

## SERVICE REPORT

### The Sixteenth Estate

### 46 Lot Residential Subdivision

### Murray Downs Drive, Murray Downs

**SERVICE REPORT**  
**The Sixteenth Estate**  
**46 Lot Residential Subdivision**  
**Murray Downs Drive, Murray Downs**

HEC No: 21071

Date: 18<sup>th</sup> Oct 2023

Version	Status	Author	Approved By	Release Date
1	FOR SUBMISSION	RH	RH	18.10.2023

This report has been prepared for developers, The Sixteenth Pty Ltd. Heil Engineering Consultants P/L cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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## Introduction

Heil Engineering Consultants P/L have been engaged by The Sixteenth Pty Ltd, to prepare this service report to support the proposed 46 lot residential subdivision located along Murray Downs Drive, Murray Downs, NSW.

The developed land parcel has an area of approximately 4.46 hectares and is located approximately 5 kilometres west of the commercial centre of Swan Hill. The land falls under the jurisdiction of the Murray Shire Council, NSW.

This report provides a general overview of the proposed provision of servicing to the proposed development including sewerage reticulation, potable and raw water reticulation, electricity supply, telecommunications, and stormwater drainage.

Key documents referred to in this report are: -

- Drawings No 21071\_IPP – Refer to Attachment A
- Storm Water Management Plan – Jan 2023, prepared by Heil Engineering Consultants hereon referred to as the '**Storm Water Management Plan**'.

## Sewerage Reticulation

There is an existing sewer rising main and gravity sewer network within Sandpiper Drive. The proposed development will include the construction of a gravity sewer network that will service all lots within the development and will discharge to the existing Sandpiper Drive gravity system. The existing sewer network has adequate depth to service the development.

All sewerage reticulation works will be undertaken to the satisfaction of Murray River Council.

## Potable & Raw Water Reticulation

There is an existing 150mm diameter potable water reticulation main and 150mm raw water main located along Sandpiper Drive, fronting the proposed development site. A 100mm diameter potable and raw water reticulation network will tee off the existing mains from Sandpiper Drive to service the proposed development. Lot 14 will be serviced from the existing water main on the northern side of Murray Downs Drive. All proposed water mains will be sized to the satisfaction of Murray River Council.

## Storm Water Management

The proposed storm water management for the site has been described in detail within the 'Storm Water Management Plan'. Please refer to this documentation for further details.

## Electricity

Essential Energy is the owner of the existing underground assets along Sandpiper Drive, fronting the proposed development. Further discussion with Essential Energy will take place in relation to the construction of suitable supply extensions to service this development. Lot 14 will be serviced from the existing Essential Energy assets on the northern side of Murray Downs Drive.

Costs for the new assets will be in accordance with Essential Energy policy. Costs for low voltage assets, public street lighting and shared trenching with the telecommunication provider are developer funded.

## Telecommunications

There are existing Telstra assets along Sandpiper Drive fronting the proposed development site. Therefore, the option for underground pit and pipe network is available for the development. Alternatively, the developer can nominate wireless NBN (via satellite) for each allotment. Lot 14 can be serviced from the existing Telstra assets on the northern side of Murray Downs Drive or via satellite.

The usual developer shared trenching conditions would apply within the proposed developments (i.e., developer to fund shared trenching).

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## Gas Reticulation

There is existing Elgas infrastructure located along Sandpiper Drive, on the opposite side of the road to the proposed development site. It is expected that supply to the proposed development can be obtained from this gas line although this is subject to confirmation from the service authority. Elgas will be responsible for the provision of gas reticulation throughout the proposed development. Given the recent announcement of the federal government's plan to phase out the use of natural gas, the developer may wish not to service the development with reticulated gas.

## Attachment A - Infrastructure Provisions Plan



CONCEPT  
FOR DISCUSSION  
PURPOSES

NOTE:  
THIS PLAN IS CONCEPTUAL ONLY AND IS  
SUBJECT TO SURVEY AND LIAISON WITH  
COUNCIL AND REFERRAL AUTHORITIES.

