CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

LOGOS Property – Building 3
Lot 24/23 Hollinsworth Road, Marsden Park NSW 2765
Minor Earthworks & Building Construction

Revision 1
PREPARED BY:

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PREPARED FOR:

Department of Planning and Environment

DOCUMENT CONTROL:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Date</th>
<th>Prepared By</th>
<th>Checked / Authorised By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rev 1</td>
<td>28/08/2020</td>
<td>Ricky Mikhail</td>
<td>John Kassaa</td>
</tr>
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</tr>
</tbody>
</table>
1 Introduction

1.1 Project Scope

This Construction Environment Management Plan (CEMP) has been prepared by Richard Crookes Constructions (RCC) in response to the requirements noted in SSD Project Approval (8606) Modification 1, Modification 2 and Modification 3.

The LOGOS Development – Buildings 3 Project consists of design and construction of a Warehouse (26,175m2), 1 x two storey Offices (1,000m2), carparking, hardstand and landscape areas. The project is located at street address Lot 24 Hollinsworth Road, Marsden Park in LOGOS estate and access to site is off Hollinsworth Road.

LOGOS PROPERTY HOLDINGS PTY LTD has obtained Development Consent for the Development Application Number: SSD 8606 on 16th August 2018. A modification to the SSD was lodged on 22nd October by Urbis Planning. Approval of Development Consent Modification 3 was provided on the 13th February 2020 from the Minister for Planning for the Proposed Development.

The Development Consent includes:
The construction and operation of a warehousing and distribution facility consisting of:
• one warehouse housing one tenant, with an Office adjacent to the warehouse
• car parking, hardstand areas and landscaping.

RCC is the nominated building contractor for LOGOS Property Holdings Pty Ltd and in this capacity is responsible for the environmental management of the site during construction of the industrial building (Building 3) including the carpark and associated services.

The BCA Consultant is:
Geoffrey Pearce McKenzie Group

Richard Crookes Constructions will be responsible for the ongoing management of the CEMP and its implementation on the site and for any updates to this document.

Site Location & Layout

Figure 1 shows the overall layout of the developments along Hollinsworth Road

Figure 2 shows the proposed site plan/layout
Figure 1 – Overall layout of the development along Hollinsworth Road

Figure 2 – Site Plan
1.2 Construction Environmental Management Plan

1.2.1 Scope

This Construction Environmental Management Plan (CEMP) has been prepared to satisfy the relevant conditions of consent for the estate noted on original DA consent approval 8606 and on the modified SSD 8606 approved on the 16th of August, 2018. The specific requirements of these conditions, along with where these requirements have been addressed within this CEMP, are listed in Table 1.

Table 1 CEMP Background

<table>
<thead>
<tr>
<th>No.</th>
<th>Condition</th>
<th>CEMP Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary</td>
<td>This document</td>
</tr>
<tr>
<td>C1</td>
<td>Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>details of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the relevant statutory requirements (including any relevant approval, licence or lease conditions);</td>
<td></td>
</tr>
<tr>
<td></td>
<td>any relevant limits or performance measures and criteria; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</td>
<td>Section 3</td>
</tr>
<tr>
<td>b)</td>
<td>a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;</td>
<td>Section 3 &amp; 4</td>
</tr>
<tr>
<td>c)</td>
<td>a program to monitor and report on the:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>impacts and environmental performance of the development; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>effectiveness of the management measures set out pursuant to paragraph (b) above;</td>
<td>Section 4</td>
</tr>
<tr>
<td>d)</td>
<td>a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</td>
<td>Section 4</td>
</tr>
<tr>
<td>e)</td>
<td>a program to investigate and implement ways to improve the environmental performance of the development over time;</td>
<td>Section 4</td>
</tr>
<tr>
<td>f)</td>
<td>a protocol for managing and reporting any:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); complaint;</td>
<td>Section 4</td>
</tr>
<tr>
<td></td>
<td>failure to comply with statutory requirements; and</td>
<td></td>
</tr>
<tr>
<td>g)</td>
<td>a protocol for periodic review of the plan.</td>
<td></td>
</tr>
<tr>
<td>h)</td>
<td>A conditions compliance table which references and details where the relevant conditions of consent have been addressed</td>
<td>Section 3</td>
</tr>
<tr>
<td>C3</td>
<td>As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:</td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Construction Traffic Management Plan (see Condition B1);</td>
<td>Appendix B</td>
</tr>
<tr>
<td>b)</td>
<td>Erosion and Sediment Control Plan</td>
<td>Appendix I</td>
</tr>
<tr>
<td>c)</td>
<td>Stormwater Management Plan (see condition B22 and B24)</td>
<td>Appendix L</td>
</tr>
<tr>
<td>d)</td>
<td>Construction Noise Management Plan (See condition B34)</td>
<td>Appendix K</td>
</tr>
</tbody>
</table>
1.2.2 Aims and Objectives

The objectives of this CEMP are to:

- Establish the framework for managing and mitigating the potential for adverse environmental impacts as a result of the construction of the development;
- Clearly and concisely document the commitments made in the relevant specialist impact assessments and/or management plans that are required to be implemented and/or complied with during the construction phase;
- Clearly and concisely document the conditions imposed by Development Consent for DA SSD 8606, along with any other approvals, that are required to be implemented and/or complied with during the construction phase; and
- Assist to establish the development in a manner that avoids (where possible) or minimises impact to the surrounding environment and populace.

1.2.3 Consultation

**Planning Secretary**

In accordance with condition C4 of Development Consent SSD 8606, this CEMP shall be submitted to the planning secretary for review and feedback. The CEMP will be updated to address any issues or requests received from the planning secretary.

Copies of all consultation correspondence is appended as Appendix G.
2 CONSTRUCTION BRIEF

2.1 Overview

The Development is located at Lot 24/23 Hollinsworth Road, Marsden Park within LOGOS Industrial Estate.

The proposed site contains an area of approximately 47,195m², comprising the following:

- A 26,175m² warehouse building housing one tenant
- Tenancy has its own two-storey office space totalling to 1,000m²
- Approximately 10,424m² of hardstand area, 115 car parking spaces and on-site landscaping

The site has frontage to Building 2a & 2b, connected to an internal estate road and adjacent to the future busway easement.

2.2 Construction Activities and Timing

Development Consent SSD 8606 includes the construction and operation of buildings and associated on-lot works within the proposed development. Specifically the Building 3 facility will include:

- Detailed on-lot earthworks to refine final levels and establish final building pads
- Detailed excavations for footings, retaining walls & in-ground services
- Construction of a buildings in the configuration shown on Figure 2
- Construction of site access, hardstand & car parking in the configuration shown on Figure 2
- Fit out of warehouse building and office space, including standard racking and office fit out
- Landscaping and associated external works

Constructions of the project is scheduled to commence immediately following approval of all required documentation and issue of required construction certification, which is anticipated to be in by late September 2020 and it will span approximately 6 months from commencement.

The Construction Program is provided in Appendix F.
2.3 Construction Hours

Construction hours for the site will be in accordance with conditions B31 and B32 of Development Consent SSD 8606, which are reproduced below:

B31. The Applicant must comply with the hours of work detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Monday – Friday, Saturday</td>
<td>7 am to 6 pm, 8 am to 1 pm</td>
</tr>
<tr>
<td>Operation</td>
<td>Monday – Sunday</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

B32. Works outside of the hours identified in condition B31 may be undertaken in the following circumstances:
(a) works that are inaudible at the nearest sensitive receivers;
(b) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
(c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

2.4 Construction Vehicle Access Routes

All construction vehicles will be directed to enter and exit the site via the routes shown in Figure 3 and as per the Construction Traffic Management Plan (CTMP). These routes represent the shortest route between the local, Estate and regional road network and will therefore minimise traffic and transport-related impacts during the construction phase. A copy of the approved routes will be distributed to all drivers prior to commencing work.

2.5 Construction Site Access

All access to the site by construction personnel will be via Hollinsworth Road the onto the Side Busway temporary Gravel road & Internal estate road. Generally, on-site access will be limited to deliveries and heavy vehicles, with contractors provided sufficient car parking facilities on site, in accordance with the relevant Australian Standard, to ensure that traffic associated with the development does not utilise public and residential streets or public parking. All vehicles will enter and exit in a forward direction. Emergency vehicle access to and from site will be available at all times during the construction phase. This process would be implemented through emergency protocols as detailed in the project management plan.
2.6 Construction Contact Details

Table 2 lists the key contacts during the construction phase of the Development.

**Table 2  Construction Contacts List**

<table>
<thead>
<tr>
<th>Location / Personnel</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Contractor – General Manager (Industrial) – Claude Concha</td>
<td>0434 077 660</td>
</tr>
<tr>
<td>Principal Contractor - Project Manager – Ben Kilby</td>
<td>0409 684 119</td>
</tr>
<tr>
<td>Principal Contractor - Site Manager – Troy Daly</td>
<td>0437 851 142</td>
</tr>
<tr>
<td>Principal Contractor – Safety, Health and Environmental Officer – Leigh Macdonald</td>
<td>0418 296 449</td>
</tr>
<tr>
<td>Principal Contractor - Project Engineer – John Kassaa</td>
<td>0428 261 413</td>
</tr>
</tbody>
</table>

Table 3 Lists the contact details for the regulatory authorities that have an interest in the construction phase of the Development.

**Table 3  Regulatory Authority Contact List**

<table>
<thead>
<tr>
<th>Regulatory Authority / Stakeholder</th>
<th>Key Contact</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Planning and Environment (DPE)</td>
<td>Development Assessment Unit and/or Compliance Unit</td>
<td>1300 305 695 or 02 9228 6111</td>
</tr>
<tr>
<td>Environment Protection Authority (EPA)</td>
<td>Environment Line</td>
<td>131 555</td>
</tr>
<tr>
<td>Blacktown City Council</td>
<td>Main switchboard</td>
<td>02 9839 6000</td>
</tr>
<tr>
<td>NSW Health</td>
<td>NSW Ministry of Health (Sydney)</td>
<td>02 9391 9000</td>
</tr>
<tr>
<td>SafeWork NSW</td>
<td>Incident Notification Hotline</td>
<td>131 050 Select Option 3 to report a “Serious Incident or Fatality” – this will result in the incident being recorded and the appropriate person being contacted.</td>
</tr>
<tr>
<td>Emergency Services</td>
<td>NSW Police</td>
<td>131 444</td>
</tr>
<tr>
<td></td>
<td>NSW Fire and Rescue</td>
<td>1300 729 579</td>
</tr>
<tr>
<td></td>
<td>NSW Ambulance Service</td>
<td>-</td>
</tr>
<tr>
<td>WaterNSW</td>
<td>Incident Notification Number (24 hour) -</td>
<td>1800 061 069</td>
</tr>
</tbody>
</table>
3 CONSTRUCTION ENVIRONMENTAL MANAGEMENT

3.1 Richard Crookes Constructions Environmental & Sustainability Policies

Richard Crookes Constructions maintains a Corporate Responsibility and Sustainability & Environmental Policies (Appendix F) which states that the long-term philosophy includes a sustainable approach to the environment, as well as proper consideration for the social and economic responsibilities to the wider community.

3.2 Roles and Responsibilities of Key Personnel

The key personnel responsible for environmental management during construction are listed in Table 4.

Table 4 Personnel Responsible for Environmental Management

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Manager (Industrial)</td>
<td>• Ensure all works comply with relevant regulatory and project requirements;</td>
</tr>
<tr>
<td></td>
<td>• Ensure the requirements of the CEMP are fully implemented;</td>
</tr>
<tr>
<td></td>
<td>• Provide guidance in the regular review of this CEMP;</td>
</tr>
<tr>
<td></td>
<td>• Ensure complaints are resolved satisfactorily;</td>
</tr>
<tr>
<td>Project Manager (reports to General Manager)</td>
<td>• Plan construction works in a manner that avoids or minimises impact to the environment;</td>
</tr>
<tr>
<td></td>
<td>• Ensure the requirements of this CEMP are fully implemented;</td>
</tr>
<tr>
<td></td>
<td>• Ensure construction personnel manage construction works in accordance</td>
</tr>
<tr>
<td></td>
<td>with statutory and approval requirements;</td>
</tr>
<tr>
<td></td>
<td>• Ensure environmental management procedures and protection measures are</td>
</tr>
<tr>
<td></td>
<td>implemented;</td>
</tr>
<tr>
<td></td>
<td>• Ensure all project personnel attend an induction prior to commencing works;</td>
</tr>
<tr>
<td></td>
<td>• Stop work immediately if an unacceptable impact on the environment is likely</td>
</tr>
<tr>
<td></td>
<td>to occur.</td>
</tr>
</tbody>
</table>
### Role | Responsibilities
--- | ---
Site Manager (reports to Project Manager) | - Implement and ensure compliance to this CEMP during all site works;  
- Implement all environmental plans and procedures on site as required;  
- Co-ordination and interface of all on-site activities;  
- Establish and maintain site environmental measures.  
- Review all subcontractor management plans submitted prior to works commencing including obtaining all necessary approvals.  
- Management of all inspection checklists  
- Coordination of environmental daily audits.

Safety, Health and Environment Officer | - Instruct relevant company personnel in the application of the Environmental Management Plan;  
- Provide guidance for personnel on the procedures required under the Environmental Management Plan;  
- Provide guidance on compliance with standards and legislation;  
- Conduct internal audits of the Environmental Management Systems & Procedures;  
- Ensure site environmental inspections are being conducted daily.

Wider Project Team (reports to Project Manager) | a) Comply with all relevant requirements of this CEMP as instructed by the project team;  
b) Participate in daily environmental audits as required;  
c) Participate in mandatory project & environmental inductions;  
d) Regularly review and rectify as required any project environmental controls currently in place.  
e) Stop any activity when there is a risk to the environment and report it to the Project Manager, Site Manage or WH&S Manager.
<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>All employees and sub-contractors</td>
<td>• Ensure familiarity, implementation and compliance with this CEMP and appended management plans;</td>
</tr>
<tr>
<td></td>
<td>• Support the commitment to environmental management and compliance;</td>
</tr>
<tr>
<td></td>
<td>• Work in a manner that will not harm the environment or impact on surrounding receptors;</td>
</tr>
<tr>
<td></td>
<td>• Report all environmental incidents and complaints to Site Management without delay; and</td>
</tr>
<tr>
<td></td>
<td>• Report any inappropriate construction practices and/or environmental management practices to Site Management without delay.</td>
</tr>
</tbody>
</table>
3.3 Development Consent

The proposed facility will be constructed in accordance with Development Consent “Terms of Consent”, Conditions A2, A3 & A4, which include the following:

A2. The development may only be carried out:
(a) in compliance with the conditions of this consent;
(b) in accordance with all written directions of the Planning Secretary;
(c) in accordance with the EIS and Response to Submissions;
(d) in accordance with the Development Layout in Appendix A; and
(e) in accordance with the Management and Mitigation Measures in Appendix C.

A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:
(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and
(b) the implementation of any actions or measures contained in any such document referred to in A3(a) above.

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c), A(e) or A(f). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), A(e) or A(f), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of consent or direction of the Planning Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

A copy of the Development Consent SSD 8606 and Development Consent SSD 8606 Modified 3 is attached in Appendix A.

3.3.1 Relevant Consent Conditions (Environmental)

Development Consent SSD 8606 imposes a number of Specific Environmental Conditions applicable to the construction phase of the proposed project. The conditions & comments/actions are listed in Table 5 below.

Table 5 Specific Environmental Conditions

<table>
<thead>
<tr>
<th>PART A - ADMINISTRATIVE CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT</strong></td>
</tr>
<tr>
<td>A1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PART B - SPECIFIC ENVIRONMENTAL CONDITIONS – Only the conditions applicable during construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
<tr>
<td>------------------------------------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
### NOTIFICATION OF COMMENCEMENT

**A13**

The date of commencement of each of the following phases of the development must be notified to the Department in writing, at least one month before that date, or as otherwise agreed by the Planning Secretary:

(a) construction;
(b) operation of each warehouse building
(c) cessation of operations.

Refer to Appendix F for Construction Programme

**A14**

If the construction or operation of the development is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

Noted

### EVIDENCE OF CONSULTATION

**A15**

Where conditions of this consent require consultation with an identified party, the applicant must:

a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and

b) provide details of the consultation undertaken including:
   i. the outcome of that consultation, matters resolved and unresolved; and
   ii. details of any disagreement remaining between the party consulted and the applicant and how the applicant has addressed the matters not resolved

Consultation Correspondence provided in Appendix G

### STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS

**A16**

With the approval of the Planning Secretary, the Applicant may:

(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);

(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and

(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

Noted

### PROTECTION OF PUBLIC INFRASTRUCTURE

**A19**

Before the commencement of construction, the Applicant must:

Dilapidation Report
<table>
<thead>
<tr>
<th><strong>LOGOS Property – Building 3</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Construction Environmental Management Plan (CEMP)</strong></th>
</tr>
</thead>
</table>

| **A20** | Unless the Applicant and the applicable authority agree otherwise, the Applicant must:  
(d) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and  
(e) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development. |

| **A20** | **STRICTURAL ADEQUACY** |
|--------------------------------|

**Note:**  
- *Under the former Part 4A of the EP&A Act or Part 6 of the EP&A Act as applies from 1 September 2019, the applicant is required to obtain construction and occupation certificates for the proposed building works*  
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.* |

| **A22** | The applicant must ensure that all of its employees, contractors (and their subcontractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development. |

| **A24** | All plant and equipment used on site, or to monitor the performance of the development must be:  
(a) maintained in a proper and efficient condition; and  
(b) operated in a proper and efficient manner. |

| **A27** | The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA. |

| **A28** | Before the issue of a Construction Certificate and an Occupation Certificate, the Applicant must provide the Certifying Authority with documented evidence that the products and systems proposed for use or used in the construction of external
walls including finishes and claddings such as synthetic or aluminium composite panels comply with the requirements of the BCA.

A29 The Applicant must provide a copy of the documentation given to the Certifying Authority to the Planning Secretary within seven days after the Certifying Authority accepts it.

**UTILITIES AND SERVICES**

A30 Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers. Noted

A31 Before the commencement of operation of the development, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the *Sydney Water Act 1994*. Noted

A33 Before the issue of any Occupation Certificate for any stage of the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifying Authority, that arrangements have been made for:

(a) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project to enable fibre to be readily connected to any premises that is being or may be constructed on those lots; and

(b) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier. Noted

A34 The Applicant must demonstrate that the carrier has confirmed in writing they are satisfied that the fibre ready facilities are fit for purpose. Noted

**PART B – SPECIFIC ENVIRONMENTAL CONDITIONS**

**TRAFFIC, ACCESS AND PARKING**

**Construction Traffic Management Plan**

Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council;

(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction

(d) detail heavy vehicle routes, access points and parking arrangements;

(e) include a Driver Code of Conduct to:

(i) minimise the impacts of construction on the local and regional road network;

(ii) minimise conflicts with other road users;

(iii) minimise road traffic noise; and

B1 See Section 3.5 & CTMP in Appendix B
B2 The Applicant must:

(a) not commence construction until the Construction Traffic Management Plan required by condition B1 is approved by the Planning Secretary; and
(b) Implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.

ROADWORKS AND ACCESS

B3 Before the commencement of construction works for any access roads connecting to the current or proposed extent of Hollinsworth Road, the Applicant must obtain approval for the works under section 138 of the Roads Act 1993

B4 The Applicant must ensure the vehicle crossovers from Hollinsworth Road to the site are built so they comply with the AUSTROADS Guide to Traffic Engineering Practice, Part 5: Intersections at Grade, Section 6.2 – Sight Distance and AS2890

B5 The applicant must ensure all vehicular crossings are built to Council’s standard A(BS)103S

SOILS, WATER QUALITY AND HYDROLOGY

B15 Imported Soil
The Applicant must:
(a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;
(b) keep accurate records of the volume and type of fill to be used; and
(c) make these records available to the Department upon request.

B16 Erosion & Sediment Control
Prior to the commencement of any construction or other surface disturbance the Applicant must install and maintain suitable erosion and sediment control measures on-site, in accordance with the relevant requirements of the Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book (Landcom, 2004) guideline and the Erosion and Sediment Control Plan included in the CEMP required by condition C2.

B17 Discharge Limits
The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.

TEMPORARY ON-SITE DETENTION DURING CONSTRUCTION

B20 Prior to the issue of a Construction Certificate for stages 3 and 4, the Applicant must provide a temporary on-site detention system for stages 3 and 4, the extension of Hollinsworth Road and bus-only link that drains to Hollinsworth Road in accordance with Councils Engineering Guide for Development and Council’s WSUD Standard Drawing A(BS)175M (Current Version). The on-site detention systems must:
(a) be designed to achieve a site storage requirements of 300 m3/ha for the 1.5 year ARI and 455 m3/ha for the 100 year ARI
(b) treat the area of the Hollinsworth Road extension and the area of the bus-only link which drains into Hollinsworth Road, in addition to any bypass within lots 1 and 2; and
(c) include an OSD catchment plan
Before the issue of any Construction Certificate, the Applicant must submit copies of the following certificate to Council, which are to be prepared by a registered engineer (NER):

a) certification that the structures associated with the on-site stormwater detention system have been designed to withstand all loads likely to be imposed on them during their lifetime; and
b) certification that the on-site stormwater detention system will perform to meet the on-site stormwater detention requirements

### STORMWATER MANAGEMENT PLAN

Before the commencement of construction of each building within the development, the Applicant must prepare and submit a Stormwater Management Plan (SMP) to the satisfaction of the Planning Secretary. Each plan must identify all building and roadworks to be constructed relevant to the Construction Certificate that the works relate to. Each SMP must:

(a) be prepared by a suitably qualified engineer;
(b) be prepared in consultation with Council;
(c) be prepared generally in accordance with:
(i) the civil plans, listed in Appendix A;
(ii) Council's Works Specification - Civil (Current Version);
(iii) Council's Engineering Guide for Development (Current Version);
(iv) Council’s On-Site Detention General Guidelines and Checklist; and
(v) Council’s WSUD Standard Drawings AS175M (Current Version);
(d) include a Stormwater Verification Report as required by condition B25;
(e) demonstrate the development can comply with the stormwater objectives of Table 2-1 of the Growth Centres Development Control Plan, plus a post development target reduction of 90% for total hydrocarbons;
(f) ensure post-development flow velocities of the relevant stormwater and drainage works match pre-development flow velocities;
(g) include a maintenance schedule and management measures for the stormwater quality devices that is signed and dated by the designer;
(h) detail the works required to attenuate stormwater quantity volumes in the event either regional basin E or basin G, dependent on the drainage path for that building, are not complete;
(i) incorporate plans and accompanying design notes only; and
(j) for Lot 2, amend the drainage plans from Costin Roe Series Co12829.15 dated 27.11.19 by providing temporary on-site detention and amending the MUSIC model by deleting the swle and reducing the landscape water demand for each rainwater tank to 700kl/year.

Refer to Appendix L
The works approved under each SMP (as revised and approved by the Planning Secretary from time to time) must be installed before the issue of any Occupation Certificate for the building that they relate to, and must be maintained by the Applicant for the duration of the development. All stormwater works within public road reserves must be constructed before dedication to Council.

RAINWATER HARVESTING

The applicant must install rainwater harvesting systems for each warehouse building in accordance with the Concept Stormwater Management Strategy shown in plan Co12829.06-SSDA44, Issue B, dated October 2019 to achieve rainwater reuse of a minimum of 80% for non-potable uses.

NOISE

**Hours of work**

B31. The Applicant must comply with the hours of work detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Monday – Friday</td>
<td>7 am to 6 pm</td>
</tr>
<tr>
<td></td>
<td>Saturday</td>
<td>8 am to 1 pm</td>
</tr>
<tr>
<td>Operation</td>
<td>Monday – Sunday</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Works outside of the hours identified in condition B31 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;
(b) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
(c) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

**Construction Noise Limits**

The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in the Appendix C.

The Applicant must prepare a Construction Noise Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced noise expert;
(b) be approved by the Planning Secretary prior to the commencement of construction of each stage of the development;
(c) describe procedures for achieving the noise management levels in the EPA’s *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009) (as may be updated or replaced from time to time);
(d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;
(e) identify measures to be implemented to minimise and manage construction noise impacts including but not limited to temporary...
**Vibration**

- **B35**
  - The Applicant must:
    - (a) not commence construction of any relevant stage until the Construction Noise Management Plan required by condition B34 is approved by the Planning Secretary; and
    - (b) implement the most recent version of the Construction Noise Management Plan approved by the Planning Secretary for the duration of construction.

- **B40** Vibration caused by construction at any residence or structure outside the site must be limited to:
  - a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration – Effects of vibration on structures (German Institute for Standardisation, 1999); and
  - b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration; a technical guideline (DEC, 2006) (as may be updated or replaced from time to time)

- **B41** Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition B40

- **B42** The limits in conditions B40 and B41 apply unless otherwise outlined in a Construction Noise and Vibration Plan, approved as part of the CEMP required by condition C2 of the consent

**FIRE PROTECTION AND MANAGEMENT**

- **B43** Prior to the commencement of construction, the Applicant must prepare a Driver Code of Conduct and carry out induction training to minimise road traffic noise. The Applicant must update the Driver Code of Conduct and induction training for construction and operation and must implement the Code of Conduct for the life of the development.

- **B45** The applicant must ensure each warehouse building and the identified elevations and building elements in the development complies with the NASH Standard (1.7.14 updated) ‘National Standard Steel Frame Construction in Bushfire Areas – 2014’ as appropriate or the specified bushfire attack levels (BAL) under Australian Standard AS3959-2009 ‘Construction of buildings in bush fire-prone areas’ for:

  - **Building 3 and 3**
  - **(b) Design and Construction**
Services
The provision of water and electricity to the development must comply with section 4.1.3 of Planning for Bushfire Protection 2006.

Emergency and Evacuation Planning

Asset Protection Zone
From the commencement of building works, and in perpetuity, the entire property must be managed as an inner protection area (IPA). The IPA must comprise:

i) Minimal fine fuel at ground level;
ii) Grass must be mowed or grazed;
iii) Trees and shrubs must be retained as clumps or islands and do not take up more than 20% of the area;
iv) Trees and shrubs must be located far enough from buildings so that they will not ignite the building;
v) Garden beds with flammable shrubs must not be located under trees or within 10 metres of any windows or doors;
vi) Minimal plant species that keep dead material or drop large quantities of ground fuel;
vii) Tree canopy cover must not cover more than 15% of the area;
viii) Tree canopies must not be located within 2 metres of the building;
ix) Trees must be separated by 2-5 metres and do not provide a continuous canopy from the hazard to the building; and
x) Lower limbs of trees removed up to a height of 2 metres above the ground.

Fire Trails
The fire access road must comply with the requirements of section 4.1.3(3) of Planning for Bush Fire Protection 2006.

Landscaping
Landscaping of the site must comply with the principles of Appendix 5 of Planning for Bush Fire Protection 2006.

Access — Public Roads
Public road access must comply with the requirements of section 4.1.3(1) of Planning for Bush Fire Protection 2006.
<table>
<thead>
<tr>
<th>HAZARDS AND RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B46 Dangerous Goods</strong></td>
</tr>
<tr>
<td>The quantities of dangerous good present at any time on-site or transported to and from the development must be kept below the screening threshold quantities listed in the Department’s Hazardous and Offensive Development Application Guidelines Applying SEPP 33 (January 2011).</td>
</tr>
<tr>
<td><strong>B47</strong></td>
</tr>
</tbody>
</table>
| The applicant must store all chemicals, fuels and oils used on-site in accordance with:  
  a) The requirements of all relevant Australian Standards; and  
  b) The NSW EPA’s Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids  

In the event of an inconsistency between the requirements listed from (a) to (b) above, the most stringent requirement shall prevail to the extent of the inconsistency. |

<table>
<thead>
<tr>
<th>VISUAL AMENITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B48 Service conduits which are located on the external façade of the building are not permitted to be exposed, or are to be appropriately screened from view so as to integrate with the overall presentation of the building</strong></td>
</tr>
<tr>
<td>Noted</td>
</tr>
<tr>
<td><strong>B49 Retaining walls are required to be of masonry construction and provide a high-quality finish</strong></td>
</tr>
<tr>
<td>Noted</td>
</tr>
<tr>
<td><strong>B50 Storage pallets, containers and the like are not permitted to be stored on the site where they are visible from Hollinsworth Road for a period of more than 24 hours</strong></td>
</tr>
<tr>
<td>Noted</td>
</tr>
<tr>
<td><strong>B53 Reflectivity of Building Finishes</strong></td>
</tr>
<tr>
<td>The visible light reflectivity from materials used in the facades of the buildings in the development must not exceed 20% and must be designed so as to minimise glare. A report demonstrating compliance with these requirements is to be submitted to the satisfaction of the Certifying Authority for each warehouse building before the issue of its relevant Construction Certificate.</td>
</tr>
<tr>
<td>Noted</td>
</tr>
<tr>
<td><strong>B54 Landscaping</strong></td>
</tr>
</tbody>
</table>
| Before the commencement of operation of any stage, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping works on-site, to the satisfaction of the Planning Secretary. The plan must:  
  (a) detail the species to be planted on-site;  
  (b) include a mixture of locally native ground covers, shrubs and mature trees generally consistent with Appendix D of the Growth Centres Development Control Plan;  
  (c) comply with section 6.3.3 and 6.3.4 of the Growth Centres Development Control Plan in relation to landscaping in car park and communal areas;  
  (d) include details of the green screen and vine plantings to screen the noise barrier required under condition B37;  
  (e) describe the monitoring and maintenance measures to manage revegetation and landscaping works;  
  (f) detail how the landscaping on-site will comply with the principles of Appendix 5 of Planning for Bushfire Protection 2006; and  
  (g) be consistent with the Applicant’s Management and Mitigation Measures at Appendix B. |
| Noted |
Before the commencement of operation of any stage, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping works on-site, to the satisfaction of the Planning Secretary. The plan must:

- detail the species to be planted on-site;
- include a mixture of locally native ground covers, shrubs and mature trees generally consistent with Appendix D of the Growth Centres Development Control Plan;
- comply with section 6.3.3 and 6.3.4 of the Growth Centres Development Control Plan in relation to landscaping in car park and communal areas;
- include details of the green screen and vine plantings to screen the noise barrier required under condition B37;
- describe the monitoring and maintenance measures to manage revegetation and landscaping works;
- detail how the landscaping on-site will comply with the principles of Appendix 5 of Planning for Bushfire Protection 2006; and
- be consistent with the Applicant’s Management and Mitigation Measures at Appendix B.

**Signage and Fencing**

Fencing must be erected in accordance with the development plans included in the EIS.

**Tank Treatment and Screening**

The applicant must submit design plans demonstrating that the fire tanks for buildings 1, 4 and 5 would be screened or would have a non-reflective finish, when viewed from Hollinsworth Road.

Above ground rain water or fire tanks are to be finished with a matte paint treatment.

**AIR QUALITY**

**Dust Minimisation**

The applicant must implement all reasonable and feasible measures to minimise dust generated during demolition, earthworks, construction and operation of the development.

During construction, the Applicant must ensure that:

- exposed surfaces and stockpiles are suppressed by regular watering;
- all trucks entering or leaving the site with loads have their loads covered;
- trucks associated with the development do not track dirt onto the public road network;
- public roads used by these trucks are kept clean; and
- land stabilisation works are carried out progressively on site to minimise exposed surfaces.

**Odour Management**

The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).
The collection and removal of waste generated during operation of the development must only be undertaken between 6am to 6pm Monday to Saturday, and 10am to 4pm on Sunday and public holidays. Noted. Refer to Section 3.10

The applicant must:
   a) implement suitable measures to manage pests, vermin and declared noxious weeds on the site; and
   b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.

**Note:** For the purposes of this condition, noxious weeds are those species subject to an order declared under the Noxious Weed Act 1993.

Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties. Noted. Refer to appendix C and Section 3.10

### 3.4 Construction Environmental Management – General

Environmental aspects with the potential to be impacted by construction of Site are addressed in the following sub-sections. These issues have specific regulatory requirements imposed by Development Consent and/or are considered to have the highest potential to result in a non-compliance with a legislative requirement or generate community complaints.

It is important to note that this CEMP addresses the construction of building and servicing infrastructure and associated site works within Site.

Table 6 lists the general environmental controls that will be implemented throughout the construction phase of the development to minimise the potential for adverse impacts on the local environmental.

#### Table 6

<table>
<thead>
<tr>
<th>Environmental Management Control</th>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>All reasonable and feasible measures will be implemented to prevent and/or minimise any harm to the environment that may result from construction activities.</td>
<td>Site Management / Contractors / Employees</td>
<td>On-going throughout construction</td>
</tr>
<tr>
<td>All environmental management and mitigation measures will be maintained in a functioning condition until construction is complete. Where any of the controls are observed to be not functioning correctly and/or adverse environmental impact/risk is observed, appropriate remedial actions and/or additional mitigation measures will be promptly implemented. Where considered necessary, the</td>
<td>Site Management</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statutory Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials</td>
</tr>
</tbody>
</table>
relevant government agencies will be consulted and any additional instructions will be adhered to.

All necessary licences, permits and approvals will be obtained and kept up to date as required throughout the life of the Development.

All employees, contractors and sub-contractors will be made aware of, and comply with, the conditions of this consent relevant to their respective activities.

All plant and equipment will be maintained and operated in a proper and efficient manner.

A clearly visible sign will be installed at the site access. Relevant contact details, including a phone number for community enquiries, will be included on site signage.

The incidents and complaints management strategies will be implemented to ensure that any incidents and/or complaints relating to the construction activities are promptly and effectively addressed.

Construction employees and contractors will be suitably inducted and trained prior to commencing any work on site.

| General Construction Environmental Management Controls |

<table>
<thead>
<tr>
<th><strong>Relevant Controls</strong></th>
<th><strong>Responsibility</strong></th>
<th><strong>Implementation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant government agencies will be consulted and any additional instructions will be adhered to.</td>
<td>Site Management</td>
<td>On-going throughout construction</td>
</tr>
<tr>
<td>All necessary licences, permits and approvals will be obtained and kept up to date as required throughout the life of the Development.</td>
<td>Site Management</td>
<td>Prior to commencing construction</td>
</tr>
<tr>
<td>All employees, contractors and sub-contractors will be made aware of, and comply with, the conditions of this consent relevant to their respective activities.</td>
<td>Site Management / Contractors / Employees</td>
<td>Ongoing throughout construction</td>
</tr>
<tr>
<td>All plant and equipment will be maintained and operated in a proper and efficient manner.</td>
<td>Site Management</td>
<td>Prior to commencing construction and on-going</td>
</tr>
<tr>
<td>A clearly visible sign will be installed at the site access. Relevant contact details, including a phone number for community enquiries, will be included on site signage.</td>
<td>Site Management</td>
<td>Prior to commencing construction</td>
</tr>
<tr>
<td>The incidents and complaints management strategies will be implemented to ensure that any incidents and/or complaints relating to the construction activities are promptly and effectively addressed.</td>
<td>Site Management</td>
<td>Ongoing throughout construction</td>
</tr>
<tr>
<td>Construction employees and contractors will be suitably inducted and trained prior to commencing any work on site.</td>
<td>Site Management</td>
<td>Prior to commencing construction and on-going</td>
</tr>
</tbody>
</table>
3.5 Construction Traffic Management

Construction traffic will be managed in accordance with the Construction Traffic Management Plan (CTMP) (Appendix B) prepared to fulfil condition C3(a) of Development Consent SSD 8606 and contained within Appendix B.

The environmental management controls in Table 8 will be implemented to ensure road safety and network efficiency during construction.

Table 8 Environmental Management Controls for Traffic

<table>
<thead>
<tr>
<th>Environmental Management Control Method</th>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
<th>Reference/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All employees and contractors involved in traffic-generating activities will be inducted to ensure that the procedures are met for all vehicles entering and exiting the construction site.</td>
<td>Site Management</td>
<td>Prior to commencing work on site.</td>
<td></td>
</tr>
<tr>
<td>Roads leading to and from the site will be monitored and, if necessary, steps will be taken to rectify any road deposits caused by site vehicles.</td>
<td>Management / contractors / employees</td>
<td>On-going throughout construction</td>
<td>CTMP (Appendix B)</td>
</tr>
<tr>
<td>No tracked vehicles will be permitted or required on any paved roads.</td>
<td>Management / contractors / employees</td>
<td>On-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.</td>
<td>Site management / all contractors / employees</td>
<td>Where applicable during construction</td>
<td></td>
</tr>
<tr>
<td>Disruption to road users would be kept to a minimum by scheduling any disruptive activities outside of peak hours. This would include tie-in works of the final driveway crossover.</td>
<td>Site Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction and delivery vehicles will arrive from Hollinsonworth Road as shown on Figure 3. All vehicles will enter and exit the site in a forward direction.</td>
<td>Site Management / all contractors / employees</td>
<td>On-going through construction</td>
<td>CTMP (Appendix B)</td>
</tr>
<tr>
<td>Reverse movements will be restricted to occur within the site boundary only, and as necessary and subject to supervision.</td>
<td>Site Management / all contractors / employees</td>
<td>On-going through construction</td>
<td></td>
</tr>
<tr>
<td>All vehicles transporting loose materials will have the entire load covered and/or secured to prevent any items depositing onto the roadway during travel to and from the Site.</td>
<td>Site Management / all contractors / employees</td>
<td>On-going through construction</td>
<td>CTMP (Appendix B)</td>
</tr>
<tr>
<td>All drivers will be made familiar with the Driver Code of Conduct before attending the Site.</td>
<td>Site Management</td>
<td>As required throughout construction</td>
<td></td>
</tr>
</tbody>
</table>

3.6 Utilities

As per condition A30, relevant approvals from service providers shall be obtained from council prior to the construction of any utility works.
Compliance certificates for water and sewerage infrastructure servicing of the site under section 73 of the Sydney Water Act 1994 will be obtained prior to operation of the development.

3.7 Soil, Water Quality & Hydrology

The soil, water quality & hydrology will be managed according to Stormwater Management Plan (SWMP) provided by Costin Roe which will assist to ensure appropriate soil and water management during the construction.

While the SWMP should be referred to for specifics, the environmental management controls in Table 9 will be implemented to safeguard soil and water during the construction phase for the site.

**Table 6 Environmental Management Controls for Soil and Water**

<table>
<thead>
<tr>
<th>Environmental Management Control</th>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
<th>Reference/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The applicant must:</td>
<td>Site Management</td>
<td>On-going throughout construction</td>
<td>SSD8606 Condition B15</td>
</tr>
<tr>
<td>a) Ensure that only VENM or ENM, or other material approved in writing by the EPA is used as fill on the site;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Keep accurate records of the volume and top of fill to be used; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Make these records available to the Department upon request</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior to the commencement of any construction, the applicant must install and maintain suitable erosion and sediment control measures on-site, in accordance with the relevant requirements of the Managing Urban Stormwater; Soils and Construction – Volume 1: Blue Book (Landcom, 2004), Council’s Soil Erosion and Sediment Control Policy and Council’s Engineering Guide for Development and Erosion and Sediment Control Plan included in the CEMP required by condition C2</td>
<td></td>
<td></td>
<td>SSD8606 Condition B16</td>
</tr>
<tr>
<td>Site inductions and toolbox talks will be held so that all employees and contractors are informed of their responsibilities in minimising the potential for erosion and sedimentation</td>
<td></td>
<td>Prior to construction and on-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>Fencing will be installed around perimeter of site as mentioned within the SWMP and elsewhere at the discretion of the Site Manager to ensure traffic control and prohibit unnecessary site disturbance. Signage will be placed on fences so that access to construction site is only limited to workers.</td>
<td></td>
<td>Prior to construction and on-going throughout construction</td>
<td>SWMP / EIS</td>
</tr>
<tr>
<td>Soil materials will be replaced in the same order they are removed from the ground. It is particularly important that all subsoils are buried and topsoils (landscaped areas only) remain on the surface.</td>
<td>Site Management</td>
<td>At the completion of works</td>
<td>SWMP / EIS</td>
</tr>
<tr>
<td>Areas with grass species shall be watered regularly until the plant is established where it will be capable of growing vigorously. If required, additional seed placement will be undertaken in areas that lack vegetation establishment.</td>
<td>Site Management</td>
<td>On-going throughout construction</td>
<td>SWMP</td>
</tr>
<tr>
<td>Foot and vehicular traffic shall be managed on site that it is kept away from all established areas.</td>
<td>Site Management</td>
<td>On-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>Environmental Management Control</td>
<td>Person Responsible</td>
<td>Timing/Frequency</td>
<td>Reference/Notes</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Earth batters will be constructed in accordance with the Geotechnical Engineers Report or with as law a gradient as practical.</td>
<td></td>
<td>On-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>All earthworks, including waterways / drains / spillways and their outlets, will be constructed to be stable in at least the design storm event of 1 in 2 year ARI (Q2)</td>
<td></td>
<td>On-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>During windy weather, large unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control. In the event water is not available in sufficient quantities, soil binders and/or dust retardants will be used or the surface will be left in a cloddy state that resists removal by wind.</td>
<td></td>
<td>On-going throughout construction During windy weather</td>
<td></td>
</tr>
<tr>
<td>Stockpiles will not be located within 5 m of hazard areas, including likely areas of high velocity flows such as waterways, paved areas and driveways.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sediment fences will: Be installed where shown on the ESCP and elsewhere at the discretion of the Site Management to contain the coarser sediment fraction (including aggregated fines) as near as possible to their source;</td>
<td></td>
<td>On-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>Sediment removed from any trapping device will be disposed of in locations where further erosion and consequent pollution to down slope lands and waterways will not occur.</td>
<td></td>
<td>Prior to construction and on-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>Water will be prevented from directly entering the permanent drainage system unless it is relatively sediment free (i.e. the catchment area has been permanently landscaped and/or likely sediment has been treated in an approved device). Stormwater inlets will be protected.</td>
<td></td>
<td>On-going throughout construction</td>
<td>SWMP</td>
</tr>
<tr>
<td>Temporary soil and water management structures will be removed only after the lands they are protecting are fully stabilised.</td>
<td></td>
<td>On-going throughout construction</td>
<td>SWMP</td>
</tr>
<tr>
<td>Acceptable bind will be provided for any concrete and mortar slurries, paints, acid washings, lightweight waste materials and litter. Clearance services are to be provided by the respective contractors at least weekly.</td>
<td></td>
<td>Following land stabilisation</td>
<td></td>
</tr>
<tr>
<td>Recently stabilised lands will be checked to ensure that erosion hazard has been effectively reduced. Any repairs will be initiated as appropriate.</td>
<td></td>
<td>On-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>All sediment detention systems will be kept in good working condition. In particular, attention will be given to: a) Recent works to ensure they have not resulted in diversion of sediment laden water away from them; b) Degradable products to ensure they are replaced as required; and Sediment removal, to ensure the design capacity remains in the settling zone.</td>
<td></td>
<td>Following land stabilisation</td>
<td>SWMP</td>
</tr>
</tbody>
</table>
### Environmental Management Controls for Air Quality & Dust Minimisation

3.8 Air Quality & Dust Minimisation

As per conditions 61 & 62 of consent, the environmental controls in Table 10 will be implemented to minimise the potential for adverse dust emissions and impacts during the construction phase.

