CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN

EXPANSION OF THE CONCRUSH RESOURCE RECOVERY FACILITY, TERALBA

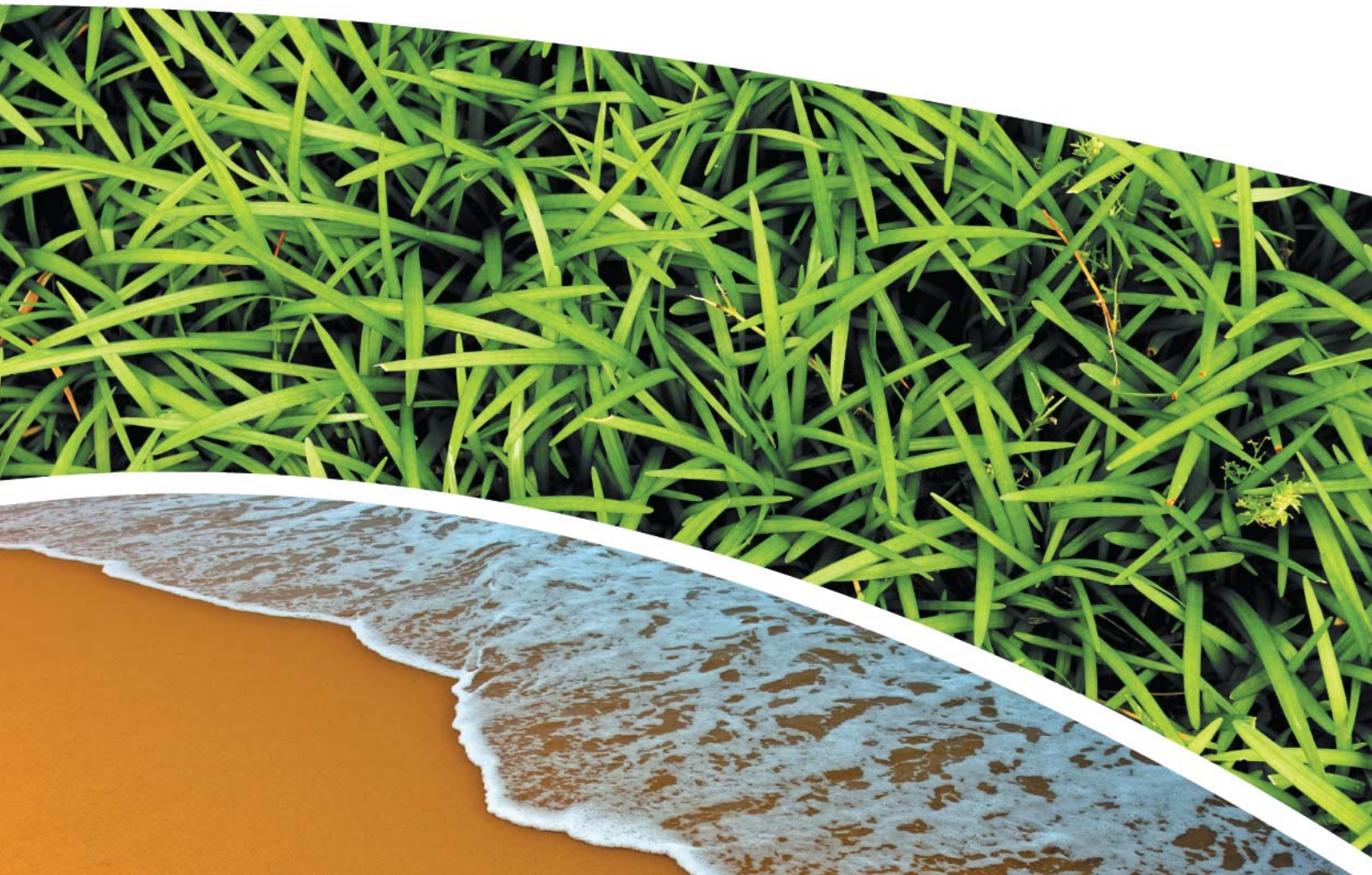
Prepared for CONCRUSH PTY LIMITED

Prepared by RCA Australia

RCA ref 13589-801/1

SEPTEMBER 2020

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL



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1 INTRODUCTION

Concrush Pty Limited have recently been provided approval with regards to the Expansion of the Concrush Resource Recovery Facility ("the Project") as State Significant Development (SSD 8753).

The existing Concrush facility is situated at 21 Racecourse Road, part Lot 2 DP220347 Teralba and provides recycling of concrete, asphalt, other building materials and green waste into products such as roadbase, drainage aggregates, pipe bedding and haunch, packing fines, decorative aggregates and mulches. These products are then sold for commercial, domestic and household applications. The existing Concrush site operates under Environment Protection Licence (EPL) 13351 which allows the recycling of 108,000t of waste per annum and the storage of up to 40,000t of waste material at any one time.

The Project will increase capacity up to 250,000t of waste processing per year with a maximum storage of 150,000t per year and will encompass a portion of land adjoining the southern boundary of the current facility.

Part C of the SSD 8753 Approval identifies the requirements for a number of Environmental Management Plans: this Construction Environmental Management Plan (CEMP) is one of the plans required. Also required, to be submitted with the CEMP, are:

- Water Discharge Management Plan (WDMP).
- Groundwater Management Plan (GMP).
- Erosion and Sediment Control Plan (ESCP).
- Acid Sulfate Soils Management Plan (ASSMP).
- Traffic Management Plan (TMP).
- Remediation Action Plan (RAP).

The CEMP must be approved by the Planning Secretary prior to the commencement of construction of the Project. This CEMP has therefore been provided for review of the Planning Secretary in accordance with this requirement.

1.1 SITE DESCRIPTION

The Project site is identified as part Lot 2 DP 220347, Racecourse Road Teralba.

Additional site details are shown in **Table 1** and **Figure 1** below.

Table 1 *Site Details*

Current zoning (Ref [1])	IN1 – General Industrial
Current and proposed use	Current: Existing Concrush facility and vacant/unused land within the proposed expansion area Proposed: Expanded Concrush facility (see **Section 1.2**).
Size of site	Approximately 4.8ha (existing Concrush facility 2.4ha)
Surrounding land use to the: **North**	Lot 1 DP220347 Industrial – car wreckers operated by others.
South	Part of Lot 2 DP220347 Industrial – scrap metal recycling yard operated by others
East	Racecourse Road and then Cockle Creek
West	Main Northern Rail line and then wetlands
Nearest sensitive receptor (human health)	Residential housing located approximately 360m south east across Cockle Creek.
Nearest sensitive receptor (environmental)	Cockle Creek located approximately 35m east and wetland adjoining the site (between site and railway). There is a further wetland the other side of the railway.

Figure 1 *Project Site Location and Layout (as at June 2018)*

The existing Concrush facility comprises an active industrial site which is predominantly hardstand surfacing. There is one entrance/exit at the north eastern portion off Racecourse Road and all customer traffic is directed over the weighbridge upon entry to a number of stockpiling areas in either the western portion of the site (materials such as concrete, tiles and bricks deemed “inert waste materials” within this document) or the south eastern portion of the site (green waste). There are two (2) crusher/screen machines which process the inert waste materials such as concrete, tiles and bricks in the western portion of the site and transfer the material into stockpiles or product bays in the northern portion of the site. The section of road between the raw and processed stockpiles is two (2) way. There is also an office and maintenance area, and landscaped bunds situated along the southern boundary and part of the eastern boundary.

The proposed expansion component of the Project currently comprises vacant / unused land, with long grass and scattered shrubs and trees throughout. A cleared gravelled (historically sourced from Concrush) area is located in the north western portion of the site and an unpaved road runs along the site’s northern boundary. There are a number of fill and other anthropogenic waste stockpiles including concrete, brick, timber and metal throughout the site. The majority of these stockpiles are situated along the southern portion of site. The western portion of the site is generally flat and the eastern portion of the site gently slopes to the east and Cockle Creek.

The expansion component of the Project has been characterised (Ref [2]) as contaminated with bonded asbestos containing material (ACM) at, and below the surface of the site. Concentrations of hydrocarbons, phenols, cyanide and metals in soil were either not detected or were detected at low concentrations below the relevant human health commercial/industrial land use criteria (Ref [3]). There were some concentrations of hydrocarbons and metals in excess of ecological criteria (Ref [3]) however due to the proposed use of the site and the absence of a correlation to concentrations in groundwater these concentrations were not considered to present a risk to the environment.

Groundwater has been assessed within the expansion component of the Project at three (3) locations. Concentrations of hydrocarbons, phenols and metals in groundwater were either not detected or were detected at low concentrations below the relevant criteria with the exception of total recoverable hydrocarbons (TRH) and chromium at one (1) location and zinc at all locations in excess of the ecological criteria (Ref [4]), noting that the criteria have been identified as conservative.

Acid sulfate soil was identified (Ref [5]) at depths as shallow as 0.7m below the surface and the Wallsend acid sulfate soils risk map indicates the site is in an area of disturbed terrain, with soil investigation being required to assess the area for acid sulfate potential.

1.2 PROJECT DESCRIPTION

The Project will be constructed over two (2) stages: this CEMP applies to both stages however some elements of the CEMP (and associated documents) may not apply equally to both stages.

Stage 1 comprises:

- Works on the existing Concrush facility including:
    - Deconstruction of existing maintenance shed / amenities.

- Construction of new entry and exit point in the north eastern corner of the site including a wheel wash for exiting traffic.
- Formalisation of a tip-off area for light vehicles depositing demolition and green waste.
- Removal of landscape bund walls from southern boundary.
- Consolidation of the inert waste stockpiling and processing area to remove the central trafficable road and to re-purpose solely for processed stockpiles.
- Construction of a wet concrete wash out bay in the south western corner.
- Construction of a sediment basin in the north west corner of the site.

- Works on the expansion component of the Project including construction of:
  - A pad for green waste storage and processing in the eastern portion of the site.
  - A leachate dam in the south east portion of the site.
  - A wetland in the south eastern corner of the site.
  - A pad for raw materials and processing area and construction of a concrete block noise wall on the eastern and southern extents.
  - A maintenance shed in the south western portion of the site including car parking spaces and amenities.
  - A sediment basin in the south western corner.
  - A trafficable route from the northern portion of the site in a clockwise direction.

The schematic of Stage 1 is presented in **Figure 2** below.

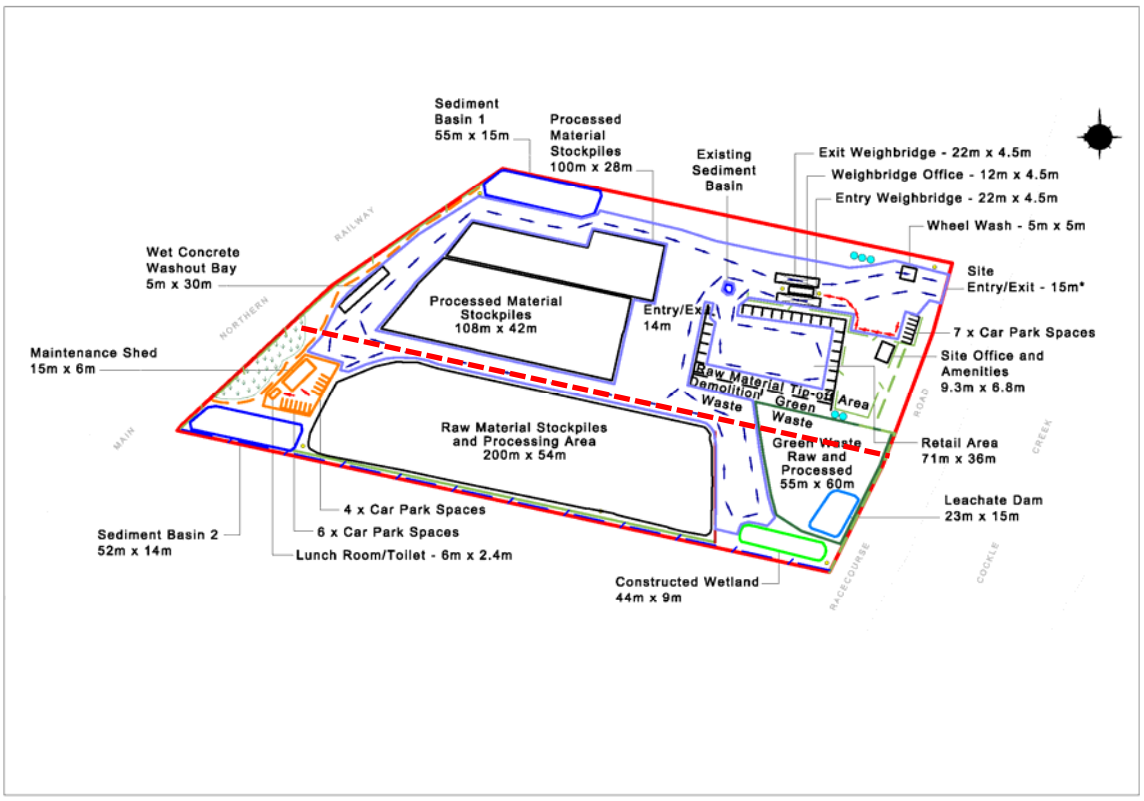

Figure 2 *Stage 1 of the Increase to Capacity Project (approximate boundary between current facility and expansion component in red dashed line).*

It is noted that prior to any works being undertaken at the expansion component of the Project that remediation will have to be undertaken, refer **Section 3.3**.

Stage 2 comprises:

- Works on the existing Concrush facility including:
  - Alteration of the light vehicle tip-off area.
  - Addition of an exit for light vehicles only to Racecourse Road adjacent the tip-off area.
  - Alteration to the orientation and size of the processed inert waste material areas.
  - Construction of two (2) weighbridges and associated office and amenities adjacent the northern boundary. These will be used exclusively for commercial vehicles. The existing weighbridges will be re-purposed for light vehicle traffic only.
  - Construction of an internal sealed haul road between the new weighbridges and the site access point. This will necessitate the relocation of three (3) water tanks currently situated at the northern boundary to one of the locations at which water tanks are to be located.
  - Alteration to the carparking areas adjacent the existing site office and amenities.
  - Installation of two (2) water tanks near the new weighbridge.

- Works on the expansion component of the Project including:
  - Installation of two (2) water tanks on the southern boundary, two (2) adjacent the maintenance shed and two (2) adjacent the wet concrete washout bay (total of six (6)).
  - Minor alteration to the orientation and size of the inert waste raw stockpile and processing area.

The schematic of Stage 2 is presented in **Figure 3** below.

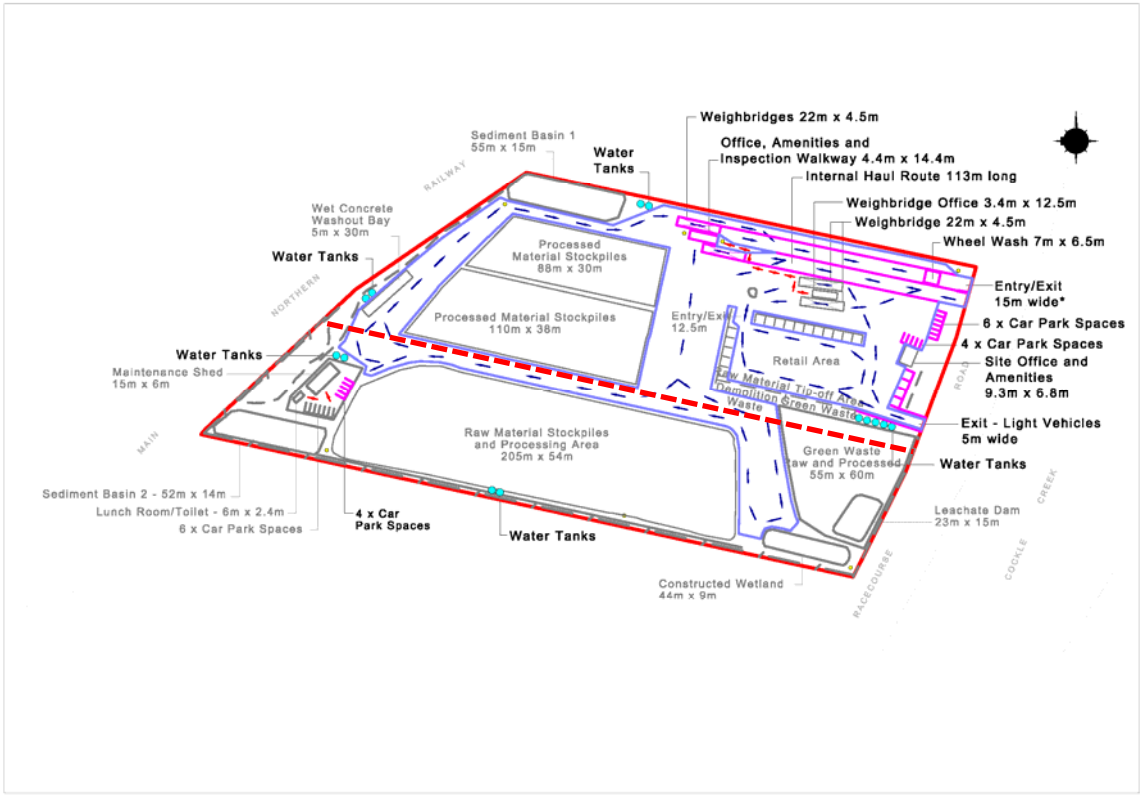

Figure 3 *Stage 2 of the Increase to Capacity Project (approximate boundary between current facility and expansion component in red dashed line).*

2 ENVIRONMENTAL MANAGEMENT STRUCTURE

2.1 APPROVAL CONDITIONS

The works were approved on 27 March 2020 (SSD 8753) and conditions relevant to this CEMP are shown in **Table 2** below.

Table 2 *Relevant Approval Conditions*

Condition No.	Condition	Where Addressed
A12	The date of commencement of each of the following phases of the development must be notified to the Planning Secretary in writing, at least one month before that date, or as otherwise agreed with the Planning Secretary: (a) construction; (b) operation; (c) cessation of operations; and (d) decommissioning.	**Appendix A**
A16	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.	**No consent specifically for the CEMP is required. Some of the associated documents (RAP, GMP) required consultation and details have been provided in the relevant appendices.**
A20	Prior to the commencement of construction, the Applicant must: (a) consult with the relevant owner and provider of infrastructure and 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 Planning Secretary and where Council's assets are affected, Council.	**Consultation with Lake Macquarie Council has been undertaken and details included in Appendix B.**
A22	All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures (Standards Australia, 2001).	**Section 3.8**
A23	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.	**Section 3.8**

Condition No.	Condition	Where Addressed
A24	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.	**Section 6.1**
A26	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.	**Table 9**
A27	The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.	**Section 3.8**
A30	Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.	**The design has been submitted to Ausgrid and is going through the approval process.**
B1	The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) and dispose of all wastes to a facility that may lawfully accept the waste.	**Table 9**
B2	The Applicant must retain all sampling and waste classification data for the life of the development in accordance with the requirements of EPA.	**Table 9**
B11	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.	**Table 9**

Condition No.	Condition	Where Addressed
B12	Prior to the commencement of Stage 1 construction, the Applicant must prepare a Water Discharge Management Plan (WDMP) to the satisfaction of the Planning Secretary. The WDMP must form part of the CEMP required by condition C2 and be prepared in accordance with condition C1. The WDMP must: (a) be prepared by a suitably qualified and experienced person(s), whose appointment has been endorsed by the Planning Secretary. (b) be prepared in consultation with the EPA. (c) detail the expected volume and frequency of discharges from each proposed discharge point. (d) characterise the quality of discharges from each proposed discharge point including the concentrations and loads of all pollutants present at non-trivial levels that pose a risk of harm to human health or the environment. (e) detail the potential impact of discharges on the environmental values of the receiving waterways with reference to the relevant Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guideline values. (f) detail the control measures to be implemented to protect receiving waters during the development, including measures to address any identified impacts to receiving waters and contingency measures for any unexpected pollutants with reference to the relevant Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guideline values. (g) propose any changes to the wastewater management system to address potential impacts.	The WDMP has been prepared by Mr Bonomini from Umwelt Australia Pty Ltd. His appointment was endorsed by the Planning Secretary on the 14th May 2020. **The WDMP, endorsement and NSW EPA concurrence are included as Appendix C.**
B13	The Applicant must: (a) not commence Stage 1 construction until the WDMP required by condition B12 is approved by the Planning Secretary. (b) implement the most recent version of the WDMP approved by the Planning Secretary for the duration of the development.	**By submission of this CEMP and the WDMP (Appendix C) for approval.**

Condition No.	Condition	Where Addressed
B20	B20. Prior to the commencement of Stage 1 construction, the Applicant must prepare a Groundwater Management Plan (GMP) to the satisfaction of the Planning Secretary. The GMP must form part of the CEMP required by condition C2 and be prepared in accordance with condition C1. The GMP must: (a) be prepared by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Planning Secretary. (b) be prepared in consultation with the EPA. (c) include, but not limited to: (i) details of the installation of a third groundwater well. (ii) baseline data on groundwater levels and quality for the existing and newly installed third groundwater well. (iii) details of the water table depth compared to the excavation depths of the leachate dam and artificial wetland. (iv) a program to monitor groundwater levels and quality. (v) impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts. (vi) a protocol for the investigation and mitigation where the groundwater impact assessment criteria has been exceeded. (vii) monitor the effectiveness of management measures and contingency actions for reducing impacts.	**Section 3.4.4** The GMP has been prepared by Mrs Fiona Brooker from RCA Australia. Her appointment was endorsed by the Planning Secretary on the 14th May 2020. **The GMP, endorsement and NSW EPA concurrence are included as Appendix D.**
B21	The Applicant must: (a) not commence Stage 1 construction until the GMP required by condition B17 is approved by the Planning Secretary. (b) implement the most recent version of the GMP approved by the Planning Secretary for the duration of the development	**By submission of this CEMP and GMP (Appendix D) for approval.**
B22	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 (ESCP) included in the CEMP required by condition C2.	**Section 3.1** **The ESCP has been included as Appendix E.**

Condition No.	Condition	Where Addressed
B25	Prior to the commencement of Stage 1 construction, the Applicant must prepare an Acid Sulfate Soil Management Plan (ASSMP). The ASSMP must form part of the CEMP required by condition C2 and be prepared in accordance with condition C1. The ASSMP must: (a) be prepared by a suitably qualified and experienced person(s). (b) be prepared in accordance with the Acid Sulfate Soils Manual (Acid Sulfate Soils Management Advisory Committee, 1998). (c) include specific measures to manage acid sulfate soils if excavation depths are to be within 0.5 m of the measured water table.	**Sections:** **3.4.1** **3.4.2** **3.4.4** **The ASSMP has been included as Appendix F.**
B28	Prior to the commencement of Stage 1 construction, the Applicant must submit design plans to Council for the Racecourse Road access works. The Applicant must obtain consent for the works under section 138 of the Roads Act 1993.	**Section 3.2** **Ref [6]** **The road design (Ref [6]) has been submitted and is going through Council approval process.**
B34	Prior to the commencement of Stage 1 construction, the Applicant must prepare a Traffic Management Plan (TMP) for the development to the satisfaction of the Planning Secretary. The TMP must form part of the CEMP required by condition C2 and be prepared in accordance with condition C1. The TMP 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 both construction and operations. (d) detail the measures that are to be implemented to ensure construction workers, members of the public and staff will be effectively managed during construction and operation. (e) detail heavy vehicle routes, access and parking arrangements during construction and operation. (f) include a Driver Code of Conduct to: (i) minimise conflicts with other road users; (ii) minimise road traffic noise; and (iii) ensure truck drivers use specified routes; (g) include a program to monitor the effectiveness of these measures. (h) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.	**Section 3.1** **The TMP and Council concurrence have been included as Appendix G.**

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Where Addressed</th></tr>
<tr><td>B35</td><td>The Applicant must:
(a) not commence Stage 1 construction until the TMP required by condition B34 is approved by the Planning Secretary.
(b) implement the most recent version of the TMP approved by the Planning Secretary for the life of the development.</td><td>By submission of this CEMP and the TMP (Appendix G) for approval.</td></tr>
<tr><td>B36</td><td>The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent</td><td>Table 9</td></tr>
<tr><td>B37</td><td>The Applicant must ensure that:
(i) all trucks entering or leaving the site with loads have their loads covered
(j) trucks associated with the development do not track dirt onto the public road network</td><td>Table 9</td></tr>
<tr><td>B41</td><td>The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).</td><td>Table 9</td></tr>
<tr><td>B42</td><td>The Applicant must comply with the hours detailed in below table, unless otherwise agreed in writing by the Planning Secretary.
<table>
<tr><th>Activity</th><th>Day</th><th>Time</th></tr>
<tr><td>Stage 1 and Stage 2 Construction</td><td>Monday-Friday
Saturday</td><td>7am-6pm
8am-1pm</td></tr>
</table></td><td>Section 3</td></tr>
<tr><td>B44</td><td>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 2 of the Approval.</td><td>Table 9</td></tr>
<tr><td>B49</td><td>Prior to the commencement of Stage 1 construction, the Applicant must submit a Remedial Action Plan (RAP) to manage contamination during Stage 1 construction and any remediation works The RAP must form part of the CEMP required by condition C2 and be prepared in accordance with condition C1. The RAP must:
(a) be prepared by a suitably qualified and experienced person in accordance with Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (OEH, 2011).
(b) be prepared in consultation with the EPA.</td><td>Section 3.3
The RAP and NSW EPA concurrence have been included as Appendix H.</td></tr>
<tr><td>B50</td><td>The Applicant must:
(a) not commence Stage 1 construction until the RAP required by condition B49 is approved by the Planning Secretary; and
(b) implement the most recent version of the RAP approved by the Planning Secretary for the duration of the development</td><td>By submission of this CEMP and RAP (Appendix H) for approval.</td></tr>
</table>

Condition No.	Condition	Where Addressed
B51	Prior to the commencement of Stage 1 operations[1], the Applicant must carry out any remediation works required by the RAP under Condition B49 using suitably qualified and experienced contractor(s) in accordance with the approved RAP and relevant guidelines produced or approved under the Contaminated Land Management Act 1997.	**Section 3.3** **Appendix H**
B52	Within one month of the completion of the remediation works, the Applicant must submit a Section A Site Audit Statement (SAS) to confirm the suitability of the land for its proposed use. The SAS must be prepared, or reviewed and approved, by a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme	**Table 4** **Section 3.3**
B54	The Applicant must ensure that any asbestos encountered during the remediation and Stage 1 and Stage 2 construction is monitored, handled, transported and disposed of by appropriately qualified and licensed contractors in accordance with the requirements of SafeWork NSW and relevant guidelines, including (a) Work Health and Safety Regulation 2017. (b) SafeWork NSW Code of Practice – How to Manage and Control Asbestos in the Workplace September 2016. (c) SafeWork NSW Code of Practice – How to Safely Remove Asbestos September 2016. (d) Protection of the Environment Operations (Waste) Regulation 2014.	**Section 3.3**
B60	All signage and fencing must be erected in accordance with the EIS.	**Section 3.1**
B61	Prior to the commencement Stage 1 construction, the Applicant must install appropriate fencing to prevent unauthorised access to the Sydney Trains rail corridor from the development site.	**Section 3.1.2**
B62	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 Manual' if the chemicals are liquids.	**Table 9**
B63	In the event of an inconsistency between the requirements B62(a) and B62(b), the most stringent requirement must prevail to the extent of the inconsistency.	**Table 9**

[1] Due to the nature of the remedial works, refer **Section 3.3**, this item has been included as part of the requirements of construction.

