



Telephone: (08) 9481 1900

Faxsimile: (08) 9481 1700

Suite 3, Ground Floor

The Atrium 123A Colin Street
West Perth WA 6005

Our Ref: BDVCAN80
BdvCan80ServicingReport280819

CARCIONE GROUP OF COMPANIES

LOTS 55, 56, 772, 294 KEROSENE LANE & LOT 295 BALDIVIS RD, BALDIVIS. ENGINEERING SERVICES REPORT.

1) GENERAL

The above lots are to be developed into approximately 560 single green title urban lots plus 9 green title Group sites potentially yielding 160 dwelling units for a total of around 720 dwelling units. This report covers proposals for earthworks, retaining walls, roads, drainage, groundwater, water supply, power supply, gas, telecommunications and sewerage as required for current urban development standards.

2) EXECUTIVE SUMMARY

The land the subject of this report is located on the south side of Kerosene Lane between 200 metres and 900 metres west of Baldivis Road, and also on the west side of Baldivis Road between 250 metres to 600 metres south of Kerosene Lane. The lots are contiguous, and have an aggregate area of some 45 hectares.

The land has scattered residual mature Tuart, Jarrah and Sheoak trees and is currently parkland cleared for grazing. Three houses are on the site on lot 772 and Lot 295(2). The land form is undulating free draining sand over limestone.

The Environmental Geology map of the Geological Survey of Western Australia classifies this site as predominantly Sand derived from Tamala Limestone on the eastern edge abutting Baldivis Rd, and Limestone (Tamala Limestone) on the balance; both soil types are considered suitable for urbanization.

The land can be connected to all services, either by extension from the neighbouring subdivision abutting the site on its southern boundary, or by extension of extra services to the site from the south and west as described herein. Power and telephone services already pass along the site frontage.

The Water Corporation has given advice that any land above the RL 32m AHD level cannot be served by existing water mains, but have advised that such land could be served by extension of a suitable (possibly 150mm or 250mm diameter) water main from the south and implementation of a high level booster station.

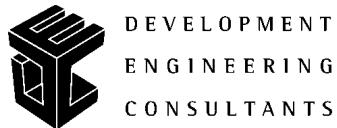
The Water Corporation has advised that sewer services are available, and that the land can be connected to existing sewer infrastructure.

All storm water discharging from the development will be contained on site in drainage swales proposed in POS areas at throughout the site.

This basin will retain the 1 in 100 year storm runoff on the site.

3) SITE

The land is situated on the west side of Baldivis Road, and the south side of Kerosene Lane as described above. It covers approximately 45 hectares and will be developed into some 720 residential units. Both of these abutting roads are sealed to a rural standard with no formal drainage.



Each road contains aerial power lines and underground telephone services.

The land abuts an existing development known as "The Chase" on the southern boundary of Lot 295, from which services will be extended to serve the eastern half of the development, and from the south and west to serve the western half.

The land is generally a residual stabilised sand dune following a north/south central axis, rising from RL 11m AHD on Baldivis Rd on the eastern edge of the site, to a high point in the centre of the site of RL 42m AHD and thence falling to a level of RL24m AHD on the western edge of the site adjacent to the proposed future Nairn Drive.

The geology of the land is described by the Environmental Geology Map of the Geological Survey of WA, as being the most part "S7, Sand derived from Tamala Limestone on the eastern half adjacent to Baldivis Road, and "LS1" Tamala Limestone on the higher land. Both soil types are described as being suitable for urbanization.

The site has previously been used for grazing, and is parkland cleared, with houses and sheds located in lots 772 and lot 295. Each house is connected to telephone and power. The houses are self-contained for water supply and wastewater disposal.

Both Baldivis Road and Kerosene Lane abutting the land are constructed as good standard rural roads with bitumen chip seal approximately 8 metres wide without any kerbing or formal drainage.

4) DEVELOPMENT PROPOSAL

It is proposed to develop the land into approximately 720 residential units, with all normal services, with links to abutting developments (existing and proposed) for sewer, water, power, roads, gas and phone services, with all drainage to be retained on site, using best management practices.

Road connections are proposed to Baldivis Road and Kerosene Lane, with provision for future connections to Nairn Drive on the west. Three road connections will be made to the south at "The Chase" at Carville Way, Remembrance Drive and Herbert Meander, with accompanying services connections.

The development will entail substantial earthworks to provide level, free draining building blocks, with extensive retaining walls given the sloping site, plus sand and limestone removal offsite as required to allow water supply services to be supplied.

Given the Water Corporation threshold water service level of RL 32m AHD, most of the land is proposed to be cut down to below RL 32m AHD to allow connection to the gravity water scheme.

Drainage will be effected by site soakage in specified swales, with the whole of the 1% AEP Storm discharge being contained in swale basins within POS throughout the site.

The abutting Baldivis Road and Kerosene Lane will be upgraded as required by the City of Rockingham. It is expected that Kerosene Lane will remain generally at its current design level with some areas of cutting to improve the geometric properties with a maximum cutting of around 700mm.

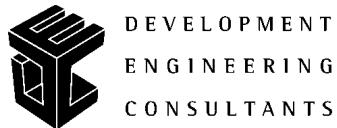
Sewer connections will be extended along Baldivis Road from "The Chase" for the eastern catchment, and also from Carville Way and across the abutting Nairn Drive and Lot 53 on the western boundary to sewer the western catchment.

Water connection will be extended from Baldivis Road to provide for the booster station (If required), and from abutting developments for the low level areas.

5) EARTHWORKS & RETAINING WALLS

Because of the sloping nature of the site, and the level limitations for water supply from the gravity scheme, extensive earthworks will be required to provide level building blocks, thus necessitating extensive retaining walls and sand export from the site. No imported sand fill is required.

Each lot will be finished level as required by the road design, with retaining to suit, with all retaining walls will be subject to Council building approval.



Earthworks on site will entail clearing of trees, removal of topsoil, cut and fill to final levels. Local experience is that there is a layer of sand over the site covering pinnacle limestone of varying hardness. This means that extra excavation and compaction may be required to ensure separation between any limestone outcrops and finished building levels.

The development on the southern boundary of lot 295 ("The Chase") coordinated their lot levels with proposed levels on this site some years ago, and such an arrangement will also be put into effect along the northern boundary, around lot 775 specifically, and other abutting undeveloped lots.

Preliminary plans detailing the proposed general earthworks levels across the site are shown in Attachment A of this document.

6) ROADS

All roads will be constructed to City of Rockingham standards.

The plan shows a future connecting road from Nairn Drive through to Kerosene Lane. Nairn Drive is completely contained within lot 53 on the western side of the development, and will not be constructed as part of this development, but provision will be made in the road design to marry in with the Nairn Rd design.

It is envisaged that both Baldivis Road and Kerosene Lane will be required to be upgraded to urban standard abutting the development as required by the City of Rockingham as part of the development approval, including kerbing, sheeting and drainage where possible, plus underground services as required for lighting and power reticulation as necessary to Western Power standards.

A preliminary design for Kerosene Lane has been completed to establish the land requirements for the road and how the levels of Kerosene will relate to the subject site development levels. Plans detailing this are included in Attachment C of this document.

7) DRAINAGE

a) General

The site will be self-contained as far as storm-water drainage is concerned. The soil characteristics of the site will allow site soakage, based on the geology and previous developments along Baldivis Rd.

From previous work along Baldivis Rd, we expect the AAMGL to be at approximately RL 4.0m AHD, some 8 metres below the lowest point on the site, and at least 6m under the base of the proposed 1% AEP drainage basin at the north east corner of lot 295.

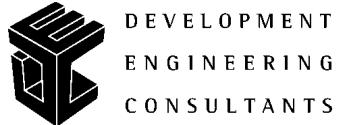
The land falls into two major drainage catchments, West and East. The site is to be earthworked to cut the hill generally down to RL 30m AHD to allow water supply from the gravity system to serve most of the site. The proposed catchment plan is included in Attachment B of this document.

b) The Western Catchment

This area will drain into one basin (Basin C) located centrally on the western boundary adjacent to the future Nairn Drive. This basin will also contain stormwater discharge from 50% of the abutting Kerosene Lane from its high point at the north-western corner of lot 772 and part of Nairn Drive north of the basin, and part of Nairn Drive south of the basin. Nairn Drive is lower than the proposed basin and is self-contained with swales and storage. The overflow from Nairn will drain will therefore discharge stormwater to the west.

c) The Eastern catchment

This catchment will drain to three basins (A, B, & D) due to the situation of the lots and road layout, needing at least one basin to be established at the north east corner of lot 295 adjacent to Baldivis Rd (Basin A), one in the north east corner of lot 294 Kerosene Lane (Basin B), and one in the central POS (Basin D). Basin B will accommodate drainage from 50% of the abutting Kerosene Lane, although all storms up to the 10% AEP storm will be retained in soakwells and swales in the reserve.



Each basin will be located within POS, and will be designed and constructed as swales with bio retention areas for low AEP storms in accordance with City of Rockingham guidelines.

The proposed drainage system for the subdivision does not include accommodating drainage flows from Baldivis Road, as Baldivis Road is lower than the development land. It is expected that Baldivis Road will be drained into the verges along its length as has been proposed in other lengths of Baldivis Road in this area. Drainage generated from Kerosene Lane will be accommodated into soakwells/swales with overflows being incorporated the development drainage system where practicable.

A Local Water Management Strategy (LWMS) has been completed with this submission, and an Urban Water Management Plan (UWMP) will be completed at the time of detailed design of the sub divisional road and drainage infrastructure. Drainage storage calculations will be included in the LWMS for the development.

