2: Soil and Water Sources and Mitigation Methods - provides mitigation measures for soil (sand) management, sediment fines, import of bulk supplies of material and water managment for works including excavation and service trenching.	Yes	
b	catchment plan;	Section 5.7.3: Temporary sediment basin.	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;	Figure 5.7.2d: Erosion and Sediment Control Plan shows the propsoed location of the sediment basin. Figure 5.7.3a: Basin Detail Plan 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 Figure 5.7.3a. Details of the sediment basin are included in Section 5.7.3: Temporary sediment basin: 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 Section 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;	Section 5.7.4: 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. Treatement will occur within the basin prior to discharge.*	Yes	
f	identification and management of any stormwater run-on to the site from adjacent sites;	Section 5.7.4: *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.*	Yes	
g	location of any temporary stockpiles (soil, spoil, topsoil or otherwise) and accompanying sediment and erosion control measures;	Table 5.7.2: Soil and Water Sources and Mitigation Methods: provides mitigartion measures for soil (sand) management, sediment fines, import of bulk supplies of material and water management.		The location of any temporary stockpiles is unknown. 5.7.5: Spoil temporary stockpile location *Any spoil that is to be reused on site will be stockpiled in the temporary stockpile* . However, while Section 5.7.4 states that material to be reused onsite is to be stockpiled, Table 5.6.2 states there is no material to be reused onsite. Please clarify.
h	location and details of all vehicle wash down bays and associated erosion and sediment control measures such as earthen bunds; and	Section 4.7.6.1.1: Maintenace of plant and equipment: *Plant will be serviced and washed-down only in approved areas where hydrocarbons will be captured and collected.*		The location of vehicle wash down bay is unknown.
i	a daily and weekly site inspection checklist consistent with IECA Best Practice Erosion and Sediment Control documents.	*Section 5.7.6: Erosin and sediment control inspection checklist : These controls are also visually monitored daily by the site supervisor to ensure they comply.*		No reference to IECA Best Practice Erosion and Sediment Control documents in IMP. The following link has detailed site inspection checklists https://www.austieca.com.au/publications/free-downloads .
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);	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).	Yes	EESI does not have access to the Geotech report.
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			Cannot find reference to this.
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.	Yes	

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.	Section 5.3 Unexpected Finds Protocol:		
B64				
	The Applicant shall comply with any notification requirements to SafeWork NSW concerning the handling and removal of any asbestos.	Section 5.3 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 Enviromenment Operations (Waste) Regulation 2014. Section 5.6.7.3: Onsite management: Engagement of hygienist to undertake fibre air monitoring for the duration of the contaminated works. Dust suppression and wetting down of unknown finds/asbestos fibres. Section 5.6.7.6: 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.		• Western Australia Department of Health (WA DoH) (2009) – *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* . • WA DoH (2018) – *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – Summary Update* . • WorkCover NSW (2014) - *Managing Asbestos in or on Soil.* • Safe Work Australia (2019) - *How to Manage and Control Asbestos in the Workplace.* • Safe Work Australia (2019) - H*ow to Safely Remove Asbestos Code of Practice.* Is Class A and/or Class B licenced asbestos removalists required.
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 detials transport, disposal and management of asbestos waste.		Further information required.

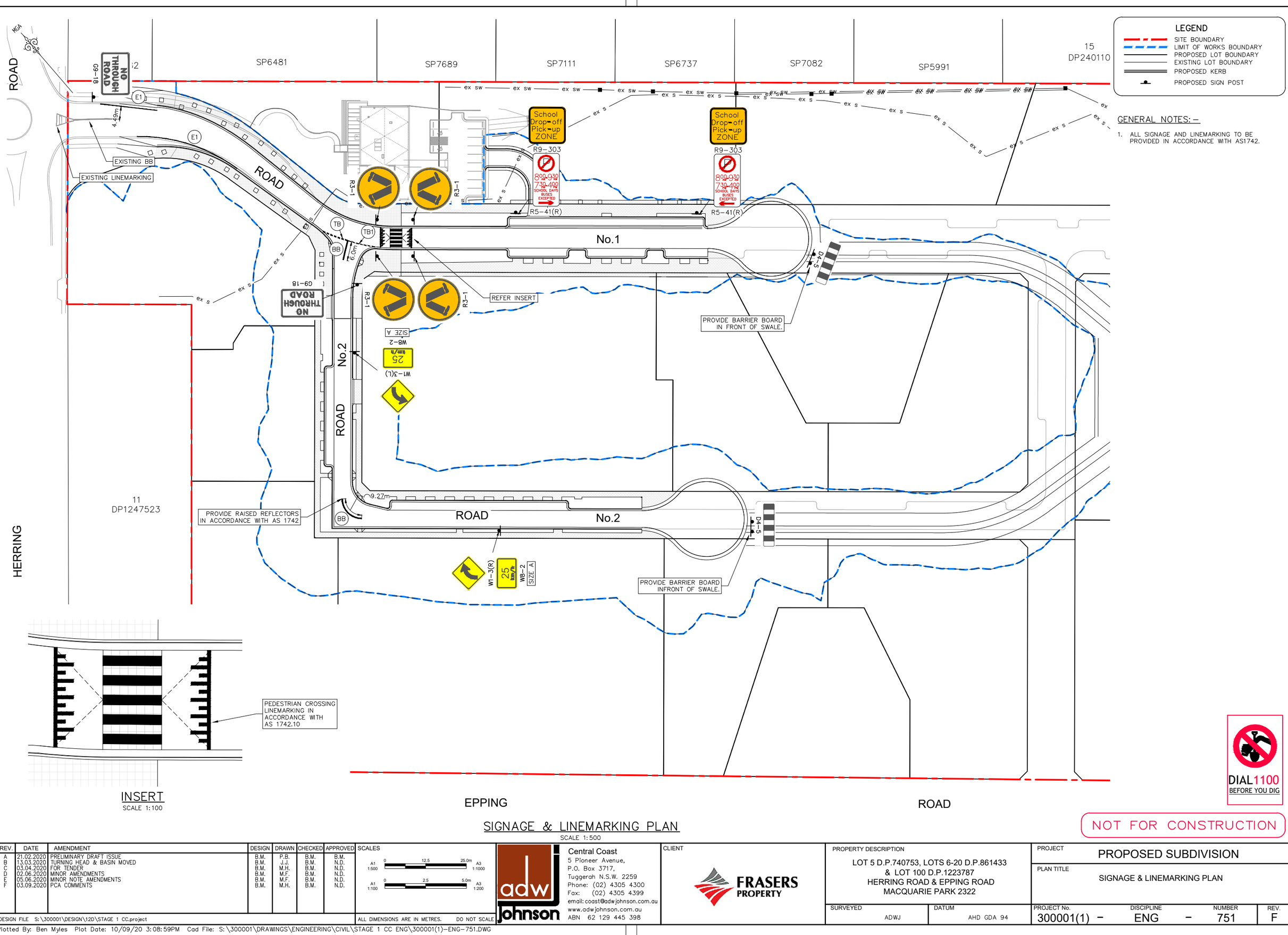
Notes:

Complaint

Non -complaint

Recommending further information

300001(1)-ENG-751



LEGEND

- SITE BOUNDARY
- LIMIT OF WORKS BOUNDARY
- PROPOSED LOT BOUNDARY
- EXISTING LOT BOUNDARY
- PROPOSED KERB
- PROPOSED SIGN POST

GENERAL NOTES: –

1. ALL SIGNAGE AND LINEMARKING TO BE PROVIDED IN ACCORDANCE WITH AS1742.

SIGNAGE & LINEMARKING PLAN

SCALE 1:500

DIAL1100 BEFORE YOU DIG

NOT FOR CONSTRUCTION

REV.	DATE	AMENDMENT	DESIGN	DRAWN	CHECKED	APPROVED
A	21.02.2020	PRELIMINARY DRAFT ISSUE	B.M.	P.B.	B.M.	B.M.
B	13.03.2020	TURNING HEAD & BASIN MOVED	B.M.	J.J.	B.M.	N.D.
C	03.04.2020	FOR TENDER	B.M.	M.H.	B.M.	N.D.
D	02.06.2020	MINOR AMENDMENTS	B.M.	M.F.	B.M.	N.D.
E	05.06.2020	MINOR NOTE AMENDMENTS	B.M.	M.F.	B.M.	N.D.
F	03.09.2020	PCA COMMENTS	B.M.	M.H.	B.M.	N.D.

SCALES

A1 1:500 — 0 12.5 25.0m — A3 1:1000

A1 1:100 — 0 2.5 5.0m — A3 1:200

DESIGN FILE S:\300001\DESIGN\12D\STAGE 1 CC.project

ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

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ABN 62 129 445 398

CLIENT: FRASERS PROPERTY

PROPERTY DESCRIPTION: LOT 5 D.P.740753, LOTS 6-20 D.P.861433 & LOT 100 D.P.1223787, HERRING ROAD & EPPING ROAD, MACQUARIE PARK 2322

SURVEYED: ADWJ

DATUM: AHD GDA 94

PROJECT: PROPOSED SUBDIVISION

PLAN TITLE: SIGNAGE & LINEMARKING PLAN

PROJECT No. 300001(1) – DISCIPLINE ENG – NUMBER 751 – REV. F

Plotted By: Ben Myles Plot Date: 10/09/20 3:08:59PM Cad File: S:\300001\DRAWINGS\ENGINEERING\CIVIL\STAGE 1 CC ENG\300001(1)-ENG-751.DWG

From:	Chris Koukoutaris
To:	Alex Ciecko
Cc:	Peter Statham
Subject:	FW: RE: Flooding - We-transfer link - 24.9.20 Ivanhoe Place Macquarie Park
Date:	Monday, 12 October 2020 8:36:54 AM
Attachments:	image6953f3.JPG imagea65991.JPG image001.png

FYI below

Condition B102 closed out with Council

Chris Koukoutaris
Senior Development Manager
Frasers Property Australia

T +61 2 9767 2223 **M** +61 434 034 371
E Chris.Koukoutaris@fraserspropery.com.au
Level 2, 1C Homebush Bay Drive, Rhodes NSW 2138 Australia
www.fraserspropery.com.au | LinkedIn | YouTube

From: Manel Mariner <ManelM@ryde.nsw.gov.au>
Sent: Friday, 9 October 2020 10:27 AM
To: Chris Koukoutaris <Chris.Koukoutaris@fraserspropery.com.au>
Subject: FW: RE: Flooding - We-transfer link - 24.9.20 Ivanhoe Place Macquarie Park

Hi Chris,

Just writing to confirm that Condition B102 is satisfied.

Kind regards,

Manel Mariner
Senior Engineer - Stormwater and Floodplain Management
ASSETS & INFRASTRUCTURE
P (02) 9952 8289
M 0434 859 371
E ManelM@ryde.nsw.gov.au
W www.ryde.nsw.gov.au

Customer Service Centre 1 Pope Street, Ryde (Within Top Ryde City shopping centre)
North Ryde Office Riverview Business Park, Building 0, Level 1, 3 Richardson Place, North Ryde

Let's Connect Facebook | Twitter | Instagram | YouTube | eNews

From: Chris Koukoutaris <Chris.Koukoutaris@fraserspropery.com.au>
Sent: Thursday, 24 September 2020 1:38 PM
To: City of Ryde <CityofRyde@ryde.nsw.gov.au>
Cc: 'Eric Hausfeld' <Eric@LDC.com.au>; Alex Ciecko <aciecko@mckenzie-group.com.au>; Peter Statham <Peter.Statham@fraserspropery.com.au>
Subject: [SUSPICIOUS MESSAGE] RE: Flooding - We-transfer link - 24.9.20 Ivanhoe Place Macquarie Park

This Message contains suspicious characteristics and has originated outside your organization.

Hi Ryde Council

In complying with the conditions of consent for approval SSD 8903 – Condition B102

Please find the we-transfer link which includes the TUFLOW models.

https://we.tl/t-UYW1bwEqLY

If you have any queries feel free to contact me.

Kind regards

Chris Koukoutaris
Senior Development Manager
Frasers Property Australia

T +61 2 9767 2223 **M** +61 434 034 371
E Chris.Koukoutaris@fraserspropery.com.au
Level 2, 1C Homebush Bay Drive, Rhodes NSW 2138 Australia
www.fraserspropery.com.au | LinkedIn | YouTube

We've changed the way we work to accommodate COVID-19. For details visit our website.

From:	Peter Statham
To:	cityofryde@ryde.nsw.gov.au
Cc:	Joe Avgoustis; Chris Koukoutaris; Eric Hausfeld; Alex Ciecko
Subject:	FW: Stormwater - Dropbox Link - 22.9.20 Ivanhoe Place Macquarie Park
Date:	Wednesday, 23 September 2020 8:33:53 PM
Attachments:	image001.png image002.png

Hi Ryde Council

In complying with the conditions of consent for approval SSD 8903 – Conditions B97 and B98

Please find the drop box link for the CCTV condition survey of existing stormwater pipeline thought Lot 1 DP 859537 and Herring Road and Lyonpark Road.

If you have any queries feel free to contact me.

Kind regards

Peter Statham
Project Manager
Frasers Property Australia

T +61 2 9767 2071 **M** +61 416 715 491
E Peter.Statham@fraserspropery.com.au
Suite 11, Lumiere Commercial Level 12, 101 Bathurst Street,, Sydney NSW 2000 Australia
www.fraserspropery.com.au | LinkedIn | YouTube

Macquarie Park SW Survey 22.9.20

From:	David Taylor
To:	Peter Statham
Cc:	Joe Avgoustis; Chris Koukoutaris; Alex Ciecko; Elbert Wang
Subject:	RE: Condition B38 - Application SSD8903
Date:	Monday, 28 September 2020 5:48:21 PM
Attachments:	image001.png image002.png 6820E_DC.2.pdf

Peter,

Attached is the certification that Elbert had already completed for Ryde Council.

Regards

David Taylor

Shelmerdines Consulting Engineers
Tel: (02) 9436 3021
Mob: 0419 615 351
Email: dtaylor@shelmerdines.com.au
Web: www.shelmerdines.com.au

From: Peter Statham <Peter.Statham@frasersproperty.com.au>
Sent: Monday, 28 September 2020 5:23 PM
To: David Taylor <dtaylor@shelmerdines.com.au>
Cc: Joe Avgoustis <Joe.Avgoustis@frasersproperty.com.au>; Chris Koukoutaris <Chris.Koukoutaris@frasersproperty.com.au>; Alex Ciecko <aciecko@mckenzie-group.com.au>; Elbert Wang <Elbert@shelmerdines.com.au>
Subject: RE: Condition B38 - Application SSD8903

Hi David,

Sounds good.

Thanks

Peter Statham
Project Manager
Frasers Property Australia

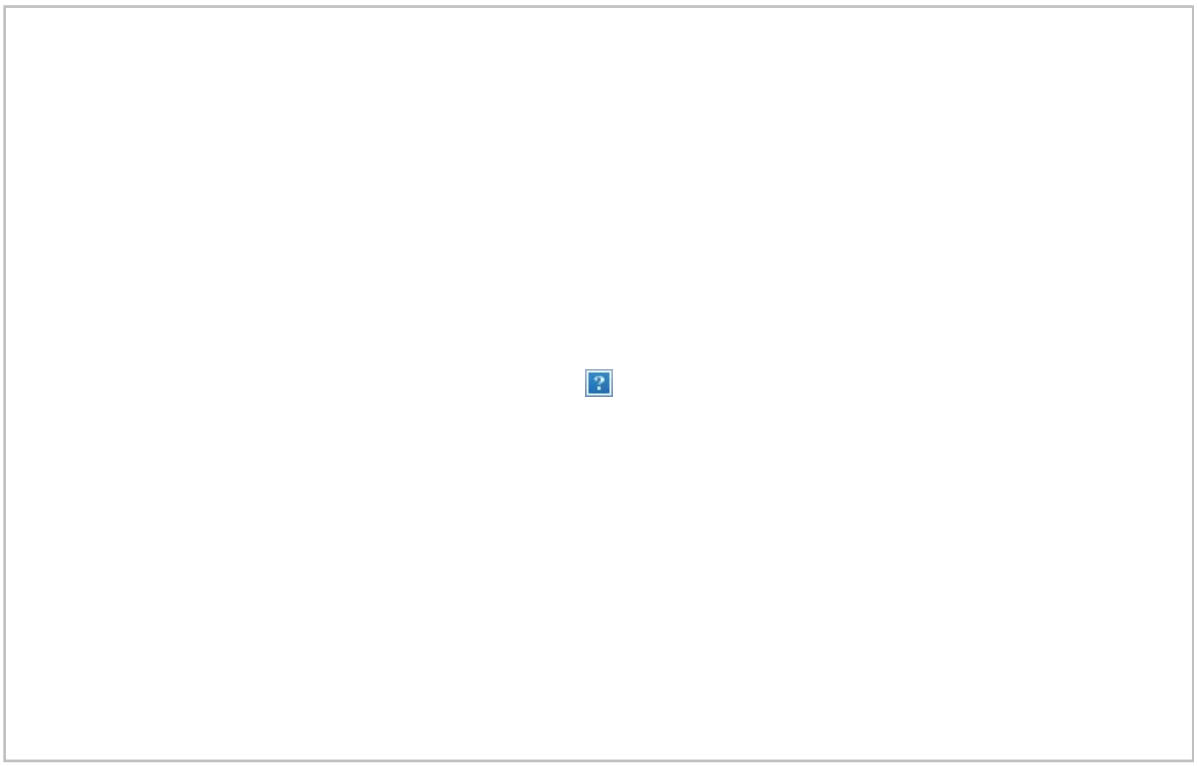
T +61 2 9767 2071 **M** +61 416 715 491
E Peter.Statham@frasersproperty.com.au
Suite 11, Lumiere Commercial Level 12, 101 Bathurst Street,, Sydney NSW 2000 Australia
www.frasersproperty.com.au | LinkedIn | YouTube

From: David Taylor <dtaylor@shelmerdines.com.au>
Sent: Monday, 28 September 2020 5:14 PM
To: Peter Statham <Peter.Statham@frasersproperty.com.au>
Cc: Joe Avgoustis <Joe.Avgoustis@frasersproperty.com.au>; Chris Koukoutaris <Chris.Koukoutaris@frasersproperty.com.au>; Alex Ciecko <aciecko@mckenzie-group.com.au>; Elbert Wang <Elbert@shelmerdines.com.au>

Subject: RE: Condition B38 - Application SSD8903

Peter,

In the forward of AS4282 is the below statement. As we have not provided calculation for obtrusive lighting in the streetlighting calculations we are unable to provide certification to AS4282. But happy to provide for AS1158.



Regards

David Taylor

Shelmerdines Consulting Engineers
Tel: (02) 9436 3021
Mob: 0419 615 351
Email: dtaylor@shelmerdines.com.au
Web: www.shelmerdines.com.au

From: Peter Statham <Peter.Statham@fraserspropery.com.au>
Sent: Monday, 28 September 2020 5:10 PM
To: David Taylor <dtaylor@shelmerdines.com.au>
Cc: Joe Avgoustis <Joe.Avgoustis@fraserspropery.com.au>; Chris Koukoutaris <Chris.Koukoutaris@fraserspropery.com.au>; Alex Ciecko <aciecko@mckenzie-group.com.au>; Elbert Wang <Elbert@shelmerdines.com.au>
Subject: RE: Condition B38 - Application SSD8903

Hi David

That is what is noted in the condition.

Kind regards

Peter Statham
Project Manager
Frasers Property Australia

T +61 2 9767 2071 **M** +61 416 715 491
E Peter.Statham@fraserspropery.com.au
Suite 11, Lumiere Commercial Level 12, 101 Bathurst Street,, Sydney NSW 2000 Australia
www.fraserspropery.com.au | LinkedIn | YouTube

We've changed the way we work to accommodate COVID-19. For details visit our website.

From: David Taylor <dtaylor@shelmerdines.com.au>
Sent: Monday, 28 September 2020 4:52 PM
To: Peter Statham <Peter.Statham@fraserspropery.com.au>
Cc: Joe Avgoustis <Joe.Avgoustis@fraserspropery.com.au>; Chris Koukoutaris <Chris.Koukoutaris@fraserspropery.com.au>; Alex Ciecko <aciecko@mckenzie-group.com.au>; Elbert Wang <Elbert@shelmerdines.com.au>
Subject: RE: Condition B38 - Application SSD8903

Peter,

Can you please check with the Certifier as standard AS4282 does not apply to Public Lighting. AS4282 is for lighting on private property.

Regards

David Taylor

Shelmerdines Consulting Engineers
Tel: (02) 9436 3021
Mob: 0419 615 351
Email: dtaylor@shelmerdines.com.au
Web: www.shelmerdines.com.au

From: Peter Statham <Peter.Statham@fraserspropery.com.au>
Sent: Monday, 28 September 2020 4:21 PM
To: David Taylor <dtaylor@shelmerdines.com.au>
Cc: Joe Avgoustis <Joe.Avgoustis@fraserspropery.com.au>; Chris Koukoutaris <Chris.Koukoutaris@fraserspropery.com.au>; Alex Ciecko <aciecko@mckenzie-group.com.au>; Elbert Wang <Elbert@shelmerdines.com.au>
Subject: Condition B38 - Application SSD8903

Hi David

Could you please issue a design certificate to accompany the stamped plans for:

Condition B38 Outdoor Lighting:

Noting that the lighting design Complies with AS/NZ1158.3: 1999 Pedestrian Area (Category P) Lighting and AS 4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting .

Thankyou
Kind regards

Peter Statham
Project Manager
Frasers Property Australia

T +61 2 9767 2071 **M** +61 416 715 491
E Peter.Statham@frasersproperty.com.au
Suite 11, Lumiere Commercial Level 12, 101 Bathurst Street,, Sydney NSW 2000 Australia
www.frasersproperty.com.au | LinkedIn | YouTube

We've changed the way we work to accommodate COVID-19. For details visit our website.

From:	Chris Koukoutaris
To:	"cityofryde@ryde.nsw.gov.au"
Cc:	"Eric Hausfeld"; Alex Ciecko; Peter Statham
Subject:	RE: Flooding - We-transfer link - 24.9.20 Ivanhoe Place Macquarie Park
Date:	Thursday, 24 September 2020 1:38:24 PM
Attachments:	image001.png

Hi Ryde Council

In complying with the conditions of consent for approval SSD 8903 – Condition B102

Please find the we-transfer link which includes the TUFLOW models.

https://we.tl/t-UYW1bwEqLY

If you have any queries feel free to contact me.

Kind regards

Chris Koukoutaris
Senior Development Manager
Frasers Property Australia

T +61 2 9767 2223 **M** +61 434 034 371
E Chris.Koukoutaris@fraserspropery.com.au
Level 2, 1C Homebush Bay Drive, Rhodes NSW 2138 Australia
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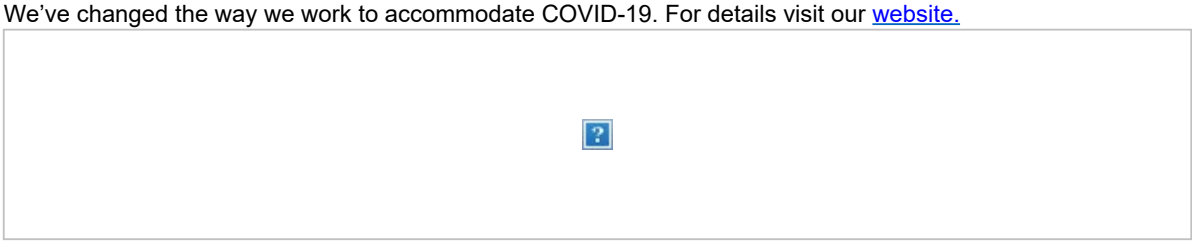


FOR GENERAL NOTES REFER TO DRAWING ST-001-00

BH — DENOTES BOREHOLE LOCATION AS INFERRED FROM DOUGLAS PARTNERS GEOTECHNICAL REPORT 86043.01 R.001.Rev1 . ALL LOCATIONS ARE APPROXIMATE ONLY

NOTE:

- PERIMETER RETENTION SUBJECT TO REVIEW AND DESIGN DEVELOPMENT PENDING CONFIRMATION OF ROAD LEVELS, LANDSCAPING AND GROUND FLOOR ARRANGEMENT.

P### — DENOTES PILE TAG. REFER TO RETENTION PILE SCHEDULE FOR PILE SPECIFICATIONS

CB## — DENOTES CAPPING BEAM EXTENT TAG. REFER TO CAPPING BEAM SCHEDULE FOR BEAM SPECIFICATIONS

IVANHOE PLACE

HERRING ROAD

BOUNDARY LINE

BH1

BH2

BH3

TOP OF EARLY WORKS BATTER FOR CONSTRUCTION OF ROAD. REFER TO CIVIL ENGINEERS DRAWINGS.

TOP OF EARLY WORKS BATTER FOR CONSTRUCTION OF ROAD. REFER TO CIVIL ENGINEERS DRAWINGS.

DENOTES PROPOSED VERTICAL STRUCTURE. ENSURE TEMPORARY GROUND ANCHORS ARE INSTALLED SO THAT THEY DO NOT CLASH WITH THE PROPOSED STRUCTURE.

BORED HOLE. REFER TO DRAWING ST-002-41 FOR TYPICAL DETAIL AND CONSTRUCTION SEQUENCE

BLOCKOUT IN SLABS REQUIRED FOR STEEL MEMEBERS. REFER TO DRAWING ST-002-42

TEMPORARY WALERS AND STRUTS. REFER TO DRAWING ST-002-41, ST-002-42 AND ST-002-43, FOR SITE RETENTION TRUSS PLANS SECTIONS

TEMPORARY WALERS AND STRUTS. REFER TO DRAWING ST-002-41, ST-002-42 AND ST-002-43, FOR SITE RETENTION TRUSS PLANS SECTIONS

WHERE AGAINST A NEIGHBOURING BOUNDARY, ALL PILES TO BE OFFSET FROM BOUNDARY TO ALLOW FOR 75mm TOLERANCE AND 1:100 VERTICAL TOLERANCE. D&C CONTRACTOR TO INCREASE OFFSET IF REQUIRED TO SUITE PILING TOLERANCES TYPICALLY

DENOTES ASSUMED LOCATION OF NEIGHBOURING PERIMETER WALL

137-143 HERRING ROAD NEIGHBOURING SITE. REFER TO EXISTING DRAWINGS FOR SITE RETENTION AND BUILDING STRUCTURAL WALL REQUIREMENTS

FUTURE DRIVE WAY

DASHED LINE DENOTES TOP OF BATTER

INDICATIVE BATTER ZONE T.B.C.