Condition No.	Condition	Where Addressed
B64	The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department of Planning's Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 at all times.	**Minimal quantities only will be stored and handled on site. SEPP33 not applicable.**
B65	The Applicant must store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's Storing and Handling of Liquids: Environmental Protection – Participants Manual (Department of Environment and Climate Change, 2007).	**Table 9**
B66	If any item or object of Aboriginal heritage significance is identified on site: (a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately. (b) a 10m wide buffer area around the suspected item or object must be cordoned off. (c) the EES must be contacted immediately.	**Section 3.4**
B67	Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the National Parks and Wildlife Act 1974.	**Section 3.4**
B68	Prior to the commencement of Stage 1 and Stage 2 construction or at any time during the construction period deemed necessary by Sydney Trains, a joint inspection of the rail infrastructure and property in the vicinity of the development is to be carried out by representatives from Sydney Trains	**Section 3.1** Sydney Trains concurrence is included as **Appendix I**.
B69	Prior to the commencement of Stage 1 and Stage 2 construction, the Applicant must prepare in consultation with Sydney Trains: (a) a list of machinery to be used during excavation/construction; (b) a Risk Assessment Management Plan including a detailed Safe Work Method Statements (SWMS); (c) a plan showing all craneage and other aerial operations for the development; (d) a plan detailing the type of fencing to be installed and the method of erection; (e) cross section drawings identifying Sydney Trains' power poles and earth bund in proximity of the Applicant's and Sydney Train site boundary; and (f) a detailed dilapidation report to establish the extent of any existing damage and enable any deterioration during construction to be observed.	**Section 3.1** **Appendix I**
B70	During Stage 1 construction and Stage 2 construction, the Applicant must ensure that Safe Approach Distances as per Sydney Trains' requirements are maintained at all times.	**Section 3.1** **Appendix I**.

Condition No.	Condition	Where Addressed
C1	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
	(a) detailed baseline data.	**Section 1.1**
	(b) details of:	
	(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions).	**Section 2.1 & 2.2**
	(ii) any relevant limits or performance measures and criteria.	**Table 9**
	(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.	**Table 9**
	(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria.	**Table 9**
	(d) a program to monitor and report on the:	
	(i) impacts and environmental performance of the development.	**Table 9**
	(ii) effectiveness of the management measures set out pursuant to paragraph (c) above.	**Table 9**
	(e) 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.	**Table 9**
	(f) a program to investigate and implement ways to improve the environmental performance of the development over time.	**Section 8**
	(g) a protocol for managing and reporting any:	
	(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria).	**Section 7.1**
	(ii) complaint.	**Table 9, Appendix J**
	(iii) failure to comply with statutory requirements.	**This Section**
	(h) a protocol for periodic review of the plan.	**Section 8**
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 CEMP**

Condition No.	Condition	Where Addressed
C3	As part of the CEMP required under condition C2 of this consent, the Applicant must include the following: (a) Water Discharge Management Plan (see condition B12). (b) Groundwater Management Plan (see condition B15). (c) Erosion and Sediment Control Plan (see condition B22). (d) Acid Sulfate Soils Management Plan (see condition B25). (e) Traffic Management Plan (see condition B34). (f) Remediation Action Plan (see condition B49).	**Section 3.1, Appendix C** **Section 3.4.4, Appendix D** **Section 3.1, Appendix F** **Sections 3.4.1, 3.4.2, 3.4.4, Appendix F** **Section 3.1, Appendix G** **Section 3.3, Appendix H**
C4	The Applicant must: (a) not commence construction of the development until the CEMP is approved by the Planning Secretary. (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.	**By submission of this CEMP and Section 2.3.**
C8	Within three months of: (a) the submission of an incident report under condition C10; (b) the submission of an Independent Environmental Audit under condition C16; (c) the approval of any modification of the conditions of this consent; or (d) the issue of a direction of the Planning Secretary under condition A2(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing that a review is being carried out.	**Section 8**
C9	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.	**Section 8**
C10	The Planning Secretary 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 3.	**Section 8**

Condition No.	Condition	Where Addressed
C11	The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance.	**Section 7.2**
C12	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.	**Section 7.2**
C13	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	**Section 7.2**
C14	Within three months after the first year of commencement of operation, and in the same month each subsequent year (or such other timing as may be agreed by the Planning Secretary), the Applicant must submit a report to the Planning Secretary reviewing the environmental performance of the development to the satisfaction of the Planning Secretary. The review must: (a) describe the development that was carried out in the previous year, and the development that is proposed to be carried out in the current year; (b) include a comprehensive review of the monitoring results and complaints records from the previous year, including a comparison of these against the: (i) relevant statutory requirements, limits or performance measures/criteria; (ii) requirements of any plan or program required under this consent; (iii) monitoring results of previous years; and (iv) the relevant predictions in the EIS and Response to Submissions; (c) identify any non-compliances and any incidents which occurred over in the previous year, and describe what actions were (or are being) taken to rectify the non-compliance or incident and avoid recurrence; (d) identify any trends in the monitoring data over the life of the development; (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the next year to improve the environmental performance of the development.	**Section 8**

Condition No.	Condition	Where Addressed
C19	At least 48 hours before the commencement of construction and for the life of the development, the Applicant must: (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 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, operation or decommissioning 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 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. (vii) a summary of the current stage and progress of the development. (viii) contact details to enquire about the development or to make a complaint (ix) a complaints register, updated monthly. (x) the Compliance Reporting of the development. (xi) audit reports prepared as part of any independent audit of the development and the Applicant's response to the recommendations in any audit report. (xii) any other matter required by the Planning Secretary. (b) keep such information up to date, to the satisfaction of the Planning Secretary	**Table 4**

The failure to address any of the above Conditions, or to adhere to requirements as detailed in **Section 2.2** below, may result in the operations of the development not being permitted, further works being required to provide information to confirm meeting of the requirements or prosecution under environmental, planning or WHS laws.

2.2 APPROVALS AND LICENSING

No licences are required for the works however, due to the presence of asbestos at the expansion component of the site the appointed earthworks (sub)contractor will have personnel familiar with the identification of asbestos present. There has been no indication of the presence of friable asbestos at site, however if this is observed a contractor with a Class A asbestos removalist licence will be required to remove the material.

Relevant legislation is detailed in **Table 3** below and any changes to this legislation made during the construction period will be considered and this CEMP amended if deemed necessary.

Table 3 *Relevant Legislation*

Legislation	Relevance to Project	Authority
State Environmental Planning Policy (55) – Remediation of Land	The site has been deemed to be suitable for use subject to the implementation of a number of management plans and adherence to Approval Conditions.	Department of Planning, Industry and Environment (DPIE)
Contaminated Land Management Act 1997	Auditor appointed to review and validate remediation.	NSW EPA accredited contaminated sites auditor.
Protection of the Environment Operations Act	Management of noise, dust, surface water. In the event that material is removed from site, classification and tracking requirements will apply.	NSW EPA

It is noted that changes to other Acts, such as the Environmental Planning & Assessment Act, the Biosecurity Act and the National Parks and Wildlife Act may also impact on the requirements of the CEMP.

2.3 ROLES AND RESPONSIBILITIES

Table 4 *Relevant Personnel and Responsibilities*

Name	Company	Position	Responsibility
Kevin Thompson	Concrush	Project Manager	• Appointment of appropriate subcontractors. • Strategic liaison with regulators (DPIE, LMCC, EPA). • Strategic liaison with subcontractors during construction to resolve issues and maintain programme. • Maintaining the Concrush website with all documentation relating to the Project.

Ken Peddie	Conaghan Civil	Site Supervisor	• Remedial works on expansion component of Project.
			• Day to day management of CEMP controls including:
			  • Work practices.
			  • Equipment maintenance.
			  • Photographic records.
			• Co-ordination with Concrush and other subcontract personnel.
			Some responsibilities may be delegated to other Conaghan Civil personnel.

RCA Australia		Environmental Engineer / Scientist as Contaminated Land Consultant	• Liaison with Conaghan Civil re the progress of works. • All verification requirements for works. • Provision of advice as required. • Inspection of the site on a routine basis and at any Hold Points (refer **Section 5.2.1**). • Liaison with Auditor. • Site meetings as required by Conaghan Civil or Concrush. • Preparation of validation report. • Preparation of long-term management plan. Some responsibilities may be delegated to other qualified RCA personnel.
Ian Gregson	GHD	Auditor	• Inspection of site as requested and where required to support the site audit statement and report. • Provision of advice regarding contamination issues. • Review of validation report and long-term management plan. • Provision of site audit statement and report at the completion of remediation.

3 PROGRAMME OF WORKS

Works for the Project will be undertaken in the following order, noting that some works may be undertaken with some, or even total, overlap:

- Stage 1
  - Site set up (refer **Section 3.1**) including installation of fencing and erosion control measures.
  - Completion of construction of the leachate dam, sediment basin and wetland (refer **Section 3.4**).
  - Site entry / exit construction and associated road works.
  - Removal of the landscaped bunds from the southern boundary of existing Concrush facility.
  - Remedial works, refer **Section 3.3**, on the proposed expansion site.
  - Installation of landscaped bunds and noise walls.
  - Construction of wet concrete wash out bay.
  - Formalisation of the raw material tip-off area.
  - Profiling of Stage 1 surface as required for the intended use (stockpiling, carpark and maintenance shed).
  - Deconstruction of existing maintenance shed and associated buildings.
  - Construction of new maintenance shed and associated buildings.
  - Installation of the wheel wash at the site exit.
  - Transfer of raw material stockpiles from the existing portion to the expansion component of the Project.
  - Alteration to traffic flows at the site.
  - Profiling of the southern portion of the area for processed material on the existing portion. Transfer of any existing processed material stockpiles to this section and profiling of the northern portion of the area for processed material.
- Stage 2
  - Construction of weighbridge and associated office and haul roads on northern portion of site.
  - Re-profiling of processed material stockpile area as per Stage 2 design.
  - Re-profiling of raw material stockpile area as per Stage 2 design.
  - Relocation and/or placement of water tanks on site.
  - Construction of light vehicle exit.
  - Re-arrangement of raw material tip-off area.
  - Construction of additional car parking adjacent the site office.

Details of the associated tasks for the above programme are detailed in the following sections. A detailed programme of works is included as **Appendix A**.

Construction works are to be undertaken only on:

- Monday to Friday 7am-6pm.
- Saturday 8am-1pm.

No construction works are to be undertaken on Sunday or Public Holidays.

3.1 SITE SET UP

Preliminary set up at the expansion component of the site is required prior to commencement of construction works and will comprise:

- Locating and physical identification of the three (3) existing groundwater monitoring wells situated at the site. **HOLD POINT** no vegetation clearance or movement of material can be undertaken until the location of these wells have been physically marked at the site.
- Locating and physical identification of a buffer area 20m to the east of the rail corridor boundary fence. **HOLD POINT** No works to be undertaken until concurrence (**Appendix I**) has been received from Sydney Trains in regards to the off-set distance and submitted risk assessment and dilapidation report.
- Assessment of the stockpiles at the site to identify their specific physical and chemical nature and disposal options of the stockpiles which are understood to comprise one or a mixture of the following:
    - Building rubble including concrete, bricks, tiles, timber and asphalt.
    - Soil. Stockpiles of soil will be designated for use under the marker layer (refer **Section 3.3**) and as such no assessment beyond the visual observation for suitability to compact will be undertaken.
    - Vegetation.
    - General refuse (plastics, furniture items).

    HOLD POINT No stockpiles are to be removed from site without the physical and/or chemical nature of the stockpile being assessed.
- Vegetation clearance in the area of proposed fencing. This will comprise slashing to the extent practicable based on the types of vegetation. Shrubs will be cut off at the ground and taken to the existing Concrush facility for processing in accordance with the EPL. No grass will be removed from site.
- Installation of fencing on the southern and western boundaries, refer **Sections 3.1.1** and **3.1.2**.
- Installation of shade cloth on the fences for dust control.
- Installation of sediment and erosion controls as detailed in the Sediment and Erosion Control Plan (**Appendix E**). A schematic from the Plan is included in **Figure 4** below.
    - It is noted that, due to a ridge line between the existing Concrush facility and the expansion component of the Project that no up-gradient surface water diversions are considered necessary.

- Removal of stockpiles. The fate of material within the stockpile will depend on the physical and/or chemical nature of the material however efforts will be made to recycle the material to the extent practicable.
    - Building rubble will be taken to the existing Concrush facility for processing in accordance with the EPL.
    - Soil will be spread on site to be situated under the marker layer (refer **Section 3.3**).
    - Vegetation will be spread on site to be situated under the marker layer (refer **Section 3.3**) or taken to the existing Concrush facility for processing in accordance with the EPL.
    - General refuse will be removed to a licensed waste facility for disposal / recycling as appropriate for the material.
- Implementation of the Traffic Management Plan (**Appendix G**) including:
    - Placement of signs on Racecourse Road providing warning of roadworks and turning truck when upgrading road entry and turning lanes.
    - Placement of signs within the existing Concrush facility to identify the trafficable routes through to the expansion component of the Project.
    - Designate appropriately sized car parking areas for construction workers' vehicles within the boundary of the Project.
    - Identify any time periods during which construction traffic may impact significantly on normal traffic flows. These may be on a daily basis (personnel arriving / leaving site) or may be related with specific construction tasks (delivery of water tanks). Where alternative arrangements cannot be implemented, community notification is to be undertaken in accordance with the Plan (**Appendix G**).
    - Provide training for the implementation of the Driver Code of Conduct as specified in the Plan (**Appendix G**) to personnel.

    Signs will also be installed at key locations along Racecourse Road, subject to Council approval, to reinforce to construction, and long term Concrush traffic drivers to drive safely and take into account the residential nature of the area when driving.
- Construction compound set up. The proposed location of the compound is shown on **Drawing 1**, **Appendix K**. It is noted that this location will be set up following the completion of remedial works (refer **Section 3.3**): prior to this, construction plant and personnel will be based at the existing site office.
    - The compound will comprise a demountable site office, amenities demountable and maintenance area. Spill kits will be placed in proximity to the maintenance area.

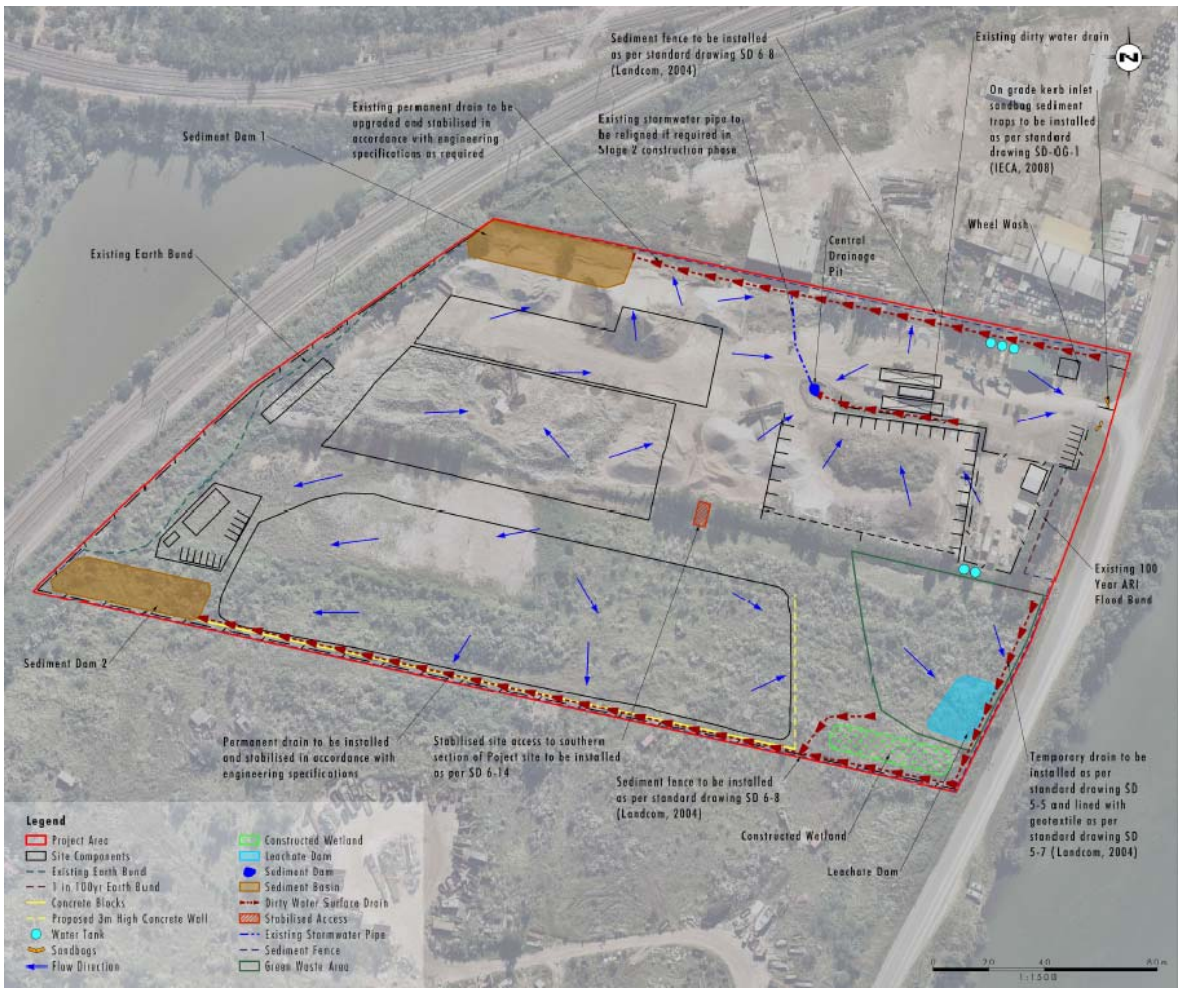

Figure 4 *General schematic of sediment and erosion controls at the site (**Appendix E**).*

3.1.1 FENCING ON SOUTHERN AND EASTERN BOUNDARIES

Prior to works commencing on the expansion component of the Project, a fence will be constructed along the southern boundary of the expansion component of the Project to prevent access. This will comprise a 2m high security fence consistent with the eastern and northern boundary of the existing Concrush facility.

The existing portion of the eastern fence is considered to be suitable for use as is and will be extended south to connect with the southern boundary fence line. The existing portion of the fence is to be inspected and if repair is required this is to be carried out in conjunction with the other fence works.

Prior to commencement of the fencing, the area of disturbance should be inspected and any visible fragments of asbestos removed.

Holes for the fence posts will be hand dug by posthole digger or by a power auger. Significant dust is not considered to be generated by either of these methodologies however works should be undertaken on the understanding that there is asbestos potentially in the area of excavation. Appropriate dust control, refer **Table 9**, and occupational hygiene measures should be implemented in accordance with a work specific plan compiled by Conaghan Civil and in accordance with **Section 6.2** when soil is being disturbed.

Soil extracted from the holes will be placed in a skip bin, or equivalent alternative, which will be covered at the completion of each day and then transported to the acid sulfate soil treatment area, refer **Section 3.4.1**. This material should be designated as potentially including asbestos.

HOLD POINT No works are to be commenced on the expansion component of the Project until the southern and eastern fences have been constructed.

Signs with the contact details (mobile number, email) of relevant personnel from Conaghan Civil are to be placed on the southern and northern points of the eastern fence.

3.1.2 BUND MANAGEMENT AND FENCING ON WESTERN BOUNDARY

The existing landscaped bund adjacent the wetlands at the western boundary of the site, refer to **Drawing 1**, **Appendix K**, is not to be disturbed during the construction works.

Prior to the commencement of remediation, refer **Section 3.3**, the bund is to be augmented such that it is complete as per the **Drawing 1**, **Appendix K**. It is noted that no works are to be undertaken within the 20m buffer from the rail corridor as demarked.

Material being added to bunds must comprise:

- Virgin excavated natural material (VENM) as defined by the NSW EPA (Ref [7]).
- Excavated natural material (ENM) in accordance with the Order (Ref [8]).
- Suitable for use as fill in accordance with a resource recovery Order and Exemption (Ref [9]).

All imported material is to be tracked by the Site Supervisor from source to placement including:

- Certification documents for each source.
- Verification of truck movements from source to site.
- Confirmation that material was visually verified as consistent with certification documents upon arrival.
- Volumes imported.
- General grid based location of placement.

HOLD POINT No fill is to brought onto site unless certification has been provided and accepted as adequate by the Contaminated Land Consultant and can be verified as consistent with the verification documents. Sufficient time allowance must be made for the approval of certification prior to material being imported to site.

Landscaping of the bunds will be undertaken in accordance with the Landscape Management Plan (Ref [10]) and will comprise direct planting and application of a 100mm mulch layer over the bund.

Following the completion of the bund a 2m high security fence, consistent with the remainder of the boundary fences, is to be constructed along the eastern base of the bund as demonstrated in **Figure 5** below. The location of the fence is shown on **Drawing 1**, **Appendix K**.

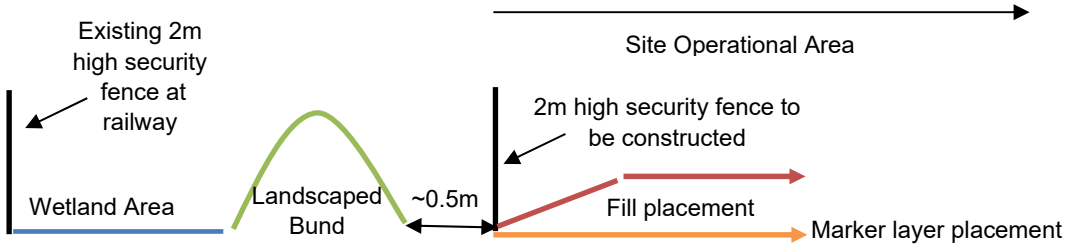

Figure 5 *General outline of works along western boundary.*

Some material movement may be required on the existing Concrush facility prior to the commencement of the fencing.

Prior to commencement of the fencing, the area of disturbance should be inspected and any visible fragments of asbestos removed.

Holes for the fence posts will be hand dug by posthole digger or by a power auger. Significant dust is not considered to be generated by either of these methodologies however works should be undertaken on the understanding that there asbestos potentially in the area of excavation. Appropriate dust control, refer **Table 9**, and occupational hygiene measures should be implemented in accordance with a work specific plan compiled by Conaghan Civil and in accordance with **Section 6.2** when soil is being disturbed.

Soil extracted from the holes will be placed in a skip bin, or equivalent alternative, which will be covered at the completion of each day and then transported to the acid sulfate soil treatment area, refer **Section 3.4.1**. This material should be designated as potentially including asbestos.

HOLD POINT No works are to be commenced on the expansion component of the Project until the western boundary fence has been constructed.

3.2 SITE ENTRY WORKS

The current site access is approximately seven (7) metres in width. Works to enlarge the entry to fifteen (15) metres will comprise:

- Removal of two (2) panels of fencing, one (1) either side of the current access.
- Excavation of soil to the design below the surface either side of the existing access. At time of writing this is intended to be approximately 0.3m however may change following the finalisation of the civil engineering design of the access. Excavated soil will be either:
    - Transported to the expansion component of the Project to be used under the marker layer (refer **Section 3.3**).

  - Stockpiled in the immediate vicinity of the site access and assessed for suitability for reuse at the site. Assessment will comprise collection of soil samples by a contaminated land consultant at a frequency of 1/25m^3 and analysis for hydrocarbons, metals and asbestos. **HOLD POINT** The material cannot be relocated for reuse before certification is provided by the consultant stating that the material is suitable for reuse on site.

- Placement of road construction materials sourced from materials verified as suitable in accordance with the Concrush Order Recovered Aggregate Order 2020.
- Sealing of the surface with bitumen or concrete.
- Installation of a gate across the access point.

Works for the second site access proposed in Stage 2 works will be undertaken in the same manner, noting that soil excavated for the works will require assessment for suitability of reuse or offsite disposal as the remediation on the expansion component of the Project (refer **Section 3.3**) will have been completed.

The plans for the northern access point is presented in **Appendix L**: the southern access point has not yet been designed.

3.3 REMEDIAL WORKS

A remedial action plan (RAP, **Appendix H**) has been prepared for the expansion component of the Project and a remedial specific CEMP (Ref [11]) will be prepared to detail the specific management conditions for the remedial works. Personnel engaged in works at the expansion component of the Project as part of the remediation, or before the completion of the remediation, must be inducted into the remedial specific CEMP (Ref [11]) in addition to this Project wide CEMP.

Broadly the remedial works at the expansion component of the Project comprises:

- Excavations for the sediment basin, leachate dam and wetland, and any services which will be required below the depth of the existing surface: subject to the final design of service layout however it is anticipated that no services will be situated beneath the current surface.
  - The area of excavation is to be physically marked on site by a surveyor. Only the proposed extent of the ponds/services are to be excavated and only to the design depth as informed by survey. Sections of the some of the proposed excavations are presented in **Appendix M**.
  - Excavations are to be undertaken on the understanding that asbestos is a contaminant of concern. No soil is to be removed from site and must be managed in accordance with the requirements of the ASSMP (**Appendix F**, refer **Section 3.4**).
  - The generation of dust is to be minimised, refer **Table 9**, and occupational hygiene controls are to be implemented in accordance with a work specific plan compiled by Conaghan Civil and in accordance with **Section 6.2**.
  - Groundwater is not anticipated to be encountered in the excavations (**Appendix D** however the likelihood is to be further considered as detailed in **Section 3.4.4**.