**Table 7  Environmental Management Controls for Air Quality & Dust Minimisation**

<table>
<thead>
<tr>
<th>Environmental Management Control</th>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
<th>Reference/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All reasonable and feasible measures will be implemented to minimise dust and odour emissions generated during construction.</td>
<td>Site Management / Sub-Contractors</td>
<td>On-going throughout construction</td>
<td>Conditions B61 &amp; 62</td>
</tr>
<tr>
<td>Exposed surfaces and stockpiles will be suppressed by regular watering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All trucks entering or leaving the site with loads will have their loads covered.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trucks will not track dirt onto the public road network. The tyres will be washed as required specially during wet weather conditions &amp; cattle grids will be used.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public roads used by trucks associated with the development will be kept clean. The road sweepers will be used as &amp; when required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land stabilisation works will be carried out progressively on site to minimise exposed surfaces.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.9 Noise

As per the conditions B31 to 35 of the Development Consent, the construction noise at site will be managed in accordance with relevant criteria. Construction works must be constructed to achieve the construction noise management levels details in the table below:

Table 8 Construction Noise Management Levels

<table>
<thead>
<tr>
<th>Location</th>
<th>L_{Aeq} (15minute)</th>
<th>Construction Noise Management Levels (db(A))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day</td>
<td>Evening</td>
</tr>
<tr>
<td>All Residential properties located to the south of the site</td>
<td>42</td>
<td>40</td>
</tr>
<tr>
<td>R8 – Place of public worship (when in use)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The environmental management controls in Table 12 – Environmental Management Controls for Noise (below), will be implemented to minimise the potential for adverse noise emissions from the construction of this project.

Table 9 Environmental Management Controls for Noise

<table>
<thead>
<tr>
<th>Environmental Management Control</th>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
<th>Reference/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction activities will be undertaken within the hours specified in conditions</td>
<td></td>
<td>On-going throughout construction</td>
<td></td>
</tr>
<tr>
<td>Noise mitigation measures must be implemented at the start of construction (or at other times during construction) to minimise construction noise impacts. Mitigation to occur only where reasonable.</td>
<td></td>
<td>Prior to commencing construction and on-going</td>
<td></td>
</tr>
<tr>
<td>Where/when possible, noise emissions will take into consideration any natural factors such as rain or wind.</td>
<td></td>
<td></td>
<td>Site Management On-going throughout construction</td>
</tr>
<tr>
<td>Defective plant is to be prohibited on site until fully repaired. Plants that shall be used to suppress any noise shall be maintained at all times.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where possible, the coincidence of noisy plant working simultaneously close together will be avoided.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where possible, equipment with directional noise emissions will be oriented away from sensitive receivers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loading and unloading activities will be undertaken away from noise sensitive areas.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular compliance checks will be undertaken on the noise emissions of all plant and machinery used on site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All trucks regularly used will have mufflers, and any other suitable noise control equipment, maintained in good working order.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site induction training will include a noise awareness component and a Code of Conduct will be introduced to all the drivers.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A Construction Noise Management Plan (attached in Appendix K) approved by the Planning Secretary must be implemented throughout the duration of the construction to satisfy SSD 8606 Condition B35.
### 3.10 Waste Management

Construction waste will be managed in accordance with the *Waste Management Plan* WMP (Richard Crookes Constructions 2019 as per condition B64 to 65 of Development Consent SSD 8606).

All attempts will be made to minimise construction waste generation and implement reuse/recycling opportunities. RCC’s overall objective is to achieve a minimum of (70%) for recycled waste (by weight) generated by the Project.

Table 13 lists the environmental controls that will be implemented to minimise the potential for adverse impacts as a result of waste generated during the construction phase of the Development.

#### Table 10 Environmental Management Controls for Waste

<table>
<thead>
<tr>
<th>Environmental Management Control</th>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
<th>Reference/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Controls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.</td>
<td></td>
<td></td>
<td>Note</td>
</tr>
<tr>
<td>The collection and removal of waste generate during operation of the development must only be undertaken between 6am to 6pm Monday to Saturday, and 10am to 4pm on Sunday and public holidays</td>
<td></td>
<td></td>
<td>SSD 8606 Condition B64</td>
</tr>
<tr>
<td>All waste materials removed from site must only be directed to a waste management facility or premises lawfully permitted to accept the materials</td>
<td>Site Management</td>
<td>On-going throughout construction</td>
<td>CWMP</td>
</tr>
<tr>
<td>All employees and contractors will undergo training regarding waste management during the site induction and toolbox talks. This will include waste reduction opportunities, waste storage locations, separation of waste, litter management, responsibility and reporting.</td>
<td></td>
<td></td>
<td>Prior to commencement of work on site and on-going CWMP</td>
</tr>
</tbody>
</table>

### 3.11 Hazards & Risk

The environmental controls that will be implemented to minimise the potential for environmental incidents relating to the storage, handling and transport of potentially hazardous goods are presented in Table 14.

#### Table 11 Environmental Management Controls for Dangerous Goods

<table>
<thead>
<tr>
<th>Environmental Management Control</th>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
<th>Reference/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The quantities of dangerous goods present at any time on-site or transported to and from the development must be kept below the screening threshold quantities listed in the Department’s <em>Hazardous and Offensive Development Application Guidelines Applying SEPP 33</em> (January 2011).</td>
<td>Site Management</td>
<td>On-going throughout construction</td>
<td>SSD 8606 Condition B46</td>
</tr>
</tbody>
</table>
### Environmental Management Control

<table>
<thead>
<tr>
<th>Person Responsible</th>
<th>Timing/Frequency</th>
<th>Reference/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Applicant must store all chemicals, fuels and oils used on-site in accordance with:</td>
<td></td>
<td>SSD 8606 Condition B47</td>
</tr>
<tr>
<td>(a) the requirements of all relevant Australian Standards; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) the NSW EPA’s Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 3.12 Competencies Training

##### 3.12.1 Site and Environmental Induction

All personnel, including subcontractors are required to attend a compulsory site induction that includes an environmental component prior to commencement on site. The WH&S manager (or delegated person) will conduct the environmental component of the site induction.

The environmental component will include an overview of:

- Relevant details of the CEMP including purposes and objectives;
- Key environmental issues, i.e protection of areas, dust and noise management;
- Conditions of environmental licences, permits and approvals;
- Specific environmental management requirements and responsibilities;
- Mitigation measures for the control of environmental issues;
- Incident response and reporting requirements;
- Information relating to the location of environmental constraints

A record of all project and environmental inductions will be maintained and kept on site. The WH&S Manager may authorise amendments to inductions where required to address project changes, legislative changes or amendments to the CEMP.

##### 3.12.2 Toolbox Talks, Training & Awareness

Toolbox talks will be used to raise awareness and educate project staff on construction related environmental issues. The toolbox talks will be used to ensure environmental awareness continues during construction.

Toolbox talks will be tailored to specific environmental issues including:

- Erosion and sedimentation control;
- Hours of work;
- Emergency and spill response;
- Aboriginal heritage;
- Noise & vibration;
- On-site water management;
- Housekeeping;
- Concrete washout;
- Dewatering;
- Dust control.

Toolbox attendance is mandatory and attendees of toolbox talks are required to sign an attendance form. Records of toolbox talks will be maintained on site.

### 3.12.3 Daily Prestart Meetings

The pre-start meeting is a tool for informing the workforce of the proposed activity for that particular day, safe work practices, environmental protection practices, work area restrictions, activities that may affect works, coordination issues with other trades, hazards and other information that may be relevant for all parties.

The site manager will conduct a daily pre-start meeting for the site workforce prior to the commencement of work each day.

The environmental component of pre-starts will include any environmental issues that could potentially be impacted by, or impact on, the proposed activities for that particular day. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Pre-start meeting records will be maintained on site.

### 3.13 Environmental Complaints

#### 3.13.1 Objective & Responsibility

Responsibility involves the handling of all environmental complaints relative to the construction. It is the assessment from the complaint being effectively received, handled and addressed.

In the event of an environmental complaint, the implementation of appropriate management and handling techniques are the responsibility of the site manager. **Section 3.12** outlines the toolbox talks and inductions that should be used to ensure that contractors are aware of and understand their obligation for incident response.

#### 3.13.2 Handling Procedure

Upon becoming aware of a complaint, the protocol outlined below must be followed.

I. **Receive**

Typically, complaints are first brought to attention either by person or by telephone. A formal written complaint should be requested even though this should instigate investigative action.

The complainant’s name, address and contact details, along with the nature of the complaint, must be requested. If the complainant refuses to supply the requested information, a note should be made on the form and complainant advised of this.

The site manager must be notified for all complaints taken by receipt, either verbal or written, by staff members. All contact details are provided in **Table 2**, where the site manager will be available 24 hours a day, seven days a week and has the authority to stop or direct works.
II. **Investigate**

Investigation should take place to establish the legitimacy of the complaint and the cause of the problem. Any abnormality or incident that may have been established within the monitoring information provided around the time of the complaint must be identified and reviewed.

If the complaint is due to an incident, the notification requirements and handling procedures outlined in Section 4.3.1 should be followed.

III. **Remedial Action**

Once the complaint has been confirmed, remedial action must be implemented to fix the cause of the complaint and mitigate any further impact.

IV. **Inform**

Relevant authorities must be notified of all remedial action that is to take place post establishment of the complaint.

V. **Record**

All assessments varying from investigation to remedial actions must be documented so that any similar complaints within the future can be avoided. Every complaint received must be completed in the complaint form which should be maintained for at least four years. The complaint should also be recorded within the Complaints Register.

VI. **Preventative Action**

Once the complaint has been suitably handled, appropriate measures should be identified and implemented to negate the possibility of re-occurrence.

### 3.13.3 Complaints Register

A Complaints Register is to be maintained for the site should contain the following:

- A copy of the environmental complaint handling procedure;
- Blank hard copies of the Complaint Form; and
- Copies of all completed Complaint Forms, which are to be maintained on-site for at least four years after the event to which they relate.

Complaints made that are relevant to the project must be actioned immediately and effectively. All complaints are to be dealt with in accordance with the above mentioned procedure. Complaints register must be updated regularly. All items are to be closed out before progressing with any further work on site.
4 Environmental Actions

4.1 Relevant Conditions of Consent

Development Consent SSD 8606 imposes a number of conditions on Environmental Management, Reporting & Auditing Requirements. The conditions applicable to the construction phase are listed in Table below.

Table 9 Environmental Management, Reporting & Auditing Requirements

<table>
<thead>
<tr>
<th>PART C - ENVIRONMENTAL MANAGEMENT, REPORTING &amp; AUDITING REQUIREMENTS</th>
<th>No</th>
<th>Condition</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENTAL MANAGEMENT</td>
<td></td>
<td>Management Plan Requirements</td>
<td></td>
</tr>
<tr>
<td>Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</td>
<td>C1</td>
<td></td>
<td>See Table 1 in Section 1.2</td>
</tr>
<tr>
<td>(a) details of:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) any relevant limits or performance measures/criteria; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) a description of the management measures that would be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) a program to monitor and report on the:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) impacts and environmental performance of the development; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) effectiveness of any management measures (see (c) above);</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) a program to investigate and implement ways to improve the environmental performance of the development over time;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) a protocol for managing and reporting any:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) incidents and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) complaint; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) failure to comply with statutory requirements;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(g) a protocol for periodic review of the plan; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(h) a conditions compliance table which references and details where the relevant conditions of consent have been addressed.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C2 The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary. This document
As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:

(a) Construction Traffic Management Plan (see Condition B1);
(b) Erosion and Sediment Control Plan;
(c) Stormwater Management Plan (see condition B22 and B24);
(d) Construction Noise Management Plan (see condition B34); and
(e) Community Consultation and Complaints Handling.

The Applicant must:

(a) not commence construction of the development until the CEMP is approved by the Planning Secretary; and
(b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

Noted

### REVISION OF STRATEGIES, PLANS AND PROGRAMS

Within three months of:

(a) approval of modification; or
(b) submission of an incident report under condition C7

The strategies, plans and programs required under this consent must be reviewed, and the Department must be notified in writing that a review is being carried out.

**Note:** This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development

Noted

If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review

Noted

### REPORTING AND AUDITING

#### Incident Notification, Reporting and Response

The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident. Subsequent notification requirements must be given and reports submitted in accordance with the requirements set out in Appendix D

Refer Section 4.3

#### Non-Compliance Notification

The Department must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance.

Noted

A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

A non-compliance which has been notified as an incident does not need to also be notified as non-compliance.

Noted

### ACCESS TO INFORMATION

At least 48 hours before the commencement of construction until the completion of all works under this consent, the Applicant must:

Noted

See Section 4.4
(a) make the following information and documents (as they are obtained or approved) publicly available on its website:
   (i)  the documents referred to in condition A2 of this consent;
   (ii) all current statutory approvals for the development;
   (iii) all approved strategies, plans and programs required under the conditions of this consent;
   (iv)  regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
   (v)   a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
   (vi)  a summary of the current stage and progress of the development;
   (vii) contact details to enquire about the development or to make a complaint;
   (viii) a complaints register, updated monthly;
   (ix)   the Compliance Report of the development;
   (x)   audit reports prepared as part of any Independent Audit of the development and the Applicant’s response to the recommendations in any audit report;
   (xi)  any other matter required by the Planning Secretary; and
(b) keep such information up to date, to the satisfaction of the Planning Secretary.

Table 10 lists the contact details for authorities which must be notified once an incident has been established. The person reporting the environmental incident should provide the following key details:

- Location of the pollution incident/emergency;
- Nature of the pollution incident/emergency;
- Their name and contact details; and
- Details of any required assistance

Table 120 Regulatory Authority Contact Details for Environmental Incidents

<table>
<thead>
<tr>
<th>Regulatory Authority</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Planning and Environment (DPE)</td>
<td>1300 305 695 or 02 9228 6111                                      Email: <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a></td>
</tr>
<tr>
<td>Environment Protection Authority (EPA)</td>
<td>Environmental Line – 131 555                                      Email: <a href="mailto:info@environment.nsw.gov.au">info@environment.nsw.gov.au</a></td>
</tr>
<tr>
<td>SafeWork NSW</td>
<td>Incident Notification Hotline – 131 050                            Select Option 3 to report a “Serious Incident or Fatality” – this will result in the incident being recorded and the appropriate person being contacted.</td>
</tr>
<tr>
<td>Local Authority – Blacktown City Council</td>
<td>T: +61 2 9427 8100                Email: <a href="mailto:council@blacktown.nsw.gov.au">council@blacktown.nsw.gov.au</a></td>
</tr>
<tr>
<td>Emergency Services</td>
<td>Emergency – 000</td>
</tr>
<tr>
<td></td>
<td>NSW Fire and Rescue – 000 or 1300 729 579</td>
</tr>
<tr>
<td>NSW Health</td>
<td>02 9391 9000</td>
</tr>
</tbody>
</table>
4.2 Management Plans

The Construction Environmental Management Plan - CEMP (This Document) is compiled to fulfil the condition C2 of consent conditions & in accordance with the requirements of condition C1. As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:

(a) Construction Traffic Management Plan (see Condition B1);
(b) Erosion and Sediment Control Plan;
(c) Stormwater Management Plan (see condition B22 and B24);
(d) Construction Noise Management Plan (see condition B34); and
(e) Community Consultation and Complaints Handling.

These management plans have been prepared in accordance with relevant guidelines, and include the following requirements, as applicable to the project:

- details of relevant statutory requirements & any relevant limits or performance measures and criteria; and the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
- a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
- a program to monitor and report on the: impacts and environmental performance of the development; and effectiveness of the management measures set out pursuant to paragraph above;
- a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
- a program to investigate and implement ways to improve the environmental performance of the development over time;
- a protocol for managing and reporting any: incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); complaint; failure to comply with statutory requirements; and
- a protocol for periodic review of the plan.

4.3 Reporting and Auditing

4.3.1 Incident Handling Procedure

Upon becoming aware of an environmental incident, the procedure outlined below must be followed:

I. Preventative Action

Where possible and safe to do so, immediate action should be taken to prevent, stop, contain and/or minimise the environmental impact of the incident.

Locations of emergency assembly areas must be made aware to contractors within site inductions and regular toolbox talks in the even that the incident requires the evacuation of the site.
II. **Assistance**

It is essential that Fire and Rescue NSW be contacted immediately for emergency assistance in the event that adequate internal resources are not available.

III. **Notify**

It is imperative that a duty is notified to relevant authorities if an incident is established on site.

Fire and rescue NSW will typically take over in the event of a serious incident or emergency, therefore it is imperative that you follow all instructions provided.

IV. **Investigate**

Undertake immediate investigative work to determine the cause of the emergency.

V. **Remedial Action**

Where possible, remedial action is to be implemented to understand the nature of the emergency. In some instances, an external consultation may be required to provide input into the matter.

VI. **Record**

It is imperative that an honest assessment of the situation is carried out and documented in order to minimise the potential for similar events in the future. On this basis, every environmental incident is to be recorded in an Incident and Hazard Report. A copy of the completed report should be maintained for at least four years.

Condition C10 of Development Consent SSD 9153 requires that the relevant authorities be provided with a detailed report.

VII. **Preventative Action**

Once the incident or emergency has been suitably handled, appropriate measures should be identified and implemented to negate the possibility of re-occurrence.

4.3.2 **Incidents Register**

An Environmental Incidents Register is to be maintained for the Development. The register should contain the following:

- A copy of the environmental incident notification requirements and handling procedure noted in section 4.3.1
- Site evacuation procedures;
- A separate reference sheet containing the contact details for the Site Manager, Project Manager and other Owners’ Facility Managers and the contact details for the regulatory authorities listed above in Table 1;
- Blank hard copies of the Incident and Hazard Report; and
- Copies of all completed Incident and Hazard Reports, which are to be maintained on-site for at least four years after the event to which they relate.
4.3.3 Environmental Monitoring and Auditing

Any condition that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

Table 11 Monitoring and Inspection Requirements

<table>
<thead>
<tr>
<th>Monitoring Requirement</th>
<th>Person Responsible</th>
<th>Timing / Frequency</th>
<th>References / Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All plant and equipment will be inspected and maintained to ensure optimal operating condition.</td>
<td>Site Management</td>
<td>As specified by the manufacturer / supplier</td>
<td></td>
</tr>
<tr>
<td>General environmental site inspections will be undertaken to ensure all relevant environmental controls listed in this CEMP are in place and any required maintenance and/or remediation works are identified and undertaken.</td>
<td>Site Management</td>
<td>Monthly</td>
<td></td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periodic internal audits will be conducted to ensure that the development consent conditions and commitments and environmental management controls outlined in this CNVMP are being properly implemented. Audit reports will be used to inform of any corrective actions.</td>
<td>Site Management</td>
<td>Monthly</td>
<td>Appendix K</td>
</tr>
<tr>
<td><strong>Traffic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads leading to and from the site will be monitored and, if necessary, steps will be taken to rectify any road deposits caused by site vehicles.</td>
<td>Site Management</td>
<td>On-going throughout construction</td>
<td>Appendix B</td>
</tr>
<tr>
<td><strong>Soil and Water</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routine inspections of the stormwater management system will be carried out to assess the need for maintenance. Should the inspection reveal that maintenance of any item is required, this will be reported to the Site Manager for action. Refer to Section 6 of the SWMP in Appendix X for further details, including a maintenance schedule.</td>
<td>Site Management</td>
<td>As per Stormwater Maintenance Schedule</td>
<td>Appendix L</td>
</tr>
<tr>
<td>Monitoring Requirement</td>
<td>Person Responsible</td>
<td>Timing / Frequency</td>
<td>References / Notes</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>--------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>A self-auditing program will be established based on the SWMP. A site inspection using the check sheet will be undertaken:</td>
<td>Site Management</td>
<td>As per Stormwater Maintenance Schedule</td>
<td>Appendix L</td>
</tr>
<tr>
<td>• At least weekly;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Immediately before site closure; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Immediately following rainfall events in excess of 5 mm in any 24 hour period.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The self-audit will include:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recording the condition of sediment control devices;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recording maintenance requirements (if any) for sediment control devices;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recording the volumes of sediment removed from sediment retention systems, where applicable; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recording the site where sediment is disposed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>Site Management</td>
<td>On-going</td>
<td>Appendix C</td>
</tr>
<tr>
<td>All waste generated on the site will be classified in accordance with the EPA's Waste Classification Guidelines (DECCW 2009) and the volume of each waste stream will be monitored and recorded over the life of the development. Records of waste volumes recycled reused or contractor removed are to be maintained. Additionally, dockets/receipts verifying recycling/disposal in accordance with the WMP must be kept and presented to Council when required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily visual inspections of waste storage areas will be undertaken and inspection checklists/logs recorded for reporting to the Site Manager on a weekly basis or as required. These inspections will be used to identify and rectify any resource and waste management issues.</td>
<td>Site Management</td>
<td>Daily</td>
<td>Appendix C</td>
</tr>
</tbody>
</table>
### 4.4 Access to Information

As per condition C11 the below table summarises the means of providing the information publicly available.

**Table 132 Access to Information**

<table>
<thead>
<tr>
<th>Information</th>
<th>Timing / Frequency</th>
<th>References / Notes / Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following information will be made publicly available on Sydney Business Park website and the information kept up to date:</td>
<td></td>
<td>LOGOS Property Website</td>
</tr>
<tr>
<td>(i) the documents referred to in condition A2 of this consent and the final layout plans for the development;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Conditions of consent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) Any written directions of planning secretary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iv) EIS response to submission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(v) Development Layout</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(vi) Management &amp; mitigation measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) all current statutory approvals for the development;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(vii) all approved strategies, plans and programs required under the conditions of this consent;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iv) the proposed staging plans for the development if the construction, of the development is to be staged;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(v) Richard Crookes Constructions will report environmental performances throughout the construction phase during regular management meetings and toolbox talks. Items to be discussed include:</td>
<td>Quarterly or as needed</td>
<td>LOGOS Property Website</td>
</tr>
<tr>
<td>• Results of any monitoring activities undertaken;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Any environmental incidents that have occurred during the previous period, including the management / corrective actions taken;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Any complaints that have been received during the previous period, including any management / corrective actions taken.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(vi) Richard Crookes Constructions will submit a summary of the current stage and progress of the development to LOGOS</td>
<td>Monthly</td>
<td>LOGOS Property Website</td>
</tr>
<tr>
<td>(vii) Richard Crookes Constructions will display the contact details to enquire about the development or to make a complaint;</td>
<td>Throughout the project</td>
<td>Will be displayed on site entrance &amp; LOGOS Property Website</td>
</tr>
<tr>
<td>(viii) Richard Crookes Constructions will maintain a complaints register, updated monthly;</td>
<td>Monthly</td>
<td>LOGOS Property Website</td>
</tr>
<tr>
<td>(ix) the Compliance Report of the development;</td>
<td>Quarterly or as needed</td>
<td>LOGOS Property Website</td>
</tr>
<tr>
<td>(x) any other matter required by the Planning Secretary</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.5 CEMP Review

In accordance with condition C1 of Development Consent SSD 8606, this CEMP will be reviewed and, if necessary, revised within three months of the following:

- The determination of a modification; or
- The submission of an incident report.

Additionally, the CEMP will be reviewed and, if necessary, revised in the following circumstances:

- Where there is any change to the scope of the Development’s construction activities;
- Where it is identified that the environmental performance of the construction phase is not meeting the objectives of the CEMP; and/or
- At the request of the DPE or other relevant government agency.

All employees and sub-contractors will be informed of any revisions to the CEMP by Site Management during toolbox talks.

5 REFERENCES

- Costin Roe (2019) Stormwater Management Plan
- RCC (2019) Waste Management Plan,
- Environment Protection Authority (2014) Waste Classification Guidelines
- Interim Construction Noise Guidelines (ICNG)
APPENDIX A

Development Consent to DA SSD 8606
Development Consent

Section 4.38 of the Environmental Planning and Assessment Act 1979

As delegate of the Minister for Planning under delegation executed on 11 October 2017, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development

Chris Ritchie
A/Executive Director
Key Sites and Industry Assessments

Sydney 16 August 2018

File: OBJ17/09558

SCHEDULE 1

Application No:
SSD 8606

Applicant:
Logos Property Holdings Pty Ltd

Consent Authority:
Lot 23 262886
Lot 24 262886
Hollinsworth Road, Blacktown

Development:
The staged construction and operation of a warehousing estate consisting of:
- seven buildings for warehouses distribution with ancillary offices uses and an ancillary agricultural produce industry use in building 5
- access roads off Hollinsworth Road
- on-site stormwater management infrastructure
- service connections, car parking and hardstand areas
- landscaping
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<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>Logos Property Pty Ltd, or any other person(s) person carrying out any development to which this consent applies</td>
</tr>
<tr>
<td>BCA</td>
<td>Building Code of Australia</td>
</tr>
<tr>
<td>Bus-only link</td>
<td>The extent of SP2 Local Road zoned land passing through Lot 23 DP 262886 from north to south, connecting to the end of Hollinsworth Road as shown in the Land Reservation Acquisition Map (LRA_005) of State Environmental Planning Policy (Sydney Region Growth Centres) 2006 as at 15 December 2017 and at Appendix A of this consent</td>
</tr>
<tr>
<td>CEMP</td>
<td>Construction Environmental Management Plan</td>
</tr>
<tr>
<td>Certifying Authority</td>
<td>A person who is authorised by or under section 6.17 of the EP&amp;A Act to issue certificates</td>
</tr>
<tr>
<td>Conditions of this consent</td>
<td>Conditions contained in Schedule 2 of this document</td>
</tr>
<tr>
<td>Construction</td>
<td>The demolition and removal of buildings or works, the carrying out of works for the purpose of the development, including bulk earthworks, and erection of buildings and other infrastructure permitted by this consent</td>
</tr>
<tr>
<td>Council</td>
<td>Blacktown City Council</td>
</tr>
<tr>
<td>Day</td>
<td>The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays</td>
</tr>
<tr>
<td>Department</td>
<td>NSW Department of Planning and Environment</td>
</tr>
<tr>
<td>Development</td>
<td>The development described in the EIS and Response to Submissions, including the works and activities comprising construction and operation of warehouse buildings, ancillary offices, hardstand areas, car parking, service connections and landscaping, as modified by the conditions of this consent</td>
</tr>
<tr>
<td>Development layout</td>
<td>The plans at Appendix A of this consent</td>
</tr>
<tr>
<td>Earthworks</td>
<td>Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction</td>
</tr>
<tr>
<td>EIS</td>
<td>The Environmental Impact Statement titled <em>Logos Marsden Park Logistics Estate</em> prepared by Urbis dated 11 January 2018, submitted with the application for consent for the development</td>
</tr>
<tr>
<td>ENM</td>
<td>Excavated Natural Material</td>
</tr>
<tr>
<td>Environment</td>
<td>Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings</td>
</tr>
<tr>
<td>EPA</td>
<td>NSW Environment Protection Authority</td>
</tr>
<tr>
<td>EP&amp;A Act</td>
<td>Environmental Planning and Assessment Act 1979</td>
</tr>
<tr>
<td>EP&amp;A Regulation</td>
<td>Environmental Planning and Assessment Regulation 2000</td>
</tr>
<tr>
<td>EPL</td>
<td>Environment Protection Licence issued by the EPA under the POEO Act</td>
</tr>
<tr>
<td>Evening</td>
<td>The period from 6 pm to 10 pm</td>
</tr>
<tr>
<td>Fibre ready facility</td>
<td>As defined in Section 372W of the Commonwealth Telecommunications Act 1997</td>
</tr>
<tr>
<td>Growth Centres Development Control Plan</td>
<td>The Blacktown City Council Growth Centres Development Control Plan 2016</td>
</tr>
<tr>
<td>Heavy vehicle</td>
<td>Any vehicle with a gross vehicle mass of 4.5 tonnes or more</td>
</tr>
<tr>
<td>Heritage</td>
<td>Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement</td>
</tr>
<tr>
<td>Heritage Item</td>
<td>An item as defined under the Heritage Act 1977, and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the National Parks and Wildlife Act 1974</td>
</tr>
<tr>
<td>Incident</td>
<td>An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance Note: “material harm” is defined in this consent</td>
</tr>
<tr>
<td>Land</td>
<td>Has the same meaning as the definition of the term in section 1.4 of the EP&amp;A Act</td>
</tr>
<tr>
<td>Management &amp; Mitigation Measures</td>
<td>The Applicant’s management and mitigation measures included in Appendix C</td>
</tr>
<tr>
<td>Material harm to the environment</td>
<td>Is harm that: • involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Minister</td>
<td>NSW Minister for Planning (or delegate)</td>
</tr>
<tr>
<td>Mitigation</td>
<td>Activities associated with reducing the impacts of the development prior to or during those impacts occurring</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Any monitoring required under this consent must be undertaken in accordance with section 9.40 of the EP&amp;A Act</td>
</tr>
<tr>
<td>Night</td>
<td>The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays</td>
</tr>
<tr>
<td>Non-compliance</td>
<td>An occurrence, set of circumstances or development that is a breach of this consent</td>
</tr>
<tr>
<td>OEH</td>
<td>NSW Office of Environment and Heritage</td>
</tr>
<tr>
<td>OEMP</td>
<td>Operational Environmental Management Plan</td>
</tr>
<tr>
<td>Operation</td>
<td>The use of any or all of the seven buildings and ancillary uses consisting of:</td>
</tr>
<tr>
<td></td>
<td>• offices for warehouse and distribution</td>
</tr>
<tr>
<td></td>
<td>• an ancillary agricultural process industry use in building 5</td>
</tr>
<tr>
<td>PCA</td>
<td>Principal Certifying Authority in accordance with the EP&amp;A Act</td>
</tr>
<tr>
<td>Planning Secretary</td>
<td>Planning Secretary of the Department (or nominee)</td>
</tr>
<tr>
<td>Reasonable</td>
<td>Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements</td>
</tr>
<tr>
<td>Response to Submissions (RTS)</td>
<td>The Applicant’s response to issues raised in submissions received in relation to the application for consent for the development under the EP&amp;A Act</td>
</tr>
<tr>
<td>RMS</td>
<td>NSW Roads and Maritime Services</td>
</tr>
<tr>
<td>RMS road reserve</td>
<td>The Bells Line of Road – Castlereagh Connection, passing along the southern property boundary of the site, mapped as SP2 (Classified Road) under the Blacktown Local Environmental Plan 2015</td>
</tr>
<tr>
<td>Planning Secretary</td>
<td>Planning Secretary of the Department (or nominee)</td>
</tr>
<tr>
<td>Sensitive Receivers</td>
<td>A location where people are likely to work or reside, this may include a dwelling, school, hospital, office or public recreational area</td>
</tr>
<tr>
<td>Site</td>
<td>The land listed in Schedule 1</td>
</tr>
<tr>
<td>Stage</td>
<td>A construction stage (consisting of stages one through four) of the development depicted in the staging plan at Appendix A</td>
</tr>
<tr>
<td>TNSW</td>
<td>Transport for NSW</td>
</tr>
<tr>
<td>VENM</td>
<td>Virgin Excavated Natural Material as defined in the POEO Act</td>
</tr>
<tr>
<td>Waste</td>
<td>As defined in the POEO Act</td>
</tr>
<tr>
<td>Year</td>
<td>A period of 12 consecutive months</td>
</tr>
</tbody>
</table>
SCHEDULE 2
PART A: ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In addition to meeting the specific performance criteria established in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development.

TERMS OF CONSENT

A2. The development may only be carried out:
(a) in compliance with the conditions of this consent;
(b) in accordance with all written directions of the Planning Secretary;
(c) in accordance with the EIS and Response to Submissions;
(d) in accordance with the Development Layout in Appendix A; and
(e) in accordance with the Management and Mitigation Measures in Appendix C.

A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:
(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and
(b) the implementation of any actions or measures contained in any such document referred to in A3(a) above.

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c) or A2(e).

Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of consent or direction of the Planning Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

LIMITS OF CONSENT

Lapsing

A5. This consent lapses five years after the date from which it operates, unless the development has physically commenced on the land to which the consent applies before that date.

Scope of Works

A6. This consent does not approve any road works, including the roundabout, on Hollinsworth Road as shown in the red outline in Appendix A (Figures 1-3) and the corresponding area shown in any other plan listed in Appendix A of this consent.

A7. This consent does not approve any civil works shown in the civil plans at Appendix B of any version of the ‘Engineering report incorporating stormwater management plan SSD 8606’ prepared by CostinRoe Consulting provided in the EIS or the RTS.

On-site Operations

A8. The operations in building 5 must not involve the cutting, washing or spraying of any agricultural produce received under the sorting function of the operations.
A9. The sorting function of the operations in building 5 must not exceed a throughput of 30,000 tonnes of agricultural produce per year.

A10. The office space approved under this consent must only be used solely in conjunction with the use of the building to which it is attached as granted by this consent. The separate use or occupation of the office space is not permitted under this consent.

A11. This consent does not authorise the sale or display of goods for retail to the general public.

A12. This consent does not approve any business identification or building façade signage.

NOTIFICATION OF COMMENCEMENT

A13. The date of commencement of each of the following phases of the development must be notified to the Department in writing, at least one month before that date, or as otherwise agreed by the Planning Secretary:
(a) construction;
(b) construction of the future high bay storage for building 3 (subject to condition B52);
(c) operation for each warehouse building; and
(d) cessation of operations.

A14. If the construction or operation of the development is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

EVIDENCE OF CONSULTATION

A15. Where conditions of this consent require consultation with an identified party, the Applicant must:
(a) consult with the relevant party before submitting the subject documents to the Planning Secretary for approval; and
(b) provide details of the consultation undertaken including:
   (i) the outcome of that consultation, matters resolved and unresolved; and
   (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STAGING, COMBINING AND UPDATE STRATEGIES, PLANS OR PROGRAMS

A16. With the approval of the Planning Secretary, the Applicant may:
(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

A17. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A18. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.
PROTECTION OF PUBLIC INFRASTRUCTURE

A19. Before the commencement of construction, the Applicant must:
   (a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection, and support of the affected infrastructure;
   (b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
   (c) submit a copy of the dilapidation report to the Secretary and Council.

A20. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:
   (a) repair, or pay the full costs associated with repairing any public infrastructure that is damaged by the development; and
   (b) relocate, or pay the full costs associated with relocating any infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

STRUCTURAL ADEQUACY

A21. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

Note:
- Under the former Part 4A of the EP&A Act or Part 6 of the EP&A Act as applies from 1 September 2018, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

COMPLIANCE

A22. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

SPECIAL INFRASTRUCTURE CONTRIBUTION

A23. The Applicant is to make a special infrastructure contribution in accordance with the Environmental Planning and Assessment (Special Infrastructure Contribution - Western Sydney Growth Areas) Determination 2011 (as in force when this consent becomes operative).

Prior to the issue of any Construction Certificate for works in relation to the development the subject of this consent, the Applicant must provide the Certifying Authority with written evidence from the Department that the liability to make the special infrastructure contribution for the development (or that part of the development for which the certificate is sought) has been discharged, or that arrangements are in force with respect to the discharge of the liability.

Note: More information about the special infrastructure contribution can be found on the Department's website at: http://www.planning.nsw.gov.au/Policy-and-Legislation/Infrastructure/Infrastructure-Funding/Special-Infrastructure-Contributions-SIC

OPERATION OF PLANT AND EQUIPMENT

A24. The plant and equipment used on-site, or to monitor the performance of the development must be:
   (a) maintained in a proper and efficient condition; and
   (b) operated in a proper and efficient manner.
EASEMENTS

A25. Within six months after the date of this consent, an easement under section 88A and/or restriction or public positive covenant under section 88E of the Conveyancing Act 1919 naming the Council as the prescribed authority, which can only be revoked, varied or modified with the consent of the Council, and which provides for the on-site detention system(s), stormwater pre-treatment systems, overland flow path works and a noise barrier (see condition B36) must be registered on title of Lot 23 DP 262886 and Lot 24 DP 262886 as relevant.

A26. The form of an easement or restriction required to be created under condition A25 must be in accordance with:
(a) Council’s standard recitals for Terms of Easements and Restrictions (Current Version); and
(b) the standard format for easements and restrictions as accepted by the NSW Land Registry Services.

EXTERNAL WALLS AND CLADDING

A27. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

A28. Before the issue of a Construction Certificate and an Occupation Certificate, the Applicant must provide the Certifying Authority with documented evidence that the products and systems proposed for use or used in the construction of external walls including finishes and claddings such as synthetic or aluminium composite panels comply with the requirements of the BCA.

A29. The Applicant must provide a copy of the documentation given to the Certifying Authority to the Planning Secretary within seven days after the Certifying Authority accepts it.

UTILITIES AND SERVICES

A30. Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.

A31. Before the commencement of operation of the development, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the Sydney Water Act 1994.

A32. The Applicant must ensure the provision of water, electricity and gas to the development comply with section 4.1.3 of Planning for Bushfire Protection 2006.

A33. Before the issue of any Occupation Certificate for any stage of the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifying Authority, that arrangements have been made for:
(a) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project to enable fibre to be readily connected to any premises that is being or may be constructed on those lots; and
(b) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.

A34. The Applicant must demonstrate that the carrier has confirmed in writing they are satisfied that the fibre ready facilities are fit for purpose.
WORK-AS-EXECUTED PLANS

A35. Before the issue of a final Occupation Certificate for any stage of the development, work-as-executed (WAE) drawings signed by a registered surveyor demonstrating that the stormwater drainage and finished ground levels have been constructed as approved, must be submitted to the PCA. If the PCA is Council, the WAE drawings must:
(a) include a hard copy of plans at A1 size;
(b) include a softcopy on CD/USB with PDF format files of the WAE plans; and
(c) be prepared on a copy of the original, stamped construction certificate plans for engineering works.

APPLICABILITY OF GUIDELINES

A36. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.

A37. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

AN2. Where any air handling, evaporative cooling hot water, humidifying, warm water or water cooling systems are installed, Council must be notified in accordance with Clause 11 of the Public Health Regulation 2012 (NSW), within one month of practical completion. The notification must include details of:
(a) the type of system;
(b) the address of the premises on which the system is installed;
(c) the name, residential and business addresses of the owner of the premises;
(d) the telephone numbers to which, during business hours and outside; and
(e) business hours, the person(s) referred to above may be contacted.
PART B: ENVIRONMENTAL PERFORMANCE AND MANAGEMENT

TRAFFIC AND ACCESS

Construction Traffic Management Plan

B1. Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan for the development, to the satisfaction of the Planning Secretary. The plan must form part of the Construction Environmental Management Plan required by condition C2 and must:
   (a) be prepared by a suitably qualified and experienced person(s);
   (b) be prepared in consultation with Council;
   (c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction;
   (d) detail heavy vehicle routes, access points and parking arrangements;
   (e) include a Driver Code of Conduct to:
      (i) minimise the impacts of earthworks and construction on the local and regional road network;
      (ii) minimise conflicts with other road users;
      (iii) minimise road traffic noise; and
      (iv) ensure truck drivers use specified routes;
   (f) include a program to monitor the effectiveness of these measures; and
   (g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

B2. The Applicant must:
   (a) not commence construction until the Construction Traffic Management Plan required by condition B1 is approved by the Planning Secretary; and
   (b) implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.

Roadworks and Access

B3. Before the commencement of construction works for any access roads connecting to the current or proposed extent of Hollinsworth Road, the Applicant must obtain approval for the works under section 138 of the Roads Act 1993.

B4. The Applicant must ensure the vehicle crossovers from Hollinsworth Road to the site are built so they comply with the AUSTROADS Guide to Traffic Engineering Practice, Part 5: Intersections at Grade, Section 6.2 – Sight Distance and AS 2890.

B5. The Applicant must ensure all vehicular crossings are built to Council’s standard A(BS)103S.

Preservation of the Bus-only Link

B6. The Applicant must ensure the construction and operation of building 7 in stage 1, building 4 in stage 2 and all works in stage 3 of the development, located to the east and west of the Daniels Road bus-only link:
   (a) are consistent with the alignment shown in the State Environmental Planning Policy (Sydney Region Growth Centres) 2006;
   (b) does not encumber or obstruct the bus-only link and enables any future road treatment with:
      (i) a road carriageway width of 20 m; and
      (ii) localised widening along the bus-only link of 24 m for bus bays;
   (c) allows adequate space for a 14.5 m rigid bus swept path without crossing any centreline; and
   (d) allows any future road treatment to cross the RMS road reserve at right angles.
Revised Heavy Vehicle Access Design for Building 3

B7. Before the issue of any construction certificate for stage 3, the Applicant must submit revised plans for heavy vehicle access to building 3, to the satisfaction of the Planning Secretary. The revised access arrangements must:
(a) be prepared by a suitably qualified and experienced person;
(b) be prepared in consultation with Council;
(c) comply with relevant Australian Standards, including but not limited to including the latest versions of AS 2890.1, AS 2890.2 and AS 2890.6;
(d) comply with Council’s relevant engineering standards;
(e) include swept path diagrams demonstrating the proposed access arrangement can accommodate an AUSTROADS 26 m B-Double or the longest vehicle anticipated to access the site in accordance with AUSTROADS Design Vehicles and Turning Path Templates, whichever is greater in length; and
(f) include design details if the swept paths of heavy vehicles accessing the site require modifications to any road surface, crossover, guttering or kerbing.

B8. The Applicant must not commence construction of any aspect of stage 3 of the development until the revised access designs required under condition B7 are approved by the Planning Secretary.

Occupation Timing of Stages 3 and 4

B9. The Applicant must not occupy or commence operation of any building in stages 3 or 4 of the development until such time the extension of Hollinsworth Road approved under DA 15-275, and as modified by Council, is dedicated to Council.

Parking

B10. The Applicant must provide sufficient parking facilities on-site, in accordance with the relevant Australian Standards, to ensure that traffic associated with the development does not utilise public and residential streets or public parking facilities.

Operating Conditions

B11. The Applicant must ensure:
(a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest version of AS 2890.1:2004 Parking facilities Off-street car parking and AS 2890.2:2002 Parking facilities Off-street commercial vehicle facilities;
(b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant AUSTROADS guidelines;
(c) the development does not result in any vehicles queuing on the public road network;
(d) heavy vehicles and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site;
(e) all vehicles are wholly contained on site before being required to stop;
(f) all loading and unloading of materials is carried out on-site;
(g) all trucks entering or leaving the site with loads have their loads covered and do not track dirt onto the public road network; and
(h) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.