SITE RETENTION NOTES:

- THE GEOTECHNICAL PROFILES SHOWN ARE INFERRED FROM THE 3x BOREHOLES LOCATED WITHIN THE A1 SITE FOOTPRINT AS INSTRUCTED BY FRASERS PROPERTY. THIS LIMITED DATA HAS BEEN EXTRAPOLATED TO THE FULL SITE BOUNDARY. IT IS HIGHLY RECOMMENDED THAT ADDITIONAL BORE HOLES BE UNDERTAKEN TO REDUCE RELIANCE ON ASSUMPTIONS AND ALLOW DETAIL DESIGN TO PROGRESS.
- GEOTECHNICAL INSPECTION REQUIRED DURING EXCAVATION TO CONFIRM REQUIRED EXTENT OF RETENTION.
- GEOTECHNICAL ENGINEER TO CONFIRM TOE DETAIL TYPICAL

CAPPING BEAM SCHEDULE

CAPPING BEAM TAG	DEPTH (mm)	WIDTH (mm)	CONCRETE STRENGTH (MPa)	TOP REINFORCEMENT	BOTTOM REINFORCEMENT	SIDE FACE REINFORCEMENT	TIES
CB1A	600	900	40	5N36	5N36	3N36 additional E.F.	N16-300
CB2A	600	900	40	5N20	5N20	2N20 additional E.F.	N12-300
CB2B	600	900	40	5N20	5N20	2N20 additional E.F.	N12-300
CB3A	600	900	40	5N20	5N20	2N20 additional E.F.	N12-300
CB4A	600	900	40	5N20	5N20	2N20 additional E.F.	N12-300
CB5A	600	900	40	5N20	5N20	2N20 additional E.F.	N12-300
CB10A	600	900	40	5N20	5N20	2N20 additional E.F.	N12-300
CB12A	600	900	40	5N20	5N20	2N20 additional E.F.	N12-300

RETENTION PILE SCHEDULE

PILE TAG	DIAMETER (mm)	MAX SPACING (mm)	f'c (Mpa)	LONGITUDINAL REINFORCEMENT	TIES
P1A	600	2400	40	6N28	N12-300
P1B	600	1500	40	8N32	N12-300
P1C	750	-	40	6N28	N12-300
P2A	600	2400	40	10N32	N16-300
P2B	600	2400	40	8N36	N16-300
P3A	600	2400	40	10N32	N12-300
P4A	600	2400	40	10N32	N12-300
P4B	600	1500	40	8N32	N12-300
P5A	600	1500	40	8N32	N12-300
P5B	600	2400	40	6N28	N12-300
P10A	600	2400	40	8N28	N12-300
P12A	600	2000	40	8N28	N12-300

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
5	09.04.21	90% FOR CONSTRUCTION
4	24.04.20	ISSUED FOR INFORMATION
3	14.02.20	70% TENDER
2	31.01.20	DRAFT TENDER
1	11.12.19	ISSUED FOR INFORMATION
0	12.11.19	ISSUED FOR INFORMATION

STRUCTURAL / CIVIL CONSULTANT
enstruct
enstruct group pty ltd
Level 4, 2 Glen Street, Milsons Point NSW 2061
Telephone (02) 8904 1444
http: //www.enstruct.com.au

CLIENT: FRASERS PROPERTY

BUILDER

PROJECT NAME: Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE: SITE RETENTION GENERAL ARRANGEMENT

SCALE AT B1: 1 : 100
DRAWN BY: WAS
CHECKED BY: PAS

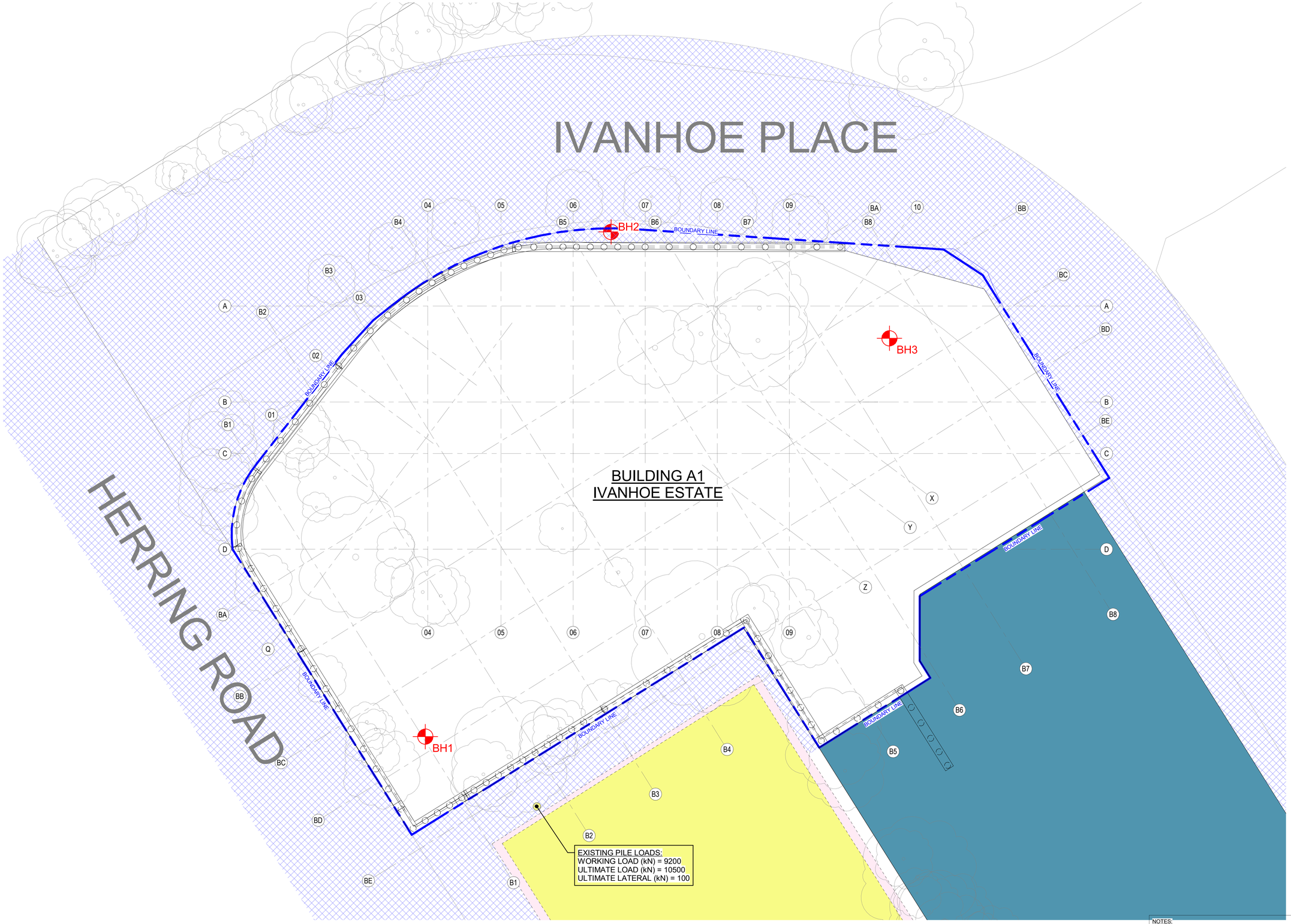
DRAWING STATUS: FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-00
REV.: A

28/04/2021 9:32:13 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SITE RETENTION LOADING DIAGRAM

SCALE:1 : 150

LOADING KEY:

- DENOTES 137-143 HERRING ROAD 23 STOREY RESIDENTIAL TOWER. REFER TO EXISTING DRAWINGS FOR PILE LOADS
- DENOTES ADJACENT BUILDING. DEPTH OF SITE RETENTION / FOOTING AND LOADS TO BE DETERMINED AFTER DETAILED GEOTECHNICAL INVESTIGATION. DL = T.B.C. LL = T.B.C. (20KPa MINIMUM)
- 20kPa SURCHARGE LIVE LOAD

NOTES:

- REFER TO GEOTECHNICAL REPORT FOR PILE DESIGN AND EARTHWORK PARAMETERS/REQUIREMENTS.
- PILE CONTRACTOR/GEOTECHNICAL ENGINEER TO DESIGN SITE RETENTION FOR 20kPa SURCHARGE TYPICALLY
- ALL TEMPORARY BATTERS >3000mm IN HEIGHT REQUIRE A STABILITY CHECK BY THE GEOTECHNICAL ENGINEER.
- ALL EXISTING SERVICES AND FOUNDATIONS ARE TO BE LOCATED BY THE CONTRACTOR AND COORDINATED WITH THE GROUND ANCHORS.
- CONTRACTOR TO ALLOW FOR TEMPORARY SHORING WITHIN BOUNDARY LINE WHERE EXISTING PAVEMENT LEVEL IS ABOVE NEW CAPPING BEAM LEVEL. TEMPORARY SHORING TO CONSIDER MINIMUM DESIGN REQUIREMENTS SPECIFIED IN THE NCC GUIDELINES.
- SOIL MOVEMENT OF EXPOSED EXCAVATION FACES AND DEFLECTION/SETTLEMENT OF THE RETENTION SYSTEM MUST BE LIMITED TO HEIGHT/1000 OR 10mm WHICHEVER IS LESS. IF MOVEMENT SENSITIVE SERVICES ARE LOCATED ADJACENT THE BOUNDARY, THE D&C CONTRACTOR IS TO ALLOW FOR A MORE STRINGENT MOVEMENT CRITERIA DETERMINED BY THE CONTRACTOR.
- CONTRACTOR TO MAKE ALLOWANCE FOR HOARDING LOADS, CRANE LOADS, OUTRIGGER LOADS etc.

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
1	14.02.20	70% TENDER
0	31.01.20	DRAFT TENDER

STRUCTURAL / CIVIL CONSULTANT

enstruct

enstruct group pty ltd

Level 4, 2 Glen Street, Milsons Point NSW 2061
Telephone (02) 8904 1444
http://www.enstruct.com.au

CLIENT

FRASERS PROPERTY

BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SITE RETENTION LOADING DIAGRAM

SCALE AT B1: 1 : 150
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

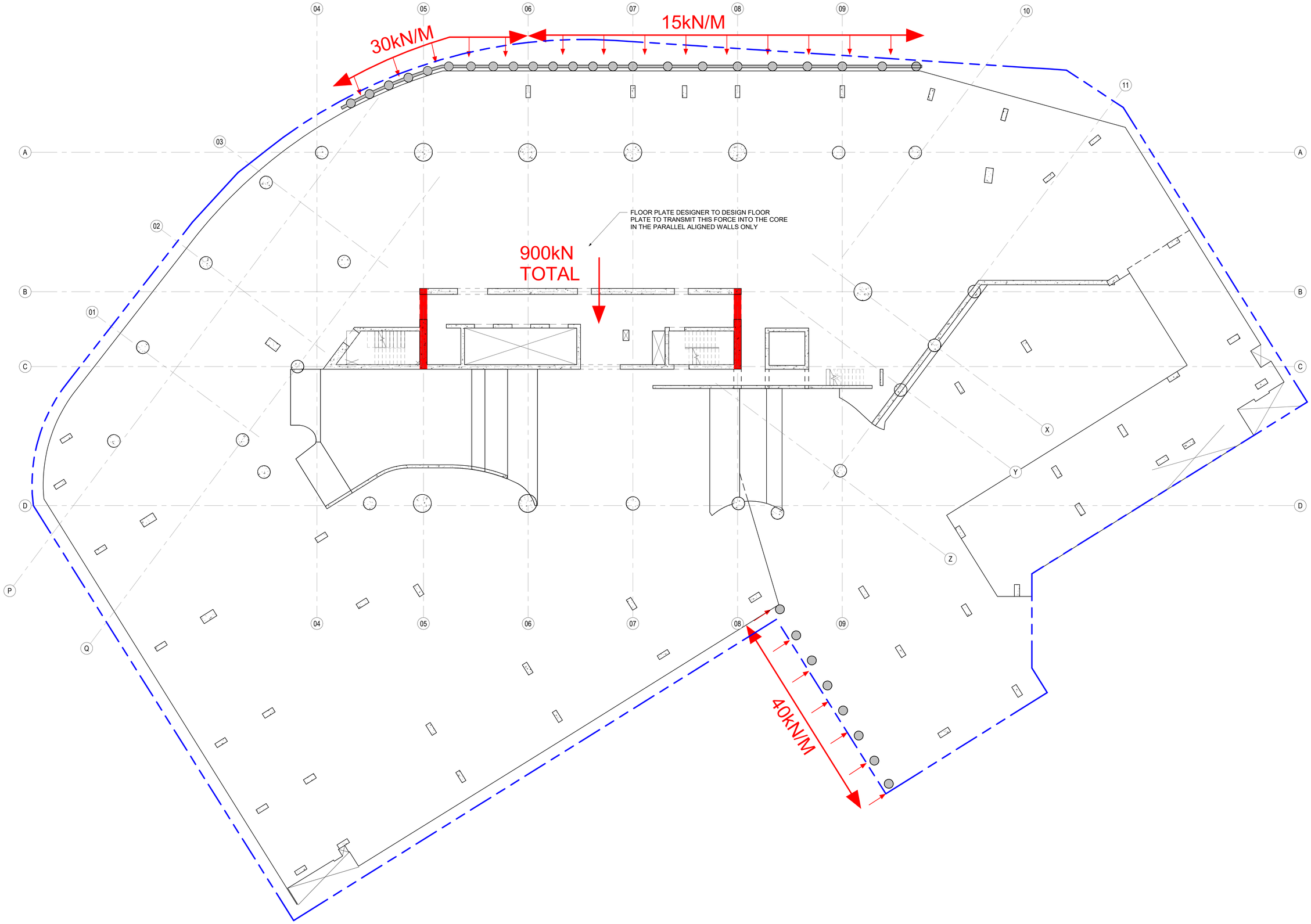
DRAWING NUMBER: A1-ST-002-01

REV.: A

28/04/2021 9:33:54 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SOIL LOADING DIAGRAM - BASEMENT 01

SCALE: 1 : 100

SOIL LOADING NOTES:

- LOADS ARE TO BE READ IN CONJUNCTION WITH THE SITE RETENTION LOADING DIAGRAM
- FLOOR PLATE DESIGNER IS TO ALLOW FOR THE FACTORED IN-PLANE LOADS DUE TO SOIL AND SURCHARGE AS NOMINATED ON THE SOIL LOADING DIAGRAMS. LOADS ARE TO BE TRANSMITTED THROUGH THE FLOOR DIAPHRAGM AND OUT TO THE OPPOSITE SIDE OF TE SITE IN BEARING COMPRESSION U.N.O.
- PILE WALL DESIGNER TO DESIGN FOR THE SHEAR LOADS AS NOMINATED.

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
1	14.02.20	70% TENDER
0	31.01.20	DRAFT TENDER

STRUCTURAL / CIVIL CONSULTANT

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CLIENT

FRASERS PROPERTY

BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SOIL LOADING DIAGRAM - BASEMENT 01

SCALE AT B1: 1 : 100
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

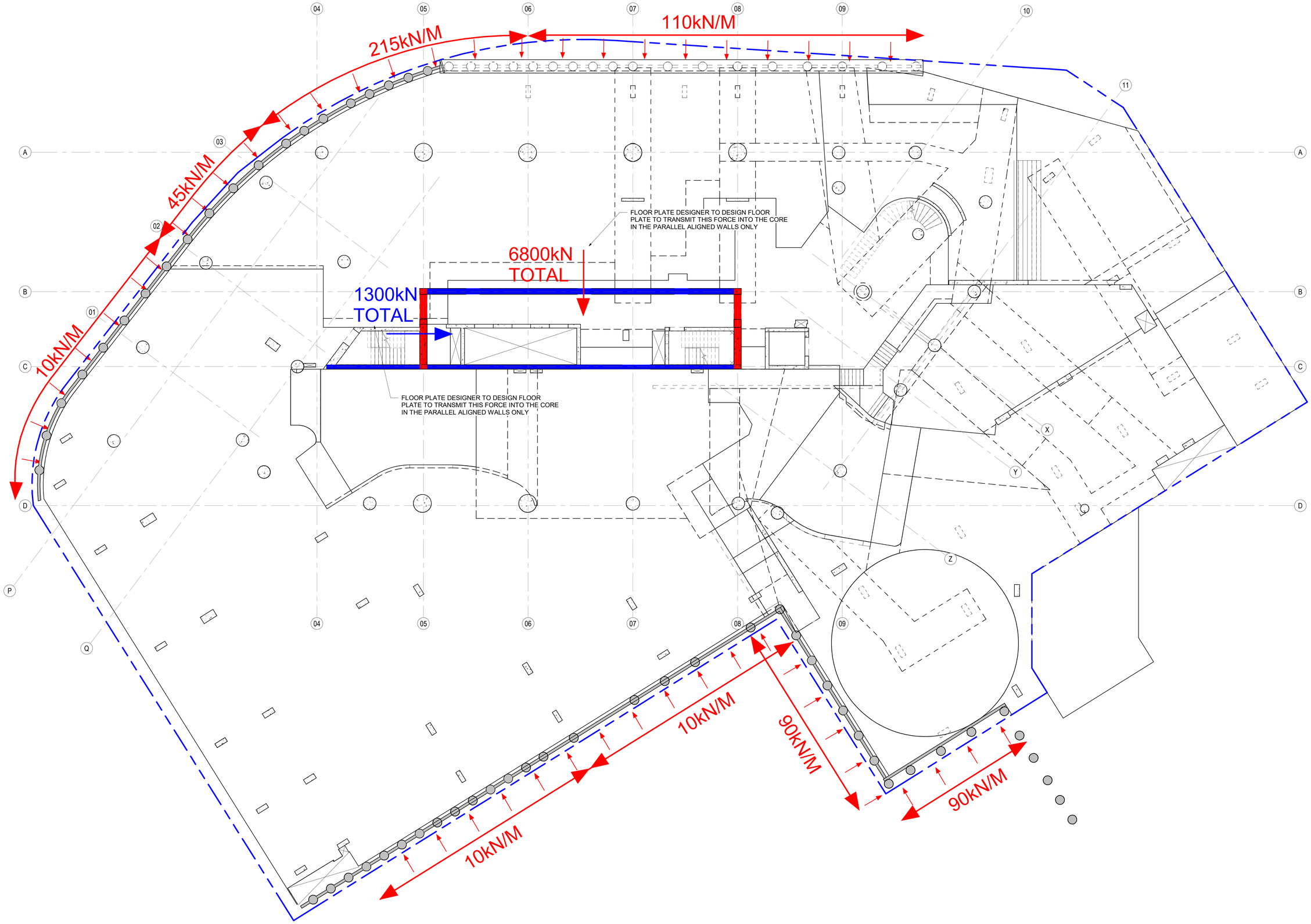
DRAWING NUMBER: A1-ST-002-02

REV.: A

28/04/2021 9:32:22 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SOIL LOADING DIAGRAM - LOWER GROUND

SCALE: 1 : 100

SOIL LOADING NOTES:

- LOADS ARE TO BE READ IN CONJUNCTION WITH THE SITE RETENTION LOADING DIAGRAM
- FLOOR PLATE DESIGNER IS TO ALLOW FOR THE FACTORED IN-PLANE LOADS DUE TO SOIL AND SURCHARGE AS NOMINATED ON THE SOIL LOADING DIAGRAMS. LOADS ARE TO BE TRANSMITTED THROUGH THE FLOOR DIAPHRAGM AND OUT TO THE OPPOSITE SIDE OF TE SITE IN BEARING COMPRESSION U.N.O.
- PILE WALL DESIGNER TO DESIGN FOR THE SHEAR LOADS AS NOMINATED.

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
1	14.02.20	70% TENDER
0	31.01.20	DRAFT TENDER

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CLIENT

FRASERS PROPERTY

BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SOIL LOADING DIAGRAM - LOWER GROUND

SCALE AT B1: 1 : 100
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

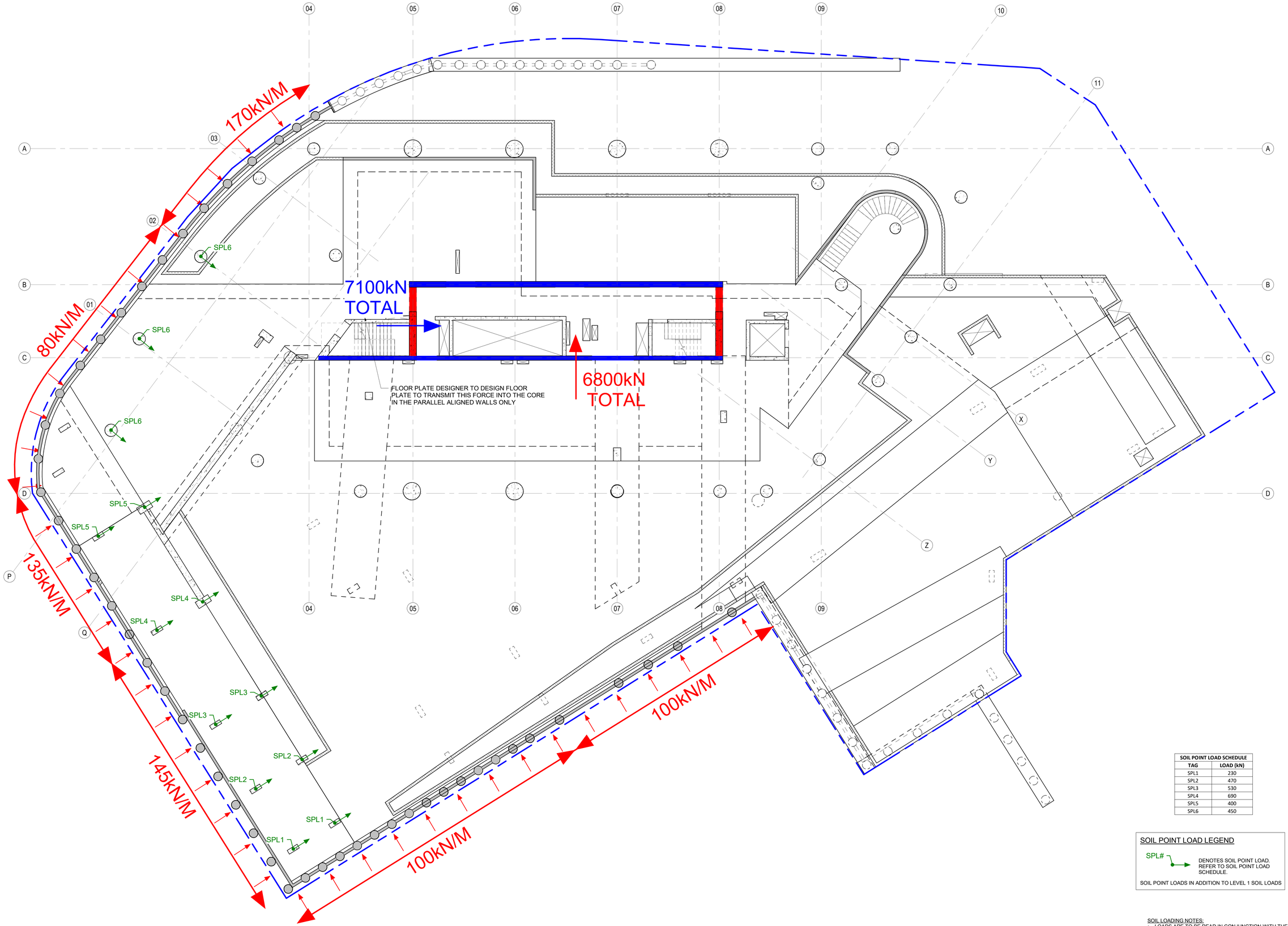
DRAWING NUMBER: A1-ST-002-03

REV.: A

28/04/2021 9:32:29 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SOIL LOADING DIAGRAM - GROUND FLOOR

SCALE: 1 : 100

SOIL POINT LOAD SCHEDULE	
TAG	LOAD (kN)
SPL1	230
SPL2	470
SPL3	530
SPL4	690
SPL5	400
SPL6	450

SOIL POINT LOAD LEGEND

SPL# — DENOTES SOIL POINT LOAD. REFER TO SOIL POINT LOAD SCHEDULE.

SOIL POINT LOADS IN ADDITION TO LEVEL 1 SOIL LOADS

SOIL LOADING NOTES:

- LOADS ARE TO BE READ IN CONJUNCTION WITH THE SITE RETENTION LOADING DIAGRAM
- FLOOR PLATE DESIGNER IS TO ALLOW FOR THE FACTORED IN-PLANE LOADS DUE TO SOIL AND SURCHARGE AS NOMINATED ON THE SOIL LOADING DIAGRAMS. LOADS ARE TO BE TRANSMITTED THROUGH THE FLOOR DIAPHRAGM AND OUT TO THE OPPOSITE SIDE OF TE SITE IN BEARING COMPRESSION U.N.O.
- PILE WALL DESIGNER TO DESIGN FOR THE SHEAR LOADS AS NOMINATED.

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
1	14.02.20	70% TENDER
0	31.01.20	DRAFT TENDER

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Telephone (02) 8904 1444
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CLIENT

FRASERS PROPERTY

BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SOIL LOADING DIAGRAM - GROUND FLOOR

SCALE AT B1: 1 : 100
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

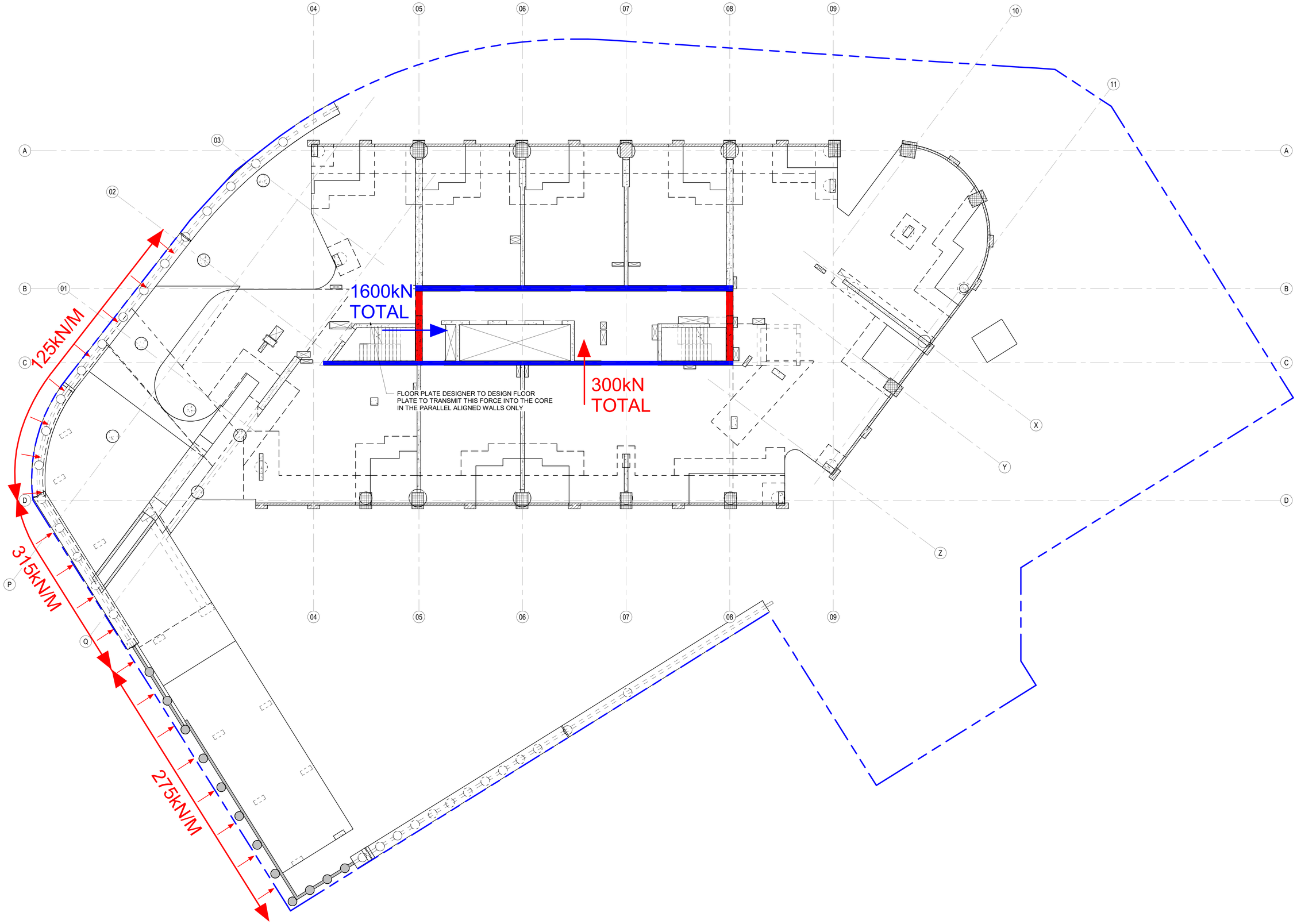
DRAWING NUMBER: A1-ST-002-04

REV.: A

28/04/2021 9:32:36 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SOIL LOADING DIAGRAM - LEVEL 01

SCALE: 1 : 100

SOIL LOADING NOTES:
- LOADS ARE TO BE READ IN CONJUNCTION WITH THE SITE RETENTION LOADING DIAGRAM
- FLOOR PLATE DESIGNER IS TO ALLOW FOR THE FACTORED IN-PLANE LOADS DUE TO SOIL AND SURCHARGE AS NOMINATED ON THE SOIL LOADING DIAGRAMS. LOADS ARE TO BE TRANSMITTED THROUGH THE FLOOR DIAPHRAGM AND OUT TO THE OPPOSITE SIDE OF TE SITE IN BEARING COMPRESSION U.N.O.
- PILE WALL DESIGNER TO DESIGN FOR THE SHEAR LOADS AS NOMINATED.

