

APA Technical Note - Western Outer Ring Main - Environment Effects Statement

TECHNICAL NOTE NUMBER: TN28

DATE: 22 September 2021

SUBJECT: Locations Classes in relation to the following technical reports:
EES Technical Report M: Safety
EES Technical Report K: Land Use

SUMMARY Response to Inquiry RFI #113, #114, #115

REQUEST:

113. Provide a map/s showing the SMS location classes.

114. Confirm the pipeline construction standard/s that will be applied and provide a map/s showing where different standards will be applied.

115. Explain how the location classes have determined pipeline design/construction standards and the extent of the area of consequence/notification area.

ATTACHMENTS: Map Figures:

- Annexure 1 - WPT – Map_L-0190 Rev 7 Location Class, AoC and Measurement Length (Rev 2)
- Annexure 2 – WPT - Map_L-0189 Rev 10 Location Class, AoC and Measurement Length (Rev 2)

NOTE:

Background

- 1 As part of the APA Western Outer Ring Main (WORM) project, Technical Report M *Safety* was developed for APA as a part of the Environmental Effects Statement (EES) which included information from the Safety Management Study developed for the project.
- 2 During the exhibition of the EES, the WORM design has progressed as set out in Technical Note 08 and 18. The design changes and their potential effect for the assessment undertaken as a part of Technical Report M *Safety* is summarised in Technical Note 18.
- 3 This Technical Note should be read in conjunction with EES Technical Report M *Safety* and Chapter 17 *Safety* of the WORM EES and Technical Notes 08, 13 & 18.
- 4 This Technical Note addresses RFI's 113-115.

RFI 113: Provide a map/s showing the SMS location classes

- 5 The following attachments provide information on the location classes using the SMS developed for the project.

- WPT – Map_L-0190 Rev 7 Location Class Rev 2– Provides an overview of the location class and measurement length for the alignment based on Revision 7, submitted as part of the EES. (Annexure 1)
 - WPT – Map_L-0189 Rev 10 Location Class –Rev 2 – Provides an overview of the location class and measurement length for the current Revision 10 alignment. (Annexure 2)
- 6 This information is also included in the ArcGIS mapping tool as layers ‘WORM Rev 7 Proposed Pipeline Location Class’ and ‘WORM Rev 10 Proposed Pipeline Location Class’
- 7 The lengths of each location class along the Rev 10 alignment is summarised in Table 1. The equivalent table for Rev 7 is included as Section 9.1 Table 8 in Technical Report M Safety.

Table 1: Summary of Location Class – Revision 10 alignment

<i>Location Class</i>	<i>Approximate Total length (km)</i>	<i>% of Total Pipeline</i>
R1	16.2	31.8
R2	3.8	7.5
R2/CIC	0.7	1.3
T1	17.3	34.0
T1/CIC	5.4	10.6
T1/S	5.8	11.4
T1/S/C	0.7	1.4
T1/S/CIC	1.1	2.1
Total	51.009	100

RFI 114: Confirm the pipeline construction standard/s that will be applied and provide a map/s showing the different standards will be applied.

- 8 The WORM pipeline is designed to meet the AS2885 standards for each Location Classification. The maps attached in Annexure 1 and 2 in this Technical Note show the location classes relevant for the Project. Construction standards are discussed in further detail in RFI 115 below.

RFI 115: Explain how the location classes have determined pipeline design/construction standards and the extent of the area of consequence/notification area

Location Class and design standards

- 9 Location Class determines the standard to which the pipeline must be designed, constructed and operated. The Location Classes were determined for the project based on current and reasonably foreseeable land use within the measurement length of the pipeline. This involved an analysis based on the land use permitted in the legislation, regulations, planning scheme or equivalent applicable to the land in question. An investigation was undertaken to identify all reasonably anticipated change in land use along the route over the design life of the pipeline.

