Prepared for

Hazell Bros Civil Contracting Pty Ltd

1/13 Crooked Billet Drive Bridgewater TAS 7030

STORMWATER MANAGEMENT PLAN

FE_24063-02

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flüssig Engineers

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Document Initial Revision

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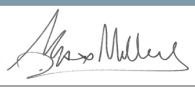
Prepared by	Max W. Moller ***Principal Hydraulic Engineer***		15/03/2025
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Rev No.	Description	Reviewed by	Authorised by	Date
01	Design Changes	MM	MM	05.06.2025
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1. Introduction

Flüssig Engineers have been engaged by Hazell Bros Civil Contracting Pty Ltd to undertake a site-specific Stormwater Management Plan (SWMP) for 1 Crooked Billet Dr, Bridgewater including, but not limited to, lot drainage analysis including stormwater drainage and MUSIC Modelling to stated stormwater quality standards. The purpose of this report is to determine the hydraulic characteristics and stormwater infrastructure capacity of a 1% AEP storm event and treatment on the existing and post-development scenarios.

1.1 Scope

This engagement includes:

- Pre-construction drainage capacity at 1% AEP of existing design.
- Post-construction drainage capacity at 1% AEP of proposed design.

2. Site Characteristics

2.1 Site Location

1 Crooked Billet Dr, Bridgewater Tasmania (Title Reference 158010/1) is in the municipality of the **Brighton Council.** The site is approximately 78,650 m^2 with the proposed dry mix plant relocation. The site and its immediate areas are zoned General Industrial, with some areas of Rural zoning to the south and west of the site, including Agricultural and Environmental Management areas also in the surrounding region.

Figure 1. Approximate development location, 1 Crooked Billet Drive

2.2 Topography

The proposed development site is approximately 78,650 m² in area, draining from approximately 52.00 mAHD to 44.00 mAHD.

As can be seen by the topography in Figure 2, pre-development terrain gently slopes in a south-east direction towards the Midland Highway.

Figure 2. 1 m DEM (hill shade) of lot area and surrounds

3. Proposal

3.1 Proposed Development

The proposed development involves the relocation of the existing dry mix plant within the lot boundary. This relocation aims to optimise the site layout while maintaining operational efficiency and compliance with relevant planning and environmental regulations. The design and engineering of the proposed development have been undertaken by 6ty˚, ensuring that the new placement of the dry mix plant aligns with site constraints, accessibility requirements, and infrastructure integration.

The details of this design are documented in the “24.140 C31” drawing, which is illustrated in Figure 3. For detailed design refer to civil and architectural drawings by others.

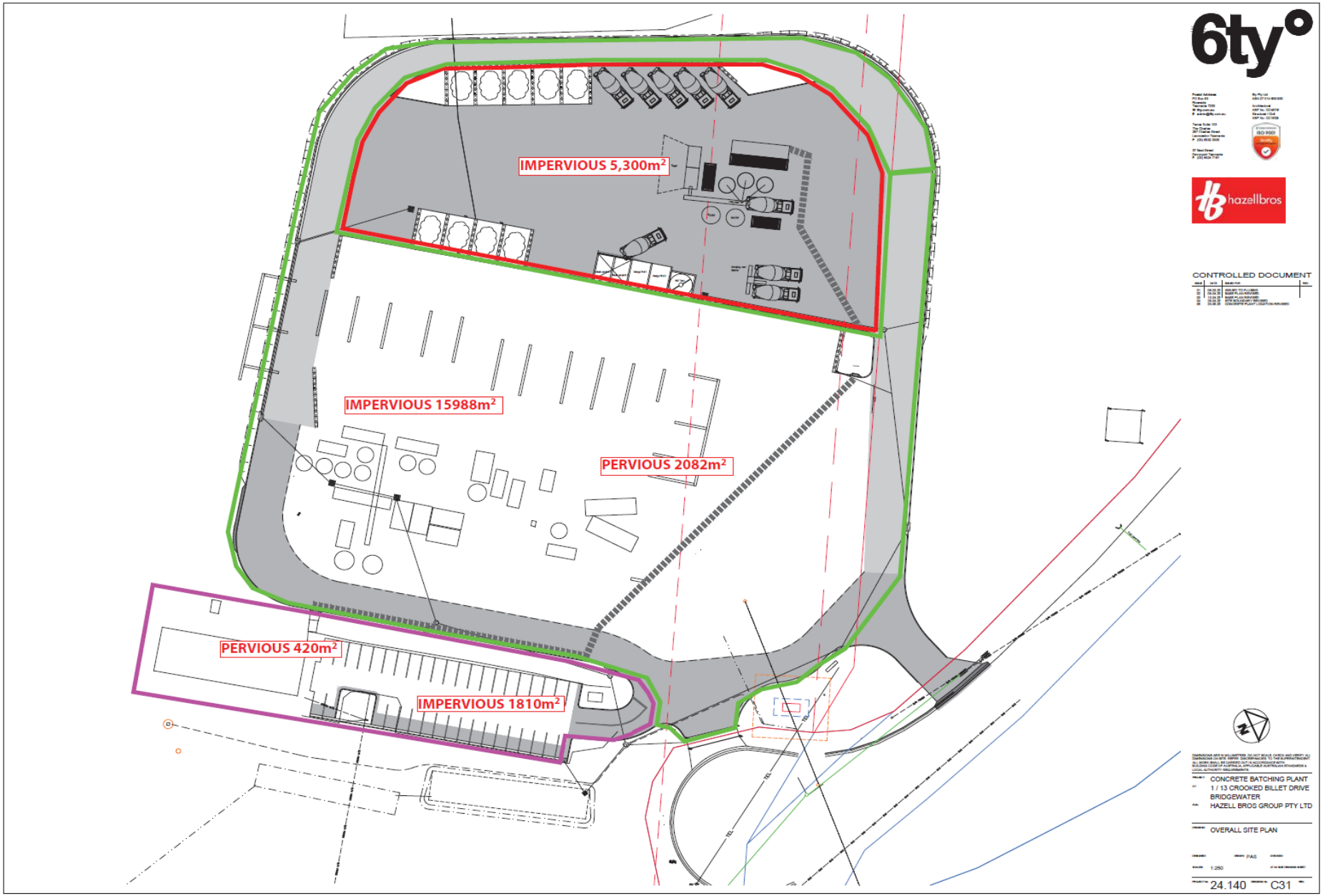


Figure 3. Planning design of development (6ty˚ Architecture Surveying Engineering)

4. Survey Data

All survey data was supplied by the client as a processed AutoCAD file. The provided data has been incorporated into various software to undertake the analysis.

5. Stormwater Quantity

5.1 Catchment Analysis

The catchment was modelled using RAFTS Hydrology software within Infoworks ICM. RAFTS software uses the Laurenson runoff-routing method to calculate runoff using the catchment properties including size, slope and % impervious. This method is accepted within ARR2019 for areas larger than a single dwelling lot.

5.2 Catchment Conditions

The contributing catchment for 1 Crooked Billet Drive, Bridgewater is approximately 8.5 ha as shown on Figure 4. The proposed development lies within a catchment area that extends from the north-western side of the lot to the south-eastern boundary of the site. The soil onsite is predominately black soils overlain on tertiary basalt bedrock. This allows for drainage directly to a stream or piped infrastructure.

Figure 4. Contributing approximate catchment, 1 Crooked Billet Drive

5.3 Design Intensity Storms

Design storm durations and temporal pattern were calculated using Australian Rainfall and Runoff 2019 (ARR19) guidelines, running ten temporal pattern events through each duration to determine the worst-case storm using the median temporal pattern. Figure 5 below shows the 1% AEP rainfall event as the 10-minute storm event.

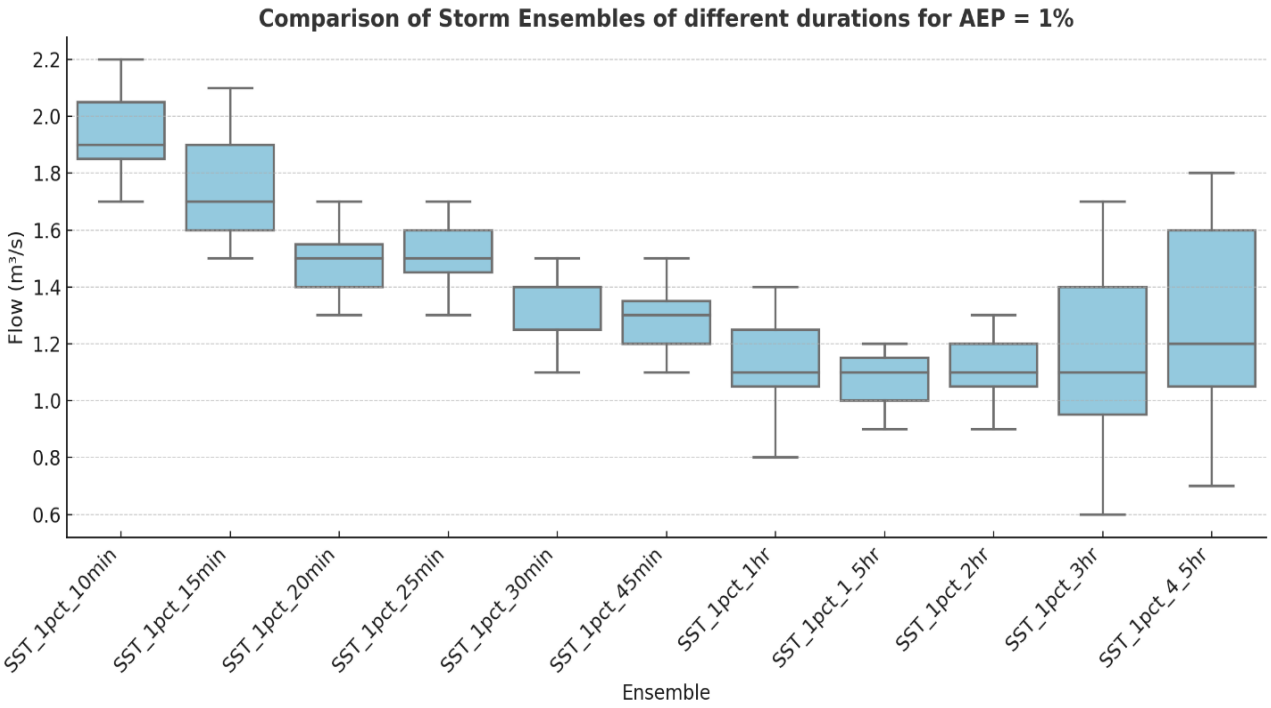


Figure 5. 1% AEP Temporal Storms Box and Whisker Plot

5.4 Land use

Land use for the site, both pre- and post-development, were derived from plans and aerial imagery. Land use values are as follows in Table 1.

Table 1. Land Use Area

	Pre-Development		Post-Development	
Land Use	**Area (m^2)**	**% Total land**	**Area (m^2)**	**% Total land**
Total Impervious	21,563	85	23,098	90.3
Total Pervious	4,037	15	2,502	9.7

5.5 Manning's n and losses

Losses for this catchment were derived from ARR19 data hub. As per ARR2019, losses were taken at 60% of prescribed value to account for effective impervious area. See Table 2 for loss values.

Manning's n values were taken directly from best practice manuals as shown in Table 3.

Table 2. Runoff Losses

Surface	Initial losses (IL) mm	Continuing Losses (CL) mm/ hr
Pervious	20	2
Impervious	1	0

Table 3. Manning's N coefficients

Land Use	Manning's n
Swale Channel	0.025
Road	0.018
Gravel	0.025
Urban Yards	0.045
Buildings	0.3

5.6 Stormwater runoff Coefficient (C)

See Table 4 for stormwater runoff coefficient (C) values were taken directly from best practices.

Table 4. Stormwater runoff Coefficients

Land Use	C
Road/Driveway	0.9
Open Channel	0.3
Roof	1.0
Gravel/ timber deck	0.5

5.7 Development Runoff

Stormwater runoff from the development site has been assessed under pre- and post-development models to determine the potential impact the development at 1 Crooked Billet Drive has on the immediate local flows. As per planning guidelines it is a requirement that this does not worsen from pre to post development.

Using the above parameters, the site was calculated using Infoworks ICM software and ARR2019 best practice manuals. Site characteristics for the pre- and post-development model are summarised in Table 5, where, as the majority of the development is proposed over existing impervious areas, there is little variation in total land use, so pervious/impervious values only have minor variations.

Table 5. Site Characteristics

Catchment	Maximum Slope (%)	Total Land use pervious/ impervious (ha)	Storm duration and pattern
Pre-Development	4.0	0.4 / 2.1	1% 10-min storm pattern 7
Post-Development	4.0	0.2/ 2.3	1% 10-min storm pattern 7

5.8 Model Results

The pre- and post-development scenarios were calculated using Infoworks ICM software against the 1% AEP storm events. The storm durations were derived from the worst case median temporal pattern for these two events which were both 10-minute durations.

The pre and post conditions can be seen in Figure 6 below showing the peak discharge. As is shown, there is an increase in peak discharge from pre to post development.

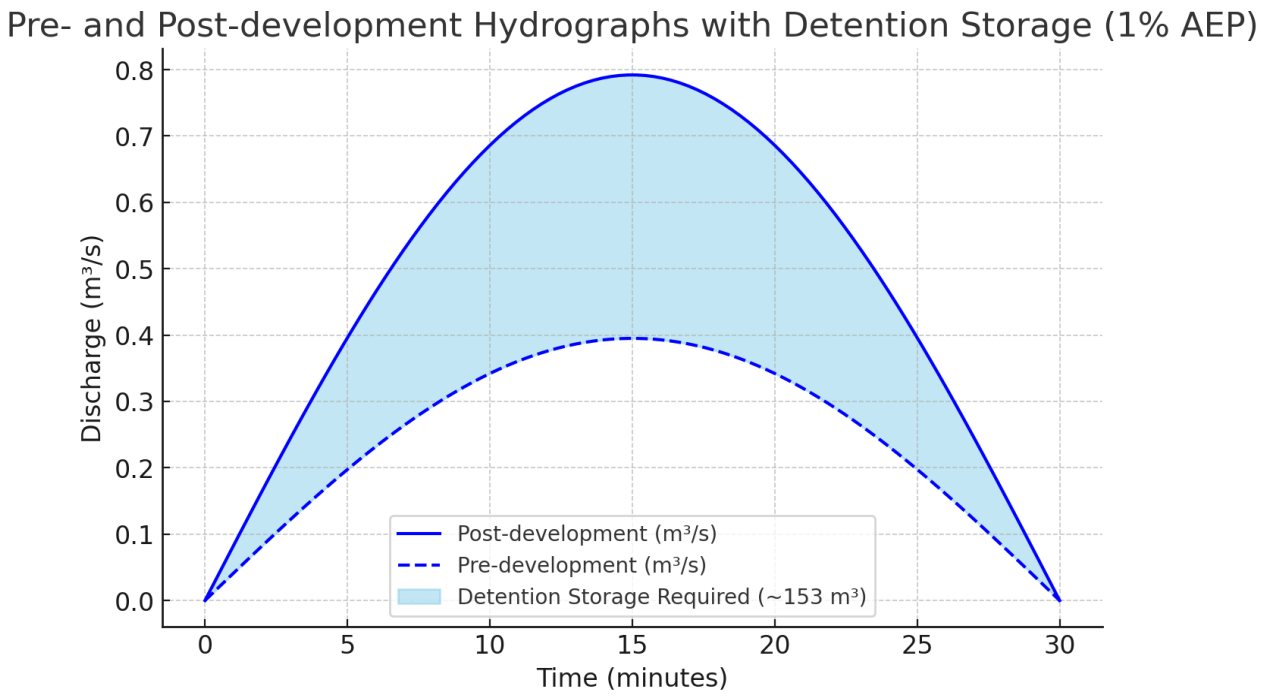


Figure 6. Site Discharge Curves Pre vs post-development

The post-development allowable site discharge must not exceed the pre-development site discharge. As can be seen from Table 6, this is exceeded in the 1% AEP by a peak discharge of 0.397 m^3/s, more than the permissible site discharge of 0.395 m^3/s. Therefore, the site must detain the difference using an onsite stormwater detention (OSD) system.

Table 6. Discharge volume rates and required detention of pre-post scenarios

Design Event (AEP)	Discharge Volume (m^3/s)			Required Detention (m^3)
	Pre-Development	Peak post-Development	Permissible Site Discharge	
1%	0.395	0.792	0.395	153

The required storage is the difference between the pre- and post-development curves shown in Figure 6 above. This area between the curve equates to a storage requirement which can be seen in Table 6. The site discharge increase due to development needs to be treated or otherwise agreed. The sections below outline the requirements for the new buildings and concrete areas.

5.9 On-Site Detention sizing and configuration

As shown in Table 6, the permissible site discharge from the proposed development is exceeded from the pre-development scenario and needs to be detained or otherwise agreed. After allowance has been made to detain impervious areas, the total volume discharged in the storm event still exceeds pre-development flows. Therefore, the proposed development will require minimum total detention of 153 m^3. (Refer to “APPENDIX B Calculations”.)

Runoff from future impervious areas, is served by several stormwater pits and directed to a new detention pond. Outflow from the detention pond will then drain towards the bioretention swale for achieving its quality targets and exit to the existing headwall (existing DN450) via a new DN300. More detailed information regarding maintenance is provided in section 6.6.

5.10 1% AEP Overland Flow Path (OFP)

As per Brighton Council requirements, runoff for the 1% AEP is required to be captured by infrastructure and detained onsite in an OSD. The 1% AEP storm must be able to drain through the site and not cause

additional impedance on the neighbouring lots or future residents. Refer attached "APPENDIX A – SITE PLAN" which shows the post - development overland flow path for the site in the event of a 1% AEP event.

5.11 Quantity Summary

The SWMP quantity report has been designed from the Tasmanian Planning Scheme and best practice design and guidelines. The following is a summary of the requirements for stormwater management for the development at the site.

1. The proposed development will be required to detain runoff from impervious areas to pre-development discharge quantities, as per Brighton Council requirements.
2. The 1% AEP runoff overland flow paths can be directed from the development site via proposed impervious concrete areas. Internal driveways are graded away, directing overland flow paths away from habitable areas.
3. The report has been prepared using a conservative approach, assuming that the proposed new dry-mix concrete plant's stormwater collection, settling, and recycling tanks are operating at full capacity and would not retain any additional runoff during a 1% AEP storm event.

6. Water Quality

Water quality modelling for the site has been undertaken with the urban stormwater improvement conceptualisation software MUSIC. The modelling conducted in MUSIC has been done in accordance with MUSIC Modelling Guidelines and the Tasmanian State Stormwater Strategy. This document provides a guide to water quality modelling methodology and outlines the assumptions that should be made when selecting input parameters.

Recommendations for the improvement of the water quality on site would include the diversion of stormwater flows from the development to primary treatment system (treatment train). This would reduce the pollutants in the receiving waters further and be a safe design option if future usage of this sub catchment provides higher pollutant storm water runoff.

6.1 Stormwater Quality Treatment (construction phase)

During construction, many pollutants are generated from various sources. These pollutants can easily be captured in stormwater runoff and introduced into the downstream receiving environment polluting the waterways. Listed below are some of the main construction phase pollutants:

- Litter from construction – material packaging, paper, plastic, food packaging, off cuts etc.
- Sediment erosion and transports from excavated material and fresh surfaces.
- Hydrocarbons – equipment and machinery
- Toxic material – cement, solvents, paints, cleaning agents etc.
- pH altering substances – cement, cleaning agents etc.

Construction phase pollutants should be planned and mitigated for by a designed site-specific SWMP as part of the drawing set. This should detail controls including but not limited to:

- Diversion of upslope water (where applicable)
- Stabilised exit/ entry points
- Minimise site disturbance where possible
- Implement sediment control along downslope boundaries
- Appropriate location and protection for stockpiles
- Capture on-site runoff that may contain pollutants

- Maintain control measures
- Stabilise site after disturbance (revegetate etc.)

6.2 Stormwater Quality Modelling

Stormwater pollutant modelling for the 1 Crooked Billet Drive development was undertaken using Model for Urban Stormwater Improvement Conceptualisation (MUSIC) software, version 6.3.0, under the guidelines of the State Stormwater Strategy and Tasmanian Planning Scheme.

This model splits the catchment into the following typical areas:

- Roof Catchment
- Internal impervious Catchment

The following fraction impervious land areas has been adopted in the modelling as per the concept design measurements. See Table 7 below for fraction imperviousness (fi).

Table 7. Adopted Fraction Impervious

Catchment Area (m^2)	impervious areas		Roof	
	Area (m^2)	fi	Area (m^2)	fi
25,600	22,508	0.9	590	1.0

6.3 Council Planning Quality Removal Standards

The Tasmanian Planning Scheme has adopted the pollutant removal targets and best practice from the State Stormwater Strategy 2010. See Table 8 for target removal rates.

Table 8. State Stormwater Strategy Pollutant Removal Targets

Parameter	Result Pollutant Retention on Developed Site
Total Suspended Solids (TSS)	80%
Total Phosphorous (TP)	45%
Total Nitrogen (TN)	45%
Gross Pollutants (GP)	90%

6.4 Treatment Train

To achieve stormwater pollutant removal targets outlined above and considering site constraints, this model utilised a bioretention swale (Figure 7). The treatment train consists of structures and concrete impervious area draining through stormwater infrastructure to a 100m^2, 500mm deep bio-retention swale within the property boundaries.

Resultant pollutant removal values can be seen in Figure 8 below. Should an alternative similar system be selected it needs to have equal or greater removal properties.

A cross-section of the bioretention swale and its relevant depth layers are shown below in Figure 7 and Table 9.

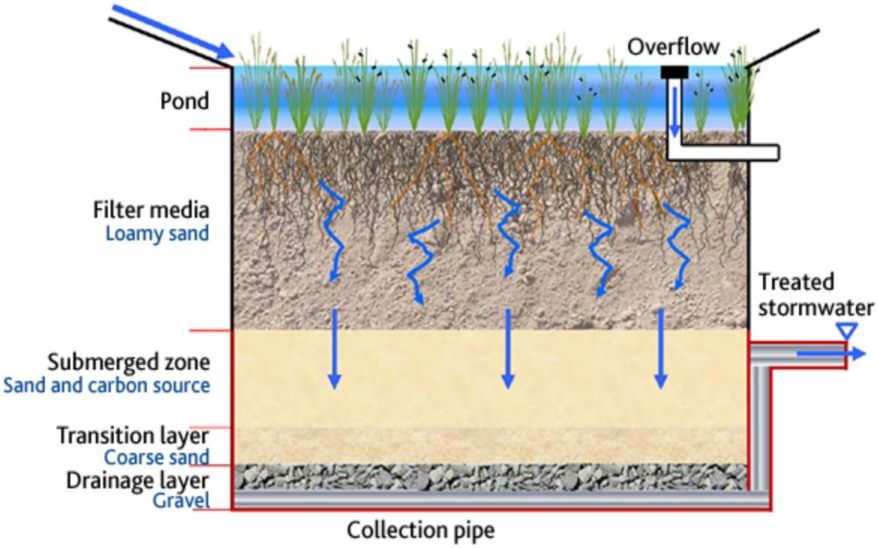


Figure 7. Bioretention Swale Cross-Section

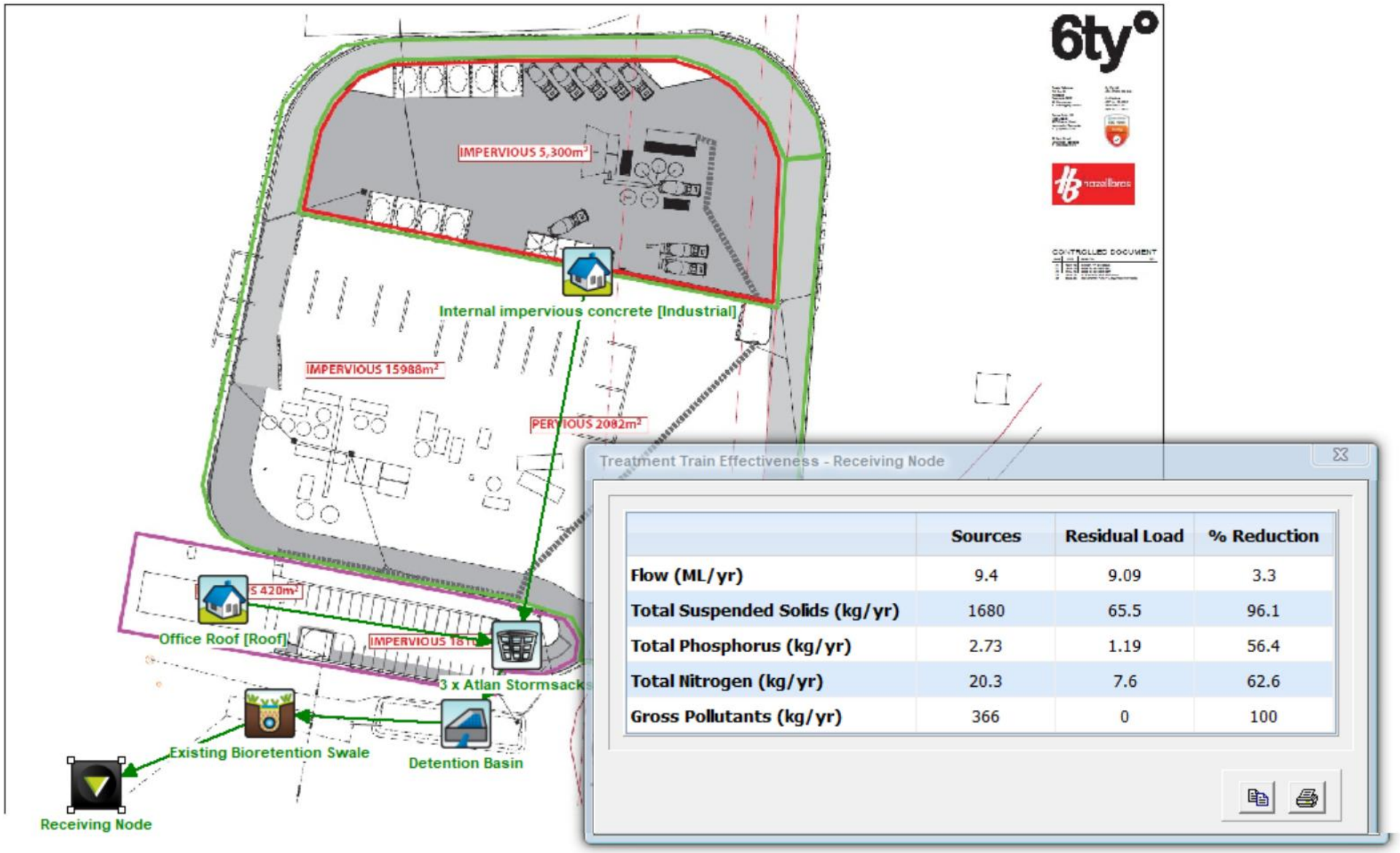
Table 9. Depth of swale components

Swale component	Depth (mm)
Filter media	250
Submerged zone	150
Drainage layer	100

The provided diagram illustrates a stormwater biofiltration system, which is designed to treat stormwater runoff by filtering it through multiple layers of media. The system ensures effective removal of contaminants before discharging treated water.

Below is a detailed breakdown of its components:

1. Pond (Surface Layer):
    - Captures incoming stormwater before it infiltrates the filter media.
    - Supports vegetation that enhances nutrient uptake and biological treatment.
    - Includes an overflow system to manage excess stormwater during high rainfall events.
2. Filter Media (Loamy Sand Layer):
    - Provides primary filtration by removing suspended solids, pollutants, and organic matter.
    - Supports plant growth, which aids in further pollutant breakdown through root interactions.
3. Submerged Zone (Sand and Carbon Source):
    - Contains a mix of sand and carbon to promote biological activity.
    - Facilitates denitrification, helping remove excess nitrogen from the water.
4. Transition Layer (Coarse Sand):
    - Prevents clogging and ensures smooth water percolation.
    - Acts as an intermediate filter between the fine filter media and the drainage layer.
5. Drainage Layer (Gravel):
    - Provides structural stability and allows free drainage of treated water.
    - Ensures consistent water movement towards the collection system.
6. Collection Pipe:
    - Captures treated stormwater and directs it towards an outflow for safe discharge.
    - Prevents prolonged water retention, reducing the risk of clogging or stagnation.



	Sources	Residual Load	% Reduction
Flow (ML/yr)	9.4	9.09	3.3
Total Suspended Solids (kg/yr)	1680	65.5	96.1
Total Phosphorus (kg/yr)	2.73	1.19	56.4
Total Nitrogen (kg/yr)	20.3	7.6	62.6
Gross Pollutants (kg/yr)	366	0	100

Figure 8. MUSIC Treatment Train Effectiveness Result

6.5 Quality Results

The MUSIC pollutant load reductions are detailed in Table 10 below. As can be seen when comparing the MUSIC results to the required state stormwater strategy target load reductions, the specified treatment train outlined above and as seen in Figure 8 show that all targets either meet or exceed state reduction targets.

Table 10. Pollutant Removal Achieved vs Targets.

Parameter (kg/year)	Target Load Reduction (%)	MUSIC Results	SW Targets Achieved (Y/N)
Total Suspended Solids (TSS)	80.0	96.1	Y
Total Phosphorous (TP)	45.0	56.4	Y
Total Nitrogen (TN)	45.0	62.6	Y
Total Pollutants (GP)	90.0	100.0	Y

Based on the water quality assessment using the MUSIC software, it is found that the pollutant reduction improvement can be achieved by adopting the Stormwater Quality Improvement Devices (SQIDs) specified in Table 11.

Table 11. Required SQIDS

SQID	Quantity
Bioretention swale	1 unit
Atlan StormSack or Similar	3 units

6.6 SQID Maintenance

To ensure ongoing operation of all treatment systems, the developer would be required to perform regular maintenance on all treatment devices to ensure they remain in good working order. This would include, but not be limited to, the information described in Table 12.

Table 12. Concept Maintenance Plan

Task	Action	Frequency
General Cleaning	Clear all debris/pollutants from gutters and tank filters, ensure operational	Every 3 months
Specialised cleaning and inspection	Inspect all gutters, downpipes, inflow, and outflow – clean and flush if required. Visually inspect all filters and main device/tank for defects. Replace if required.	Yearly
Maintenance	Perform detailed inspection and maintenance of tanks, and associated infrastructure by a qualified person.	Every 5 years

The above maintenance plan is generic and based on removal rates and best practice advice. Specific maintenance plans should be created for each specific device upon purchasing or confirmation of design.

6.7 Quality Summary

Flüssig Engineers recommends the following to be undertaken to ensure the ongoing stormwater quality from the developed site:

1. Construction quality control should be implemented to prevent pollution during construction.
2. Installation of treatment devices; 3 x Atlan StormSacks (or similar) and bioretention swale (or similar) in the order specified as per this document (Figure 8).
3. Maintenance plans need to be created and adhered to ensure the ongoing operation of the systems.

Flüssig Engineers note that some of the specified treatment products are proprietary products and although suitable in this instance, does not limit the developer to this product. However, any product selected by the developer should meet removal properties of these products for the MUSIC model to be valid.

Flüssig Engineers notes that if the installation of SQIDs may not be feasible due to site restrictions. Should this be the case, Flüssig Engineers recommends a contribution to council for improvements to public stormwater treatment systems downstream be made in lieu of the installation of SQIDs.

7. Conclusion

The post-development quantity and quality scenarios for the Stormwater Management Plan for the proposed works at 1 Crooked Billet Drive, Bridgewater have been investigated. Post-development quantity and quality have been assessed against the Brighton Council Stormwater guidelines, Tasmanian Planning Scheme and the State Stormwater Strategy to ensure the post-development flows meet specified standards.

The following conclusions were derived in this report:

1. A comparison of the post-development peak flows for the 1% AEP storm event were undertaken against the pre-development flows and found to increase site discharge.
2. A minimum of 153 m^3 detention pond is required.
3. DN150 pipe outlet from the pond into the existing bio-retention swale
4. DN300 pipe outlet from the pond serving as a high-flow bypass to the existing stormwater culvert
5. The existing 150 m^2 bio-retention swale, with a depth of 500 mm, provides sufficient capacity to manage the site's stormwater quality treatment requirements.
6. The 1% OFP was assessed through the site and shown that any changes in flow can directed away from neighbouring properties and critical infrastructure on site.
7. A bioretention swale designed and sized using MUSIC can achieve required pollutant removal through passive treatment.
8. SQID's designed and sized using MUSIC can achieve required pollutant removal through the installation of treatment devices.
9. Refer to civil and architectural drawings by others for the final detailed design of the detention pond and bio-retention pond.

Under the Stormwater Management Plan, the development site will meet current specified standards for both quantity and quality control.