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
1	14.02.20	70% TENDER
0	31.01.20	DRAFT TENDER

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FRASERS PROPERTY

BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SOIL LOADING DIAGRAM - LEVEL 01

SCALE AT B1: 1 : 100
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

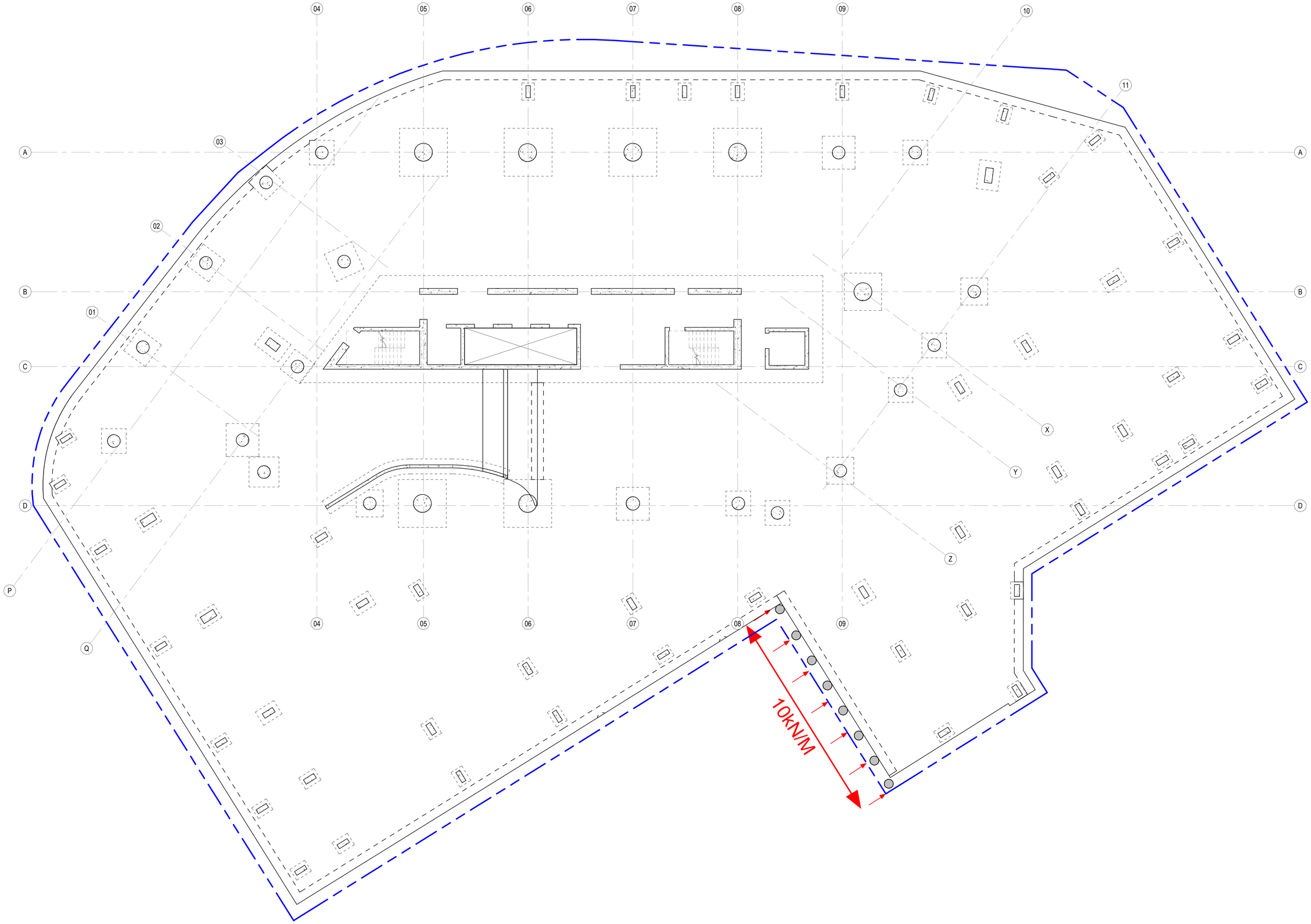
DRAWING NUMBER: A1-ST-002-05

REV.: A

28/04/2021 9:32:42 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SOIL LOADING DIAGRAM - BASEMENT 03

SCALE: 1 : 100

SOIL LOADING NOTES:

- LOADS ARE TO BE READ IN CONJUNCTION WITH THE SITE RETENTION LOADING DIAGRAM
- FLOOR PLATE DESIGNER IS TO ALLOW FOR THE FACTORED IN-PLANE LOADS DUE TO SOIL AND SURCHARGE AS NOMINATED ON THE SOIL LOADING DIAGRAMS. LOADS ARE TO BE TRANSMITTED THROUGH THE FLOOR DIAPHRAGM AND OUT TO THE OPPOSITE SIDE OF TE SITE IN BEARING COMPRESSION U.N.O.
- PILE WALL DESIGNER TO DESIGN FOR THE SHEAR LOADS AS NOMINATED.

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION

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BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SOIL LOADING DIAGRAM - BASEMENT 03

SCALE AT B1: 1 : 100

DRAWN BY: WAS

CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

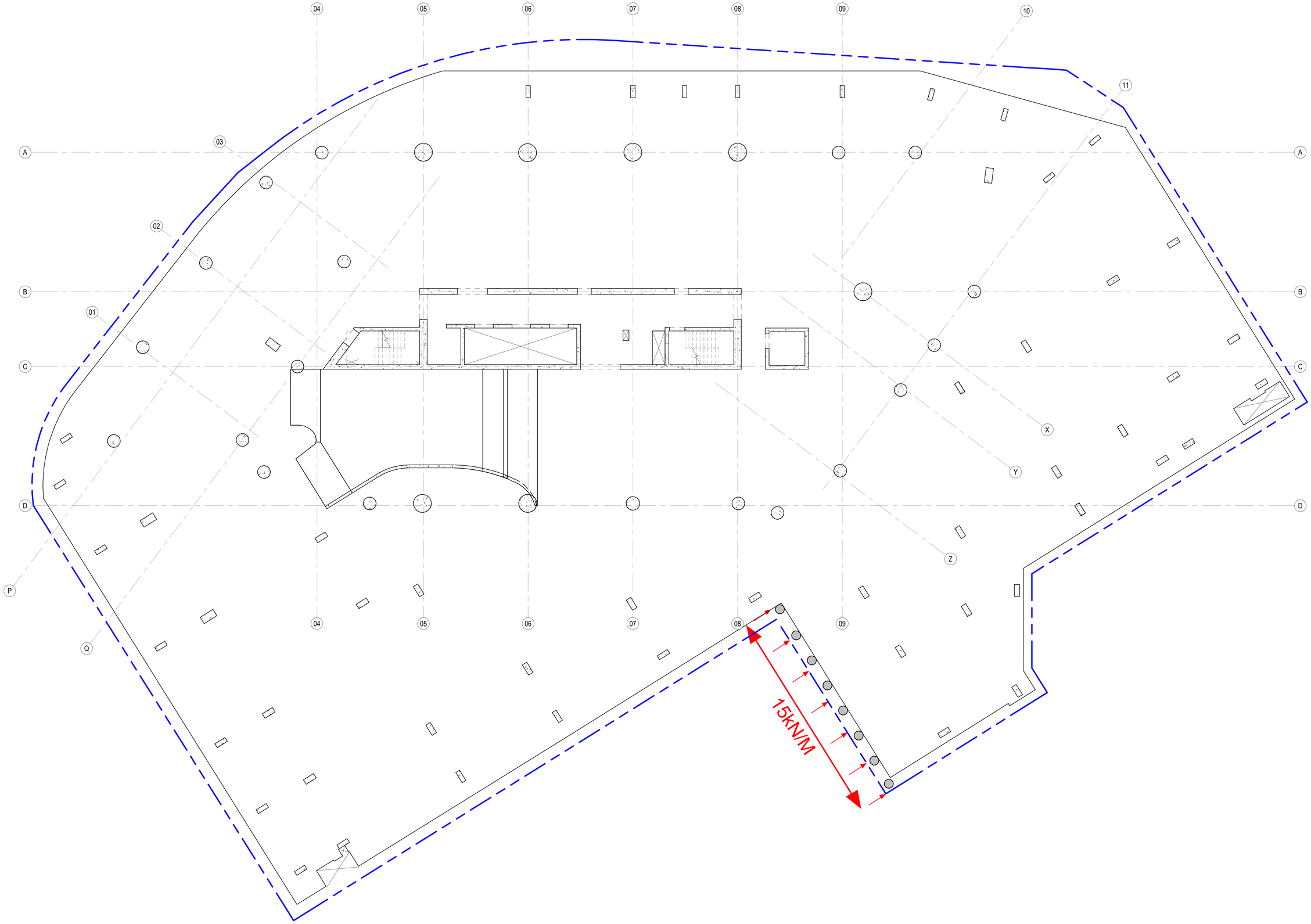
DRAWING NUMBER: A1-ST-002-06

REV.: A

28/04/2021 9:32:48 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SOIL LOADING DIAGRAM - BASEMENT 02

SCALE: 1 : 100

SOIL LOADING NOTES:

- LOADS ARE TO BE READ IN CONJUNCTION WITH THE SITE RETENTION LOADING DIAGRAM
- FLOOR PLATE DESIGNER IS TO ALLOW FOR THE FACTORED IN-PLANE LOADS DUE TO SOIL AND SURCHARGE AS NOMINATED ON THE SOIL LOADING DIAGRAMS. LOADS ARE TO BE TRANSMITTED THROUGH THE FLOOR DIAPHRAGM AND OUT TO THE OPPOSITE SIDE OF TE SITE IN BEARING COMPRESSION U.N.O.
- PILE WALL DESIGNER TO DESIGN FOR THE SHEAR LOADS AS NOMINATED.

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION

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BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SOIL LOADING DIAGRAM - BASEMENT 02

SCALE AT B1: 1 : 100
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-07

REV.: A

28/04/2021 9:32:54 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00

WALER BEAM FOR TEMPORARY TRUSS SYSTEM. REFER TO DRAWINGS A1-ST-002-41 TO A1-002-43 FOR PLANS AND DETAILS

SITE RETENTION SHOTCRETE WALL EXTENT PLAN

SCALE: 1 : 100

SHOTCRETE WALL LEGEND:

- DENOTES EXTENT OF SHOTCRETE WALL CENTRAL TO PILE WALL. REFER TO A1-ST-002-61 AND A1-ST-002-62 FOR TYPICAL DETAILS
- DENOTES EXTENT OF SHOTCRETE WALL NOT CENTRAL TO PILE WALL. REFER TO A1-ST-002-61 AND A1-ST-002-62 FOR TYPICAL DETAILS

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION

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PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SITE RETENTION SHOTCRETE WALL EXTENT PLAN

SCALE AT B1: 1 : 100
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

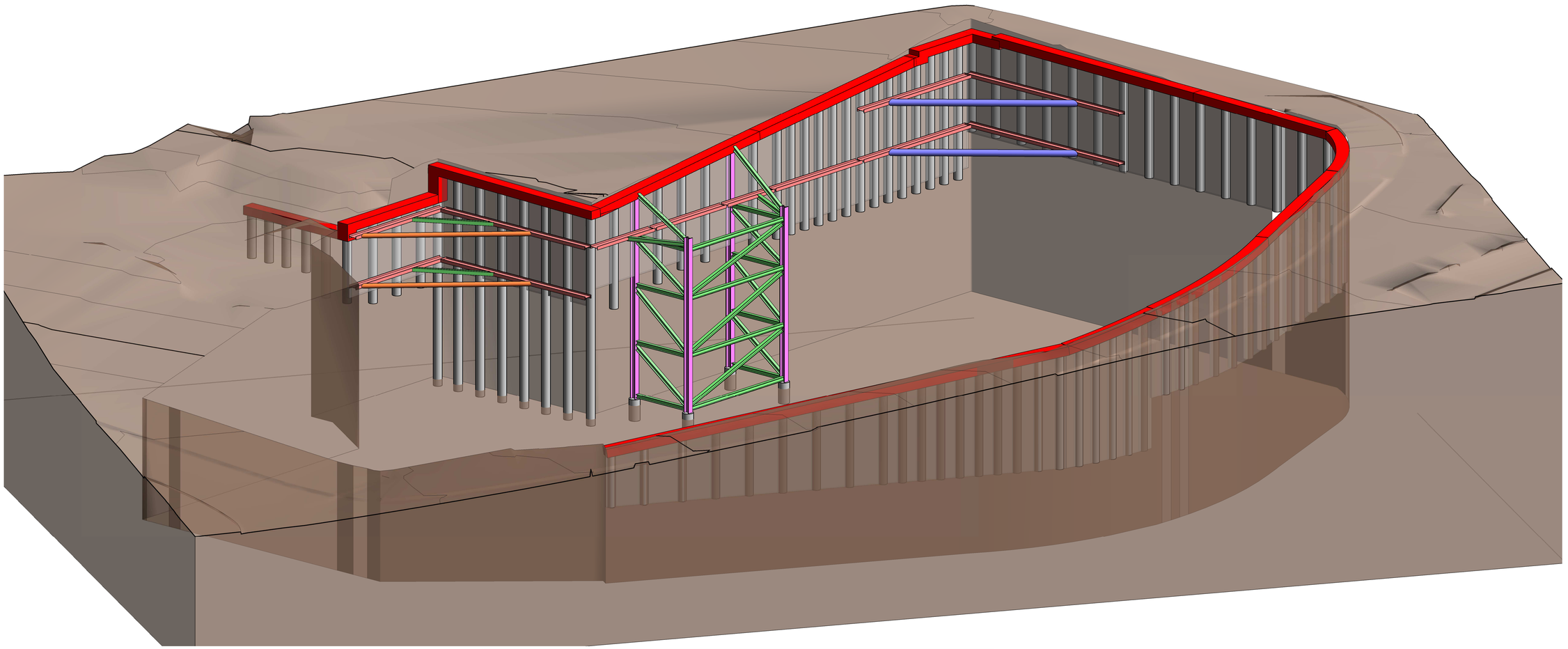
DRAWING NUMBER: A1-ST-002-08

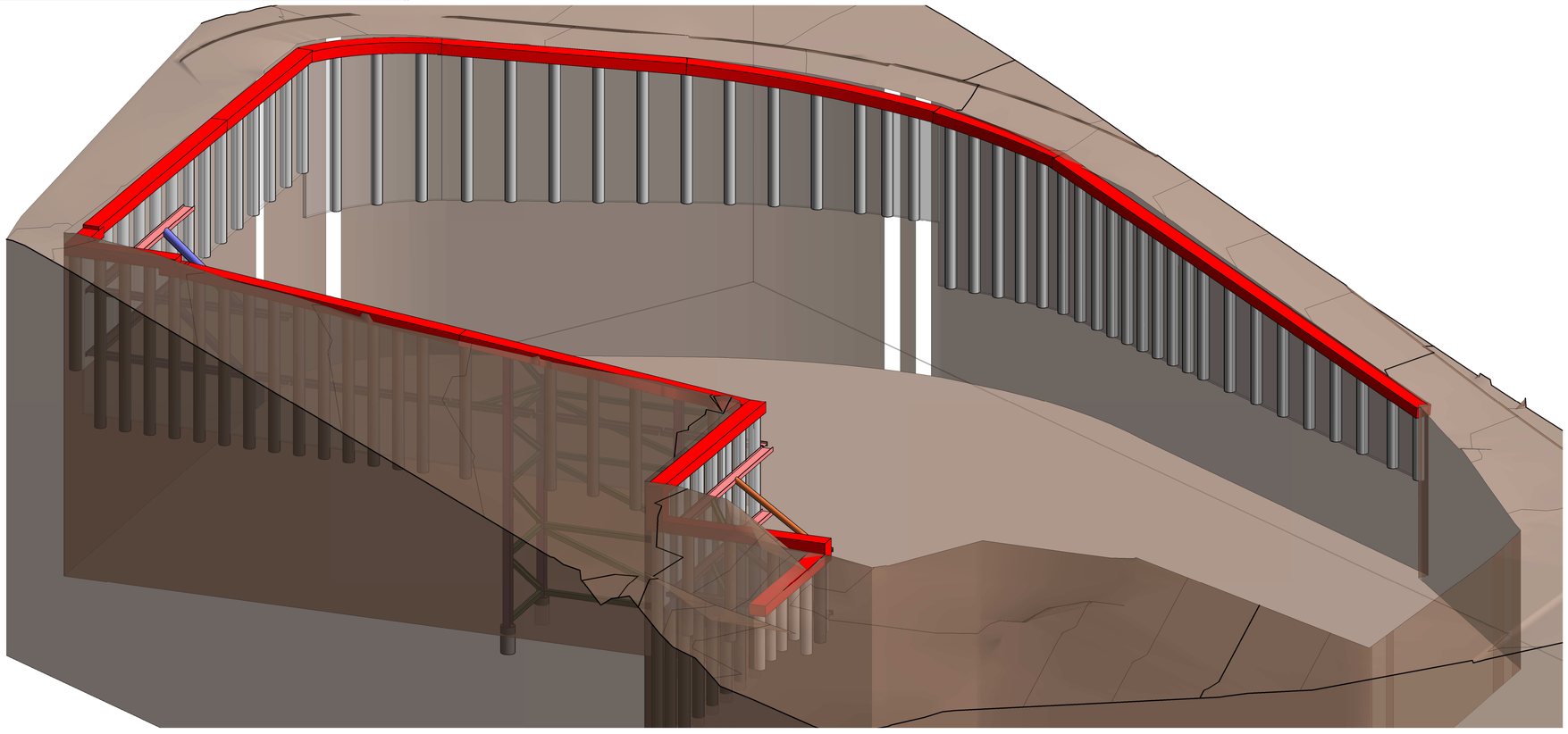
REV.: A

28/04/2021 9:32:59 PM

B1

FOR GENERAL NOTES REFER TO DRAWING ST-001-00





28/04/2021 9:33:09 PM

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
1	09.04.21	90% FOR CONSTRUCTION
0	14.02.20	70% TENDER

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PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SITE RETENTION ISOMETRIC VIEWS

SCALE AT B1:
DRAWN BY: WAS
CHECKED BY: PAS

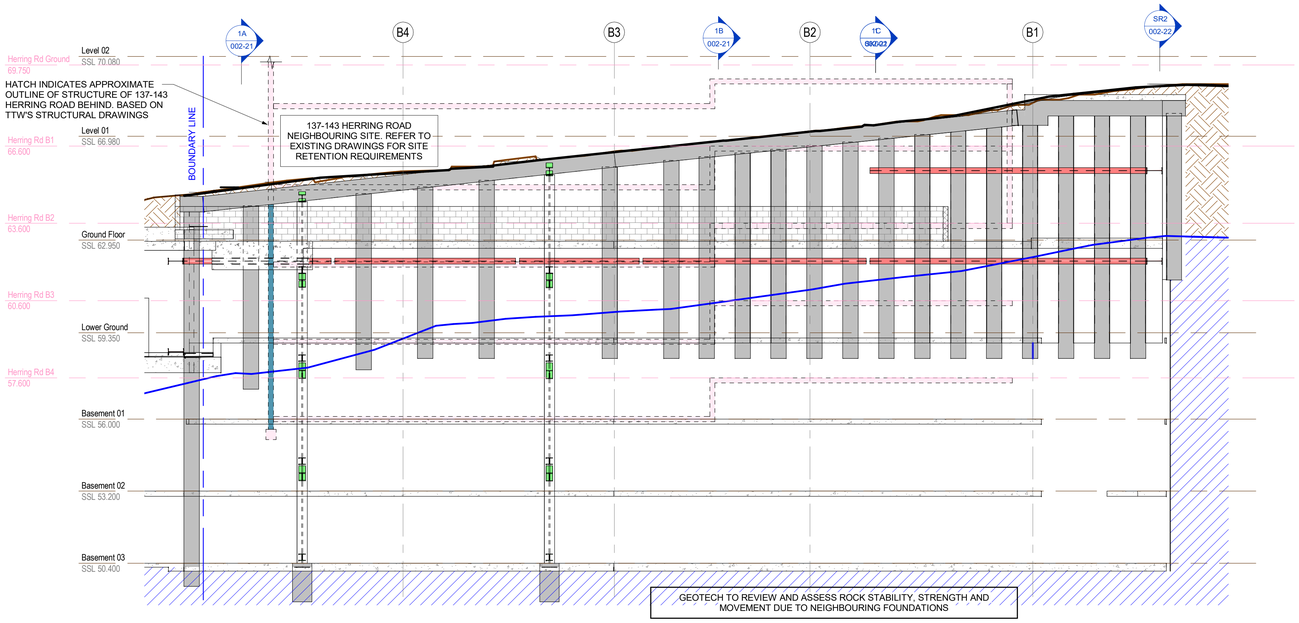
DRAWING STATUS

FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-10

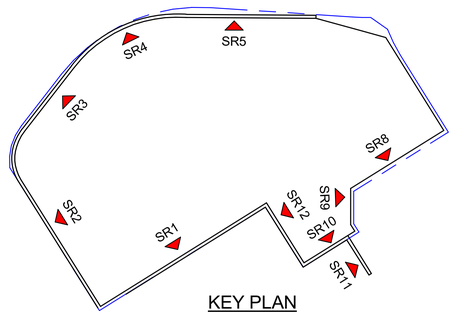
REV.: A

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SITE RETENTION ELEVATION 1

SCALE: 1 : 100



KEY PLAN

NOTE:

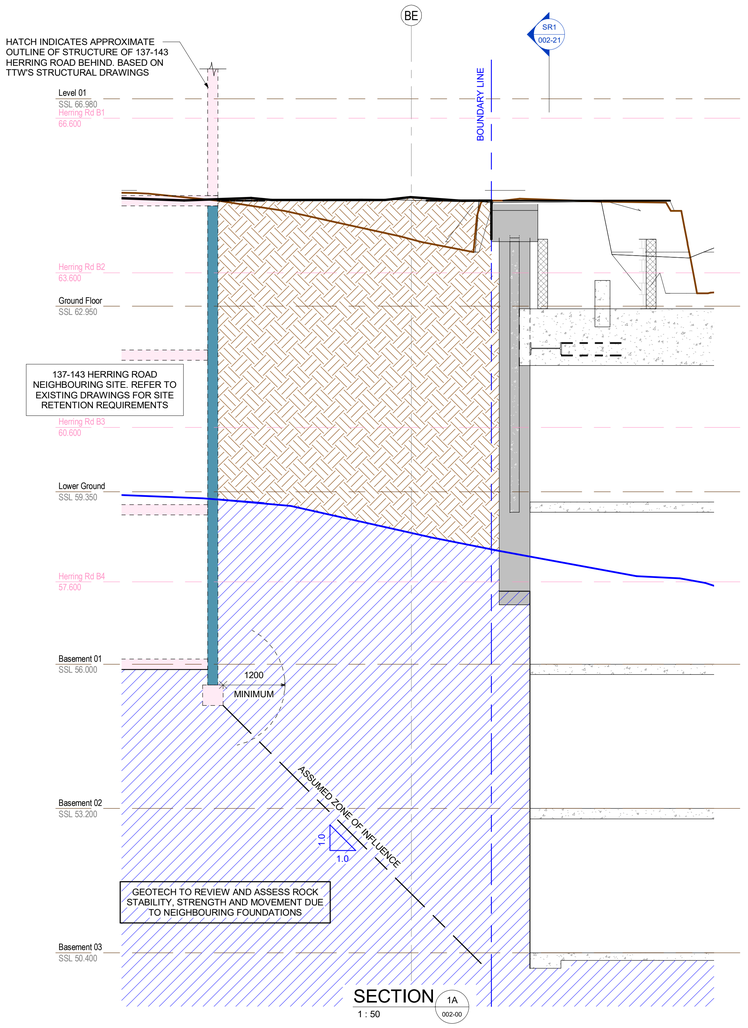
- PERIMETER RETENTION SUBJECT TO REVIEW AND DESIGN DEVELOPMENT PENDING CONFIRMATION OF ROAD LEVELS, LANDSCAPING AND GROUND FLOOR ARRANGEMENT.

