Appendix G

Water assessment

PROPOSED RECYCLING FACILITY
52 ANDERSON ROAD, SMEATON GRANGE

ENVIRONMENTAL IMPACT STATEMENT

WATER MANAGEMENT REPORT

JUNE 2016

Prepared by:

Mark Tooker
National Project Consultants Pty Ltd
Level 4, 10 - 12 Clarke Street
Crows Nest NSW 2065

Ph: (02) 9906 8611
Fax: (02) 9906 7318
Email: npcon@npc.com.au

TABLE OF CONTENTS

FIGURES

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

1. Introduction

Benedict Recycling Pty Ltd proposes to construct and operate a recycling facility on an industrial lot at 52 Anderson Road, Smeaton Grange.

This report deals with the water management issues and has been prepared by Mark Tooker of NPC to support a State Significant Development Application (SSDA) for the project.

2. Site Description

The site is a 6862m^2 lot at 52 Anderson Road, Smeaton Grange (refer Figure 1). Its legal description is Lot 301 DP1117230.

The site is located within an industrial subdivision. It has a relatively flat slope falling approximately 1m from its western boundary to the north eastern corner of the site (refer Figure 2). There is a constructed drainage reserve along the eastern boundary of the site.

Anderson Road has a stormwater pipe drainage system with a kerb inlet pit located adjacent to the north eastern corner of the site.

The average annual rainfall in the area is 769mm (at Camden Airport).

3. Proposed Development

The project will import general solid waste (non-putresible) such as construction and demolition wastes and selected commercial and industrial wastes, for processing (e.g – screening and sorting) to produce saleable recycled materials and materials for further offsite processing. The recycled materials produced will include soils, metals and dry paper/cardboard. These products will meet recycled material specifications while recovering a range of materials that would otherwise be disposed to landfill.

No special liquid, hazardous, restricted solid waste or general solid waste (putrescible), as defined in the NSW Protection of the Environment Operations Act (POEO Act) 1997 and EPA (2014) would be accepted at the Recycling Facility. All of the materials brought onto the site will be taken from the site as products or as rejects for disposal at an EPA licensed landfill. There would be no materials land-filled or otherwise disposed of anywhere within the site as a result of this proposal.

The development will consist of a waste transfer holding shed along the south western boundary (refer Figure 2). This shed will be roofed and have an area of approximately 1294m2.

Material holding bays will be located on the north western and south eastern boundaries with staff parking of the north western corner of the site. Weighbridges and wheel washes will be located at the site entrance. There will be 10m landscaped setback from the front boundary.

The site surface will be fully bitumen sealed other than for the landscaped area at the entrance. The open paved area other than for the shed, office/amenity buildings and landscaped areas will be approximately 5094m^2.

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

There will be a concrete kerb along the south western, southern and eastern boundaries. Runoff on the open paved area will run overland and be directed by the kerbs to a concrete lined sediment settling and collection basin. Gravelled filled bags will be located at the base of the kerbs at regular intervals to collect suspended sediment from the runoff on route to the sediment basin. This stormwater system is presented on the stormwater drainage concept plan at Figure 4. The activities on the site do not suit a pipe drainage system as the pipts and pipes would readily fill with sediment and course debris. Water stored in the sediment basin will be reused for dust supression on the site.

The concrete kerb and material holding bays will ensure runoff from the open paved area was directed to the sediment settling and collection basin. This basin will drain via pipe to the street kerb inlet pit near the north eastern corner of the site.

During construction of the facility, an erosion and sediment control plan strategy will be implemented to control the extent of sediment in runoff from the site (refer Figure 3).

4. Risk Assessment

4.1 Site Description

4.1.1 Operation Phase

The site area will be graded to the north eastern corner of the site.

The runoff will flow overland to the sediment basin in the north eastern corner. The concept stormwater plan is presented in Figure 4. The water stored in the sediment basin will be reused onsite for dust suppresion purposes.

The DCP notes that no detention storage is required in the Smeaton Grange industrial area.

The runoff water quality, given the extensive use of sediments on the site, is best controlled by the measures required by the applicable State Government body, EPA. This is a risk based approach as proposed in the industry best management practice guidelines known as the Blue Book. The Blue Book recommends a range of source control measures for runoff water quality linked to a sediment basin at the outlet. The sediment basin will be a concrete lined structure or equivalent which will store runoff from a 2 day 75 percentile rainfall on the site (13.6mm) and allow sediment to settle over two days. If necessary, the basin will be dosed with a flocculant to assist sediment settling and to allow pump out of water to reinstate the storage volume in the basin two days after significant rainfall. Excess water pumped from the basin will have a total suspended solids (TSS) concentration less than 50mg/L. This TSS concentration limit will not apply (as specified by the Blue Book) to overflows from the basin in storms which exceed the adopted design rainfall for the site and basin. The sediment collecting in the base of the basin will be removed each week using equipment that will be used for the material handling on the site.

The sizing of the basin is detailed in Appendix A.

The outflows from the basin will be piped to the kerb inlet pit in the cul de sac at the head of Anderson Road adjacent to the north eastern corner of the site.

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

The subject lot is located within a planned subdivision which has dedicated drainage channels to cater for the 100 yr ARI flows throughout the subdivision.

4.1.2 Construction Phase

The sediment basin will be constructed in the initial works on the site. Additional erosion and sediment control measures will be implemented to minimise the extent of sediment in runoff during construction on the site.

These proposed measures are presented in the Erosion and Sediment Control Plan (ESCP) at Figure 3. The same operational measures for the basin as detailed in Section 4.1.1 will be implemented during the construction phase.

4.2 Site Water Balance

The potable water for the site will be supplied from the water mains in Anderson Street and sewage from the amenities will be discharged to the sewer.

The site water balance has been calculated based on existing and developed scenarios. Details are provided in Appendix B.

The average annual runoff volume from the site under existing conditions has been estimated at approximately 1847m³.

In the developed scenario, the extent of increase in runoff from the site will be reduced by capturing some of the runoff in the sediment basin and reusing it for dust suppression on the site. The estimated average annual runoff in the developed case (without reuse) will be approximately 3697m³, The estimated average annual reuse volume for dust suppression will be approximately 1410m3 reducing the average annual runoff volume to 2287m3. This resuse will reduce the average increase in runoff volume from the site from 100% to only 24%. This is a significant reduction in volumes and benefit for the drainage system downstream.

The capturing of roof runoff will not provide sufficient water to cover the dust suppression water requirements. It is estimated that on average, up to 210m3 of town water supply will be used each year for dust suppression. The reuse of site runoff provides 87% of the water required for dust suppression. This provides a significant benefit in reducing the demand on the water supply in terms of volume available and the water reticulation available capacity.

4.3 Flooding

Flooding is not an issue for the site because the drainage channels in the subdivision have capacity to convey the 100 yr ARI flood flows with freeboard. The proposed development onsite does not introduce structures, other than for the small offices, which will be sensitive to flood damages.

The proposed development conforms to the Council and State Government flood management requirements.

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

4.4 Acid Sulphate Soils

The site is not included in the Office of Heritage and Environment Acid Sulphate Soils Risk Maps because there is no underlying potential for this risk in the Camden area.

4.5 Salinity

The then Department of Infrastructure Planning and Natural Resources prepared a Salinity Potential Map for Western Sydney in 2002. This map indicates that the Recycling Facility site has a "Moderate Low Salinity Potential" (refer Figure 5). This classification means that salinity processes may occur on the site. There is no evidence of soil salinity on the site. This issue will have been dealt with at the sub division construction stage in order to provide a lot which complied with the salinity guidelines. Prior to commencement of construction of the recycling facilities, sediment samples from the site will be tested and if necessary, mitigation measures as recommended in the Camden Growth Centres DCP Salinity Management Strategy will be implemented to address any salinity issues.

4.6 Watercourses and Riparian Areas

The site is located within a planned industrial estate which has allocated space outside the lots for drainage and riparian corridors. The proposed development therefore will not adversely impact on watercourses or riparian corridors. The reuse of runoff for dust suppression will significantly reduce any increase in the volume of runoff from the site.

The Council's DCP does not require any onsite detention of runoff on the site and as such, the watercourses and drainage corridors have been designed to be stable for the developed condition on the lot. The sediment basin will provide a detention function which will further add in minimising potential impacts of runoff on the watercourses and riparian areas.

4.7 Groundwater

The proposed structures onsite will typically be constructed on strip footings or on isolated concrete piers. The strip footings will be shallow footings less than 2m deep which will not cause any significant impact on the groundwater flows or quality. Any isolated pier footings likewise will not form any significant barrier to groundwater flows.

The entire site, other than for the proposed landscaped area, will be paved and hence will not allow any significant transport of pollutants from the site surface into the groundwater.

The proposed development, therefore will not have any significant adverse impacts on groundwater flows or quality.

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

5 Summary of Mitigation Measures for the Proposed Development

The mitigation measures proposed to minimize the impact of the proposed works on the water related aspects of the environment are:

- A runoff erosion and sediment control strategy to manage runoff which conforms to State Government authority best practice guidelines in the Blue Book;
- specific runoff sediment traps along the flow path to remove sediment and debris at the source;
- a sediment basin on site to trap runoff and remove sediment;
- reuse runoff from the sediment basin for dust suppression on the site;
- use of a large holding shed to house materials for transfer and equipment to prevent runoff generated from these activities;
- connection to the sewerage system for onsite personnel amenities;
- location of sheds and processing area outside of major overland flow paths;
- no use of groundwater; and
- no use of water in the product processing.

