ROWEGROUP

Should you require any further information or clarification in relation to this matter, please contact the undersigned on 9221 1991.

Yours faithfully,

Nathan Stewart
Rowe Group

TOWN of BASSENDEAN

Application for Development Approval

OWNER DETAILS

Name(s): Keppel Holdings Pty Ltd	
ABN (If Applicable):	
Address: PO Box 419, Morley 6943	
	Post Code: 6943
Phone (Work):	Phone (Home):
Phone (Mobile): 0413 628 658.	Fax:
Email: nathan.stewart@rowegroup.com.au SAM @ instantwaste.com.au.	
Contact person for correspondence: Nathan Stewart	
Signature: Sam Mangione - Director	Date: 19/11/15
Signature:	Date:
Signature:	Date:

The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purpose of signing this application, an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).

APPLICANT DETAILS (IF DIFFERENT FROM OWNER)

Name(s): Rowe Group	
Address: Level 3, 369 Newcastle Street, Northbridge WA 6003	
	Post Code: 6003
Phone (Work): 9221 1991	Phone (Home):
Phone (Mobile):	Fax:
Email: nathan.stewart@rowegroup.com.au	
Contact person for correspondence: Nathan Stewart	
The information and plans provided with this application may be made available by the local government for public viewing in connection with the application. ☑ Yes ☐ No	
Signature:	Date: 14/12/2015.

Development Services
tel: (08) 9377 8000
fax: (08) 9279 4257

Customer Service Centre
35 Old Perth Road
Bassendean WA 6054

PO Box 87
Bassendean WA 6934

mail@bassendean.wa.gov.au
www.bassendean.wa.gov.au
ABN: 20 347 405 108

PROPERTY DETAILS

Lot No.:	House/Street No.:	Location No.:
105	2	
Diagram/Plan No.:	**Certificate of Title Vol. No.:**	**Folio:**
62913	2110	480

Title encumbrances (eg, easements, restrictive covenants):

G372658

Street Name:	Suburb:
Clune Street	Bassendean

Nearest street intersection:
Clune Street and Wicks Street

PROPOSED DEVELOPMENT

Nature of Development: (Specify below)

- ☐ Works
- ☐ Use
- ☑ Works and Use

Description of proposed works and/or land use:
Mobile Concrete Batching Plant

Is an exemption from development claimed for part of the development?

- ☐ Yes
- ☑ No

If yes, is the exemption for:

- ☐ Works
- ☐ Use

Description of the exemption claimed (if relevant):

Nature of any existing buildings and/or land use:
Storage

Approximate cost of proposed development (excl. GST): $ 500,000

Estimated time of completion:

OFFICE USE ONLY

Acceptance Officer's Initials:	Date Received:
Local Government Reference No.:	

508046

BGC Concrete

1 Floor, 22 Mount Street, Perth, Western Australia 6000

Westpac Banking Corporation

109 ST GEORGES TERRACE, PERTH, WA.

PAY THE SUM OF

MILLIONS	HUNDS OF THOUS	TENS OF THOUS	THOUSANDS	HUNDREDS	TENS	UNITS	CENTS
Zero	Zero	Zero	One	Six	Zero	Zero	00

DOLLARS

DATE 19/11/15

$ ****1600.00

TO:

TOWN OF BASSENDEAN
PO BOX 87
BASSENDEAN, WA 6934
AUSTRALIA

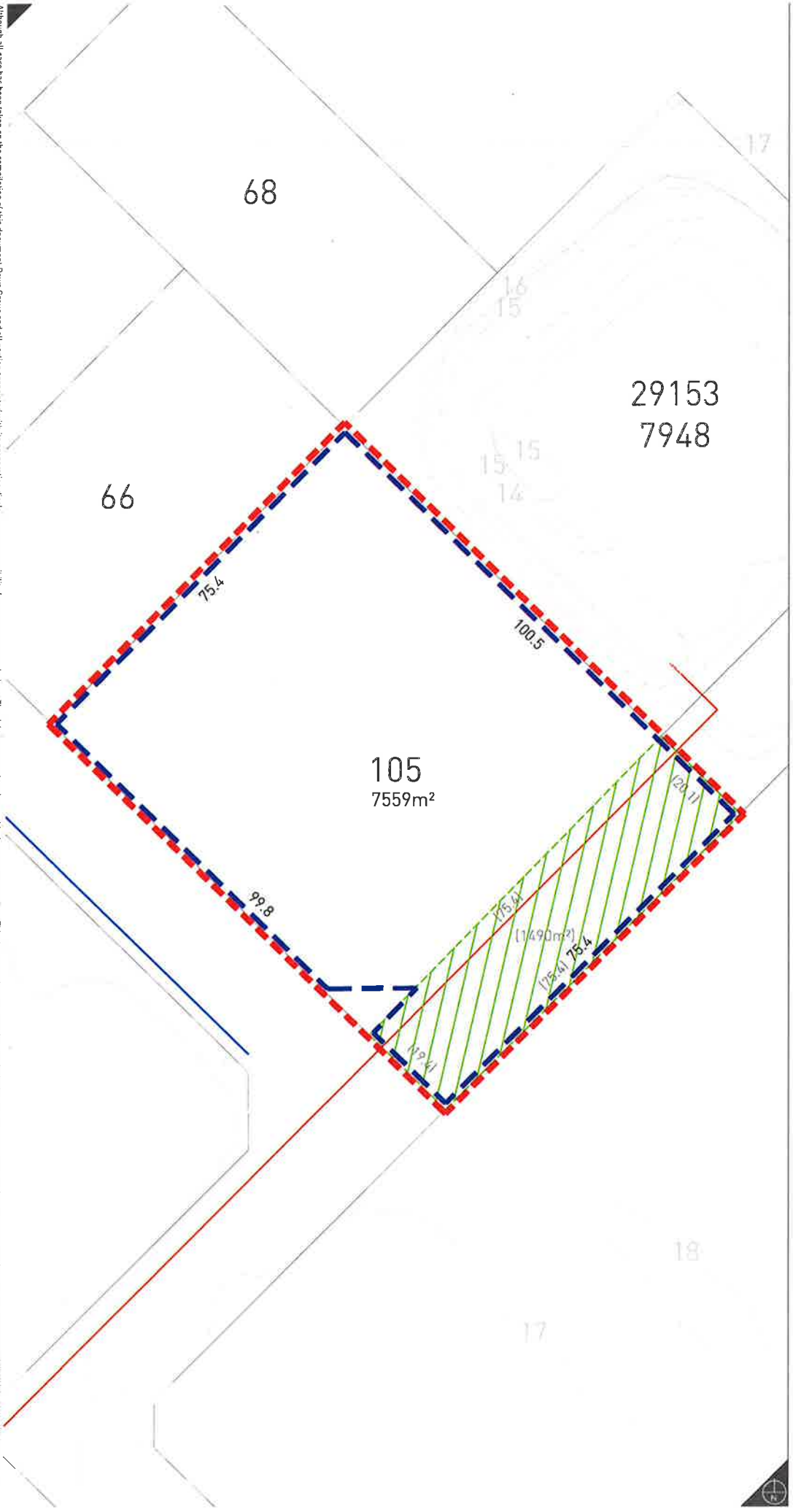
NOT NEGOTIABLE

For and on behalf of **BGC (Australia) Pty. Ltd.**
ABN 62 005 736 005

⑈508046⑈ 036⑆000⑆ 13⑆3385⑈

ROWEGROUP

Figures



Planning Design Delivery

LEGEND

- Subject Site
- Subject of this Application
- Contours
- 7 Existing Lot Numbers
- Existing Boundaries
- Water
- Sewer/Stormwater
- Easement

0 25 Metres

REVISIONS

Rev	Date	Drawn
A	2015.06.23	W. Clements
B	2015.12.11	W. Clements

ROWEGROUP
PLANNING DESIGN DELIVERY

w: www.rowegroup.com.au
e: info@rowegroup.com.au
p: 08 9221 1991

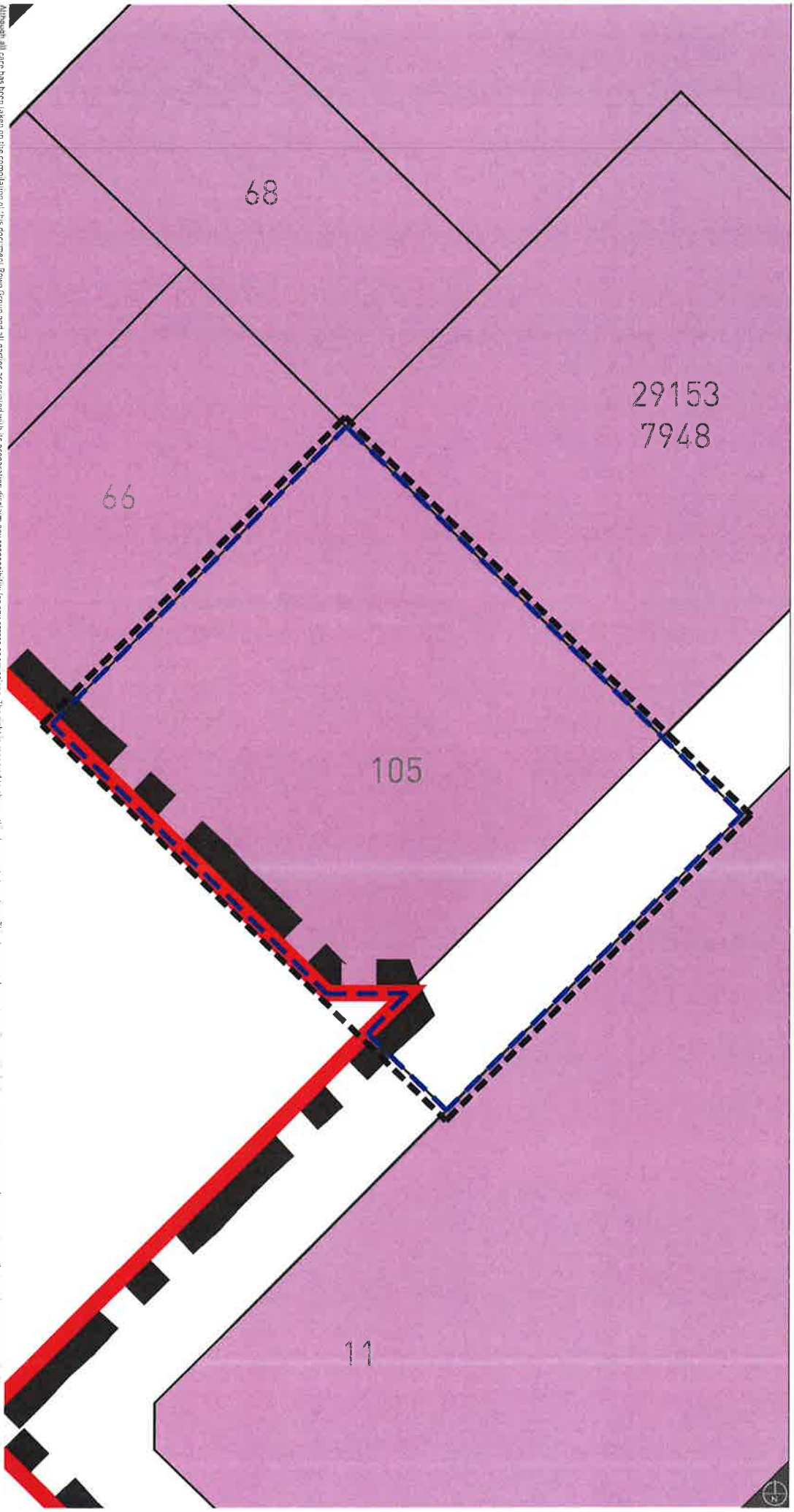
Date Drawn:	2015-06-23
Job Ref:	8379
Scale:	1:1000 @ A4
Client:	BGC Concrete
Designer:	C. Clarke
Drawn:	W. Clements
Projection:	MGA50
Plan ID:	8379-FIG-01-B

Cadastre Supplied by Water Corporation

Site Plan

Lot 105 (No. 2) Clune Street
Bassendean

N:\TOWN PLANNING\8000-8999\8379\DRAFTING\A-CAD\8379_FIG01B_20151211 BASSENDEAN (SITE + EASEMENT).DWG
William Clements 11 December 2015



Planning Design Delivery

LEGEND

- Subject Site
- Subject of this Application
- 7 Existing Lot Numbers

ZONES

- General Industry

OTHER

- Local Government Boundary
- Scheme Boundary
- No Zone

0 25 Metres

REVISIONS

Rev	Date	Drawn
A	2015.06.23	W. Clements
B	2015.12.11	W. Clements

ROWEGROUP
PLANNING DESIGN DELIVERY

w: www.rowegroup.com.au
e: info@rowegroup.com.au
p: 08 9221 1991

Date Drawn:	2015-06-23
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Scale:	1:1000 @ A4
Client:	BGC Concrete
Designer:	C. Clarke
Drawn:	W. Clements
Projection:	MGA50
Plan ID:	8379-FIG-02-B

Mapping Information Supplied by WA Planning Commission

LPS10 Zoning Plan

N:\TOWN PLANNING\8000-8999\8379\DRAFTING\DA CAD\8379 FIG02B 20151211 BASSENDEAN LPS10.DWG
William Clements 11 December 2015

Lot 105 (No. 2) Clune Street
Bassendean

ROWEGROUP

Attachment One

Certificate of Title

WESTERN AUSTRALIA

REGISTER NUMBER	
105/D62913	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

RECORD OF CERTIFICATE OF TITLE

VOLUME **2110** FOLIO **480**

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 105 ON DIAGRAM 62913

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

KEPPEL HOLDINGS PTY LTD OF POST OFFICE BOX 419, MORLEY
(T K772584) REGISTERED 17 NOVEMBER 2008

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. G372658 EASEMENT TO WATER CORPORATION. SEE SKETCH ON VOL 2110 FOL 480. REGISTERED 14.1.1997.
2. *K772585 MORTGAGE TO BANK OF WESTERN AUSTRALIA LTD REGISTERED 17.11.2008.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF TITLE----------

STATEMENTS:

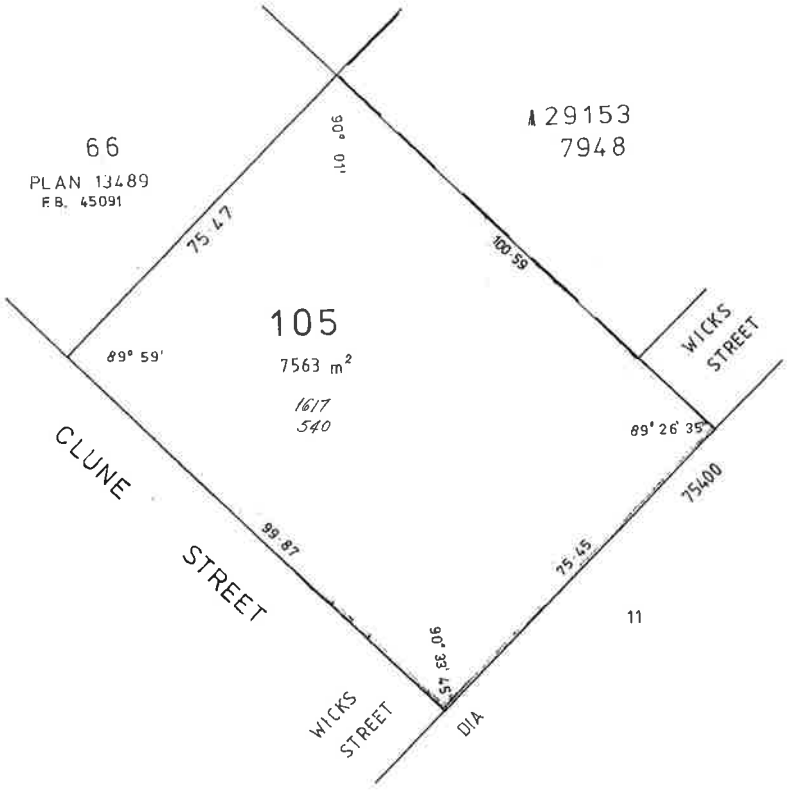
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 2110-480 (105/D62913).
PREVIOUS TITLE: 1617-540.
PROPERTY STREET ADDRESS: 2 CLUNE ST, BASSENDEAN.
LOCAL GOVERNMENT AREA: TOWN OF BASSENDEAN, CITY OF BAYSWATER.

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING I721197.

Town or District.	Number of Lot or Location.	Field Book.	Scale.	Certificate in which Land is Vested.	Area
SWAN	LOTS 64 & 65 OF LOC 7825		1 : 1000	Vol. 1587 Fol. 975 / 1587 976	

DEPTH LIMIT 12-19 METRES



DIA 62913

COMPILED FROM PLAN 13489

CI

Drawn TLDA
JKE 16.11.81

CERTIFICATE

I hereby certify that this survey was performed by me personally (or under my own personal supervision, inspection and field check) in strict accordance with the Licensed Surveyors (Guidance of Surveyors) Regulations, 1961.

Date ... COMPILED ... Licensed Surveyor

Approved by Town Planning Board

Date 24/5/82 ... Chairman

Approved ... Examined DKT. Dia 46478

Date 26. 3. 82

On Plan 13489 Diagram Index Plan PERTH 2000 17-29

Office of Titles FEE PAID

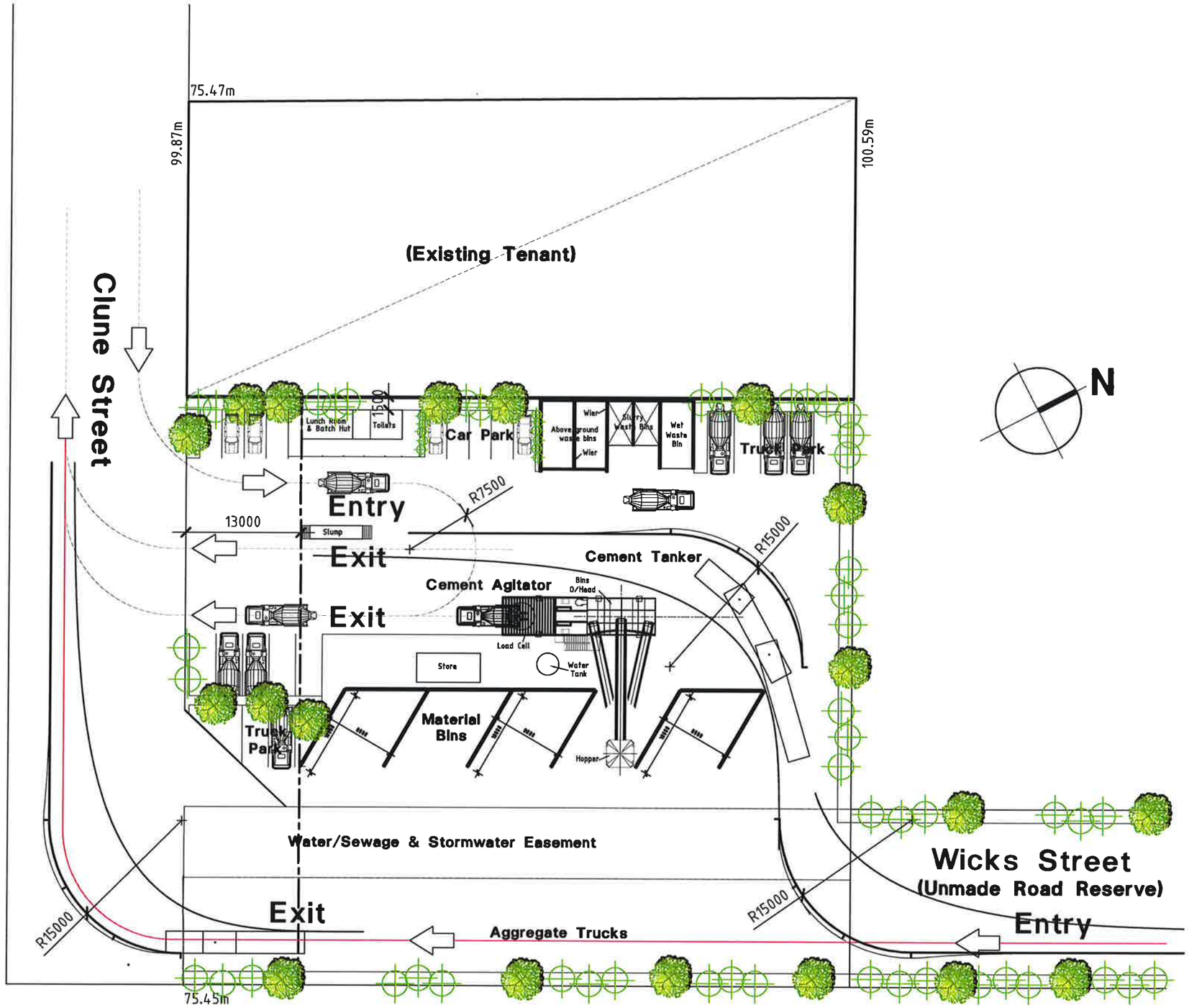
Diagram No 62913

82316 1 79 4M L 271

ROWEGROUP

Attachment Two

Architectural Drawings



DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
		Planning Application	B	041215	
		For Discussion & Quotation	A	261115	
REFERENCE DRAWINGS		REVISION			