LEGEND:

- DENOTES APPROXIMATE EXISTING GROUND LEVEL AND MATERIAL REQUIRING RETENTION (UNITS 1,2,3a,3b,4a)
- DENOTES BULK EXCAVATION (SUBJECT TO DESIGN DEVELOPMENT)
- DENOTES TOP OF MEDIUM/HIGH STRENGTH ROCK (UNIT 4c,4d). LEVELS ARE APPROXIMATE AND BASED EXTRAPOLATION OF LIMITED BORE HOLE RESULTS

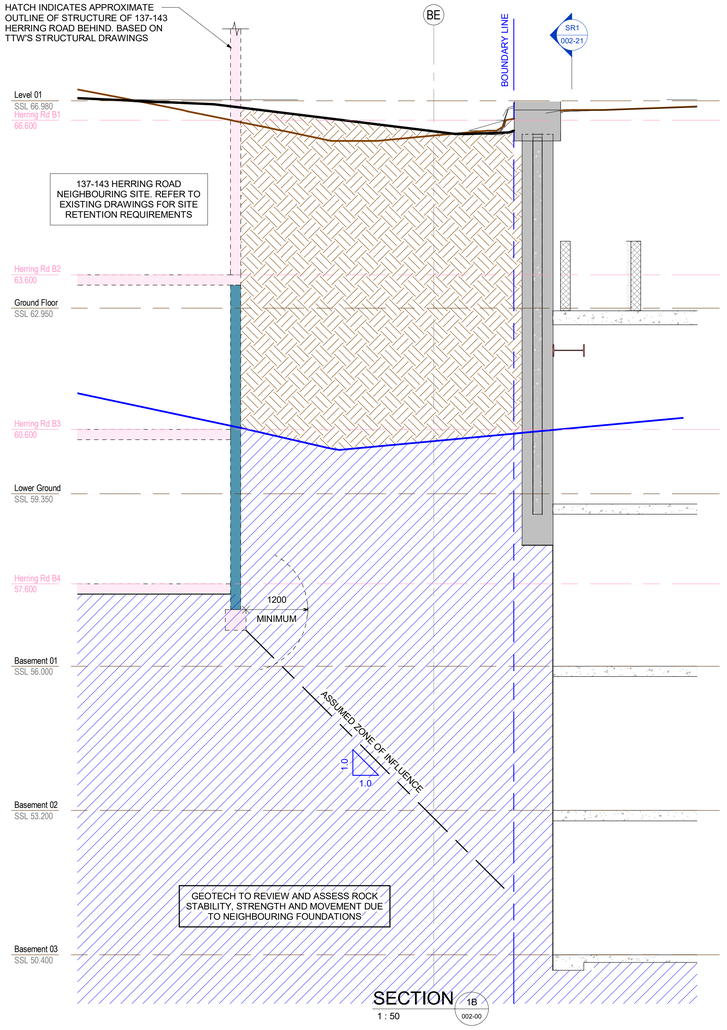
SITE RETENTION NOTES:

- THE GEOTECHNICAL PROFILES SHOWN ARE INFERRED FROM THE 3x BOREHOLES LOCATED WITHIN THE A1 SITE FOOTPRINT AS INSTRUCTED BY FRASERS PROPERTY. THIS LIMITED DATA HAS BEEN EXTRAPOLATED TO THE FULL SITE BOUNDARY. IT IS HIGHLY RECOMMENDED THAT ADDITIONAL BORE HOLES BE UNDERTAKEN TO REDUCE RELIANCE ON ASSUMPTIONS AND ALLOW DETAIL DESIGN TO PROGRESS.
- GEOTECHNICAL INSPECTION REQUIRED DURING EXCAVATION TO CONFIRM REQUIRED EXTENT OF RETENTION.
- GEOTECHNICAL ENGINEER TO CONFIRM TOE DETAIL TYPICAL



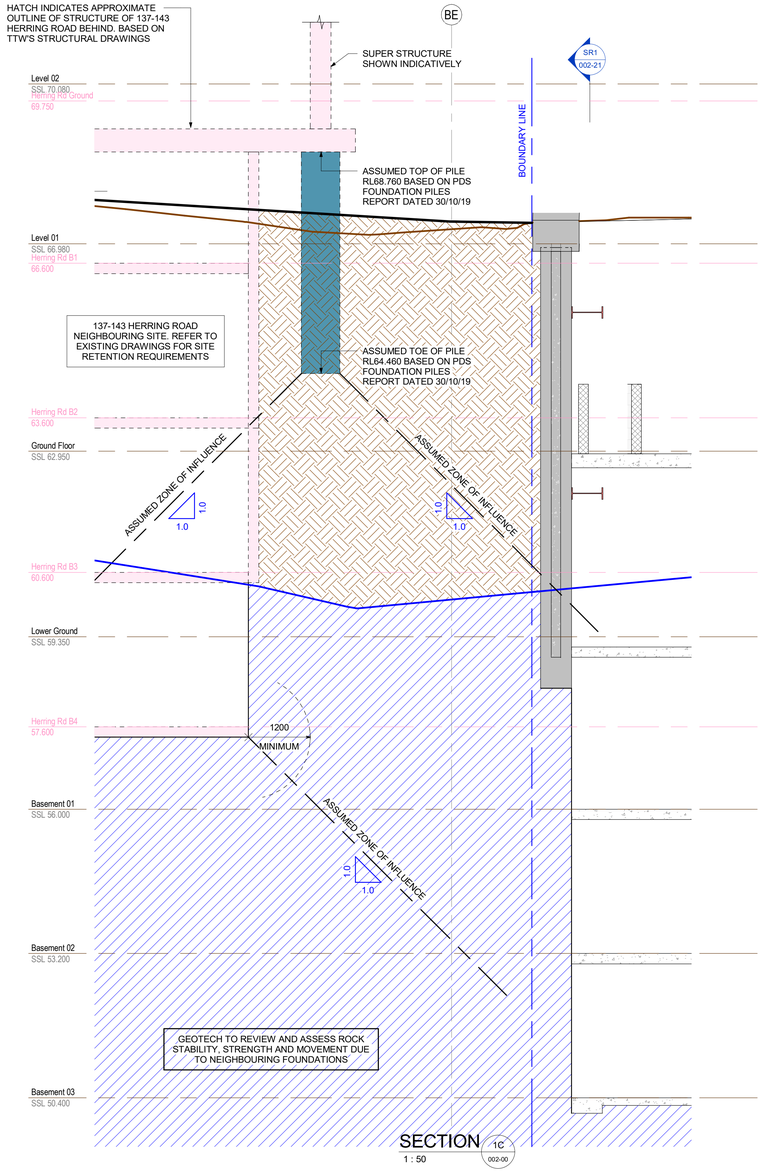
SECTION 1A

1 : 50



SECTION 1B

1 : 50



SECTION 1C

1 : 50

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
4	09.04.21	90% FOR CONSTRUCTION
3	24.04.20	ISSUED FOR INFORMATION
2	14.02.20	70% TENDER
1	31.01.20	DRAFT TENDER
0	11.12.19	ISSUED FOR INFORMATION

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BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 1

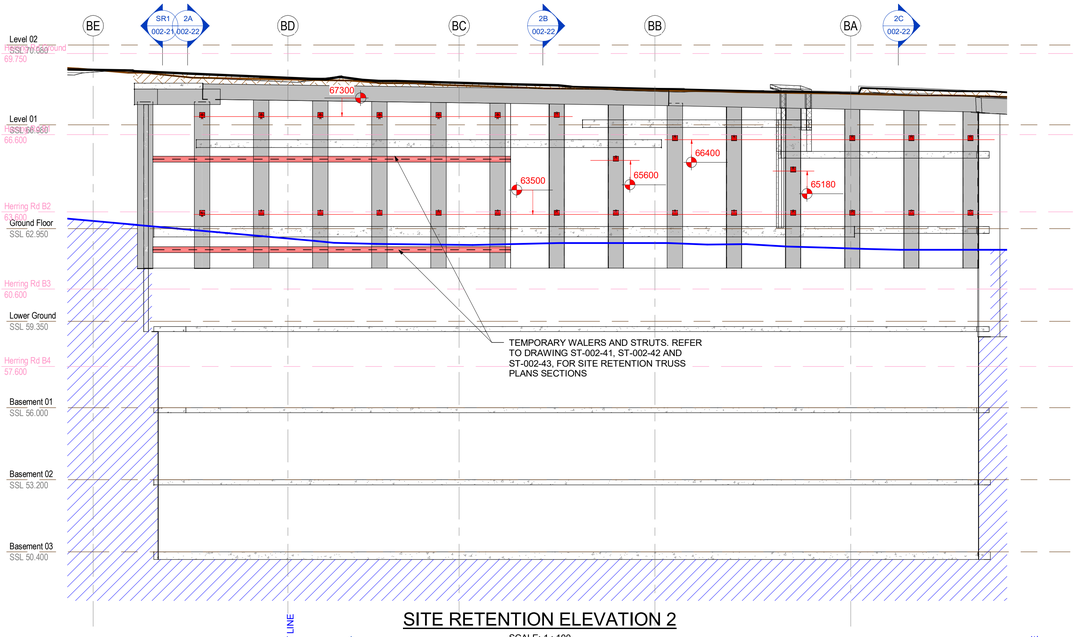
SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-21
REV.: A

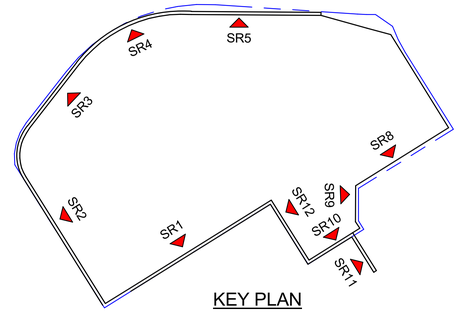
28/04/2021 9:34:03 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SITE RETENTION ELEVATION 2

SCALE: 1 : 100



KEY PLAN

NOTE:

- PERIMETER RETENTION SUBJECT TO REVIEW AND DESIGN DEVELOPMENT PENDING CONFIRMATION OF ROAD LEVELS, LANDSCAPING AND GROUND FLOOR ARRANGEMENT.

LEGEND:

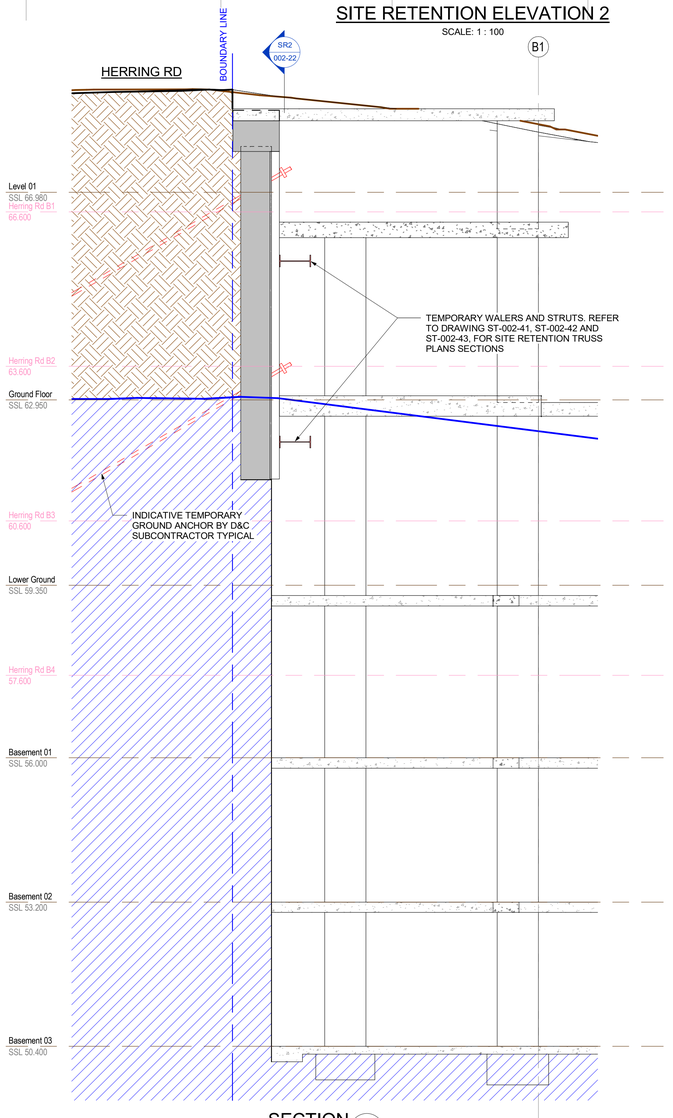
- DENOTES APPROXIMATE EXISTING GROUND LEVEL AND MATERIAL REQUIRING RETENTION (UNITS 1,2,3a,3b,4a)
- DENOTES BULK EXCAVATION (SUBJECT TO DESIGN DEVELOPMENT)
- DENOTES TOP OF MEDIUM/HIGH STRENGTH ROCK (UNIT 4c,4d). LEVELS ARE APPROXIMATE AND BASED EXTRAPOLATION OF LIMITED BORE HOLE RESULTS
- #### DENOTES R.L. OF TEMPORARY ANCHORS

TEMPORARY ANCHOR FORCE SCHEDULE

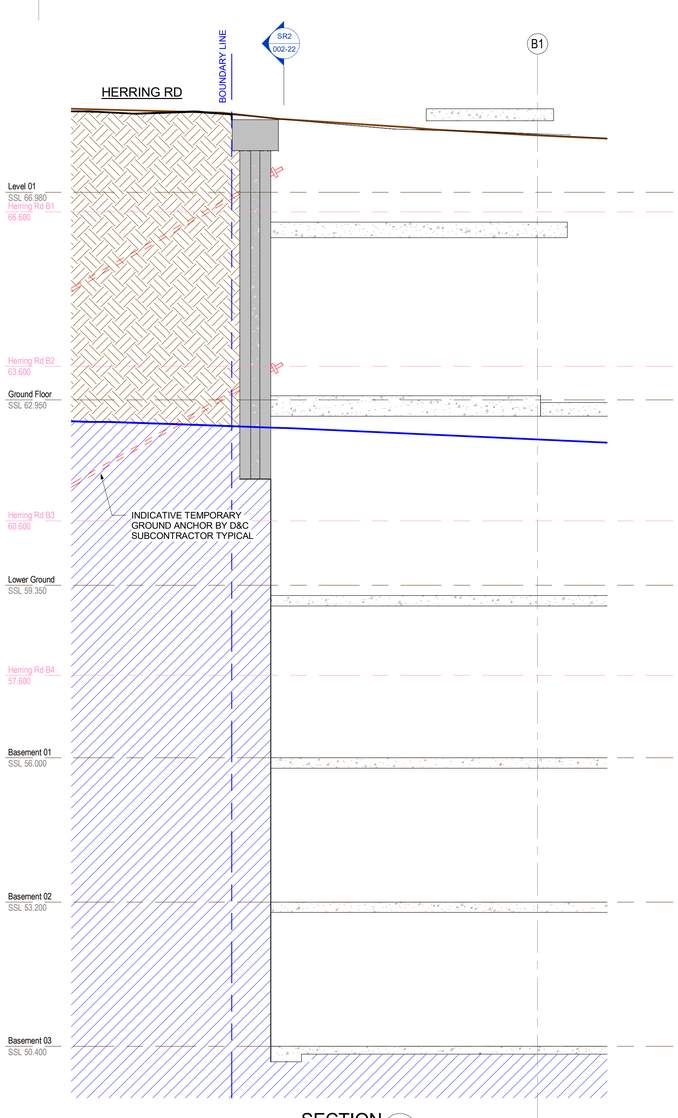
PILE TAG	TOP ANCHOR RL	TOP ANCHOR FORCE (kN)	ANCHOR INCLINATION	BOTTOM ANCHOR RL	BOTTOM ANCHOR FORCE (kN)	ANCHOR INCLINATION
P1A	REFER TO ELEVATIONS	-	-	REFER TO ELEVATIONS	-	-
P1B		-	-		-	-
P1C		-	-		-	-
P2A		481	30°		481	30°
P2B		488	30°		240	30°
P3A		243	30°		241	30°
P4A		246	30°		240	30°
P4B		240	30°		240	30°
P5A		240	30°		240	30°
P5B		241	30°		240	30°
P10A		64	30°		2	30°
P12A		53	30°		2	30°

SITE RETENTION NOTES:

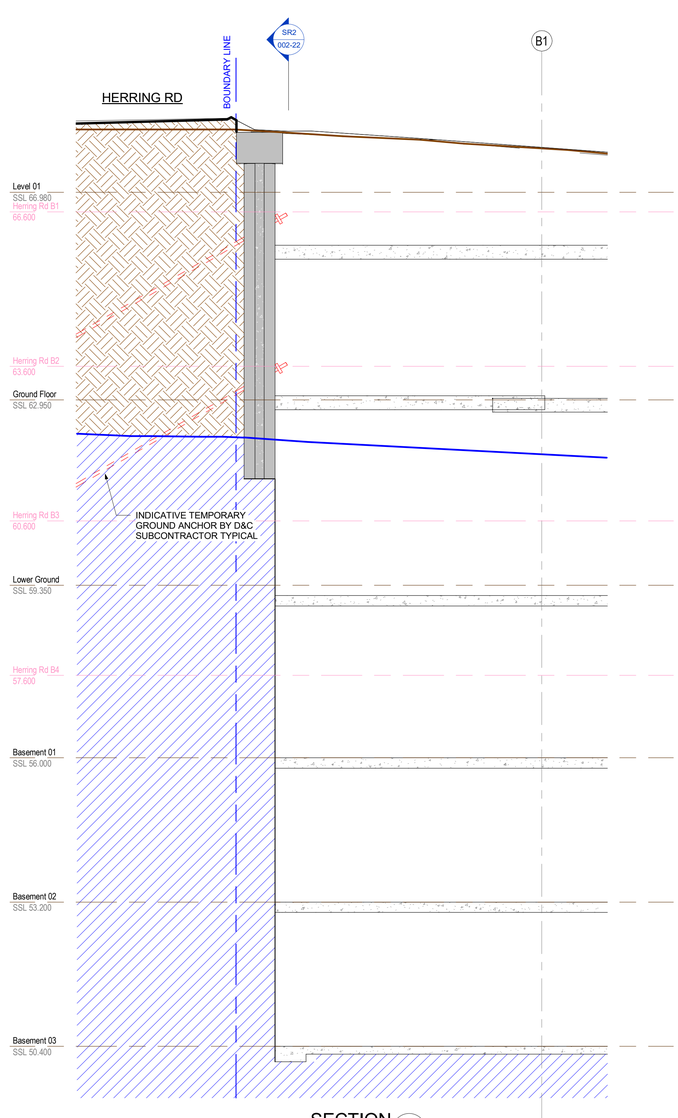
- THE GEOTECHNICAL PROFILES SHOWN ARE INFERRED FROM THE 3x BOREHOLES LOCATED WITHIN THE A1 SITE FOOTPRINT AS INSTRUCTED BY FRASERS PROPERTY. THIS LIMITED DATA HAS BEEN EXTRAPOLATED TO THE FULL SITE BOUNDARY. IT IS HIGHLY RECOMMENDED THAT ADDITIONAL BORE HOLES BE UNDERTAKEN TO REDUCE RELIANCE ON ASSUMPTIONS AND ALLOW DETAIL DESIGN TO PROGRESS.
- GEOTECHNICAL INSPECTION REQUIRED DURING EXCAVATION TO CONFIRM REQUIRED EXTENT OF RETENTION.
- GEOTECHNICAL ENGINEER TO CONFIRM TOE DETAIL TYPICAL



SECTION 2A
1 : 50
002-00



SECTION 2B
1 : 50
002-00



SECTION 2C
1 : 50
002-00

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
3	09.04.21	90% FOR CONSTRUCTION
2	14.02.20	70% TENDER
1	31.01.20	DRAFT TENDER
0	11.12.19	ISSUED FOR INFORMATION

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FRASERS PROPERTY

BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 2

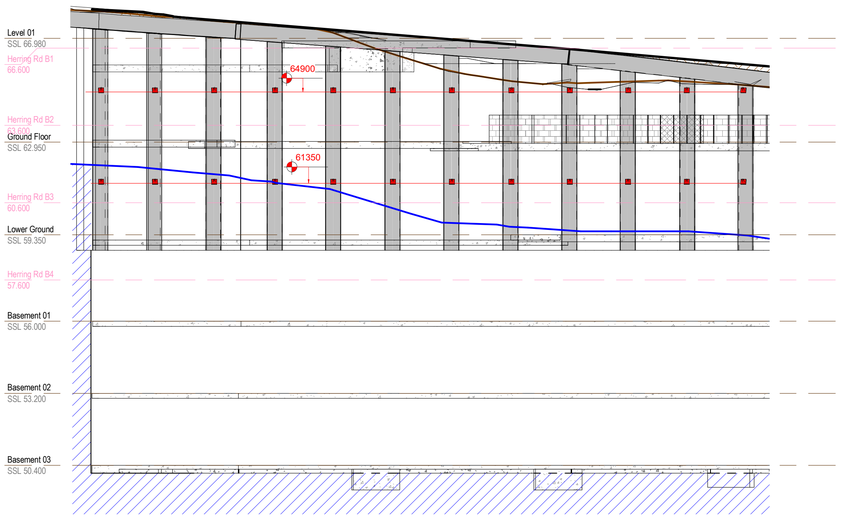
SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-22
REV.: A

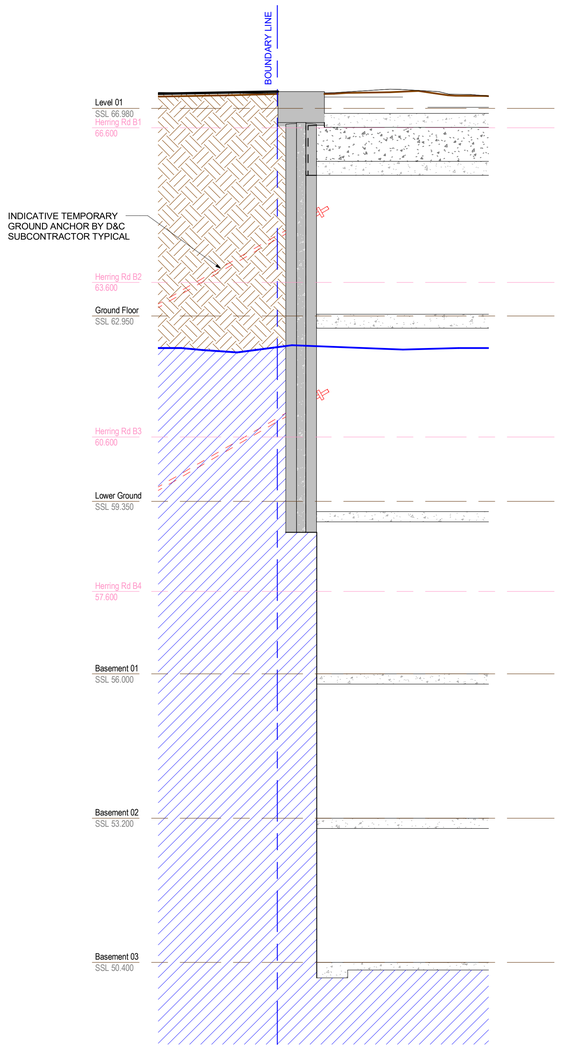
28/04/2021 9:34:12 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00

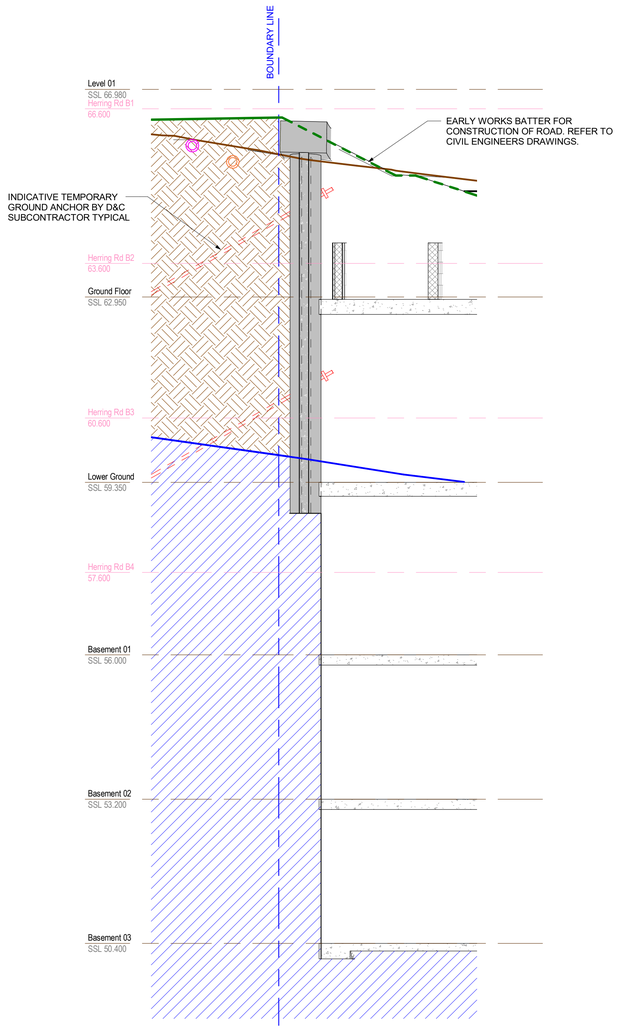


SITE RETENTION ELEVATION 3

SCALE: 1 : 100

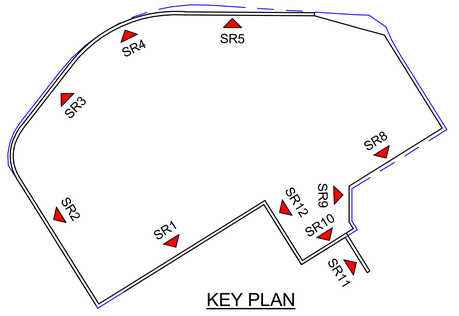


SECTION 3A 002-00
1 : 50



SECTION 3B 002-00
1 : 50

TEMPORARY ANCHOR FORCE SCHEDULE						
PILE TAG	TOP ANCHOR RL	TOP ANCHOR FORCE (kN)	ANCHOR INCLINATION	BOTTOM ANCHOR RL	BOTTOM ANCHOR FORCE (kN)	ANCHOR INCLINATION
P1A	REFER TO ELEVATIONS	-	-	REFER TO ELEVATIONS	-	-
P1B		-	-		-	-
P1C		-	-		-	-
P2A		481	30°		481	30°
P2B		488	30°		240	30°
P3A		243	30°		241	30°
P4A		246	30°		240	30°
P4B		240	30°		240	30°
P5A		240	30°		240	30°
P5B		241	30°		240	30°
P10A		64	30°		2	30°
P12A		53	30°		2	30°



KEY PLAN

SITE RETENTION NOTES:

- THE GEOTECHNICAL PROFILES SHOWN ARE INFERRED FROM THE 3x BOREHOLES LOCATED WITHIN THE A1 SITE FOOTPRINT AS INSTRUCTED BY FRASERS PROPERTY. THIS LIMITED DATA HAS BEEN EXTRAPOLATED TO THE FULL SITE BOUNDARY. IT IS HIGHLY RECOMMENDED THAT ADDITIONAL BORE HOLES BE UNDERTAKEN TO REDUCE RELIANCE ON ASSUMPTIONS AND ALLOW DETAIL DESIGN TO PROGRESS.
- GEOTECHNICAL INSPECTION REQUIRED DURING EXCAVATION TO CONFIRM REQUIRED EXTENT OF RETENTION.
- GEOTECHNICAL ENGINEER TO CONFIRM TOE DETAIL TYPICAL

DENOTES R.L. OF TEMPORARY ANCHORS

NOTE:

- PERIMETER RETENTION SUBJECT TO REVIEW AND DESIGN DEVELOPMENT PENDING CONFIRMATION OF ROAD LEVELS, LANDSCAPING AND GROUND FLOOR ARRANGEMENT.

