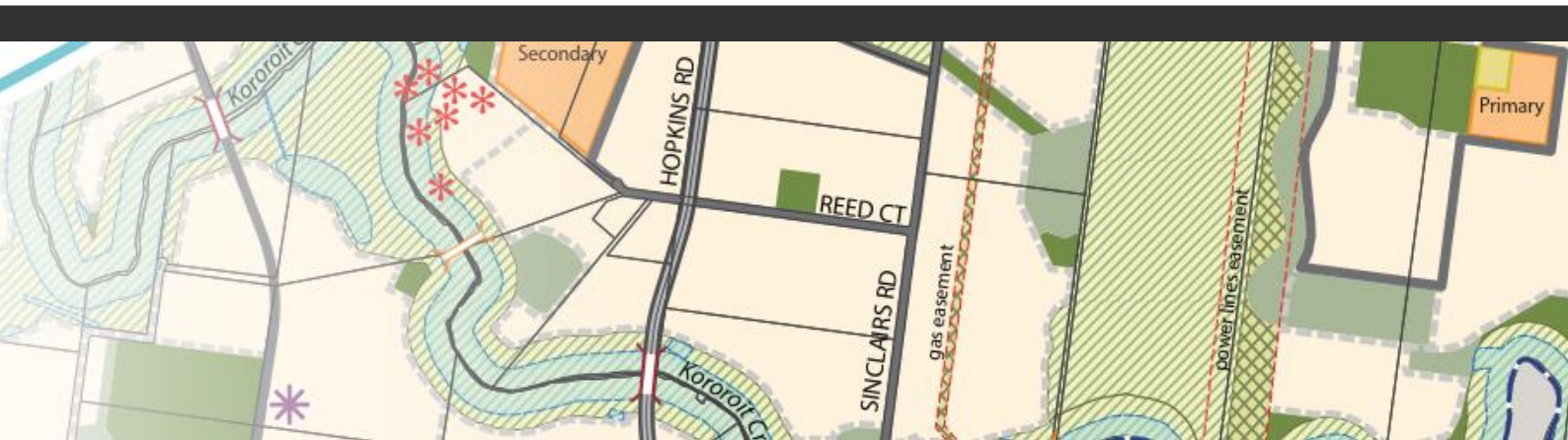


Amendment C147 – Melton Planning Scheme

Expert Evidence Statement – Traffic & Transport
905 – 959, 961 – 1025 Taylors Road, Plumpton



16520REP001B-F

22 November 2016


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Prepared by	Valentine Gnanakone	Reviewed by	James Dear
Signature		Signature	

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1 QUALIFICATIONS AND EXPERTISE

In accordance with Planning Panels Victoria, Guide to Expert Evidence, my qualifications, experience and expertise to provide my opinions on this matter are summarised below:

Name:	Valentine Premkumar Gnanakone
Address:	1/59 Keele Street Collingwood Victoria 3066
Professional Qualifications:	Bachelor of Engineering (Civil), RMIT University 2003 Master of Business Administration (MBA), Deakin University 2013
Professional Registration:	Board of Professional Engineers of Queensland – Registered Professional Engineer of Queensland (RPEQ)
Professional Experience:	Director, onemilegrid , 2014 – present Associate, Cardno, 2011 – 2014 Senior Traffic Engineer, Cardno, 2007 – 2011 Engineer, Grogan Richards, 2004 – 2007
Professional Memberships:	Victorian Planning and Environmental Law Association (VPELA) Australian Institute of Traffic Planning and Management (AITPM)
Areas of Expertise:	Car parking and traffic engineering design and compliance. Traffic advice and assessment of land use and development proposals to local and state planning authorities, government agencies, corporations and developers for a variety of projects including low, medium & high density residential, commercial, retail, industrial, institutional, service orientated and mixed use projects. Preparation and presentation of expert evidence before VCAT and Planning Panels.
Expertise to Prepare this Report:	My professional qualifications, training and experience over a number of years on all forms of development qualifies me to comment on the traffic engineering implications of the proposed amendment.

Relationship to the Applicant: I do not have any private or business relationship with the applicant.

Instructions: I have been requested by Norton Rose Fullbright, representing ID Taylors Road Pty Ltd, to provide my expert opinions in relation to the traffic engineering matters relevant to the Planning Scheme Amendment C146 & 147).

Facts, Matters, and Assumptions Relied Upon: Melton Planning Scheme
Relevant Exhibition Documentation for Amendment C146 & 147
DRAFT Kororoit – Precinct Structure Plan
DRAFT Plumpton – Precinct Structure Plan
Relevant submissions
City of Melton Submission to the VPA dated 26 August 2016
Subdivision Layout Plans prepared by BPD

Identity of Persons Undertaking the Work: Valentine Gnanakone, Director **onemilegrid** (BE Civil, MBA)

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.



Valentine Gnanakone
Director – Senior Traffic Engineer
onemilegrid

2 INTRODUCTION

My name is Valentine Gnanakone and I am Director at **onemilegrid** where I practice as a traffic engineer.

I have been requested by Norton Rose Fullbright on behalf of ID Taylors Road Pty Ltd to undertake an assessment of the traffic engineering matters relevant to the land addressed as 905 – 959 and 961 – 1025 Taylors Road, Plumpton (Property 67 & 68) as a result of the Planning Scheme Amendment C147, and present expert evidence on the traffic implications of the proposal to the Planning Panel.

Specifically, I have been requested to provide my opinions in relation to: -

- The composition of the Saric Court / Taylors Road intersection;
- Traffic engineering matters raised by the City of Melton in its submission dated 26 August 2016 in relation to ID Land's property.

In the course of preparing this report on the proposal, I have inspected the site and its environs, reviewed development plans and background information and assessed the traffic implications of the amendment.