8) GROUNDWATER

The groundwater level at the site has been estimated from previous investigations along Baldivis Road to be at approximately RL 4m AHD. This is at least 8 metres below the lowest point on the site and as a result will not influence the development or the drainage of the site.

9) POWER

It appears that sufficient power supply exists in the area to supply the development.

A high and low voltage aerial line is located in the eastern verge of Baldivis Road along the frontage of the site. This line terminates approximately 60 metres from the southern boundary, and continues underground southwards to the abutting development on the western verge. This aerial line is expected to remain in place and will be undergrounded by the developer on the eastern side of the roadway in line with established development protocols.

A high and low voltage aerial line is located along Kerosene Lane abutting the site along the southern verge. It is expected that this line may be relocated underground as part of the subdivisional works.

Any aerial lines across the site will be relocated underground in line with current WAPC approval policy at the cost of the developer. The existing aerial service lines inside the lots will be removed as part of the development. Maintenance of power to occupied homes will be a priority during subdivision construction.

All internal power reticulation lines and transformer installations will be constructed at the cost of the developer. Transformer and Switch sites will be determined at the detailed subdivision design stage, but will generally be located in POS areas in accord with Western Power requirements.

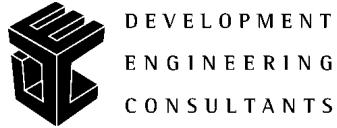
10) WATER SUPPLY

At present there is no reticulated water supply to the site, although a 900mm trunk water transfer main is located along Baldivis Road in the western verge. Reticulation lines for development purposes cannot be connected to this line.

Currently the gravity feed can only supply water to the RL32m AHD contour, and the adjacent development on the south ("The Chase") has been cut down to this level.

The Water Corporation has advised that the developer will be required to extend the required mains to and within the site. The DN250mm main located some 250 metres south of the site at "The Chase" in Baldivis Road will need to be extended to Kerosene Lane and in the longer term will be required to connect to the newly installed DN250mm main in Kerosene Lane near Jennings Lane, some 200 metres west of the subject site.

This main will provide sufficient supply to enable the booster station to serve the high level supply area located above the RL 32mAHD contour if this is necessary, but at this stage it is anticipated that all lots will be below this level. If necessary, a dedicated site or easement will be required for the booster station, which will be most likely located in POS.



11) SEWER

The site is not currently connected to sewer.

The site falls into two separate Waste Water Pumping Station (WWPS) catchments; one connecting west to the McDonald Rd WWPS via the Baldivis North development, and the other connecting east to the Baldivis North WWPS located south of Fifty Rd on Baldivis Road via a new sewer extension along Baldivis Road.

Gravity connection can be made to these stations via existing infrastructure. The connection to the west will need to traverse the abutting lot 53 to connect to the sewer in the Baldivis North development, which is currently undeveloped.

The connection to the east will require a length of sewer in Baldivis Road plus a very deep (Circa 8.5 metres) section of sewer within the development for a short length because of the road layout.

12) NBN

Telstra services exist in the area along both the west and east verges of Baldivis Road, and will most likely to be able to be extended to service this proposed development. Some upgrading may be required.

A Fibre Optic cable is located on the west verge of Baldivis Road and Kerosene Lane which should be able to serve the proposed development. NBN normally require twelve months' notice of development starting to ascertain any upgrading requirements.

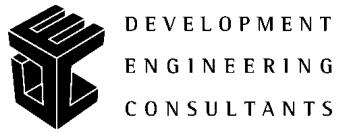
In accordance with statutory requirements the developer will be required to install NBN "pipe and pit" to allow for installation of cables for the NBN. The design of the "pipe & pit" is the responsibility of the developer, and will be designed in conjunction with the underground power network, and installed during the construction phase of the development.

13) GAS

The abutting developments, "The Chase" on the south of the site, and the Baldivis North development and Paradiso Estate west of the site on Kerosene Lane, are served with reticulated gas, which can be extended into the proposed development.

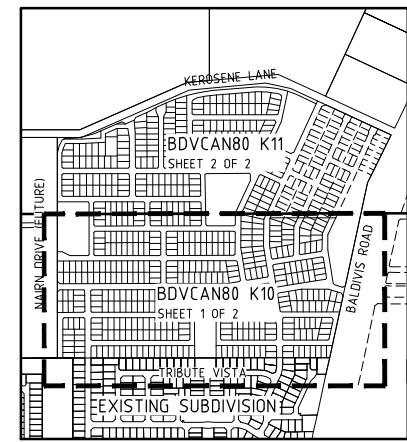
DEVELOPMENT ENGINEERING CONSULTANTS PTY LTD

THIS REPORT IS DATED 28 AUGUST 2019.



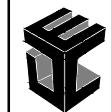
ATTACHMENT A – PRELIMINARY EARTHWORKS PLANS

LEGEND	
----- 23 -----	EXISTING SURFACE CONTOURS
— 23 —	FINISHED SURFACE CONTOURS
25.40	PROPOSED LOT LEVEL
x25.40	PROPOSED ROAD LEVEL
- - - - -	DRAINAGE CATCHMENT BOUNDARY

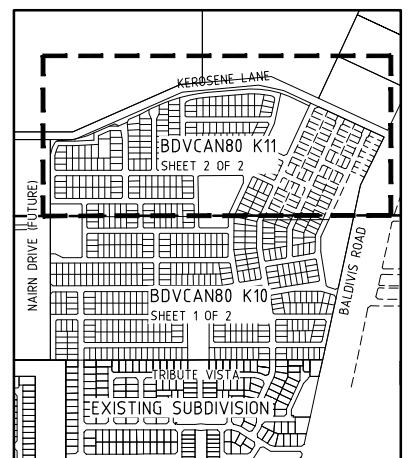


LOCATION PLAN

SCALE 1:10000

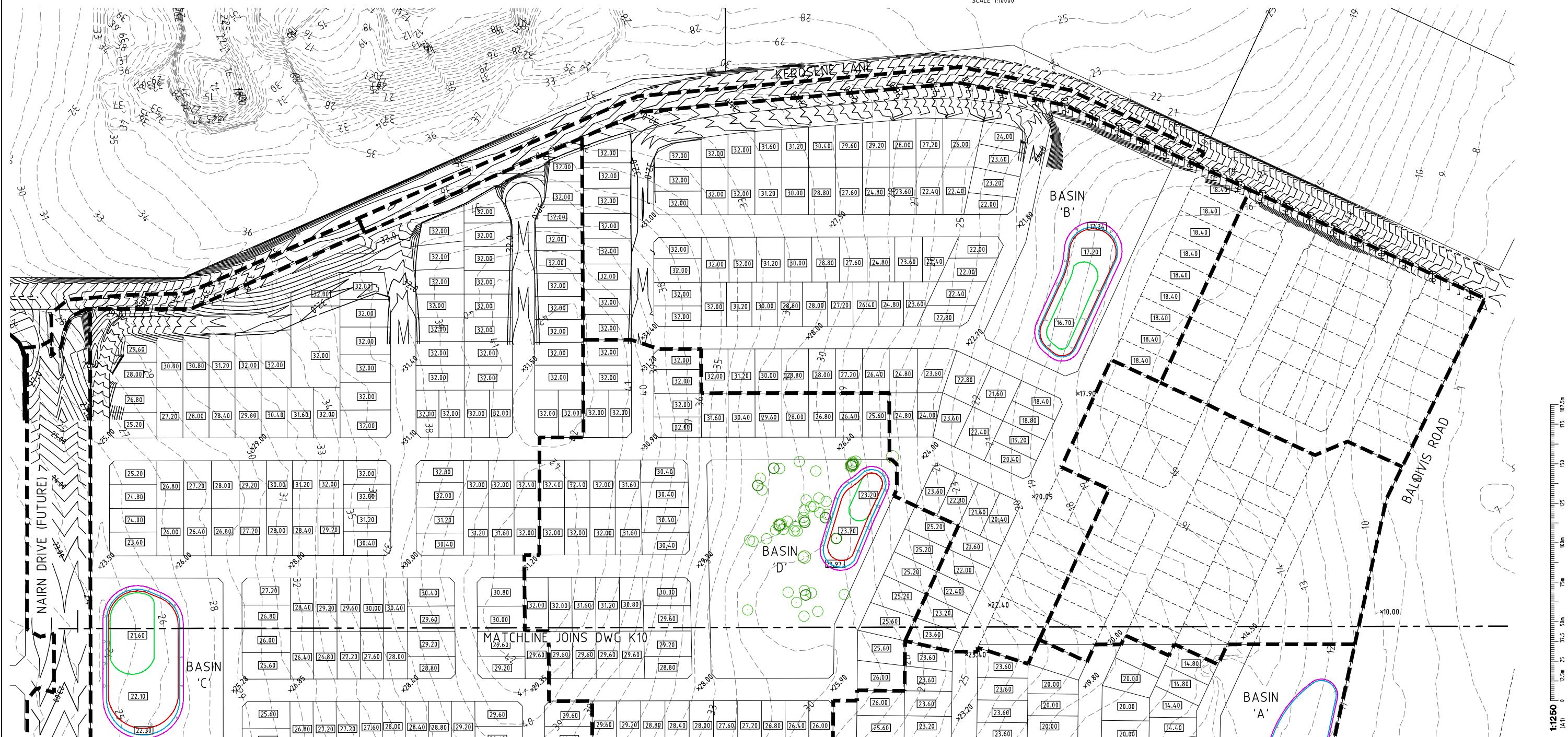


LEGEND	
----- 23 -----	EXISTING SURFACE CONTOURS
— 23 —	FINISHED SURFACE CONTOURS
25.40	PROPOSED LOT LEVEL
x25.40	PROPOSED ROAD LEVEL
- - - - - 25.40	DRAINAGE CATCHMENT BOUNDARY