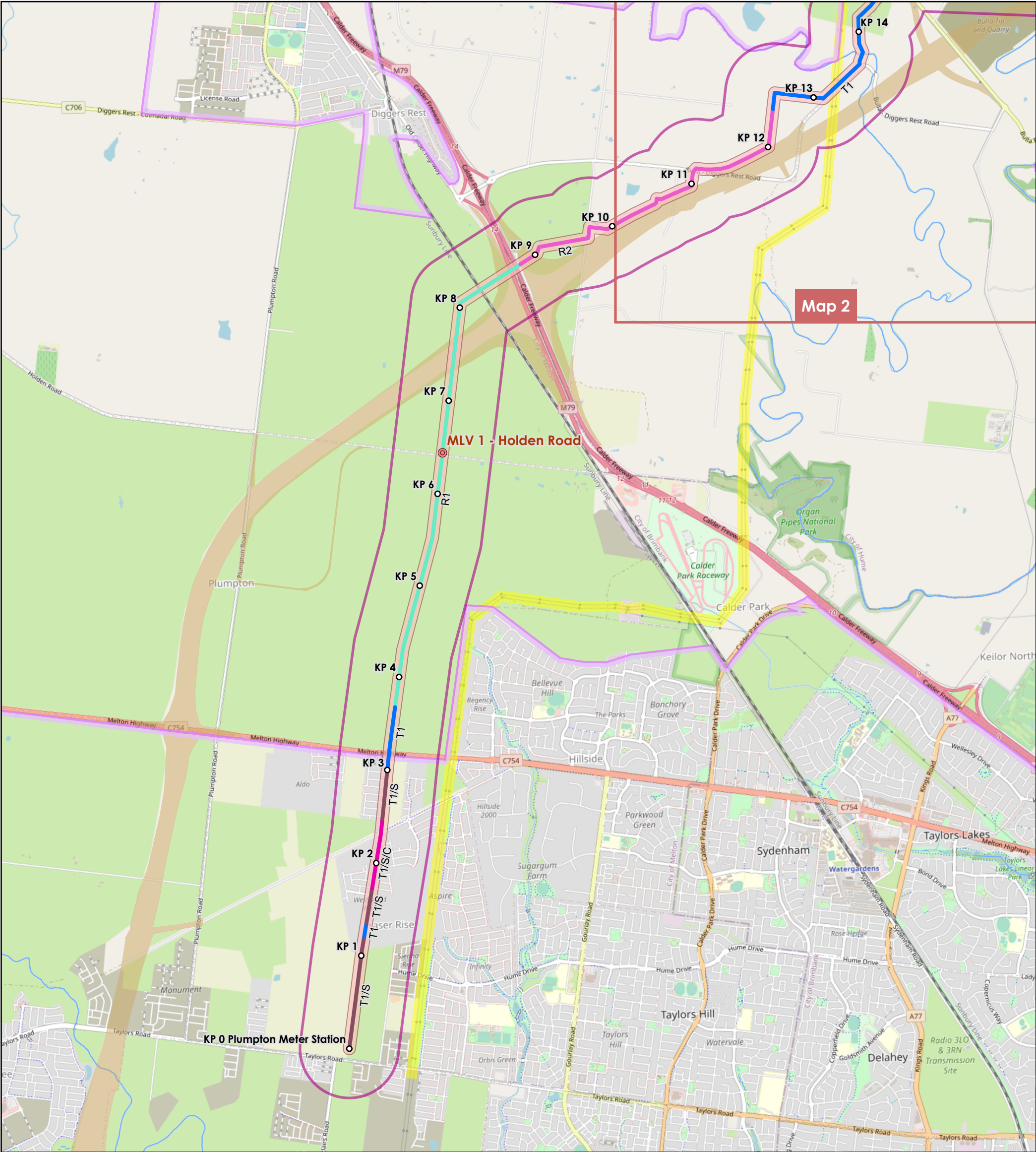
- 10 Where the extent of the anticipated land use change can reasonably be determined, the pipeline Location Classes selected was based on the most demanding of the current and anticipated land uses. Location Classes are summarised in Table 1 above for the Project.
- 11 In areas where the pipeline is to be constructed to “T1 – Residential standard the following is a sample of additional requirements that apply when compared to R1:
 - More stringent leak testing (in addition to the rigorous testing required for all testing by AS2885) would be required along the alignment.
 - Marker posts (warning signs) would need to be installed and maintained in all areas at a spacing that is intended for a residential area.
 - Pipeline protection patrols are performed on the ground by vehicle with a frequency consistent with other areas of Melbourne that are deemed ‘T1 – Residential’ in accordance with the accepted Safety Case
- 12 In areas where the pipeline is to be constructed to “R1/R2 – Rural/Rural residential standard as defined in AS/NZ 2885 the following changes are observed compared to T1 areas:
 - Marker posts (warning signs) are installed and maintained at a greater spacing that is intended for a residential area.
 - Pipeline protection patrols are performed by air patrol where possible with a frequency consistent with other areas of Victoria that are deemed ‘R1 – Rural’ in accordance with the accepted Safety Case
 - The installed depth of cover of the pipeline has been reduced where threat assessment permits however minimums are applied in accordance with AS2885 and Design Basis Manual (Table 18) included in the Pipeline Licence Application – Attachment 5.
- 13 The maintenance strategies for various pipeline components do not change with location classification for the WORM pipeline. For example cathodic protection, inline inspection, valve maintenance, safety systems and electrical inspections.
- 14 Please refer to the attached maps in Annexure 1 and 2 for further information.