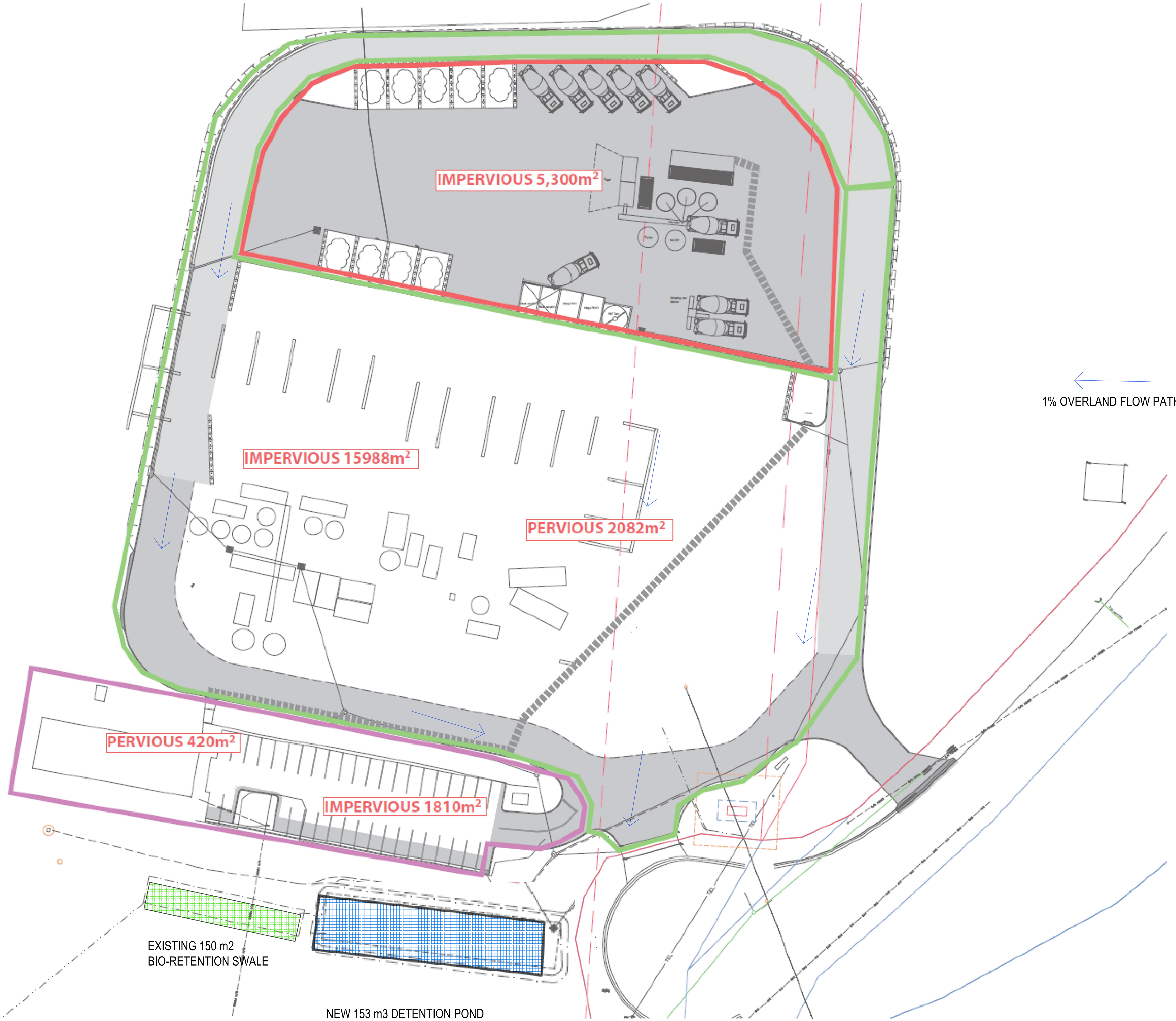
8. Limitations

Flüssig Engineers were engaged by **Hazell Bros Civil Contracting Pty Ltd** in representation of the developer of 1 Crooked Billet Drive, Bridgewater development for the purpose of a site-specific stormwater management plan as per stormwater management best practices. This study is deemed suitable for purpose at the time of undertaking the study. If conditions of the development change, the plan will need to be reviewed against all changes.

This report is to be used in full and may not be used in part to support any other objective other than what has been outlined within, unless specific written approval to do otherwise is granted by Flüssig Engineers.

Flüssig Engineers accepts no responsibility for the accuracy of third-party documents supplied for the purpose of this stormwater management plan.

APPENDIX A – SITE PLAN



6ty°

hazellbros

CONTROLLED DOCUMENT

CONCRETE BATCHING PLANT
1 / 13 CROOKED BILLET DRIVE
BRIDGEWATER
HAZELL BROS GROUP PTY LTD

OVERALL SITE PLAN

PAS

1:250

24.140 C31

APPENDIX B – ONSITE DETENTION CALCULATIONS

STORMWATER DETENTION V5.04

Flussig Engineers

Location: **Bridgewater, TAS**
Site: **25600m² with tc = 20 and tcs = 15 mins.**
PSD: **AEP of 1%, Above ground PSD = 385.20L/s**
Storage: **AEP of 1%, Above ground volume = 152.27m³**

Design Criteria

(Custom AEP IFD data used)

Location = Bridgewater, TAS
Method = E (A)RI 2001,A(E)P 2019

PSD annual exceedance probabiliy (APE) = 1 %
Storage annual exceedance probabiliy (APE) = 1 %

Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom

Site Geometry

Site area (As) = 25600 m² = 2.56 Ha
Pre-development coefficient (Cp) = 0.48
Post development coefficient (Cw) = 0.49

Total catchment (tc) = 20 minutes
Upstream catchment to site (tcs) = 15 minutes

Coefficient Calculations

Pre-development

Zone	Area (m²)	C	Area * C
Concrete	0	0.90	0
Roof	590	1.00	590
Gravel	20973	0.50	10487
Garden	4037	0.30	1211
Total	25600 m²		12288

Cp = ΣArea*C/Total = 0.480

Post development

Zone	Area (m²)	C	Area * C
Concrete	0	0.90	0
Roof	590	1.00	590
Gravel	22508	0.50	11254
Garden	2502	0.30	751
Total	25600 m²		12595

Cw = ΣArea*C/Total = 0.492

Permissible Site Discharge (PSD) (AEP of 1%)

PSD Intensity (I) = 114.8 mm/hr For catchment tc = 20 mins.
Pre-development (Qp = Cp*I*As/0.36) = 395.87 L/s
Peak post development (Qa = 2*Cw*I*As/0.36) = 792.07 L/s =(6.899 x I) Eq. 2.24

Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom
Permissible site discharge (Qu = PSD) = 395.200 L/s

Above ground - Eq 3.8

$0 = PSD^2 - 2*Qa/tc*(0.667*tc*Qp/Qa + 0.75*tc+0.25*tcs)*PSD + 2*Qa*Qp$
Taking x as = PSD and solving
a = 1.0 b = -2013.2 c = 627112.8
$PSD = -b \pm \sqrt{(b^2-4ac)}/(2a)$
PSD = 395.200 L/s

Below ground pipe - Eq 3.3

$Qp = PSD*[1.6*tcs/\{tc*(1-2*PSD/(3*Qa))\}-0.6*tcs^{2.67}/\{tc*(1-2*PSDp/(3*Qa))\}^{2.67}]$
= 395.87
PSD = 407.154 L/s

Below ground rectangular tank - Eq 3.4

t =tcs/(tc*(1-2*PSD/(3*Qa))) = 1.067
$Qp = PSD*[0.005-0.455*t+5.228*t^2-1.045*t^3-7.199*t^4+4.519*t^5]$
= 395.87
PSD = 353.112 L/s

STORMWATER DETENTION V5.04

Flussig Engineers

Design Storage Capacity (AEP of 1%)

Above ground (Vs) = $[0.5*Qa*td-[(0.875*PSD*td)(1-0.917*PSD/Qa)+(0.427*td*PSD^2/Qa)]]*60/10^3$ m^3 Eq 4.23

Below ground pipe (Vs) = $[(0.5*Qa-0.637*PSD+0.089*PSD^2/Qa)*td]*60/10^3$ m^3 Eq 4.8

Below ground rect. tank (Vs) = $[(0.5*Qa-0.572*PSD+0.048*PSD^2/Qa)*td]*60/10^3$ m^3 Eq 4.13

td (mins)	I (mm/hr)	Qa (L/s)	Above Vs (m^3)	Pipe Vs (m^3)	B/G Vs (m^3)
5	211.8	1461.0	129.47		
6	200.6	1384.2	142.30		
6	200.6	1384.2	142.30		
7	190.5	1314.5	152.27		
7	190.5	1314.5	152.27		
7	190.5	1314.5	152.27		
8	181.3	1251.0	159.82		
8	181.3	1251.0	159.82		
9	172.9	1193.0	165.32		
9	172.9	1193.0	165.32		

Table 1 - Storage as function of time for AEP of 1%

Type	td (mins)	I (mm/hr)	Qa (L/s)	Vs (m^3)
Above	7.0	190.5	1314.5	**152.27**
Pipe				
B/ground				

Table 2 - Storage requirements for AEP of 1%

Frequency of operation of Above Ground storage

Qop2 = 0.75 Cl 2.4.5.1

Qp2 =Qop2*Qp1 (where Qp1=PSD) = 288.90 L/s at which time above ground storage occurs

I = $360*Qp2/(2*Cw*As*10^3)$ = 41.9 mm/h Eq 4.24

Period of Storage

Time to Fill:

Above ground (tf) = td*(1-0.92*PSD/Qa) Eq 4.27

Below ground pipe (tf) = td*(1-2*PSD/(3*Qa)) Eq 3.2

Below ground rect. tank (tf) = td*(1-2*PSD/(3*Qa)) Eq 3.2

Time to empty:

Above ground (te) = $(Vs+0.33*PSD^2*td/Qa*60/10^3)*(1.14/PSD)*(10^3/60)$ Eq 4.28

Below ground pipe (te) = $1.464/PSD*(Vs+0.333*PSD^2*td/Qa*60/10^3)*(10^3/60)$ Eq 4.32

Below ground rect. tank (te) = $2.653/PSD*(Vs+0.333*PSD^2*td/Qa*60/10^3)*(10^3/60)$ Eq 4.36

Storage period (Ps = tf + te) Eq 4.26

Type	td (mins)	Qa (L/s)	Vs (L/s)	tf (mins)	te (mins)	Ps (mins)
Above	7.0	1314.5	152.3	5.1	8.3	13.4
Pipe						
B/ground						

Table 3 - Period of Storage requirements for AEP of 1%

Orifice

Permissible site discharge (Qu=PSD) = 385.20 L/s (Above ground storage)

Orifice coefficient (CD) = 1 For sharp circular orifice

Gravitational acceration (g) = 9.81 m/s^2

Maximum storage depth above orifice (H) = 600 mm

Orifice flow (Q) = $CD*Ao*\sqrt{(2*g*H)}$

Therefore:

Orifice area (Ao) = 112269 mm^2

Orifice diameter ($D = \sqrt{(4*Ao/\pi)}$) = 378.1 mm

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Mr Simon Jordan
Project Manager

Hazell Bros Group Pty Ltd

Dear Simon,

TRAFFIC IMPACT STATEMENT FOR CONCRETE BATCH PLANT RELOCATION AT 1 & 13 CROOKED BILLET DRIVE, BRIDGEWATER

This traffic impact statement assesses the proposed access to 1 & 13 Crooked Billet Drive in terms of traffic engineering principles, the Tasmanian Planning Scheme – Brighton and Department of State Growth (DSG) guidelines:

- site inspection, review of sight distances and the speed environment,
- consideration of property access requirements,
- consideration of traffic safety for all road users.

1) Background

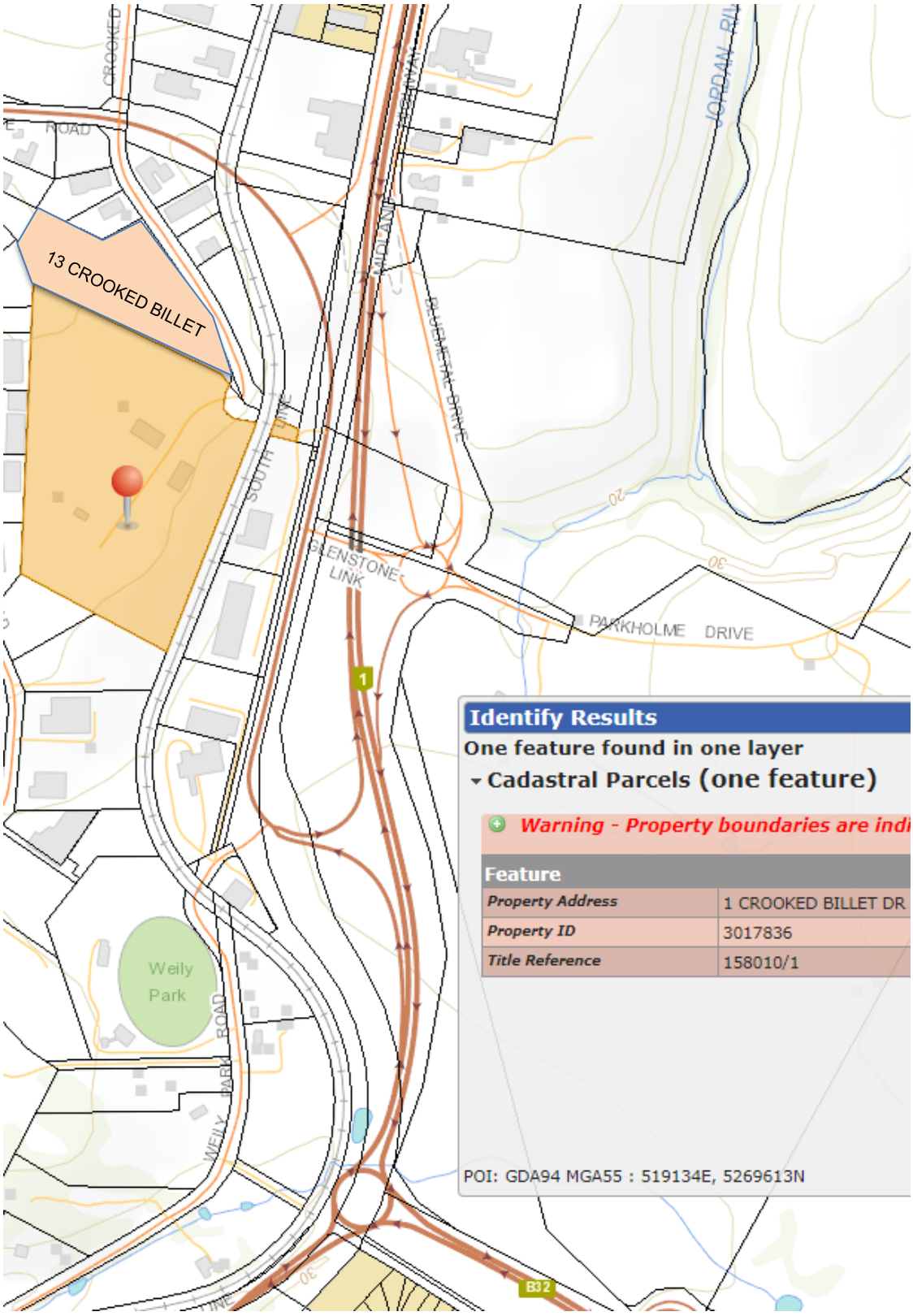
The proposal is to relocate the existing concrete batch plant.

The existing concrete batch plant operates as per DA2022 / 00210 which was issued 12th Oct 2022, see Appendix H.

2) Site Description

1 & 13 Crooked Billet Drive is located at the Southern end of the road some 350m South of the Glenstone Road intersection and 1km from the Glenstone Southern Interchange on the Midlands Highway, see Figure 1 and 2. The land is cleared with a large level hardstanding area situated on natural topography with some 3-5 % crossfall across the site. Access is to the property is via a 12m wide crossover and 32.5m diameter Cul-De-Sac at the Southern end of Crooked Billet Drive.

Figure 1- 1 & 13 Crooked Billet Drive, Bridgewater



Source: LISTmap

Figure 2 – Aerial view of 1 & 13 Crooked Billet Drive, Bridgewater

Source: LISTmap

3) Proposal

3.1 Description of Proposed Development

The proposal is to relocate the concrete batch plant some 80m West on the same title. Estimated production remains the same at 20,000m3 per annum. Figure 2 shows the existing plant layout.

Figure 3 shows the proposed plant location. See Appendix A for full site layout plans. Detailed Survey Plans are attached in Appendix G.

Raw materials truck traffic:

1,061 truck entry movements pa & 2,122 truck movements pa in total. See Appendix A.1.1.

This equates to 44 truck movements /week or **9 truck movements /day** (delivery and return) or 1 vph.

Concrete truck traffic:

Production rate of 20,000m3 pa i.e. 83m3/day

83m3 / 6m3 = 14 loads / day i.e. **28 agitator truck movements/ day** (delivery and return)

Load size affects traffic generation as per the following table.

Load Size	Loads	Trips	
(m3)	(day)	(day)	(hour)
6	14	28	4
3	28	56	8
1	83	166	24

Light traffic:

12 car parking spaces are provided to cater for:

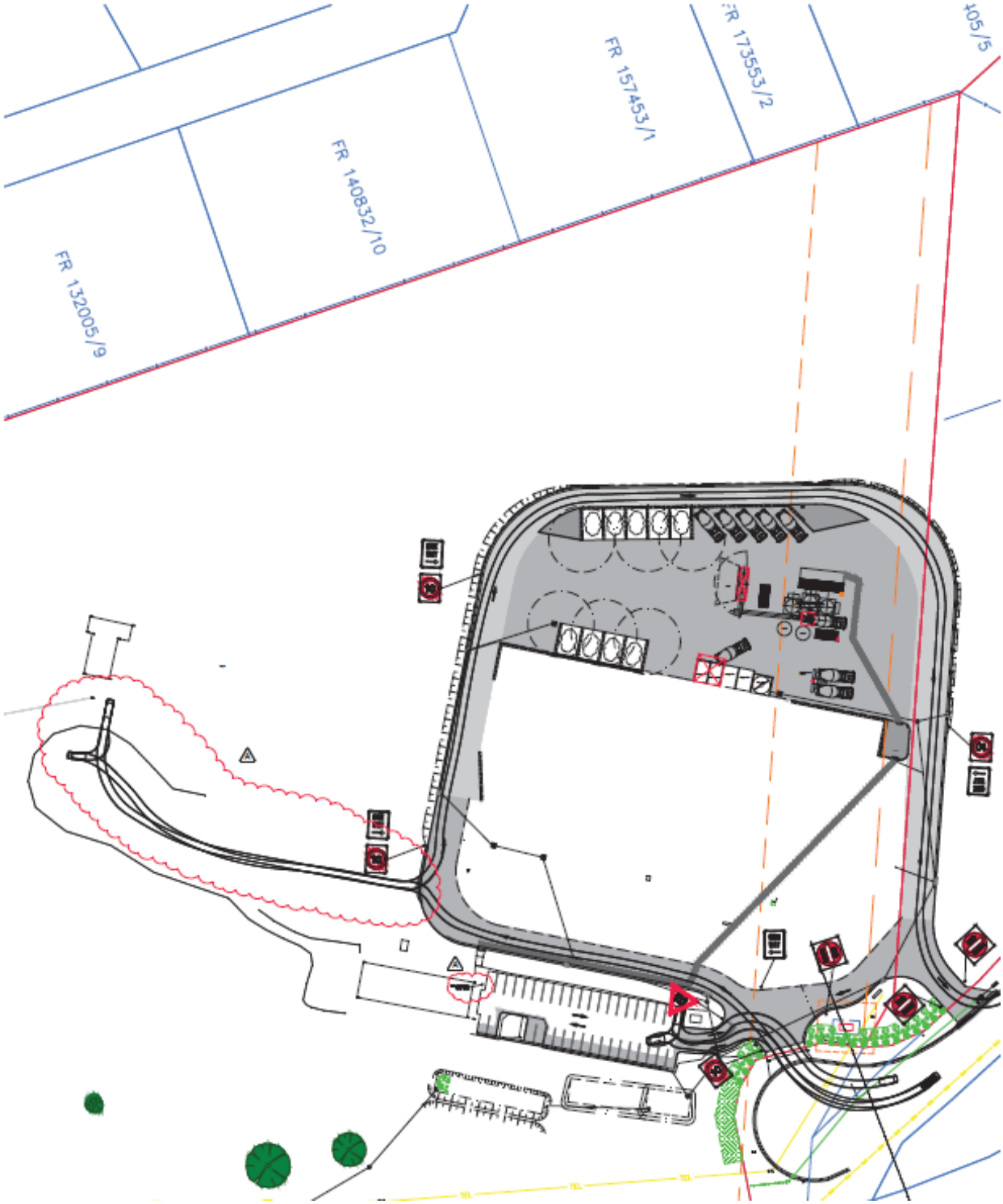
- 2 spaces for batch plant operators
- 6 spaces agitator truck drivers
- 4 spaces for visitors

Staff arrival & departure for 12 space car park i.e **24 movements / day**

Total traffic generation is estimated at:

- **61 vpd or 8 vph (6m3 average concrete loads) or**
- **199 vpd & 28 vph (1m3 average concrete loads).**

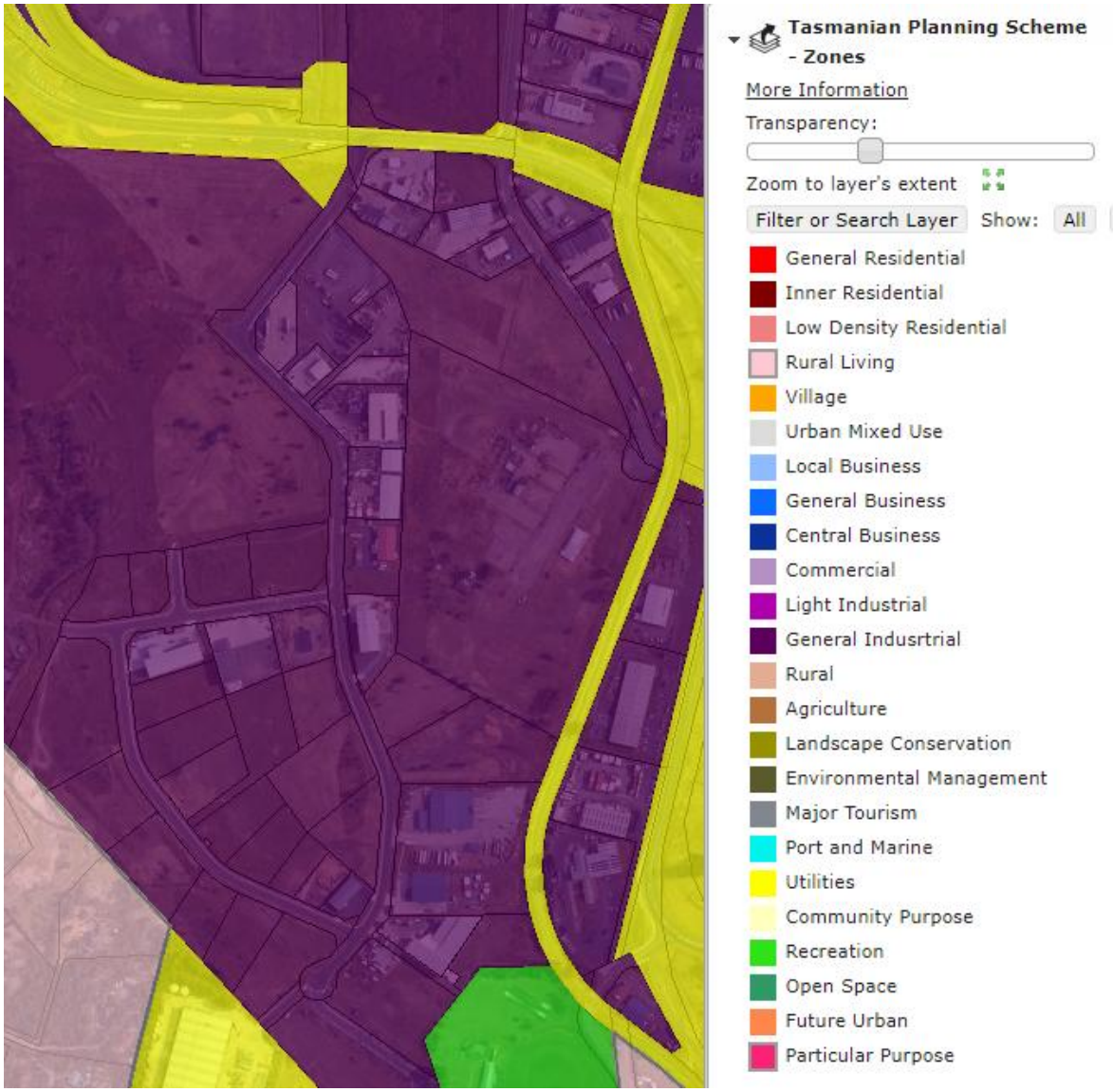
Figure 3 – Overall proposed concrete plant relocation



3.2 Tasmanian Planning Scheme – Brighton

Development site zoning for 1 & 13 Crooked Billet Dr is shown in Figure 4.

Figure 4 – 1 Crooked Billet Drive is zoned General Industrial



Source: LISTmap

3.3 Local Road Network Owner Objectives

Brighton Council's objectives are to maintain traffic safety and transport efficiency on the Council Road network.

3.4 State Road Network Owner Objectives

The Department of State Growth (DSG) objectives are to maintain traffic safety and transport efficiency on the State Road network.

4) Existing Conditions

4.1 Midlands Highway

Midlands Highway is a Category 1 Trunk Road in the State Road Hierarchy and part of the Tasmanian 26m B Double Network, see Appendix B. The speed limit is 110km/h, and the road is built to a Category 1 standard with 2m sealed shoulders, 2*3.6m traffic lanes in each direction with a 3m wide median and flexible barrier fence. The road is well delineated with street lighting, audible edge lines, lane lines, rrpms & guideposts. The Highway itself does not have footpaths, but pedestrian facilities are provided on the adjacent service roads.

4.2 Glenstone Road Interchanges

Glenstone Road access to the Midlands Hwy is available at Interchanges at the Northern and Southern end of the Brighton Transport Hub.

The Northern Glenstone Interchange, see Figure 5, is some 1.6km north of the Southern Glenstone Interchange and expected to attract the least of the traffic generated by the proposal.

Figure 5 – Glenstone Road Northern Interchange

Source: LISTmap

The Southern Glenstone Interchange, see Figure 6, is closest to 1 & 13 Crooked Billet Drive and expected to attract most of the traffic generated by the proposal.

Figure 6 – Glenstone Road Southern Interchange

Source: LISTmap

4.3 Glenstone Road

Glenstone Road is a Category 2 Freight Route in the State Road Hierarchy and part of the Tasmanian 26m B Double Network, see Appendix B. The speed limit is 60km/h, see Figure 7, and the road is built to a Category 2 standard with 1.5m sealed shoulders and 3.7m traffic lanes in each direction. The road is well delineated with a median turn lane and edge lines. The road has a footpath one side.

Figure 7 – Glenstone Road Southern approach to Crooked Billet Drive Intersection

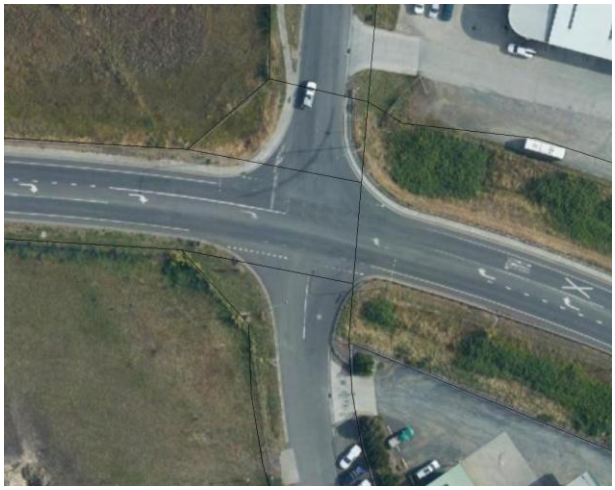
4.4 Crooked Billet Drive

Crooked Billet Drive is a sealed rural access road either side of Glenstone Road and a No Through Road to the North and South. Crooked Billet Drive is part of the Tasmanian 26m B Double Network, see Appendix B. The speed limit is 50km/h, and the road has a relatively straight alignment with a sealed width of 8m. There are no footpaths.

4.5 Glenstone Road / Crooked Billet Drive intersection

The Glenstone Road / Crooked Billet Drive intersection and approaches are shown in Figure 8. Glenstone Road has right turn lanes for accessing Crooked Billet Drive.

Figure 8 – Aerial view of Glenstone Rd / Crooked Billet Dr int.



Source: LISTmap

4.6 Lot 1 - 1 Crooked Billet Drive Access

Figures 9 - 14 show the access alignment and approaches.

Figure 9 – Aerial view of the access to 1 & 13 Crooked Billet Drive

Source: LISTmap

Figure 10 – Elevation of access to 1 & 13 Crooked Billet Drive

Figure 11 – Approach to 1 & 13 Crooked Billet Drive

Figure 12 – Looking left along Crooked Billet Dr from access

Sight distance left is 80m.

Figure 13 – Access approach to Crooked Billet Drive

Figure 14 – Access approach to Crooked Billet Drive

4.7 Traffic Activity

Traffic activity levels are summarised as follows:

- Midlands Highway estimated AADT at Glenstone Road is 24,740 vpd (2021), see Appendix C. Capacity of this road is > 60,000 vpd.
- Glenstone Road estimated AADT near Crooked Billet Drive is 3,373 vpd (2021), see Appendix C. Capacity of this road is 20,000 vpd.
- Crooked Billet Drive (South) estimated AADT is 145 vpd (2022), see Appendix D. Capacity of this road is > 5,000 vpd.

4.8 5 Year Reported Crash History

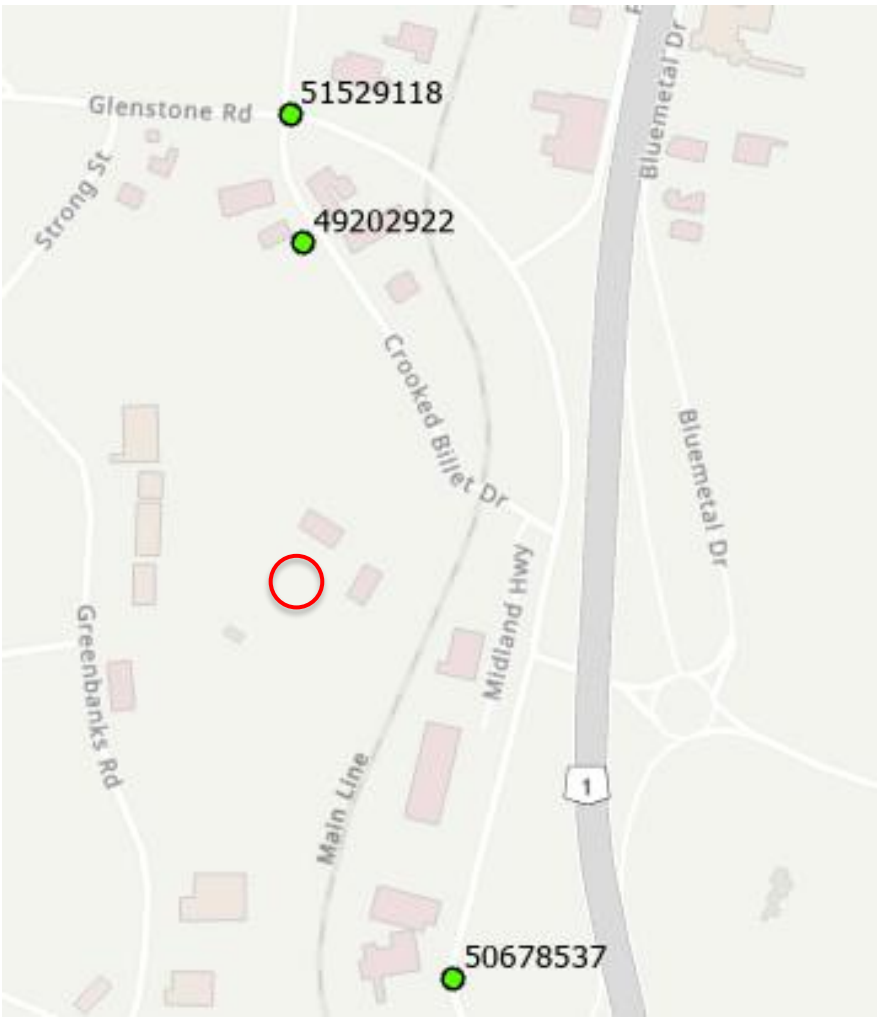
The 5 Year reported crash history indicates a property damage only crash at the Glenstone Road / Crooked Billet Drive intersection and a property damage only crash off road from Crooked Billet Drive, see Figures 15 and 16. The reported crash history does not indicate a crash propensity in the area or in the vicinity of the existing access to 1 Crooked Billet Drive.

Figure 15 – Crooked Billett Drive 5 Year Reported Crash History

Crash ID	Description	Date	Time	Severity	Light	Speed Limit	Location	Units
49202922	144 - Parking vehicles only	16-Apr-2018	13:00	PDO	Day	50	Off Crooked Billet Drive	HV & LV
50678537	184 - Out of control on carriageway	12-Jun-2020	17:20	PDO	Night	60	Glenstone Road	LV
51529118	n/a	22-Jan-2022	06:40	PDO	Day	60	Glenstone Rd. / Crooked Billet Dr. Int.	LV & HV

PDO	Property Damage Only
LV	Light Vehicle
HV	Heavy Vehicle

Figure 16 – Crooked Billet Drive 5 Year Reported Crash Locations



4.9 Road Safety Review

No road safety issues were identified with:

- Glenstone Road approaches to Crooked Billet Drive intersection.
- Crooked Billet Drive approaches to 1 & 13 Crooked Billet Drive.

From Austroads Safe System Assessment of the Glenstone Road approaches to Crooked Billet Drive (South):

- Crash exposure is very low as traffic activity is low estimated at some 3,400vpd (2022) and there is minimal vulnerable road user activity.

- Crash likelihood is low as the road is relatively straight and suitable width for heavy commercial vehicle use with adequate sight distance with right turn lanes provided.
- Crash severity is low as the estimated speed environment is 60km/h.

Consistent with Austroads Safe System Assessment methodology crash risk at the Glenstone Road / Crooked Billet Drive intersection is very low.

4.10 Sight Distance Review

The sight distance is summarised in Figure 17, also see Figure 12.

Figure 17 – Sight Distance Summary

Junction	Speed		Road frontage sight distance			
Major Rd - Minor Rd	Limit	Environment	Austroads	Available		AS/NZS 2890.1 SSD*
	(km/h)	(km/h)	SISD (m)	Left(m)	Right(m)	
Glenstone - Crooked Billet	60	60	123	150	150	65
Access to #1 Crooked Billet	50	40	73	80		35

Austroads SISD Compliant

Safe Intersection Sight Distance	**SISD**
Stopping Sight Distance	**SSD**

4.11 Access Standard

Rural accesses on Council roads should comply with LGAT Standard Drawings for Rural Property Accesses, TSD-R04 & TSD-R05, see online at:

https://www.lgat.tas.gov.au/__data/assets/pdf_file/0027/813735/Tasmanian-Municipal-Standards-Drawings-v3-December-20202.pdf

The existing access satisfies the above standards.

5) Traffic Generation and Assignment

5.1 Traffic Growth

Estimated compound annual traffic growth on Crooked Billet Drive is 0%.

5.2 Trip Generation

<u>Existing</u> Operation at current location (average 6m3 loads):

Raw materials truck traffic:

1,166 truck entry movements pa & 2,332 truck movements pa in total. See Appendix A.1.1.

This equates to 49 truck movements/week or**10 truck movements /day** (delivery and return)

Concrete truck traffic:

Production rate of 20,000m3 pa i.e. 83m3/day

83m3 / 6m3 = 14 loads / day i.e. **28 agitator truck movements/ day**

(delivery and return)

Light traffic:

12 car parking spaces are provided to cater for:

- 2 spaces for batch plant operators
- 6 spaces agitator truck drivers
- 4 spaces for visitors

Staff arrival & departure for 12 space car park i.e **24 movements / day**

Total traffic generation is estimated at 62 vpd or 8 vph

<u>Proposed</u> Operation- plant relocated West (1m3 average loads):

Concrete truck traffic:

See section 3.1 for details.