LOCATION PLAN

SCALE 1:10000



Copyright			
"This document shall remain the property of Development Engineering Consultants Pty. Ltd. The document may only be used for the purpose for which it was commissioned & in accordance with the terms of the engagement for the commission. Unauthorised use of this document in any way is prohibited."			
B 22/08/19 PMS	BASIN LAYOUTS UPDATED, DRAINAGE CATCHMENT BOUNDARY ADDED	SRA	
A 1/07/19 PMS	INITIAL ISSUE	SRA	

CLIENT:
CARCIONE NOMINEES PTY LTD



DEVELOPMENT
ENGINEERING
CONSULTANTS

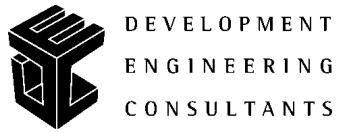
SUITE 3, 123A COLIN ST,
WEST PERTH, 6005
WESTERN AUSTRALIA
Ph: (08) 9481 1900
Fax: (08) 9481 1700

PROJECT:
**LOT 295 BALDIVIS RD &
LOT 294 KEROSENE LANE
BALDIVIS**
W.A.P.C. No. -

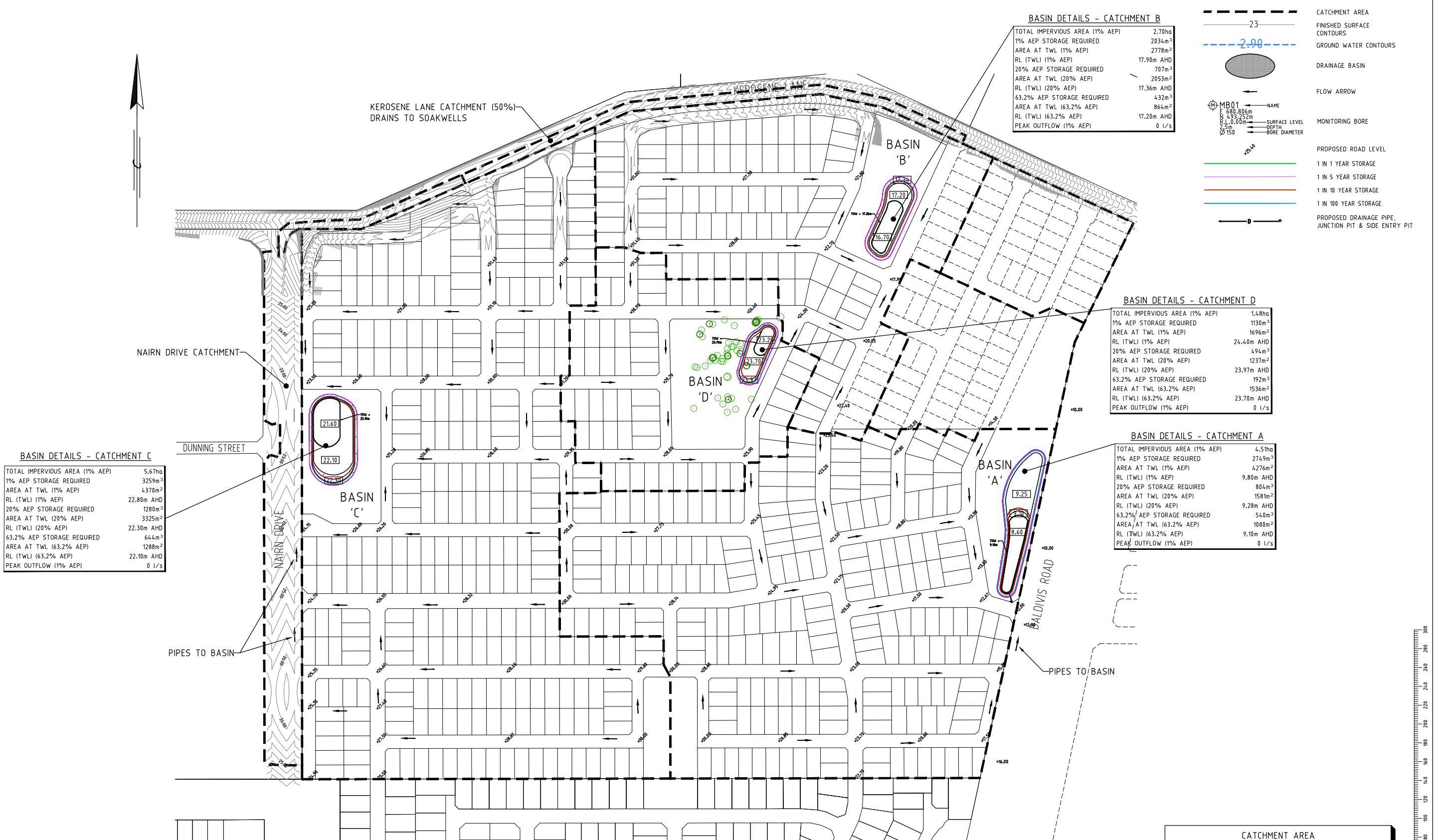
DRAWING:
**EARTHWORKS
LAYOUT PLAN
SHEET 2 OF 2**
CAD DRAWING DO NOT MANUALLY ALTER

SCALE	1:1250	DRAWN	PMS	CHECK	SRA	REV No.
DATE	JULY '19	DESIGNED	PMS	APPROVED	SRA	
PROJECT NUMBER		DRAWING NUMBER				

BDVCAN80 K11
S:\CAN\BDVCAN80\Drawings\BDVCAN80 K11.dwg 22/08/2019



ATTACHMENT B – DRAINAGE CATCHMENT PLANS



LEGEND	
	CATCHMENT AREA
	FINISHED SURFACE CONTOURS
	GROUND WATER CONTOURS
	DRAINAGE BASIN
	FLOW ARROW
	MONITORING BORE
	PROPOSED ROAD LEVEL
	1 IN 1 YEAR STORAGE
	1 IN 5 YEAR STORAGE
	1 IN 10 YEAR STORAGE
	1 IN 100 YEAR STORAGE
	PROPOSED DRAINAGE PIPE, JUNCTION PIT & SIDE ENTRY PIT

CATCHMENT AREA				
CATCHMENT	TOTAL AREA	LOT AREA	ROAD RESERVE AREA	POS AREA
A	147602	96128	37723	13751
B	81641	50502	20930	10209
C	193645	132496	46371	14778
D	52077	26908	11789	13380
TOTALS	474965	306034	116813	52118

Copyright
This document shall remain the property of Development Engineering Consultants Pty. Ltd. The document may only be used for the purpose for which it was commissioned & in accordance with the terms of the engagement for the commission. Unauthorised use of this document in any way is prohibited.

D 22/08/19 PMS CATCHMENT BOUNDARY AMENDED
E 16/8/19 JFG UPDATED DESIGN
B 4/07/19 PMS BASIN DETAILS UPDATED
A 1/07/19 PMS INITIAL ISSUE
No. DATE BY
REVISION