Location class and extent of the Area of Consequence (AoC)

- 15 An event resulting in the full loss of containment (a full bore rupture) is not considered to be a credible scenario. In this circumstance, the worst case scenario is a puncture. In a similar way to establishing the ML for a full bore rupture, an assessment is done on the worst case credible puncture size, gas escaping and igniting.
- 16 The area potentially impacted in this scenario is known as the Area of Consequence and is typically significantly smaller than the ML. The Area of Consequence for the WORM pipeline has been determined to be 65 metres each side of the pipeline.
- 17 Location classes have no impact on the Area of Consequence.
- 18 The Notification Area is the area, within which APA requests notification of any proposed Sensitive Uses (as defined in AS2885) so that APA can assess whether they are compatible with the pipeline design. The Notification Area is the same as the Area of Consequence (65 metres) and is similarly unaffected by Location Class.

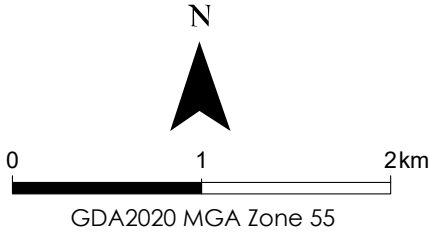
Annexure 1 - Map Figures

Maps 1 – 4 showing Rev 7 Location Class, AoC and Measurement Length.



MAP DETAILS

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AUTHOR: ST **DATE:** 14/09/2021
DOCUMENT #: WPT.2373-MAP-L-0205.01_1_IFU
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Service Layer Credits: OpenStreetMap: © OpenStreetMap (and) contributors, CC-BY-SA
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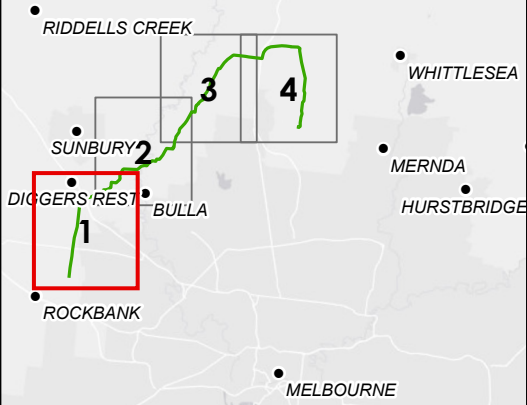


LEGEND

- Proposed Main Line Valve (MLV) Locations
- Western Outer Ring Main - Rev 7 Pipeline
- Kilometre Points
- HV Powerline Easement
- Outer Metropolitan Ring Road (OMR) Public Acquisition Overlay
- Urban Growth Boundary
- Neighbouring Map