LEGEND OF SYMBOLS

POTABLE WATER MAIN

RAW WATER MAIN

TELSTRA LINE

ELECTRICITY

SEWER MAIN

UNDERGROUND "PRIVATE" DRAINAGE ALIGNMENT

MAJOR OVERLAND FLOW PATH (1%AEP)

MINOR OVERLAND FLOW PATH (20%AEP)

PROPOSED

STORMWATER MANAGEMENT - THE SIXTEENTH  
MAJOR STORM EVENT SUMMARY - THE SIXTEENTH

LOTS 1-14:  
MAJOR FLOWS FROM A MAJOR STORM EVENT (1%AEP) THAT ARE IN EXCESS OF THE UNDERGROUND DRAINAGE SYSTEMS CAPACITY (20%AEP) WILL BE SAFELY DIRECTED FROM EACH LOT, TO THE EXISTING MURRAY DOWNS DRIVE ROAD NETWORK, WHERE THE ROAD NETWORK CURRENTLY ACTS AS AN OVERLAND FLOW PATH DIRECTING OVERLAND FLOWS TO THE EXISTING WATER BODY LOCATED ALONG THE SIXTEENTH FAIRWAY.

LOTS 15-28:  
MAJOR FLOWS FROM A MAJOR STORM EVENT (1%AEP) THAT ARE IN EXCESS OF THE UNDERGROUND DRAINAGE SYSTEMS CAPACITY (20%AEP) WILL BE SAFELY DIRECTED FROM EACH LOT, TO THE EXISTING WATER BODY LOCATED ALONG THE SIXTEENTH FAIRWAY VIA THE MURRAY DOWNS GOLF COURSE.

LOTS 29-46 & INTERNAL ROAD NETWORK:  
MAJOR FLOWS FROM A MAJOR STORM EVENT (1%AEP) WILL BE SAFELY DIRECTED FROM EACH LOT, TO THE PROPOSED ROAD NETWORK, WHERE THE ROAD NETWORK WILL BE DESIGNED AS AN OVERLAND FLOW PATH TO SAFELY CONVEY MAJOR OVERLAND FLOWS VIA A PROPOSED OVERLAND FLOW PATH IN LOT 22 TO THE EXISTING WATER BODY LOCATED ALONG THE SIXTEENTH FAIRWAY.

MINOR STORM EVENT SUMMARY - THE SIXTEENTH

THE CONVEYANCE OF STORMWATER FROM EACH LOT TO THE EXISTING WATER BODY ADJACENT TO THE SIXTEENTH FAIRWAY WILL BE VIA CONVENTIONAL UNDERGROUND DRAINAGE PIPES LOCATED WITHIN THE DEVELOPMENTS ROAD RESERVES AND THE REAR OF LOTS. THE PIPES SHALL BE SIZED TO CONVEY A 20% AEP STORM EVENT WITHOUT CREATING NUISANCE FLOWS WITHIN THE ROAD NETWORK. THE UNDERGROUND PIPED SYSTEM WILL DIRECT FLOWS TO THE EXISTING WATER BODY VIA A GROSS POLLUTANT TRAP LOCATED OUTSIDE THE SOUTHERN BOUNDARY OF THE SUBJECT SITE.

LOTS 1-28 WILL DIRECT MINOR FLOWS TO THE PROPOSED UNDERGROUND DRAINAGE AT THE REAR OF EACH BLOCK. WHEREAS, MINOR FLOWS FROM LOTS 29-45 WILL BE DIRECTED TO THE UNDERGROUND DRAINAGE SYSTEM LOCATED WITHIN THE ROAD RESERVE.

GENERAL RESIDENTIAL LAND

LOTS:

= 3.55ha

ROAD RESERVE:

= 0.91ha

TOTAL AREA

= 4.46ha

RETARDATION REQUIREMENT

= 3,185m<sup>3</sup>

WEIGHTED RUNOFF COEFF.