6. Conclusions

The proposed processing facility and mitigation measures have been formulated to minimise the impact on water related aspects of the site and downstream watercourses and riparian areas. As such, the proposed development will not have a significant adverse impact on:-

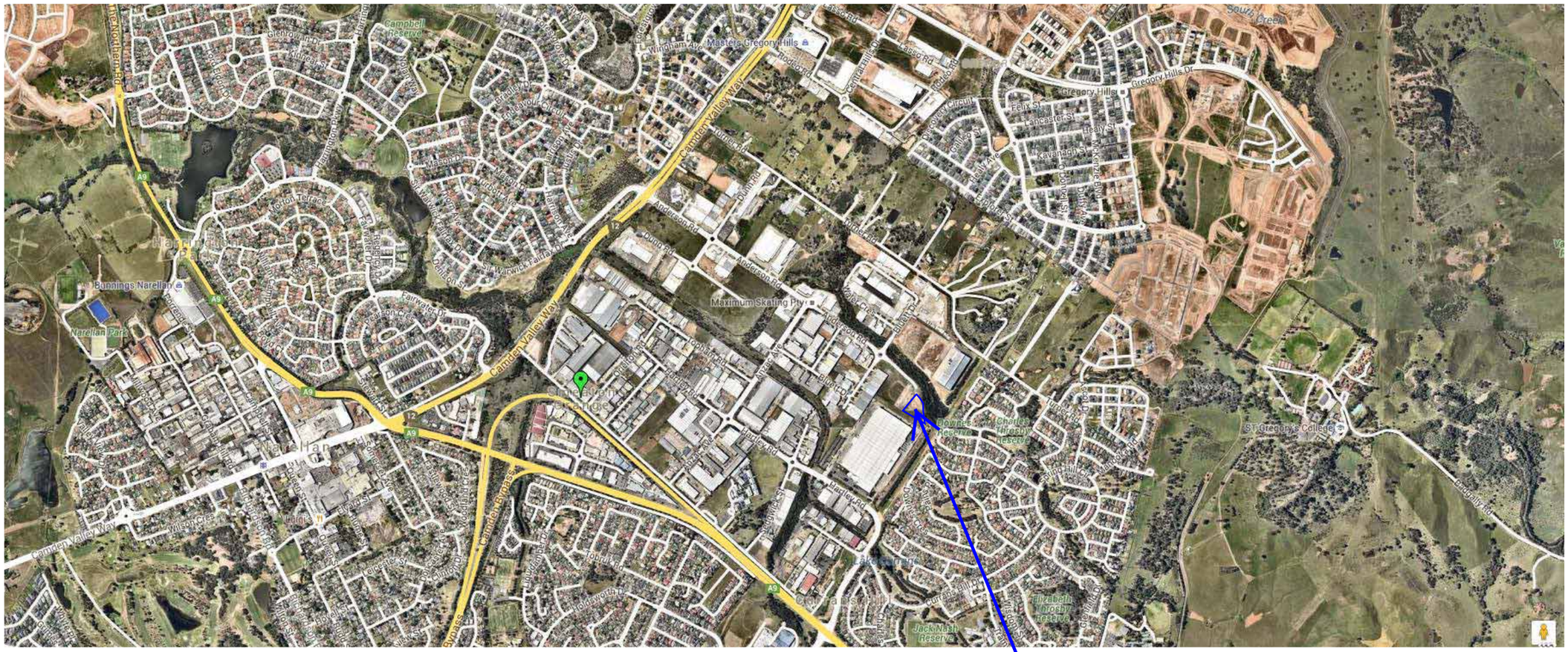
- stormwater runoff;
- groundwater;
- wastewater disposal;
- potable water demand;
- runoff volume and water quality
- flooding;
- acid sulphate soils;
- salinity; and
- watercourses and riparian areas.

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

FIGURES

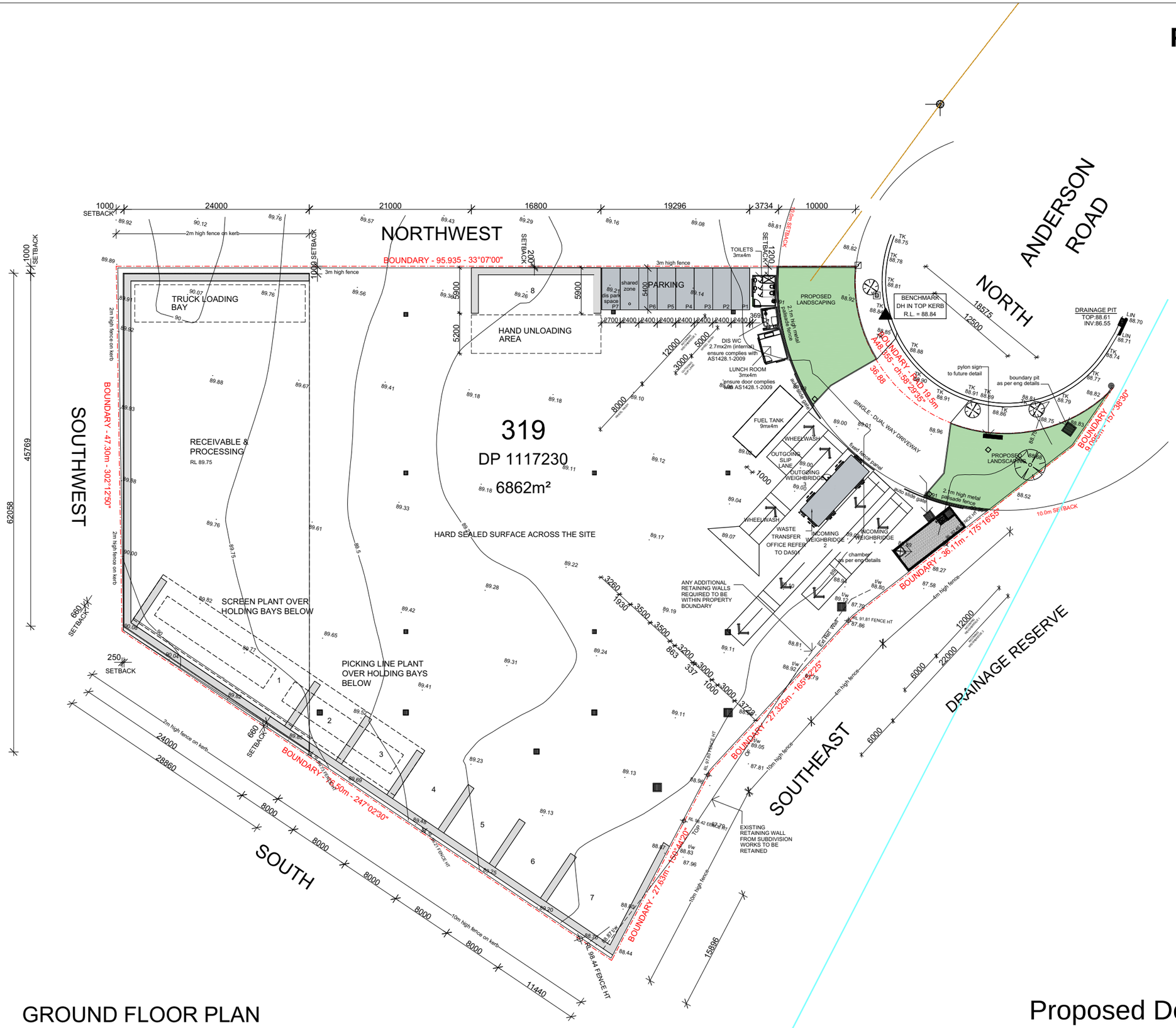
t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

FIGURE 1



Locality Plan

FIGURE 2



GROUND FLOOR PLAN

SCALE 1:500

m 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Proposed Development Layout

REFERENCES

DRAWINGS TO BE READ IN CONJUNCTION WITH BUT NOT LIMITED TO ALL STORMWATER ENGINEERS, LANDSCAPE ARCHITECTS, AND OTHER ASSOCIATED PLANS & REPORTS

revision

A	02.02.16	ISSUED FOR GENERAL INFORMATION
B	04.03.16	ISSUED FOR GENERAL INFORMATION
C	06.05.16	ISSUED FOR GENERAL INFORMATION
D	23.05.16	ISSUED FOR GENERAL INFORMATION

notes

All dimensions and setouts to be verified prior to commencement
DO NOT SCALE measurements off drawings
Figured dimensions to be used at all times
IF IN DOUBT - ASK
All omissions or discrepancies to be notified to the architect

scale 1:100 @ A3

m 0 1 2 3 4 5 10

Project Architect

CDA ARCHITECTS
L2 - 60 PARK STREET
SYDNEY NSW 2000
P: 02 9267 2000
W: www.chaninedesign.com.au

date	drawn
APRIL 2013	SS

project

PROPOSED WASTE TRANSFER STATION
52 ANDERSON ROAD
SMEATON GRANGE

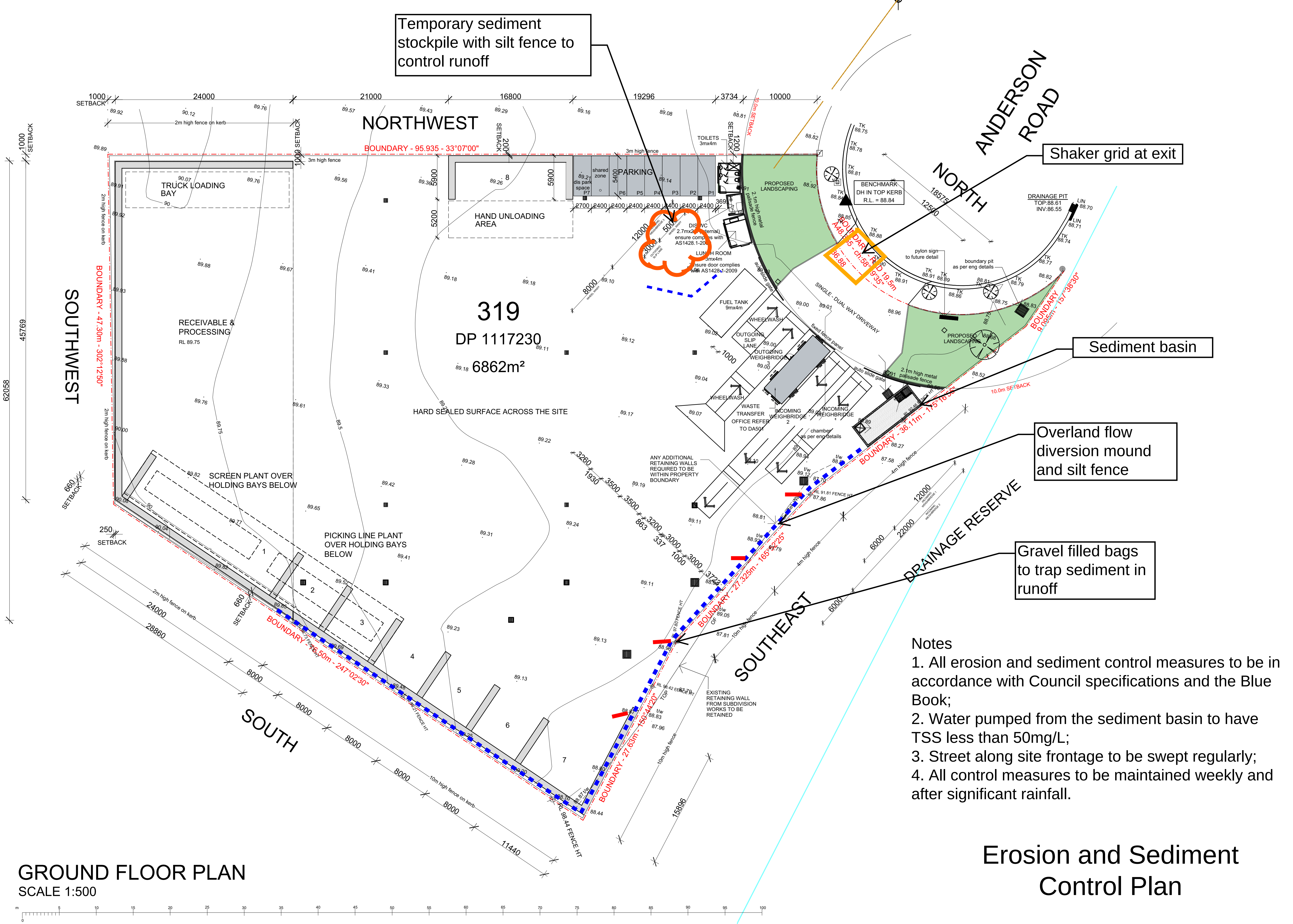
drawing title

GROUND FLOOR PLAN

FOR DA APPROVAL

job no.		drawing no.	rev
J15306	DA	100	D

FIGURE 3



Notes
1. All erosion and sediment control measures to be in accordance with Council specifications and the Blue Book;
2. Water pumped from the sediment basin to have TSS less than 50mg/L;
3. Street along site frontage to be swept regularly;
4. All control measures to be maintained weekly and after significant rainfall.