LEGEND:

- DENOTES APPROXIMATE EXISTING GROUND LEVEL AND MATERIAL REQUIRING RETENTION (UNITS 1,2,3a,3b,4a)
- DENOTES BULK EXCAVATION (SUBJECT TO DESIGN DEVELOPMENT)
- DENOTES TOP OF MEDIUM/HIGH STRENGTH ROCK (UNIT 4c,4d). LEVELS ARE APPROXIMATE AND BASED EXTRAPOLATION OF LIMITED BORE HOLE RESULTS

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
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0	14.02.20	70% TENDER

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BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 3

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

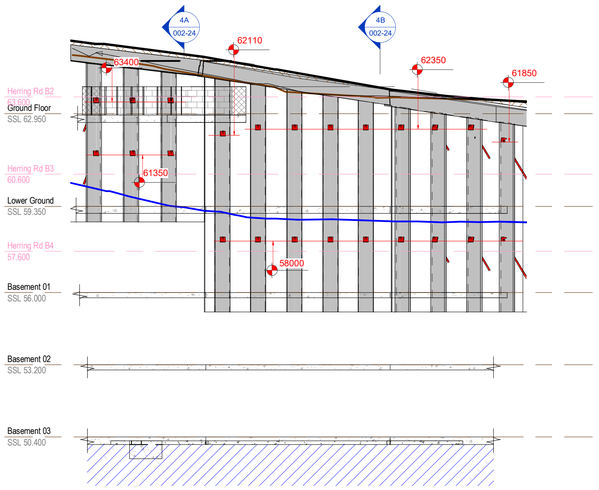
DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER
A1-ST-002-23

REV.
A

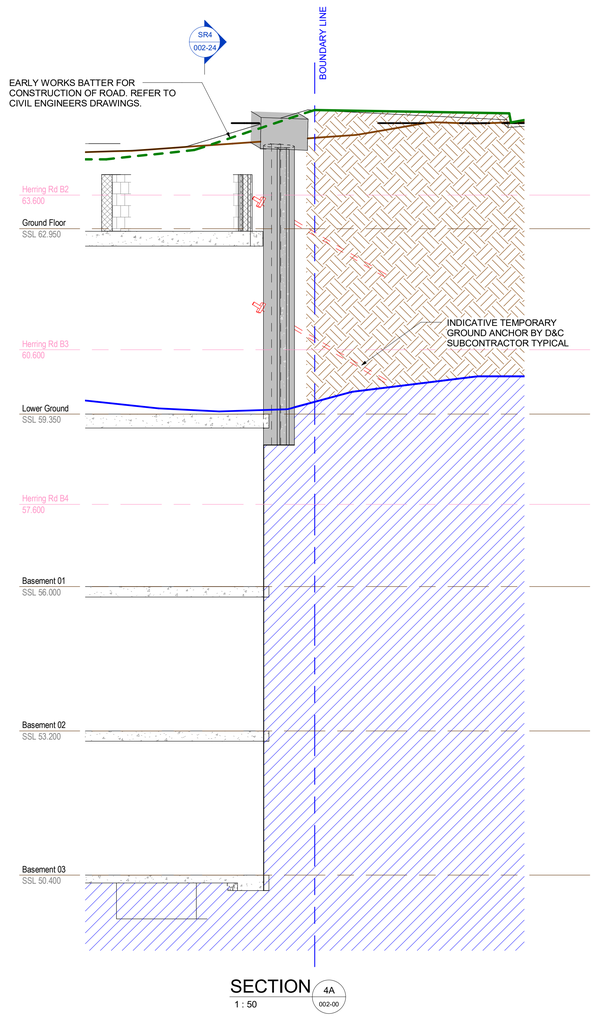
28/04/2021 9:34:21 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



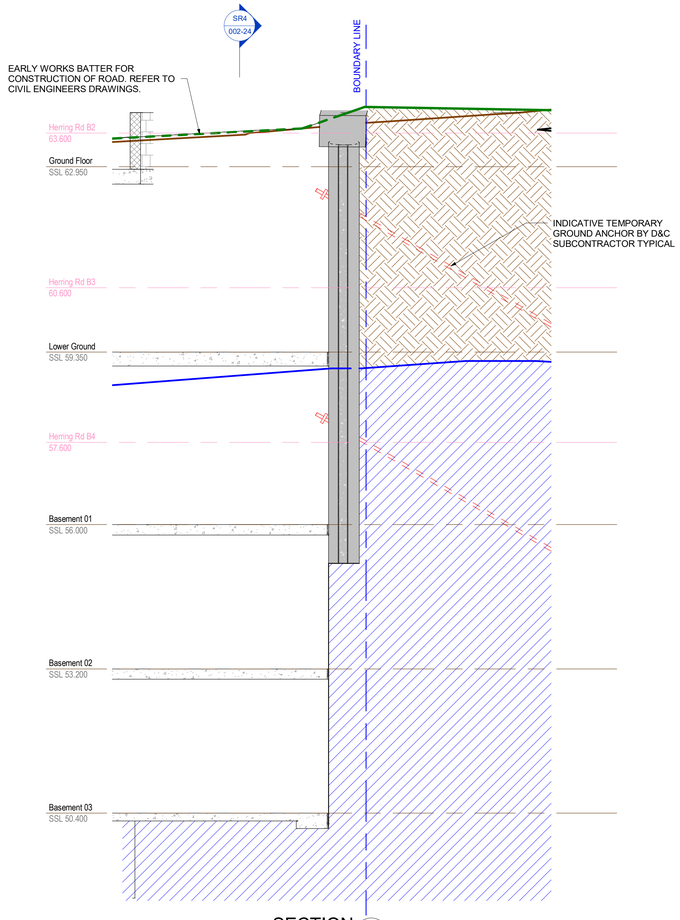
SITE RETENTION ELEVATION 4

SCALE: 1 : 100



SECTION 4A 002-00

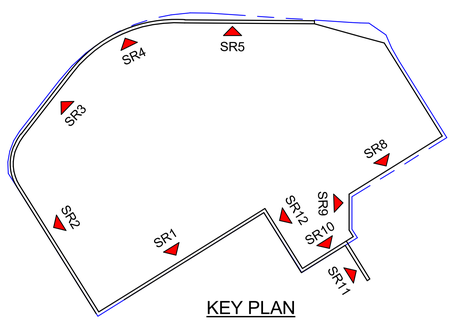
1 : 50



SECTION 4B 002-00

1 : 50

TEMPORARY ANCHOR FORCE SCHEDULE						
PILE TAG	TOP ANCHOR RL	TOP ANCHOR FORCE (kN)	ANCHOR INCLINATION	BOTTOM ANCHOR RL	BOTTOM ANCHOR FORCE (kN)	ANCHOR INCLINATION
P1A	REFER TO ELEVATIONS	-	-	REFER TO ELEVATIONS	-	-
P1B		-	-		-	-
P1C		-	-		-	-
P2A		481	30°		481	30°
P2B		488	30°		240	30°
P3A		243	30°		241	30°
P4A		246	30°		240	30°
P4B		240	30°		240	30°
P5A		240	30°		240	30°
P5B		241	30°		240	30°
P10A		64	30°		2	30°
P12A		53	30°		2	30°



KEY PLAN

SITE RETENTION NOTES:

- THE GEOTECHNICAL PROFILES SHOWN ARE INFERRED FROM THE 3x BOREHOLES LOCATED WITHIN THE A1 SITE FOOTPRINT AS INSTRUCTED BY FRASERS PROPERTY. THIS LIMITED DATA HAS BEEN EXTRAPOLATED TO THE FULL SITE BOUNDARY. IT IS HIGHLY RECOMMENDED THAT ADDITIONAL BORE HOLES BE UNDERTAKEN TO REDUCE RELIANCE ON ASSUMPTIONS AND ALLOW DETAIL DESIGN TO PROGRESS.
- GEOTECHNICAL INSPECTION REQUIRED DURING EXCAVATION TO CONFIRM REQUIRED EXTENT OF RETENTION.
- GEOTECHNICAL ENGINEER TO CONFIRM TOE DETAIL TYPICAL

DENOTES R.L. OF TEMPORARY ANCHORS

NOTE:

- PERIMETER RETENTION SUBJECT TO REVIEW AND DESIGN DEVELOPMENT PENDING CONFIRMATION OF ROAD LEVELS, LANDSCAPING AND GROUND FLOOR ARRANGEMENT.

LEGEND:

DENOTES APPROXIMATE EXISTING GROUND LEVEL AND MATERIAL REQUIRING RETENTION (UNITS 1,2,3a,3b,4a)

DENOTES BULK EXCAVATION (SUBJECT TO DESIGN DEVELOPMENT)

DENOTES TOP OF MEDIUM/HIGH STRENGTH ROCK (UNIT 4c,4d). LEVELS ARE APPROXIMATE AND BASED EXTRAPOLATION OF LIMITED BORE HOLE RESULTS

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
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0	14.02.20	70% TENDER

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Telephone (02) 8904 1444
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CLIENT
FRASERS PROPERTY

BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 4

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

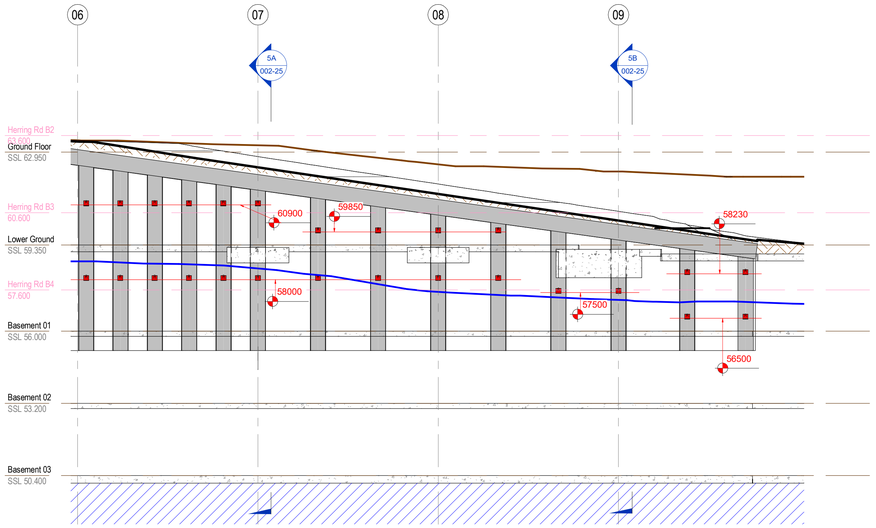
DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER
A1-ST-002-24

REV.
A

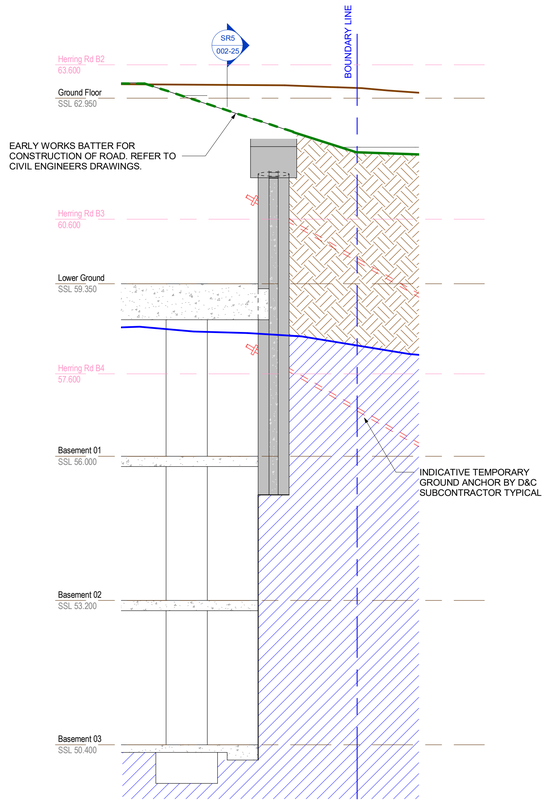
28/04/2021 9:34:29 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00

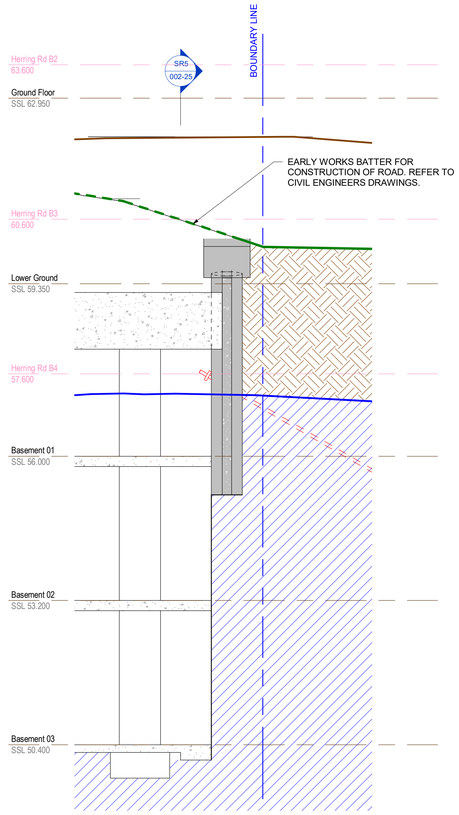


SITE RETENTION ELEVATION 5

SCALE: 1 : 100



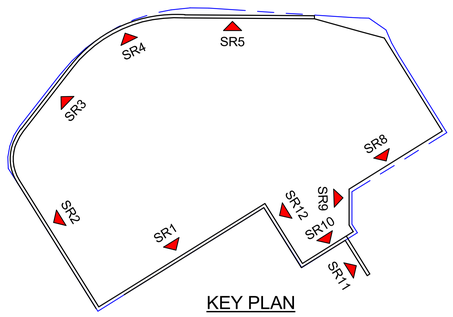
SECTION 5A
1 : 50 (002-00)



SECTION 5B
1 : 50 (002-00)

TEMPORARY ANCHOR FORCE SCHEDULE

PILE TAG	TOP ANCHOR RL	TOP ANCHOR FORCE (kN)	ANCHOR INCLINATION	BOTTOM ANCHOR RL	BOTTOM ANCHOR FORCE (kN)	ANCHOR INCLINATION
P1A	REFER TO ELEVATIONS	-	-	REFER TO ELEVATIONS	-	-
P1B		-	-		-	-
P1C		-	-		-	-
P2A		481	30°		481	30°
P2B		488	30°		240	30°
P3A		243	30°		241	30°
P4A		246	30°		240	30°
P4B		240	30°		240	30°
P5A		240	30°		240	30°
P5B		241	30°		240	30°
P10A		64	30°		2	30°
P12A		53	30°		2	30°



KEY PLAN

SITE RETENTION NOTES:

- THE GEOTECHNICAL PROFILES SHOWN ARE INFERRED FROM THE 3x BOREHOLES LOCATED WITHIN THE A1 SITE FOOTPRINT AS INSTRUCTED BY FRASERS PROPERTY. THIS LIMITED DATA HAS BEEN EXTRAPOLATED TO THE FULL SITE BOUNDARY. IT IS HIGHLY RECOMMENDED THAT ADDITIONAL BORE HOLES BE UNDERTAKEN TO REDUCE RELIANCE ON ASSUMPTIONS AND ALLOW DETAIL DESIGN TO PROGRESS.
- GEOTECHNICAL INSPECTION REQUIRED DURING EXCAVATION TO CONFIRM REQUIRED EXTENT OF RETENTION.
- GEOTECHNICAL ENGINEER TO CONFIRM TOE DETAIL TYPICAL

DENOTES R.L. OF TEMPORARY ANCHORS

NOTE:

- PERIMETER RETENTION SUBJECT TO REVIEW AND DESIGN DEVELOPMENT PENDING CONFIRMATION OF ROAD LEVELS, LANDSCAPING AND GROUND FLOOR ARRANGEMENT.

LEGEND:

- DENOTES APPROXIMATE EXISTING GROUND LEVEL AND MATERIAL REQUIRING RETENTION (UNITS 1,2,3a,3b,4a)
- DENOTES BULK EXCAVATION (SUBJECT TO DESIGN DEVELOPMENT)
- DENOTES TOP OF MEDIUM/HIGH STRENGTH ROCK (UNIT 4c,4d). LEVELS ARE APPROXIMATE AND BASED EXTRAPOLATION OF LIMITED BORE HOLE RESULTS

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0	14.02.20	70% TENDER

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Level 4, 2 Glen Street, Milsons Point NSW 2061
Telephone (02) 8904 1444
http: //www.enstruct.com.au

CLIENT: FRASERS PROPERTY

BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 5

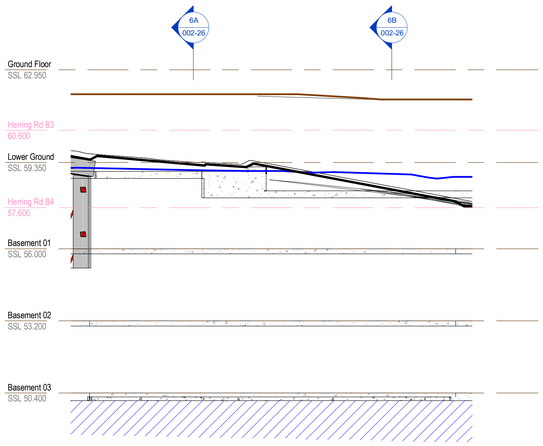
SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-25
REV.: A

28/04/2021 9:34:37 PM

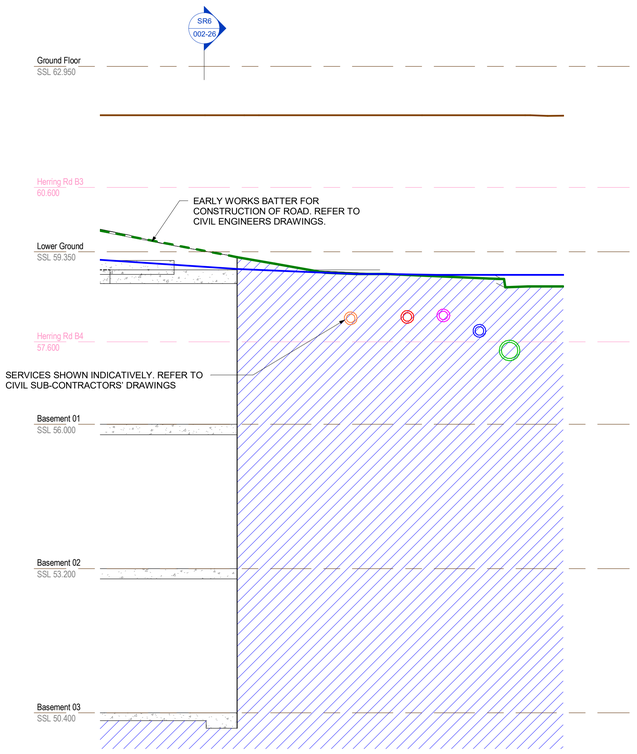
FOR GENERAL NOTES REFER TO DRAWING ST-001-00



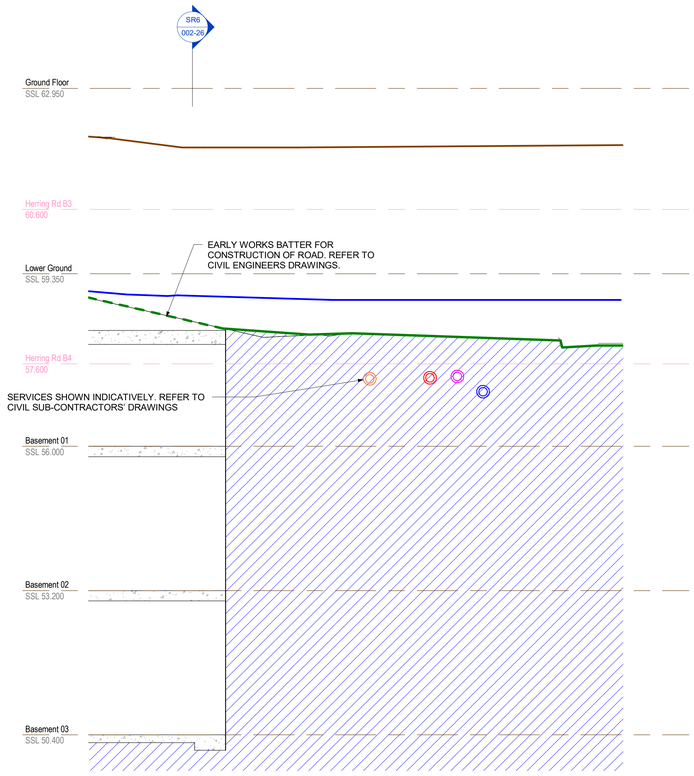
SITE RETENTION ELEVATION 6

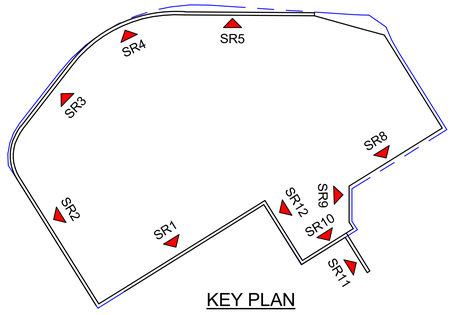
SCALE: 1 : 100

SECTION 6A 002-00
1 : 50



SECTION 6B 002-00
1 : 50





KEY PLAN

SITE RETENTION NOTES:

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NOTE:

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BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 6

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

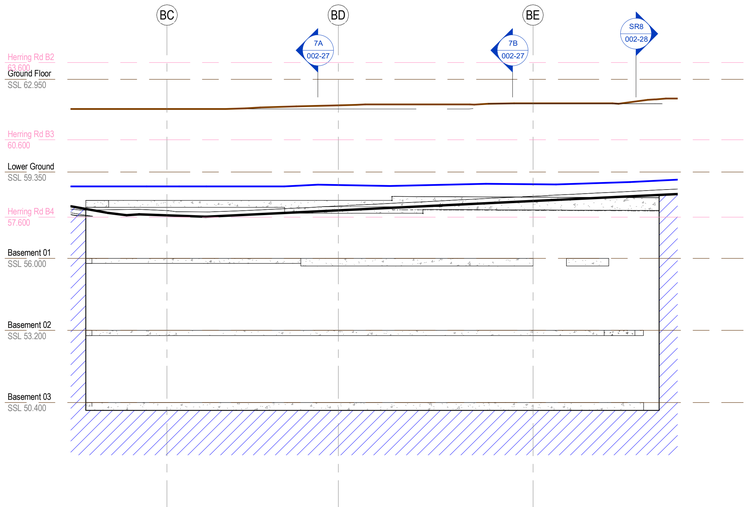
DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER
A1-ST-002-26

REV.
A

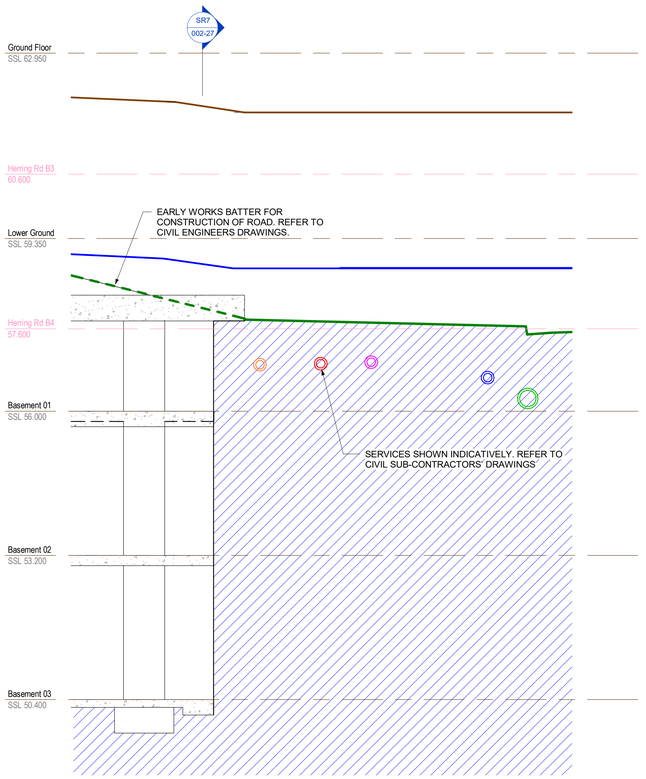
28/04/2021 9:34:44 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SITE RETENTION ELEVATION 7

SCALE: 1 : 100



SECTION 7A

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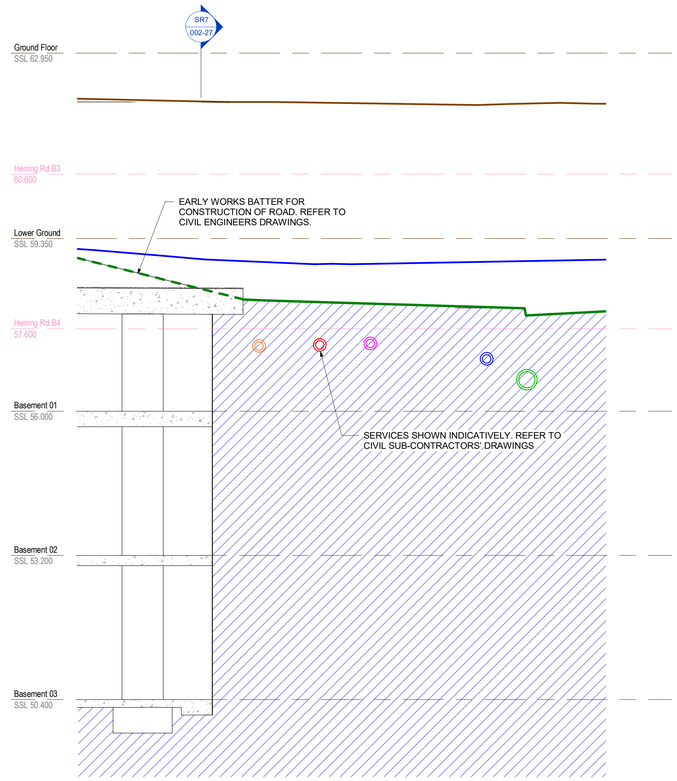
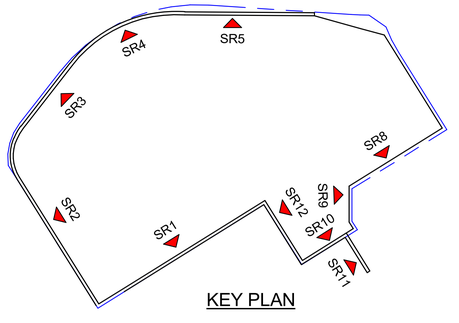


SECTION 7B

1 : 50



KEY PLAN

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NOTE:

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BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SITE RETENTION ELEVATIONS AND SECTIONS SHEET 7

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

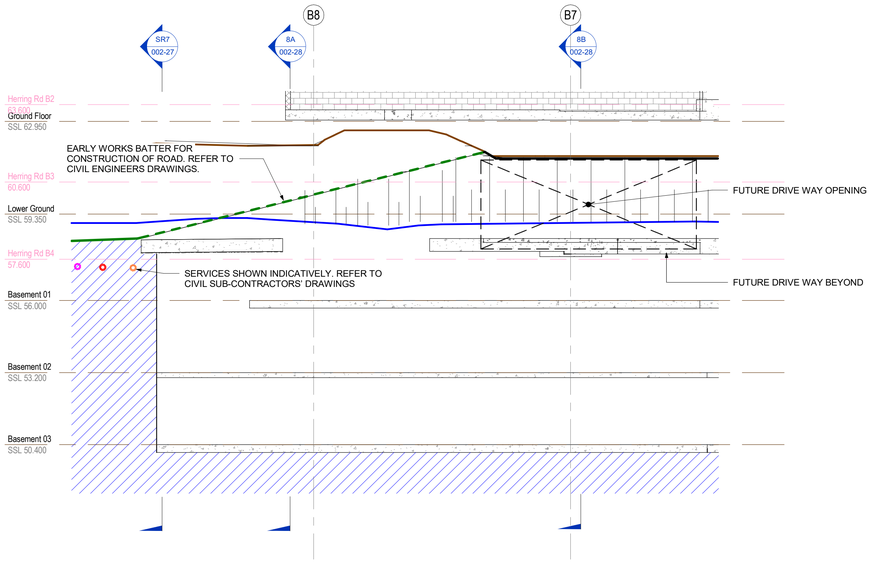
FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-27

REV.: A

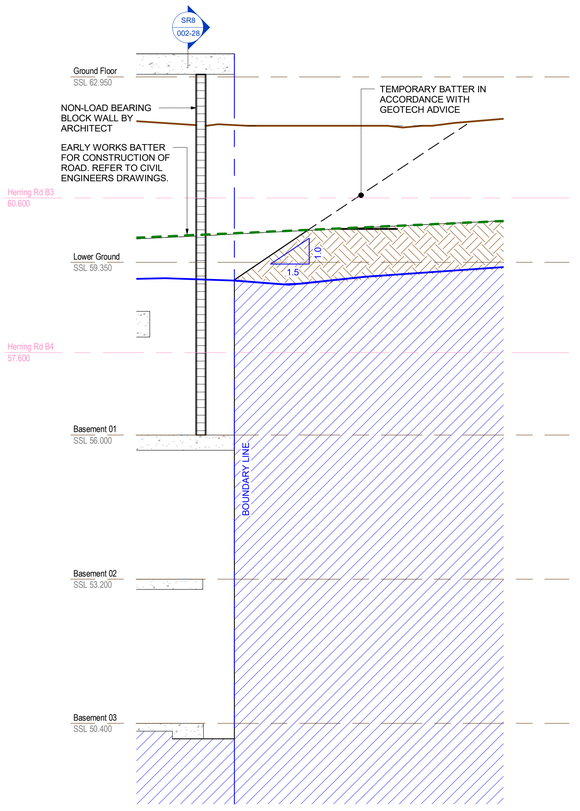
28/04/2021 9:34:52 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00