Work Place Travel Plan

B12. Before the commencement of operation of the development, the Applicant must prepare a Work Place Travel Plan in consultation with TfNSW. The Work Place Travel Plan must:
(a) be prepared in consultation with TfNSW;
(b) outline facilities and measures to promote public transport usage, such as car share schemes and employee incentives; and
(c) describe pedestrian and bicycle linkages and end of trip facilities available on-site.
B13. The Applicant must not commence operation until the Work Place Travel Plan is approved by the Planning Secretary.

B14. The Applicant must implement the most recent version of the Work Place Travel Plan approved by the Planning Secretary for the duration of the development.

SOILS, WATER QUALITY AND HYDROLOGY

Imported Soil

B15. The Applicant must:
   (a) ensure that only VENM, or ENM, or other material approved in writing by the EPA is used as fill on the site;
   (b) keep accurate records of the volume and type of fill to be used; and
   (c) make these records available to the Department upon request.

Erosion and Sediment Control


Discharge Limits

B17. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.

Flood Management

B18. All floor levels must be no lower than the 1% Annual Exceedance Probability flood plus 300 mm of freeboard.

B19. Any structures below the 1% Annual Exceedance Probability plus 300 mm of freeboard must be constructed from flood compatible building components.

Temporary On-site Detention During Construction

B20. Prior to the issue of a Construction Certificate for stages 3 and 4, the Applicant must provide a temporary on-site detention system for stages 3 and 4, the extension of Hollinsworth Road and bus-only link that drains to Hollinsworth Road in accordance with Council’s Engineering Guide for Development and Council’s WSUD Standard Drawing A(BS)175M (Current Version). The on-site detention systems must:
   (a) be designed to achieve a site storage requirement of 300 m$^3$/ha for the 1.5 year ARI and 455 m$^3$/ha for the 100 year ARI;
   (b) treat the area of the Hollinsworth Road extension and the area of the bus-only link which drain into Hollinsworth Road, in addition to any bypass within lots 1 and 2; and
   (c) include an OSD catchment plan.

Temporary On-Site Stormwater Detention Certification

B21. Before the issue of any Construction Certificate, the Applicant must submit copies of the following certificates to Council, which are to be prepared by a registered engineer (NER):
   (a) certification that the structures associated with the on-site stormwater detention system have been designed to withstand all loads likely to be imposed on them during their lifetime; and
   (b) certification that the on-site stormwater detention system will perform to meet the on-site stormwater detention requirements.
Stormwater Management Plan

B22. Before the commencement of construction of each building within the development, the Applicant must prepare and submit a Stormwater Management Plan (SMP) to the satisfaction of the Planning Secretary. Each plan must identify all building and roadworks to be constructed relevant to the Construction Certificate that the works relate to. Each SMP must:

(a) be prepared by a suitably qualified engineer;
(b) be prepared in consultation with Council;
(c) be prepared generally in accordance with:
   (i) the civil plans, listed in Appendix A;
   (ii) Council’s Works Specification - Civil (Current Version);
   (iii) Council’s Engineering Guide for Development (Current Version);
   (iv) Council’s On-Site Detention General Guidelines and Checklist; and
   (v) Council’s WSUD Standard Drawings A(BS)175M (Current Version);
(d) include a Stormwater Verification Report as required by condition B25;
(e) demonstrate the development can comply with the stormwater objectives of Table 2-1 of the Growth Centres Development Control Plan, plus a post development target reduction of 90 % for total hydrocarbons;
(f) ensure post-development flow velocities of the relevant stormwater and drainage works match pre-development flow velocities;
(g) include a maintenance schedule and management measures for the stormwater quality devices that is signed and dated by the designer;
(h) detail the works required to attenuate stormwater quantity volumes in the event either regional basin E or basin G, dependent on the drainage path for that building, are not complete; and
(i) incorporate plans and accompanying design notes only.

B23. The works approved under each SMP (as revised and approved by the Planning Secretary from time to time) must be installed before the issue of any Occupation Certificate for the building that they relate to, and must be maintained by the Applicant for the duration of the development. All stormwater works within public road reserves must be constructed before dedication to Council.

Additional Requirements for Stage 1 Stormwater Management Plan

B24. In addition to the SMP requirements under condition B22, the Applicant must ensure the SMPs submitted for stage 1 of the development:

(a) forms part of the Construction Environmental Management Plan required by condition C2; and
(b) includes plans that incorporate a minimum 20 m wide level spreader set within lot 3 (stages 1 and 2) to allow sheet flow discharge to the RMS road reserve. The spreader is to comprise a level wall at a minimum height of 300 mm, set at or slightly above existing ground levels with normal scour protection is required upstream of the spreader
(c) addresses the requirements set out in Appendix E of this consent, in consultation with Council.

Stormwater Verification

B25. The Applicant must submit a Stormwater Verification Report with each SMP as required by condition B22, to validate that the design of the stormwater measures can achieve the predicted pre and post stormwater quality and quantity targets. Where relevant for a specified stage, the stormwater verification report must:

(a) include pre and post development DRAINS modelling for development stages 1 and 2;
(b) include MUSIC modelling for each building to verify the stormwater objectives of Table 2-1 of the Growth Centres Development Control Plan, plus a post development target reduction of 90 % for total hydrocarbons;
(c) includes a MUSIC catchment plan illustrating land use, treatment devices and the drainage pathway of each area to the proposed treatment devices; and
(d) confirm the stream erosion index levels in accordance with the Growth Centres Development Control Plan.
B26. The Applicant must ensure any existing sediment basin and temporary OSD areas on-site remain in place until the permanent stormwater management works for stage 1 are complete.

B27. Prior to the commencement of operation of each warehouse, the Applicant must provide written evidence to Council that the registered owner/lessee has entered into a minimum 5-year maintenance contract for the maintenance of the water quality devices.

**Stormwater Maintenance Reporting**

B28. Each year by the first business day on or after 1 September the Applicant is to provide a report to Council, outlining all maintenance undertaken on the Stormwater Quality Improvement Devices in accordance with the approved maintenance schedule in the SMP required by condition B22(g) and details of all non-potable water used. Copies of all contractor’s cleaning reports or certificates to are to be provided to Council.

**Fixtures**

B29. The Applicant must install fixtures and fittings in the development to comply with the following Water Efficiency Labelling and Standards (WELS):
   (a) 4 star dual-flush toilets;
   (b) 3 star showerheads;
   (c) 4 star taps (for all taps other than bath outlets and garden taps);
   (d) 3 star urinals; and
   (e) water efficient washing machines and dishwashers.

**Rainwater Harvesting**

B30. The Applicant must install rainwater harvesting systems for each warehouse building in accordance with the Concept Stormwater Management Strategy shown in plan Co12829.06-SSDA44, revision B, dated 22/11/2017 to achieve a rainwater re-use of a minimum of 80 % for non-potable water uses.

**NOISE**

**Hours of Work**

B31. The Applicant must comply with the hours of work detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Monday – Friday</td>
<td>7 am to 6 pm</td>
</tr>
<tr>
<td></td>
<td>Saturday</td>
<td>8 am to 1 pm</td>
</tr>
<tr>
<td>Operation</td>
<td>Monday – Sunday</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

B32. Works outside of the hours identified in condition B31 may be undertaken in the following circumstances:
   (a) works that are inaudible at the nearest sensitive receivers;
   (b) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
   (c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

**Construction Noise Limits**

B33. The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in Appendix C.
Construction Noise Management Plan

B34. The Applicant must prepare a Construction Noise Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced noise expert;
(b) be approved by the Planning Secretary prior to the commencement of construction of each stage of the development;
(c) describe procedures for achieving the noise management levels in the EPA’s *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009) (as may be updated or replaced from time to time);
(d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;
(e) identify measures to be implemented to minimise and manage construction noise impacts including but not limited to temporary construction noise barriers and respite periods;
(f) include strategies that have been developed with the community for managing high noise generating works;
(g) describe the community consultation undertaken to develop the strategies in B34(f) above; and
(h) include a complaints management system that would be implemented for the duration of the development.

B35. The Applicant must:

(a) not commence construction of any relevant stage until the Construction Noise Management Plan required by condition B34 is approved by the Planning Secretary; and
(b) implement the most recent version of the Construction Noise Management Plan approved by the Planning Secretary for the duration of construction.

Operational Noise Limits

B36. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits in Table 2.

<table>
<thead>
<tr>
<th>Location</th>
<th>Day $L_{Aeq(15\text{ minute})}$</th>
<th>Evening $L_{Aeq(15\text{ minute})}$</th>
<th>Night $L_{Aeq(15\text{ minute})}$</th>
<th>Night $L_{A1(1\text{ minute})}$</th>
<th>$L_{Aeq(period)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>All residential properties located to the south of the site</td>
<td>42</td>
<td>40</td>
<td>36</td>
<td>46</td>
<td>N/A</td>
</tr>
<tr>
<td>R8 – Place of Public Worship (when in use)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>50</td>
</tr>
</tbody>
</table>

*Note:* Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) in Fact Sheet C of the EPA’s Noise Policy for Industry. Refer to the plan in Appendix B for the location of residential sensitive receivers.

Noise Barrier

B37. Before the commencement of construction of stage 3 or 4 of the development, the Applicant must submit plans of a noise barrier to the satisfaction of the Planning Secretary. The noise barrier plans must demonstrate it would:

(a) consist of a masonry material, or other material (either composite or uniform) with a cementitious external finish that provides an equivalent or better acoustic performance and longevity;
(b) have a minimum height of 2.5 metres from the finished levels under DA 15-275 as modified;
(c) be placed within a 0.5 metre wide road reserve along the northern side of Hollinsworth Road and its proposed extension under DA 15-275 as modified;
(d) be located wholly to the west of the roundabout proposed under DA 15-275 as modified;
(e) start from the western property boundary of Lot 24 DP 262886 as at the date of this consent;
(f) end in a position to the west of the western edge of the Daniels Road bus-only link so that it complies with the sight distance criteria under AUSTROADS Guide to Road Design Part 4B: Roundabouts (2015); and  
(g) incorporate a green screen with guidewires and vine plantings on the elevation facing Hollinsworth Road and its associated extension.

B38. The Applicant must construct the noise barrier submitted with the plans approved under condition B37 before the commencement of operation of building 4 within stage 2 and any building within stages 3 or 4 of the development.

Operational Noise Verification

B39. Within three months of the commencement of operation of building 4 in stage 2 or any building in stages 3 or 4, the Applicant must undertake noise testing and prepare a Noise Validation Report (NVR) to demonstrate that the operation of the development is consistent with the predicted noise levels in the noise assessment submitted in the EIS and RTS. The NVR must:
(a) be prepared by an appropriately qualified and experienced acoustical consultant;
(b) be approved by the Planning Secretary;
(c) ensure the development is consistent with the noise predictions made in the EIS and RTS; and
(d) include a description of contingency measures in the event management actions are not effective in reducing noise levels to an acceptable level.

VIBRATION

Vibration Criteria

B40. Vibration caused by construction at any residence or structure outside the site must be limited to:
(a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999); and
(b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time).

B41. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition B40.

B42. The limits in conditions B40 and B41 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition C2 of this consent.

Road Traffic Noise

B43. The Applicant must prepare a Driver Code of Conduct and induction training for the development to minimise road traffic noise. The Applicant must update the Driver Code of Conduct and induction training for construction and operation and must implement the Code of Conduct for the duration of the development.

FIRE PROTECTION AND MANAGEMENT

Asset Protection Zones

B44. Throughout the duration of the development, the Applicant must manage the whole site as an inner protection area as outlined in Section 4.1.3 and Appendix 5 of Planning for Bushfire Protection 2006 and the NSW Rural Fire Services’ publication Standards for asset protection zones.
Design and Construction

B45. The Applicant must ensure each warehouse building and the identified elevations and building elements in the development complies with the NASH Standard (1.7.14 updated) ‘National Standard Steel Framed Construction in Bushfire Areas - 2014’ as appropriate or the specified bushfire attack levels (BAL) under Australian Standard AS3959-2009 ‘Construction of buildings in bush fire-prone areas’ for:

Building 1A and 1B
(a) the roof, western, northern and southern elevation(s) must comply with section 3 and section 6 (BAL 19) and the eastern elevations with section 3 and section 5 (BAL 12.5) of AS3959-2009 and section A3.7 Addendum Appendix 3 of Planning for Bushfire Protection 2006;

Building 2A and 2B
(b) the roof, western, northern and southern elevation(s) must comply with sections 3 and 9 (BAL FZ) of AS3959-2009. Except for windows, flaming of the specimen is not permitted and there must be no exposed timber;
(c) the eastern elevation(s) must comply with sections 3 and 8 (BAL 40) of AS3959-2009 and section A3.7 Addendum Appendix 3 of Planning for Bushfire Protection 2006;

Building 3
(d) the roof southern, eastern and western elevation(s) must comply with section 3 and section 7 (BAL 29) and the northern elevation(s) with section 3 and section 6 (BAL 19) of AS3959-2009 and section A3.7 Addendum Appendix 3 of Planning for Bushfire Protection 2006;

Building 5 and 7
(e) construction must comply with sections 3 and 5 (BAL 12.5) of AS3959-2009 and section A3.7 Addendum Appendix 3 of Planning for Bushfire Protection 2006;

Building 6
(f) the roof, southern, eastern and western elevation(s) must comply with sections 3 and 9 (BAL FZ) of AS3959-2009. Except for windows, flaming of the specimen is not permitted and there must be no exposed timber; and
(g) the northern elevation(s) must comply with sections 3 and 8 (BAL 40) of AS3959-2009 and section A3.7 Addendum Appendix 3 of Planning for Bushfire Protection 2006.

HAZARDS AND RISK

Dangerous Goods

B46. The quantities of dangerous goods present at any time on-site or transported to and from the development must be kept below the screening threshold quantities listed in the Department's Hazardous and Offensive Development Application Guidelines Applying SEPP 33 (January 2011).

B47. The Applicant must store all chemicals, fuels and oils used on-site in accordance with:
(a) the requirements of all relevant Australian Standards; and
(b) the NSW EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids.

In the event of an inconsistency between the requirements listed from (a) to (b) above, the most stringent requirement shall prevail to the extent of the inconsistency.

VISUAL AMENITY

B48. Service conduits which are located on the external facade of the building are not permitted to be exposed, or are to be appropriately screened from view so as to integrate with the overall presentation of the building.

B49. Retaining walls are required to be of masonry construction and provide a high-quality finish.

B50. Storage pallets, containers and the like are not permitted to be stored on the site where they are visible from Hollinsworth Road for a period of more than 24 hours.
BS1. Any storage area for pallets, containers and the like, placed along the sites frontage to the RMS road reserve, are to be screened from the residential dwellings to the south.

**Facade Design of Future High Bay Area of Building 3**

BS2. The Applicant must not commence construction of the future high bay storage area associated with building 3, in stage 3 until a facade treatment plan, amending drawing LG MAR DA34, revision B at Appendix A, is submitted to the satisfaction of the Planning Secretary. The plan must:
   (a) be prepared in consultation with Council; and
   (b) incorporate a mixture of materials, colours, articulated elements and patterns to reduce the bulk and scale of the future high bay area when viewed from the south and east.

**Reflectivity of Building Finishes**

BS3. The visible light reflectivity from materials used in the facades of the buildings in the development must not exceed 20% and must be designed so as to minimise glare. A report demonstrating compliance with these requirements is to be submitted to the satisfaction of the Certifying Authority for each warehouse building before the issue of its relevant Construction Certificate.

**Landscaping**

BS4. Before the commencement of operation of any stage, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping works on-site, to the satisfaction of the Planning Secretary. The plan must:
   (a) detail the species to be planted on-site;
   (b) include a mixture of locally native ground covers, shrubs and mature trees generally consistent with Appendix D of the Growth Centres Development Control Plan;
   (c) comply with section 6.3.3 and 6.3.4 of the Growth Centres Development Control Plan in relation to landscaping in car park and communal areas;
   (d) include details of the green screen and vine plantings to screen the noise barrier required under condition B37;
   (e) describe the monitoring and maintenance measures to manage revegetation and landscaping works;
   (f) detail how the landscaping on-site will comply with the principles of Appendix 5 of *Planning for Bushfire Protection 2006*; and
   (g) be consistent with the Applicant’s Management and Mitigation Measures at Appendix B.

BS5. The Applicant must:
   (a) not commence operation of any stage of the development until the Landscape Management Plan is approved by the Planning Secretary and the landscaping works relevant for that stage of the development have been planted;
   (b) implement the most recent version of the Landscape Management Plan approved by the Planning Secretary; and
   (c) maintain the landscaping and vegetation on the site in accordance with the approved Landscape Management Plan required by condition B54 for the duration of the development.

**Lighting**

BS6. The Applicant must ensure the lighting associated with the development:
   (a) complies with the latest version of AS 4282-1997 - *Control of Obtrusive Effects of Outdoor Lighting*; and
   (b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

**Signage and Fencing**

BS7. All operational site, business identification and building facade signage is to be subject to a further development Application.

*Note:* This condition does not apply to temporary construction and safety related signage and fencing.
B58. Fencing must be erected in accordance with the development plans included in the EIS.

**Tank Treatment and Screening**

B59. The Applicant must submit design plans demonstrating that the fire tanks for buildings 1, 4 and 5 would be screened or would have a non-reflective finish, when viewed from Hollinsworth Road.

B60. Aboveground rain water or fire tanks are to be finished with a matte paint treatment.

**AIR QUALITY**

**Dust Minimisation**

B61. The Applicant must implement all reasonable and feasible measures to minimise dust generated during demolition, earthworks, construction and operation of the development.

B62. During construction, the Applicant must ensure that:
   (a) exposed surfaces and stockpiles are suppressed by regular watering;
   (b) all trucks entering or leaving the site with loads have their loads covered;
   (c) trucks associated with the development do not track dirt onto the public road network;
   (d) public roads used by these trucks are kept clean; and
   (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

**Odour Management**

B63. The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

**WASTE**

B64. The collection and removal of waste generated during operation of the development must only be undertaken between 6 am to 6 pm Monday to Saturday, and 10 am to 4 pm on Sunday and public holidays.

B65. The Applicant must:
   (a) implement suitable measures to manage pests, vermin and declared noxious weeds on the site; and
   (b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.

*Note:* For the purposes of this condition, noxious weeds are those species subject to an order declared under the Noxious Weed Act 1993.

B66. Prior to the commencement of construction of each warehouse, the Applicant must obtain agreement from Council for the design of the waste storage area for each warehouse.

B67. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

**Statutory Requirements**

B68. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.
PART C: ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:
   (a) details of:
       (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
       (ii) any relevant limits or performance measures/criteria; and
       (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
   (b) a description of the management measures that would be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria;
   (c) a program to monitor and report on the:
       (i) impacts and environmental performance of the development; and
       (ii) effectiveness of any management measures (see (c) above);
   (d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
   (e) a program to investigate and implement ways to improve the environmental performance of the development over time;
   (f) a protocol for managing and reporting any:
       (i) incidents and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);
       (ii) complaint; and
       (iii) failure to comply with statutory requirements;
   (g) a protocol for periodic review of the plan; and
   (h) a conditions compliance table which references and details where the relevant conditions of consent have been addressed.

Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.

C3. As part of the CEMP required under condition C2 of this consent, the Applicant must include the following:
   (a) Construction Traffic Management Plan (see condition B1);
   (b) Erosion and Sediment Control Plan;
   (c) Stormwater Management Plan (see condition B22 and B24);
   (d) Construction Noise Management Plan (see condition B34); and
   (e) Community Consultation and Complaints Handling.

C4. The Applicant must:
   (a) not commence construction of the development until the CEMP is approved by the Planning Secretary; and
   (b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

REVISION OF STRATEGIES, PLANS AND PROGRAMS

C5. Within three months of:
   (a) approval of a modification; or
   (b) submission of an incident report under condition C7.
the strategies, plans and programs required under this consent must be reviewed, and the Department must be notified in writing that a review is being carried out.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.

C6. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.

REPORTING

Incident Notification, Reporting and Response

C7. The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident. Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix D.

Non-Compliance Reporting

C8. The Department must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance.

C9. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

C10. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

ACCESS TO INFORMATION

C11. At least 48 hours before the commencement of construction until the completion of all works under this consent, the Applicant must:

(a) make the following information and documents (as they are prepared, obtained or approved) publicly available on its website:

(i) the documents referred to in condition A2 of this consent and the final layout plans for the development;
(ii) all current statutory approvals for the development;
(iii) all approved strategies, plans and programs required under the conditions of this consent;
(iv) the proposed staging plans for the development if the construction, of the development is to be staged;
(v) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
(vi) a summary of the current stage and progress of the development;
(vii) contact details to enquire about the development or to make a complaint;
(viii) a complaints register, updated monthly;
(ix) the Compliance Reporting of the development;
(x) any other matter required by the Planning Secretary;

(b) keep such information up to date, to the satisfaction of the Planning Secretary.
## APPENDIX A
### DEVELOPMENT LAYOUT PLANS

<table>
<thead>
<tr>
<th>Job No.</th>
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<td>8/8/2014</td>
<td>Detailed Survey Plan Lot 23-24 in DP 262886 Hollinsworth Road Marsden Park</td>
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### Architectural Drawings Prepared by Watch this Space Design

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### Civil Plans prepared by Costin Roe

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| 170906   | SSD-02  | D | 6/3/2018 | Landscape Plan – Area 2  |
| 170906   | SSD-05  | D | 6/3/2018 | Landscape Plan – Area 5  |
| 170906   | SSD-06  | D | 6/3/2018 | Landscape Plan – Area 6  |</p>
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Figure 1: Site Layout

Hollinsworth Road extension and roundabout not subject to this consent

Future bus-only link to be delivered by others
Hollinsworth Road extension and roundabout not subject to this consent

Figure 2: Staging Plan
Figure 3: Bus link area on land acquisition map of Growth Centres SEPP
APPENDIX B

NOISE RECEIVER LOCATIONS

[Image of a map showing noise monitoring locations]
## APPENDIX C

**APPLICANT’S MANAGEMENT AND MITIGATION MEASURES**

<table>
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<tr>
<th>Matter</th>
<th>Potential Impact</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Level</th>
<th>Proposed Mitigation Measure</th>
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<td><strong>Visual Impact</strong></td>
<td>Impact on key views of the site from key public places</td>
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<td>Medium</td>
<td>Provision of dense landscape screening as per Landscape Drawings.</td>
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<td>Impact on key views from nearby residential receivers</td>
<td>A</td>
<td>2</td>
<td>High</td>
<td>Provision of dense landscape screening as per Landscape Drawings.</td>
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<td><strong>Traffic and Parking</strong></td>
<td>Impacts of road network from construction phase</td>
<td>A</td>
<td>4</td>
<td>Low</td>
<td>A detailed Construction Management Plan would be prepared for the development prior to issue of the Construction Certificate.</td>
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<td></td>
<td>Adverse impact on key intersections as a result of increased operational traffic generation on the site.</td>
<td>A</td>
<td>3</td>
<td>Medium</td>
<td>Modelled intersections will continue to operate satisfactory. The proposed development is consistent with the intended uses for the Marsden Park Industrial Precinct.</td>
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<td>Additional demand for on street car parking spaces</td>
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<td>5</td>
<td>Very low</td>
<td>Not required. Onsite car parking provision is adequate for the proposed use.</td>
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<td></td>
<td>Adverse traffic impacts of trucks accessing site via Hollinsworth Road.</td>
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<td>4</td>
<td>Low</td>
<td>Not required. The proposed development is consistent with the intended development of the Marsden Park Industrial Precinct.</td>
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<td></td>
<td>Impact of internal road designed for truck use.</td>
<td>D</td>
<td>5</td>
<td>Very low</td>
<td>Not required. Adequate internal circulation is provided.</td>
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<td></td>
<td>Adverse impact on pedestrian movements around and into site.</td>
<td>C</td>
<td>5</td>
<td>Very low</td>
<td>The driveways on Hollinsworth Road will be designed and arranged to provide adequate sight lines for pedestrians and as such will alleviate potential safety impacts.</td>
</tr>
<tr>
<td>Matter</td>
<td>Potential Impact</td>
<td>Likelihood</td>
<td>Consequence</td>
<td>Risk Level</td>
<td>Proposed Mitigation Measure</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Noise and Vibration</td>
<td>Impact from construction noise and vibration</td>
<td>B</td>
<td>2</td>
<td>High</td>
<td>• Restrict construction activities during ICNG standard hours only;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Schedule intensive works outside of respite periods; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Provide a contact telephone number via which the public may seek information or make a complaint. A log of complaints should be maintained and actioned by the site superintendent in a responsive manner.</td>
</tr>
<tr>
<td>Impact from operational</td>
<td></td>
<td>C</td>
<td>3</td>
<td>Medium</td>
<td>• For Building 3, during the night-time period use the eastern loading docks and limit the use of the southern loading docks as far as practicable;</td>
</tr>
<tr>
<td>noise generated on site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Minimise use of broadband audible reverse alarms on heavy vehicles during the night period;</td>
</tr>
<tr>
<td>and sleep disturbance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Use recessed loading docks where possible during the night period to minimise noise from loading/unloading operations; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Schedule truck movements and loading dock operations such that concurrent operation of vehicles is minimised. This would include limiting onsite vehicle idling while loading.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Further acoustic testing to be undertaken at the main entrance to the site on Hollinsworth Road to determine if an acoustic wall is needed to mitigate noise generated by trucks entering and exiting the site. Where required, an acoustic wall shall be provided along the Ingenia side of Hollinsworth Road</td>
</tr>
<tr>
<td>Impact from mechanical</td>
<td></td>
<td>C</td>
<td>3</td>
<td>Medium</td>
<td>Mitigation measures to be proposed once detailed design determines plant equipment location.</td>
</tr>
<tr>
<td>plant equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Matter</td>
<td>Potential Impact</td>
<td>Likelihood</td>
<td>Consequence</td>
<td>Risk Level</td>
<td>Proposed Mitigation Measure</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------</td>
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<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Hazards and Risk</strong></td>
<td>Impact from the storage of dangerous goods</td>
<td>D</td>
<td>4</td>
<td>Low</td>
<td>Not required. The proposed quantities of dangerous goods to be stored at the development do not exceed the threshold quantities listed in <em>Applying SEPP33</em> (Ref.1). Hence, it is concluded that SEPP33 does not apply to the proposed development and therefore a Preliminary Hazard analysis is not required for the site</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td>Dust and emission impacts from earth moving equipment</td>
<td></td>
<td></td>
<td></td>
<td>Prepare a Dust Management Plan prior to issue of a Construction Certificate.</td>
</tr>
</tbody>
</table>
| **Bushfire**                | Impact from vehicle omission                          | C          | 3           | Medium     | • Vehicles on the site minimise time spent idling.  
• Access arrangement to minimise vehicle queuing.  
• Vehicles will be maintained to operate in a proper and efficient manner.                                                                                                                                                 |
|                             | Impact for potential bushfire threat                  | C          | 1           | Medium     | • **Construction Standard:** The proposed development shall be constructed in accordance with the Bushfire Attack Levels identified in Bushfire Report.  
• **Asset Protection Zones:** At the commencement of building works and in perpetuity, an Asset Protection Zone shall be established and maintained to the site boundaries from the buildings from the south. The APZ shall be established and maintained as an inner protection area as outlined within PBP and the NSW RFS document ‘Standards for Asset Protection Zones’. |
<table>
<thead>
<tr>
<th>Matter</th>
<th>Potential Impact</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Level</th>
<th>Proposed Mitigation Measure</th>
</tr>
</thead>
</table>
| Waste                         | Impacts associated with construction waste            | D          | 5           | Very low   | • Prepare a Workplace Health and Safety Plan as part of the detailed Construction Environmental Management Plan.  
• Materials are to be stored and handled correctly.  
• All construction staff to be properly inducted and educated on storing and handling waste materials/products. |
|                              | Impacts associated with operation waste               | D          | 5           | Very low   | • Materials to be stored and handled correctly.  
• All staff to be properly inducted and educated on storing and handling waste materials/products. |
| Aboriginal Heritage           | Impact on the Aboriginal cultural heritage values on site | C          | 4           | Low        | Salvage excavation proposed works. In summary, this involves:  
  a) Phase 1 testing comprising six 1x1 m units with provisions to dig another two units if no artefacts are found. If no artefacts are found in this initial 8 m², excavation should cease.  
  b) Phase 2 testing comprising the opening up of whichever Phase one unit has the highest number of artefacts to a total of 12 m² dug in the direction of highest apparent density. If the overall artefact density is less than 3 artefacts per square metre (<36 artefacts in total), it should be taken as a sufficient threshold of low density to cease excavation.  
  c) Phase 3: In the event of artefact density of 3/m² or more within the Phase 2 excavation, it should continue to a maximum of 25 m². The excavation layout (placement of squares) should continue to work in the direction of highest apparent artefact concentration at the discretion of the excavation director for as long as the overall artefact density remains >3/m². The salvage excavation should then cease. |
APPENDIX D
WRITTEN INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

A written incident notification addressing the requirements set out below must be emailed to the Department at the following address: compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition C7 or, having given such notification, subsequently forms the view that an incident has not occurred.

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

Written notification of an incident must:

a) identify the development and application number;
b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
c) identify how the incident was detected;
d) identify when the applicant became aware of the incident;
e) identify any actual or potential non-compliance with conditions of consent;
f) describe what immediate steps were taken in relation to the incident;
g) identify further action that will be taken in relation to the incident; and
h) identify a project contact for further communication regarding the incident.

INCIDENT REPORT REQUIREMENTS

Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.

The Incident Report must include:

a) a summary of the incident;
b) outcomes of an incident investigation, including identification of the cause of the incident;
c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and

d) details of any communication with other stakeholders regarding the incident.
APPENDIX E
DRAINAGE REQUIREMENTS FOR STAGE 1 (LOT 3)

1. Amended DRAINS modelling to 12829.06 - S1_Rev0.drn is required to the satisfaction of the Manager Asset Design for Lot 3 discharging to RMS land to provide permanent in-site detention pre to post to address the following.
   i. Allow for a pre-developed site area draining to RMS land of maximum 4.4 Ha (not 5.29 Ha), maximum Sub Catchment Slope of 5% and a Mannings n of 0.05 for area directly draining to RMS land through the site and not onto adjoining properties.
   ii. Allow for a fully developed 7.35 Ha draining to the rear in the post developed model. Note current area in model is 7.123 Ha. See point iv below.
   iii. The post developed bypass area is 0.335 Ha (not 0.125 Ha as incorrectly shown in the model). Allow minimum 5% impervious.
   iv. The orifice centreline in the model does not match the drainage plans.
   v. The lower overflow weir does not match the drainage plans.
   vi. Provide a minimum design storage of 455 m$^3$/Ha in 100 year event.
   vii. Ensure the revised drainage plans accurately represent the model assumptions and outcomes.

2. Amended drainage plans from Costin Roe series C012829.06 are required to address the following for Lot 3:
   i. Design the internal drainage system to the minimum 20 year ARI.
   ii. On Drawing C1400(C) demonstrate that the 100 year surface flows can be safely directed to the detention basin.
   iii. On Drawing C1412(A) provide a swale and series of pit and pipes collecting as much as practical of the eastern batter slope uncontrolled discharge into the adjoining lot (Busways). The flows are to be piped to the discharge control pit (downstream of the orifice). This batter slope and the batter slope to the rear (south) of lot 3 is not to exceed 1V : 3H.
   iv. On Drawing C1415(B) the proposed reinforced earth wall is to be set 1200 mm below the basin FSL.
   v. On Drawing C1415(B) provide a flat suspended 1.5 m wide pedestrian maintenance path from the ramp to the top over the overflow wall at RL 50.00 along the eastern side of the ramp. Continue the access down into the detention basin at about 10% to enable safe access with maintenance equipment.
   vi. On Drawing C1416(B) amend the bioretention profile to include 500mm filter media, 450 mm transition layer and 200 mm gravel layer for each section.
   vii. On Drawing C1416(B) at Section 4 show a 500 mm deep silt trap at the discharge pipe to protect the bioretention filter with seepage hole out the side into the filter media. Show 7 x 300 mm choke pipes.
   viii. Within the drainage for lot 3 the detail for the minimum 20 m wide level spreader set within the property to allow sheet flow discharge to the RMS land shown on Drawing C1417(B) is incorrect. The spreader is to comprise a level wall about 300 mm high (variable) set at or slightly above existing ground levels with RMS and a series of 50 mm seepage holes out through the sides where levels permit or otherwise through the base to drain any residual storage. **The top of the level spreader must be flat.** Normal scour protection is required upstream of the spreader.
   ix. On drawing C1440 (A) modify the “Existing Catchment 2” boundary to extend from the catchment confluence to the rear south-east corner of lot 3 (maximum 4.4 Ha) and increase “Existing Catchment 3” to a maximum of 2.34 Ha.
   x. On Drawing C1444(A) at Detail 1 provide a 500 mm silt trap for all the pit at the 1200 mm inlet (invert RL 49.00). Show 7 x 300 mm choke pipes.
xi. On Drawing C1444(A) at Detail 1 provide a sealed subsoil collection pit discharging to the Discharge Control Pit downstream of the orifice. Show scour protection adjacent to the reinforced earth wall for the length of the emergency 100 year overflow.

xii. On Drawing C1446(A) at Typical Bio-Retention Detail amend the bioretention profile to include 500mm filter media, 450 mm transition layer and 200 mm gravel layer. Nominate a saturated zone set 700mm below the filter media level. Temporary detail similar. Amend bio-retention notes by changing “200 mm/hr” to “250 mm/hr ex bin”.

xiii. On Drawing C1446(A) at Typical Bio-Retention Detail the un-socked subsoil drains within the saturated bioretention filter bed are laid flat, however any non-slotted collection pipes collecting or discharging the subsoil flows away from the basin are to have a minimum grade of 0.5 %. Where subsoil lines connect with a larger subsoil collection pipe, the subsoil pipes are to connect via two 45 degree bends with a minimum 300 mm straight section between to allow for rodding. The collection pipe is to have its own rodding point. Provide details of sizing to ensure a minimum of twice the capacity based on both pipe capacity and flow through the slots.

xiv. On Drawing C1446(A) provide a sealed Subsoil Collection Pit detail with saturated zone similar to Detail 13 of Council WSUD Drawing A(BS)175M.

xv. On Drawing C1446(A) amend Grated Drain/Stormwater Pit dimensions to show 500 mm from drain invert to pipe obvert. With Roofwater/Stormwater Pit show 150 mm to top of 350 deep Enviropod.

xvi. Provide on-site detention (OSD) warning signs as per the Upper Parramatta River Catchment Trust guidelines.

xvii. Confined space entry warning signs are to be detailed on the drainage plans adjacent to all entries into the Discharge Point and Silt Trap in accordance with Council’s Engineering Guide for Development 2005.
APPENDIX B

SSD 8606 MOD 3 Instrument of Modification
Modification of Development Consent

Section 4.55(1A) of the Environmental Planning and Assessment Act 1979

As delegate of the Minister for Planning and Public Spaces, under delegation executed on 11 October 2017, I approve the modification of the development consent referred to in Schedule 1, subject to the conditions in Schedule 2.

Chris Ritchie
Director
Industry Assessments

Sydney 13 February 2020

SCHEDULE 1

Development Consent

Development consent: SSD 8606 granted by the A/Executive Director, Key Sites and Industry Assessments on 16 August 2018

For the following: The staged construction and operation of a warehousing estate consisting of:

- seven buildings for warehouses distribution with ancillary offices uses, an ancillary agricultural product industry use in building 5, and ancillary activities including the cutting of steel into predetermined lengths to occur in Building 1 in accordance with conditions contained within this consent
- access roads off Hollinsworth Road
- on-site stormwater management infrastructure
- service connections, car parking and hardstand areas
- landscaping

Modification 3

Modification Application: SSD-8606-MOD-3

Application: Logos Property Pty Ltd

Consent Authority: Minister for Planning and Public Spaces

Land: Hollinsworth Road, Blacktown
Lot 23 DP 262886
Lot 24 DP 262886
The consent is modified as follows:

1. In the definitions, under ‘Modification’, after the point ‘SSD 8606 MOD 2 – Statement of Modification prepared by Urbis and dated 6 May 2019’ insert the following point:


In Schedule 2 – Part A: Administrative Conditions

2. Delete Condition A4 and replace with the following:

   A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c), A2(e) or A2(f). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), A2(e) or A2(f), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

   Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of consent or direction of the Planning Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

In Schedule 2 – Part B: Environmental Performance

3. In Condition B22(h), after the words ‘are not complete’, delete the ‘and’.

4. In Condition B22(i), after the words ‘notes only’, delete the period and insert the words ‘; and’.

5. In Condition B22, after sub-clause (i) insert new condition B22(j), as follows:

   (j) for Lot 2, amend the drainage plans from Costin Roe Series Co12829.15 dated 27.11.19 by providing temporary on-site detention and amending the MUSIC model by deleting the swale and reducing the landscape water demand for each rainwater tank to 700 kl/year.

6. After Condition B26, insert new Condition B26A as follows:

   B26A. Temporary OSD is required for Lot 1 and 2 in accordance with Council’s WSUD standard drawings, and is to remain in place until the permanent detention basin E is fully constructed and the 100 year ARI trunk drainage system is constructed from Hollinsworth Road to Basin E.

7. In Condition B30 replace the words ‘30.04.19’ with the words ‘October 2019’.
8. Delete Condition B45(b) and replace with the following:

   **Building 2 and 3**

   **Design and Construction**

   **Services**
   The provision of water and electricity to the development must comply with section 4.1.3 of *Planning for Bushfire Protection 2006*.

   **Emergency and Evacuation Planning**

   **Asset Protection Zone**
   From the commencement of building works, and in perpetuity, the entire property must be managed as an inner protection area (IPA). The IPA must comprise:
   i) Minimal fine fuel at ground level;
   ii) Grass must be mowed or grazed;
   iii) Trees and shrubs must be retained as clumps or islands and do not take up more than 20% of the area;
   iv) Trees and shrubs must be located far enough from buildings so that they will not ignite the building;
   v) Garden beds with flammable shrubs must not be located under trees or within 10 metres of any windows or doors;
   vi) Minimal plant species that keep dead material or drop large quantities of ground fuel;
   vii) Tree canopy cover must not cover more than 15% of the area;
   viii) Tree canopies must not be located within 2 metres of the building;
   ix) Trees must be separated by 2-5 metres and do not provide a continuous canopy from the hazard to the building; and
   x) Lower limbs of trees removed up to a height of 2 metres above the ground.

   **Fire Trails**
   The fire access road must comply with the requirements of section 4.1.3(3) of *Planning for Bush Fire Protection 2006*.

   **Landscaping**
   Landscaping of the site must comply with the principles of Appendix 5 of *Planning for Bush Fire Protection 2006*.

   **Access – Public Roads**
   Public road access must comply with the requirements of section 4.1.3(1) of *Planning for Bush Fire Protection 2006*.
In the Appendices

9. In Appendix A – Development Layout Plans, delete the following plan references:

<table>
<thead>
<tr>
<th>Job No.</th>
<th>Drawing No.</th>
<th>Rev.</th>
<th>Date</th>
<th>Title</th>
</tr>
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<td>190204 – DA100</td>
<td>4</td>
<td>06/05/2019</td>
<td>Masterplan Plan</td>
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<tr>
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<td>6/3/2018</td>
<td>Building 3 Warehouse Plan</td>
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<tr>
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<td>LG MAR DA35</td>
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Civil Plans prepared by Costin Roe

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and replace with the following plan references:

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<td>191127 – DA100</td>
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Civil Plans prepared by Costin Roe

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10. In Appendix A – Development Layout Plans, delete Figure 1: Site Layout and replace with ‘Figure 1: Site Layout’ as shown in Appendix A of this modifying instrument.
11. In Appendix A – Development Layout Plans, delete Figure 2: Staging Plan and replace with ‘Figure 2: Staging Plan’ as shown in Appendix A of this modifying instrument.
Figure 1: Site Layout
## Subject Site - Schedule of Areas - GFA

### Building 2A
- **Use Area:** 1,428 m²
  - **Bulding Area:** 1,016 m²
  - **Open Breezeway Area:** 312 m²
  - **Outbuildings:** 10 m²
  - **Landscape:** 476 m²
  - **Total Landscape and Paving Area:** 523 m²

### Building 2B
- **Use Area:** 2,917 m²
  - **Bulding Area:** 2,536 m²
  - **Open Breezeway Area:** 381 m²
  - **Outbuildings:** 10 m²
  - **Landscape:** 470 m²
  - **Total Landscape and Paving Area:** 517 m²

### Building 3
- **Use Area:** 4,115 m²
  - **Bulding Area:** 3,794 m²
  - **Open Breezeway Area:** 321 m²
  - **Outbuildings:** 10 m²
  - **Landscape:** 476 m²
  - **Total Landscape and Paving Area:** 523 m²

### Buildings
- **Stage 1:** VFA & eStore
- **Stage 2:** Building 4 & 6
- **Stage 3:** Orcon Steel
- **Stage 4:** Building 2 & 3

---

**Figure 2: Staging Plan**

---

**NSW Government**

**Department of Planning, Industry and Environment**
End of modification
(SSD-8606-MOD-3)
APPENDIX C

Construction Traffic Management Plan
Good Morning Fraser

I have reviewed the attached revised Logos Property CTMP for LOGOS B3 Lots 23 & 24 Hollinsworth Road, Marsden Park. It appears to be in order based on the information provided. It is the project managers responsibility to implement the traffic control measures as identified in the CTMP.

Regards

Andy Karklins
Traffic Management Officer

9839 6305

Andy.Karklins@blacktown.nsw.gov.au
PO Box 63 Blacktown NSW 2148
blacktown.nsw.gov.au

Hi Andy,

Hope you are well.

Further to the trailing email, we have since made some minor updates to the previously reviewed CTMP in respect to the construction of Building 3 (“B3’), and request your review and any comments for consideration.

Could you please review the attached updated CTMP and confirm all is acceptable?
Thanks in advance,

Frase McDonald
Development Manager

M. +61 427 727 379
FraserMcDonald@logosproperty.com
logosproperty.com

Please consider the environment before printing this email.
This e-mail is confidential and may also be privileged. If you are not the intended recipient, please delete it and notify us immediately; you should not copy or use it for any purpose, nor disclose its contents to any other person. It is your responsibility to check any attachments for viruses and defects before opening or sending them access, see our privacy policy at logosproperty.com

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From: Andy Karklins <Andy.Karklins@blacktown.nsw.gov.au>
Sent: Thursday, 13 February 2020 11:08 AM
To: Fraser McDonald <FraserMcDonald@logosproperty.com>
Cc: Nadeem Shaikh <Nadeem.Shaikh@blacktown.nsw.gov.au>
Subject: RE: MOD-17-00550 Lots 23 & 24 Hollinsworth Road, Marsden Park | Logos Property

Good Morning Fraser

I have reviewed the attached Logos Property CTMP for LOGOS B2 & B3 Lots 23 & 24 Hollinsworth Road, Marsden Park. It appears to be in order based on the information provided. It is the project managers responsibility to implement the traffic control measures as identified in the CTMP.