Erosion and Sediment Control Plan

GROUND FLOOR PLAN

SCALE 1:500

REFERENCES

DRAWINGS TO BE READ IN CONJUNCTION WITH BUT NOT LIMITED TO ALL STORMWATER ENGINEERS, LANDSCAPE ARCHITECTS, AND OTHER ASSOCIATED PLANS & REPORTS

revision

A	02.02.16	ISSUED FOR GENERAL INFORMATION
B	04.03.16	ISSUED FOR GENERAL INFORMATION
C	06.05.16	ISSUED FOR GENERAL INFORMATION
D	23.05.16	ISSUED FOR GENERAL INFORMATION

notes

All dimensions and setouts to be verified prior to commencement
DO NOT SCALE measurements off drawings
Figured dimensions to be used at all times
IF IN DOUBT - ASK
All omissions or discrepancies to be notified to the architect

scale 1:100 @ A3

Project Architect
CDARCHITECTS
L2 - 60 PARK STREET
SYDNEY NSW 2000
P: 02 9267 2000
W: www.chaninedesign.com.au

date APRIL 2013 | drawn SS

project
PROPOSED WASTE TRANSFER STATION
52 ANDERSON ROAD
SMEATON GRANGE

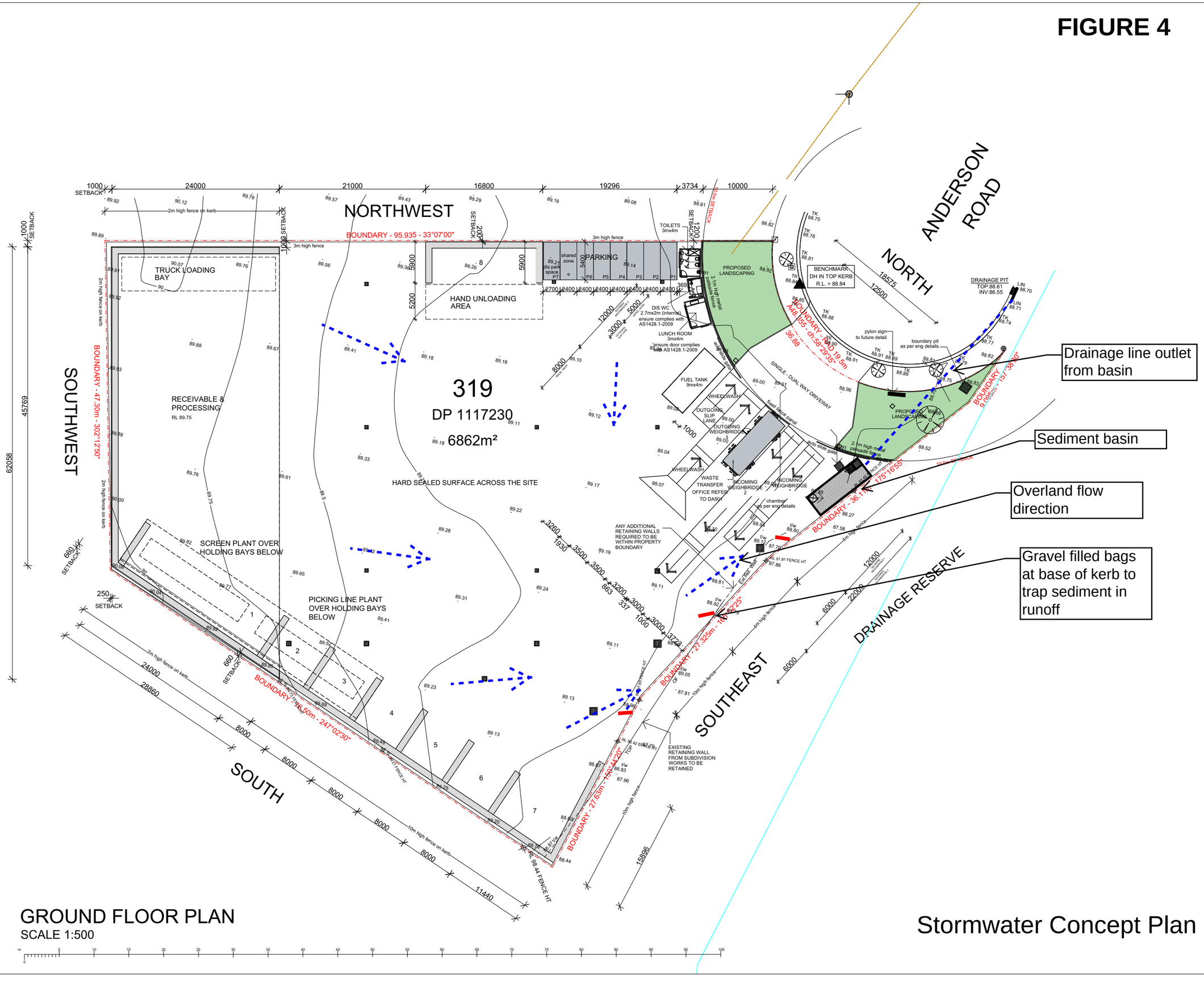
drawing title
GROUND FLOOR PLAN

FOR DA APPROVAL

J15306 DA 100 D

job no. drawing no. rev

FIGURE 4



GROUND FLOOR PLAN

SCALE 1:500

Stormwater Concept Plan

REFERENCES

DRAWINGS TO BE READ IN CONJUNCTION WITH BUT NOT LIMITED TO ALL STORMWATER ENGINEERS, LANDSCAPE ARCHITECTS, AND OTHER ASSOCIATED PLANS & REPORTS

revision

A	02.02.16	ISSUED FOR GENERAL INFORMATION
B	04.03.16	ISSUED FOR GENERAL INFORMATION
C	06.05.16	ISSUED FOR GENERAL INFORMATION
D	23.05.16	ISSUED FOR GENERAL INFORMATION

notes

All dimensions and setouts to be verified prior to commencement
DO NOT SCALE measurements off drawings
Figured dimensions to be used at all times
IF IN DOUBT - ASK
All omissions or discrepancies to be notified to the architect

scale 1:100 @ A3

Project Architect
CDA ARCHITECTS
L2 - 60 PARK STREET
SYDNEY NSW 2000
P: 02 9267 2000
W: www.chaninedesign.com.au

date	drawn
APRIL 2013	SS

project

PROPOSED WASTE TRANSFER STATION
52 ANDERSON ROAD
SMEATON GRANGE

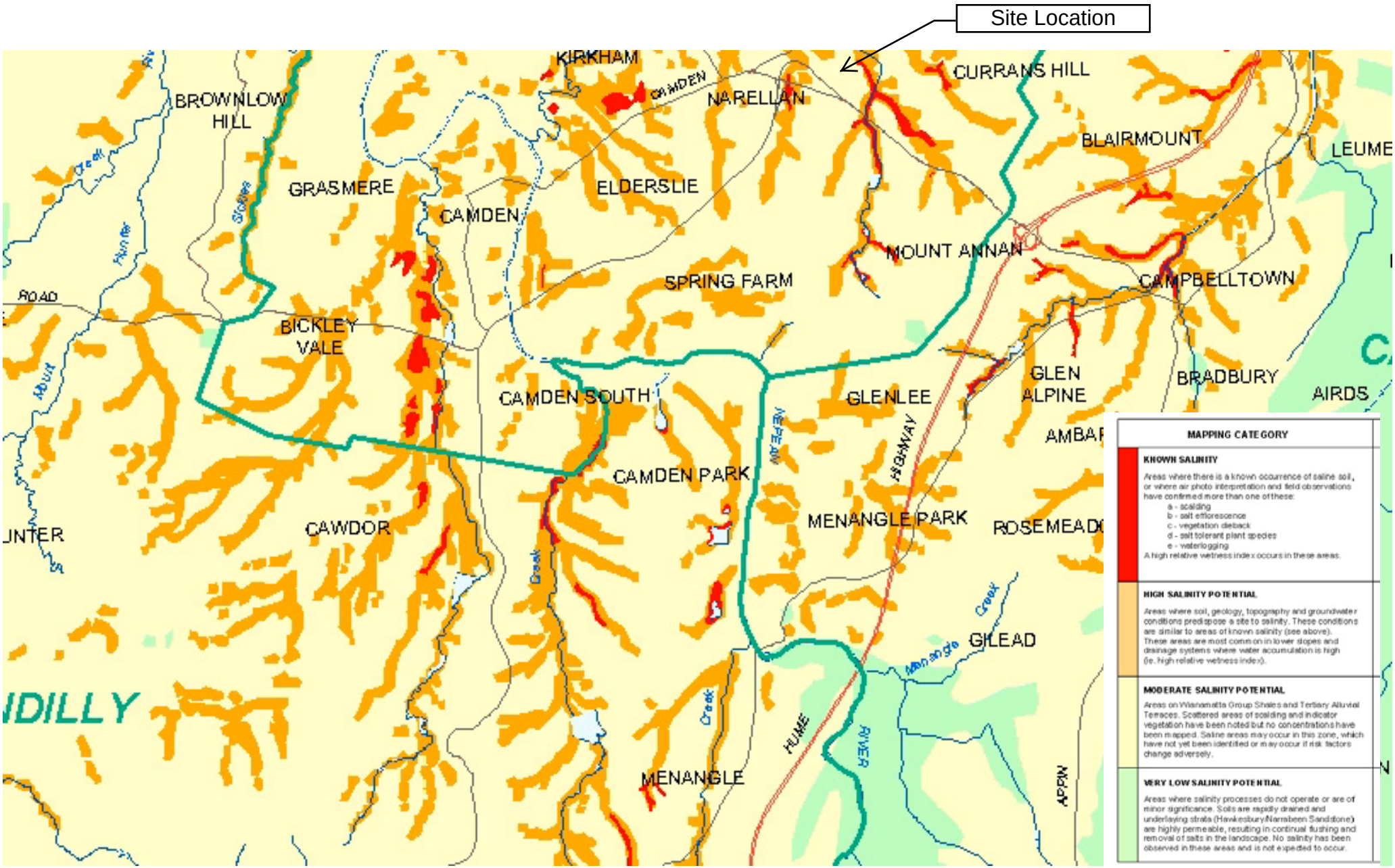
drawing title

GROUND FLOOR PLAN

FOR DA APPROVAL

job no.		drawing no.	rev
J15306	DA	100	D

FIGURE 5



Salinity Potential Map for
Western Sydney - Camden Area

APPENDIX A

Runoff Water Management
Sediment Basin Sizing

Blue Book

Settling Volume = 10 x Cv x A x R where:

Cv = volumetric runoff coefficient = 0.69
A = area of disturbed surface in hectares = 0.6862 ha
R = 2 day total rainfall depth which is not exceeded 75% of storms = 13.6mm

Setting Volume = 10 x 0.69 x 0.6862 x 13.6 = 64.4m³

Storage Volume = $\frac{\text{settling volume x 0.5}}{\text{8 weeks}}$

= on basis that basin sediment is cleared at the end of each week

= 4m³

Total Sediment Basin Volume = 68.4m³

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

APPENDIX B
Site Annual Water Balance

1. Assumptions

Mean Annual Rainfall	769mm
Mean Number of Rainy Days	47 days
Mean Number of Dry Days	318 days
Volumetric Runoff Coefficient	
- existing	0.35
- developed	0.69
Traffic Areas requiring dust suppression	5094m²
Total Site Area	6862m²
Roof Area	1348m²
Paved Runoff Area	5094m²
Landscaped Area	420m²
Dust Suppression Water Application Rates	= 1L/m²/dry day
Average Annual Dust Suppression Water Usage	5094 x 1 x 318 = 1620m³

2. Existing Conditions

Site Area	= 6862m²
Volumetric Runoff Coefficient	= 0.35
Annual Rainfall	= 769mm
Runoff Volume	= 6862 x 0.35 x 0.769 = 1847m³

3. Developed Conditions

a. Roof Area = 1348m²
Volumetric Runoff Coefficient = 0.85
Reuse Volume = 1348 x 0.85 x 0.769 = 881m³

b. Paved Area = 5094m²
Volumetric Runoff Coefficient = 0.69
Runoff Volume = 5094 x 0.69 x 0.769 = 2703 m³

c. Runoff captured in sediment basin for each event= (5094+1348m2)x0.69x0.0136m =60m3

Average annual number of wet days = 47
Potential average annual number of two day rainfall = 23.5
Runoff volume reused from basin for dust suppression = 23.5x60 = 1410m3

d. Landscaped Area = 420m²
Volumetric Runoff Coefficient = 0.35
Runoff Volume = 113m³

e. Net Average Annual Runoff Volume = 2703 + 113 + 881 - 1410 = 2287m³

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

4. Average Annual Dust Suppression Water Supply

Volume of Water Required	= 1620m³
Volume available from sediment basin	= 1410m³
Volume to be supplied from town water supply	= 210m³

t: +61 2 9906 8611 f: +61 2 9906 7318
level 4 10-12 clarke street crows nest nsw 2065 australia
po box 1060 crows nest nsw 1585 australia
www.npc.com.au
national project consultants pty ltd abn 40 084 004 160

Appendix H

Hydrogeology assessment

Memorandum

www.emmconsulting.com.au

9 March 2016

Subject **Hydrogeology – Proposed Recycling Facility, 52 Anderson Road Smeaton Grange**

1 Introduction

Benedict Recycling Pty Ltd (Benedict Recycling) proposes to construct and operate a recycling facility at 52 Anderson Road, Smeaton Grange. An overview of hydrogeological conditions in the vicinity of the proposed recycling facility, from published data sources, is provided in this memorandum.

2 Geology

The site is located in the centre of the geologic Permo-Triassic Sydney Basin. The basal layers of the Sydney Basin are Permian aged sedimentary rocks that include coal measures. Overlying the Permian rocks are Triassic sedimentary rocks, namely the Hawkesbury Sandstone and the Wianamatta Shale Group.

The Wianamatta Group, Liverpool Sub Group, comprising shale with some sandstone beds outcrops at the site, although east of the site at Campbelltown the shale has been eroded and Hawkesbury Sandstone, a quartz rich lithic sandstone outcrops (Wollongong 1:250,000 Geological Series Sheet, 1966). In the vicinity of the site Quaternary alluvium is identified adjacent to surface water features, and is likely associated with a drainage feature at the northern site boundary. The thickness of the shale fluctuates and is a maximum 50 m thick, while the Hawkesbury Sandstone is approximately 100 m thick at the site vicinity.

3 Hydrogeology

The Hawkesbury Sandstone is the main groundwater bearing unit in the region, though groundwater is also present in other geological units. The Wianamatta Group Shale unit has low permeability and act as an aquitard to downward vertical flow (Ross 2014). Groundwater within the shales is generally brackish to saline and bores are generally very low yielding. Groundwater within the Hawkesbury Sandstone in this area is generally fresh with yields ranging from low to high (McKibbin and Smith 2000).

Reference to the Department of Primary Industries Water (DPI Water) online groundwater database indicates that in a two kilometre radius from the site there are eight monitoring bores and two private bores, used for stock and domestic, and irrigation. The private bores intersect an unknown unconsolidated unit (18.9 m in depth) and the deeper Hawkesbury Sandstone (110 m in depth). All monitoring bores intersect the upper shale and are less than 11 m in depth, with the exception of one monitoring bore which intersects alluvium and is 5 m in depth.

The shallow shale monitoring bores have a slightly brackish salinity, with a range of electrical conductivity measurements between 1,080 µS/cm and 4,063 µS/cm. The depth to groundwater in these bores is between 3.2 and 7.7 m below ground level (BGL). The alluvium monitoring bore had a fresh electrical conductivity (416 µS/cm) and a shallower depth to groundwater (1 m BGL). The groundwater flow direction is expected to

follow a muted reflection of topography, and is therefore to the north-west towards a tributary of the Nepean River.

3.1 Groundwater dependent ecosystems

There are no listed high priority groundwater dependent ecosystems in the vicinity of the site in the applicable water sharing plan, *Greater Metropolitan Region Groundwater Sources 2011.* There are also no groundwater dependent ecosystems in the online Bureau of Meteorology Atlas of Groundwater Dependent Ecosystems. Industrial activity and cleared lands are in the vicinity of the site, and there is no evidence of remnant vegetation.

4 Potential project impacts

Project related ground excavations, including strip footings and a sediment basin are expected to be less than 2 m in depth (npc 2016). These excavations are expected to be shallower than the depth to groundwater in the shale (ie 3.2 m BGL) and therefore impacts to groundwater in the uppermost competent rock are not expected.

Care will need to be taken to ensure excavations into alluvium material are avoided as groundwater could be encountered. This is considered a practical request given the geotechnical properties of unconsolidated material and the need to avoid potential dewatering.

In addition the site will be paved and this will prevent potential contamination from entering the groundwater. The reduction in potential groundwater recharge volume from the capture of runoff is considered negligible in the context of the catchment area; the site area is 6,862 m^2, which is 0.005% of the Georges River Basin.

References

Bureau of Meteorology Atlas of Groundwater Dependent Ecosystems (8 March 2016):

http://www.bom.gov.au/water/groundwater/gde/map.shtml

Department of Primary Industries Water (DPI Water) online groundwater database (8 March 2016): http://allwaterdata.water.nsw.gov.au/water.stm

npc 2016 *Proposed Recycling Facility, 52 Anderson Road Smeaton Grange, Environmental Impact Statement, Water Management Report*, March 2016

NSW Departments of Mines, Sydney 1966 Wollongong 1:250,000 Geological Series Sheet, Second edition

McKibbin D & Smith PC (2000) 'Sandstone Hydrogeology of the Sydney Region', 15th Australian Geological Convention: Sandstone City – Sydney's Dimension Stone and other Sandstone Geomaterials, Monograph No. 5, G.H. McNally & B.J. Franklin (eds), EEHSG Geological Society of Australia

Ross J. R. 2014 Groundwater Resource Potential of the Triassic Sandstone of the Southern Sydney Basin: an Improved Understanding. Australian Journal of Earth Sciences 2014, **61**: 463-474

Appendix I

Bushfire assessment

Waste transfer station

Smeaton Grange | Bushfire hazard assessment

Prepared for Benedict Recycling Pty Ltd | 30 March 2016

Waste transfer station

Smeaton Grange | Bushfire hazard assessment

Prepared for Benedict Recycling Pty Ltd | 30 March 2016

Ground Floor, Suite 01, 20 Chandos Street
St Leonards, NSW, 2065

T +61 2 9493 9500
F +61 2 9493 9599
E info@emmconsulting.com.au

www.emmconsulting.com.au

Waste transfer station

Final

Report J15135RP1 | Prepared for Benedict Recycling Pty Ltd | 30 March 2016

Prepared by	**Mark Roberts**	Approved by	**Philip Towler**
Position	Senior Environmental Consultant	Position	Associate Director
Signature		Signature	
Date	30 March 2016	Date	30 March 2016

Document Control

Version	Date	Prepared by	Reviewed by
V1	30 March 2016	Mark Roberts	Philip Towler

T +61 (0)2 9493 9500 | F +61 (0)2 9493 9599

Ground Floor | Suite 01 | 20 Chandos Street | St Leonards | New South Wales | 2065 | Australia

www.emmconsulting.com.au

Table of contents

Figures

Abbreviations

APZ	Asset protection zone
BCA	Building code of Australia
BHA	Bushfire hazard assessment
DA	Development application
DCP	Development control plan
EIS	Environmental impact statement
EMM	EMM Consulting Pty Limited
FDI	Fire danger index
IPA	Inner protection area
LEP	Local environmental plan
LGA	Local government area
OPA	Outer protection area
PBP	Planning for bushfire protection
SEARs	Secretary's Environmental Assessment Requirements

1 Introduction

This bushfire hazard assessment (BHA) has been prepared by EMM Consulting Pty Ltd (EMM) for Benedict Recycling Pty Ltd's proposed waste transfer station (the project) at 52 Anderson Road, Smeaton Grange (the site). A BHA is required as part of the land is bushfire prone according to Camden Council bushfire prone land mapping (Camden Council 2013).

