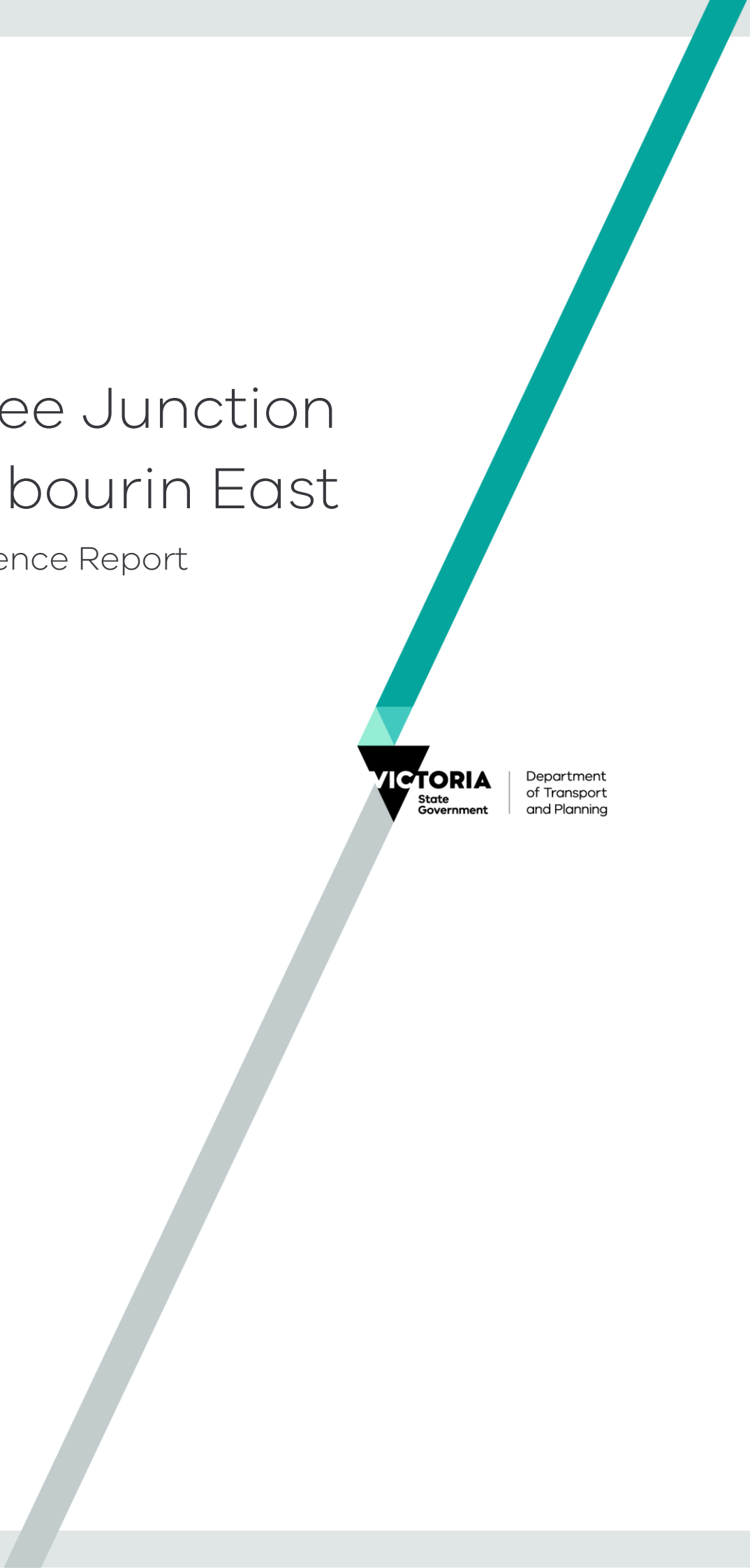


Werribee Junction & Mambourin East

 Due Diligence Report



VICTORIA
State
Government

Department
of Transport
and Planning

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1. Executive summary

Werribee Junction (WJ) and Mambourin East (ME) were identified as Tier 1 'due diligence only' projects in the Victorian Planning Authority's Business Plan 2023–24 and as priority planning area in Victoria's Housing Statement: The Decade Ahead 2024–2034.

The precincts were the first greenfield precincts to undergo a due diligence process to assess readiness of the precincts for future planning and to identify key constraints that may affect the timing and feasibility of plan preparation.

Due diligence involved a desktop assessment informed by technical studies and consultation with relevant government agencies, including Melbourne Water, Wyndham City Council and the Department of Transport and Planning. Due Diligence focused on identifying issues that would hinder timely progression of the preparation of a Precinct Structure Plan or need consideration as part of any future planning process.

Werribee Junction (WJ) and Mambourin East (ME) Due Diligence (DD) was originally completed in May 2024. References to the policies and documents applicable at that time the report was prepared have been retained to retain the integrity of the original report recommendations.

1.1. Due diligence findings

Flooding was identified as the most significant constraint affecting Werribee Junction (WJ). Extensive areas of the precinct are impacted by flooding associated with Lollypop Creek, Cherry Creek and a tributary of Cherry Creek.

A Hydrologic Impact Assessment, prepared by Jacobs, identified the need for substantial flood mitigation measures, landform modification and supporting drainage infrastructure to enable greater areas of WJ to be above the 1% Annual Exceedance Probability (AEP) flood level. As a result, WJ is expected to have a lower Net Developable Area (NDA) than a typical greenfield precinct and whilst urban development of WJ is technically feasible, further detailed flood, drainage, transport and infrastructure investigations will be required to inform future planning, including development viability, sequencing and costs.

Mambourin East is subject to fewer constraints than WJ. However, development in WJ and ME will be dependent on the delivery and timing of major transport infrastructure. Several planned and potential future state significant transport projects intersect with or are located near the precincts. Until greater certainty is available regarding the design, land take and sequencing of these projects, planning for both precincts will be impacted by the 'unknowns' associated with these transport projects.

Secondary issues identified through the due diligence include biodiversity values, Aboriginal cultural heritage, sodic and dispersive soils and existing extractive industries and land covered by a State Resource Overlay (SRO). These issues do not preclude development but will require further detailed investigation and careful management during any future planning.

Overall, the due diligence concluded that joint planning of WJ and ME provides the most effective pathway forward, particularly in coordinating infrastructure provision and managing constraints.

1.2. Recommendations

Following Due diligence, the following is recommended for WJ and ME:

1. WJ development scenario 2d and the ME development scenario (as per the Technical Background Report in Appendix 1) offers the best development outcome and should form the basis of the next stage of technical assessment undertaken to progress planning for the precincts.

2. WJ and ME should continue to be jointly progressed, and that a decision is not taken to split the Werribee Junction PSP into two parts until:
 - a. More is known or understood about the timing of the key transport infrastructure information becomes available.
 - b. Melbourne Water's updated flood modelling and development viability is explored.
 - c. Extractive industries and development opportunities are clarified.
3. This Report and Technical Background Report in Appendix 1 (or parts thereof) be shared with Council, landowners and relevant stakeholders to understand the infrastructure and Net Developable Area (NDA) constraints and opportunities in both precincts.
4. A Whole of Government position on the timing of further strategic work for key infrastructure requirements be sought to enable the precinct to progress to plan preparation.

2. Introduction

The Victorian Planning Authority's (VPA) Business Plan 2023-2024 listed Werribee Junction (WJ) and Mambourin East (ME) as a Tier 1 project for 'due diligence only'. Both precincts were also identified in Victoria's Housing Statement: The decade ahead 2024-2034 as priority planning projects for growing suburbs.

The purpose of Due Diligence (DD) was to test readiness of the precincts to proceed to plan preparation by:

- discovering any significant barriers to progressing the precincts to the plan preparation phase
- increasing certainty of timely / cost-effective plan preparation process
- giving agencies / departments early input into the pre-planning phase before plan preparation commences.

3. Due Diligence process

Due diligence was a desktop assessment undertaken in consultation with relevant government agencies, Melbourne Water (Floodplain Management and Drainage Authority), Wyndham City Council and Department of Transport and Planning (DTP) – Transport Services. DD outcomes and recommendations were informed by the following technical reports:

- Hydrologic Impact Assessment, prepared by Jacobs dated 1 December 2020 to understand the impacts of flooding on the Net Developable Area (NDA) in WJ.
- Biodiversity Assessment, prepared by WSP dated February 2022 for WJ.
- Sodic, Dispersive and Acid Sulfate Soils Assessment, prepared by Fyfe dated April 2022 for WJ.
- Cultural Heritage Desktop Assessment, prepared by Unearthed Heritage, dated Jan 2023.
- Background Technical Report, prepared by Victorian Planning Authority, date May 2024.