3 AMENDMENT C147 MELTON PLANNING SCHEME

The Kororoit Precinct Structure Plan (PSP) has been prepared by the Victorian Planning Authority (VPA) in consultation with Melton City Council and other authorities, to guide the development of the land within the amendment area known as the Kororoit PSP. The PSP area will ultimately house in the order of 9,200 new homes to accommodate an expected population of 25,875 residents.

The PSP has been prepared to identify amongst other things the future transport network including roads, public transport, and active transport with due consideration of broader planning outcomes. This PSP is being considered in conjunction with the Plumpton PSP (PSP 1078).

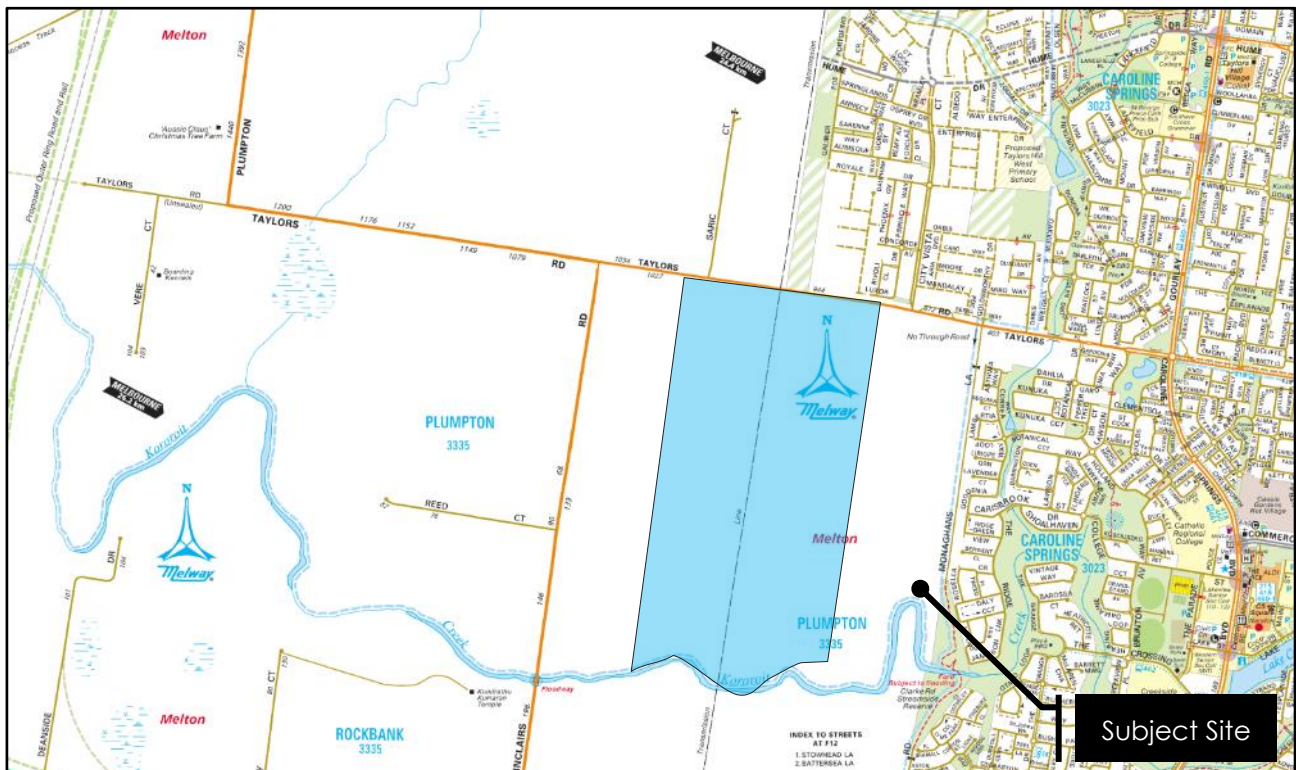
4 EXISTING CONDITIONS

4.1 Site Location

The subject site is located to the south of the Taylors Road and is addressed as 905 – 959 and 961 – 1025 Taylors Road, Plumpton.

The site comprises two generally rectangular land parcels of land which has frontage to Taylors Road in the north and the Kororoit Creek to the south as shown in Figure 1.

Figure 1 Locality Plan



4.2 Road Network

4.2.1 Taylors Road

Taylors Road in the vicinity of the site operates as a major road controlled by Council generally aligned east-west. Taylors Road provides a single carriageway with one traffic lane in each direction.

4.2.2 Saric Court

Saric Court is a local road generally aligned north-south, from Taylors Road through to its termination approximately 750 metres north.

Saric Court provides a single unsealed traffic lane that currently serves local access only to a single dwelling and adjacent farmland.