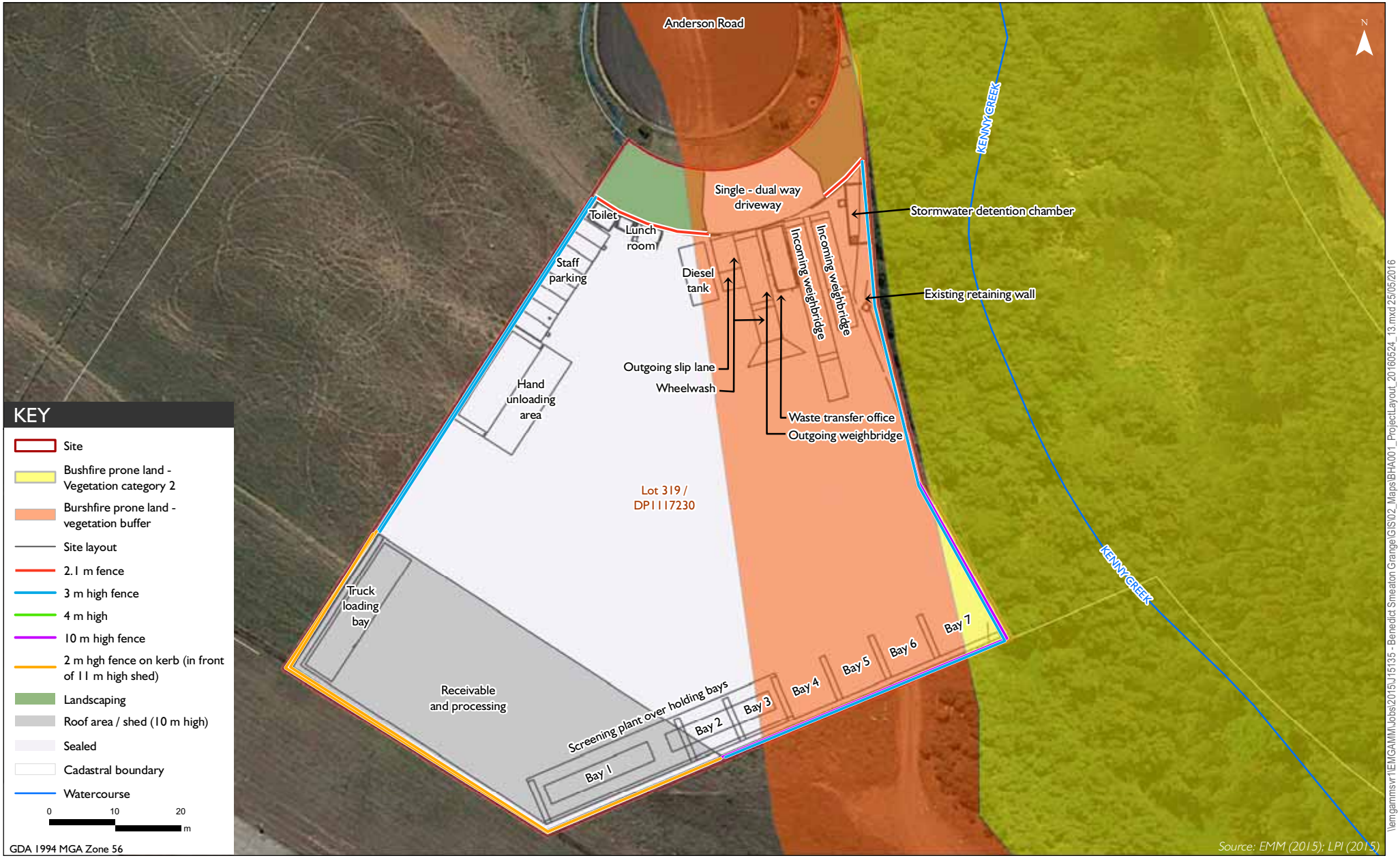
This BHA has been prepared in accordance with the NSW Rural Fire Service's *Planning for Bush Fire Protection Guideline* (RFS 2006) (PBP). It considers the bushfire hazard associated with the project and describes mitigation measures, in accordance with Appendix 4 of the PBP (Submission requirements for DAs on bushfire prone land).

1.1 Project overview

The project will comprise construction and operation of a waste transfer station at the site (Lot 319 DP 1117230), which has an area of 6,862 m^2. It will accept inert general solid waste (non-putrescible) such as construction and demolition waste, and selected commercial and industrial wastes. The wastes will be screened and sorted to produce saleable products such as soils, metals and cardboard.

The project will comprise (Figure 1.1):

- a weighbridge area with weighbridges, wheel washes for outbound vehicles;
- a demountable office;
- seven product bays, which will be 4 m high and blockwalled;
- diesel tank (approximately 30,000 L) which will be installed in accordance with *Australian Standard 1940:2004 The Storage and Handling of Flammable and Combustible Liquids* and will be fully enclosed in a colourbond shed;
- a sprinkling site irrigation system to minimise airborne dust;
- a flip-flow screen waste sorter (housed in main shed);
- an enclosed picking line inside the main shed that extends outside along a portion of the southern boundary;
- extension of the side boundary fencing to a maximum height of 10 m;
- waste/product stockpiles; and
- out-of-hours bin storage and waste truck parking.



Project layout

Bushfire hazard assessment

Smeaton Grange waste transfer station

Figure 1.1

1.2 Development application and bushfire assessment statutory requirements

Section 89C of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) states that a development may be declared a state significant development under an environmental planning instrument. Clause 8 of State Environmental Planning Policy (State and Regional Development) 2011 declares certain types of developments to be state significant if they are listed in schedules 1 or 2, with the project qualifying as it will be a waste transfer station which handles over 10,000 tonnes per year.

An application for state significant development must be accompanied by an environmental impact statement (EIS). This BHA is appended to the EIS to enable the Minister for Planning to consider bushfire risks at the site.

Section 79BA of the EP&A Act requires developments on bushfire prone land to conform to the specifications in PBP.

Section 63(2) of the NSW *Rural Fires Act 1997* requires the owners of land to prevent the ignition and spread of bushfires on their land. The implementation of the recommended measures in this bushfire assessment will ensure that the risk of bushfire ignition and spread will be as low as practically possible.

The Camden Development Control Plan 2011 (DCP) requires proponents of developments on bushfire prone land to assess bushfire risks in accordance with PBP. It also prohibits the construction of habitable and storage buildings in APZs. As described in Section 3.1, the office building will be in the APZ, which is prohibited by the DCP. However, as described above, the project will be determined by the Minister for Planning, who may give consideration to, but is not bound by, the DCP.

1.3 Objective and scope

1.3.1 Objective

The project is categorised in Section 1.1 of the PBP as 'other development', that is, development which is not an 'integrated development' such as residential/rural residential subdivision or special fire protection purposes. 'Other development' is required to satisfy the aim and objectives of the PBP.

The aim of the PBP is to:

> To use the NSW development assessment system to provide for the protection of human life (including fire-fighters) and to minimise impacts on property from the threat of bushfire, while having due regard to development potential, onsite amenity and protection of the environment (RFS, 2006).

The objectives of the PBP are as follows (RFS, 2006):

- afford occupants of any building adequate protection from exposure to a bushfire;
- provide for a defendable space to be located around buildings;
- provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;
- ensure that safe operational access and egress for emergency service personnel and residents is available;

- provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the APZ; and
- ensure that utility services are adequate to meet needs of firefighters (and other assisting in bushfire fighting).

2 Existing environment

This section determines if project buildings will be on bushfire prone land and describes vegetation and slope within 100 m of proposed buildings, as required by Appendix 4.1 of the PBP.

2.1 Bushfire prone land

There is Category 2 bushfire prone vegetation adjacent to the south-eastern boundary of the site (Figure 2.1), with the corresponding 30 m vegetation buffer extending into the site along that boundary (Camden Council 2013). Category 2 bushfire prone vegetation usually represents lower risk vegetation types or areas, such as rainforest, managed land or vegetation which is surrounded by development where ignitions can be detected quickly.

As described below, the vegetation is dry sclerophyll forest (shrub understorey), which is usually a higher risk vegetation type. However, a lower risk has likely been assigned to this vegetation by Council as it is managed (it is an area of revegetation) and it is adjacent to heavily developed industrial and commercial sites.

2.2 Vegetation

Dr David Keith compiled broad scale native vegetation classifications and maps between 2001 and 2004 for NSW (the Keith formations) (Keith 2004). The PBP uses the Keith formations to classify bushfire hazard vegetation (the PBP classifications). The site was inspected on 13 January 2016, with the vegetation classified in accordance with the key in Keith (2004). There is an approximately 20 m wide strip of *Eucalyptus sp.* dominant dry sclerophyll forest (shrub understorey) adjacent to the site boundary and an approximately 10 m wide strip of *Casuarina sp.* dominated forested wetlands along Kenny Creek. In areas where there are two or more vegetation types, the PBP states that the vegetation type providing the greatest bushfire hazard should be considered as predominant. Therefore, the dry sclerophyll forest (shrub understorey) is taken to represent the greatest bushfire hazard.

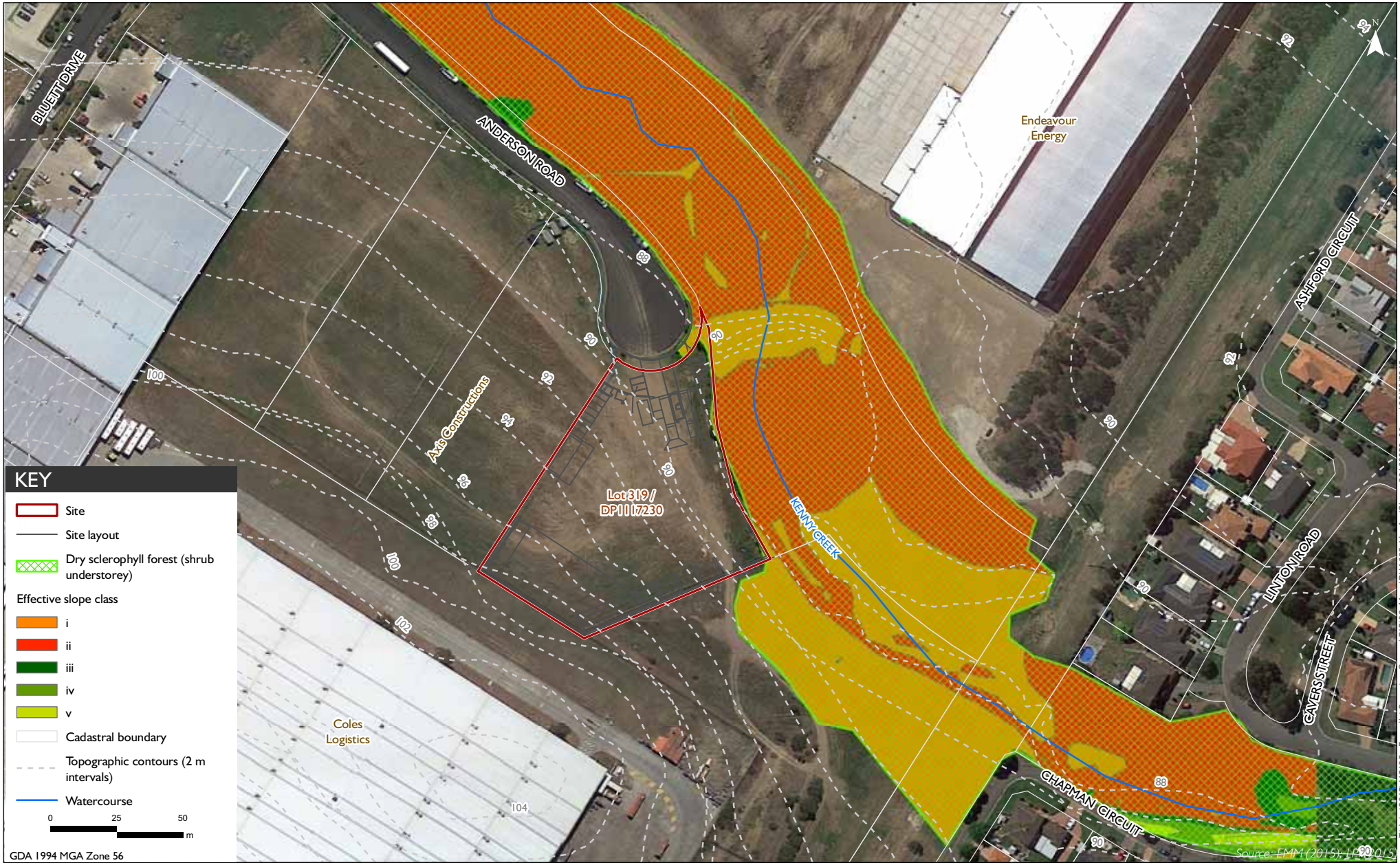
The PBP classification, distance and direction of native vegetation within 100 m of project buildings on bushfire prone land are shown on Figure 2.1.