Site Layout

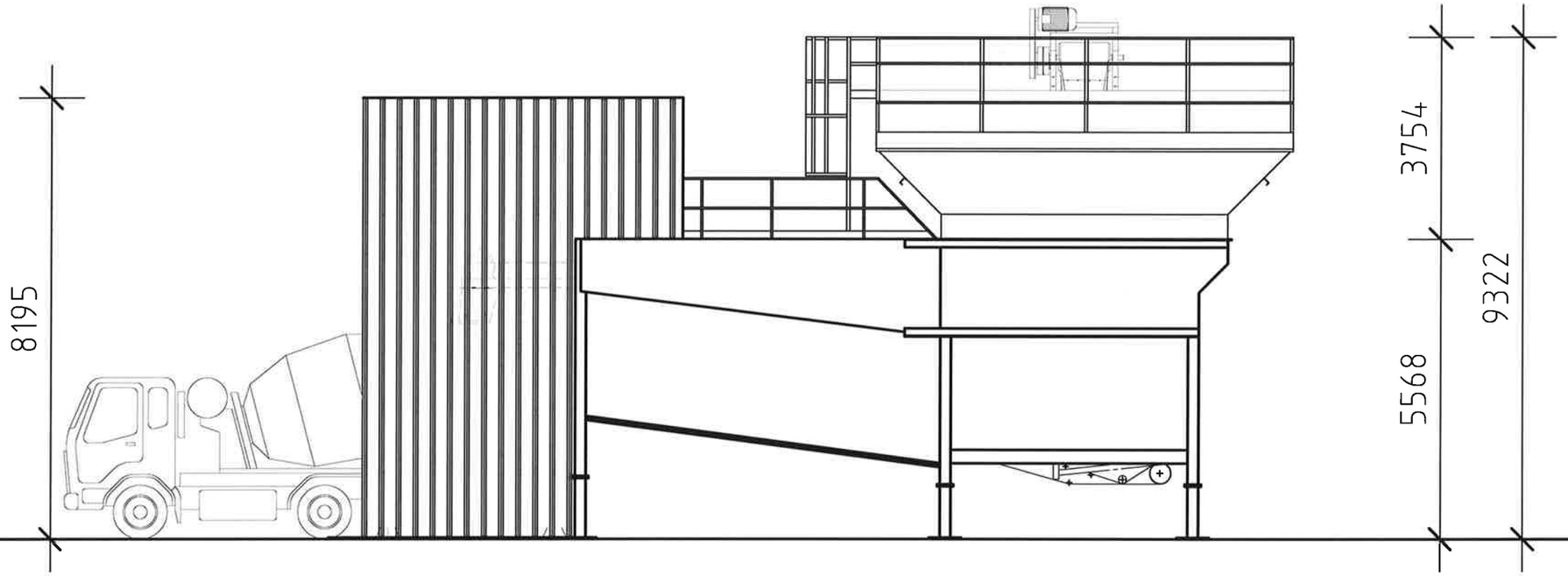
SCALE	1:500
DRAWN	
CKD.	
Job No	
DATE	

BGC Concrete:-
Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

A3

DRG No. A 01

REV B



South/West Elevation

DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
		Planning Application	B	041215	
		For Discussion & Quotation	A	261115	
REFERENCE DRAWINGS		REVISION			

Batch Plant Elevations

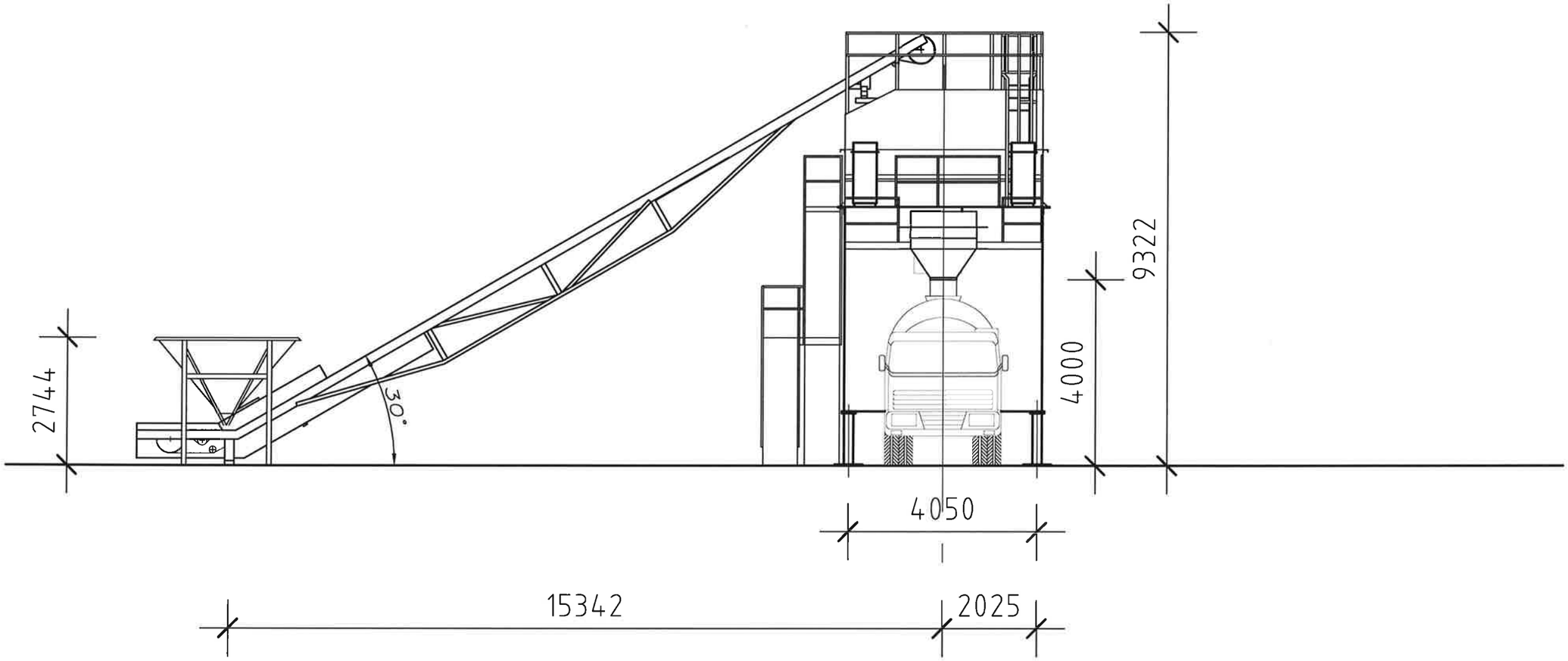
SCALE	1:100
DRAWN	
CKD.	
Job No	
DATE	

BGC Concrete:-
Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

A3

DRG No. A 02

REV B



South/East Elevation

DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
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		For Discussion & Quotation	A	261115	
REFERENCE DRAWINGS		REVISION			

Batch Plant Elevations

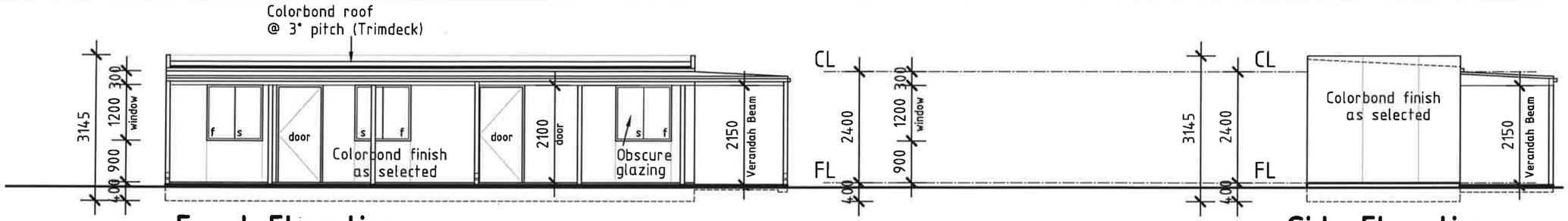
SCALE	1:100
DRAWN	
CKD.	
Job No	
DATE	

BGC Concrete:-
Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

A3

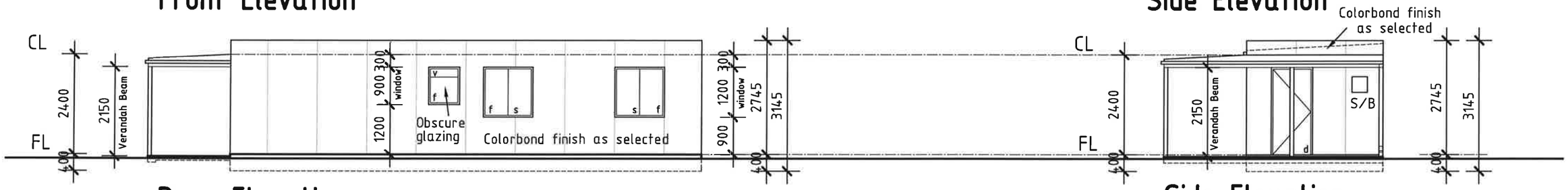
DRG No. A 03

REV B



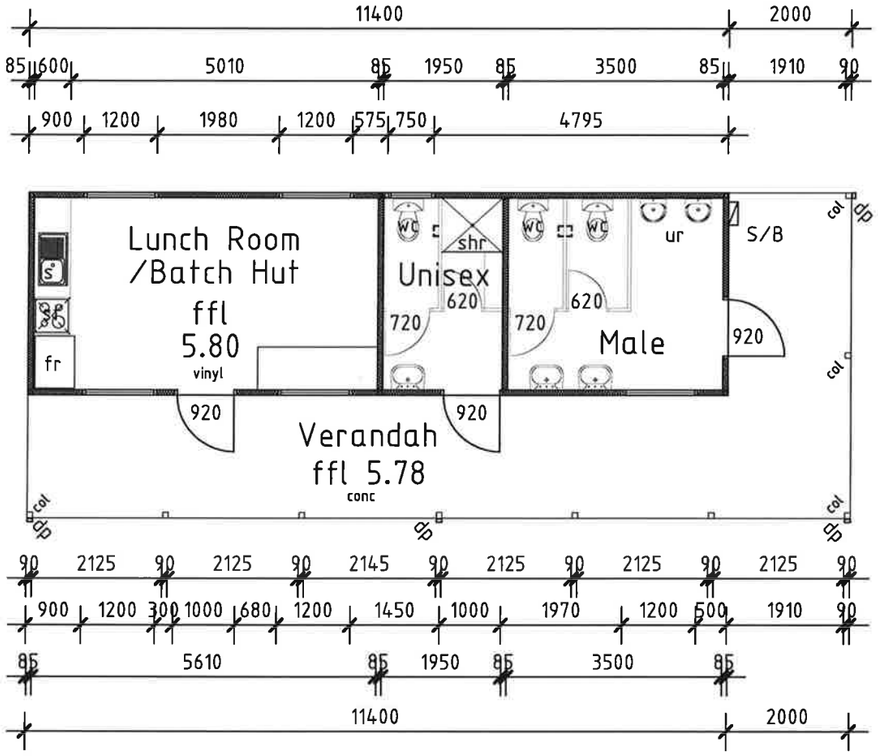
Front Elevation

Side Elevation

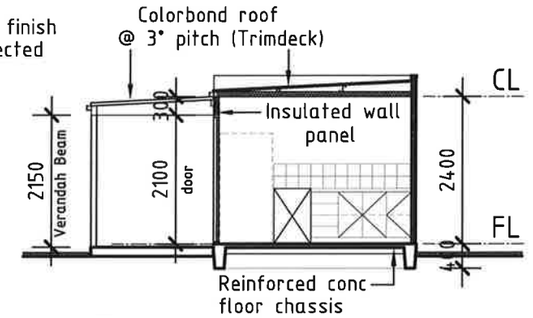


Rear Elevation

Side Elevation



Plan



Typical Section

Note

Buildings to be structurally designed to conform with local authority requirements

All opening windows to have flyscreens

Obscure glazing to wet area windows

Switch box to have lockable cover

R 2.5 insulation to internal & perimeter walls

R 3.5 insulation to ceiling cavity

1kg Fire extinguisher mounted in module

DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
		Planning Application	B	041215	
		For Discussion & Quotation	A	261115	

REFERENCE DRAWINGS — REVISION

Drivers Room Batch Hut Module

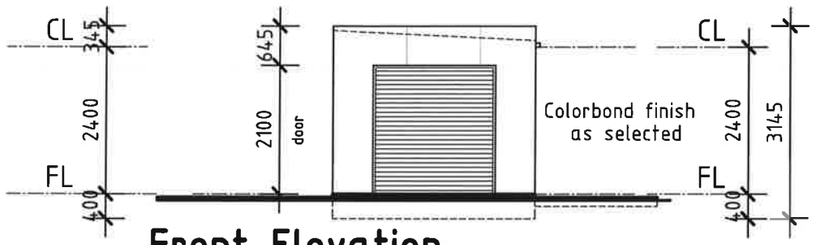
SCALE	1:100
DRAWN	
CKD.	
Job No	
DATE	

BGC Concrete:-
Proposed Concrete
Batch Plant
Part Lot 105 Clune St, Bassendean

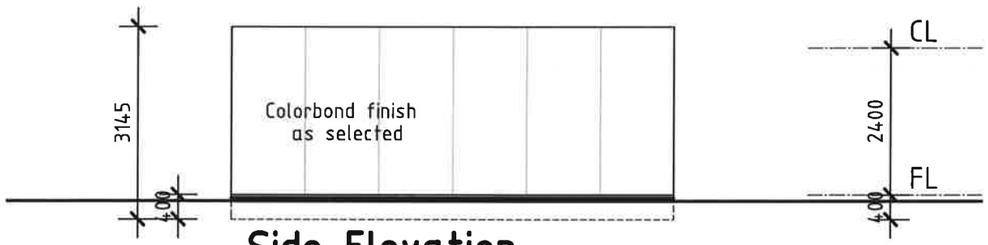
A3

DRG No. A 04

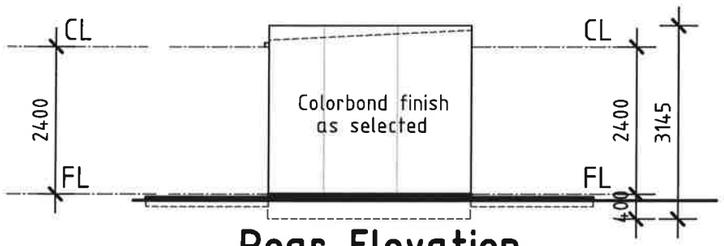
REV B



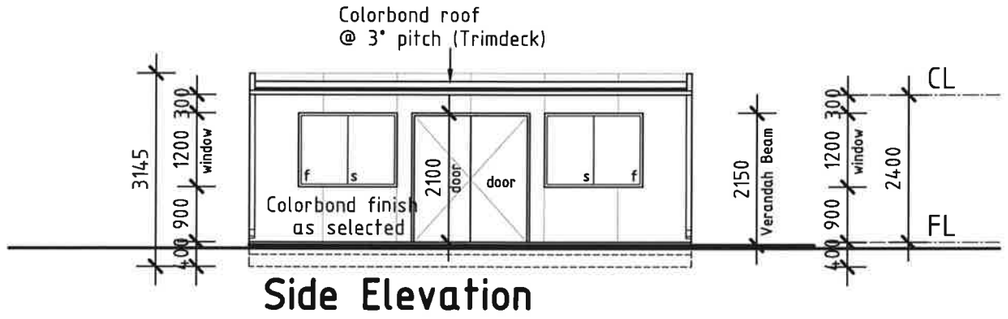
Front Elevation



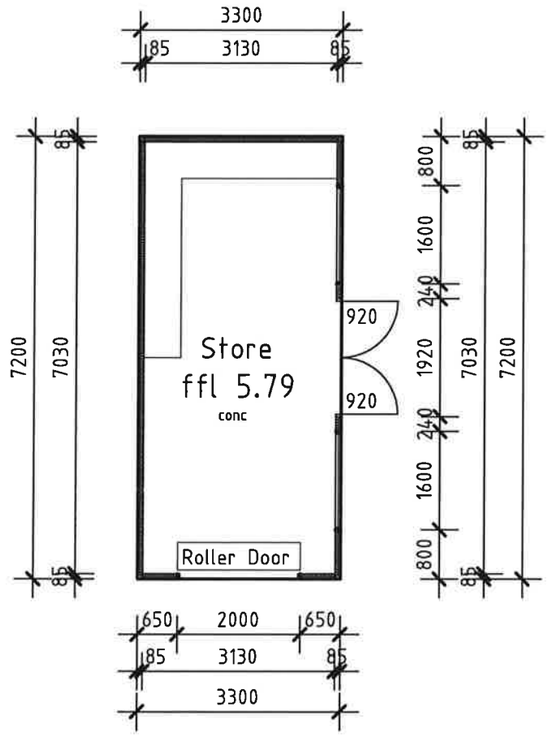
Side Elevation



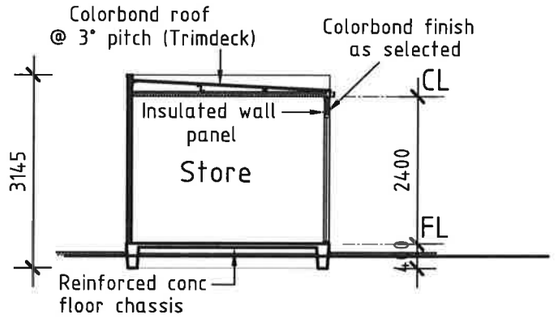
Rear Elevation



Side Elevation



Plan



Typical Section

Note

Buildings to be structurally designed to conform with local authority requirements

All opening windows to have flyscreens
Obscure glazing to wet area windows
Switch box to have lockable cover
R 2.5 insulation to internal & perimeter walls
R 3.5 insulation to ceiling cavity
1kg Fire extinguisher mounted in module

DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
		Planning Application	B	041215	
		For Discussion & Quotation	A	261115	
REFERENCE DRAWINGS		REVISION			

Store Module

SCALE	1:100
DRAWN	
CKD.	
Job No	
DATE	

BGC Concrete:-
Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

A3

DRG No. A 05

REV B

STEELFIELDS

MAJOR 60

This mobile low profile plant has undergone continuous development and refinement since its original inception and often described as the backbone of the Steelfield's plant series.

The Major 60 series is based on a robust monocoque design and is available with a choice of three cement storage capacities, two, three or four integral silo compartments, four standard aggregate storage extensions, with a choice of feed options and wet, dry or combination batching.

The Major 60 series has proved popular with many leading readymix concrete suppliers and concrete products companies, by providing an efficient, competitively priced and versatile unit that requires minimal groundwork and is easy to install. The low profile design has also satisfied many of today's strict planning constraints.

Recent improvements to the plant range include the standard fitment of large capacity reverse jet silo exhaust filters, uprated cement screw design and revised aeration control.

Electronic precision loadcells are fitted as standard on both aggregate and cement weighing systems and are also available as an option for water and admixture batching.

With a wide range of options the flexibility of the Major 60 enables it to meet almost any mixing or batching application.

SPECIFICATION MAJOR 60

Aggregate storage capacity/tonnes	100-600	Aggregate storage facility	Overhead bins	Dry batching	●	Control system manual	●
Number of aggregate storage compartments	4/5/6/8	Cement storage facility	Integral silos	Maximum aggregate scale rating/kg	20000	semi automatic	●
Cement storage capacity/tonnes	70-150	Mixer option		Maximum cement scale rating/kg	4500	automatic	●
Number of cement storage compartments	2/3/4	pan	●			Output/m³ per hour	30 - 160
		paddle	●			Tandem plant option	-
		drum	●			Plant designation	Low profile mobile
		planetary	●				

OPTIONAL FEATURES

Mixers
Tilting/horizontal drum and paddle mixers are available to complement an extensive range of high speed pan/planetary mixers. A comprehensive development programme has seen the recent introduction of new contra-rotating mixing head for the pan mixer, with initial units destined for the concrete products industry.

Hopper Extensions
The SM60 and Major 60 series can be fitted with a wide range of hopper extensions to increase aggregate storage capacity.

Conveyors
Aggregate feed conveyors are available in a variety of lengths depending on the height of the aggregate storage bin and the position of the receiving hopper. Receiving hoppers are available with standard capacities of 10, 20 and 30 tonnes.

Cement Silos
Additional silos can be provided in static, portable or fully mobile forms, ideal for plants in remote locations or where very large volumes of mix are required regularly.

Level Indication
Warning devices are available to indicate high, low or continuous levels in hoppers and silos. A wide choice of display options are available to suit individual customer requirements.

Water Chiller/Ice Plant
For use in hot climates where increases in concrete temperature may cause problems, a water chiller is available. A variety of types can be supplied, all with optional insulated water storage tanks to suit local requirements. In addition the supply of supplementary Ice Plants with handling and storage systems are available.

Moisture Meter
A moisture probe can be fitted to the aggregate storage section to monitor the water content of materials. Microwave moisture sensors are also available with a choice of control options for fitment within storage compartments or mixer unit.

Control Cabin
The weatherproof control cabin is fully enclosed with standard specification to include; external viewing windows, access door, heater/air conditioning units and internal work surfaces. An extensive range of options are available on request.

Control Systems
Steelfields offer a range of control systems which can be designed to meet individual customer requirements spanning manual, semi manual, fully automatic plus computerised control with recording, data storage and modem interfaces.

STEELFIELDS
SPECIALISTS IN CONCRETE BATCHING & MIXING PLANT

Steelfields Limited
Owens Way Gads Hill Gillingham
Kent ME7 2RT United Kingdom
Telephone: +44 (0) 1634 280135
Fax: +44 (0) 1634 280689
email: sales@steelfields.co.uk

Distributor

ROWEGROUP

Attachment Three

Correspondence between Rowe Group and Town of Bassendean

Nathan Stewart

From: Brian Reed [breed@bassendean.wa.gov.au]
Sent: Wednesday, 5 August 2015 3:34 PM
To: Claire Richards
Subject: RE: Mobile Concrete Batching Plant - Lot 150 (No. 2) Clune Street, Bassendean (JobRef: 8379)

Claire we would regard the land use a permitted use in the zone.

Brian Reed
Manager Development Services
Town *of* Bassendean

Phone: (08) 9377 8000
Direct Line: (08) 9377 8005
Facsimile: (08) 9279 4257

Email: breed@bassendean.wa.gov.au

Web: www.bassendean.gov.au

From: Claire Richards [mailto:Claire.Richards@rowegroup.com.au]
Sent: Wednesday, 5 August 2015 1:26 PM
To: breed@bassendean.wa.gov.au
Subject: Mobile Concrete Batching Plant - Lot 150 (No. 2) Clune Street, Bassendean (JobRef: 8379)
Importance: High

Hi Brian

Thank you for your time on the phone this morning. We confirm your advice that a Mobile Concrete Batching Plant would be considered by the Town of Bassendean to fall within the use class "Industry - General" under the provisions of the Town's LPS10.

We note that the Zoning Table under LPS10 does not specify whether the use class "Industry - General" is a 'P', 'A', 'D' or 'X' use in the General Industry Zone - refer attached.

Can you please advise what the land use permissibility is?

Thank you

Claire Richards
Senior Planner

p: 08 9221 1991
m: 0423 590 090
w: rowegroup.com.au

ROWEGROUPPlanning Design Delivery

>> click here for more contact information

Perth & Peel @ 3.5 Million released for public comment read more

ROWEGROUP

Attachment Four

Traffic Statement

CONSULTING CIVIL & TRAFFIC ENGINEERS, RISK MANAGERS.