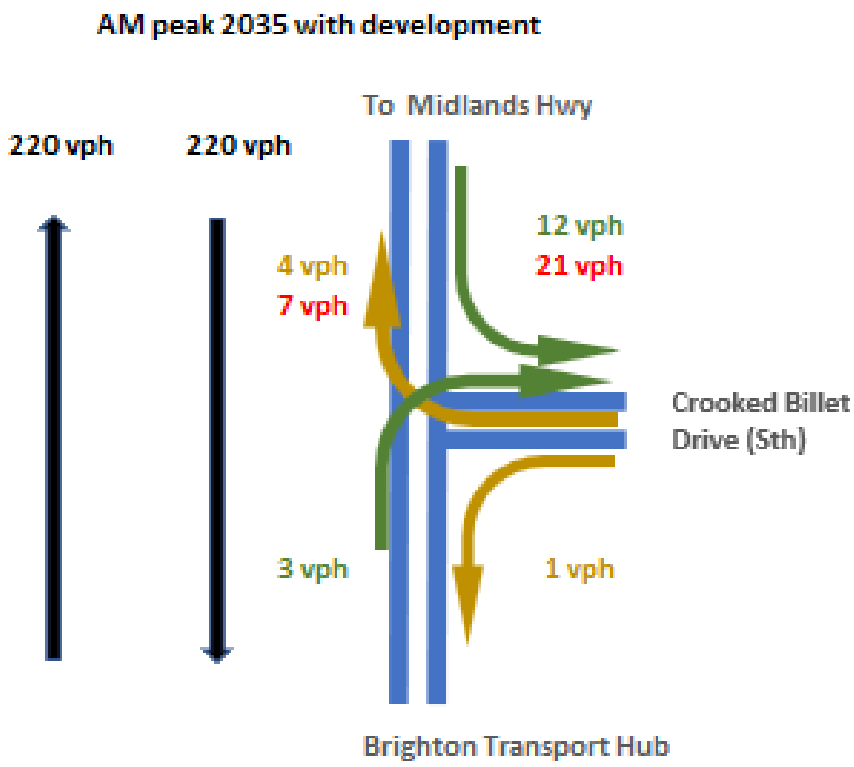
In total the estimated concrete plant traffic is:

- **61 vpd or 8 vph (6m3 average concrete loads) or**
- **199 vpd & 28 vph (1m3 average concrete loads).**

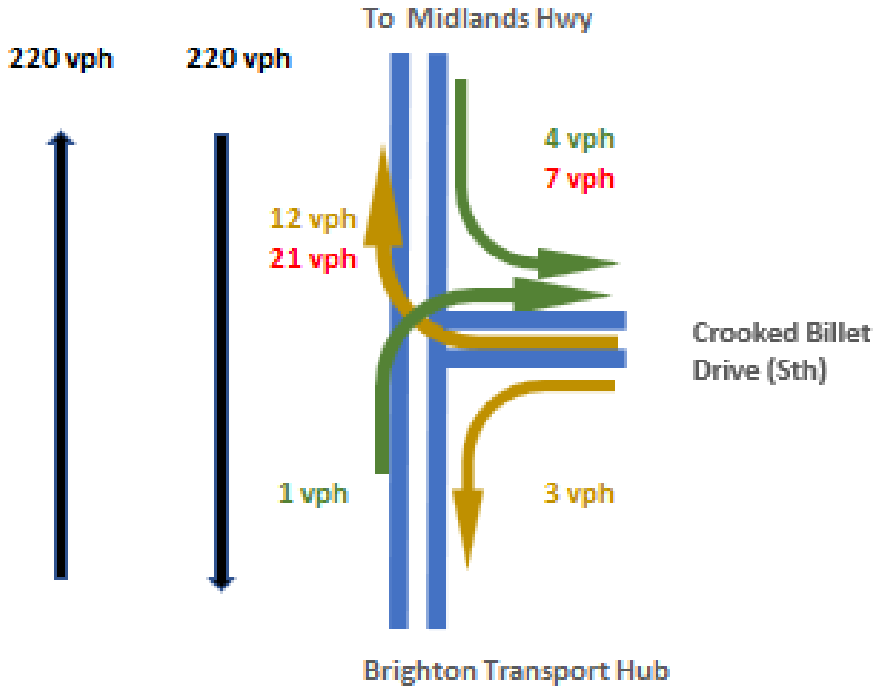
5.3 Trip Assignment

Crooked Billet Drive is a No Through Road and located North of the Bridgewater Bridge construction site. Accordingly, it is assumed most of the traffic generated by the proposal would have origin and destination South of the closest interchange, the Glenstone Southern Interchange. See Figure 18 for projected traffic assignment at the Glenstone Road / Crooked Billet Drive junction.

Figure 18 – Trip Assignment for 2035

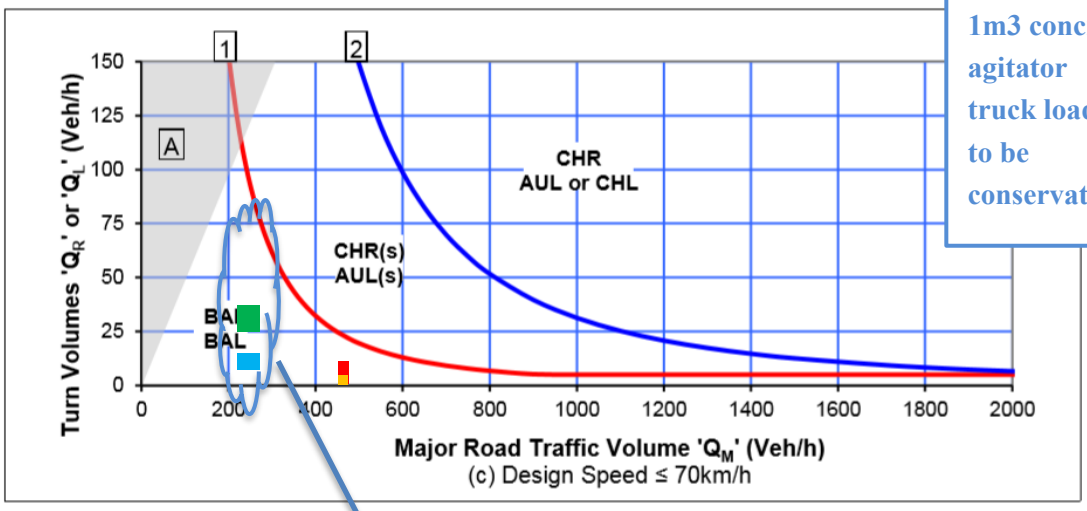


Due to concrete plant



5.4 Austroads junction warrant

Figure 19 – Austroads junction warrant for 2035



Based on 1m3 concrete agitator truck loads to be conservative.

Peak Hour Movement Summary(vph)		
AM	Turns	TEF
Left In	33	220
Right In	3	473

Peak Hour Movement Summary(vph)		
PM	Turns	TEF
Left In	11	220
Right In	1	451

Sensitivity Analysis:

The critical turning movement at the Glenstone Rd / Crooked Billet Dr junction in terms of Austroads junction layout requirements is the impact of the proposal on the Left turn into Crooked Billet Dr.

Figure 20 demonstrates that even if left turn movements to Crooked Billet Dr double, the existing BAL facility for left turners is adequate.

This means there is ample capacity for concrete agitator trucks to operate with small loads (<< 1m3)

Figure 19 indicates that technically 2035 traffic activity meets the warrant for an Austroads BAR junction layout. However, the existing junction is already channelised with a CHR(s) layout, so no changes are required.

The impacted roads are part of the Brighton Transport Hub, developed to cater for the high productivity vehicles & transport efficiency.

The Glenstone Road Interchanges, Glenstone Road / Crooked Billet Road intersection and Crooked Billet Drive are all able to cope with the estimated 6 vph due to the proposal. Intersection analysis is not required to demonstrate this as proposed and current traffic activity levels on these roads are low and these roads operate at Level of Service A. See Appendix E for Level of Service definitions.

6) Tasmanian Planning Scheme – Brighton

Parking and Sustainable Transport Code C2

C2.5.1 Car parking numbers

Acceptable Solution A1: *The number of on-site car parking spaces must be no less than the number specified in Table C2.1, excluding if:*

(a) The site is subject to a parking plan for the area adopted by Council, in which case parking provision (spaces or cash in lieu) must be in accordance with that plan,

(b) The site is contained within a parking precinct plan and subject to Clause C2.7,

(c) The site is subject to Clause C2.5.5; or

(d) It relates to an intensification of an existing use or development or a change of use where:

i. The number of onsite car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional onsite car parking is required; or

ii. The number of onsite car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:

Existing parking remains. **A1 is satisfied.**

C2.5.2 Bicycle parking numbers

Acceptable Solution A1: Bicycle parking spaces must:

(a) *Be provided on the site pr within 50m of the site and*

(b) *Be no less than the number specified in Table C2.1.*

From Table C2.1 t From Table C2.1 Manufacturing and Processing requirement is 1 space per 5 employees. The proposal envisages 4 employees equating to a requirement for one bicycle parking space. A bicycle parking area is provided, see Appendix A.1.2.

A1 is satisfied.

C2.5.3 Motorcycle parking numbers

Acceptable Solution A1: *The number of on-site motorcycle parking spaces for all uses must:*

(a) Be no less no less than the number specified in Table C2.4. and

(b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained.

Table C2.4 requires no motorcycle parking space where there are 0 - 20 car parking spaces. 12 car parking spaces are provided so no motorcycle space is required. **A1 is satisfied.**

C2.5.4 Loading Bays

Acceptable Solution A1

A loading bay must be provided for uses with a floor area of more than 1000m2 in a single occupancy.

Not applicable as the proposal does not have any buildings with GFA of more than 1000 m2.

C2.6.1 Construction of parking areas

Acceptable Solution A1: *All parking, access ways, manoeuvring and circulation spaces must:*

(a) be constructed with a durable all-weather pavement,

(b) be drained to the public stormwater system, or contain stormwater on the site; and

(c) excluding all uses in the Rural Zone, Agricultural Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Public Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.

An unsealed permeable crushed rock pavement is proposed for the hardstand and parking areas which is fit for purpose for batch plant operations in a General Industrial setting. The paved areas will be drained to the existing stormwater system. **A1 is satisfied.**

C2.6.2 Design and layout of parking areas

Acceptable Solution A1.1: *Parking, accessways, manoeuvring and circulation spaces must All parking, access ways, manoeuvring and circulation spaces must either:*

(a) comply with the following:

i. *have a gradient in accordance with Australian Standard AS 2890 Parking facilities, Parts 1-6.* Satisfied with longitudinal slopes < 25% and crossfall slopes < 5%.

ii. *Provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces.* Satisfied

iii. *Have an access width not less* than the requirements in Table C2.2. Proposal exceeds driveway width specified. The driveway is some 25m wide in total catering for separate heavy and light vehicle movements. The heavy vehicles include triaxle semitrailers delivering materials to the site. The proposal satisfies Table C2.2 requirement. See Appendix A Turn templates demonstrating adequate width for require movements entering and exiting the site.

iv. *Have car parking space dimensions which satisfy the requirements in Table C2.3.*

Proposed car parking spaces comply with Table C2.3 being at least 2.6m wide by 5.4m long, see Figure 20.

Figure 20 – Proposed car parking spaces

v. *Have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces.*
Proposed car parking has 6.6m of manoeuvring width, see Figure 21.

vi. *Have a vertical clearance of not less than 2.1 metres above the parking surface level,* Satisfied.

vii. *Excluding single dwelling, be delineated by line marking or physical means*. Delineation of parking spaces to be provided with timber edging painted white. Satisfied.

(b) Comply with Australian Stand. AS 2890 Parking facilities, Parts 1-6. Satisfied.

A1.1 is satisfied.

Acceptable Solution A1.2: *Parking spaces provided for use by persons with a disability must satisfy the following:*

(a) Be located as close as practical to the main entry point to the building.

(b) be incorporated into the overall car park design.

(c) *be designed and constructed in accordance with Australian/ New Zealand Standard AS/NZS 2890.6-2009 Parking facilities - Off-street parking for people with disabilities.*

Not applicable for the proposed use.

C2.6.3 Number of accesses for vehicles

Acceptable Solution A1

The number of accesses provided for each frontage must:

(a) be no more that 1; or

(b) no more than the existing number of accesses whichever is greater.

A specifically designed driveway is proposed providing separation for light and heavy vehicles, see Figure 3.4. **A1 is technically not satisfied.**

Performance Criteria P1

The number of accesses provided for each frontage must minimise, having regard to:

(a) any loss of on-street parking; and

(b) pedestrian safety and amenity

(c) traffic safety

(d) residential amenity on adjoining land; and

(e) the impact on the streetscape.

On-street parking, pedestrian safety & amenity are not affected.

The proposal is considered safe and physically separates light and heavy vehicle access, see Figure 3.4.

Residential amenity is not affected and there is not impact on the streetscape. **P1 is satisfied.**

C2.6.5 Pedestrian access

Acceptable Solution A1.1: *Uses that require 10 or more car parking spaces must:*

(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing accessways or parking aisles, by:

i. *a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or*

ii. *protective devices such as bollards, guardrails or planters between the footpath and the access way or parking aisle; and*

(b) be signed & line marked where pedestrians cross access ways or parking aisles.

Though the proposal includes provision of a 39-space car park for visitors, only 6 car parking spaces are required for staff parking, accordingly no footpath is required or proposed. **A1.1 is satisfied.**

Acceptable Solution A1.2: *In parking areas containing accessible car parking spaces for uses by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.*

Not applicable for the proposed use.

Road and Railway Assets Code C3

C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

Acceptable Solution A1.1 – **Not applicable** as the roads under consideration are not Category 1.

Acceptable Solution A1.2 *– For a road, excluding a Category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority.*

Not applicable as an existing access is proposed.

***Acceptable Solution A1.3* – Not applicable** as no rail network is involved.

Acceptable solution A1.4: *Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing will not increase by more than:*

(a) The amounts in Table C3.1
(b) Allowed by a licence issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road; and

The proposal does not simply relocate the concrete batch plant as there is a possible change in customer demand from 6m3 to 1m3 loads. **i.e**

- **from 62 vpd / 8 vph**
- **to 199 vpd / 28 vph**

A1.4 is not satisfied as proposal involves estimated potential increase change in traffic of up to 137 vpd / 20 vph. This increase is greater than 10 vph for a major road, see Table C3.1 as Glenstone Road is a major road. The 137 vpd increase is considered very conservative with concrete agitator truck loads averaging 1m3.

Performance Criteria P1: *Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:*

(a) any increase in traffic caused by the use.

The increase in traffic due to the proposal of 137 vpd is easily absorbed by the adjacent road network. The Glenstone Road / Crooked Billet Drive junction has adequate capacity to cope with the estimated traffic.

(b) the nature of the traffic generated by the use.

The proposed carpark will generate low speed light vehicular traffic. The proposed access is considered suitable for this traffic activity.

(c) the nature of the road.

Crooked Billet Drive is designed for General Industrial access and suitable for concrete agitator truck, asphalt delivery trucks and staff car use.

(d) the speed limit and traffic flow of the road.

Crooked Billet Drive has a 50km/h speed limit considered suitable for safe and efficient operation of the proposed access.

(e) any alternative access to a road.

There is no viable alternative access.

(f) the need for the use.

The use is justified on commercial business operation grounds and to meet customer access needs.

(g) any traffic impact assessment; and

This TIA finds no reason to disallow the proposal due to traffic impacts.

(h) any advice received from the rail or road authority.

No advice on acceptability of the proposal has been received from Council.

In summary the proposal is not expected to have any adverse effects on adjacent road network. **P1 is satisfied.**

Acceptable Solution A1.5: *Vehicular traffic must be able to enter and leave a major road in a forward direction.*

A1.5 is satisfied.

C3.6.1 Habitable buildings for sensitive uses within a road or railway attenuation area

Not applicable as the proposal does not involve construction within a road or railway attenuation area.

C3.7.1 Subdivision for sensitive uses within a road or railway attenuation area

Not applicable as no subdivision is proposed.

7) Impacts on the environment and road users

The proposed additional access will have negligible impact on road users provided the recommendations are implemented.

7.1 Environment

- No adverse environmental impacts are anticipated in terms of:
    - Noise, vibration, visual impact and residential amenity
    - Ecological Impacts, Heritage and Conservation
- Street lighting is not required.

7.2 Road users

- Public Transport - No impact.
- Delivery Vehicles - No impact.
- Pedestrians and Cyclists - No impact.

8) Recommendations and Conclusions

This traffic impact statement has been prepared to assess the relocated concrete batch plant at 1 Crooked Billet Drive, Bridgewater. Estimated production is 20,000m3pa of concrete, generating an estimated 199 vpd or 28 vph which represents a 137 vpd or 20 vph increase in traffic due to change in customer load size from typically 6m3 to 1m3.

Existing road conditions have been reviewed including traffic safety, crash risk, the speed environment and available sight distances.

It is assessed that the proposal will have minimal impact on traffic safety and capacity for all road users and the existing access location is safe and appropriate.

The roads exposed to the proposal are part of the Brighton Transport Hub, developed to cater for the high productivity vehicles and transport efficiency.

The Glenstone Road Interchanges, Glenstone Road / Crooked Billet Road intersection and Crooked Billet Drive are all able to cope with the expected increase in traffic of up to 20vph. Intersection analysis is not required to demonstrate this as proposed and current traffic activity levels on these roads are low and these roads operate at Level of Service A.

Evidence is provided that the proposal satisfies the Tasmanian Planning Scheme – Brighton - Parking & Sustainable Transport Code C2 and Road & Railway Assets Code C3.

Recommendations:

- *There are no recommendations.*

Overall, it has been concluded that the proposal will not create any traffic issues and traffic will continue to operate safely and efficiently along Glenstone Road and Crooked Billet Drive (Sth). Based on the findings of this report and subject to the recommendations above, the proposal is supported on traffic grounds.

9) Assessor Credentials

Richard Burk is a qualified Traffic and Civil Engineer with over 38 years of experience with State and Local Government in the Roads and Traffic industry in Tasmania. Visit www.trafficandcivil.com.au .

Yours sincerely

Richard Burk

Director
Traffic and Civil Services
M: 0456 535 746
P: 03 63341868
E: Richard.burk@trafficandcivil.com.au

Appendices:

Appendix A – Proposed plant plans and operational details

Appendix B – Tasmanian 26m B Double Network

Appendix C – Traffic Data

Appendix D – Crooked Billet Dr (Sth) AADT

Appendix E – Level of Service Descriptions

Appendix F – Plan of Subdivision

Appendix G – Detail Survey Plan

Appendix H – Development Permit 2022 / 00210

Appendix A – Proposed plant plans and operational details

Appendix A.1 – Concrete Batch Plant

Appendix A.1.1 – Prop. Concrete Operation

1/13 Crooked Billet Drive Bridg Proposed DRY Batching Plant Operational Quantities

Legal Entity Hazell Bros. Concrete PTY LTD, 14 Farley Street, Moonah, 7009, ABN: 56 118 390 800

Last Updated 12/05/2025

Requirements	*Capability / Capacity*	*Comments*
Production Rate	60m3 / hour- Maximum	Maximum 60m3 per hour mixing 32MPa Mix
	Average 9 loads per hour, maximum 10 loa	Under full production days only
Operating Hours	Monday - Sunday 24 hrs per day	Required to meet customer or project specific requirements, General operations are Monday to Friday 5am-3pm- General Clients
Average Working Day	10hours	Work load dependant
Normal working hours	5am - 3pm	Work load dependant
Batch Size	Average Batch size 5.4m3	Maximum 7.8m3
Mixing Technology	Dry Mixing Operation	
Quality Standard	AS1379- Specification and supply of concrete	
Aggregate Storage	External stockpiles made of concrete block bay walls with concrete hardstand foundation- Each stockpile fitted with automated dust suppression sprinklers	
Aggregate Management	Front End Loader fed load bins from stockpiles	
Front End Loader (FEL) Type and Size	Hyundai 760-9	
Cementitious Material Storage	3x100m3 Vertical silos	
Admixtures- Liquid	8x Sikka admixtures	Stored in 40" self bunded container
Solid Additives	Colour oxides and fibres- Bags	Undercover loading stand
Slumping	Dual Lane drive through- drop down platfor	2 x Agitator slumping stand and concrete hard stand
Loading	2 x load weigh bins- 1 conveyor	Load bins with Covered Hood and Dust suppression

Loading Bay	Fully covered with automated dust suppression misting system	Automated dust supression system is activated when conveyor belt starts in readiness for batching	
Concrete Temperature Control	Cold Potable water only		
Water Supply			
Water Storage	Inground recycled stirrer tank	5mx5mx3.5m 87.5m3 or 87,500 litres	
	2 x 22,000litre Fresh water surge tanks		
Fresh Water	Mains potable for fresh water 50mm conne	50mm Main top up of 22,000 litre water tank	
	Dust Suppression	second 22,000 litre water tank used as surge tank for dust control measures	
Recycled Water	Recycled collected from site run off- captured in wedge pits for sediment separation- then water stored in 87,500 litre stirrer tank for re use in concrete		
Agitator- Trucks	4 x twin drive twin steer and 1 x Tri axle drive twin steer		
Operating Control System	U-batch	Automated batching software	
Batch Office	6x3.0 metres		
Crib room office/ toilet	12x3.0metres		
Ticketing	U Batch	Linked to batching software	
Power Supply	Mains supply via new 2MVA transformer	Underground mains supply to (MCC)- Motor Control Centre	
Sewer			
Communications	WIFI and UHF		
Accommodation	2 Operational Staff and 5 x Agitator drivers	Part time Supervisor/ Manager	
Car Parking	8 spots	Main carpark for site- Existing	
Agitator Truck Parking	5		
		Annual volume	
Traffic Flow	20,000m3	20,000m3	
	Incoming Raw Aggregate/ Sand Deliveries	82%- 16,400m3 * 2.1Tonne/m3 = 34,440 tonnes	
	Incoming Cementitious Deliveries	12%- 2,400m3 * 1.44 Tonne/m3= 3,456 tonnes	
	Incoming Admixtures	0.05%- 10m3 or 10,000 litres	
	Water Mix of Potable and recycled	5%- 100m3 or 1,000,000 litres	

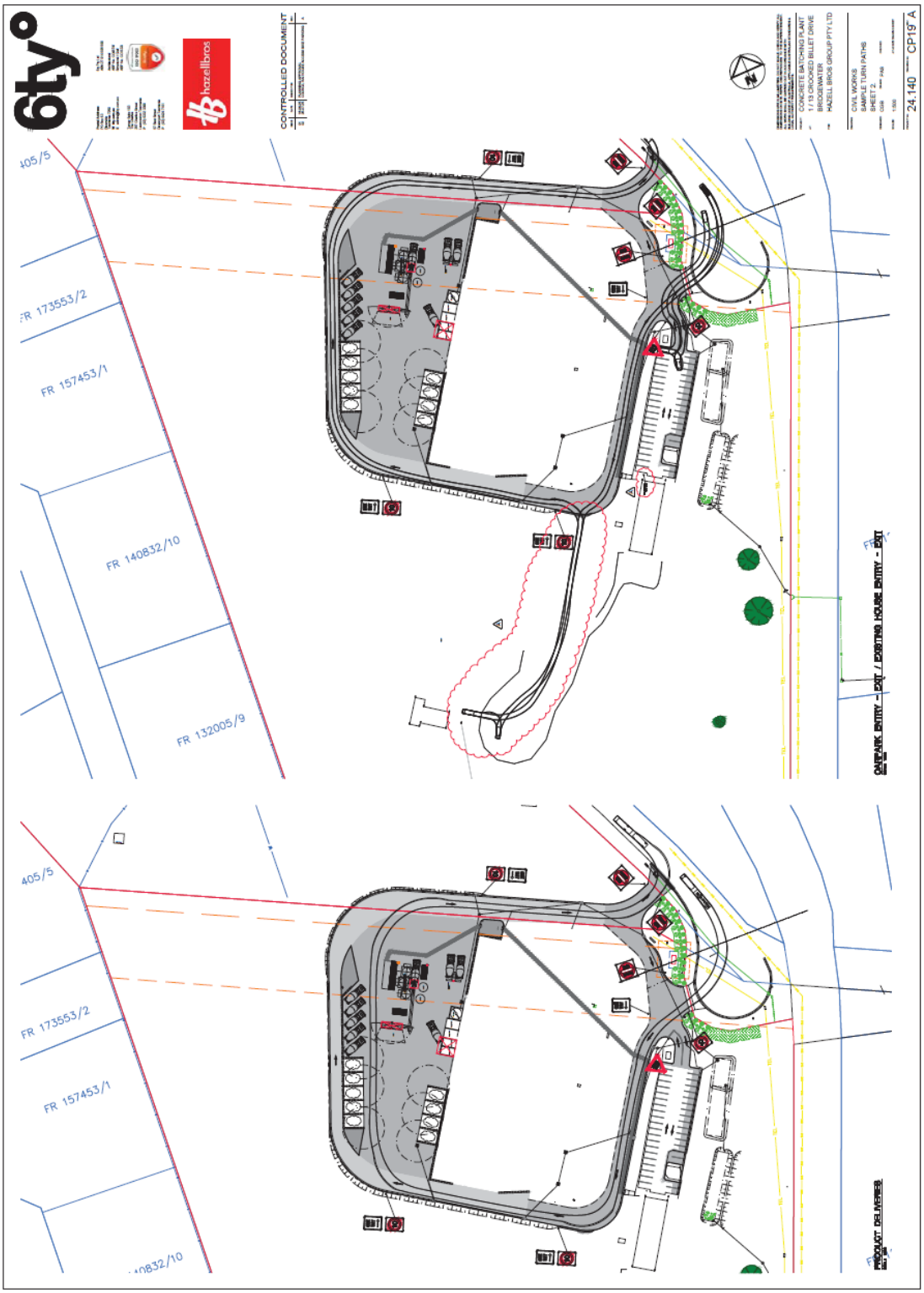
Trucking

36tn truck and trailer	34440/36	957 truck and trailer deliveries PA
35tn average	3456/35	99 Tanker Deliveries PA
2,000 litre deliveries		5 Deliveries PA
Mains supply		

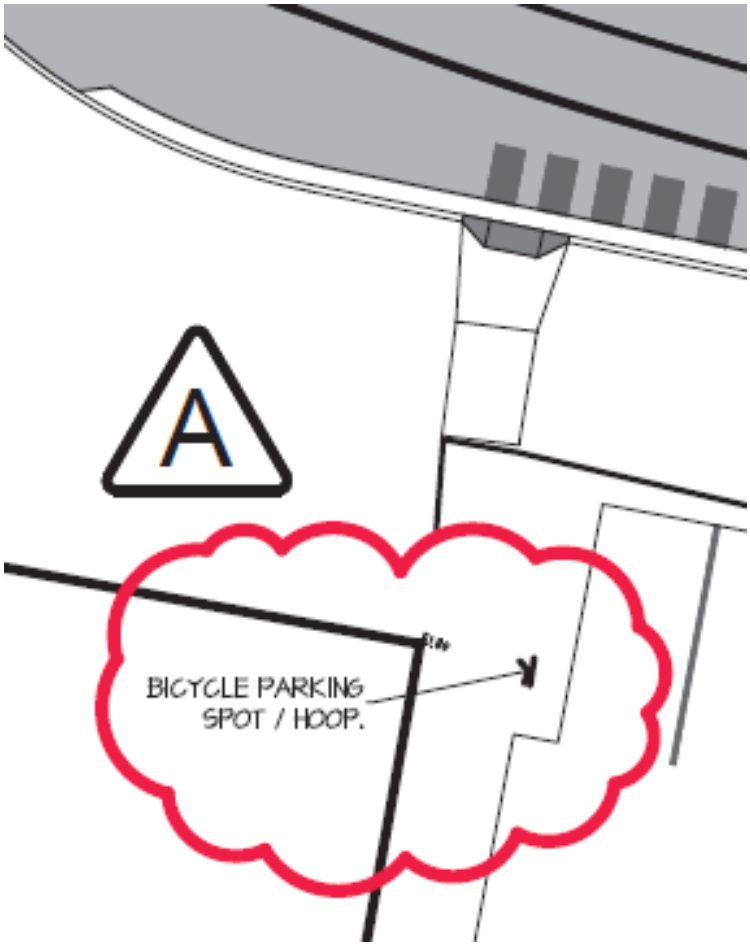
Total of 1061 truck deliveries

Appendix A.1.2 – Prop. Concrete Plant Layout

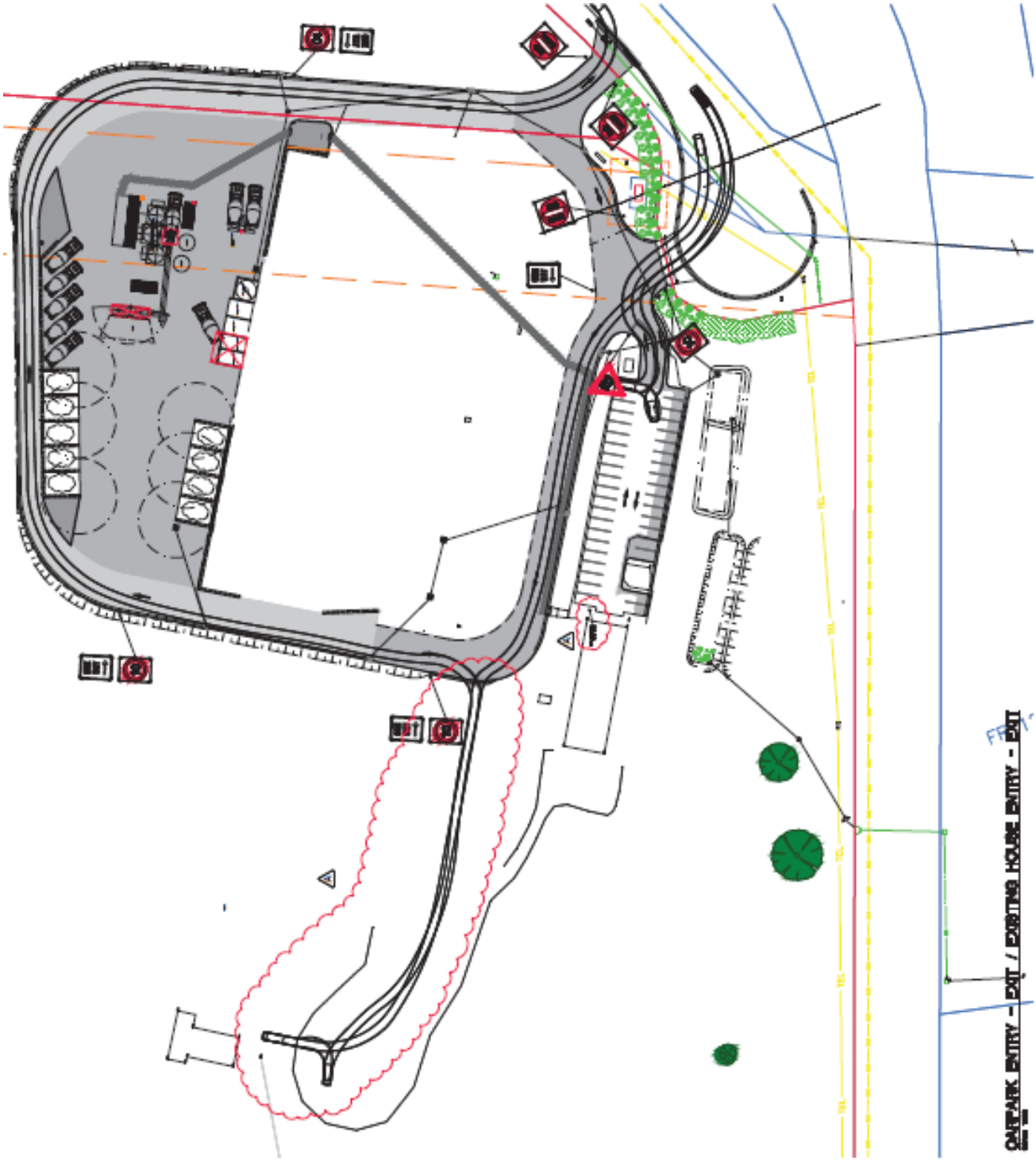
Overall Plan



Extract from Bicycle Parking Plan



Carpark Entry - extract



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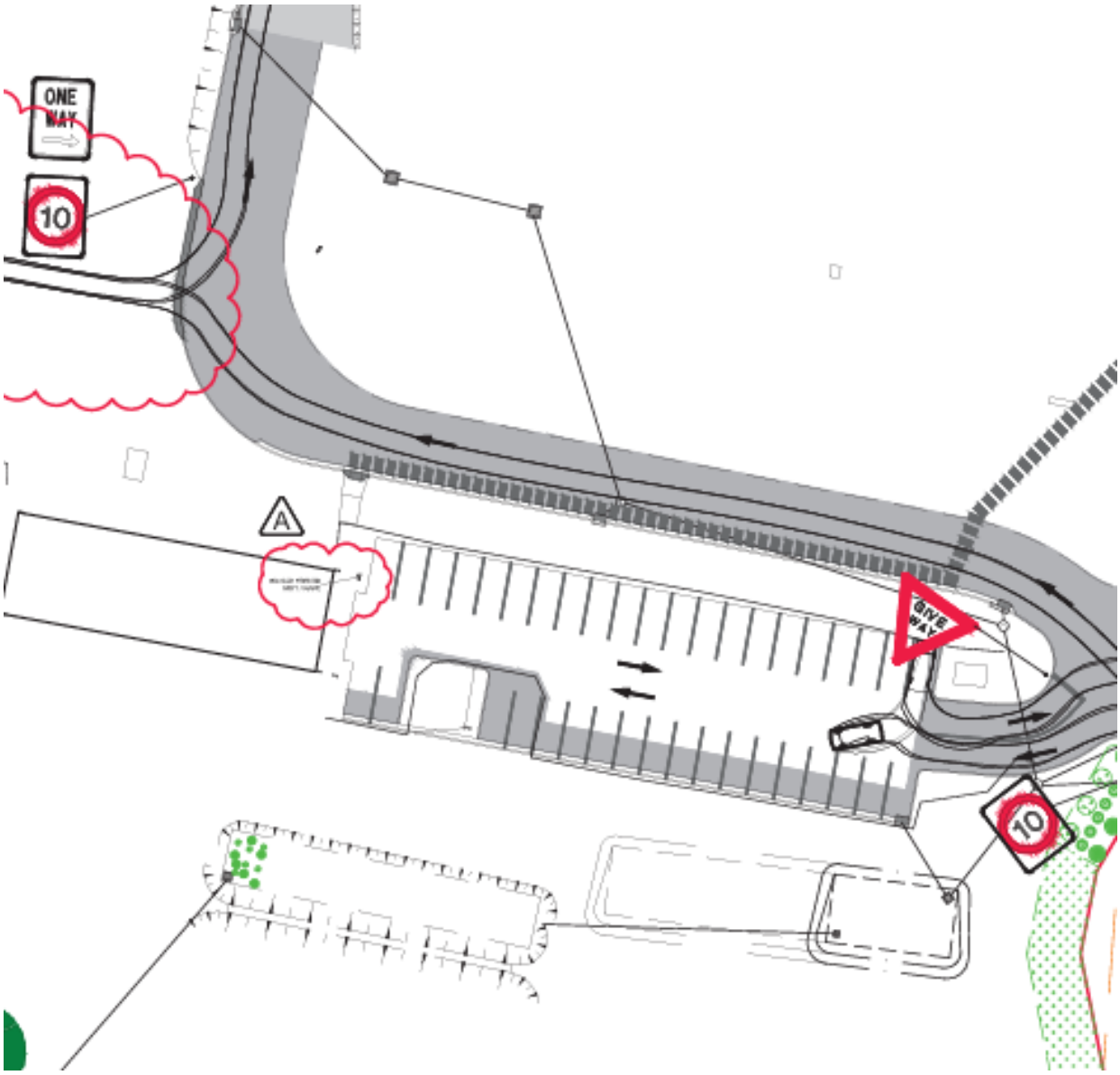
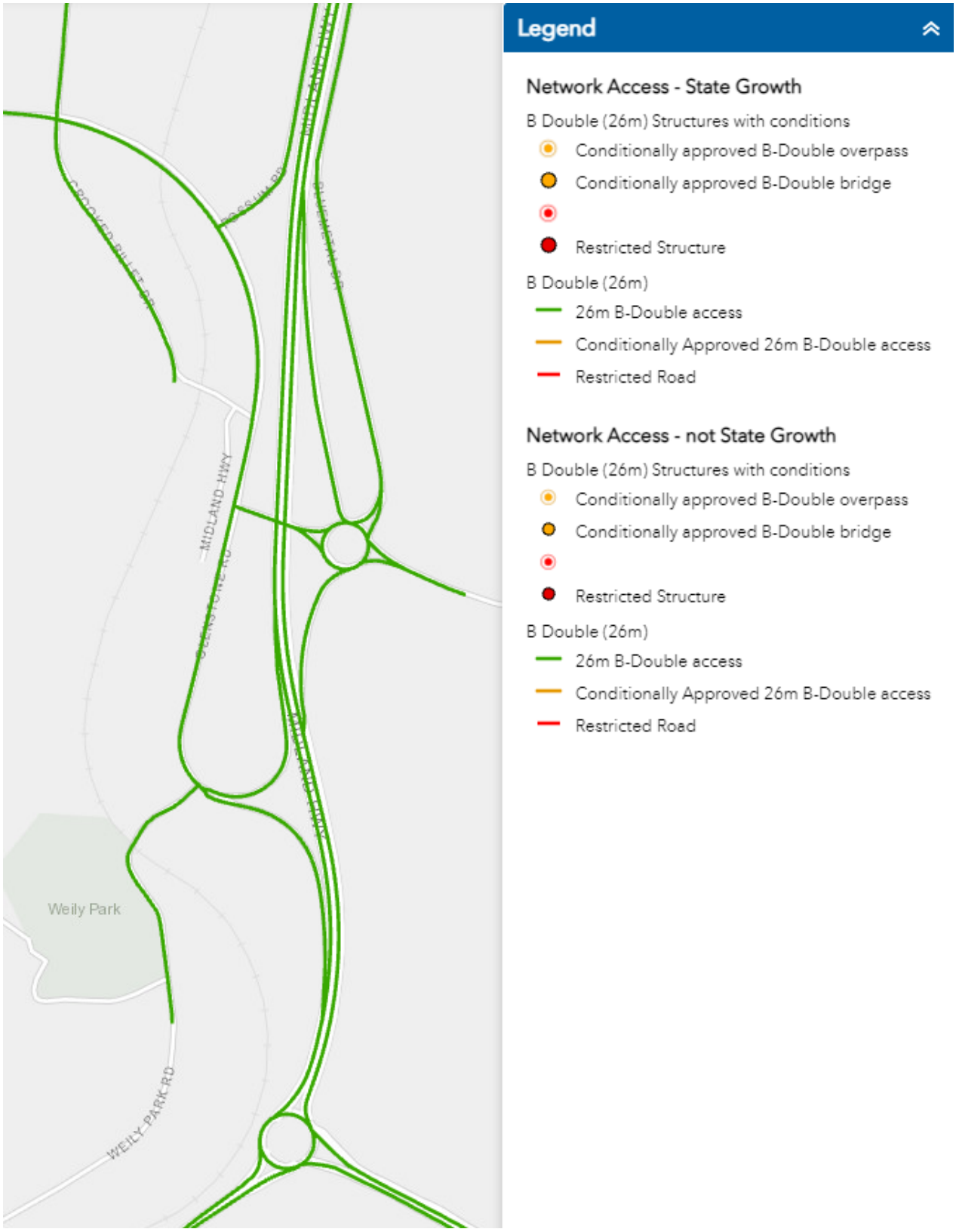