Regards

Andy Karklins
Traffic Management Officer

9839 6305
0401 714 012
Andy.Karklins@blacktown.nsw.gov.au
PO Box 63 Blacktown NSW 2148
blacktown.nsw.gov.au

Follow us on social media

From: Fraser McDonald [mailto:FraserMcDonald@logosproperty.com]
Sent: Tuesday, 4 February 2020 7:41 AM
To: Nadeem Shaikh
Cc: Andy Karklins
Subject: MOD-17-00550 Lots 23 & 24 Hollinsworth Road, Marsden Park | Logos Property

Good morning Nadeem,
Construction Traffic Management Plan

LOGOS B3

Hollinsworth Rd, Marsden Park
Revision History

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Prepared by</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>26/08/2020</td>
<td>Michael Palamara (MIEAust NER)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PWZTMP: 00516779687</td>
<td></td>
</tr>
</tbody>
</table>

Comments

Issued as v1 for approval

Table 1: Revision History

Project Contacts

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Office No.</th>
<th>Mobile No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben Kilby</td>
<td>Project Manager</td>
<td>(02) 9902 4765</td>
<td>0409 684 119</td>
</tr>
<tr>
<td>John Kassaa</td>
<td>Site Engineer</td>
<td>(02) 9902 4700</td>
<td>0428 261 413</td>
</tr>
</tbody>
</table>

Table 2: Project Contacts

This document is not to be changed by anyone other than a representative of Headway Traffic and Transport Pty Ltd. Headway Traffic and Transport Pty Ltd does not accept any liability where this document is used outside of its intended purpose or where changes have been made without the consent of Headway Traffic and Transport Pty Ltd.

Headway Traffic and Transport Pty Ltd does not accept any liability where assumptions have been made within this document. Assumptions will be clearly identified.

Headway Traffic and Transport excludes implied warranties and conditions, to the extent legally permissible.
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   6.1 Impact to Existing Network .............................................................................................. 10
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References

AS1742.3:2009 – Traffic Control for Works on Roads

AustRoads – Guide to Traffic Management Set

AustRoads – Guide to Temporary Traffic Management (DRAFT)

RMS – Traffic Control at Work Sites Manual


1 Authorisation

This Construction Traffic Management Plan (CTMP) is to be authorised by Department of Planning and Environment (DPE), Planning Secretary with a copy of the most recently approved CTMP to remain onsite and implemented.

All project personnel are to ensure that their work activities covered by this document and those of Project Consultants, Contractors and Suppliers are carried out in accordance with the requirements of this CTMP.

It is the responsibility of the Project Manager to obtain appropriate approvals required for the implementation of this CTMP.

2 Development

This document has been developed by Headway Traffic and Transport on behalf of Richard Crookes Constructions (RCC) to satisfy the requirements of DPE for the development of LOGOS Building 3 Hollinsworth Road, Marsden Park.

3 Scope of CTMP

This document identifies the current road conditions and impacts of the associated works. This document;

- does not detail the implementation, monitoring, auditing or removal of the traffic control devices, and
- does not substitute the requirement of government or third-party approvals.

Other documents relating specifically to the works may be referenced within this CTMP. These documents are held and managed by RCC. RCC’s Project Manager is responsible for maintaining, updating and issuing any revisions of these documents as required.

3.1 Feedback Received

The CTMP will be submitted to Blacktown Council for consultation and DPE for approval. If additional feedback is received from either authority to update the CTMP, it will be referenced within this section.
### 3.2 Specific Conditions Addressed

DPE specific conditions to be addressed are shown below. Note that the conditions below are an assumption based on DPE general conditions of consent for the preparation of a CTMP for a State Significant Development (SSD).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Comments &amp; Link to Specific Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 (a)</td>
<td>be prepared by a suitably qualified and experienced person(s); Table 1: Revision History</td>
</tr>
<tr>
<td>B1 (b)</td>
<td>be prepared in consultation with Council; 3.1 Feedback Received</td>
</tr>
<tr>
<td>B1 (c)</td>
<td>detail the measures that are to be implemented to ensure road safety and network efficiency during construction; 6 Construction Traffic Management 6.1 Impact to Existing Network</td>
</tr>
<tr>
<td>B1 (d)</td>
<td>detail heavy vehicle routes, access points and parking arrangements; 6.6 Vehicle Access</td>
</tr>
<tr>
<td>B1 (e)</td>
<td>include a Driver Code of Conduct to: Appendix C: Driver Code of Conduct (i) minimise the impacts of earthworks and construction on the local and regional road network; (i) 6 Construction Traffic Management (ii) minimise conflicts with other road users; (ii) 6.1 Impact to Existing Network (iii) minimise road traffic noise; and (iii) 6.6 Vehicle Access (iv) ensure truck drivers use specified routes; (iv) 6.6 Vehicle Access</td>
</tr>
<tr>
<td>B1 (f)</td>
<td>include a program to monitor the effectiveness of these measures; and Appendix D: Effectiveness of CTMP Measures</td>
</tr>
<tr>
<td>B1 (g)</td>
<td>if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes. 6.9 Community Notification</td>
</tr>
<tr>
<td>B2(a)</td>
<td>not commence construction until the Construction Traffic Management Plan required by condition B1 is approved by the Planning Secretary; and 1 Authorisation</td>
</tr>
<tr>
<td>B2(b)</td>
<td>implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction. 1 Authorisation</td>
</tr>
</tbody>
</table>

Table 3: Specific Consent Conditions Addressed
4 Project Details

4.1 Background

The development of LOGOS Building 3 Hollinsworth Road, Blacktown involves the construction of a warehouse, Building 3.

<table>
<thead>
<tr>
<th>Building 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse</td>
</tr>
<tr>
<td>Office</td>
</tr>
<tr>
<td>Parking</td>
</tr>
</tbody>
</table>

*Table 4: Building Footprint and Parking Supply Overview*

The site is currently level with minor site works required for the site establishment. The bulk of the construction activities are associated with the construction and fit out of the development. It is anticipated that the project will be completed within 29 weeks.

4.1.1 Location

Approximate location of development is shown below.

*Figure 1: Site Location - Source: Pace Architects Architectural Plans*
4.2 Project Timeframe

4.2.1 Proposed Schedule

The development is expected to commence once all documentation is finalised. For reference of the project duration, an expected timeline in weeks is shown below. Note that the stages of works overlap. For further details refer to CEMP.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Timeline Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1A: Earthworks and Ingrounds</td>
<td>9 weeks</td>
</tr>
<tr>
<td>Stage 1B: Structure</td>
<td>12 weeks</td>
</tr>
<tr>
<td>Stage 2: Balance of Works</td>
<td>19 weeks</td>
</tr>
<tr>
<td>Total timeframe</td>
<td>29 weeks</td>
</tr>
</tbody>
</table>

*Table 5: Proposed Schedule*

4.2.2 Approved Working Hours

Work will only occur during approved working hours. Assumed DPE approval working hours based on previous approvals are shown below for reference. Where construction activities are expected to occur outside of the above listed hours must do so in accordance with the conditions of consent.

<table>
<thead>
<tr>
<th>Days of the Week</th>
<th>Approved Working Hours</th>
<th>Hours of vehicle movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday - Friday</td>
<td>7am – 6pm</td>
<td>Vehicle movements are not expected to operate within the vicinity of the site until approved working hours</td>
</tr>
<tr>
<td>Saturday</td>
<td>8am – 1pm</td>
<td></td>
</tr>
<tr>
<td>Sunday and Public Holidays</td>
<td>No work permitted</td>
<td></td>
</tr>
</tbody>
</table>

*Table 6: Approved working hours*
5 Existing Traffic Network

5.1 Hollinsworth Road

Hollinsworth Road is a two-lane two-way road with parking available on the verge on both sides. Hollinsworth Road has been designed to facilitate vehicle movements up to B-Doubles. Access from all approaches into Hollinsworth Road is via the signalised intersection of Richmond Road and Hollinsworth Road.

Hollinsworth Road provides access to the Sydney Business Park and the Ingenia Lifestyle Stoney Creek retirement village. The retirement village is located opposite the proposed site.

5.1.1 Parking

Unrestricted on street parking is freely available within the precinct along the property boundaries of vacant or completed developments. On-street parking is not frequently used.

5.1.2 Cyclists

There are no signposted cycling routes. Upon entry into the precinct, shared footpath facilities have started being constructed. However, these end shortly into the precinct and are not yet suitable to be used. No other cycling facilities exist within the precinct.

5.1.3 Public Transport

The nearest public bus services (Service No. 742 & 757) operate to the intersection of Hollinsworth Road (Main Street, retirement village private road) and Daniels Road to service the retirement village.
6 Construction Traffic Management

All efforts have been made in the development project schedule to reduce the impact of the construction vehicles on the existing road network.

The site’s proximity to the Richmond Road provides access for vehicles to quickly disperse into the state road network. The nature of the commercial/industrial area of the Marsden Park Precinct facilitates easy access for large vehicles.

With recent development/completion neighbouring lots, the impact of construction vehicles will not have any noticeable impact to the local or state road network.

There will be minimal impact to other sites during construction.

6.1 Impact to Existing Network

6.1.1 Pedestrian Network

There are no footpaths within the precinct on Hollinsworth Road. As such, there is minimal demand by pedestrians and there is no expected impact to, or, conflict with pedestrians as part of the construction.

6.1.2 Bicycle Network

It is not expected that there will be any significant impact to cyclists as there are no off-street or on-street cycling facilities. Access to the site will be via dedicated vehicle access points.

As vehicle access will be restricted to a dedicated entrance/exit, any cyclists on Hollinsworth Road will be treated as a road user subject to the New South Wales Road Rules.

6.1.3 Public Transport

While buses service Hollinsworth Road, there will be no impact to bus stops. There will be minimal interaction between construction vehicles and buses in the normal road environment. This interaction will be minimal and have negligible impact. As bus services operate within 300m of the site, it is practical for workers to use this service. As such, workers will be encouraged to use public transport where possible.
6.1.4 Emergency Vehicles

There will be no impact to emergency vehicles on the existing road network. If an incident occurs within the site, measures to be taken are outlined in the project Emergency Management Plan (not found within this CTMP).

6.2 Vehicle Movements

6.2.1 Oversized or Special Loads

There has been no identified need for the movement of oversized or special loads. If required these movements will be appropriately managed with approval from the necessary authorities.

6.2.2 Vehicle Generation

The table below shows the maximum vehicle movements during the peak of each project phase.

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Range of Vehicles</th>
<th>Max Vehicle Movement</th>
<th>Hours</th>
<th>Largest Vehicle</th>
<th>Duration of each Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1A: Earthworks</td>
<td>Light Commercial Vehicle (LCV) &amp; Truck &amp; Dog (TD)</td>
<td>LCV - 2/hr TD - 2/hr</td>
<td>7am-9am TD - 2/hr</td>
<td>TD</td>
<td>9 weeks</td>
</tr>
<tr>
<td>and Ingrounds</td>
<td>LCV - 2/hr TD - 2/hr</td>
<td></td>
<td>4pm-6pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TD - 21/day</td>
<td>7am-6pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1B: Structure</td>
<td>LCV, Rigid Vehicle (RV) &amp; TD</td>
<td>LCV - 2/hr RV - 1/hr</td>
<td>7am-9am TD - 2/hr</td>
<td>TD</td>
<td>12 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4pm-6pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TD - 21/day</td>
<td>7am-6pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2: Balance of</td>
<td>LCV &amp; RV</td>
<td>LCV - 5/hr RV - 1/hr</td>
<td>7am-9am TD - 2/hr</td>
<td>RV</td>
<td>19 weeks</td>
</tr>
<tr>
<td>Works</td>
<td></td>
<td></td>
<td>4pm-6pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RV - 5/day</td>
<td>7am-6pm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
1) The longest vehicle used will be truck and dog heavy vehicle
2) LCV movements are only expected at beginning and end of day

*Table 7: Vehicle Generation*
6.3 Permits and Road Management Authority

No local council (work zone/permit to stand plant) or state (Road Occupancy License, Speed Zone Authorisation) permits have been identified as being required for this project. If a need arises, these permits will be obtained from the relevant authorities.

6.4 Road Cleaning

A street sweeper will be organised on a needs basis to clean any soil from Hollinsworth Road.

6.5 Traffic Management

6.5.1 Traffic Control Plans

Traffic Control Plans (TCP’s) are not required for this project. Where a need is identified for a TCP, it is to be added to Appendix A: Traffic Control Plans.

6.5.2 Pedestrian Management Plans

Pedestrian Management Plans (PMP’s) are not required for this project. Where a need is identified for a PMP, it is to be added to Appendix B: Pedestrian Management Plans.

6.5.3 Authorised Traffic Controllers

Daily traffic control controllers have not been deemed necessary on a continual basis for this project as vehicles have adequate access to the site and low pedestrian numbers are experienced adjacent to the site. In instances where traffic controllers are required for a specific basis, the project manager will obtain a TCP and apply for any appropriate permits from the relevant authority to occupy the roadway.

6.6 Vehicle Access

All vehicles will be required to use the following access route to minimise disruption and noise in the established areas. There are no turn restrictions for vehicle entering Hollinsworth Road via Richmond Road.

- Access: Richmond Road → Hollinsworth Road → Site
- Egress: Site → Hollinsworth Road → Richmond Road

Internal vehicle movements will be managed by RCC depending on the progress of construction.
The Hollinsworth Road extension next to site is now completed. Daniels Road is currently used for construction access only.
6.7 Parking

While parking is freely available on Distribution Drive, during construction, off-street parking will be provided for all workers.

6.7.1 Queuing

No vehicles will queue on public roads. The arrival times of heavy vehicles have been considered when developing the project plan to minimise vehicle movements and remove the necessity for vehicles to wait within the site unnecessarily.

6.8 Workers on Foot

There is no formed footpath within the industrial estate. Any workers who walk to site will be advised to use caution when walking to site and to not walk on the roadway.

Internal pedestrian movements are managed by RCC based on project progress.

6.9 Community Notification

At this stage there is no anticipated traffic related impacts to the community (namely, Ingenia Lifestyle Stoney Creek retirement village). If there is to be any change in relation to traffic related impacts to the community, the Project Manager will prepare an information sheet/letter to affected residents with the following minimum amount of information;

- Description and extent of impact,
- Provide a minimum of 2 weeks notice,
- Provide a contact number for affected residents to be able to obtain further information,
- Provide a site contact number.

Note that before any traffic changes occur, approval from the relevant authorities must be obtained.
Appendix A: Traffic Control Plans

No TCP’s are required for this project. Where a need is identified for a TCP, it is to be added to this Appendix.
Appendix B: Pedestrian Management Plans

No PMP’s are required for this project. Where a need is identified for a PMP, it is to be added to this Appendix.
Appendix C: Driver Code of Conduct
Conditions of Entry to Site for Construction Works on the LOGOS B3 Hollinsworth Road project.

(Refer to Site Overview Plan shown on Page 3)

1. The delivery and pick ups entry point is from the main entry off the access road cul-de-sac. All vehicles must enter site via the entry gate before stopping at the designated delivery area.

2. Under no circumstance are vehicles to stop, park, load/unload on Hollinsworth Road.

3. All vehicles must minimise noise (such as compression braking) on Hollinsworth Road, particularly adjacent to the site and within the vicinity of the retirement village.

4. Drivers to stop at designated delivery area and sign in on register in the site compound. Drivers are to organize to meet Subcontractor before driving on to site.

5. You must wear a Hard Hat, Hi visibility vest and steel cap boots at all times when on site.

6. Follow site 10km speed limit and watch out for any plant and pedestrian movements. Before commencing unloading/loading, check your immediate surroundings for danger. Do not put your self or others at risk with your activities.

7. Drivers must stay in the vicinity of his/her vehicle whilst unloading, if you are accompanied by others who have no need to be involved in the work activity, they are to stay in the vehicle at all times.

8. If you need to go elsewhere such as the toilet or lunch rooms etc., you must ensure that your vehicle is in a safe condition to be left unattended, i.e. the engine is shut down, park brake is on and the keys are removed from the ignition.

9. In the event of an emergency an ALARM will sound. When you hear the alarm, go directly to the evacuation assembly area. Do not attempt to remove your vehicle from site as this may interfere with the orderly evacuation of personnel. When it is safe to do so, RCC personnel will release you to remove your vehicle.

10. All vehicles leaving site must have their loads covered and must not track dirt/mud on to Hollinsworth Road.

11. Site vehicles to Enter and Exit site in a forward facing direction only via the signposted Entry and Exit gates – Turning circle in place to eliminate reversing alarm noise generated by vehicles.

12. Site vehicles to give way to existing traffic along the Hollinsworth Road when exiting site.
13. Trucks are not to be permitted to park on hardstand overnight.

14. No Truck or Vehicle Maintenance is to be undertaken or occur onsite.

**Hours of Work**

Access to and from site are limited by the following hours:

- **Monday – Friday:** 0700 to 1800 (7:00am to 6:00pm);
- **Saturday:** 0800 to 1300 (8:00am to 1:00pm);
- **Sunday:** Site Closed.

I have read the attached site induction. I fully understand its contents and agree to comply with the on site requirements.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Registration</th>
<th>Signature</th>
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<tbody>
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</tr>
</tbody>
</table>
Access: Richmond Road → Hollinsworth Road → into site

Egress: Site → Hollinsworth Road → Richmond Road
## Appendix D: Effectiveness of CTMP Measures

The following is to be completed monthly or upon the identification of traffic related issues.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No Answer</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have there been any identified traffic related issues? (i.e. conflict with pedestrians, cyclists or other road users).</td>
<td></td>
<td>Specify issue and location.</td>
</tr>
<tr>
<td>Can this be rectified by notifying workers during a toolbox or similar?</td>
<td></td>
<td>Schedule for next toolbox.</td>
</tr>
<tr>
<td>Can this be rectified by other means?</td>
<td></td>
<td>Specify action taken.</td>
</tr>
<tr>
<td>If No – Contact Headway Traffic and Transport.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are vehicles queuing on Hollinsworth Road while waiting for access into the site?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If Yes – Can vehicle scheduling be amended?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If scheduling cannot be amended contact Headway Traffic and Transport. Traffic Control may be required to manage site access.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is Hollinsworth Road clean and free of soil or other construction related material?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If No - Order street sweeper.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Completed By:**

**Date:**
Appendix E: Email Correspondence

Email correspondence from relevant authorities will be added to this Appendix.
APPENDIX D

Construction Waste Management Plan
LOGOS Building 3

CONSTRUCTION WASTE MANAGEMENT PLAN

28/08/2020
## Contents

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2. **RCC Objectives and Targets** .................................................................................. 4  
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# Revision

<table>
<thead>
<tr>
<th>Rev Date</th>
<th>Revision Description</th>
<th>PM’s Initials (i.e. acceptance of changes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28/08/2020</td>
<td>Original Issues</td>
<td></td>
</tr>
</tbody>
</table>


1 Introduction

This Construction Waste Management Plan forms part of the Project Management Plan for Project LOGOS Building 2a & 2b

1.1 Purpose of the Plan

Richard Crookes Constructions (RCC) recognises the importance of promoting building design and construction techniques which minimise waste and provides an efficient recycle procedure for all waste material.

The purpose of this plan is to outline processes for:

- Objectives and Targets;
- Operational Controls;
- Recording, Monitoring Corrective Action; and,
- Reporting.

2 RCC Objectives and Targets

RCC’s overall objective is to achieve a minimum of (80%) for recycled waste (by weight) generated by the Project.

The Operational Controls implemented to achieve this include:

<table>
<thead>
<tr>
<th>Operational Controls</th>
<th>Method of Recording</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Hazardous substance survey</td>
</tr>
<tr>
<td></td>
<td>Waste Records</td>
</tr>
<tr>
<td></td>
<td>Inductions</td>
</tr>
<tr>
<td>Identify any hazardous and toxic materials (e.g. asbestos) and comply with WorkCover requirements.</td>
<td></td>
</tr>
<tr>
<td>Develop project Waste Management Plan</td>
<td></td>
</tr>
<tr>
<td>Try not to over-order on materials (initial waste avoidance).</td>
<td></td>
</tr>
<tr>
<td>Communicate housekeeping &amp; litter reduction rules with subcontractors during contract letting and site inductions.</td>
<td></td>
</tr>
<tr>
<td>Implement the waste hierarchy – avoid, reuse, recycle and lastly disposal to landfill.</td>
<td></td>
</tr>
<tr>
<td>Operational Controls</td>
<td>Method of Recording</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------</td>
</tr>
</tbody>
</table>
| Demolition Plan       | Demolition disposal for concrete, bricks, plasterboard, timber, tiles, PVC, metal, paper & cardboard, glass, appliance, carpet, vegetation, soil – to Recycled Facility  
Asbestos ACM to be removed by a licenced contractor (up to 30 June 2007 >200m2, 1 July 2007 > 50m3, from 1 Jan 2008 > 10m2 of bonded asbestos) & managed in accordance with WHS Act & Regulation 2012 and EPA requirements.  
Lead paints & dusts will be removed using wet sanding and vacuum techniques (cleaners which comply with AS/NZS 3544 Industrial vacuum cleaners for particulates hazardous to health). Waste will be contained within sealed plastic bags for disposal. Clean up with a wet mop. | Monthly Waste Report  
Disposal dockets |
| Consider recycling reprocessing | Where practicable:  
Timber for reuse or mulching  
Aluminium wall frames – reprocess  
Plasterboard – recycled or use as soil improvers  
Steel – reprocess  
Toughened Glass – reprocess  
Carpet & underlay – reprocess & mulch mats | Monthly Waste Report |
| Product Stewardship | Investigate returning waste to the supplier? (e.g. plasterboard, packaging) | Contract/Supply agreem’ts |
| Putrescibles Waste | Putrescible waste is to be contained in bins and collected by licenced contractor for disposal | Invoices |
Test Reports  
Waste Records  
Disposal Dockets |
| Virgin Excavated Natural Materials (VEMN) | VENM excavated from site with suitable compaction qualities will be beneficially re-used on other construction sites whenever possible.  
Disposal to landfill will be the last option.  
No fill will be received on site that does not comply with EPA guidelines i.e. Contamination limits appropriate to the development. | Test Reports  
Waste Records  
Disposal Dockets |
| Acid Sulphate Soils (ASS) | Potential for acid sulphate soils ASS will be assessed based on the sites proximity to low-lying coastal areas e.g. coastal plains, wetlands and mangroves where the surface elevation is less than five metres above mean sea level.  
If suspected, consultant to prepare Acid Sulphate Soil Management Plan (ASSMP). | ASSMP  
Test Reports  
Product delivery (lime) dockets  
Site Plans |
### Operational Controls

<table>
<thead>
<tr>
<th>Method of Recording</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation and neutralisation to be supervised by consultants as per ASSMP.</td>
</tr>
</tbody>
</table>
| Bin(s) with heavy lids shall be provided for putrescibles waste
  Daily inspections shall be carried out to ensure the worksite is litter free. |
| Waste reports/management plans indicate estimated waste min (80%) of accumulated totals for the project. |
| Generation of water pollution and/or air pollution from onsite waste storage
  Inappropriate/illegal off-site disposal of waste materials
  Asbestos & CCA treated timber contamination of recoverable waste stream thereby requiring landfill disposal. |
| No specific requirements associated with waste management
  Scenarios such as spill, fires, explosions covered by the project emergency response plans. |

### Non-Compliance

- Generation of water pollution and/or air pollution from onsite waste storage
- Inappropriate/illegal off-site disposal of waste materials
- Asbestos & CCA treated timber contamination of recoverable waste stream thereby requiring landfill disposal.

### Emergency Response

No specific requirements associated with waste management.

### 2.1 Estimated Waste Quantities: Use This to Estimate the Waste Quantities


<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Conversion Factor</th>
<th>Demolition (t)</th>
<th>Construction (t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavated Material</td>
<td>1.8 t/m²</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Concrete</td>
<td>2.4 t/m²</td>
<td>448</td>
<td>2.27</td>
</tr>
<tr>
<td>Bricks</td>
<td>1.9 t/m²</td>
<td>655</td>
<td>655</td>
</tr>
<tr>
<td>Timber Gypsum</td>
<td>Timber 0.5 t/m²</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Gypsum: 0.75 t/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel</td>
<td>2.4 t/m³</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Roof Tiles</td>
<td>0.7 t/m³</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Other – vegetation,</td>
<td>0.65 t/m³</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>cardboard, plastic</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Factory (per 1000 m²)

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Conversion (t to m³)</th>
<th>Demolition (t)</th>
<th>Construction (t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavated Material</td>
<td>1.8 t/m³</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Concrete</td>
<td>2.4 t/m³</td>
<td>4.85</td>
<td>18.90</td>
</tr>
<tr>
<td>Bricks</td>
<td>1.9 t/m³</td>
<td>124</td>
<td>8.50</td>
</tr>
<tr>
<td>Timber Gypsum</td>
<td>Timber 0.5 t/m³</td>
<td>20</td>
<td>8.60</td>
</tr>
<tr>
<td>Gypsum: 0.75 t/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Reporting

**Greenstar:**

The Project Green Star Administrator will be responsible for collecting monthly waste reports (Form 18.1) or utilising the waste subcontractor reporting format.
and issuing them to the Project Manager and Client Representative. These reports will measure the weight of waste generated of material by classification, total weight of waste, percentage by weight recycled and percentage by weight to landfill.

**General waste reporting:**

Nominated member of the project team will be responsible for collecting monthly waste reports and issuing them to the Project Manager and Client Representative. These reports will measure the weight of waste generated of material by classification, total weight of waste, percentage by weight recycled and percentage by weight to landfill.

4 Estimated Quantities

The Waste management plan - Construction chart (Form 18.2b) is an estimate of the core waste streams that will be removed from the LOGOS Building 2a & 2b. Project waste to be removed will be assessed for the Reuse & recycling content and the Disposal to landfill.
APPENDIX E

Community Consultation and Complaints Handling Plan
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5 Balancing Community Expectation and RCC Obligations ............................................................. 6
6 Consultation and Strategy/Our Approach to Dialogue ................................................................. 7
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  6.2 Ways to Consult .......................................................................................................................... 7
  6.3 Letter Box Drops and Public Notices ......................................................................................... 8
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## Revision

<table>
<thead>
<tr>
<th>Rev Date</th>
<th>Revision Description</th>
<th>PM’s Initials (acceptance of changes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28/08/2020</td>
<td>Original Issues</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>
1 Introduction

This Community Consultation and Engagement Plan forms part of the Project Management Plan for

1.1 Purpose of the Plan

Richard Crookes Constructions (RCC) recognises the importance of trust in relationship building with stakeholders involved with the project. Consequently, being accountable is paramount and we seek to be transparent with our communications and documentation.

Further, in line with our company commitment to continual improvement, we constantly aim for a greater level of engagement and interaction with stakeholders, particularly when our project activities may impact on the communities in which we operate.

The purpose of this plan is to outline processes for:

- Achieving our Objectives and Targets;
- Consultation Strategies;
- Identification of Stakeholders;
- Responsibilities for Implementing the Plan; and
- Stakeholder Grievances and Concerns.

2 RCC Objectives and Targets

RCC’s overall objective is to promote an open communications environment that will minimise disruptions and issues for both the project team and the community.

To support this, and in line with commitments made in RCC’s Environmental Policy, project level objectives and targets include:

- Community complaints are to be actioned within 24 hours;
- No repeat complaints for the same issue.

3 Description of the Project

3.1 General

A total of 26,175m² of warehouse with associated office of 1000m², hardstand and landscaping. Total Site Area 47,195m²
3.2 Hours of Operation
The Development Consent hours of operation for the construction project are:

Monday to Friday 7:00am to 6:00pm and Saturday 8:00am to 1:00pm

3.3 Proposed Timeframes
The table below provides an overview of the construction activities and the timeframe for the works.

<table>
<thead>
<tr>
<th>Construction Activities -</th>
<th>Activity</th>
<th>Methodology</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site set up including environmental controls</td>
<td>Perimeter fencing / sediment controls / site</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>hoardings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bulk earthworks &amp; spoil removal</td>
<td>Site clearance/strip top soil/filling/proof roll &amp; trim</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In ground services</td>
<td>Civil (stormwater) / Electrical / Mechanical /</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hydraulic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Footings, foundations &amp; anchors</td>
<td>Footings to Warehouse (including offices)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BDR Building Delivery and Installation</td>
<td>Structural Steel / Precast / Roof &amp; Wall Cladding / High level services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fit-out of final finishes &amp; furniture</td>
<td>Fit-out to amenities and offices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>External works incl. pavements, landscaping</td>
<td>External hardstand, carpark and landscaping</td>
<td></td>
</tr>
</tbody>
</table>

4 Site Management Contact Details
Key contact details are provided below:

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Phone (W)</th>
<th>Phone (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Claude Concha</td>
<td>9902 4700</td>
<td>0434 077 660</td>
</tr>
<tr>
<td>Manager</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager</td>
<td>Ben Kilby</td>
<td>9902 4700</td>
<td>0409 684 119</td>
</tr>
</tbody>
</table>
5 Balancing Community Expectation and RCC Obligations

Balanced community engagement involves both a commitment from RCC and an expectation from the community, as summarised below.

<table>
<thead>
<tr>
<th>Community Expectation</th>
<th>Inform</th>
<th>Consult</th>
<th>Involve</th>
<th>Collaborate</th>
</tr>
</thead>
<tbody>
<tr>
<td>To get balanced and objective information about aspects of the project that impact on us</td>
<td>To be asked our opinions and allow us to provide feedback to the company on the matters that concern us</td>
<td>To be involved in the decision making process and the exploration of alternatives regarding those issues that are of concern to us</td>
<td>To create a partnership with us whereby we have faith that our concerns and ideas are integrated into the decision making process</td>
<td></td>
</tr>
<tr>
<td>RCC Obligation</td>
<td>We will keep the community well informed</td>
<td>We will listen and acknowledge community concerns and provide evidence that concerns are considered in decision making</td>
<td>We will work with the community to make sure concerns and issues are reflected in any alternatives developed. Provide feedback to the</td>
<td>We will look to the community for advice and innovation in solving issues and concerns and incorporate their advice into the decision making process to the</td>
</tr>
</tbody>
</table>
6 Consultation and Strategy/Our Approach to Dialogue

6.1 General

Community consultation can be involving, meaningful, useful and effective if the following principles are used as a starting point for making consultation work:

- Making it timely: participation should not be so late in the process of an issue that it is tokenistic or merely confirms decisions already made. Give people enough time to express their views.
- Making it inclusive: Participation should be selected in a way that is not open to manipulation, and should include a cross section of the participation.
- Making it community focused: Ask participants not what they personally want but what is appropriate in their role as a citizen.
- Making it interactive: avoid reducing questions to a simplistic response. Allow consideration of the big picture so people can readily become engaged.
- Making it effective: Although decision making can strive for consensus, complete agreement may not be the outcome. Be clear on how the decisions will be made so participants understand the impact of their involvement. Allow enough time for participants to become familiar with the project issues.
- Making it Matter: it is important that a strong likelihood that any recommendations that emerge from the consultative process will be accepted. If they are not, it is important that a public explanation is provided.

6.2 Ways to Consult

Different community stakeholder groups need different consultation methods at different stages of the project. Some of the processes that may be used are listed below.

<table>
<thead>
<tr>
<th>Inform</th>
<th>Consult</th>
<th>Involve</th>
<th>Collaborate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>community on how their inputs has influenced outcomes</td>
<td>maximum extent possible.</td>
</tr>
<tr>
<td>Consultation Method</td>
<td>Inform</td>
<td>Consult</td>
<td>Involve</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Tools</td>
<td>Fact Sheet / flyers Website Project Open days Briefings 24 hrs. contact points Media Direct personal visits Project inductions</td>
<td>Public submissions Focus groups Public meetings Surveys</td>
<td>Community liaison groups Workshops Submissions Community projects / sponsorship Local suppliers preference policy</td>
</tr>
</tbody>
</table>

Appendix 1 identifies how these methods will be employed specifically to this project.

### 6.3 Letter Box Drops and Public Notices

Letter box drops or public notices will include at least the following:

- Why the works are required;
- When they will occur;
- What mitigation measures are in place to minimise any community or environmental impacts;
- Who will be doing the work and a contact phone number for further information; and
- Emergency Contact number / community complaints line.

### 6.4 Communication Protocols

The protocols for establishing and continuing community consultation for this project include:

- Communicating clearly;
- Including 3 or 4 main messages, and repeat them in different ways;
- Ensuring information is structured around the same messages i.e. Consistency;
- Ensuring project staff are clear about main messages, so stakeholders receive consistent messages;
- Providing information promptly;
- Establishing timelines and lines of communication: for this project a 2 day response time to deal with community concerns has been determined;
- Making the information accessible to all interested parties; and
7 Identification of Stakeholders for this Project

7.1 General

Key stakeholders are generally identified as people who are adversely or positively impacted by our operations, those who have an interest in / influence on what we do.

Our project sites are required to identify their key stakeholders and consider their expectations and concerns during design (where achievable) and operational activities.

These projects key stakeholders are many and varied and may include:

- RCC’s Employees Client and end users, subcontractors, and suppliers;
- Local and Indigenous communities;
- Customers;
- Surrounding property occupiers or owners;
- Community organisations that represent local and indigenous communities near our projects, particularly in regional NSW;
- Unions who are concerned about upholding workers’ rights and interests; and
- Governments – local & state;
- The media; and
- Industry associations.

Within these groups, there are stakeholders that may be interested in specific issues or affected by a range of issues.

7.2 Community Consultation Planning

Appendix 1 summarises the Community and Stakeholders Mapping Guide and overall consultation strategy planned for this project.

7.3 Stakeholders Identified for this Project & Consultation Strategies

For this project, business, residential and other stakeholders that may be specifically impacted by project works and the corresponding consultation strategy have been listed in the table below:
<table>
<thead>
<tr>
<th>Precinct</th>
<th>Impacts</th>
<th>Consultation Strategy</th>
</tr>
</thead>
</table>
| Businesses    | During Construction: extra traffic (concrete trucks) | A construction update advising of progress of current works and advice of commencement of soft ground works will be issue in advance of works commencing  
Person consultation – a visit will be made to update progress on works and inform businesses of upcoming works  
Community Liaison Group (CLG) – monthly meetings  
Ongoing communication with the Client, Property managers and business tenants via regular email flyers and project updates.  
The agreed complaint handling procedures will be implemented |
<table>
<thead>
<tr>
<th>Precinct</th>
<th>Impacts</th>
<th>Consultation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents</td>
<td>During Construction: Noise, Traffic, Dust</td>
<td>Prior to works starting, notification and consultation will be undertaken with the identified key sensitive receivers. A presentation was made to the July meeting of the Chatswood North CLG. Personal consultation will be undertaken with identified sensitive receivers to make them aware of works, and the potential issues such as concrete trucks utilising site on a 10 hour basis including Saturdays, rock hammering etc. Personal consultation will be undertaken with the residents potentially impacted by regenerated noise and vibration The agreed complaint handling procedures will be implemented</td>
</tr>
<tr>
<td>Employees &amp; Subcontractors</td>
<td>WHS concerns Career progression &amp; learning opportunities For those who live in regional communities where our projects are based – interactions out of work hours, business creation during the life of the project, supporting social infrastructure</td>
<td>Both the Head Office at Naremburn and project sites, employees and contractors are expected to participate in company improvements, via: Safety committees Performance appraisals Direct communications between employees &amp; management Newsletters &amp; alerts Intranet Monthly reporting &amp; corporate reports IT helpdesk</td>
</tr>
<tr>
<td>Precinct</td>
<td>Impacts</td>
<td>Consultation Strategy</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Local & Indigenous Communities | Disengagement of local & indigenous communities with the project  
Non-fulfilment of GC21 Contract obligations contained in Aboriginal Participation Plans  
Miss-alignment of RCC’s policies and the NSW Government’s commitment to creating outcomes (training, employment, enterprise development) for Aboriginal people, as referred to in the Making It Our Business Strategy and procurement in construction policy.  
Potential to affirm and respect indigenous and other heritage & cultural values | Development of Aboriginal Participation Plans to involve the indigenous community  
Community consultation groups  
Newsletters and other targeted communications  
Monthly reporting & corporate reports  
Community perception surveys                                                                 |
| Suppliers                      | Suppliers and subcontractors not aware of RCCs expectations  
Impacts of RCC’s payment terms and conditions on suppliers and subcontractors                                                                 | Technology exchanges  
Identification of risks associated with their activities and implementation of controls  
Seek to utilise local suppliers and support these suppliers                                                                 |
| Community Organisations        | Assurance that potential impacts (social, environmental, safety etc.) have been considered during RCC’s projects and mitigated  
RCC’s community interactions and support are mutually beneficial and sustainable                                                                 | Community consultation and engagement groups  
Support local sporting and other groups  
Corporate programs                                                                                                                                   |
| Unions                         | Freedom of our employees to choose to join labour unions                                                                                           | Communicate with unions on specific issues, RCC’s CBA etc.                                               |
### Stakeholders and Consultation Strategies

<table>
<thead>
<tr>
<th>Precinct</th>
<th>Impacts</th>
<th>Consultation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulators</td>
<td>Government has mechanisms of regulation that cover a range of aspects within RCC including industrial, safety, environment</td>
<td>RCC’s activities required to work within legislative frameworks and local and state levels Meetings with Council, BCA consultant with respect to planning and design issues Onsite meetings with Local Council, DECC, WorkCover, ABCC to ensure RCC works complying with legislation, minimising impacts to stakeholders, minimising industrial relations conflicts etc.</td>
</tr>
</tbody>
</table>

### 7.4 Indigenous Stakeholders

RCC recognises and respects the importance of Indigenous peoples’ culture, heritage and traditional rights and supports the identification, recording, management and protection of indigenous cultural heritage sites.

Indigenous cultural heritage is broadly defined to include matters that are significant to either Indigenous peoples or under legislation, such as dreaming, ceremonial, sacred and burial sites; archaeological sites where evidence of the past occupation and use by Indigenous peoples can be found; more contemporary historic sites; and traditional knowledge.

We recognise that Indigenous peoples have a vital role to play in identifying and properly managing cultural heritage, especially where it could be affected by our activities.

Where identified by the planning process, projects will undertake early consultations and assessments with Indigenous peoples to ascertain whether our proposed activities are likely to impact cultural heritage values and, in conjunction with Indigenous peoples and relevant authorities, determine how best to plan and undertake those activities to avoid or minimise such impacts.

RCC also actively seeks to utilise traditional knowledge in the development of site-based practices such as environmental management plans (refer Section 4 and Appendix 1 of the Project Management Plan).

### 7.5 Aboriginal Participation Plan

Aboriginal Participation Plans will be developed for a project in accordance with the Contract requirements or where there is a significant
potential to benefit the local community in line with the NSW Government’s policies (see Appendix 1 of the Project Management Plan).

8 Responsibility for Implementing the Plan

The Project Manager is responsible for developing and implementing the Community Consultation and Engagement Plan for this project. Where required, specialist consultants will be engaged.

9 Stakeholder Grievances and Concerns

Project sites are required to maintain a register of concerns, complaints and relevant external communications.

Concerns and complaints are to be investigated as incidents, using RCC’s standard investigation processes (Form 01.1), and outcomes and actions are reported back to relevant stakeholders.

10 Is the Plan Effective?

Monitoring public opinion and complaints will identify how successful the project Community Consultation and Engagement Plan is:

- If issues can be resolved by consultation and collaboration, then the program is successful.
- If issues are escalating and resolution is improbable, the program is to working.

A regular review process during the project is also a central requirement of stakeholder identification, to ensure that all appropriate groups and individuals are effectively identified and suitably engaged.

11 Resources


Landcom Booklet Stakeholder Consultation Workbook (available on internet)
## Appendix 1 – Stakeholder Table

<table>
<thead>
<tr>
<th>Community Stakeholder Mapping Guide</th>
<th>Does the stakeholder have / require?</th>
<th>Implementation Requirements</th>
<th>Affected / Level of Impact</th>
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<tbody>
<tr>
<td></td>
<td>Information Needs</td>
<td>Expertise / Knowledge</td>
<td>Regulation</td>
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<td>Client</td>
<td>Operations</td>
<td></td>
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</tr>
<tr>
<td>EPA</td>
<td>Environment</td>
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<td>Safety</td>
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</tr>
<tr>
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<tr>
<td>Union</td>
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<td>Stakeholder</td>
<td>Level of Impact</td>
<td>Consultation Strategy</td>
<td></td>
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<tr>
<td>-----------------------</td>
<td>-----------------</td>
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<tr>
<td>Union</td>
<td></td>
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</tbody>
</table>

Step 1:
Rank why a particular group is a stakeholder for this project i.e. is their interest low, medium, high?

1 = low
2 = medium
3 = high

Step 2:
✓ Indicate Consultation Strategy employed
Details provided in Section 7.0.
APPENDIX F

RCC Environmental and Sustainability Policies
ENVIRONMENTAL POLICY

Richard Crookes Constructions Pty Limited promotes and encourages a sustainable environment throughout our business activities and sources our supplies and services in ways that prevent pollution and promote compliance with legal and other requirements.

The company implements Environmental Management System to aid us in meeting our corporate responsibilities. The System is certified by Global-Mark as meeting the requirements of AS/NZS ISO 14001:2015 Environmental Management Systems.

These form part of the company’s Project Management Plans and are supported by company procedures and guidelines.

Management intends that all employees of our company, relevant subcontractors and suppliers, are made aware of their environmental responsibilities and the environmental impacts associated with their activities, products and services.

Our company objectives for continual improvement in environmental management include:

- Reducing the number of environmental notices issued on the projects by implementing a program of inductions, training and monitoring.
- Minimising the impacts to the community through the development of project specific Environmental, Traffic management plans, stakeholder consultation plans and by timely and appropriate response to complaints.
- Minimising impacts on the environment using dust, soil and water, waste and chemical management practices that are regularly inspected and maintained.
- Achieve a waste minimisation figure of 85% through monthly reporting

The Continual improvement of the project environmental management plans and progress with achieving the company’s objectives will be reviewed during management meetings, project reviews and following the results of internal and external audits.

The Policy will be made available to the public and interested parties on request. This Policy will be reviewed every two years.

Jamie Crookes
Managing Director
26th February 2018
SUSTAINABILITY
POLICY

Richard Crookes Constructions Pty Limited (RCC), is committed to promoting and improving our sustainable business practices that impact on our business activities, the environment, our clients and partners.

Our Sustainability Policy is based on the following principals:

• To integrate sustainable practices and considerations into all of our business decisions.
• To make our employees aware of our sustainable and environmental obligations and reduce the impact through training and feedback.
• To comply with all applicable legislation, regulations and codes of practice.
• Continually strive to improve our sustainability performance.
• Communicate to our clients, contractors and suppliers of our commitment to adopt sound sustainable management practices.
• To review and continually improve our sustainability performance.