Project:	Transport Statement, Proposed Concrete Batching Plant, Clunes Street Bassendean.
Client:	BGC.
Author:	T Shaw
Signature:	
Date:	14th December 2015
Version:	2

1 ST. FLOOR, 908 ALBANY HIGHWAY, EAST VICTORIA PARK WA 6101.
PHONE +61 8 9355 1300
FACSIMILE +61 8 9355 1922
EMAIL admin@shawmac.com.au

Document Status.

Ver No.	Author	Reviewed by	Date	Issued for	Signature	Date
1	T Shaw	B Hartley	08/12/15	Review		08/12/15
2	T Shaw	B Hartley	14/12/15	Review		14/12/15

SHAWMAC PTY LTD
ABN 51 828 614 001
PO BOX 937 SOUTH PERTH
WA 6951
T: + 61 8 9355 1300
F: +61 8 9355 1922
E: tshaw@shawmac.com.au

CONTENTS.

1. Summary.

Shawmac was commissioned to assess the traffic impacts associated with the development of a concrete batching plant in Clunes Street Bassendean.

The assessment follows the recommended outline contained in the West Australian Planning Commission draft guideline "Transport Statement Guidelines for Developments". Potential traffic flow from the site was determined from operational characteristics advised by the proponent, which quantified the number of movements in and the number of movements out of the site when operating at expected peak levels of product.

Traffic was assigned to the adjacent existing road network and flows used as a basis for assessing traffic impacts associated with the site. Based on the assessment it was shown that the flows predicted can be accommodated within the existing network without unacceptable adverse impacts.

2. Introduction and Background.

2.1. Proponent.

Shawmac was commissioned to assess the traffic impacts associated with the generation of traffic from the proposed concrete batching plant as proposed to be erected in Clunes Street Bassendean by the proponent, BGC.

2.2. Site Location and Land Use.

The site is located as shown on Figure 1 and is within the Town of Bassendean. The site abuts Clunes Street and the City of Bayswater.

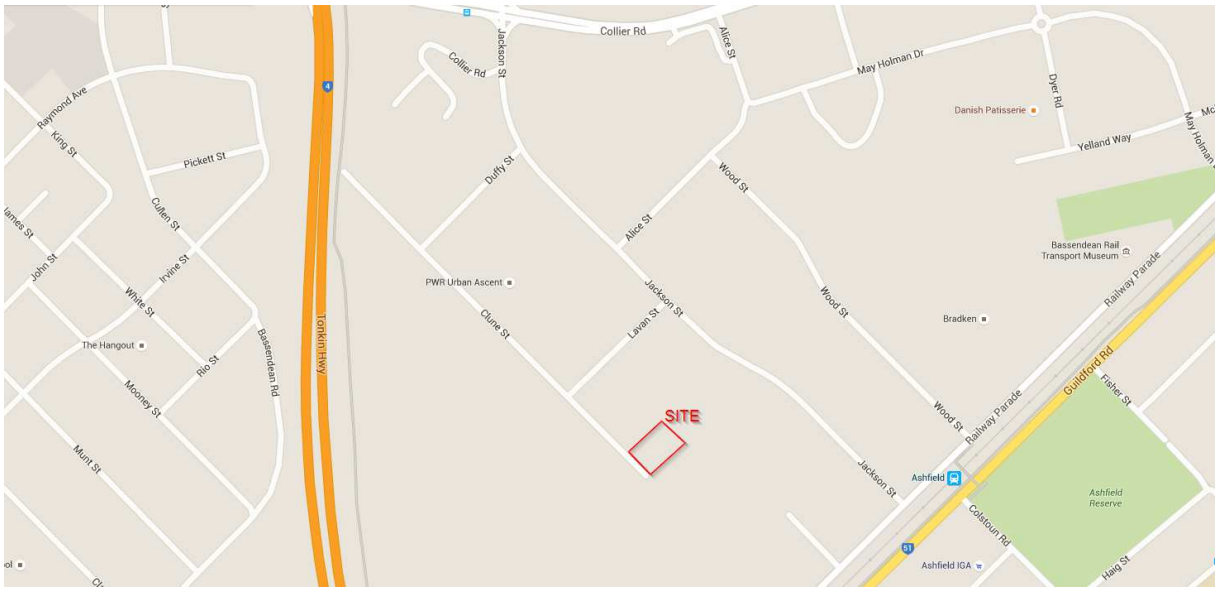


Figure 1. Site Location

The study site is currently used for industrial purposes in accordance with the Town of Bassendean's Town Planning Scheme. The existing site together with the surrounding area is shown on the aerial photograph, refer Figure 2.

Figure 2. Site Aerial Photograph

3. Site Proposal.

3.1. Regional Context.

The site is located within the Town of Bassendean approximately 8km northeast from the Perth CBD and has direct street frontage to Clune Street which connects to Jackson Street via Lavan Street. Jackson Street in turn connects to Collier Road to the north and Railway Parade to the south providing good access to the greater Perth Metropolitan Area.

3.2. Land Use.

It is proposed to develop the site for concrete batching purposes, generally as configured in Figure 3.

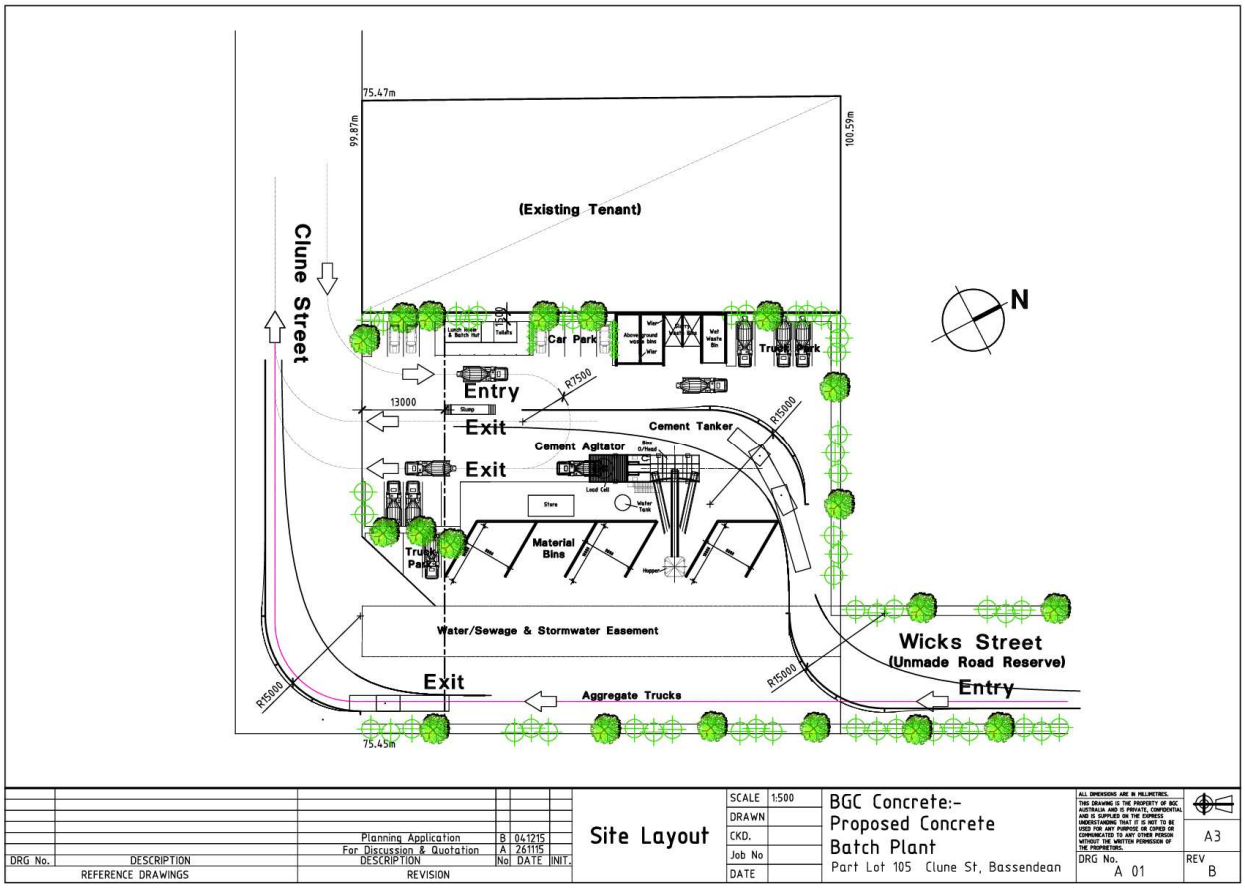


Figure 3. Concetpual Plant Layout

The proposed use is consistent with the zoning of the site which is shown on Figure 4.

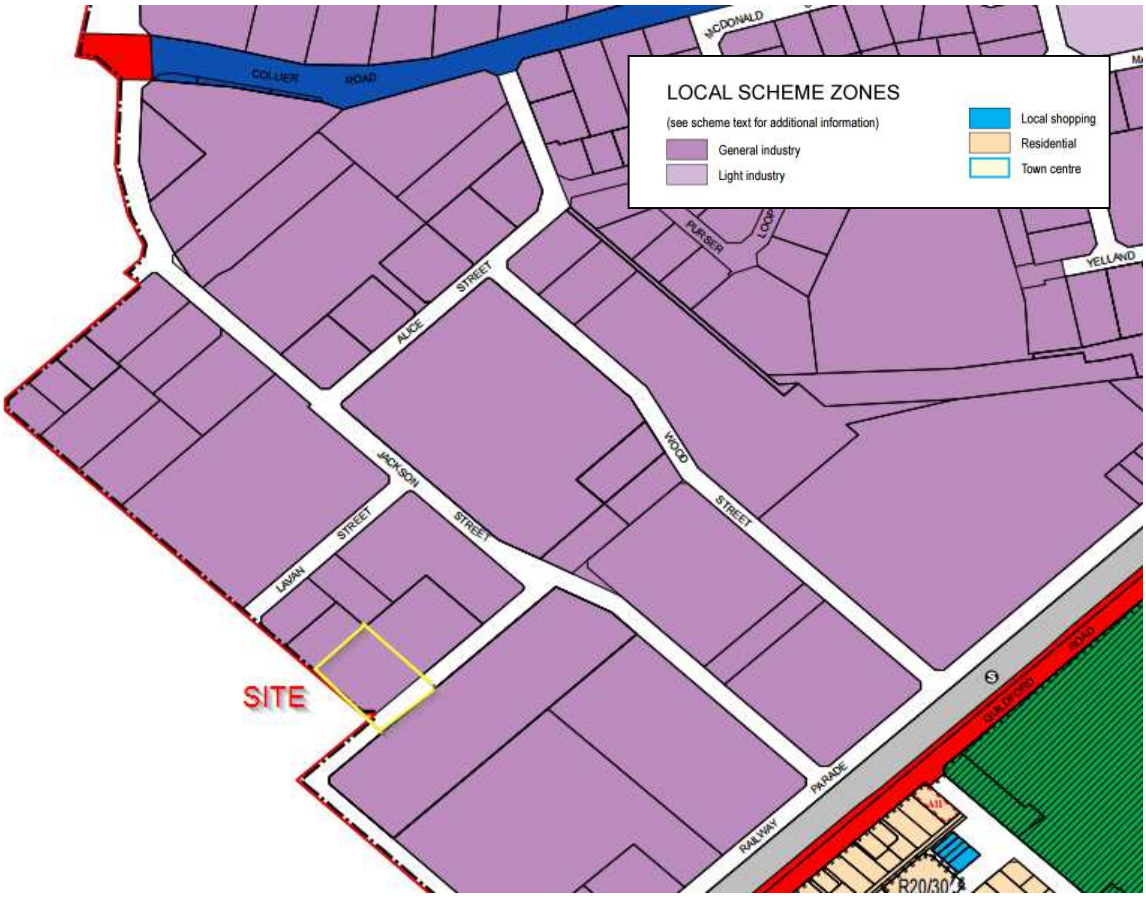


Figure 4. Extract of Town of Bassendean Local Planning Scheme No 10

3.3. Major Attractors and Generators of traffic.

Access to the site is via Clune Street and Lavan Street which provide connection to Jackson Street and from there to Collier Road and Railway Parade.

The site also has frontage to Wicks Street along its eastern boundary which is currently unmade between Clune Street and the eastern boundary of the subject site. As part of this Application it is intended to construct Wicks Street between the eastern boundary of the subject site and Jackson Street to facilitate access to the site directly from Jackson Street.

4. Existing Situation.

4.1. Existing Roads.

Jackson Street is classified as an Industrial Local Distributor under the MRWA Functional Road Hierarchy and is under the care and control of the Town of Bassendean. Clune Street and Lavan Street are classified as Industrial Access Roads and Lavan Street is under the care and control of the Town of Bassendean. Clune Street forms the boundary between the City of Bayswater and the Town of Bassendean. Clune Street forms a

cul de sac at both the northern and southern ends. All three roads comprise two lane carriageways with pavement widths of 10.0 metres. Traffic count data sourced from MRWA indicates traffic volumes on Jackson Street of about 3,430 vehicles per day in 2003. No recent counts for Jackson Street, Lavan Street or Clune Street are available from MRWA. Enquiries to the Town of Bassendean indicated that counts were only available for Jackson Road and these were last taken in 2007. These counts recorded a significantly lower volume of traffic and are in the order of 2,004 vpd. No information was available from the City of Bayswater.

Based on the likely traffic catchments and the land use within the traffic catchments, daily traffic on Clune Street east of Lavan Street and on Lavan Street were estimated as being in the order of the shown below.

Clune Street	4.5 hectare light industrial @ 153[1] vpd per Ha	= 690 vpd
	4.5 hectare light industrial @ 21 vph per Ha	= 95 vph
Lavan Street	7.7 hectare light industrial @ 153 vpd per Ha	= 1,178 vpd
	4.5 hectare light industrial @ 21 vph per Ha	= 162 vph

In order to validate the assumptions regarding potential flows, traffic movements at both the intersection of Clune Street and Lavan street and Lavan Street and Jackson Street were surveyed between 10:00 AM and 11:00 AM on Thursday the 10th of December and the results are shown on Figure 5.

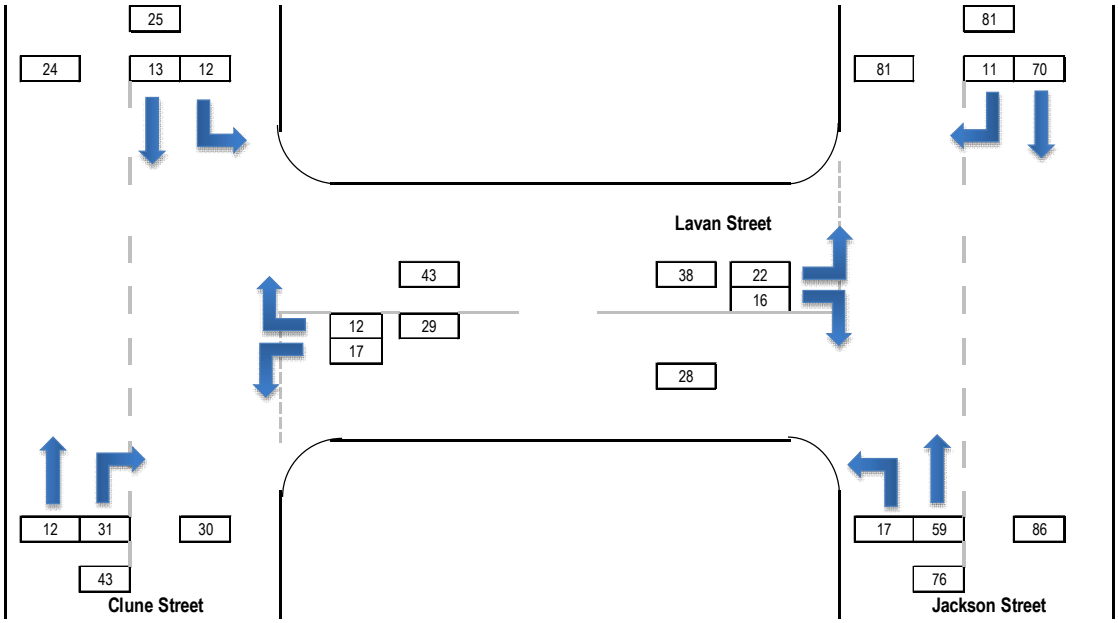


Figure 5. Hourly Movements 1000 hours to 1100 hours

[1] Generation rate from the ITE Trip Generation Rates

Based on the count it is predicted that daily flows on the streets surveyed would be in the order of that shown below.

Clune Street – west of Lavan Street	560 vpd.
Clune Street east of Lavan Street	840 vpd
Lavan Street between Clune Street and Jackson Street	830 vpd
Jackson Street west of Lavan Street	1,860 vpd
Jackson Street east of Lavan Street	1,860 vpd

As such the predicted volumes based on adjacent land use generation and adopted for assessment are likely to be conservative and over represent actual volumes.

4.2. Intersections

The intersections of Clune Street and Lavan Street and Lavan Street and Jackson Street are both unchannelised "T" Junctions with unrestricted movements.

4.3. Road Hierarchy and Status.

Figure 6 indicates the Road Hierarchy for the road network adjacent to and around the site as sourced from the MRWA website. Characteristics of the classifications as relevant to the immediate road network are as summarised below:

Local Distributors: These carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor typically discourages through traffic so that the cell formed by the grid of Local Distributors only carries traffic belonging to, or serving the area. These roads should accommodate buses but discourage trucks (unless they are in an industrial zone). They are managed by local government.

Access Roads: These provide access to abutting properties and connect to Local Distributors. They are managed by local government.

Figure 6. Road Hierarchy

4.4. Road Hierarchy vs Actual Flows

Table 1 details the comparison of existing traffic flows against the maximum desirable flows as determined by the MRWA Functional Hierarchy criteria.

Location and date of count.		Classification	Desirable Max Traffic Volume (vpd)	Actual Daily Traffic Flows (vpd)
Jackson Street	South of Collier Road	Industrial Local Distributor	7,000 vpd.	3,340 vpd
Clune Street	East of Lavan Street	Industrial Access Road	3,000 vpd.	690 vpd (estimated)
Lavan Street	North of Clune Street	Industrial Access Road	3,000 vpd.	1,178 vpd (estimated)

Table 1. Desirable Maximum Flows vs Actual Flows

The table above indicates that all roads are operating in accordance within their capacity.

5. Changes to Surrounding Transport Networks

There are no known changes to the adjacent network that have the potential to affect the assessment.

6. Assessment Years

The development is assessed on current network conditions.

7. Time Periods for Assessment

Assessment is based on both daily traffic and peak hour periods.

8. Development Generation and Distribution.

Potential traffic flows from the site were calculated based on the target maximum production as advised by BGC and summarised below:

Daily delivery of aggregate and sand: 20 arrivals via Wicks Street and 20 departures via Clune Street–Lavan Street.

Daily delivery of cement: 3 arrivals via Wicks Street and 3 departures via Clune Street – Lavan Street.

Agitator truck arrivals and departures: 100 arrivals and departures via Clune Street – Lavan Street.

Staff arrivals and departures: Allow 10 arrivals and 10 departures via Clune Street – Lavan Street.

This equates to about 133 trips per day or 266 vehicle movements.

The distribution of traffic is expected to be split as summarised on Table 3.

Location	Daily Traffic (Existing / Predicted)	AM Peak (Existing / Predicted)	PM Peak (Existing / Predicted)
Wicks Street north of Jackson Street	0 / 23 vpd	0 / 2 vph	0 / 2 vph
Clune Street west of Wicks Street	690 / 933 vpd	95 / 119 vph	95 / 119 vph
Lavan Street north of Clune Street	1,178 / 1,421 vpd	162 / 186 vph	162 / 186 vph

Table 2. Midblock Traffic Prediction Adjacent Network

Having a site area of 5,000 square metres, the theoretical generation based on a light industrial land use and applying the generation rates indicated by the Institute of Transportation Engineers is indicated as being in the order of 77 vehicles per day.

8.1. Impact on Intersections

Turning movements for a typical peak hour were predicted for both Clune Street and Lavan Street and Clune Street and Jackson Street intersections and these are shown on Figure 7.

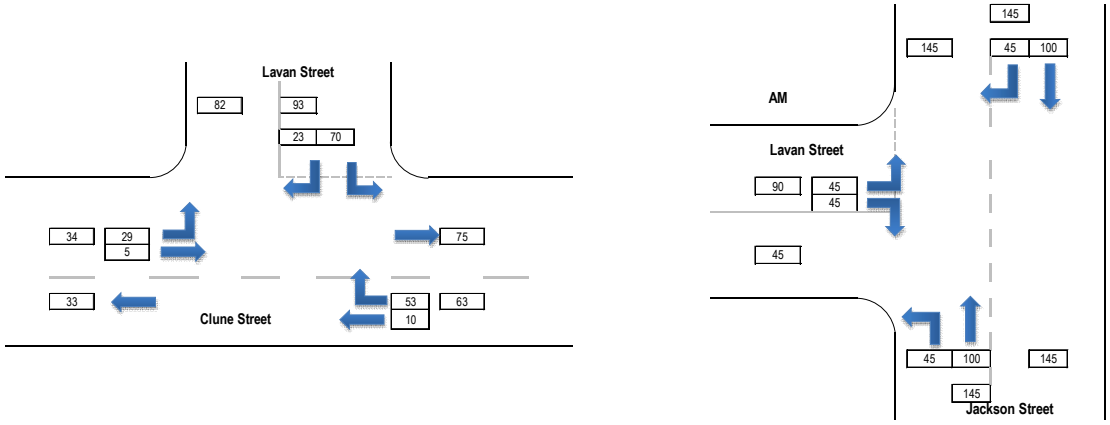


Figure 7. Typical Peak Hour Turning Movements – Clune Street – Lavan Street / Lavan Street – Jackson Street

The performance of the intersections operating under typical peak hour flows were evaluated using SIDRA intersection software and the results are shown below.