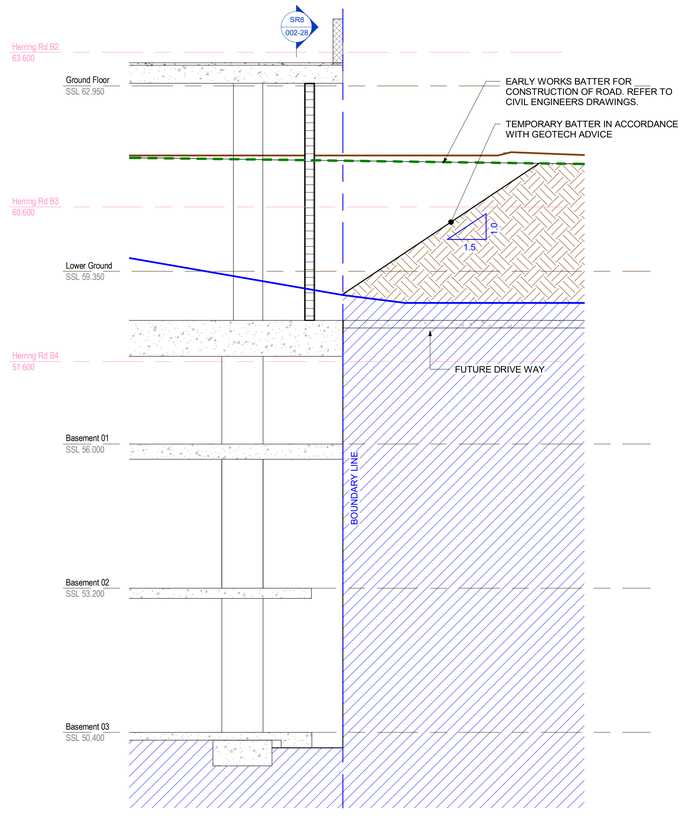


SITE RETENTION ELEVATION 8

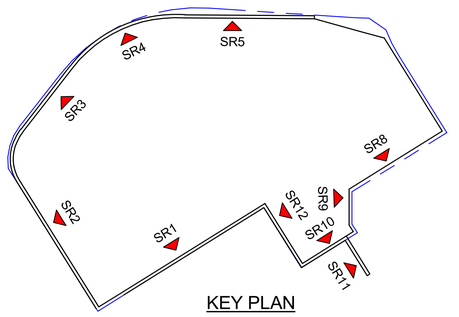
SCALE: 1 : 100



SECTION 8A 002-00
1 : 50



SECTION 8B 002-00
1 : 50



KEY PLAN

SITE RETENTION NOTES:

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BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 8

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

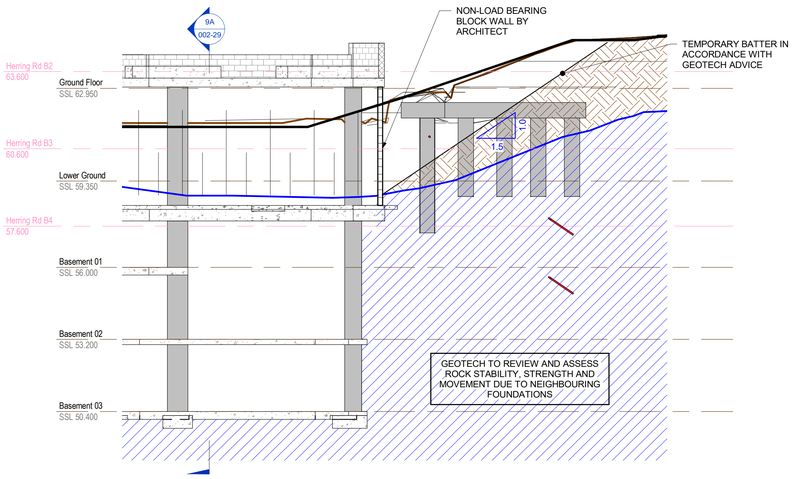
DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER
A1-ST-002-28

REV.
A

28/04/2021 9:34:59 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SECTION 9A
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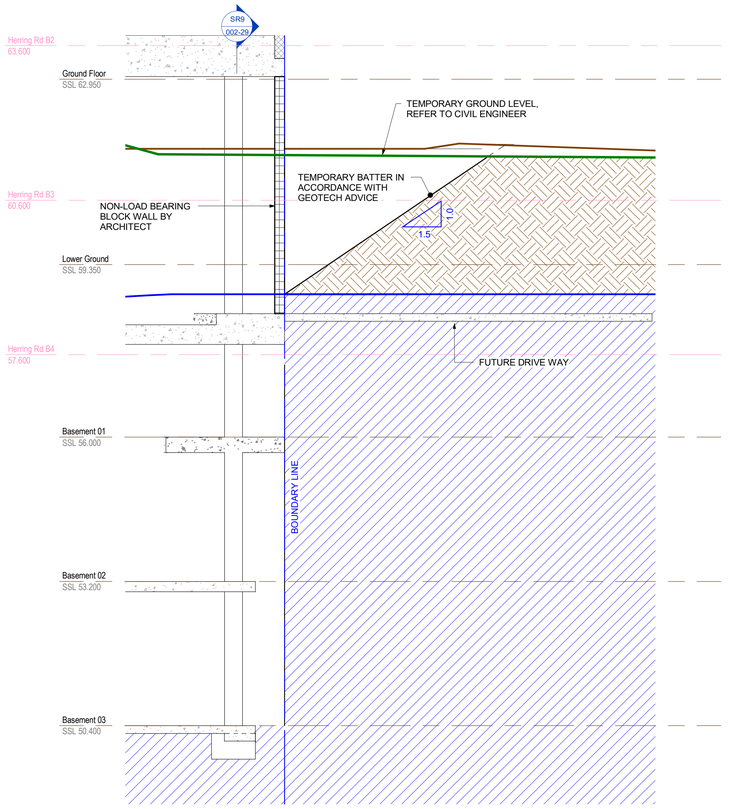

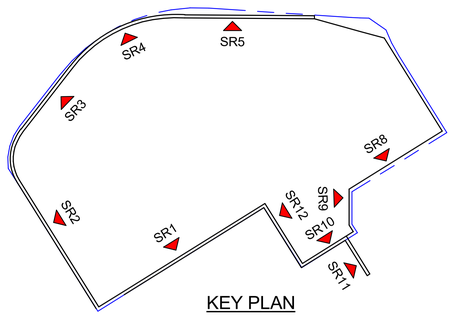

KEY PLAN

SITE RETENTION NOTES:

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DENOTES R.L. OF TEMPORARY ANCHORS

NOTE:

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0	14.02.20	70% TENDER

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Telephone (02) 8904 1444
http: //www.enstruct.com.au

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BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 9

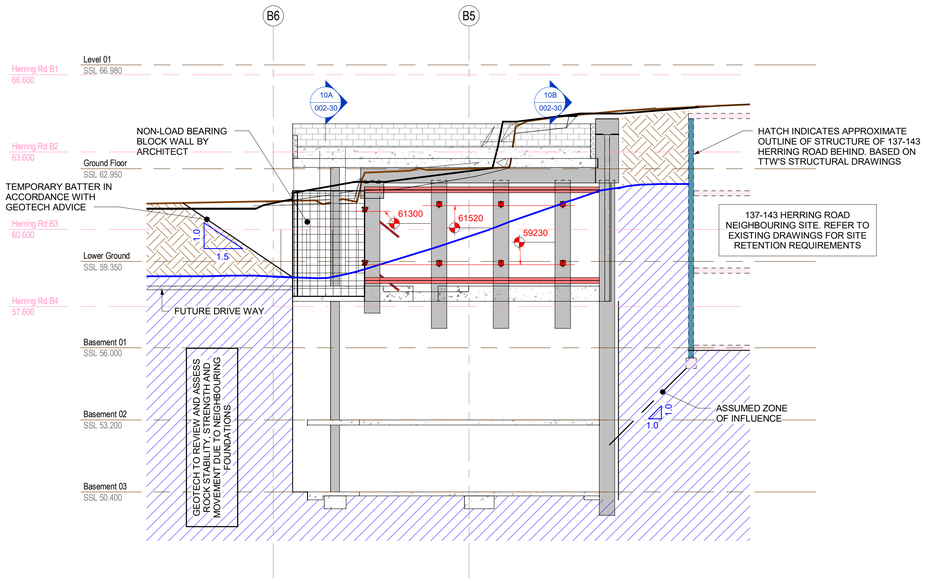
SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER A1-ST-002-29
REV. A

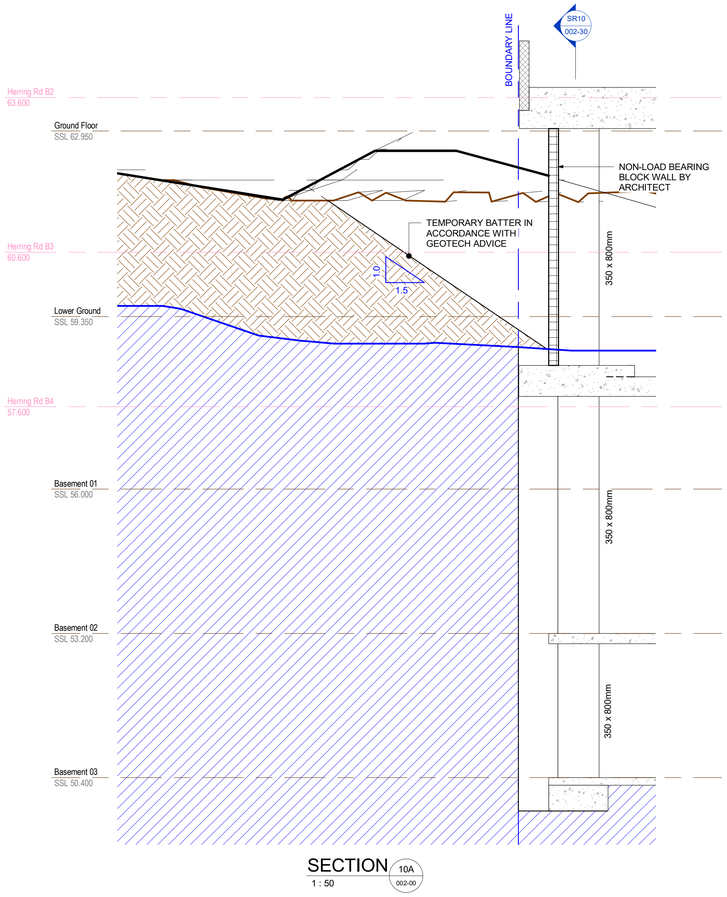
28/04/2021 9:35:06 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



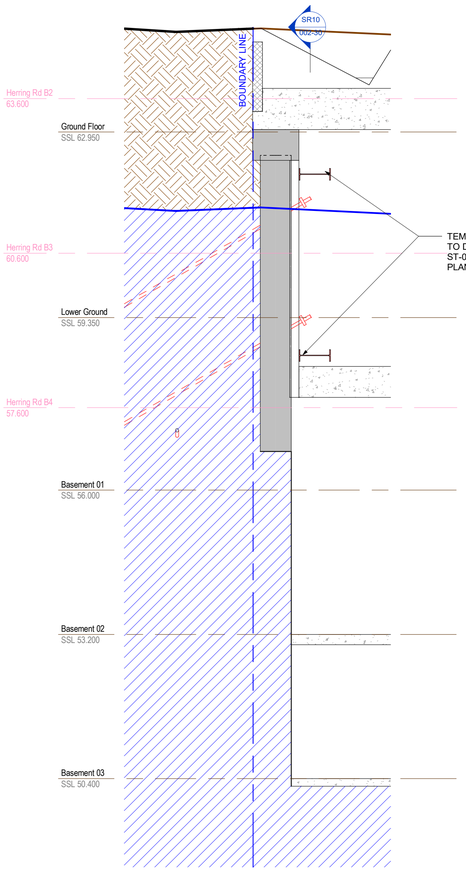
SITE RETENTION ELEVATION 10

SCALE: 1 : 100



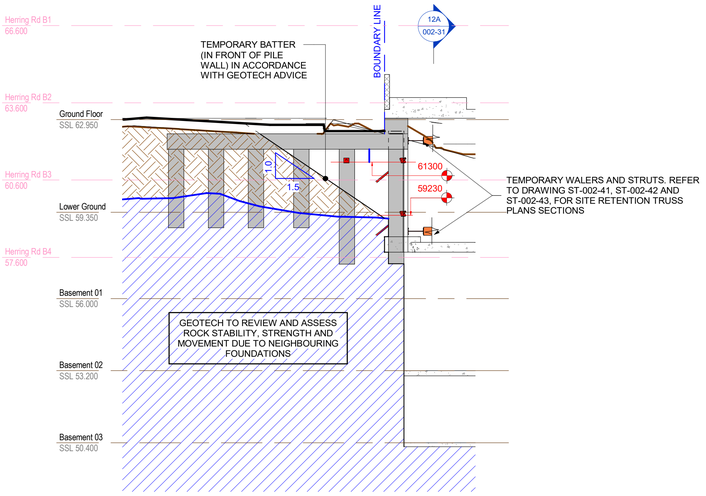
SECTION 10A 002-00

1 : 50



SECTION 10B 002-00

1 : 50

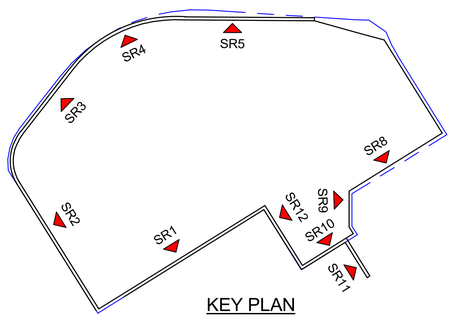


SITE RETENTION ELEVATION 11

SCALE: 1 : 100

TEMPORARY ANCHOR FORCE SCHEDULE

PILE TAG	TOP ANCHOR RL	TOP ANCHOR FORCE (kN)	ANCHOR INCLINATION	BOTTOM ANCHOR RL	BOTTOM ANCHOR FORCE (kN)	ANCHOR INCLINATION
P1A	REFER TO ELEVATIONS	-	-	REFER TO ELEVATIONS	-	-
P1B		-	-		-	-
P1C		-	-		-	-
P2A		481	30°		481	30°
P2B		488	30°		240	30°
P3A		243	30°		241	30°
P4A		246	30°		240	30°
P4B		240	30°		240	30°
P5A		240	30°		240	30°
P5B		241	30°		240	30°
P10A		64	30°		2	30°
P12A		53	30°		2	30°



KEY PLAN

SITE RETENTION NOTES:

- THE GEOTECHNICAL PROFILES SHOWN ARE INFERRED FROM THE 3x BOREHOLES LOCATED WITHIN THE A1 SITE FOOTPRINT AS INSTRUCTED BY FRASERS PROPERTY. THIS LIMITED DATA HAS BEEN EXTRAPOLATED TO THE FULL SITE BOUNDARY. IT IS HIGHLY RECOMMENDED THAT ADDITIONAL BORE HOLES BE UNDERTAKEN TO REDUCE RELIANCE ON ASSUMPTIONS AND ALLOW DETAIL DESIGN TO PROGRESS.
- GEOTECHNICAL INSPECTION REQUIRED DURING EXCAVATION TO CONFIRM REQUIRED EXTENT OF RETENTION.
- GEOTECHNICAL ENGINEER TO CONFIRM TOE DETAIL TYPICAL

DENOTES R.L. OF TEMPORARY ANCHORS

NOTE:

- PERIMETER RETENTION SUBJECT TO REVIEW AND DESIGN DEVELOPMENT PENDING CONFIRMATION OF ROAD LEVELS, LANDSCAPING AND GROUND FLOOR ARRANGEMENT.

LEGEND:

- DENOTES APPROXIMATE EXISTING GROUND LEVEL AND MATERIAL REQUIRING RETENTION (UNITS 1,2,3a,3b,4a)
- DENOTES BULK EXCAVATION (SUBJECT TO DESIGN DEVELOPMENT)
- DENOTES TOP OF MEDIUM/HIGH STRENGTH ROCK (UNIT 4c,4d). LEVELS ARE APPROXIMATE AND BASED EXTRAPOLATION OF LIMITED BORE HOLE RESULTS

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
2	09.04.21	90% FOR CONSTRUCTION
1	24.04.20	ISSUED FOR INFORMATION
0	14.02.20	70% TENDER

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BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 10

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

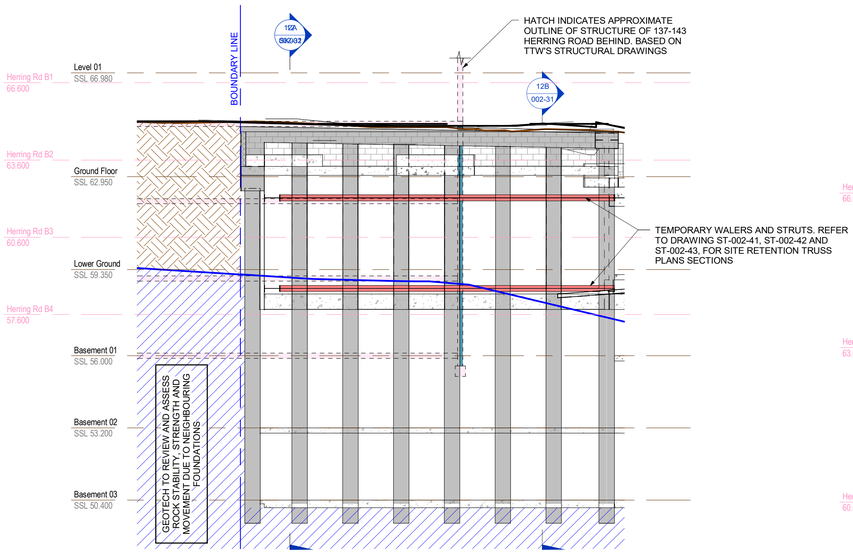
DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER
A1-ST-002-30

REV.
A

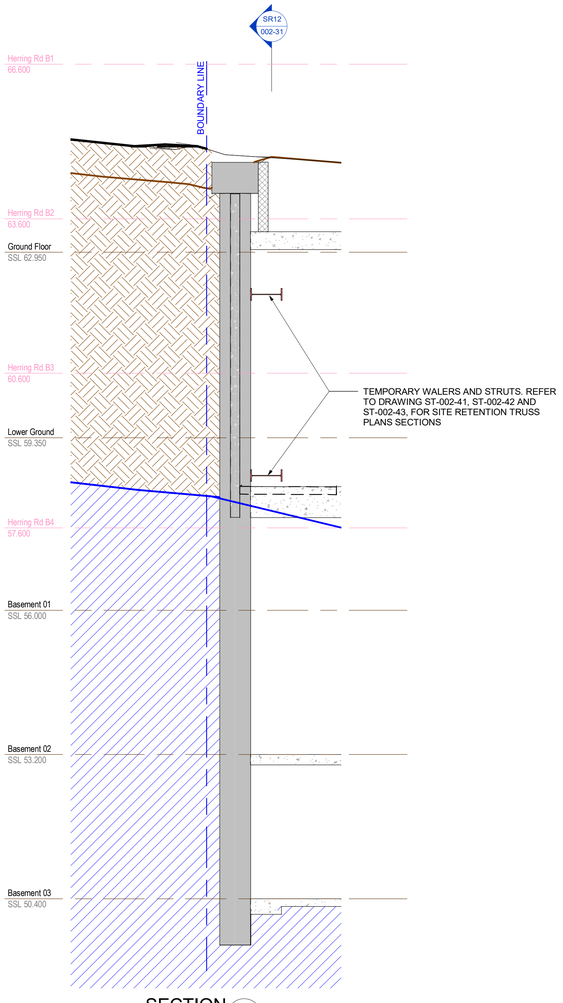
28/04/2021 9:35:14 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SITE RETENTION ELEVATION 12

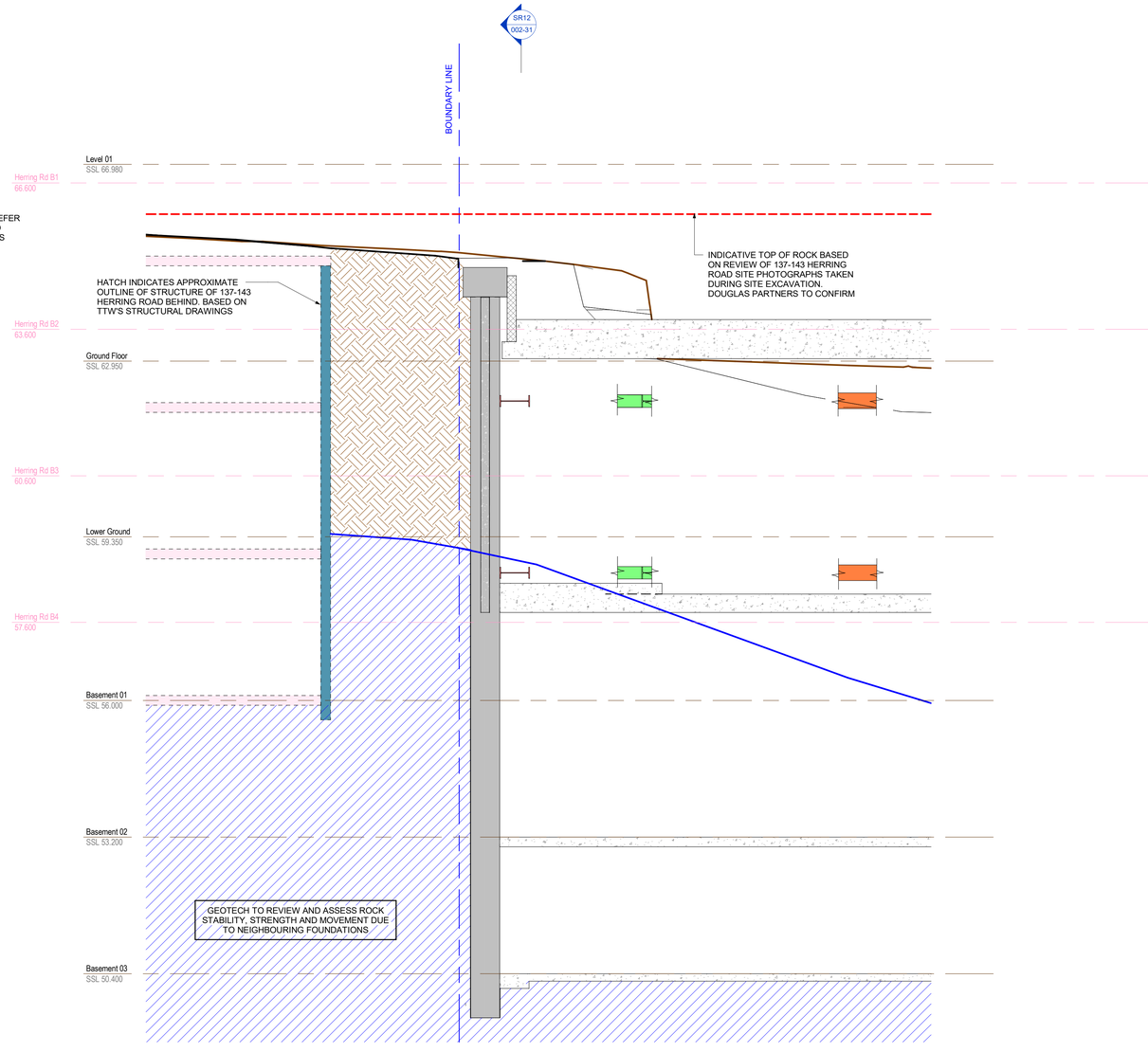
SCALE: 1 : 100



SECTION 12B

002-00

1 : 50



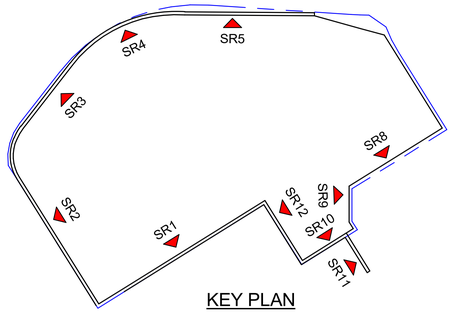
SECTION 12A

002-00

1 : 50

TEMPORARY ANCHOR FORCE SCHEDULE

PILE TAG	TOP ANCHOR RL	TOP ANCHOR FORCE (kN)	ANCHOR INCLINATION	BOTTOM ANCHOR RL	BOTTOM ANCHOR FORCE (kN)	ANCHOR INCLINATION
P1A	REFER TO ELEVATIONS	-	-	REFER TO ELEVATIONS	-	-
P1B		-	-		-	-
P1C		-	-		-	-
P2A		481	30°		481	30°
P2B		488	30°		240	30°
P3A		243	30°		241	30°
P4A		246	30°		240	30°
P4B		240	30°		240	30°
P5A		240	30°		240	30°
P5B		241	30°		240	30°
P10A		64	30°		2	30°
P12A		53	30°		2	30°



KEY PLAN

SITE RETENTION NOTES:

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DENOTES R.L. OF TEMPORARY ANCHORS

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A	28.04.21	ISSUED FOR CONSTRUCTION
4	09.04.21	90% FOR CONSTRUCTION
3	24.04.20	ISSUED FOR INFORMATION
2	14.02.20	70% TENDER
1	31.01.20	DRAFT TENDER
0	11.12.19	ISSUED FOR INFORMATION

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PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION ELEVATIONS AND SECTIONS SHEET 11

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

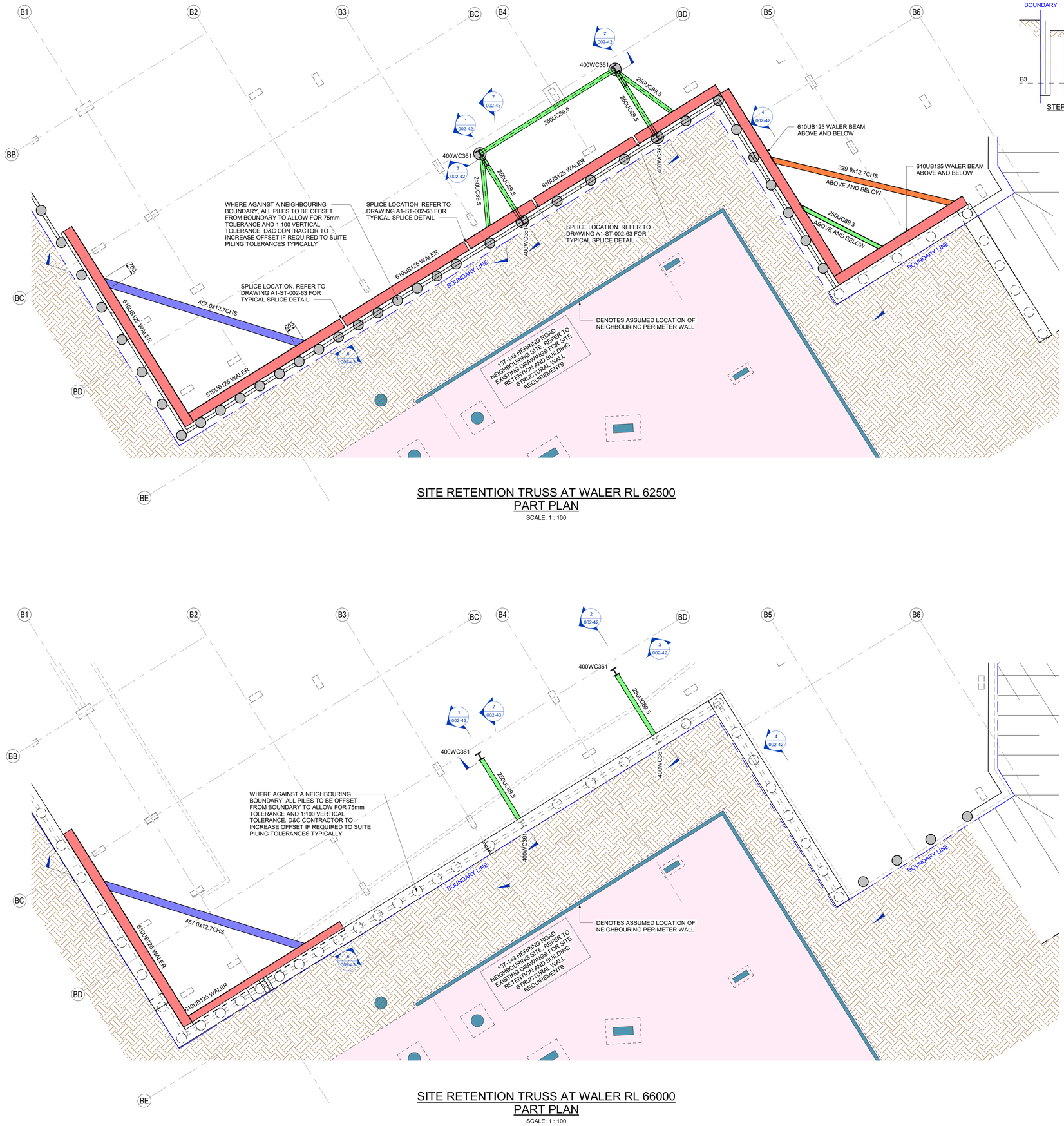
DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER
A1-ST-002-31

REV.
A

28/04/2021 9:35:19 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00

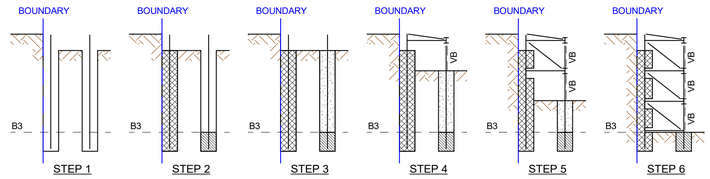


SITE RETENTION TRUSS AT WALER RL 62500 PART PLAN

SCALE: 1 : 100

SITE RETENTION TRUSS AT WALER RL 66000 PART PLAN

SCALE: 1 : 100



TEMPORARY SITE RETENTION STRUT SYSTEM CONSTRUCTION SEQUENCE

NOTE:
CONTRACTOR SHALL DEVELOP A DETAILED METHOD STATEMENT BASED ON IMPACT ASSESSMENT STUDY RESULTS TO ENSURE SAFE CONSTRUCTION AND MINIMAL IMPACTS ON THE ADJACENT EXISTING FOUNDATION / STRUCTURE / UTILITY.