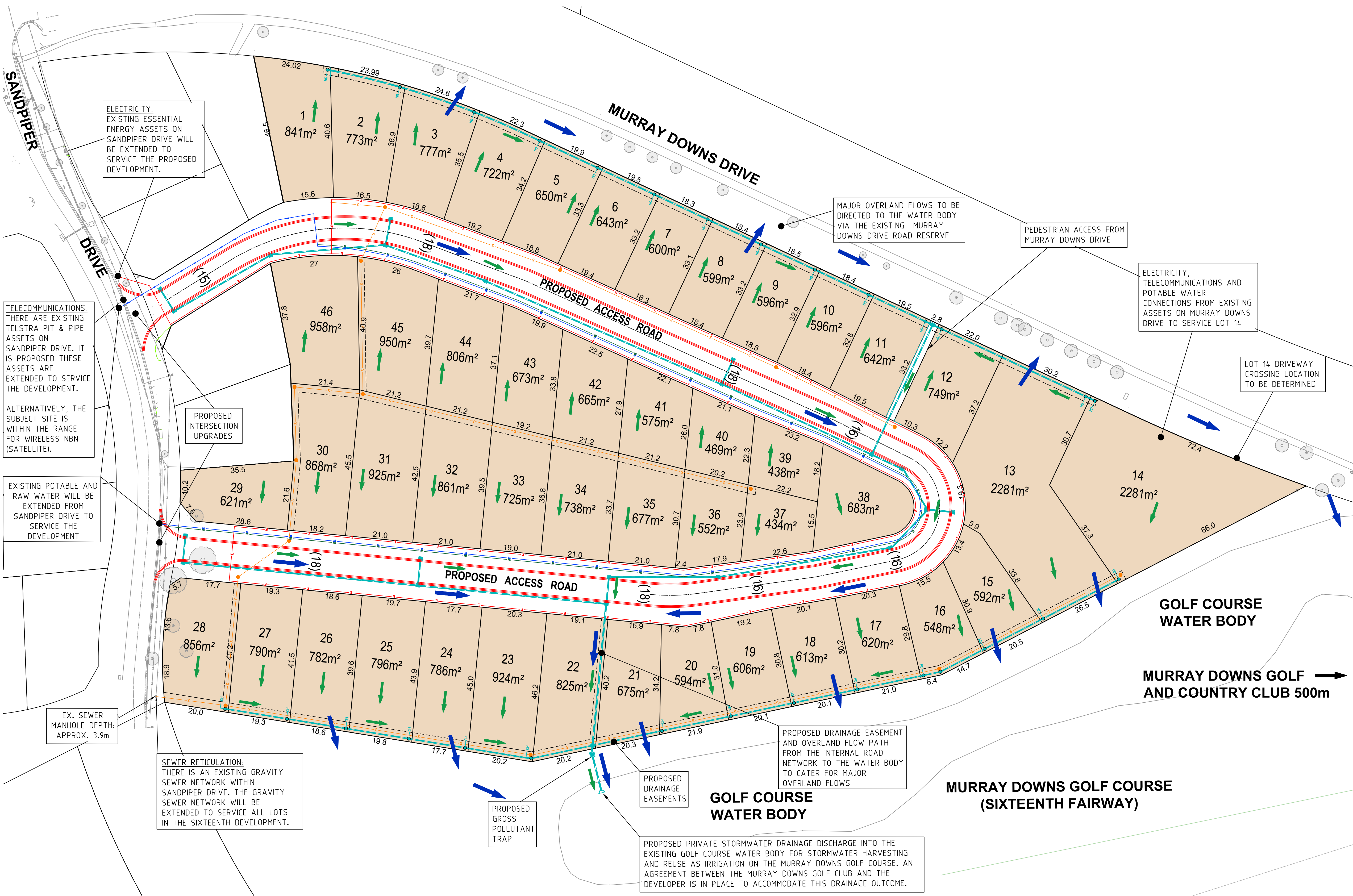
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STORMWATER RETARDATION

THE EXISTING MURRAY DOWNS GOLF COURSE WATER BODY IS UTILISED BY THE MURRAY DOWN GOLF & COUNTRY CLUB AS A IRRIGATION STORAGE AND HAS A FOOTPRINT OF 7900m<sup>2</sup>.

THE DEVELOPER HAS REACHED A PRIVATE AGREEMENT FOR THE PRIVATE DRAINAGE SYSTEM THAT SERVICES THE DEVELOPMENT TO DISCHARGE INTO THE WATER BODY AS PART OF A STORMWATER HARVESTING AND REUSE STRATEGY.

BASED ON THE WATER BODY FOOTPRINT, A 1% AEP WILL RESULT IN A WATER LEVEL INCREASE OF 403mm, WHICH CAN BE COMFORTABLY ACCOMMODATED WITHIN THE EXISTING WATER BODY FREEBOARD (600mm) ABOVE THE OPERATING WATER LEVEL.