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South East: Clune Street											
22	T	11	15.0	0.083	0.9	LOS A	0.4	2.9	0.24	0.00	54.1
23	R	56	15.0	0.083	10.0	LOS A	0.4	2.9	0.24	0.69	47.8
Approach		66	15.0	0.083	8.5	NA	0.4	2.9	0.24	0.58	48.7
North East: Lavan Street											
24	L	74	15.0	0.104	9.1	LOS A	0.4	3.2	0.10	0.62	48.5
26	R	24	15.0	0.104	9.4	LOS A	0.4	3.2	0.10	0.71	48.2
Approach		98	15.0	0.104	9.2	LOS A	0.4	3.2	0.10	0.65	48.4
North West: Clune Street											
27	L	31	15.0	0.021	8.7	LOS A	0.0	0.0	0.00	0.71	49.0
28	T	5	15.0	0.021	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		36	15.0	0.021	7.5	NA	0.0	0.0	0.00	0.60	50.3
All Vehicles		200	15.0	0.104	8.7	NA	0.4	3.2	0.13	0.62	48.9

Figure 8. Typical Peak Hour – Clune Street – Lavan Street.

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South East: Jackson Street											
21	L	47	15.0	0.087	8.7	LOS A	0.0	0.0	0.00	0.92	49.0
22	T	105	15.0	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		153	15.0	0.087	2.7	NA	0.0	0.0	0.00	0.29	56.1
North West: Jackson Street											
28	T	105	15.0	0.139	2.7	LOS A	1.1	8.6	0.47	0.00	51.0
29	R	47	15.0	0.139	11.8	LOS B	1.1	8.6	0.47	0.88	47.3
Approach		153	15.0	0.139	5.6	NA	1.1	8.6	0.47	0.27	49.8
South West: Lavan Street											
30	L	47	15.0	0.149	11.5	LOS B	0.6	4.6	0.38	0.63	46.0
32	R	47	15.0	0.149	11.8	LOS B	0.6	4.6	0.38	0.78	45.9
Approach		95	15.0	0.149	11.6	LOS B	0.6	4.6	0.38	0.71	45.9
All Vehicles		400	15.0	0.149	5.9	NA	1.1	8.6	0.27	0.38	51.0

Figure 9. Typical Peak Hour – Jackson Street – Lavan Street.

Intersection volumes are low and performance under peak hour flow conditions is predicted to be good.

8.2. Access Movements

Proposed access and egress to and from the site is shown on Figure 10.

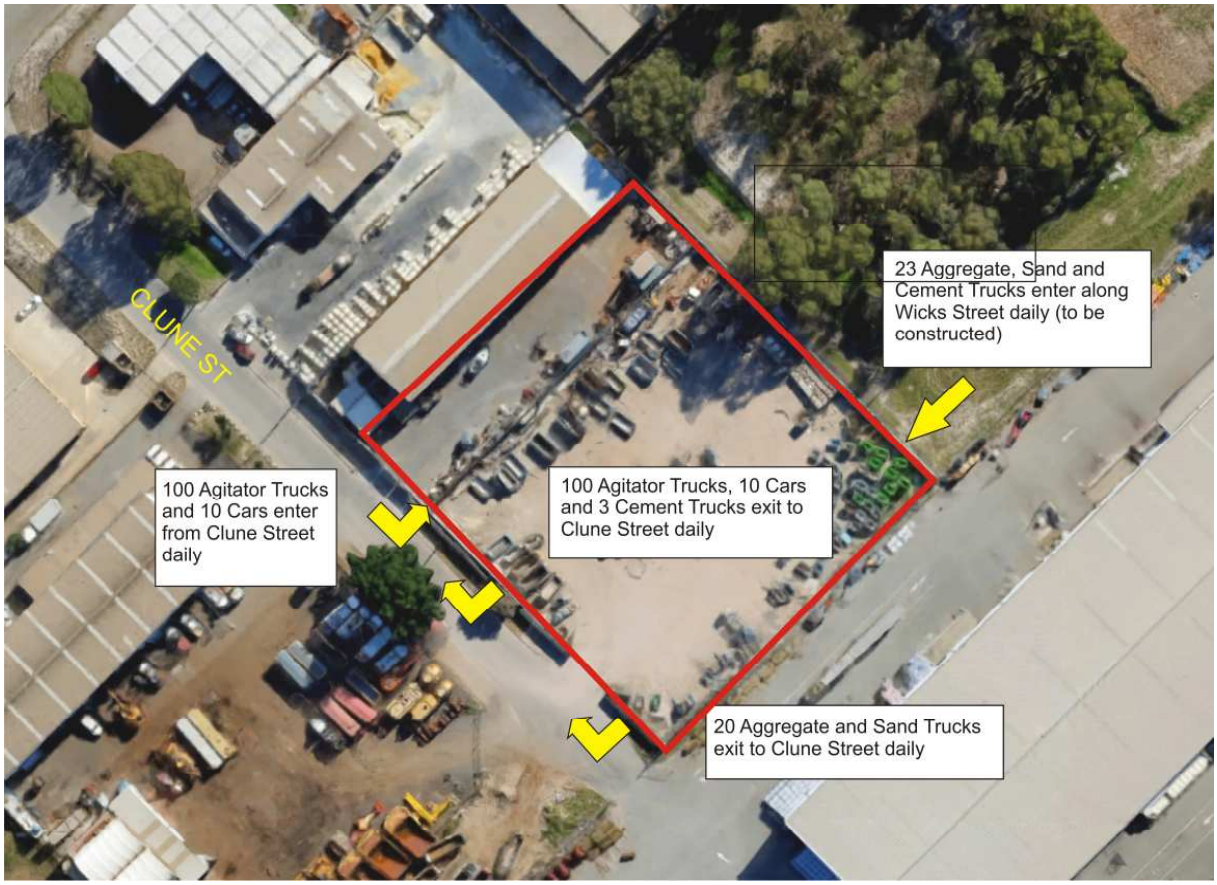


Figure 10. Proposed Access and Egress

No details have been produced for the crossovers other than the locations and design will be undertaken to ensure that the geometry provides for the intended design vehicles.

With respect to Wicks Street, construction will provide sufficient width and strength to the pavement to cater for the intended class of vehicle that will be using the road for access. Consistent with the road widths in the adjacent industrial area it is intended to construct the pavement 10 metres wide. Given that Wicks Street is under the care and control of the Local Authority, the design of the road will be subject to the review and approval by the Local Authority.

9. Parking.

The Town of Bassendean Town Planning Scheme (TPS 10) requires 1 parking bay for every 50 square metres of gross floor area for general and light industrial developments. Based on the proposed plant configuration which

incorporates 61 square metres of amenity buildings, 26 square metres of store and 100 square metres of batching plant, parking requirements are calculated at 5 bays. However, given the nature of the operation it is expected that parking demand will be greater than that indicated by the TPS determination and to that end it is proposed to provide 14 dedicated truck bays and 9 dedicated car bays. It is considered that this is sufficient to meet predicted demand; noting however, that ample room is available on site to accommodate additional parking needs should they arise.

10. Conclusions

A review of the traffic impacts associated with the proposed establishment and operation of a concrete batching plant in Clune Street Bassendean indicated the following:

- Under the development scenario, the predicted generation from the site is in the order of 266 vehicles per day, based on the predicted maximum output from the site.
- Expected increase in traffic using these roads is predicted to be in the order of 26 movements per hour with the majority of these movements accommodated on Clune Street, Lavan Street and Jackson Street.
- The Modelling suggests that the increased traffic moving through the intersections will not result in any adverse impacts being experienced and all affected intersections are expected to function at a high level of service.
- The proposed configuration of the plant provides separation between trucks delivering raw materials and agitator trucks loading and delivering product; to this end the currently unconstructed portion of Wicks Street between the eastern lot boundary and Jackson Street will need to be constructed to an appropriate standard.
- Adequate parking in excess of the requirements of the Town of Bassendean Town Planning Scheme is to be provided onsite.

Overall, the intended use is in keeping with the zoning of the site and compatible with the surrounding land uses.

ROWEGROUP

Attachment Five

Environmental Protection Authority Registration

Department of Environment

Your ref:

Our ref: R1704

Enquiries: Tim Mander

Direct tel: 6250 8015

The Manager
BGC (Australia) Pty Ltd
PO Box 7223
Cloisters Square Private Boxes WA 6850

Dear Sir/Madam

ENVIRONMENTAL PROTECTION ACT 1986
REGISTRATION NUMBER 1704

BGC Australia Pty Ltd
Mobile Concrete Batch Plant Major 60

Please find enclosed your Registration, under the *Environmental Protection Regulations 1987* for the above premises along with the receipt for the prescribed fee.

Should any details of the Registration be incorrect, please advise the corrected details as soon as possible. You should also note that a person who becomes the new occupier of a registered premises must notify the Department of Environment of that fact within 30 days. Failure to do so is an offence under the Regulations.

Where a change of occupier occurs, an administration fee of 2 fee units (currently $29) is payable. Forms to transfer Registrations are available from the Department of Environment (DoE) website at www.environment.wa.gov.au.

Please note that the granting of this Registration does not remove the need to obtain necessary approvals from other authorities before operation commences.

If you have any questions relating to your Registration or the above information, please contact Licensing Administration of the Swan Goldfields Agricultural Regional office on 6250 8000.

Yours faithfully

ROSS SHERIDAN
ACTING REGIONAL MANAGER
SWAN GOLDFIELDS AGRICULTURAL REGION

Monday, 17 January 2005

WESTERN AUSTRALIAN environment AWARDS

Swan Goldfields Agricultural Region
7 Ellam Street Victoria Park Western Australia 6100
Telephone (08) 6250 8000 Facsimile (08) 6250 8050
www.environment.wa.gov.au

WESTERN AUSTRALIA

DEPARTMENT OF ENVIRONMENT

Environmental Protection Act 1986

REGISTRATION

REGISTRATION NUMBER: 1704 **FILE NUMBER: R1704**

NAME OF OCCUPIER:

BGC (Australia) Pty Ltd

ADDRESS OF OCCUPIER:

PO Box 7223
Cloisters Square Private Boxes WA 6850

NAME AND LOCATION OF PREMISES:

BGC Australia Pty Ltd
Mobile Concrete Batch Plant Major 60

Environmental Protection Regulations 1987
CLASSIFICATION(S) OF PREMISES:

Category 77 - Concrete Batching or Cement Products Manufacturing

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COMMENCEMENT DATE OF REGISTRATION: Monday, 17 January 2005

Receipt No: 014780
Receipt Date: 27/10/2004
Registration Fee: $360.00

.....
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

Date of Issue: Monday, 17 January 2005

GOVERNMENT OF WESTERN AUSTRALIA

Environmental Protection Authority

EPA REFERRAL FORM

Referral of a Proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*.

PURPOSE OF THIS FORM

Section 38 of the *Environmental Protection Act 1986* (EP Act) makes provision for the referral to the Environmental Protection Authority (EPA) of a proposal (significant proposals, strategic proposals and proposals under an assessed scheme) by a proponent, a decision making authority (DMA), or any other person.

The purpose of this form is to ensure that EPA has sufficient information about a proposal to make a decision about the nature of the proposal and whether or not the proposal should be assessed under Part IV of the EP Act. Information provided in the referral form must be brief (no more than 30 pages), sharp and succinct to achieve the purposes of this form.

This form does not prevent the referrer from providing a supplementary referral report. Should a referrer choose to submit a supplementary referral report please ensure the following.

i. Information is short, sharp and succinct.
ii. Attachments are below eight megabytes (8 MB) as they will be published on the EPA's website (exemptions apply) for public comment. To minimise file size, "flatten" maps and optimise pdf files.
iii. Cross-references are provided in the referral form to the appropriate section/s in the supplementary referral report.

This form is to be used for all proposals[1] which can be referred to the EPA under section 38 of the EP Act; i.e. referrals from: **proponents** of proposals (significant proposals, strategic proposals, derived proposals, proposals under an assessed scheme); **DMAs** (significant proposals); and **third parties** (significant proposals).

This form is divided into several sections, including; Referral requirements and Declaration; Part A - Information of the proposal and proponent; and Part B Environmental Factors. Guidance on successfully completing this form is provided throughout the form and is also available in the EPA's *Environmental Assessment Guideline for Referral of a Proposal under s38 of the EP Act (EAG 16)*.

Send completed forms to
Office of the Environmental Protection Authority
Locked Bag 10, East Perth WA 6892

or

Email: Registrar@epa.wa.gov.au

Enquiries
Office of the Environmental Protection Authority
Locked Bag 10, East Perth WA 6892
Telephone: 6145 0800
Fax: 6145 0895
Email: info@epa.wa.gov.au
Website: www.epa.wa.gov.au

[1] Please note that this form consolidates and replaces the following forms: *Referral of a Proposal by the Proponent to the EPA under section 38(1) of the EP Act*; *Referral of a Proposal by a third party to the EPA under section 38(1) of the EP Act*; and *Referral of a development proposal to the EPA by the decision making authority*.

Referral requirements and Declaration

The following section outlines the referral information required from a proponent, decision making authority and third party.

(a) Proponents

Proponents are expected to complete all sections of the form and provide GIS spatial data to enable the EPA to consider the referral. Spatial GIS data is necessary to inform the EPA's decision.

The EPA expects that a proponent will address Part B of the form as thoroughly as possible to demonstrate whether or not the EPA's objectives for environmental factors can be met.

If insufficient information is provided the EPA will request more information and processing of the referral will commence once the information is provided or the EPA decides to make a precautionary determination on the available information.

Proponent to complete before submitting form	
Completed all the questions in Part A (essential)	☒ Yes ☐ No
Completed all the questions in Part B	☒ Yes ☐ No
Completed all other applicable questions	☒ Yes ☐ No
Included Attachment 1 – any additional document(s) the proponent wishes to provide	☒ Yes ☐ No
Included Attachment 2 – confidential information (if applicable)	☐ Yes ☒ No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but clearly separating any confidential information	☒ Yes ☐ No
Completed the Declaration	☒ Yes ☐ No
What is the type of proposal being referred? ** a referred proposal seeking to be declared a derived proposal*	☐ significant ☐ strategic ☐ derived* ☒ under an assessed scheme
Do you consider the proposal requires formal environmental impact assessment?	☐ Yes ☒ No
If yes, what level of assessment? *API = Assessment of Proponent Information* *PER = Public Environmental Review*	☐ API Category A ☐ API Category B ☐ PER

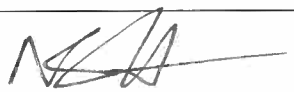
NB: The EPA may apply an Assessment on Proponent Information (API) level of assessment when the proponent has provided sufficient information about:

- the proposal;
- the proposed environmental impacts;
- the proposed management of the environmental impacts; and
- when the proposal is consistent with API criteria outlined in the *Environmental Impact Assessment (Part IV Division 1 and 2) Administrative Procedures 2012*.

If an API A formal level of assessment is considered appropriate, please refer to Environmental Assessment Guideline No. 14 *Preparation for an Assessment on Proponent Information (Category A) Environmental Review Document EAG 14* (EAG14).

Declaration

I, Rowe Group *(full name)* declare that I am authorised on behalf of Keppel Holdings Pty Ltd (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 		Name (print) Nathan Stewart		
Position	Planner	Organisation	Rowe Group	
Email	nathan.stewart@rowegroup.com.au			
Address	Level 3 / 369	Newcastle Street		
	Northbridge		WA	Northbridge
Date	3 December 2015			

(b) Decision-making authority

The EPA expects decision-making authorities to complete applicable sections of Part A of the form and provide the proponent an opportunity to provide additional information in Part B of the form where appropriate.

Wherever possible the DMA should obtain relevant spatial information from the proponent and provide this to the EPA with the referral.

DMA to complete before submitting form	
Completed all the questions in Part A (essential)	☐ Yes ☐ No
Provided Part B to the proponent for completion	☐ Yes ☐ No
Completed all other applicable questions	☐ Yes ☐ No
Included Attachment 1 – any supporting information	☐ Yes ☐ No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping	☐ Yes ☐ No
Completed the below Declaration	☐ Yes ☐ No
Do you consider the proposal requires formal environmental impact assessment?	☐ Yes ☐ No
What is the type of proposal being referred?	☐ significant proposal ☐ significant proposal under an assessed scheme

Declaration

I, ..., *(full name)* submit this referral to the EPA for consideration of the environmental significance of its impacts.

Signature		Name (print)	
Position		Organisation	
Email			
Address			
Date			

(c) Third Party

Third parties are asked to have consideration for the Significance Test outlined in Part A Section 1.5 of this form before referring a significant proposal to the EPA. The EPA will only consider proposals that are likely, if implemented, to have a significant effect on the environment.

Third parties are to provide sufficient information to clearly identify the significant proposal, the proponent, and their reasons for referring the proposal. This can be done by completing as much of Part A of the form as possible, taking into consideration the information available. Third parties may wish to fill in Part B of the form to advance their own views of the significance of the environmental impacts and the need for EPA assessment.

In most cases the EPA will seek additional information from the proponent. This will be to confirm or amend the identity of the proponent, the proposal, and to allow the proponent opportunity to provide its views on the significance of the environmental impacts and the need for EPA assessment.

Third Party to complete before submitting form	
Complete all applicable questions in Part A and B	☐ Yes ☐ No
Completed the Declaration	☐ Yes ☐ No
Do you consider the proposal requires formal environmental impact assessment?	☐ Yes ☐ No

Declaration

I, ..., *(full name)* submit this referral to the EPA for consideration of the environmental significance of its impacts.

Signature		Name (print)	
Email			
Position		Organisation	
Address	Street No	Street Name	
	Suburb	State	Post code
Date			

PART A: Information on the proposal and the proponent

All fields of Part A must be completed by the proponent and/or decision-making authority for this document to be processed as a referral. Third party referrers are only expected to fill in the fields they have information for.

1 PROPONENT AND PROPOSAL DESCRIPTION

1.1 The proponent of the proposal

Proponent and/or DMA to complete	
Name of the proponent	Keppel Holdings Pty Ltd
Joint Venture parties (if applicable)	N/A
Australian Company Number(s)	
Postal Address *(Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)*	Mr Sam Mangione Keppel Holdings Pty Ltd PO Box 419 MORLEY WA 6943
Key proponent contact for the proposal *Please include: name; physical address; phone; and email.*	Mr Sam Mangione Keppel Holdings Pty Ltd PO Box 419 MORLEY WA 6943
Consultant for the proposal (if applicable) *Please include: name; physical address; phone; and email.*	Rowe Group (Nathan Stewart) Level 3, 369 Newcastle Street NORTHBRIDGE WA 6003

1.2 Proposal

Proposal is defined under the EP Act to mean a "project, plan, programme policy, operation, undertaking or development or change of land use, or amendment of any of the foregoing, but does not include scheme". Before completing this section please refer to Environmental Protection Bulletin 17 – Strategic and derived proposals (EPB 17) and Environmental Assessment Guideline for Defining the Key Characteristics of a proposal (EAG 1).

Proponent and/or DMA to complete	
Title of the proposal	
What project phase is the proposal at?	☐ Scoping ☐ Feasibility ☐ Detailed design ☒ Other - Application for Planning Approval
Proposal type *More than one proposal type can be identified, however for filtering purposes it is recommended that only the primary proposal type is identified.*	☐ **Power/Energy Generation** ☐ Hydrocarbon Based – coal ☐ Hydrocarbon Based – gas ☐ Waste to energy ☐ Renewable – wind ☐ Renewable – wave ☐ Renewable – solar

Proponent and/or DMA to complete	
	☐ Renewable – geothermal ☐ **Mineral / Resource Extraction** ☐ Exploration – seismic ☐ Exploration – geotechnical ☐ Development ☐ **Oil and Gas Development** ☐ Exploration ☐ Onshore – seismic ☐ Onshore – geotechnical ☐ Onshore – development ☐ Offshore – seismic ☐ Offshore – geotechnical ☐ Offshore – development ☐ **Industrial Development** ☐ Processing ☐ Manufacturing ☐ Beneficiation ☒ **Land Use and Development** ☐ Residential – subdivision ☐ Residential – development ☐ Commercial – subdivision ☐ Commercial – development ☐ Industrial – subdivision ☒ Industrial – development ☐ Agricultural – subdivision ☐ Agricultural – development ☐ Tourism ☐ **Linear Infrastructure** ☐ Rail ☐ Road ☐ Power Transmission ☐ Water Distribution ☐ Gas Distribution ☐ Pipelines ☐ **Water Resource Development** ☐ Desalination ☐ Surface or Groundwater ☐ Drainage ☐ Pipelines ☐ Managed Aquifer Recharge ☐ **Marine Developments** ☐ Port ☐ Jetties ☐ Marina ☐ Canal ☐ Aquaculture

Proponent and/or DMA to complete	
	☐ Dredging *If other, please state below:* ☐ **Other** _____
Proponent and/or DMA to complete	
Description of the proposal – describe the key characteristics of the proposal in accordance with EAG 1.	This proposal is for a mobile concrete batching plant at Lot 105 (No. 2) Clune Street, Bassendean.
Timeframe in which the proposal is to occur (including start and finish dates where applicable).	Permanent.
Details of any staging of the proposal.	The development is not staged.
What is the current land use on the property, and the extent (area in hectares) of the property?	Approximately 7,559m^2. Workshop and associated office.
Have pre-referral discussions taken place with the OEPA? If yes, please provide the case number. If a case number was not provided, please state the date of the meeting and names of attendees.	No.
DMA (Responsible Authority) to complete	
For a proposal under an assessed scheme (as defined in section 3 of the EP Act, applicable only to the proponent and DMA) provide details (in an attachment) as to whether: • *The environmental issues raised by the proposal were assessed in any assessment of the assessed scheme.* • *The proposal complies with the assessed scheme and any environmental conditions in the assessed scheme.*	

1.3 Strategic / derived proposals

Complete this section if the proposal being referred is a strategic proposal or you are seeking the proposal to be declared a derived proposal. Note: Only a proponent may refer a strategic proposal and seek a proposal to be declared a derived proposal.

Proponent to complete	
Is this referred proposal a strategic proposal?	☐ Yes ☒ No
Are you seeking that this proposal be declared a derived proposal?	☐ Yes ☒ No
If you are seeking that this proposal be declared a derived proposal, what is the Ministerial Statement number (MS #) of the associated strategic proposal?	MS #: _____

1.4 Location

Proponents and DMAs must provide spatial data. Please refer to EAG 1 for more detail.