5 KOROROIT PRECINCT STRUCTURE PLAN (PSP 1080)

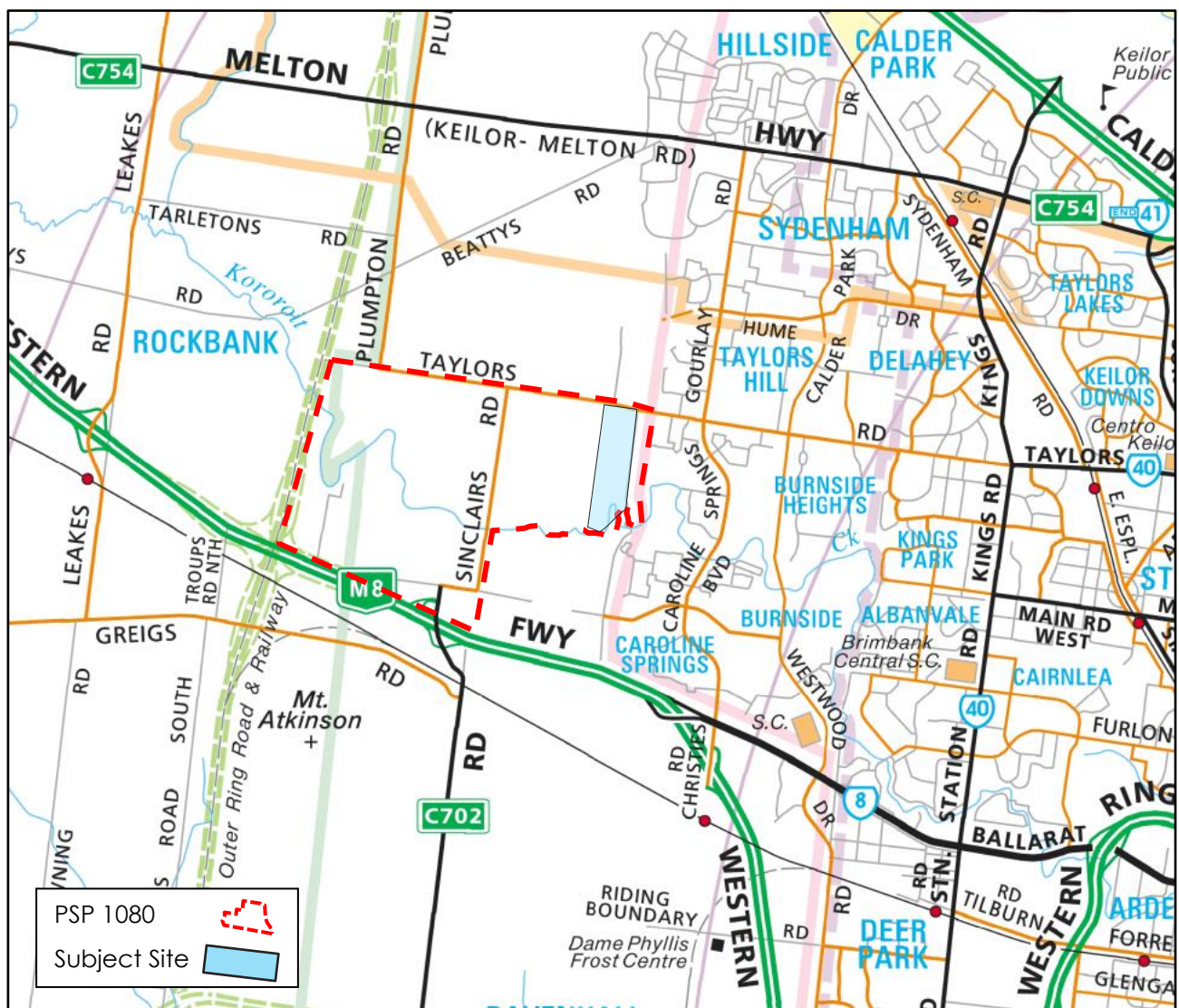
5.1 General

The site is located within the north-eastern section of the Kororoit (PSP) area, for which a draft Structure Plan has been prepared by the VPA and Council.

The Kororoit PSP covers an area of 925 hectares of land, bounded by Taylors Road and the Plumpton PSP to the north, Monaghans Lane (north of Kororoit Creek), Kororoit Creek and Sinclairs Road (south of Kororoit Creek) to the east, the Western Freeway and the draft Mt Atkinson and Tarneit Plains PSP to the south, and the Outer Metropolitan Ring road (OMR) reservation and approved Rockbank North PSP to the west.

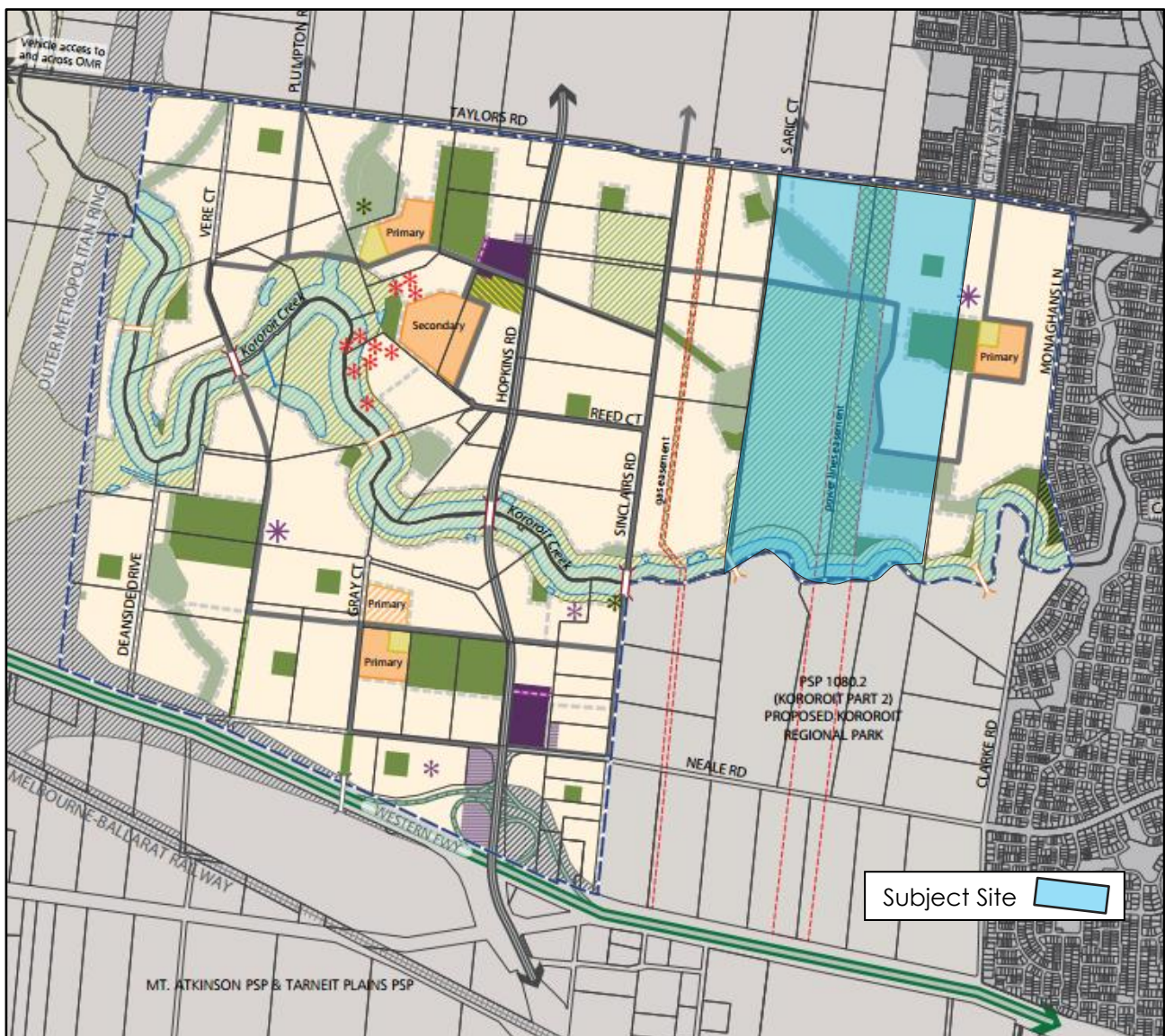
The locality of the PSP area and the subject site in the context of the surrounding area is provided in Figure 2.