  Further details regarding the deep excavations are presented in **Section 3.4**.

HOLD POINT Excavation is not to commence until the groundwater monitoring wells are to be physically marked and protected from damage during construction.

- Earthworks as required to grade the surface and to provide a general compaction across the site in preparation. Depressions will be filled with soil derived from one or a combination of sources:
  - Higher elevation areas of the site.
  - Soil from stockpiles on the expansion component of the Project.
  - Soil excavated from the access driveway on the existing Concrush facility, refer **Section 3.1**.
  - Soil excavated from the dam, basins, wetland and services. Only soil verified as having been successfully treated for acid sulfate soil properties is permitted to be used in this manner, refer **Section 3.4.1**.
  - Soil from the excavation of the sediment basin and wheel wash on the existing Concrush facility. Only soil verified as having been successfully treated for acid sulfate soil properties is permitted to be used in this manner, refer **Section 3.4.1**.
  - The bunds currently located on the southern boundary of the existing Concrush facility. No assessment of these bunds is considered necessary for placement under the marker layer.

  HOLD POINT Soil is not to be placed until the acid sulfate potential of the material has been verified as detailed in **Section 3.4.1**.
- Compaction of the fill to a level deemed suitable by the appointed geotechnical engineer.

  HOLD POINT Fill placement not to commence until the geotechnical requirements for compaction have been provided.
- Placement of the marker layer across the site.
  - The marker layer to be used is an orange *Bidim*® material as shown in **Figure 6** below.

Figure 6 *High Visibility Marker Layer*

- The extent of the marker layer placement is shown in **Drawing 2**, **Appendix K** and comprises the entirety of the expansion component of the site excluding the portion of wetlands on the western boundary and a strip along the eastern boundary over which the landscaped bund will be placed.
- Marker layer is to be placed up the base of the western, southern and eastern boundary fences on the expansion component of the Project.
- Marker layer is to be placed along the walls of all excavations, including services as shown in **Figure 7** below, where situated within the contaminated material.

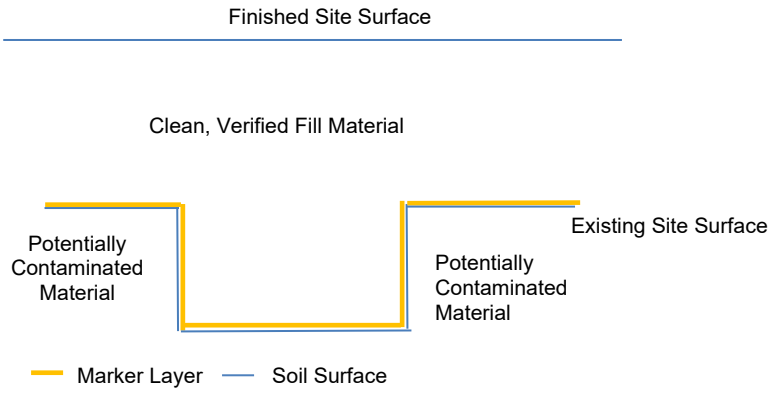

Figure 7 *Schematic of marker layer placement for service beneath existing surface*

- The marker layer is to be progressively rolled out across the site, such that it can be covered by fill by the end of the working day (refer **Table 9**) and secured to the surface with 15cm metal staples at 2m intervals. The sheets are to be overlapped by 0.2m in accordance with the manufacturer instructions.

    - Wind and other weather conditions should also be taken into account when placing marker layer to ensure secure placement of the layer.
  - The extent and elevation of the marker layer is to be recorded by registered surveyor at the completion of day and recorded on a drawing for eventual inclusion in the validation report. **HOLD POINT** Fill is not to be placed on marker layer until its location has been surveyed.
    - The survey should be to sufficient detail to allow the relocating of services trenches excavated into the surface following the placement of the fill. Alternatively the services may be placed in the appropriate location during the filling process: survey is still required.
  - A photographic log of the extent of the marker layer is to be maintained by the Site Supervisor on site (or appropriate delegated personnel).
- Importation of material as fill on top of the marker layer.
  - Fill will be primarily sourced from Concrush and as such will be certified in accordance with the Concrush Recovered Aggregate Order (Ref [12]).
  - In the event that fill is required from other sources it must be certified, to an appropriate standard as deemed by the Contaminated Land Consultant, to be VENM, ENM or otherwise suitable for use as fill in accordance with the resource recovery Order and Exemption (Ref [9]).
  - All imported material is to be tracked by the Site Supervisor from source to placement as detailed in **Section 3.1.2**.

  HOLD POINT No fill is to brought onto the expansion component of the site unless certification has been provided and accepted as adequate by the Contaminated Land Consultant and can be verified as consistent with the verification documents. Sufficient time allowance must be made for the approval of certification prior to material being imported to site.
- Placement of fill over the marker layer.
  - Fill is to be placed such that all marker layer is covered by the end of the day, with the exception of an approximate 2m around the exterior of the fill placement for logistical purposes in placing the marker layer the next day.
  - Fill is to be placed up to the base of the western, southern and eastern fence lines (refer **Figure 5**, **Figure 9** and **Figure 10**) at the angle of repose from the base of the fence to 0.5m in height.
  - Fill is to be compacted during placement to a level deemed suitable by the appointed geotechnical engineer.

  HOLD POINT Fill placement is not to commence until the geotechnical requirements for compaction have been provided.

HOLD POINT No further works are to be undertaken at the expansion component of the Project until the Contaminated Land Consultant and appointed auditor confirm that the remediation has been undertaken in accordance with the RAP (**Appendix H**).

HOLD POINT Operations are not to commence until the validation report, refer **Section 5.2**, and the subsequent Site Audit Statement, have been submitted to the Planning Secretary.

3.4 DEEP EXCAVATIONS

The following are considered to be 'deep excavations' (i.e >0.5m below the surface) for the purpose of this CEMP:

- Sediment Basin 1 (existing Concrush facility)
- Sediment Basin 2 (expansion component).
- Wheel Wash (existing Concrush facility)

There is no technical constraint for the timing of the construction of the sediment basin or wheel wash on the existing Concrush facility however these will be undertaken prior to the capping of the expansion component of the Project, as detailed in **Section 3.3**, in case the soil is not considered suitable for use as detailed later in this section.

The main excavations of the sediment basin on the expansion component are required to be undertaken prior to the capping as it is not considered viable to validate the soil as suitable for use based on the identification of asbestos at the site and due to the likely presence of acid sulfate soil within the excavation profile.

The areas and depths of each of the deep excavations are detailed in **Table 5** below. Schematics of the design of the sediment basins are included in **Appendix M**.

Table 5 *Details of Construction Elements Requiring Deep Excavation*

Construction Element	Area (m^2)	Depth		Anticipated Volume Excavated Soil (m^3)
		mbfgs	mAHD	
Sediment Basin 1	825	2.25	0.1	1,900
Sediment Basin 2	728	2	1.3	1,460
Wheel Wash	25	1-1.4	0.6-1	25-35

mbfgs – metres below finished ground surface

mAHD – metres Australian Height Datum

Excavations are to be overseen by a spotter looking for potential aboriginal artifacts. In the event that any objects which may be considered to be aboriginal artifacts, works are to cease and a 400m^2 area (ten (10) metre either side of the potential artifact) is to be cordoned off. The Department of Planning, Division of Environment, Energy and Science (EES) is to be contacted and works may not commence until approval to do so is given by the EES. **HOLD POINT** Excavation works are not to recommence in a cordoned area until formal approval from the EES has been received in writing.

3.4.1 EXCAVATED SOIL MANAGEMENT

All deep excavations are within areas which are considered likely to have potential for acid sulfate soils. Excavated soil is to be placed on a pre-prepared pad which will be of sufficient area to allow the neutralisation of the potential acid sulfate soil. Lime is to be worked into the material with a rotary hoe or with a small (<5tonne) excavator to minimise dust generation. Validation samples at to be collected at a frequency of 1/25m^3 by a contaminated land consultant and analysed for acid sulfate soil properties. **HOLD POINT** Soil cannot be removed from the treatment pad until neutralisation has been successful and certification to that effect has been received.

Soil excavated from Sediment Basin 1 and Wheel Wash may be placed on the surface of the expansion component of the Project following confirmation of neutralisation for use under the marker layer. Assessment will be required to assess whether material may be used above the marker layer.

Soil excavated from Sediment Basin 2 is to be placed on the surface of the expansion component of the Project following confirmation of neutralisation. It is not considered feasible to verify this material as suitable for use above the marker layer. The soil is to be placed in a manner that does not result in dust generation.

In the event that material excavated from the existing Concrush facility (Sediment Basin 1 or Wheel Wash) is proposed for use above the marker layer on the expansion component of the Project or on the existing Concrush facility, it is to be further assessed following neutralisation for suitability for use at the site. Assessment will comprise collection of soil samples by a contaminated land consultant at a frequency of 1/25m^3 and analysis for hydrocarbons, metals and asbestos. **HOLD POINT** The material cannot be relocated for reuse before certification is provided by the consultant stating that the material is suitable for reuse on site.

Full details regarding the construction of the pre-prepared pad, liming rates and other management requirements are detailed in the ASSMP (**Appendix F**). The general location of the treatment pad is shown on **Drawing 1**, **Appendix K**.

3.4.2 EXCAVATED SURFACE MANAGEMENT

The excavated surface of the sediment basins, wheel wash and any excavation which is in potential ASS must also be treated with lime to a depth of 0.2m below the design surface. The lime is to be applied to the surface and then to be worked into the material with a rotary hoe or with a small (<5tonne) excavator. **HOLD POINT** The surface is not to be compacted until a site inspection is undertaken by a contaminated land consultant and a letter provided to verify that the lime has been appropriately distributed throughout the strata to a depth of approximately 0.2m. Compaction is to be undertaken with a 9 tonne roller to an appropriate level for construction.

3.4.3 LINING OF EXCAVATIONS

The sedimentation basins will be lined with a high visibility marker layer below the depth of road construction materials and soil imported to site. The base of both Basins, and the wall of Sediment Basin 1 to 1.3m AHD will be lined with concrete, or a low permeability alternative as deemed satisfactory by a structural engineer, to prevent the interaction of groundwater with the water within the Basins.

The leachate dam and constructed wetland will be lined with a low permeability (10^{-14}m/s) geomembrane as shown in **Figure 8** below on the base, walls and a small area around the perimeter of the pond.

Figure 8 *Membrane to be used in leachate dam and constructed wetland*

The lateral extent of the liner includes the base, walls and a small area around the perimeter of the dam.

The geomembrane is to be progressively rolled out in the leachate dam and constructed wetland, such that can be covered by topsoil (for the wetland) and clay (for the leachate dam) by the end of the working day as per the manufacturer instructions to restrict exposure to sunlight. The sheets are to be overlapped by 0.2m, and glued in place in accordance with the manufacturer instructions.

Topsoil is to have been verified by a commercial supplier in accordance with the relevant Australian Standard (Ref [13]) or certified as ENM in accordance with the Order (Ref [8]) as accepted by the Contaminated Land Consultant. All other imported material to be used over the geomembrane must be certified as VENM or ENM. All imported material is to be tracked by the Site Supervisor from source to placement as detailed in **Section 3.1.2**. **HOLD POINT** No fill is to brought onto the site unless certification has been provided and accepted as adequate by the Contaminated Land Consultant and can be verified as consistent with the verification documents. Sufficient time allowance must be made for the approval of certification prior to material being imported to site.

Due to the nature of the membrane, there will be no pins used to anchor the membrane to the surface: the weight of the topsoil/clay must be made to be sufficient for the purpose.

The extent and elevation of the marker layer and geomembrane are to be recorded by registered surveyor at the completion of day and recorded on a drawing for eventual inclusion in the validation report. **HOLD POINT** Fill is not to be placed on geomembrane until its location has been surveyed. **HOLD POINT** At least one inspection by the Contaminated Land Consultant is to sight placement of the marker layer/ membrane.

A photographic log of the extent of the marker layer is to be maintained by the Site Supervisor on site and these may be required to be included in the validation report (refer **Section 3.3**).

3.4.4 GROUNDWATER MANAGEMENT

Three (3) groundwater monitoring wells, refer **Drawing 1, Appendix K**, are located at the site and indicate the depth to groundwater is between one (1) and three (3) metres below the existing surface. It is not expected that groundwater will be encountered during the deep excavations with the exception of Sediment Basin 1 based on the encountered depths, and there may be a need for groundwater extraction. There may also be a need for removal of accumulated water during construction.

Groundwater analysis undertaken to date does not indicate the presence of contamination (hydrocarbons, metals or phenols) which pose a risk to human health (**Appendix D**). There are concentrations of hydrocarbons (BH3 only), chromium (BH3 only) and zinc (all locations) in excess of the ecological criteria (Ref [4]). The sampling indicates that the pH of the groundwater is neutral. As such, no management controls are considered necessary for the protection of human health from exposure to groundwater.

The deep excavations pose a risk to groundwater quality by the potential acidification of acid sulfate soils due to oxygenation of the exposed surface. Works to neutralise the excavated surface, refer **Section 3.4.2**, are intended to prevent this occurrence however sampling of groundwater will be required to confirm the effectiveness of the process.

Full details of the groundwater monitoring programme are detailed in the Groundwater Management Plan (**Appendix D**) and the following presents a summary:

- Initial monitoring of all three (3) wells to provide baseline data for future comparison of ammonia, nitrate and phosphorous levels and further analysis of water at BH3 to clarify the type of identified hydrocarbon concentrations.
- The groundwater level at the three (3) existing monitoring wells is to be checked by the Site Supervisor, or delegate, once a week with a weighted tape or water level monitor for the duration of the construction.
    - Levels are to be checked twice daily (~9am and ~3pm) during any period prior to, during and following groundwater extraction. In the event that groundwater levels drop by more than 0.3m from the previous reading, the groundwater extraction is to cease and not to recommence until the groundwater level has recovered to its previous level. Groundwater extraction is to recommence at a lower rate to minimise the potential for significant drawdown reoccurring.
    - Groundwater levels are to be recorded on a register and be available for inspection as required.

- The groundwater pH at the three (3) existing monitoring wells is to be checked by the Site Supervisor, or delegate, once a week with a calibrated water quality meter for the duration of the construction. The readings are to be recorded on a register and be available for inspection as required.
- Groundwater is not to be discharged from site without a licence (from NSW EPA and/or Lake Macquarie Council) for the offsite discharge. At the time of writing it is not anticipated that any groundwater will require discharge from site. **HOLD POINT** No groundwater is to be discharged off site without an appropriate licence.
- Prior to extraction of groundwater from an excavation, the pH must be checked with a calibrated water quality meter by the Site Supervisor, or delegate. The readings are to be recorded on a register and be available for inspection as required.
    - If the pH is between 6 and 8, the groundwater may be discharged onto the surface of the site. The extraction volume is to be recorded by a calibrated flow meter. No water is to be discharged beyond the site boundaries without a licence permitting the discharge.
    - If the pH is less than 6, the groundwater is to be treated with lime in accordance with the ASSMP (**Appendix F**). This should be applied in a liquid form and allowed to mix through the groundwater or be actively mixed. The pH must be checked at four (4) separate locations within the excavation to confirm the successful mixing and neutralisation prior to the extraction of groundwater. The pH at the existing three (3) groundwater monitoring wells are to be checked in the event that lime application has been required.
    - Lime quantities and extraction volumes are to be recorded on a register and be available for inspection as required.

    HOLD POINT No groundwater is to be extracted from excavations without the pH being confirmed as suitable.

3.4.5 LANDSCAPING OF THE CONSTRUCTED WETLAND

Landscaping of the constructed wetland will be undertaken in accordance with the Landscape Management Plan (Ref [10]) and will comprise the hand planting of shallow rooted species into the topsoil. No penetration of the geomembrane is to occur during the planting process.

No landscaping of any other deep excavations is to be undertaken.

3.5 NOISE, AESTHETIC AND WATER MANAGEMENT MEASURES

Earthen bunds will be placed along the western and eastern boundaries of the expansion component of the Project: both will be situated outside the operational area of the site as shown in **Figure 5** previously and **Figure 9** below.

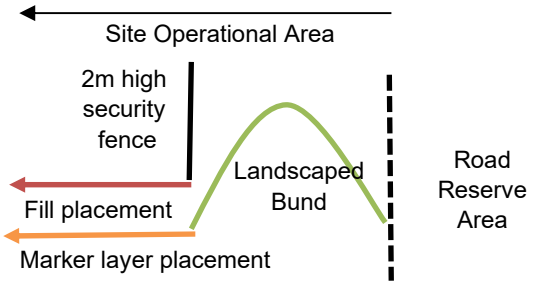

Figure 9 *General outline of works along eastern boundary.*

Material being added to bunds must comprise VENM, ENM or have been otherwise verified as suitable for use as fill in accordance with the resource recovery Order and Exemption (Ref [9]). All imported material is to be tracked by the Site Supervisor from source to placement as detailed in **Section 3.1.2**. **HOLD POINT** No fill is to brought onto the expansion component of the site unless certification has been provided and accepted as adequate by the Contaminated Land Consultant and can be verified as consistent with the verification documents. Sufficient time allowance must be made for the approval of certification prior to material being imported to site.

Landscaping of the bunds will be undertaken in accordance with the Landscape Management Plan (Ref [10]) and will comprise direct planting and application of a 100mm mulch layer over the bund. Species will be a mix of native types.

A 3m high noise wall will be constructed of concrete blocks on the site side of the landscaped bund for the extent of the raw material stockpile and processing area as indicated on **Figure 10**. A similar wall will also be constructed to a height of 3.5m along the eastern side of the area, however this may have to be placed at a later stage. The wall location is shown on **Drawing 1**, **Appendix K**.

A drainage channel will be excavated at the northern base of the bund along the southern boundary of the expansion component of the Project. This will be 0.3m deep and as such will be situated entirely within the fill imported for the remediation of the site (refer **Section 3.3**). As such no controls for contamination / material management are required: works should be undertaken to appropriately control dust (refer **Table 9**). A contingency plan must note the presence of the marker layer and ensure a cessation of works in the event that the layer is inadvertently exposed during excavation.

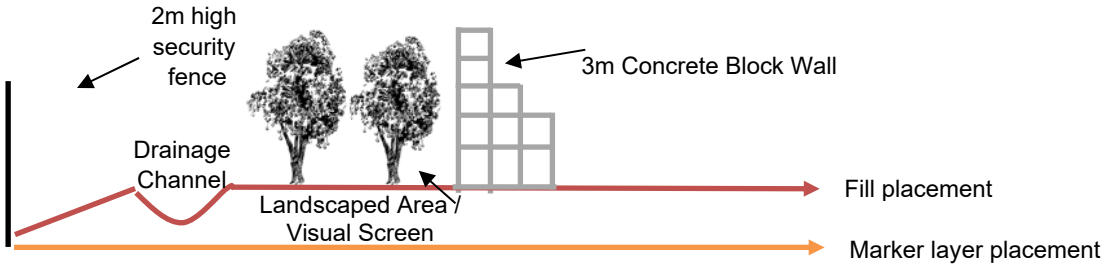

Figure 10 *General outline of works along southern boundary of expansion component of Project.*

Surface water generated in the green waste area will be directed to the leachate dam by the grading of the site (refer **Figure 4**).

3.6 HARDSTAND

The hardstand will be constructed from a well graded material with between 10-40% fines in accordance with the recommendations for an unsealed road wearing course (Ref [14]) and a plasticity index of between 8 and 12. The pavement will be 200mm in thickness and compacted in accordance with the recommendations (Ref [14]).

3.7 SHALLOW EXCAVATIONS

The following are considered to be 'shallow excavations' (i.e <0.5m below the surface) for the purpose of this CEMP:

- Leachate Dam.
- Constructed Wetland.
- Concrete Washout Bay.
- Stockpile pads.
- Haul Road (northern boundary).
- Car parking bays.

The light vehicle exit point is also considered to comprise a shallow excavation however controls for that are discussed in **Section 3.1**.

The areas and depths of each of the shallow excavations are detailed in **Table 6** below. Schematics of the design for the leachate dam and constructed wetland are included in **Appendix M**.

Table 6 *Details of Construction Elements Requiring Shallow Excavation*

Construction Element	Area (m^2)	Depth		Anticipated Volume Excavated Soil (m^3)
		mbfgs	mAHD	
Leachate Dam	345	1.5	2.05	250
Constructed Wetland	396	0.75	2.8	300
Concrete Washout Bay	150	Maximum 0.5	~3.5	2
Raw Material Stockpiles and Processing Area	Stage 1 - 10,800 Stage 2 - 11,700	0.02	~3	234
Green Waste Area (Raw and Processed)	3,300	0.02	>2	66
Processed Material Stockpile	Stage 1 - 4,536 Stage 2 - 4,180	0.02	~3.5	91
Haul Road (northern boundary)	1,695	0.02	~4	34
Car Parking Bays (total)	360	0.02	>2	7

mbfgs – metres below finished ground surface

mAHD – metres Australian Height Datum

Excavations for these items will all be undertaken following the completion of remediation at the expansion component of the Project (refer **Section 3.3**) and there will be no capacity for placement of the material under the marker layer.

Excavated material on the existing Concrush site may comprise recycled product or it may comprise natural material.

- Recycled product must be inspected for visual and olfactory indications of contamination in accordance with the EPL for the site and managed accordingly.
- Natural material must be assessed for acid sulfate soil properties and contamination as detailed for deep excavations in **Section 3.4.1**.

Excavated material on the expansion component of the project does not require assessment as long as it was situated above the marker layer and is being re-used elsewhere on site. If material is proposed to be removed from the Concrush site, assessment by the Contaminated Land Consultant is required. **HOLD POINT** No material is to be removed from site without certification by a contaminated land consultant.

3.8 BUILDING WORKS

The existing shed, situated at the northern boundary of the existing Concrush facility will be de-constructed and waste either recycled or removed to an appropriate waste facility. Deconstruction works are to be undertaken in accordance with relevant Australian Standards and SafeWork NSW Codes of Practice by an appropriately licensed demolition contractor. Appropriate noise and vibration control, refer **Table 9**, waste management and occupational hygiene measures should be implemented in accordance with a work specific plan compiled in accordance with **Section 6.2**.

Soil disturbance for both the deconstruction and construction phase are considered to be limited to the removal of the existing slab surface, which will be replaced by the internal haul road, and the excavation of shallow footings (<0.5m) for the new building. Excavated material is to be managed in the same manner as detailed for the shallow excavations as detailed in **Section 3.7**.

The new office and amenities at the weighbridges, and the lunchroom and toilet near the maintenance shed are demountable structures and will be situated above the ground. All materials are compliance with the Building Code of Australia. Excavations of shallow footings (<0.5m) may be required. Excavated material is to be managed in the same manner as detailed for the shallow excavations as detailed in **Section 3.7**.

3.9 RELOCATION OF STOCKPILES AND RE-STRUCTURE OF TIP-OFF AREA

The raw materials and green waste stockpiles will be relocated as appropriate to site operations and the construction programme, noting that the remediation (refer **Section 3.3**) of the expansion component of the Project must be complete prior to their relocation.

No excavations are proposed as part of the stockpile movement: appropriate dust control, refer **Table 9**, and occupational hygiene measures should be implemented in accordance with a work specific plan compiled in accordance with **Section 6.2**.

No excavations are proposed as part of the re-structure of the tip-off area, rather the existing concrete blocks will be relocated as per the Stage 2, refer **Figure 3**. Works are to be undertaken with appropriate traffic control measures, refer **Table 9**, and occupational hygiene measures should be implemented in accordance with a work specific plan compiled in accordance with **Section 6.2**.

4 ENVIRONMENTAL IMPACTS AND CONTROLS

4.1 ENVIRONMENTAL RISK ASSESSMENT

The environmental risks associated with the works have been assessed using the matrix as presented in **Table 7**. The potential risks associated with the remediation are detailed in **Table 8** and the amelioration measures to reduce the risk are detailed in **Table 9**.