Proponent, DMA and Third Party to complete	
Name of the Local Government Authority in which the proposal is located.	Town of Bassendean
Location: a) street address; lot number; suburb; and nearest road intersection; or b) if remote the nearest town; and distance and direction from that town to the proposal site.	Lot 105 (No. 2) Clune Street, Bassendean. Clune Street and Lavan Street.
Have maps and figures been included with the referral (consistent with EAG 1 where appropriate)? *The types of maps and figures which need to be provided (depending on the nature of the proposal) include:* • *maps showing the regional location and context of the proposal; and* • *figures illustrating the proposal elements.*	☒ Yes ☐ No
Proponent and DMA to complete	
Have electronic copies of spatial data been included with the referral? ***NB:*** *Electronic spatial (GIS or CAD) data, geo-referenced and conforming to the following parameters:* • *GIS: polygons representing all activities and named;* • *CAD: simple closed polygons representing all activities and named;* • *datum: GDA94;* • *projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);* • *format: ESRI geodatabase or shapefile, MapInfo Interchange Format, Microstation or AutoCAD..*	☒ Yes ☐ No

1.5 Significance test and environmental factors

Proponent, DMA and Third Party to complete	
What are the likely significant environmental factors for this proposal?	☐ Benthic Communities and Habitat ☐ Coastal Processes ☐ Marine Environmental Quality ☐ Marine Fauna ☐ Flora and Vegetation ☐ Landforms ☐ Subterranean Fauna ☐ Terrestrial Environmental Quality ☐ Terrestrial Fauna ☐ Hydrological Processes ☐ Inland Waters Environmental Quality

Proponent, DMA and Third Party to complete	
	☐ Air Quality & Atmospheric Gases ☐ Amenity ☐ Heritage ☐ Human Health ☐ Offsets ☐ Rehabilitation and Decommissioning
Having regard to the Significance Test (refer to Section 7 of the *EIA Administrative Procedures 2012*) in what ways do you consider the proposal may have a significant effect on the environment and warrant referral to the EPA?	The proposed development is and the operation of the proposal will be consistent with the Environmental Protection (Concrete Batching and Cement Manufacturing) Regulations 1988. Furthermore, the mobile concrete batching plant equipment was registered under the *Environmental Protection Act 1986* by the Department of Environment (Registration No. 1704 dated 17 January 2005). A Waste and Dust Management Plan has been prepared by the Applicant to address these matters. Notwithstanding, the Referral to the EPA was not warranted.

1.6 Confidential information

All information will be made publically available unless authorised for exemption under the EP Act or subject to the Freedom of Information Act 1992.

Proponent to complete	
Does the proponent request that the EPA treat any part of the referral information as confidential? *Ensure all confidential information is provided in a separate attachment in hard copy.*	☐ Yes ☒ No

2 REGULATORY CONSIDERATIONS

This section applies to the Local, State and Commonwealth regulatory considerations for the referred proposal.

2.1 Government approvals

2.1.1 State or Local Government approvals

DMA to complete	
What approval(s) is (are) required from you as a decision-making authority?	
Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.	☐ Yes ☐ No

2.1.2 Regulation of aspects of the proposal

Complete the following to the extent possible.

Proponent to complete	
Do you have legal access required for the implementation of all aspects of the proposal? *If yes, provide details of legal access authorisations / agreements / tenure.* *If no, what authorisations / agreements / tenure is required and from whom?*	☒ Yes ☐ No

Outline both the existing approvals and approvals that will be / are being sought as a part of this proposal.

Proponent to complete			
Aspects* of the proposal	**Type of approval**	**Legislation regulating this activity**	**Which State agency /entity regulate this activity?**
Mobile Concrete Batching Plant	Registration of Mobile Concrete Batching Plan Major 60 (Registration No. 1704 dated 17 January 2005)	EP Act 1986	Department of Environment
Development	Planning Approval	Town of Bassendean Local Planning Scheme No. 10 Planning and Development Act 2005	Town of Bassendean

**e.g. mining, processing, dredging*

2.1.3 Commonwealth Government *Environment Protection and Biodiversity Conservation Act 1999* approvals

Refer to the assessment bilateral agreement between the Commonwealth of Australia and the State of Western Australia for assistance on this section.

Proponent to complete	
1. Does the proposal involve an action that may be or is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)?	☐ Yes ☒ No *If no continue to Part A section 2.1.4*
2. What is the status of the decision on whether or not the action is a controlled action?	☐ Proposal not yet referred ☐ Proposal referred, awaiting decision ☐ Assessed – controlled action ☐ Assessed – not a controlled action

Proponent to complete	
3. If the action has been referred, when was it referred and what is the reference number (Ref #)?	Date: _____ Ref #: _____
4. If the action has been assessed, provide the decision in an attachment. Has an attachment been provided?	☐ Yes ☐ No
5. Do you request this proposal to be assessed under the bilateral agreement?	☐ Yes ☐ No

Complete the following to the extent possible for the Public Comment of EPBC Act referral documentation.

Proponent to complete	
6. Have you invited the public to comment on your referral documentation?	☐ Yes ☐ No
7. How was the invitation published?	☐ newspaper ☐ website
8. Did the invitation include all of the following?	
(a) brief description of the action	☐ Yes ☐ No
(b) the name of the action	☐ Yes ☐ No
(c) the name of the proponent	☐ Yes ☐ No
(d) the location of the action	☐ Yes ☐ No
(e) the matters of national environmental significance that will be or are likely to be significantly impacted	☐ Yes ☐ No
(f) how the relevant documents may be obtained	☐ Yes ☐ No
(g) the deadline for public comments	☐ Yes ☐ No
(h) available for public comment for 14 calendar days	☐ Yes ☐ No
(i) the likely impacts on matters of national environmental significance	☐ Yes ☐ No
(j) any feasible alternatives to the proposed action	☐ Yes ☐ No
(k) possible mitigation measures	☐ Yes ☐ No
9. Were any submissions received during the public comment period?	☐ Yes ☐ No
10. Have public submissions been addressed? If yes provide attachment.	☐ Yes ☐ No

2.1.4 Other Commonwealth Government Approvals

Proponent, DMA and Third Party to complete			
Is approval required from other Commonwealth Government/s for any part of the proposal?		☐ Yes ☒ No *If yes, please complete the table below.*	
Agency / Authority	Approval required	Application lodged?	Agency / Local Authority contact(s) for proposal
		☐ Yes ☐ No	
		☐ Yes ☐ No	

3. SUPPORTING INFORMATION

Please attach copies of any relevant information on the proposal, supporting evidence and / or existing environmental surveys, studies or monitoring information undertaken and list the documents below.

Proponent, DMA and Third Party to complete			
(1)	Application for Planning Approval for Mobile Concrete Batching Plan (Industry – General Use) – Lot 105 (No. 2) Clune Street, Bassendean	Rowe Group	Application for Planning Approval.
(2)	Waste and Dust Management Plan	Rowe Group	Waste and Dust Management Plan
(3)	Transport Statement – Lot 105 (No. 2) Clune Street, Bassendean	Shawmac	Traffic Assessment
(4)	Application for Review – Application for Planning Approval for Mobile Concrete Batching Plan (Industry – General Use) – Lot 105 (No. 2) Clune Street, Bassendean	Rowe Group	Application for Review
(5)	Additional Information Submission – Application for Review	Rowe Group and Shawmac	Additional information including: • Amended drawings; • Updated Traffic Assessment; and • Waste and Dust Management Plan.
(6)	Registration of Mobile Concrete Batching Plant	Department of Environment	Registration of Mobile Concrete Batching Plant (Registration No. 1704 dated 17 January 2005)

PART B: ENVIRONMENTAL FACTORS

The purpose of Part B is to assist the EPA to determine the significance of the likely environmental impacts of the proposal in accordance with the EPA's *Environmental Assessment Guideline for Environmental factors and objectives* (EAG 8) and *Environmental Assessment Guideline for Application of a significant framework in the EIA process* (EAG 9). Referrers completing Part B should refer closely to EAG 8 and EAG 9.

The EPA has prepared *Referral of a Proposal under s38 of the EP Act EAG No.16 - Appendix A* (Appendix A) to assist in identifying factors and completing the below table. Further guidance can be found in the guidance and policy documents cited in Appendix A under each factor.

How to complete Part B
For each environmental factor, that is likely to be significantly impacted by the implementation of the proposal, make a copy of the table below and insert a summary of the relevant information relating to the proposal. The table can be broken down into more than one table per factor, if the need arises. For example the hydrological processes factor can be presented in two separate tables, one for surface water and one for groundwater, or similarly one for construction and one for operations.

For complex proposals a supplementary referral report can be provided in addition to the referral form. If this option is chosen the table must still be completed (summaries are acceptable) to assist the Office of the EPA with statistical reporting and filtering proposals for processing.

Proponents expecting an API level of assessment must provide information in accordance with the EPA's *Environmental Assessment Guideline for Preparation of an API-A environmental review document* (EAG 14).

For each of the significant environmental factors, complete the following table (Questions 1 – 10).

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, *as defined in EAG 8*	The relevant factors are outlined in Sections 1.0 to 5.0 of the Assessment against Environmental Assessment Guideline for Environmental Factors and Objectives.
2	EPA Objective, *as defined in EAG 8*	The relevant objectives are outlined in Sections 1.0 to 5.0 of the Assessment against Environmental Assessment Guideline for Environmental Factors and Objectives.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	*Environmental Protection (Concrete Batching and Cement Manufacturing) Regulations 1988* and EPA Guidance for the Assessment of Environmental Factors – Separation Distances between Industrial and Sensitive Land Uses No. 3.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including: • *anticipated level of public interest in the impact;* • *consultation with regulatory agencies; and* • *consultation with community.*	Community consultation was undertaken by the Town of Bassendean, with a total of 16 submissions being received. Copies or a summary of these submissions has not been received.
5	Baseline information - describe the relevant characteristics of the receiving environment. *This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.*	Refer Section 4.1 of the Assessment against Environmental Assessment Guideline for Environmental Factors and Objectives. The land between the subject site and the nearest sensitive land use is occupied by large industrial properties, the Railway Parade and Guildford Road carriageways and the Midland rail line.
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Refer Section 3.1 of the Assessment against Environmental Assessment Guideline for Environmental Factors and Objectives. The proposed development is and the operation of the proposal will be consistent with the *Environmental Protection (Concrete Batching and Cement Manufacturing) Regulations 1988.*
7	Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed: • *Avoidance - avoiding the adverse environmental impact altogether;* • *Minimisation - limiting the degree or magnitude of the adverse impact;* • *Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and* • *Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.*	Refer Section 3.1 of the Assessment against Environmental Assessment Guideline for Environmental Factors and Objectives. The proposed development is and the operation of the proposal will be consistent with the *Environmental Protection (Concrete Batching and Cement Manufacturing) Regulations 1988.*

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
8	Residual impacts – review the residual impacts against the EPA objectives. *It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA's objective for this factor would be met if residual impacts remain. This will require:* • *quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions;* • *putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and* • *comparison against any established environmental policies, guidelines, and standards.*	The relevant EPA objectives are addressed in Sections 1.0 to 5.0 of the Assessment against Environmental Assessment Guideline for Environmental Factors and Objectives.
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? *Refer to EAG 9*	☒ *meets the EPA's objective* ☐ *may meet the EPA's objective* ☐ *is unlikely to meet the EPA's objective*
10	Describe any assumptions critical to your conclusion (in Question 9). *e.g. particular mitigation measures or regulatory conditions.*	Refer Section 3.1 of the Assessment against Environmental Assessment Guideline for Environmental Factors and Objectives. The proposed development is and the operation of the proposal will be consistent with the *Environmental Protection (Concrete Batching and Cement Manufacturing) Regulations 1988.*

In circumstances where there was some uncertainty on the level of significance of a particular factor it is recommended that a brief summary (no longer than 1 - 2 paragraphs) is provided on the steps taken to determine why a factor was not considered to be significant.

Assessment against Environmental Assessment Guidelines for Environmental Factors and Objectives

Proposal for a Mobile Concrete Batching Plant – Lot 105 (No. 2) Clune Street, Bassendean

Ref.	Environmental Factor	Environmental Objective	Proposed Management	References
1.0	**LAND**			
1.1	Flora and Fauna	To maintain representation, diversity, viability and ecological function at the species, population and community level.	Not applicable – The subject site is an existing industrial property located within an appropriately zoned and existing industrial area.	Not applicable.
1.2	Landforms	To maintain the variety, integrity, ecological functions and environmental values of landforms.	Not applicable – The subject site is an existing industrial property located within an appropriately zoned and existing industrial area.	Not applicable.
1.3	Subterranean Fauna	To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.	Not applicable – The subject site is an existing industrial property located within an appropriately zoned and existing industrial area.	Not applicable.
1.4	Terrestrial Environmental Quality	To maintain the quality of land and soils so that the environment values, both ecological and social, are protected.	The proposal will not result in the loss of quality of land or soil through measures contained in the Waste and Dust Management Plan.	Refer Waste and Dust Management Plan.
1.5	Terrestrial Fauna	To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.	Not applicable – The subject site is an existing industrial property located within an appropriately zoned and existing industrial area.	Not applicable.
2.0	**WATER**			
2.1	Hydrological Processes	To maintain the hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.	All excess water draining off the loading area, used to wash out agitator trucks, or to clean up slit, drained off sealed or paved areas is to be directed into the slurry waste bin area. Water source for the facility will be from an approved bore to be constructed at the subject site. Licences from the Department of Water to construct a bore and take water have been obtained.	Refer Waste and Dust Management Plan.
2.2	Inland Waters Environmental Quality	To maintain the quality of groundwater and surface water, sediment and biota so that the environmental values, both ecological and	See above.	Refer Waste and Dust Management Plan.

Ref.	Environmental Factor	Environmental Objective	Proposed Management	References
		social, are protected.		
3.0	**AIR**			
3.1	Air Quality	To maintain air quality for the protection of the environment and human health and amenity, and to minimise the emission of greenhouse and other atmospheric gases through the application of best practice.	The proposed development is and the operation of the proposal will be consistent with the *Environmental Protection (Concrete Batching and Cement Manufacturing) Regulations 1988*.	Refer Waste and Dust Management Plan.
4.0	**PEOPLE**			
4.1	Amenity	To ensure that impacts to amenity are reduced as low as reasonably practicable.	The subject site is an existing industrial property located within an appropriately zoned and existing industrial area. The proposal is an appropriate use within an industrial area. The proposed use will operate in accordance with the requirements of the *Environmental Protection (Concrete Batching and Cement Manufacturing) Regulations 1988*. The subject site has a separation distance greater than the minimum generic distance provided in the EPA Guidance for the Assessment of Environmental Factors – Separation Distances between Industrial and Sensitive Land Uses No. 3. The land between the subject site and the nearest sensitive land use is occupied by large industrial properties, the Railway Parade and Guildford Road carriageways and the Midland rail line. These physical barriers help minimise any adverse impact of the proposal. If there were to be any effects caused by the proposed development, the distance, the type of development and physical barriers between the subject site and the nearest sensitive land use	Refer Waste and Dust Management Plan.

Ref.	Environmental Factor	Environmental Objective	Proposed Management	References
			would not change the circumstances for the small number of residences within 500m (the upper generic separation distance) of the subject site.	
4.2	Heritage	To ensure that historical and cultural associations, and natural heritage, are not adversely affected.	Not applicable – A review of the Department of Indigenous Affairs' Heritage Database and State Heritage Office's inherit Database confirms there are no known heritage places at the subject site.	Not applicable.
4.3	Human Health	To ensure that human health is not adversely affected.	See Air Quality above.	Refer Waste and Dust Management Plan.
5.0	**INTEGRATING FACTORS**			
5.1	Offsets	To counterbalance any significant residual environmental impacts or uncertainty through the application of offsets.	The proposed operation is relatively small. The proposal does not result in any significant environmental impacts.	Not applicable.
5.2	Rehabilitation and Closure	To ensure that premises are decommissioned and rehabilitated in an ecologically sustainable manner.	Not applicable – The subject site is an existing industrial property located within an appropriately zoned and existing industrial area. No rehabilitation required.	Not applicable.

Waste and Dust Management Plan

BGC

Concrete Batching Plan

1. Servicing and Management

Waste:

- Washout system to suit 5m^3 and 7m^3 agitator trucks, anticipate that the system will need to be cleaned out on a two (2) week cycle, dry material removed from site.

Discharges:

- Not anticipated, see below for controls.

2. Control Methods

Refer to following management plans.

We do not anticipated holding large quantities of fuel on site, all vehicles will use local service stations for fuel, charge card facility currently established by BGC for such purposes, this will be extended to plant based trucks. Small above ground self bunded diesel tank approx. 10k litres to service loader and emergency truck requirements.

Operating Hours:

Anticipated hours are generally 6:00am – 4:00pm Monday to Friday, Saturday 6:00am – 1:00pm. We do not anticipate operating the plant late Saturday pm or Sundays and will advise relevant authorities of specific openings should the need arise. We are aware of the need to comply with *Environmental Protection (Noise) Regulations 1997*.

If any further information is required please contact Phil Hobbs (08) 6220 4718 or 0417 181 022.

3. Waste Management Objectives

The following Waste and Dust Management Plan ('WDMP') addresses the general operation of the proposed concrete batching plant within Lot 105 (No. 2) Clune Street, Bassendean.

The content and requirements of the *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998* ('the Regulations') (Attachment One) has been considered in the formulation of this WDMP.

The design, operation and management of the proposed development must comply with the Regulations at all times.

This WDMP effectively addresses the appropriate containment and disposal of waste. The WDMP has been prepared to ensure that waste is entirely contained within the subject site boundaries.

4. Waste Generation

It is acknowledged that waste generation will occur from the use of the site.

4.1 Waste Systems

The following provides guidance for 'best practice' with the most common materials that will be segregated on site and disposed of via the contracted waste removal service.

4.1.1 Colour Pigments, Steel Fibres, Silica Fume and Waterproofing Admixtures

Designated material bins to collect packaging from colour pigments, steel fibres, silica fume and waterproofing admixtures, contained within bin enclosures constructed of masonry/concrete material.

4.1.2 Silt Free Water

Settlement ponds and above ground bins will be used to accept concrete 'wash out' water. Silt free water will be recycled and reused in the manufacturing process.

4.1.3 Concrete Waste

Concrete waste will be removed from site when moisture content is less than 20% by the landowner's contractors or in the alternate BGC Transport

4.1.4 Recycling Water and Water Management

Recycling pumps with level switches will transfer waste water for storage and reuse in the manufacture of concrete. Water source for the facility will be from an approved bore to be constructed at the subject site. Licences from the Department of Water to construct a bore and take water have been obtained. The estimated annual bore water take is approved for up to 45,000kL.

All excess water draining off the loading area, used to wash out agitator trucks, or to clean up slit, drained off sealed or paved areas is to be directed into the slurry waste bin area.

4.1.5 Aggregate Recycling Facility

A recycling plant may be incorporated to recover aggregates and encourage reuse.

5. Waste Collection

Waste will be collected by the waste contractor from the waste bin locations. The waste contractor will have direct access to these areas. The waste contractor will be responsible for collecting the bins from the bin enclosures. The waste contractor will be made aware of any specific management requirements.

5.1 Waste Contractors

Waste will be collected through a private waste contractor, under BGC contract.

5.2 Frequency

The final frequency of the collection and disposal of waste will be collected as frequently as required to ensure that waste does not overflow by the stores contractor.

6. Vehicle Types and Movements

6.1 Imported Material

The following vehicles will deliver materials to the subject site:

- Aggregate deliveries (up to 27.5m in length) – approximately 10-15 per day;
- Cement deliveries (up to 27.5m in length) – approximately 2-3 per day; and
- Admixture/pigment deliveries (light trucks 3-5 tonne) – approximately 2 visits per week.

All vehicles will enter/exit the subject site via Clune Street.

6.2 Exported Material

The following vehicles will export material from the subject site:

- Concrete agitator trucks 80-100 vehicles per day;
- Concrete waste approximately 1 vehicle (road train) per fortnight; and
- Waste collection vehicles as required.

All vehicles will enter/exit the subject site via Clune Street.

7. Dust Management Plan

The following outlines the measures incorporated into the concrete batching plant design to ensure compliance with the Regulations.

7.1 Introduction

Airborne dust in concrete plants is associated with raw materials namely aggregates and cement. It has the potential to occur when material is transported onto site, transferred on site and is affected by wind conditions. Controls are required to ensure dust is managed through sound procedures, systems and the implementation of specific plant design features.

7.2 Training

All supervisory and site personnel are to receive training on dust (and noise) management as required by the Regulations.

In-house training of personnel on dust control issues will form part of the site induction process. Reinforcement of such will occur on a daily basis by supervisory plant personnel and management during routine visits. The company currently has a Production Manager, two (north and south) Plant Supervisors who are responsible for dust control in the company's existing facilities.

7.3 Plant/Equipment

The proposed plant/equipment will be fitted with the following design features to minimise dust:

- Reverse pulse cement filters x 2 (34m^2);
- High and low level audio alarm indicating levels to eliminate equipment from over filling and the filter bag being inundated;
- A Dustotech vacuum system at point of loading to direct all visual fine cement dust into silos ;
- Relief valves to be attached to the filters to ensure safe operation of plant;
- Cement filters will be serviced/replaced as necessary at six (6) month intervals;
- A spare set of filter bags to be held on-site at all times for emergency replacement; and
- Sealed penetrations to the cement silos and weigh hoppers, including inspection and service hatches.

7.4 Aggregate Delivery

All aggregate trucks will be equipped with the following measures to prevent dust:

- All aggregate trucks will be covered when arriving and departing the subject site;
- Coarse aggregate from stock piles at quarry will be moistened; and
- A water truck will be on-site to wet the ground, suppressing dust in the summer months.

It should be noted that the yard will be fully sealed to eliminate dust during on-site vehicle movements.

7.5 Raw Materials Transfer and Storage

When raw materials are to be transferred to or from the subject site, covers to the main stacker radial conveyor will be used. When storing raw materials the following measures will be in place to prevent dust:

- Reticulated ground bins to facilitate dust free loading;

- Dust covers to overhead bins to eliminate windblown dust at higher level; and
- Height limit signs will be placed on the ground bins to ensure all raw materials remain below the height of the walls.

7.6 Truck Loading and Slumping

The following measures will be used when loading trucks at the subject site:

- The loading cell will be equipped with a 'hood' which is connected to a Dustotech vacuum system to minimise dust emissions at the point of loading;
- A slump stand positioned near the exit will be used to wash down trucks prior to exiting the subject site;
- All trucks are to be free from dust on exiting the subject site.