The Background Technical Report in Appendix 1 contains VPA's assessment of the drainage options in the 2020 Hydrological Impact Assessment prepared by Jacobs against the known site constraints including biodiversity, cultural heritage and biodiversity.

4. The precincts

WJ and ME cover an area of approximately 1,700 hectares. They are located approximately 30-33 kilometres southwest of central Melbourne in the municipality of Wyndham, at the south-westernmost Urban Growth Boundary of metropolitan Melbourne.

As shown in Figure 1, the precincts share a common boundary along the Melbourne-Geelong Railway Line. Key precinct characteristics are detailed in Table 1 below. Figures 2 to 9 showing key characteristics / constraints of the precincts.

Figure 1 – Context Map

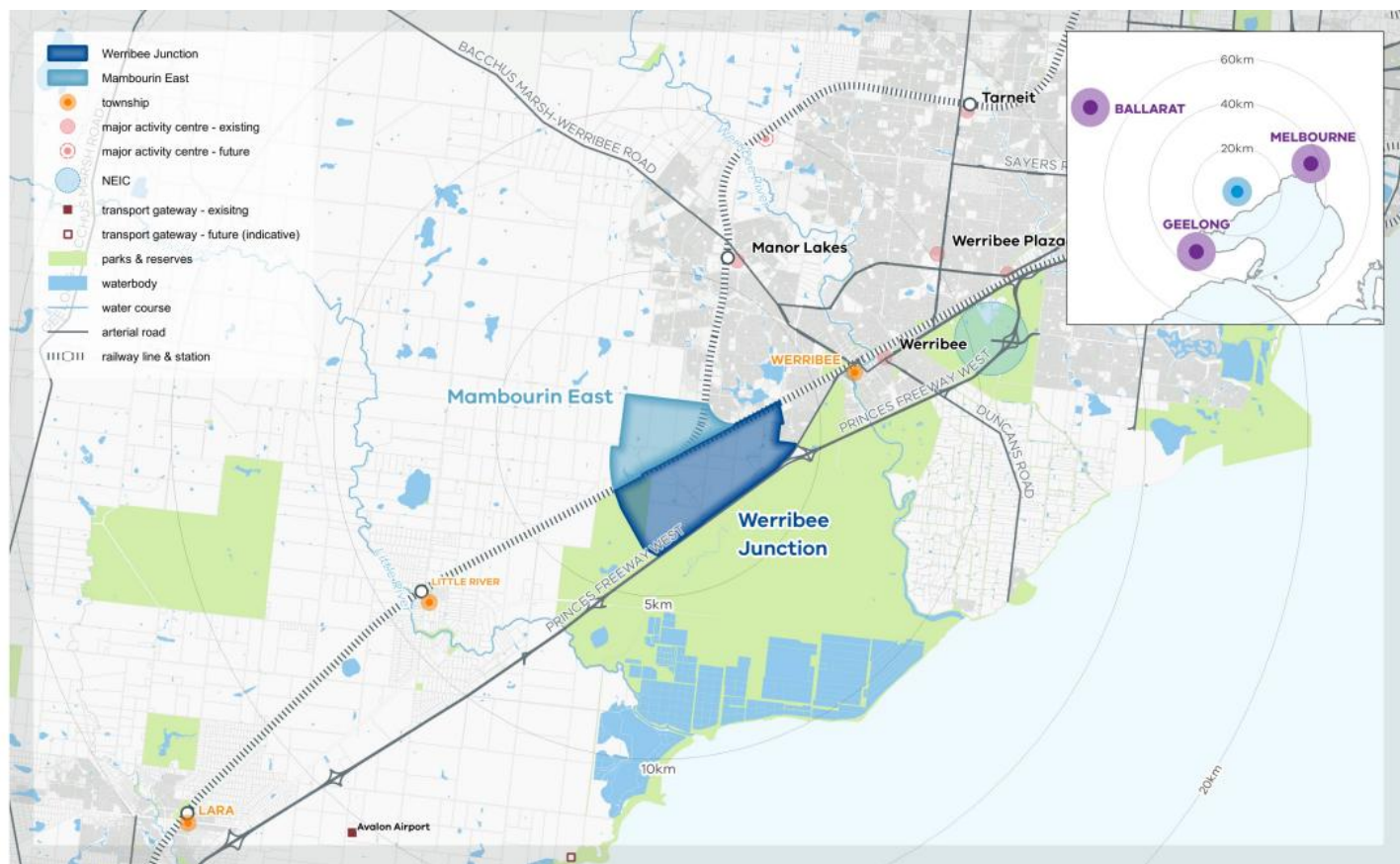


Table 1: Key Precinct Characteristics

Characteristic	Werribee Junction	Mambourin East
Precinct Area	1142 ha	561 ha
Interfaces	North: Melbourne–Geelong Railway and Mambourin East PSP area. East: Alfred Road PSP area. South: Princes Freeway, Urban Growth Boundary and Melbourne Water Western Treatment Plant. West: Alignment of future Outer Metropolitan Ring Road and Urban Growth Boundary.	North: Future Bayview PSP area. East: Black Forest Road South PSP area. South: Melbourne–Geelong Railway and Werribee Junction PSP area. West: Alignment of future Outer Metropolitan Ring Road and Urban Growth Boundary.
Key Existing Features	Lollypop Creek in east of precinct. Cherry Creek in centre of precinct. Tributary to Cherry Creek in west of precinct. Quarry operating in west of precinct.	Cherry Creek in east of precinct. Tributary to Cherry Creek in west of precinct. Quarry located centrally. Regional rail link alignment bisects east of precinct.

Characteristic	Werribee Junction	Mambourin East
	Refuse disposal facility operating in centre of precinct. Existing Wests Road at-grade level crossing the rail corridor	Existing Wests Road at-grade level crossing the rail corridor
Current Zone	Farming Zone – Schedule 1 Special Use Zone – Schedule 6 Public Use Zone – Schedule 1	Urban Growth Zone Farming Zone – Schedule 2 Special Use Zone – Schedule 6
Current Overlays	Environment Significance Overlay – Schedule 1 Public Acquisition Overlay – Schedules 1, 5 and 8 State Resource Overlay – Schedules 1 and 2	Design and Development Overlay – Schedule 10 Heritage Overlay – Schedule 14 State Resource Overlay – Schedules 1 and 2 Public Acquisition Overlay – Schedules 5 and 6 Environmental Audit Overlay
Melbourne Strategic Assessment area	No	Yes

5. Due Diligence findings

Flooding in WJ and the timing of potential future State infrastructure likely to interface or intersect with WJ and ME were identified as issues likely impact efficient and timely planning of the precincts.

Extractive resources (including existing quarries), Aboriginal cultural heritage, biodiversity and the presence of sodic and dispersive soils were identified as secondary issues that will need further consideration as part of the preparation of the PSPs. Each of these issues are discussed in more detail in Section 5.1 and 5.2 below.

5.1. Major issues

5.1.1. Flooding

WJ is highly constrained by existing flooding. Lollypop Creek, Cherry Creek and the Tributary of Cherry Creek flow through the WJ precinct have a total catchment area of approximately 110 km² and a relatively small capacity. The extent of flooding in WJ is shown in Figure 2 - Indicative 1% Annual Exceedance Probability (AEP) and Figure 3 - recent photographic record of a major flood in 2005.

Figure 2 – Indicative 1% Annual Exceedance Probability (AEP)