Appendix B – Tas. 26m B Double Network



Appendix C – Traffic Data

Midlands Highway AADT

Site 0000A0087201

A0087201
Description: Midland Highway 440m N Of East Derwent Hwy [UTS L14/ 2.22 - 4.57]
City: Bridgewater
Route number: A0087

Site Data

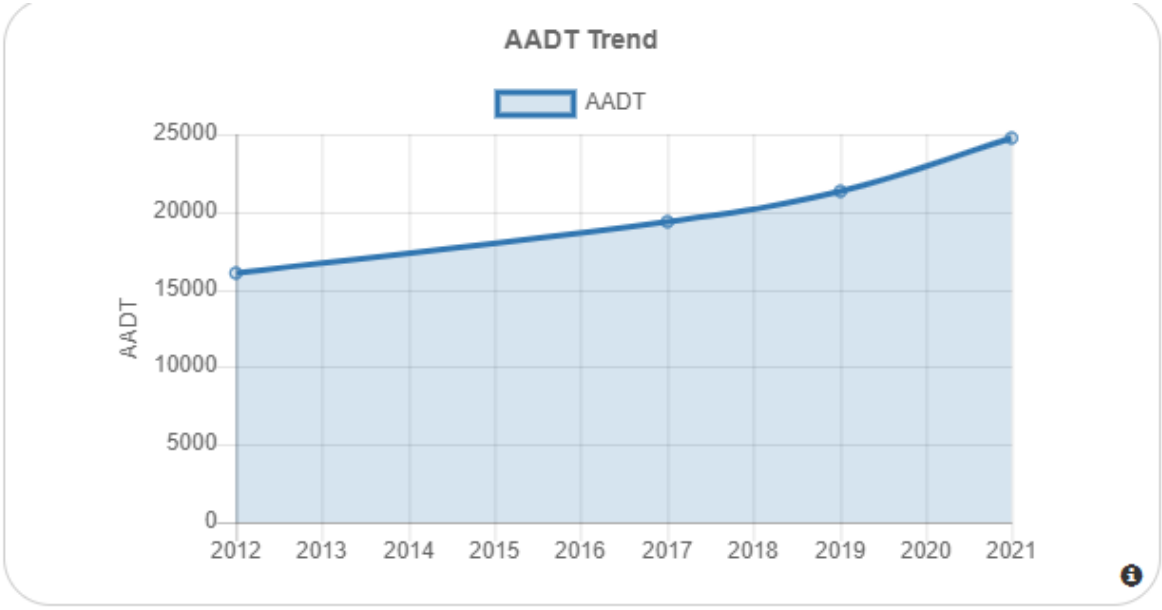
80 km/h

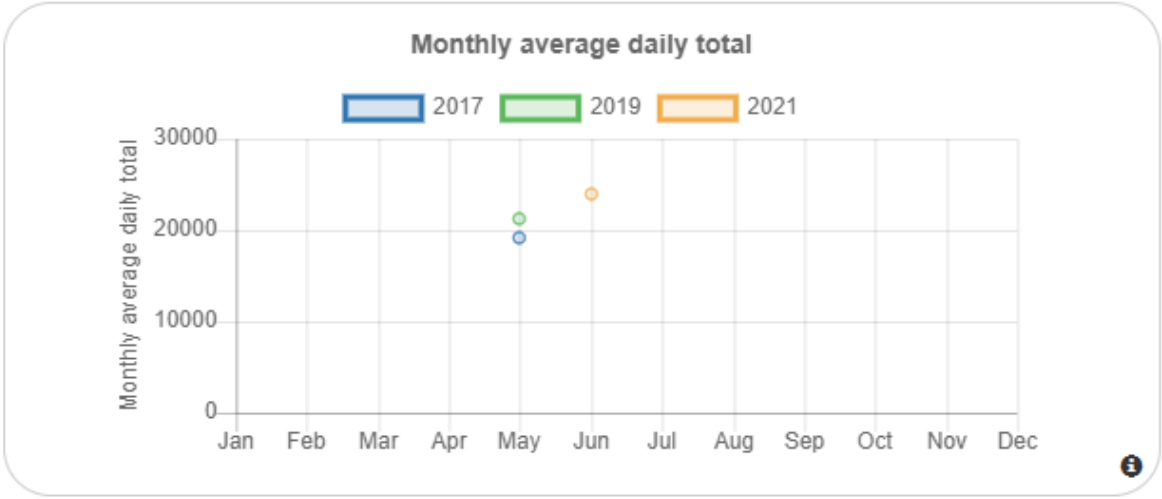
Traffic Statistics by Direction

Direction	Weekday average total traffic	7-day average traffic	Weekly traffic total
North	10,091	9,977	69,836
South	10,633	10,410	72,873
Total	20,724	20,387	142,709

Annual Statistics

Data Item	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
AADT	16,082	-	-	-	-	19,407	-	21,308	-	**24,740**
% HV	10.3%	-	-	-	-	12.5%	-	15.6%	-	**15.5%**


AADT Trend
AADT
25000
20000
15000
10000
5000
0
AADT
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021


Monthly average daily total
2017
2019
2021
30000
20000
10000
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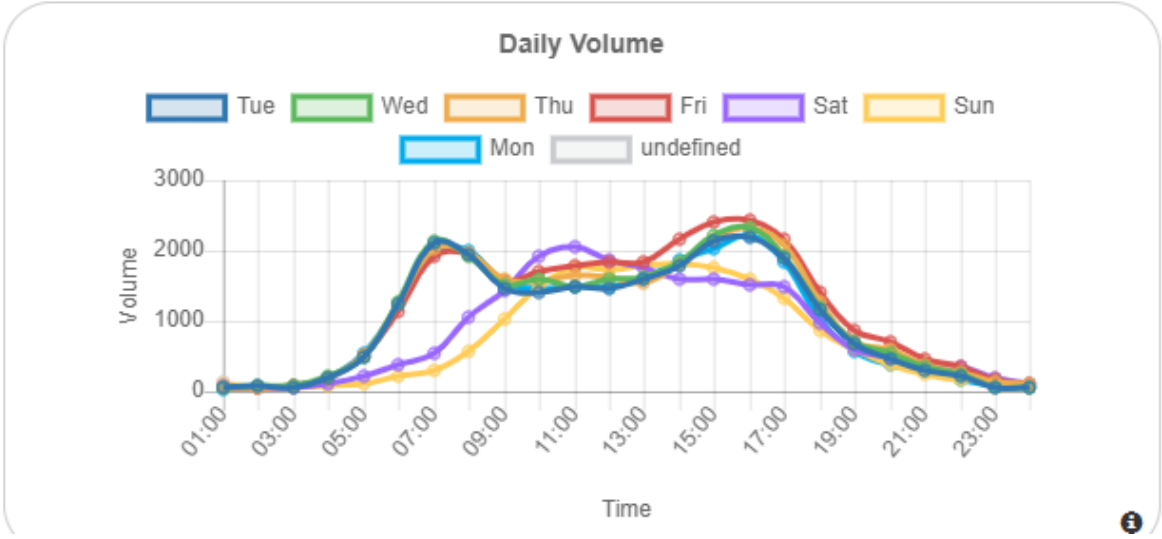
Monthly average daily total
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Daily Volume
Tue
Wed
Thu
Fri
Sat
Sun
Mon
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3000
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Volume
01:00
03:00
05:00
07:00
09:00
11:00
13:00
15:00
17:00
19:00
21:00
23:00
Time

Glenstone Road AADT

Site 0000A1105100

A1105100
Description: Glenstone Main Road 70m N of Glenstone Link Rd [UTS L5/ 0.00 - 1.53]
City: Bridgewater
Route number: A1105

Site Data

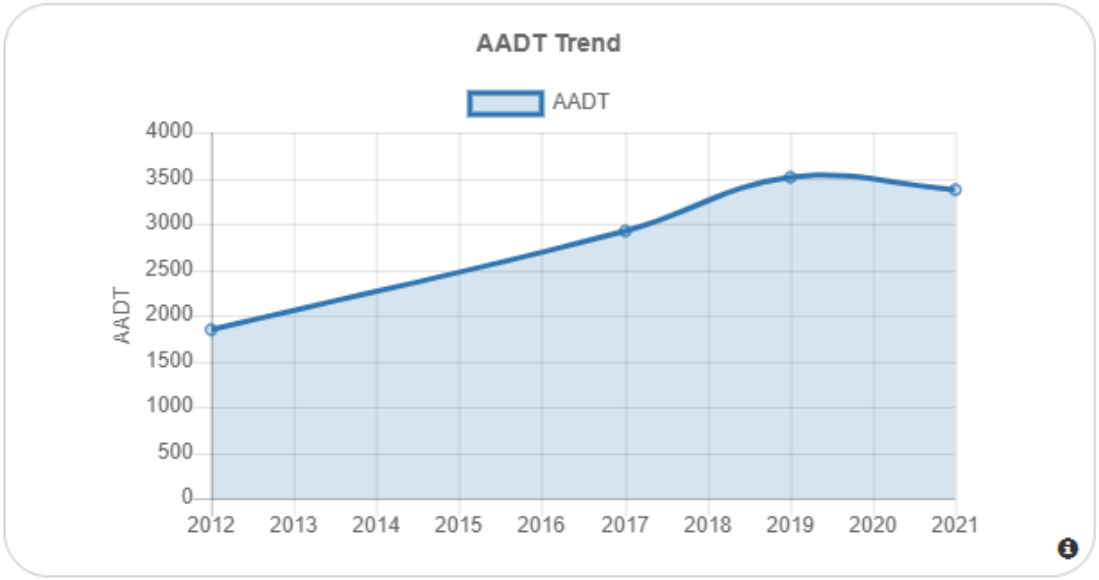
60 km/h

Traffic Statistics by Direction

Direction	Weekday average total traffic	7-day average traffic	Weekly traffic total
North	2,002	1,573	11,009
South	2,057	1,614	11,296
Total	4,059	3,187	22,305

Annual Statistics

Data Item	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
AADT	1,836	-	-	-	-	2,918	-	3,505	-	3,373
% HV	26.6%	-	-	-	-	33.8%	-	39.9%	-	35.3%


AADT Trend
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3000
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1500
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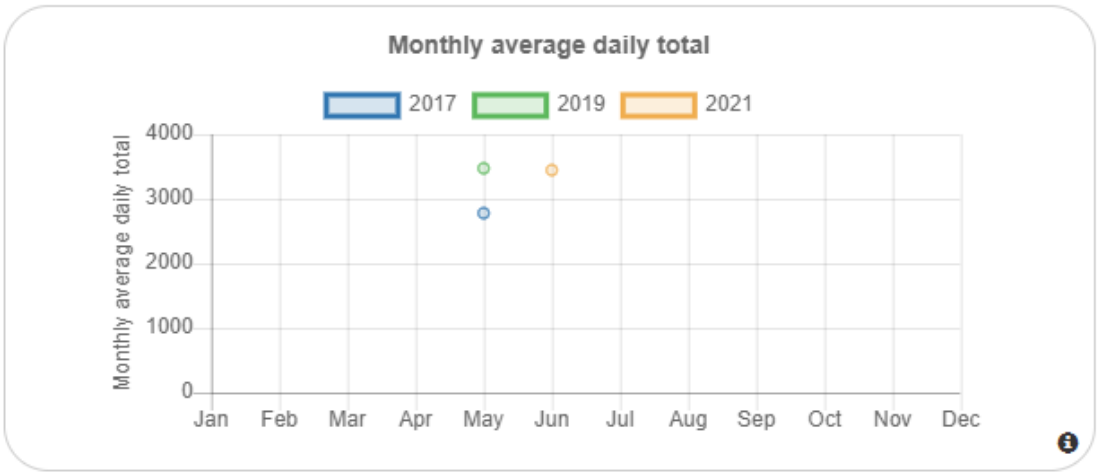
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021


Monthly average daily total
2017
2019
2021
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Monthly average daily total
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Feb
Mar
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Nov
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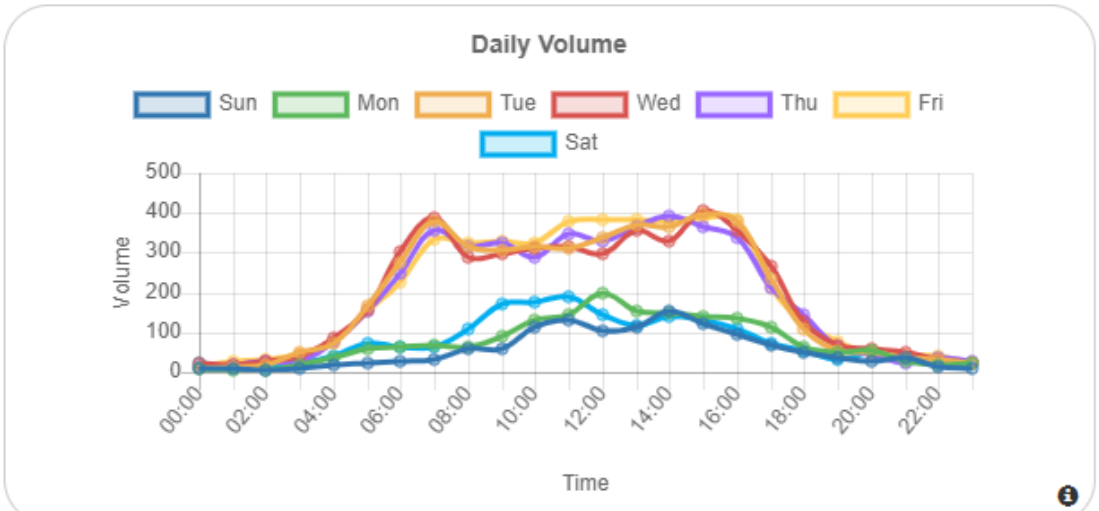
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Wed
Thu
Fri
Sat
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400
300
200
100
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Volume
00:00
02:00
04:00
06:00
08:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
Time

Appendix D – Crooked Billet Dr (Sth) AADT

Lot	GFA	Daily Trip Generation**	Peak Hour Trip Generation ***
	(m2)	(vpd)	(vph)
27	1,042	42	5.0
23	400	16	2.0
28	680	27	3.0
20	1,045	42	5.0
16	440	18	2.0
Total	**3,607**	**145**	**17**

** Assuming 4vpd / 100m2 of GFA

*** Assuming 0.5vph / 100m2 of GFA

Total Crooked Billet Drive (South) AADT

Estimated AADT is 145 vpd and 17 vph at peak times (Nov 2022) without the proposal.

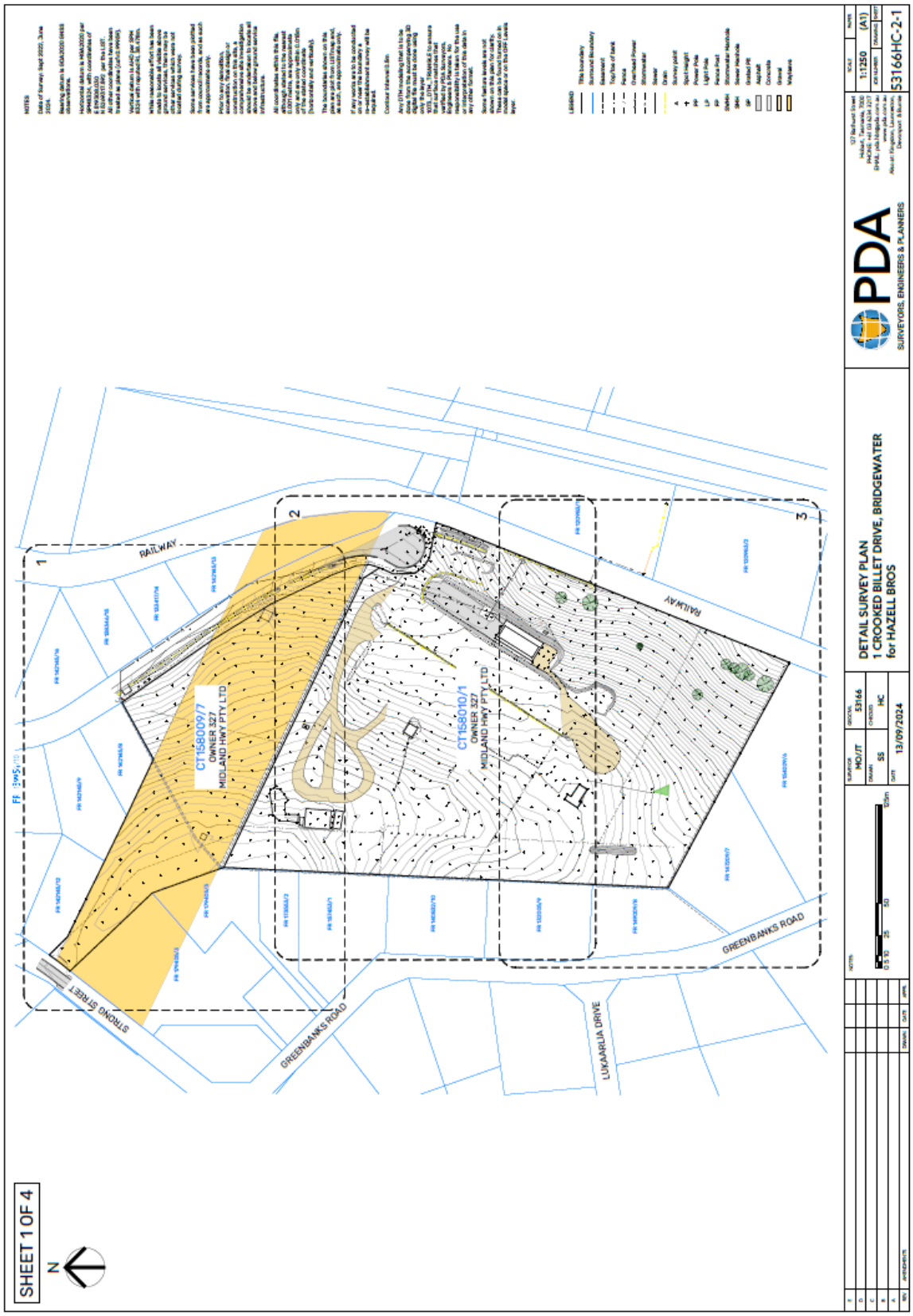
Appendix E – Level of Service Descriptions

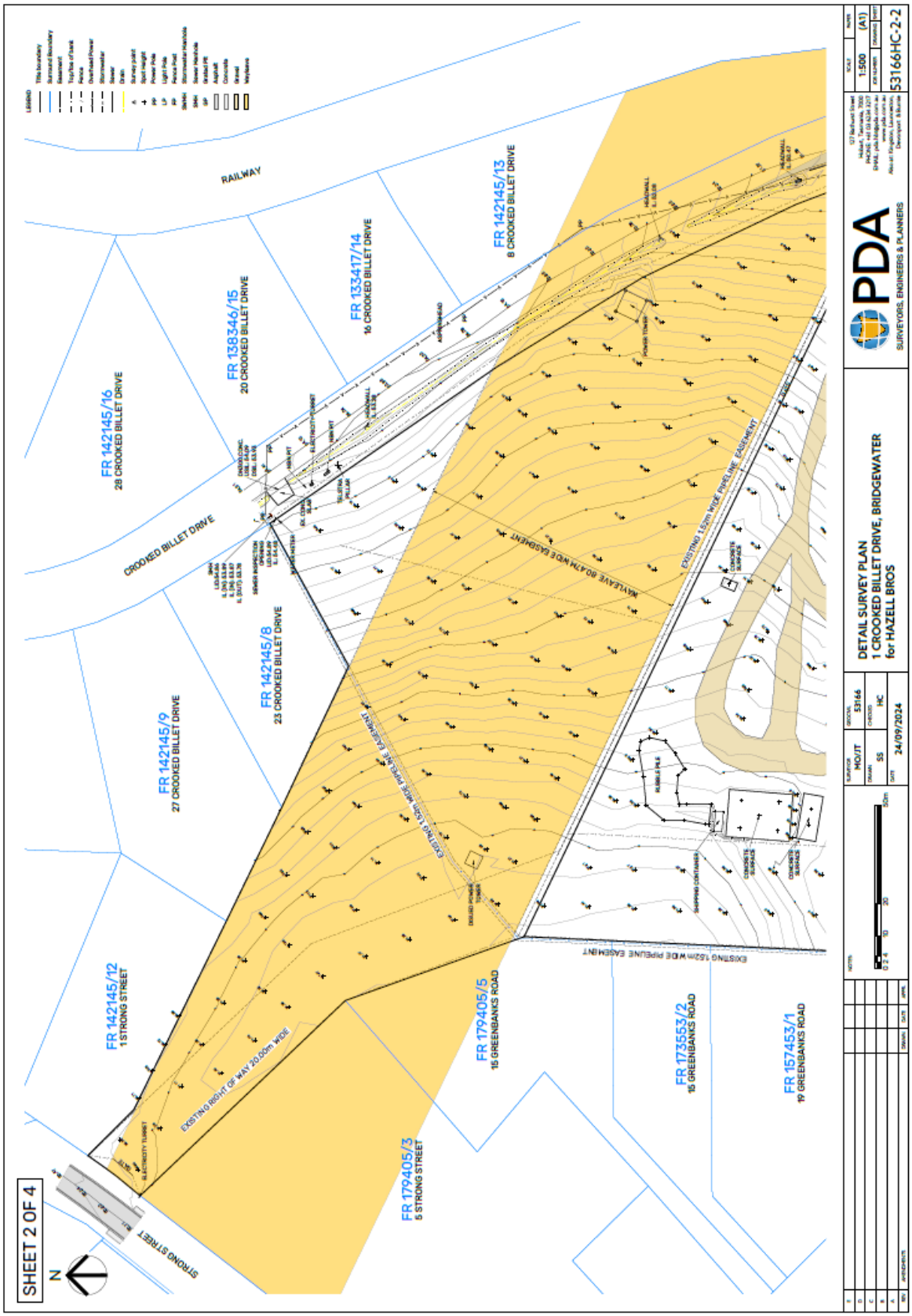
Level of service A	A condition of free-flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.
Level of service B	In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.
Level of service C	Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.
Level of service D	Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.
Level of service E	Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown.
Level of service F	In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result.

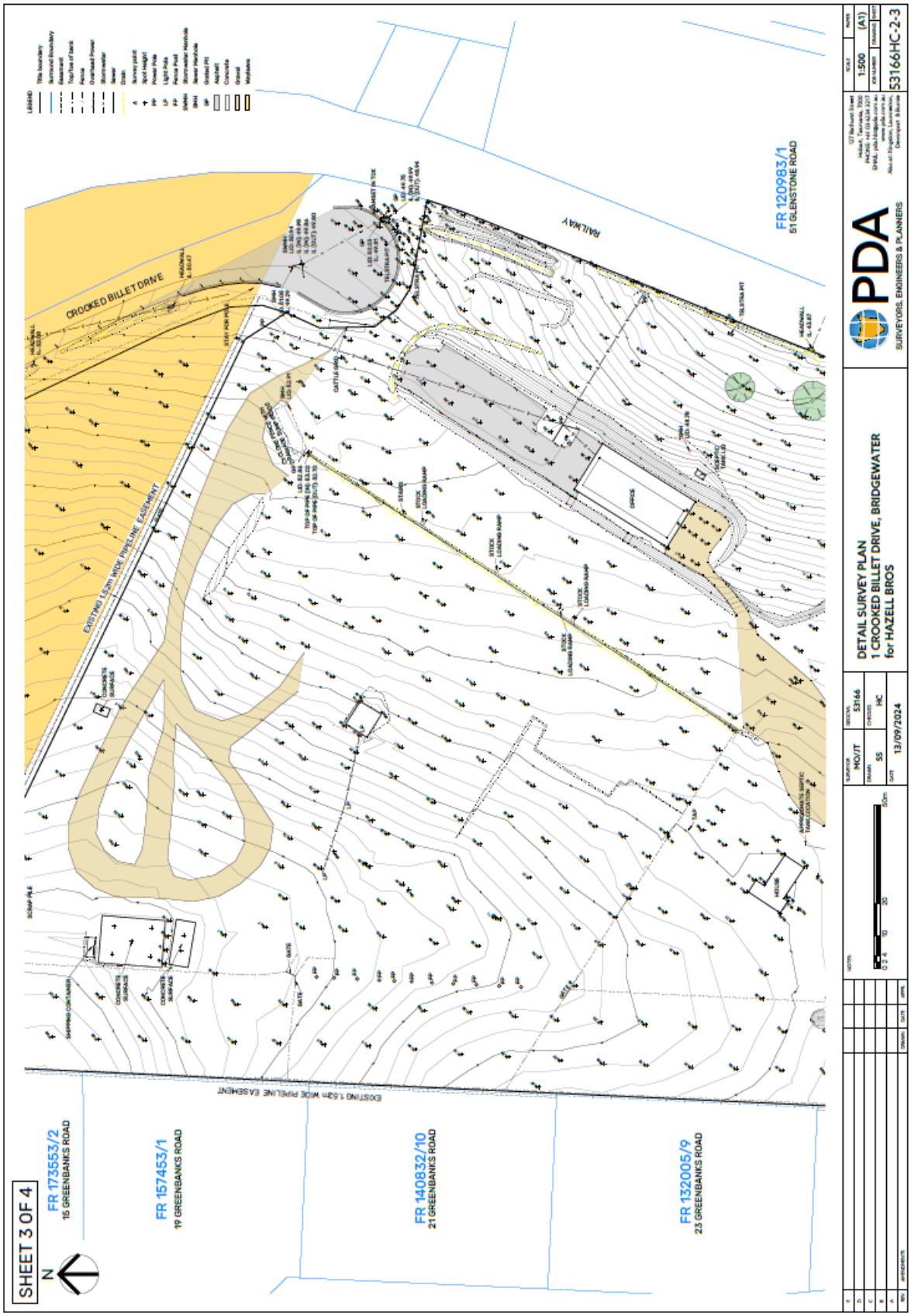
Appendix F – Plan of Subdivision

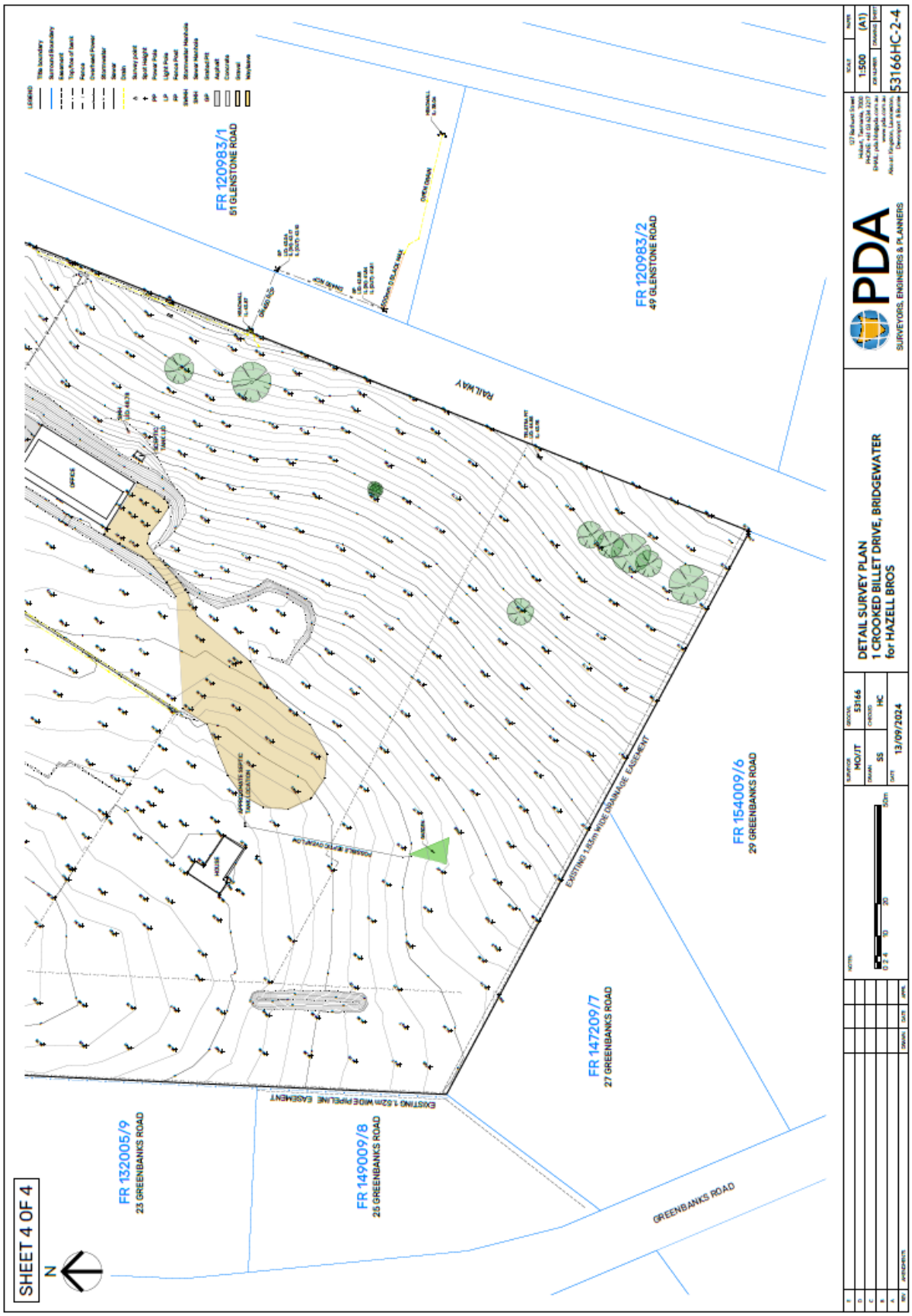
Not at this stage.