Attachment A

Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998

Department of Environment

Your ref:

Our ref: R1704

Enquiries: Tim Mander

Direct tel: 6250 8015

The Manager
BGC (Australia) Pty Ltd
PO Box 7223
Cloisters Square Private Boxes WA 6850

Dear Sir/Madam

ENVIRONMENTAL PROTECTION ACT 1986
REGISTRATION NUMBER 1704

BGC Australia Pty Ltd
Mobile Concrete Batch Plant Major 60

Please find enclosed your Registration, under the *Environmental Protection Regulations 1987* for the above premises along with the receipt for the prescribed fee.

Should any details of the Registration be incorrect, please advise the corrected details as soon as possible. You should also note that a person who becomes the new occupier of a registered premises must notify the Department of Environment of that fact within 30 days. Failure to do so is an offence under the Regulations.

Where a change of occupier occurs, an administration fee of 2 fee units (currently $29) is payable. Forms to transfer Registrations are available from the Department of Environment (DoE) website at www.environment.wa.gov.au.

Please note that the granting of this Registration does not remove the need to obtain necessary approvals from other authorities before operation commences.

If you have any questions relating to your Registration or the above information, please contact Licensing Administration of the Swan Goldfields Agricultural Regional office on 6250 8000.

Yours faithfully

ROSS SHERIDAN
ACTING REGIONAL MANAGER
SWAN GOLDFIELDS AGRICULTURAL REGION

Monday, 17 January 2005

WESTERN AUSTRALIAN environment AWARDS

Swan Goldfields Agricultural Region
7 Ellam Street Victoria Park Western Australia 6100
Telephone (08) 6250 8000 Facsimile (08) 6250 8050
www.environment.wa.gov.au

WESTERN AUSTRALIA

DEPARTMENT OF ENVIRONMENT

Environmental Protection Act 1986

REGISTRATION

REGISTRATION NUMBER: 1704 **FILE NUMBER: R1704**

NAME OF OCCUPIER:

BGC (Australia) Pty Ltd

ADDRESS OF OCCUPIER:

PO Box 7223
Cloisters Square Private Boxes WA 6850

NAME AND LOCATION OF PREMISES:

BGC Australia Pty Ltd
Mobile Concrete Batch Plant Major 60

Environmental Protection Regulations 1987
CLASSIFICATION(S) OF PREMISES:

Category 77 - Concrete Batching or Cement Products Manufacturing

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COMMENCEMENT DATE OF REGISTRATION: Monday, 17 January 2005

Receipt No: 014780
Receipt Date: 27/10/2004
Registration Fee: $360.00

.....
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

Date of Issue: Monday, 17 January 2005

CONSULTING CIVIL & TRAFFIC ENGINEERS, RISK MANAGERS.

Project:	Transport Statement, Proposed Concrete Batching Plant, Clunes Street Bassendean.
Client:	BGC.
Author:	T Shaw
Signature:	
Date:	3rd May 2016
Version:	6

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Document Status.

Ver No.	Author	Reviewed by	Date	Issued for	Signature	Date
1	T Shaw	B Hartley	08/12/15	Review		08/12/15
2	T Shaw	B Hartley	14/12/15	Review		14/12/15
3	T Shaw	B Hartley	14/12/15	Review		14/12/15
4	T Shaw	B Hartley	30/04/16	Review		30/04/16
5	T Shaw	B Hartley	02/05/16	Review		02/05/16
66	T Shaw	B Hartley	03/05/16	Review		03/05/16

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CONTENTS.

1. Summary.

Shawmac was commissioned to assess the traffic impacts associated with the development of a concrete batching plant in Clunes Street Bassendean.

The assessment follows the recommended outline contained in the West Australian Planning Commission draft guideline "Transport Statement Guidelines for Developments". Potential traffic flow from the site was determined from operational characteristics advised by the proponent, which quantified the number of movements in and the number of movements out of the site when operating at expected peak levels of product.

Traffic was assigned to the adjacent existing road network and flows used as a basis for assessing traffic impacts associated with the site. Based on the assessment it was shown that the flows predicted can be accommodated within the existing network without unacceptable adverse impacts.

2. Introduction and Background.

2.1. Proponent.

Shawmac was commissioned to assess the traffic impacts associated with the generation of traffic from the proposed concrete batching plant as proposed to be erected in Clunes Street Bassendean by the proponent, BGC.

2.2. Site Location and Land Use.

The site is located as shown on Figure 1 and is within the Town of Bassendean. The site abuts Clunes Street and the City of Bayswater.

Figure 1 - Site Location

The study site is currently used for industrial purposes in accordance with the Town of Bassendean's Town Planning Scheme. The existing site together with the surrounding area is shown on the aerial photograph, refer Figure 2.

Figure 2 - Site Aerial Photograph

3. Site Proposal.

3.1. Regional Context.

The site is located within the Town of Bassendean approximately 8km northeast from the Perth CBD and has direct street frontage to Clune Street which connects to Jackson Street via Lavan Street. Jackson Street in turn connects to Collier Road to the north and Railway Parade to the south providing good access to the greater Perth Metropolitan Area.

3.2. Land Use.

It is proposed to develop the site for concrete batching purposes, generally as configured in Figure 3.

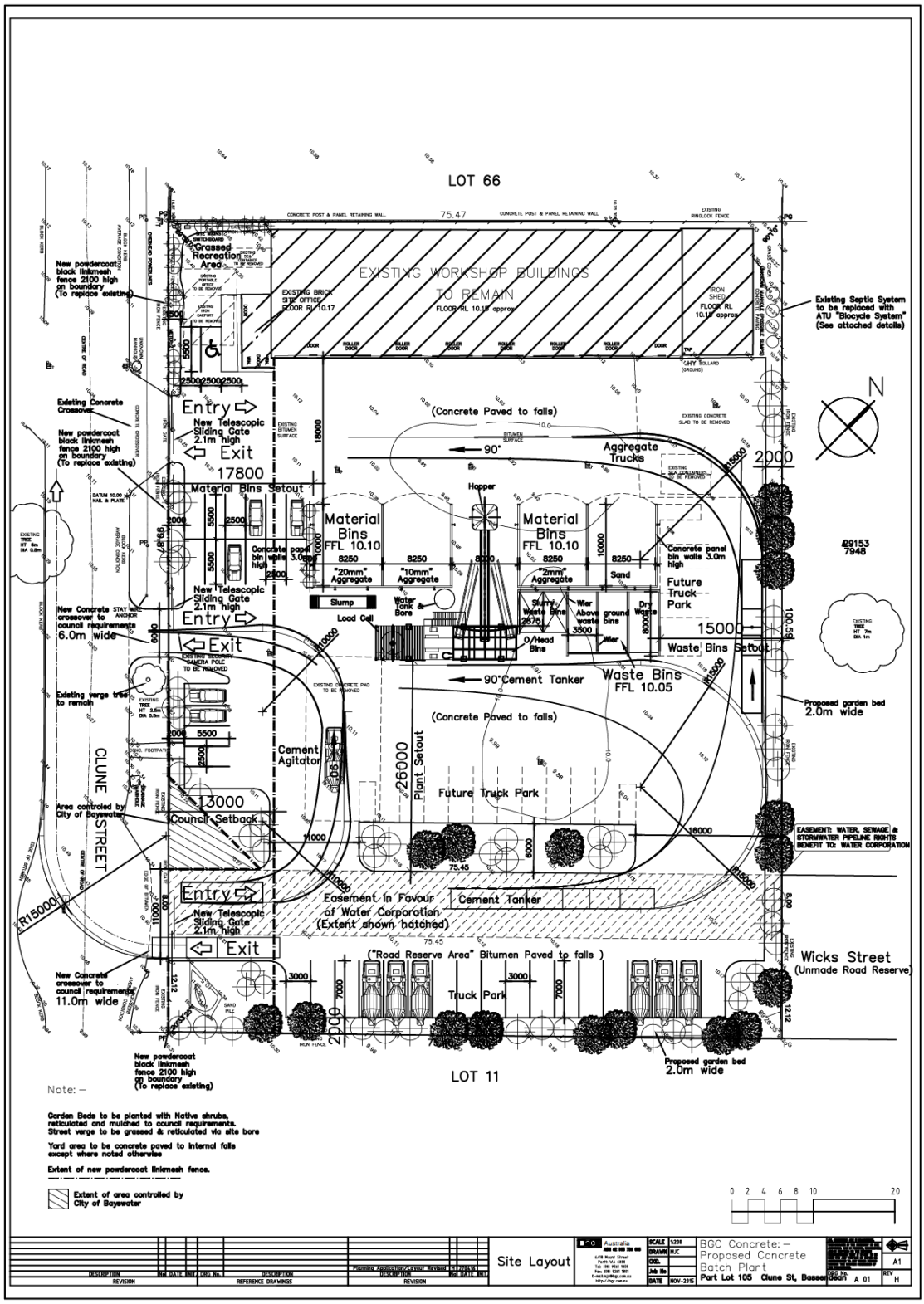


Figure 3 - Conceptual Plant Layout

The proposed use is consistent with the zoning of the site which is shown on Figure 4.

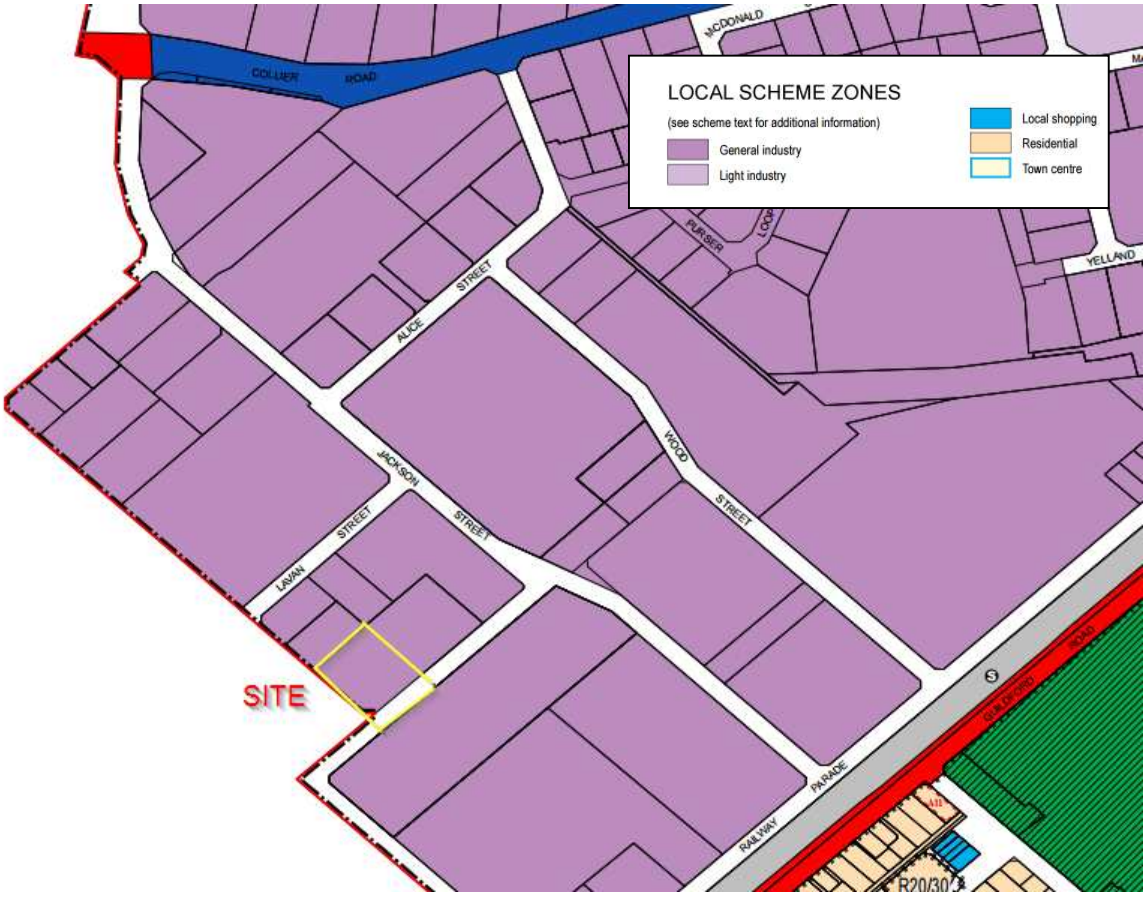


Figure 4 - Extract of Town of Bassendean Local Planning Scheme No 10

3.3. Major Attractors and Generators of traffic.

Access to the site is via Clune Street and Lavan Street which provide connection to Jackson Street and from there to Collier Road and Railway Parade.

The site also has frontage to Wicks Street along its eastern boundary which is currently unmade between the subject site and Jackson Street. The Town of Bassendean has indicated that there is a Council Resolution relating to this road made in April 2013. This Council Resolution states that the Town is prepared to initiate the acquisition of the land required for roads on the confirmation that the owners of Lot 10 Railway Parade, Bayswater will meet all costs associated with the proposed acquisition and development. It should be noted that based on advice received in April 2016, no confirmation has been given to the Town of Bassendean.

4. Existing Situation.

4.1. Existing Roads.

Jackson Street is classified as an Industrial Local Distributor under the MRWA Functional Road Hierarchy and is under the care and control of the Town of Bassendean. Clune Street and Lavan Street are classified as Industrial Access Roads and Lavan Street is under the care and control of the Town of Bassendean. Clune Street forms the boundary between the City of Bayswater and the Town of Bassendean. Clune Street forms a cul de sac at both the northern and southern ends. All three roads comprise two lane carriageways with pavement widths of 10.0 metres. Traffic count data sourced from MRWA indicates traffic volumes on Jackson Street of about 3,430 vehicles per day in 2003. No recent counts for Jackson Street, Lavan Street or Clune Street are available from MRWA. Enquiries to the Town of Bassendean indicated that counts were only available for Jackson Road and these were last taken in 2007. These counts recorded a significantly lower volume of traffic and are in the order of 2,004 vpd. No information was available from the City of Bayswater.

Based on the likely traffic catchments and the land use within the traffic catchments, daily traffic on Clune Street east of Lavan Street and on Lavan Street were estimated as being in the order of that shown below.

Clune Street	4.5 hectare light industrial @ 153[1] vpd per Ha	= 690 vpd
	4.5 hectare light industrial @ 21 vph per Ha	= 95 vph
Lavan Street	7.7 hectare light industrial @ 153 vpd per Ha	= 1,178 vpd
	4.5 hectare light industrial @ 21 vph per Ha	= 162 vph

In order to validate the assumptions regarding potential flows, traffic movements at both the intersection of Clune Street and Lavan street and Lavan Street and Jackson Street were surveyed between 10:00 AM and 11:00 AM on Thursday the 10th of December and the results are shown on Figure 5.

[1] Generation rate from the ITE Trip Generation Rates

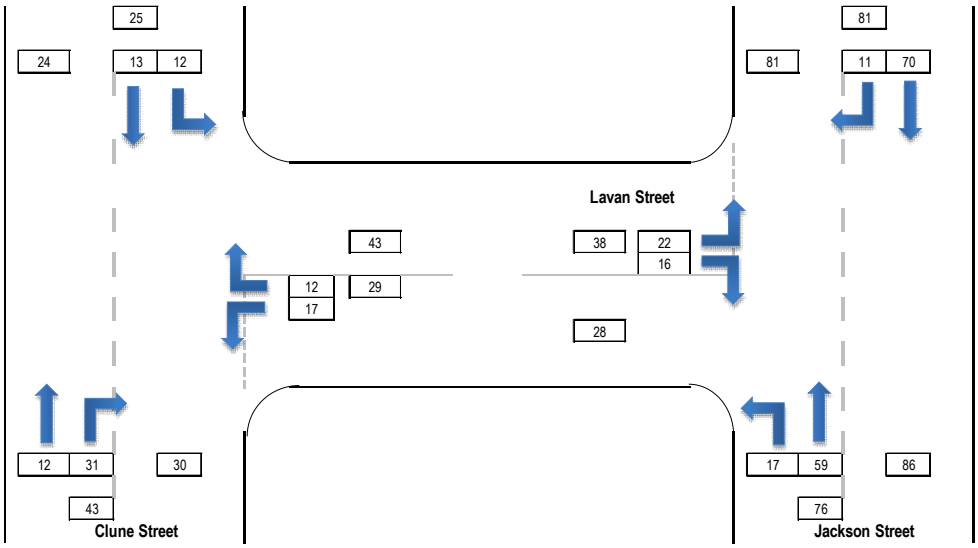


Figure 5 - Hourly Movements 1000 hours to 1100 hours

Based on the count it is predicted that daily flows on the streets surveyed would be in the order of that shown below.

Clune Street – west of Lavan Street	560 vpd.
Clune Street east of Lavan Street	840 vpd
Lavan Street between Clune Street and Jackson Street	830 vpd
Jackson Street west of Lavan Street	1,860 vpd
Jackson Street east of Lavan Street	1,860 vpd

As such the predicted volumes based on adjacent land use generation and adopted for assessment are likely to be conservative and over represent actual volumes.

4.2. Intersections

The intersections of Clune Street and Lavan Street and Lavan Street and Jackson Street are both unchannelised "T" Junctions with unrestricted movements.

4.3. Road Hierarchy and Status.

Figure 6 indicates the Road Hierarchy for the road network adjacent to and around the site as sourced from the MRWA website. Characteristics of the classifications as relevant to the immediate road network are as summarised below:

Local Distributors: These carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor typically discourages through traffic so that the cell formed by the grid of

Local Distributors only carries traffic belonging to, or serving the area. These roads should accommodate buses but discourage trucks (unless they are in an industrial zone). They are managed by local government.

Access Roads: These provide access to abutting properties and connect to Local Distributors. They are managed by local government.

Figure 6 - Road Hierarchy

4.4. Road Hierarchy vs Actual Flows

Table 1 details the comparison of existing traffic flows against the maximum desirable flows as determined by the MRWA Functional Hierarchy criteria.

Location and date of count.		Classification	Desirable Max Traffic Volume (vpd)	Actual Daily Traffic Flows (vpd)
Jackson Street	South of Collier Road	Industrial Local Distributor	7,000 vpd.	3,340 vpd
Clune Street	East of Lavan Street	Industrial Access Road	3,000 vpd.	690 vpd (estimated)
Lavan Street	North of Clune Street	Industrial Access Road	3,000 vpd.	1,178 vpd (estimated)

Table 1. Desirable Maximum Flows vs Actual Flows

The table above indicates that all roads are operating in accordance within their capacity.

5. Changes to Surrounding Transport Networks

There are no known planned changes to the adjacent network that have the potential to affect the assessment. Notwithstanding this, a 2012 Outline Development Plan covering Lot 10 Railway Parade, Bayswater indicates the provision of road access onto Clunes Street which if it occurred would have implications in terms of increased traffic flow and the need to upgrade a number of adjacent intersections.

6. Assessment Years

The development is assessed on current network conditions.

7. Time Periods for Assessment

Assessment is based on both daily traffic and peak hour periods.

8. Development Generation and Distribution.

Potential traffic flows from the site were calculated based on the target maximum production as advised by BGC and summarised below:

- The following vehicles will deliver materials to the subject site:
- Aggregate deliveries (27.5m in length) – approximately 10-15 per day;
- Cement deliveries (27.5m in length) – approximately 2-3 per day; and
- Admixture/pigment deliveries (19.0m) – approximately 2 per week.

Maximum of 18 vehicles entering off Clune Street and 18 vehicles exiting onto Clune Street daily

The following vehicles will export material from the subject site:

- Concrete agitator truck (12.0m) – approximately 80-100 per day;
- Concrete waste (12.0m) – approximately 1 per fortnight; and
- Waste collection vehicles (12.0m) – as required.

Maximum of 100 vehicles entering off Clune Street and 100 vehicles exiting onto Clune Street daily

Staff arrivals and departures: Allow 10 arrivals and 10 departures via Clune Street – Lavan Street.

This equates to about 128 trips per day or 256 vehicle movements.

The distribution of traffic is expected to be split as summarised on Table 3.

Location	Daily Traffic (Existing / Predicted)	AM Peak (Existing / Predicted)	PM Peak (Existing / Predicted)
Clune Street west of Wicks Street	690 / 946 vpd	95 / 121 vph	95 / 121 vph
Lavan Street north of Clune Street	1,178 / 1,434 vpd	162 / 188 vph	162 / 188 vph

Table 2. Midblock Traffic Prediction Adjacent Network

Having a site area of 5,000 square metres, the theoretical generation based on a light industrial land use and applying the generation rates indicated by the Institute of Transportation Engineers is indicated as being in the order of 77 vehicles per day.

8.1. Impact on Intersections

Based assignment of the additional traffic, turning movements for a typical peak hour were predicted for both Clune Street and Lavan Street and Clune Street and Jackson Street intersections and these are shown on Figure 7.

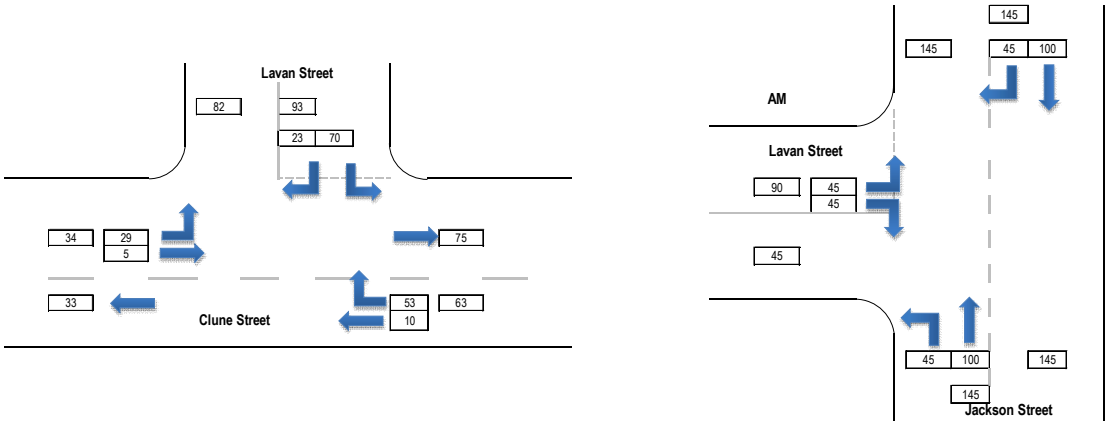


Figure 7 - Typical Peak Hour Turning Movements – Clune Street – Lavan Street / Lavan Street – Jackson Street

The performance of the intersections operating under typical peak hour flows were evaluated using SIDRA intersection software and the results are shown below.