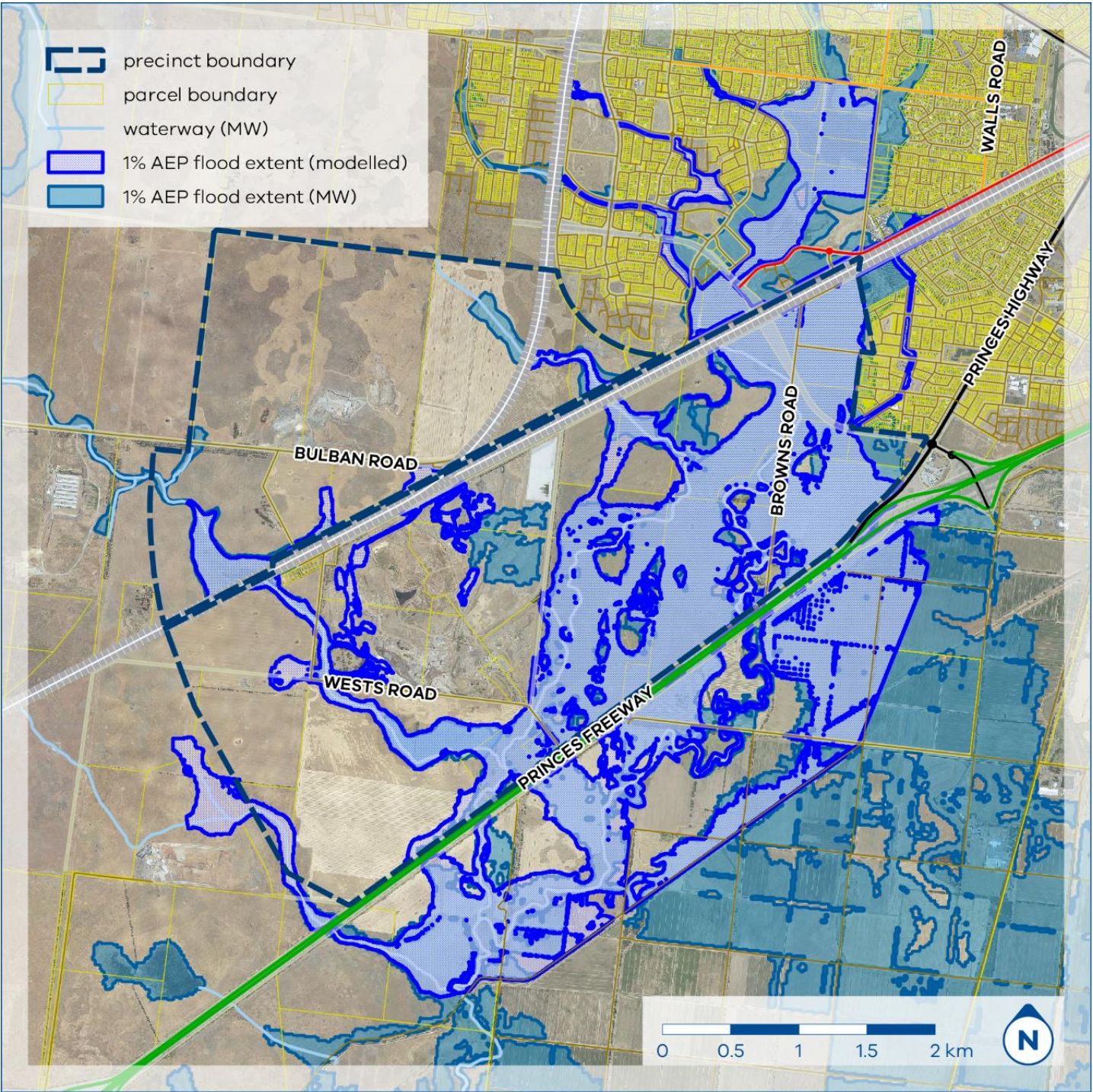


Figure 3 – Aerial Photograph 2005 flood event



Estimated flood depths in WJ range from 0.10m to approximately 0.5m outside the centreline of the Lollypop Creek, Cherry Creek and Tributary of Cherry Creek, increasing to around 2.0m within waterways. The extent of following in WJ is a point of difference to most other growth area precincts. To meet floodplain management policy and the requirements of Clause 13.03-1L of the Wyndham Planning Scheme, substantial filling will be required in WJ to increase the amount of land above the 1% AEP flood level. This will require extensive cut and fill in the precinct which will need to be carefully considered to ensure floodplain storage volumes are not reduced and ensure development (including roads) in the precincts are set above the 1% AEP flood level to minimise risk to health and safety as a result of development.

WJ Hydraulic Impact Assessment

Due to the extent of flooding in WJ, Jacobs was engaged by Melbourne Water to undertake a Hydrologic Impact Assessment to understand the impact of flooding on Net Developable Area (NDA) in WJ and the landform changes needed to increase the amount of developable land in WJ while ensuring there are no adverse downstream impacts or impacts on other key features of the precinct.

The Jacobs Report contained nine (9) development scenarios including:

- Three (3) development scenarios which proposed minimal landform changes. These scenarios were deemed to be unviable development scenarios and not suitable for further analysis as they did not increase the amount of land above the 1% AEP or propose flood mitigation measures.
- Six (6) development scenarios which considered landform changes and were considered suitable for further consideration.

VPA's evaluation of the 6 development scenarios in the Jacobs' Report considered suitable for further considerations is documented in the Background Technical Report in Appendix 1.

Following testing of the development scenarios against known site constraints including the sodic and dispersive soils, biodiversity, extractive industry and cultural heritage VPA concluded that:

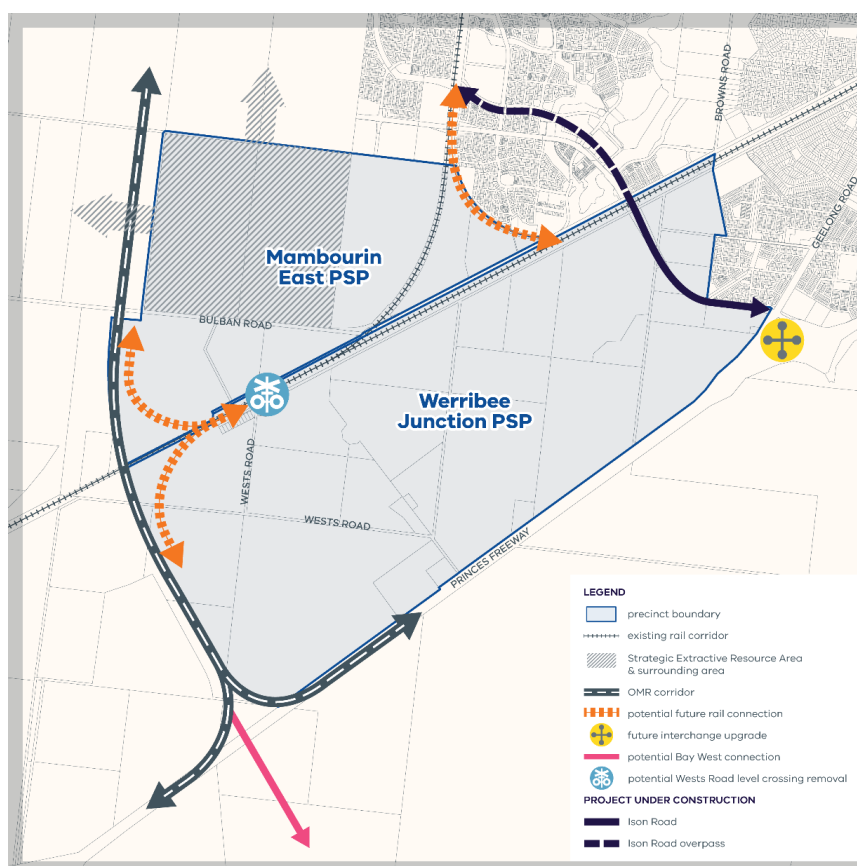
- The estimated GDA in WJ is low in comparison to a typical Greenfields precinct due to the extent of flooding in WJ and the extent of the SROs in the precincts.
- ME faces fewer drainage constraints than WJ.
- WJ will require extensive flood mitigation works and drainage solutions including significant flood storage areas and elevated development platforms to support any future development.
- A combined WJ and ME scenario offers the most viable development outcome. The combined scenario could achieve an estimated GDA of 27% (~or approximately 466 GDA ha of employment land) and an additional potential 17 GDA ha of residential development on the eastern side of Ison Road within WJ.
- The most viable development scenario for WJ will need to be connected via bridges capable of supporting freight movements.

5.1.2. Transport

Thru due diligence several committed and / or planned state-significant infrastructure projects were identified which may intersect with or be located near WJ and ME. The transport infrastructure identified that will need to be considered in planning these precincts is shown in Figure 4 and listed below:

- Outer Metropolitan Ring Road Corridor (OMR)
- Potential future rail and road connections associated with Bay West Port
- Potential future rail and road connections associated with the Western Intermodal Freight Terminal
- Ison Road and Ison Road Overpass
- Potential Wests Road Level Crossing
- Werribee Main Road / Princes Freeway Intersection
- Existing Extractive Industries and the associated freight transport routes.

Figure 4 – Major transport projects intersection with WJ and ME



Further information is required to determine how these transport projects should be considered and integrated when planning for WJ and ME.