Table 7 *Risk Matrix*

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major Effect	Catastrophic
Very Likely	4	3	2	1	1
Likely	5	4	3	2	1
Unlikely	6	5	4	3	2
Very Unlikely	6	6	5	4	3

Table 8 *Environmental Risk Rating*

Aspect	Construction Activity	Potential Environmental Impact	Residual Risk		
			L	C	R
Air Quality	Dust from excavation and earthworks. Dust from material handling (i.e. stockpile relocation). Dust from vehicular movements. Vehicle emissions.	Release of asbestos fibres.	Unlikely	Moderate	
		Neighbour complaints	Unlikely	Minor	
		Potential adverse health impacts.	Very Unlikely	Minor	
		Degradation of air quality and associated ecological impacts.	Very Unlikely	Insignificant	
Biodiversity	Vegetation clearing	Loss of habitat	Very Likely	Insignificant	
		Harm or injury to fauna during construction	Unlikely	Minor	
Traffic & Access	Construction of new access points. Parking for personnel. Haulage for imported materials.	Interruption to traffic flow.	Likely	Insignificant	
		Traffic congestion.	Unlikely	Insignificant	
		Accidents (pedestrian, site personnel).	Unlikely	Minor	
Noise & Vibration	Earthworks. Compaction of fill. Construction / demolition / relocation of buildings.	Neighbour complaints.	Unlikely	Minor	
		Damage to buildings off site.	Very Unlikely	Minor	
Soil and Water Quality	Vegetation clearance. Earthworks (excavation and fill placement). Dust suppression. Maintenance of plant and equipment. Drainage works.	Sediment laden water escapes into stormwater system.	Unlikely	Moderate	
		Contamination of soil or water from spills.	Unlikely	Minor	
		Acidification of groundwater or surface water.	Unlikely	Moderate	
Waste Management	Generation of waste during works	Excessive waste being sent to landfill	Unlikely	Insignificant	

Aspect	Construction Activity	Potential Environmental Impact	Residual Risk		
			L	C	R
Visual Impact	Earthworks Use of marker layer.	Aesthetic impacts	Likely	Insignificant	
Hazardous Materials	Movement of current chemical stock to new maintenance shed area. Storage of fuels and chemicals. Disturbance of contaminated soil. Removal of waste as generated by works and as encountered in stockpiles.	Contamination of soil or water from spills	Unlikely	Minor	
		Mobilisation of pollutants or sediments from contaminated soils	Unlikely	Moderate	
		Import of potentially contaminated material	Unlikely	Minor	
		Inappropriate disposal of waste	Unlikely	Moderate	
Compliance	Environmental Management Incident Response	Non-compliance with CEMP, Approval conditions, legislation	Unlikely	Moderate	
		Inadequate advice to personnel	Unlikely	Moderate	
		Inadequate response to environmental incident	Unlikely	Moderate	

Table 9 *Environmental Controls*

Environmental Control Measure	Responsibility	Timing / Records
Training and Induction		
All personnel to be informed of: • Presence of contamination (specifically asbestos) at the expansion component of the Project. • That there are risks associated with handling the contaminated material. • That there is potential acid sulfate soil which may be encountered during the works. • That the purpose of this CEMP, and the remedial specific CEMP (Ref [11]), is to manage risks. • Remedial process to be completed prior to the remainder of construction. • Requirements for the management of dust, water and soil. • Requirements for occupational hygiene and that smoking is not permitted at the site until the capping is completed (this is not due to explosive risk, rather is to minimise potential intake of contaminants). • Contingency planning which includes the Unexpected Finds Protocol including, however not necessarily limited to issues as identified in **Appendix J**.	Site Supervisor	Once prior to commencement of works and for any new employees / contractors undertaking works at site prior to completion of capping. Induction Register.
Material Handling		
The potential to encounter potentially contaminated material /acid sulfate soil to be considered each day at the tool box / pre-start meeting. Where likely, all personnel must be reminded of the relevant controls.	Site Supervisor	Continuous throughout construction. Material Tracking Register to be maintained throughout course of construction. Soil Treatment Register for ASS to be maintained throughout course of construction. Waste receival documents from licensed facility to be kept. Certification documentation for imported fill to be kept
Potential acid sulfate soil to be managed in accordance with the ASSMP (**Appendix F**) or until tested and confirmed not acid sulfate soil.		
Material movement from stockpiles on expansion component to be tracked – certification, tipper / truck movements and fate (facility and/or location on site).		
Material movement from excavations to be tracked – tipper/ truck movements per day and approximate volume. If used above the marker layer, certification of suitability required.		
Imported material movement to be tracked – truck movements per day and confirmation these originated from site of fill. A register of any imported material to be kept: of source, type of certification, volume and location of placement.		
If any material is removed from site, a register to be kept of waste classification documents, facility material taken to and volumes.		

Environmental Control Measure	Responsibility	Timing / Records
Groundwater		
Groundwater not to be discharged from site without a licence to do so by the appropriate regulatory authorities.	Site Supervisor	Continuous throughout construction. Groundwater level and pH Register to be maintained throughout course of construction.
Groundwater levels and pH to be tested.		
Noise		
Require pre-start check lists to be provided by all contracted equipment prior to commencement of work.	Site Supervisor	Continuous throughout construction. Contact details available on fence and in community notification documents. Complaints register to be maintained throughout course of construction.
Regularly maintain all on-site equipment. In the event that plant becomes noisy it is to be repaired or replaced as soon as practicable.		
Notification to be provided to residents about intended works and hours of operation.		
Works to be undertaken as per Approval Condition B42: Monday to Friday – 7am to 6pm Saturday – 8am to 1pm No works to be undertaken on Sunday or public holidays		
Works are to be organised such that the use of movement alarms on vehicles and plant are minimised to the extent possible. The type of alarms (i.e. 'squark' or 'beep') is to be considered and the one with least noise impact utilised.		
Materials (stockpiles, concrete barriers) are not to be dropped from height.		
Plant to be turned off when not in use.		
A mechanism to be provided to receive noise complaints at site. Works in the area and/or associated with the machinery subject to the complaint are to cease until an investigation into the occurrence has been undertaken.		
All noise complaints to be responded to formally and any practical measures implemented to reduce impact and prevent reoccurrence.		

Environmental Control Measure	Responsibility	Timing / Records
Dust		
Consider weather conditions at the start of work in regards to potential dust generation. If the average wind speed is forecast at >18km/hr consider alternative works and/or ensure that water application facilities are available. Discussion with regards to dust is to be undertaken at the tool box / pre-start meeting each day.	Site Supervisor	Continuous throughout construction. Contact details available on fence and in community notification documents. Daily Weather Register to be maintained throughout course of construction. Complaints register to be maintained throughout course of construction.
Dust is to be minimised during all works. This may be achieved by the following: • Minimising the area of the site disturbed at any time. • Controlling the speed of vehicles traversing on the site. • Controlling the tipping height and rate for material being placed. • Application of water and/or dust suppressant, both reactively and proactively. Stockpiles and haul roads are to be sprayed with water when average wind speeds from the north and/or north westerly direction are greater than 18km/hr for a period of 15minutes. • Use of shadecloth along boundaries to capture dust.		
Visually monitor the dust conditions during the works and implement controls where dust is identified.		
Works to stop if dust cannot be controlled or when average wind speeds from the north and/or north westerly direction are greater than 36km/hr for a period of 15minutes.		
All trucks leaving site are to have loads covered. Trucks importing material imported to site are to be covered: the Site Supervisor to liaise with personnel at the source of material to enforce.		
A mechanism to be provided to receive dust complaints at site. Works in the area and/or associated with the machinery subject to the complaint are to cease until an investigation into the occurrence has been undertaken.		
All dust complaints to be responded to formally and any practical measures implemented to reduce impact and prevent reoccurrence.		

Environmental Control Measure	Responsibility	Timing / Records
Odour		
Consider weather conditions at the start of work in regards to potential odour generation. If the wind is forecast at >18km/hr from north / north west consider alternative works/methodology. Discussion with site personnel regards to odour is to be undertaken at the tool box / pre-start meeting each day.	Site Supervisor	Continuous throughout construction. Daily Weather Register to be maintained throughout course of construction. Complaints register to be maintained throughout course of construction.
No disturbance of green waste materials to be undertaken before 10am or when weather conditions are cool, moist with low wind.		
Monitor odour conditions during works and implement controls / stop works where odour is identified beyond the immediate proximity (~10m) of the works.		
A mechanism to be provided to receive odour complaints at site. Works in the area and/or associated with the machinery subject to the complaint are to cease until an investigation into the occurrence has been undertaken.		
All odour complaints to be responded to formally and any practical measures implemented to reduce impact and prevent reoccurrence.		

Environmental Control Measure	Responsibility	Timing / Records
Erosion and Surface Water		
Erosion and sediment control measures are to be implemented prior to the commencement of works and be maintained during the period of construction in accordance with the details set out on an Erosion and Sediment Control Plan (**Appendix E**). The Plan will detail the requirements for review and alteration in the event that the installed controls are not operating appropriately.	Site Supervisor	Continuous throughout construction. The ESCP (**Appendix E**) to be available on site at all times. A record of inspections to be maintained and be available for review by regulators on request. Photographs to be included where appropriate and included where a repair is undertaken. Rainfall records to be maintained and to be available to regulators on request.
The sedimentation dams are to be constructed and fully operational prior to the commencement of other earthworks.		
Area disturbed at any one time is to be minimised: • Site access points to be stabilised to minimise transfer of soil onto Racecourse Road. • Trafficable routes are to be limited. • Where logistically appropriate, vegetation is to be left at the surface to minimise potential for erosion and impact to surface water.		
Vehicle access to site to be restricted to those necessary for construction until final design levels are achieved. This may result in personnel walking from car parking areas to plant.		
Excavated soil to be managed in accordance with the ASSMP (**Appendix F**)		
Inspect all surface water controls identified as a 'high risk' in the Plan on a daily basis and prior to/after any significant (10mm in 24 hours) rainfall events. Inspect all other controls on a weekly basis and prior to/after any significant (10mm in 24 hours) rainfall events. Maintenance (such as removal of accumulated sediment) and repairs are to be undertaken as needed at the earliest practicable opportunity.		
No vehicle to leave the expansion component of the Project prior to the completion of remediation without being cleaned of dust.		
All vehicles to exit over a cattle grid to dislodge bulk of dirt from tyres prior to leaving site. In the event of muddy conditions, tyres to be washed by high pressure hose: water to be collected in the sedimentation ponds.		
Racecourse Road to be inspected for any soil on a daily basis and prior to/after any significant rainfall events. Any material to be swept up as soon as practicable.		

Environmental Control Measure	Responsibility	Timing / Records
Heritage		
Personnel to be informed of their obligations under the relevant Acts (NP&W 1974, Heritage Act 1977) with regards to protection of heritage items and including penalties for accidental or wilful damage.	Site Supervisor	Continuous throughout period of excavation. Incident reporting form.
In the event that a potential heritage item (Aboriginal or otherwise) is discovered: • Works shall cease. • A cordon of 10m shall be erected around the area. • Appropriate parties shall be contacted (EES, archaeologist, heritage consultant, local Aboriginal Council). • No works to commence within the cordon until EES approval provided.		
Visual Amenity		
Existing vegetation will be left to the extent possible on the western, southern and eastern portions of the expansion component to the extent practicable during construction.	Site Supervisor	Continuous throughout construction.
The marker layer will be placed in the morning and its extent covered by the end of the day to reduce impact to visual amenity.		
The landscaped bund will be installed on the southern and the majority of the eastern boundary of the site prior to the majority of the construction.		
Landscaping will be undertaken as soon as practicable with local amenity in mind.		
Contamination		
All works on the expansion component of the Project will be undertaken with the understanding that the soil has asbestos contamination at, and under the surface. The potential human health risks associated within inhalation of asbestos will be specifically identified.	Site Supervisor	Continuous until the completion of capping.
The expansion component of the Project will be capped in accordance to the RAP (**Appendix H** prior to the majority of the construction works.		
The Contaminated Land Consultant and a NSW EPA accredited auditor will assist during the construction to ensure remediation is undertaken in accordance with the RAP (**Appendix H**) and specific CEMP (Ref [11]) and provide verification prior to the operation of the site.	Contaminated Land Consultant Appointed Auditor	Prior to construction / operation works after remediation. Validation Report Site Audit Statement / Report

Environmental Control Measure	Responsibility	Timing / Records
Waste		
No material from, or below the surface of the expansion component of the Project will be removed from site. The penalties for illegal disposal of material will be identified to personnel.	Site Supervisor	Continuous throughout construction. Material Tracking register to be maintained throughout course of construction. Waste classification documents. Waste receipt dockets from all facilities.
Material within existing stockpiles at the expansion component of the Project will be assessed visually by the Contaminated Land Consultant. Materials that can be identified by visual means (concrete, steel, plastic) will be sorted by machine and removed to licensed waste facilities: • Concrete will be taken to the existing Concrush facility for recycling. • Metal will be removed to a licensed waste facility for recycling. • Plastic will be removed to a licensed waste facility for disposal. • Treated timber will be removed to a licensed waste facility for disposal. • Untreated timber will be taken to the existing Concrush facility for recycling. Material that cannot be identified by visual means (refuse/litter) will be removed in bulk to a licensed waste facility for disposal. Soil within stockpiles will not be removed without classification in accordance with the guidelines (Ref [15]) however may be used under the marker layer without further assessment.		
Construction materials will be ordered specifically for the requirements of each task to minimise over supply.		Continuous throughout construction.
Waste generated by construction activities (refuse from workers, construction waste) will be sorted on site for recycling and disposal, and will be collected by licensed waste contractors.		Waste receipt dockets from all facilities not associated with Council refuse/recycling collection.

Environmental Control Measure	Responsibility	Timing / Records
General		
Fuel and chemicals are to be stored in a bunded area designed in accordance with the most stringent of the conditions in relevant Australian Standards and EPA guidelines away from surface water flow paths. Spill kit to be within proximity and any refuelling to be undertaken by personnel familiar with the process and use.	Site Supervisor	Continuous throughout construction. Incident reporting form.
Any incidents to be recorded along with any amelioration measures to prevent reoccurrence.		
Regularly maintain all on-site equipment and repair/replace as required to ensure optimum performance.		
Existing wetlands to the west of the site will be identified with stakes and flagging during construction as an excluded area. Sedimentation controls will be placed along the boundary of the wetlands.		

4.2 ENVIRONMENTAL REGISTERS

A number of registers must be maintained during the site works to monitor that implementation of controls contained within the CEMP are occurring.

- Induction Register.
- Material Tracking Register.
- Soil Treatment Register.
- Groundwater Level and pH Register.
- Complaints Register.
- Daily Weather Register.

An incident report form is to be completed for any and all environmental incidents. A template of each of the forms is attached in **Appendix N**.

5 COMPLIANCE TRACKING PROGRAMME

5.1 CEMP AMENDMENTS

Any amendments to the CEMP and associated documentation are to be concurred with by the Department of Planning prior to change in methodology at the site.

The revision status, and the reason for amendment, is to be recorded at the beginning of this document. All personnel are to be informed of alterations to the CEMP upon occurrence and their acknowledgement recorded in the induction register.

The requirements for review of the plan are detailed in Section **8**.

5.2 VALIDATION

Validation will be undertaken during the construction process to ensure that the validation report can be compiled at the completion of the remediation of the expansion component of the Project. Validation will include:

- Site inspections. These will be held generally on a weekly basis, as requested and as required for Hold Point resolution, refer Section **5.2.1**. No chemical testing is currently anticipated to be required with the exception of ASS neutralisation testing and the purpose of these site inspections will be to provide RCA verification on the documentation being maintained by Conaghan Civil, the placement of marker layer and geomembrane. Site photographs and statements based on these inspections will be included in the validation report.
- Review of site documentation such as material tracking documentation and photographic records. The purpose of the review of documentation will be to ensure that all relevant information is being maintained such that there is confidence in the provided information at the completion of the Project. A summary of the material tracking documentation will be included in the validation report: photographs may be used in the validation report if no equivalent photograph was collected by RCA Australia.

- Review of imported fill classification documents (if required). The purpose of the review will be to ensure that provided certification documents adequately verify that material is suitable to be imported to site. Chemical testing should not be required unless there is uncertainty with regards to the certification and this will be undertaken prior to material being imported to site or, if risk is considered by RCA to be minimal, after material is imported and prior to material being utilised at site. Reference to all certification documents will be made in the validation report and actual reports will be provided to the NSW EPA accredited contaminated sites auditor to facilitate his site audit report and statement.
- Review of survey information relating to the placement of the marker layer and depth of fill above the marker layer. The purpose of this review is to ensure that there has been sufficient survey information to verify the appropriate treatments of the surface and services trenches, that there is sufficient buffer between the potentially contaminated surface and the finished design surface, and that the documentation matches the observations made by RCA. Survey information will be included in the validation report.

5.2.1 HOLD POINTS

Hold Points are those times where it is considered crucial that third party verification is undertaken to facilitate the validation report. These are detailed in **Table 10** below.

Table 10 *List of Hold Points*

Item Hold Point Relates to	Items Held	Hold Point to be Released By	Option for Partial Hold Point Release?
Groundwater Monitoring Well Location and Physical Identification.	Vegetation clearance and movement of material.	Site Supervisor.	No
	Excavation at the expansion component of the Project.		
Physical identification of off-set distance and concurrence from Sydney Trains.	Vegetation clearance and movement of material.	Concrush.	No
Assessment of physical and chemical nature of stockpiles currently located on expansion component of Project.	Removal of stockpiles or use above marker layer.	Contaminated Land Consultant.	Yes – can be per stockpile.
Construction of southern and eastern boundary fence.	Commencement of works on the expansion component of the Project.	Site Supervisor.	No

Item Hold Point Relates to	Items Held	Hold Point to be Released By	Option for Partial Hold Point Release?
Verification that certification of fill proposed to be imported to site is suitable.	Importation of fill for augmentation of bund on western boundary.	Contaminated Land Consultant prior to arrival. Site Supervisor (or delegate) upon arrival before deposition.	No
Construction of western boundary fence.	Commencement of works on the expansion component of the Project.	Site Supervisor.	No.
Assessment of soil excavated from the access construction.	Re-use of the excavated material over the marker layer on the expansion component of the Project or on the existing Concrush facility.	Contaminated Land Consultant.	No. No hold point applies for excavated material being used below the marker layer on the expansion component of the Project.
Acid sulfate soil assessment of soil excavated from Deep Excavations and fence construction.	Placement of soil below or over the marker layer at the expansion component of the Project or on the existing Concrush facility.	Contaminated Land Consultant.	Yes – can be per stockpile / batch.
Identification of compaction requirements.	Placement of fill below and over the marker layer on the expansion component of the Project.	Site Supervisor.	Yes – can be split between below and over the marker layer.
Survey of extent and elevation of marker layer.	Placement of fill over the marker layer.	Site Supervisor in consultation with Contaminated Land Consultant.	Yes. Release required each day prior to placement of fill over marker layer laid that day.
Verification that certification of fill proposed to be imported to site is suitable.	Importation of fill for placement over marker layer.	Contaminated Land Consultant prior to arrival. Site Supervisor (or delegate) upon arrival before deposition.	No.
Verification that remediation has been completed.	Stage 2 works on expansion component of Project.	Contaminated Land Consultant in consultation with appointed Auditor.	No.
Assessment of identified Aboriginal Heritage item.	Further excavation works within the 20m cordoned off area.	Site Supervisor after sighting EES approval in writing.	No.

Item Hold Point Relates to	Items Held	Hold Point to be Released By	Option for Partial Hold Point Release?
Assessment of soil from Deep Excavations at the existing Concrush facility.	Placement of the fill over the marker layer or on the existing Concrush facility.	Contaminated Land Consultant.	Yes – can be per stockpile / batch.
Assessment of lime treatment of deep excavation surface.	Placement of compaction and/or lining of deep excavation.	Contaminated Land Consultant.	Yes – can be per excavation.
Verification that certification of fill proposed to be imported to site is suitable.	Importation of topsoil and/or other materials for placement over linings in Deep Excavations.	Contaminated Land Consultant.	Yes – can be per source.
Survey of extent and elevation of geomembrane.	Placement of fill over the geomembrane.	Site Supervisor.	Yes – can be per Deep Excavation.
Sighting of geomembrane by Contaminated Land Consultant.		Site Supervisor in consultation with Contaminated Land Consultant.	
Licensing for water discharge from site.	Discharge of groundwater off site.	Site Supervisor.	No.
Testing of pH in groundwater.	Extraction of groundwater.	Site Supervisor in consultation with Contaminated Land Consultant.	Yes – can be per event.
Verification that certification of fill proposed to be imported to site is suitable.	Importation of fill for bund construction on southern and eastern boundary.	Contaminated Land Consultant.	Yes – can be per source.
Assessment of soil from Shallow Excavations.	Removal of soil from site.	Contaminated Land Consultant.	Yes – can be per excavation.
Submission of a validation report and site audit statement.	Commencement of Stage 1 Operations.	Project Manager and Contaminated Land Consultant in consultation with appoint Auditor.	No.

Documentation relating to the above hold points, noting that there may be more than one each in relation to the marker layer and importation of fill, is included in **Appendix O**.

6 TRAINING AND AWARENESS

6.1 SITE INDUCTION

Prior to commencing work on site, all site personnel and contractors must attend a site induction. The site induction will include:

- The Approval Conditions relevant to the construction process.
- Overview of the requirements of this CEMP and that of the remedial specific CEMP (Ref [11]).
- Legal requirements.
- Environmental responsibilities.
- Environmental incident reporting, management and emergency response.
- Site environmental controls.

A smaller induction may be given to visitors.

A register of all inductions will be kept (refer **Appendix N**). The name of the person providing the induction will also be recorded.

6.2 WORK HEALTH AND SAFETY (WHS)

Contamination identified at the site presents a risk to the environment and human health and there are additional risks associated with the construction. A detailed WHS Plan must be prepared prior to the commencement of the works. Specifically, the WHS controls related to minimising the risk are:

- Ensuring all personnel are informed of the contamination present at the site.
- Restriction of exposure to contamination:
    - Minimising dust generation / inhalation.
    - No smoking on site prior to the completion of capping.
    - Hygienic principles of washing hands and face prior to consuming food and drink.
- Ensuring that plant and equipment is operated only by those with appropriate licences / permits.
- Co-ordinating activities at the site to avoid conflict between plant / equipment and personnel in light vehicles or on foot.
- Implementing best practice controls as detailed in **Table 9** for control of dust and noise and those required for traffic management and prevention of pollution events.
- Contingency planning.

7 NOTIFICATION AND REPORTING

The Site Supervisor will notify the Contaminated Land Consultant and the Auditor about the intended commencement date of earthworks and pending Hold Points in relation to contamination issues. Other parties may need notification regarding commencement and pending Hold Points: the Site Supervisor is responsible for all notifications and fulfillment of Hold Points.

Emergency contact details are shown in **Table 11** below.

Table 11 *Emergency Contacts*

Role	Contact Name	Phone
Project Manager	Kevin Thompson	0408 687 093
Site Supervisor	Ken Peddie	0402 223 308
Fire, ambulance, police		000
Lake Macquarie City Council		02 4921 0333
Contaminated Land Consultant	Fiona Brooker	0408 687 529
Site Auditor (contaminated land)	Ian Gregson	0418 685 838

7.1 ENVIRONMENTAL INCIDENT REPORTING

In the event that an incident (such as fuel spill, dust, soil on road) occurs, personnel are to:

- Undertake any emergency measure to stop continuation of the event.
- Immediately report the event to the Site Supervisor who will direct immediate ameliorative actions.

The Site Supervisor is to advise the Contaminated Land Consultant of the incident to allow consideration of relevance with regards to the validation report: the Contaminated Land Consultant will then advise the NSW EPA accredited auditor if the incident is considered relevant.

In accordance with the Protection of the Environment Operations Act 1997 all pollution incidents will be reported to the NSW EPA, NSW Health, Fire and Rescue NSW, SafeWork NSW and Lake Macquarie City Council should material harm to the environment be caused or threatened. Notification of an incident must be made immediately after the person(s) become aware of the incident and Concrush must provide written details notifying the NSW EPA of any environmental harm within seven (7) days of the date on which the incident occurred.

Concrush must notify the Planning Secretary by email (compliance@planning.nsw.gov.au) immediately after becoming aware of the incident in accordance with Approval Condition C10. The SSD reference, location and nature of the incident must be identified. Further reporting is required within seven (7) days of Concrush being aware of the incident and is to include:

- The development and application number;

- Details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
- How the incident was detected;
- When the applicant became aware of the incident;
- Any actual or potential non-compliance with conditions of consent;
- What immediate steps were taken in relation to the incident;
- Further action(s) that will be taken in relation to the incident; and
- The project contact for further communication regarding the incident.

It is noted that the above reporting requirement applies even in the case an event which is initially notified to the Planning Secretary is determined, after further consideration/investigation to not be an incident.

A further report is to be provided to the Planning Secretary, and any relevant public authorities as determined by the Planning Secretary, within thirty (30) days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, and must include, although not necessarily be limited to:

- A summary of the incident;
- Outcomes of an incident investigation, including identification of the cause of the incident;
- Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
- Details of any communication with other stakeholders regarding the incident.

7.2 ENVIRONMENTAL NON-CONFORMANCE AND CORRECTIVE ACTION

Failure to implement the Environmental Control Procedures detailed in the **Table 9** are all deemed 'environmental non-conformances'.

The nature and extent of the nonconformity is to be advised to the Site Supervisor for evaluation of the significance of the nonconformity. The Contaminated Land Consultant is also to be advised to allow consideration of potential impact to the validation process: the Contaminated Land Consultant will then advise the NSW EPA accredited auditor if the incident is considered relevant.

If necessary, subsequent and/or associated work is to be suspended pending review of the nonconformity.

In the event that Concrush becomes aware of a non-conformance which not resulted in an incident that is notified in accordance with **Section 7.1**, Concrush must notify the Planning Secretary by email (compliance@planning.nsw.gov.au) within seven (7) days of becoming aware of the incident in accordance with Approval Condition C11. The SSD reference, Approval Condition which was not conformed with, the reason for the non-conformance and corrective actions that have been/are intended to be undertaken must be identified in accordance with Approval Condition C12.

It is noted that any incident reported under Approval Condition C11 does not need to also be reported as a non-compliance under Approval Condition C12 (as identified by Approval Condition C13).

8 REVIEW AND IMPROVEMENT OF CEMP

Concrush have, as part of their ongoing business programme, a protocol to review all management plans with the objectives of meeting environmental standards including those for air emissions. As such Concrush will review the implementation of the CEMP within two (2) weeks from the commencement of the works and then every month. The purpose of this review is to ensure that the CEMP and implementation is meeting its statutory requirements.

The review will consider:

- Observations at the site regarding work practices and environmental controls.
- Comments provided by Site Supervisor, Concrush, Contaminated Land Consultant, Auditor, Council or others.
- Any audit findings.
- Any complaints.
- Incident reports.
- Records of environmental non-conformance.
- Changes in organisational structure.
- Changes in construction methodology.
- Changes in legislation and standards.

Comment will be sought from Conaghan Civil, the Contaminated Land Consultant and the NSW EPA accredited contaminated sites auditor.

Continual improvement of the CEMP will be achieved by the continual evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continual improvement process will:

- Identify areas of opportunity for improvement of environmental management which leads to improved environmental performance.
- Determine causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address non-conformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions; and document any changes in procedures resulting from process improvement.

A report shall be compiled after one year of operation, based on the above reviews and potentially including another review, in accordance with Approval Condition C14 and will include:

- Description of the development that was carried out in the previous year, and the development that is proposed to be carried out in the current year;
- A comprehensive review of the monitoring results and complaints records from the previous year, including a comparison of these against the:
    - Relevant statutory requirements, limits or performance measures/criteria
    - Requirements of any plan or program required under this consent;
    - Monitoring results of previous years; and
    - The relevant predictions in the EIS and Response to Submissions;
- Any non-compliances and any incidents which occurred over in the previous year, and describe what actions were (or are being) taken to rectify the non-compliance or incident and avoid recurrence;
- Any trends in the monitoring data over the life of the development;
- Any discrepancies between the predicted and actual impacts of the development, and analysis of the potential cause of any significant discrepancies;
- Description of measures to be implemented over the next year to improve the environmental performance of the development.

The report will be provided to the Planning Secretary and Council with three (3) months and will be made available on the Concrush website.