SUGGESTED LOADING PLATFORM COLUMN CONSTRUCTION PHASE:

STEP 1 - DRILL HOLES FOR COLUMNS AS PER DETAILS. INSTALL COLUMNS AND ENSURE COLUMNS ARE INSTALLED TO CORRECT BASE LEVEL AS PER DETAIL.
STEP 2 - COLUMN AWAY FROM BOUNDARY, POUR CONCRETE BASE FOR COLUMN AS PER DETAIL. COLUMN ON BOUNDARY, INFILL IN ACCORDANCE WITH SITE RETENTION PILES.
STEP 3 - COLUMN AWAY FROM BOUNDARY FILL REMAINING HEIGHT OF DRILLED HOLE WITH CEMENT STABILISED SAND MIX.
STEP 4 - PROGRESSIVELY EXCAVATE AND REMOVE CEMENT STABILISED SAND MIX OFF THE COLUMN AWAY FROM BOUNDARY TO THE BOTTOM OF THE FIRST BAY OF VERTICAL BRACING LEVEL AND INSTALL BRACING. NOTCH OUT CONCRETE FROM COLUMN ON BOUNDARY WHERE REQUIRED FOR CONNECTION OF STEELWORK.
STEP 5 - CONTINUE TO PROGRESSIVELY EXCAVATE AND REMOVE CEMENT STABILISED SAND MIX OFF THE COLUMN AWAY FROM BOUNDARY TO THE BOTTOM OF THE SECOND BAY OF VERTICAL BRACING LEVEL AND INSTALL BRACING. NOTCH OUT CONCRETE FROM COLUMN ON BOUNDARY WHERE REQUIRED FOR CONNECTION OF STEELWORK
STEP 6 - REPEAT STEP 5 AS REQUIRED.

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BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
SITE RETENTION TRUSS PLANS AND SECTIONS SHEET 1

SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

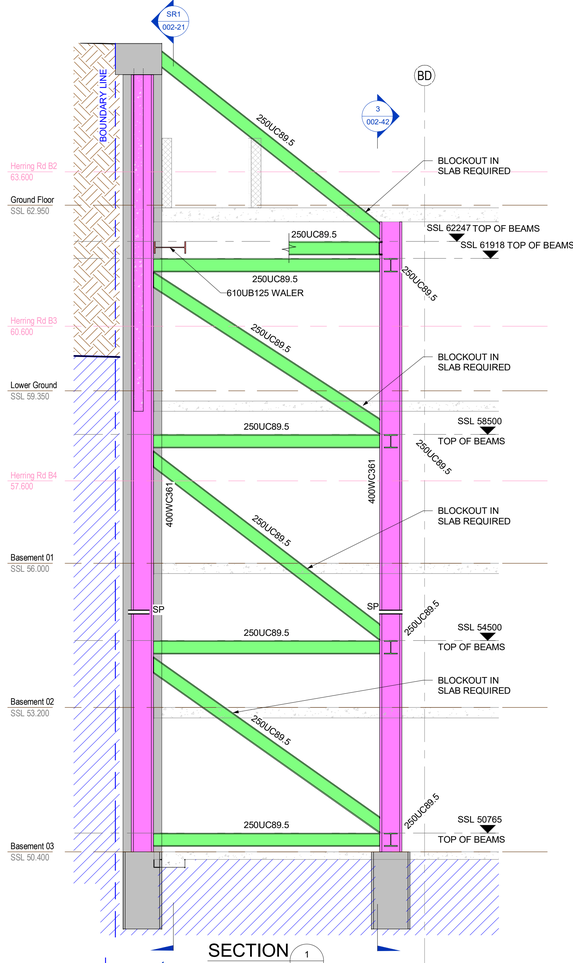
DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-41
REV.: A

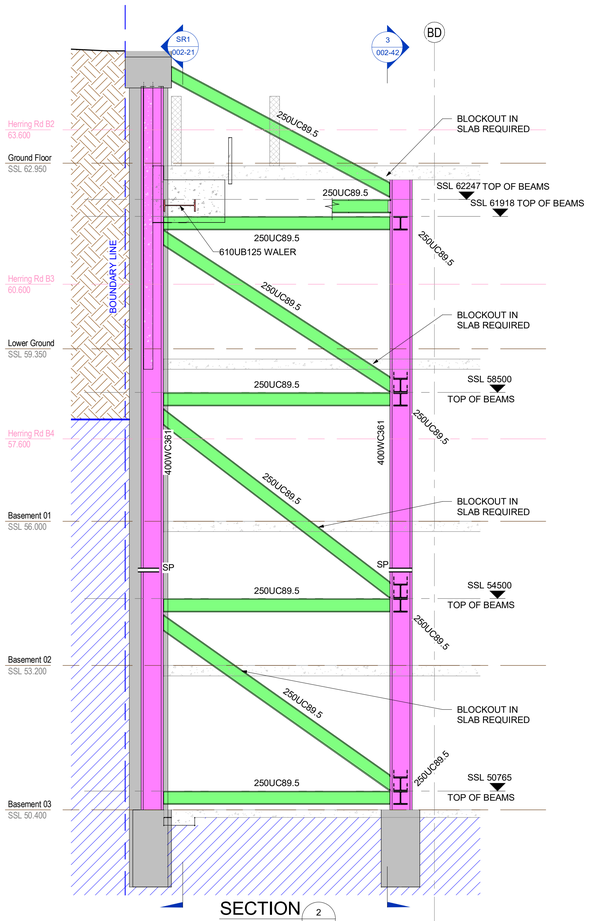
28/04/2021 9:35:27 PM

B1

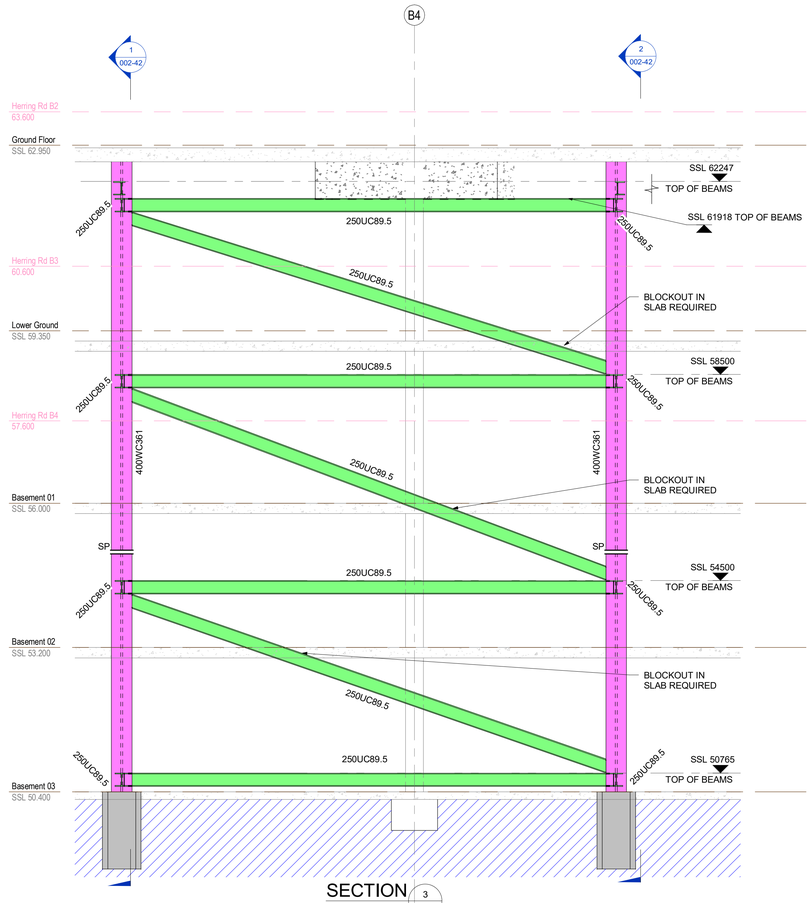
FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SECTION 1 / 002-41
1 : 50



SECTION 2 / 002-41
1 : 50



SECTION 3 / 002-41
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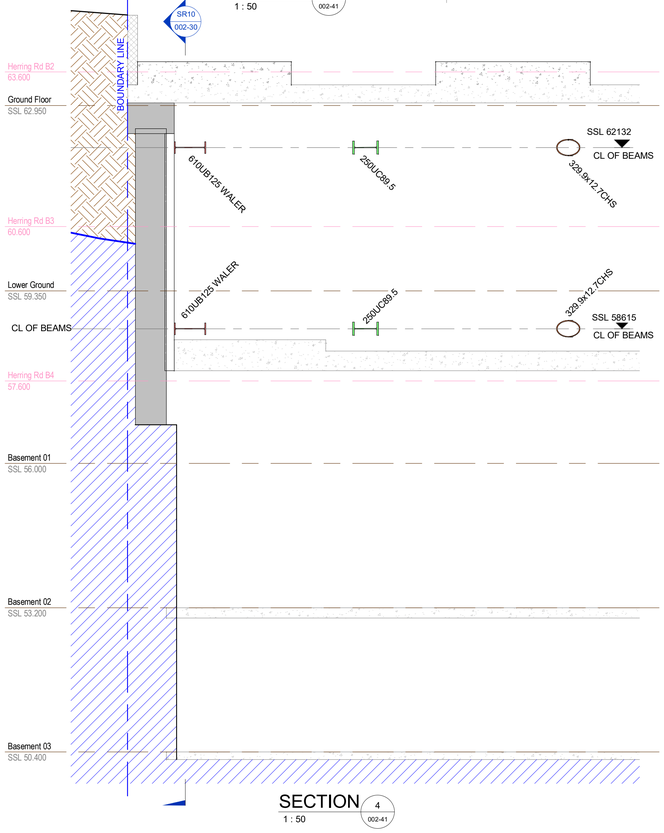

SECTION 4 / 002-41
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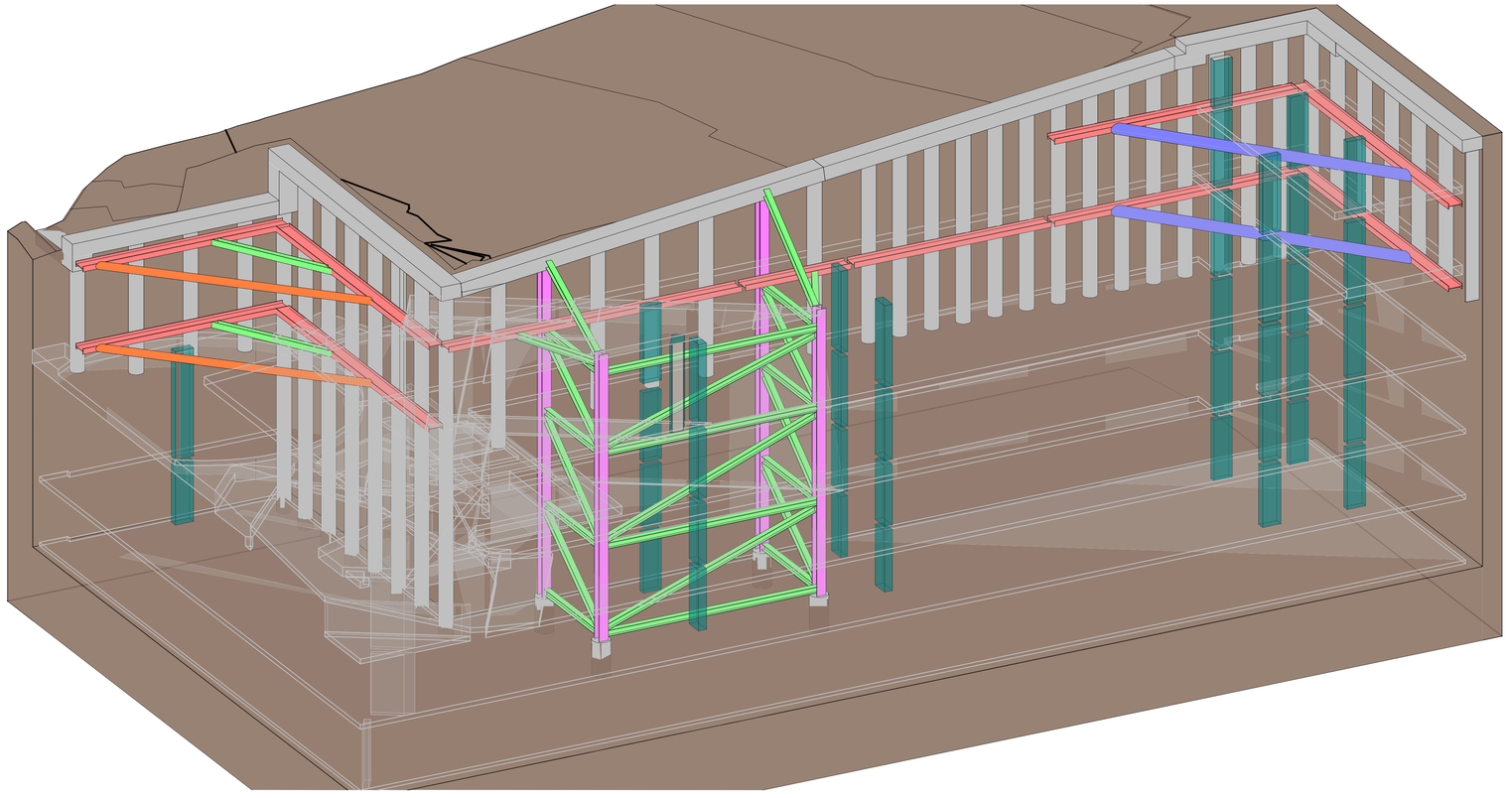

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BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SITE RETENTION TRUSS PLANS AND SECTIONS SHEET 2

SCALE AT B1: 1 : 50
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

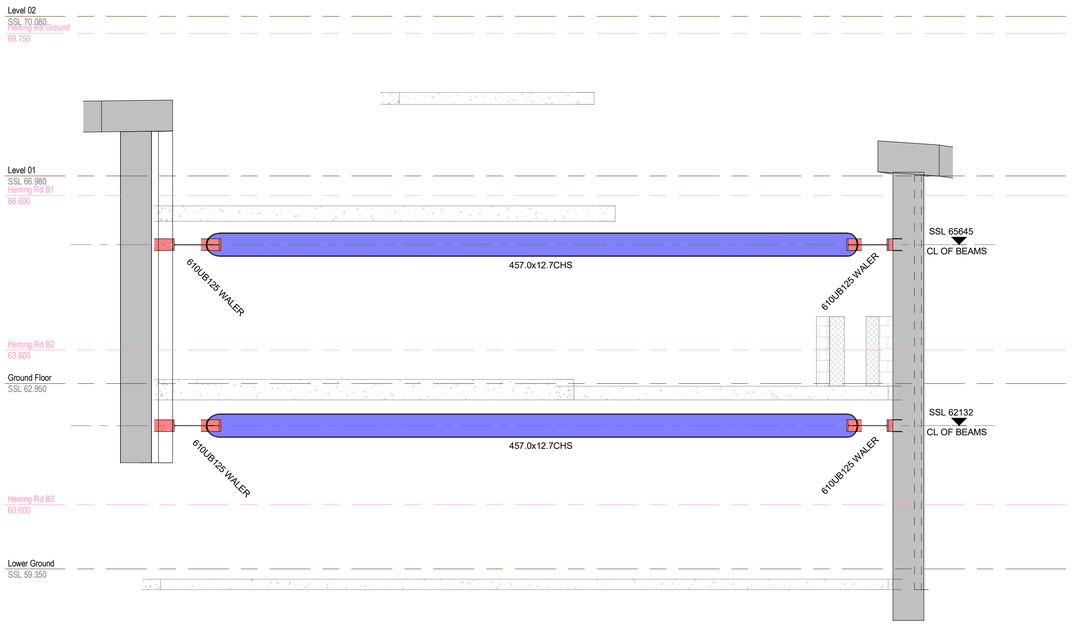
FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-42

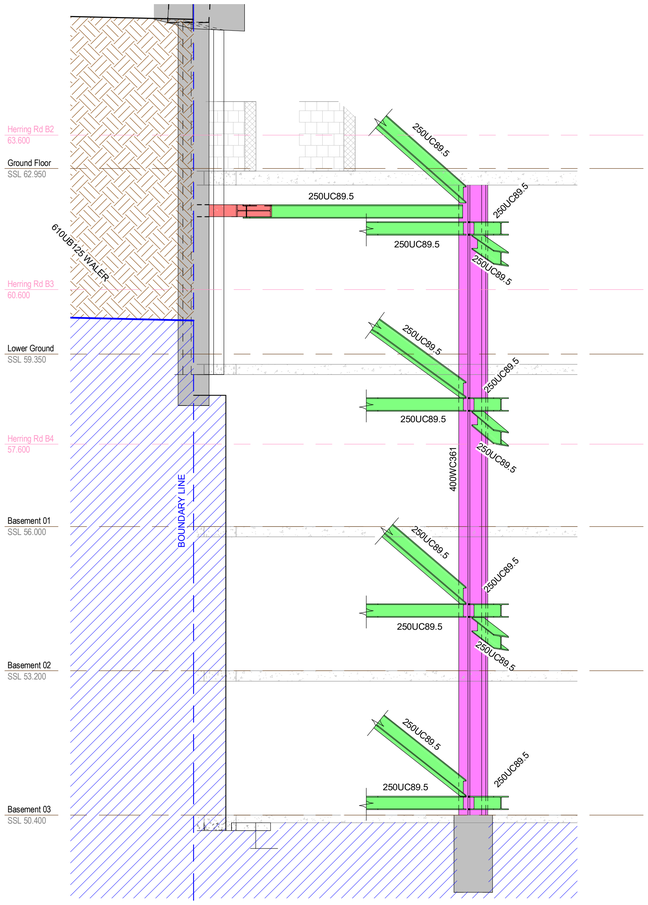
REV.: A

28/04/2021 9:35:37 PM

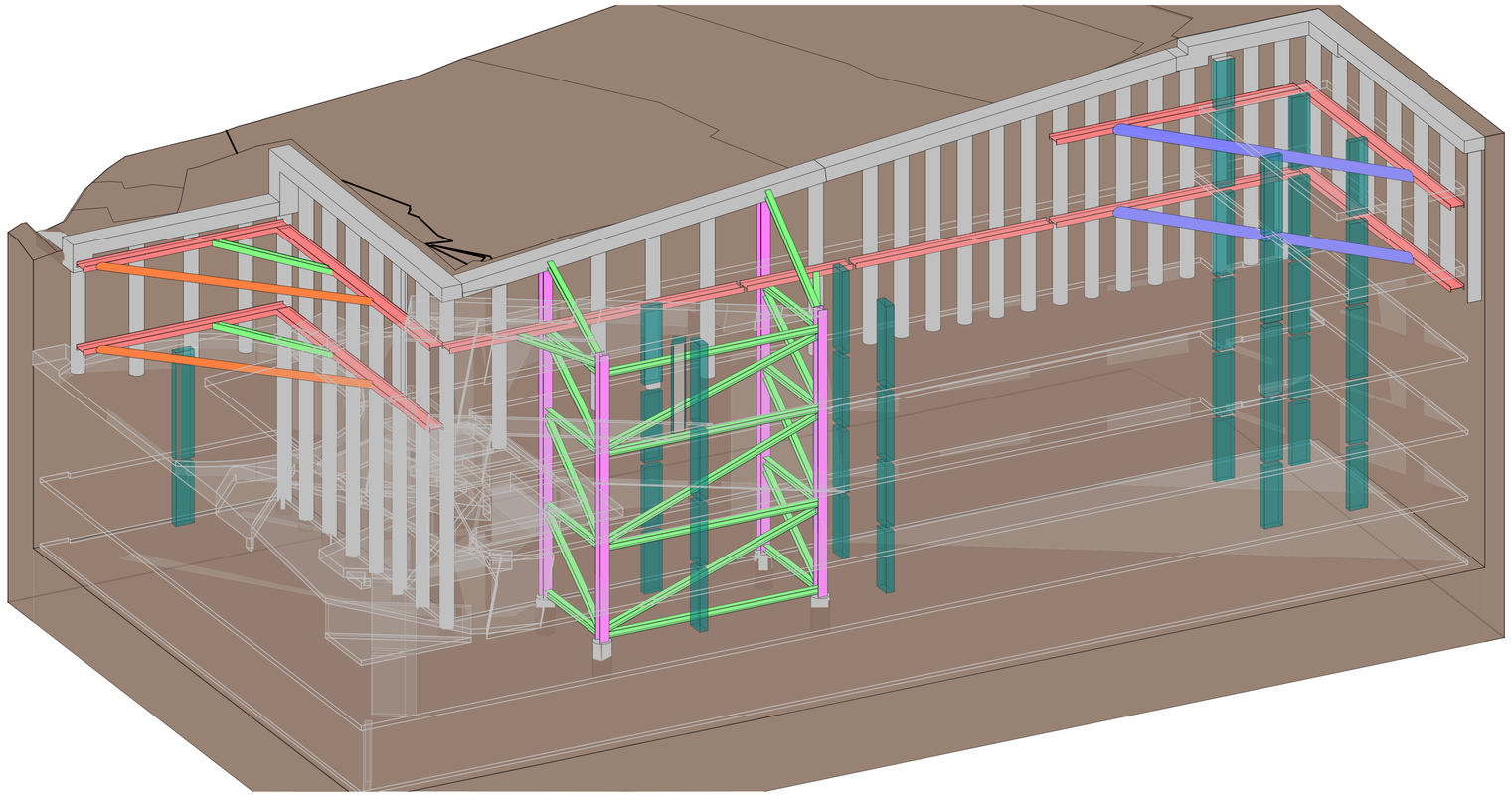
FOR GENERAL NOTES REFER TO DRAWING ST-001-00



SECTION 6
1 : 50
002-41



SECTION 7
1 : 50
002-41



Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
0	09.04.21	90% FOR CONSTRUCTION

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BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

SITE RETENTION TRUSS PLANS AND SECTIONS SHEET 3

SCALE AT B1: 1 : 50
DRAWN BY: WAS
CHECKED BY: PAS

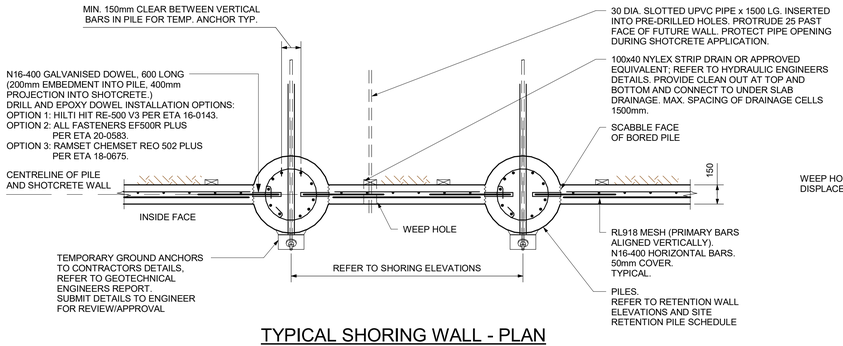
DRAWING STATUS

FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-43
REV.: A

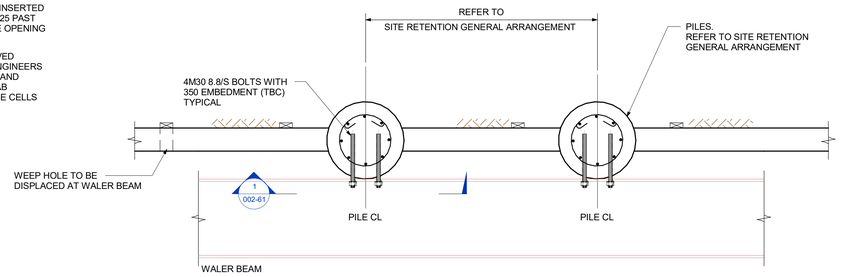
28/04/2021 9:35:47 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



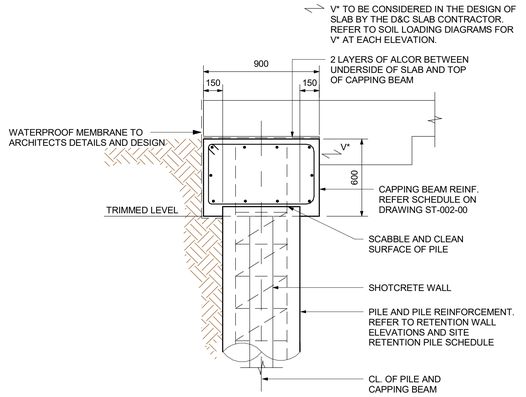
TYPICAL SHORING WALL - PLAN

SCALE: 1 : 20



TYPICAL SHORING WALL AT TEMPORARY TRUSS - PLAN

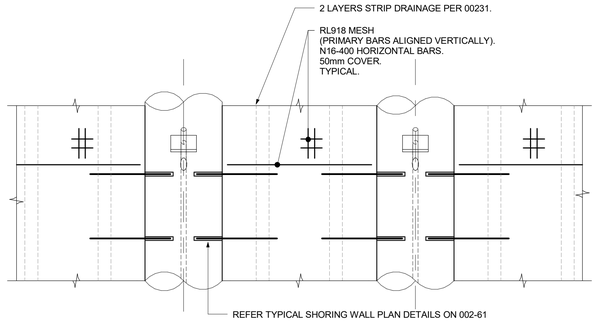
SCALE: 1 : 20



TYPICAL CAPPING BEAM DETAIL

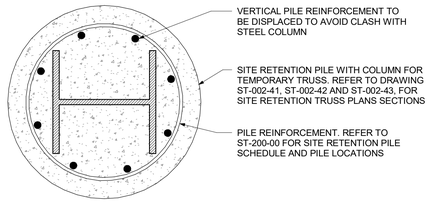
SCALE: 1 : 20

		Capping Beam and Pile Reinforcement Lap Splice Length (mm)	
		f'c = 40MPa	
Cover (mm)	Bar size	1.0Lsyt	1.3Lsyt
50	N10	300	400
	N12	350	500
	N16	500	650
	N20	700	900
	N24	950	1200
	N28	1200	1550
	N32	1450	1900
	N36	1750	2300
75	N10	300	400
	N12	350	500
	N16	500	650
	N20	650	850
	N24	800	1000
	N28	1000	1300
	N32	1300	1650
	N36	1600	2050