In addition to the convergence of major transport projects, other key movement and access issues of note included:

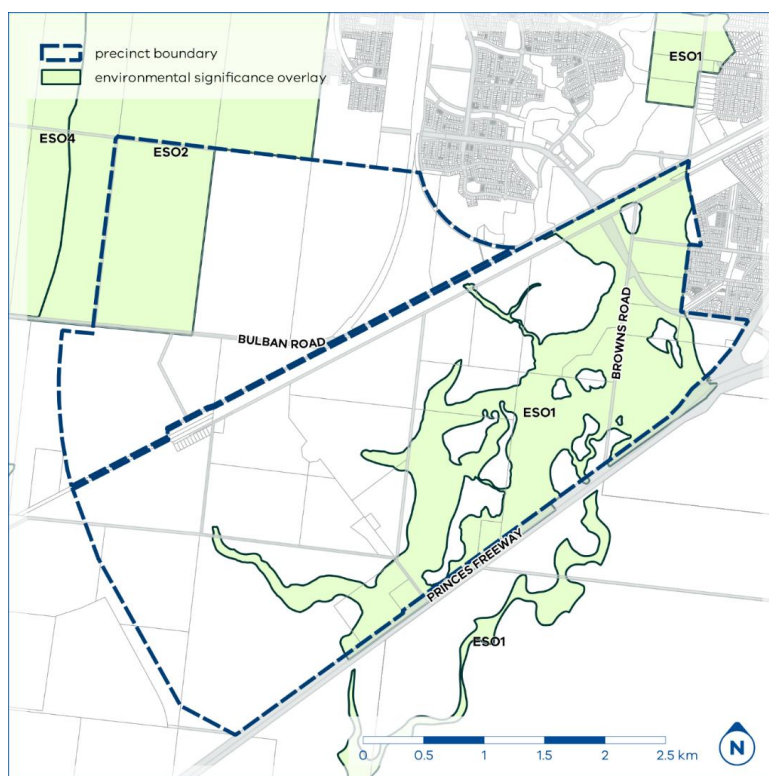
- The impact of development fill platforms on access (ingress and egress) to the eastern side of the WJ and ME.
- The future OMR does not allow for any direct access from WJ or ME to the future OMR corridor.
- One access point to the WJ from the north is via an existing at-grade railway crossing at Wests Road. Further investigations are required to determine the future form and function of the crossing point at this point including any design and associated land take requirements.

5.2. Secondary issues

5.2.1. Biodiversity

As shown in Figure 5, Environmental Significance Overlay Schedule 1 (ESO1) applies to a large portion of WJ. ESO1 applies to major waterways in Wyndham including Skeleton Creek including the Dry Creek tributary, Werribee River including the Davis Creek tributary, Lollypop Creek and Little River. These are major ecosystems that include permanent and intermittent watercourses and their banks, riparian lands and wetlands associated with the floodplain, escarpments and other geological or topographical features, and connected creeks and tributaries.

Figure 5 – Extent of Environmental Significance Overlay



Environmental Significance Overlay Schedule 2 (ESO2) affects the northwest corner of ME and applies to existing conservation reserves, areas of significant remnant native vegetation and a number of areas that provide habitat for threatened flora and fauna including land in the Western Grassland Reserve.

It is important that these areas are retained and managed during the planning for WJ and ME to ensure that their biodiversity values and any habitat links are protected and enhanced.

A biodiversity assessment was also undertaken for WJ by WSP as WJ is not included in the Melbourne Strategic Assessment (MSA). Mambourin East is included in the MSA.

WSP undertook targeted surveys for Golden Sun Moth and Growling Grass Frog in the 2021-22 survey season targeted survey undertaken for the species. surveys undertaken in 2022-23 found no Striped Legless Lizards and Spiny Rice Flower present in the precinct.

Two EPBC Act listed Threatened Ecological Communities were identified on the east side of WJ:

- Natural Temperate Grassland
- Grassy Eucalypt Woodland of the Victorian Volcanic Plain and Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains.

These patches total approximately 1.5 ha and 0.5 ha respectively on properties located in the eastern part of WJ.

In addition to the threatened ecological communities, 110 canopy trees were recorded in the study area: 80 of these are scattered, 76 trees are large as per the most appropriate EVC benchmark, of these large trees 28 are within patches, while 30 of these trees provide arboreal habitat in the form of hollows or nests. The location of key trees is identified in the development scenario maps in the Technical Assessment in Appendix 1.

In addition to the above, parts of both PSPs are located within areas where the Victorian Grassland Earless Dragon (VGED) species or species habitat may occur. The VGED is a Critically Endangered species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). DEECA is developing a broader VGED conservation strategy¹.

5.2.2. Ramsar wetland

Approximately 134 ha in the south-west of WJ (See Figure 6) is within the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site (a wetland of international importance listed under the Convention on Wetlands of International Importance). The area in WJ within the boundary of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site is also covered by State Resource Overlay Schedule 1 (SRO).

WSP recommended the preparation of significant impact assessment which includes Limits of Acceptable Change (LAC) for the Ramsar wetlands and a significant impact assessment for the rest of the precinct. The LAC will need to consider noise, light, hydrology and other potential impacts aside from habitat loss on the Ramsar wetlands. The significant impact assessment will determine if any referrals to the federal Department of Agriculture, Water and Environment (DAWE) under the EPBC Act will be required.

¹ Since DD was completed, DEECA has confirmed that habitat surveys will need to be undertaken to confirm the presence of VGED habitat as part of the suite of technical reports prepared to inform PSP preparation. If VGED habitat is identified, targeted survey for the VGED will need to be carried out.

Figure 6 – RAMSAR Wetland extent



5.2.3. Cultural Heritage

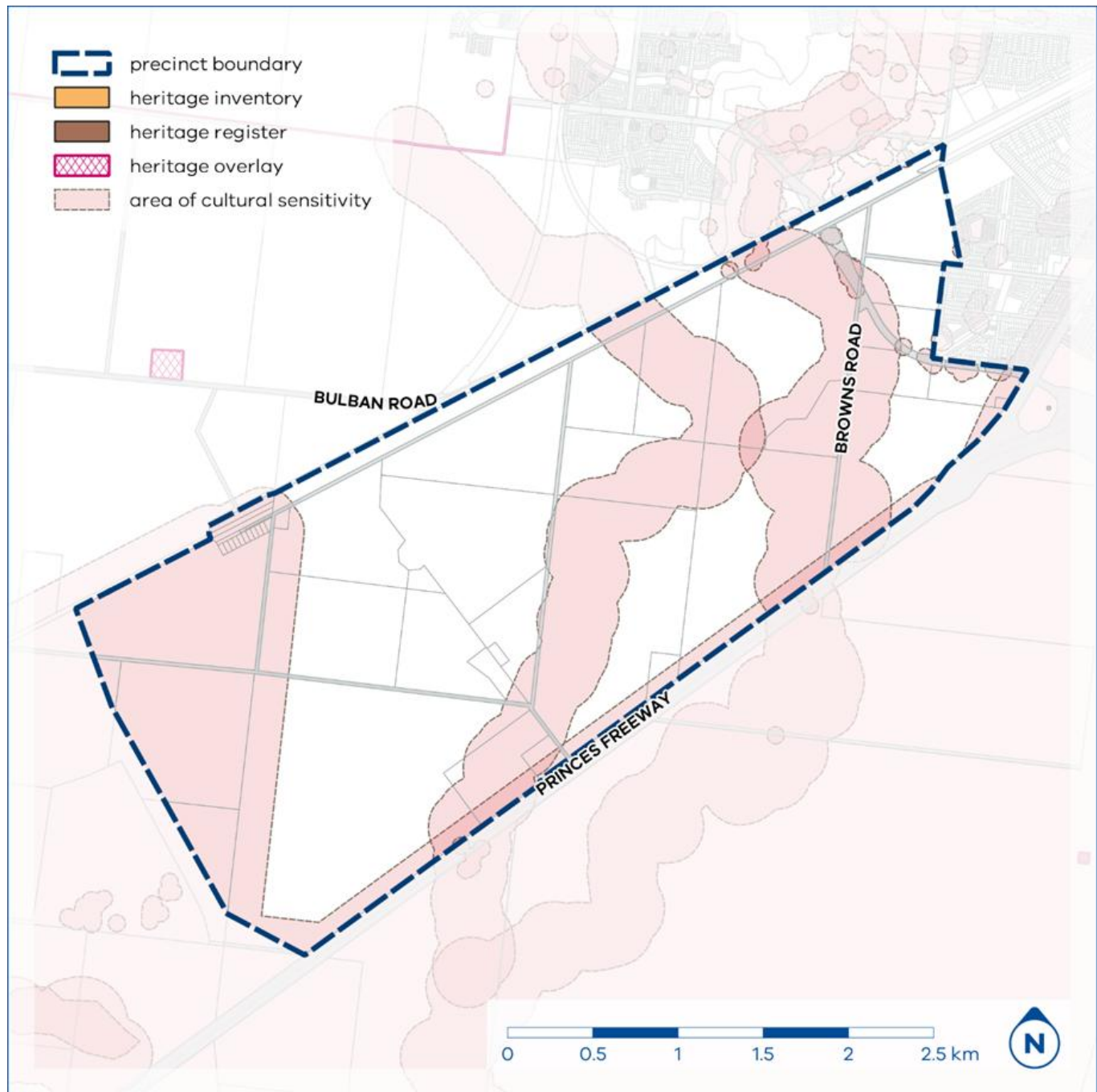
Figure 7 shows Lollypop Creek and Cherry Creek and the western side of the quarry and land in Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site as areas of Aboriginal cultural heritage sensitivity under the Aboriginal Heritage Act 2006.