Additional review of this CEMP will be undertaken in accordance with Approval Condition C8 within three (3) months of any of the following events:

- The submission of an incident report under Approval Condition C10 (refer **Section 7.1**);
- The submission of an Independent Environmental Audit undertaken in accordance with Approval Condition C16 one year after commencement of operations and every three (3) years after;
- The approval of any modification of the conditions of this consent;
- The issue of a direction of the Planning Secretary under Approval Condition A2(b) which requires a review.

In the event that the Plan is required to be amended based on the above review, the amended Plan will be submitted to the Planning Secretary within six (6) weeks of the review in accordance with Approval Condition C9.

REFERENCES

[1] Lake Macquarie Local Environment Plan 2014 under the Environmental Planning and Assessment Act 1979, as updated 22 January 2020.

[2] RCA Australia, *Baseline Contamination Assessment, Proposed Concrush Facility Expansion, Racecourse Road Teralba*, RCA ref: 13589-401/3, November 2018.

[3] National Environment Protection Council (NEPC), *National Environment Protection (Assessment of Site Contamination) Measure*, 1999 as amended 2013.

[4] ANZG, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia.,* August 2018. Available at www.waterquality.gov.au/anz-guidelines.

[5] RCA Australia, *Geotechnical Investigation, Proposed Upgrade Of Pavements, 21 Racecourse Road, Teralba*, RCA ref: 13589-201/1, June 2020.

[6] Lyndsay Dynan, *Proposed Intersection, Racecourse Road, Teralba NSW*, Drawings 16015-LD-DR-C series of 10, Revision A.

[7] Protection of the Environment Operations Act 1997 (POEO Act)

[8] Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014, *The excavated natural material order* 2014.

[9] https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/resource-recovery-framework/apply-for-an-order-and-exemption

[10] Umwelt, *Landscape Management Plan, Concrush Resource Recovery Facility*, Report No: 20019_R01, July 2020.

[11] RCA Australia, *Construction Phase Management Plan During Remediation, Expansion of the Concrush Resource Recovery Facility, Teralba*, RCA ref: 13589-806, pending.

[12] Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014, *The Concrush Recovered Aggregate order* 2020

[13] Standards Australia, *Soils for landscaping and garden use*, AS 4419:2018.

[14] Austroads, *Guide to Pavement Technology, Part 6: Unsealed Pavements*, 2009.

[15] NSW EPA, *Waste Classification Guidelines*, *Part 1; Classifying Waste*, November 2014.

GLOSSARY

ACM	Asbestos containing material.
AHD	Australian height datum, based on a mean sea level.

EES	Department of Planning, Division of Environment, Energy and Science – formerly known as NSW Office of Environment and Heritage (OEH)
ENM	Excavated natural material as defined (Ref [8]).
NSW EPA	NSW Environment Protection Authority.
VENM	Virgin excavated natural material as defined (Ref [7]).

Appendix A

Programme of Works

Concrush – Constructions Works Programme

21 Racecourse Road, Teralba NSW ABN 29097606543

	Item	Week 1	Week 2	Week 4	Week 6	Week 8	Week 10	Week 12	Week 14	Week 15	Week 17	Week 19	Week 21	Week 23	Week 25	Week 28	Week 30	Week 32	Week 34	Week 36	Week 38	Week 40	Week 42	Week 44	Week 46	Week 48	Week 50
	Start Date Week 0 2020																										
Stage 1 - Construction	**11. Preliminaries**																										
	11.1. Site Survey																										
	11.2. Site Set-up Clear Site of vegetation Start of remediation works Mark 20m buffer for Rail Corridor Mark ground water monitoring wells Install Fencing with shade cloth for dust control Set-up Sediment & Erosion controls Set-up Stockpiling area Set-up Acid Sulphate treatment area Implement Traffic Control Plan																										
	11.3. Stormwater																										
	11.3.1 Sediment Basin 1 & 2 Constructed Wetland Leachate Dam Boundary Swale																										
	11.4. Bulk Earthworks – Continued Remediation Works																										
	11.4.1. Trim & compact existing subgrade to 100% standard																										
	11.4.2. Supply & install geofabric layer																										
	11.4.3. Supply & install 0.5m capping layer																										
	11.4.4. Trenching & install cables for electrical & dust suppression system																										
	11.4.5. Supply & install 0.2m hardcore layer																										
	11.4.6. Trim internal haul road																										
	11.4.7. Two coat seal to internal haul road and 20 car parks																										
	11.4.8. Supply & install landscape soil mounds																										
	11.4.9. Supply & Install Noise Wall																										
	12. Landscaping to wetlands, boundary mounds, swales & security fencing																										
	13. Supply & install light poles																										

	14. Supply & install lunchroom/toilet 14.4m x 3m													
	15. Supply & install Maintenance Shed 20m x 12m on concrete raft shed													
	16. Supply & install wet concrete washout bay **- Water, power, slab on ground** **- Pit etc**													
	17. Supply & install wheel wash													
	18. Supply & install													
	18.1. Irrigation lines & pumps													
	18.2. Water tanks													
	19. Remove existing shed & containers													
	20. Racecourse Road Entry Adjustments													
	19.1. LMCC plan approval													
	19.2. Let entry road subcontractor													
	19.3. New entry roadway													
	21. Upgrade entry gate													
Stage 2 - Construction														
	22. Update Plans													
	23. Supply & install													
	22.1. Two new weighbridges													
	22.2. New weighbridge Office													
	22.3. Additional car parks													

Appendix B

Lake Macquarie Council Approval

Fiona Brooker

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Wednesday, 23 September 2020 9:37 AM
To: Fiona Brooker
Subject: FW: TRIM: SSD 8753 Concrush- Planning Letter

From: Glen Mathews <gmathews@lakemac.nsw.gov.au>
Sent: Wednesday, 23 September 2020 9:24 AM
To: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: RE: TRIM: SSD 8753 Concrush- Planning Letter

Hi Kevin,

Please be advised I have written to Susan Fox and advised Council has reviewed the following:

LMP – Council reviewed Concrush Landscape Mangement Plan – Final, prepared by Umwelt, dated 07/07/2020. No objection was raised to this plan.

FERP – Council reviewed Concrush Expansion Flood Emergency Response Plan - Final, prepared by Umwelt, dated 07/07/2020. No objection was raised to this plan.

TMP – Council reviewed Traffic Management Plan and Driver Code of Conduct, prepared by Intersect Traffic, dated 05/06/2020. No objection was raised to this plan.

In addition I provided a copy of the LMP to Susan. If you have any further questions do not hesitate to ask.

Kind Regards,

Glen Mathews
Senior Development Planner

LAKE MACQUARIE CITY

T 02 4921 0399 **M** 0439 647 504
E gmathews@lakemac.nsw.gov.au
lakemac.com.au

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Monday, 21 September 2020 9:21 AM
To: Glen Mathews <gmathews@lakemac.nsw.gov.au>
Subject: TRIM: SSD 8753 Concrush- Planning Letter

Hi Glen,

As discussed Dept of Planning have written to Concrush, letter attached, requesting written confirmation from LMCC concerning consultation on our TMP, LMP and FERP.

Can you please confirm if you require any further information from Concrush?

Yours sincerely,
Concrush Pty Ltd

Kevin Thompson

Sent from my iPhone

> **Date:** 18 September 2020 at 6:28:45 pm AEST
> **To:** "Kevin [Concrush]" <Kevin@concrush.com.au>
> **Subject: EIS letter**
>
> see attachment

Appendix C

Water Discharge Management Plan, Endorsement and NSW EPA Concurrence

Planning, Industry & Environment

Mr Kevin Thompson
Managing Director
Concrush Resource Recovery Facility
18 Tirriki Street
Charlestown NSW 2290

Our ref: SSD-8753

14 May 2020

Dear Mr Thompson

SSD-8753 – Concrush Resource Recovery Facility
Endorsement of experts to prepare a Water Discharge Management Plan, Groundwater Management Plan and Operational Noise Management Plan

I refer to your correspondence dated 28 April 2020, 1 May 2020 and 8 May 2020, seeking approval for

- Mr Chris Bonomini from Umwelt (Australia) Pty Ltd to prepare the Water Discharge Management Plan (WDMP) as required by Condition B12, SSD-8753
- Ms Fiona Brooker from RCA Australia to prepare the Groundwater Management Plan (GMP) as required by Condition B20, SSD-8753; and
- Mr Alex Rees from RCA Australia to prepare the Operational Noise Management Plan (ONMP) as required by Condition B47, SSD-8753.

The Department has reviewed the qualifications of Mr Chris Bonomini, Ms Fiona Brooker and Mr Alex Rees and they are all considered to have the appropriate skills and experience to prepare the WDMP, the GMP and the ONMP respectively.

Should you have any queries in relation to this matter, please contact Susan Fox on 9274 6466 or via email susan.fox@planning.nsw.gov.au.

Yours sincerely,

14 May 2020

Chris Ritchie
Director
Industry Assessments
as delegate of the Planning Secretary

Fiona Brooker

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Thursday, 24 September 2020 12:34 PM
To: Fiona Brooker
Subject: Fwd: SSD 8753 Concrush Management Plan Plans

Sent from my iPhone

Begin forwarded message:

> **From:** "Kevin [Concrush]" <Kevin@concrush.com.au>
> **Date:** 16 September 2020 at 1:49:00 pm AEST
> **To:** "Helen [Concrush]" <Helen@concrush.com.au>
> **Subject: FW: SSD 8753 Concrush Management Plan Plans**

From: Susan Fox <Susan.Fox@planning.nsw.gov.au>
Sent: Thursday, 10 September 2020 12:49 PM
To: Steven James <Steven.James@epa.nsw.gov.au>
Cc: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: RE: SSD 8753 Concrush Management Plan Plans

Thanks very much for the update Steve.

Kevin, I will amend a letter that has been prepared in relation to consultation, the letter should be signed today.

Susan

Susan Fox
Senior Environmental Assessment Officer

Industry Assessments | Department of Planning, Industry and Environment
T 02 9274 6466| **E** susan.fox@planning.nsw.gov.au
4PSQ Level 17, 12 Darcy Street, Parramatta NSW 2150 | Locked Bag 5022, Parramatta NSW 2124
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.

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Thursday, 10 September 2020 12:44 PM
To: Susan Fox <Susan.Fox@planning.nsw.gov.au>
Cc: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: FW: SSD 8753 Concrush Management Plan Plans

Hi Susan,

I confirm that the EPA was consulted on the management plans, most recently on the Groundwater Management Plan. I've attached a copy of our comments.

Regards,

Steven James
A/Manager Regulatory Operations – Metro North
NSW Environment Protection Authority
+61 2 4908 6823 +61 413 450 328

www.epa.nsw.gov.au @NSW_EPA EPA YouTube
Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Wednesday, 9 September 2020 12:28 PM
To: Steven James <Steven.James@epa.nsw.gov.au>
Subject: RE: SSD 8753 Concrush Management Plan Plans

Hi Steve,

As part of our conditions of consent dated 27/3/2020 Concrush are to complete following consultations with EPA in developing management plans including: Water Discharge Management Plan, Surface Water Management System, Groundwater Management Plan and Remediation Action Plan. I have just spoken with Planning today by phone and they need "proof" of Concrush's consultation with EPA in regards to these management plans. Can you please confirm same and I have attached copies of these plans above.

Thanks in advance and yours sincerely,
Concrush Pty Ltd

Kevin Thompson
0408 687 093

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Thursday, 16 July 2020 11:31 AM
To: Chris Bonomini <cbonomini@umwelt.com.au>
Cc: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: RE: 4987 - SSD 8753 Concrush Water Discharge Management Plan [ref:_00D7F6iTix._5007F10jtPe:ref]

Hi Chris,

I apologize for the delay. Please see attached comments on the WDMP from the EPA.

Regards,

Steven James
Unit Head Regulatory Operations – Metro North
NSW Environment Protection Authority
+61 2 4908 6823 +61 413 450 328

www.epa.nsw.gov.au @NSW_EPA EPA YouTube
Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555

From: Chris Bonomini <cbonomini@umwelt.com.au>
Sent: Tuesday, 14 July 2020 5:36 AM
To: Steven James <Steven.James@epa.nsw.gov.au>
Cc: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: RE: 4987 - SSD 8753 Concrush Water Discharge Management Plan [ref:_00D7F6iTix._5007F10jtPe:ref]

Hello Steven,
I was following up on the Concrush WDMP submitted to the EPA for consultation and when we might expect feedback from the technical team?

Regards
Chris Bonomini
Senior Enigineer – Water, Process and Risk

Umwelt (Australia) Pty Limited
75 York Street
Teralba, NSW 2284

Phone: (02) 4950 5322
Mobile: 0431 185 967

www.umwelt.com.au

Inspired People | Dedicated Team | Quality Outcomes

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Thursday, 11 June 2020 11:35 AM
To: Chris Bonomini <cbonomini@umwelt.com.au>
Subject: RE: 4987 - SSD 8753 Concrush Water Discharge Management Plan [ref:_00D7F6iTix._5007F10jtPe:ref]

Thanks Chris,

I've forwarded it to the technical team for inclusion in their review.

Regards,

Steven James
A/Manager Metro West
NSW Environment Protection Authority
02 4908 6823
0413 450 328

www.epa.nsw.gov.au @NSW_EPA EPA YouTube
Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555

From: Chris Bonomini <cbonomini@umwelt.com.au>
Sent: Wednesday, 10 June 2020 11:24 AM

To: Steven James <Steven.James@epa.nsw.gov.au>
Subject: FW: 4987 - SSD 8753 Concrush Water Discharge Management Plan [ref:_00D7F6iTix._5007F10jtPe:ref]

Hello Steven,
Please find attached a revised version of the WDMP. The revisions are relatively minor and were requested by the client after I provided the previous version to you. I've only just realised that I didn't provide you with the updated version.

FYI, the key revisions are:

- Section 4
  - Details of the material to be used for surfacing of the green waste catchment proposed by Concrush
  - A description of the dewatering arrangement for the sediment basins
- Section 7
  - Inclusion of a reporting subsection (Section 7.3)
- Section 8
  - New section for Review and Improvement

Other than the updates listed above there were a few minor wording changes and typos. Apologies for not sending this earlier.

Regards
Chris Bonomini
Senior Enigineer – Water, Process and Risk

Umwelt (Australia) Pty Limited
75 York Street
Teralba, NSW 2284

Phone: (02) 4950 5322
Mobile: 0431 185 967

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From: Chris Bonomini
Sent: Wednesday, 20 May 2020 8:58 AM
To: Steven James <Steven.James@epa.nsw.gov.au>
Subject: RE: 4987 - SSD 8753 Concrush Water Discharge Management Plan [ref:_00D7F6iTix._5007F10jtPe:ref]

Thanks for letting me know Steven. WDMP attached. If you have any questions please do not hesitate to contact me.

Regards
Chris Bonomini
Senior Process Engineer

Umwelt (Australia) Pty Limited
75 York Street
Teralba, NSW 2284

Phone: (02) 4950 5322
Mobile: 0431 185 967

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Newcastle ph. 02 4950 5322 | **Perth** ph. 08 6260 0700 | **Canberra** ph. 02 6262 9484 | **Sydney** ph. 1300 793 267 | **Brisbane** ph. 1300 793 267

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Wednesday, 20 May 2020 8:55 AM
To: Chris Bonomini <cbonomini@umwelt.com.au>
Subject: FW: 4987 - SSD 8753 Concrush Water Discharge Management Plan [ref:_00D7F6iTix._5007F10jtPe:ref]

Hi Chris,

Unfortunately the attachment hasn't made it's way to me. Can you please send it to me direct.

Regards,

Steven James
Unit Head Waste Compliance – Hunter
Waste & Resource Recovery Branch
NSW Environment Protection Authority
02 4908 6823
0413 450 328

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From: Environment Line <info@environment.nsw.gov.au>
Sent: Tuesday, 19 May 2020 11:31 AM
To: EPA RSD Water Technical Advisory Unit Mailbox <water.wtau@epa.nsw.gov.au>
Subject: FW: 4987 - SSD 8753 Concrush Water Discharge Management Plan [ref:_00D7F6iTix._5007F10jtPe:ref]

Hi Team,

Are you able to assist with comments on a Water Discharge Management Plan below.

Warm regards,

Hillan Nzioka
Environment Line, Business Information and Services | Department of Planning, Industry and Environment | ?: 131 555 | 02) 9995 5910| Email: info@environment.nsw.gov.au
4 Parramatta Square, 12 Darcy Street, NSW 2150
www.dpie.nsw.gov.au

---------- Forwarded Message ----------
From: Chris Bonomini [cbonomini@umwelt.com.au]
Sent: 19/05/2020 6:37 AM
To: info@environment.nsw.gov.au
Cc: kevin@concrush.com.au
Subject: 4987 - SSD 8753 Concrush Water Discharge Management Plan

To Whom It May Concern,

Please find attached copy of the Water Discharge Management Plan (WDMP) required under condition B12 of Development Consent SSD 8753 for the Concrush Increase to Capacity Project, Teralba NSW. Condition B12 of Development Consent SSD 8753 requires that the WDMP be prepared in consultation with the EPA. During the preparation of the attached WDMP we consulted by telephone with Steven James, Unit Head Waste Compliance, EPA.

Could you please ensure that this WDMP is provided to the appropriate EPA contact for review and comment as required?

Regards

Chris Bonomini
Senior Engineer – Water, Process and Risk

Umwelt (Australia) Pty Limited
75 York Street
Teralba, NSW 2284

Phone: (02) 4950 5322
Mobile: 0431 185 967

www.umwelt.com.au

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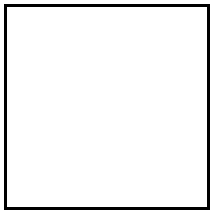
Newcastle ph. 02 4950 5322 | **Perth** ph. 08 6260 0700 | **Canberra** ph. 02 6262 9484 | **Sydney** ph. 1300 793 267 | **Brisbane** ph. 1300 793 267



ref:_00D7F6iTix._5007F10jtPe:ref

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Appendix D

Groundwater Management Plan, Endorsement and NSW EPA Concurrence

Planning, Industry & Environment

Mr Kevin Thompson
Managing Director
Concrush Resource Recovery Facility
18 Tirriki Street
Charlestown NSW 2290

Our ref: SSD-8753

14 May 2020

Dear Mr Thompson

SSD-8753 – Concrush Resource Recovery Facility
Endorsement of experts to prepare a Water Discharge Management Plan, Groundwater Management Plan and Operational Noise Management Plan

I refer to your correspondence dated 28 April 2020, 1 May 2020 and 8 May 2020, seeking approval for

- Mr Chris Bonomini from Umwelt (Australia) Pty Ltd to prepare the Water Discharge Management Plan (WDMP) as required by Condition B12, SSD-8753
- Ms Fiona Brooker from RCA Australia to prepare the Groundwater Management Plan (GMP) as required by Condition B20, SSD-8753; and
- Mr Alex Rees from RCA Australia to prepare the Operational Noise Management Plan (ONMP) as required by Condition B47, SSD-8753.

The Department has reviewed the qualifications of Mr Chris Bonomini, Ms Fiona Brooker and Mr Alex Rees and they are all considered to have the appropriate skills and experience to prepare the WDMP, the GMP and the ONMP respectively.

Should you have any queries in relation to this matter, please contact Susan Fox on 9274 6466 or via email susan.fox@planning.nsw.gov.au.

Yours sincerely,

14 May 2020

Chris Ritchie
Director
Industry Assessments
as delegate of the Planning Secretary

Fiona Brooker

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Monday, 14 September 2020 3:59 PM
To: Fiona Brooker
Cc: Kevin [Concrush]; Susan Fox
Subject: FW: EPA comments on Groundwater Management Plan - Concrush
Attachments: GAProposal_Concrush_29052020.pdf; 13589-805rev1 Groundwater Management Plan, Concrush Increase to Capacity Project Teralba.pdf

Hi Fiona,

Thanks for the updated version of the GWP and I confirm the EPA is happy with the plan.

Regards,

Steven James
Unit Head Regulatory Operations – Metro North
NSW Environment Protection Authority
+61 2 4908 6823 +61 413 450 328

www.epa.nsw.gov.au @NSW_EPA EPA YouTube
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From: Fiona Brooker <fionab@rca.com.au>
Sent: Friday, 11 September 2020 2:56 PM
To: Steven James <Steven.James@epa.nsw.gov.au>
Cc: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: RE: EPA comments on Groundwater Management Plan - Concrush

Good afternoon Steven

Thankyou for your comments. RCA have undertaken some additional sampling and made amendment to the report and the intended trigger levels and attach the revised GMP. RCA note that the GLC will have the appropriate thickness and permeability as per the attached specification.

Please let me know if you have any further comments or otherwise please provide confirmation of NSW EPA concurrence with the Plan.

Thanks and regards

Fiona Brooker
Environmental Services Manager

t: 02 4902 9225 | f: 02 4902 9299 | m: 0408 687 529
e: fionab@rca.com.au | w: www.rca.com.au
a: PO Box 175 / 92 Hill Street, Carrington NSW 2294

A division of Robert Carr & Associates Pty. Ltd.

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Wednesday, 2 September 2020 11:01 AM

To: Fiona Brooker <fionab@rca.com.au>
Subject: EPA comments on Groundwater Management Plan - Concrush

Dear Fiona,

Please see the EPA comments on the Groundwater Management Plan for the Concrush expansion.

Regards,

Steven James
A/Manager Regulatory Operations – Metro North
NSW Environment Protection Authority
+61 2 4908 6823 +61 413 450 328

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Appendix E

Erosion and Sediment Control Plan

Appendix F

Acid Sulfate Soil Management Plan

Appendix G

Traffic Management Plan and Lake Macquarie Council Concurrence

Fiona Brooker

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Wednesday, 23 September 2020 9:37 AM
To: Fiona Brooker
Subject: FW: TRIM: SSD 8753 Concrush- Planning Letter

From: Glen Mathews <gmathews@lakemac.nsw.gov.au>
Sent: Wednesday, 23 September 2020 9:24 AM
To: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: RE: TRIM: SSD 8753 Concrush- Planning Letter

Hi Kevin,

Please be advised I have written to Susan Fox and advised Council has reviewed the following:

LMP – Council reviewed Concrush Landscape Mangement Plan – Final, prepared by Umwelt, dated 07/07/2020. No objection was raised to this plan.

FERP – Council reviewed Concrush Expansion Flood Emergency Response Plan - Final, prepared by Umwelt, dated 07/07/2020. No objection was raised to this plan.

TMP – Council reviewed Traffic Management Plan and Driver Code of Conduct, prepared by Intersect Traffic, dated 05/06/2020. No objection was raised to this plan.

In addition I provided a copy of the LMP to Susan. If you have any further questions do not hesitate to ask.

Kind Regards,

Glen Mathews
Senior Development Planner

LAKE MACQUARIE CITY

T 02 4921 0399 **M** 0439 647 504
E gmathews@lakemac.nsw.gov.au
lakemac.com.au

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Monday, 21 September 2020 9:21 AM
To: Glen Mathews <gmathews@lakemac.nsw.gov.au>
Subject: TRIM: SSD 8753 Concrush- Planning Letter

Hi Glen,

As discussed Dept of Planning have written to Concrush, letter attached, requesting written confirmation from LMCC concerning consultation on our TMP, LMP and FERP.

Can you please confirm if you require any further information from Concrush?

Yours sincerely,
Concrush Pty Ltd

Kevin Thompson

Sent from my iPhone

> **Date:** 18 September 2020 at 6:28:45 pm AEST
> **To:** "Kevin [Concrush]" <Kevin@concrush.com.au>
> **Subject: EIS letter**
>
> see attachment

Appendix H

Remedial Action Plan and NSW EPA Concurrence

Fiona Brooker

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Thursday, 9 July 2020 4:12 PM
To: Fiona Brooker
Subject: RE: Attention Steven James

Hi Fiona,

Sorry for the delay. The EPA is satisfied that the RAP is adequate.

Regards,

Steven James
Unit Head Regulatory Operations – Metro North
NSW Environment Protection Authority
+61 2 4908 6823 +61 413 450 328

www.epa.nsw.gov.au @NSW_EPA EPA YouTube
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From: Fiona Brooker <fionab@rca.com.au>
Sent: Wednesday, 8 July 2020 6:31 PM
To: Steven James <Steven.James@epa.nsw.gov.au>
Subject: RE: Attention Steven James

Hi Steven

Are you able to provide feedback with regards to the review of the RAP? If not, are you able to indicate when the feedback may be provided?

Currently the GMP is still awaiting the final design. It is a minimum of a week off however I am not able to provide any clear indication of when it will be sent to you. It will be the document on which the submission of all of the required documentation for the construction certificate will await.

Thanks and regards

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

Fiona Brooker
Environmental Services Manager

t: 02 4902 9225 | f: 02 4902 9299 | m: 0408 687 529
e: fionab@rca.com.au | w: www.rca.com.au
a: PO Box 175 / 92 Hill Street, Carrington NSW 2294

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From: Fiona Brooker
Sent: Tuesday, 30 June 2020 6:09 PM
To: waste.operations@epa.nsw.gov.au
Cc: Kevin [Concrush] <Kevin@concrush.com.au>; Ian Gregson <Ian.Gregson@ghd.com> (Ian.Gregson@ghd.com) <Ian.Gregson@ghd.com>
Subject: Attention Steven James

Good afternoon Steven

As per our earlier correspondence, please find attached the RAP for the Concrush expansion project.

The GMP is awaiting the finalisation of some design details – I will be in a better position later in the week to indicate when this may be delivered.

Please let me know if you have any questions.

Regards

From: Steven James <Steven.James@epa.nsw.gov.au>
Sent: Friday, 29 May 2020 8:56 AM
To: Fiona Brooker <fionab@rca.com.au>
Subject: RE: Concrush Management Plans

Hi Fiona,

The proposed process is fine. Please send the documents to waste.operations@epa.nsw.gov.au attention to me.

Regards,

Steven James
Unit Head Waste Compliance – Hunter
Waste & Resource Recovery Branch
NSW Environment Protection Authority
02 4908 6823
0413 450 328

www.epa.nsw.gov.au @NSW_EPA EPA YouTube
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From: Fiona Brooker <fionab@rca.com.au>
Sent: Wednesday, 27 May 2020 4:54 PM
To: Steven James <Steven.James@epa.nsw.gov.au>
Subject: FW: Concrush Management Plans

Good afternoon Steven

Please see email below – I missed the 'nsw' out of your email address originally.

Regards

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

Fiona Brooker
Environmental Services Manager

t: 02 4902 9225 | f: 02 4902 9299 | m: 0408 687 529
e: fionab@rca.com.au | w: www.rca.com.au
a: PO Box 175 / 92 Hill Street, Carrington NSW 2294

A division of Robert Carr & Associates Pty. Ltd.