We are committed to play a proactive role in our business, community and the environment where we have influence, and will actively source transparency and accountability in our sustainability performance.

This Policy will be reviewed every two years.

Jamie Crookes
Managing Director
26th February 2018
APPENDIX G

Construction Program
<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
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</tr>
<tr>
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<td>5 days</td>
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<td>106</td>
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<td>113</td>
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<td>WALL CLADDING</td>
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<td>20 days</td>
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<tr>
<td>118</td>
<td>GRID 16-21 - HL Services</td>
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<td>Fri 21/12/20</td>
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<td>Fri 21/12/20</td>
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<td>5 days</td>
<td>Fri 21/12/20</td>
<td>Fri 21/12/20</td>
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</tbody>
</table>

**Critical Milestone**

- Footings Complete: 27 Oct 20
- Inground Services complete: 26 Oct 20
- Primary Steel Complete: 2 Nov 20
- Precast Panels Complete: 5 Nov 20
- Secondary Steel Complete: 17 Nov 20
- Roof Mesh, Gutters, Drainage Complete: 24 Nov 20
- Roof Sheeting Complete: 22 Dec 20
- Wall Cladding Complete: 21 Jan 21

**Client Tasks**

- Start Wall Cladding 2w before Roof Sheeting Finishes: 7 Dec 20
- Start after Grid Roof Mesh is installed: 27 Nov 20

**Client Milestones**

- High Level Services: 3
- Wall Cladding Complete: 3

**Revision:** Logos Building 3 22JUN20 Rev F.2 (H&M Tenant).mmp

**Print Date:** Mon 22/06/20

**Planner:** Andrew Ong

**Reviewer:** Claude Concha
<table>
<thead>
<tr>
<th>ID</th>
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<th>Duration</th>
<th>Start</th>
<th>Finish</th>
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<td>132</td>
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<td>Ground Slab Pour - P19</td>
<td>1 day</td>
<td>Mon 20/01/21</td>
<td>Mon 20/01/21</td>
</tr>
<tr>
<td>153</td>
<td>Ground Slab Pour - P20</td>
<td>1 day</td>
<td>Mon 23/01/21</td>
<td>Mon 23/01/21</td>
</tr>
<tr>
<td>154</td>
<td>Ground Slab Pour - P21</td>
<td>1 day</td>
<td>Fri 20/12/20</td>
<td>Fri 20/12/20</td>
</tr>
<tr>
<td>155</td>
<td>Ground Slab Pour - P22</td>
<td>1 day</td>
<td>Mon 29/01/21</td>
<td>Mon 29/01/21</td>
</tr>
<tr>
<td>156</td>
<td>Ground Slab Pour - P23</td>
<td>1 day</td>
<td>Fri 26/12/20</td>
<td>Fri 26/12/20</td>
</tr>
<tr>
<td>157</td>
<td>Ground Slab Pour - P24</td>
<td>1 day</td>
<td>Wed 28/01/21</td>
<td>Wed 28/01/21</td>
</tr>
<tr>
<td>158</td>
<td>Ground Slab Pour - P25</td>
<td>1 day</td>
<td>Fri 29/01/21</td>
<td>Fri 29/01/21</td>
</tr>
<tr>
<td>159</td>
<td>Ground Slab Pour - P26</td>
<td>1 day</td>
<td>Wed 27/01/21</td>
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<tr>
<td>160</td>
<td>Ground Slab Pour - P27</td>
<td>1 day</td>
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<tr>
<td>161</td>
<td>Internal Ground Slab Complete</td>
<td>7 days</td>
<td>Wed 24/12/20</td>
<td>Wed 31/12/20</td>
</tr>
<tr>
<td>162</td>
<td>MAIN SWITCHBOARD / GENERATOR / COMMS</td>
<td>10 days</td>
<td>Thu 24/12/20</td>
<td>Thu 04/01/21</td>
</tr>
<tr>
<td>163</td>
<td>OFFICE - GROUND FLOOR SLAB</td>
<td>10 days</td>
<td>Thu 24/12/20</td>
<td>Thu 04/01/21</td>
</tr>
<tr>
<td>164</td>
<td>OFFICE - LEVEL 1 SLAB</td>
<td>10 days</td>
<td>Thu 24/12/20</td>
<td>Thu 04/01/21</td>
</tr>
<tr>
<td>165</td>
<td>OFFICE - ROOF STRUCTURAL STEEL</td>
<td>10 days</td>
<td>Thu 24/12/20</td>
<td>Thu 04/01/21</td>
</tr>
<tr>
<td>166</td>
<td>SERVICES</td>
<td>2 days</td>
<td>Fri 24/12/20</td>
<td>Fri 26/12/20</td>
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<tr>
<td>167</td>
<td>START TIGHTENING, LARGE TASKS &amp; PUMP ROOM after High Level Services Complete 16 Dec '20</td>
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<tr>
<td>168</td>
<td>Conduit Fittings</td>
<td>3 days</td>
<td>Mon 25/01/21</td>
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<tr>
<td>169</td>
<td>Electric Roof Welds</td>
<td>3 days</td>
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<tr>
<td>170</td>
<td>Electric Roof Welds</td>
<td>3 days</td>
<td>Mon 25/01/21</td>
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<tr>
<td>171</td>
<td>FRP Base Slabs (incl. Slabs under Holding Tanks)</td>
<td>3 days</td>
<td>Fri 22/12/20</td>
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<tr>
<td>172</td>
<td>Building Work to Pump House</td>
<td>1 day</td>
<td>Wed 28/12/20</td>
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<tr>
<td>173</td>
<td>Holding Tanks - Location</td>
<td>1 day</td>
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<tr>
<td>174</td>
<td>Holding tanks - Location</td>
<td>1 day</td>
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<tr>
<td>175</td>
<td>Fire Services F/H / factory &amp; Commservice</td>
<td>3 days</td>
<td>Wed 29/12/20</td>
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<tr>
<td>176</td>
<td>Holding tanks &amp; Pump station Complete</td>
<td>1 day</td>
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<tr>
<td>177</td>
<td>BUILDING 3 OFFICE</td>
<td>3 days</td>
<td>Fri 24/12/20</td>
<td>Fri 26/12/20</td>
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<tr>
<td>178</td>
<td>Start Office Ground Slab after Precast Panel Erection for Office Erection 30 Oct '20</td>
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<td>179</td>
<td>OFFICE - GROUND FLOOR SLAB</td>
<td>12 days</td>
<td>Fri 24/12/20</td>
<td>Fri 01/01/21</td>
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<tr>
<td>180</td>
<td>OFFICE - LEVEL 1 SLAB</td>
<td>4 days</td>
<td>Fri 24/12/20</td>
<td>Fri 27/12/20</td>
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<tr>
<td>181</td>
<td>FRP Strip &amp; Fastenings</td>
<td>4 days</td>
<td>Fri 24/12/20</td>
<td>Fri 27/12/20</td>
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<tr>
<td>182</td>
<td>Hybrid drainage &amp; services</td>
<td>4 days</td>
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<td>183</td>
<td>Lay / Compact Concrete, subsurface / fingering / Membrane</td>
<td>7 days</td>
<td>Fri 24/12/20</td>
<td>Fri 27/12/20</td>
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<td>184</td>
<td>FRP strip on ground</td>
<td>2 days</td>
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<td>Fri 27/12/20</td>
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<tr>
<td>185</td>
<td>Office - Roof Structural Steel</td>
<td>10 days</td>
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<td>Fri 01/01/21</td>
</tr>
<tr>
<td>186</td>
<td>Office - Roof Structural Steel</td>
<td>10 days</td>
<td>Fri 24/12/20</td>
<td>Fri 01/01/21</td>
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<tr>
<td>187</td>
<td>Office - Primary Steel Framing (Coln / Halfer / Beams / Bracing) 5 Jan '21</td>
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<td>Name</td>
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<td>Finish</td>
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<tr>
<td>196</td>
<td>Erect Secondary Structural Steel (Girts / Purlins / Plant Platforms)</td>
<td>4 days</td>
<td>Tue 8/12/20</td>
<td>Fri 11/12/20</td>
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<tr>
<td>197</td>
<td>OFFICE - ROOFING</td>
<td>11 days</td>
<td>Mon 16/12/20</td>
<td>Mon 5/1/21</td>
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<tr>
<td>198</td>
<td>Install Safety Mesh / Gutters / Drainage</td>
<td>2 days</td>
<td>Mon 16/12/20</td>
<td>Tue 10/12/20</td>
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<tr>
<td>199</td>
<td>Insulation &amp; Metal Deck Roof Beading</td>
<td>4 days</td>
<td>Wed 17/12/20</td>
<td>Mon 21/12/20</td>
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<tr>
<td>200</td>
<td>Install Flashing / Flashing &amp; Clipping</td>
<td>4 days</td>
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<tr>
<td>201</td>
<td>Install Stairs / Roof Anchors / Access Hatches / Ladders</td>
<td>3 days</td>
<td>Thu 24/12/20</td>
<td>Tue 5/1/21</td>
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<tr>
<td>202</td>
<td>OFFICE - FACADE</td>
<td>11 days</td>
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<tr>
<td>203</td>
<td>NORTH ELEVATION</td>
<td>1 day</td>
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<tr>
<td>204</td>
<td>West Elevation</td>
<td>4 days</td>
<td>Thu 17/12/20</td>
<td>Tue 22/12/20</td>
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<tr>
<td>205</td>
<td>East Elevation</td>
<td>2 days</td>
<td>Wed 23/12/20</td>
<td>Mon 4/1/21</td>
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<tr>
<td>206</td>
<td>Office Watertight</td>
<td>2 days</td>
<td>Wed 23/12/20</td>
<td>Mon 4/1/21</td>
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<tr>
<td>207</td>
<td>OFFICE - GROUND FLOOR FITOUT</td>
<td>3 days</td>
<td>Thu 24/12/20</td>
<td>Tue 5/1/21</td>
</tr>
<tr>
<td>208</td>
<td>HIGH LEVEL SERVICES</td>
<td>6 days</td>
<td>Wed 6/1/21</td>
<td>Mon 13/1/21</td>
</tr>
<tr>
<td>209</td>
<td>Internal Stud</td>
<td>3 days</td>
<td>Thu 12/1/21</td>
<td>Tue 19/1/21</td>
</tr>
<tr>
<td>210</td>
<td>Internal Services</td>
<td>3 days</td>
<td>Mon 17/12/20</td>
<td>Fri 21/12/20</td>
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<tr>
<td>211</td>
<td>Internal Wall Lining</td>
<td>3 days</td>
<td>Fri 19/12/20</td>
<td>Fri 22/12/20</td>
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<tr>
<td>212</td>
<td>Wet Areas - WP Membranes / Wall &amp; Roof Tiles / Ceiling</td>
<td>3 days</td>
<td>Mon 25/12/20</td>
<td>Tue 3/1/21</td>
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<tr>
<td>213</td>
<td>Wet Areas - Atrium &amp; High Floor</td>
<td>3 days</td>
<td>Mon 25/12/20</td>
<td>Tue 3/1/21</td>
</tr>
<tr>
<td>214</td>
<td>Hang Doors / Hardware / Internal Beading</td>
<td>3 days</td>
<td>Mon 8/1/21</td>
<td>Mon 15/1/21</td>
</tr>
<tr>
<td>215</td>
<td>Final Paint / Services Fit off / Mastic / Inwall Tiles</td>
<td>3 days</td>
<td>Mon 8/1/21</td>
<td>Mon 15/1/21</td>
</tr>
<tr>
<td>216</td>
<td>Authority Inspection (Services)</td>
<td>3 days</td>
<td>Mon 8/1/21</td>
<td>Mon 15/1/21</td>
</tr>
<tr>
<td>217</td>
<td>Exit &amp; Commission (services)</td>
<td>3 days</td>
<td>Fri 15/1/21</td>
<td>Wed 21/1/21</td>
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<tr>
<td>218</td>
<td>First Clean / Carpet / Roller Brushes</td>
<td>3 days</td>
<td>Tue 18/1/21</td>
<td>Thu 20/1/21</td>
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<tr>
<td>219</td>
<td>Stair &amp; Lobby Fitout &amp; Finishes</td>
<td>3 days</td>
<td>Thu 18/1/21</td>
<td>Thu 20/1/21</td>
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<tr>
<td>220</td>
<td>Defect Inspection &amp; Rectification / FF&amp;E</td>
<td>3 days</td>
<td>Thu 23/1/21</td>
<td>Thu 25/1/21</td>
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<tr>
<td>221</td>
<td>OFFICE - L1 FITOUT</td>
<td>7 days</td>
<td>Tue 19/1/21</td>
<td>Thu 11/2/21</td>
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<tr>
<td>222</td>
<td>High Level Services</td>
<td>9 days</td>
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<td>Mon 15/2/21</td>
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<tr>
<td>223</td>
<td>Internal Stud</td>
<td>6 days</td>
<td>Tue 26/1/21</td>
<td>Fri 5/2/21</td>
</tr>
<tr>
<td>224</td>
<td>Internal Services</td>
<td>3 days</td>
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<td>Mon 11/1/21</td>
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<tr>
<td>225</td>
<td>Internal Wall Lining</td>
<td>6 days</td>
<td>Mon 8/1/21</td>
<td>Mon 11/1/21</td>
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<tr>
<td>226</td>
<td>Wet Areas - WP Membranes / Wall &amp; Roof Tiles / Ceiling</td>
<td>3 days</td>
<td>Fri 19/1/21</td>
<td>Fri 26/1/21</td>
</tr>
<tr>
<td>227</td>
<td>Wet Areas - Atrium &amp; High Floor</td>
<td>3 days</td>
<td>Fri 19/1/21</td>
<td>Fri 26/1/21</td>
</tr>
<tr>
<td>228</td>
<td>Hang Doors / Hardware / Internal Beading</td>
<td>3 days</td>
<td>Fri 19/1/21</td>
<td>Fri 26/1/21</td>
</tr>
<tr>
<td>229</td>
<td>Final Paint / Services Fit off / Mastic / Inwall Tiles</td>
<td>3 days</td>
<td>Fri 19/1/21</td>
<td>Fri 26/1/21</td>
</tr>
<tr>
<td>230</td>
<td>Authority Inspection (Services)</td>
<td>3 days</td>
<td>Fri 19/1/21</td>
<td>Fri 26/1/21</td>
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<tr>
<td>231</td>
<td>Exit &amp; Commission (services)</td>
<td>3 days</td>
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<td>Fri 26/1/21</td>
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<tr>
<td>232</td>
<td>Final Clean / Carpet / Roller Brushes</td>
<td>3 days</td>
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<td>Mon 10/2/21</td>
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<td>233</td>
<td>Stair &amp; Lobby Fitout &amp; Finishes</td>
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<td>Mon 10/2/21</td>
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<tr>
<td>234</td>
<td>Defect Inspection &amp; Rectification / FF&amp;E</td>
<td>3 days</td>
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<td>Mon 10/2/21</td>
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<tr>
<td>235</td>
<td>OFFICE - 1ST Floor Fitout</td>
<td>3 days</td>
<td>Fri 11/2/21</td>
<td>Mon 15/2/21</td>
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<tr>
<td>236</td>
<td>EXTENSIVE SLABS</td>
<td>5 days</td>
<td>Thu 13/1/21</td>
<td>Thu 18/1/21</td>
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<tr>
<td>237</td>
<td>Start External Slabs after Warehouse Internal Slabs Complete</td>
<td>5 days</td>
<td>Wed 13/1/21</td>
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<tr>
<td>238</td>
<td>FRP External Slab Pour - A (East)</td>
<td>1 day</td>
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<tr>
<td>239</td>
<td>FRP External Slab Pour - B (West)</td>
<td>1 day</td>
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<td>Wed 13/1/21</td>
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<td>240</td>
<td>FRP External Slab Pour - C</td>
<td>1 day</td>
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<tr>
<td>241</td>
<td>FRP External Slab Pour - D</td>
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<td>242</td>
<td>FRP External Slab Pour - E</td>
<td>1 day</td>
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<td>243</td>
<td>FRP External Slab Pour - F</td>
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<td>244</td>
<td>FRP External Slab Pour - H</td>
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<td>245</td>
<td>FRP External Slab Pour - I</td>
<td>1 day</td>
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<td>246</td>
<td>FRP External Slab Pour - 2</td>
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<td>247</td>
<td>FRP External Slab Pour - 3</td>
<td>1 day</td>
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<td>248</td>
<td>FRP External Slab Pour - 4</td>
<td>1 day</td>
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<tr>
<td>249</td>
<td>FRP External Slab Pour - 5</td>
<td>1 day</td>
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<tr>
<td>250</td>
<td>FRP External Slab Pour - 6</td>
<td>1 day</td>
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<td>Wed 13/1/21</td>
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<tr>
<td>251</td>
<td>FRP External Slab Pour - L</td>
<td>1 day</td>
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<tr>
<td>252</td>
<td>FRP External Slab Pour - M</td>
<td>1 day</td>
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<tr>
<td>253</td>
<td>FRP External Slab Pour - P</td>
<td>1 day</td>
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<tr>
<td>254</td>
<td>FRP External Slab Pour - Q (Track Entry / East)</td>
<td>1 day</td>
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<tr>
<td>255</td>
<td>Final Cure Period (or Earlier)</td>
<td>3 days</td>
<td>Fri 4/2/21</td>
<td>Mon 10/2/21</td>
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<tr>
<td>256</td>
<td>DEFLECTION TIMING INTEGRITY</td>
<td>3 days</td>
<td>Fri 4/2/21</td>
<td>Mon 10/2/21</td>
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<tr>
<td>257</td>
<td>BUILDING 3 CARPARK (South)</td>
<td>8 days</td>
<td>Fri 14/1/21</td>
<td>Fri 21/1/21</td>
</tr>
<tr>
<td>258</td>
<td>Start after Wall Cladding Complete</td>
<td>6 days</td>
<td>Thu 13/1/21</td>
<td>Thu 19/1/21</td>
</tr>
<tr>
<td>259</td>
<td>Clear &amp; Detail M/C Line</td>
<td>3 days</td>
<td>Thu 12/1/21</td>
<td>Thu 19/1/21</td>
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<tr>
<td>260</td>
<td>In ground Drainage &amp; Services</td>
<td>8 days</td>
<td>Thu 19/1/21</td>
<td>Thu 27/1/21</td>
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<tr>
<td>261</td>
<td>Construct Retaining Walls</td>
<td>8 days</td>
<td>Fri 19/1/21</td>
<td>Fri 27/1/21</td>
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**Revision:** Logos Building 3 22/12/20 Rev F.2 (H&M Tenant).mmp
**Print Date:** Mon 22/06/20

Planner: Andrew Ong
Reviewer: Claude Concha
<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
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<tbody>
<tr>
<td>261</td>
<td>Sub-base &amp; Base Courses</td>
<td>6 days</td>
<td>Mon 25/01/21</td>
<td>Tue 2/02/21</td>
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<tr>
<td>262</td>
<td>Kerbs &amp; Gutters</td>
<td>6 days</td>
<td>Thu 28/01/21</td>
<td>Thu 4/02/21</td>
</tr>
<tr>
<td>263</td>
<td>Asphalt Surface</td>
<td>4 days</td>
<td>Fri 5/02/21</td>
<td>Wed 10/02/21</td>
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<tr>
<td>264</td>
<td>Three Course Pavements, Driveways &amp; Paths / AC</td>
<td>6 days</td>
<td>Thu 28/01/21</td>
<td>Thu 4/02/21</td>
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<tr>
<td>265</td>
<td>Install Main Pylon Signs</td>
<td>3 days</td>
<td>Tue 9/02/21</td>
<td>Thu 11/02/21</td>
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<tr>
<td>266</td>
<td>Line Marking, Bollards, Wheel stops, Speed Humps, Clean &amp; Sign</td>
<td>3 days</td>
<td>Tue 9/02/21</td>
<td>Thu 11/02/21</td>
</tr>
<tr>
<td>267</td>
<td>Pavements to Carpark / Service Roads Complete</td>
<td>0 days</td>
<td>Tue 9/02/21</td>
<td>Tue 9/02/21</td>
</tr>
<tr>
<td>268</td>
<td>LANDSCAPING (2w)</td>
<td>10 days</td>
<td>Thu 4/02/21</td>
<td>Thu 18/02/21</td>
</tr>
<tr>
<td>269</td>
<td>Start after Carpark Kerbs &amp; Gutter Complete</td>
<td>2 days</td>
<td>Thu 4/02/21</td>
<td>Thu 4/02/21</td>
</tr>
<tr>
<td>270</td>
<td>General Excavation</td>
<td>4 days</td>
<td>Fri 5/02/21</td>
<td>Wed 10/02/21</td>
</tr>
<tr>
<td>271</td>
<td>Basket / Constructed structural soil &amp; Foundation / Underslab (Piers)</td>
<td>4 days</td>
<td>Fri 5/02/21</td>
<td>Fri 12/02/21</td>
</tr>
<tr>
<td>272</td>
<td>Install Trench / Ground Cover / Gravelbase / Top soil</td>
<td>4 days</td>
<td>Mon 11/02/21</td>
<td>Wed 16/02/21</td>
</tr>
<tr>
<td>273</td>
<td>Connect / Test &amp; Commission Ignition Systems / Retractable Tree</td>
<td>4 days</td>
<td>Mon 11/02/21</td>
<td>Tue 16/02/21</td>
</tr>
<tr>
<td>274</td>
<td>Landscape</td>
<td>4 days</td>
<td>Mon 11/02/21</td>
<td>Tue 16/02/21</td>
</tr>
<tr>
<td>275</td>
<td>LANDSCAPING (2w)</td>
<td>10 days</td>
<td>Thu 4/02/21</td>
<td>Thu 18/02/21</td>
</tr>
<tr>
<td>276</td>
<td>TESTING &amp; COMMISSIONING (1w)</td>
<td>8 days</td>
<td>Thu 11/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>277</td>
<td>Commence Building Commissioning</td>
<td>2 days</td>
<td>Thu 11/03/21</td>
<td>Thu 11/03/21</td>
</tr>
<tr>
<td>278</td>
<td>Hydraulic Test &amp; Certification</td>
<td>3 days</td>
<td>Fri 12/03/21</td>
<td>Fri 19/03/21</td>
</tr>
<tr>
<td>279</td>
<td>Residential Power &amp; Lighting Test &amp; Commission</td>
<td>5 days</td>
<td>Fri 12/03/21</td>
<td>Fri 19/03/21</td>
</tr>
<tr>
<td>280</td>
<td>Mechanical IPRAC Testing, Balancing &amp; Commission</td>
<td>6 days</td>
<td>Fri 12/03/21</td>
<td>Fri 19/03/21</td>
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<tr>
<td>281</td>
<td>Authority Inspections</td>
<td>3 days</td>
<td>Fri 12/03/21</td>
<td>Fri 19/03/21</td>
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<tr>
<td>282</td>
<td>Witness Inspection under Certification</td>
<td>3 days</td>
<td>Mon 22/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>283</td>
<td>Complete / Submit Completion Certificate</td>
<td>2 days</td>
<td>Mon 22/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>284</td>
<td>Obasi Completion Certificate</td>
<td>3 days</td>
<td>Fri 27/03/21</td>
<td>Wed 24/03/21</td>
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<tr>
<td>285</td>
<td>Conduct End User Training</td>
<td>3 days</td>
<td>Tue 23/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>286</td>
<td>Finalise Hard Copy Manual &amp; As-Built Documentation</td>
<td>1 day</td>
<td>Wed 24/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>287</td>
<td>Loos Furniture, FF &amp; M, Website Inspection &amp; As-Built Restoration</td>
<td>1 day</td>
<td>Wed 24/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>288</td>
<td>As-Built, O&amp;M Manual &amp; Certification Documentation / Staff Training</td>
<td>1 day</td>
<td>Wed 24/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>289</td>
<td>AS-BUILT / COMMISSIONING</td>
<td>0 days</td>
<td>Wed 24/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>290</td>
<td>Commissioning and Handover Complete</td>
<td>0 days</td>
<td>Wed 24/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>291</td>
<td>Project Complete NETT</td>
<td>0 days</td>
<td>Wed 24/03/21</td>
<td>Wed 24/03/21</td>
</tr>
<tr>
<td>292</td>
<td>Project Complete GROSS</td>
<td>0 days</td>
<td>Wed 31/03/21</td>
<td>Wed 31/03/21</td>
</tr>
</tbody>
</table>

**Critical Milestones**

- Pavements to Carpark / Service Roads Complete 16 Feb '21
- LANDSCAPING (2w) 2 Feb '21
- Start after Carpark Kerbs & Gutter Complete 4 Feb '21
- External Works Complete 18 Feb '21
- Commence Building Commissioning 11 Mar '21
- Commissioning and Handover Complete 24 Mar '21
- Project Complete NETT 24 Mar '21
- Project Complete GROSS 31 Mar '21
APPENDIX H

Consultant Correspondance
Good Morning Fraser,

Please find attached draft instrument of modification for Marsden Park.

Kind regards,

Ania Dorocińska
Senior Environmental Assessment Officer

Industry Assessments | Department of Planning, Industry and Environment
T 02 9274 6225 M 0414 848 343 | E ania.dorocinska@planning.nsw.gov.au
4 Parramatta Square, 12 Darcy Street | Locked Bag 5022 | Parramatta NSW 2124
www.dpie.nsw.gov.au

---

Hi Ania,

Thanks for sending through.

I’ve had a look at the below and they seem reasonable. Are you able to update the draft conditions (attached) with the proposed conditioning to reflect the below items from Council and provide a copy for review? We’re just wanting to review the proposed conditions in their entirety to ensure no conflictions.

Thanks in advance,

Fraser McDonald
Development Manager

M. +61 427 727 379
FraserMcDonald@logosproperty.com
logosproperty.com
Hi Fraser,

Please see suggested changes from Council below, let me know your thoughts.

Kind regards,

Ania Dorocińska
Senior Environmental Assessment Officer

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Hi Ania

See suggested mark ups below to the relevant conditions for your consideration.
Stormwater Management Plan

B22. Before the commencement of construction of each building within the development, the Applicant must prepare and submit a Stormwater Management Plan (SMP) to the satisfaction of the Planning Secretary. Each plan must identify all building and roadworks to be constructed relevant to the Construction Certificate that the works relate to. Each SMP must:

(a) be prepared by a suitably qualified engineer;
(b) be prepared in consultation with Council;
(c) be prepared generally in accordance with:
   (i) the civil plans, listed in Appendix A;
   (ii) Council’s Works Specification - Civil (Current Version);
   (iii) Council’s Engineering Guide for Development (Current Version);
   (iv) Council’s On-Site Detention General Guidelines and Checklist; and
   (v) Council’s WSUD Standard Drawings A(BS)175M (Current Version);
(d) include a Stormwater Verification Report as required by condition B25;
(e) demonstrate the development can comply with the stormwater objectives of Table 2-1 of the Growth Centres Development Control Plan, plus a post development target reduction of 90 % for total hydrocarbons;
(f) ensure post-development flow velocities of the relevant stormwater and drainage works match pre-development flow velocities;
(g) include a maintenance schedule and management measures for the stormwater quality devices that is signed and dated by the designer;
(h) detail the works required to attenuate stormwater quantity volumes in the event either regional basin E or basin G, dependent on the drainage path for that building, are not complete; and
(i) incorporate plans and accompanying design notes only.

(j) For Lot 2 amend the drainage plans from Costin Roe Series Co12829.15 dated 27.11.19 by providing temporary on-site detention and amending the MUSIC model by deleting the swale and reducing landscape water demand for each rainwater tank to 700 kl/yr.

Stormwater Verification

B25. The Applicant must submit a Stormwater Verification Report with each SMP as required by condition B22, to validate that the design of the stormwater measures can achieve the predicted pre and post stormwater quality and quantity targets. Where relevant for a specified stage, the stormwater verification report must:

(a) include pre and post development DRAINS modelling for development stages 1 and 2;
(b) include MUSIC modelling for each building to verify the stormwater objectives of Table 2-1 of the Growth Centres Development Control Plan, plus a post development target reduction of 90 % for total hydrocarbons;
(c) includes a MUSIC catchment plan illustrating land use, treatment devices and the drainage pathway of each area to the proposed treatment devices; and
(d) confirm the stream erosion index levels in accordance with the Growth Centres Development Control Plan.

(e) provide a positive covenant to ensure ongoing maintenance for the water quality devices in accordance with Council requirements.

B26. The Applicant must ensure any existing sediment basin and temporary OSD areas on-site remain in place until the permanent stormwater management works for stage 1 are complete. Temporary OSD is required for Lot 1 and 2 in accordance with Council’s WSUD standard drawings and is to remain in place until the permanent detention Basin E is fully constructed and the 100 year ARI trunk drainage system is constructed from Hollinsworth Road to Basin E.
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This footnote also confirms that this email message has been swept for the presence of computer viruses.

**********************************************************************

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Hi Ania & Ruth,

Happy new year.

Please see attached formal responses to each of the items raised under Council’s memo along with updated documentation for Council’s review and approval.

Thanks

Fraser McDonald
Development Manager

M. +61 427 727 379
FraserMcDonald@logosproperty.com

LOGOS

Please consider the environment before printing this email.
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From: Ania Dorocinska <Ania.Dorocinska@planning.nsw.gov.au>
Sent: Monday, 9 December 2019 8:56 AM
To: Fraser McDonald <FraserMcDonald@logosproperty.com>
Subject: FW: Engineering Comments - Council SSD 8606 MOD 3

Good Morning Fraser,

Following on from the below email, Blacktown Council has provided the following in relation the drainage engineering:

“In regards the SEI the requirement is:

Provide two separate and additional MUSIC models (pre and post) to demonstrate that the Stream Erosion Index (SEI) is less than 3.5 based on the technique in Council’s MUSIC Modelling Guide in part 4 of the Developer Handbook for Water Sensitive Urban Design available on Council’s website. The pre development is to consider a vacant pervious block. Provide all calculations used to determine Qcritical”
Kind regards,

Ania Dorocińska  
Senior Environmental Assessment Officer

Industry Assessments | Department of Planning, Industry and Environment  
T  02 9274 6225  M  0414 848 343  |  E ania.dorocinska@planning.nsw.gov.au
320 Pitt Street, GPO Box 39, Sydney NSW 2001
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Please consider the environment before printing this e-mail.
To: Ruth Bennett  
From: Chris Latinos  
Date: 6 December 2019  
Subject: Modification to Marsden Park Warehousing Estate SSD SSD06 MOD 3  
File no: MC-17-00001

<table>
<thead>
<tr>
<th>Item Ref.</th>
<th>BC - Comment</th>
<th>Applicant Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>d.</td>
<td></td>
<td>The plan of subdivision approved under MOD-17-00550 included a 'Stage 1' and 'Stage 2' plan respectively. The Building 2 &amp; 3 layouts are proposed under the 'Stage 1' subdivision plan which does not include lot boundaries for the estate west of the future 'bus-only link'. The 'Stage 1' subdivision plan has been attached for reference.</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>Anticipated spot levels are shown at critical locations across the site, particularly near the interface with the Hollinsworth Rd extension &amp; the adjacent Orion site. Approximate retaining wall heights are shown.</td>
</tr>
<tr>
<td>a.</td>
<td></td>
<td>Consideration of the levels has been made for the access road off Hollinsworth Rd. A section through the access road has been provided. It is noted that the section is approximate only for this assessment and will be finalised during the detailed design phase of the project.</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>Sections through the retaining walls have also been provided. Again noting that these are conceptual at this stage and will be further clarified during detailed design.</td>
</tr>
<tr>
<td>a.</td>
<td></td>
<td>Special note is made in relation to the following matters and further information required to provide clarity on level changes:</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>Consideration of the levels has been made for the access road off Hollinsworth Rd. A section through the access road has been provided. It is noted that the section is approximate only for this assessment and will be finalised during the detailed design phase of the project.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>The configuration of the estate road access appears to be affected by a retaining wall that may restrict vehicles exiting the site to travel in a westerly direction. A swept path analysis is required to demonstrate that design vehicles are able exit onto Hollinsworth Road and continue in either direction.</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>Noted – this will be clarified further during detailed design.</td>
</tr>
<tr>
<td>a.</td>
<td></td>
<td>The drainage connection shall be clear of the driveway and will require a new pit to be built above it. For any non-standard pit, structural certification will be required prior to approval for construction.</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>Noted – the retaining wall will be coordinated with the adjacent property’s access point and vehicle egress will be considered as a detailed design item.</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>The configuration of the estate road access appears to be affected by a retaining wall that may restrict vehicles exiting the site to travel in a westerly direction. A swept path analysis is required to demonstrate that design vehicles are able exit onto Hollinsworth Road and continue in either direction.</td>
</tr>
<tr>
<td>a.</td>
<td></td>
<td>Noted – this will be clarified further during detailed design.</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>The drainage connection shall be clear of the driveway and will require a new pit to be built above it. For any non-standard pit, structural certification will be required prior to approval for construction.</td>
</tr>
<tr>
<td>a.</td>
<td></td>
<td>Noted – the retaining wall will be coordinated with the adjacent property’s access point and vehicle egress will be considered as a detailed design item.</td>
</tr>
<tr>
<td>6</td>
<td>Part 1 requirements:</td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>OSD – Tony to comment on requirements for temporary OSD if the regional basin has not been constructed to an appropriate level, and will not be for some time (assuming the ultimate design does cater for all OSD requirements for this catchment). Georg may need to confirm the status of the regional basin and add context to the proposal for OSD requirements to be met by the current basin.</td>
<td>OSD function to be carried out by regional SBP Basin E.</td>
</tr>
<tr>
<td>b.</td>
<td>Water quality treatment – A MUSIC model is required for assessment.</td>
<td>MUSIC model attached</td>
</tr>
<tr>
<td>c.</td>
<td>Water conservation – A MUSIC model is required for assessment.</td>
<td>MUSIC model attached</td>
</tr>
<tr>
<td>d.</td>
<td>SEI – Provide two separate and additional MUSIC models (pre and post) to demonstrate that the Stream Erosion Index (SEI) is less than 3.5 based on the technique in Council’s MUSIC Modelling Guide in part 4 of the Developer Handbook for Water Sensitive Urban Design available on Council’s website. The pre development is to consider a vacant pervious block. Provide all calculations used to determine Qcritical.</td>
<td>MUSIC model attached – refer to engineering report for calculation summary in accordance with Council’s specs.</td>
</tr>
</tbody>
</table>
Good Morning Fraser,

Following on from the below email, Blacktown Council has provided the following in relation the drainage engineering:

“In regards the SEI the requirement is:

Provide two separate and additional MUSIC models (pre and post) to demonstrate that the Stream Erosion Index (SEI) is less than 3.5 based on the technique in Council’s MUSIC Modelling Guide in part 4 of the Developer Handbook for Water Sensitive Urban Design available on Council’s website. The pre development is to consider a vacant pervious block. Provide all calculations used to determine Qcritical”

Kind regards,

Ania Dorocińska
Senior Environmental Assessment Officer

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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This email has been scanned for spam and viruses. Click here to report this email as spam.
To Ruth Bennett
From Chris Latsinos
Date 6 December 2019
Subject Modification to Marsden Park Warehousing Estate SSD 8606 MOD 3
File no MC-17-00001

Documents used in assessment:
- SEE by Urbis dated 22.10.2019
- Concept Stormwater Plan by Costin Roe, drawing Co12829.15-SSDA41 [B], dated 27.11.2019
- Architectural Plan by Pace Architects, project 190204, Revision H, dated 22.11.2019

Amendments and clarification of details are required. See below for a list of matters to be addressed.

1. It doesn’t appear that any revision of subdivision is proposed despite the change in the building footprint being incompatible with the latest approved plan of subdivision. The latest plan of subdivision, approved by MOD-17-00550, suggests that both buildings will be built across lots 1 and 2. A revised plan of subdivision is required to adjust boundaries accordingly.

2. A level difference of 3.0m exists between the finished floor levels of each building, with a retaining wall proposed longitudinally across the site to manage this level difference. Due to the significant level changes across the site, engineering plans are required to show sufficient detail of levels across the site and the interactions with the future Hollinsworth Road design levels, as well as adjoining sites. All retaining walls should indicate maximum heights.

3. Special note is made in relation to the following matters and further information required to provide clarity on level changes:
   a. Sections showing how the estate road transitions between Hollinsworth Rd and the two building pad levels (a total difference of about 8m over 130m), as well as more context around the various vehicular access points from the estate road.
   b. Sections along the retaining wall showing the interaction between the site boundaries, along with the vehicle-proof barriers proposed along hardstand areas adjacent to significant level differences.

4. Show details of the drainage connection into the Hollinsworth Road pit and pipe system.
a. If no restriction of stormwater flows is provided (i.e. no OSD), the capacity of the road drainage system from a single point of discharge must be demonstrated as adequate and not compromising the hydraulic function of the future public road system. The construction plans for Hollinsworth Road’s drainage (under assessment) are unclear whether the increased hardstand areas have been considered in the same way as reflected by this proposal.

b. The drainage connection shall be clear of the driveway and will require a new pit to be built above it. For any non-standard pit, structural certification will be required prior to approval for construction.

5. The configuration of the estate road access appears to be affected by a retaining wall that may restrict vehicles exiting the site to travel in a westerly direction. A swept path analysis is required to demonstrate that design vehicles are able exit onto Hollinsworth Road and continue in either direction.

6. Part J requirements:
   a. OSD – Tony to comment on requirements for temporary OSD if the regional basin has not been constructed to an appropriate level, and will not be for some time (assuming the ultimate design does cater for all OSD requirements for this catchment). Georg may need to confirm the status of the regional basin and add context to the proposal for OSD requirements to be met by the current basin.
   b. Water quality treatment – A MUSIC model is required for assessment.
   c. Water conservation – A MUSIC model is required for assessment.
   d. SEI – Tony to comment.
APPENDIX I

Dilapidation Report
Hollinsworth Road, Marsden Park NSW 2765

LOGOS - Building 3

DILAPIDATION REPORT

For Richard Crookes Constructions Pty. Limited

26th August 2020

Richard Crookes Constructions Job No.: 1196

Development Application Number: SSD 8606

Project Solutions Job No: 21017
Table of Contents

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2.0 SCOPE OF WORKS 3
3.0 SITE DESCRIPTION 4
4.0 OBSERVATIONS 5
5.0 CONCLUSIONS 7

APPENDIX A – Site Plan

APPENDIX B – Photographic Record of the Findings

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<th>Pages</th>
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</thead>
<tbody>
<tr>
<td>Covering Pages</td>
<td>1 to 14</td>
</tr>
<tr>
<td>Hollinsworth Road</td>
<td>15 to 146</td>
</tr>
<tr>
<td>Eastern site boundary – Heading south.</td>
<td>147 to 180</td>
</tr>
<tr>
<td>Southern site boundary – Heading west.</td>
<td>181 to 217</td>
</tr>
<tr>
<td>Southern site boundary – Heading east.</td>
<td>217 to 244</td>
</tr>
<tr>
<td>Southern site boundary – Heading west.</td>
<td>245 to 261</td>
</tr>
<tr>
<td>Western site boundary – Heading north.</td>
<td>262 to 280</td>
</tr>
<tr>
<td>Northern site boundary – Heading east.</td>
<td>281 to 319</td>
</tr>
<tr>
<td>General overview of the site condition.</td>
<td>3190 to 325</td>
</tr>
</tbody>
</table>
1.0 INTRODUCTION

This report has been prepared from notes and photographic evidence obtained by a visual inspection of the below-mentioned areas. Project Solutions Pty. Limited has compiled the report acting on behalf of Richard Crookes Constructions Pty. Limited.

The report aims to record the existing condition of the public property deemed to be within a potential zone of influence prior to the commencement of works associated with the development of LOT 23 & 24 / 262886. The report has been compiled in accordance with clause A19 from the development consent application no. SSD 8606.

In summary:

- **Engaging Company:** Richard Crookes Constructions Pty. Limited.
- **Contract Site:** Hollinsworth Road, Marsden Park NSW 2765
- **Date of Compilation:** 26th August 2020
- **Areas Surveyed:**
  - Hollinsworth Road – 100m each way from the roundabout
  - Line of the proposed eastern road.
  - Site boundaries.

The particulars set out in this report are for the exclusive use of Richard Crookes Constructions Pty. Limited. We accept no responsibility as a result of the use of this report by any other party. This report shall not be construed as a certificate or warranty of the areas surveyed. Refer to the disclaimer within the report.

2.0 SCOPE OF WORKS

The purpose of the report was to note and record the existing status of the public infrastructure leading to the site and extending 100m each way past the site gates.

The Dilapidation Report shall be used amongst other means to assess the responsibility for any damage and / or making good arising out of the construction works to the areas listed above. The report is to provide a basis of discussion should it be alleged that the construction works has contributed to damage to any of the surveyed areas.
3.0 SITE DESCRIPTION

The site is located at Lot 23 & 24 / 262886, Hollinsworth Road, Marsden Park.

The development of the site is for the staged construction and operation of a warehousing estate consisting of facility consisting of:

- Seven buildings for warehouses distribution with ancillary office uses and an ancillary agricultural produce industry use in Building 5.
- Access road off Hollinsworth Road.
- On-site stormwater management infrastructure.
- Service connections, car parking and hardstand areas.
- Landscaping.

Access to the site shall be via the western end of the existing Hollinsworth Road. At the time of the inspection, the site was a level vacant site with earthworks occurring by an outside contractor to Richard Crookes Constructions.

The site location is as follows:-
4.0 OBSERVATIONS

The main component of the report is the photographic and written evidence within appendix ‘B’ of this report.

The issued USB flash drive contains the following files:

- The photographic / written reports (PDF).
  - Also includes a ‘Geotagged report’ illustrating the approximate location of each photograph taken of the external areas.

- The photographs used in the report (JPG’s).
  - The Jpeg photographs on the USB flash drive are 36 mega-pixels to allow for greater resolution if a photo needs to be enlarged and viewed in greater clarity.

Note: the report should only be used to identify a particular photograph, which may require greater inspection. If a photo is required to be viewed in greater clarity, the relevant photograph/s can then be sourced on the issued USB flash drive and enlarged.

The photographs recording the external areas have been “Geotagged”. To make use of this application, ensure that “Google Earth” has been installed on your computer. You will find the “Geotagged Report.kmz” file on the issued USB flash drive.

1. Open the “.kmz” file on the USB flash drive.
2. The application will launch in “Google Earth” (if installed on your computer).
3. You will note a series of numbered thumbnail photographs within and around the construction site, by clicking on an arrow the applicable photograph, taken in that approximate location will be revealed.

Note: this is an interactive file to be accessed on a computer via Google Earth and not from a visual interpretation of the screenshot of the ‘Geotagged Report’ on the following page.
LOGOS - Building 3
Screenshot from the 'Geotagged Report'.