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South East: Clune Street											
22	T	11	15.0	0.083	0.9	LOS A	0.4	2.9	0.24	0.00	54.1
23	R	56	15.0	0.083	10.0	LOS A	0.4	2.9	0.24	0.69	47.8
Approach		66	15.0	0.083	8.5	NA	0.4	2.9	0.24	0.58	48.7
North East: Lavan Street											
24	L	74	15.0	0.104	9.1	LOS A	0.4	3.2	0.10	0.62	48.5
26	R	24	15.0	0.104	9.4	LOS A	0.4	3.2	0.10	0.71	48.2
Approach		98	15.0	0.104	9.2	LOS A	0.4	3.2	0.10	0.65	48.4
North West: Clune Street											
27	L	31	15.0	0.021	8.7	LOS A	0.0	0.0	0.00	0.71	49.0
28	T	5	15.0	0.021	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		36	15.0	0.021	7.5	NA	0.0	0.0	0.00	0.60	50.3
All Vehicles		200	15.0	0.104	8.7	NA	0.4	3.2	0.13	0.62	48.9

Figure 8 - Typical Peak Hour – Clune Street – Lavan Street.

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South East: Jackson Street											
21	L	47	15.0	0.087	8.7	LOS A	0.0	0.0	0.00	0.92	49.0
22	T	105	15.0	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		153	15.0	0.087	2.7	NA	0.0	0.0	0.00	0.29	56.1
North West: Jackson Street											
28	T	105	15.0	0.139	2.7	LOS A	1.1	8.6	0.47	0.00	51.0
29	R	47	15.0	0.139	11.8	LOS B	1.1	8.6	0.47	0.88	47.3
Approach		153	15.0	0.139	5.6	NA	1.1	8.6	0.47	0.27	49.8
South West: Lavan Street											
30	L	47	15.0	0.149	11.5	LOS B	0.6	4.6	0.38	0.63	46.0
32	R	47	15.0	0.149	11.8	LOS B	0.6	4.6	0.38	0.78	45.9
Approach		95	15.0	0.149	11.6	LOS B	0.6	4.6	0.38	0.71	45.9
All Vehicles		400	15.0	0.149	5.9	NA	1.1	8.6	0.27	0.38	51.0

Figure 9 - Typical Peak Hour – Clune Street – Lavan Street.

Intersection volumes are low and performance under peak hour flow conditions is predicted to be good.

8.2. Access Movements

Proposed access and egress to and from the site is shown on Figure 10.

Figure 10 - Proposed Access and Egress

Preliminary details have been produced for the crossovers showing locations and widths; detailed design will be undertaken to ensure that the geometry provides for the intended design vehicles. Turning paths for access to and from the site by all vehicle classes are shown on Figure 11 and Figure 12.

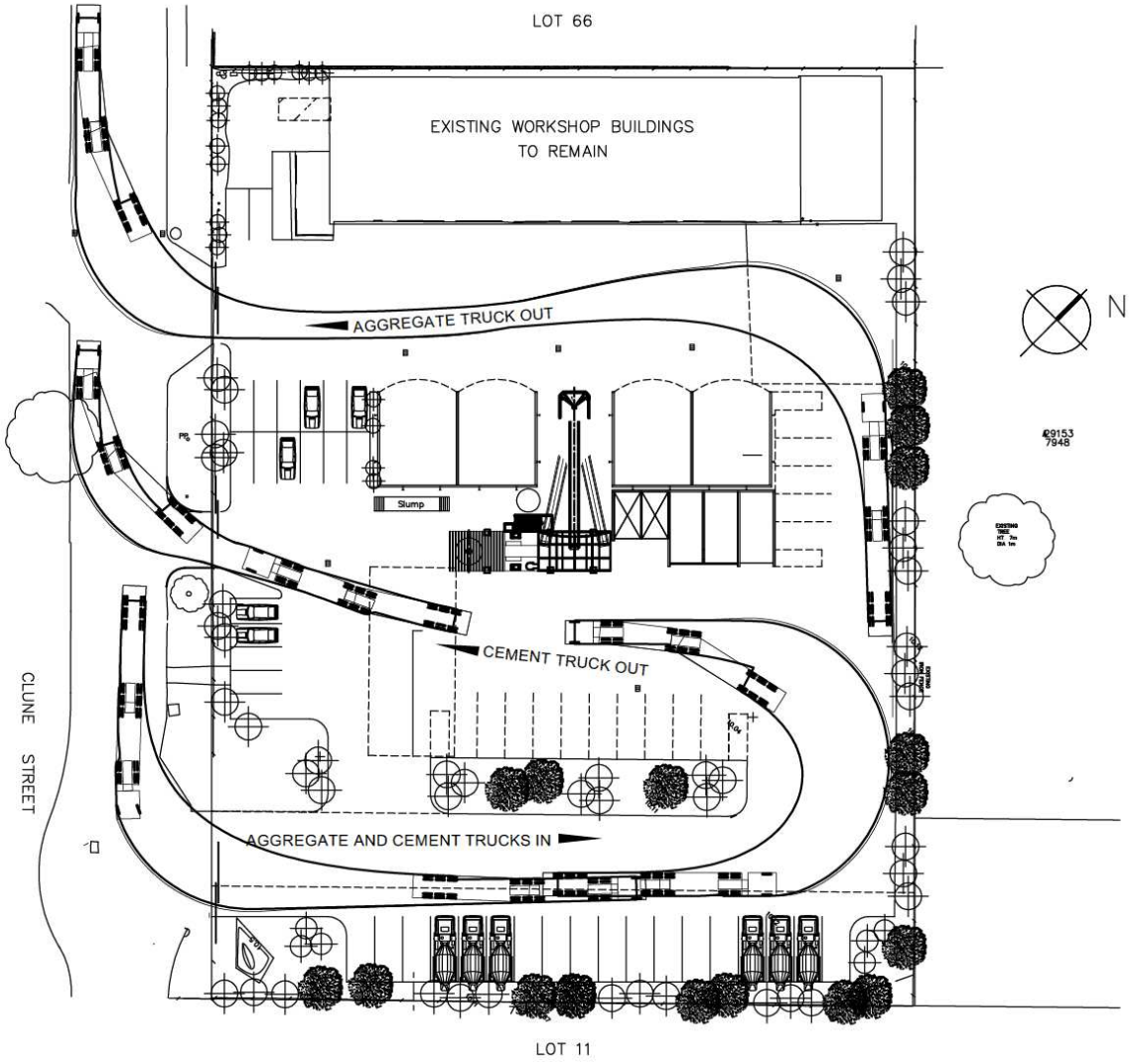


Figure 11 - Turning Paths - Material Delivery Trucks

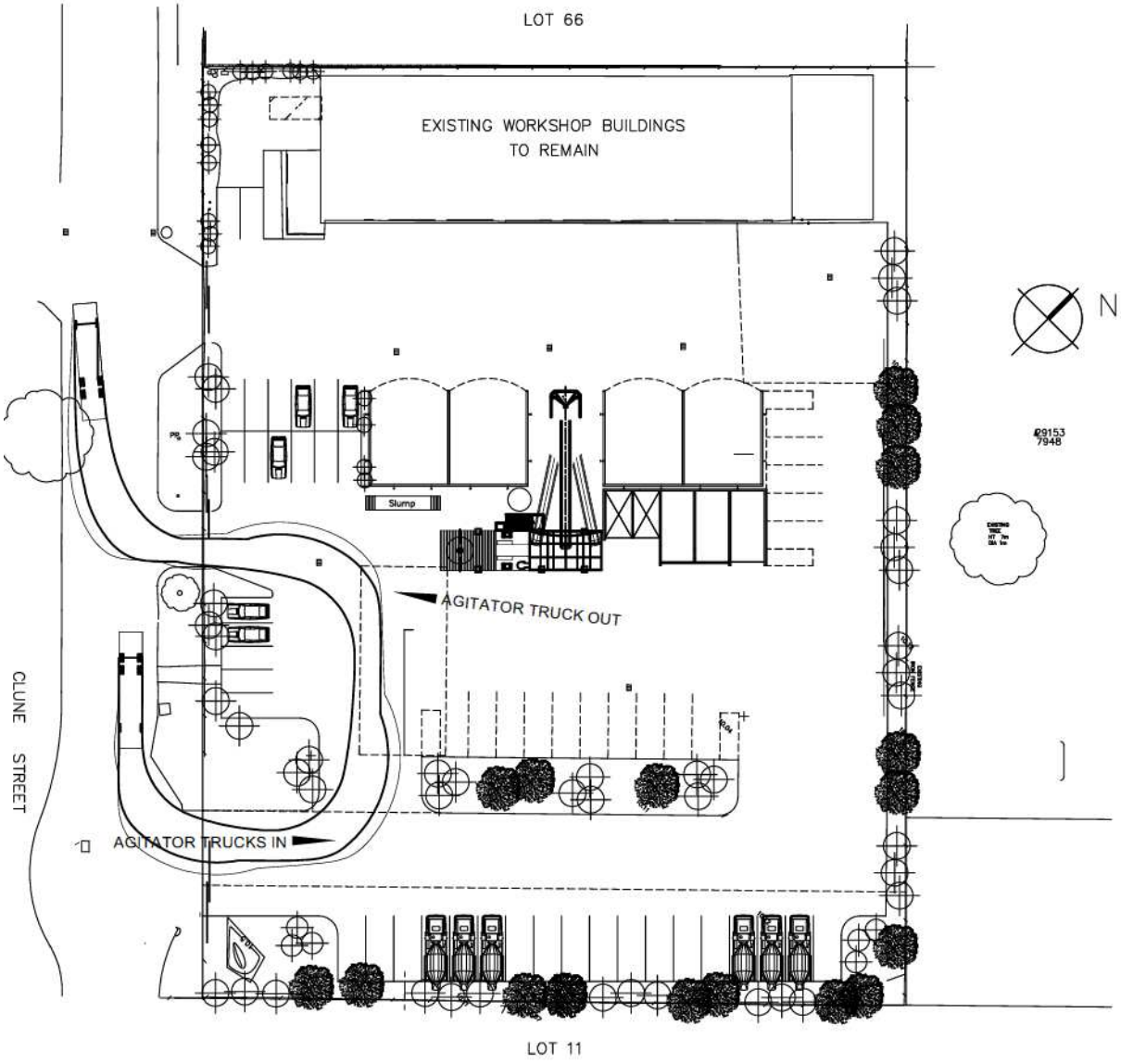


Figure 12 - Turning Paths - Agitator Trucks

8.3. Changes to the Surrounding Network

As part of the consideration associated with the development of an Outline Development Plan for Lot 10 Railway Parade, Bayswater, Transcore prepared a report[2] in 2012 that assessed various options for the eastern access and egress to and from the ODP site shown on Figure 13. These options included:

[2] Lot 10 Railway Parade, Bayswater, Proposed Outline Development & Subdivision Concept Plan, Eastern Access Assessment

- Construction of Wicks Street with a roundabout at its intersection with Jackson Street. Transcore indicates that this is the preferred east west link.
- Utilisation of Clune Street and Lavan Street to provide connectivity between the ODP area and Jackson Street.
- Utilisation of Clune Street and Duffy Street to provide connectivity between the ODP area and Jackson Street.

In assessing the options, Transcore concluded that:

- The Wicks Street connection to Jackson Street option represented the only direct road connection between the ODP area and Jackson Street and was indicated as being the preferred east west option; however the acquisition and re-instating of the section of Wicks Street reserve previously sold would be required to enable the construction of Wicks Street road link to Jackson Street. As previously indicated it is understood that the Town of Bassendean have resolved that the Town is prepared to initiate the acquisition of the land required for roads on the confirmation that the owners of Lot 10 Railway Parade, Bayswater will meet all costs associated with the proposed acquisition and development; to date no confirmation has been given to the Town of Bassendean.
- The Lavan Street connection to Jackson Street would require widening of the pavement at the intersections of Wicks Street/Clune Street and Clune Street/Lavan Street to accommodate a B-double design vehicle. Transcore indicated that the construction of a roundabout at the intersection of Lavan Street/Jackson Street could be accommodated with some minor land acquisition, however this would impact on current access to Lot 206 (Hofmann Engineering) located on Jackson Street opposite Lavan Street.
- The Duffy Street connection to Jackson Street would require widening of the pavement at the intersections of Wicks Street/Clune Street and Clune Street/Duffy Street to accommodate a B-double design vehicle. Transcore indicated that the construction of a roundabout at the intersection of Lavan Street/Jackson Street could be accommodated with some minor land acquisition; however this may present a safety concern, particularly because of mix of traffic including B-doubles and road trains using Jackson Street.

Should Lot 10 Clune Street be developed in accordance with the ODP, and Wicks Street be extended from the ODP site to Clune Street there may be a requirement for some adjustment of the geometry of the southernmost crossover to the subject site. However this would be dependent on future considerations.

Figure 13 - ODP Lot 10

9. Parking.

The Town of Bassendean Town Planning Scheme (TPS 10) requires 1 parking bay for every 50 square metres of gross floor area for general and light industrial developments and 20 square metres of gross office floor area. The proposed development will occupy the existing buildings on the northern portion of the subject site. This equates to approximately 27 square metres of office floor area and 561 square metres of warehouse floor area. Therefore the proposal requires 12.55 (13) bays. However, given the nature of the operation it is expected that parking demand will be greater than that indicated by the TPS determination and to that end it is proposed to provide 18 dedicated truck bays and 18 dedicated car bays (including 1 disabled car bay). It is considered that this is sufficient to meet predicted demand; noting however, that ample room is available on site to accommodate additional parking needs should they arise.

10. Conclusions

A review of the traffic impacts associated with the proposed establishment and operation of a concrete batching plant in Clune Street Bassendean indicated the following:

- Under the development scenario, the predicted generation from the site is in the order of 256 vehicles per day, based on the predicted maximum output from the site.
- Expected increase in traffic using these roads is predicted to be in the order of 26 movements per hour with these movements accommodated on Clune Street, Lavan Street and Jackson Street.
- The Modelling suggests that the increased traffic moving through the intersections will not result in any adverse impacts being experienced and all affected intersections are expected to function at a high level of service.
- The proposed configuration of the plant provides separation between trucks delivering raw materials and agitator trucks loading and delivering product; to this end it is intended that the larger material delivery trucks will enter from Clune Street via the southernmost crossover, and either exist via the centre crossover for northernmost crossover. It is intended that the Agitator trucks enter via the southern crossover and exit via the centre crossover.
- Adequate parking in excess of the requirements of the Town of Bassendean Town Planning Scheme is to be provided onsite.

Overall, the intended use is in keeping with the zoning of the site and compatible with the surrounding land uses.

LOT 66

EXISTING WORKSHOP BUILDINGS TO REMAIN
FLOOR RL 10.15 approx

EXISTING BRICK SITE OFFICE FLOOR RL 10.17

IRON SHED FLOOR RL 10.15 approx

75.47

CONCRETE POST & PANEL RETAINING WALL

EXISTING RINGLOCK FENCE

New powdercoat black linkmesh fence 2100 high on boundary (To replace existing)

Existing Septic System to be replaced with ATU "Biocycle System" (See attached details)

Existing Concrete Crossover

Entry

New Telescopic Sliding Gate 2.1m high

Exit

17800

Material Bins Setout

New powdercoat black linkmesh fence 2100 high on boundary (To replace existing)

DATUM 10.00 NAIL & PLATE

Grassed Recreation Area

SITE MAINS SWITCHBOARD

EXISTING PORTABLE OFFICE TO BE REMOVED

EXISTING SEA CONTAINER TO BE REMOVED

EXISTING IRON CARPORT TO BE REMOVED

EXISTING SECURITY CAMERA POLE TO BE REMOVED

EXISTING CONCRETE PAD TO BE REMOVED

EXISTING CONCRETE SLAB TO BE REMOVED

EXISTING SEA CONTAINERS TO BE REMOVED

(Concrete Paved to falls)

EXISTING BITUMEN SURFACE

BITUMEN SURFACE

Material Bins FFL 10.10

"20mm" Aggregate

"10mm" Aggregate

"2mm" Aggregate

Sand

Concrete panel bin walls 3.0m high

Hopper

Slump

Water Tank & Bore

Load Cell

Slurry Waste Bins 2875

Wier

Above ground waste bins 3500

Dry Waste 8000

O/Head Bins

Future Truck Park

Waste Bins Setout

Waste Bins FFL 10.05

Aggregate Trucks

90° Cement Tanker

Cement Agitator

Plant Setout 26000

Future Truck Park

Council Setback

Area controled by City of Bayswater

Easement in Favour of Water Corporation (Extent shown hatched)

Cement Tanker

(Bitumen Paved to falls)

Truck Park

EASEMENT: WATER, SEWAGE & STORMWATER PIPELINE RIGHTS BENEFIT TO: WATER CORPORATION

Wicks Street
(Unmade Road Reserve)

CLUNE STREET

New Concrete crossover to council requirements
6.0m wide

New Concrete crossover to council requirements
11.0m wide

Existing verge tree to remain

Proposed garden bed
2.0m wide

New powdercoat black linkmesh fence 2100 high on boundary (To replace existing)

Note:-

Garden Beds to be planted with Native shrubs, reticulated and mulched to council requirements.
Street verge to be grassed & reticulated via site bore

Yard area to be concrete paved to internal falls except where noted otherwise

Extent of new powdercoat linkmesh fence.

Extent of area controlled by City of Bayswater

0 2 4 6 8 10 20

DESCRIPTION	No	DATE	INIT.	DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
REVISION				REFERENCE DRAWINGS		REVISION			
						Planning Application/Layout Revised	H	040516	

Site Layout

BGC Australia
ABN 62 005 736 005
6/18 Mount Street
Perth WA 6000
Tel: (08) 9261 1800
Fax: (08) 9261 1801
E-mail:mjc@bgc.com.au
http://bgc.com.au

SCALE	1:200
DRAWN	MJC
CKD.	
Job No	
DATE	NOV-2015

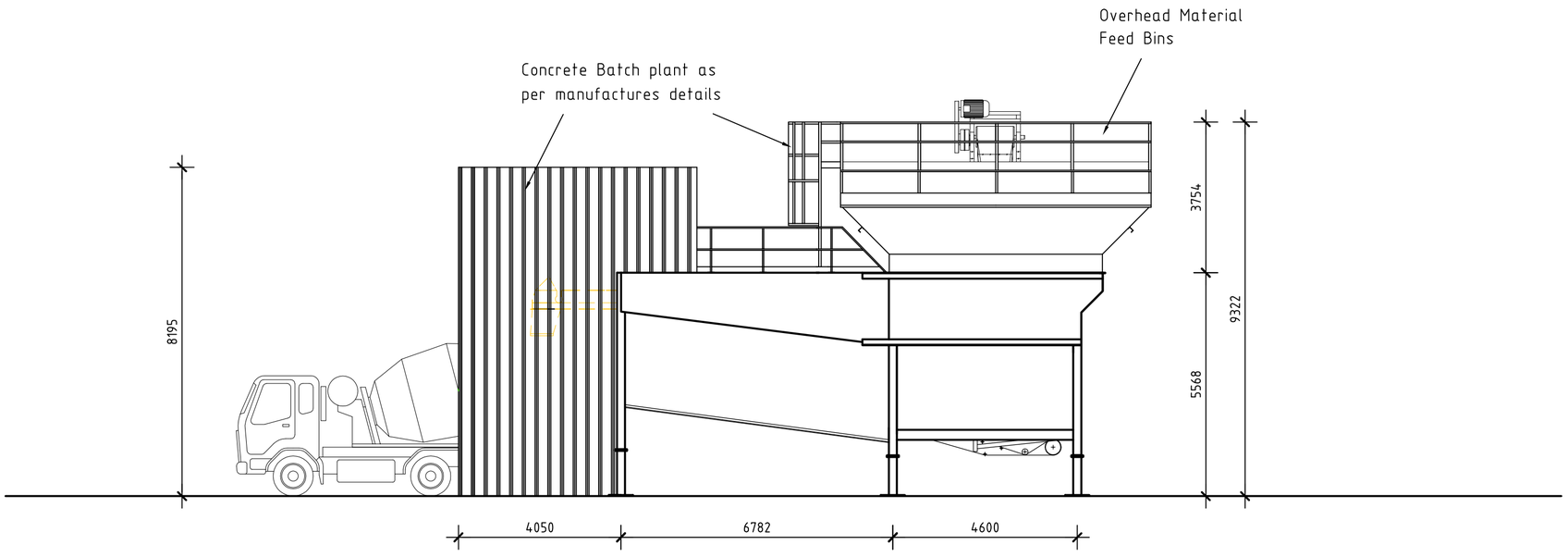
BGC Concrete:-
Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

ALL DIMENSIONS ARE IN MILLIMETRES.