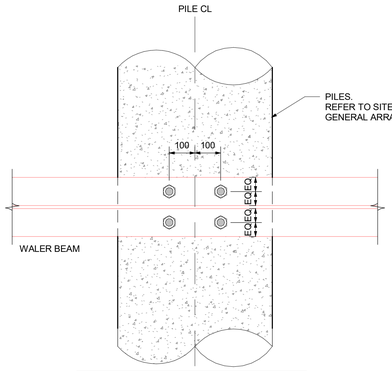
TYPICAL SHORING WALL - ELEVATION

SCALE: 1 : 20



SITE RETENTION PILE WITH COLUMN

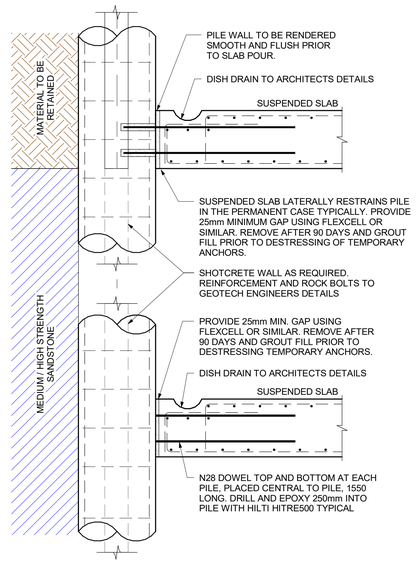
SCALE: 1 : 10



ELEVATION

1 : 10

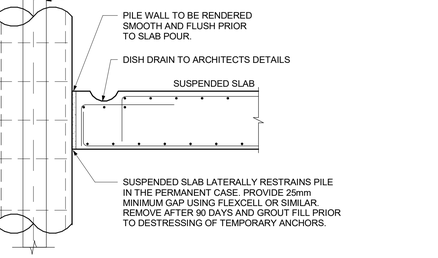
1
002-61



TYPICAL SUSPENDED SLAB TO PILE WALL DETAIL FOR SITE RETENTION ELEVATION 12

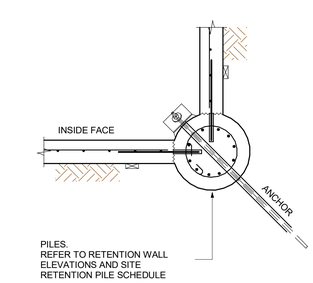
SCALE: 1 : 20

REFER TO DRAWING A1-ST-002-31 FOR SITE RETENTION WALL ELEVATION 12



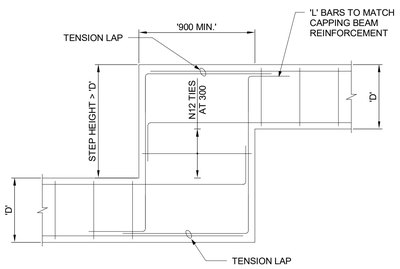
TYPICAL SUSPENDED SLAB TO PILE WALL DETAIL

SCALE: 1 : 20



CAPPING BEAM JUNCTION DETAILS

SCALE = 1:20

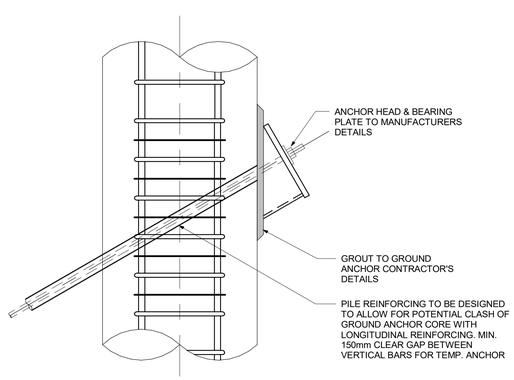


PILE WALL CAPPING BEAM VERTICAL STEP

SCALE = 1:20

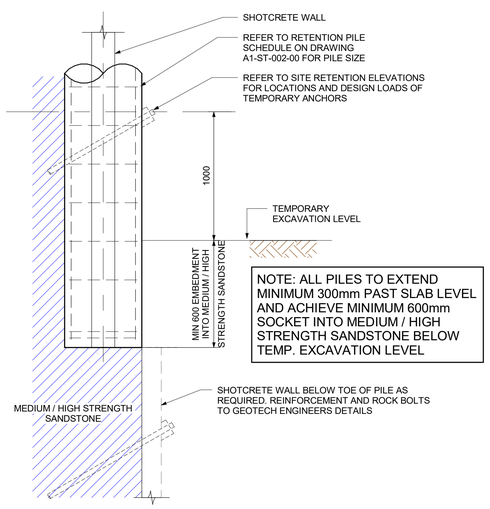
SHORING WALL JUNCTION DETAIL

SCALE: 1 : 20



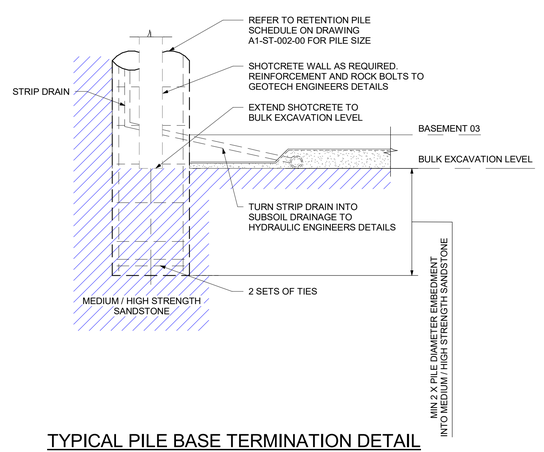
TEMPORARY TYPICAL SOLDIER PILE WALL GROUND ANCHOR DETAIL

SCALE: 1 : 10



TYPICAL PILE BASE TERMINATION DETAIL FOR PILES P1A, P1B, P2A, P2B, P3A, P4A, P4B, P5A, P5B, P10A

SCALE: 1 : 20



TYPICAL PILE BASE TERMINATION DETAIL FOR PILE P12A

SCALE: 1 : 20

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION
0	09.04.21	90% FOR CONSTRUCTION

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PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
TYPICAL SITE RETENTION DETAILS SHEET 1

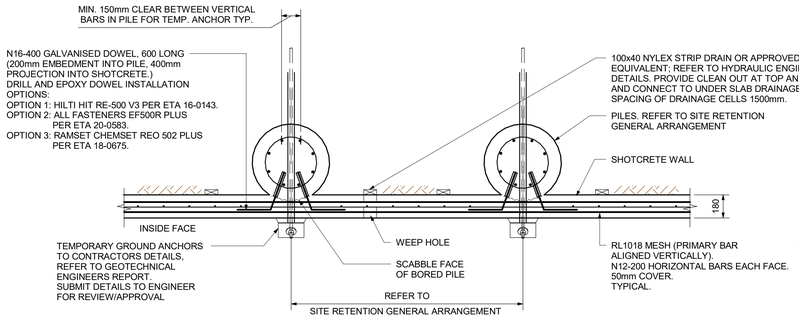
SCALE AT B1: As indicated
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS
FOR CONSTRUCTION

DRAWING NUMBER: A1-ST-002-61
REV.: A

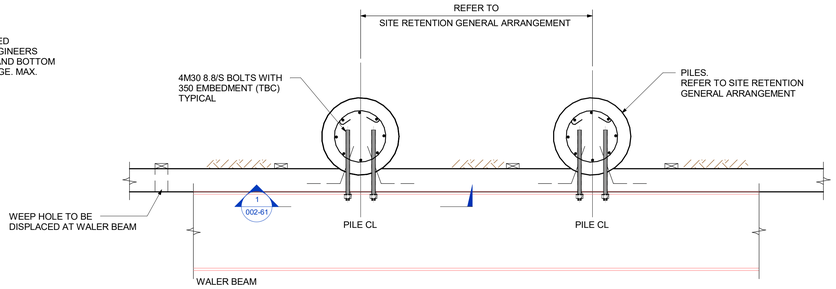
28/04/2021 9:35:55 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00



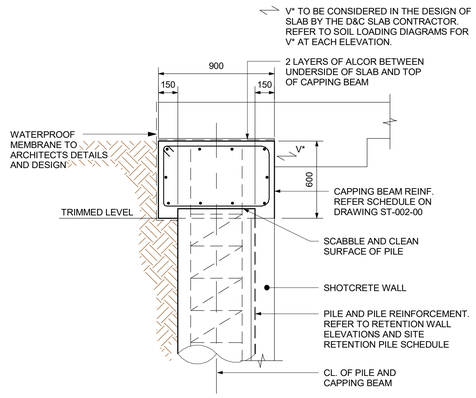
TYPICAL SHORING WALL (SHOTCRETE WALL NOT CENTRAL) - PLAN

SCALE: 1 : 20



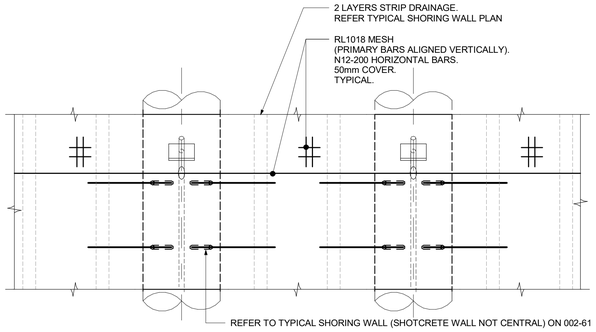
TYPICAL SHORING WALL AT TEMPORARY TRUSS WALER BEAM (SHOTCRETE WALL NOT CENTRAL) - PLAN

SCALE: 1 : 20



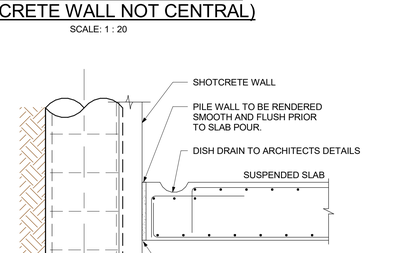
TYPICAL CAPPING BEAM DETAIL (SHOTCRETE WALL NOT CENTRAL)

SCALE: 1 : 20



TYPICAL SHORING WALL (SHOTCRETE WALL NOT CENTRAL) - ELEVATION

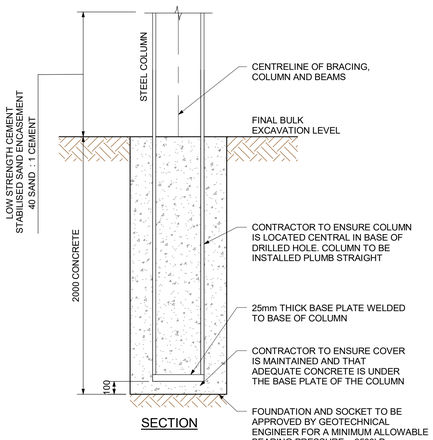
SCALE: 1 : 20



TYPICAL SUSPENDED SLAB TO PILE WALL DETAIL (SHOTCRETE WALL NOT CENTRAL)

SCALE: 1 : 20

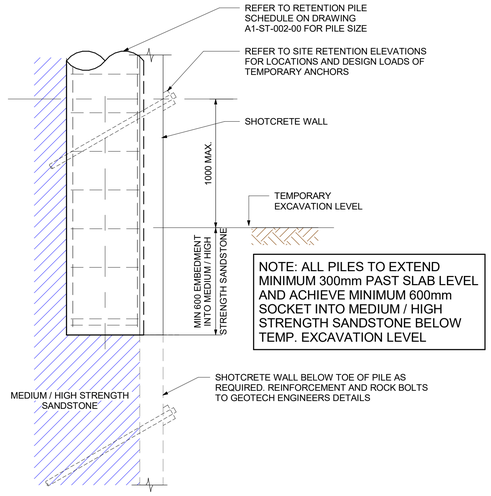
PLAN



SECTION

TYPICAL BASE OF TEMPORARY TRUSS COLUMN DETAIL

SCALE: 1 : 20



PILE BASE TERMINATION DETAIL (SHOTCRETE WALL NOT CENTRAL)

SCALE: 1 : 20

Rev.	Date	Description
A	28.04.21	ISSUED FOR CONSTRUCTION

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CLIENT
FRASERS PROPERTY

BUILDER

PROJECT NAME
Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE
TYPICAL SITE RETENTION DETAILS SHEET 2

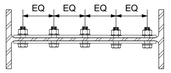
SCALE AT B1: 1 : 20
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS
FOR CONSTRUCTION

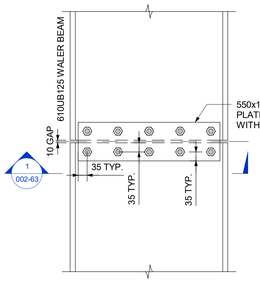
DRAWING NUMBER: A1-ST-002-62
REV.: A

28/04/2021 9:36:01 PM

FOR GENERAL NOTES REFER TO DRAWING ST-001-00

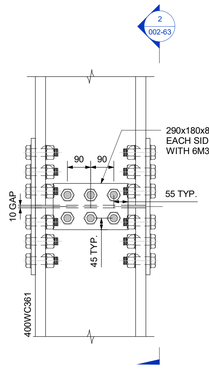


SECTION 1 / 002-63
1 : 10



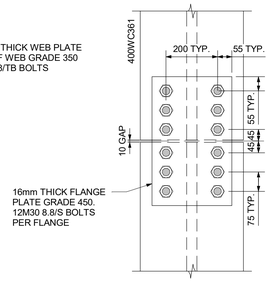
TYPICAL 610UB125 WALER BEAM SPLICE DETAIL

SCALE: 1 : 10

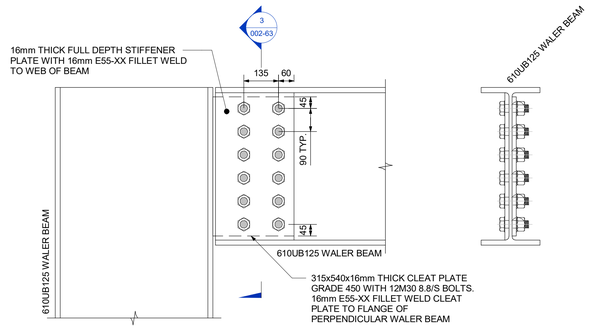


TYPICAL 400WC361 TRUSS COLUMN SPLICE DETAIL

SCALE: 1 : 10



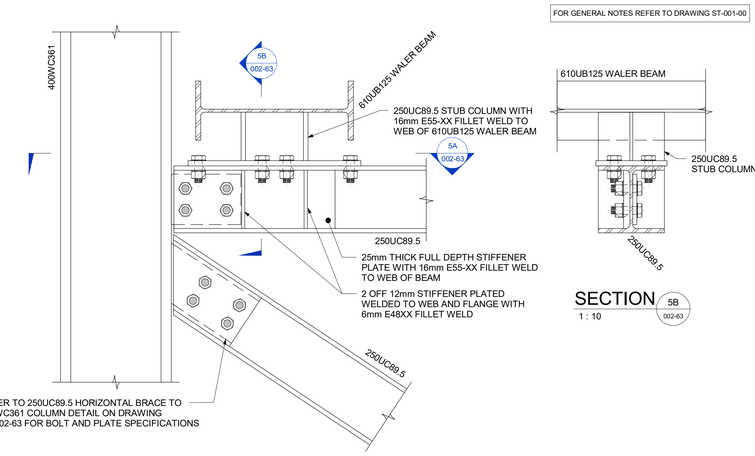
ELEVATION 2 / 002-63
1 : 10



610UB125 TO 610UB125 WALER BEAM CORNER CONNECTION DETAIL

SCALE: 1 : 10

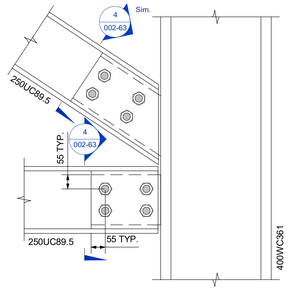
SECTION 3 / 002-63
1 : 10



250UC89.5 STUB COLUMN TO 610UB125 WALER BEAM DETAIL

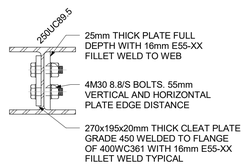
SCALE: 1 : 10

SECTION 5B / 002-63
1 : 10

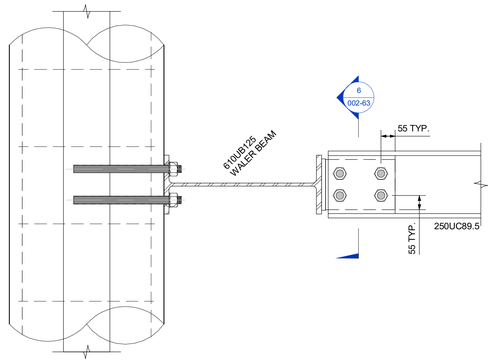


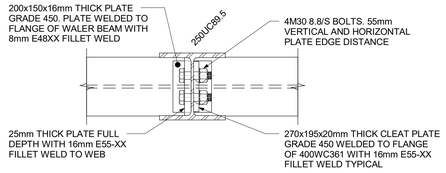
250UC89.5 HORIZONTAL BRACE TO 400WC361 COLUMN DETAIL

SCALE: 1 : 10

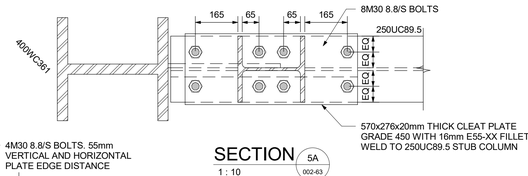


SECTION 4 / 002-63
1 : 10





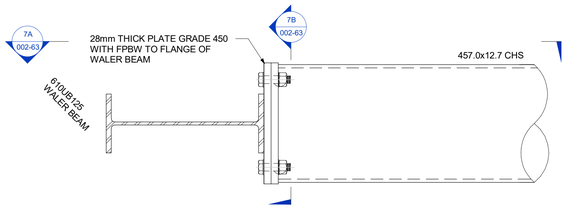
SECTION 6 / 002-63
1 : 10



SECTION 5A / 002-63
1 : 10

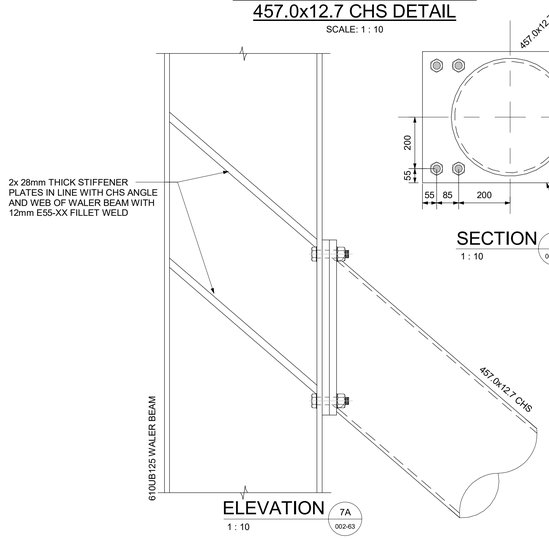
TYPICAL TRUSS BRACE TO WALER CONNECTION DETAIL

SCALE: 1 : 10

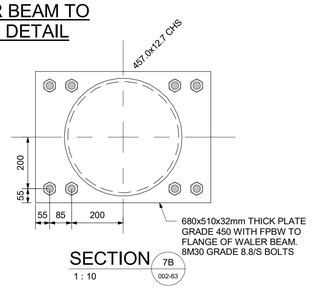


610UB125 WALER BEAM TO 457.0x12.7 CHS DETAIL

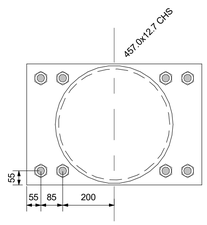
SCALE: 1 : 10

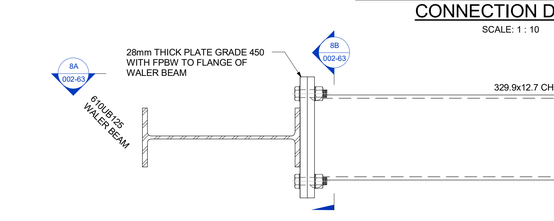


ELEVATION 7A / 002-63
1 : 10



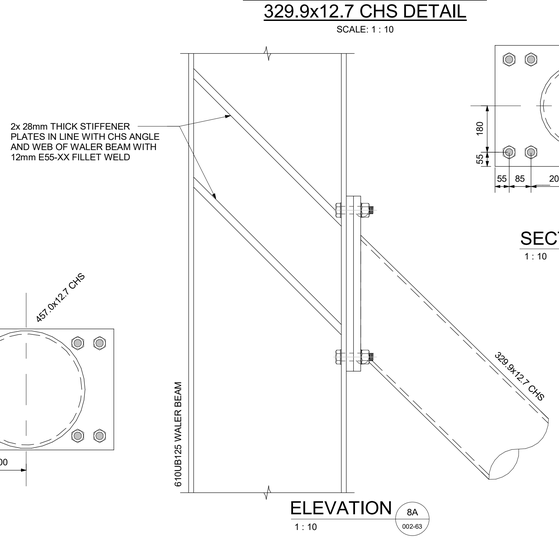
SECTION 7B / 002-63
1 : 10



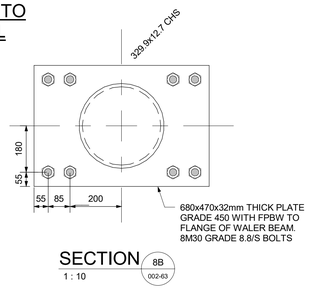


610UB125 WALER BEAM TO 329.9x12.7 CHS DETAIL

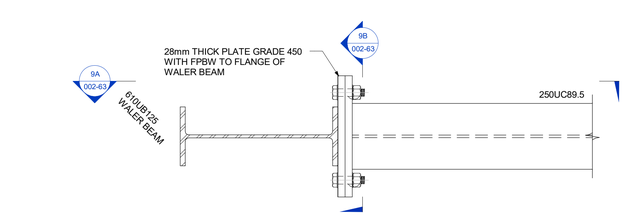
SCALE: 1 : 10



ELEVATION 8A / 002-63
1 : 10

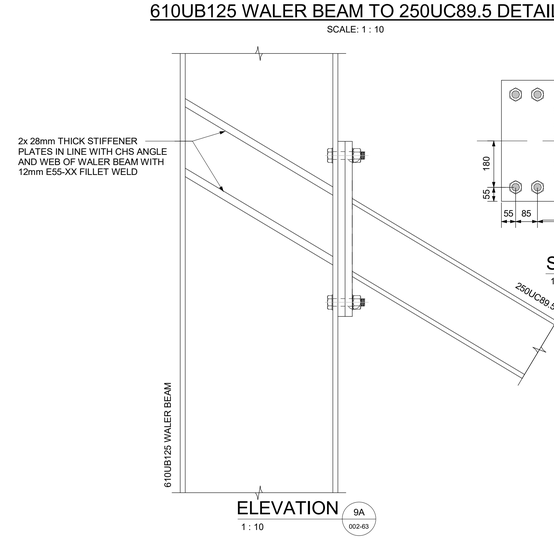


SECTION 8B / 002-63
1 : 10

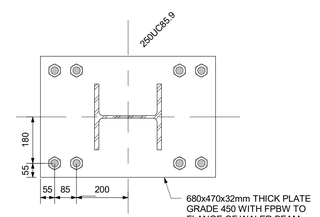


610UB125 WALER BEAM TO 250UC89.5 DETAIL

SCALE: 1 : 10



ELEVATION 9A / 002-63
1 : 10



SECTION 9B / 002-63
1 : 10

A 28.04.21 ISSUED FOR CONSTRUCTION

Rev. Date Description

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Telephone (02) 8904 1444
http: //www.enstruct.com.au

CLIENT

FRASERS PROPERTY

BUILDER

PROJECT NAME

Building A1 - Ivanhoe Estate

PROJECT NUMBER: 5543

DRAWING TITLE

TYPICAL SITE RETENTION DETAILS SHEET 3

SCALE AT B1: 1 : 10
DRAWN BY: WAS
CHECKED BY: PAS

DRAWING STATUS

FOR CONSTRUCTION

DRAWING NUMBER A1-ST-002-63

REV. A

28/04/2021 9:36:09 PM

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6 May 2021

Architecture
Interior Design
Urban Design
Strategy

BATESSMART™

Design Consultant Statement
For Construction Certificate

Project: Lot A1, Ivanhoe Estate, Macquarie Park NSW 2113
SSD Application Number: 8903
Reference: Construction Certificate CC1 – Bulk Excavation
Description: Certification by Design Consultant for Structural Construction Certificate

In my professional opinion and to the best of my knowledge the design documents prepared by Bates Smart for the purposes of Construction Certificate CC1, are consistent with the Consent Drawings architectural design intent.

This statement in no way relieves any other parties contributing to the design or providing instructions or advice in relation to the design of their obligation to ensure consistency with the Consent Drawings and Conditions.

I am an appropriately qualified and competent person practising in the relevant area of work.

This statement refers specifically to DA conditions listed below and references other documents tabled at the end of this document.

Items from Crown Certificate Checklist:

B14 and B15 – In relation to building A1 design we confirm the finishes and claddings specified comply with the requirements of the BCA 2019 Amendment 1.

B26 - The GFA of A1 does not exceed the 21,580m2.
Please refer to drawings A50.A1.001[A] and A50.A1.004[B].

B27 – Maximum height – Building height for A1 does not exceed RL 138.3m.
We confirm that the roof height of building A1 does not exceed RL 138.3m and that any elements above this level are consistent with the requirements of condition B28 as amended by S4.55(1A).

B37 – The visible light reflectivity (VLR) from building facade materials does not exceed 20 per cent in order to minimise glare.

B68 – Installation of water efficient Fixtures and Fittings – All toilets specified are 4 Star Rating under the WELS scheme and are of water efficient dual flush capacity. Refer to A40.000[T4] and attached WELS certificates. To also meet the requirements of BASIX Report produced by WSP Titled Lot A1 – Ivanhoe Estate (Dated August 2020) and relevant conditions of the consent.

B69 – All Shower Heads specified are to be a minimum of 4 Star WELS rated. Refer to A40.000[T4] and WELS certificates to be provided upon receipt from the manufacturer. To also meet the requirements of BASIX Report produced by WSP

Titled Lot A1 – Ivanhoe Estate (Dated August 2020) and relevant conditions of the consent.

B69 – All Taps specified are a minimum of 5 Star WELS rated. Refer to A40.000[T4] and attached WELS certificates. To also meet the requirements of BASIX Report produced by WSP Titled Lot A1 – Ivanhoe Estate (Dated August 2020) and relevant conditions of the consent.

B77 – There is a maximum of 208 residential parking spaces, 13 visitor car spaces and a minimum of 12 childcare centre parking spaces in building A1. Refer to GA Plans for reference.

B81 – Number of bicycle parking spaces –Building A1 has 269 bike parking spaces and 14 visitor bike parking spaces. Refer to GA Plans for reference. All resident bike parking spaces are intended to be provided within basement storage cages. Visitor bike parking spaces are intended to be provided within the basement carpark.

B82 – The layout, design and security of bicycle facilities either on-street or off-street is capable to comply with the minimum requirements of Australian Standard AS 2890.3 — 2015.

Matthew Allen
Director
Registered Architect #8498

Referenced documents

Title	**Revision date**
KWF NatHERS and Section J Constructions – WSP letter	1 April 2020
BASIX Report produced by WSP Titled Lot A1 – Ivanhoe Estate	August 2020
BCA Report produced by Mc Kenzie Group titled BCA Assessment	14th Feb 2020