© 2020 Google
The report does not allow for:

- Faults to inaccessible parts of the adjoining properties / buildings.
- Faults concealed behind permanent wall cladding (i.e. timber paneling or floor coverings)
- Any testing.
- Arborist reporting.
- Geotechnical or subsurface investigations.
- Faults not apparent on a visual inspection.
- Faults apparent only in different environmental or weather conditions.
- Latent faults not apparent at the time of the inspection.
- Inspection of roof and sub floor voids or areas deemed dangerous to inspect.
- Pest inspection report.
- Inspection of Building services, plant and machinery.
- Requirements of the Building Code of Australia.
- Distribution of reports to parties other than our Client.

5.0 CONCLUSIONS

A record of the condition of the areas as of the 26th August 2020 has been presented. The findings are illustrated in the annotated photographs within ‘Appendix B’ of this report.

The following items may be referred to should a need arise to review this report:

1. Project North - the cardinal compass points referenced within the report have Hoillinsworth Road running east-west on the northern side of the site.
2. The photographs illustrated in the ‘geotagged report’ are those which the camera had contact with the ‘tagging satellite’. In some instances this contact can be lost through interference (electronic, magnetic, phone towers etc) and photos may not be tagged and illustrated within the report.
3. We suggest using the ‘Geotagged Report’ to source a photograph recording a particular area.
4. All roads recorded as part of this report were inspected and photographed by travelling in a direct route along one side of the road and then returning and travelling along the opposite side of the road.
5. Besides using the ‘Geotagged Report’ to assist in the location of a particular photograph, we also suggest that you refer to the previous series of photographs in the report.
6. A series of photographs were taken along the site boundaries. Note:-
   a. A temporary site fence bounds the site boundaries.
   b. Sediment runoff traps were present along the site boundaries.
7. There was a considerable amount of dumped rubbish in the reserve adjacent to the southern site boundary.

In the best interest of all parties associated with this development a declaration for signing has been prepared on the following page.
SIGN-OFF SHEET

I / we believe that the written and photographic report is a true record of the existing condition of the following properties / areas as of the 26th August 2020.

Areas Surveyed:  Hollinsworth Road – 100m each way from the roundabout
                Line of the proposed eastern road.
                Site boundaries.

Signed __________________________________________ Date _______________
Name _________________________________________________
On behalf of ___________________________________________

Signed __________________________________________ Date _______________
Name _________________________________________________
On behalf of ___________________________________________

Signed __________________________________________ Date _______________
Name _________________________________________________
On behalf of ___________________________________________

Signed __________________________________________ Date _______________
Name _________________________________________________
On behalf of ___________________________________________
We wish you every success with the development of this project. Thank you for choosing Project Solutions Pty. Limited to conduct your ‘Dilapidation Reporting’. Please do not hesitate to contact the undersigned if you have any questions associated with the contents of this report.

Yours faithfully,
Project Solutions Pty. Limited

Douglas Sandilands
Director
DISCLAIMER

Reports produced by Project Solutions Pty Ltd are prepared for a particular Client’s objectives and are based on a specific scope, conditions and limitations, as agreed between Project Solutions and the Client. Information and / or report(s) prepared by Project Solutions may not be suitable for uses other than the original intended objective. No parties other than the Client should use any information and/or report(s) without first conferring with Project Solutions.

The information and/or reports prepared by Project Solutions should not be reproduced, presented or reviewed except in full. Before passing on to a third party any information and / or reports by Project Solutions, the Client is to fully inform the third party of the objective and scope and any limitations and conditions, including any other relevant information which applies to the material prepared by Project Solutions.

This survey and accompanying photographs is intended to present, as reasonably as possible, a record of the condition, by visible inspection only, of the aforementioned properties / areas.

The Client must also satisfy themselves that the report is accurate and contains no omissions. Project Solutions disclaims all responsibility for any loss whatsoever occasioned by any error in, or omission from this report.
Appendix A

Site Plan
Figure 1: Site Layout
Appendix B

Photographic Record of the Findings
Hollinsworth Road. Southern half of the road. Heading west. Area of light pole no. 954277.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954277 and 954275.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954277 and 954275.
Job: LOGOS – Building 3

Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954277 and 954275.

Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954277 and 954275.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954277 and 954275.
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Hollinsworth Road. Southern half of the road. Heading west. Light pole no. 954275.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954275 and 954273.

Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.

Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954275 and 954273.
Job: LOGOS – Building 3

Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Light pole no. 954275 and 954273.

Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269. Crossover to the site access road. 
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269. Crossover to the site access road.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269. Crossover to the site access road.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269. Crossover to the site access road.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269. Crossover to the site access road.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.

Hollinsworth Road. Southern half of the road. Heading west. Area of the roundabout. Area between light pole no. 954273 and 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954273 and 954269.
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Hollinsworth Road. Southern half of the road. Heading west. Light pole no. 954269.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954269 and 954267.
Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954269 and 954267.
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Hollinsworth Road. Southern half of the road. Heading west. Area between light pole no. 954269 and 954267.

Hollinsworth Road. Southern half of the road. Heading west. Light pole no. 954267.

Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954244 and 954242.
Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954244 and 954242.
Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954244 and 954242.
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Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954244 and 954242.
Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954244 and 954242.

Hollinsworth Road. Northern half of the road. Heading east. Light pole no. 954242.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
Job: LOGOS – Building 3

Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.

Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.
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Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954242 and 954240.

Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.
Hollinsworth Road. Northern half of the road. Heading east. Area of the roundabout. Area between light pole no. 954240 and 954238.

Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954238 and 954236.
Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954238 and 954236.
Job: LOGOS – Building 3

Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954238 and 954236.
Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954238 and 954236.
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Hollinsworth Road. Northern half of the road. Heading east. Area between light pole no. 954238 and 954236.

Hollinsworth Road. Northern half of the road. Heading east. Light pole no. 954236.
Hollinsworth Road. Centre of the road. Heading west. Area between light pole no. 954236 and 954238.
Hollinsworth Road. Centre of the road. Heading west. Area between light pole no. 954236 and 954238.
Hollinsworth Road. Centre of the road. Heading west. Area between light pole no. 954236 and 954238.
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Hollinsworth Road. Centre of the road. Heading west. Area between light pole no. 954236 and 954238.
Hollinsworth Road. Centre of the road. Heading west. Area between light pole no. 954236 and 954238.
Hollinsworth Road. Centre of the road. Heading west. Area of light pole no. 954238.

Hollinsworth Road. Roundabout. Eastern side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. Eastern side. Heading clockwise around the roundabout.

Hollinsworth Road. Roundabout. South-eastern side. Heading clockwise around the roundabout.

Hollinsworth Road. Roundabout. Southern side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. Southern side. Heading clockwise around the roundabout.

Hollinsworth Road. Roundabout. South-western side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. South-western side. Heading clockwise around the roundabout.

Hollinsworth Road. Roundabout. Western side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. Western side. Heading clockwise around the roundabout.

Hollinsworth Road. Roundabout. Western side. Heading clockwise around the roundabout.

Hollinsworth Road. Roundabout. Western side. Heading clockwise around the roundabout. Vehicle tracks.
Hollinsworth Road. Roundabout. Northern side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. Northern side. Heading clockwise around the roundabout.

Hollinsworth Road. Roundabout. North-eastern side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. North-eastern side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. Eastern side. Heading clockwise around the roundabout.
Hollinsworth Road. Roundabout. Eastern side. Heading clockwise around the roundabout.


Hollinsworth Road. Access road to the site. Area of light pole no. 954273.
Hollinsworth Road. Access road to the site. Area of light pole no. 954273. Area of the crossover.
Hollinsworth Road. Access road to the site. Area of light pole no. 954273. Area of the crossover.
Hollinsworth Road. Access road to the site. Area of light pole no. 954273. Area of the crossover.
Hollinsworth Road. Access road to the site. Area of light pole no. 954273.
Hollinsworth Road. Access road to the site. Light pole no. 954273.
Hollinsworth Road. Access road to the site. Area of light pole no. 954273. NBN services pit.

Access road to the site from Hollinsworth Road. Heading south along the eastern site boundary.
Access road to the site from Hollinsworth Road. Heading south along the eastern site boundary.
Access road to the site from Hollinsworth Road. Heading south along the eastern site boundary.
Access road to the site from Hollinsworth Road. Heading south along the eastern site boundary.
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Access road to the site from Hollinsworth Road. Heading south along the eastern site boundary.
Access road to the site from Hollinsworth Road. Heading south along the eastern site boundary.

Access road to the site from Hollinsworth Road. South-eastern corner of the site.
Access road to the site from Hollinsworth Road. South-eastern corner of the site.
Access road to the site from Hollinsworth Road. South–eastern corner of the site.

Southern site boundary. Heading west.
South-eastern corner of the site. Facing north.

South-eastern corner of the site. Facing north-west.
South-eastern corner of the site. Facing west.

Southern site boundary. Area inside the site boundary temporary fence. Heading west.
Southern site boundary. Area inside the site boundary temporary fence. Heading west.

Southern site boundary. Area inside the site boundary temporary fence. Heading west.
Southern site boundary. Area inside the site boundary temporary fence. Heading west.
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Southern site boundary. Area inside the site boundary temporary fence. Heading west.
Southern site boundary. Area inside the site boundary temporary fence. Heading west.
Southern site boundary. Area inside the site boundary temporary fence. Heading west.
Southern site boundary. Area inside the site boundary temporary fence. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
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Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Job: LOGOS – Building 3

Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.

Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.
Southern site boundary. Area between the site boundary temporary fence and the retaining wall. Heading west.

Southern site boundary. Area adjacent to the south-western corner of the site.
Southern site boundary. Area adjacent to the south-western corner of the site.
Southern site boundary. Area outside (south of) the temporary site fence. Heading east.
Southern site boundary. Area outside (south of) the temporary site fence. Heading east.
Southern site boundary. Area outside (south of) the temporary site fence. Heading east.

Southern site boundary. Area outside (south of) the temporary site fence. Heading east.
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Southern site boundary. Area outside (south of) the temporary site fence. Heading east.

Southern site boundary. Area outside (south of) the temporary site fence. Site access.
Southern site boundary. Area adjacent to and above the retaining wall. Heading west.

Southern site boundary. Area adjacent to and above the retaining wall. Heading west.
Southern site boundary. Area adjacent to and above the retaining wall. Heading west.
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Southern site boundary. Area adjacent to and above the retaining wall. Heading west.

Southern site boundary. Area adjacent to and above the retaining wall. Heading west.
Southern site boundary. Area adjacent to and above the retaining wall. Heading west.
Southern site boundary. Area adjacent to and above the retaining wall. South-western corner of the site.
Southern site boundary. Area adjacent to and above the retaining wall. South-western corner of the site.

South-western corner of the site. Facing north-east.
Western site boundary. Heading north.
26/8/2020

Western site boundary. Heading north.

26/8/2020

Western site boundary. Heading north.
Western site boundary. Heading north.

Western site boundary. Heading north.
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Western site boundary. Heading north.

Western site boundary. Heading north.
Western site boundary. Heading north.

Western site boundary. Heading north.
Western site boundary. Heading north.

North-western corner of the site. Facing north to the proposed estate road.
North-western corner of the site. Facing north to the proposed estate road.
North-western corner of the site. Facing east to the southern end of the western elevation of the building to the north of the site.

North-western corner of the site. Facing south-east to the site.
North-western corner of the site. Facing south to the site.

North-western corner of the site. Facing east along the northern site boundary.
Northern site boundary. Heading east.

Northern site boundary. Heading east.
Northern site boundary. Heading east.

Northern site boundary. Heading east.
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Northern site boundary. Heading east.
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Northern site boundary. Heading east.
Northern site boundary. Heading east.
Northern site boundary. Heading east.

Northern site boundary. Heading east.
Northern site boundary. Heading east. Western gate.

Northern site boundary. Heading east.
Project Solutions Pty Ltd
PO BOX 851 MITTAGONG NSW 2575
M: 0416 156 962 • E: project@projectsolutions.com.au • W: projectsolutions.com.au

Job: LOGOS – Building 3

Northern site boundary. Heading east.

northern site boundary. Heading east.
Northern site boundary. Heading east.
Northern site boundary. Heading east.
Northern site boundary. Heading east.
Northern site boundary. Heading east. General overview of the site.
Northern site boundary. Heading east. General overview of the site.
Northern site boundary. Heading east.

Northern site boundary. Heading east.
Northern site boundary. Heading east.
Northern site boundary. Heading east.
Northern site boundary. Heading east.

Northern site boundary. Heading east.
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Northern site boundary. Heading east.
Northern site boundary. Heading east. Eastern gate.

Northern site boundary. Heading east.
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Northern site boundary. Heading east.

Northern site boundary. Heading east.
Northern site boundary. Heading east.
Northern site boundary. Heading east.

Northern site boundary. Heading east.
Northern site boundary. Heading east.

Northern site boundary. Heading east.
Northern site boundary. Heading east.

North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road. Heading north.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road. Heading north.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road. Heading north.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road. Heading north.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road. Heading north.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road. Heading north.
North-eastern corner of the site. Western side of the access road leading out to Hollinsworth Road. Heading south.

Eastern side of the site. Line of the proposed access road to / from Hollinsworth Road. Facing north.
Eastern side of the site. Line of the proposed access road to / from Hollinsworth Road. Facing north.

Eastern side of the site. General overview of the site condition at the time of the inspection.
Eastern side of the site. General overview of the site condition at the time of the inspection.

26/8/2020

PRO_0616.jpg

Eastern side of the site. General overview of the site condition at the time of the inspection.

26/8/2020

PRO_0617.jpg
Eastern side of the site. General overview of the site condition at the time of the inspection.
Eastern side of the site. General overview of the site condition at the time of the inspection.
Eastern side of the site. General overview of the site condition at the time of the inspection.
Eastern side of the site. General overview of the site condition at the time of the inspection.
APPENDIX J

Erosion and Sediment Control Plan
APPENDIX K

Driver Code Of Conduct
Conditions of Entry to Site for Construction Works on the LOGOS B2 & B3 Hollinsworth Road project.

(Refer to Site Overview Plan shown on Page 3)

1. The delivery and pick ups entry point is from the main entry off the access road cul-de-sac. All vehicles must enter site via the entry gate before stopping at the designated delivery area.

2. Under no circumstance are vehicles to stop, park, load/unload on Hollinsworth Road.

3. All vehicles must minimise noise (such as compression braking) on Hollinsworth Road, particularly adjacent to the site and within the vicinity of the retirement village.

4. Drivers to stop at designated delivery area and sign in on register in the site compound. Drivers are to organize to meet Subcontractor before driving on to site.

5. You must wear a Hard Hat, Hi visibility vest and steel cap boots at all times when on site.

6. Follow site 10km speed limit and watch out for any plant and pedestrian movements. Before commencing unloading/loading, check your immediate surroundings for danger. Do not put your self or others at risk with your activities.

7. Drivers must stay in the vicinity of his/her vehicle whilst unloading, if you are accompanied by others who have no need to be involved in the work activity, they are to stay in the vehicle at all times.

8. If you need to go elsewhere such as the toilet or lunch rooms etc., you must ensure that your vehicle is in a safe condition to be left unattended, i.e. the engine is shut down, park brake is on and the keys are removed from the ignition.

9. In the event of an emergency an ALARM will sound. When you hear the alarm, go directly to the evacuation assembly area. Do not attempt to remove your vehicle from site as this may interfere with the orderly evacuation of personnel. When it is safe to do so, RCC personnel will release you to remove your vehicle.

10. All vehicles leaving site must have their loads covered and must not track dirt/mud on to Hollinsworth Road.

11. Site vehicles to Enter and Exit site in a forward facing direction only via the signposted Entry and Exit gates – Turning circle in place to eliminate reversing alarm noise generated by vehicles.

12. Site vehicles to give way to existing traffic along the Hollinsworth Road when exiting site.
13. Trucks are not to be permitted to park on hardstand overnight.

14. No Truck or Vehicle Maintenance is to be undertaken or occur onsite.

**Hours of Work**

Access to and from site are limited by the following hours:

**Monday – Friday:** 0700 to 1800 (7:00am to 6:00pm);
**Saturday:** 0800 to 1300 (8:00am to 1:00pm);
**Sunday:** Site Closed.

I have read the attached site induction. I fully understand its contents and agree to comply with the on site requirements.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Registration</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
Access: Richmond Road ➔ Hollinsworth Road ➔ into site

Egress: Site ➔ Hollinsworth Road ➔ Richmond Road
APPENDIX L

Construction Noise Management Plan
Lot 23 & 24 Hollinsworth Road, Marsden Park

Construction Noise and Vibration Management Plan
<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Document Reference</th>
<th>Prepared By</th>
<th>Checked By</th>
<th>Approved By</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>26/08/2020</td>
<td>20200877.1/2608A/R0/LL</td>
<td>LL</td>
<td></td>
<td>JM</td>
</tr>
</tbody>
</table>
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1 INTRODUCTION

Acoustic Logic has been engaged to prepare a Construction Noise and Vibration Management Plan for the proposed development at Lot 23 & 24 Hollinsworth Road, Marsden Park.

The principle objective of this study is to undertake an evaluation of works/activities to be performed during the demolition, excavation and construction of the project and forecast the potential impacts of noise and vibration. This assessment will be used to formulate and streamline effective regulation and mitigation measures.

The principle issues which will be addressed in this report are:

- Identification of the noise and vibration standards which will be applicable to this project;
- Identification of potentially impacted nearby development;
- Identify likely sources of noise and vibration generation and predicted noise levels at nearby development; and
- Formulation of a strategy to comply with the standards identified and mitigation treatments in the event that compliance is not achievable.

Provided all measures outlined in this report are fully implemented, noise and vibration impacts associated with the construction of the development site will be strictly controlled, and the impact on the surrounding environment minimised.
2 SITE DESCRIPTION

Demolition, excavation and construction works anticipated are as follows (indicative assumptions):

- Bulk and detailed excavation
- Construction of new buildings
- Limited piling of foundations
- Use of mobile crane
- Erection of building structure (powered hand tools for formwork)

Investigation has been carried out by this office in regards to the existing properties and noise impacts surrounding the proposed development, which is detailed below:

- **R1**: Existing residential dwellings to the north at lot 25 DP262886;
- **R2**: Existing residential dwelling to the east at lot 21 DP262886
- **R3**: Existing residential dwellings to the south east along Stockholm Avenue, Hassall Grove;
- **R4**: Existing residential blocks to the south east along Pine Crescent, Amelia Way and, Chestnut Crescent, Bidwill; and
- **I1**: Existing Industrial receivers to the north east at lot 1 DP1215328.

A site map, measurement description and surrounding receivers are presented in the figure below.
Figure 1 – Project Site
Source: NSW Six Maps
3 EXISTING BACKGROUND NOISE LEVELS

The following background noise levels are adopted from the Noise and Vibration Impact Assessment conducted by EMM for development application purposes (ref: Report J17164RP1, dated 8/12/17).

3.1.1 Measurement Position

One unattended noise monitor was located along Amelia Way, Bidwill. Refer to figure 1 above for detailed location.

3.1.2 Measurement Period

Unattended noise monitoring was conducted from 11th of August 2017 to 21st of August 2017.

3.1.3 Summarised Rating Background Noise Levels

Summarised rating background noise levels for the project site and immediate surroundings are presented below.

Table 3-1 – Measured Noise Levels

<table>
<thead>
<tr>
<th>Monitor</th>
<th>Time of day</th>
<th>Rating Background Noise Level dB(A)_{L90(Period)}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amelia Way, Bidwill</td>
<td>Day (7am – 6pm)</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Evening (6pm – 10pm)</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Night (10pm – 7am)</td>
<td>31</td>
</tr>
</tbody>
</table>

4 CONSTRUCTION HOURS

The proposed construction hours are as follows:

- Monday to Friday: 7:00am-6:00pm; and
- Saturday 8:00am-1:00pm.

Construction works during the above hours have been assessed with reference to the standard hours noise management levels (background + 10 dB(A)) in the NSW EPA Interim Construction Noise Guideline.

Vibration objectives will be assessed to management levels defined in Section 5.2.
5 CONSTRUCTION NOISE AND VIBRATION OBJECTIVES

5.1 NOISE MANAGEMENT LEVELS

Noise associated with construction activities on the site will be assessed in conjunction with the following guidelines:

- NSW EPA Interim Construction Noise Guideline; and

5.1.1 NSW EPA Interim Construction Noise Guideline

The EPA Interim Construction Noise Guideline (ICNG) assessment requires:

- Determination of noise management levels (based on ambient noise monitoring);
- Review of operational noise levels at nearby development; and
- If necessary, recommendation of noise controls strategies in the event that compliance with noise emission management levels is not possible.

EPA guidelines adopt differing strategies for noise control depending on the predicted noise level at the nearest residences:

- “Noise affected” level. Where construction noise is predicted to exceed the “noise affected” level at a nearby residence, the proponent should take reasonable/feasible work practices to ensure compliance with the “noise affected level”. For residential properties, the “noise affected” level occurs when construction noise exceeds ambient levels by more than 10dB(A)Leq(15min).

- “Highly noise affected level”. Where noise emissions are such that nearby properties are “highly noise affected”, noise controls such as respite periods should be considered. For residential properties, the “highly noise affected” level occurs when construction noise exceeds 75dB(A)Leq(15min) at nearby residences.

In addition to the above management levels for residential receivers, the ICNG nominates a Management Level of 70dB(A) Leq(15min) at industrial receiver facades (typical office, retail). And a Management Level of RBL + 5 dB(A) for any work done outside of standard hours.

A summary of the above recommended noise levels from the ICNG is presented below.

Table 5-1 – Noise Emission Goal at Residential Property Boundaries

<table>
<thead>
<tr>
<th>Location</th>
<th>“Noise Affected” Level - dB(A)Leq(15min) Standard Hours</th>
<th>“Highly Noise Affected” Level - dB(A)Leq(15min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Boundary (R1 Residents)</td>
<td>47 externally at façade</td>
<td>75</td>
</tr>
</tbody>
</table>

Where noise from the construction works is above the “noise affected” level, the proponent should apply any feasible and reasonable work practices to minimise noise. The “noise affected level is representative of a level where there may be some community reaction to noise.
If noise emissions are likely to exceed 75 dB(A)\text{L}_{eq(15\text{min})} \text{ "highly noise affected" at the boundary of surrounding affected residential receivers, the receiver is deemed to be "highly noise affected". The "highly noise affected" level is representative of a level where strong community reaction to noise is expected. Introduction of management controls such as scheduling of noisy periods, or respite periods is then recommended. Refer to Section 7 for specific recommendations.}

Section 4.1.2 and 4.1.3 of the EPA Interim Construction Noise Guideline also nominates management levels for other sensitive land uses (other than residences). Noise management levels relevant to this assessment is detailed below;

**Table 5-2 – Noise Emission Goal at Commercial/Sensitive Property Boundaries**

<table>
<thead>
<tr>
<th>Location</th>
<th>“Noise Affected” Level – dB(A)\text{L}_{eq(15\text{min})} Standard Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surrounding Commercial Receivers</td>
<td>70 externally at façade</td>
</tr>
<tr>
<td>Surrounding Industrial Receivers</td>
<td>75 externally at façade</td>
</tr>
</tbody>
</table>

### 5.1.2 Australian Standard AS2436:2010 “Guide to Noise Control on Construction, Maintenance and Demolition Sites”

The Australian Standard AS2436 states that where all reasonable and available measures have been taken to reduce construction noise, mitigation strategies may be put in place to reduce levels noise levels to within a reasonable and acceptable level.

For the control and regulation of noise from construction sites, AS2436:1981 nominates the following:

- a. That reasonable suitable noise criterion is established,
- b. That all practicable measures be taken on the building site to regulate noise emissions, including the siting of noisy static processes to locations of the site where they can be shielded, selecting less noisy processes, and if required regulating construction hours, and
- c. The undertaking of noise monitoring where non-compliance occurs to assist in the management and control of noise emission from the construction site.

The guideline reflects on feasible and reasonable mitigation strategies, management controls and public liaising in the effort to reach realistic comprises between construction sites and potential noise affected receivers.

Based on these guidelines the following procedure will be used to assess noise emissions:

- Predict noise levels produced by typical construction activities at the sensitive receivers.
- Adopt management conditions as per AS2436 in the event of a non-compliance.
5.2 VIBRATION OBJECTIVES

Vibration caused by construction at any residence or structure outside the subject site will be assessed with reference to:

- For structural damage vibration, German Standard DIN 4150-3 Structural Vibration: Effects of Vibration on Structures; and

- For human exposure to vibration, Department of Environment and Conservation NSW “Assessing Vibration: A Technical Guideline” (Feb 2006) is based on the guidelines contained in BS 6472:1992 Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80Hz) for low probability of adverse comment.

The criteria and the application of this standard are discussed in separate sections below.

5.2.1 Structure Borne Vibrations

German Standard DIN 4150-3 (1999-02) provides a guideline for acceptable levels of vibration velocity in building foundations, to assess the effects of vibration on structures. The table give guidance on the maximum accepted values of velocity at the foundation and in the plane of the highest floor of various types of buildings, to prevent any structural damage.

The table below lists the peak particle velocity, which is the maximum absolute value of the velocity signals for the three orthogonal components. This is measured as a maximum value of any of the three orthogonal component particle velocities when measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

<table>
<thead>
<tr>
<th>TYPE OF STRUCTURE</th>
<th>PEAK PARTICLE VELOCITY (mms⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At Foundation at a Frequency of</td>
</tr>
<tr>
<td></td>
<td>&lt; 10Hz</td>
</tr>
<tr>
<td>1 Buildings used in commercial purposes, industrial buildings and buildings of similar design</td>
<td>20</td>
</tr>
<tr>
<td>2 Dwellings and buildings of similar design and/or use</td>
<td>5</td>
</tr>
<tr>
<td>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)</td>
<td>3</td>
</tr>
</tbody>
</table>
5.2.2 Assessing Amenity

The NSW EPA's Assessing Vibration – a technical guideline is based on the guidelines contained in British Standard BS 6472-1992 ‘Guide to Evaluate Human Exposure to Vibration Buildings (1Hz to 80Hz’). This guideline provides procedures for assessing tactile vibration and regenerated noise within potentially affected buildings.

The recommendations of this guideline should be adopted to assess and manage vibration from the site. Where vibration exceeds, or is likely to exceed, the recommended levels then an assessment of reasonable and feasible methods for the management of vibration should be undertaken.

### Table 5-4 – BS 6472 Vibration Criteria

<table>
<thead>
<tr>
<th>Place</th>
<th>Time</th>
<th>RMS acceleration (m/s²)</th>
<th>RMS velocity (mm/s)</th>
<th>Peak velocity (mm/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Preferred</td>
<td>Maximum</td>
<td>Preferred</td>
</tr>
<tr>
<td><strong>Continuous Vibration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residences</td>
<td>Daytime</td>
<td>0.01</td>
<td>0.02</td>
<td>0.2</td>
</tr>
<tr>
<td>Offices</td>
<td>Day or night-time</td>
<td>0.02</td>
<td>0.04</td>
<td>0.4</td>
</tr>
<tr>
<td>Workshops</td>
<td></td>
<td>0.04</td>
<td>0.08</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Impulsive Vibration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residences</td>
<td>Daytime</td>
<td>0.3</td>
<td>0.6</td>
<td>6.0</td>
</tr>
<tr>
<td>Offices</td>
<td>Day or night-time</td>
<td>0.64</td>
<td>1.28</td>
<td>13</td>
</tr>
<tr>
<td>Workshops</td>
<td></td>
<td>0.64</td>
<td>1.23</td>
<td>13</td>
</tr>
</tbody>
</table>

**Note 1:** Continuous vibration relates to vibration that continues uninterrupted for a defined period (usually throughout the daytime or night-time), e.g. continuous construction or maintenance activity. (DECC, 2006).

**Note 2:** Impulsive vibration relate to vibration that builds up rapidly to a peak followed by a damped decay and that may or may not involve several cycles of vibration (depending on frequency and damping), with up to three occurrences in an assessment period, e.g. occasional loading and unloading, or dropping of heavy equipment. (DECC, 2006).
6 PROPOSED CONSTRUCTION ACTIVITIES

We have been advised of the typical equipment/processes anticipated to be used for the construction of the subject development. Noise impacts from these activities on the amenity of the surrounding identified sensitive receivers, will be predicted in this section. Typically, the most significant sources of noise or vibration generated during a construction project will be demolition, excavation, civil works (concrete crushing) and piling.

The A-weighted sound power levels for the expected loudest equipment/processes for each stage of development are outlined in the table below.

<table>
<thead>
<tr>
<th>Equipment / Process</th>
<th>Sound Power Level dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator</td>
<td>105</td>
</tr>
<tr>
<td>Trucks</td>
<td>105</td>
</tr>
<tr>
<td>Machine Mounted Hydraulic Drill</td>
<td>113</td>
</tr>
<tr>
<td>Powered Hand Tools (Electric)</td>
<td>95</td>
</tr>
<tr>
<td>Compactor</td>
<td>105</td>
</tr>
<tr>
<td>Piling (Auger)</td>
<td>108</td>
</tr>
<tr>
<td>Roller (20t)</td>
<td>109</td>
</tr>
<tr>
<td>Asphalt Sprayer</td>
<td>105</td>
</tr>
<tr>
<td>Concrete Pump</td>
<td>110</td>
</tr>
<tr>
<td>Mobile Crane</td>
<td>110</td>
</tr>
</tbody>
</table>

The noise levels presented in the above table are derived from the following sources:

1. On-site measurements;
2. Table A1 of Australian Standard 2436-2010; and
3. Data held by this office from other similar studies.

Noise levels take into account correction factors (for tonality, intermittency where necessary).
7  NOISE AND VIBRATION ASSESSMENT

7.1  NOISE IMPACT ASSESMENT

The predicted noise levels during excavation and construction will depend on:

- The activity undertaken.
- The distance between the work site and the receiver. For many of the work areas, the distance between the noise source and the receiver will vary depending on which end of the site the work is undertaken. For this reason, the predicted noise levels will be presented as a range.

Predicted noise levels are presented below. Predictions take into account the following:

- Noise reduction as a result of distance.
- Barrier effects resulting from shielding of the surrounding buildings (where applicable).

It is noted that the following predictions are preliminary as construction processes and locations have not been specifically selected at this stage. Further iteration is necessary once construction processes have been finalised.

Table 7-1 – Predicted Noise Generation to R1 Residential Receiver North of Site

<table>
<thead>
<tr>
<th>Activity</th>
<th>Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator &amp; Trucks</td>
<td>48-77*</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Machine Mounted Hydraulic Drill</td>
<td>56-85</td>
<td>Exceeds 75 dB(A) Exceeds ‘Highly Affected’ Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Powered Hand Tools (Electric)</td>
<td>38-67</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Compactor</td>
<td>48-77*</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Asphalt Sprayer</td>
<td>49-77*</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Piling (Auger)</td>
<td>51-80</td>
<td>Exceeds 75 dB(A) Exceeds ‘Highly Affected’ Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Roller (20t)</td>
<td>52-81</td>
<td>Exceeds 75 dB(A) Exceeds ‘Highly Affected’ Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Concrete Pump</td>
<td>53-82</td>
<td>Exceeds 75 dB(A) Exceeds ‘Highly Affected’ Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Mobile Crane</td>
<td>53-82</td>
<td>Exceeds 75 dB(A) Exceeds ‘Highly Affected’ Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
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</table>

*A 1-2 dB(A) exceedance is considered imperceptible.
Table 7-2 – Predicted Noise Generation to R2 Residential Receiver North East of Site

<table>
<thead>
<tr>
<th>Activity</th>
<th>Predicted Level – dB(A) $L_{eq(15 \text{min})}$ (External Areas)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator &amp; Trucks</td>
<td>39-53</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Machine Mounted Hydraulic Drill</td>
<td>47-61</td>
<td></td>
</tr>
<tr>
<td>Powered Hand Tools (Electric)</td>
<td>29-43</td>
<td>Under the 47 dB(A) Noise Management Level</td>
</tr>
<tr>
<td>Compactor</td>
<td>39-53</td>
<td></td>
</tr>
<tr>
<td>Asphalt Sprayer</td>
<td>39-53</td>
<td></td>
</tr>
<tr>
<td>Piling (Auger)</td>
<td>42-56</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the northern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Roller (20t)</td>
<td>43-57</td>
<td></td>
</tr>
<tr>
<td>Concrete Pump</td>
<td>44-58</td>
<td></td>
</tr>
<tr>
<td>Mobile Crane</td>
<td>44-58</td>
<td></td>
</tr>
</tbody>
</table>
# Table 7-3 – Predicted Noise Generation to R3 Residential Receiver South East of Site

<table>
<thead>
<tr>
<th>Activity</th>
<th>Predicted Level – dB(A) $L_{eq(15\text{min})}$ (External Areas)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator &amp; Trucks</td>
<td>43-55</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the southern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Machine Mounted Hydraulic Drill</td>
<td>51-63</td>
<td></td>
</tr>
<tr>
<td>Powered Hand Tools (Electric)</td>
<td>33-45</td>
<td>Under the 47 dB(A) Noise Management Level</td>
</tr>
<tr>
<td>Compactor</td>
<td>43-55</td>
<td></td>
</tr>
<tr>
<td>Asphalt Sprayer</td>
<td>43-55</td>
<td></td>
</tr>
<tr>
<td>Piling (Auger)</td>
<td>46-58</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the southern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Roller (20t)</td>
<td>47-59</td>
<td></td>
</tr>
<tr>
<td>Concrete Pump</td>
<td>48-60</td>
<td></td>
</tr>
<tr>
<td>Mobile Crane</td>
<td>48-60</td>
<td></td>
</tr>
</tbody>
</table>
## Table 7-4 – Predicted Noise Generation to R4 Residential Receiver South West of Site

<table>
<thead>
<tr>
<th>Activity</th>
<th>Predicted Level – dB(A) L&lt;sub&gt;eq&lt;/sub&gt;(15min) (External Areas)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator &amp; Trucks</td>
<td>43-53</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the southern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Machine Mounted Hydraulic Drill</td>
<td>51-61</td>
<td></td>
</tr>
<tr>
<td>Powered Hand Tools (Electric)</td>
<td>33-43</td>
<td>Under the 47 dB(A) Noise Management Level</td>
</tr>
<tr>
<td>Compactor</td>
<td>43-53</td>
<td></td>
</tr>
<tr>
<td>Asphalt Sprayer</td>
<td>43-53</td>
<td></td>
</tr>
<tr>
<td>Piling (Auger)</td>
<td>46-56</td>
<td>Exceeds 47 dB(A) Noise Management Level when working close to the southern boundary (Refer to Recommendations Section 8)</td>
</tr>
<tr>
<td>Roller (20t)</td>
<td>47-57</td>
<td></td>
</tr>
<tr>
<td>Concrete Pump</td>
<td>48-58</td>
<td></td>
</tr>
<tr>
<td>Mobile Crane</td>
<td>48-58</td>
<td></td>
</tr>
</tbody>
</table>
7.2 GENERAL DISCUSSION

Noise

Primarily, the use of concrete crushers, hydraulic drills and bored piling are predicted to be the highest noise generating equipment. All noise predictions have been presented as external noise levels. Internal noise levels at all locations are expected to be 10–20 dB(A) lower dependant on the façade of each receiver. It is also noted that concrete crushers and hydraulic drills are only expected to be used in the demolition/excavation stage, with piling only expected to be in the excavation stage.

Receivers C1, C2 and I1 directly share a boundary with the site and therefore are exposed to higher levels of construction noise. Treatment processes are recommended as per Section 8.

Residential Receiver R1 has line of sight to the site via Hall Street. The residential dwellings located on the corner of Hall Street and St Hillers Road are exposed to higher levels of construction noise as the surrounding residential dwellings are shielded by multiple other buildings. In all cases, predicted noise levels fall under the noise management level as per Table 7-1.

Vibration

Typically, excavation, piling, concrete crushing are the activities with the greatest potential for generation of vibration. Excavation of building footings has the potential to produce vibration levels approaching the criteria set out in Section 5.2.

The primary potential vibration source will be from use of bored piling especially when operating close to adjacent receivers. The vibration impact on all receivers has the potential to be compliant with the criteria in Section 5.2.
8 RECOMMENDATIONS

In light of the above, we recommend:

1. **Barrier**: If works will be conducted regularly within 10-meters of receiver 1’s southern boundary, construct/retain a 1.8-meter high solid barrier long the southern side of receiver 1 (R1). This barrier will help shield residents to the north from earth works and other construction activities conducted at ground level.

2. **Community Consultation/Notification**: Notification (leaflet or similar) of all residents within 100m of the development is recommended prior to commencement of works. Notification should advise of anticipate date and duration of excavation.

3. **Respite Periods**: To protect the amenity of nearby commercial and industrial receivers, it is proposed to introduce respite periods where construction activities exceed the ‘noise affected level (70/75 dB(A) Leq(15min)) based on the predicted noise levels presented in Section 7.1. In the event that respite periods are to be imposed, it is recommended to consider respite hours as follows:
   a. Monday to Friday: 7:00am-8:00am
   b. Saturday: 8:00am-9:00am
   c. Monday to Saturday: 12:00pm-1:00pm
   d. It is noted that the construction plant which is predicted to exceed the ‘noise affected level’ would only be in use intermittently during the demolition and excavation stage. As part of any proposed respite conditions, it is recommended to limit demolition and excavation works to not be carried out on Saturdays.
   e. It is noted that respite periods will extend the length of demolition, excavation and construction works and may provide heavier loss of amenity compared to non-imposed excavation.

4. **Vibration monitoring**: In the event of a complaint, we recommend vibration monitoring is to be implemented along the property boundary closest to the vibration receiver who issued the complaint.

5. **Quiet Work Methods/Technologies**:
   a. The primary noise generating activity at the site will be the bulk excavation period. As much as practicable, use of quieter excavation methods is to be adopted.
   b. Excavation is conducted initially using excavator with bucket (quietest excavation method), then use of rock saws or rippers. Use of the loudest excavation equipment is used only when other options are not available.
   c. It is recommended to use rock saws near all boundaries to reduce vibration and noise levels.
   d. Materials handling/vehicles:
      i. Trucks and bobcats to use a non-tonal reversing beacon (subject to OH&S requirements) to minimise potential disturbance of neighbours.
      ii. Avoid careless dropping of construction materials into empty trucks.
      iii. Trucks, trailers and concrete trucks (if feasible) should turn off their engines during idling to reduce noise impacts (unless truck ignition needs to remain on during concrete pumping).
6. **Complaints Handling:** In the event of complaint, the procedures outlined in Section 9 should be adopted.

7. **Site Induction:**
   a. A copy of the Noise Management Plan is to be available to contractors. The location of the Noise Management Plan should be advised in any site induction.
   b. Site induction should also detail the site contact in the event of noise complaint.
9 CONTROL OF CONSTRUCTION NOISE AND VIBRATION – PROCEDURAL STEPS

The flow chart presented below illustrates the process that will be followed in assessing construction activities.

- Identification of Construction Activity
- Determine Resultant Noise/Vibration Level At Receiver Locations
  - Do Levels Comply with Noise/Vibration Objectives
    - Yes
      - Proceed With Activity
    - No
      - Is There An Alternate Construction Process
        - Yes
          - Install shielding and proceed
        - No
          - Is it possible to use acoustic shielding between source and receiver
            - Yes
              - Install silencing devices and proceed
            - No
              - Is it possible to use acoustic silencing device e.g. extra muffles laid down at material handling areas
                - Yes
                  - Install silencing devices and proceed
                - No
                  - Execute and proceed
  - No
    - Is it possible to relocate activity
      - Yes
        - Do Levels Comply with Noise/Vibration Objectives
          - Yes
            - Install silencing devices and proceed
          - No
            - Execute and proceed
        - No
          - Consult affected parties immediately to determine agreement under which activity can proceed
    - No
      - Consult affected parties immediately to determine agreement under which activity can proceed
10 ADDITIONAL NOISE AND VIBRATION CONTROL METHODS

In the event of complaints, there are a number of noise mitigation strategies available which can be considered.

The determination of appropriate noise control measures will be dependent on the particular activities and construction appliances. This section provides an outline of available methods.

10.1 SELECTION OF ALTERNATE APPLIANCE OR PROCESS

Where a particular activity or construction appliance is found to generate excessive noise levels, it may be possible to select an alternative approach or appliance. For example; the use of a hydraulic hammer on certain areas of the site may potentially generate high levels of noise. Undertaking this activity using bulldozers, ripping and/or milling machines will result in lower noise levels.

10.2 ACOUSTIC BARRIER

Given the position of adjacent development, it is unlikely that noise screens will provide significant acoustic benefit for receivers but will provide noticeable improvement for those on ground level.

The placement of barriers at the source is generally only effective for static plant. Equipment which is on the move or working in rough or undulating terrain cannot be effectively attenuated by placing barriers at the source.

Barriers can also be placed between the source and the receiver.

The degree of noise reduction provided by barriers is dependent on the amount by which line of sight can be blocked by the barrier. If the receiver is totally shielded from the noise source reductions of up to 15dB(A) can be affected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8dB(A) may be achieved. Where no line of sight is obstructed by the barrier, generally no noise reduction will occur.

As barriers are used to provide shielding and do not act as an enclosure, the material they are constructed from should have a noise reduction performance that is approximately 10dB(A) greater than the maximum reduction provided by the barrier. In this case the use of a material such as 10mm or 15mm thick plywood (radiata plywood) would be acceptable for the barriers.

10.3 MATERIAL HANDLING

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dB(A).

10.4 TREATMENT OF SPECIFIC EQUIPMENT

In certain cases, it may be possible to specially treat a piece of equipment to dramatically reduce the sound levels emitted.

10.5 ESTABLISHMENT OF SITE PRACTICES

This involves the formulation of work practices to reduce noise generation. A more detailed management plan will be developed for this project in accordance to the construction methodology outlining work procedures and methods for minimising noise.
10.6 COMBINATION OF METHODS

In some cases, it may be necessary that two or more control measures be implemented to minimise noise.
11 COMMUNITY INTERACTION AND COMPLAINTS HANDLING

11.1 ESTABLISHMENT OF DIRECT COMMUNICATION WITH AFFECTED PARTIES

In order for any construction noise management programme to work effectively, continuous communication is required between all parties, which may be potentially impacted upon, the builder and the regulatory authority. This establishes a dynamic response process which allows for the adjustment of control methods and criteria for the benefit of all parties.

The objective in undertaking a consultation process is to:

- Inform and educate the groups about the project and the noise controls being implemented;
- Increase understanding of all acoustic issues related to the project and options available;
- Identify group concerns generated by the project, so that they can be addressed; and
- Ensure that concerned individuals or groups are aware of and have access to a Constructions Complaints Register which will be used to address any construction noise related problems should they arise.

Community consultation is recommended prior to any works commencing on site, with letterbox notifications to all identified surrounding sensitive receivers (refer section 2). This will include a construction management plan detailing the proposed works on site and duration of each stage.

11.2 DEALING WITH COMPLAINTS

Should ongoing complaints of excessive noise or vibration criteria occur immediate measures shall be undertaken to investigate the complaint, the cause of the exceedances and identify the required changes to work practices. In the case of exceedances of the vibration limits all work potentially producing vibration shall cease until the exceedance is investigated.