The VPA undertook preliminary engagement with the Registered Aboriginal Party, Wadawurrung Traditional Owners Aboriginal Corporation as part of due diligence. A cultural Values Assessment (CVA), prepared by Unearthed Heritage for WJ and ME was endorsed by the Wadawurrung August 2023. Recommendations arising from the CVA which will have implication on special planning for WJ and ME include:

- All waterways should be subject to rejuvenation and revegetation programs.
- No impact be permitted within 100 m of current or prior waterways.
- Stony rises should be reserved as a passive recreational venue only with a priority upon indigenous vegetation restoration and renourishment
- The lone tree in Location 11 be retained as it represents a utilised bird habitat in an otherwise cleared location.

Further engagement with the Wadawurrung will need to be undertaken as part of PSP preparation.

Figure 7 – Areas of Aboriginal Cultural Sensitivity



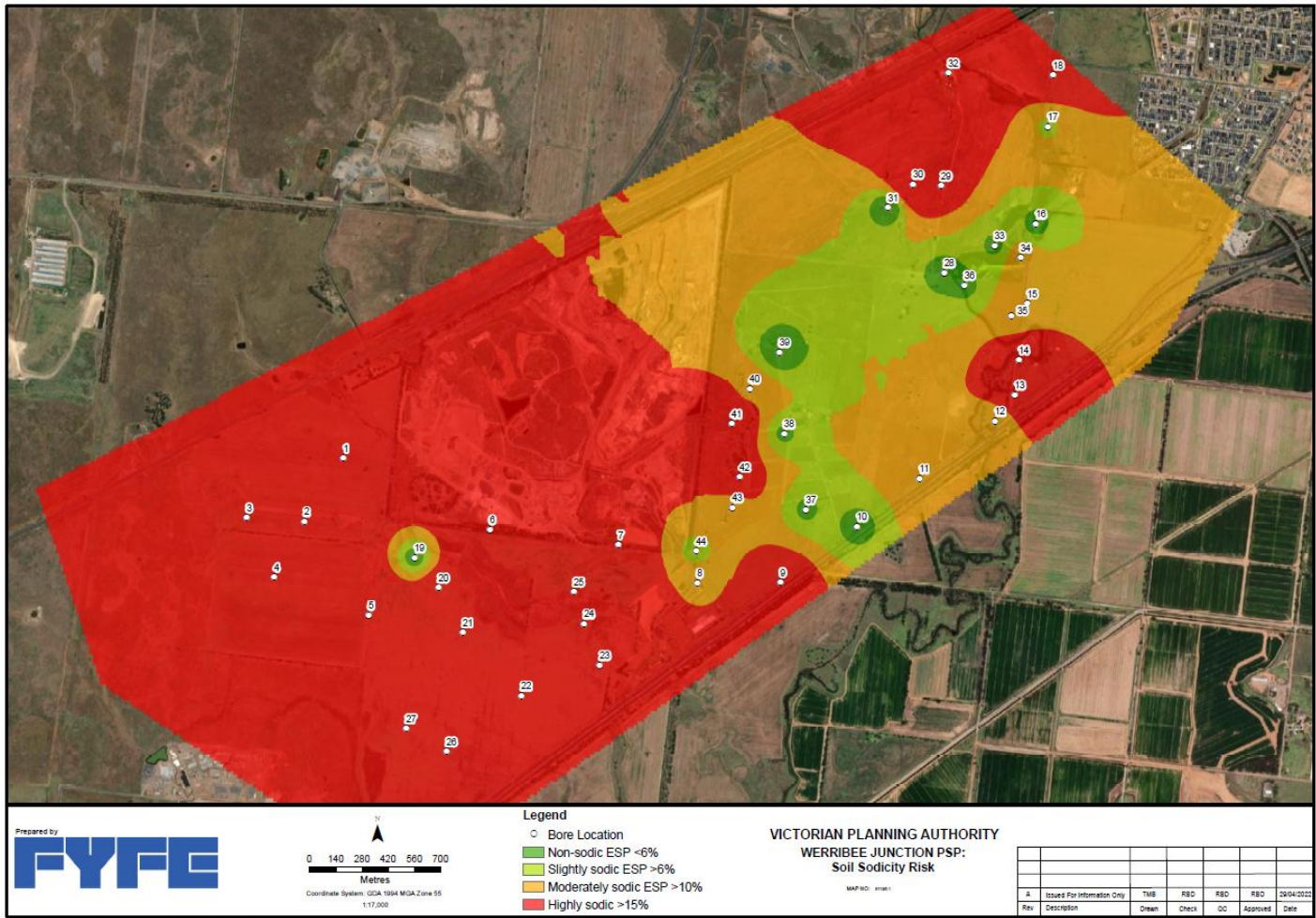
5.2.4. Sodic and Dispersive Soils

Figure 8 shows soil sodicity Risk in WJ. Areas of very highly sodic soils were identified in the northern and southwest corners of WJ by FYFE in 2022. No Acid sulfate soils were detected in WJ.

The extent of excavation in WJ to create development platforms will need to be carefully managed during the planning of WJ to ensure long-term stability in the precinct and ensure development in the precinct does not have a detrimental impact on the health of aquatic flora and fauna.

It is best practice to avoid significant disturbance of sodic soils due to their unstable nature and expensive treatment of the soil to make it stable. Sodic soils can also have a detrimental impact on the health of aquatic flora and fauna. They also have an erosive nature which can be a risk for future infrastructure.

Figure 8 – Areas of Soil Sodidity Risk

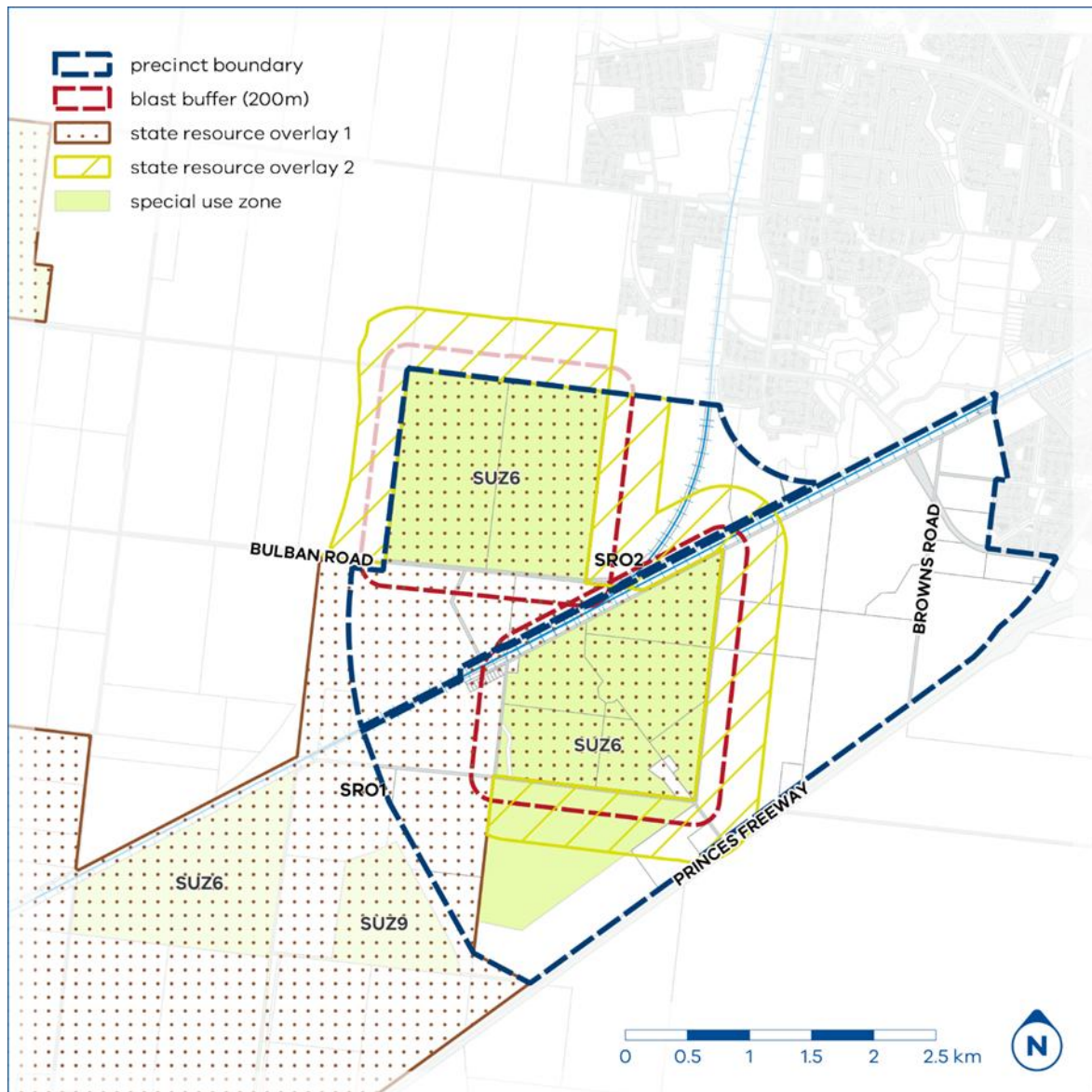


5.2.5. Extractive Industry

Figure 9 shows the areas of WJ and ME covered by the State Resource Overlay (SRO). The SRO is applied to land to be preserved for extractive resources. Under the SRO development is unable to occur until quarrying operations have ceased or the land has been deemed unsuitable for quarrying.