CLIENT:
CARCIONE NOMINEES PTY LTD



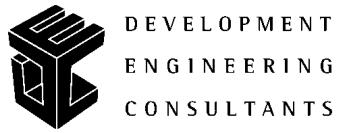
DEVELOPMENT
ENGINEERING
CONSULTANTS

SUITE 3, 123A COLIN ST,
WEST PERTH, 6005
WESTERN AUSTRALIA
Ph: (08) 9481 1900
Fax: (08) 9481 1700

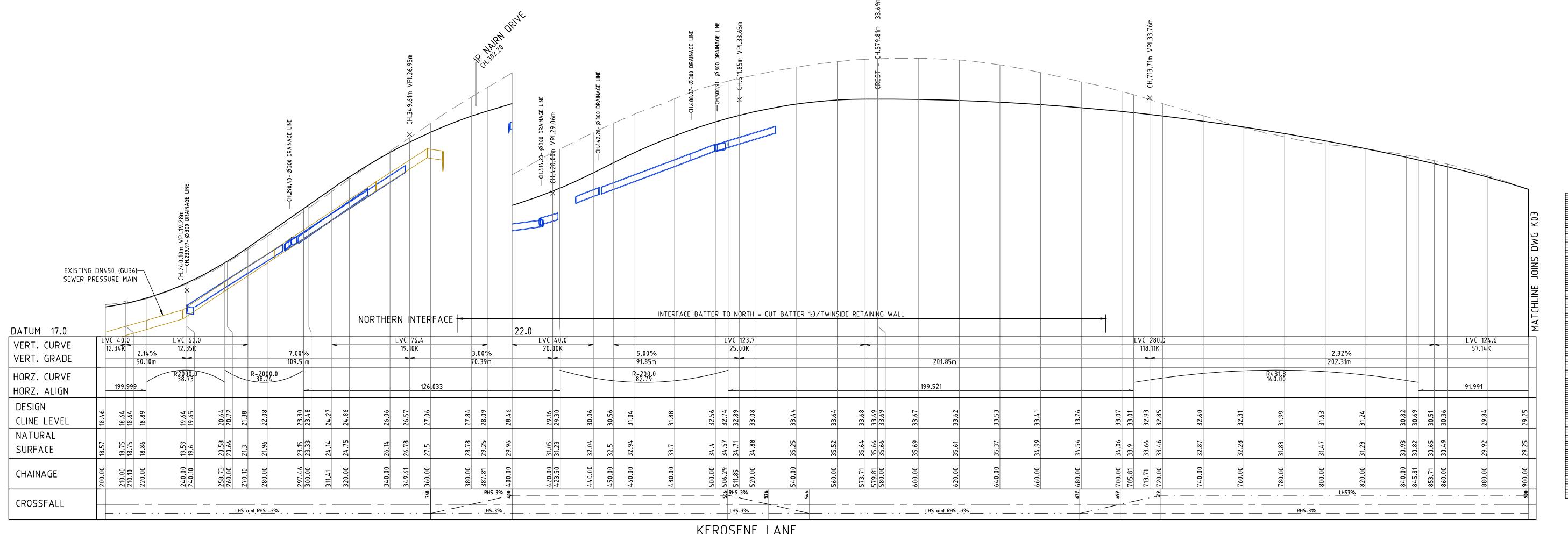
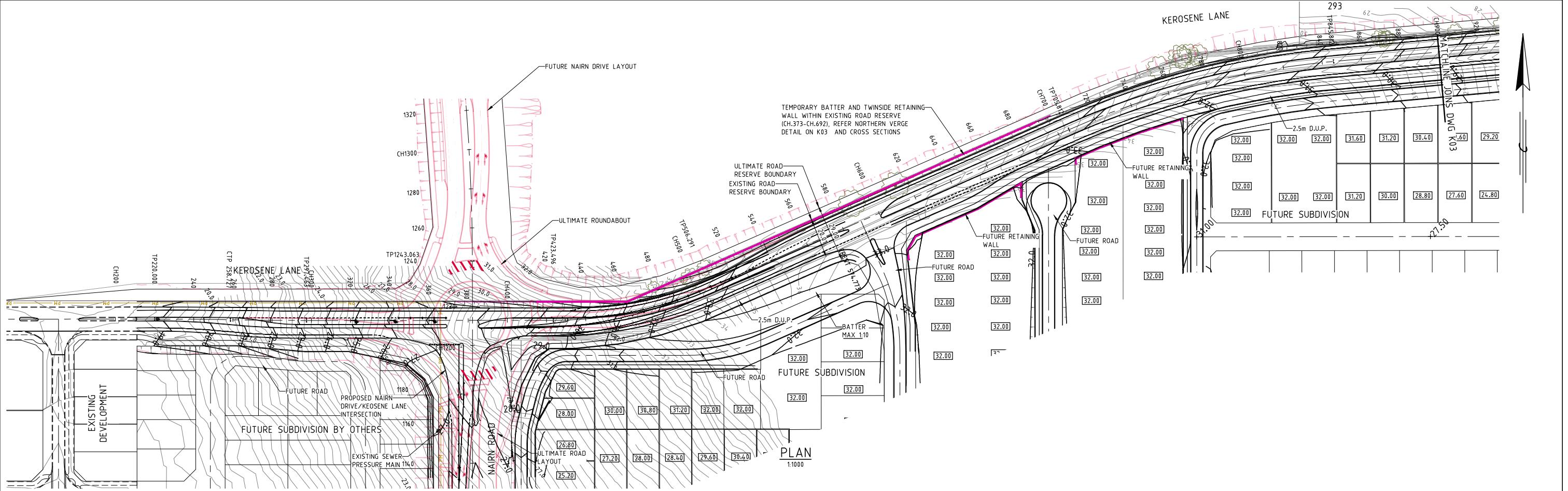
PROJECT:
**LOT 295 BALDIVIS RD &
LOT 294 KEROSENE LANE
BALDIVIS**
W.A.P.C. No. -

DRAWING:
**CATCHMENT PLAN
POST DEVELOPMENT**
CAD DRAWING DO NOT MANUALLY ALTER

SCALE 1:2000 DRAWN PMS CHECK SRA REV No.
DATE JULY '19 DESIGNED PMS APPROVED SRA
PROJECT NUMBER BDVCAN80 L04 DRAWING NUMBER
S:CAN\BDVCAN80\Updrawings\BDVCAN80 L04.dwg22/08/2019



ATTACHMENT C – KEROSENE LANE DESIGN PLANS



Copyright
This document shall remain the
property of Development Engineering
Consultants Pty. Ltd. The document
may only be used for the purpose
for which it was commissioned &
it may not be reproduced or
engaged for the commissioning
or otherwise without the
written consent of the
Development Engineering
Consultants Pty. Ltd.
Unauthorised use of this document
in any way is prohibited.

B 27/03/18 WJB KEROSENE LANE DESIGN UPDATED TO COUNCIL COMMENTS

A 01/11/17 WJB INITIAL ISSUE

REVISION

CLIENT:
CARCIONE NOMINEES PTY LTD



DEVELOPMENT
ENGINEERING
CONSULTANTS

SUITE 3, 123A COLIN ST,
WEST PERTH, 6005
WESTERN AUSTRALIA
Ph: (08) 9481 1900
Fax: (08) 9481 1700

PROJECT:
**LOT 295 BALDIVIS RD &
LOT 294 KEROSENE LANE
BALDIVIS**
W.A.P.C. No. -

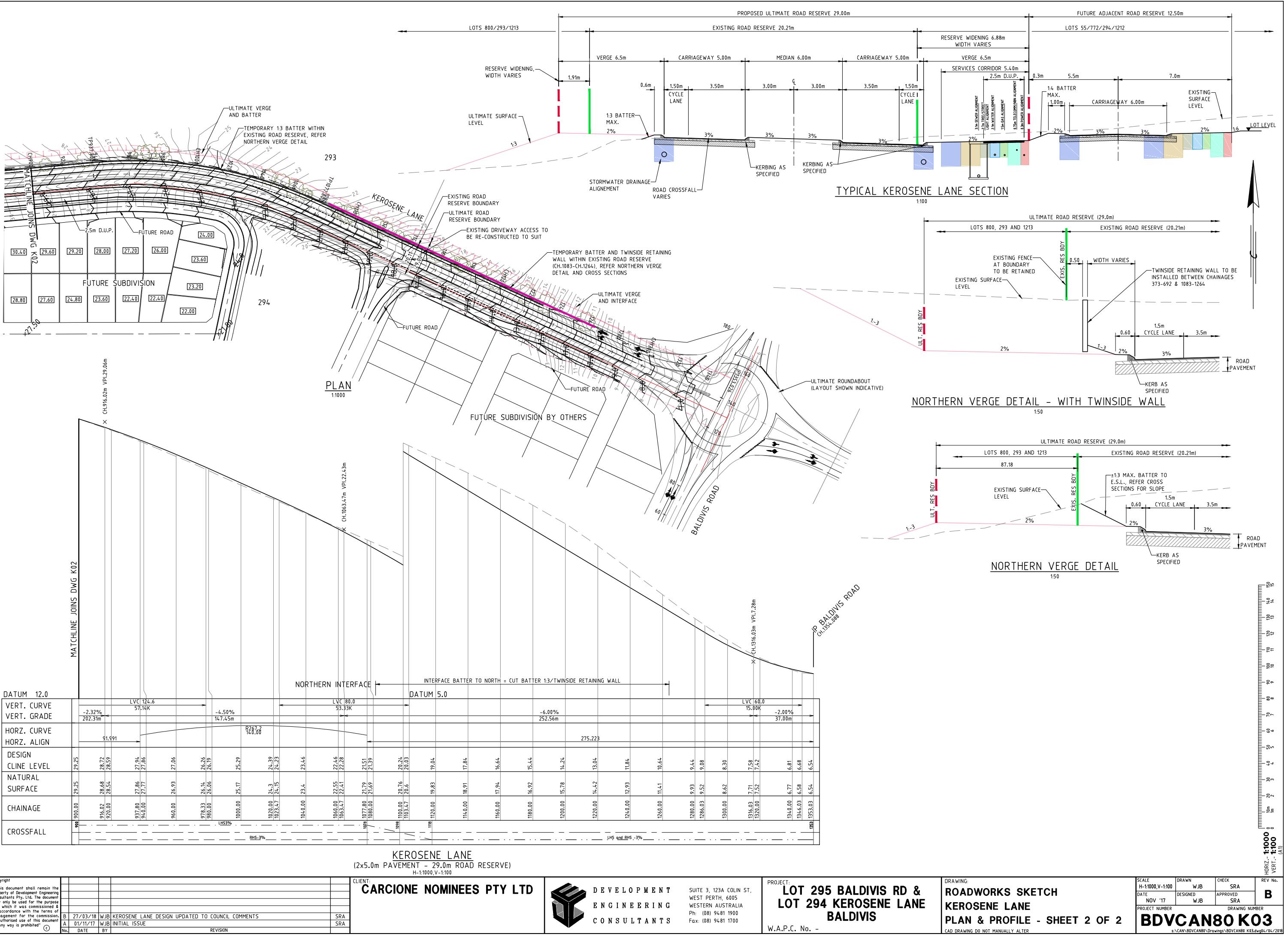
DRAWING:
**ROADWORKS SKETCH
KEROSENE LANE
PLAN & PROFILE - SHEET 1 OF 2**
CAD DRAWING DO NOT MANUALLY ALTER