Figure 2 PSP Locality Plan



With regard to the PSP planning, Figure 3 illustrates the site location within the PSP area and surrounding road network and land uses.

Figure 3 Site Location within PSP Area



5.2 Road Network

As part of the PSP, existing roads in the vicinity of the subject site will be upgraded and a new road network developed to provide for access through and around the precinct.

The subject site is located at the interface of the Kororoit PSP and the Plumpton PSP and as such a review of the road network for both PSP's has been considered as part of my assessment.

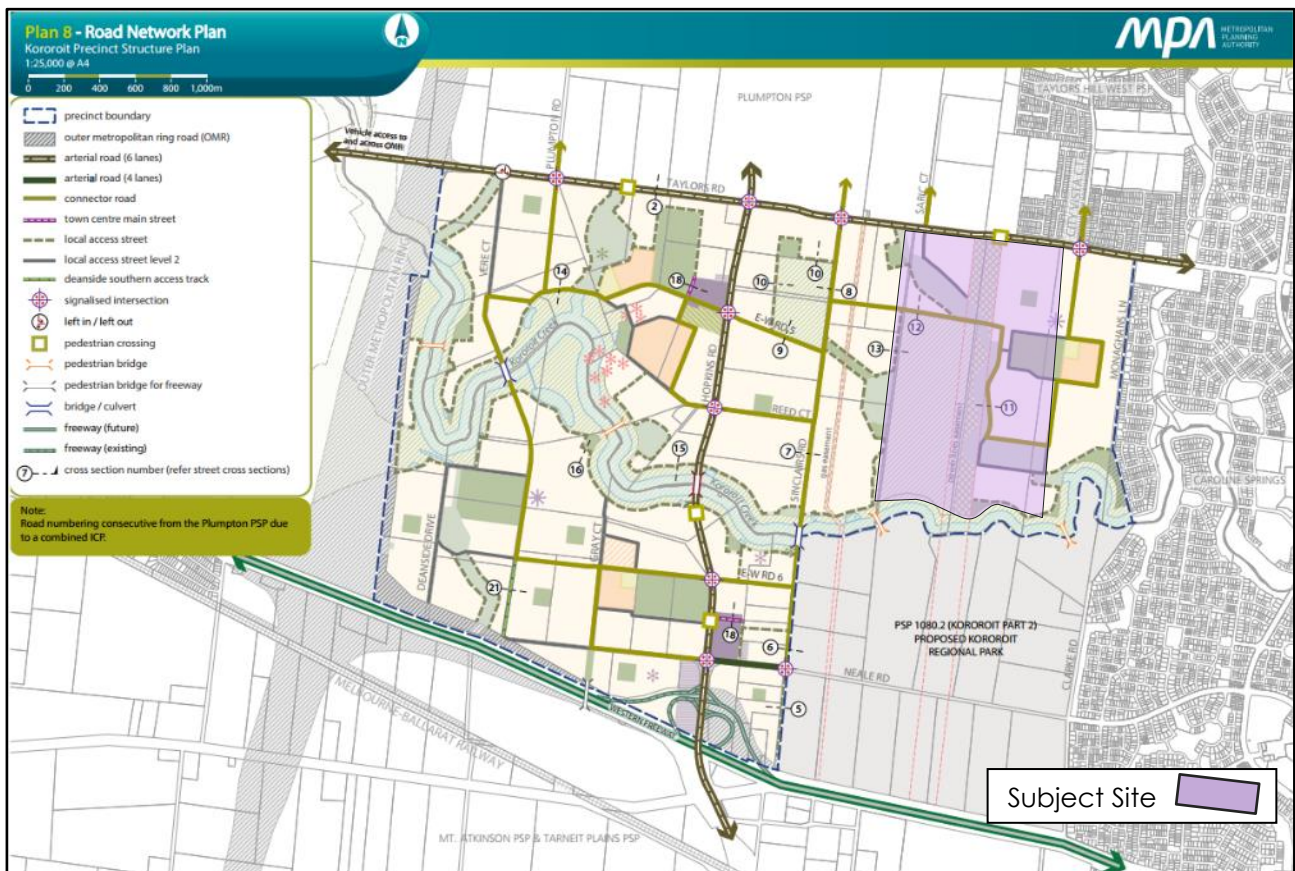
5.2.1 Kororoit PSP Road Network

The proposed road layout for the Kororoit PSP is shown in Figure 4 and Figure 5. In the vicinity of the site, Taylors Road is designated as an arterial road.