The effectiveness of any changes shall be verified before continuing. Documentation and training of site staff shall occur to ensure the practices that produced the exceedances are not repeated.

If a noise complaint is received the complaint should be recorded on a Noise Complaint Form. The complaint form should list:

- The name and address of the complainant (if provided);
- The time and date the complaint was received;
- The nature of the complaint and the time and date the noise was heard;
- The name of the employee who received the complaint;
- Actions taken to investigate the complaint, and a summary of the results of the investigation;
- Required remedial action, if required;
- Validation of the remedial action; and
- Summary of feedback to the complainant.
A permanent register of complaints should be held. All complaints received should be fully investigated and reported to management. The complainant should also be notified of the results and actions arising from the investigation.

The investigation of a complaint shall involve where applicable;

- Noise measurements at the affected receiver;
- An investigation of the activities occurring at the time of the incident;
- Inspection of the activity to determine whether any undue noise is being emitted by equipment; and
- Whether work practices were being carried out either within established guidelines or outside these guidelines.

Where an item of plant is found to be emitting excessive noise, the cause is to be rectified as soon as possible. Where work practices within established guidelines are found to result in excessive noise being generated then the guidelines should be modified so as to reduce noise emissions to acceptable levels. Where guidelines are not being followed, the additional training and counselling of employees should be carried out.

Measurement or other methods shall validate the results of any corrective actions arising from a complaint where applicable.

### 11.3 REPORTING REQUIREMENTS

The following shall be kept on site:

1. A register of complaints received/communication with the local community shall be maintained and kept on site with information as detailed in this report.
2. Where noise/vibration complaints require noise/vibration monitoring, results from monitoring shall be retained on site at all times.
3. Any noise exceedances occurring including the actions taken and results of follow up monitoring.
4. A report detailing complaints received and actions taken shall be presented to the construction liaison committee.

### 11.4 CONTINGENCY PLANS

Where non-compliances or noise complaints are raised the following methodology will be implemented.

1. Determine the offending plant/equipment/process.
2. Locate the plant/equipment/process further away from the affected receiver(s) if possible.
3. Implement additional acoustic treatment in the form of localised barriers, silencers etc where practical.
4. Selecting alternative equipment/processes where practical.
12 CONCLUSION

A construction noise and vibration assessment has been undertaken of the proposed construction works to be undertaken for Lot 23 & 24 Hollinsworth Road, Marsden Park. Potential noise and vibration impacts on nearby developments have been assessed.

Provided that the mitigation techniques and vibration monitoring recommended in Sections 8, 9, 10 & 11 of this report are adopted, noise and vibration impacts on the adjacent buildings are expected to be acceptable.

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

Yours faithfully,

Acoustic Logic Pty Ltd
Lillian Lockett
APPENDIX M

Stormwater Management Plan
WAREHOUSES 2 & 3
STORMWATER MANAGEMENT PLAN

MARSDEN PARK INDUSTRIAL
ESTATE (SSD8606):
LOTS 23 & 24 IN DP 262886
HOLLINSWORTH ROAD
MARSDEN PARK  NSW

Prepared For:
Logos Property
Level 29 Aurora Place
88 Phillip Street
SYDNEY  NSW  2000

Prepared by:
Costin Roe Consulting
Level 1, 8 Windmill Street
WALSH BAY  NSW  2000

Rev: E
## DOCUMENT VERIFICATION

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<td><strong>Client Contact</strong></td>
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<th><strong>Signature</strong></th>
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<tr>
<td>Prepared by</td>
<td>Shahid Mahfouz</td>
</tr>
<tr>
<td>Checked by</td>
<td>Daniel Soliman</td>
</tr>
<tr>
<td>Issued by</td>
<td>Shahid Mahfouz</td>
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1 INTRODUCTION

Costin Roe Consulting Pty Ltd has been commissioned by Logos Property to prepare this Stormwater Management Plan for the proposed Warehouses 2 & 3 to support a modification application to the existing SSD8606 consent.

With reference to Figure 1.1, construction of Stages 1 and 2 of the industrial estate have now been completed. Logos Property now proposes to construct two warehouse facilities in place of the previously proposed Building 3 (Stage 3) and will now represent Stage 4 of the development in reference to Figure 1.1. The proposed development property comprises an area of approximately 8.78 Ha as shown in Figure 1.2.

Figure 1.1. SSD8606 Staging Plan & Current Development Footprint
Figure 1.2. Estate & Proposed Development Layout

It is noted that previous applications for subdivision and infrastructure works have been granted over the land by Blacktown City Council under DA 15-275 dated 9 September 2015. The previous approval included subdivision of the land, earthworks and half road construction of the extension of Hollinsworth Road. A subsequent S96 and amending development approval application over the land relating to earthworks and road construction has been lodged by Logos Property and approved by Blacktown City Council. This SSD Application relates to the construction of two new warehouse facilities with ancillary office space, truck circulation and loading/unloading areas and associated car parking on the 8.78 Ha land parcel.

The existing site has undergone cut to fill earthworks (approved under DA 15-275 dated 9 September 2015) and comprises benched building pads to suit future construction of industrial buildings. The previous use is noted to have been rural and bushland.

This report provides a summary of the following design principles and operational requirements of the stormwater management for the proposed warehouse facilities 2 & 3 in accordance with the following requirements of Condition B22 & B23 of SSD_8606 and the stormwater management plan prepared and approved under SSD_8606:

- Management of stormwater quantity
- Management of stormwater quality;
- Flooding Considerations; and
- Erosion & Sediment Control.
The engineering objectives for the development are to provide a civil engineering solution which considers the existing benched pads, to provide an appropriate and economical stormwater management system which incorporates best practice in water sensitive urban design and is consistent with the requirements of council’s water quality objectives and takes into consideration previously approved engineering strategies over the land.

The consent authority is the NSW Department of Planning and Environment. As the site is located within the Blacktown City Council local government area, the requirements of the Blacktown City Council Engineering Guide for Development and Part J of the Development Control Plan 2015 are to be considered for the development.

The site is also located within the Marsden Park Industrial Precinct and the requirements of Schedule 3 Marsden Park Industrial Precinct & Blacktown City Council Growth Centres Development Control Plan documents produced by Blacktown City Council.

It is noted that, at the time of the submission of this Revision D of the stormwater management plan, that Building 2 has been approved and is near to completion of the construction period. The information pertaining to Building 2, is included in this revision for consistency with the approval, however not intended to be assessed as part of the current submission. Building 3 is however proposed for construction. This report Revision D includes adjustment to the previously approved operational stormwater management plan to adjust the intent for an interim detention system to be provided on the property due to the anticipated completion of Regional Detention E which will provide the necessary stormwater quantity management, as defined in the Sydney Business Park Masterplan.
2 DEVELOPMENT SITE

2.1 Site Description

The proposed site is located on Lot 24 in DP262886, and is approximately 8.78 Ha in area, generally rectangular in shape and located within Blacktown City Council Local Government Area. As noted, the site is located within the Marsden Park Industrial Estate and requires consideration to the approved precinct wide policies. This SWMP has been prepared for the proposed Buildings 2A, 2B and 3 which are anticipated for construction within Stage 4 of the Marsden Park Industrial Estate.

The property is located on the southern side of the Hollinsworth Road extension in the suburb of Marsden Park as shown in Figure 2.1.

![Figure 2.1 Locality Plan (Source: Nearmap 2019)](image)

The site is bounded on the north by a residential caravan park/ removable home development (Ingenia Property), to the east by Industrial facilities, to the south by undeveloped lands, and to the west by the proposed future development of the Orrcon Steel facility.

Access to the site is via Hollinsworth Road at the north-east corner of the site. The ground level at the termination point of Hollinsworth Road, being a partially formed cul-de-sac head, is approximately RL 54.5m AHD. The proposed site has undergone cut to fill earthworks to a certain extent (approved under DA 15-275 dated 9 September 2015).

Further discussion relating to catchments is made in the Stormwater Management section of the report following.
2.2 Proposed Development

The proposed development is for the construction of two new single level warehouses at Lots 23 & 24 Hollinsworth Road, Marsden Park. The warehouses are proposed to be built within Stage 4 of the Marsden Park Industrial Estate. The proposed developments comprise ancillary office spaces, truck circulation and loading/unloading areas and associated car parking and landscaping areas. The overall building areas cover around 4.99 Ha of the overall 8.78 Ha site as shown in Figures 2.2 & 2.3.

Figure 2.2 Proposed Developments (Warehouses 2A & 2B) Layout
Figure 2.3 Proposed Development (Warehouse 3) Layout
3 STORMWATER DRAINAGE

3.1 Site Drainage

3.1.1 Pre-Existing and Current Site Drainage

The existing site has undergone cut to fill earthworks (approved under DA 15-275 dated 9 September 2015). As part of these works a series of sediment and temporary detention basins were constructed. A sedimentation basin has been constructed at the north-west end of the proposed Warehouse developments as revealed in Figure 2.1.

Prior to the cut to fill works described above, the pre-existing site was undeveloped with little to no formal drainage located on site.

A catchment, with an area of 12.89 Ha, drains to Hollinsworth Road on the northern side of the property and ultimately to Sydney Business Park Basin E. The second catchment, with an area of 2.35 Ha, drains from the site through private property at the north-east corner of the development site and ultimately to the proposed Sydney Business Park Basin E as well. A third catchment drains with an area of 1.45 Ha to the east of the site, to an existing basin and ultimately to an existing overland flow path, where it ultimately joins with the remaining 5.29 Ha catchment. These two catchments drain to the south-east, through an existing flow path within the future RMS road corridor, toward an existing SP2 zoned drainage corridor which ultimately drains to Sydney Business Park Basin G, via an open channel and creek within the Ahmadiyya Muslim Association Australia land.

As part of the Sydney Business Park development, a series of regional detention basins have been either designed and constructed or designed and approved for future construction. As we understand the Sydney Business Park Precinct catchment breakdown allows for the development site to drain to Basins E and G. These regional basins allow for attenuation of the site, and for water quality of Section 94 roads. At the time of writing, the construction of Basin E and Basin G are only partially completed.

3.1.2 Proposed Stage 4 Infrastructure Drainage

As per general engineering practice and the guidelines of BCC, the proposed stormwater drainage system for the development will comprise a minor and major system to safely and efficiently convey collected stormwater run-off from the development.

The minor system is to consist of a piped drainage system which has been designed to accommodate the 1 in 20-year ARI storm event (Q20). This results in the piped system being able to convey all stormwater runoff up to and including the Q20 event. The major system through new paved areas has been designed to cater for storms up to and including the 1 in 100-year ARI storm event (Q100). The major system employs the use of defined overland flow paths to safely convey excess run-off from the site to the discharge point.

The catchment configuration for the overall estate is as follows:

- The existing 5.29 Ha RMS land catchment, located along the southern boundary of lots 1 & 2, will be diverted around the site via a series of pits and pipes in a 3.5m wide easement and ultimately to Basin E. This drainage system is subject to approval under the existing subdivision and infrastructure development application approval DA 15-275.
- The proposed extension of Hollinsworth Road, which has a total catchment area of 1.48Ha, drains to the west via pits and pipes within the road, and ultimately discharges to Basin E. This drainage system is subject to approval under the existing subdivision and infrastructure development application approval DA 15-275.

- The proposed Buslink road (Daniel’s Road), which has a total catchment area of 0.52Ha, drains to either the north or the south, generally consistent with the existing site topography. No formal drainage is proposed under this approval or the separate DA approval for infrastructure works. Runoff from this area shall be captured in temporary swales as noted in the Costin Roe Amending Development Application documents in Appendix B.

- Lot 1 (being Stage 3) is currently composed of 6.1 Ha collected by on-site drainage. Flows from the proposed Building 1 within Lot 1 (occupying 3.644 Ha Land) will be attenuated with on-site detention (OSD) and discharge to Hollinsworth road per the above approval. The site is set to have approximately 0.422 Ha bypassing the formalised drainage - the flows from this bypass shall be accounted for in the OSD. The remainder of the 6.1 Ha site (being approximately 2.46 Ha) will be dedicated during Stage 4 for the proposed Warehouses 2 & 3 in Lot 2 of the Marsden Park Industrial Estate.

- Lot 3 (being Stage 1 & Stage 2) has been previously proposed to have the 6.96 Ha collected by on-site drainage. Flows from this area are attenuated by the OSD and ultimately discharge to the existing low-point in the RMS corridor. The remainder of Lot 3 (~0.34Ha) would bypass formalised drainage – the flows from this bypass shall be accounted for in the OSD.

The catchment configuration for this development (Lot 2) is as follows:

- Lot 2 (being stage 4) was originally approved with an area of approximately 6.32 Ha. The site is now proposed to be increased to have an area of 8.78 Ha. The additional area of 2.46 Ha being comprised of residual area from the former Lot 1 configurations.

**Building 2**

- The proposed Building 2A & 2B stormwater management system will be provided via a combined on-site detention (OSD) and stormwater quality tank which will attenuate and treat flows. A single stormwater management tank is proposed for the Building 2 configuration, with the tank situated within Warehouse 2A’s hardstand. The tank is sized for the site catchments accordingly.

- Stormwater quality management is proposed to be managed by an Ocean Protect StormFilter filtration system integrated within the OSD Tank.

- Stormwater quantity management measures will be performed via OSD as per BCC’s requirements. Flows from the proposed Warehouse 2 & some landscaped bypass from Warehouse 3 (occupying 4.068 Ha) will be attenuated with on-site detention (OSD) and discharge to Hollinsworth Road per the above approval.
Building 3

- The proposed stormwater management system for Building 3 will be provided by a stormwater quality system which will treat flows prior to discharge from the property. Water quantity will be managed off-site via a regional basin within the Sydney Business Park.
- Stormwater quality management is proposed to be managed by an Ocean Protect StormFilter filtration system integrated into a single underground tank. The system will be sized for these site’s catchments accordingly.
- Flows from the proposed Building 3 within Lot 2 (occupying 4.502 Ha) will be attenuated by Regional Detention Basin E constructed by Sydney Business park. We understand that the basins, although currently being constructed, have been designed (currently under council assessment) to cater for the attenuation of the development runoff and will be operational prior to operational phase of this development.

3.1.3 Proposed Building/ Lot Drainage for Warehouses 2 & 3

The design of the stormwater system for this site will be based on relevant national design guidelines, Australian Standard Codes of Practice, the standards of BCC and accepted engineering practice and as defined in the Sydney Business Park Stormwater Management Strategy. Runoff from buildings will generally be designed in accordance with AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage. Overall site runoff and stormwater management will generally be designed in accordance with the Institution of Engineers, Australia publication “Australian Rainfall and Runoff” (1988 Edition), Volumes 1 and 2 (AR&R).

Water quality and re-use are to be considered in the design to ensure that any increase in the detrimental effects of pollution is mitigated, BCC Water Quality Objectives are met and that the demand on potable water resources is reduced. This document confirms the requirements for future development lots based on a whole of catchment approach, allowing for treatment the proposed Hollinsworth Road extension to be completed within regional basins and treatment of buildings being performed on lot.

The provided concept stormwater management for building each lot will comprise the following elements, which are further described and quantified in following sections:

- Minor drainage system consisting of a piped drainage system designed to accommodate the 1 in 20-year ARI storm event (Q20).
- Major drainage system through new paved areas has been designed to cater for storms up to and including the 1 in 100-year ARI storm event (Q100);
- Stormwater Quantity Management System via two underground OSD tanks to attenuate post development stormwater runoff to pre-developed and satisfies BCC’s requirements.
- Stormwater quality system which meets the load-based pollution reduction requirements of Blacktown City Council Part J DCP2015; and
- Rainwater reuse which reduces demand on non-potable water use by 80% as per Blacktown City Council Part J DCP2015.
3.2 Hydrologic Modelling and Analysis

3.2.1 General Design Principles

The design of the stormwater system for this site will be based on relevant national design guidelines, Australian Standard Codes of Practice, Blacktown City Council and accepted engineering practice.

Specifically, the design will be based on:

- Runoff from buildings will generally be designed in accordance with AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage;
- Overall site runoff and stormwater management will generally be designed in accordance with the Institution of Engineers, Australia publication “Australian Rainfall and Runoff” (1987 Edition), Volumes 1 and 2 (AR&R) – It is noted that a design principle is not yet in place for on-site detention systems using AR&R 2016 data;
- Blacktown City Council’s Engineering Guidelines for Development 2005;
- Storm events for the 2 to 100 Year ARI event have been assessed.

3.2.2 Minor/ Major System Design

The piped stormwater drainage (minor) system has been designed to accommodate the 20-year ARI storm event (Q20). Overland flow paths (major) which will convey all stormwater runoff up to and including the Q100 event have also been provided which will limit major property damage and any risk to the public in the event of a piped system failure.

3.2.3 Rainfall Data

Rainfall intensity Frequency Duration (IFD) data used as a basis for ILSAX and RAFTS modelling for the 2 to 100 Year ARI events, was taken from Blacktown City Council’s Engineering Guidelines for Development 2005.

3.2.4 Runoff Models

In accordance with the recommendations and standards of Blacktown City Council, the calculation of the runoff from storms of the design ARI will be calculated with the catchment modelling software DRAINS. The ILSAX hydrological model component will be utilised for the post-development site and the RAFTS model component for broad scale catchments. This will be in accordance with previous studies and approvals for land in the area.

The design parameters for the ILSAX model are to be based on the recommendations as defined by BCC and parameters for the area and are as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Model for Design and analysis run</th>
<th>Rational method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rational Method Procedure</td>
<td>ARR87</td>
</tr>
<tr>
<td></td>
<td>Soil Type-Normal</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Paved (Impervious) Area Depression Storage</td>
<td>1 mm</td>
</tr>
<tr>
<td></td>
<td>Supplementary Area Depression Storage</td>
<td>1 mm</td>
</tr>
</tbody>
</table>
Grassed (Pervious) Area Depression Storage (Post Development) & 5 & mm \\
Grassed (Pervious) Area Depression Storage (Pre-Development) & 15 & mm \\
AMC Antecedent Moisture Condition (ARI=1-5 years) & 2.5 & \\
AMC Antecedent Moisture Condition (ARI=10-20 years) & 3.0 & \\
AMC Antecedent Moisture Condition (ARI=50-100 years) & 3.5 & \\
Sag Pit Blocking Factor (Minor Systems) & 0 & \\
On Grade Pit Blocking Factor (Minor Systems) & 0 & \\
Sag Pit Blocking Factor (Major Systems) & 0.5 & \\
On Grade Pit Blocking Factor (Major Systems) & 0.2 & \\

Table 3.1. DRAINS ILSAX Parameters

3.3 Hydraulics

3.3.1 General Requirements

Hydraulic calculations will be carried out utilising DRAINS modelling software during the detail design stage to ensure that all surface and subsurface drainage systems perform to or exceed the required standard.

3.3.2 Freeboard

The calculated water surface level in open junctions of the piped stormwater system will not exceed a freeboard level of 150mm below the finished ground level, for the peak runoff from the Minor System runoff. Where the pipes and junctions are sealed, this freeboard would not be required.

Freeboard of 300mm has been achieved to building levels during the Major Storm Event.

3.3.3 Public Safety

For all areas subject to pedestrian traffic, the product (dV) of the depth of flow d (in metres) and the velocity of flow V (in metres per second) will be limited to 0.4, for all storms up to the 100-year ARI.

For other areas, the dV product will be limited to 0.6 for stability of vehicular traffic (whether parked or in motion) for all storms up to the 100-year ARI.

3.3.4 Inlet Pit Spacing

The spacing of inlets throughout the site will be such that the depth of flow, for the Major System design storm runoff, will not exceed the top of the kerb (150mm above gutter invert).

3.3.5 Overland Flow

Dedicated flow paths have been designed to convey all storms up to and including the 100-year ARI. These flow paths will convey stormwater from the site to the estate road system.
3.4 **External Catchments and Flooding**

Stage 4 is not affected by any overland flow paths or external catchments. As such no allowance for conveyance of upstream catchments is required in this SWMP.

3.5 **Stormwater Management**

The proposed stormwater management for Stage 4 will be required to be consistent with Blacktown City Councils DCP2015 Part J and generally in accordance with the approved arrangement and Council Memo’s.

*Sections 4 & 5* of this report describe the arrangement for the proposed Stormwater Management and objectives as designed.
4 STORMWATER QUANTITY MANAGEMENT

4.1 Introduction

Blacktown City Council requires water quantity to be managed to limit the runoff discharged from private property into the underground piped drainage system to pre-developed flow and to assist in mitigating the increased stormwater runoff generated from the early works carried out. Water quantity management is sometimes referred to as stormwater detention, or on-site detention (OSD).

The current layout allows for the proposed Lot 2 development, consisting of a site area of 8.78 Ha discharging to the proposed Hollinsworth Road extension drainage system. The Lot 2 development (comprised of Warehouse’s 2 & 3) will discharge into the proposed downstream Hollinsworth Road Kerb Inlet Pit R01/09. The Hollinsworth Road drainage network will then discharge into downstream trunk drainage channel TC04. This channel ultimately drains to the under construction Regional Detention Basin E which is located north of the site in the Sydney Business Park.

Detention Basin E has been designed to cater for attenuation of runoff from this site and on completion of construction will fully manage runoff from this development. Completion of Basin E construction is expected to occur prior to operation of Building 3 but not Building 2. As a result, on-site stormwater attenuation is proposed as part of the development for Building 2 but not Building 3.

The methodology employed to determine the attenuation requirements are based on assessing storms for the 1 in 2-year ARI to the 1 in 100-year ARI for the pre and post development phases. Given the pre and post development surfaces are both considered pervious, the pre-developed flows have been assessed based on a 15mm depression depth and the post development based on a fully impervious industrial lot. This is in line with Blacktown Councils requirements as set out in discussions with Tony Merrilees (Blacktown City Council’s Senior Stormwater Engineer).

4.2 Existing & Post Development Peak Flows

Intensity/Frequency/Duration (IFD) data was adopted from councils Development Guidelines used in conjunction with rational method calculations to estimate peak flows for the site and surrounding catchments. A DRAINS model was configured as per the layout in Appendix F.

The attenuation volume for the proposed OSD tank has been assessed based on attenuating the post development flow to pre-development flow for a pre-development Building 2 catchment of 4.068 Ha and storms ranging from 1 in 2-year ARI to 1 in 100-year ARI. The flow rates and attenuation volumes for the detention systems have been provided in Tables 4.1 & 4.2.

The pre-development site discharge volumes for the proposed Building 2 development is provided in Table 4.1 below.
<table>
<thead>
<tr>
<th>ARI</th>
<th>Design Storm Duration</th>
<th>Undeveloped</th>
<th>Site (No Attenuation)</th>
<th>OSD Tank</th>
<th>Total Outflow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Site (Attenuation)</td>
<td>Bypass</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1 hr</td>
<td>0.557</td>
<td>0.676</td>
<td>0.342</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td>2 hr</td>
<td>0.529</td>
<td>0.623</td>
<td>0.338</td>
<td>0.021</td>
</tr>
<tr>
<td></td>
<td>3 hr</td>
<td>0.402</td>
<td>0.460</td>
<td>0.294</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>6 Hr</td>
<td>0.293</td>
<td>0.301</td>
<td>0.252</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>12 Hr</td>
<td>0.272</td>
<td>0.274</td>
<td>0.239</td>
<td>0.008</td>
</tr>
<tr>
<td>20</td>
<td>20 min</td>
<td>0.791</td>
<td>1.190</td>
<td>0.418</td>
<td>0.048</td>
</tr>
<tr>
<td></td>
<td>30 min</td>
<td>0.918</td>
<td>1.170</td>
<td>0.433</td>
<td>0.050</td>
</tr>
<tr>
<td></td>
<td>1 hr</td>
<td>0.960</td>
<td>1.150</td>
<td>0.595</td>
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</tr>
<tr>
<td></td>
<td>2 hr</td>
<td>0.908</td>
<td>1.060</td>
<td>0.590</td>
<td>0.050</td>
</tr>
<tr>
<td></td>
<td>3 hr</td>
<td>0.762</td>
<td>0.861</td>
<td>0.420</td>
<td>0.027</td>
</tr>
<tr>
<td></td>
<td>6 Hr</td>
<td>0.507</td>
<td>0.510</td>
<td>0.346</td>
<td>0.016</td>
</tr>
<tr>
<td></td>
<td>12 Hr</td>
<td>0.476</td>
<td>0.478</td>
<td>0.333</td>
<td>0.015</td>
</tr>
<tr>
<td>100</td>
<td>20 min</td>
<td>1.040</td>
<td>1.530</td>
<td>0.813</td>
<td>0.066</td>
</tr>
<tr>
<td></td>
<td>30 min</td>
<td>1.180</td>
<td>1.460</td>
<td>0.924</td>
<td>0.062</td>
</tr>
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<td></td>
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<td>1.130</td>
<td>0.061</td>
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<tr>
<td></td>
<td>2 hr</td>
<td>1.130</td>
<td>1.310</td>
<td>1.160</td>
<td>0.063</td>
</tr>
<tr>
<td></td>
<td>3 hr</td>
<td>0.937</td>
<td>1.050</td>
<td>0.717</td>
<td>0.034</td>
</tr>
<tr>
<td></td>
<td>6 Hr</td>
<td>0.647</td>
<td>0.649</td>
<td>0.415</td>
<td>0.021</td>
</tr>
</tbody>
</table>

Table 4.1. Peak Flows from Building 2
Post development site discharge volumes, as well as the provided detention volumes and depths for Warehouse 2’s OSD tank are provided in Table 4.2 below.

<table>
<thead>
<tr>
<th>ARI</th>
<th>Duration (mins)</th>
<th>No Attenuation</th>
<th>Q2 Orifice</th>
<th>Q20 Weir</th>
<th>Q100 Emergency</th>
<th>Bypass</th>
<th>Total</th>
<th>Depth (mm)</th>
<th>Storage (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1 Hr</td>
<td>0.729</td>
<td>0.342</td>
<td>0</td>
<td>0.150</td>
<td>0.347</td>
<td>510</td>
<td>398</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>2 Hr</td>
<td>1.241</td>
<td>0.451</td>
<td>0.145</td>
<td>0.050</td>
<td>0.607</td>
<td>1120</td>
<td>875</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>2 Hr</td>
<td>1.739</td>
<td>0.469</td>
<td>0.687</td>
<td>0.068</td>
<td>1.170</td>
<td>1260</td>
<td>985</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.2. Warehouse 2 - Detention System Flow and Volume Requirements

As shown in Table 4.2 above, an active detention storage of 985m³ is required in Warehouse 2 OSD tank to attenuate the post development flows to pre-development flows for the 4.07Ha catchment, which will discharge into the proposed council drainage infrastructure along Hollinsworth Road, Marsden Park.

It is noted that, in addition to the confirmation of detention storage through modelled stage discharge, council also require that a minimum storage of 455m³/Ha in the 100-year ARI event is met, as such the provided storage will be required to increase to in order to meet BCC’s minimum site storage requirement (SSR) rate for the whole of Lot 2.

Based on the assessment above, a minimum active storage of 1865m³ for Warehouse 2 will be adopted for the development.

As discussed in earlier sections, based on the approval and anticipated completion of Regional Basin E, detention storage for Building 3 will not be required and is not proposed as part of the development.
5 STORMWATER QUALITY CONTROLS

5.1 Stormwater Management Objectives

There is a need to provide design which incorporates the principles of Water Sensitive Urban Design (WSUD) and to target pollutants that are present in the stormwater so as to minimise the adverse impact these pollutants could have on receiving waters and to also meet the requirements specified by the Blacktown City Council.

Stormwater quality will comprise a treatment train which meets the percentage-based pollution reduction objectives of Blacktown Council Policy DCP2015 Part J.

The water quality objectives for the entire development are presented in terms of annual percentage pollutant reductions on a developed catchment:

- Gross Pollutants: 90%
- Total Suspended Solids: 85%
- Total Phosphorus: 65%
- Total Nitrogen: 45%
- Total Hydrocarbons: 90%

Water quality for development lots will be completed as part of individual future development applications for building development. Water quality measures will need to be provided for each lot in accordance with Blacktown City Council DCP2015 Part J reductions quoted above and proven by MUSIC modelling.

It is noted that provision for water quality treatment of the catchments associated with the Hollinsworth Road extension have been accounted for in the overall precinct Stormwater Management Strategy and S94 Contribution plan. Allowance for treatment of these catchments has been made in water quality measures provided in the Sydney Business Park Regional Basins E and G. As such no allowance for water quality treatment associated with these road corridors is required in the current SSD Approval.

5.2 Proposed Stormwater Treatment System

Roof, hardstand, car parking, roads, other paved areas and landscaping areas are required to be treated by the Stormwater Treatment Measures (STM’s). The STM’s shall be sized according to the whole catchment area of the development, except the S94 roads. The STM’s for the development shall be based on a treatment train approach to ensure that all of the objectives above are met. A concept for the treatment of each building has been presented which would need to be confirmed at detail design stage to meet the load-based objectives noted above.
Components of the treatment train for each building are expected to comprise the following elements:

- Primary treatment to parking areas, hardstand areas and majority of roof areas is to be performed via Ocean Protect OceanGuards OG200 Pit Inserts and a Gross Pollutant Trap;
- Tertiary treatment is to be made via Stormfilter Cartridges in a Stormfilter Chamber within the Proposed OSD’s for Buildings 2A, 2B and 3.
- A portion of the roof will also be treated via rainwater reuse and settlement within the proposed rainwater tanks.
- Hydrocarbon removal to be completed by treatment within the pit inserts as discussed in Section 5.4.

In order to estimate the number of Stormfilter cartridges and number of Oceanguard pit inserts required to meet the requirements of councils load based pollution reduction objectives, a MUSIC model has been prepared and generated.

5.3 Stormwater Quality Modelling

5.3.1 Introduction

The MUSIC model was chosen to model water quality. This model has been released by the Cooperative Research Centre for Catchment Hydrology (CRCCH) and is a standard industry model for this purpose. MUSIC (the Model for Urban Stormwater Improvement Conceptualisation) is suitable for simulating catchment areas of up to 100 km² and utilises a continuous simulation approach to model water quality.

By simulating the performance of stormwater management systems, MUSIC can be used to predict if these proposed systems and changes to land use are appropriate for their catchments and are capable of meeting specified water quality objectives (CRC 2002). The water quality constituents modelled in MUSIC and of relevance to this report include Total Suspended Solids (TSS), Total Phosphorus (TP) and Total Nitrogen (TN).

The pollutant retention criteria set out in Part J of BCC’s DCP2015 and nominated in Section 5.1 of this report were used as a basis for assessing the effectiveness of the selected treatment trains.

The MUSIC model “12829.15-Rev3.sqe” was set up to examine the effectiveness of the water quality treatment train and to predict if BCC requirements have been achieved. The model was set up using the latest Blacktown City Council MUSICLINK parameters and the layout of the MUSIC model is presented in Appendix B.
5.3.2 Rainfall Data

Six-minute pluviographic data was provided by BCC which has been sourced from the Bureau of Meteorology (BOM) as nominated below. Evapo-transpiration data for the period was sourced from the Sydney Monthly Areal PET data set supplied with the MUSIC software.

<table>
<thead>
<tr>
<th>Input</th>
<th>Data Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall Station</td>
<td>67035 Liverpool (Whitlam)</td>
</tr>
<tr>
<td>Rainfall Period</td>
<td>1 January 1967 – 31 December 1976 (10 years)</td>
</tr>
<tr>
<td>Mean Annual Rainfall (mm)</td>
<td>857</td>
</tr>
<tr>
<td>Evapotranspiration</td>
<td>Sydney Monthly Areal PET</td>
</tr>
<tr>
<td>Model Timestep</td>
<td>6 minutes</td>
</tr>
</tbody>
</table>

5.3.3 Rainfall Runoff Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall Threshold</td>
<td>1.40</td>
</tr>
<tr>
<td>Soil Storage Capacity (mm)</td>
<td>170</td>
</tr>
<tr>
<td>Initial Storage (% capacity)</td>
<td>30</td>
</tr>
<tr>
<td>Field Capacity (mm)</td>
<td>70</td>
</tr>
<tr>
<td>Infiltration Capacity Coefficient a</td>
<td>210</td>
</tr>
<tr>
<td>Infiltration Capacity exponent b</td>
<td>4.7</td>
</tr>
<tr>
<td>Initial Depth (mm)</td>
<td>10</td>
</tr>
<tr>
<td>Daily Recharge Rate (%)</td>
<td>50</td>
</tr>
<tr>
<td>Daily Baseflow Rate (%)</td>
<td>4</td>
</tr>
<tr>
<td>Daily Seepage Rate (%)</td>
<td>0</td>
</tr>
</tbody>
</table>

5.3.4 Pollutant Concentrations & Source Nodes

Pollutant concentrations for source nodes are based on BCC land use parameters as per the Table 5.1.:

<table>
<thead>
<tr>
<th>Flow Type</th>
<th>Surface Type</th>
<th>TSS (log_{10} values) Mean</th>
<th>TSS (log_{10} values) Std Dev.</th>
<th>TP (log_{10} values) Mean</th>
<th>TP (log_{10} values) Std Dev.</th>
<th>TN (log_{10} values) Mean</th>
<th>TN (log_{10} values) Std Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseflow</td>
<td>Roof</td>
<td>1.20</td>
<td>0.17</td>
<td>-0.85</td>
<td>0.19</td>
<td>0.11</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>Roads</td>
<td>1.20</td>
<td>0.17</td>
<td>-0.85</td>
<td>0.19</td>
<td>0.11</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>Landscaping</td>
<td>1.20</td>
<td>0.17</td>
<td>-0.85</td>
<td>0.19</td>
<td>0.11</td>
<td>0.12</td>
</tr>
<tr>
<td>Stormflow</td>
<td>Roof</td>
<td>1.30</td>
<td>0.32</td>
<td>-0.89</td>
<td>0.25</td>
<td>0.30</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td>Roads</td>
<td>2.43</td>
<td>0.32</td>
<td>-0.30</td>
<td>0.25</td>
<td>0.34</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td>Landscaping</td>
<td>2.15</td>
<td>0.32</td>
<td>-0.6</td>
<td>0.25</td>
<td>0.30</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Table 5.1. Pollutant Concentrations

The MUSIC model has been setup with a treatment train approach based on the pollutant concentrations in Table 5.1 above and the catchments shown in Table 5.2.

The relevant stormwater catchment sizes are listed below in Table 5.2 and shown in Appendix B.
<table>
<thead>
<tr>
<th>Catchment</th>
<th>Area (Ha)</th>
<th>Source Node</th>
<th>% Impervious</th>
<th>Stormwater Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building 2, 2A &amp; 3 – Stage 4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof (R1) to RWT</td>
<td>0.536</td>
<td>Roof</td>
<td>100%</td>
<td>Rainwater Tank/StormFilter Cartridges</td>
</tr>
<tr>
<td>Roof (R2)</td>
<td>0.536</td>
<td>Roof</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Roof (R3)</td>
<td>1.071</td>
<td>Roof</td>
<td>100%</td>
<td>Gross Pollutant Trap/StormFilter Cartridges</td>
</tr>
<tr>
<td>Roof (R4) to RWT</td>
<td>0.665</td>
<td>Roof</td>
<td>100%</td>
<td>Rainwater Tank/StormFilter Cartridges</td>
</tr>
<tr>
<td>Roof (R5)</td>
<td>0.665</td>
<td>Roof</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Roof (R6)</td>
<td>1.330</td>
<td>Roof</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Warehouse 2A Carpark (A1)</td>
<td>0.203</td>
<td>Sealedroad</td>
<td>100%</td>
<td>Gross Pollutant Trap/StormFilter Cartridges</td>
</tr>
<tr>
<td>Warehouse 2B Carpark (A2)</td>
<td>0.288</td>
<td>Sealedroad</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Warehouse 3 Carpark (A3)</td>
<td>0.375</td>
<td>Sealedroad</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Hardstand (H1)</td>
<td>0.880</td>
<td>Sealedroad</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Hardstand (H2)</td>
<td>1.252</td>
<td>Sealedroad</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Estate Driveway (H3)</td>
<td>0.251</td>
<td>Sealedroad</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Estate Driveway Bypass (H3 Bypass)</td>
<td>0.033</td>
<td>Sealedroad</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert</td>
</tr>
<tr>
<td>Fire Trail (H4)</td>
<td>0.204</td>
<td>Sealedroad</td>
<td>100%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Landscape (LS1)</td>
<td>0.152</td>
<td>RevegetatedLand</td>
<td>0%</td>
<td>Bypass</td>
</tr>
<tr>
<td>Landscape (LS2)</td>
<td>0.095</td>
<td>RevegetatedLand</td>
<td>0%</td>
<td>Bypass</td>
</tr>
<tr>
<td>Landscape (LS3)</td>
<td>0.121</td>
<td>RevegetatedLand</td>
<td>0%</td>
<td>OceanGuard OG 200 Pit Insert/StormFilter Cartridges</td>
</tr>
<tr>
<td>Landscape (LS4)</td>
<td>0.060</td>
<td>RevegetatedLand</td>
<td>0%</td>
<td>Bypass</td>
</tr>
<tr>
<td>Landscape (LS5)</td>
<td>0.063</td>
<td>RevegetatedLand</td>
<td>0%</td>
<td>Bypass</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8.78</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.2. Music Model Source Nodes
5.3.5 Treatment Nodes

Rainwater tank, OceanGuard OG200, Gross Pollutant Trap (GPT) and Stormfilter Chamber and Filters’ Nodes have been used in the modelling of the development.

5.3.6 Results

Table 6.3 shows the results of the MUSIC analysis. The reduction rate is expressed as a percentage and compares the post-development pollutant loads without treatment versus post-development loads with treatment over the modelled 1 Ha catchment.

<table>
<thead>
<tr>
<th>Source</th>
<th>Residual Load (ML/yr)</th>
<th>% Reduction</th>
<th>Target Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow (ML/yr)</td>
<td>61.9</td>
<td>58.7</td>
<td>5.1 NA</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>10100</td>
<td>1230</td>
<td>88.4 Y</td>
</tr>
<tr>
<td>(kg/yr)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Phosphorus (kg/yr)</td>
<td>20.7</td>
<td>7.09</td>
<td>66.1 Y</td>
</tr>
<tr>
<td>Total Nitrogen (kg/yr)</td>
<td>141</td>
<td>77.4</td>
<td>45 Y</td>
</tr>
<tr>
<td>Gross Pollutants (kg/yr)</td>
<td>1600</td>
<td>13.4</td>
<td>100 Y</td>
</tr>
</tbody>
</table>

Table 6.3. MUSIC analysis results

The model results indicate that, through the use of the STM’s in the treatment train, pollutant load reductions for Total Suspended Solids, Total Phosphorous, Total Nitrogen and Gross Pollutants will meet the requirements of Part J of BCC’s DCP 2015 over the known site configurations of Stage 4.

As can be seen, the proposed treatment train achieves reductions greater than the required pollutant reduction objectives. This will any ensure any variance in assumed arrangements in the proposed warehouse facilities drainage systems will not affect the overall outcomes of the solution.

5.3.7 Modelling Discussion

MUSIC modelling has been performed to assess the effectiveness of the selected treatment trains and to ensure that the pollutant retention requirements of Part J of BCC’s DCP2015 have been met.

The MUSIC modelling has shown that the proposed treatment train of SQID’s will provide stormwater treatment which will meet BCC requirements in an effective and economical manner.

Further discussion on hydrocarbon removal which is not readily modelled in MUSIC is provided in Section 5.4 as follows.
5.4 Hydrocarbon Removal

The proposed distribution/storage facilities (2A, 2B & 3) would be expected to produce low source loadings of hydrocarbons. Potential sources of hydrocarbons would be limited to leaking engine sumps or for accidental fuel spills/leaks and leaching of bituminous pavements (carparking only). The potential for hydrocarbon pollution is low and published data from the CSIRO indicates that average concentrations from Industrial sites are in the order of 10mg/L and we would expect source loading from this site to be near to or below this concentration as further discussed below.

Hydrocarbon removal cannot be readily modelled with MUSIC software however there is sufficient information on the expected source loads and treatment.

5.4.1 Hydrocarbon Sources

The average storm flow concentration of hydrocarbons in an industrial facility is 9.5mg/L (3 & 30mg/L 95% confidence limits) sourced from Fletcher T, Duncan H, Poelsma P & Lloyd S, 2004: Stormwater Flow and Quality, and the Effectiveness of Non-Proprietary Stormwater Treatment Measures - A review and Gap Analysis. Cooperative Research Centre for Catchment Hydrology, Technical Report 04/8;

5.4.2 OceanGuard Treatment

The following information relating to the performance of the OceanGuards OG200, which was previously known as EnviroPods has been provided by the product manufacturers, Ocean Protect (rebranded to Stormwater 360):

The EnviroPod filter has been evaluated to remove all particles above 100µm when fitted with a 200µm filter mesh. Research has shown (Walker, Allison, Wong and Wootton, 1999, pg.2) that the majority of heavy metal and contaminants found in stormwater runoff are associated with fine partials (under 500 microns). This research also stated that 70% of oils and 85% of hydrocarbons were associated with solids in the stormwater and that over a period of dry weather conditions the highest oil content was found in the sediment range of 200 to 400 microns. The removal mechanism for the EnviroPod 200micron filter is direct screening, and hence removal of particles greater than the screen opening is guaranteed.

The average O&G/Hydrocarbon reduction of the OceanGuard filter, and recommended removal rate for the treatment nodes made by Ocean Protect, is hence 77.5%. For the purpose of any simulation the lower end of this spectrum, at 70%, should be adopted.

5.4.3 Conclusion

Overall, when combining a treatment train of OceanGaurd OG200 and stormfilter cartridges, a reduction of greater than 90% of hydrocarbons is meeting the requirements of Blacktown Council Part J DCP.

It is noted that this solution has been previously assessed and agreed with Blacktown City on a similar industrial development in Eastern Creek as part of Development Consent DA14-1466 in 2014.

Given the expected low source loadings of hydrocarbons and removal efficiencies of the treatment devices we consider that the requirements of the Blacktown Council have been met.
5.5 **Stormwater Harvesting**

Stormwater harvesting refers to the collection of stormwater from the developments internal stormwater drainage system for re-use in non-potable applications. Stormwater from the stormwater drainage system can be classified as either rainwater where the flow is from roof areas, or stormwater where the flow is from all areas of the development.

For the purposes of this development, we refer to a rainwater harvesting system, where benefits of collected stormwater from roof areas over a stormwater harvesting system can be made as rainwater is generally less polluted than stormwater drainage.

Rainwater harvesting is proposed for this development with re-use for non-potable applications. Internal uses include such applications as toilet flushing while external applications will be used for irrigation. The aim is to reduce the water demand for the development by a minimum of 80% and to satisfy the requirements of Blacktown City Council DCP2015 Part J.