For the purposes of due diligence, areas within SRO Schedule 1 were not considered developable. Areas within SRO Schedule 2 (sensitive use buffer for existing quarries) were considered for non-sensitive uses such as industrial development, consistent with MICLUP. There are also blast buffers within SRO2 areas.

Figure 9 – *Extent of State Resource Overlays*



5.2.6. Infrastructure Contributions

The cost of infrastructure to meet freeboard requirements in WJ is likely to be significant due to the significant flood management and freight transport infrastructure likely to be needed to service the precinct. The feasibility of development in the precincts should be further considered once more is known about the cost of infrastructure and earthworks needed to support development in the precincts.

A feasibility assessment is recommended to determine the development viability in WJ.

Bridge connection between development platforms is likely to be needed to support freight level roads. Based on the scenarios prepared during Due Diligence the distances between the fill platforms we estimated to be approximately 75m to 150m. As at the time of drafting the Due diligence report, the approximate costings per bridge was \$100mill, depending on agreed connections, design standards and requirements.

A raised road spanning 570m between Cherry Creek and Tributary of Cherry Creek (eastern and western development) is also likely to be needed which would require detailed flood investigations and considerable fill.

It is noted that the preliminary flood modelling did not evaluate the merits of any scenario presented, the cost of importing clean fill (for fill platforms) and/ or any drainage infrastructure or conceptual design was not a consideration for the preliminary flood modelling.

6. Conclusions and Recommendations

6.1. Conclusions

The Hydrologic Impact Assessment and VPA's evaluation of the drainage scenarios in the Jacobs' Report confirmed that flooding is a major constraint for WJ and will have a significant influence on the amount, location and feasibility of future development in the precinct.

While technically feasible development scenarios were identified they will require extensive flood mitigation measures, major landform modification and significant supporting infrastructure to ensure compliance with floodplain management policy and to avoid adverse downstream impacts and create an integrated transport network. The cost of these mitigation works is unknown and will not be known until further technical work has been undertaken.

What was clear from DD is that:

- WJ will have a lower NDA than a typical greenfield precinct and is likely to be costly to develop.
- Planning for WJ and ME concurrently presents the most viable overall outcome and efficiencies for planning infrastructure, particularly transport infrastructure.
- Further detailed flood, drainage and infrastructure investigations will be required to inform future planning stages and to determine the practicality, sequencing and viability of development solutions.
- Further technical work will need to be undertaken to better understand impacts to the Ramsar wetland to the south of WJ and the Wadawurrng view on the extent of landform change required in WJ and impacts on Aboriginal Cultural Heritage in the precinct.

6.2. Recommendations

Following Due diligence, the following is recommended for WJ and ME:

1. Werribee Junction development scenario 2d and the Mambourin East development scenario (as per the Technical Background Report) offers the best development outcome and should form the basis of the next stage of technical assessment undertaken to progress planning for the precincts.
2. Mambourin East and Werribee Junction should continue to be jointly progressed, and that a decision is not taken to split the Werribee Junction PSP into two parts until:
 - a. more is known or understood about the timing of the key transport infrastructure information becomes available
 - b. Melbourne Water's updated flood modelling and development viability is explored
 - c. Extractive industries and development opportunities are clarified.

3. This Report and Technical Background Report (or parts thereof) be shared with Council, landowners and relevant stakeholders to understand the infrastructure and Net Developable Area (NDA) constraints and opportunities in both precincts.
4. A Whole of Government² position on the timing of further strategic work for key infrastructure requirements be sought to enable the precinct to progress to plan preparation.

² Whole of Government position includes seeking support from affected government departments (Federal and State) with written notice of support and technical information for infrastructure is supplied.

Appendix 1 – Background Technical Report

APPENDIX 1 TECHNICAL BACKGROUND REPORT

WERRIBEE JUNCTION &
MAMBOURIN EAST
MAY 2024

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EXECUTIVE SUMMARY

This Report was prepared by the Victorian Planning Authority (VPA) in 2022 and updated in 2024 to evaluate the development scenarios in the Hydrological Impact Assessment (Jacobs Report), prepared by Jacobs in December 2020, commissioned by Melbourne Water.

The Jacobs' Report contained nine (9) development scenarios including:

- Three (3) development scenarios deemed to be unviable options and not suitable for further analysis.
- Six (6) development scenarios which were considered suitable for further consideration and subject to the scenario testing document in this Report.

This Report documents VPA's evaluation of the development scenarios in the Jacobs' Report deemed worthy of further consideration. The scenarios tested included:

- Five (5) development scenarios in WJ
- One (1) development scenario for ME
- A combined WJ and ME scenario.

The VPA scored each development scenario against the 5 weighted criteria:

1. The Gross Developable Area (GDA) percentage of the total PSP area.
2. Total employment yield in the PSP area.
3. The possibility of residential development in Werribee Junction (east of Ison Road).
4. The Infrastructure Contributions Plan (ICP) levy and potential supplementary ICP levy (if required).
5. The broader policy and locational context.

The VPA's score for each development scenario is summarised in Table 1 below.

Table 1 Summary of Development scenario results

Scenario *	WJ 2c	WJ 2d	WJ 2e	WJ 3a	WJ 3b	ME	WJ 2d & ME Combined
Total Score	10.50	11.25	10.25	(10.25) #	10.25	11.50	12.25

*Note: * Scenarios 1 – 2b were not assessed. The reasons for this are discussed in Table 2 of this Report.*

Note: # Option 3a did not comply with floodplain management and drainage requirements and are not considered to be viable development scenario for the purposes of this Report.

The total scores in Table 1 were used to determine recommendation for each scenario. The five (5) possible recommendation include:

- Score 0 – <4.9: Very low opportunity - Do not commence
- Score 5 – <9.9: Low opportunity - Consider external stakeholder views
- Score 10 – <14.9: Medium opportunity - Proceed subject to Third-Party funding
- Score 15 – <19.9: High opportunity - Proceed to commencement
- Score 20 – <25: Very High opportunity - Proceed to commencement.

The strongest performing development scenario for WJ was scenario 2d with 11.25 points. WJ Scenario 2d was the most appropriate scenario to combined with the development scenario assessment for ME, which scored 11.50.

The combined development scenario of WJ scenario 2d and ME was the highest scoring scenario with 12.25 points.

No development scenarios achieved a High or Very high development opportunity rating.

Note: The preliminary flood modelling in the Hydrological assessment did not evaluate the merits of any scenario presented, the cost of importing clean fill (for fill platforms) and/ or any drainage infrastructure or conceptual design was not a consideration for the preliminary flood modelling.

TECHNICAL BACKGROUND REPORT

1. INTRODUCTION

This Report was prepared by the Victorian Planning authority (VPA) in 2024 to document the outcomes of VPA's scenario testing of the drainage scenarios in Hydrologic Impact Assessment, prepared by Jacobs dated 1 December 2020 (the Jacob's Report).

Each scenario was assessed against known site constraints including the sodic and dispersive soils, biodiversity, extractive industry and cultural heritage, and against five weighted criteria. informed by the following technical reports:

- Cultural Values Assessment, prepared by Unearthed Heritage, dated Jan 2023.
- Sodic, Dispersive and Acid Sulfate Soils Assessment, prepared by Fyfe dated April 2022.
- Biodiversity Assessment, prepared by WSP dated Feb 2022.
- Hydrologic Impact Assessment, prepared by Jacobs dated 1 December 2020.

2. HYDROLOGIC IMPACT ASSESSMENT DRAINAGE / DEVELOPMENT SCENARIOS

Table 2 lists the 9 development scenarios documented in the Jacobs Report including:

- Three (3) development scenarios that were deemed to be unviable development scenarios and not suitable for further analysis.
- Six (6) development scenarios which were considered suitable for further consideration and subject to the scenario testing document in this Report.

Further detail of each of the scenario tested is provided in **Section 5**.