With reference to the subject site, the PSP road network proposes a connector road running east – west within property 67 before realigning in a 'U-Shape' through property 68 and 69 to be aligned north – south through to traffic signals at City Vista Court. In addition, an Access Street (level 2) is proposed towards the northwest corner of the site adjacent to a waterway reserve heading south from Taylors Road generally opposite Saric Court.

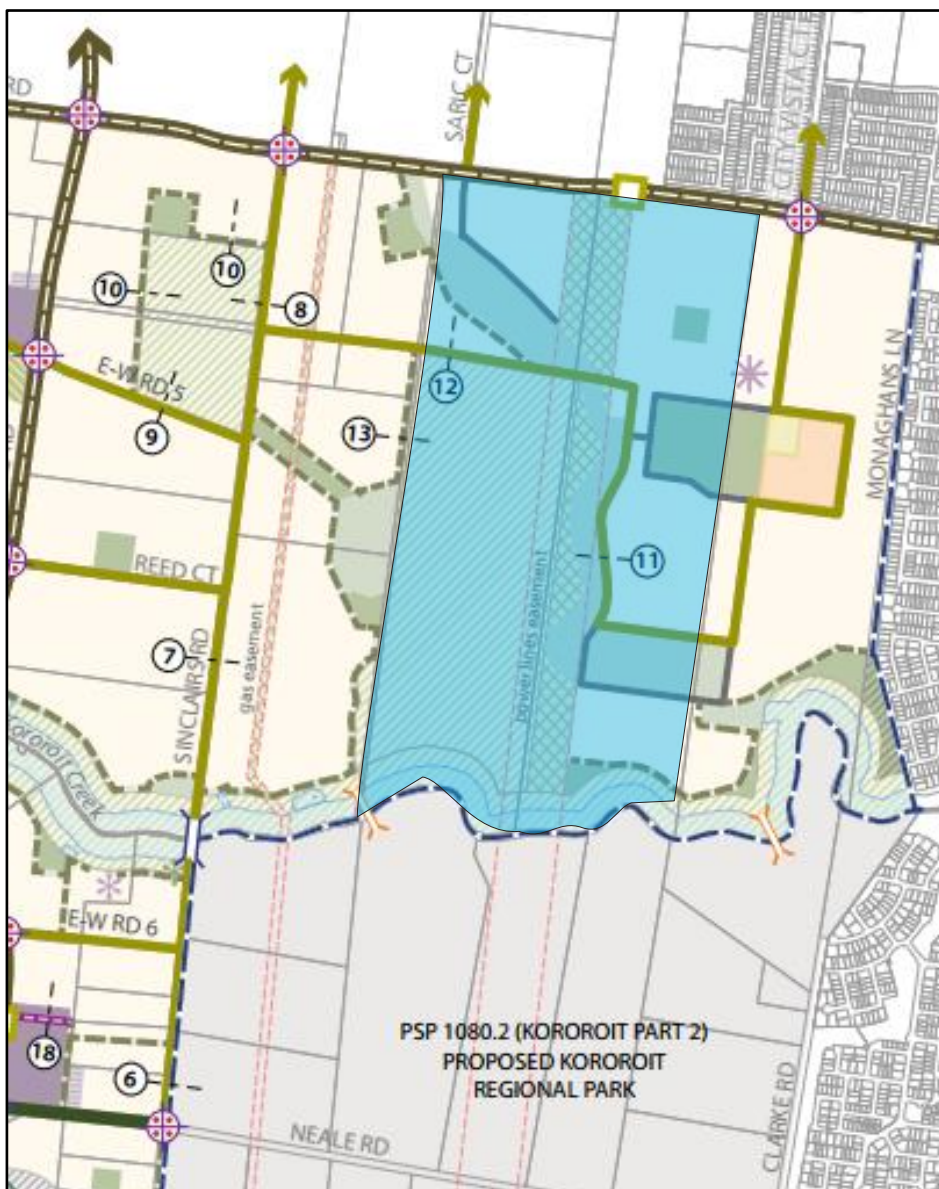
I understand that the 'U-Shaped' section of the connector road has been provided to allow for a greater bus catchment for the connector road.

Figure 4 Kororoit PSP Road Network



I note that the Kororoit PSP does not designate any intersection treatment between Taylors Road and the Access Street located in the north west corner of the site, opposite Saric Court.

Figure 5 Detailed view of Kororoit PSP Road Network



5.2.2 Plumpton PSP Road Network

The proposed road layout for the Plumpton PSP is shown in Figure 6 and Figure 7. The Plumpton PSP area is located directly to the north of the site on the opposite side of Taylors Road.

Of reference to the subject site, the Plumpton PSP designates the intersection of the proposed Access Street / Taylors Road / Saric Court as traffic signals (IN-16), and moreover the Access Street providing a connection further south. This is not consistent with the Kororoit PSP which does not designate an intersection and furthermore does not show a connection to the south of the Access Street.