2.3 Slope

Slope is an important contributor to a bushfire's rate of spread. A bushfire will spread quicker up a steep slope compared to a gradual slope or flat land. Slopes are classified according to the PBP, and are combined with vegetation classes in an area to determine appropriate APZs (see Section 3.1). The slope over a distance of 100 m from the site boundary was determined using a digital terrain model (2 m height resolution). The slopes were classified according to the PBP:

- All upslope vegetation (considered 0°);
- >0 to 5° downslope vegetation;
- >5 to 10° downslope vegetation;
- >10 to 15° downslope vegetation; and
- >15 to 18° downslope vegetation.

Project buildings on bushfire prone land will be constructed on flat areas. There are slope classes i and ii along the shallow vegetated banks of Kenny Creek (Figure 2.1).



Vegetation and slope within 100 m of site

Bushfire hazard assessment

Smeaton Grange waste transfer station

Figure 2.1

3 Bushfire prevention and protection

This section identifies APZs, including appropriate widths, maintenance requirements and specifications for service and access provision as provided in Chapter 4 of the PBP.

3.1 Asset protection zones

The PBP does not provide APZ specifications for 'other development', including industrial buildings. However, such development is required to comply with the objectives of the PBP, including provision of buffers between buildings and bushfire prone vegetation. Appendix 2 of the PBP (see Section 1.2) provides a procedure for determining APZs for habitable buildings, which has been adopted in this bushfire assessment.

An APZ is the distance that buildings are set back from vegetation that represents a bushfire hazard (see Appendix 2 of the PBP). APZs are provided for the following reasons:

- to provide sufficient separation from buildings for safe fire fighting;
- to reduce radiant heat at buildings;
- to reduce the influence of convection driven winds;
- to reduce the threat of ember attack on buildings; and
- to allow for dispersal of smoke.

APZs are divided into an 'inner protection area' (IPA) and an 'outer protection area' (OPA) where there is adjacent forest vegetation. The IPA provides a defendable space and reduces heat intensities near buildings. The OPA helps reduce the length of flames, the speed of fire advance and the likelihood of fire spread by 'crowning'.

APZs are determined by referring to tables A2.5 and A2.7 (for forest vegetation) in PBP, which compare predominant fire hazard vegetation formations, highest slope classes near subject buildings and fire weather at a site. The fire weather or 'fire danger index' (FDI) for Camden Local Government Area is 100 (Table A2.3 in the PBP).

The resulting APZs for the project are (Figure 3.1):

- slope class i: 20 m; and
- slope class ii: 25 m.

The APZs have not been divided into IPAs or OPAs as they will not comprise any vegetation, other than the landscaping at the front of the site (refer to Section 3.1.1).

The APZs will comprise sealed surfaces and managed landscaping vegetation, part of the diesel tank and the office building.

The diesel tank will be partially in the APZ. However, it will be enclosed in a colourbond shed which will shield it from radiant heat if there is a fire in the bushfire prone vegetation.

The office building will be occupied during facility opening hours. The facade will be constructed of non-combustible materials and an exit will be provided on the non-hazard side (north-west) of the building so that personnel can quickly evacuate to the muster point if a fire is approaching.

3.1.1 Maintenance of APZs

The landscaping vegetation in the APZ will be maintained as an IPA on an ongoing basis, that is, in a manner that prevents accumulation of fine flammable debris on the ground so that fuel quantities are reduced, thus lessening flame heights and potential crowning. General maintenance guidelines are described in Appendix 2 of the PBP.

The landscaping vegetation will be maintained as follows:

- canopy cover will be kept at less than 15% of total surface area and will be kept at least 2 m from the roof line of a building;
- garden beds and shrubs will not to be located under trees and sited at least 10 m from any exposed windows or doors; and
- lower limbs of trees up to 2 m above the ground will be removed.

3.2 Services

Water, gas and electricity services will be located and installed in a manner that reduces the potential for them to contribute to fire hazard. Detailed design has not taken place for the project. However, the specifications given below will be incorporated into the detailed project design.

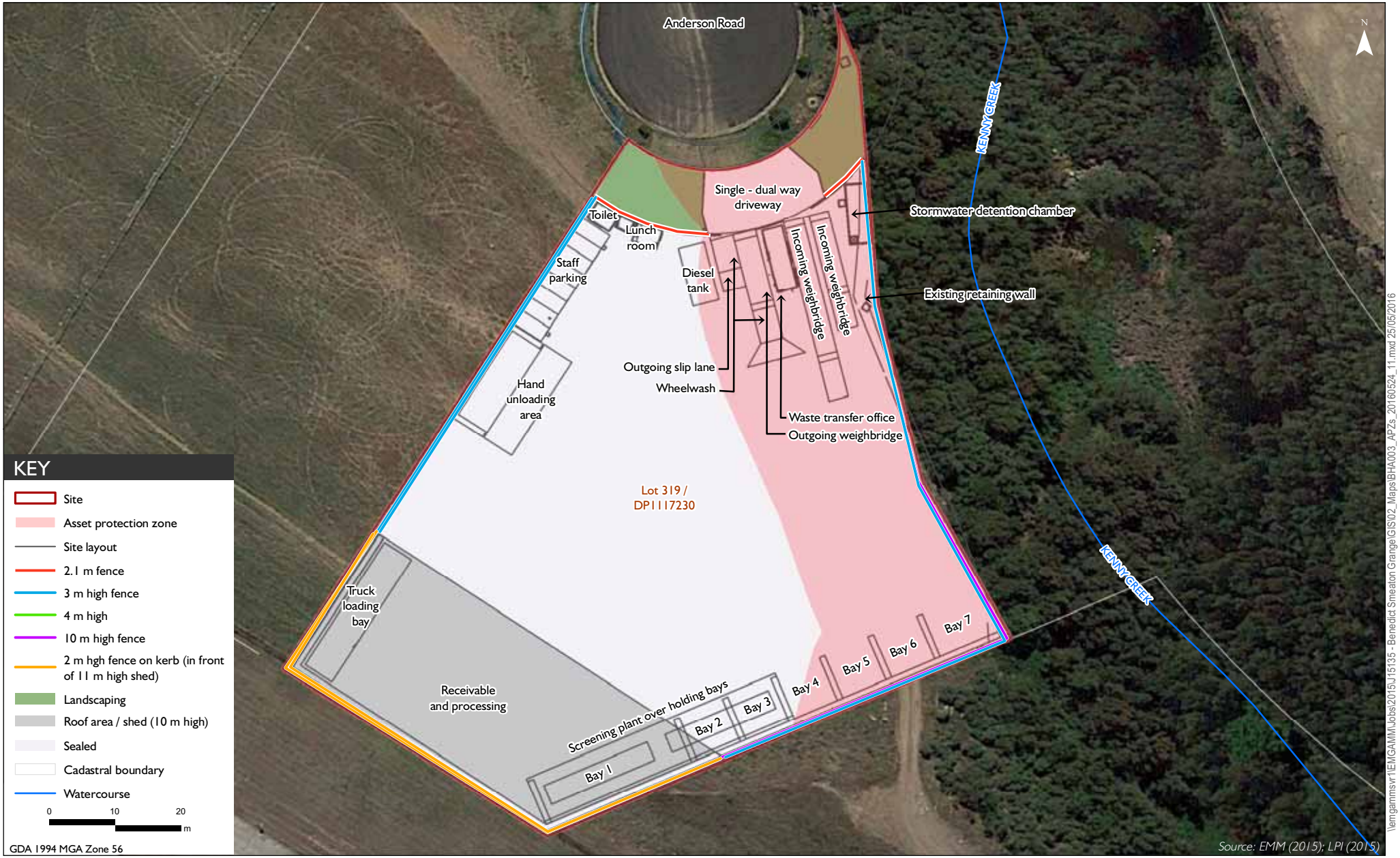
3.2.1 Water

The availability of water is a critical determinant of the survival of life and property during a bushfire. Water for fire fighting will be provided to the project as follows:

- existing fire hydrants in Anderson Road; and
- extinguishers and fire hydrant at the office building.

The following requirements from Chapter 4 of PBP will be applied to water infrastructure:

- above ground pipes external to structures in the APZ will be metal including and up to taps; and
- fire hydrants at buildings will be spaced, sized and pressured in accordance with *Australian Standard 2419.1-2005 Fire Hydrant Installations – System Design, Installation and Commissioning*.



Asset protection zone

Smeaton Grange Benedict Industries
Bushfire Hazard Assessment
Figure 3.1

3.2.2 Electricity and gas

Electricity and gas services will be located so they do not contribute to the risk of fire to a building. The following guidelines will be followed during detailed project design (from Chapter 4 of PBP):

- it is preferable to place electrical transmission lines underground. However, If overhead electrical transmission lines are to be used, they will be installed and managed in accordance with Ausgrid (2010) *NS179 Vegetation Safety Clearances*;
- *AS/NZS 1596:2008 The Storage and Handling of LP Gas* will be followed for bottled gas installation and maintenance. Metal piping will be used;
- there will be minimum 10 m distance between fixed gas cylinders and flammable materials and shielding will be placed on the hazard side of the cylinders; and
- release valves on gas cylinders close to buildings will be directed away from the building and minimum 2 m from combustible material. Metal connections will be used.