Appendix G – Detail Survey Plan




RAILWAY
FR 142145/16
28 CROOKED BILLET DRIVE
FR 138346/15
20 CROOKED BILLET DRIVE
FR 133417/14
16 CROOKED BILLET DRIVE
FR 142145/13
8 CROOKED BILLET DRIVE
CROOKED BILLET DRIVE
FR 142145/9
27 CROOKED BILLET DRIVE
FR 142145/8
23 CROOKED BILLET DRIVE
FR 142145/12
1 STRONG STREET
FR 179405/5
15 GREENBANKS ROAD
FR 173553/2
15 GREENBANKS ROAD
FR 157453/1
19 GREENBANKS ROAD
FR 179405/3
5 STRONG STREET
EXISTING RIGHT OF WAY 20.00m WIDE
EXISTING 15m WIDE PIPELINE EASEMENT
EXISTING 1.52m WIDE PIPELINE EASEMENT
MAYLEAVE 80.47m WIDE EASEMENT
STRONG STREET
N
SHEET 2 OF 4
DETAIL SURVEY PLAN
1 CROOKED BILLET DRIVE, BRIDGEWATER
for HAZELL BROS
PDA
SURVEYORS, ENGINEERS & PLANNERS
1:500
(A1)
53166HC-2-2
24/09/2024


SHEET 3 OF 4
N
FR 173553/2
15 GREENBANKS ROAD
FR 157453/1
19 GREENBANKS ROAD
FR 140832/10
21 GREENBANKS ROAD
FR 132005/9
23 GREENBANKS ROAD
FR 120983/1
51 GLENSTONE ROAD
CROOKED BILLET DRIVE
EXISTING 1.52m WIDE PIPELINE EASEMENT
DETAIL SURVEY PLAN
1 CROOKED BILLET DRIVE, BRIDGEWATER
for HAZELL BROS
PDA
SURVEYORS, ENGINEERS & PLANNERS
1:500
(A1)
53166HC-2-3
13/09/2024


FR 120983/1
51 GLENSTONE ROAD
FR 120983/2
49 GLENSTONE ROAD
FR 154009/6
29 GREENBANKS ROAD
FR 147209/7
27 GREENBANKS ROAD
FR 149009/8
25 GREENBANKS ROAD
FR 132005/9
23 GREENBANKS ROAD
GREENBANKS ROAD
PAUL WAY
EXISTING 1.52m WIDE PIPELINE EASEMENT
EXISTING 3.65m WIDE DRAINAGE EASEMENT
SHEET 4 OF 4
N
DETAIL SURVEY PLAN
1 CROOKED BILLET DRIVE, BRIDGEWATER
for HAZELL BROS
PDA
SURVEYORS, ENGINEERS & PLANNERS
53166HC-2-4

Appendix H – Development Permit

DA2022/00210

Traffic Impact Statement

12th October 2022

1 Cooper Crescent
Riverside TAS 7250
M: 0456 535 746
P: 03 6334 1868
E: Richard.burk@trafficandcivil.com.au

Mr James Sugden
Director
Sugden& Gee
james@suggee.com.au

Dear James,

TRAFFIC IMPACT STATEMENT FOR PROPOSED CONCRETE BATCH PLANT AT 1 CROOKED BILLET DRIVE, BRIDGEWATER

This traffic impact statement assesses the proposed access in terms of traffic engineering principles, the Tasmanian Planning Scheme – Brighton 2021 and Department of State Growth (DSG) guidelines:

- site inspection, review of sight distances and the speed environment,
- consideration of property access requirements,
- consideration of traffic safety for all road users.

1) Background

The proposal is to construct and operate a concrete batch plant temporarily at 1 Crooked Billet Drive for in the order of 24 months while the new Bridgewater Bridge is constructed.

2) Site Description

The 1 Crooked Billet Drive property is located at the Southern end of Crooked Billet Drive some 350m South of the Glenstone Road intersection and 1km from the Glenstone Southern Interchange on the Midlands Highway, see Figure 1 and 2. The land parcel is cleared with a large level hardstanding area situated on natural topography with some 3-5 % crossfall across the site. Access is to the property is via a 12m wide crossover and 32.5m diameter Cul-De-Sac at the Sou Crooked Billet Drive.

BRIGHTON COUNCIL
PLANNING PERMIT
This document is one of the documents relevant to the permit issued for planning application dated
Permit Number: DA2022/210
Date Permit issued 15th November 2022
Authorised Officer

1 | P a g e

6ty°

Planning Report

Relocation of
Dry Mix Concrete Plant

1 Crooked Billet Drive, Bridgewater

Document Control Record

Document prepared by:

6ty° Pty Ltd
ABN 27 014 609 900

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Tamar Suite 103
The Charles
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Launceston 7250
P (03) 6332 3300

Document Control					
Report Title:	Planning Report				
Project Number:	25.133		**Project Name:**	Planning Services, 1 Crooked Billet Drive, Bridgewater	
Client:	Hazell Bros Group Pty Ltd		**Client Contact:**	Simon Jordan	
Revision:	**Date:**	**Revision details:**		**Prepared by:**	**Reviewed by:**
0	30 June 2025	Planning Application		Ashley Brook	
1	9 July 2025	Response to TasWater RAI		Ashley Brook	
2	26 August 2025	Response to Council RFI		Ashley Brook	
Current revision:	**2**				

Table of Contents

1. Introduction

6ty Pty Ltd has been engaged by **Hazell Bros Group Pty Ltd** to prepare an application[1] to provide for the relocation and permanent establishment of the existing dry mix concrete plant, originally approved under the terms of Planning Permit DA 2022 / 00210, within 1 Crooked Billet Drive, Bridgewater.

1.1 Purpose of the Report

This Planning Report has been prepared to provide an assessment of the proposal against the relevant provisions of the *Tasmanian Planning Scheme – Brighton* ('Planning Scheme').

1.2 Planning Overview

Table 1 – Overview of the Application

Address:	1 Crooked Billet Drive, Bridgewater 13 Crooked Billet Drive, Bridgewater	
Property Identification Number:	3017836 3017801	
Certificate of Title:	**Volume**	**Folio**
	158010 158009	1 7
Owner:	327 Midland Highway Pty Ltd	
Area:	7.865ha 2.5ha	
Planning Instrument:	*Tasmanian Planning Scheme - Brighton*	
Applicable Zone:	General Industrial	
Applicable Overlay(s):	Electricity Transmission Corridor Attenuation Area Bushfire-Prone Area	
Applicable Code(s):	Parking and Sustainable Transport Road and Railway Electricity Transmission Infrastructure Protection	
Applicable Specific Area Plan(s):	Bridgewater Quarry Specific Area Plan Brighton Industrial Hub Specific Area Plan	
General Provisions:	Nil	
Proposed Use:	Manufacturing and processing – concrete batching plant	

[1] In accordance with Table 3.1 of the Planning Scheme, *means an application for a permit made under this planning scheme*.

Proposed Development:	Permanent establishment of the existing dry mix concrete plant in a modified location within 1 Crooked Billet Drive, including associated works comprising: • the extension and upgrade of vehicular access and stormwater infrastructure, and the provision of additional landscaping, partially extending into 13 Crooked Billet Drive; and • the construction of a new vehicle crossing in Crooked Billet Drive.
Application Status:	Discretionary

1.3 Accompanying Documents

This Planning Report accompanies the proposal plans prepared by **6ty°** and other documents that are listed in Tables 2 and 3. The report should be read in conjunction with these plans and documents.

Table 2 – Proposal Plans – Civil Works Drawings by 6ty°

Drawing Title	Drawing No.	Revision	Date	Issue	Issued For
Overall Site Plan Existing	CP01	-	16.06.2025	01	Planning Approval
Overall Site Plan	CP02	B	25.08.2025	03	Council RFI
Detailed Site Plan Sheet 1	CP03	A	25.07.2025	02	Council RFI
Detailed Site Plan Sheet 2	CP04	A	25.08.2025	02	Council RFI
Detailed Site Plan Sheet 3	CP05	A	25.08.2025	02	Council RFI
Detailed Site Plan Sheet 4	CP06	A	25.08.2025	02	Council RFI
Detailed Site Plan Sheet 5	CP07	-	16.06.2025	01	Planning Approval
Detailed Site Plan Sheet 6	CP08	-	16.06.2025	01	Planning Approval
Detailed Site Plan Sheet 7	CP09	-	16.06.2025	01	Planning Approval
Detailed Site Plan Sheet 8	CP10	-	16.06.2025	01	Planning Approval
Detailed Site Plan Sheet 9	CP11	-	16.06.2025	01	Planning Approval
Detailed Site Plan Sheet 10	CP12	-	16.06.2025	01	Planning Approval
Detailed Site Plan Sheet 11	CP13	B	9.07.2025	02	TasWater RAI
Detailed Site Plan Sheet 12	CP14	-	16.06.2025	01	Planning Approval
Civil Details Civil Notes	CP15	-	16.06.2025	01	Planning Approval
Erosion and Sediment Control Plan	CP16	A	25.08.2025	02	Council RFI
CEA Consolidated Industries 750 Conveyor, 100T Silos x 3	CP17	-	16.06.2025	01	Planning Approval
Sample Turn Paths Sheet 1	CP18	-	16.06.2025	01	Planning Approval
Sample Turn Paths Sheet 2	CP19	A	25.07.2025	02	Council RFI

The overall site plan associated with the proposal (Drawing No. CP02) is reproduced in Figure 1.

Figure 1 – Overall Site Plan (Proposed)

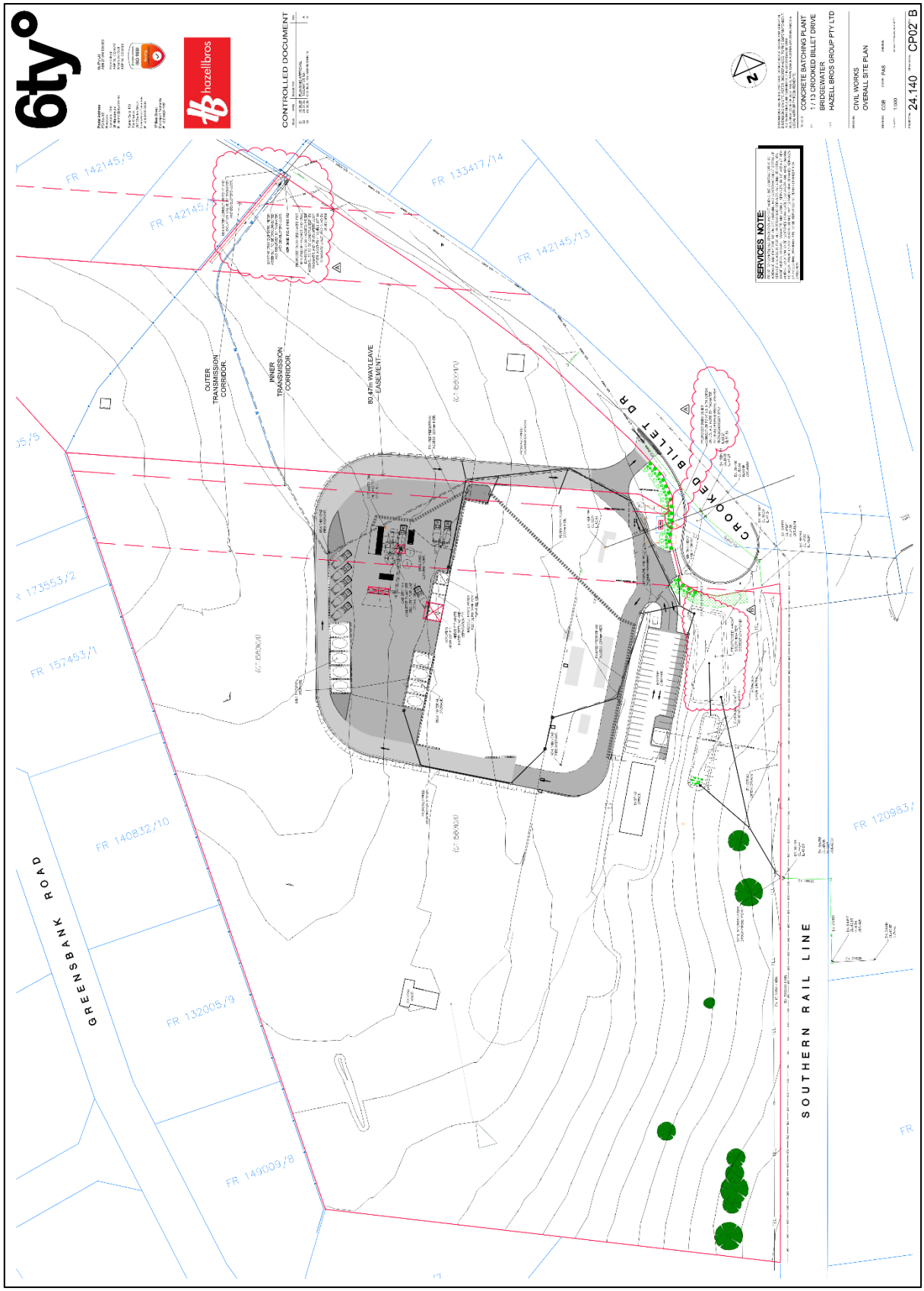


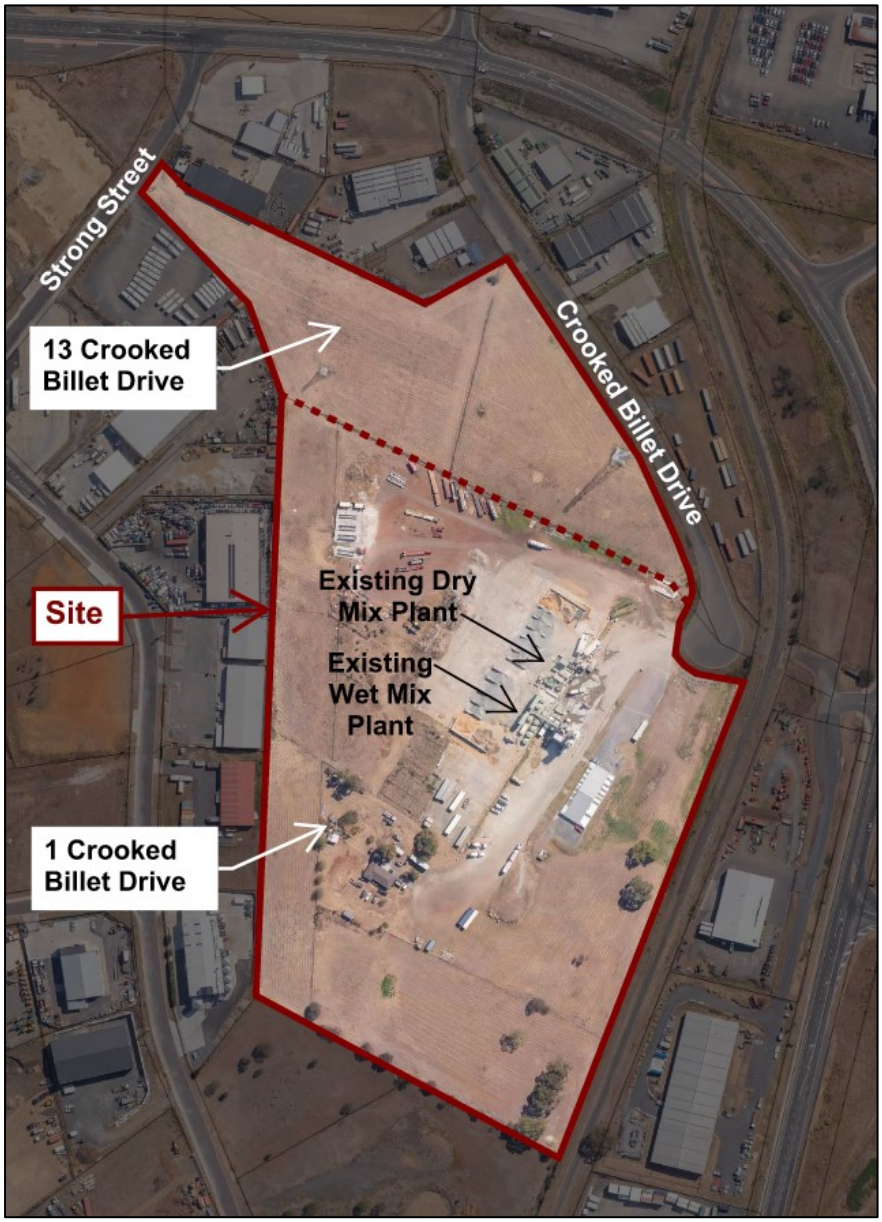
Table 3 – Accompanying Documents

Document Title	Author	Reference Number	Revision/ Version	Date
Operational Information – Proposed Dry Mix Plant Operational Quantities	Hazell Bros	-	-	12.05.2025
Environmental Management Plan	Hazell Bros	-	0.3	16.06.2025
Stormwater Management Plan	Flüssig Engineers	FE_24063-02	02	19.08.2025
Traffic Impact Statement	Traffic & Civil Services	-	-	1.08.2025

2. Site

The site subject to the proposal is shown in Figure 2. An existing concrete batching plant is located in the northern part of 1 Crooked Billet Drive. This was approved by Planning Permit DA 2022/00210. The property also contains an office, car park, access ways and a dwelling. It is serviced by a vehicle crossing located to the west of the turning circle at the southern end of Crooked Billet Drive, a cul-de-sac road.

Figure 2 – Aerial Image of the Site[2]



[2] Source: Base image and data from TheLIST, https://maps.thelist.tas.gov.au/listmap/app/list/map, State of Tasmania.

The proposal also involves land within the adjoining property at 13 Crooked Billet Drive, located to the north and under common ownership, for the purpose of undertaking associated works. This property contains electricity transmission infrastructure, including multiple overhead lines and two towers. A wayleave easement associated with this infrastructure is registered on the property's title. It is serviced by vehicle crossings to the north-east, in Crooked Billet Drive, and to the west in Strong Street.

2.1 Existing Concrete Batching Plant

The existing concrete batching plant at 1 Crooked Billet Drive includes both wet and dry mix operations, along with associated materials storage. It is situated on an existing hardstand that predated the installation of the plant. The facility was established to produce high-strength, ready-mixed concrete for the Bridgewater Bridge Project and to supply the general concrete market in the local area.

The concrete batching plant was approved under the terms of Planning Permit DA 2022/00210, which is dated 15 November 2022. The application for this planning permit identified an estimated production volume is 20,000m^3 per annum. It identified that the facility would operate 24-hours per day, 7-days per week, as required.

The planning permit contains conditions relating to a range of matters including, but not limited to, the matters outlined below.

- Requirements relating to the provision of landscaping.
- Approval of a sign with dimensions of 3.6m x 1.2m, comprising the Hazell Bros colour scheme, with the wording “Hazell Brothers Bridgwater Concrete Batch Plant”.
- A requirement to provide 12 car parking spaces and two bicycle parking spaces.
- A requirement to provide pedestrian warning signs, in the approaches to the car park, in accordance with the Traffic Impact Statement endorsed by the planning permit.
- Requirements relating to stormwater detention and treatment prior to discharge into the public stormwater system.

2.2 Zoning

The site and most adjoining land is located within a General Industrial Zone, as shown in Figure 3. The rail network (South Line) adjoins the eastern boundary of the 1 Crooked Billet Drive. The railway is within a Utilities Zone.

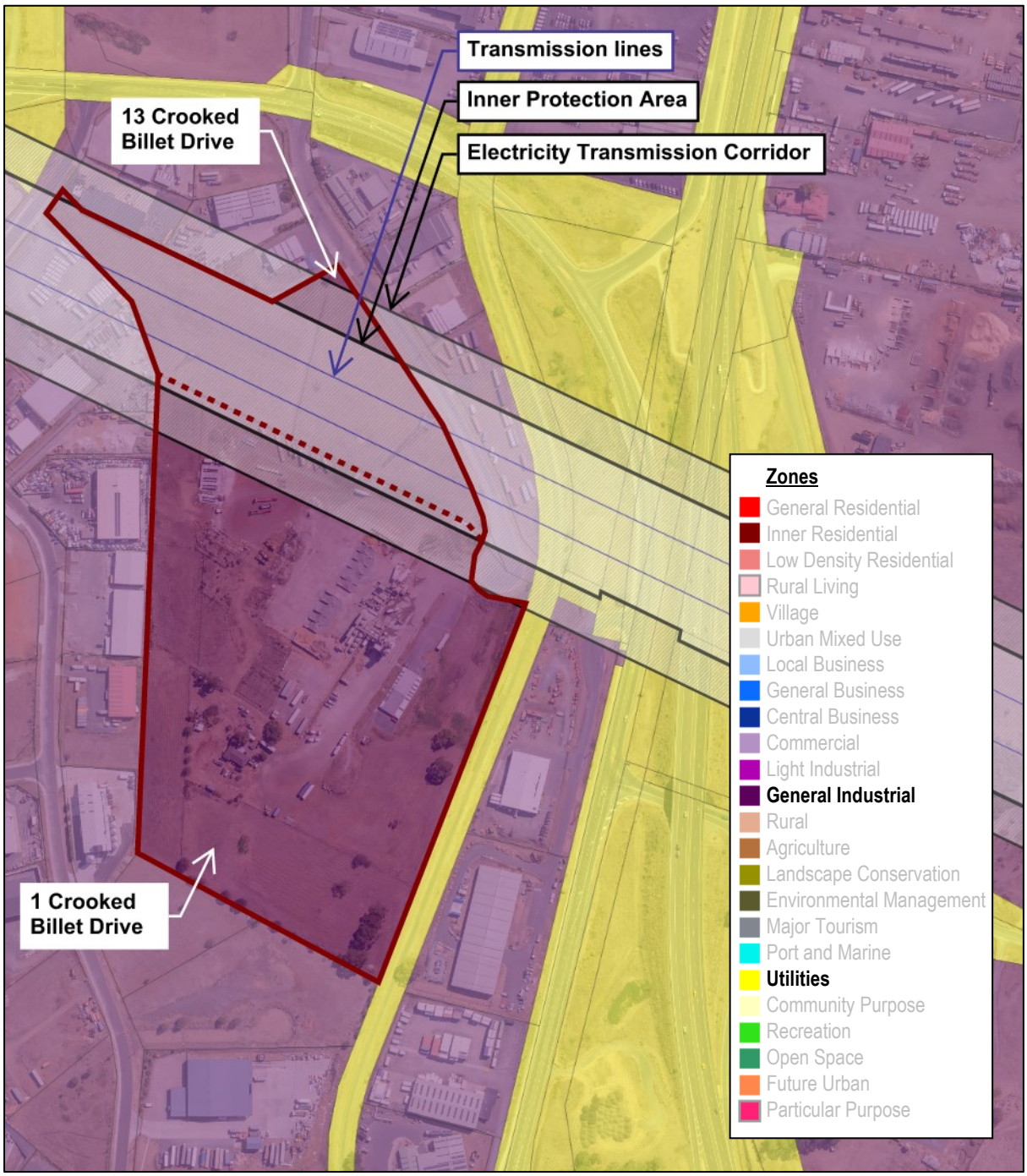
2.3 Overlays

2.3.1 Electricity Transmission Corridor

The electricity transmission infrastructure extending through 13 Crooked Billet Drive is located within an Electricity Transmission Corridor, as shown in Figure 3. This overlay includes an Inner Protection Area within the wider corridor.

The overlay also extends into the northern part of 1 Crooked Billet Drive, as illustrated on the accompanying proposal plans. The Electricity Transmission Corridor extends 37.7 metres in depth from the northern lot boundary, while the Inner Protection Area extends 7.6 metres in depth from the same boundary.

Figure 3 – Zoning and Electricity Transmission Corridor Overlay[3]



[3] Source: Base image and data from TheLIST, https://maps.thelist.tas.gov.au/listmap/app/list/map, State of Tasmania.

2.3.2 Attenuation Area

The entirety of the site is shown within an Attenuation Area overlay. The associated provisions for the Attenuation Code in the Planning Scheme do not apply on the basis that the site is within an industrial area and the proposal does not involve a sensitive use.

2.3.3 Bushfire-Prone Area

The entirety of the site is located within a Bushfire-Prone Area overlay. The associated provisions for the Bushfire-Prone Areas Code in the Planning Scheme do not apply on the basis that the proposal does not include a vulnerable use, hazardous use or subdivision.

2.3.4 Bridgewater Quarry Specific Area Plan

The entirety of the site is located within the Bridgewater Quarry Specific Area Plan, which covers the same area as the relevant Attenuation Area encompassing the site. While the Attenuation Code does not apply, the provisions of the specific area plan in the Brighton Local Provisions Schedule ('LPS') include standards that both substitute for, and are in addition to, those of the Attenuation Code.

2.3.5 Brighton Industrial Hub Specific Area Plan

The entirety of the site is located within the Brighton Industrial Hub Specific Area Plan. The provisions of the specific area plan in the Brighton LPS include a standard that substitutes for a standard of the Attenuation Code.

3. Proposal

The current application seeks planning approval to permanently establish the existing dry mix concrete plant in a modified location within the northern part 1 Crooked Billet Drive.

Separate planning approval has been obtained to dismantle the existing wet mix plant, and its associated materials storage area, under the terms of Planning Permit DA 2025/00068 dated 4 June 2025.

3.1 Operational Information

The operation of the proposed concrete batching plant is detailed in the Proposed Dry Mix Plant Operational Quantities document that accompanies the application. In particular:

- The estimated production volume is 20,000m^3 per annum.
- The proposed operating hours are 24-hours per day, 7-days per week; however, the plant will operate as needed to meet customer or project specific requirements, with production typically occurring between 5:00 am and 3:00 pm, Monday to Friday.
- The plant will accommodate two (2) operational staff and five (5) agitator drivers.

Hazell Bros has also prepared the accompanying Environmental Management Plan ('EMP') that is applicable to the use and development of the facility.

3.2 Development and Associated Works

3.2.1 Establishment of the Concrete Batching Plant

The modified location of the concrete batching plant within the site will comprise an area to be provided with an asphalt hardstand pavement.

The development of the facility in this location will initially involve re-establishing existing mobile plant and equipment currently located on the site, along with additional items owned by Hazell Bros and relocated from other sites. These temporary installations will ultimately be replaced with permanent structures. Accordingly, the proposed development will be implemented in stages.

The facility will ultimately include three (3) new silos for the storage of cementitious materials. Each structure will have a height of 14.08 metres. The installation will also include two associated load bins, fitted with covered hoods, and a conveyor system. The load bins will be fed from external stockpiles, which will be retained by concrete block bay walls, in the southern part of the asphalt hardstand. As identified in the accompanying EMP, the loading areas and stockpiles will be fitted with automated dust suppression sprinklers.

Agitator truck cleaning will occur in two covered washout bays, each measuring 6 metres (length) × 3.3m (width). Surface water runoff and washout water will be collected in two wedge pits for sediment separation, before draining into an 87,500-litre stirrer tank ('RST'). The recycled water will then be pumped back to two adjacent 22,000-litre water tanks, and will be reused in the production process, including in agitator trucks.

An area within the western portion of the asphalt hardstand will provide parking for five (5) agitator trucks.

The facility will also utilise three (3) containers, all of which are currently located on the site. These include a 40-foot self-bunded container used for the storage of admixtures, and two 20-foot containers housing a Motor Control Centre (MCC) and other associated equipment and systems. The containers have the following dimensions:

- 40-foot container: 12.19 metres (length) × 2.44 metres (width) × 2.59 metres (height); and
- 20-foot container: 6.06 metres (length) × 2.44 metres (width) × 2.59 metres (height).

3.2.2 Vehicular Access

Vehicular access for the relevant part of the site will be extended and upgraded to accommodate the proposed concrete batching plant. A one-way access loop will be established around the facility, which will operate in a clockwise direction. Two-way traffic movements will continue between the frontage and the car park.

The existing vehicle crossing at 1 Crooked Billet Drive will be retained to provide entry for heavy vehicles and entry/exit for car park users.

A new vehicle crossing is proposed in Crooked Billet Drive to accommodate the exit of heavy vehicles. This will be located to the southeast of 13 Crooked Billet Drive. The northern section of the internal access way associated with the facility will extend into this adjoining property.

The eastern section of the access way, including the lanes servicing the car park, will comprise with asphalt hardstand. The remainder will have a two-coat seal pavement.

Regulatory signage and pavement markings will be installed to manage traffic flow and support a safe speed environment. This will include No Entry, One Way, Give Way and 10 km/h speed limit signs, together with directional arrows along the access way.

3.2.3 Car Parking

The existing car park will be retained. A new kerb is proposed along its eastern edge to assist with stormwater management, requiring the construction of a narrow strip of asphalt hardstand pavement along the affected area. Eight (8) parking spaces within the car park are proposed to be allocated to the concrete batching plant.

Additionally, bicycle parking space is proposed between the car park and existing office building. A 1.2-metre-wide pedestrian access is proposed to extend from the car park to the facility.

3.2.4 Stormwater Infrastructure

A new piped stormwater system, incorporating multiple associated grated pits, is proposed. This will collect overflow from the recycled water system associated with the concrete batching plant. Additionally, it will capture surface water from the extended and upgraded access ways, as well as from the existing car park.

In accordance with the Stormwater Management Plan that accompanies the application:

- The proposal plans include an Erosion and Sediment Control Plan which is proposed for the construction phase;
- The piped system associated with the proposed use and development will include three (3) treatment devices (Atlan StormSacks or similar);
- Stormwater will be directed to a proposed detention pond to the north-east of the car park, which will have a capacity of 440m^3 to cater for the proposed facility and other planned future development at the site; and
- Outflow from the detention pond will be piped to an existing 150m^2 bioretention swale.

Discharge from the bioretention swale will be conveyed by a pipe to the existing site stormwater discharge point to an existing culvert under the adjoining railway.

3.2.5 Landscaping

The existing landscaping zone within 1 Crooked Billet Drive, located the south of the turning circle at the road's end, is proposed to be extended in a north-westerly direction. This extension will continue up to the location of the new vehicle crossing, involving works within the adjoining property at 13 Crooked Billet Drive. The landscaping zone will extend 5 metres in depth from the frontage, be covered in mulch, and include a mix of plantings.

4. Planning Controls

4.1 Categorisation of Use

A proposed use or development is required to be categorised into one of the use classes described in Table 6.2 of the Planning Scheme. The proposal is for a concrete batching plant. The Manufacturing and Processing use class most specifically describes the proposed use and development. The definition for this use class is reproduced below.

> ***Manufacturing and Processing***
>
> *use of land for manufacturing, assembling or processing products other than Resource Processing. Examples include boat building, brick making, cement works, furniture making, glass manufacturing, metal and wood fabrication, mineral processing and textile manufacturing.*

4.2 General Provisions

There are no provisions in Clause 7.0 of the Planning Scheme that are applicable to the application.

4.3 General Industrial Zone

4.3.1 Use Table

The Manufacturing and Processing use class is listed as **permitted** in Clause 19.2 Use Table of the provisions for the General Industrial Zone in the Planning Scheme.

4.3.2 Use Provisions

Standard		Assessment	Compliance
19.3.1 Discretionary uses			
A1	*No Acceptable Solution.*	There is no acceptable solution for consideration. However, the standard applies only to uses listed as discretionary. Since the proposed use is listed as permitted, the standard does not apply.	Not Applicable

4.3.3 Development Provisions

Standard		Assessment	Compliance
19.4.1 Building height			
A1	*Building height must not be more than 20m.*	The proposed structures will have a building height of less than 20 metres. The silos will have a height of 14.08 metres from finished ground level. Given that the site comprises gently sloping land, the existing ground levels will not be significantly altered by the proposed development.	Complies with Acceptable Solution

Standard		Assessment	Compliance
19.4.2 Setbacks			
A1	*Buildings must have setback from a frontage of:* *(a) not less than 10m;* *(b) not less than existing buildings on the site; or* *(c) not more or less than the maximum and minimum setbacks of the buildings on adjoining properties.*	The proposed structures will be setback more than 10 metres from the frontage. Therefore, the other requirements of the acceptable solution do not apply. It is noted, however, that the structures will have a frontage setback no less than that of the existing office building on the site.	Complies with Acceptable Solution
19.4.3 Landscaping			
A1	*If a building is set back from a road, landscaping treatment must be provided along the frontage of the site:* *(a) to a depth of not less than 6m; or* *(b) not less than the frontage of an existing building if it is a lesser distance.*	The landscaping zone will have a depth of 5 metres, consistent with the depth of the area that is proposed to be extended. The application seeks to rely on the associated performance criteria.	**Relies on Performance Criteria**

4.3.4 Development Standards for Subdivision

The standards do not apply because the proposal does not involve a subdivision.

4.4 Code Applicability Overview

The applicability of the codes in the Planning Scheme is considered below.

Clause	Code Application	Assessment	Applicability
C1.0	**Signs Code**		
C1.2.1	*Unless otherwise stated in a particular purpose zone, this code applies to all development for signs, unless the following clauses apply:* *(a) C1.4.2; or* *(b) C1.4.3.*	The proposed development includes regulatory signage to manage traffic flow and support a safe speed environment. This signage is exempt under Clause C1.4.1.	Not Applicable
C1.4.1	*A sign listed in Table C1.4 is exempt from this code, provided it complies with the relevant requirements.*	Regulatory signage is listed as exempt in Table C1.4, with no associated requirements specified for this sign type.	

Clause	Code Application	Assessment	Applicability
C2.0	**Parking and Sustainable Transport Code**		
C2.2.1	*Unless stated otherwise in a particular purpose zone, or sub-clause C2.2.2, C2.2.3 or C2.2.4, this code applies to all use and development.*	The code requires consideration in relation to all use or development.	**Applicable**
C3.0	**Road and Railway Assets Code**		
C3.2.1	*This code applies to a use or development that:*		
	(a) will increase the amount of vehicular traffic or the number of movements of vehicles longer than 5.5m using an existing vehicle crossing or private level crossing;	The proposed use has the potential to affect traffic generation.	**Applicable**
	(b) will require a new vehicle crossing, junction or level crossing; or	The proposed use and development includes a new vehicle crossing in Crooked Billet Drive.	**Applicable**
	(c) involves a subdivision or habitable building within a road or railway attenuation area if for a sensitive use.	The proposal does not involve a subdivision or sensitive use[4].	Not Applicable
C4.0	**Electricity Transmission Infrastructure Protection Code**		
C4.2.1	*This code applies to use or development of land within the following areas:*		
	(a) electricity transmission corridor, and if for:	The site is partly located within an Electricity Transmission Corridor.	**Applicable**
	(i) buildings or works;	The proposed development includes some structures and works that will extend into the overlay.	
	(ii) a sensitive use contained within a building;	The proposal does not involve a sensitive use.	
	(iii) use listed in Table C4.1; or	Table C4.1 includes Manufacturing and Processing as a listed use where the activity is not conducted within a building, such as in the case of the proposed concrete batching plant.	
	(iv) subdivision; and	The proposal does not involve a subdivision.	