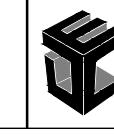
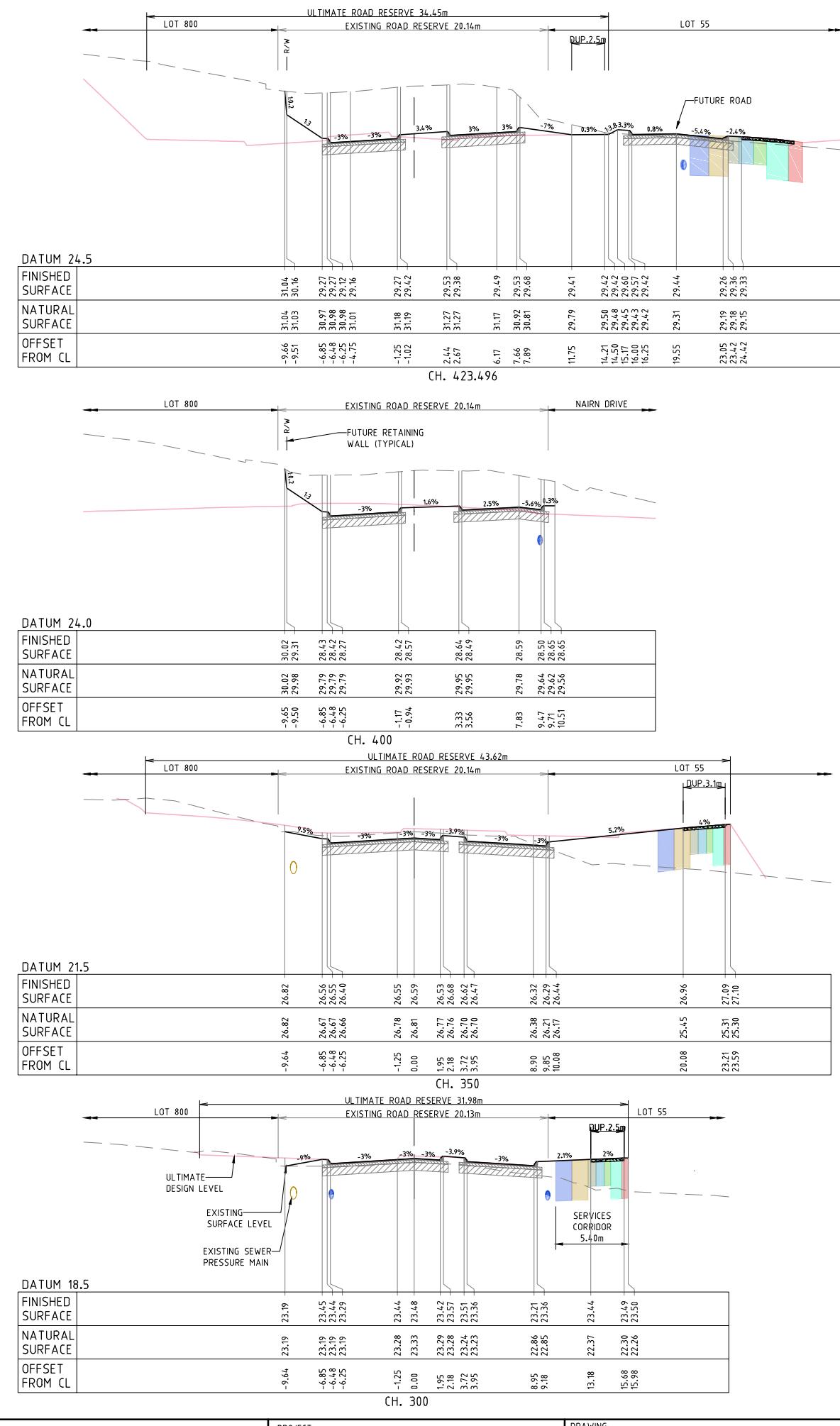
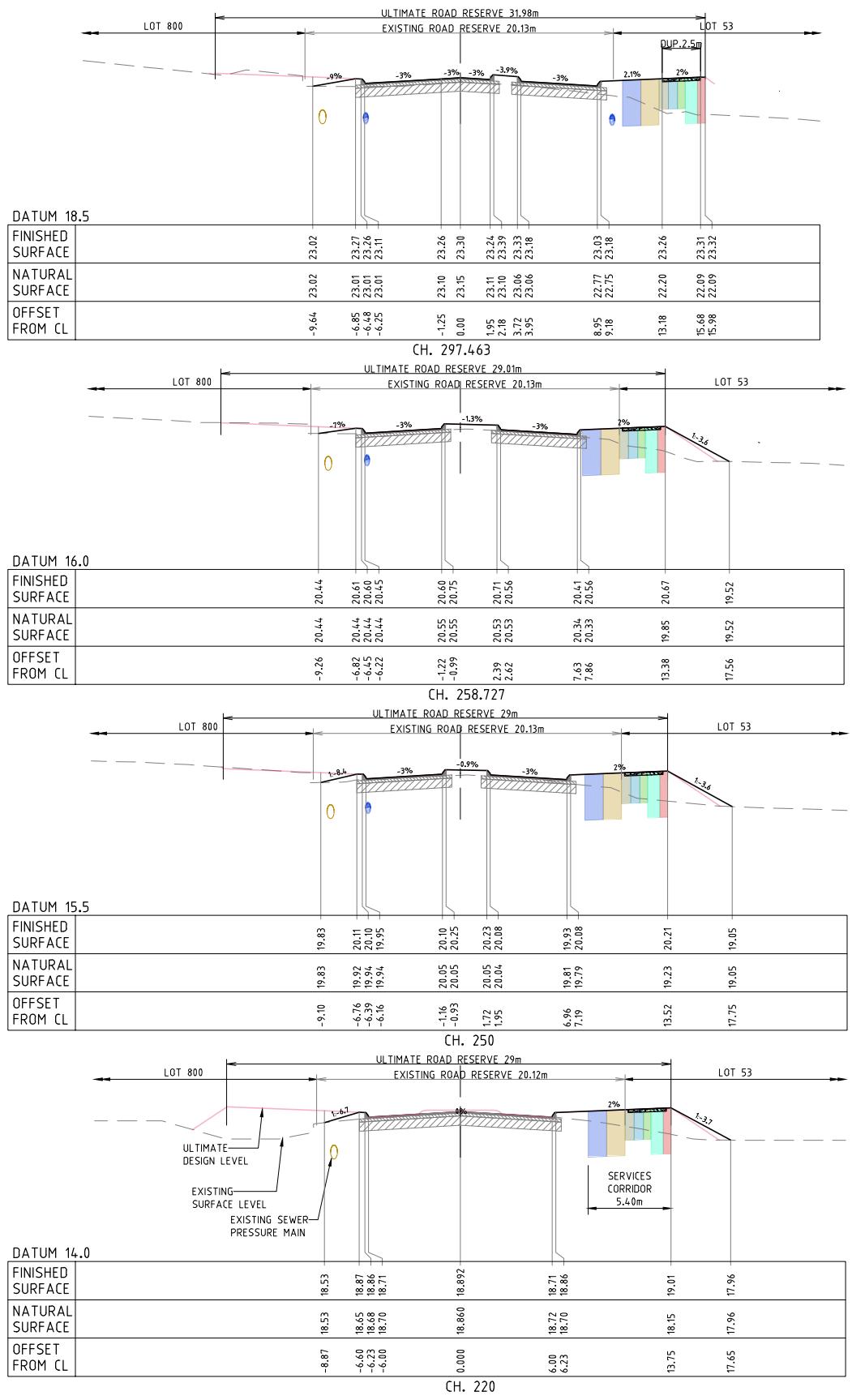
SCALE
HORIZONTAL: 1:1000 VERTICAL: 1:100
DRAWN BY: WJB CHECKED BY: SRA
DATE: NOV '17 DESIGNED BY: WJB APPROVED BY: SRA
PROJECT NUMBER: BDVCAN80 K02 DRAWING NUMBER: s:\CAN\BDVCAN80\Drawings\BDVCAN80 K02.dwg4\44\2418