INFRASTRUCTURE PROVISIONS & STORMWATER MANAGEMENT PLAN

SCALE: 1:1250

RELEASE DETAILS

NO.	DESCRIPTION	DATE	DOCUMENT STATUS	APP.
C2	CONCEPTUAL LAYOUT PLAN	21.09.23	CONCEPTUAL	RH
C1	CONCEPTUAL LAYOUT PLAN	XX.01.23	CONCEPTUAL	RH

hec

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DESIGNED RH  
DRAWN RH

JAN 23  
JAN 23

0 6.25 12.5 25

Scale 1:1250 (A1)

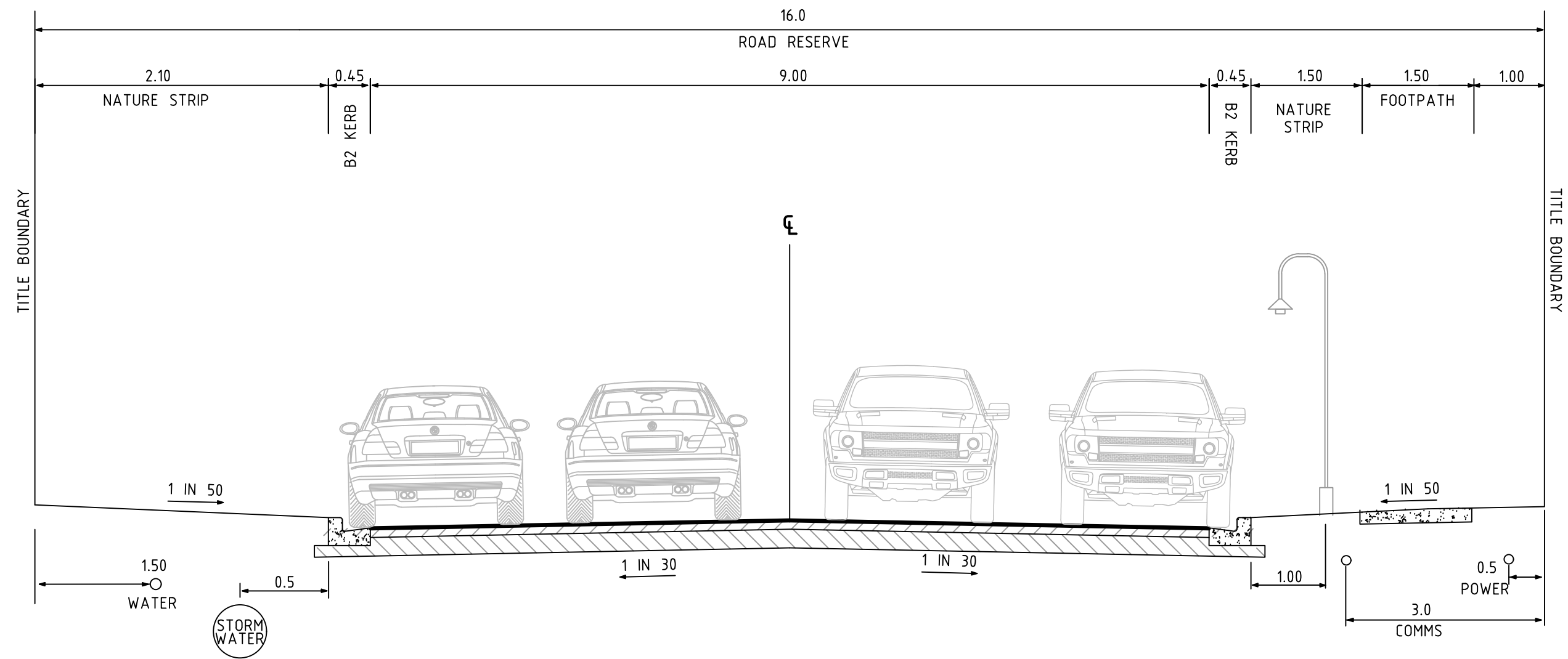
THE SIXTEENTH P/L  
46 LOT RESIDENTIAL SUBDIVISION  
  