[4] In accordance with the definition in Table 3.1, a sensitive use means a residential use or a use involving the presence of people for extended periods except in the course of their employment such as a caravan park, childcare centre, dwelling, hospital or school.

Clause	Code Application	Assessment	Applicability
C4.0	**Electricity Transmission Infrastructure Protection Code**		
	(b) communications station buffer area, and if for: *(i) buildings or works; or* *(ii) subdivision; and*	The proposal does not involve use or development within a Communications Station Buffer Area.	Not Applicable
	(c) substation facility buffer area, and if for: *(i) a sensitive use contained within a building;* *(ii) a use listed in Table C4.1;* *(iii) buildings or works within 5m of a substation facility; or* *(iv) subdivision.*	The proposal does not involve use or development within a Substation Facility Buffer Area.	Not Applicable
C5.0	**Telecommunications Code**		
C5.2.1	*Unless otherwise stated in a particular purpose zone, this code applies to all development for telecommunication facilities.*	The proposal does not involve a telecommunications facility.	Not Applicable
C6.0	**Local Historic Heritage Code**		
C6.2.1	This code has applicability to development within a Local Heritage Place, Local Heritage Precinct, Local Historic Landscape Precinct, Excavation Within a Place or Precinct of Archaeological Potential or lopping, pruning, removal or destruction of a Significant Tree.	The site is not included in the list of Local Heritage Places in the Brighton LPS, does not form part of a Local Heritage Precinct, Local Historic Landscape Precinct, Excavation Within a Place or Precinct of Archaeological Potential and does not contain a Significant Tree (as listed).	Not Applicable
C7.0	**Natural Assets Code**		
C7.2.1	This code has applicability to development within a Waterway and Coastal Protection Area or Future Coastal Refugia Area, or a Priority Vegetation Area if within specified zones (excludes the General Industrial Zone).	The site is not subject to any overlay to which the code applies.	Not Applicable
C8.0	**Scenic Protection Code**		
C8.2.1	This code has applicability to development within a Scenic Protection Area or Scenic Road Corridor if within specified zones (excludes the General Industrial Zone).	The site is not subject to any overlay to which the code applies.	Not Applicable

Clause	Code Application	Assessment	Applicability
C9.0	**Attenuation Code**		
C9.2.1	*This code applies to:*		Not Applicable
	(a) activities listed in Tables C9.1 and C9.2;	A concrete batching plant is an activity listed in Table C9.1. However, the code does not apply to the proposal in accordance with Clause C9.2.3.	
	(b) sensitive uses; and	Whilst the site is within shown within an Attenuation Area overlay, the proposal is not a sensitive use.	
	(c) subdivision if it creates a new lot where a sensitive use could be established, within an attenuation area.	The proposal does not involve a subdivision.	
C9.2.3	*The code does not apply to sensitive uses occurring within the Light Industrial Zone, General Industrial Zone, Port and Marine Zone, and Utilities Zone.*	The attenuation distance for a concrete batching plant, as specified in Table C9.1, is 200 metres. All land within this distance from the site boundaries falls within either a General Industrial Zone or a Utilities Zone. The code does not apply to any sensitive uses located within these zones.	Not Applicable
C10.0	**Coastal Erosion Hazard Code**		
C10.2.1	*This code applies to:*		
	(a) use and development of land within a coastal erosion hazard area; or	The site is not shown within a Coastal Erosion Hazard Area on the overlay maps.	Not Applicable
	(b) development identified in a report, that is lodged with an application, or required in response to a request under section 54 of the Act, as located on an actively mobile landform within the coastal zone.	The site is not located within the coastal zone.	Not Applicable
C11.0	**Coastal Inundation Hazard Code**		
C11.2.1	*This code applies to use and development of land within a coastal inundation hazard area.*	The site is not shown within a Coastal Inundation Hazard Area on the overlay maps.	Not Applicable
C12.0	**Flood-Prone Areas Hazard Code**		
C12.2.1	*This code applies to development of land within a flood-prone hazard area.*	The site is not shown within a Flood-Prone Hazard Area on the overlay maps.	Not Applicable

Clause	Code Application	Assessment	Applicability
C13.0	**Bushfire-Prone Areas Code**		
C13.2.1	*This code applies to:* *(a) subdivision of land that is located within, or partially within, a bushfire-prone area; and*	The site is located within a Bushfire-Prone Area. However, the proposal does not involve a subdivision.	Not Applicable
	(b) a use, on land that is located within, or partially within, a bushfire-prone area, that is a vulnerable use or hazardous use.	The term vulnerable use is defined in Clause C13.3.1 of the code by reference to a limited number of use classes. It excludes Manufacturing and Processing. The definition for hazardous use, also in Clause C13.3.1, is reproduced below. *means a use where:* *(a) hazardous chemicals of a manifest quantity are stored on a site; or* *(b) explosives are stored on a site and where classified as an explosives location or large explosives location as specified in the Explosives Act 2012.* The proposed concrete batching plant will not involve the storage of hazardous materials in manifest quantities, as defined under the *Work Health and Safety Regulations 2022*. It will also not involve the storage of explosives.	Not Applicable
C14.0	**Potentially Contaminated Land Code**		
C14.2.1	This code applies to specified uses, including a sensitive use or specified uses in the Passive Recreation and Sports and Recreation use classes, or development on potentially contaminated land.	The site is not known to have been used for any potentially contaminating activity listed in Table C14.2 of the Code.	Not Applicable
C15.0	**Landslip Hazard Code**		
C15.2.1	This code has applicability to use or development within a Landslip Hazard Area.	The site is not shown within a Landslip Hazard Area on the overlay maps.	Not Applicable

Clause	Code Application	Assessment	Applicability
C16.0 Safeguarding of Airports Code			
C16.2.1	This code has applicability to sensitive use within an Airport Noise Exposure Area or development within an Airport Obstacle Limitation Area.	The site is not subject to any overlay to which the code applies.	Not Applicable

4.5 Parking and Sustainable Transport Code

An assessment of the relevant standards in the code is provided below.

4.5.1 Use Standards

Standard		Assessment	Compliance
C2.5.1 Car parking numbers			
A1	*The number of on-site car parking spaces must be no less than the number specified in Table C2.1, less the number of car parking spaces that cannot be provided due to the site including container refund scheme space, excluding if:* *(a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;* *(b) the site is contained within a parking precinct plan and subject to Clause C2.7.* *(c) the site is subject to Clause C2.5.5; or* *(d) it relates to an intensification of an existing use or development or a change of use where:* *…*	The accompanying Traffic Impact Statement ('TIS') identifies that the proposal complies with the acceptable solution. The provision of six (6) car parking spaces is required in accordance with Table C2.1, based on employee numbers. Eight (8) parking spaces within the existing car park will be allocated to the proposed concrete batching plant.	Complies with Acceptable Solution
C2.5.2 Bicycle parking numbers			
A1	*Bicycle parking spaces must:* *(a) be provided on the site or within 50m of the site; and* *(b) be no less than the number specified in Table C2.1.*	The accompanying TIS identifies that the proposal complies with the acceptable solution.	Complies with Acceptable Solution

Standard		Assessment	Compliance
C2.5.3 Motorcycle parking numbers			
A1	*The number of on-site motorcycle parking spaces for all uses must:* *(a) be no less than the number specified in Table C2.4; and* *(b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle numbers is maintained.*	As identified in the accompanying TIS, motorcycle parking is not required for the proposed use, as fewer than 20 car parking spaces are required.	Complies with Acceptable Solution
C2.5.4 Loading bays			
A1	*A loading bay must be provided for uses with a floor area of more than 1,000m^2 in a single occupancy.*	Clause C2.2.3 lists a limited range of use classes to which the standard applies. It excludes Manufacturing and Processing. Accordingly, the standard is not applicable to the proposal.	Not Applicable

4.5.2 Development Standards for Buildings and Works

Standard		Assessment	Compliance
C2.6.1 Construction of parking areas			
A1	*All parking, access ways, manoeuvring and circulation spaces must:* *(a) be constructed with a durable all weather pavement;* *(b) be drained to the public stormwater system, or contain stormwater on the site; and* *(c) excluding all uses in the Rural Zone, Agriculture Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.*	The accompanying TIS identifies that the proposal complies with the acceptable solution.	Complies with Acceptable Solution

Standard		Assessment	Compliance
C2.6.2 Design and layout of parking areas			
A1.1	*Parking, access ways, manoeuvring and circulation spaces must either:* *(a) comply with the following:* *(i) have a gradient in accordance with Australian Standard AS 2890 – Parking facilities, Parts 1-6.* *(ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces;* *(iii) have an access with no less than the requirements in Table C2.2;* *(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;* *(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and* *(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or* *(b) comply with Australian Standard AS 2890 Parking facilities, Parts 1-6.*	The accompanying TIS demonstrates that the proposal complies with the acceptable solution.	Complies with Acceptable Solution
A1.2	*Parking spaces provided for use by persons with a disability must satisfy the following:* *(a) be located as close as practicable to the main entry point to the building;* *(b) be incorporated into the overall car park design; and* *(c) be designed and constructed in accordance with Australian/New Zealand Standard AS/NZS 2890.6: 2009 Parking facilities, Off-street parking for people with disabilities.*	The accompanying TIS identifies that the provision of accessible car parking is not required for the proposed use.	Not Applicable

Standard		Assessment	Compliance
C2.6.3 Number of accesses for vehicles			
A1	*The number of accesses provided for each frontage must:* *(a) be no more than 1; or* *(b) no more than the existing number of accesses,* *whichever is the greater.*	The proposal will include the provision of an additional vehicle crossing in Crooked Billet Drive.	**Relies on Performance Criteria**
A2	*Within the Central Business Zone or in a pedestrian priority street no new access is provided unless an existing access is removed.*	The site is not within the Central Business Zone and is not shown as being in a pedestrian priority street on the Brighton LPS maps.	Not Applicable
C2.6.5 Pedestrian access			
A1	*Uses that require 10 or more car parking spaces must:* *(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:* *(i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or* *(i) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and* *(b) be signed and line marked at points where pedestrians cross access ways or parking aisles.*	The provision of six on-site car parking space is required. Therefore, there is no requirement for a footpath under this acceptable solution. It is noted that a 1.2-metre-wide pedestrian access is proposed to extend from the car park to the concrete batching plant.	Not Applicable
A1.2	*In parking areas containing accessible car parking spaces for use by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.*	The accompanying TIS identifies that the provision of accessible car parking is not required for the proposed use.	Not Applicable

4.6 Road and Railway Assets Code

An assessment of the relevant standards in the code is provided below.

4.6.1 Use Standards

Standard		Assessment	Compliance
C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction			
A1.1	*For a category 1 road or a limited access road, vehicular traffic to and from the site will not require:* *(a) a new junction;* *(b) a new vehicle crossing; or* *(c) a new level crossing.*	The proposal does not involve any access to a Category 1 Trunk Road as defined in the State Road Hierarchy or a limited access road declared under the *Roads and Jetties Act 1935*. Crooked Billet Drive is administered by Council's road authority.	Not Applicable
A1.2	*For a road, excluding a category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority.*	The new vehicle crossing in Crooked Billet Drive that is proposed will require consideration by Council's road authority as part of the planning approval process.	**Relies on Performance Criteria**
A1.3	*For the rail network, written consent for a new private level crossing to serve the use and development has been issued by the rail authority.*	The proposal does not involve a new private level crossing.	Not Applicable
A1.4	*Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than:* *(a) the amounts in Table C3.1; or* *(b) allowed by a license issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road.*	While the proposal involves relocating the existing concrete batching plant within the site, the accompanying TIS incorporates a highly conservative assessment. As a result of assumed load sizes, this scenario indicates an increase in traffic generation that exceeds the relevant amounts in Table C3.1.	**Relies on Performance Criteria**
A1.5	*Vehicular traffic must be able to enter and leave a major road in a forward direction.*	Crooked Billet Drive is not identified in the Brighton LPS as being a major road. In any event, the accompanying TIS demonstrates that the proposed development will allow vehicles to enter and exit the site in a forward direction.	Not Applicable

4.7 Electricity Transmission Infrastructure Protection Code

An assessment of the relevant standards in the code is provided below.

4.7.1 Use Standards

Standard		Assessment	Compliance
C4.5.2 Dust or other airborne particulates within an electricity transmission corridor			
A1	*No Acceptable Solution.*	There is no acceptable solution for consideration.	**Relies on Performance Criteria**

4.7.2 Development Standards for Buildings and Works

Standard		Assessment	Compliance
C4.6.1 Buildings or works within an electricity transmission corridor			
A1	*Buildings or works within an electricity transmission corridor must not be within:* *(a) an inner protection area; or* *(b) a registered electricity easement.*	The proposed development includes some works that will extend into both the Inner Protection Area associated with the site and the wayleave easement registered on the title for 13 Crooked Billet Drive.	**Relies on Performance Criteria**

4.8 Bridgewater Quarry Specific Area Plan

An assessment of the relevant standards in the specific area plan is provided below.

4.8.1 Use Standards

Standard		Assessment	Compliance
BRI-S4.6.1 Sensitive use			
A1	*Use or development is not for sensitive use.*	The proposal does not involve a sensitive use.	Complies with Acceptable Solution

4.8.2 Development Standards for Buildings and Works

Standard		Assessment	Compliance
BRI-S4.7.1 Buildings and works within Bridgewater Quarry Specific Area Plan			
A1	*No Acceptable Solution.*	There is no acceptable solution for consideration.	**Relies on Performance Criteria**

4.9 Brighton Industrial Hub Specific Area Plan

An assessment of the standard in the specific area plan is provided below.

4.9.1 Use Standards

Standard		Assessment	Compliance
BRI-S10.6.1 Sensitive use			
A1	*Use or development is not for sensitive use.*	The proposal does not involve a sensitive use.	Complies with Acceptable Solution

5. Performance Criteria Assessment

5.1 General Industrial Zone

5.1.1 Clause 19.4.3 Landscaping – Performance Criteria P1

19.4.3 Landscaping	
Objective: *That landscaping enhances the amenity and appearance of the streetscape where buildings are setback from the frontage*.	
Performance Criteria	**Assessment**
P1 *If a building is setback from a road, landscaping treatment must be provided along the frontage of the site, having regard to:*	The existing landscaping zone within 1 Crooked Billet Drive, located the south of the turning circle at the road's end, is proposed to be extended in a north-westerly direction.
(a) the width of the setback;	The existing office building within the property is setback approximately 75 metres from the frontage, while the proposed concrete batching plant will have a frontage setback of around 85 metres. The car park and some access ways are located within this setback distance. The landscaping zone will be positioned adjacent to these areas. It will have a depth of 5 metres, consistent with the depth of the area proposed to be extended.
(b) the width of the frontage;	The extended landscaping zone will span most of the frontage width of 1 Crooked Billet Drive, continuing up to the location of the new vehicle crossing. It will therefore be partially located within the adjoining 13 Crooked Billet Drive.
(c) the topography of the site;	The land within the site rises gently away from the frontage and does not present any constraints to establishing an effective landscaping treatment.
(d) existing vegetation on the site;	Aside from the existing landscaping zone, the undeveloped areas within the site predominantly consist of grassland with scattered trees.
(e) the location, type and growth of the proposed vegetation; and	The proposed landscaping zone will be covered with eucalyptus chip mulch and planted with a mix of species, including: • *Grevillea* 'Bronze Rambler' – a low-growing ground cover; • *Callistemon* 'Firebrand' – capable of reaching a height of 1.4m and spread of 1.6m; and • *Correa decumbens* (Spreading Correa) – capable of reaching a height of 1m and spread of 3m.

Performance Criteria	Assessment
(f) any relevant local area objectives contained within the relevant Local Provisions Schedule.	There are no relevant local area objectives in the Brighton LPS. Having regard to matters (a) to (f), an appropriate landscaping treatment will be provided along the frontage, and the proposal complies with the performance criteria.

5.2 Parking and Sustainable Transport Code

5.2.1 Clause C2.6.3 Number of Accesses for Vehicles – Performance Criteria P1

C2.6.3 Number of accesses for vehicles	
Objective: *That:* *(a) access to land is provided which is safe and efficient for users of the land and all road network users, including but not limited to drivers, passengers, pedestrians and cyclists by minimising the number of vehicle accesses;* *(b) accesses do not cause an unreasonable loss of amenity of adjoining uses; and* *(c) the number of accesses minimise impacts on the streetscape.*	
Performance Criteria	**Assessment**
P1 *The number of accesses for each frontage must be minimised, having regard to:* *(a) any loss of on-street parking; and* *(b) pedestrian safety and amenity;* *(c) traffic safety;* *(d) residential amenity on adjoining land; and* *(e) the impact on the streetscape.*	The proposal includes an additional vehicle crossing in Crooked Billet Drive to service the proposed concrete batching plant. This requires assessment against the performance criteria, which has been undertaken in the accompanying Traffic Impact Statement. The TIS identifies that the proposal complies. It will not affect on-street parking or pedestrian safety and amenity. The additional access will provide for the separation of light and heavy vehicles and is considered safe. As the site is located within an industrial area, the proposal will not affect residential amenity or negatively impact the streetscape.

5.3 Road and Railway Assets Code

5.3.1 Clause C3.5.1 Traffic Generation at a Vehicle Crossing, Level Crossing or New Junction – Performance Criteria P1

C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction
Objective: *To minimise any adverse effects on the safety and efficiency of the road and rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction*.

Performance Criteria	Assessment
P1	
Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:	The proposal has the potential to affect traffic generation and includes a new vehicle crossing in Crooked Billet Drive, which requires the written consent of Council's road authority. An assessment of the performance criteria is therefore undertaken below and in the accompanying Traffic Impact Statement.
(a) any increase in traffic caused by the use;	The TIS incorporates a highly conservative assessment, which assumes that the average batch size for all concrete delivery loads will be $1m^3$. In reality, the average load size is $5.4m^3$, meaning the alternate scenario significantly overestimates the expected traffic generation under typical operating conditions. Nonetheless, the TIS concludes that even under this conservative assessment, the additional traffic can be easily absorbed by the adjacent road network.
(b) the nature of the traffic generated by the use;	The concrete batching plant will continue to generate traffic associated with a mix of light and heavy vehicles.
(c) the nature of the road;	Crooked Billet Drive is a sealed rural access road that is administered by Council's road authority. It has a relatively straight alignment with a sealed width of 8m and no associated footpaths. The road is located within an industrial area and is part of the Tasmania 26m B Double Network. It therefore accommodates a mix of light and heavy vehicles.
(d) the speed limit and traffic flow of the road;	The speed limit is 50km/h, which is suitable for safe and efficient operation of the proposed access.
(e) any alternative access to a road;	The new vehicle crossing will accommodate heavy vehicles exiting 1 Crooked Billet Drive. It will operate alongside the existing access associated with the property, which will be retained to provide heavy vehicle entry and entry/exit for car park users. This arrangement will enable the separation of light and heavy vehicle movements. While another existing access to the road is located further to the north, it is situated on the opposite side of the electricity transmission infrastructure and is associated with the adjoining 13 Crooked Billet Drive.
(f) the need for the use;	The new vehicle crossing will service a proposed concrete batching plant, which is a use that is supported and encouraged by the General Industrial zoning that applies to the site.

Performance Criteria	Assessment
(g) any traffic impact assessment; and	The TIS identifies that the proposed access arrangements are safe and that traffic will continue to operate efficiently. It recommends that the new vehicle crossing be constructed in accordance with the relevant Local Government of Tasmania standard drawings.
(h) any advice received from the rail or road authority.	The proposed vehicle crossing will be assessed by Council's road authority during the planning process and constructed to meet its requirements. Having regard to matters (a) to (h), the proposal complies with the performance criteria.

5.4 Electricity Transmission Infrastructure Protection Code

5.4.1 Clause C4.5.2 Dust or Other Airborne Particulates Within an Electricity Transmission Corridor – Performance Criteria P1

C4.5.2 Dust or other airborne particulates within an electricity transmission corridor	
Objective: *That dust or other airborne particulates do not adversely affect the safe and reliable operation of overhead electricity transmission infrastructure within an electricity transmission corridor.*	
Performance Criteria	**Assessment**
P1 *A use listed in Table C4.1 and located within an electricity transmission corridor must not generate dust or other airborne particulates that will cause an unreasonable impact on the operation of overhead electricity transmission infrastructure, having regard to:* *(a) the nature of the proposed use and the materials that will be stored and handled on the site; and* *(b) the conductivity or corrosiveness of any dust or other airborne particulates and its potential to affect the operation of the electricity transmission infrastructure;* *(c) proximity to the electricity transmission infrastructure;* *(d) any mitigation measures proposed; and* *(e) any advice from the electricity entity.*	Table C4.1 includes Manufacturing and Processing as a listed use where the activity is not conducted within a building, such as in the case of the proposed concrete batching plant. The proposed use will extend partly into the Electricity Transmission Corridor overlay associated with infrastructure located within the adjoining 13 Crooked Billet Drive. The activities that will occur within this overlay include: • the enclosed concrete loading point for filling agitator trucks; • agitator slumping; • the parking of an agitator truck in the northernmost space on the asphalt hardstand; • the movement of trucks along the northern section of the access way and the new vehicle crossing; and • the movement of light vehicles using the existing vehicle crossing for entry and exit (associated with the car park).

Performance Criteria	Assessment
	In addition, two containers will be located within the overlay; however, they will accommodate activities that are undertaken entirely within these enclosed structures. The external stockpiles and load bins associated with the silos will be located outside the overlay. These will be fitted with automatic dust suppression sprinklers, and the load bins themselves will be fully enclosed. The covered washout bays will also be located outside the overlay. As identified in the accompanying Environmental Management Plan, the concrete loading point—which will be enclosed on the sides, rear, and roof—will also be equipped with an automatic dust suppression system. A water curtain at the front of the enclosure will serve to prevent dust emissions during loading operations. The area accommodating the relocated concrete batching plant, along with the associated access ways and new vehicle crossing, will be sealed to minimise dust emissions. These surfaces will be regularly cleaned by a road vacuum truck to ensure they are kept free of dust and debris. In this manner, it is considered that the proposal will not unreasonably impact the operation of the overhead electricity transmission infrastructure within 13 Crooked Billet Drive.

5.4.2 Clause C4.6.1 Buildings or Works Within an Electricity Transmission Corridor – Performance Criteria P1

C4.6.1 Buildings or works within an electricity transmission corridor	
Objective: *That buildings or works within an electricity transmission corridor are located at appropriate distances from transmission lines or cables to:* *(a) ensure operational efficiencies, access to, and security of, existing or future electricity transmission infrastructure; and* *(b) protect against a safety hazard associated with proximity to existing or future electricity transmission infrastructure.*	
Performance Criteria	**Assessment**
P1 *Buildings or works within an electricity transmission corridor must not cause an unreasonable impact on the safety, security, operation of, or access to, existing or future electricity transmission infrastructure, having regard to:*	The proposed development includes some works that will extend into both the Inner Protection Area associated with the site and the wayleave easement registered on the title for 13 Crooked Billet Drive. These works include:

Performance Criteria	Assessment
(a) the nature, height and materials of the buildings and works; *(a) the extent of encroachment of the buildings and works into the electricity transmission corridor;* *(c) the location of the buildings and works within the electricity transmission corridor; and;* *(d) any advice from the electricity entity.*	• the northernmost section of the new asphalt hardstand, which will accommodate some of the facility's associated structures; • the northern section of the internal access way; • parts of the piped stormwater system within this area; • the new vehicle crossing in Crooked Billet Drive; and • the northern section of the new landscaping zone. The proposal minimises encroachment on the overhead electricity transmission infrastructure within the adjoining 13 Crooked Billet Drive. It is considered that the development will not unreasonably impact the safety, security, operation of, or access to this infrastructure. The majority of the development will be located within 1 Crooked Billet Drive.

5.5 Bridgewater Quarry Specific Area Plan

5.5.1 Clause BRI-S4.7.1 Buildings and Works Within Bridgewater Quarry Specific Area Plan – Performance Criteria P1

BRI-S4.7.1 Buildings and works within Bridgewater Quarry Specific Area Plan	
Objective: *That development is compatible with the operations of the Bridgewater Quarry.*	
Performance Criteria	**Assessment**
P1 *Buildings and works must not result in potential to interfere or conflict with quarry operations having regard to:* *(a) the nature of the quarry; including:* *(i) operational characteristics;* *(ii) scale and intensity;* *(iii) degree of hazard or pollution that may be emitted from the activity;* *(b) the degree of encroachment of development or use into the Bridgewater Quarry Attenuation Area; and* *(c) measures in the design, layout and construction of the development to eliminated, mitigate or manage effects of the quarry; and* *(d) any advice from the Bridgewater Quarry operator.*	The proposal effectively involves the relocation of an existing concrete batching plant within the site, ultimately including the establishment of permanent structures. The site is located approximately 750 metres from the operational footprint of the Bridgewater Quarry. The relocated facility will be situated further away from the quarry than its current position within the site. The proposed development is not associated with a sensitive use. The concrete batching plant constitutes an industrial use and is broadly compatible with the quarry. Accordingly, the proposal does not introduce any potential for interference or conflict with the ongoing operations of the quarry and is considered to comply with the relevant performance criteria.

6. Conclusion

The application seeks planning approval to permanently establish the existing dry mix concrete plant in a modified location within the northern part of 1 Crooked Billet Drive, including associated works that will partially extend into the adjoining 13 Crooked Billet Drive.

This Planning Report demonstrates that the proposal complies with the applicable standards in the provisions for the:

- General Industrial Zone;
- Parking and Sustainable Transport Code;
- Road and Railway Assets Code;
- Electricity Transmission Protection Code;
- Bridgewater Quarry Specific Area Plan; and
- Brighton Industrial Hub Specific Area Plan.

This includes the performance criteria in the relevant zone, code and specific area plan provisions listed below.

- General Industrial Zone
  - Clause 19.4.3 Landscaping – Performance Criteria P1.
- Parking and Sustainable Transport Code
  - Clause C2.6.3 Number of accesses for vehicles – Performance Criteria P1.
- Road and Railway Assets Code
  - Clause C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction – Performance Criteria P1.
- Electricity Transmission Infrastructure Protection Code
  - Clause C4.5.2 Dust or other airborne particulates within an Electricity Transmission Corridor – Performance Criteria P1.
  - Clause C4.6.1 Buildings or works within an Electricity Transmission Corridor – Performance Criteria P1.
- Bridgewater Quarry Specific Area Plan
  - Clause BRI-S4.7.1 Buildings and works within Bridgewater Quarry Specific Area Plan – Performance Criteria P1.

It is therefore submitted that a Discretionary permit can be in accordance with Clause 6.8.1 of the Planning Scheme and Sections 51 and 57 of the *Land Use Planning and Approvals Act 1993*.

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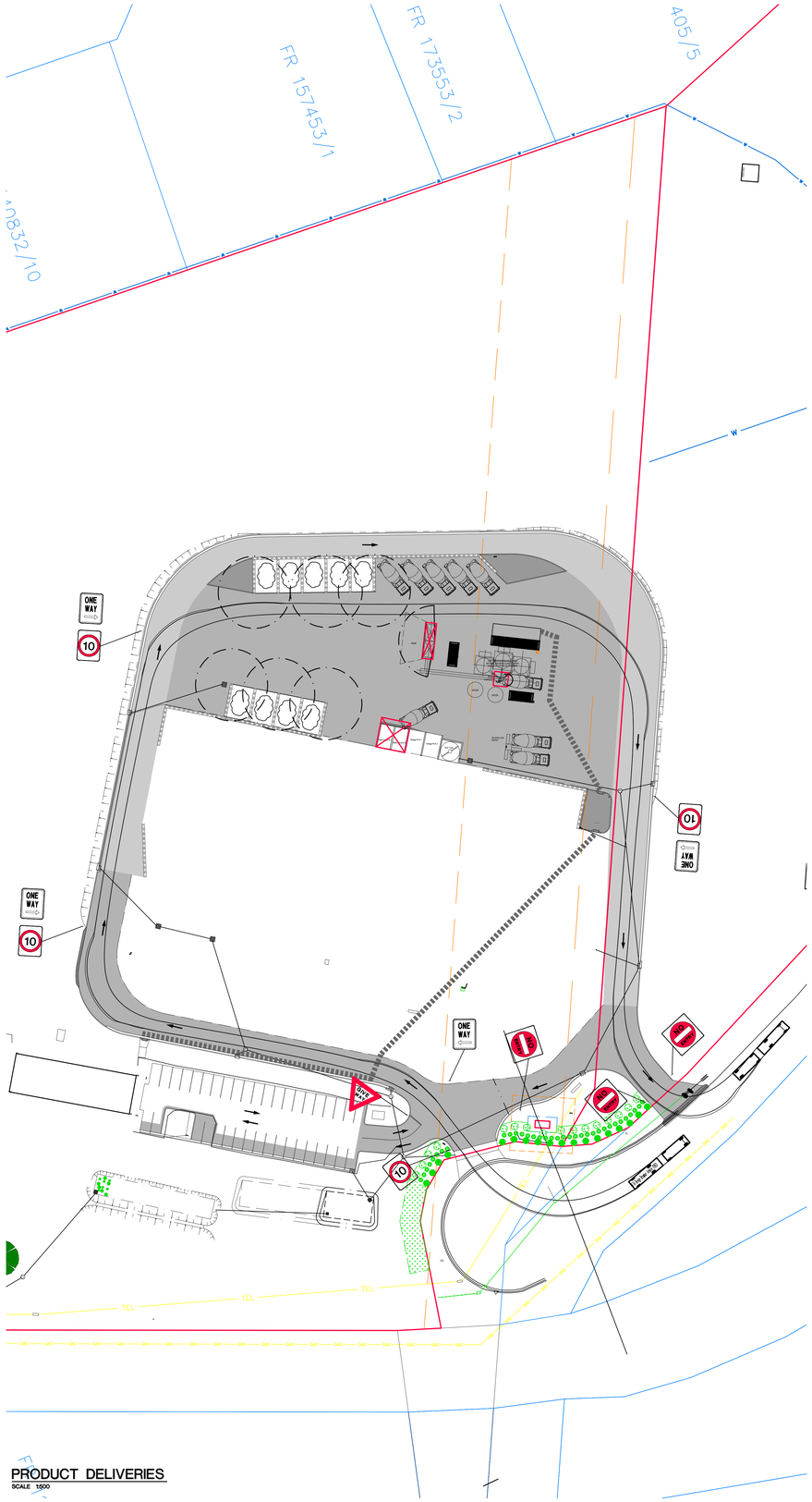

PRODUCT DELIVERIES
SCALE 1:500

CARPARK ENTRY - EXIT / EXISTING HOUSE ENTRY - EXIT
SCALE 1:500

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Architectural
ABP No. CC4874f
Structural / Civil
ABP No. CC1633i

Citation Certification ISO 9001 Quality management system

hazellbros

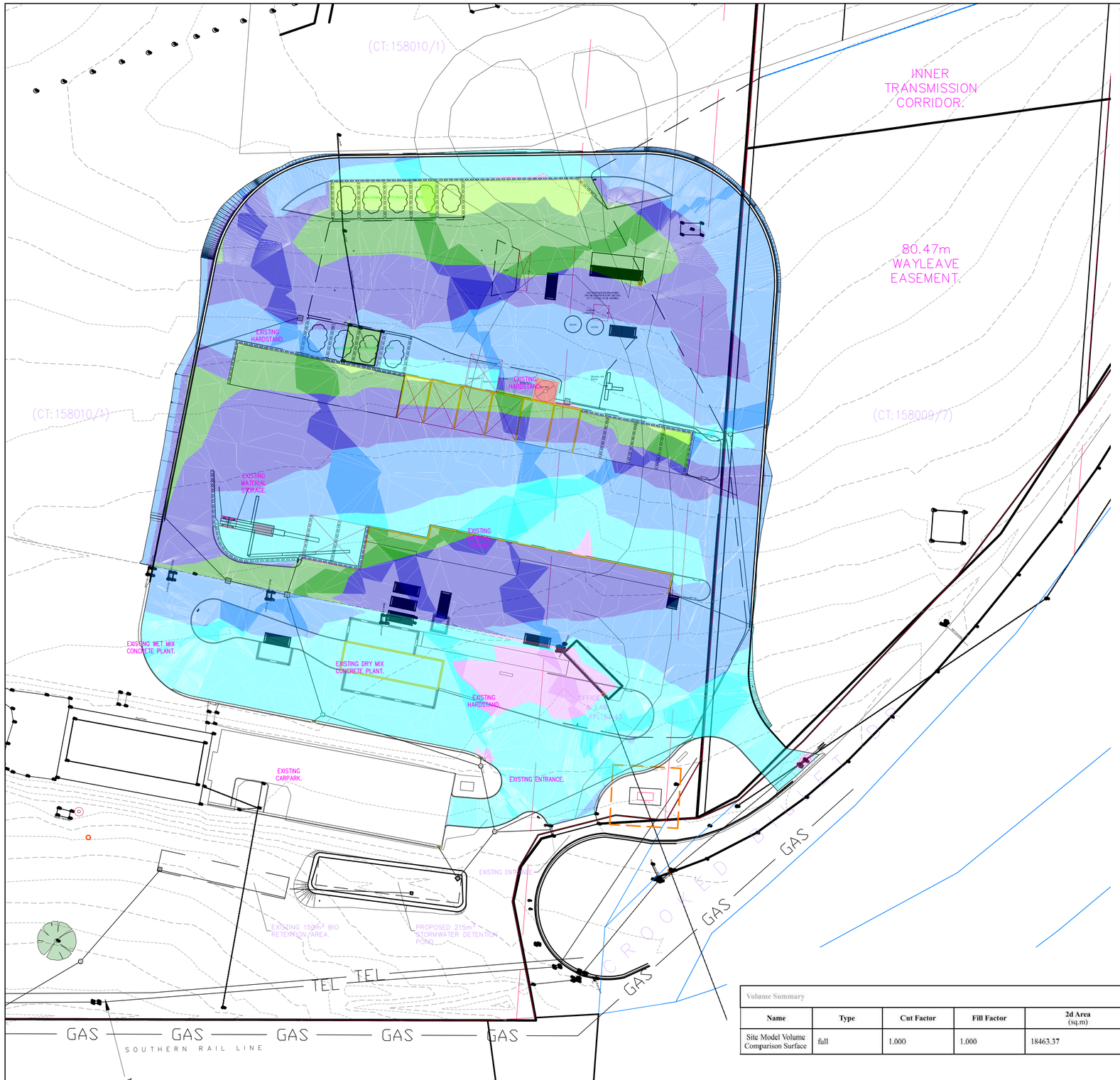
CONTROLLED DOCUMENT

ISSUE	DATE	ISSUED FOR	REV.
01	16.06.25	PLANNING APPROVAL	
02	25.07.25	COUNCIL RAI HOUSE ACCESS BIKE PARKING	A

DIMENSIONS ARE IN MILLIMETRES. DO NOT SCALE. CHECK AND VERIFY ALL DIMENSIONS ON SITE. REFER DISCREPANCIES TO THE SUPERINTENDENT. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH: BUILDING CODE OF AUSTRALIA, APPLICABLE AUSTRALIAN STANDARDS & LOCAL AUTHORITY REQUIREMENTS.