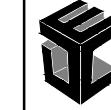
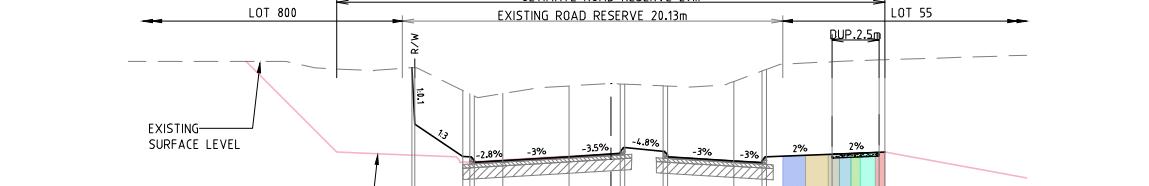
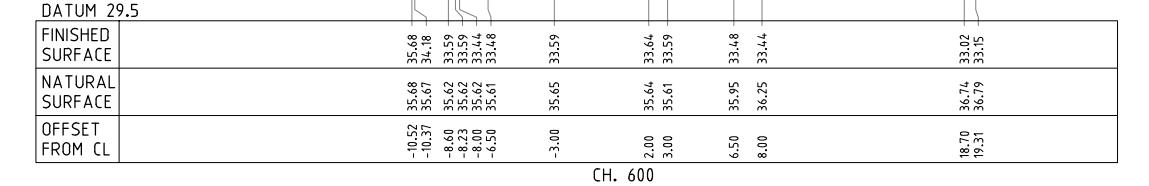
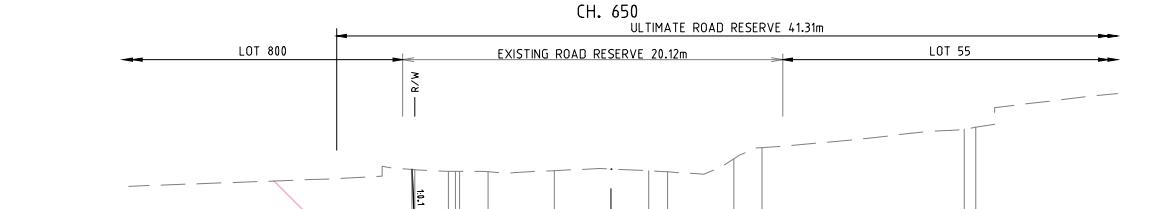
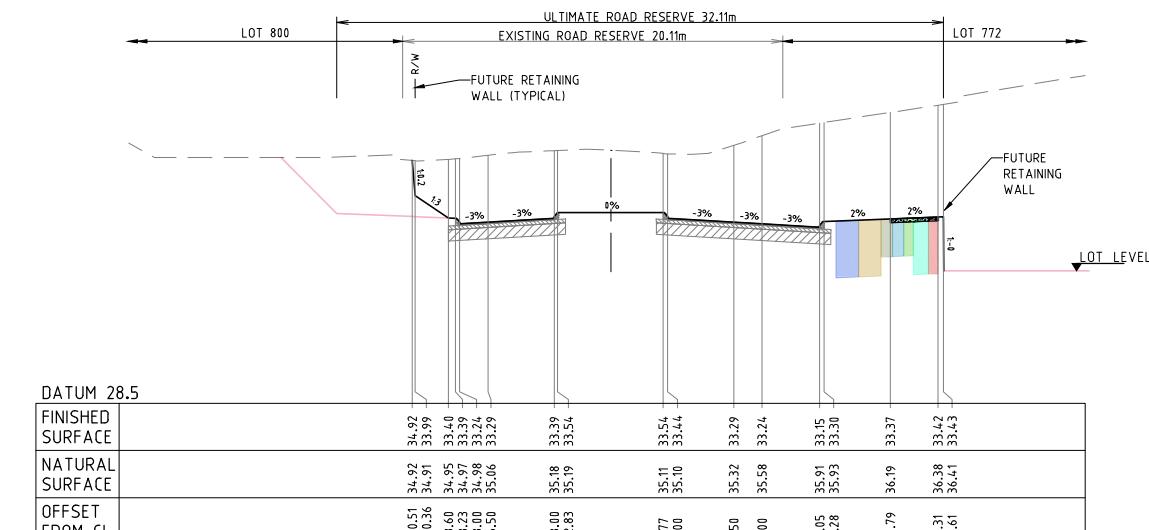
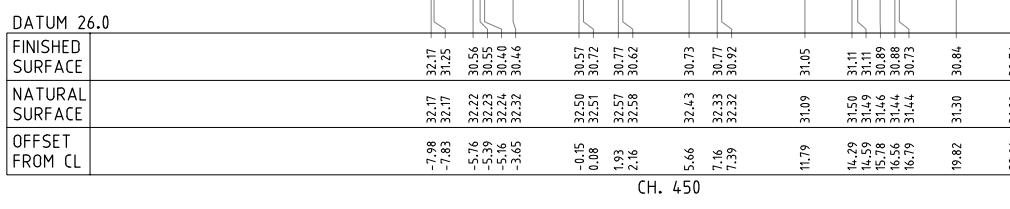
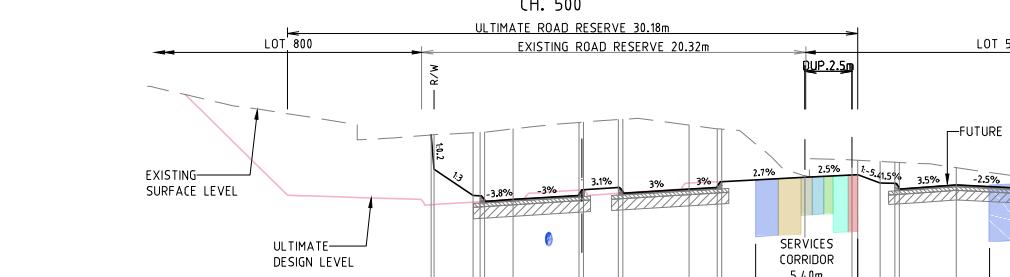
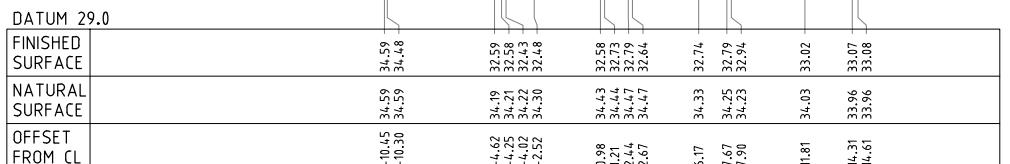
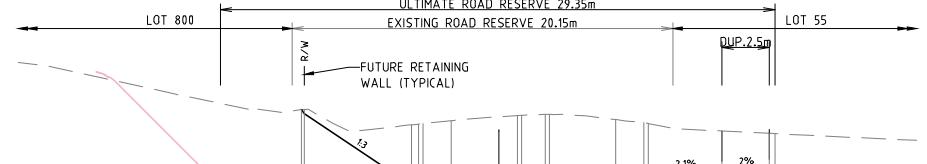
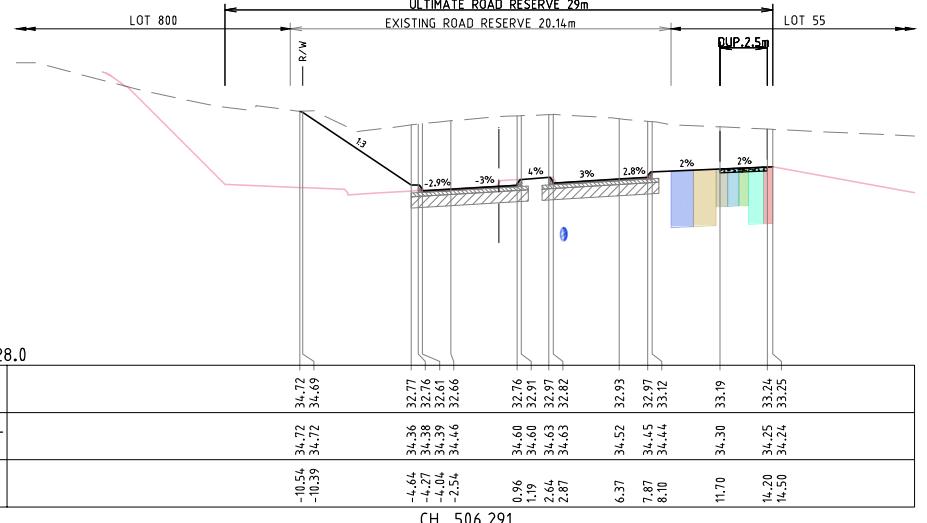
HORZ. 1:1000
VERT. 1:100

[A]

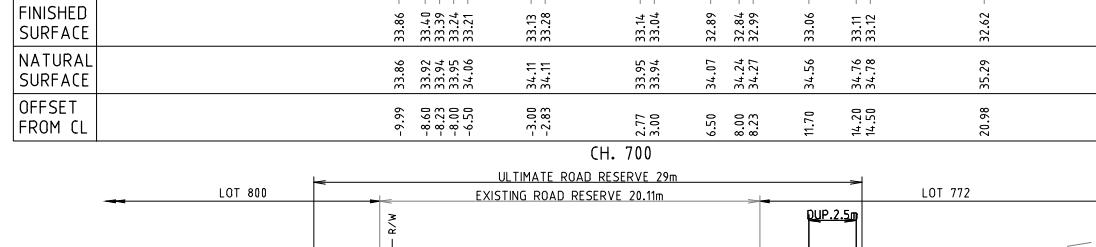
[B]



