

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

**TECHNICAL NOTE NUMBER:** TN29

**DATE:** 22 September 2021

**SUBJECT:** Response to Inquiry RFI # 4, 7, 8, 16, 17, 35, 38, 47, and 87.

**SUMMARY** This Technical Note provides responses to the request for information queries raised in relation to the pipeline design.

**REQUEST:**

4. Explain the reference to the possible future use of the pipeline for the transport of hydrogen. (Section 3)

7. Provide an update on the selection of access options and project construction laydown and pipe stockpiling areas.

8. Clarify the maximum depth of micro-tunnelling proposed for the Project.

16. Confirm the location of the construction corridor in relation to waterway no. 20 (Merri Creek tributary). Technical Report C, Table 5-1 indicates a perpendicular crossing whereas the Map Book shows a skewed/longitudinal crossing.

17. Explain the rationale for the angle of crossing of a tributary of Merri Creek on Map 41 of 50.

35. Explain whether there are potential alternative crossing locations for Jacksons Creek that would be more suitable for trenchless construction.

38. Explain the rationale for siting the pipeline corridor immediately north of Jacksons Creek in the valley of tributary waterway No. 8 (with multiple crossings of waterway No. 8) rather than on an adjacent slope.

47. Explain why the construction corridor as shown in the Map Book is widened at the following locations that are close to waterways, and the implications of the wider construction corridor for the waterways:

- KP 1 – waterway no. 1 – widened segment of construction corridor overlaps waterway
- KP 8.36 – waterway no. 3 – widened segment of construction corridor at western bank of Tame St Drain
- KP 11.7 – waterway no. 6 – widened segment of construction corridor at waterway crossing.

87. Explain whether the assumed 60-year project life is the life of the pipeline infrastructure or the life of it delivering gas.

**ATTACHMENTS** N/A

**NOTE:**

**RFI Item 4 - Explain the reference to the possible future use of the pipeline for the transport of hydrogen (Section 3)**

- 1 The May 2021 Victorian Climate Change Strategy includes a five-point plan to cut emissions and developing a local renewable hydrogen industry is part of the innovation pathway.
- 2 Renewable gas refers to a range of renewable fuels that may be used to complement or replace natural gas in the future. These include hydrogen, methane and biogas. Research and development of renewable gas technologies is in its early stages in Australia.
- 3 APA is exploring the potential of renewable methane as a future replacement for natural gas in existing pipelines in Australia; having commenced a pilot project in early 2020 with support from the Australian Renewable Energy Agency (ARENA).
- 4 Australia also has one of the most extensive interconnected gas infrastructure networks in the world, with an expert workforce supporting it. Many of Victoria's pipelines have decades left of service and pipelines can also have their design life extended with modern integrity measures such as pigging and recoating. It therefore makes sense for Australia to explore the opportunities to repurpose this existing infrastructure to support the transition to a low carbon economy.
- 5 Due to the interconnected nature of the Victorian Transmission System, gas is likely to traverse many pipelines seasonally and intra-day. If hydrogen is ever injected into the VTS, it is very likely that hydrogen would be distributed via the WORM.
- 6 For these reasons, it is possible that the WORM may be used in the future to transport hydrogen. The WORM has therefore been designed to be capable of transporting hydrogen. However, it is noted that many domestic appliances are not currently capable of operating with hydrogen.
- 7 Refer also to the evidence of Mr Jim Snow.

**RFI Item 7 – Provide an update on the selection of access options and project construction laydown and pipe stockpiling areas**

- 8 A site in the Laverton North industrial area is being considered for the pipe laydown area. Discussions are ongoing with the landlord and are currently confidential. The site would be used for delivery and collection of pipes to be taken to the construction corridor. It is expected that there would be a maximum of 20 people at the site at any time. The delivery period will be over a period of 2-3 months.
- 9 The contractor will also be required to find a further site for laydown and site office purposes. The site is expected to be proximate to the Western Ring Road to enable efficient delivery to the construction corridor via major arterial roads. This site would cater to the peak workforce of 280 over a period of 4 months during the pipeline stringing and installation of the pipeline. The Wollert Compressor Station site will be the third site used for laydown and stockpiling.
- 10 The traffic impacts of the use of these sites for these purposes is considered in the traffic evidence of Ms Charmaine Dunstan.

**RFI Item 8 – Clarify the maximum depth of micro-tunnelling proposed for the Project**

- 11 The maximum depth proposed for micro-tunnelling is approximately 4.37 metres based on the crossing design at the two railway crossings.