PROJECT: CONCRETE BATCHING PLANT
AT: 1 / 13 CROOKED BILLET DRIVE
BRIDGEWATER
FOR: HAZELL BROS GROUP PTY LTD

DRAWING: CIVIL WORKS
SAMPLE TURN PATHS
SHEET 2.
DESIGNED: CGB DRAWN: PAS CHECKED:
SCALES: 1:500 AT A0 SIZE DRAWING SHEET
PROJECT No. 24.140 DRAWING No. CP19 REV. A



BULK EARTH WORK SITE PLAN

SCALE 1:500

SURFACE ELEVATION DATA			
NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
1	−3.50	−3.00	
2	−3.00	−2.50	
3	−2.50	−2.00	
4	−2.00	−1.50	
5	−1.50	−1.00	
6	−1.00	−0.50	
7	−0.50	0.00	
8	0.00	0.50	
9	0.50	1.00	
10	1.00	1.50	

BULK EARTH WORK SITE PLAN - LEGEND

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Site Model Volume Comparison Surface	full	1.000	1.000	18463.37	8467.46	1425.72	7041.74<Cut>

FINISHED SURFACE LEVEL TO NATURAL SURFACE LEVEL
CUT/FILL TABLE

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Citation Certification ISO 9001 Quality management system

hazellbros

ISSUE	DATE	ISSUED FOR	REV.
01	21.07.25	DEVELOPMENT APPROVAL	-

DIMENSIONS ARE IN MILLIMETRES. DO NOT SCALE. CHECK AND VERIFY ALL DIMENSIONS ON SITE. REFER DISCREPANCIES TO THE SUPERINTENDENT. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH: BUILDING CODE OF AUSTRALIA, APPLICABLE AUSTRALIAN STANDARDS & LOCAL AUTHORITY REQUIREMENTS.

PROJECT: ASPHALT BATCHING PLANT
AT: 1 / 13 CROOKED BILLET DRIVE
BRIDGEWATER
FOR: HAZELL BROS GROUP PTY LTD

DRAWING: CIVIL WORKS
OVERALL SITE PLAN
BULK EARTHWORKS

DESIGNED: S.E.C. DRAWN: S.E.C. CHECKED: P.A.S.

SCALES: 1:500 AT A1 SIZE DRAWING SHEET

PROJECT No. 24.140 DRAWING No. Cp22 REV. -

1/13 Crooked Billet Drive Bridgew. Proposed DRY Batching Plant Operational Quantities

Legal Entity Hazell Bros. Concrete PTY LTD, 14 Farley Street, Moonah, 7009, ABN: 56 118 390 800

Last Updated 12/05/2025

Requirements	***Capability / Capacity***	***Comments***	
Production Rate	60m3 / hour- Maximum	Maximum 60m3 per hour mixing 32MPa Mix	
	Average 9 loads per hour, maximum 10 loads	Under full production days only	
Operating Hours	Monday - Sunday 24 hrs per day	Required to meet customer or project specific requirements, General operations are Monday to Friday 5am-3pm- General Clients	
Average Working Day	10hours	Work load dependant	
Normal working hours	5am - 3pm	Work load dependant	
Batch Size	Average Batch size 5.4m3	Maximum 7.8m3	
Mixing Technology	Dry Mixing Operation		
Quality Standard	AS1379- Specification and supply of concrete		
Aggregate Storage	External stockpiles made of concrete block bay walls with concrete hardstand foundation- Each stockpile fitted with automated dust suppression sprinklers		
Aggregate Management	Front End Loader fed load bins from stockpiles		
Front End Loader (FEL) Type and Size	Hyundai 760-9		
Cementitious Material Storage	3x100m3 Vertical silos		
Admixtures- Liquid	8x Sikka admixtures	Stored in 40" self bunded container	
Solid Additives	Colour oxides and fibres- Bags	Undercover loading stand	
Slumping	Dual Lane drive through- drop down platforms	2 x Agitator slumping stand and concrete hard stand	
Loading	2 x load weigh bins- 1 conveyor	Load bins with Covered Hood and Dust suppression	
Loading Bay	Fully covered with automated dust suppression misting system	Automated dust supression system is activated when conveyor belt starts in readiness for batching	
Concrete Temperature Control	Cold Potable water only		
Water Supply			
Water Storage	Inground recycled stirrer tank	5mx5mx3.5m 87.5m3 or 87,500 litres	
	2 x 22,000litre Fresh water surge tanks		
Fresh Water	Mains potable for fresh water 50mm connection	50mm Main top up of 22,000 litre water tank	
	Dust Suppression	second 22,000 litre water tank used as surge tank for dust control measures	
Recycled Water	Recycled collected from site run off- captured in wedge pits for sediment separation- then water stored in 87,500 litre stirrer tank for re use in concrete		
Agitator- Trucks	4 x twin drive twin steer and 1 x Tri axle drive twin steer		
Operating Control System	U-batch	Automated batching software	
Batch Office	6x3.0 metres		
Crib room office/ toilet	12x3.0metres		
Ticketing	U Batch	Linked to batching software	
Power Supply	Mains supply via new 2MVA transformer	Underground mains supply to (MCC)- Motor Control Centre	

Sewer			
Communications	WIFI and UHF		
Accommodation	2 Operational Staff and 5 x Agitator drivers	Part time Supervisor/ Manager	
Car Parking	8 spots	Main carpark for site- Existing	
Agitator Truck Parking	5		
		Annual volume	
Traffic Flow	20,000m3	20,000m3	
	Incoming Raw Aggregate/ Sand Deliveries	82%- 16,400m3 * 2.1Tonne/m3 = 34,440 tonnes	
	Incoming Cementitious Deliveries	12%- 2,400m3 * 1.44 Tonne/m3= 3,456 tonnes	
	Incoming Admixtures	0.05%- 10m3 or 10,000 litres	
	Water Mix of Potable and recycled	5%- 100m3 or 1,000,000 litres	

Trucking

36tn truck and trailer	34440/36	957 truck and trailer deliveries PA
35tn average	3456/35	99 Tanker Deliveries PA
2,000 litre deliveries		5 Deliveries PA
Mains supply		

Bridgewater Batch Plant

Environmental Management Plan

DOCUMENT CONTROL & DISTRIBUTION

REVISION REGISTER

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
0.1	28/10/22	Isaac Standaloft	Chris Davey		
0.2	14/11/22	Isaac Standaloft	Chris Davey		
0.3	16/06/25	Isaac Standaloft	Ben Wilson		

REVISION STATUS

Rev.	Section Changes
0.1	Draft for internal review
0.2	Final Draft
0.3	Revision for plant reposition

DISTRIBUTION LIST

Position	Name	Organisation

CONTENTS

1 EMP Scope and Purpose

1.1 Scope

The Environmental Management Plan (EMP) addresses the environmental aspects and impacts of Hazell Bros' Bridgewater Batch Plant located at 1 Crooked Billet Drive Bridgewater. The EMP applies to the concrete batch plant and associated infrastructure, including access roads.

1.2 Purpose

The purpose of the EMP is to provide a framework for managing the environmental impacts of the project works. The EMP will describe and communicate:

1. Scope and purpose of the EMP
2. Hazell Bros Environmental Policy
3. Project environmental aspects and impacts, including significant environmental aspects
4. Environmental objectives and targets
5. Environmental roles and responsibilities
6. Legal and other requirements
7. Environmental training and induction
8. Project environmental control measures
9. Monitoring and reporting requirements for environmental aspects
10. Incident reporting and investigation
11. Emergency preparedness and response
12. Environmental inspections and auditing
13. The Environmental Site Map

2 Environment Policy

Hazell Bros Group is committed to undertaking our business in a manner that provides for the protection of the environment through the integration of environmental programs in all aspects and areas of our operations.

We will achieve this by:

- Maintaining an environmental management system that conforms with ISO 14001 and is appropriate to the purpose and context of our business.
- Establishing environmental objectives and targets aimed at minimising the risk of environmental harm.
- Taking all practical steps to protect the natural environment and prevent pollution.
- Developing strategies to encourage the sustainable use of resources, climate change mitigation and adaptation and the protection of biodiversity and ecosystems.
- Complying with all legal and other environmental compliance obligations.
- Continually improving the environmental management system to enhance our environmental performance.

3 Batch Plant Environmental Aspects and Impacts

The following Environmental Aspects & Impacts have been identified for the project. Significant environmental aspects (SEA) may require special attention to ensure environmental impacts are appropriately managed to minimise significant environmental risk(s):

Environmental Aspects	Environmental Impacts	SEA
Noise	Environmental nuisance	Yes
Vibration	Environmental nuisance Damage to buildings and infrastructure	No
Air Quality	Dust nuisance Vehicle emissions	Yes
Weeds and Pathogens	Introduction of new weeds and pathogens Spread of existing infestations Disruption to plant and animal habitats and ecosystem processes	No
Flora	Destruction and damage to protected and threatened plants and vegetation communities	No
Fauna	Destruction and damage to protected and threatened animals and animal habitat	No
Surface Water	Point source pollution e.g. oil spill Non-point source (diffuse) pollution e.g. soil erosion and stream sedimentation	Yes
Ground water	Interception and diversion of groundwater Contamination/pollution of groundwater aquifers	No
Aboriginal Cultural Heritage	Disturbance to aboriginal heritage sites	No
Historic (European) Heritage	Disturbance to heritage listed structures	No
Fire	Damage to habitat and infrastructure	No
Visual Amenity	Reduction in visual aesthetics Light pollution	No
Contaminated Soils	Environmental and health impacts	No
Acid Sulphate Soils	Soil and water acidification e.g. fish kills Damage to infrastructure	No
Waste	Litter and environmental nuisance Vermin	Yes
Hazardous Materials	Ground and surface water contamination	No

4 Objectives and Targets

The goal of the EMP is to minimise the environmental impact of the batch plant operations. Environmental objectives are assigned based on project environmental aspects. Environmental targets assist in providing verifiable evidence the environmental objectives have been achieved.

The environmental objectives and targets for this project are:

Environmental Aspect	Objective	Target
Noise	Minimise the impact of project noise on neighbours	No noise complaints from batch plant operations
Air quality	Maintain air quality outside the project construction area boundary	No dust complaints
Weeds	No new weed infestations resulting from project works	All heavy earthmoving machinery to be washed down, inspected and verified weed free prior to being accepted for work on site
Surface Water	No impacts on surrounding aquatic ecosystems	Erosion and sediment controls inspected weekly
Fire	Maintain low fire risk	No deliberate fires lit on site.
Visual Amenity	Maintain site aesthetics	No complaints from nuisance lighting
Contaminated Soils	Contain & manage identified contamination	Contaminated materials disposed of as per regulatory requirements
Waste	Implement waste management hierarchy	Waste streams to be segregated where practicable
Hazardous Materials	Protect soil and water from contamination	No hazardous material spills causing environmental harm
Traffic	Minimise impacts of increased traffic associated with batch plant operations	No traffic incidents or complaints from batch plant related works

5 Roles & Responsibilities

5.1 Plant Supervisor(s)

Plant Supervisor(s) have delegated authority to oversee the day-to-day implementation of the EMP and appendices during site operation and to assist in periodic EMP reviews. Plant Supervisor(s) may conduct site specific inductions which will include site environmental obligations and could be called on to assist with environmental monitoring programs and site environmental inspections. The Plant Supervisor(s) should work closely with the Concrete HSE Advisor and other environmental specialists when implementing technical aspects of the EMP.

5.2 HSE Advisor(s)

The HSE Advisor will provide technical advice to site staff on the implementation of the EMP and subordinate plans. The HSE Advisor must have a good understanding of plant environmental legal and other requirements, including site specific permit/approval obligations. The HSE Advisor will liaise with State & Local Government environmental officers and independent environmental specialists to provide appropriate environmental advice to

other staff required to operate on the site. The HSE Advisor will have a leading role in preparing and conducting site specific inductions and will ensure any environmental monitoring programs are completed as required under this EMP. The HSE Advisor should also ensure site HSE inspections and audits are planned, conducted and reported in accordance with the EMP.

6 Legal & Other Requirements

The key legal and other requirements to be complied with during the project are:

Commonwealth
Environment Protection & Biodiversity Conservation Act 1999
National Environment Protection (Ambient Air Quality) Measure
Tasmania
Aboriginal Heritage Act 1975
Biosecurity Act 2019
Dangerous Goods (Road and Rail Transport) Act 2010
Environmental Management & Pollution Control Act 1994
Environmental Management & Pollution Control (Controlled Waste Tracking) Regs 2010
Environmental Management & Pollution Control (Waste Management) Regs 2020
Fire Services Act 1979
Historic Cultural Heritage Act 1995
Land Use Planning & Approvals Act 1993 (LUPAA)
Litter Act 2007
Mines Work Health and Safety (Supplementary Requirements) Act 2012
Mines Work Health and Safety (Supplementary Requirements) Regs 2022
Nature Conservation Act 2002
Threatened Species Protection Act 1995
Work Health and Safety Act 2012
Environmental Protection Policy (Air Quality) 2004
Environmental Protection Policy (Noise) 2009
State Policy on Water Quality Management 1997
Tasmanian Wash-down Guidelines for Weed & Disease Control 2004
Weed and Disease Planning and Hygiene Guidelines DPIPWE 2015

The activity is also subject to the following permits, licences or exemptions:

- Planning Permit (DA2022/00210)

7 Environmental Training and Induction

Hazell Bros has a Corporate Environmental Awareness Training and Induction package that provides an overview of Hazell Bros ISO 14001 certified Environmental Management System. This training and induction covers key elements of the site Environmental Management Plan including:

- Environmental Policy
- Legal and other requirements

- Roles and responsibilities
- Environmental Aspects and Impacts
- Environmental control measures
- Objectives and targets
- Monitoring
- Incident reporting and investigation
- Emergency preparedness and response
- Inspections and auditing

Site inductions ensure all staff and contractors receive training and instructions on environmental aspects and impacts specific to the project site.

Corporate training records are maintained in an electronic training database with site specific induction records maintained on the project site.

8 Environmental Control Measures

Environmental aspects and impacts will be managed using the following environmental control measure:

8.1 Noise

Noise will be reduced by enclosing loading and mixing areas wherever possible. Noise from a concrete plant would generally not exceed 75dB from within the operation and reduced externally by the implemented mitigation controls and distance. The dB level would be less than the adjacent highway and other businesses within the existing industrial estate as a comparison and considered low impact.

Plant and equipment shall be well maintained in accordance with OEM recommendations.

Project noise will be monitored as part of daily site supervision and excessive noise likely to generate a nuisance complaint actioned as required.

8.2 Air Quality

Plant & equipment operating on the project must not emit visible smoke for >10 consecutive seconds.

Dust emissions will be visually monitored to ensure dust plumes from project surfaces, stockpiles and machinery do not cause environmental nuisance beyond the project boundary.

Dust Mitigation control

A number of dust nuisance mitigation measures will be put in place onsite, including:

- Enclosed sides, back and roof over the aggregate feed- weigh hoppers- this will also include a rotational sprinkler system off the structure to ensure the loader operating area is kept damp during dry periods.

- Enclosed sides, back and roof over the concrete loading point- this will also include a water misting curtain system- which is automatically activated when the plant conveyor system starts. This creates a water curtain at the front of the loading bay enclosure to prevent dust emissions at the load point.
- The aggregate stockpile storage bays will also be fitted with rotational automated sprinkler systems to prevent dust emissions.
- The concrete plant site will be sealed with a combination of concrete hard stands, asphalt and two coat bitumen seals- these areas will be swept via a road vacuum truck regularly to ensure the operating surfaces are kept clean and free of debris.

Where dust suppression does not reduce the risk of nuisance, the Project Manager must be informed, and consideration given to stopping dust generating works until conditions improve.

8.3 Weeds

Weed control will be improved due to increased concrete hardstand and compacted gravel areas, along with general maintenance associated with a full-time business presence.

Heavy machinery will be washed down prior to entering the project site to remove soil and other materials capable of spreading weed seeds.

Machinery will be inspected prior to being unloaded to confirm the equipment is weed free.

8.4 Surface Water

Site and Production Wastewater will be managed in accordance with the 1/13 Crooked Billet Drive Bridgewater TAS 7030 Management Plan 2025.

Existing site offices are connected to an existing septic system on the property but outside the proposed concrete batch plant footprint. This existing septic system will be utilised for the period of operation. There will be no change to this existing septic system.

Site Stormwater will be collected and utilised, in accordance with the Stormwater Management Plan.

Clean water will only be discharged into the public stormwater system after leaving the water treatment system, and only if not required for operations or during shutdowns.

Wash Out Bays

Operation and maintenance of the wash out bays at the Bridgewater concrete plant will be overseen by the batch plant supervisor or production manager.

Concrete wash out bays are used for the cleaning of agitators and the retention of waste concrete and other sediments, to prevent these materials from leaving site.

Wash out bay volume is visually monitored daily by the site supervisor and checked weekly as part of the formal site inspection checklist.

Wash out bays are cleaned of concrete and other sediment materials once weekly or more frequently if required, as per the Cleaning Washout Pits and Screens – Bridgewater Batch Plant Work Inspection (WI-RES-034).

Once concrete and sediment materials are removed, they are loaded as per the Loading of Waste (Bridgewater Batch Plant) Work Instruction (WI-RES-049). These materials are then transported offsite for recycling or disposal.

Example of similar covered wash out bays at Hazell Bros Lampton Avenue Batch Plant.

The wash out bays at 1/13 Crooked Billet Drive will consist of two covered bays, that are 3.3metres wide and 6m deep, with a holding depth of 1.5m each- total holding capacity of each bay will be 29.7m3, or 59.4m3 total capacity.

As one bay is filled with waste concrete material it is left to free drain excess water out the bottom of the steel retaining wall-gate, where the floor of the bays has 2% nominal fall to the front of the bay where the water drains via a shallow swale drain directly to the adjoining wedge pits. The second washout bay is then used until the first bay is dried and material cleaned out using the front-end loader.

The bays are designed with higher walls to prevent splash out and are covered to protect from rain.

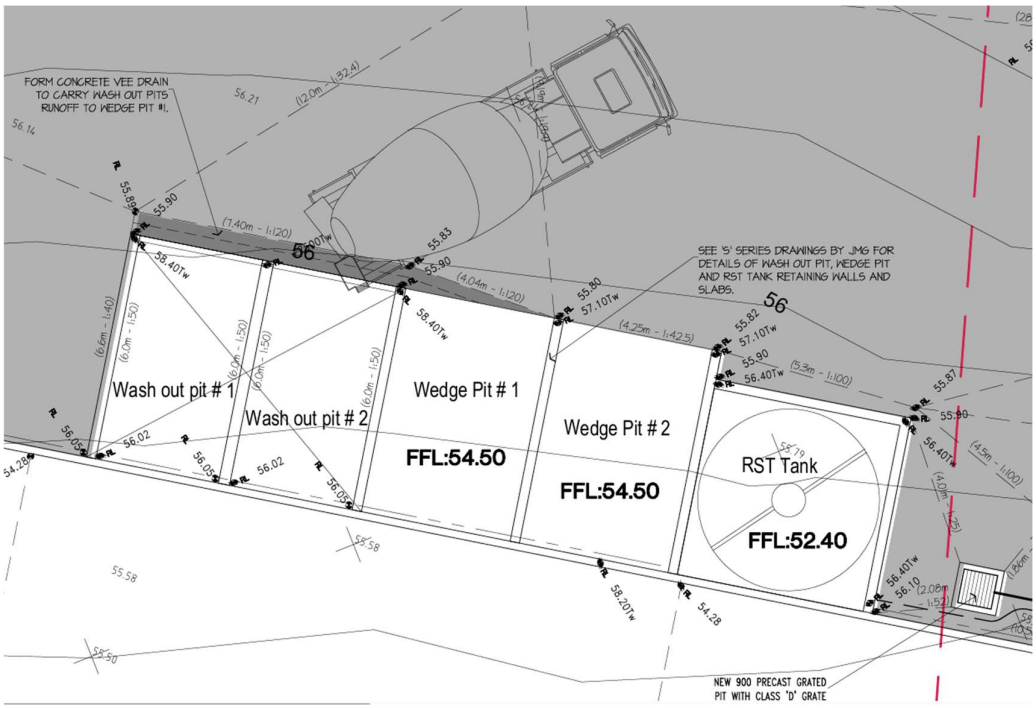
Wedge pits

The adjoining wedge pits will be located next to the wash out bays, where they are sub surface water collection pits to collect both site operations run off surface water and also the free draining water from the adjoining wash out bays.

The wedge pits will consist of two bays with each bay being 3.3m wide and 6m deep with a sub-surface depth of 1.3m- that consists of a ramp into the pit to allow for front end loader access and cleaning of solids.

The wedge pits allow for any suspended particulates or solids to be captured and settle to the base of the pits, and the clean surface water to free drain through cut outs in the adjoining walls to feed the reclaimed water into the adjoining recycled water stirrer pit.

Proposed Washout- Wedge and recycled water tank system



Recycled water tank

The recycled water pit will consist of a 5x5mx4m deep concrete watertight pit, where the walls will be +500mm from finished surface level, the pit operating depth will be 3.5m with a holding capacity of 87,500 litres. And will have a mechanical stirrer, which will keep any sedimentation suspended in circular motion, for re use as recycled water within the finished concrete products.

The recycled water will be pumped, to an above ground poly water holding tank next to the batch plant, where the water is metered into the batching process.

8.5 Aboriginal Cultural Heritage

There are no known aboriginal heritage sites within the batch plant footprint.

Any unanticipated discovery of an aboriginal cultural heritage site will be managed via an unanticipated discovery plan. In summary, this will require work to stop in the immediate area and protected from disturbance whilst further expert advice is obtained on the site's significance and ongoing management requirements.

8.6 Fire

Fires are not permitted on the project site.

Fire Risk is minimal and will be reduced further by the proposal, also due to the increased concrete hardstand and compacted gravel areas. Misting and wetting of hardstand surfaces to reduce dust, will also contribute to a reduced fire risk on windy high-risk days.

Unplanned fires will be controlled and extinguished immediately where safe to do so.

Fires that cannot be controlled will be reported immediately to Fire Emergency Services using the 000-emergency phone number.

Unplanned fires are a potential site emergency. Fires must be reported immediately to the batch plant Supervisor who will alert the Chief Emergency Warden for possible enactment of the site Emergency Response Plan.

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8.7 Visual Amenity

The works are to be executed in accordance with the DA project drawings.

Lighting is to be directed away from sensitive receptors wherever practicable.

8.8 Contaminated Soil

Potentially contaminated soil and suspected asbestos containing materials (ACM) shall be reported immediately to the site Manager.

Suspected contamination will be quarantined from other works and investigated to characterise the nature and extent of the contaminated material.

Where contamination is confirmed, containment and disposal strategies will be determined in consultation with appropriate specialists and in accordance with regulatory requirements.

8.9 Waste

Waste containers shall be supplied for the collection of general waste and recyclables.

Waste containers shall be clearly labelled and fitted with lids to prevent windblown litter.

Appropriately licenced contractors to be used to dispose of project wastes and recyclables.

Periodic inspections and scheduled pumping of temporary toilet facilities must be undertaken to prevent overflow and discharge to the environment.

8.10 Hazardous Materials

The use and storage of hazardous materials will be minimised on site to the extent reasonably practicable.

Hazardous materials will be stored in a bunded area consistent with regulatory requirements.

Well stocked spill kits will be maintained on the site close to hazardous material storage areas.

Spills will be contained, cleaned up and reported immediately.

Workers will be provided with instructions on spill response procedures during site specific project inductions.

Refuelling is not permitted within 10m of any watercourse or drainage line.

Contaminated soils and hydrocarbon waste will be segregated from other waste streams and disposed of in accordance with regulatory requirements.

9 Environmental Monitoring & Reporting

The following table outlines the Environmental monitoring and reporting requirements for the activity.

Environmental Aspect	Monitoring & Reporting Requirements
Noise	Daily monitoring of plant and equipment. Weekly documented HSE inspections. Noise nuisance complaints to be reported immediately to the site Manage.
Air Quality	Vehicle and dust emissions from site to be visually monitored for potential environmental nuisance. Weekly HSE inspections. Complaints to be reported to the site Manager.
Weeds & Pathogens	Heavy earthmoving machinery to be inspected on arrival to site.
Surface Water	Daily visual inspection of erosion and sediment controls especially after a significant rainfall event. Weekly HSE inspection of erosion and sediment controls Discharge to the public stormwater system will be monitored at the sediment pit for a period to provide evidence that water quality meets the National Water Quality Management Strategy (NWQMS) – Guidelines. Report to site Manager incidents causing, or having the potential to cause environmental harm or nuisance to waterbodies or streams.
Aboriginal Cultural Heritage	Report unanticipated discoveries to the site Manager, and regulatory authority for assessment.
Fire	Daily visual monitoring to ensure no deliberate fires are lit. Report any fire that cannot be immediately controlled to Emergency Fire Services (000) and the site Manager.
Visual Amenity	Daily visual checking to ensure batch plant works are being executed as per the DA and artificial lighting is directed away from sensitive receptors.

	Report to the site Manager any non-conformance or complaint.
Contaminated Soil	Daily visual monitoring of site works for potential soil contaminations. Report suspected contamination to the site Manager for assessment & characterisation.
Waste	Daily visual monitoring for litter and storage bin levels. Weekly HSE inspections as above.
Hazardous Materials	Daily visual monitoring for oil leaks and spills Weekly HSE inspections focusing on safe storage requirements. Immediate reporting of spills to the site Manager.

10 Environmental Incident Reporting and Investigation

10.1 Environmental Incidents

An environmental incident will include, but will not necessarily be limited to the following events for reporting and investigation purposes:

- Hazardous material spills to ground or water
- Any death or injury to threatened fauna within the site boundary
- Unauthorised destruction of threatened flora
- A breach of an environmental exclusion zone
- Unauthorised disturbance to an aboriginal or historic heritage site
- Any public complaint relating to environmental nuisance or harm
- A notifiable incident that results in actual or potential environmental nuisance or harm

All site related environmental incidents must be reported as soon as practicable to the Hazell Bros site Manager and will be entered into Hazell Bros electronic reporting system.

10.2 Notifiable Incidents

State environmental legislation requires a person to take such steps as are practicable or reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person.

Environmental incidents involving potential or actual environmental nuisance or harm may be regarded as Notifiable Incidents under State and Local Government legislation and must be reported to the Hazell Bros Environmental Manager and the site Manager immediately on becoming aware an incident has occurred. The Managers will escalate the incident notification process in accordance with the Hazell Bros incident notification protocol to ensure the relevant Local or State Government Environmental Regulator is notified within 24 hrs of Hazell Bros becoming aware an incident has occurred.

Examples of notifiable environmental incidents include:

- significant fish kills
- hazardous material truck/vehicle rollovers
- hazardous material fires
- pipeline breaks
- major sewage spills
- significant diesel spills to ground (causing or having the potential to cause environmental harm) or any hydrocarbon spill to water

In Tasmania, notifiable incidents shall be reported through the **EPA Tasmania Pollution Incident Hotline 1800 005 171.**

The State Pollution Hotline number is available 24 hours a day, 7 days a week. Notifications should include:

- Your full name, address and telephone contact details
- Date, time and duration of the incident
- Type of pollutant or a description of the incident, discharge or emission
- Location of the incident, being as specific as possible
- Source and cause of pollution if known
- Extent or size of the area where the pollution is visible
- Anything else that is relevant to the incident

Alternatively, if the incident is not occurring at the time you can contact the Regulator by lodging the above information by email:

Tasmania: incidentresponse@epa.tas.gov.au

10.3 Incident Investigation

All environmental incidents are entered into Hazell Bros' electronic incident reporting system for investigation. The investigation process is as follows:

- Incidents are reviewed by Hazell Bros' Environmental Manager and assigned to an incident Owner
- The Owner conducts the incident investigation and assigns corrective actions to the responsible person(s)
- Corrective actions are tracked and may only be closed once satisfactorily completed
- When all corrective actions have been completed, the incident is closed out.

11 Emergency Preparedness and Response

Credible environmental emergency scenarios and emergency contacts are documented in the Project Emergency Response Plan. For most projects, the most likely environmental emergency would involve a spill or uncontrolled release of an environmentally hazardous substance.

Hazell Bros PRO-HSE-003 Emergency Substance Spill or Gas Leak details the emergency response to be initiated in the event of a major environmental spill.

Spills that have the potential to cause environmental nuisance or harm will be reported to the site Manager and the State Environmental Regulatory Authority within 24 hours as required under State Government legislation.

All spills will be contained & cleaned up immediately. Project workers will be instructed during the site-specific induction process on environmental spill responsibilities, including containment, clean up and reporting protocols.

12 Environmental Inspections and Auditing

12.1 Environmental Inspections

Environmental inspections will be conducted as follows:

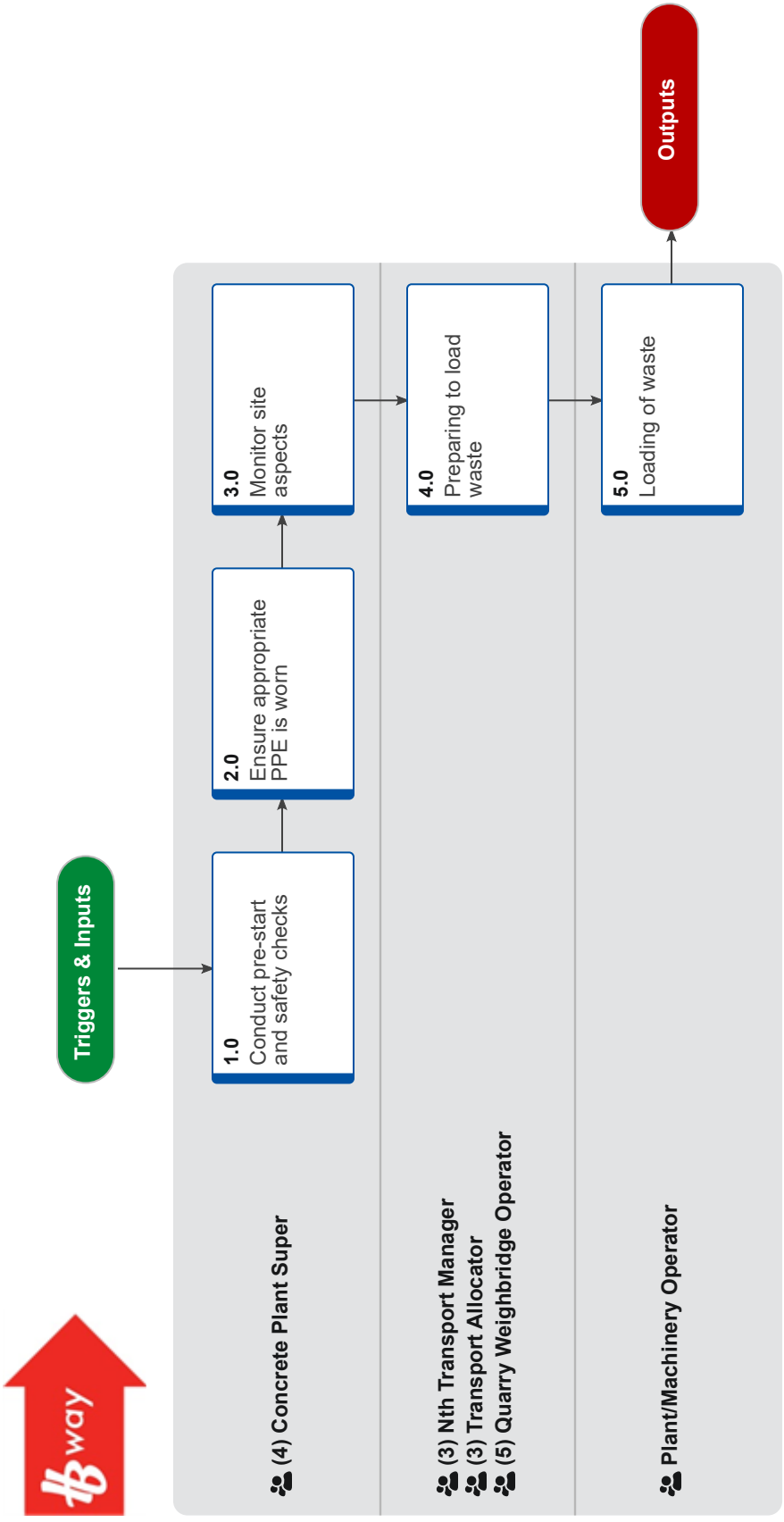
- Daily informal visual inspections conducted by staff, supervisors and workers as part of constantly monitoring the site for environmental compliance
- Weekly HSE Site inspections documented using the batch plant site HSE Checklist. The performance of HSE inspections is monitored by the site Manager with all non-conformances reported electronically in Promapp.

12.2 Project Audits

The project is subject to internal and external audits as determined by the Hazell Bros Audit Schedule. The audit schedule will be communicated as amended from time to time:

Audit Type	Auditor	Proposed Date
Internal – Management System	HSEQ Lead Auditor	TBA
External – Management System	DLCS	TBA

WI-RES-049 - Loading of Waste (Bridgewater Batch Plant) v6.0



WI-RES-049 - Loading of Waste (Bridgewater Batch Plant) v6.0

Summary

Objective
To define the process to be used when cleaning out/loading out of the various waste at Bridgewater Batch Plant.

Background
DEFINITIIONS
FEL – Front End Loader

COMPETENCY
Only competent operators are to operate the FEL. This must be monitored by the Plant Supervisor or suitably competent person.
When performing any of the loading of waste tasks set out below, the work areas are to have access restricted only to necessary personnel.

Owner Todd Rusher

Expert Amanda Krause

Procedure

1.0 Conduct pre-start and safety checks

(4) Concrete Plant Super

- **a** Ensure all Staff and Contractors are fully licensed to operate FEL or Excavator
- **b** Assess the risks involved when performing any of these processes to ensure any additional hazards are controlled and risks reduced
- **c** Take 5 booklet (if applicable)
- **d** Ensure all operators of FEL have read and signed onto the Plant Risk Assessment prior to operation.
- **e** Ensure pre-start of FEL has been completed prior to operation.