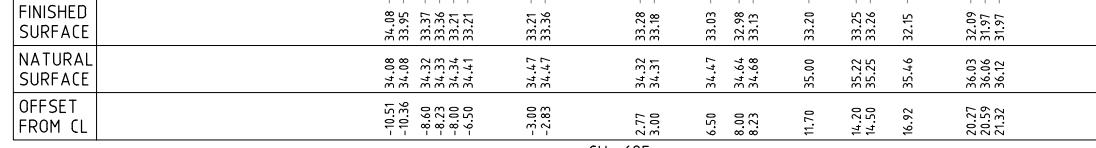




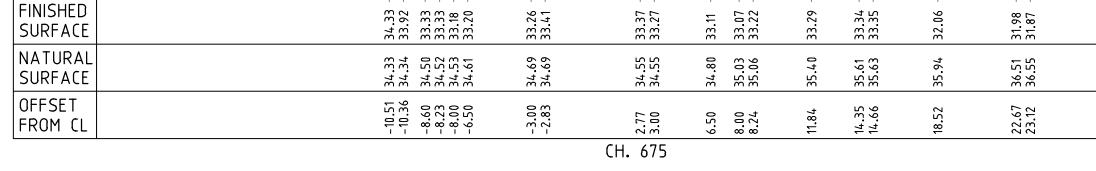
DATUM 28.5



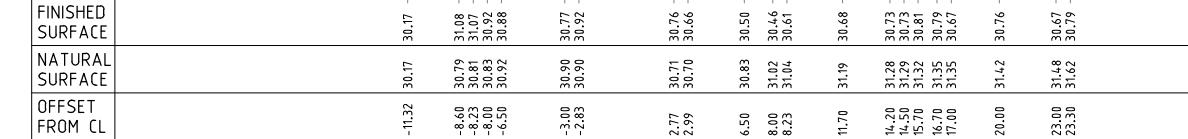
DATUM 28.5



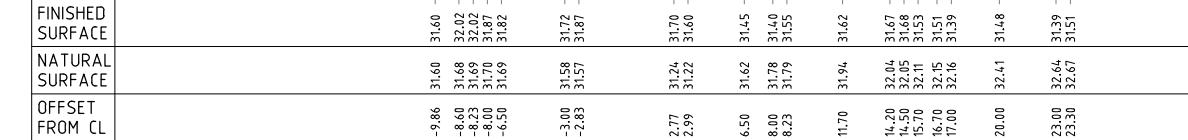
DATUM 28.5



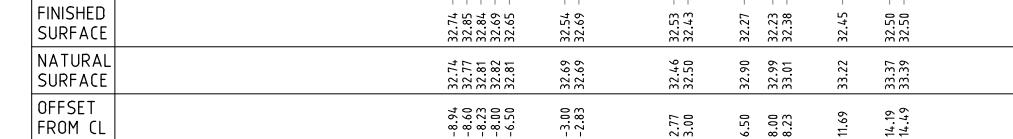
DATUM 26.0



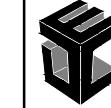
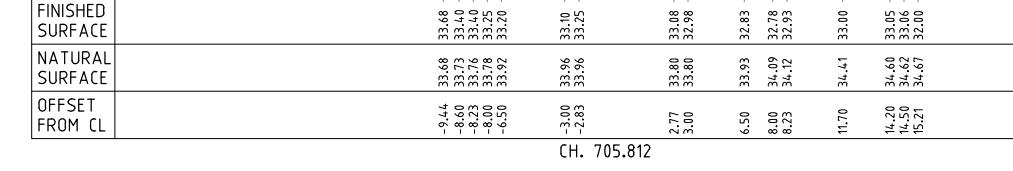
DATUM 26.0

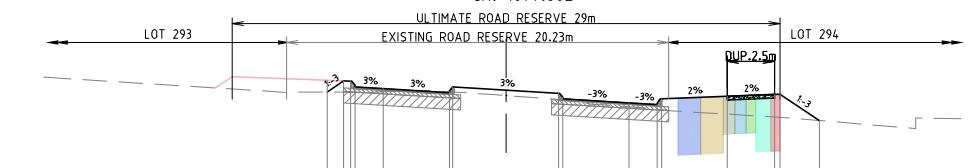
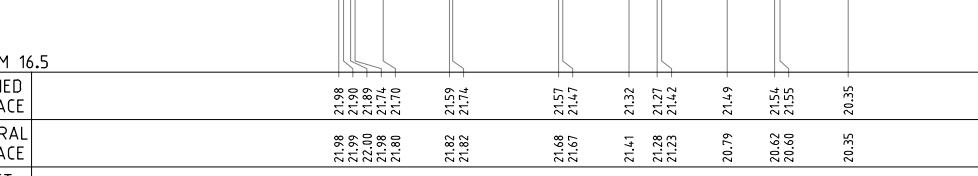
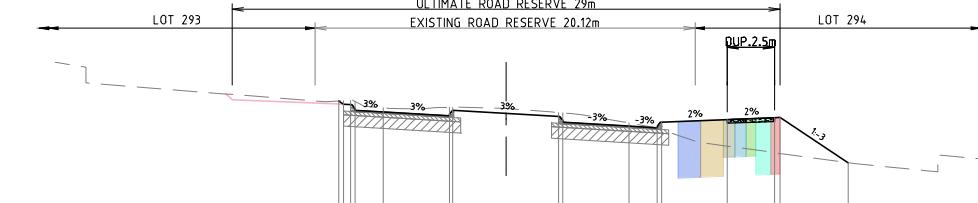
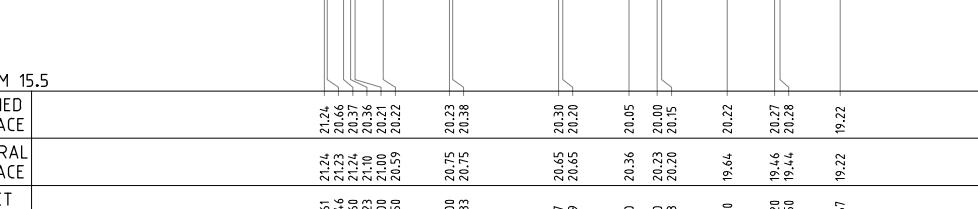
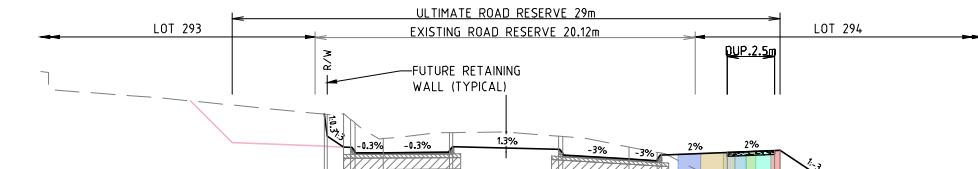
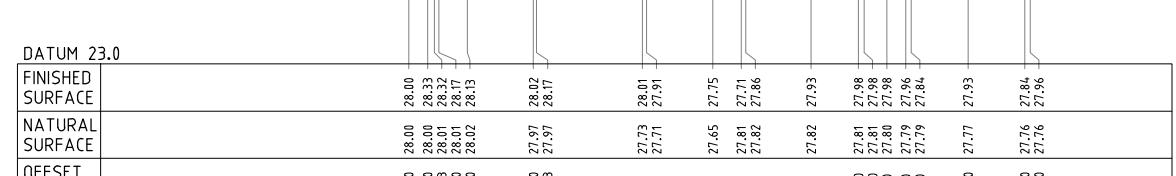
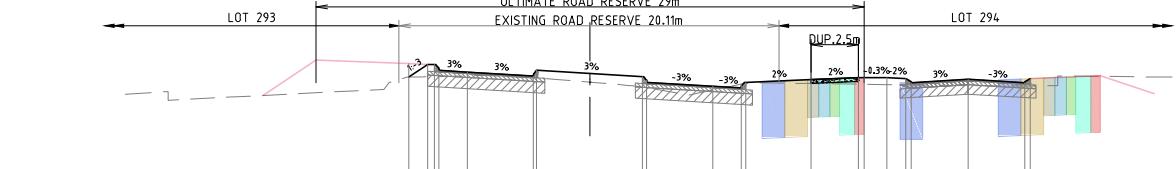
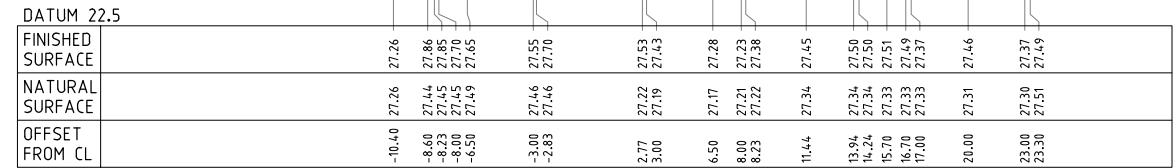
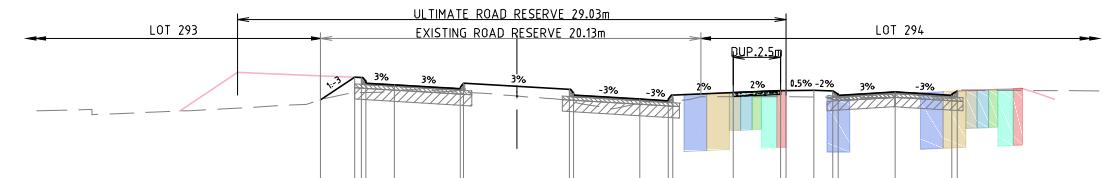


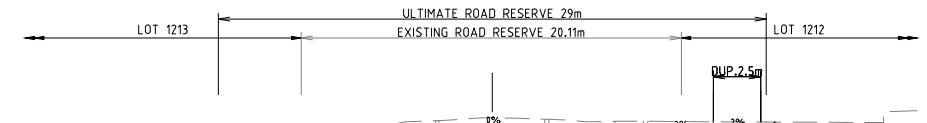
DATUM 27.5



DATUM 28.0



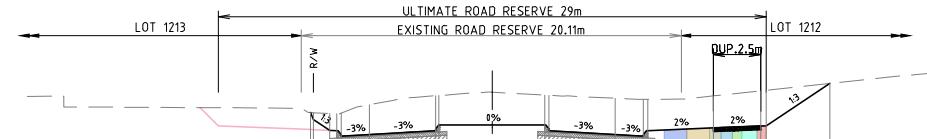




DATUM 3.5

	FINISHED SURFACE	NATURAL SURFACE	OFFSET FROM CL
	-8.40 -8.23 -8.22 -8.26 -8.35 -8.37	8.23 8.25 8.26 8.35 8.37	8.11
	-8.40 -8.23 -8.22 -8.26 -8.35 -8.37	8.23 8.25 8.26 8.35 8.37	8.11
	-3.10 -2.83	8.55 8.55	8.22 8.37

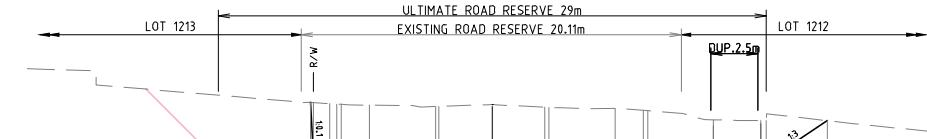
CH. 1300



DATUM 6.5

	FINISHED SURFACE	NATURAL SURFACE	OFFSET FROM CL
	-9.41 -9.46 -9.45 -8.60 -8.23 -8.00 -6.50	11.63 11.63 11.63 11.61 11.60 11.60 11.61	11.45 11.45 11.45 11.45 11.45 11.45 11.45
	-9.41 -9.46 -9.45 -8.60 -8.23 -8.00 -6.50	11.63 11.63 11.63 11.61 11.60 11.60 11.61	11.45 11.45 11.45 11.45 11.45 11.45 11.45
	-3.00 -2.83	12.07 12.08	11.15 11.30