From: Fiona Brooker
Sent: Wednesday, 27 May 2020 4:53 PM
To: steven.james@epa.gov.au

Cc: Ian Gregson <Ian.Gregson@ghd.com> (Ian.Gregson@ghd.com) <Ian.Gregson@ghd.com>
Subject: Concrush Management Plans

Good afternoon Steven

I believe that you are aware that Concrush received SSD Approval for the expansion of their site and as such are required to prepare a number of management plans. RCA have been engaged to prepare the:

- Groundwater Management Plan in accordance with Approval Condition B20
- Remedial Action Plan in accordance with Approval Condition B89

Both of these plans include the required to 'be prepared in consultation with the EPA' and as such RCA understand that the documents need to be reviewed by the NSW EPA prior to submission to the Department in accordance with the Approval Conditions.

RCA is intending to submit the RAP to Mr Ian Gregson for review as he has been engaged to prepare a Site Audit Statement with regards to the remediation component of the Project. Following concurrence with Mr Gregson regarding the content of the RAP, RCA will then submit to the NSW EPA for review.

RCA is intending to submit the GMP directly to the NSW EPA as it is not specific to remediation. RCA envisage that Mr Gregson will read the final document and incorporate it into the SAS if required.

Can you please confirm that you are happy with the proposed process and advise to whom I should direct the documents? Currently I anticipate that the documents will be ready to come to the NSW EPA within about two weeks.

Thanks and regards

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Appendix I

Sydney Trains Concurrence

Fiona Brooker

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Thursday, 24 September 2020 2:36 PM
To: Fiona Brooker
Subject: Fwd: Concrush
Attachments: Ltr to Sarkis Yalda - 23.9.2020 with Supporting Documents.pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

> **From:** Sarkis Yalda <Sarkis.Yalda@transport.nsw.gov.au>
> **Date:** 24 September 2020 at 12:59:20 pm AEST
> **To:** "Kevin [Concrush]" <Kevin@concrush.com.au>
> **Subject: FW: Concrush**
>
> Kevin,
>
> I refer to the email below & your attached Letter.
>
> Please see my response below to each of the ST DA Conditions:
>
> 1. B1 Fencing: Your comments are noted & satisfy the DA Condition, on the proviso that the Minimum Fencing Requirements are 1.8m High Chainwire Fence
> 2. B68 Inspections: At this stage Inspections are not required. However, should one be required you will be notified accordingly
> 3. B69 (a ~ f): Your comments and your supporting documentation provided satisfies the relevant DA Conditions, and
> 4. B70: Your comments are noted- SADs must be maintained at all times
>
> I trust the above is self-explanatory and will assist in your dealings.
>
> *Regards,*
> *Sarkis Yalda*
>
> ---
>
> **From:** Kevin [Concrush] <Kevin@concrush.com.au>
> **Sent:** Wednesday, 23 September 2020 5:02 PM
> **To:** Sarkis Yalda <Sarkis.Yalda@transport.nsw.gov.au>
> **Subject:** Concrush
>
> Dear Sarkis,
>
> As discussed by telephone today Concrush require evidence of consultation concerning specific Conditions of Consent relevant to ST including your invitation to a site visit. I have put the Relevant information for our development as one document as attached which addresses the Specific conditions.Except for the required Dilapidation Report which was previously sent to you and you confirmed same, thank you.

I look forward to your reply.

Yours sincerely,
Concrush Pty Ltd

Kevin Thompson

Sent from my iPhone

Begin forwarded message:

> **From:** "Helen [Concrush]" <Helen@concrush.com.au>
> **Date:** 23 September 2020 at 4:24:46 pm AEST
> **To:** "Kevin [Concrush]" <Kevin@concrush.com.au>
> **Subject: Document**
>
> We got there in the end! 😊
>
> ***Helen Milne***
> *Business Manager*
>
> **P.O. Box 312**
> **WARNERS BAY NSW 2282**
> **P: (02) 4958 3777**
> **M: 0405 511 503**
> **E: helen@concrush.com.au**
> **www.concrush.com.au**
> ***Concrush Pty Ltd EPL No 13351 complies with and meets the requirements of:***
> - ***Protection of the Environment Operations (Waste) Regulation 2014***
> - ***The Concrush recovered aggregate order 2020***
> - ***The Concrush recovered aggregate exemption 2020***
> - ***Link to current order & exemption can be found on our website***

Appendix J

Unexpected Finds Protocol

Examples of unexpected finds at the Concrush site include, but are not necessarily limited to:

- Putrescible waste.
- Buried drums or other containers.
- Bulky items such as slabs of concrete and vehicle parts.
- Discoloured or odorous material.

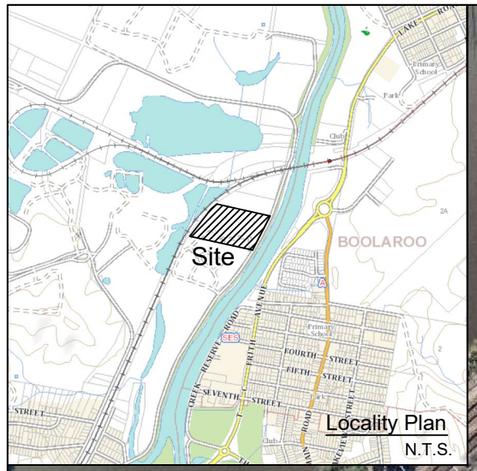
Bonded asbestos containing material (ACM) has been identified at the expansion component of the project and as such does not comprise an unexpected find, however it may be considered an unexpected find on the existing Concrush facility.

In the event of unexpected finds being encountered on the site, the following procedure, is to be adopted:

- Stop all current works in the area.
- Site worker to inform Site Supervisor of find.
- Site Supervisor to consider need for external assistance (Geotechnical Consultant, Contaminated Land Consultant or other) and make appropriate contact.
- If issue cannot be resolved within framework provided with the CEMP, the area of find is to be made into an excluded area until issue is resolved.
- All personnel are to be made aware of the reason for the exclusion.
- If required, the incident notification process is to be undertaken.

Appendix K

Drawings



Crusher and screen
Processed material stockpiles
Crusher and screen
Raw material stockpiles
Landscape bunds
Maintenance shed/ lunch room/toilet
Product bays
Weighbridge office
Weighbridge
Weighbridge
Carpark
Site office
Carpark
Green waste stockpiles
Landscape bunds
BH1
BH2
BH3
Racecourse Road

LEGEND

- Approximate site boundary location
- Approximate extent of existing western bund
- Approximate extent of proposed western bund
- Approximate location of boundary fence
- Approximate location of primary compound
- Approximate location of ASS treatment pad
- Approximate location of noise wall
- Approximate groundwater monitoring well

Aerial image taken from Nearmap, June 15 2018
(used in accordance with commercial licence)

0 10 20 30 40 50
metres

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SITE LOCALITY, EXISTING LAYOUT AND CONSTRUCTION ELEMENTS EXPANSION OF THE CONCRUSH RESOURCE RECOVERY FACILITY TERABLA

CLIENT	Concrush Pty Ltd			RCA Ref	13589-801/1
DRAWN BY	FB	SCALE	1 : 1000 (A3)	DRAWING No 1	REV 0
APPROVED BY	KN	DATE	24/09/2020	OFFICE	NEWCASTLE

CDT-DWG-A3H-001/1

LEGEND

- Approximate site boundary location
- Approximate extent of existing western bund
- Approximate extent of proposed western bund
- Approximate boundary fence
- Approximate extent of marker layer placement

Aerial image taken from Nearmap, June 15 2018
(used in accordance with commercial licence)

0 10 20 30 40 50
metres

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

EXTENT OF REMEDIATION EXPANSION OF THE CONCRUSH RESOURCE RECOVERY FACILITY TERABLA

CLIENT	Concrush Pty Ltd			RCA Ref	13589-801/1
DRAWN BY	FB	SCALE	1 : 1000 (A3)	DRAWING No 2	REV 0
APPROVED BY	KN	DATE	24/09/2020	OFFICE	NEWCASTLE

CDT-DWG-A3H-001/1

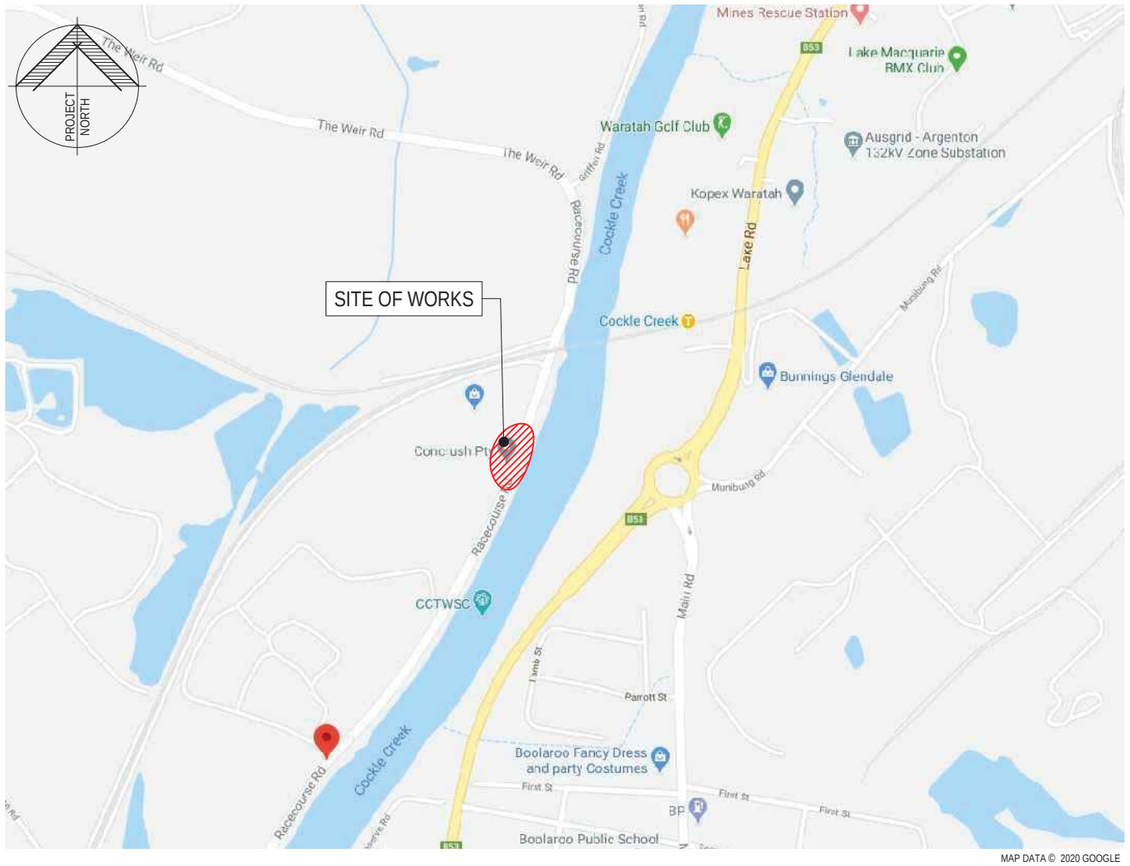
Appendix L

Access Driveway Plans

PROPOSED INTERSECTION

21 RACECOURSE ROAD, TERALBA NSW

SECTION 138 APPROVAL (DA - SSD 8753)



MAP DATA © 2020 GOOGLE

LOCALITY PLAN

NOT TO SCALE

Lindsay Dynan

Sydney | Perth | Newcastle | Central Coast

PROJECT

PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT

CONCRUSH PTY LTD

THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

DRAWING LIST

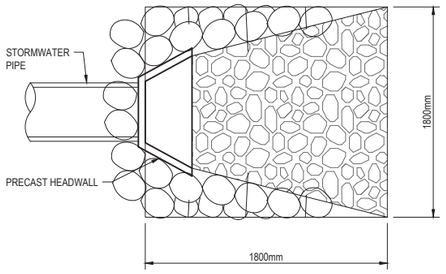
REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

TITLE

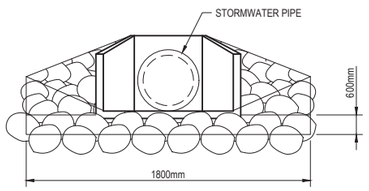
COVER PAGE & DRAWING LIST

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN: I.Judd	DESIGNED: R.Chan	APPROVED: M.Watson	SCALE: N.T.S
DOCUMENT No.			REVISION
16015-LD-DR-C-0000			A

NOT FOR CONSTRUCTION



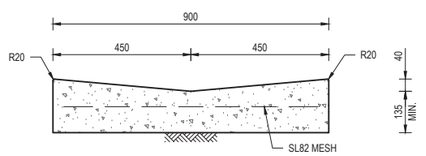
PLAN



ELEVATION

ROCK SCOUR PROTECTION HEADWALL DETAIL

N.T.S.

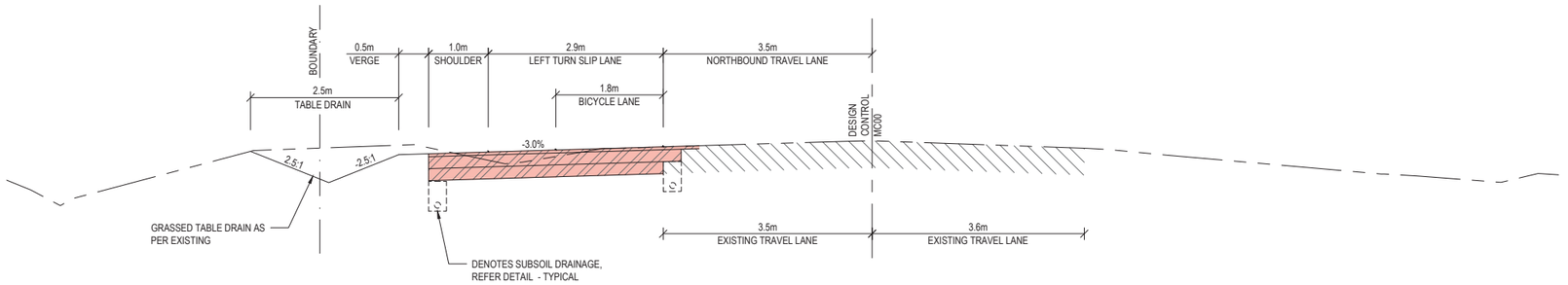


CENTRAL

DISH CROSSING - DD

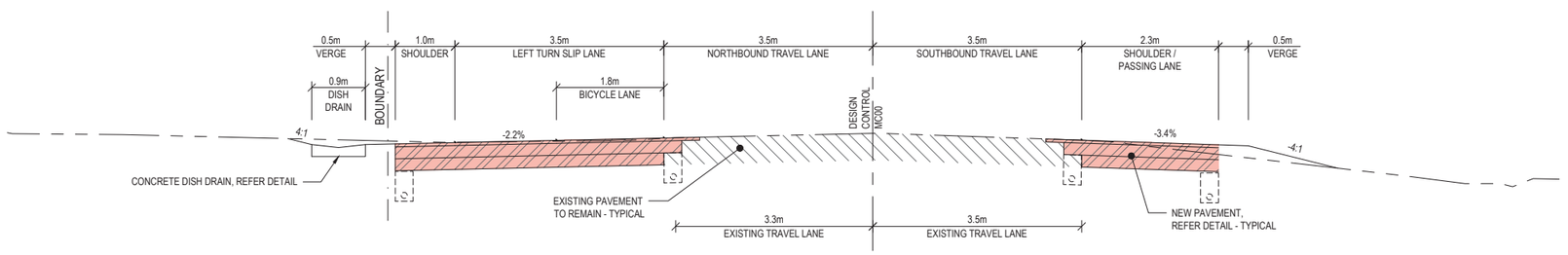
SCALE 1:20

NOTE:
DISH CROSSING DETAIL TO BE READ CONJUNCTION WITH LAKE MACQUARIE CITY COUNCIL STANDARD DRAWING EGSD101



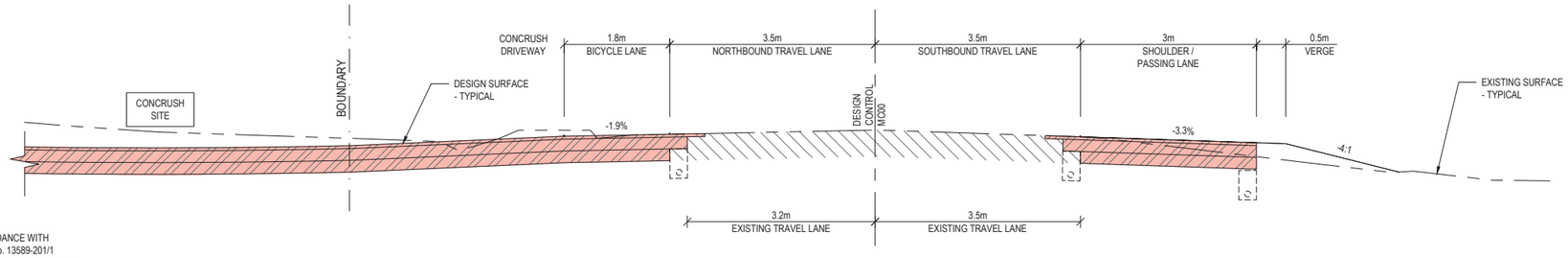
TYPICAL SECTION - MC00 CH -70

SCALE 1:100



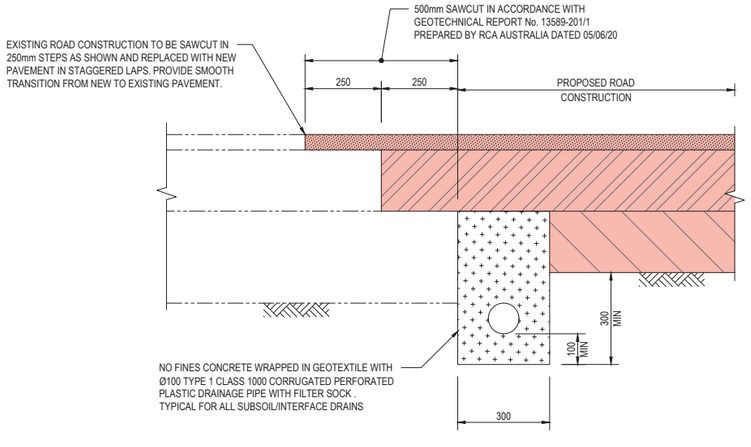
TYPICAL SECTION - MC00 CH -40

SCALE 1:100



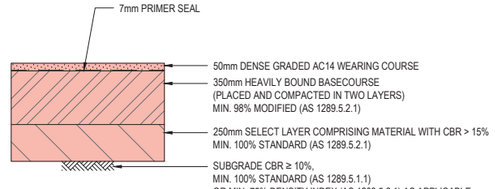
TYPICAL SECTION - MC00 CH -10

SCALE 1:100



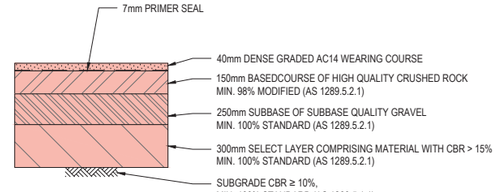
NEW TO EXISTING PAVEMENT ABUTMENT DETAIL

SCALE 1:20



PAVEMENT TYPE 1A

BOUND PAVEMENT



PAVEMENT TYPE 1B

UNBOUND FLEXIBLE PAVEMENT

NOTE:
PAVEMENT DESIGNS ARE TO BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. 13589-201/1, PREPARED BY RCA AUSTRALIA DATED 05/06/20
PAVEMENT SELECTION IS AT THE DISCRETION OF COUNCIL AS THE FUTURE ASSET MANAGER.

Lindsay Dynan

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PROJECT
PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT
CONCRUSH PTY LTD

THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

NOTES

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CURRENT LAKE MACQUARIE CITY COUNCIL ENGINEERING GUIDELINES AND AUSTRALIAN STANDARDS UNLESS OTHERWISE STATED.

THE POSITION OF ALL EXISTING SERVICES SHOWN SHOULD BE REGARDED AS APPROXIMATE ONLY AND NOT NECESSARILY COMPREHENSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT SERVICE LOCATIONS AND INFORM ALL AUTHORITIES PRIOR TO ANY EXCAVATION.

BENCHMARKS TO BE PROVIDED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

CONTRACTOR TO VERIFY SETOUT BEFORE COMMENCING EARTHWORKS. REFER ANY DISCREPANCIES TO ENGINEER.

PAVEMENT MARKING AND SIGN POSTING TO BE IN ACCORDANCE WITH RMS QA SPECIFICATIONS, GUIDES AND STANDARDS

ALL PROPOSED LINEMARKING TO MAKE SMOOTH CONNECTION WITH EXISTING LINEMARKING.

REFER SHEET C-4000 FOR ALIGNMENT SETOUT DETAILS.

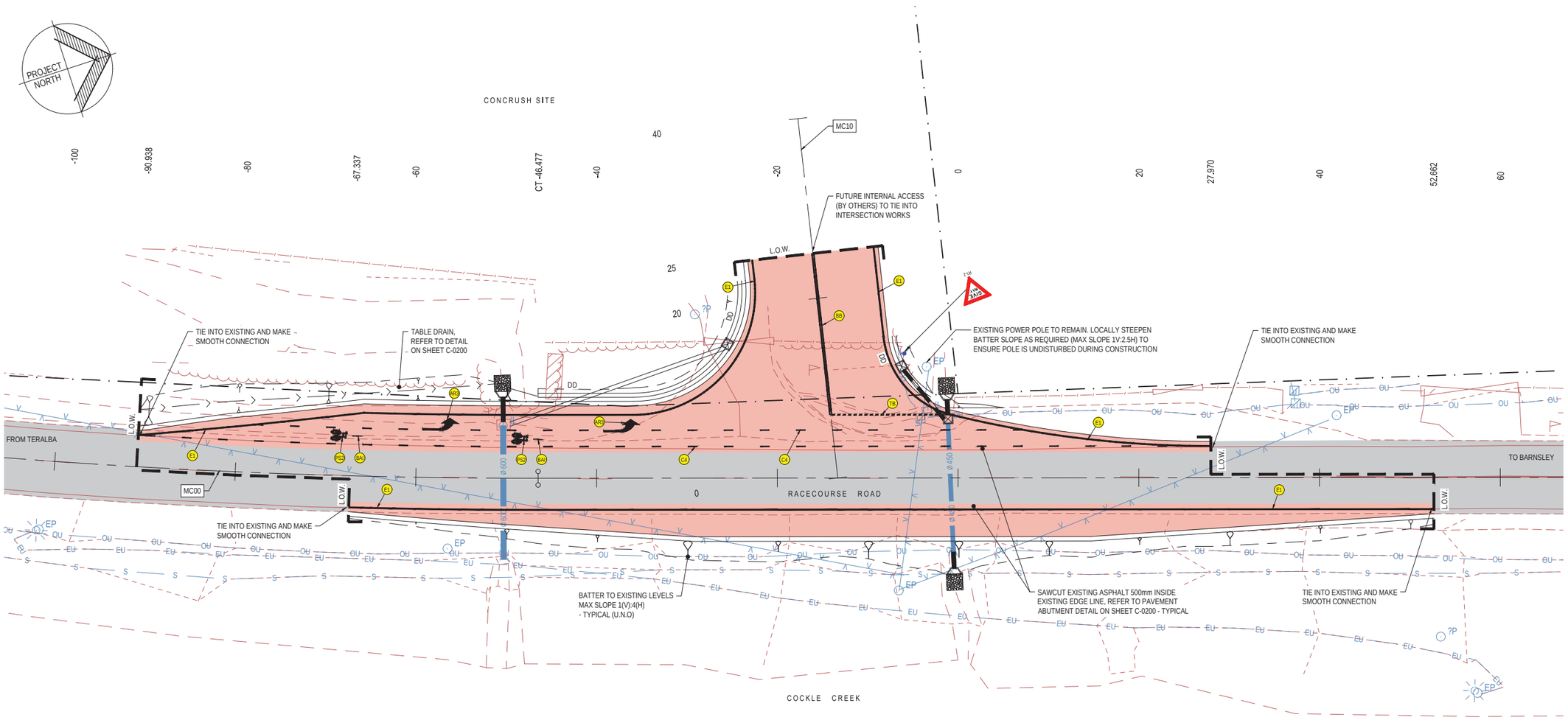
REFER SHEET C-0000 FOR DRAWING LIST.

REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

TITLE
TYPICAL SECTIONS

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN	DESIGNED	APPROVED	SCALE
I.Judd	R.Chan	M.Watson	AS NOTED
DOCUMENT No.			REVISION
16015-LD-DR-C-0200			A

NOT FOR CONSTRUCTION



DETAIL PLAN

SCALE 1:500

Lindsay Dynan

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PROJECT

PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT

CONCRUSH PTY LTD

THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

LEGEND

- PROPOSED PAVEMENT, REFER DRAWING C-0200 FOR DETAILS
- EXISTING PAVEMENT
- NEW SIGNAGE POST
- BB — NEW LINEMARKING DESIGNATION
- DD — NEW DISH DRAIN, REFER TO DETAIL ON SHEET C-0200
- TABLE DRAIN / GRASS LINED SWALE
- V — EXISTING OVERHEAD POWER
- Ø 450 — EXISTING STORMWATER PIPE
- OU — EXISTING OPTIC FIBRE
- S — EXISTING SEWER
- EU — EXISTING UNDERGROUND ELECTRICAL
- EXISTING FENCE
- EXISTING EDGE OF PAVEMENT
- BOUNDARY LINE
- L.O.W. — LIMIT OF WORKS

NOTES

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CURRENT LAKE MACQUARIE CITY COUNCIL ENGINEERING GUIDELINES AND AUSTRALIAN STANDARDS UNLESS OTHERWISE STATED.

THE POSITION OF ALL EXISTING SERVICES SHOWN SHOULD BE REGARDED AS APPROXIMATE ONLY AND NOT NECESSARILY COMPREHENSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT SERVICE LOCATIONS AND INFORM ALL AUTHORITIES PRIOR TO ANY EXCAVATION.