3.3 Access

The project will be accessed and exited via sealed entry and exit driveways off Anderson Road, which will be constructed to accommodate vehicles over 15 tonnes such as fire fighting vehicles. They will have a minimum vertical clearance of 4 m to any overhead obstructions including branches.

3.4 Mitigating feature

Appendix 4.1 requires a BHA to describe features that may mitigate the impact of a high intensity bushfire on a proposed development. As described in Section 1.1, a solid 10 m high fence will be constructed along the south-east boundary and along part of the north-east boundary to provide noise shielding for nearby residential development.

This fence will be between the project and the bushfire hazard vegetation and will provide some shielding of the office building from radiant heat, ember attack and the spread of fire in the understorey if there is a fire in the vegetation.

3.5 Environmental impacts of mitigation measures

Appendix 4.1 requires a BHA to describe environmental impacts from the implementation of bushfire protection measures. Provision of the above measures will not have an environmental impact as built elements and the APZ will be at an existing cleared area. Therefore, no vegetation clearing will be required to implement the measures.

4 Bushfire construction levels

Section A4.1 of the PBP requires an assessment of whether specific buildings are capable of complying with the bushfire construction levels described in *Australian Standard 3959 – 2009 Construction of Buildings in Bushfire Prone Areas* (AS 3959 – 2009). The specific buildings are classified by the *Building Code of Australia* (BCA 2013) as class 1, 2, 3 and 4 buildings; and some class 9 and 10 buildings.

The office building does not correlate to the above BCA classes and therefore does not have bushfire construction levels specified in AS 3959 – 2009. Notwithstanding, the PBP requires that such buildings comply with the general bushfire construction requirements in section 3 of AS 3959 – 2009. The office building will be constructed to comply with these requirements.

5 Conclusion

A section of the project will be on bushfire prone land and this assessment describes measures to enable the project to comply with the objectives of the PBP. Specifically, an APZ will be provided and managed to enable fire fighter access, passage for evacuees and to reduce radiant heat at project buildings. The risk of the project initiating a bushfire will be minimised through the implementation of management measures.

References

Australian Building Codes Board 2013 *Building Code of Australia* (BCA). Australian Government.

Australian Standard 3959 – 2009 Construction of Buildings in Bushfire Prone Areas (AS 3959 – 2009).

Camden Council 2013 *Camden Council Bushfire Prone Land – Map 4*.

Keith, D 2004 *Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT*. NSW Department of Environment and Conservation.

NSW Rural Fire Service (RFS) 2006 *Planning for Bushfire Protection*. NSW Government.

SYDNEY
Ground floor, Suite 01, 20 Chandos Street
St Leonards, New South Wales, 2065
T 02 9493 9500 F 02 9493 9599

NEWCASTLE
Level 5, 21 Bolton Street
Newcastle, New South Wales, 2300
T 02 4927 0506 F 02 4926 1312

BRISBANE
Level 4, Suite 01, 87 Wickham Terrace
Spring Hill, Queensland, 4000
T 07 3839 1800 F 07 3839 1866

Appendix J

Quantity Surveyor's report and Capital Investment Value estimate

Coutts
Cost Consulting

ABN: 25 114 658 623

Suite 19, 287 Military Rd
Cremorne NSW 2090
P: 02 8086 2062

info@couttscostconsulting.com.au
www.couttscostconsulting.com.au

29 March 2016

Benedict Industries

C/- EMM,

20 Chandos St,

St Leonards NSW 2065

Attention – Verity Blair

Dear Sirs,

52 Anderson Road, Smeaton Grange, Use and Development SSDA

Please find enclosed cost estimate summaries for the above.

The total submitted figure of $2,795,205 is inclusive of fees and GST but exclusive of contingencies.

In addition it should be noted that:

1) Capital Investment Value in accordance with PS 10-008 dated 10 May 2010. This total is $2,541,096.

Please refer to notes accompanying the cost summary for further clarification of the works.

We trust this is sufficient for the completion of the DA submission.

Yours faithfully,

Alan Jenkins AAIQS#

52 ANDERSON ROAD SMEATON GRANGE

BENEDICT

ORDER OF COST SUMMARY USE & DEVELOPMENT SSDA 23-Mar-16

The estimate for the proposed works are based on industry recognised prices and the estimated costs have been prepared having regard to the matters set out in Clause 255 of the Environmental Planning and Assessment Regulation 2000

Item	Quantity	Rate	$
Use and Development			$240,810
Plant & Equipment			$2,123,000
Total for Construction Works as at March 2016			$2,363,810
Design Fees	5.00%		$118,191
Project Management Fees	2.50%		$59,095
			$2,541,096
GST	10%		$254,110
Total incl Fees and GST as at March 2016			***$2,795,205***

Notes
Rates above include allowances for prelims and margin.
Contingencies are excluded
Internal fitout including retail tenancy, office equipment, etc are excluded
Works forming part of the separate Site Establishment DA are excluded
Figures are based on competitive lump sum tenders
Land costs, legal fees and holding charges are excluded
Scheme as per CDA Architects drawings dated March 2016
Works outside the site boundary are excluded

52 Anderson Road, Smeaton Grange

Benedict

Cost Summary 22-Mar-16

This estimate summary is prepared for the Use & Development SSDA submission only

A separate DA submission is being made for for Site Establishment DA which includes the building works for the site

Item	Quantity	Rate	$
Builders works for weighbridges, wheel washer etc	168 m2	$25.00	$4,200.00
Footings etc as required for demountable office incl connection to services etc	35 m2	$300.00	$10,500.00
Product bays comprising block walls, footings etc as required	350 m2	$100.00	$35,000.00
Bunded deisel storage tank (30,000 litres) including enclosure & assoc builders work	Item		$40,000.00
Picking line enclosure	Item		$10,000.00
Extend boundary fencing to 10m as noted	595 m2	$150.00	$99,700.00
Connecting plant and equipment to site services	Item		$10,000.00
			$209,400.00
Preliminaries	15%		$31,410.00
Total (excl GST)			$240,810.00

52 Anderson Road, Smeaton Grange

Benedict

Cost Summary 22-Mar-16

This estimate summary is prepared for the Use & Development SSDA submission only
A separate DA submission is being made for for Site Establishment DA
which includes the building of the site

Plant and equipment (as advised Benedict Ind)			
Front end loader	Item		$380,000
13t excavator	Item		$170,000
Weighbridges	Item		$255,000
Weighbridge office	Item		$68,000
Processing plant	Item		$720,000
Wheelwashes	Item		$60,000
Irrigation for dust suppression	Item		$30,000
Flip flow screen waste sorter	Item		$440,000
Total			$2,123,000

RIC-QS Pty Ltd
(Residential Industrial Commercial Quantity Surveyors)
Cost Planning Specialists
Suite 6, 41-45 Rickard Road
Bankstown, NSW 2200
P 02 8739 2259
Info@ricqs.com.au
sam@ricqs.com.au

12th May 2016

Roussakis Holdings Pty Ltd
C/o - CDArchitects
PO BOX 10,
BARDWELL PARK NSW 2207

Attention: Jacob Yammine (info@cdarchitects.com.au)

PROJECT ADDRESS: **52 Anderson Road, Smeaton Grange**

PROJECT DESCRIPTION: **Proposed warehouse factory facility including concrete Access stand, parking facility and associated external works**

COUNCIL: **CAMPBELLTOWN COUNCIL**

Dear Jacob,

Further to your instructions, please find enclosed our indicative estimate of probable cost in the amount of **$2,164,643** (incl. Professional fees & GST) for the development situated in the Campbelltown Council jurisdiction.

Due to the level of documentation we have had to make the following assumptions in the preparation of our estimate.

ALLOWANCES & ASSUMPTIONS INCLUDED:

1. Demolition and general site clearance.
2. Bulk and detailed excavation in materials OTR.
3. All services connections and associated works.
4. Allowance for placing cables underground.
5. Allowance for landscaping over site and irrigation system.
6. Standard quality finishes and fitments.
7. Builder's preliminaries and margin.
8. Professional fees in the order of 2%.

ALLOWANCES & ASSUMPTIONS EXCLUDED:

1. Rock excavation.
2. Shoring or anchoring.
3. Grey water management.
4. Services Amplification.
5. Contingency. We recommend a contingency of 5% be allowed over the entire project.
6. Council contributions, authority fees, bank fees and charges, marketing, leasing and selling costs.

Documentation Reviewed:

We have prepared our estimate based on the following documentation.

- Architectural Drawings. Job No 15306, Drwing No DA100,101 Rev B. Dated March 2016 as prepared by CD Architects.

Disclaimer:

We advise that this estimate is indicative and may vary due to council conditions under the final council approval. Upon receipt of the approval and the council conditions approval any additional documentation or information we reserve the right to review our estimate.

This report is for use by the party to whom it is addressed and for no other purposes. No responsibility is taken for any third party who may use or rely on the whole or any part of this report.

If you have any queries or wish to discuss the matter further please do not hesitate to contact this office.

Yours faithfully

Sam Francis

Director (7467M A.I.Q.S)
RIC-QS Pty. Ltd.
(Residential, Industrial & Commercial – Quantity Surveyors)

160331 Smeaton Grange - Summary

Job Name : 160331 SMEATON GRANG

Client's Name: Emmanuel Roussakis

Job Description

Warehouse/Factory Facility including conrete access stand, parking facility and associated external works

Trd No.	Trade Description	Trade Qty	Trade Unit	Trade Rate	Sub Total	Mark Up %	Trade Total
1	NOTES						
2	GROUND FLOOR	1,268	m2	760.09	963,801		963,801
3	ROOF	1,354	m2	264.48	358,100		358,100
4	EXTERNAL WORKS	5,488	m2	98.16	538,690		538,690
5	DEMOLITION	6,868	m2	10.00	68,680		68,680
6	Subtotal						*1,929,271*
7	PROFESSIONAL FEES	1	It	38,586.00	38,586		38,586
8	Subtotal						*1,967,857*
9	GST ALLOWANCE	1	It	196,786.00	196,786		196,786
GFA: 1,268 m2.					**2,164,643**		**2,164,643**

Final Total : $ 2,164,643

160331 Smeaton Grange - Trade Breakup

Job Name : 160331 SMEATON GRANG

Client's Name: Emmanuel Roussakis

Job Description

Warehouse/Factory Facility including conrete access stand, parking facility and associated external works