- Measure (DN500 Pipeline)**
- 526m Measurement Length
 - 65m Area of Consequence
- Rev 7 Pipeline Location Class (DN500 Pipeline)**
- R1 - Rural
 - R2 - Rural Residential
 - T1 - Residential
 - T1/S - Residential/Sensitive
 - T1/S/C - Residential/Sensitive/Crowd

OVERVIEW



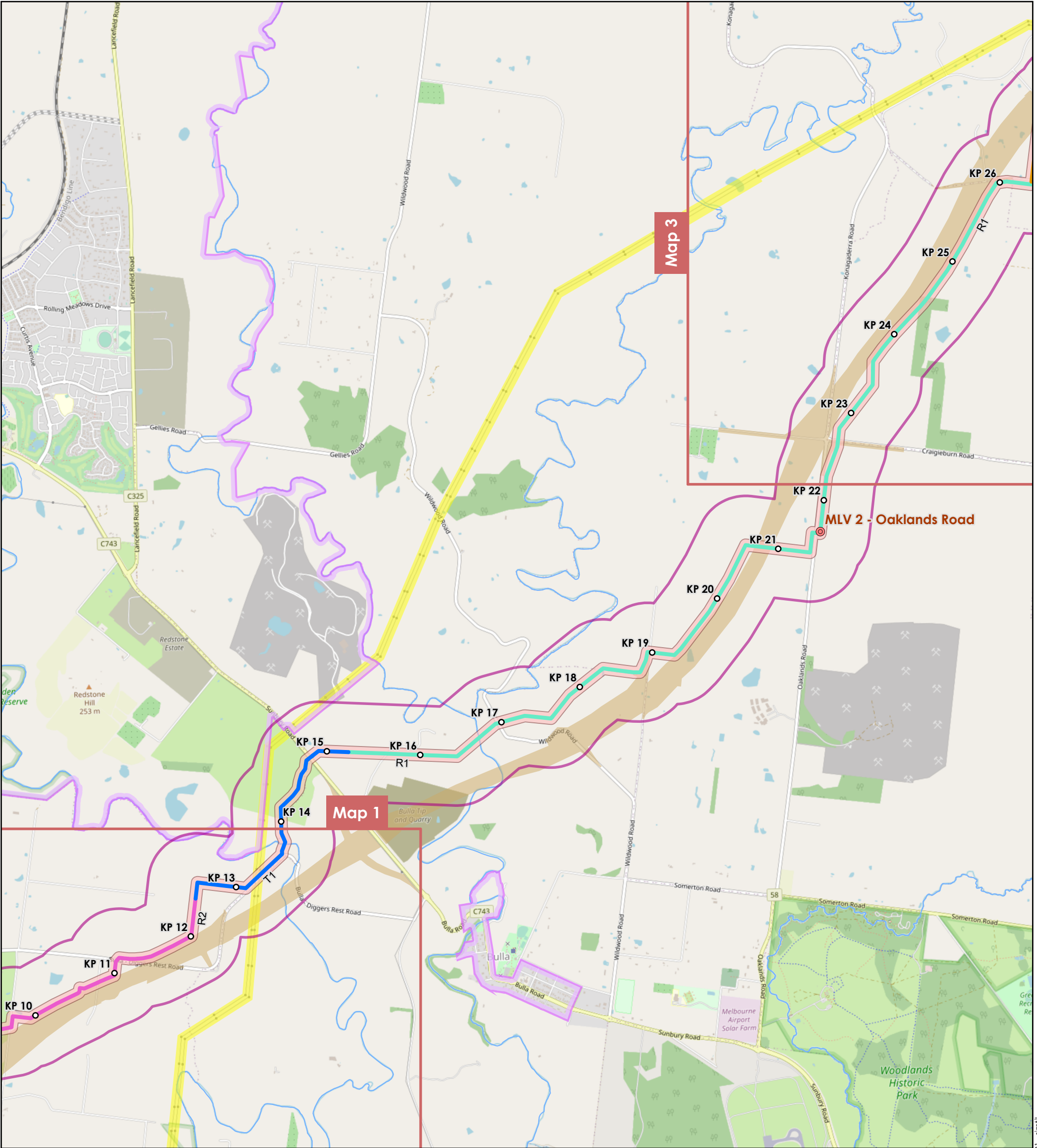
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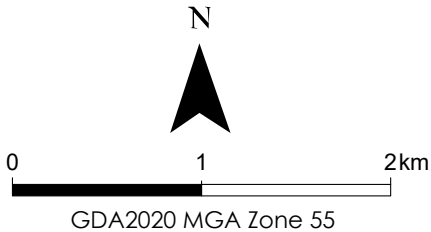
Western Outer Ring Main – Rev 7 Measurement Length, Area of Consequence & Location Class - Map 1