Table 2 – Flood modelling development scenarios

Scenario	Flood Modelling Purpose	Relevance to Development Scenarios
Scenario 1a	Modelling of existing flood conditions.	Not relevant because no flood mitigation is proposed and existing land above the 1% AEP is minimal. Therefore, development of a PSP based on this scenario is unviable.
Scenario 2a	Modelling of developed conditions flows.	Not relevant because the extent of development area (hardstand) is limited to existing areas above the 1% AEP, which is minimal. Therefore, development of a PSP based on this scenario is unviable.
Scenario 2b	Modelling of developed conditions flows.	Not relevant. This model is similar to scenario 2a in that the extent of development area is significantly limited. The difference in this scenario is that the impact of the development of Ison Road is considered. Overall, development of a PSP based on this scenario is unviable.
Scenario 2c	Modelling of developed conditions flows with fill platforms and flood storage.	These modelled scenarios are relevant to this Report as the flood mitigations tested allow for significantly more developable land when compared with scenarios 1a to 2b. The testing of these scenarios in a holistic manner by the VPA which considers other issues such as soils, cultural heritage, biodiversity, extractive industries, access and policy is worthwhile.
Scenario 2d	Modelling of developed conditions flows with fill platforms and flood storage.	
Scenario 2e	Modelling of developed conditions flows with fill platforms and flood storage.	
Scenario 3a	Modelling of developed conditions flows with fill platforms, flood storage and constructed waterways.	
Scenario 3b	Modelling of developed conditions flows with fill platforms, flood storage and constructed waterways.	
Mambourin East	N/A	N/A

3. VPA SCENARIO TESTING CRITERIA

The VPA assessed seven (7) development scenarios:

- Five (5) development scenarios in WJ (2c, 2d, 2e, 3a and 3b)
- One (1) development scenario for ME
- A combined WJ and ME scenario.

The VPA scored each development scenario against the five criteria listed below:

1. The Gross Developable Area (GDA) percentage of the total PSP area.
2. Total employment yield in the PSP area.
3. The possibility of residential development in Werribee Junction (east of Ison Road).
4. The Infrastructure Contributions Plan (ICP) levy and potential supplementary ICP levy (if required).
5. The broader policy and locational context.

Each criterion was given a weighting and a score between 0 to 4 points. The metric used to score each criterion is documented in Table 3. The scoring was based on information provided by pre-commencement technical studies and policy considerations.

Table 3 – Development Scenario Scoring Matrix

Criteria	Development Scenario Scoring Metric				
	Weight	Low (1)	Med (2)	High (3)	Very High (4)
Total % GDA	1.5	<30%	30-45%	45-60%	>60%
Total Jobs (30 Jobs/Ha)	1.0	<915 job	916 -2,127 jobs	2,178-10,274 jobs	>10,275 jobs
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only
Policy Support	1.25	Low	Med	High	Very High
Total Score	5.0				

Note: If a criterion scores 0 (e.g. 0ha), a score of 0 as opposed to 1 (low) will be applied.

The total score from Table 3 were used to determine the recommendation for each scenario. Table 4 below contains the development scenario recommendations based on the development scenario scoring matrix.

Table 4 – Development Scenario Scoring Recommendations

Total Score	Opportunity	Recommendation
Score 0 – <4.99	Very low opportunity	Do not commence
Score 5 – <9.99	Low opportunity	Consider external stakeholder views
Score 10 – <14.99	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.99	High opportunity	Proceed to commencement
Score 20 – <24.99	Very high opportunity	Proceed to commencement

3.1 DEVELOPMENT SCENARIO SCORING RATIONALE

Criteria 1 - Total percentage (%) of GDA

The low, medium, high and very high scores in Table 3 for Criteria 1 were based on data from previous PSP. The quartiles used for the scenario testing were varied slightly to account for known precinct characteristics and constraints because the mathematic calculation of quartiles from previous PSP data equated a quartile range (the first quartile specifically) that is beyond the GDA viability identified in preliminary flood modelling (i.e. the highest GDA under the flood modelling report is 34%). This is largely due to identified development constraints of SRO1 and extensive 1 in 100 year flood risk extents within the PSPs.

Criteria 2 - Total jobs criteria

The metrics for total jobs was based on 30 jobs per ha. The low, medium, high and very high ranges used for scoring each development scenario were based on analysis of the jobs in existing PSPs and dividing into quartiles.

Criteria 3 – Residential area

The amount of residential land in the modelled development scenarios was divided into quartiles to give each scenario a low, medium, high and very high score under criterion 3. The dwelling data from existing PSPs was not considered relevant to the scoring metric for Criteria 3 - residential area due to the low amount of land available for residential use in WJ (constituting only land east of Ison Road).

Criteria 4 - Supplementary Infrastructure Contribution Plan (ICP) cost

The low, medium, high and very high supplementary ICP levy were based on data from the Minta Farm, Mt Atkinson, Tarneit Plains and Kororoit Plumpton ICPs to provide an objective assessment based on numerical values. Data from previous PSPs was tabled and outliers removed to determine the quartiles to score this criterion in Table 3.

Criteria 5 - Policy support and locational context criteria

Scoring for the policy support and locational context criterion was a subjective assessment rating based on officers' review of external policies listed below and how the scenario responds to known site constraints including extractive resources, existing 1% AEP flood extents, potential areas of Aboriginal cultural heritage sensitivity and biodiversity. A score of 1 (low) was attributed when alignment with current policy was considered to be low and all known location constraints had not been considered. A score of 4 was given when a development scenario was considered to meet all policy objectives and considered all known location constraints.

Policy documents considered are listed below:

- Planning and Environment Act 1987.
- Wyndham Planning Scheme.
- 2014 West Growth Corridor Plan.
- Plan Melbourne 2017-2050.
- Public Transport Guidelines for Land Use and Development (2003).
- Constructed Waterways in Urban Developments Guidelines, Melbourne Water (2009).
- Waterway Corridors – Guidelines for greenfield development areas within the Port Phillip and Westernport Region, Melbourne Water (2013) (Waterway Corridor Guidelines).
- Healthy Waterways Strategy 2018-2028, Melbourne Water (2018).
- Extractive Resources Policy, Joint Ministerial Statement (2018).
- Wyndham Housing and Neighbourhood Character Strategy (2018).
- Melbourne Industrial and Commercial Land Use Plan (MICLUP) (2020).
- Draft Western Metro Land Use Framework Plan (2021).
- Strategic Extractive Resource Areas (SERA) Pilot/State Resource Overlay (2021).
- Draft Avalon Corridor Strategy (2022).
- 'Victoria's Housing Statement: The decade ahead 2024-2034' to deliver 800,000 homes over the next decade.

Location constraints considered included floodplain management, cultural heritage, biodiversity, sodic soils, extractive industries and the movement network. These constraints are discussed in Sections 4 – Technical inputs.

3.2 ASSUMPTIONS AND LIMITATIONS

Preliminary flood modelling and development scenarios are conceptual only and for the purposes of understanding the requirements for floodplain management in the precinct. Potential drainage scenarios did not consider the feasibility of any scenarios in the context of environment, geomorphology, Aboriginal cultural heritage, existing planning scheme overlays, drainage servicing costs, land filling costs or any other constraints (not listed).

The cost of importing clean fill (for fill platforms) and/or any drainage infrastructure was not included in preliminary flood modelling. Sodic soils will need to be considered in future planning and costs for all development outcomes.

Detailed investigations of any scenario presented would need to consider the flood modelling scenarios in the context of all constraints.

4. TECHNICAL INPUTS

4.1 BIODIVERSITY

As shown in Figure 1, Environmental Significance Overlay Schedule 1 (ESO1) applies to a large portion of WJ. ESO1 applies to major waterways in Wyndham including Skeleton Creek including the Dry Creek tributary, Werribee River including the Davis Creek tributary, Lollypop Creek and Little River. These are major ecosystems that include permanent and intermittent watercourses and their banks, riparian lands and wetlands associated with the floodplain, escarpments and other geological or topographical features, and connected creeks and tributaries.