MURRAY DOWNS DRIVE  
MURRAY DOWNS, NSW  
**INFRASTRUCTURE PROVISION &  
STORMWATER MANAGEMENT PLAN**

DRAWING NO. 21071\_IPP  
SHEET NO. 1 of 2

REVISION NO. C2  
A1  
CAD: 21071\_IPP.dwg

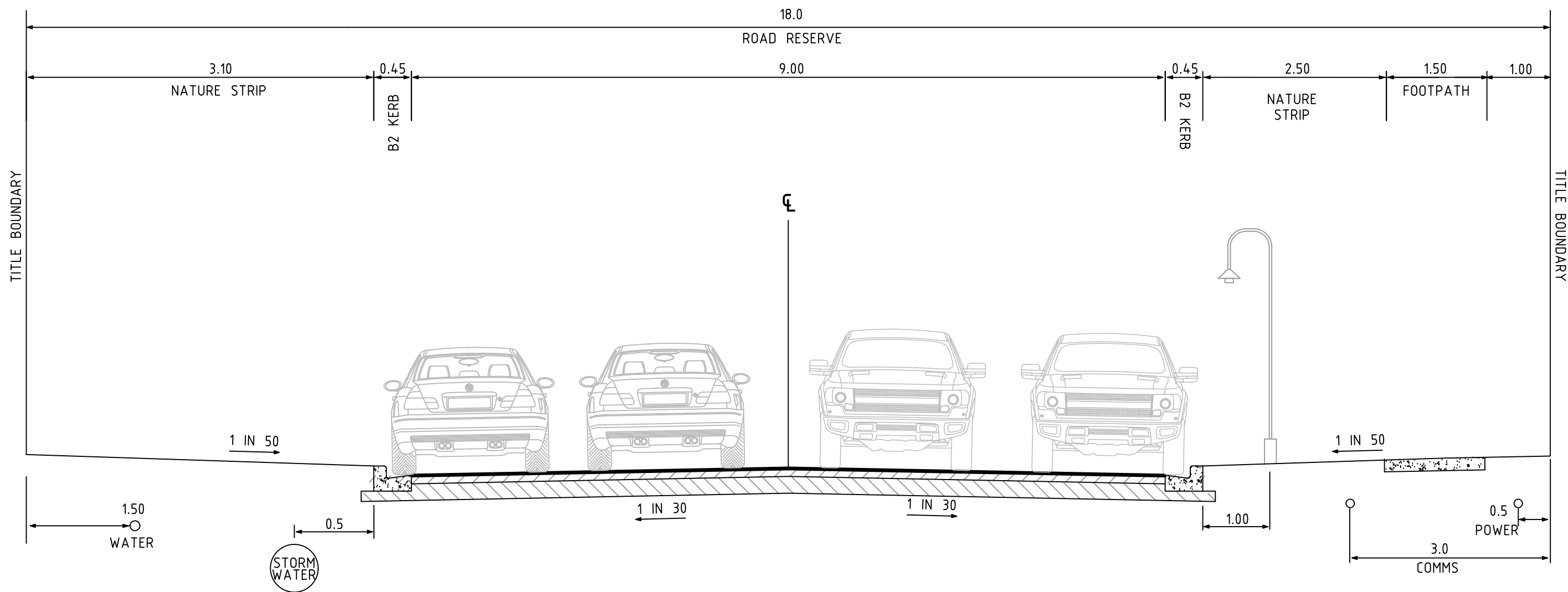


CONCEPT  
FOR DISCUSSION  
PURPOSES



TYPICAL CROSS SECTION (16m WIDE RESERVE)

SCALE: 1:50



TYPICAL CROSS SECTION (18m WIDE RESERVE)

SCALE: 1:50

RELEASE DETAILS

C2	CONCEPTUAL LAYOUT PLAN	21.09.23	CONCEPTUAL	RH
C1	CONCEPTUAL LAYOUT PLAN	14.09.23	CONCEPTUAL	RH
NO.	DESCRIPTION	DATE	DOCUMENT STATUS	APP.

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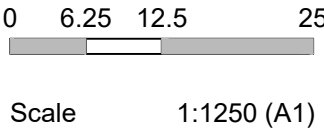
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DESIGNED RH JAN 23

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THE SIXTEENTH P/L  
46 LOT RESIDENTIAL SUBDIVISION  
MURRAY DOWNS DRIVE  
MURRAY DOWNS, NSW

INFRASTRUCTURE PROVISIONS PLAN

DRAWING NO. 21071\_IPP  
SHEET NO. 2 of 2

REVISION NO. C2  
A1  
CAD: 21071\_IPP.dwg