In general terms the rainwater harvesting system will be an in-line tank for the collection and storage of rainwater. At times when the rainwater storage tank is full rainwater can pass through the tank and continue to be discharged via gravity into the stormwater drainage system. Rainwater from the storage tank will be pumped for distribution throughout the development in a dedicated non-potable water reticulation system.

Rainwater tanks have been designed, using MUSIC software to balance the supply and demand, based on the below base water demands and the requirement of Blacktown Council DCP2015 Part J to provide 80% reduction in non-potable water demand.

**5.5.1 Internal Base Water Demand**

Indoor water demand has been based on Section 7.11 of Blacktown Council DRAFT MUSIC Modelling Guideline 2013 for an industrial/commercial development. Section 7.11 requires an allowance of 0.1kL/day/toilet or urinal. No allowance is required for disable toilets. It is noted that for this assessment, the masterplan office configurations of **Stage 4 Buildings 2A, 2B and 3** have been used to determine re-use rates. It should be noted that the proposed tanks will need to be appropriately sized during the detailed design phase of these developments.

The above rates result in the following internal non-potable demand:

<table>
<thead>
<tr>
<th>Building</th>
<th>Toilets</th>
<th>Demand (kL/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building 2</td>
<td>20 Toilets</td>
<td>2.0kL/day</td>
</tr>
<tr>
<td>Building 3</td>
<td>18 Toilets</td>
<td>1.8kL/day</td>
</tr>
</tbody>
</table>

As noted above, the final number of toilets & subsequent re-use for Buildings 1 shall be confirmed during detailed design.

**5.5.2 External Base Water Demand**

The external base water demand has also been based on Section 7.11 of Blacktown Council DRAFT MUSIC Modelling Guideline 2013 for an industrial development. Section 7.11 requires an allowance of 0.3kL/year/m² as PET-Rain for subsurface irrigation and 0.4 kL/year/m² as PET-Rain for Sprinkler Systems.

The above regime for the landscaped area for the site gives the following yearly outdoor water demand:
Warehouse 2 Irrigated Area (0.4kL/year/m²) 1000 kL/year
Warehouse 3 Irrigated Area (0.4kL/year/m²) 760 kL/year

5.5.3 Rainwater Tank Sizing

The use of rainwater reduces the mains water demand and the amount of stormwater runoff. By collecting the rainwater run-off from roof areas, rainwater tanks provide a valuable water source suitable for flushing toilets and landscape irrigation.

Rainwater tanks have been designed, using MUSIC software to balance the supply and demand, based on the calculated base water demands and proposed roof catchment areas. Allowances in the MUSIC model have been made for high flow bypass which will be managed by a dual high flow (300mm downpipe) and low flow (100mm downpipe) roofwater collection configuration along a portion of the southern elevation of the warehouse. The final configuration, including the arrangement of downpipes shall be sized and confirmed by the hydraulic engineering consultant during the detailed design of individual warehouses.

<table>
<thead>
<tr>
<th>Building</th>
<th>Roof Catchment (m²)</th>
<th>Highflow Bypass (l/s)</th>
<th>Tank Size in MUSIC (kL)</th>
<th>Predicted Demand Reduction (%)</th>
<th>Estimated Tank (kL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5360</td>
<td>100</td>
<td>160</td>
<td>80</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>6650</td>
<td>100</td>
<td>160</td>
<td>80</td>
<td>200</td>
</tr>
</tbody>
</table>

Table 6.4. Rainwater Reuse Requirements

The MUSIC model, results summarised in Table 6.4, predicts that the requirements of Blacktown Council DCP2015 Part J (80% reduction in non-potable water demand) will be met for the development.

We note that the final configuration and sizing of the rainwater tanks is subject to detail design considerations and optimum site utilisation.

5.6 Stream Erosion Index

A Stream Erosion Index (SEI) calculation has been made, in accordance with the methodology set out in Blacktown City Councils Developer Handbook for Water Sensitive Urban Design 2013, Section 19. Blacktown City Council Growth Centre DCP requires that the post development duration of stream forming flows shall be between 3.5-5.0 times the pre-development duration of stream forming flows with a stretch target of 1.

The SEI has been calculated for the site area relating on a per-hectare basis, given that the final site arrangement has not yet been approved.

The four following steps, as defined in the council document, were used in estimating the SEI:
1. Estimate the critical flow for the receiving waterway above which mobilisation of bed material or shear erosion of bank material commences.
2. Develop and run a calibrated MUSIC model of the area of interest for predevelopment conditions to estimate the mean annual runoff volume above the critical flow.
3. Develop and run a MUSIC model for the post developed scenario to estimate the mean annual runoff volume above the critical flow.
4. Use the outputs from steps 3 and 4 to calculate the SEI for the proposed scenario.

The 2-year ARI flow for the catchment is 0.629m$^3$/s. The critical flow for the receiving water for the 2-year ARI, being 25% of the 2-year ARI, has been estimated at 0.157m$^3$/s, based on a time of concentration of 18 minutes.

A pre-developed model was set up based on the site being modelled as 100% undeveloped forest. The pre-development runoff volume, above the critical flow, based on the calibrated MUSIC model was calculated at 3 ML/yr.

The post-development runoff volume, above the critical flow, based on the post-developed MUSIC model was calculated at 11 ML/yr.

The corresponding SEI was calculated at approximately 3.67. This can be seen to be below the maximum allowable range of 3.5-5.0, hence the requirements of the SEI assessment have been met.

Refer to Appendix C for MUSIC model Output relating to the SEI.
6 MAINTENANCE AND MONITORING

It is important that each component of the water quality treatment train is properly operated and maintained. In order to achieve the design treatment objectives, a stormwater system maintenance schedule has been prepared (refer to Section 6.3).

Note that inspection frequency may vary depending on site specific attributes and rainfall patterns in the area. In addition to the maintenance requirements below it is also recommended that inspections are made following heavy rainfall or major storm events. Event heavy rain inspections should be carried out as soon as practicable following an intense period of rainfall, (i.e. greater than 100mm over 48 hours), as measured at the Horsley Park or Prospect Reservoir weather stations.

6.1 Types of Maintenance

Water Sensitive Urban Design (WSUD) assets require both proactive and reactive maintenance to ensure long term system health and performance.

Proactive maintenance refers to regular scheduled maintenance tasks, whereas reactive maintenance is required to address unscheduled maintenance issues. If an asset is not functioning as intended, then rectification may be required to restore the asset back to its desired function.

Our preferred approach is on proactive maintenance.

6.1.1 Proactive Maintenance

Proactive maintenance is a set of scheduled tasks to ensure that the WSUD asset is operating as designed.

Proactive maintenance involves:

- Regular inspections of the WSUD asset;
- Scheduled maintenance tasks for issues that are known to require regular attention (e.g. litter removal, weed control); and
- Responsive maintenance tasks following inspections for issues which require irregular attention (e.g. sediment removal, mulching, and scour management).

Proactive maintenance in the first two years after the establishment period (construction and planting phases) are the most intensive and important to the long-term success of the treatment asset.

Proactive maintenance is a cost-effective means of reducing the long-term costs associated with operating stormwater treatment assets.

Maintenance activities specific to each WSUD asset type are detailed in the inspection and maintenance schedules and checklists provided in the report. The frequency of scheduled maintenance depends on the asset type and the issue being managed.

As a general guide, scheduled maintenance should be completed on a three to four-month cycle. The checklists provided should be used as a minimum guide to scheduled maintenance tasks. The lists should be amended to suit site conditions and maintenance requirements.
Treatment assets should also be inspected at least once a year during or immediately after a significant rainfall event. This is important to confirm that the treatment system is functioning correctly under wet conditions.

A higher level of scheduled maintenance may be arranged for some treatment assets. This is often the case for treatment assets which are located in high profile locations (e.g. streetscapes and parklands), and where public amenity is considered to be a high priority. In these cases, a more frequent maintenance regime may be required to remove litter and weeds and to ensure vegetation health and cover is maintained to a high level.

6.1.2 Reactive Maintenance
Reactive maintenance is undertaken when a problem or fault is identified that is beyond the scope of proactive maintenance. Reactive maintenance may occur following a complaint about the WSUD asset (e.g. excessive odours or litter). Reactive maintenance often requires a swift response and may involve specialist equipment or skills.

6.1.3 Rectification
Rectification of a WSUD asset is undertaken when the system is not functioning as intended, and proactive and reactive maintenance activities are unable to return the asset to functional condition.

The lack of functional performance and therefore failure of a stormwater treatment asset may be related to many factors including inappropriate design, poor construction, and lack of regular maintenance or end of life cycle. In many cases, the design of assets has not included adequate consideration of the maintenance requirements, in terms of the system’s ability to cope with catchment pollutant loads (i.e. sediments) and the frequency of maintenance required to maintain the system at a functional level.

Maintenance planning at the design phase is therefore crucial to both the long-term operating costs and the expected life cycle of the treatment system. In general, the expected lifecycle of a stormwater treatment asset (e.g. a bio-retention system) that has been well designed and constructed and is regularly maintained should be at least 15-20 years.

However, the lifecycle for each treatment system will be different and related to:

- whether the system has been designed, constructed and maintained according to best practice;
- catchment characteristics (influences the quality of the stormwater);
- the age and general health of the system; and
- the type of plants that have been used in the system.

Regular asset condition assessments should be undertaken to monitor the system condition and to inform where an asset is in terms of its expected lifecycle. Renewal of a system refers to replacing the main elements of the system including:

- infrastructure;
- removing deposited sediment, removing and replacing the top soil (or filter media in the case of a bio-retention system) and profiling the top soil level back to the design levels;
- re-planting; and
- pavement and sub-layers (in the case of permeable pavements).
A WSUD specialist may be required to assess whether a treatment system has reached the end of its life cycle and to provide advice on the renewal works.

Asset condition assessments can also identify assets that need to be rectified. The decision to continue with an increased maintenance regime or to rectify an asset, and over what timeframe, can be a difficult one to make. This is because certain maintenance items are more important to overall system function than others. For example, extended ponding on the surface of a bio-retention system or persistent scouring of a swale should be addressed more rapidly than recurrent weed problems.

### 6.2 Routine Inspections and Maintenance Schedule for General Stormwater System

Routine inspections are to be carried out to assess the need for maintenance and are primarily concerned with checking the functionality of the stormwater drainage facilities; items such as drains, drainage pits, box culverts, detention tanks and rainwater reuse tank systems. Maintenance of these items is vitally important for the ongoing drainage and treatment of stormwater.

Should the inspection reveal that maintenance of any item is required, this is to be reported to the building management for action.

Items that are to be subject to Routine Inspections for Maintenance may comprise, but not be limited to those listed in the table below. This table is to be read in conjunction with the Stormwater design drawings.

It is vitally important that each component of the stormwater system is properly operated and maintained. In order to achieve the modelled and design treatment outcomes, a maintenance schedule has been prepared (below) to assist in the effective operation and maintenance of the various drainage and water quality components.
### 6.3 Stormwater Maintenance Schedule

<table>
<thead>
<tr>
<th>MAINTENANCE ACTION</th>
<th>FREQUENCY</th>
<th>RESPONSIBILITY</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SWALES/ LANDSCAPED AREAS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check density of vegetation and ensure minimum height of</td>
<td>Six monthly</td>
<td>Maintenance</td>
<td>Replant and/or fertilise, weed and water in accordance with landscape</td>
</tr>
<tr>
<td>150mm is maintained. Check for any evidence of weed</td>
<td></td>
<td>Contractor</td>
<td>consultant specifications</td>
</tr>
<tr>
<td>infestation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspect swale for excessive litter and sediment build</td>
<td>Six monthly</td>
<td>Maintenance</td>
<td>Remove sediment and litter and dispose in accordance with local</td>
</tr>
<tr>
<td>up</td>
<td></td>
<td>Contractor</td>
<td>authorities’ requirements.</td>
</tr>
<tr>
<td>Check for any evidence of channelisation and erosion</td>
<td>Six monthly/</td>
<td>Maintenance</td>
<td>Reinstate eroded areas so that original, designed swale profile is</td>
</tr>
<tr>
<td></td>
<td>After Major</td>
<td>Contractor</td>
<td>maintained</td>
</tr>
<tr>
<td></td>
<td>Storm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weed Infestation</td>
<td>Three Monthly</td>
<td>Maintenance</td>
<td>Remove any weed infestation ensuring all root ball of weed is removed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractor</td>
<td>Replace with vegetation where required.</td>
</tr>
<tr>
<td>Inspect swale surface for erosion</td>
<td>Six Monthly</td>
<td>Maintenance</td>
<td>Replace top soil in eroded area and cover and secure with biodegradable</td>
</tr>
<tr>
<td><strong>RAINWATER TANK</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for any clogging and blockage of the first flush</td>
<td>Monthly</td>
<td>Maintenance</td>
<td>First flush device to be cleaned out</td>
</tr>
<tr>
<td>device</td>
<td></td>
<td>Contractor</td>
<td></td>
</tr>
<tr>
<td>Check for any clogging and blockage of the tank inlet -</td>
<td>Six monthly</td>
<td>Maintenance</td>
<td>Leaves and debris to be removed from the inlet leaf/litter screen</td>
</tr>
<tr>
<td>leaf/litter screen</td>
<td></td>
<td>Contractor</td>
<td></td>
</tr>
<tr>
<td>Check the level of sediment within the tank</td>
<td>Every two</td>
<td>Maintenance</td>
<td>Sediment and debris to be removed from rainwater tank floor if sediment</td>
</tr>
<tr>
<td></td>
<td>years</td>
<td>Contractor</td>
<td>level is greater than the maximum allowable</td>
</tr>
<tr>
<td>MAINTENANCE ACTION</td>
<td>FREQUENCY</td>
<td>RESPONSIBILITY</td>
<td>PROCEDURE</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>----------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>depth as specified by the hydraulic consultant</td>
</tr>
<tr>
<td>INLET &amp; JUNCTION PITS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inside Pit</td>
<td>Six Monthly</td>
<td>Maintenance Contractor</td>
<td>Remove grate and inspect internal walls and base, repair where required. Remove any collected sediment, debris, litter.</td>
</tr>
<tr>
<td>Outside of Pit</td>
<td>Four Monthly/ After Major Storm</td>
<td>Maintenance Contractor</td>
<td>Clean grate of collected sediment, debris, litter and vegetation.</td>
</tr>
<tr>
<td>STORMWATER SYSTEM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Inspection of complete stormwater drainage system</td>
<td>Bi-annually</td>
<td>Maintenance Contractor</td>
<td>Inspect all drainage structures noting any dilapidation in structures and carry out required repairs.</td>
</tr>
<tr>
<td>OSD SYSTEM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspect and remove any blockage from orifice</td>
<td>Six Monthly</td>
<td>Maintenance Contractor/ Owner</td>
<td>Remove grate and screen to inspect orifice.</td>
</tr>
<tr>
<td>Inspect trash screen and clean</td>
<td>Six Monthly</td>
<td>Maintenance Contractor/ Owner</td>
<td>Remove grate and screen if required to clean it.</td>
</tr>
<tr>
<td>Inspect flap valve and remove any blockage.</td>
<td>Six Monthly</td>
<td>Maintenance Contractor/ Owner</td>
<td>Remove grate. Ensure flap valve moves freely and remove any blockages or debris.</td>
</tr>
<tr>
<td>Inspect pit sump for damage or blockage.</td>
<td>Six Monthly</td>
<td>Maintenance Contractor/ Owner</td>
<td>Remove grate &amp; screen. Remove sediment/ sludge build up and check orifice and flap valve is clear.</td>
</tr>
<tr>
<td>Inspect storage areas and remove debris/ mulch/ litter etc likely to block screens/ grates.</td>
<td>Six Monthly</td>
<td>Maintenance Contractor/ Owner</td>
<td>Remove debris and floatable materials.</td>
</tr>
<tr>
<td>Check attachment of orifice plate and screen to wall of pit</td>
<td>Annually</td>
<td>Maintenance Contractor</td>
<td>Remove grate and screen. Ensure plate or screen mounted securely, tighten fixings if required. Seal gaps if required.</td>
</tr>
<tr>
<td>MAINTENANCE ACTION</td>
<td>FREQUENCY</td>
<td>RESPONSIBILITY</td>
<td>PROCEDURE</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------</td>
<td>----------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Check orifice diameter is correct and retains sharp edge.</td>
<td>Five yearly</td>
<td>Maintenance Contractor</td>
<td>Compare diameter to design (see Work-as-Executed) and ensure edge is not pitted or damaged.</td>
</tr>
<tr>
<td>Check screen for corrosion</td>
<td>Annually</td>
<td>Maintenance Contractor</td>
<td>Remove grate and screen and examine for rust or corrosion, especially at corners or welds.</td>
</tr>
<tr>
<td>Inspect overflow weir and remove any blockage</td>
<td>Six monthly</td>
<td>Maintenance Contractor/ Owner</td>
<td>Ensure weir is free of blockage.</td>
</tr>
<tr>
<td>Inspect walls for cracks or spalling</td>
<td>Annually</td>
<td>Maintenance Contractor</td>
<td>Remove grate to inspect internal walls, repair as necessary.</td>
</tr>
<tr>
<td>Check step irons</td>
<td>Annually</td>
<td>Maintenance Contractor</td>
<td>Ensure fixings are secure and irons are free from corrosion.</td>
</tr>
</tbody>
</table>

**BIORETENTION BASIN/ SWALES**

<table>
<thead>
<tr>
<th>MAINTENANCE ACTION</th>
<th>FREQUENCY</th>
<th>RESPONSIBILITY</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check all items nominated for SWALES/ LANDSCAPED AREAS above</td>
<td>Refer to SWALES/ LANDSCAPED AREAS section above</td>
<td>Refer to SWALES/ LANDSCAPED AREAS section above</td>
<td>Refer to SWALES/ LANDSCAPED AREAS section above</td>
</tr>
<tr>
<td>Check for sediment accumulation at inflow points</td>
<td>Six monthly/ After Major Storm</td>
<td>Maintenance Contractor</td>
<td>Remove sediment and dispose in accordance with local authorities’ requirements.</td>
</tr>
<tr>
<td>Check for erosion at inlet or other key structures.</td>
<td>Six monthly/ After Major Storm</td>
<td>Maintenance Contractor</td>
<td>Reinstate eroded areas so that original, designed profile is maintained</td>
</tr>
<tr>
<td>Check for evidence of dumping (litter, building waste or other).</td>
<td>Six monthly</td>
<td>Maintenance Contractor</td>
<td>Remove waste and litter and dispose in accordance with local authorities’ requirements.</td>
</tr>
</tbody>
</table>
# Maintenance Action, Frequency, Responsibility, and Procedure

<table>
<thead>
<tr>
<th>Maintenance Action</th>
<th>Frequency</th>
<th>Responsibility</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check condition of vegetation is satisfactory (density, weeds, watering, replating, mowing/slashing etc)</td>
<td>Six monthly</td>
<td>Maintenance Contractor</td>
<td>Replant and/or fertilise, weed and water in accordance with landscape consultant specifications</td>
</tr>
<tr>
<td>Check for evidence of prolonged ponding, surface clogging or clogging of drainage structures</td>
<td>Six monthly/After Major Storm</td>
<td>Maintenance Contractor</td>
<td>Remove sediment and dispose in accordance with local authorities’ requirements. Replace filter media &amp; planting – refer to appropriately qualified engineer or stormwater specialist</td>
</tr>
<tr>
<td></td>
<td>5-10 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check stormwater pipes and pits</td>
<td>Six monthly/After Major Storm</td>
<td>Maintenance Contractor</td>
<td>Refer to INLET/JUNCTION PIT section.</td>
</tr>
</tbody>
</table>

Routine Inspections for Maintenance shall be carried out over the life of the development.

The inspections shall occur on a monthly frequency during the construction period, and shall continue on a regular basis as per the frequency specified above in perpetuity.

In addition to the normal inspection frequency nominated inspections should also be carried out following heavy rain events. Event heavy rain inspections should be carried out as soon as practicable following an intense period of rainfall, (i.e. greater than 100mm over 48 hours), as measured at Prospect Dam Weather Station No. 67019. A process to establish when periods of high rainfall occur should be put in place with Estate Management.
6.4 Records

Records detailing each of the routine inspections for maintenance should be completed during the inspection, and describe in detail any required maintenance. The inspection records are to be provided to Estate or Building Management for action and then filed appropriately.

Records of any maintenance carried out as a result of the inspection should be completed immediately after the works have been finalised and filed appropriately.

6.5 Personnel

Routine inspections for maintenance are required to establish the need for basic maintenance, as described above. On this basis, such inspections do not require professional engineering knowledge and may be carried out by any responsible person, including property management staff or maintenance staff.
7 EROSION & SEDIMENT CONTROL

An erosion and sediment control plan (ESCP) is shown on Early Works CC drawings Co12829.06-EWC20 and EWC25. These are conceptual plans only providing sufficient detail to clearly show that the works can proceed without undue pollution to receiving waters. A detailed plan will be prepared once consent is given and before works start.

7.1 General Conditions

1. The ESCP will be read in conjunction with the engineering plans, and any other plans or written instructions that may be issued in relation to development at the subject site.

2. Contractors will ensure that all soil and water management works are undertaken as instructed in this specification and constructed following the guidelines stated in Managing Urban Stormwater, Soils and Construction (1998) and BCC specifications.

3. All subcontractors will be informed of their responsibilities in minimising the potential for soil erosion and pollution to down slope areas.

7.2 Land Disturbance

1. Where practicable, the soil erosion hazard on the site will be kept as low as possible and as recommended in Table 7.1.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Limitation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction areas</td>
<td>Limited to 5 (preferably 2) metres from the edge of any essential construction activity as shown on the engineering plans.</td>
<td>All site workers will clearly recognise these areas that, where appropriate, are identified with barrier fencing (upslope) and sediment fencing (downslope), or similar materials.</td>
</tr>
<tr>
<td>Access areas</td>
<td>Limited to a maximum width of 5 metres</td>
<td>The site manager will determine and mark the location of these zones onsite. They can vary in position so as to best conserve existing vegetation and protect downstream areas while being considerate of the needs of efficient works activities. All site workers will clearly recognise these boundaries.</td>
</tr>
<tr>
<td>Remaining lands</td>
<td>Entry prohibited except for essential management works</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.1 Limitations to access
7.3 **Erosion Control Conditions**

1. Clearly visible barrier fencing shall be installed as shown on the plan and elsewhere at the discretion of the site superintendent to ensure traffic control and prohibit unnecessary site disturbance. Vehicular access to the site shall be limited to only those essential for construction work and they shall enter the site only through the stabilised access points.

2. Soil materials will be replaced in the same order they are removed from the ground. It is particularly important that all subsoils are buried and topsoils remain on the surface at the completion of works.

3. Where practicable, schedule the construction program so that the time from starting land disturbance to stabilisation has a duration of less than six months.

4. Notwithstanding this, schedule works so that the duration from the conclusion of land shaping to completion of final stabilisation is less than 20 working days.

5. Land recently established with grass species will be watered regularly until an effective cover has properly established and plants are growing vigorously. Further application of seed might be necessary later in areas of inadequate vegetation establishment.

6. Where practical, foot and vehicular traffic will be kept away from all recently established areas.

7. Earth batters shall be constructed in accordance with the Geotechnical Engineers Report or with as low a gradient as practical but not steeper than:
   - 2H:1V where slope length is less than 7 meters
   - 2.5H:1V where slope length is between 7 and 10 meters
   - 3H:1V where slope length is between 10 and 12 meters
   - 4H:1V where slope length is between 12 and 18 meters
   - 5H:1V where slope length is between 18 and 27 meters
   - 6H:1V where slope length is greater than 27 meters

8. All earthworks, including waterways/drainage/spillways and their outlets, will be constructed to be stable in at least the design storm event.

9. During windy weather, large, unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control. In the event water is not available in sufficient quantities, soil binders and/or dust retardants will be used or the surface will be left in a cloddy state that resists removal by wind.

7.4 **Pollution Control Conditions**

1. Stockpiles will not be located within 5 meters of hazard areas, including likely areas of high velocity flows such as waterways, paved areas and driveways.

2. Sediment fences will:
   - a) Be installed where shown on the drawings, and elsewhere at the discretion of the site superintendent to contain the coarser sediment fraction (including aggregated fines) as near as possible to their source.
b) Have a catchment area not exceeding 720 square meters, a storage depth (including both settling and settled zones) of at least 0.6 meters, and internal dimensions that provide maximum surface area for settling, and

c) Provide a return of 1 meter upslope at intervals along the fence where catchment area exceeds 720 square meters, to limit discharge reaching each section to 10 litres/second in a maximum 20 year t_c discharge.

3. Sediment removed from any trapping device will be disposed in locations where further erosion and consequent pollution to down slope lands and waterways will not occur.

4. Water will be prevented from directly entering the permanent drainage system unless it is relatively sediment free (i.e. the catchment area has been permanently landscaped and/or likely sediment has been treated in an approved device). Nevertheless, stormwater inlets will be protected.

5. Temporary soil and water management structures will be removed only after the lands they are protecting are stabilised.

### 7.5 Waste Management Conditions

Acceptable bind will be provided for any concrete and mortar slurries, paints, acid washings, lightweight waste materials and litter. Clearance service will be provided at least weekly.

### 7.6 Site Inspection and Maintenance

1. A self-auditing program will be established based on a Check Sheet. A site inspection using the Check Sheet will be made by the site manager:
   - At least weekly.
   - Immediately before site closure.
   - Immediately following rainfall events in excess of 5mm in any 24-hour period.

   The self-audit will include:
   - Recording the condition of every sediment control device
   - Recording maintenance requirements (if any) for each sediment control device
   - Recording the volumes of sediment removed from sediment retention systems, where applicable
   - Recording the site where sediment is disposed
   - Forwarding a signed duplicate of the completed Check Sheet to the project manager/developer for their information

2. In addition, a suitably qualified person will be required to oversee the installation and maintenance of all soil and water management works on the site. The person shall be required to provide a short monthly written report. The responsible person will ensure that:
   - The plan is being implemented correctly
• Repairs are undertaken as required
• Essential modifications are made to the plan if and when necessary

The report shall carry a certificate that works have been carried out in accordance with the plan.

3. Waste bins will be emptied as necessary. Disposal of waste will be in a manner approved by the Site Superintendent.

4. Proper drainage will be maintained. To this end drains (including inlet and outlet works) will be checked to ensure that they are operating as intended, especially that,
   • No low points exist that can overtop in a large storm event
   • Areas of erosion are repaired (e.g. lined with a suitable material) and/or velocity of flow is reduced appropriately through construction of small check dams of installing additional diversion upslope.
   • Blockages are cleared (these night occur because of sediment pollution, sand/soil/spoil being deposited in or too close to them, breached by vehicle wheels, etc.).

5. Sand/soil/spoil materials placed closer than 2 meters from hazard areas will be removed. Such hazard areas include and areas of high velocity water flows (e.g. waterways and gutters), paved areas and driveways.

6. Recently stabilised lands will be checked to ensure that erosion hazard has been effectively reduced. Any repairs will be initiated as appropriate.

7. Excessive vegetation growth will be controlled through mowing or slashing.

8. All sediment detention systems will be kept in good, working condition. In particular, attention will be given to:
   a) Recent works to ensure they have not resulted in diversion of sediment laden water away from them
   b) Degradable products to ensure they are replaced as required, and
   c) Sediment removal, to ensure the design capacity or less remains in the settling zone.

9. Any pollutants removed from sediment basins or litter traps will be disposed of in areas where further pollution to down slope lands and waterways should not occur.

10. Additional erosion and/or sediment control works will be constructed as necessary to ensure the desired protection is given to down slope lands and waterways, i.e. make ongoing changes to the plan where it proves inadequate in practice or is subjected to changes in conditions at the work site or elsewhere in the catchment.

11. Erosion and sediment control measures will be maintained in a functioning condition until all earthwork activities are completed and the site stabilised

12. Litter, debris and sediment will be removed from the gross pollutant traps and trash racks as required.
8 CONCLUSION

This Stormwater Management Plan has been prepared in relation to the proposed Warehouses 2A, 2B and 3 within Part Stage 4 of the Marsden Park Industrial Estate SSD_8606.

A civil engineering strategy for the works has been developed which provides a best practice solution within the constraints of the existing landform and proposed subdivision layout. Within this design a stormwater quantity management strategy has been developed to reduce peak flows leaving this site to remain consistent with the existing flows as a permanent fixture.

The proposed development and civil works consider the infrastructure and site servicing designs completed and submitted as part of separate development approvals to Blacktown City Council including earthworks, the widening and upgrade of Hollinsworth Road and the extension of Hollinsworth Road.

A Sediment and Erosion Control Plan will also be in place to ensure the downstream drainage system and receiving waters are protected from sediment laden runoff.
9 REFERENCES

- Part J, Development Control Plan (2015), Blacktown City Council
- Engineering Guide for Development (2005), Blacktown City Council
- Water Sensitive Urban Design – Technical Guidelines for Western Sydney (May 2004), URS Australia Pty Ltd
## GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afflux</td>
<td>The rise in water level upstream of a hydraulic structure such as a bridge or culvert, caused by losses incurred from the hydraulic structure. The change in flood surface or depth as a result in a modification or change to the hydraulic flood model scenario.</td>
</tr>
<tr>
<td>Australian Height Datum (AHD)</td>
<td>National survey datum corresponding approximately to mean sea level.</td>
</tr>
<tr>
<td>Annual Exceedance Probability (AEP)</td>
<td>The chance of a flood of a given size or larger occurring in any one year, generally expressed as percentage probability. For example, a 100 year ARI flood is a 1% AEP flood. An important implication is that when a 1% AEP flood occurs, there is still a 1% probability that it could occur the following year.</td>
</tr>
<tr>
<td>Average Recurrence Interval (ARI)</td>
<td>Is statistically the long term average number of years between the occurrence of a flood as big as, or larger than the selected flood event. An ARI is the reciprocal of the AEP.</td>
</tr>
<tr>
<td>Catchment</td>
<td>The catchment at a particular point is the area of land which drains to that point.</td>
</tr>
<tr>
<td>Depth to velocity value (DV)</td>
<td>A ratio of flow depth and velocity used as a measure of safety for pedestrians and vehicles subject to flood water. Normally a maximum DV of 0.4 is recommended for pedestrian safety and 0.6 for vehicles.</td>
</tr>
<tr>
<td>Design floor level</td>
<td>The minimum (lowest) floor level specified for a building.</td>
</tr>
<tr>
<td>Design flood</td>
<td>A hypothetical flood representing a specific likelihood of occurrence (for example the 100 year or 1% probability flood). The design flood may comprise two or more single source dominated floods.</td>
</tr>
<tr>
<td>Development</td>
<td>Existing or proposed works which may or may not impact upon flooding. Typical works are filling of land, and the construction of roads, floodways and buildings.</td>
</tr>
<tr>
<td>Discharge</td>
<td>The rate of flow of water measured in terms of volume over time. It is not the velocity of flow which is a measure of how fast the water is moving rather than how much is moving. Discharge and flow are interchangeable.</td>
</tr>
</tbody>
</table>
| Digital Terrain Model (DTM)                | A three-dimensional model of the ground surface that can be represented as a series of grids with each cell representing an
elevation (DEM) or a series of interconnected triangles with elevations (TIN).

Effective warning time  The available time that a community has from receiving a flood warning to when the flood reaches their location.

First Flush  The initial surface runoff of a rainstorm. During this phase, water pollution in areas with high proportions of impervious surfaces is typically more concentrated compared to the remainder of the storm.

Flood  Above average river, creek, channel or other flows which overtop banks and inundate floodplains or urban areas.

Flood awareness  An appreciation of the likely threats and consequences of flooding and an understanding of any flood warning and evacuation procedures. Communities with a high degree of flood awareness respond to flood warnings promptly and efficiently, greatly reducing the potential for damage and loss of life and limb. Communities with a low degree of flood awareness may not fully appreciate the importance of flood warnings and flood preparedness and consequently suffer greater personal and economic losses.

Flood behaviour  The pattern / characteristics / nature of a flood.

Flooding  The State Emergency Service uses the following definitions in flood warnings:

Minor flooding: causes inconvenience such as closing of minor roads and the submergence of low level bridges.

Moderate flooding: low-lying areas inundated requiring removal of stock and/or evacuation of some houses. Main traffic bridges may be covered.

Major flooding: extensive rural areas are flooded with properties, villages and towns isolated and/or appreciable urban areas are flooded.

Flood frequency analysis  An analysis of historical flood records to determine estimates of design flood flows.

Flood fringe  Land which may be affected by flooding but is not designated as a floodway or flood storage.

Flood hazard  The potential threat to property or persons due to flooding.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood level</td>
<td>The height or elevation of flood waters relative to a datum (typically the Australian Height Datum). Also referred to as “stage”.</td>
</tr>
<tr>
<td>Flood liable land</td>
<td>Land inundated up to the probable maximum flood – flood prone land.</td>
</tr>
<tr>
<td>Floodplain</td>
<td>Land adjacent to a river or creek which is inundated by floods up to the probable maximum flood that is designated as flood prone land.</td>
</tr>
<tr>
<td>Flood Planning Levels (FPL)</td>
<td>Are the combinations of flood levels and freeboards selected for planning purposes to account for uncertainty in the estimate of the flood level.</td>
</tr>
<tr>
<td>Flood proofing</td>
<td>Measures taken to improve or modify the design, construction and alteration of buildings to minimise or eliminate flood damages and threats to life and limb.</td>
</tr>
<tr>
<td>Floodplain Management</td>
<td>The coordinated management of activities which occur on flood liable land.</td>
</tr>
<tr>
<td>Floodplain Management Manual</td>
<td>A document by the NSW Government (2001) that provides a guideline for the management of flood liable land. This document describes the process of a floodplain risk management study.</td>
</tr>
<tr>
<td>Flood source</td>
<td>The source of the flood waters.</td>
</tr>
<tr>
<td>Floodplain Management</td>
<td>A set of conditions and policies which define the benchmark from standard which floodplain management options are compared and assessed.</td>
</tr>
<tr>
<td>Flood standard</td>
<td>The flood selected for planning and floodplain management activities. The flood may be an historical or design flood. It should be based on an understanding of the flood behaviour and the associated flood hazard. It should also take into account social, economic and ecological considerations.</td>
</tr>
<tr>
<td>Flood storages</td>
<td>Floodplain areas which are important for the temporary storage of flood waters during a flood.</td>
</tr>
<tr>
<td>Floodways</td>
<td>Those areas of the floodplain where a significant discharge of flow occurs during floods. They are often aligned with naturally defined channels or overland flow paths. Floodways are areas that, even if they are partially blocked, would cause significant redistribution of flood flows, or a significant increase in flood levels.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Freeboard</td>
<td>A factor of safety usually expressed as a height above the flood standard. Freeboard tends to compensate for the factors such as wave action, localised hydraulic effects, uncertainties in the hydrology, uncertainties in the flood modelling and uncertainties in the design flood levels.</td>
</tr>
<tr>
<td>Geographical Information System (GIS)</td>
<td>A form of computer software developed for mapping applications and data storage. Useful for generating terrain models and processing data for input into flood estimation models.</td>
</tr>
<tr>
<td>High hazard</td>
<td>Danger to life and limb; evacuation difficult; potential for structural damage, high social disruption and economic losses. High hazard areas are those areas subject to a combination of flood depth and flow velocity that are deemed to cause the above issues to persons or property.</td>
</tr>
<tr>
<td>Historical flood</td>
<td>A flood which has actually occurred – Flood of Record.</td>
</tr>
<tr>
<td>Hydraulic</td>
<td>The term given to the study of water flow.</td>
</tr>
<tr>
<td>Hydrograph</td>
<td>A graph showing how flow rate changes with time.</td>
</tr>
<tr>
<td>Hydrology</td>
<td>The term given to the study of the rain-runoff process in catchments.</td>
</tr>
<tr>
<td>Low hazard</td>
<td>Flood depths and velocities are sufficiently low that people and their possessions can be evacuated.</td>
</tr>
<tr>
<td>Map Grid of Australia (MGA)</td>
<td>A national coordinate system used for the mapping of features on a representation of the earth’s surface. Based on the geographic coordinate system ‘Geodetic Datum of Australia 1994’.</td>
</tr>
<tr>
<td>Peak flood level, flow or velocity</td>
<td>The maximum flood level, flow or velocity occurring during a flood event.</td>
</tr>
<tr>
<td>MUSIC</td>
<td>Acronym for Model for Urban Stormwater Improvement Conceptualisation. A computer model which is used to simulate rainfall runoff, associated pollutants within the runoff and expected treatment of the pollutants using different treatment measures.</td>
</tr>
<tr>
<td>Probable Maximum Flood (PMF)</td>
<td>An extreme flood deemed to be the maximum statistical flood likely to occur at a particular location.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Probable Maximum Precipitation (PMP)</td>
<td>The greatest statistical depth of rainfall for a given duration meteorologically possible over a particular location. Used to estimate the probable maximum flood.</td>
</tr>
<tr>
<td>Probability</td>
<td>A statistical measure of the likely frequency or occurrence of flooding.</td>
</tr>
<tr>
<td>Riparian Zone</td>
<td>Areas that are located adjacent to watercourses. Their definition is vague and can be characterised by landform, vegetation, legislation or their function.</td>
</tr>
<tr>
<td>Runoff</td>
<td>The amount of rainfall from a catchment which actually ends up as flowing water in the river of creek.</td>
</tr>
<tr>
<td>Stage</td>
<td>Equivalent to water level above a specific datum- see flood level.</td>
</tr>
<tr>
<td>Treatment train</td>
<td>A term used to describe a series of water quality measures which act in conjunction with one another to provide a combined water quality outcome.</td>
</tr>
<tr>
<td>Triangular Irregular Network (TIN)</td>
<td>A mass of interconnected triangles used to model three-dimensional surfaces such as the ground (see DTM) and the surface of a flood.</td>
</tr>
<tr>
<td>Velocity</td>
<td>The speed at which the flood waters are moving. Typically, modelled velocities in a river or creek are quoted as the depth and width averaged velocity, i.e. the average velocity across the whole river or creek section</td>
</tr>
</tbody>
</table>
Appendix A

DRAWINGS BY COSTIN ROE CONSULTING
Appendix B
MUSIC MODEL CONFIGURATION AND MUSIC LINK
Appendix C
SEI PRE AND POST DEVELOPMENT MUSIC CONFIGURATION

Pre-Development
Post-Development

Node Water Balance - Generic Treatment Node

<table>
<thead>
<tr>
<th>Flow (ML/yr)</th>
<th>TSS (kg/yr)</th>
<th>TP (kg/yr)</th>
<th>TH (kg/yr)</th>
<th>GP (kg/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow In</td>
<td>58.68</td>
<td>1150.60</td>
<td>7.04</td>
<td>77.00</td>
</tr>
<tr>
<td>ET Loss</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Infiltration Loss</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Low Flow Bypass Out</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>High Flow Bypass Out</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Pipe Out</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Weir Out</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Transfer Function Out</td>
<td>10.34</td>
<td>430.88</td>
<td>1.71</td>
<td>15.49</td>
</tr>
<tr>
<td>Reuse Supplied</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Reuse Requested</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>% Reuse Demand Met</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>% Load Reduction</td>
<td>82.38</td>
<td>62.55</td>
<td>75.65</td>
<td>79.88</td>
</tr>
</tbody>
</table>

Decimal Places 2
Appendix E
EROSION CONTROL CHECK SHEET
**EROSION AND SEDIMENT CONTROL**  
**WEEKLY SITE INSPECTION SHEET**

**LOCATION**  

**INSPECTION OFFICER**  

**DATE**

**SIGNATURE**

<table>
<thead>
<tr>
<th>Item</th>
<th>Consideration</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Public roadways clear of sediment.</td>
<td>............</td>
</tr>
<tr>
<td>2</td>
<td>Entry/exit pads clear of excessive sediment deposition.</td>
<td>............</td>
</tr>
<tr>
<td>3</td>
<td>Entry/exit pads have adequate void spacing to trap sediment.</td>
<td>............</td>
</tr>
<tr>
<td>4</td>
<td>The construction site is clear of litter and unconfined rubbish.</td>
<td>............</td>
</tr>
<tr>
<td>5</td>
<td>Adequate stockpiles of emergency ESC materials exist on site.</td>
<td>............</td>
</tr>
<tr>
<td>6</td>
<td>Site dust is being adequately controlled.</td>
<td>............</td>
</tr>
<tr>
<td>7</td>
<td>Appropriate drainage and sediment controls have been installed prior to new areas being cleared or disturbed.</td>
<td>............</td>
</tr>
<tr>
<td>8</td>
<td>Up-slope “clean” water is being appropriately diverted around/through the site.</td>
<td>............</td>
</tr>
<tr>
<td>9</td>
<td>Drainage lines are free of soil scour and sediment deposition.</td>
<td>............</td>
</tr>
<tr>
<td>10</td>
<td>No areas of exposed soil are in need of erosion control.</td>
<td>............</td>
</tr>
<tr>
<td>11</td>
<td>Earth batters are free of “rill” erosion.</td>
<td>............</td>
</tr>
<tr>
<td>12</td>
<td>Erosion control mulch is not being displaced by wind or water.</td>
<td>............</td>
</tr>
<tr>
<td>13</td>
<td>Long-term soil stockpiles are protected from wind, rain and stormwater flow with appropriate drainage and erosion controls.</td>
<td>............</td>
</tr>
<tr>
<td>14</td>
<td>Sediment fences are free from damage.</td>
<td>............</td>
</tr>
<tr>
<td>15</td>
<td>Sediment-laden stormwater is not simply flowing “around” the sediment fences or other sediment traps.</td>
<td>............</td>
</tr>
<tr>
<td>16</td>
<td>Sediment controls placed up-slope/around stormwater inlets are appropriate for the type of inlet structure.</td>
<td>............</td>
</tr>
<tr>
<td>17</td>
<td>All sediment traps are free of excessive sediment deposition.</td>
<td>............</td>
</tr>
<tr>
<td>18</td>
<td>The settled sediment layer within a sediment basin is clearly visible through the supernatant prior to discharge such water.</td>
<td>............</td>
</tr>
<tr>
<td>19</td>
<td>All reasonable and practicable measures are being taken to control sediment runoff from the site.</td>
<td>............</td>
</tr>
<tr>
<td>20</td>
<td>All soil surfaces are being appropriately prepared (i.e. pH, nutrients, roughness and density) prior to revegetation.</td>
<td>............</td>
</tr>
<tr>
<td>21</td>
<td>Stabilised surfaces have a minimum 70% soil coverage.</td>
<td>............</td>
</tr>
<tr>
<td>22</td>
<td>The site is adequately prepared for imminent storms.</td>
<td>............</td>
</tr>
<tr>
<td>23</td>
<td>All ESC measures are in proper working order.</td>
<td>............</td>
</tr>
</tbody>
</table>
Appendix F
DRAINS MODEL CONFIGURATION
FOR INFORMATION ONLY
CONSULT AUSTRALIA