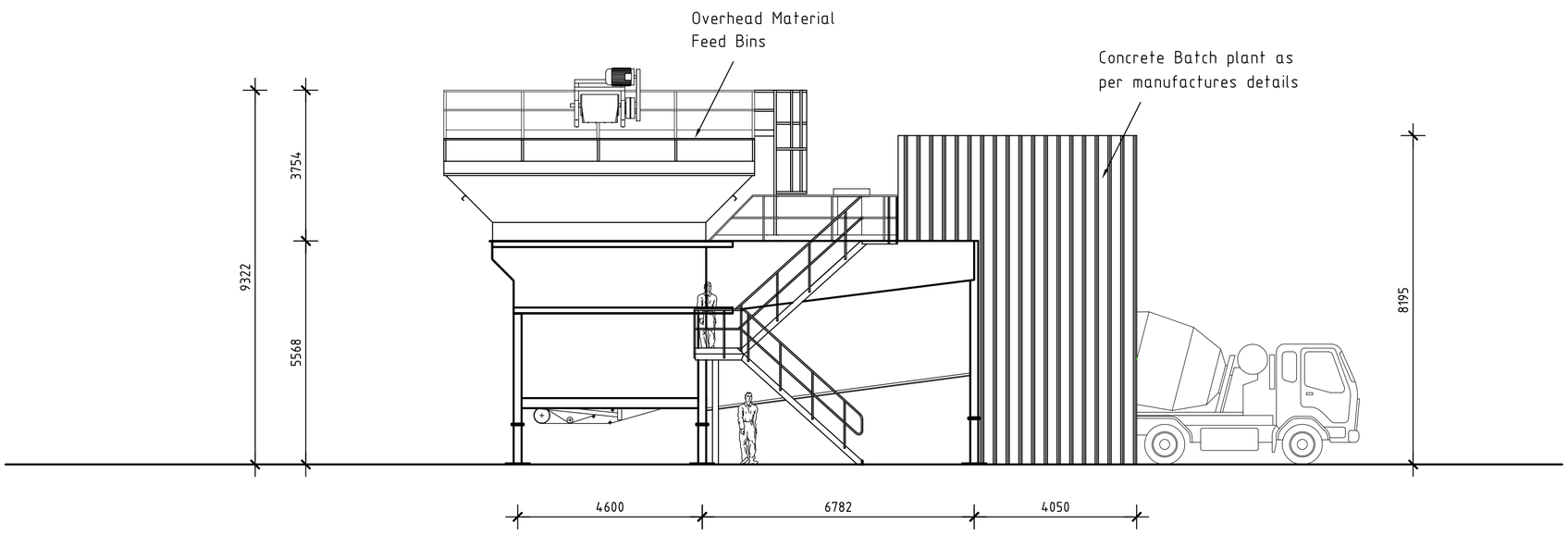
A1

DRG No. A 01

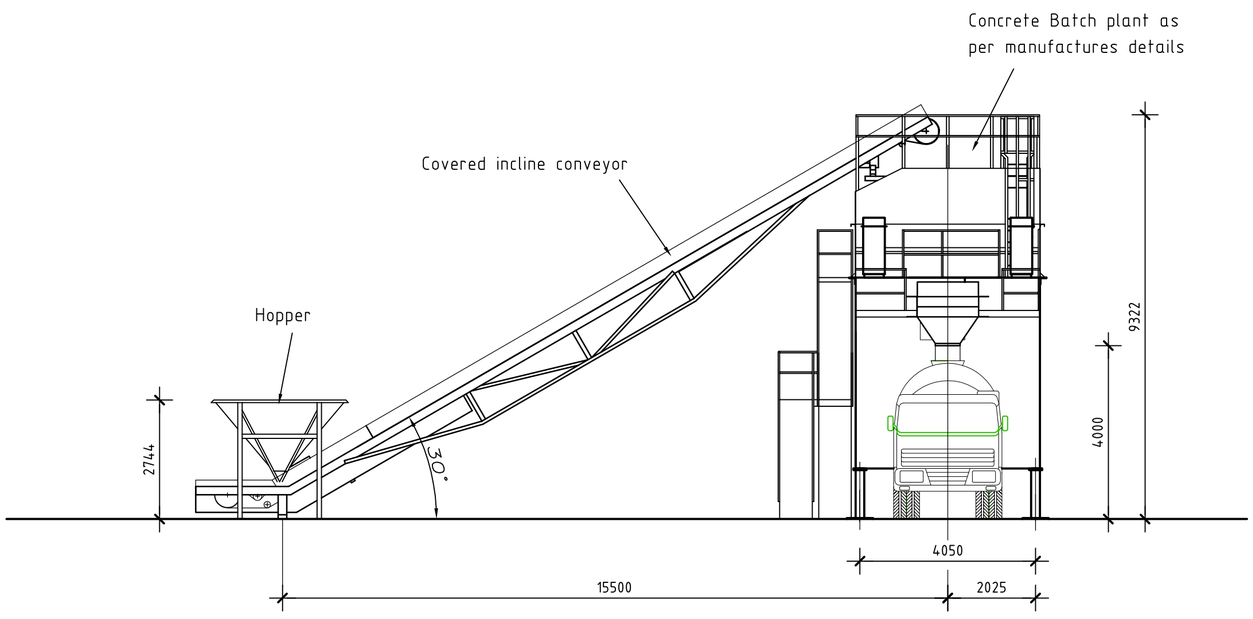
REV H



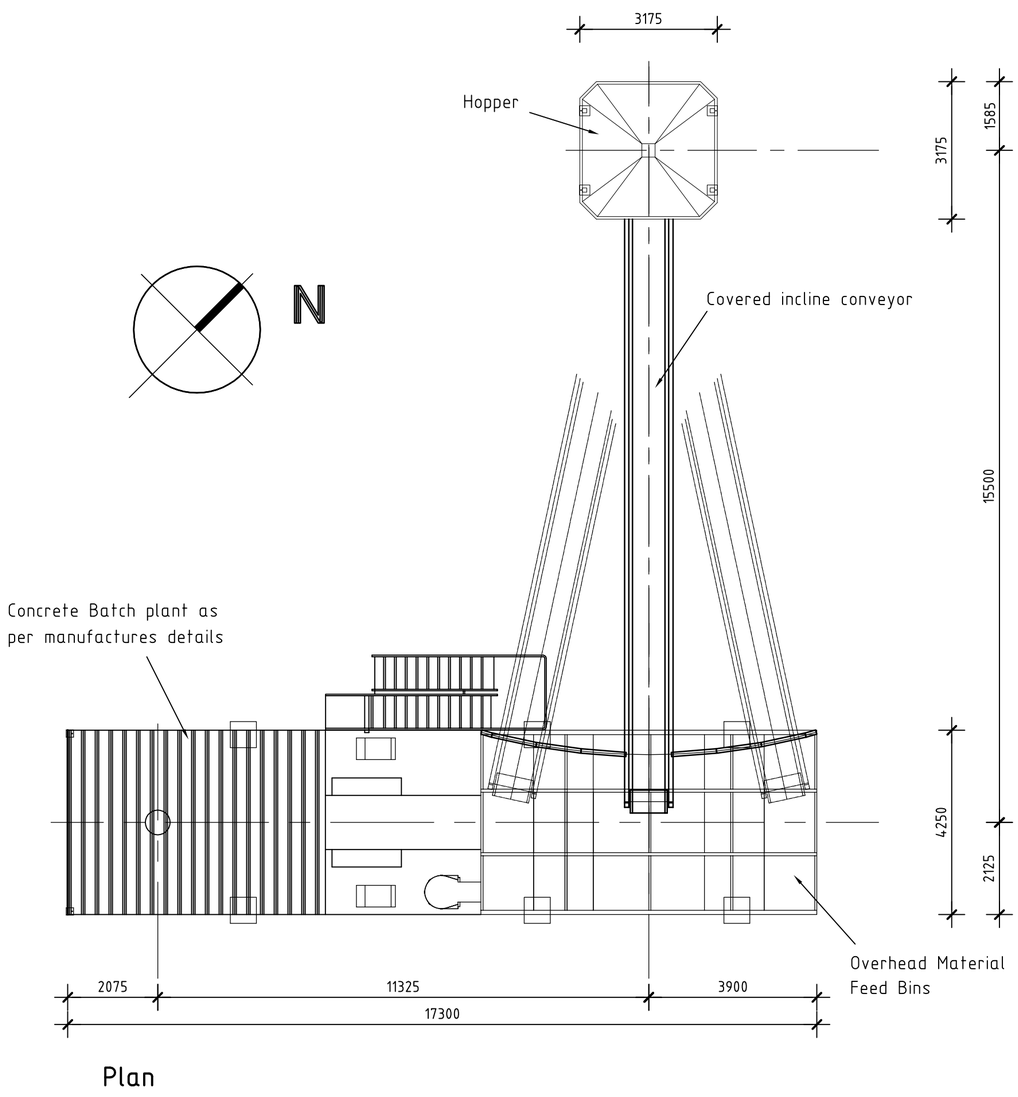
South/East Elevation



North/West Elevation



South/West Elevation



Plan

DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
	REFERENCE DRAWINGS	Planning Application/Layout Revised	E	270416	
		REVISION			

Batch Plant Plan & Elevations

BGC Australia
ABN 62 005 736 005
6/18 Mount Street
Perth WA 6000
Tel: (08) 9261 1900
Fax: (08) 9261 1901
E-mail:mjc@bgc.com.au
http://bgc.com.au

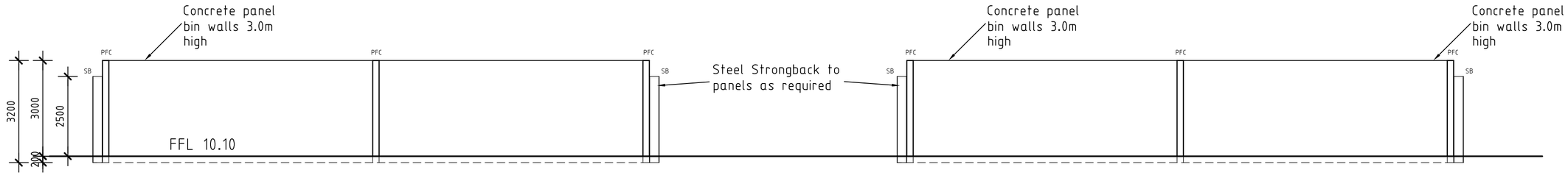
SCALE	1:100
DRAWN	MJC
CKD.	
Job No	
DATE	NOV-2015

BGC Concrete:- Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

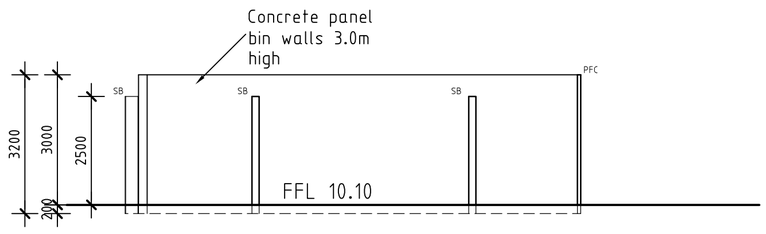
A1

DRG No. A 02

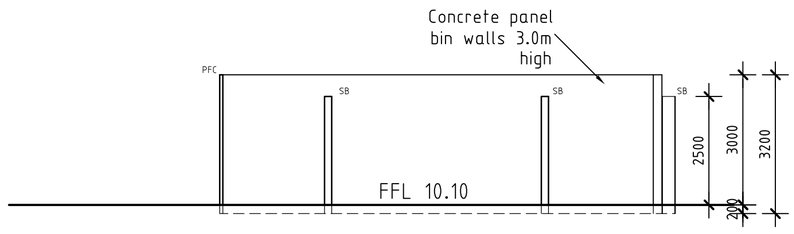
REV E



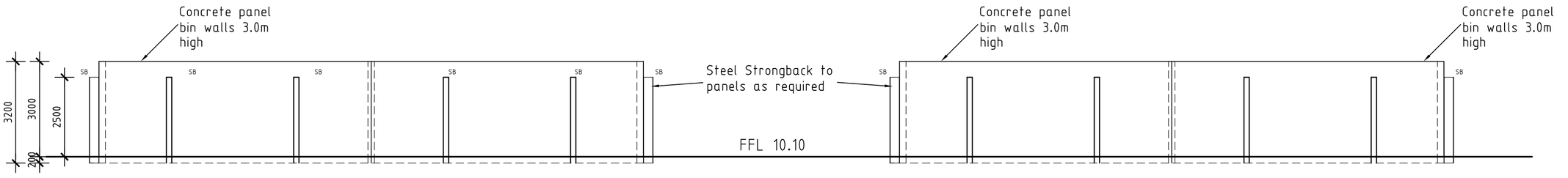
North/West Elevation



North/East Elevation



South/West Elevation



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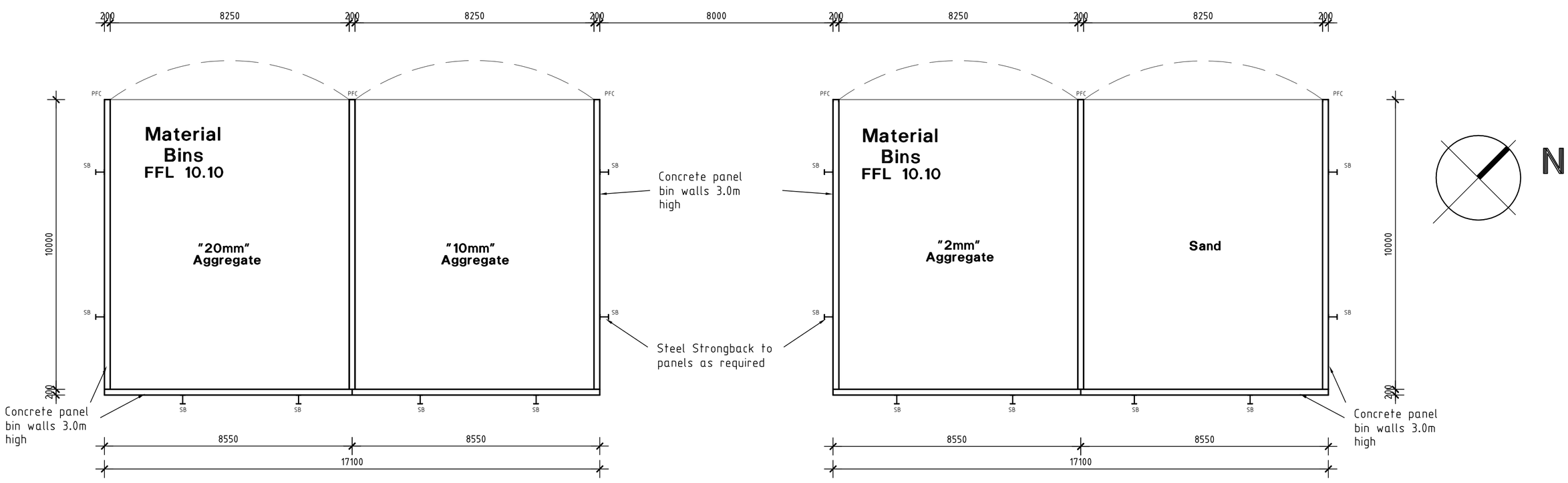
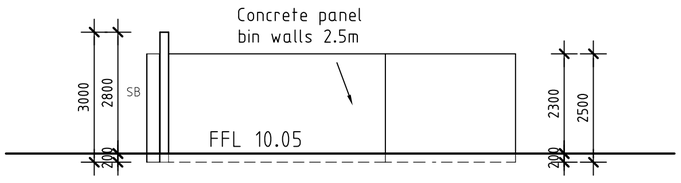
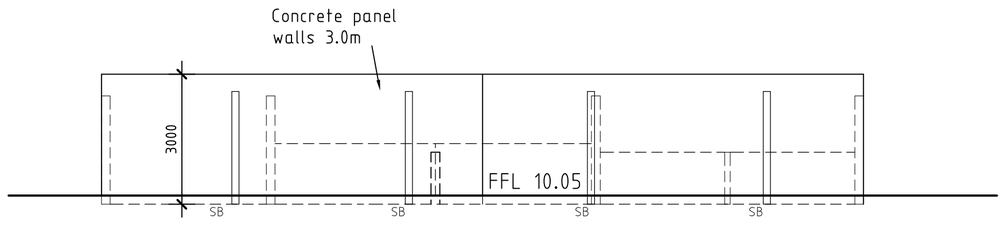


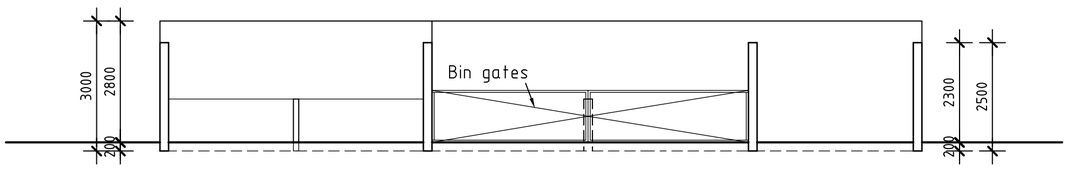
Plan



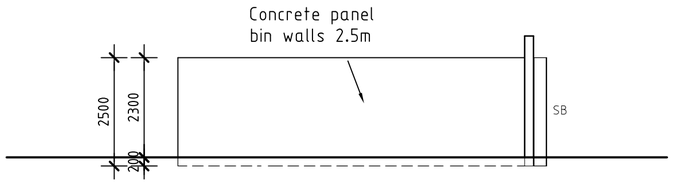
South/West Elevation



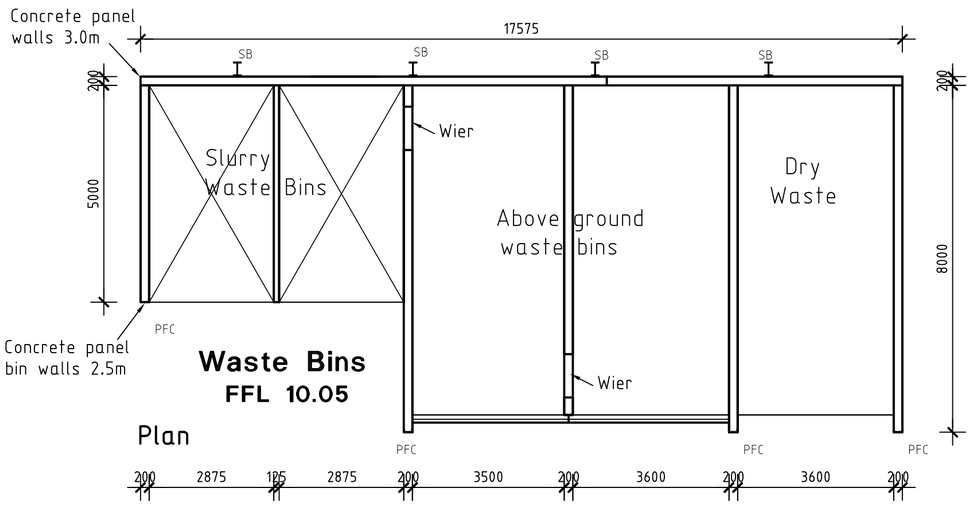
North/West Elevation



South/East Elevation



North/East Elevation



Plan

DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
		Planning Application/Layout Revised	E	270416	
REFERENCE DRAWINGS		REVISION			

External Bins Plans & Elevations

BGC Australia
ABN 62 005 736 005
6/18 Mount Street
Perth WA 6000
Tel: (08) 9261 1800
Fax: (08) 9261 1801
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SCALE	1:100
DRAWN	MJC
CKD.	
Job No	
DATE	NOV-2015

BGC Concrete:-
Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

A1

DRG No. A 03

REV E

LOT 66

Existing boundary fence to remain

75.47

CONCRETE POST & PANEL RETAINING WALL

CONCRETE POST & PANEL RETAINING WALL

EXISTING RINGLOCK FENCE

EXISTING WORKSHOP BUILDINGS TO REMAIN

FLOOR RL 10.15 approx

IRON SHED

FLOOR RL 10.15 approx

CONCRETE PAVING

GRASS COVER

Grassed Recreation Area

EXISTING BRICK SITE OFFICE FLOOR RL 10.17

SITE MAINS SWITCHBOARD

EXISTING IRON FENCE

OVERHEAD POWERLINES

BLOCK KERB AVERAGE CONDITION

BLOCK KERB

New powdercoat black linkmesh fence 2100 high on boundary (To replace existing)

DOOR

ROLLER DOOR

WIN.

TAP

HY BOLLARD (GROUND)

Existing Septic System to be replaced with ATU "Biocycle System" (See attached details)

Existing Concrete Crossover

CONCRETE CROSSOVER

Entry

Sliding Gate

Exit

17800

Material Bins Setout

DATUM 10.00 NAIL & PLATE

2000

99.87

STAY WIRE ANCHOR

Sliding Gate

Entry

Exit

New Concrete crossover to council requirements 6.0m wide

6000

Existing verge tree to remain

EXISTING TREE HT 2.5m DIA 0.5m

CONC. FOOTPATH

13000

Council Setback

Area controled by City of Bayswater

DRAINAGE MANHOLE

CLUNE STREET

EDGE OF BITUMEN

SSMH

11000

Entry

Sliding Gate

Exit

New Concrete crossover to council requirements 11.0m wide

New powdercoat black linkmesh fence 2100 high on boundary (To replace existing)

EXISTING TREE HT 6m DIA 0.8m

(Concrete Paved to internal falls)

Hopper

Material Bins FFL 10.10

"20mm" Aggregate

"10mm" Aggregate

"2mm" Aggregate

Sand

Slump

Water Tank & Bore

Load Cell

Slurry Waste Bins

Above ground waste bins

Dry Waste

O/Head Bins

Future Truck Park

15000

Waste Bins Setout

Waste Bins FFL 10.05

(Concrete Paved to internal falls)

26000

Plant Setout

Future Truck Park

6000

75.45

Easement in Favour of Water Corporation (Extent shown hatched)

75.45

(Bitumen Paved to internal falls)

Truck Park

8.00

Wicks Street (Unmade Road Reserve)

EXISTING TREE HT 7m DIA 1m

Proposed garden bed 2.0m wide

Existing boundary fence to remain

Proposed garden bed 2.0m wide

New powdercoat black linkmesh fence 2100 high on boundary (To replace existing)

Existing boundary fence to remain

LOT 11

N

Note:-

Garden Beds to be planted with Native shrubs, reticulated and mulched to council requirements.
Street verge to be grassed & reticulated via site bore

Yard area to be concrete paved to internal falls except where noted otherwise

Extent of new powdercoat linkmesh fence.

Extent of area controlled by City of Bayswater

Garden beds with shrubs and ground covers.

Tree Schedule (1 Tree per 4 sq m)

Existing Mature Tree to remain

Eucalyptus Leucoxylon Rosea or similar (10.0lt pot)

Eucalyptus Camaldulenis 'Silverton' or similar (5.0lt pot)

Melaleuca Rhaphiophylla or similar (2.0lt pot)

Remaining garden beds to be planted out with native shrubs and ground covers
(ie:- Grevillea Red Lantern, Grevillea Sandra Gordon, Melaleuca laterita or similar)
reticulated via dripper system fed off bore or Biocycle (where possible)
Street verges to be grassed and reticulated via site bore and "Pop Up" sprays

0 2 4 6 8 10 20

DESCRIPTION	No	DATE	INIT.	DRG No.	DESCRIPTION	DESCRIPTION	No	DATE	INIT.
REVISION				REFERENCE DRAWINGS		REVISION			
						Planning Application/Layout Revised	H	040516	

Landscape Plan

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SCALE	1:200
DRAWN	MJC
CKD.	
Job No	
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BGC Concrete:- Proposed Concrete Batch Plant
Part Lot 105 Clune St, Bassendean

ALL DIMENSIONS ARE IN MILLIMETRES.

DRG No. A 04 | REV H | A1