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MAP DETAILS

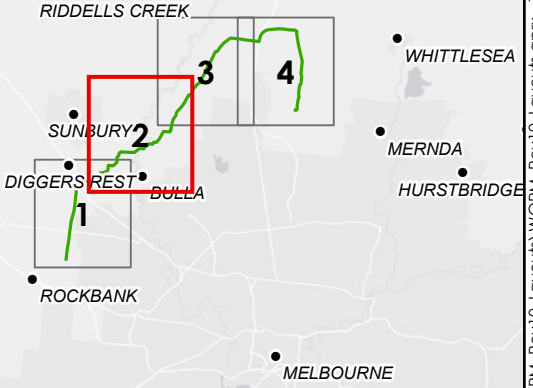
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 - R2/CIC - Rural Residential/Common Infrastructure Corridor
 - T1 - Residential

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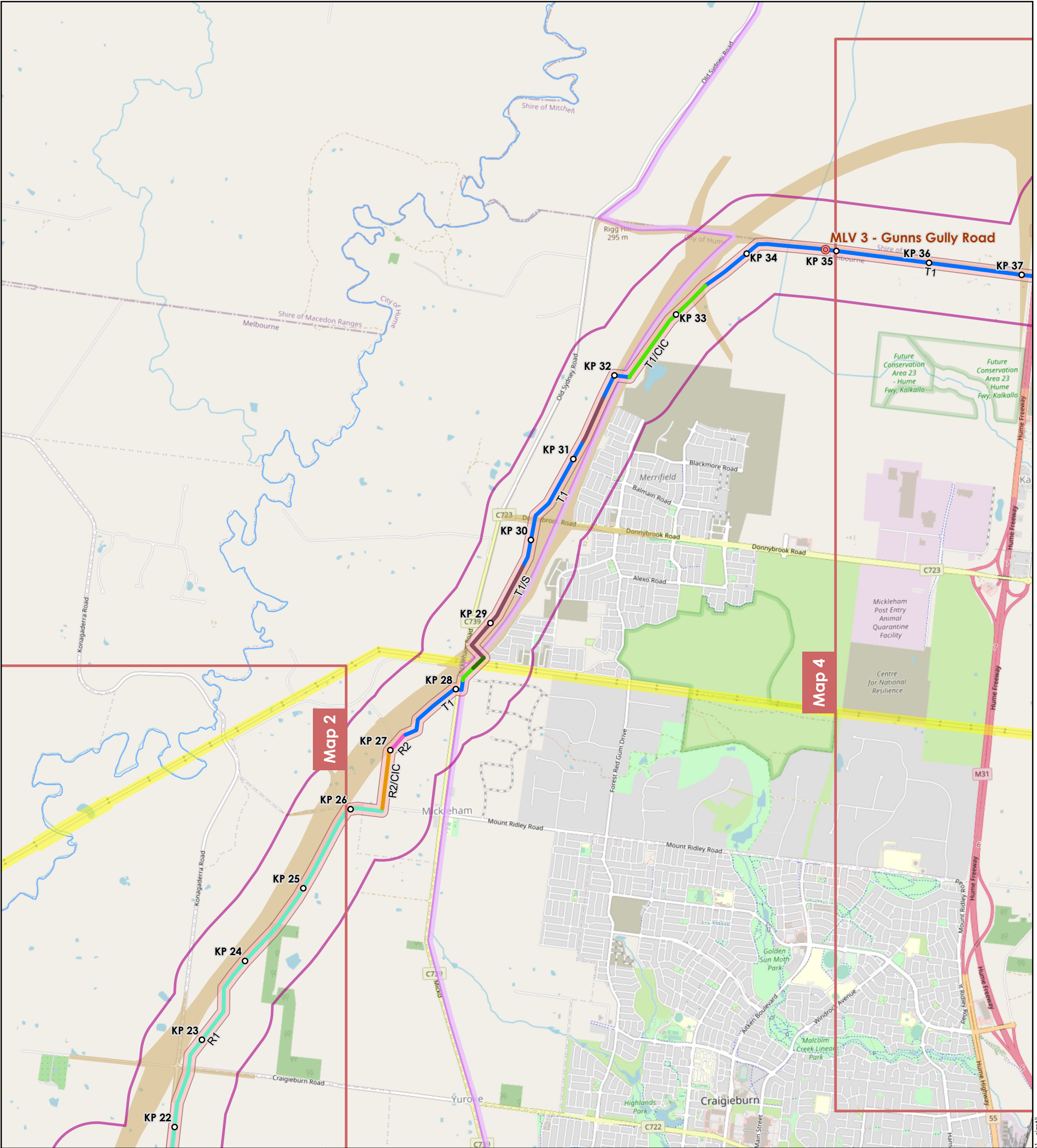
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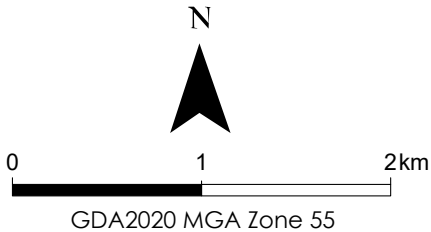
Western Outer Ring Main – Rev 7 Measurement Length, Area of Consequence & Location Class - Map 2