Figure 6 Plumpton PSP Road Network

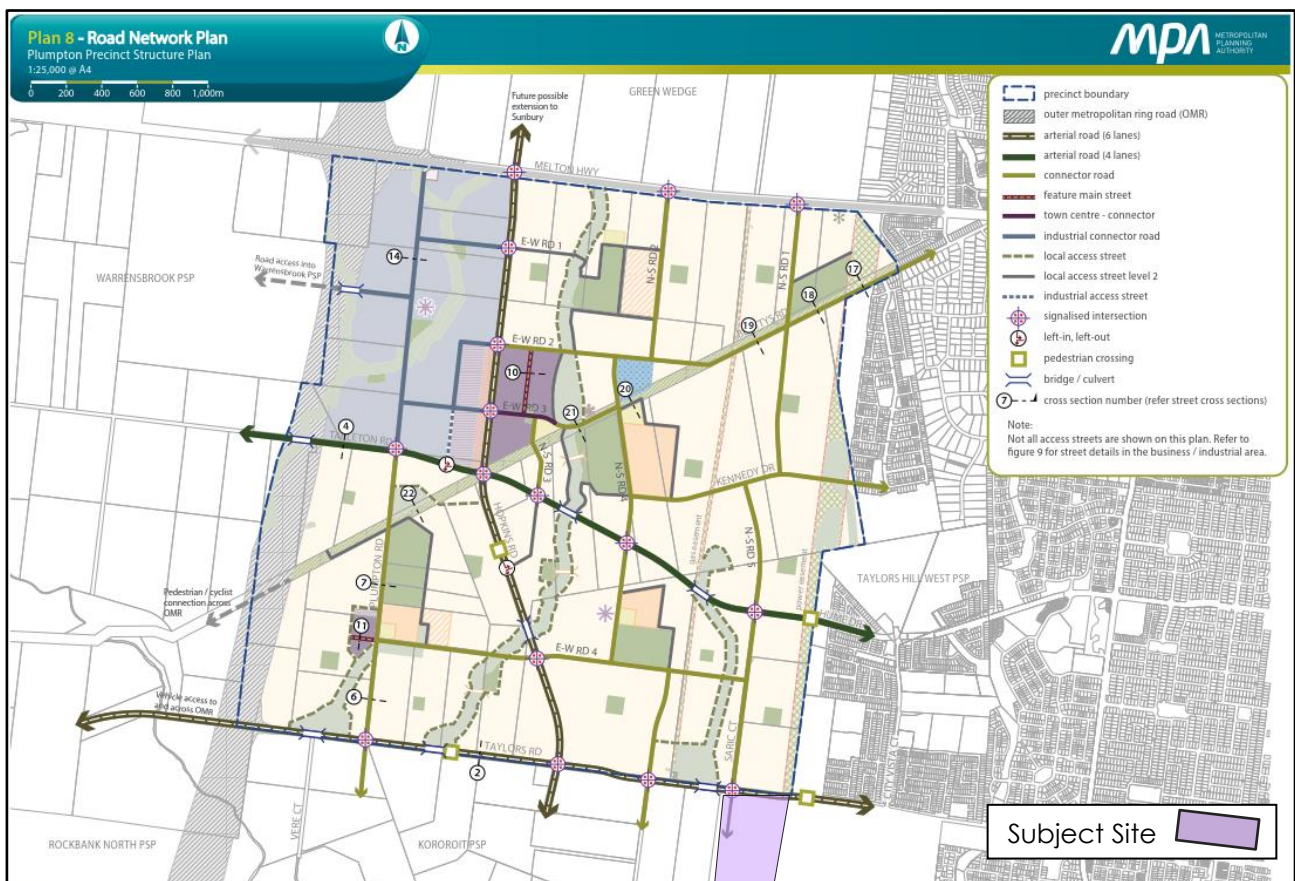


Figure 7 Detailed view of Plumpton PSP



5.2.3 Taylors Road

As part of the Kororoit PSP, Taylors Road is to be upgraded to provide 3 traffic lanes in each direction separated by a central median set within a 41 metre road reservation.

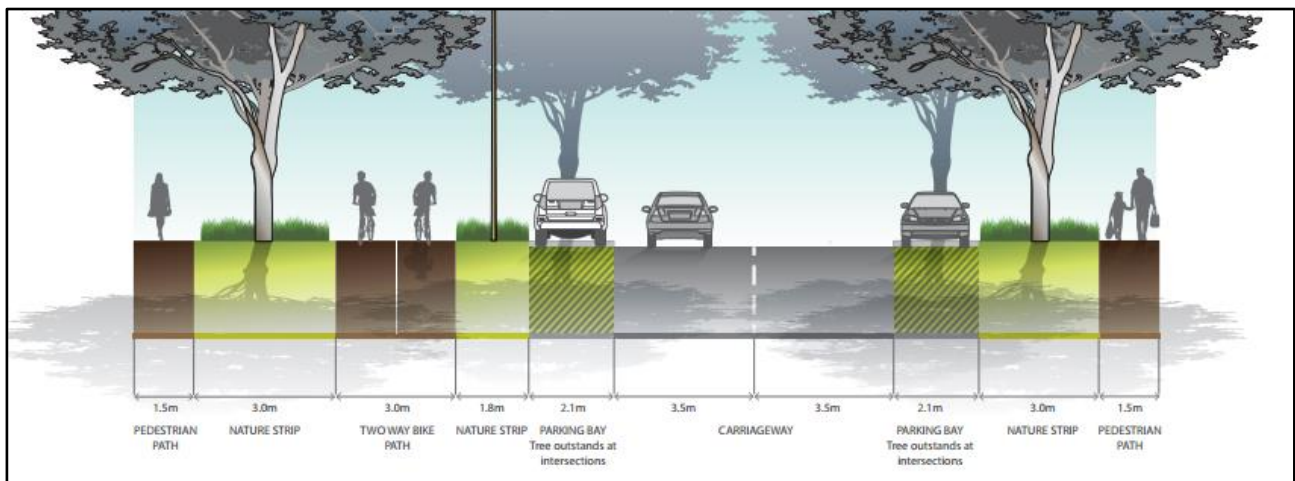
5.2.4 Saric Court

As part of the Plumpton PSP, Saric Court is to be upgraded to a connector road north of Taylors Road from a signalised intersection and runs north through to Kennedy Drive.

5.2.5 Future Connector Road Network

A series of Connector Roads are proposed within both PSP areas with a reservation of 25 metres. The proposed cross section for the Connector Road is provided in Figure 8.