2.0 Ensure appropriate PPE is worn

(4) Concrete Plant Super

- **a** Hard hat in designated areas
- **b** Safety boots/footwear (lace-up)
- **c** Full length high visibility clothing
- **d** Gloves
- **e** Safety glasses of an approved type for the task to be undertaken
- **f** Hearing protection in designated areas

3.0 Monitor site aspects

(4) Concrete Plant Super

NOTE **Requires daily monitoring**

- **a** Check all waste levels in pits and storage areas, clean weekly (or sooner as necessary)
- **b** Check all signage is in place and clearly legible
- **c** Check all safety chains are always in place and in good condition
- **d** Ensure slip hazards are controlled at all times

4.0 Preparing to load waste

(3) Nth Transport Manager, (3) Transport Allocator, (5) Quarry Weighbridge Operator

NOTE **Pits are to be cleaned weekly or sooner if required**

- **a** All FEL operators must be licensed and hold current VOC
- **b** Pre-start must have been completed
- **c** Only loaders with working scales may load waste
- **d** Bucket calibration to be completed by operator prior to loading of waste.

e All tipper operators must be familiar with this WI

f The tare weight of the truck must be verbally reported to the FEL operator once on site.

g TARE – GVM and payload calculation to be determined, higher mass and PBS to be considered. Transport to advise concrete on the truck to be allocated and these calculations are to be determined by the regional production manager in association with the plant supervisor.

5.0 Loading of waste

Plant/Machinery Operator

a Waste is to be loaded onto the truck using loader scales to monitor the appropriate load size, following all legal road limits for each vehicle. Truck must be loaded 1 tonne under to account for any weight discrepancies. Ticket must be printed with weight and given to truck driver. Waste being loaded is to be determined as “transportable” by the transport division/tipper operator.

b Once the truck has tipped off its load at the quarry, the truck must tare in again at the weighbridge and report back to the FEL operator before loading again.

c Report to loader driver the new tare weight and recalculate payload if required

d This process is to be followed for all repeat loads or any new trucks entering the batch plants to cart away waste.

Initial Instruction - Loadmaster Alpha100 Wheel Loader Weighing System.pdf

Triggers & Inputs

TRIGGERS

None Noted

INPUTS

None Noted

Outputs & Targets

OUTPUTS

None Noted

PERFORMANCE TARGETS

None Noted

Process Dependencies

PROCESS LINKS FROM THIS PROCESS

None Noted

PROCESS LINKS FROM OTHER PROCESSES

None Noted

RACI

RESPONSIBLE

Roles that perform process activities

(3) Nth Transport Manager, (3) Transport Allocator, (4) Concrete Plant Super, (5) Quarry Weighbridge Operator, Plant/Machinery Operator

Systems that perform process activities

None Noted

ACCOUNTABLE

For ensuring that process is effective and improving

Process Owner	Todd Rusher

Process Expert Amanda Krause

CONSULTED
Those whose opinions are sought

STAKEHOLDERS
Adam Muller, Andrew Mackenzie

STAKEHOLDERS FROM LINKED PROCESSES

None Noted

INFORMED
Those notified of changes

All of the above. These parties are informed via dashboard notifications.

Systems

None Noted

Acts Regs Standards

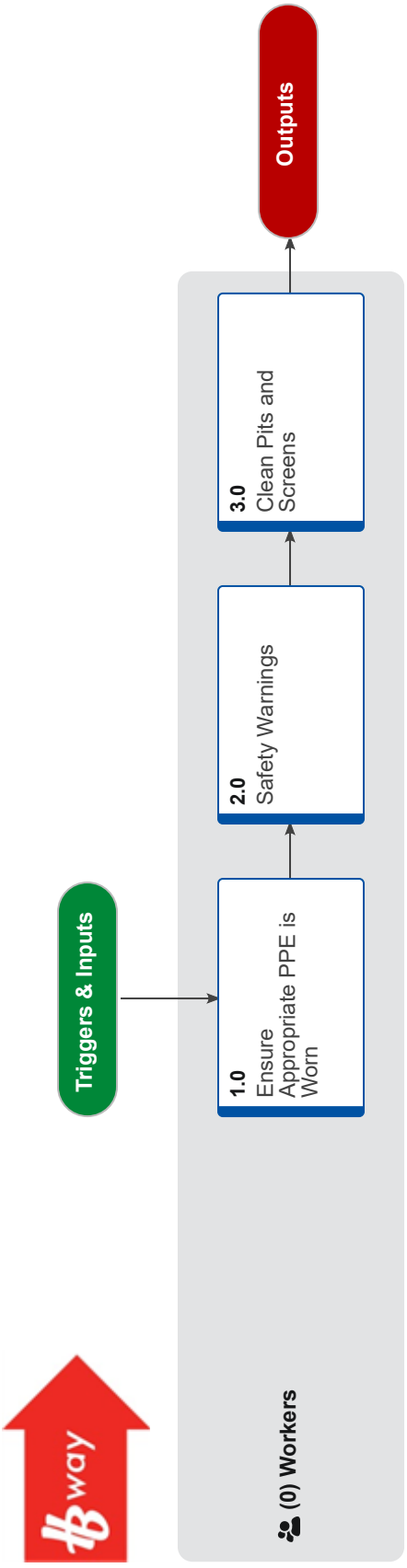
None Noted

Timeframes

Activity		Incl.	Active Time	Wait Time
1.0	Conduct pre-start and safety checks *	✓	-	-
2.0	Ensure appropriate PPE is worn *	✓	-	-
3.0	Monitor site aspects *	✓	-	-
4.0	Preparing to load waste *	✓	-	-
5.0	Loading of waste *	✓	-	-
		TOTAL	-	-

Variance Scenarios:

WI-RES-034 - Cleaning Washout Pits and Screens - Bridgewater Batch Plant v2.0



WI-RES-034 - Cleaning Washout Pits and Screens - Bridgewater Batch Plant v2.0

Summary

Objective
This process is to be used when cleaning washout pits at the Bridgewater Batch Plant.

Background
DEFINITIONS
FEL - Front End Loader

Owner Todd Rusher

Expert Isaac Standaloft

Procedure

1.0 Ensure Appropriate PPE is Worn
(0) Workers

- **a** Safety boots / footwear (lace up)
- **b** Full length clothing with a high visibility component
- **c** Gloves specific to the task required
- **d** Safety glasses of an approved type
- **e** Hearing protection in designated areas
- **f** Safety helmet (Hard hat) in designated areas

2.0 Safety Warnings
(0) Workers

- **a** At no stage shall the screens be handled manually.
- **b** Hoses used in this process must be safely stowed to prevent trip hazards.
- **c** Assess the risks involved prior to performing this task to ensure any additional hazards are controlled and risks reduced.
- **d** Always have a spotter for direction purposes and to attach and re attach safety chains.
- **e** Ensure FEL operator is licensed and VOC'd and has signed onto Plant Risk Assessment prior to operation.
- **f** Pre-start and Safety checks of FEL must be completed prior to operation.

3.0 Clean Pits and Screens
(0) Workers

- **a** Remove front gate with FEL (Front End Loader) using the lifting lugs that are fitted.
- **b** Place gate against wall or solid structure and place witches hats so as to eliminate the hazard of vehicles hitting them.
- **c** Remove concrete waste material from pit using the FEL and place it in truck provided, if truck is unavailable place in the designated area across the yard, only if required and authorized by supervisor, if this needs to be done debris must be cleaned up from in front of bin so as not to get into storm water drain.
- **d** Remove screen with FEL using the lifting lugs that are fitted. Ensure chain at the rear of the screen is detached before lifting.
- **e** Place the screen up against the side of the washout pits and secure the chain to the lug on the side wall to ensure it does not fall. While securing the chain keep the screen on the FEL. Once secured FEL can be moved.
- **f** Clean out the remainder of the pit with the FEL, ensure drain points behind screen in pit are free of debris.
- **g** Return the screen to the pit using the FEL, ensuring that the safety chain is detached prior to moving and reattached once back in place inside the bin. Keep the FEL in place to support the screen until it is fully secured.
- **h** Clean screen once back in place inside the wash out pit.
- **i** Replace gate when finished.
- **j** Record maintenance of pits & screens on relevant checklists for auditing purposes.

Triggers & Inputs

TRIGGERS
None Noted

INPUTS
None Noted

Outputs & Targets

OUTPUTS
None Noted

PERFORMANCE TARGETS
None Noted

Process Dependencies

PROCESS LINKS FROM THIS PROCESS
None Noted

PROCESS LINKS FROM OTHER PROCESSES
None Noted

RACI

RESPONSIBLE
Roles that perform process activities

(0) Workers

Systems that perform process activities

None Noted

ACCOUNTABLE
For ensuring that process is effective and improving

Process Owner Todd Rusher

Process Isaac Standaloft

Expert

CONSULTED
Those whose opinions are sought

STAKEHOLDERS
None Noted

STAKEHOLDERS FROM LINKED PROCESSES

None Noted

INFORMED
Those notified of changes

All of the above. These parties are informed via dashboard notifications.

Systems

None Noted

Acts Regs Standards

None Noted

Timeframes

Activity		Incl.	Active Time	Wait Time
1.0	Ensure Appropriate PPE is Worn	✕	-	-
2.0	Safety Warnings	✕	-	-
3.0	Clean Pits and Screens	✕	-	-
		TOTAL	-	-

Variance Scenarios:

Dang Van

From: Ashley Brook <abrook@6ty.com.au>
Sent: Tuesday, 8 July 2025 12:04 PM
To: Development
Cc: Dang Van
Subject: FW: Planning Application DA 2025/095 - Response to Request for Additional Information
Attachments: SDS Register Bridgewater 08-07-2025.pdf; Sikament ECO WR.pdf; sds-sikaiment-eco-3w.pdf; MSDS Sika® Air - LS (AU) GHS7.pdf; MSDS Sika® ViscoCrete® PC HRF2 GHS7.pdf; SikaRapid® AF GHS7.pdf; sds-sika-retardern.pdf; sds-sika-viscoflow-21au.pdf; Self-Bunded Container - Photo 1.jpg; Self-Bunded Container - Photo 2.jpg; Self-Bunded Container - Photo 3.jpg; Self-Bunded Container - Photo 4.jpg

Dear Planning,

In relation to Item 2 of Council's request, as identified below the proposal will not involve the storage of hazardous materials in manifest quantities. In this respect, Hazell Bros has provided further information on the products stored in the 40-foot self-bunded container associated with the concrete batching plant. This information is attached, together with each associated Safety Data Sheet.

Excluding Sikament® Eco WR, which is non-hazardous, there are four (4) GHS hazard classes associated with the products, including:

- Acute toxicity (oral) – Category 4
- Serious eye damage/eye irritation – Categories 1 & 2A
- Short-term (acute) aquatic hazard – Category 3
- Long-term (chronic) aquatic hazard – Category 3

There are no manifest quantity thresholds referred to in Schedule 11 of the *Work Health and Safety Regulations 2022* for these hazard classes. In this respect, while acute toxicity is listed in the schedule, manifest quantities only apply to Categories 1, 2 and 3 of this hazard class. The other three hazard classes are not listed in the schedule. None of the products are identified as flammable.

Regards,
Ashley

Ashley Brook
Planning Consultant
0400 945 776

Measured form and function

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287 Charles Street, Launceston
7250
PO Box 63, Riverside 7250
P 03 6332 3300
E abrook@6ty.com.au
W 6ty.com.au
ARCHITECTURE | SURVEYING | ENGINEERING | PLANNING

Concrete Additives SDS Register

No.	Material	Supplier	CAT No.	SDS No.	Quantity	UOM	Storage Method	Bunding
1	Sika ECO-WR	Sika	Non Hazardous	607045	2000	Litres	Tank	Self Bunded Storage Container
2	Sika Eco-3W	Sika	4,1,3,3	603276	2000	Litres	Tank	Self Bunded Storage Container
3	Sika Air-LS	Sika	2A	605875	1000	Litres	Tank	Self Bunded Storage Container
4	Sika Visco HRF2	Sika	2A,3,3	603684	1000	Litres	Tank	Self Bunded Storage Container
5	Sika Rapid-AF	Sika	4,1	608602	1000	Litres	Tank	Self Bunded Storage Container
6	Sika Retarder-N	Sika	3,3	609170	1000	Litres	Tank	Self Bunded Storage Container
7	Sika Viscoflow-21	Sika	3,3	100000039592	2000	Litres	Tank	Self Bunded Storage Container

SAFETY DATA SHEET

Sikament® Eco WR

Version	Revision Date:	SDS Number:	Date of last issue: 07.03.2018
3.0	22.04.2022	000000607045	Date of first issue: 06.03.2018

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sikament® Eco WR

Product code : 000000607045

Manufacturer or supplier's details

Company : Sika Australia Pty. Ltd.
55 Elizabeth Street
Wetherill Park, NSW 2164

Telephone : +61 2 9725 11 45

Telefax : +61 2 9725 33 30

Emergency telephone number : +61 1800 033 111

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : Move to fresh air.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Keep eye wide open while rinsing.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed	:	No known significant effects or hazards. See Section 11 for more detailed information on health effects and symptoms.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	For personal protection see section 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. No special handling advice required. Follow standard hygiene measures when handling chemical products
Hygiene measures	:	When using do not eat or drink. When using do not smoke.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Store in accordance with local regulations.
Materials to avoid	:	No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Appropriate engineering controls	:	Use adequate ventilation and/or engineering controls to prevent exposure to vapours.

Personal protective equipment

Respiratory protection	:	No special measures required. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Follow AS/NZS 1337.1 Recommended: Butyl rubber/nitrile rubber gloves. Contaminated gloves should be removed.
Eye protection	:	Safety glasses
Skin and body protection	:	Protective clothing (e.g. safety shoes, long-sleeved working clothing, long trousers) Follow AS 2210:3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	purple
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	4
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper	:	No data available

flammability limit

Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23 hPa
Relative vapour density	:	No data available
Density	:	1.02 g/cm3 (20 °C (68 °F))
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 7 mm2/s (40 °C (104 °F))
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	see section 7.

No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Chronic toxicity

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:

Additional ecological information : There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

ADG
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons : No poison schedule number allocated

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Not applicable

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AICS : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date : 22.04.2022
Date format : dd.mm.yyyy

Full text of other abbreviations

ADG	:	Australian Dangerous Goods Code.
ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dosis (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

Safety Data Sheets are updated frequently. Please ensure that you have a current copy. SDS may be obtained from the following website: aus.sika.com

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

Changes as compared to previous version !

AU / EN

SAFETY DATA SHEET

Sikaiment® ECO-3 W

Version	Revision Date:	SDS Number:	Date of last issue: 22.04.2022
4.0	21.04.2023	000000603276	Date of first issue: 14.09.2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sikaiment® ECO-3 W

Manufacturer or supplier's details

Company : Sika Australia Pty. Ltd.
55 Elizabeth Street
Wetherill Park, NSW 2164

Telephone : +61 2 9725 11 45

Emergency telephone number : +61 1800 033 111

Telefax : +61 2 9725 33 30

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Serious eye damage/eye irritation : Category 1

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Calcium nitrate tetrahydrate	13477-34-4	>= 60 -<= 100
sodium thiocyanate	540-72-7	>= 1 -< 2.5
2,2',2''-nitrilotriethanol	102-71-6	< 10
2-octyl-2H-isothiazole-3-one (OIT)	26530-20-1	>= 0.0025 -< 0.025

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Keep eye wide open while rinsing.

If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.
Most important symptoms and effects, both acute and delayed	:	Gastrointestinal discomfort Excessive lachrymation See Section 11 for more detailed information on health effects and symptoms. irritant effects Harmful if swallowed. Causes serious eye damage.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Try to prevent the material from entering drains or water courses. If the product contaminates rivers and lakes or drains inform respective authorities. No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store in accordance with local regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2,2',2''-nitrilotriethanol	102-71-6	TWA	5 mg/m3	AU OEL
	Further information: Sensitiser			

Appropriate engineering controls : Use adequate ventilation and/or engineering controls to prevent exposure to vapours.

Personal protective equipment

Respiratory protection : In case of inadequate ventilation wear respiratory protection.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Follow AS/NZS 1337.1
Recommended: Butyl rubber/nitrile rubber gloves.
Contaminated gloves should be removed.

Eye protection : Safety glasses

Skin and body protection : Protective clothing (e.g. safety shoes, long-sleeved working clothing, long trousers)
Follow AS 2210:3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	red
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	ca. 6.5
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23 hPa
Relative vapour density	:	No data available
Density	:	ca. 1.42 g/cm3 (20 °C (68 °F))

Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 0.2% w/w

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	see section 7.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-octyl-2H-isothiazole-3-one (OIT):

M-Factor (Acute aquatic toxicity)	:	100
M-Factor (Chronic aquatic toxicity)	:	100

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Send to a licensed waste management company.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Hazchem Code	:	Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons	:	No poison schedule number allocated
International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors	:	Not applicable
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AICS	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	21.04.2023
Date format	:	dd.mm.yyyy

Full text of other abbreviations

AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
AU OEL / TWA	:	Exposure standard - time weighted average
ADG	:	Australian Dangerous Goods Code.
ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dosis (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

Safety Data Sheets are updated frequently. Please ensure that you have a current copy. SDS may be obtained from the following website: aus.sika.com

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

Changes as compared to previous version !

AU / EN

SAFETY DATA SHEET

Sika® Air - LS (AU)

Version	Revision Date:	SDS Number:	Date of last issue: 08.10.2022
4.0	29.01.2025	000000605875	Date of first issue: 26.07.2018

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sika® Air - LS (AU)

Manufacturer or supplier's details

Company : Sika Australia Pty. Ltd.
55 Elizabeth Street
Wetherill Park, NSW 2164

Telephone : +61 2 9725 11 45

Emergency telephone number : +61 1800 033 111

Telefax : +61 2 9725 33 30

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage/eye irritation : Category 2A

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Benzenesulfonic acid, mono-C10-16-alkyl derivs., sodium salts	68081-81-2	>= 1 -< 3
2-octyl-2H-isothiazole-3-one (OIT)	26530-20-1	>= 0.0003 -< 0.0025

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : irritant effects
Excessive lachrymation
See Section 11 for more detailed information on health effects and symptoms.
Causes serious eye irritation.

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Hazardous combustion products : No hazardous combustion products are known

Specific extinguishing methods : Standard procedure for chemical fires.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with local regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Appropriate engineering controls	:	Use adequate ventilation and/or engineering controls to prevent exposure to vapours.

Personal protective equipment

Respiratory protection	:	No special measures required. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Follow AS/NZS 1337.1 Recommended: Butyl rubber/nitrile rubber gloves. Contaminated gloves should be removed.
Eye protection	:	Safety glasses
Skin and body protection	:	Protective clothing (e.g. safety shoes, long-sleeved working clothing, long trousers) Follow AS 2210:3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	brown
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	ca. 8
Melting point/ range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23 hPa
Relative vapour density	:	No data available
Density	:	ca. 1 g/cm3 (20 °C (68 °F))
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available

Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 0% w/w

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	see section 7.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Components:

Benzenesulfonic acid, mono-C10-16-alkyl derivs., sodium salts:

Acute oral toxicity : LD50 Oral (Rat): 1,080 mg/kg

Skin corrosion/irritation

Not classified due to lack of data.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Skin sensitisation
Not classified due to lack of data.

Respiratory sensitisation
Not classified due to lack of data.

Chronic toxicity

Germ cell mutagenicity
Not classified due to lack of data.

Carcinogenicity
Not classified due to lack of data.

Reproductive toxicity
Not classified due to lack of data.

STOT - single exposure
Not classified due to lack of data.

STOT - repeated exposure
Not classified due to lack of data.

Aspiration toxicity
Not classified due to lack of data.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-octyl-2H-isothiazole-3-one (OIT):

M-Factor (Acute aquatic toxicity)	:	100
M-Factor (Chronic aquatic toxicity)	:	100

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:

Additional ecological information	:	There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Send to a licensed waste management company.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Hazchem Code	:	Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Therapeutic Goods (Poisons Standard) Instrument	:	Schedule 5 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors	:	Not applicable
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AIIC	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	29.01.2025
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ADG	:	Australian Dangerous Goods Code.
ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dosis (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament

and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency

SVHC : Substances of Very High Concern
vPvB : Very persistent and very bioaccumulative

Safety Data Sheets are updated frequently. Please ensure that you have a current copy. SDS may be obtained from the following website: aus.sika.com

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

Changes as compared to previous version !

AU / EN

SAFETY DATA SHEET

Sika® ViscoCrete® PC HRF2

Version	Revision Date:	SDS Number:	Date of last issue: 16.10.2022
3.0	29.01.2025	000000603684	Date of first issue: 29.11.2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sika® ViscoCrete® PC HRF2

Manufacturer or supplier's details

Company : Sika Australia Pty. Ltd.
55 Elizabeth Street
Wetherill Park, NSW 2164

Telephone : +61 2 9725 11 45

Emergency telephone number : +61 1800 033 111

Telefax : +61 2 9725 33 30

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage/eye irritation : Category 2A

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ at-

tention.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
2,2'-(methylimino)diethanol	105-59-9	< 10
sodium thiocyanate	540-72-7	>= 2.5 -< 3
2-octyl-2H-isothiazole-3-one (OIT)	26530-20-1	>= 0.0025 -< 0.025

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : irritant effects
Excessive lachrymation
See Section 11 for more detailed information on health effects and symptoms.
Causes serious eye irritation.

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with local regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Appropriate engineering controls	:	Use adequate ventilation and/or engineering controls to prevent exposure to vapours.

Personal protective equipment

Respiratory protection	:	No special measures required. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Follow AS/NZS 1337.1 Recommended: Butyl rubber/nitrile rubber gloves. Contaminated gloves should be removed.
Eye protection	:	Safety glasses
Skin and body protection	:	Protective clothing (e.g. safety shoes, long-sleeved working clothing, long trousers) Follow AS 2210:3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	light yellow
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	ca. 6
Melting point/ range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available

Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23 hPa
Relative vapour density	:	No data available
Density	:	ca. 1.09 g/cm3 (20 °C (68 °F))
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 0.2% w/w

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	see section 7.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified due to lack of data.

Skin corrosion/irritation
Not classified due to lack of data.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitisation

Skin sensitisation
Not classified due to lack of data.

Respiratory sensitisation
Not classified due to lack of data.

Chronic toxicity

Germ cell mutagenicity
Not classified due to lack of data.

Carcinogenicity
Not classified due to lack of data.

Reproductive toxicity
Not classified due to lack of data.

STOT - single exposure
Not classified due to lack of data.

STOT - repeated exposure
Not classified due to lack of data.

Aspiration toxicity
Not classified due to lack of data.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-octyl-2H-isothiazole-3-one (OIT):

M-Factor (Acute aquatic toxicity)	:	100
M-Factor (Chronic aquatic toxicity)	:	100

Persistence and degradability
No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Send to a licensed waste management company.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Hazchem Code	:	Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Therapeutic Goods (Poisons Standard) Instrument	:	No poison schedule number allocated (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors	:	Not applicable
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AICS	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	29.01.2025
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ADG	:	Australian Dangerous Goods Code.
ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System

IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dosis (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

Safety Data Sheets are updated frequently. Please ensure that you have a current copy. SDS may be obtained from the following website: aus.sika.com

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

Changes as compared to previous version !

AU / EN

SAFETY DATA SHEET

SikaRapid® AF

Version	Revision Date:	SDS Number:	Date of last issue: 08.03.2023
4.1	05.06.2023	000000608602	Date of first issue: 19.08.2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SikaRapid® AF

Manufacturer or supplier's details

Company : Sika Australia Pty. Ltd.
55 Elizabeth Street
Wetherill Park, NSW 2164

Telephone : +61 2 9725 11 45

Emergency telephone number : +61 1800 033 111

Telefax : +61 2 9725 33 30

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Serious eye damage/eye irritation : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H318 Causes serious eye damage.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Calcium nitrate tetrahydrate	13477-34-4	>= 60 -<= 100
sodium thiocyanate	540-72-7	>= 1 -< 2.5
2,2',2''-nitrilotriethanol	102-71-6	< 10

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Keep eye wide open while rinsing.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : Gastrointestinal discomfort
Excessive lachrymation
See Section 11 for more detailed information on health effects and symptoms.
irritant effects
Harmful if swallowed.
Causes serious eye damage.

Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Try to prevent the material from entering drains or water courses. If the product contaminates rivers and lakes or drains inform respective authorities. No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store in accordance with local regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2,2',2''-nitrilotriethanol	102-71-6	TWA	5 mg/m3	AU OEL
	Further information: Sensitiser			

Appropriate engineering controls : Use adequate ventilation and/or engineering controls to prevent exposure to vapours.

Personal protective equipment

Respiratory protection : In case of inadequate ventilation wear respiratory protection.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Follow AS/NZS 1337.1
Recommended: Butyl rubber/nitrile rubber gloves.
Contaminated gloves should be removed.

Eye protection : Safety glasses

Skin and body protection : Protective clothing (e.g. safety shoes, long-sleeved working clothing, long trousers)
Follow AS 2210:3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : blue

Odour : characteristic

Odour Threshold : No data available

pH : ca. 9.5

Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	> 100 °C (> 212 °F)
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23 hPa
Relative vapour density	:	No data available
Density	:	ca. 1.42 g/cm3 (20 °C (68 °F))
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.

Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	see section 7.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Harmful if swallowed.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Chronic toxicity

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:

Additional ecological information	:	There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Send to a licensed waste management company. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable

Marine pollutant : Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Hazchem Code	:	Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons : No poison schedule number allocated

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Not applicable

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AICS : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	05.06.2023
Date format	:	dd.mm.yyyy

Full text of other abbreviations

AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
AU OEL / TWA	:	Exposure standard - time weighted average
ADG	:	Australian Dangerous Goods Code.
ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level

EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dosis (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

Safety Data Sheets are updated frequently. Please ensure that you have a current copy. SDS may be obtained from the following website: aus.sika.com

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

Changes as compared to previous version !

AU / EN

SAFETY DATA SHEET

Sika® Retarder N

Version	Revision Date:	SDS Number:	Date of last issue: 26.06.2025
7.0	26.06.2025	000000609170	Date of first issue: 08.04.2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sika® Retarder N

Manufacturer or supplier's details

Company : Sika Australia Pty. Ltd.
55 Elizabeth Street
Wetherill Park, NSW 2164

Telephone : +61 2 9725 11 45

Emergency telephone number : +61 1800 033 111

Telefax : +61 2 9725 33 30

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms : None

Signal word : None

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
2-octyl-2H-isothiazole-3-one (OIT)	26530-20-1	>= 0.0025 -< 0.025

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : Move to fresh air.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Keep eye wide open while rinsing.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : No known significant effects or hazards.
See Section 11 for more detailed information on health effects and symptoms.

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Hazardous combustion products : No hazardous combustion products are known

Specific extinguishing methods : Standard procedure for chemical fires.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	For personal protection see section 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. No special handling advice required. Follow standard hygiene measures when handling chemical products
Hygiene measures	:	When using do not eat or drink. When using do not smoke.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Store in accordance with local regulations.
Materials to avoid	:	No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Appropriate engineering controls	:	Use adequate ventilation and/or engineering controls to prevent exposure to vapours.

Personal protective equipment

Respiratory protection	:	No special measures required. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling

chemical products if a risk assessment indicates this is necessary.
Follow AS/NZS 1337.1
Recommended: Butyl rubber/nitrile rubber gloves.
Contaminated gloves should be removed.

Eye protection : Safety glasses

Skin and body protection : Protective clothing (e.g. safety shoes, long-sleeved working clothing, long trousers)
Follow AS 2210:3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	yellow
Odour	:	sweet
Odour Threshold	:	No data available
pH	:	ca. 8.5
Melting point/ range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23 hPa
Relative vapour density	:	No data available

Density	:	ca. 1.05 g/cm3 (20 °C (68 °F))
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 0.4% w/w

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	see section 7.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified due to lack of data.

Skin corrosion/irritation
Not classified due to lack of data.

Serious eye damage/eye irritation
Not classified due to lack of data.

Respiratory or skin sensitisation

Skin sensitisation
Not classified due to lack of data.

Respiratory sensitisation
Not classified due to lack of data.

Chronic toxicity

Germ cell mutagenicity
Not classified due to lack of data.

Carcinogenicity
Not classified due to lack of data.

Reproductive toxicity
Not classified due to lack of data.

STOT - single exposure
Not classified due to lack of data.

STOT - repeated exposure
Not classified due to lack of data.

Aspiration toxicity
Not classified due to lack of data.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-octyl-2H-isothiazole-3-one (OIT):

M-Factor (Acute aquatic toxicity)	:	100
M-Factor (Chronic aquatic toxicity)	:	100

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

Not regulated as a dangerous good

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

Not regulated as a dangerous good

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Hazchem Code	:	Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Therapeutic Goods (Poisons Standard) Instrument	:	Schedule 5 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)
International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors	:	Not applicable
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AIIC	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	26.06.2025
Date of last issue	:	26.06.2025
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ADG	:	Australian Dangerous Goods Code.
ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration

GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dosis (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

Safety Data Sheets are updated frequently. Please ensure that you have a current copy. SDS may be obtained from the following website: aus.sika.com

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

Changes as compared to previous version !

AU / EN

SAFETY DATA SHEET

Sika ViscoFlow®-21 AU

Version	Revision Date:	SDS Number:	Date of last issue: 15.09.2021
2.0	04.10.2022	100000039592	Date of first issue: 15.09.2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sika ViscoFlow®-21 AU

Manufacturer or supplier's details

Company : Sika Australia Pty. Ltd.
55 Elizabeth Street
Wetherill Park, NSW 2164

Telephone : +61 2 9725 11 45

Emergency telephone number : +61 1800 033 111

Telefax : +61 2 9725 33 30

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms : None

Signal word : None

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
2-octyl-2H-isothiazole-3-one (OIT)	26530-20-1	>= 0.0025 -< 0.025

SECTION 4. FIRST AID MEASURES

General advice	:	No hazards which require special first aid measures.
If inhaled	:	Move to fresh air.
In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Keep eye wide open while rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No known significant effects or hazards. See Section 11 for more detailed information on health effects and symptoms.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	For personal protection see section 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. No special handling advice required. Follow standard hygiene measures when handling chemical products
Hygiene measures	:	When using do not eat or drink. When using do not smoke.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Store in accordance with local regulations.
Materials to avoid	:	No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Appropriate engineering controls	:	Use adequate ventilation and/or engineering controls to prevent exposure to vapours.

Personal protective equipment

Respiratory protection	:	No special measures required. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Follow AS/NZS 1337.1 Recommended: Butyl rubber/nitrile rubber gloves. Contaminated gloves should be removed.

Eye protection	:	Safety glasses
Skin and body protection	:	Protective clothing (e.g. safety shoes, long-sleeved working clothing, long trousers) Follow AS 2210:3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	light brown
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	ca. 4
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23 hPa
Relative vapour density	:	No data available
Density	:	1.06 g/cm3
Solubility(ies) Water solubility	:	soluble

Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 0.2% w/w

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	see section 7.

No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-octyl-2H-isothiazole-3-one (OIT):

M-Factor (Acute aquatic toxicity)	:	100
M-Factor (Chronic aquatic toxicity)	:	100

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable

Hazchem Code : Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons : No poison schedule number allocated

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Not applicable

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AIIC : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date : 04.10.2022

Date format : dd.mm.yyyy

Full text of other abbreviations

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DNEL	:	Derived no-effect level
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Changes as compared to previous version !

AU / EN


B
Sika


SikaRapid® AF
900
800
700
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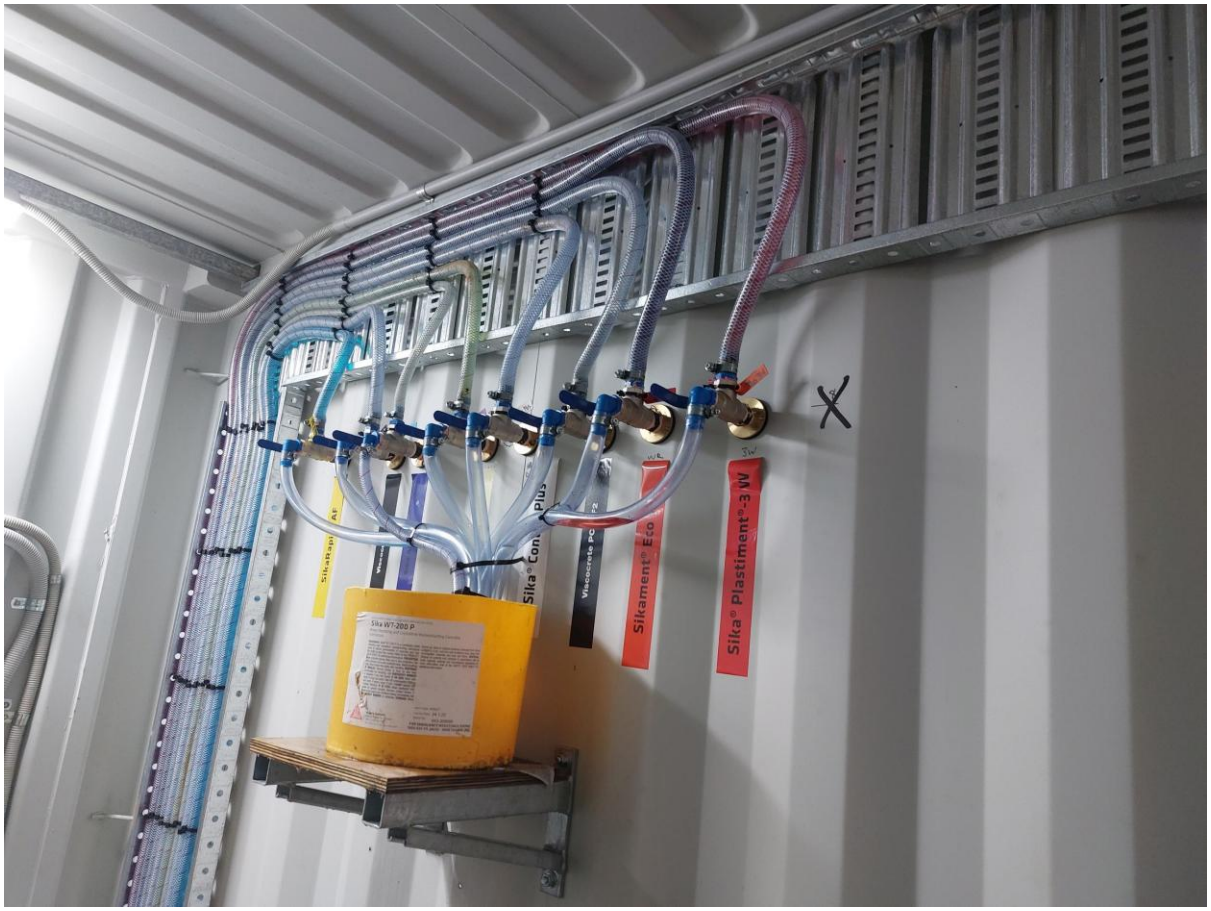
Sika W7-200 P
Sikament® E.co
Sika® Plastiment®-3 W


Sika W7-200 P
Sika® Plastiment®-3 W