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MAP DETAILS

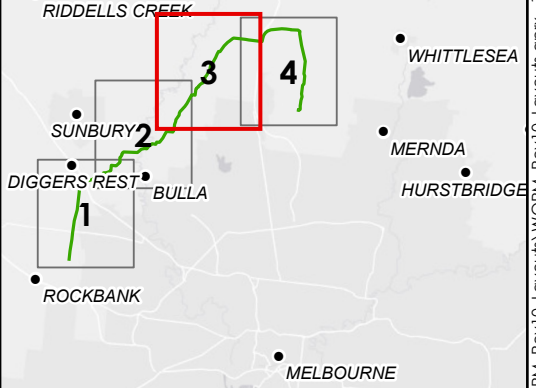
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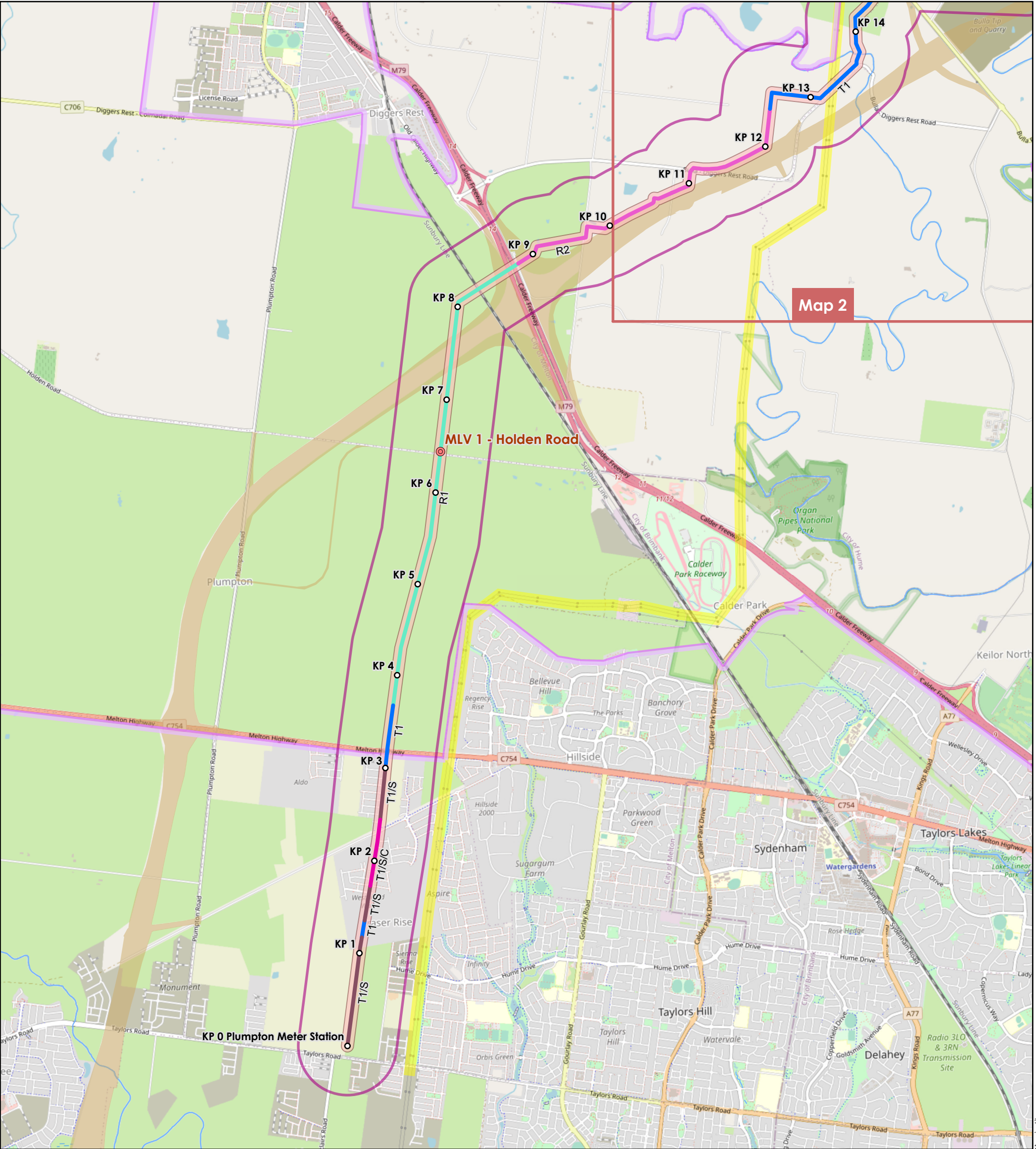


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Western Outer Ring Main – Rev 7 Measurement Length, Area of Consequence & Location Class - Map 3

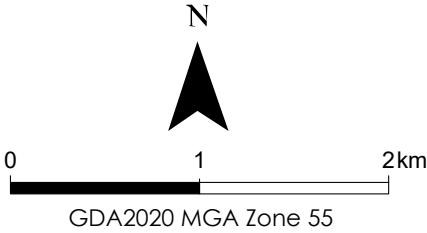
Annexure 2 - Map Figures

Maps 1 – 4 showing Rev 10 Location Class, AoC and Measurement Length



MAP DETAILS

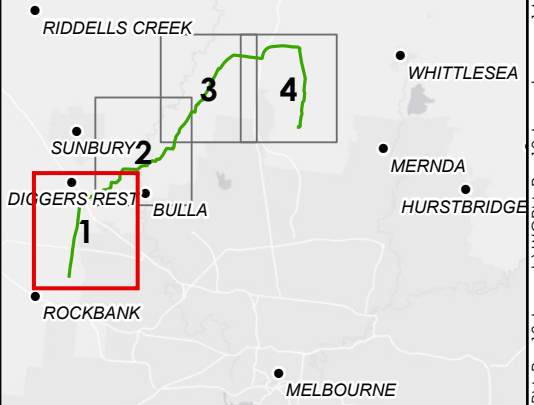
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Western Outer Ring Main – Rev 10 Measurement Length, Area of Consequence & Location Class - Map 1

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