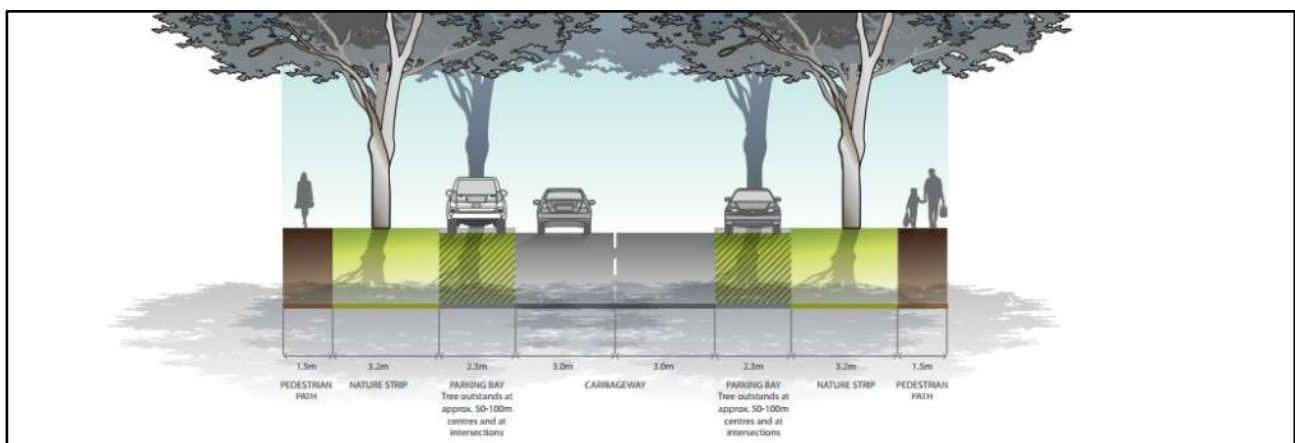
Figure 8 Connector Road (25 metres)



5.2.6 Access Street Level 2

An Access Street Level 2 is proposed within the PSP south from Saric Court. Access Street Level 2's are proposed within a reservation of 20 metres as shown in Figure 9.

Figure 9 Local Access Street Level 2 Road (20 metres)



5.3 Traffic Volumes

As part of the preparation of the PSP, Jacobs were engaged by the VPA to prepare a traffic model for the precinct, including both the Plumpton and Kororoit PSP areas. Within the model, projections were made for the interim and ultimate development scenarios.

5.3.1 Taylors Road

With respect to Taylors Road, the model projects that it will carry in the order of 25,000 vehicles per day along the frontage of the site in the interim (2026) and approximately 55,000 vehicles per day ultimately (2046)

5.3.2 Saric Court

As noted, Saric Court is proposed to extend north within the Plumpton PSP to provide a connector road connection through the area. The model estimates that in the interim Saric Court will carry 4,000 vehicles per day and ultimately 5,000 vehicles per day.

Of note, no projections are made for the southern leg of the Saric Court / Taylors Road intersection which travels through the subject site.

5.4 Proposed Intersection Treatments

It is noted that the Kororoit PSP does not designate traffic signals at the intersection of proposed Access Street / Taylors Road / Saric Court, whilst the Plumpton PSP does. For the purposes of this assessment, the intersection treatment shown on the Plumpton PSP will be considered.

As shown on the PSP, traffic signals on Taylors Road are proposed (from west to east) at Plumpton Road, Hopkins Road, Sinclairs Road, Saric Court and City Vista Court. Two pedestrian crossings are also located along Taylors Road. A view of the traffic signal locations and the separations are provided in Figure 10.

Figure 10 Taylors Road Intersection Treatments



It is understood that the VPA and Council are seeking the construction of traffic signals at the subject site with the Access Street into the site forming the 4th leg of the intersection with Saric Court on Taylors Road as shown in the Plumpton PSP.

6 REVIEW OF SUBMISSION

6.1 Saric Court / Taylors Road Intersection

6.1.1 General

The Plumpton PSP proposes the construction of traffic signals at the intersection of Taylors Road / Saric Court. The PSP includes an Access Street into the subject site as the 4th leg of the intersection.

The proposed Access Street which leads to the south from Taylors Road only directly services approximately 180 lots due to the significant barriers which exist through the middle of the two sites being an electricity easement and a waterway reserve.

It is the ID Taylors Road submission that the southern leg of the intersection is removed, with an alternative Access Street connection proposed towards the eastern boundary of the site to provide for a local access into the isolated land parcel. The Access Street intersection would provide for fully directional movements whilst Taylors Road operates as a single carriageway, reverting to left in / left out at such time as Taylors Road is duplicated. A view of the proposed ID Taylors Road layout is provided in Figure 11.

My opinions on the traffic engineering matters relevant to the proposed alternate plan are as follows.

Figure 11 Modified Road Layout



6.1.3 Site Layout

BPD on behalf of ID Taylors Road have prepared a concept subdivision plan to illustrate the site layout assuming that the southern leg of the intersection is required to be constructed into the subject site. An extract of the plan prepared by BPD is provided in Figure 13.

Figure 13 BPD Concept Subdivision Plan (With Signals)