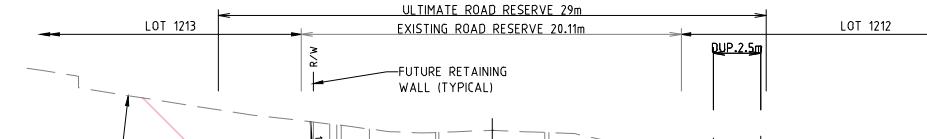
CH. 1250



DATUM 9.5

	FINISHED SURFACE	NATURAL SURFACE	OFFSET FROM CL
	-9.41 -9.46 -9.45 -8.60 -8.23 -8.00 -6.50	15.84 15.84 15.84 15.80 15.79 15.77 14.05	14.45 14.45 14.45 14.45 14.45 14.45 14.45
	-9.41 -9.46 -9.45 -8.60 -8.23 -8.00 -6.50	15.84 15.84 15.84 15.80 15.79 15.77 14.05	14.45 14.45 14.45 14.45 14.45 14.45 14.45
	-3.00 -2.83	15.73 15.74	14.15 14.30

CH. 1200



DATUM 12.5

	FINISHED SURFACE	NATURAL SURFACE	OFFSET FROM CL
	9.61 9.46 9.45 8.60 8.23 8.00 -6.50	18.66 18.65 18.65 17.16 17.15 17.05 17.05	17.30 17.30 17.30 17.29 17.15 17.05 17.05
	9.61 9.46 9.45 8.60 8.23 8.00 -6.50	18.66 18.65 18.65 17.16 17.15 17.05 17.05	17.30 17.30 17.30 17.29 17.15 17.05 17.05
	-3.00 -2.83	18.37 18.37	17.35 17.39

CH. 1150



DATUM 2.0

FINISHED SURFACE

NATURAL SURFACE

OFFSET FROM CL

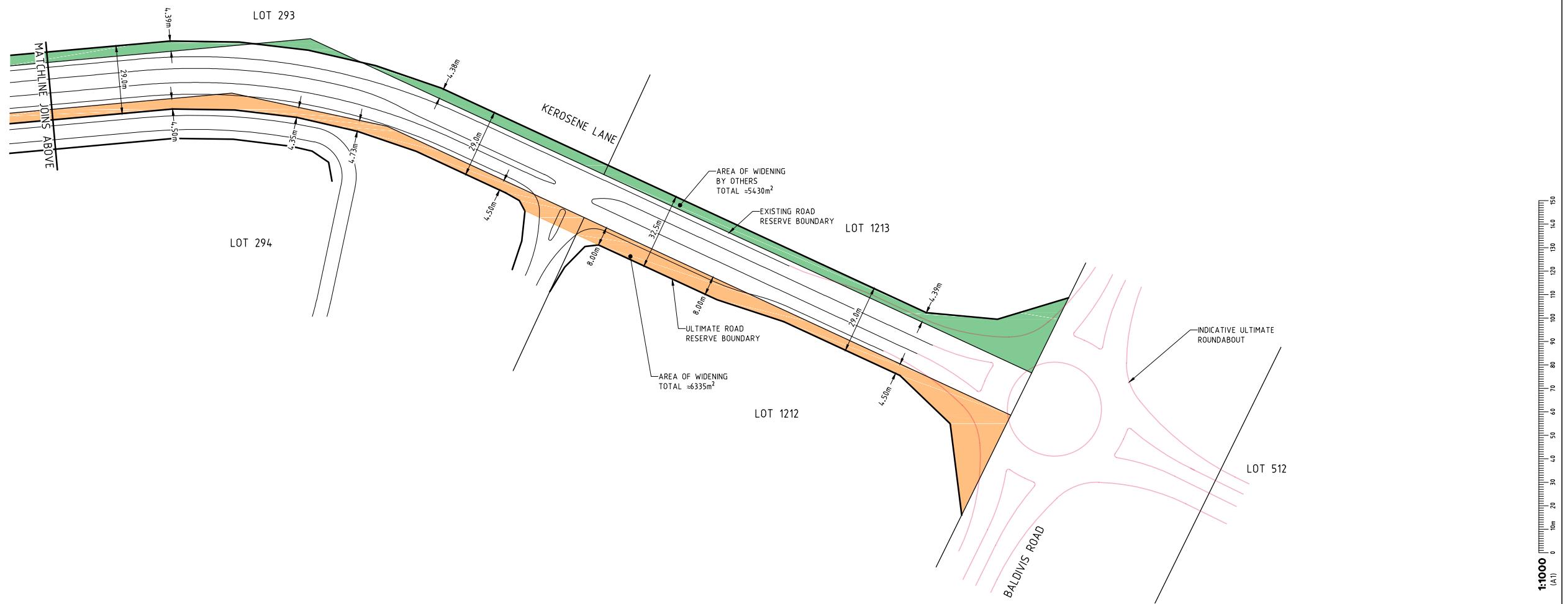
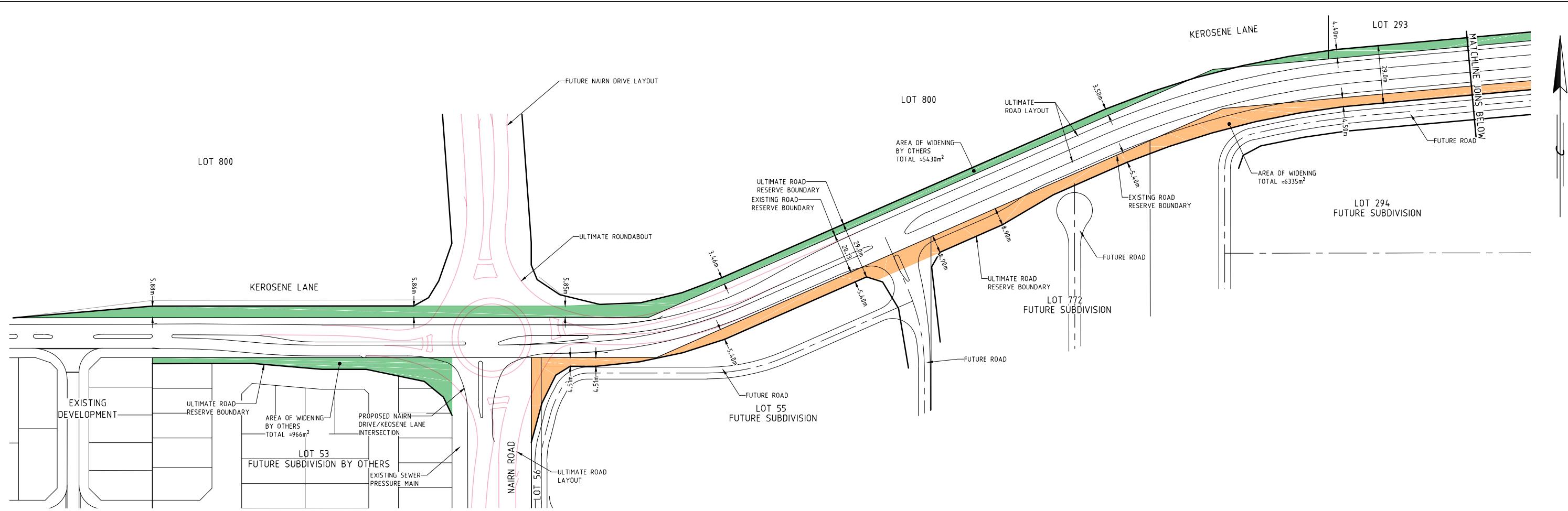
CL

PROJECT: LOT 295 BALDIVIS RD & LOT 294 KEROSENE LANE BALDIVIS
W.A.P.C. No. -

DRAWING: ROADWORKS SKETCH KEROSENE LANE CROSS SECTIONS - SHEET 5 OF 5

CAD DRAWING DO NOT MANUALLY ALTER

SCALE H-1:200,V-1:100
DRAWN WJB CHECK SRA
DATE NOV '17 DESIGNED WJB APPROVED SRA
PROJECT NUMBER BDVCAN80 K08 DRAWING NUMBER
REV No. B



Copyright
This document shall remain the
property of Development Engineering
Consultants Pty. Ltd. The document
may only be used for the purpose
for which it was commissioned &
in the manner specified in the terms
of engagement for the commission.
Unauthorised use of this document
in any way is prohibited.

A 13/03/18 WJB INITIAL ISSUE

No. DATE BY

REVISION

CLIENT:
CARCIONE NOMINEES PTY LTD



**DEVELOPMENT
ENGINEERING
CONSULTANTS**

SUITE 3, 123A COLIN ST,
WEST PERTH, 6005
WESTERN AUSTRALIA
Ph: (08) 9481 1900
Fax: (08) 9481 1700

PROJECT:
**LOT 295 BALDIVIS RD &
LOT 294 KEROSENE LANE
BALDIVIS**

DRAWING:
**SKETCH
KEROSENE LANE, ROAD RESERVE
WIDENING REQUIREMENTS**

SCALE: 1:1000 DRAWN WJB CHECK SRA REV. No.
DATE: MAR '18 DESIGNED WJB APPROVED SRA
PROJECT NUMBER: BDVCAN80 K09 DRAWING NUMBER
BDVCAN80 K09
S:\CAN\BDVCAN80\Drawings\BDVCAN80 K09.dwg 14/03/2018