**RFI Item 16 – Confirm the location of the construction corridor at Merri Creek tributary**

- 12 The crossing of waterway no. 20 (Merri Creek tributary) will be non-perpendicular (skewed), as shown in the EES Mapbook.
- 13 Technical Report C, Table 5-1 incorrectly indicated a perpendicular crossing.

**RFI Item 17 – Explain the rationale for the angle of crossing of a tributary of Merri Creek on Map 41 of 50**

- 14 The pipeline alignment between KP 37 and KP 42 have been designed to minimise interface between the WORM pipeline and the Outer Metropolitan Ring (OMR) corridor, as requested by the Department of Transport (DoT). This means a perpendicular crossing of the tributary to the north is not possible as it would require the pipeline to be located further within the OMR corridor.
- 15 A pipeline alignment further south would impact proposed land use within private property.

**RFI Item 35 – Explain whether there are potential alternative crossing locations for Jacksons Creek that would be more suitable for trenchless construction**

- 16 APA has previously investigated potential alternative crossing locations for Jacksons Creek where trenchless crossing may be more feasible. From this assessment, it was determined that similar constraints on the ability to utilise trenchless construction techniques were apparent at alternative locations. Within 10 metres of either side of the current crossing location, it was assessed that there are similar geology and construction constraints. This includes the requirements for the drill length, risk of hydrofracture associated with horizontal directional drilling (HDD), and additional construction footprint for pipe stringing, and is discussed in Table 3-5 of EES Chapter 3 *Project development and alternatives*.
- 17 Potential alternative crossing locations that were considered would have also had additional impacts to other landowners and properties, with potential additional effects on biodiversity.
- 18 To relocate the pipeline crossing further than 10 metres either side of the pipeline would require a complete realignment of the Project. This would have significant impacts to adjacent property owners, construction footprint with potential flow on effects for biodiversity.
- 19 In addition to the above, it is noted that several route options were considered during the early development phases of the Project. This involved using a multi-criteria analysis to identify the preferred alignment for satisfying key criteria which the Project weighted with the greatest importance, being environment and heritage; community; and land considerations. The current alignment was selected as it avoids environmental impacts to the greatest extent possible and minimises the requirement for land tenure near sensitive land uses. Changing the alignment is thus likely to increase the overall impact of the Project to environment, heritage, community and land. The route selection process is detailed in Chapter 3 *Project development and alternatives* of the EES.

**RFI Item 38 – Explain the rationale for siting the pipeline corridor immediately north of Jacksons Creek rather than on an adjacent slope**

- 20 APA has previously considered siting the pipeline further to the east (directly north of Jacksons Creek) on the adjacent slope, however, this option was not supported by the landowner as it would increase impacts to current and/or future land use.

**RFI Item 47 – Explain why the construction corridor is widened at Kororoit Creek tributary, Tame Street Drain and Jacksons Creek tributary**

- 21 The construction footprint near KP1.0, waterway no. 1 (minor gully tributary to Kororoit Creek) was initially wider to allow for temporary construction workspaces and a vehicle turn-around point. As part of the revision 10 alignment explained in TN08, the construction footprint in this area is proposed to be reduced following landowner discussions. This would result in the construction footprint within this area to be fully contained within the existing APA easement, with no overlaps with the Kororoit Creek tributary. Refer to plan below extracted from the ARCGis mapping tool. The hatching indicates area removed from the construction footprint.



- 22 The construction footprint near KP 8.36, waterway no. 3 (Tame Street Drain) is wider in proximity to the Tame Street Drain crossing due to the additional space needed to install the pipeline under the Bendigo Rail Line using laser pipe jacking. Further east of this point additional corridor width is again required for the HDD string to install the pipe under the Calder Freeway.



- 23 The widened construction footprint near KP 11.7, waterway no. 6 (minor gully tributary to Jacksons Creek) is associated with the farm dam at the crossing location. The farm dam within this vicinity will be backfilled with the widened construction footprint reflecting this. APA has previously considered a pipeline alignment to the north to avoid the crossing of the dam. However, this option was not progressed as it was not supported by the affected landowners due to increased impact to private property due also to the OMR Public Acquisition Overlay (PAO). The pipeline route therefore closely follows the OMR PAO in this location.



**RFI Item 87 – Explain whether the assumed 60-year project life is the life of the pipeline infrastructure or the life of it delivering gas**

- 24 The reference in the EES to the assumed 60-year project life is a reference to the life of the pipeline as an asset. The design life influences material selection, protective coating systems, equipment capability and various allowances. Most pipelines designed and constructed by APA have a 60-year life. In reality the WORM pipeline will be able to operate well in excess of 60 years.
- 25 The timeframe for the use of the pipeline to transmit and store natural gas will depend upon future regulation and demand.