Item No.	Item Description	Quantity	Unit	Rate	Amount
Trade :	**1 *NOTES***				
	DRAWINGS & OTHER DOCUMENTATION REVIEWED				
1	This indicative square metre estimate was prepared by applying functional rates against indicative areas from the following drawings and documentation:		Note		
2	Architectural Drawings Job No, J15306, Drawing No DA 100,101. Rev B, dated by March 2016 as prepared by CD Architects				
3					
	ALLOWANCES & ASSUMPTIONS INCLUDED				
4	Demolition and general site clearance.				
5	Bulk and detailed excavation in materials OTR.				
6	All services connections and associated works.				
7	Allowance for placing cables underground.				
8	Allowance for landscaping over site and irrigation system.				
9	Standard quality finishes and fitments.				
10	Builder's preliminaries and margin 15%.				
11	Professional fees of 2% .				
12	Any cost increases associated with the 10% GST.				
13					
	ALLOWANCES & ASSUMPTIONS EXCLUDED				
14	Rock excavation.				
15	Site remediation and decontamination.				
16	Allowance for shoring.				
17	Allowance for lift services.				
18	Grey water management.				
19	Allowance for Electrical, Gas, Hydraulic, Water, Stormwater & Sewer services amplification.				
20	Escalation in costs and union enterprise bargaining costs.				
21	Council contributions, design fees, authority fees, bank fees and charges, marketing, leasing and selling costs.				
22					

160331 Smeaton Grange - Trade Breakup

Job Name : 160331 SMEATON GRANG

Client's Name: Emmanuel Roussakis

Job Description

Warehouse/Factory Facility including conrete access stand, parking facility and associated external works

Item No.	Item Description	Quantity	Unit	Rate	Amount
Trade :	**1 *NOTES***				*(Continued)*
	RICQS DISCLAIMER				
23	This report is provided for construction finance purposes and is for use by the party to whom it is addressed only. No responsibility is taken for any third party who may use or rely on the whole or any part of this report.				
24	All quantities measured in this estimate are approximate only.				
25	Quantities or rates in this report are not to form part of any future building contract.				
26	Our costs exclude GST.				
27	This estimate and or rates provided will expire after a period of 3 months based on current market conditions				
				NOTES Total :	
Trade :	**2 *GROUND FLOOR***				
1	Shed areas :[1212 m2]	1,212.00	m2	750.00	909,000.00
2	Lunch room areas :[13 m2]	13.00	m2	900.00	11,700.00
3	Wet areas :[13 m2]	13.00	m2	1,100.00	14,300.00
4	Waste storage areas	30.00	m2	900.00	27,000.00
5	Stairs area to facilities(non-UCA)	2.00	m2	900.00	1,800.00
				GROUND FLOOR Total :	**963,800.00**
Trade :	**3 *ROOF***				
1	Roof areas	1,326.00	m2	250.00	331,500.00
2					
3	Concrete roof area to waste storage	28.00	m2	950.00	26,600.00
				ROOF Total :	**358,100.00**
Trade :	**4 *EXTERNAL WORKS***				
1	Concrete areas	4,923.00	m2	100.00	492,300.00
2					
3	Driveway areas	148.00	m2	100.00	14,800.00
4					

160331 Smeaton Grange - Trade Breakup

Job Name : 160331 SMEATON GRANG

Client's Name: Emmanuel Roussakis

Job Description

Warehouse/Factory Facility including conrete access stand, parking facility and associated external works

Item No.	Item Description	Quantity	Unit	Rate	Amount
Trade :	**4 *EXTERNAL WORKS***				*(Continued)*
5	Staff parking areas	105.00	m2	150.00	15,750.00
6	Visitor parking areas	54.00	m2	150.00	8,100.00
7					
8	Landscape areas	258.00	m2	30.00	7,740.00
				EXTERNAL WORKS Total :	**538,690.00**
Trade :	**5 *DEMOLITION***				
1	Structure		No		
2	Site Clearance	6,868.00	m2	10.00	68,680.00
				DEMOLITION Total :	**68,680.00**
Trade :	**6 *Subtotal***				
				Subtotal Total :	
Trade :	**7 *PROFESSIONAL FEES***				
1	Professional fees (say 2%)	0.02	%	1,929,271.00	38,585.42
2		1.00	Item		
				PROFESSIONAL FEES Total :	**38,585.42**
Trade :	**8 *Subtotal***				
				Subtotal Total :	
Trade :	**9 *GST ALLOWANCE***				
1	Allowance for Goods & Services Tax overall	0.10	%	1,967,857.00	196,785.70
2		1.00	Item		
				GST ALLOWANCE Total :	**196,785.70**

Appendix K

Consultation factsheet

SMEATON GRANGE WASTE RECYCLING AND TRANSFER FACILITY FACTSHEET

52 Anderson Road, Smeaton Grange

Overview

Benedict Recycling proposes to develop a waste recycling and transfer facility at 52 Anderson Street, Smeaton Grange.

The surrounding area is experiencing rapid residential and industrial growth, which is creating significant demand for mixed waste recycling services. There are currently no mixed waste recycling facilities in the region except for the Spring Farm Advanced Resource Recovery Park, (formerly Jacks Gully Landfill), which accepts commercial and industrial and construction and demolition wastes but acts primarily as a transfer station. The proposed facility would accept waste from businesses and the general public and would complement the activities of the Spring Farm facility by allowing additional waste generated in the Narellan region to be recycled.

The site is ideally suited for the development of a recycling facility because it is in an industrial area centrally located in Smeaton Grange and readily accessible to light and heavy vehicles. Development of the proposal would provide an ongoing economic and social benefit from a vacant site that is zoned for industrial uses.

Proposed recycling facility site

The site is approximately 6,862 m2 (Figure 1), flat and devoid of vegetation other than grass.

Land immediately to the south-west is developed with a large transport depot operated by Coles Logistics, while land to the west and north (on the far side of the vegetated creek corridor) is developed, or being developed, for industrial uses with large industrial sheds which have been approved and are either built or under construction.

The nearest residential properties are on the far side of an easement (vacant land), in Currans Hill, at least 150 m south-west of the site. The site is mostly obscured from these properties by a vegetated ridgeline and separated by vacant land between the site and closest residences.

west boundary of the site which would prevent any views into the site from residential properties.

The EIS visual impact assessment found that the proposal would be unlikely to have significant visual impacts given that it is located within an existing industrial estate, is consistent with the visual character of the area and there would be very limited external views to site activities.

Air quality

The site's surface would be completely sealed, apart from the proposed landscaping in the front setback. The majority of material received under the proposal would be solid construction and demolition waste. No liquid, hazardous or putrescible waste would be accepted into the facility and captured rainfall runoff would be used for water sprays over any other operational areas that have potential to generate unacceptable amounts of dust. Therefore, the potential for dust or odour emissions from the facility is low. Air quality modelling for the EIS indicated that all air quality criteria (dust and odours) will be met offsite (ie no impacts at nearby residential properties).

Noise

Operational noise emission levels are predicted to meet the relevant criteria for calm conditions (ie when noise impacts would be most noticeable) during the daytime, evening, night and morning shoulder periods.

An assessment of cumulative industrial noise from the proposal together with other industrial noise sources in the vicinity predicts that the project will not increase industrial noise levels above the relevant amenity criteria.

The proposal would result in additional traffic movements however the increase would be minor in comparison to existing traffic volumes and the overall increase in road traffic noise level at residences will be negligible.

Traffic

At full production, the recycling facility would generate an average of 106 truck movements daily and 170 light vehicle movements. (ie 276 daily traffic movements in total). Waste material would be brought to the site and products dispatched via Anderson Road which connects directly to Camden Valley Way. There is also access via Anzac Avenue to Hartley Road which connects to Narellan Road. Camden Valley Way and Narellan Road are both major arterial traffic routes within the Sydney classified road network. Hartley Road, Anderson Road and Anzac Avenue are roads within the Industrial zone which are generally suitable for heavy vehicle use.

The EIS traffic impact assessment found that the proposal would not have any impacts on parking, road safety, intersection levels, public transport services, pedestrians or cyclists.

Water

The site would be sealed with a material such as concrete or asphalt to ensure that there is no disturbance of existing soils on the site. In addition, the site will be completely bounded by a concrete kerb and a stormwater scheme implemented that will allow captured water to be used for dust misting when necessary.

Site layout and activities

The recycling facility layout is shown in Figure 2. The facility would import inert pre-classified general solid waste (non-putrescible), such as construction and demolition wastes, and selected commercial and industrial wastes, for processing to produce saleable recycled materials. No special, liquid, hazardous, restricted solid waste or general solid waste (putrescible) would be accepted at the facility.

Processing would include sorting, screening and picking but would not include crushing or shredding (which generates more noise than the proposed processing).

Products would include soils that would be ready for use and segregated recycled materials that would be sent to other recycling facilities for further processing, eg ferrous and nonferrous metals, dry paper/cardboard, timber, masonry and plastics. The facility would have a processing capacity of 140,000 tonnes of material per annum.

Operating hours and workforce

The facility would accept waste deliveries and dispatch materials:

- Monday to Friday: 6 am–10 pm
- Saturday: 6 am–5 pm
- Sunday: 8 am–4 pm

Waste processing at the facility would occur Monday to Saturday between 7 am and 4 pm. No waste processing would occur on Sundays.

At times, waste is generated by major infrastructure projects that requires disposal at night, particularly from road and rail works. Therefore, there may be occasions where the facility would accept, but not process, waste for 24 hours per day to allow these important projects to proceed. It is anticipated that Council will be given 48 hour notice when waste will be delivered between 10 pm and 6 am (ie outside day-to-day operating hours).

The recycling facility is expected to be operated by approximately 8 employees.

Environmental Impact Statement

An environmental impact statement (EIS) has been prepared to accompany a development application (DA) for the proposal under Part 4 of the NSW Environmental Planning and Assessment Act 1979. The consent authority for the DA is the Minister for Planning and the determining authority is anticipated to be the Planning Assessment Commission (PAC).

The EIS addresses the relevant environmental planning requirements and requirements of relevant NSW government agencies, including the Secretary's Environmental Assessment Requirements issued by the Department of Planning and Environment for the project. The EIS will be placed on public exhibition shortly. Key findings of the EIS are summarised below.

Visual impacts

There will be no external views to activities on the site, apart from the entry gates on Anderson Street. It is proposed to provide substantial fencing along the south-

Ecology

The site has been cleared and capped with clay and is devoid of vegetation other than grass. No threatened species have been recorded on the industrial site and there are no anticipated impacts on flora and fauna due to the facility.

Heritage

The site has been heavily modified (cleared, graded and capped with clay) and the potential for extant archaeological sites is extremely low. Therefore, there are no predicted impacts on any Aboriginal or historic heritage items.

Questions?

For any questions and comments that you might have, please ring Benedict Recycling's Ernest Dupere on **0407 282 444**.

M: 0407 282 444 | E: benedict@benedict.com.au | W: www.benedict.com.au



EMM

www.emmconsulting.com.au

SYDNEY
Ground Floor, Suite 1, 20 Chandos Street
St Leonards NSW 2065
T 02 9493 9500 F 02 9493 9599

NEWCASTLE
Level 5, 21 Bolton Street
Newcastle NSW 2300
T 02 4927 0506 F 02 4926 1312

BRISBANE
Level 4, Suite 1, 87 Wickham Terrace
Spring Hill Queensland 4000
T 07 3839 1800 F 07 3839 1866