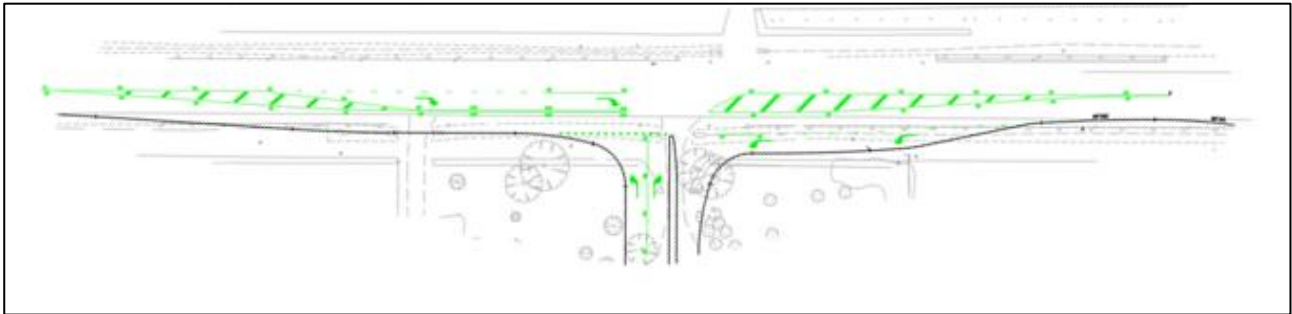
The layout shown above is generally acceptable however not as efficient as the site layout shown in Figure 11 and results in an 'unproductive' strip of land between the new road and the Access Street which would run along the waterway reserve. This strip of land is likely to yield lots with two road frontages which is inefficient. From a lot yield point of view, it is expected that this option would result in approximately 50 less lots.

6.1.4 Intersection Arrangement

It is proposed to remove the southern leg of the traffic signals which will result in a standard signalised T-intersection for Taylors Road / Saric Court. For the proposed Access Street, it is proposed to provide for a fully directional intersection in the interim with right and left turn lanes, converting to a left in / left out intersection at such time as Taylors Road is duplicated.

A view of the proposed intersection arrangement for the interim is provided in Figure 14.

Figure 14 Access Street Access Arrangement (Interim)



The proposed Access Street intersection will be located approximately 600 metres west of the traffic signals at City Vista Court and 300 metres to the east of the Saric Court intersection which is more than adequate with regard to separation from neighbouring signals to provide for appropriate turn lane lengths in both the interim and ultimate.

In view of the above, I am of the view that the removal of the southern leg of the Saric Court / Taylors Road intersection is appropriate with the resultant provision of a new Access Street to the east of the site an acceptable outcome.

6.1.5 Traffic Generation

The subject parcel is expected to yield in the order of 180 lots, which based on typical traffic generation rates of 9 vehicle movements per day per lot and 10% occurring during the peak hours equates to 1,620 vehicle movements per day and 162 vehicle movements during the peak hours.

This level of traffic can be suitably accommodated by the proposed intersection arrangements detailed above. This access strategy will ensure that safe and efficient access is provided to the site from the outset and will continue through the life of the project and into the future.

6.1.6 ICP Costs

It is my understanding that the intersection IN-16 would be included in the ICP or DCP (once prepared). It has been my experience with similar 4-way signalised intersections comprising an arterial / connector standard that the cost of such an intersection would be in order of \$3,500,000.

In the event that the southern leg is removed from the intersection, there will be obvious savings with regard to the cost of the intersection associated with the traffic signal hardware, civil works and drainage. Whilst the savings are unlikely to be a quarter of the cost as many of the establishment costs are unavoidable, it is my expectation that it would amount to approximately a fifth of the overall cost or \$700,000 which would be removed from the overall ICP costs representing an overall benefit to both PSP areas.

6.1.7 Summary

In view of the above, it is my opinion that the removal of the southern leg to the proposed signalised intersection of Taylors Road and Saric Court is acceptable and will not impact on the operation of the surrounding road work.

6.2 Council Submission

I have had an opportunity to review the Council submission to the amendment and note that item 20 and 21 are in relation to the Connector Road network. Specifically, the submission states:

Item 20 - The east-west connector road in properties 63, 64 and 67, should continue west into properties 68 and 69 to create a more legible road network.

Item 21 – The road layout on property 68 creates an awkward development pocket which is bound by the proposed constructed waterway to its west and south, and a connector road to its north and east (see red oval).



My opinions are as follows.

The Council submission seeks to extend the connector road network to the north of the proposed open space. An expanded view of the relevant area is provided in Figure 15.

Figure 15 Context of Subject Area



The subject area will be developed for residential lots, a primary school, community facilities, a local convenience centre and active open space. Similar to the land parcel considered previously, this area is relatively constrained with limited connectivity beyond the immediate area. To the east are the back fences of existing residential development, to the south is the Kororoit Creek which does not propose any vehicular road crossings, to the west is a single crossing of the powerline easement and to the north is Taylors Road a future arterial road.

It is my view that the extension of the connector road network in this location is not necessary due to the limited residential yield in the area and the limited east – west desire lines when compared to the higher order alternatives. This is ratified by the traffic modelling prepared by Jacobs which projects 2,500 daily vehicle movements travelling east – west from City Vista Court across the powerline easement. This level of traffic is not overly significant and is towards the lower end of the capacity range for a Collector Road.

Furthermore, the exhibited road network in the review area contemplates the inclusion of a local access street along the north of the open space which provides for a more than acceptable link between the two portions of Connector Road. From a traffic point of view, based on the above projections and the provision of two links comprising the Connector Road and Access Street, I am of the view that these roads will operate satisfactorily.

In view of the above, I am comfortable with the road network as exhibited in this area.

7 CONCLUSIONS

I have been requested to provide my expert opinions in relation to the ID Taylors Road submission in relation to Amendment C147. In particular, I have been requested to provide my opinion with regard to the traffic signals proposed at the intersection of Saric Court / Taylors Road and the Council submission requiring the extension of a Connector Road.

A summary of my expert opinion regarding the traffic and transport implications are as follows:

- The ID Taylors Road submission proposes removing the southern leg of the Saric Court / Taylors Road intersection in preference to a lower order access to the east;
- The parcel of land serviced by the exhibited traffic signals is largely constrained due to the electricity easement and a waterway to the east and west respectively;
- Due to the limited connectivity, level of traffic generated, reduced efficiency and associated cost savings, I am of the view that the southern leg could be removed and will not impact on the operation of the surrounding road network;
- The Council are seeking the extension of a Connector Road towards the eastern section of the PSP area;
- The proposed extension of the road as sought by Council is in my view unnecessary.