BENCHMARKS TO BE PROVIDED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

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PAVEMENT MARKING AND SIGN POSTING TO BE IN ACCORDANCE WITH RMS QA SPECIFICATIONS, GUIDES AND STANDARDS

ALL PROPOSED LINEMARKING TO MAKE SMOOTH CONNECTION WITH EXISTING LINEMARKING.

REFER SHEET C-4000 FOR ALIGNMENT SETOUT DETAILS.

REFER SHEET C-0000 FOR DRAWING LIST.

REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

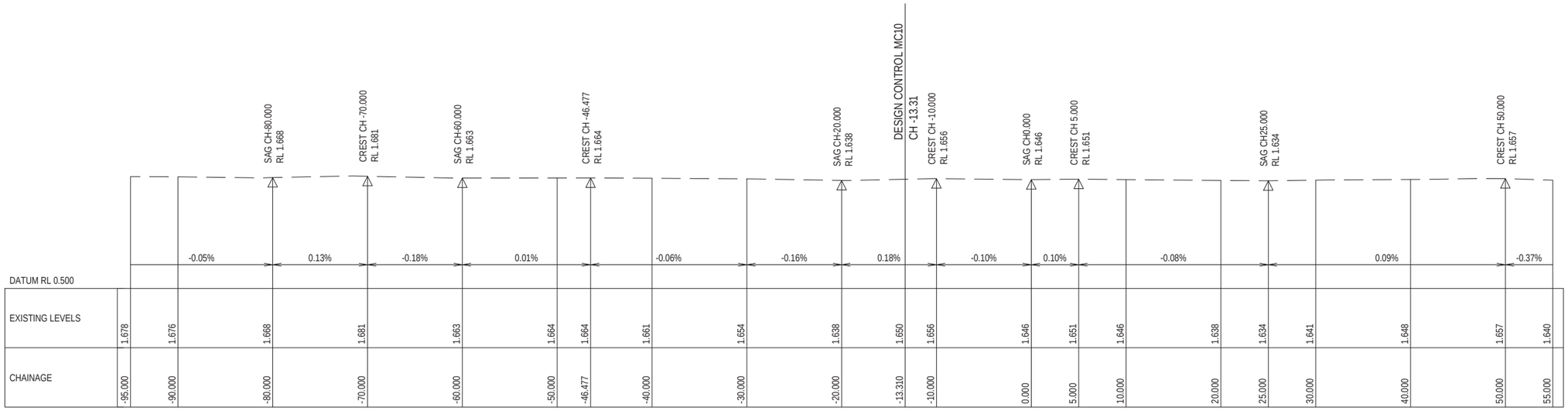
TITLE

DETAIL PLAN

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN: I.Judd	DESIGNED: R.Chan	APPROVED: M.Watson	SCALE: 1:500
DOCUMENT No.: 16015-LD-DR-C-1000			REVISION: A

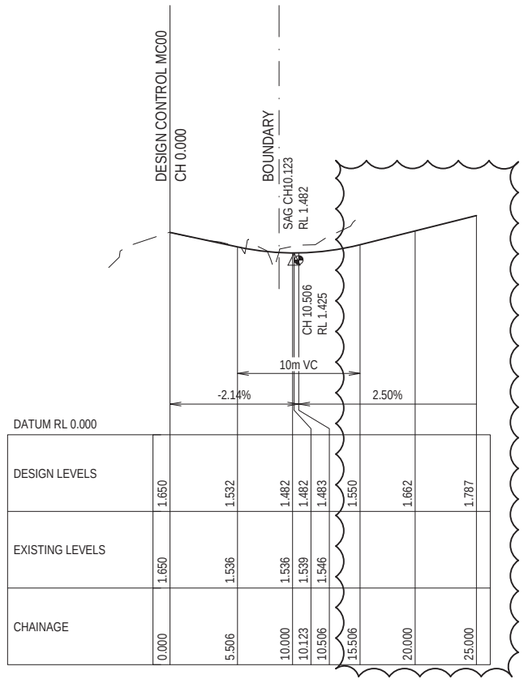
NOT FOR CONSTRUCTION

PLOTTED: 03/08/2020 1:54 PM



LONGITUDINAL SECTION ALONG CONTROL MC00

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50



HOLD

INTERNAL SITE LEVELS TO BE CONFIRMED ON RECEIPT OF ADDITIONAL SURVEY AND/OR PROPOSED INTERNAL DESIGN LEVELS

LONGITUDINAL SECTION ALONG CONTROL MC10

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50

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PROJECT
PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT
CONCRUSH PTY LTD

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REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

TITLE
LONGITUDINAL SECTION - MC00 & MC10

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN	DESIGNED	APPROVED	SCALE
I.Judd	R.Chan	M.Watson	1:500
DOCUMENT No.			REVISION
16015-LD-DR-C-2000			A

NOT FOR CONSTRUCTION

PLOTTED: 03/08/2020 2:00 PM

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PROJECT
PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT
CONCRUSH PTY LTD

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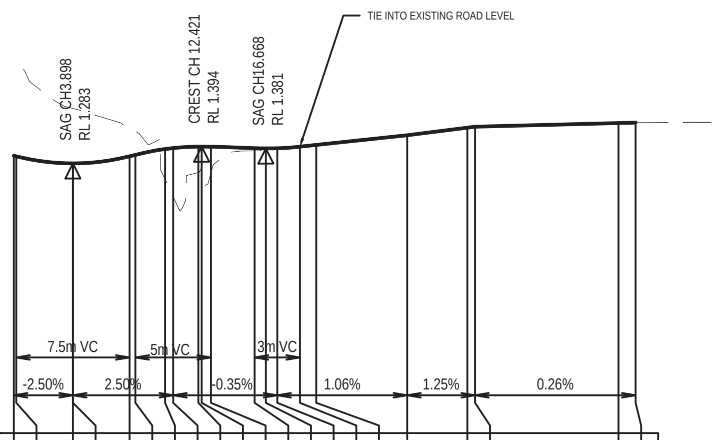
HOLD
INTERNAL SITE LEVELS TO BE CONFIRMED ON RECEIPT OF ADDITIONAL SURVEY AND/OR PROPOSED INTERNAL DESIGN LEVELS

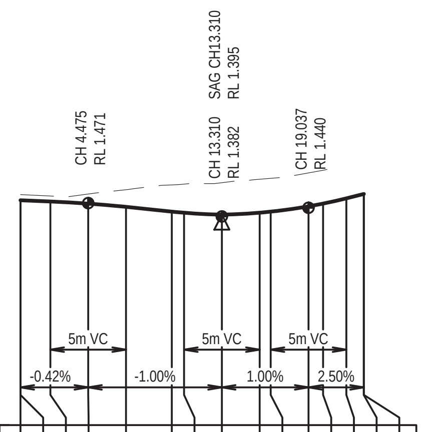


DATUM RL -0.500

DESIGN LEVELS	1.333	1.329	1.283	1.283	1.329	1.339	1.377	1.384	1.394	1.394	1.393	1.383	1.381	1.383	1.393	1.405	1.469	1.518	1.525	1.549	1.552
EXISTING LEVELS			1.644	1.644	1.508	1.492	1.178	1.064	1.222	1.247	1.219	1.367	1.372	1.380	1.394	1.406	1.470	1.520	1.525	1.551	1.552
CHAINAGE	0.000	0.151	3.898	3.901	7.651	8.035	10.000	10.535	12.201	12.421	13.035	15.923	16.668	17.423	18.923	20.000	26.020	30.000	30.511	40.000	41.132

LONGITUDINAL SECTION ALONG CONTROL KR01

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50



DATUM RL 0.000

DESIGN LEVELS	1.489	1.489	1.481	1.467	1.446	1.416	1.407	1.395	1.407	1.415	1.449	1.467	1.502	1.531	1.531
EXISTING LEVELS		1.527	1.517	1.531	1.560	1.591	1.596	1.605	1.628	1.634	1.669	1.688			
CHAINAGE	-0.000	0.000	1.975	4.475	6.975	10.000	10.810	13.310	15.810	16.537	19.037	20.000	21.537	22.686	22.696

LONGITUDINAL SECTION ALONG CONTROL KR02

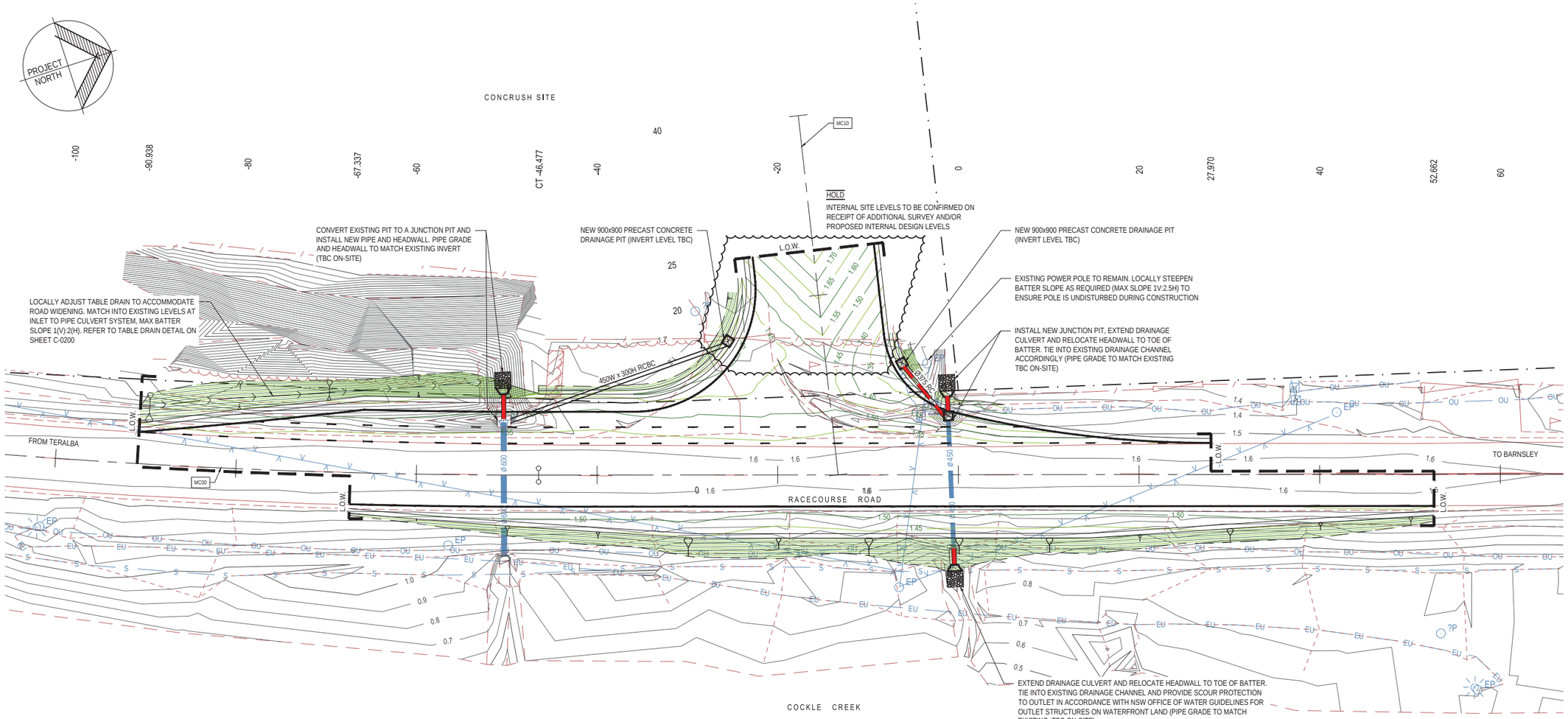
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50

REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

TITLE
LONGITUDINAL SECTION -
KERB PROFILES

DOCUMENT STATUS: FOR APPROVAL
SHEET SIZE: A3
DRAWN: I.Judd
DESIGNED: R.Chan
APPROVED: M.Watson
SCALE: 1:500
DOCUMENT No.: 16015-LD-DR-C-2001
REVISION: A

NOT FOR CONSTRUCTION



DETAIL PLAN

SCALE 1:500

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PROJECT

PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT

CONCRUSH PTY LTD

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LEGEND

- PROPOSED STORMWATER PIPE
- PROPOSED REINFORCED CONCRETE BOX CULVERT
- PROPOSED STORMWATER PIT
- PROPOSED PRECAST HEADWALL
- PROPOSED SCOUR PROTECTION. REFER TO SHEET C-0200 FOR DETAILS
- 1.50 DESIGN MAJOR CONTOURS
- 1.55 DESIGN MINOR CONTOURS
- 1.5 EXISTING CONTOURS
- TABLE DRAIN / GRASS LINED SWALE
- EXISTING OVERHEAD POWER
- Ø 450 EXISTING STORMWATER PIPE
- OU EXISTING OPTIC FIBRE
- S EXISTING SEWER
- EU EXISTING UNDERGROUND ELECTRICAL
- EXISTING FENCE
- EXISTING EDGE OF PAVEMENT
- BOUNDARY LINE
- L.O.W. LIMIT OF WORKS

NOTES

ALL PUBLIC UTILITY ADJUSTMENTS IF REQUIRED ARE TO BE CARRIED OUT BY OTHERS PRIOR TO CONSTRUCTION.

ANY SURVEY PMs OR SSMs THAT ARE DESTROYED ARE TO BE REPLACED WITH AN EQUIVALENT STANDARD MARK PRIOR TO THE EXISTING MARK BEING REMOVED AND TO THE STANDARD SET OUT IN THE SURVEYOR GENERAL DIRECTIONS. IT ALSO SHOULD BE COORDINATED AND DOCUMENTED TO EQUIVALENT LANDS DEPARTMENT STANDARDS.

CONTRACTOR TO CONFIRM LOCATION OF ALL SERVICES, DRAINAGE WORKS AND UNDERGROUND INFRASTRUCTURE PRIOR TO COMMENCING WORK. CONTRACTOR TO ENSURE ADOPTED METHOD OF CONSTRUCTION AND PROPOSED WORKS WILL AVOID DAMAGE TO ALL SERVICES AND DRAINAGE WORKS, INCLUDING CLEARANCES TO OVERHEAD POWER LINES.

CONTRACTOR TO VERIFY SETOUT BEFORE COMMENCING EARTHWORKS. REFER ANY DISCREPANCIES TO ENGINEER.

BENCHMARKS TO BE PROVIDED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CURRENT LAKE MACQUARIE CITY COUNCIL SPECIFICATIONS AND AUSTRALIAN STANDARDS UNLESS OTHERWISE STATED.

ALL EXPOSED/DISTURBED AREAS TO BE TREATED IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.

EXISTING CONTOURS ARE SHOWN AT 0.1m INTERVALS.

DESIGN CONTOURS ARE SHOWN AT 0.05m INTERVALS.

REFER SHEET C-0000 FOR DRAWING LIST.

REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

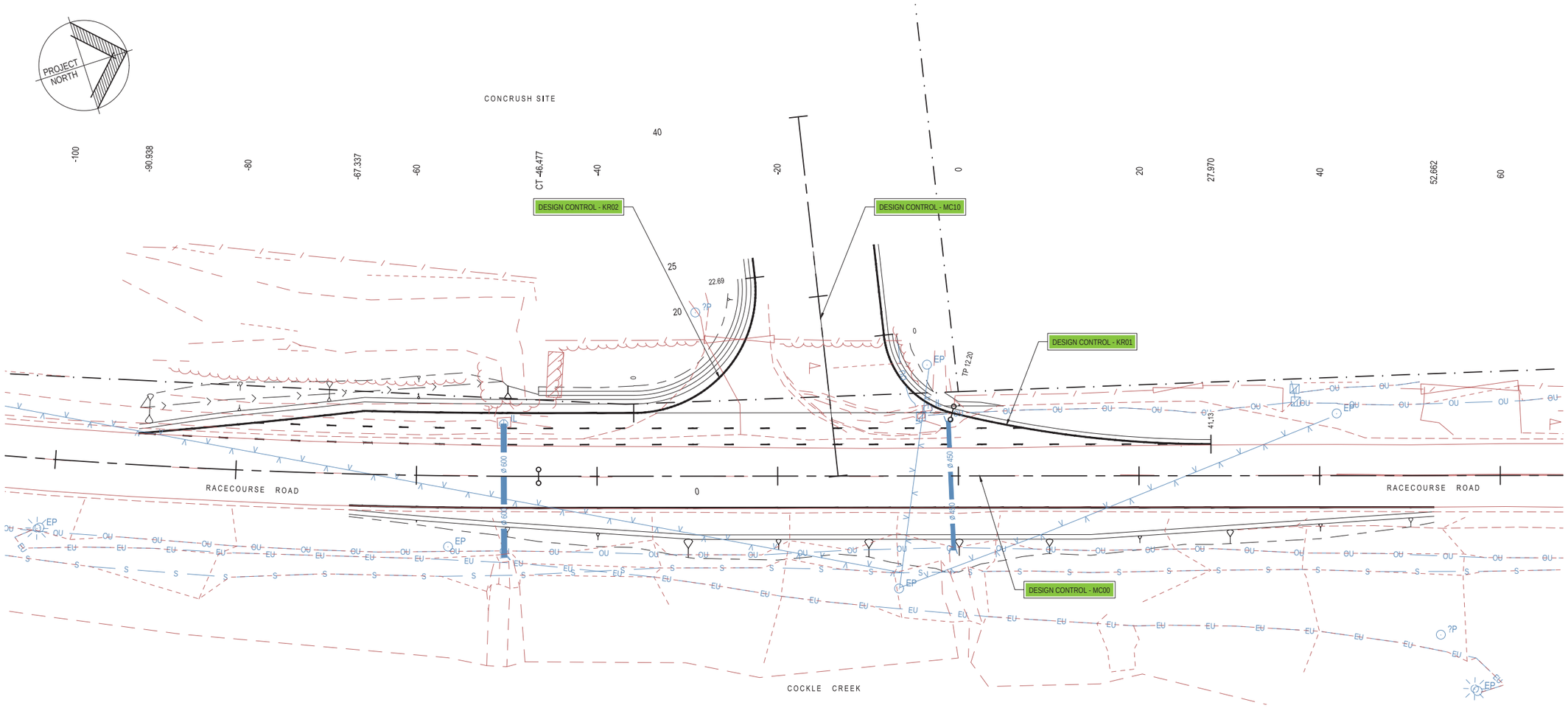
TITLE

DRAINAGE AND UTILITIES PLAN

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN: I.Judd	DESIGNED: R.Chan	APPROVED: M.Watson	SCALE: 1:500
DOCUMENT No.: 16015-LD-DR-C-3000			REVISION: A

NOT FOR CONSTRUCTION

PLOTTED: 03/08/2020 1:56 PM



ROAD ALIGNMENT CONTROL PLAN

SCALE 1:500

DESIGN CONTROL - MC00

APPROACH SEGMENT	DEPARTURE SEGMENT	TANGENT	CHAINAGE	COORDINATES			APPROACH BEARING	DEPARTURE BEARING	APPROACH RADIUS	DEPARTURE RADIUS
				EASTING	NORTHING	LEVEL				
	Line		-219.905	370948.313	6353795.676			28°10'14.68"		
Line	Arc	Yes	-180.961	370966.699	6353830.007	1.616	28°10'14.68"	28°10'14.68"		-750.000
Arc	Line	Yes	-46.477	371019.248	6353953.604	1.664	17°53'48.87"	17°53'48.87"	-750.000	
Line			117.939	371069.774	6354110.064	1.424	17°53'48.87"			

DESIGN CONTROL - MC00

APPROACH SEGMENT	DEPARTURE SEGMENT	TANGENT	CHAINAGE	COORDINATES			APPROACH BEARING	DEPARTURE BEARING	APPROACH RADIUS	DEPARTURE RADIUS
				EASTING	NORTHING	LEVEL				
	Arc		0.000	371016.167	6353994.786	1.333		101°36'56.77"		-10.000
Arc	Arc	Yes	12.201	371026.688	6353999.325	1.394	31°42'38.81"	31°42'38.81"	-10.000	-120.000
Arc			41.132	371038.796	6354025.524		17°53'48.87"		-120.000	

DESIGN CONTROL - MC00

APPROACH SEGMENT	DEPARTURE SEGMENT	TANGENT	CHAINAGE	COORDINATES			APPROACH BEARING	DEPARTURE BEARING	APPROACH RADIUS	DEPARTURE RADIUS
				EASTING	NORTHING	LEVEL				
	Line		0.000	371029.441	6353985.166	1.650		281°36'56.77"		
Line			40.000	370990.260	6353993.220	2.162	281°36'56.77"			

DESIGN CONTROL - KR02

APPROACH SEGMENT	DEPARTURE SEGMENT	TANGENT	CHAINAGE	COORDINATES			APPROACH BEARING	DEPARTURE BEARING	APPROACH RADIUS	DEPARTURE RADIUS
				EASTING	NORTHING	LEVEL				
	Arc		0.000	371015.826	6353965.784	1.489		17°53'48.87"		-13.500
Arc			22.686	371005.697	6353983.156	1.531	281°36'56.77"		-13.500	

Lindsay Dynan

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PROJECT
PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT
CONCRUSH PTY LTD

THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

LEGEND

- MC00 — DESIGN CONTROL STRING LABEL
- EXISTING OVERHEAD POWER
- Ø 450 — EXISTING STORMWATER PIPE
- OU — EXISTING OPTIC FIBRE
- S — EXISTING SEWER
- EU — EXISTING UNDERGROUND ELECTRICAL
- EXISTING FENCE
- EXISTING EDGE OF PAVEMENT
- BOUNDARY LINE

NOTES

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CONTRACTOR TO VERIFY SETOUT BEFORE COMMENCING EARTHWORKS. REFER ANY DISCREPANCIES TO ENGINEER.

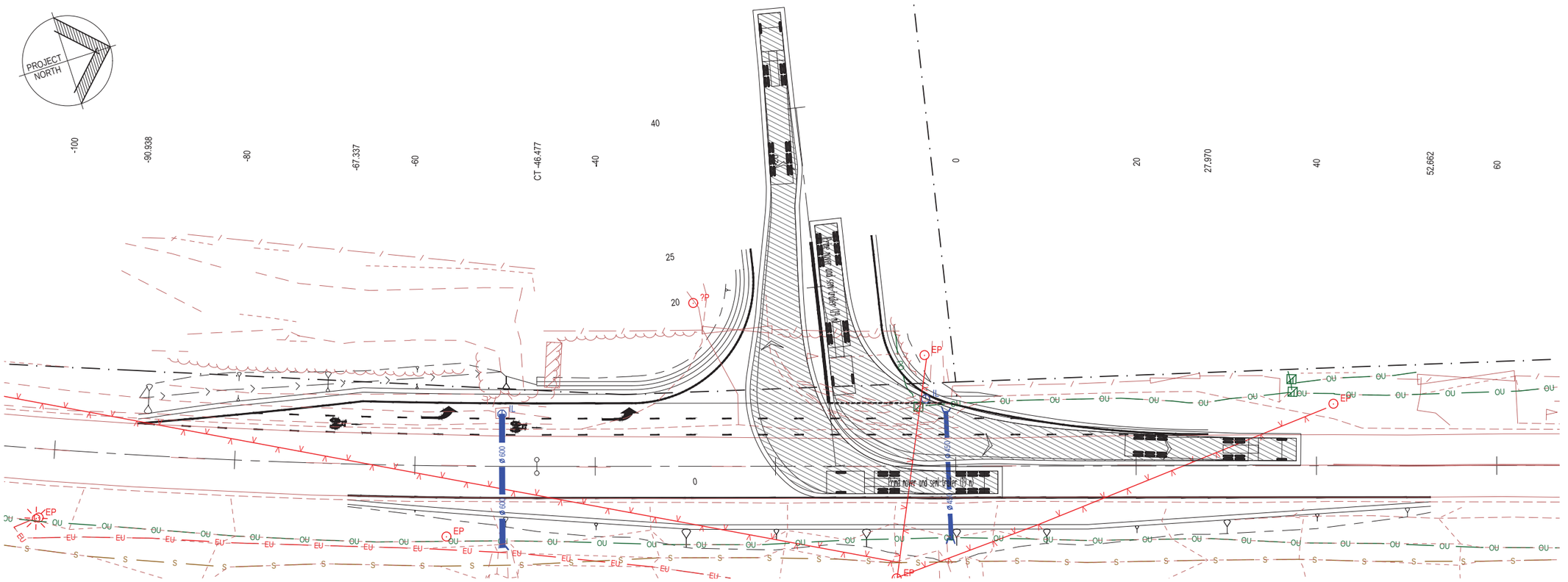
REFER DRAWING C-0000 FOR DRAWING LIST.

REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

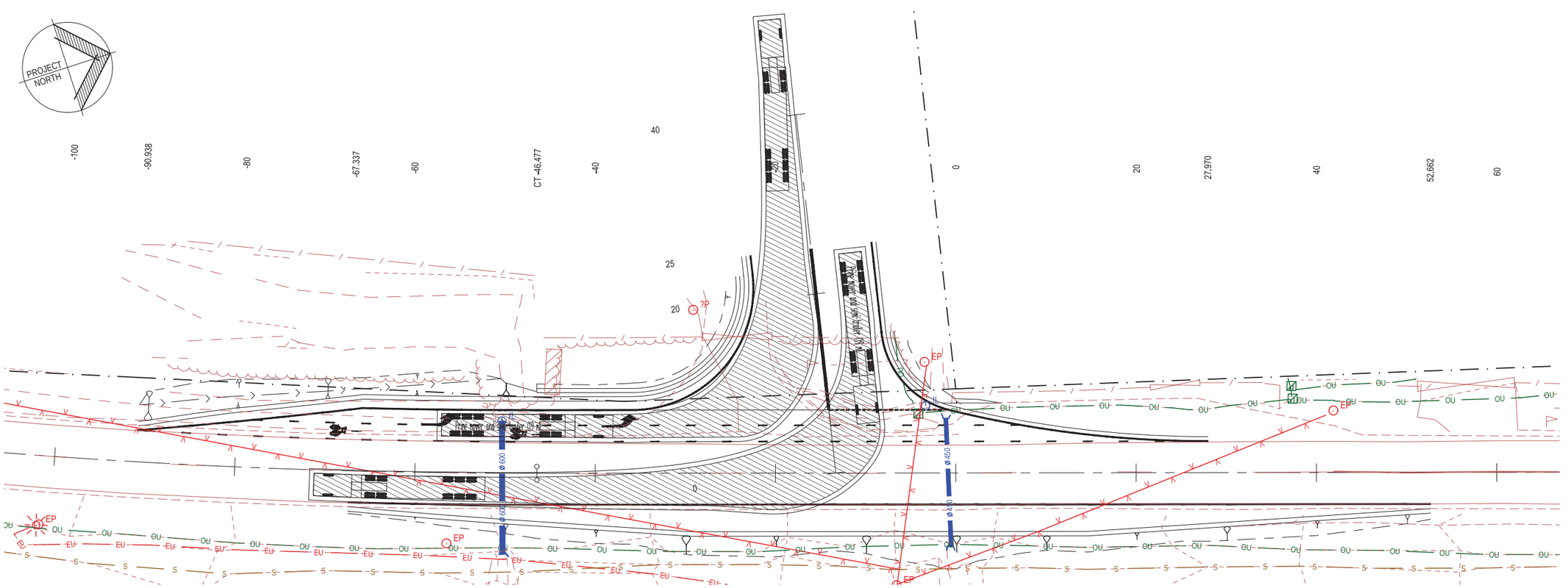
TITLE
ROAD ALIGNMENT CONTROL PLAN AND TABLES

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN	DESIGNED	APPROVED	SCALE
I.Judd	R.Chan	M.Watson	1:500
DOCUMENT No.			REVISION
16015-LD-DR-C-4000			A

NOT FOR CONSTRUCTION



TURNING PATH PLAN
19m SEMI TRAILER - SITE ACCESS TO/FROM NORTH
SCALE 1:500



TURNING PATH PLAN
19m SEMI TRAILER - SITE ACCESS TO/FROM SOUTH
SCALE 1:500

Lindsay Dynan

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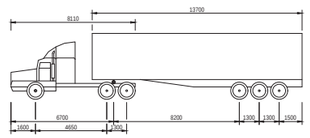
PROJECT
PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT
CONCRUSH PTY LTD

THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

VEHICLE DIAGRAM



19m SEMI TRAILER	
OVERALL LENGTH	19.000m
OVERALL WIDTH	2.500m
MAX TRACK WIDTH	2.500m
KERB TO KERB TURNING RADIUS	12.500m

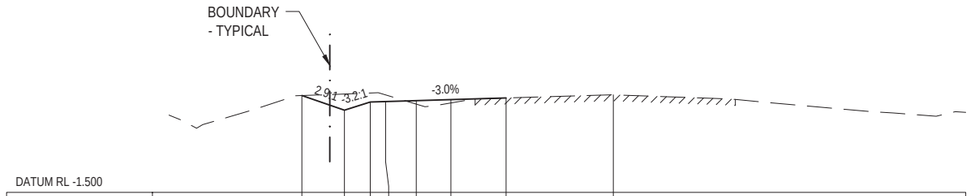
REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

TITLE
TURNING PATHS PLAN

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN	DESIGNED	APPROVED	SCALE
I.Judd	R.Chan	M.Watson	1:500
DOCUMENT No.			REVISION
16015-LD-DR-C-5000			A

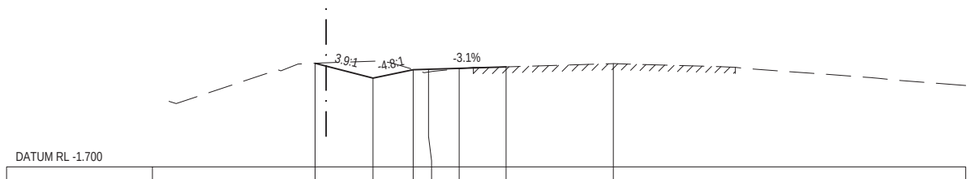
NOT FOR CONSTRUCTION

PLOTTED: 03/08/2020 2:05 PM



DATUM RL -1.500									
DESIGN LEVELS	1.659	1.181	1.448	1.463	1.493	1.526	1.580	1.681	
EXISTING LEVELS	1.659	1.708	1.741	1.679	1.379	1.417	1.580	1.681	
OFFSET	-10.164	-8.775	-7.931	-7.431	-6.431	-5.300	-3.500	0.000	

CH -70.000



DATUM RL -1.700								
DESIGN LEVELS	1.680	1.196	1.469	1.484	1.515	1.561	1.668	
EXISTING LEVELS	1.680	1.746	1.480	1.394	1.500	1.562	1.668	
OFFSET	-9.733	-7.843	-6.531	-6.031	-5.031	-3.500	0.000	

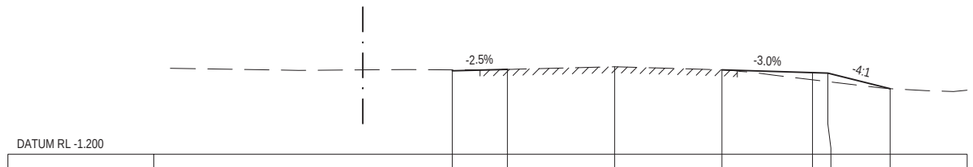
CH -80.000

DATUM RL -1.000								
DESIGN LEVELS	1.559	1.265	1.544	1.558	1.573	1.576	1.674	
EXISTING LEVELS	1.559	1.301	1.520	1.547	1.570	1.576	1.676	
OFFSET	-7.888	-6.445	-4.644	-4.144	-3.631	-3.500	0.000	

CH -90.000

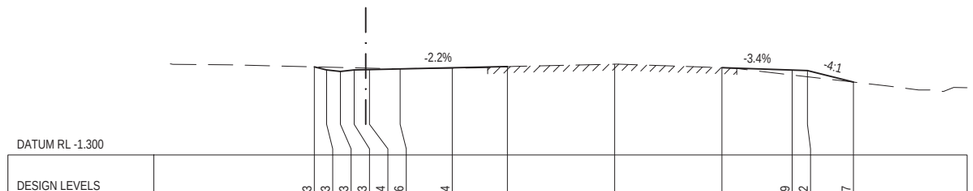
DATUM RL -1.000							
DESIGN LEVELS	1.271	1.270	1.550	1.564	1.578	1.674	
EXISTING LEVELS	1.271	1.272	1.528	1.555	1.578	1.677	
OFFSET	-6.353	-6.348	-4.500	-4.000	-3.500	0.000	

CH -90.938



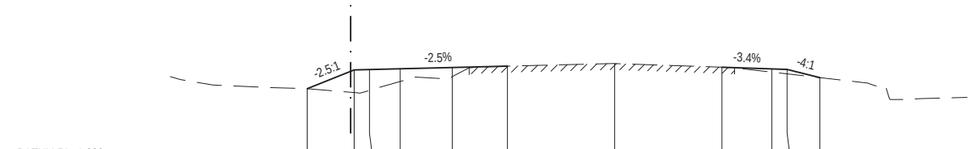
DATUM RL -1.200									
DESIGN LEVELS	1.522					1.462	1.447	0.938	
EXISTING LEVELS	1.553	1.567	1.654	1.552		1.229	1.169	0.938	
OFFSET	-5.300	-3.500	0.000	3.500		6.456	6.956	8.989	

CH -30.000



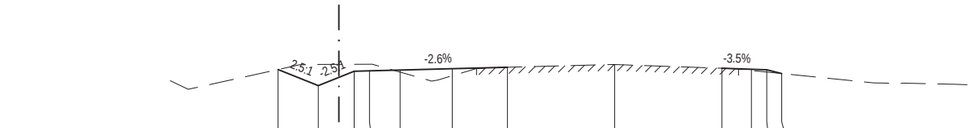
DATUM RL -1.300													
DESIGN LEVELS	1.573	1.473	1.423	1.473	1.484	1.506	1.544				1.469	1.452	1.077
EXISTING LEVELS	1.573	1.564	1.553	1.542	1.530	1.513	1.531	1.577	1.661	1.547	1.307	1.250	1.077
OFFSET	-9.800	-9.400	-8.950	-8.500	-8.000	-7.000	-5.300	-3.500	0.000	3.500	5.791	6.291	7.792

CH -40.000



DATUM RL -1.600													
DESIGN LEVELS	0.844	1.457	1.469	1.494	1.536	1.580	1.664			1.545	1.490	1.473	1.206
EXISTING LEVELS	0.844	0.718	0.796	1.079	1.235	1.579	1.664			1.545	1.385	1.328	1.206
OFFSET	-10.032	-8.500	-8.000	-7.000	-5.300	-3.500	0.000			3.500	5.127	5.627	6.697

CH -50.000



DATUM RL -1.200													
DESIGN LEVELS	1.500	0.975	1.444	1.457	1.483	1.527	1.574	1.663		1.542	1.508	1.491	1.369
EXISTING LEVELS	1.500	1.665	1.671	1.673	1.415	1.297	1.575	1.663		1.542	1.469	1.419	1.369
OFFSET	-10.983	-9.672	-8.500	-8.000	-7.000	-5.300	-3.500	0.000		3.500	4.463	4.963	5.451

CH -60.000

Lindsay Dynan

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PROJECT
PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

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THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

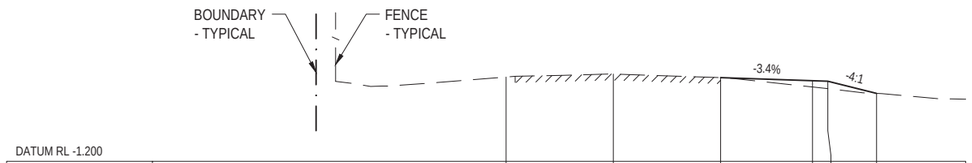
REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

TITLE
CROSS SECTIONS - MC00
SHEET 1

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN	DESIGNED	APPROVED	SCALE
I.Judd	R.Chan	M.Watson	1:200
DOCUMENT No.			REVISION
16015-LD-DR-C-6000			A

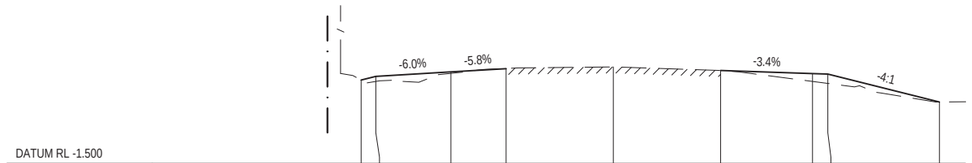
NOT FOR CONSTRUCTION

PLOTTED: 03/08/2020 2:06 PM



DATUM RL -1.200								
DESIGN LEVELS						1.430	1.413	1.015
EXISTING LEVELS	1.550	1.646	1.530	1.225	1.172	1.015		
OFFSET	-3.500	0.000	3.500	6.500	7.000	8.590		

CH 10.000

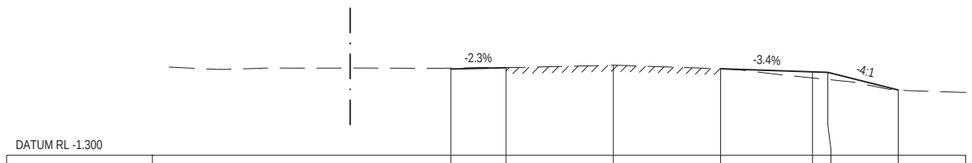


DATUM RL -1.500									
DESIGN LEVELS	1.218	1.338	1.485				1.429	1.412	0.502
EXISTING LEVELS	1.218	1.172	1.436	1.596	1.646	1.530	1.172	1.107	0.502
OFFSET	-8.230	-7.750	-5.300	-3.500	0.000	3.500	6.500	7.000	10.641

CH 0.000

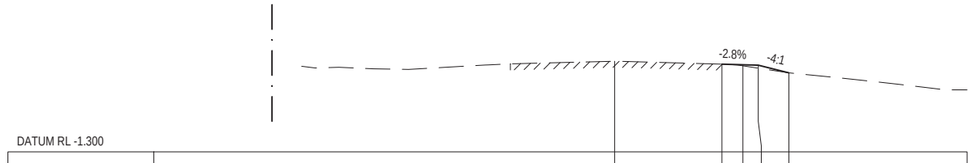
DATUM RL -1.300								
DESIGN LEVELS	1.551					1.441	1.424	0.943
EXISTING LEVELS	1.654	1.585	1.656	1.541	1.204	1.145	0.943	
OFFSET	-5.300	-3.500	0.000	3.500	6.500	7.000	8.926	

CH -10.000



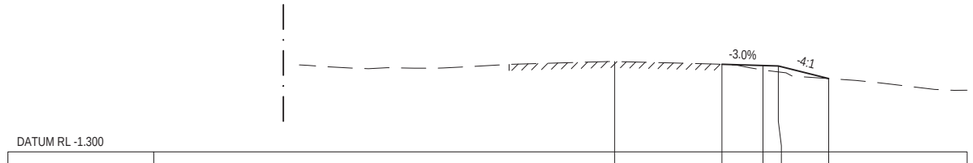
DATUM RL -1.300								
DESIGN LEVELS	1.515					1.422	1.405	0.831
EXISTING LEVELS	1.544	1.564	1.638	1.523	1.223	1.173	0.831	
OFFSET	-5.300	-3.500	0.000	3.500	6.500	7.000	9.297	

CH -20.000



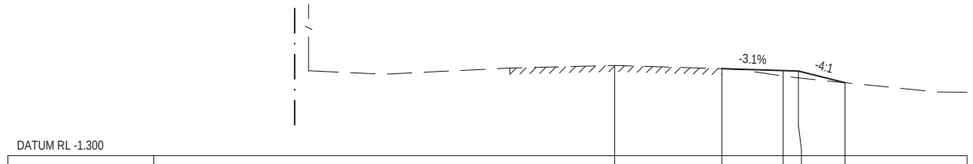
DATUM RL -1.300								
DESIGN LEVELS						1.542	1.528	1.278
EXISTING LEVELS	1.657	1.561	1.506	1.430	1.278			
OFFSET	0.000	3.500	4.185	4.685	5.684			

CH 50.000



DATUM RL -1.300								
DESIGN LEVELS					1.517	1.502	1.091	
EXISTING LEVELS	1.648	1.557	1.371	1.308	1.091			
OFFSET	0.000	3.500	4.840	5.340	6.984			

CH 40.000



DATUM RL -1.300								
DESIGN LEVELS					1.475	1.459	1.079	
EXISTING LEVELS	1.641	1.536	1.297	1.235	1.079			
OFFSET	0.000	3.500	5.495	5.995	7.518			

CH 30.000

DATUM RL -1.200								
DESIGN LEVELS					1.441	1.425	1.038	
EXISTING LEVELS	1.550	1.638	1.529	1.170	1.109	1.038		
OFFSET	-3.500	0.000	3.500	6.150	6.650	8.197		

CH 20.000

Lindsay Dynan

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PROJECT
PROPOSED INTERSECTION
21 RACECOURSE ROAD
TERALBA, NSW

CLIENT
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THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

REV	DATE	DESCRIPTION	DRN	APP
A	03/08/20	ISSUED FOR APPROVAL	IJ	MW

TITLE
CROSS SECTIONS - MC00
SHEET 2

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A3
DRAWN	DESIGNED	APPROVED	SCALE
I.Judd	R.Chan	M.Watson	1:200
DOCUMENT No.			REVISION
16015-LD-DR-C-6001			A

NOT FOR CONSTRUCTION

PLOTTED: 03/08/2020 2:07 PM

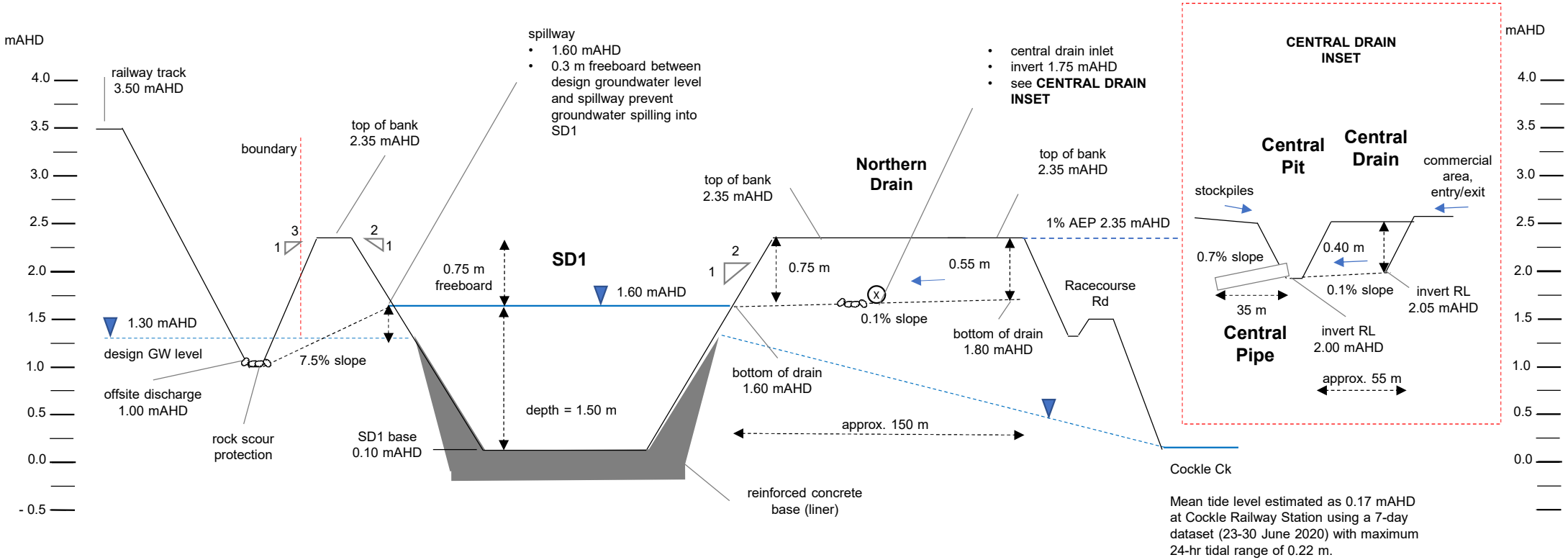
Appendix M

Excavation Plans

LEGEND

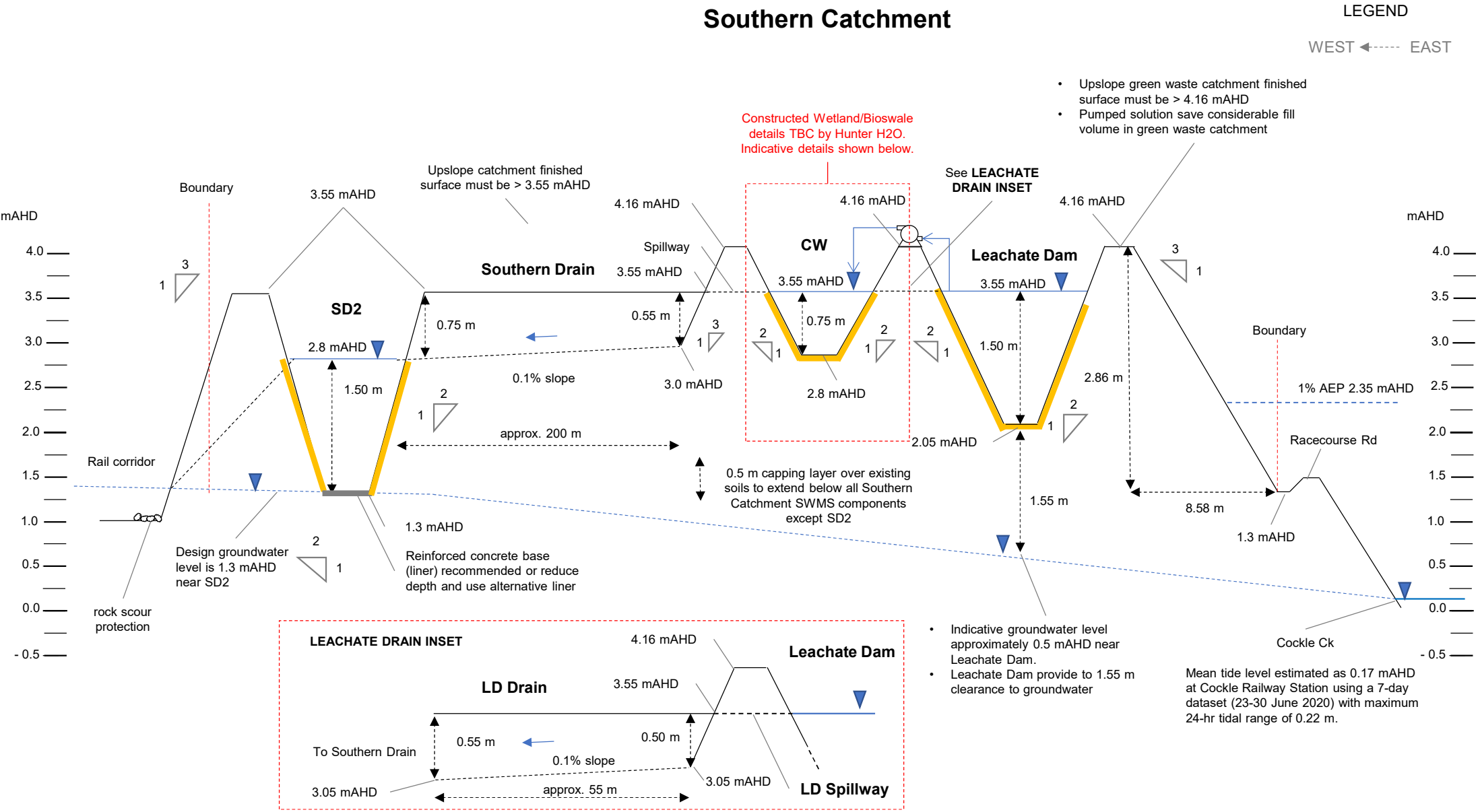
WEST ◄----- EAST

Northern Catchment



Mean tide level estimated as 0.17 mAHD at Cockle Railway Station using a 7-day dataset (23-30 June 2020) with maximum 24-hr tidal range of 0.22 m.

Southern Catchment



Appendix N

Registers to be Maintained

INDUCTION REGISTER
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

Location:
Date of Induction:
Time:
Convener/presenter:

The following acknowledge that they have completed the site induction and have received the following documents.

- **Construction Environmental Management Plan**
- **xxxx**

By signing the following, personnel acknowledge induction for the site works and training in the requirements of the CEMP during the construction works at the site has been provided and that they have understood the requirement and will adhere to the requirements in the induction.

Name	License Number (list all licenses relevant to project such as vehicle and plant)	License Class	Expiry Date	Signature

MATERIAL TRACKING REGISTER
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

On-site Material Movement / Imported Material								
Source of Material (Grid # Excavated From, Stockpile # or Supplier)	**Description**	**Date of Excavation / Importation**	**Time** (if relevant)	**Estimated Volume**	**Registration # of Vehicle Importing Material**	**Actual Weight** (for imported materials)	**Classification and Certifying Document Reference Number**	**Destination** (Grid #, Under/Over Marker Layer or interim stockpile)

Note that Potential ASS must not be placed on site until treatment has been verified, refer Acid Sulfate Soil Treatment Register

Off-site Material Movement								
Source of Material (Grid # Excavated From, Stockpile #)	**Description**	**Date of Excavation**	**Time** (if relevant)	**Estimated Volume**	**Classification and Certifying Document Reference Number**	**Destination**	**Registration # of Vehicle loaded**	**Actual Weight** (as printed on Docket)

ACID SULFATE TREATMENT REGISTER
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

Stockpile ID	Date Lime Added	Quantity of Lime Added (kg/tonne)	Date of Validation Samples	Contaminated Land Consultant Verification Reference (date or no)	Date Removed from Treatment Area

Note that soil verified as treated must be tracked to end destination on Materials Tracking Register

GROUNDWATER LEVEL AND PH REGISTER
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

Date / Time	Groundwater Level (from top of pipe)			pH				
	GW1	GW2	GW3	GW1	GW2	GW3	Excavation	
							Name	pH

COMPLAINTS REGISTER
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

Complainant	Date Received	Nature (enquiry/ notification/ complaint)	Comment/ Issue(s)	Action Taken/ Response	Corrective Action taken (if applicable)

DAILY WEATHER REGISTER
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

Date	Forecast				Changes to Operations Due to Weather Required (yes, potentially, no)	Actual
	Temperature	Wind Speed (km/hr)	Wind Direction	Rainfall (mm)		Rainfall

INCIDENT FORM
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

Activity:					
Location of Activity:					
Date of Incident:			**Time of Incident**		
Type of Incident (can be more than one)					
☐ **Hazard**	☐ **Near Miss**	☐ **Equipment Defect**	☐ **Injury**	☐ **Damage**	☐ **Environmental**
Reported by:					
Reported to:					
What happened? Where did it occur? Why did it occur?					
Witnesses? Position/Company: Contact Number:					

Nature of Injury (if applicable)

Treatment:

☐ First Aid: Administered by:

☐ Hospital Attended:

☐ Medical Care:

Transport Used (if applicable)

☐ Car Driven by:

☐ Ambulance:

☐ Taxi Company:

Fitness for work:

☐ Nil time lost:

☐ Returned to Work with time lost:

☐ Unable to Return to Work with Reassessment Date:

☐ Unable to Return to Work:

Details of Damage to Equipment or Environment.

INCIDENT FORM
EXPANSION TO CONCRUSH RESOURCE RECOVERY FACILITY
RACECOURSE ROAD, TERALBA

Name of Investigator: Date of Investigation: Position in Company: Reporting to: Date Report Submitted:
Investigation Details
Actions / Outcomes including short term and long term actions to prevent reoccurrence
NCR Number (if applicable)

Appendix O

Hold Point Release Form

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

Geotechnical Engineering
Engineering Geology
Environmental Engineering
Hydrogeology
Construction Materials Testing
Environmental Monitoring
Sound & Vibration
Occupational Hygiene

HOLD POINT RELEASE

To: Kevin Thompson (Kevin@concrush.com.au)

Ken Peddie (email to be advised)
CC: Ian Gregson (Ian.Gregson@ghd.com)

From:

Date:

RELEASE OF HOLD POINT <REFERENCE>

Kevin

RCA inspected/ verified xxx on the xxx in relation to hold point <relevant site milestone>. Photographs/ documents/ results verified relating to this hold point are included below/ attached to this letter.

Site specific details/ comments may be included, particularly if this only a partial release (i.e. marker layer/ importation of fill which may be staged).

In accordance with the deliverable and hold point schedule, RCA considers that the hold point for xxx may now be released.

Please confirm by return email that you concur.

Yours faithfully

RCA AUSTRALIA

xxxx
Project Manager