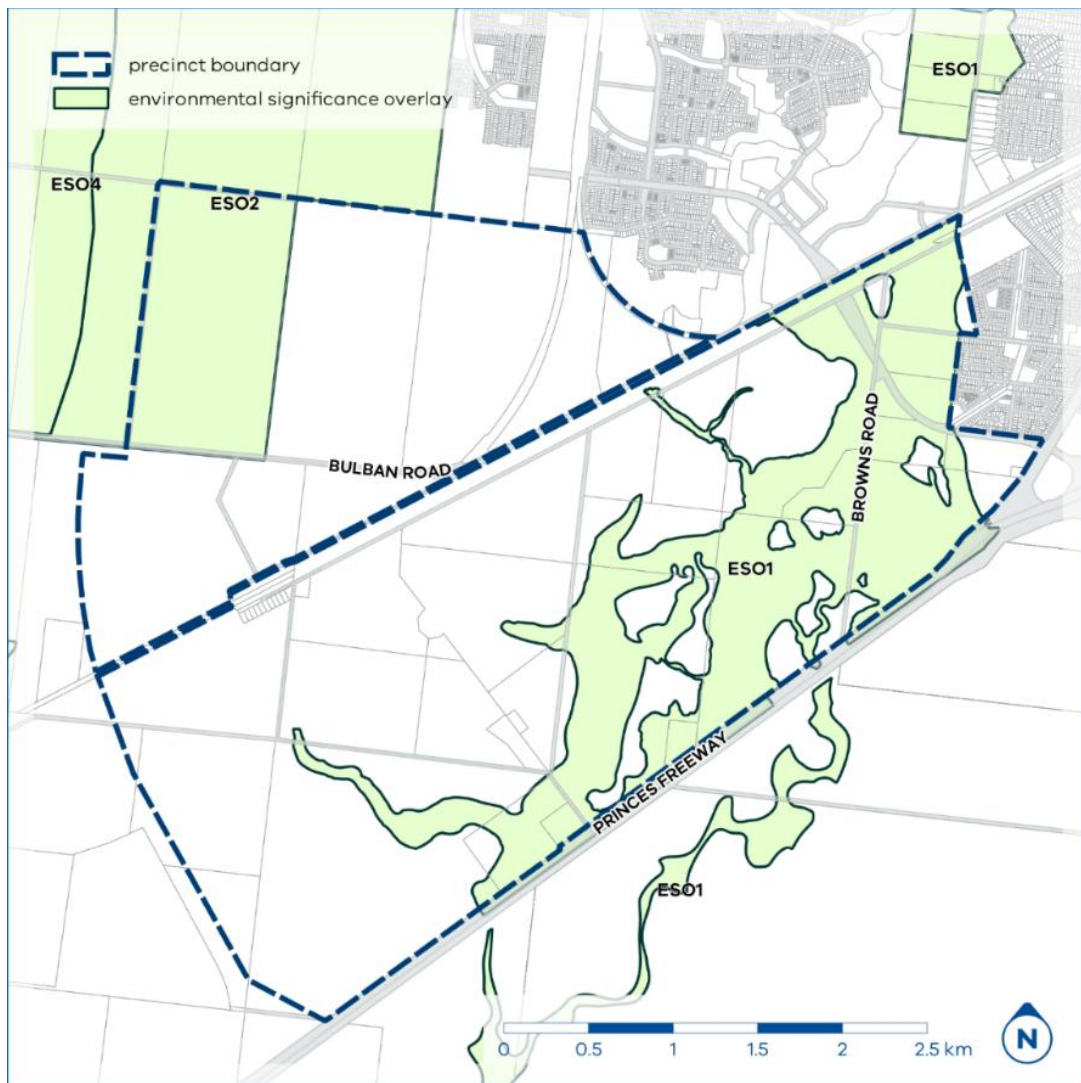


Figure 1: Extent of Environmental Significance Overlay

ESO1 seeks to preserve, enhance, re-instate and protect all aspects of the waterway corridors and ensure that the volume of stormwater runoff into waterways is not increased and the quality of runoff improves or remains at established levels where altered land use or development adjacent to waterways occurs.

Environmental Significance Overlay Schedule 2 (ESO2) effects the northwest corner of ME. ESO2 applies to existing conservation reserves, areas of significant remnant native vegetation and a number of areas that provide habitat for threatened flora and fauna.

The policy objectives of ESO2 are to protect, improve and enhance the environmental and landscape values of areas covered by ESO2.

4.2 CULTURAL HERITAGE

A desktop investigation of Aboriginal cultural heritage identified potential areas of cultural sensitivity along Lollypop Creek and Cherry Creek and the western side of the quarry. Figure 2 below illustrates the current mapped areas of Aboriginal Cultural Heritage Sensitivity for the precincts, specifically highlighting impacts to WJ.

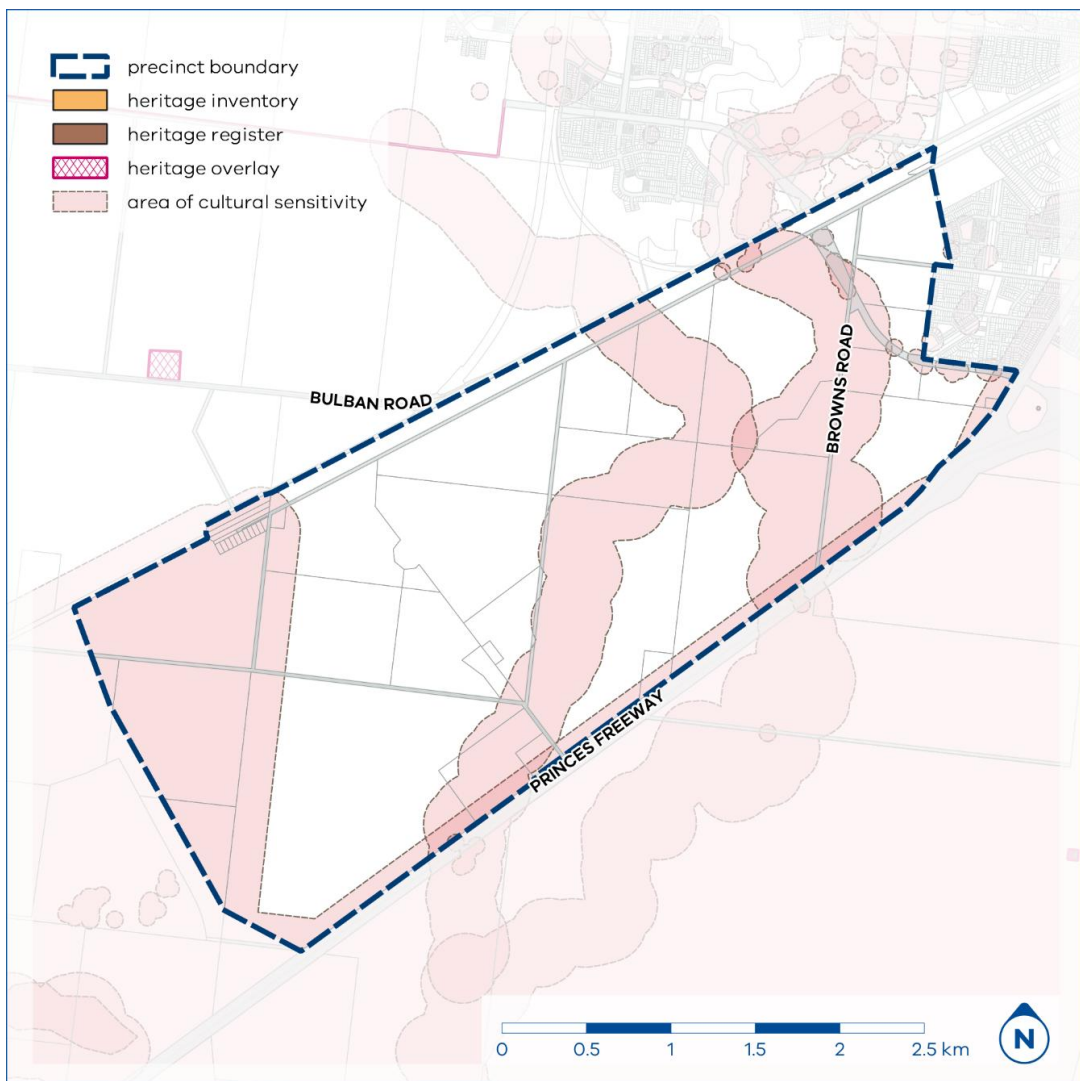


Figure 2: Desktop Assessment of Cultural Heritage

4.3 SODIC AND DISPERSIVE SOILS

Figure 3 **Error! Reference source not found.** - Map of Soil Sodicity shows areas of likely sodic soils in WJ. The map is based on soil sampling undertaken by FYFE in 2022. Some areas of the precinct were identified as having very highly sodic soils.

Sodic soils have a tendency for waterlogging and erosion and can result in very cloudy water due to suspended soil particles. This can have a detrimental impact on the health of aquatic flora and fauna. The erosive nature of sodic soils can be a risk for future infrastructure within the precinct. Careful design and engineering may be required to ensure long-term stability.

Preliminary testing for Acid Sulfate Soils was also undertaken. No Acid sulfate soils were detected in WJ.

The sodicity in WJ is a risk which may need to be addressed in further detail in any future planning, noting maximum depth of sampling was between 1 and 3 metres across the area and the excavation required to facilitate the proposed flood storage may exceed these depths.

It was also noted that it is not best practice to disturb significant amounts of sodic soils due to their unstable nature and expense involved in treating soil to make it stable. Water storage (storage 1) in all potential development scenarios is located in an area with the highest levels of sodicity.

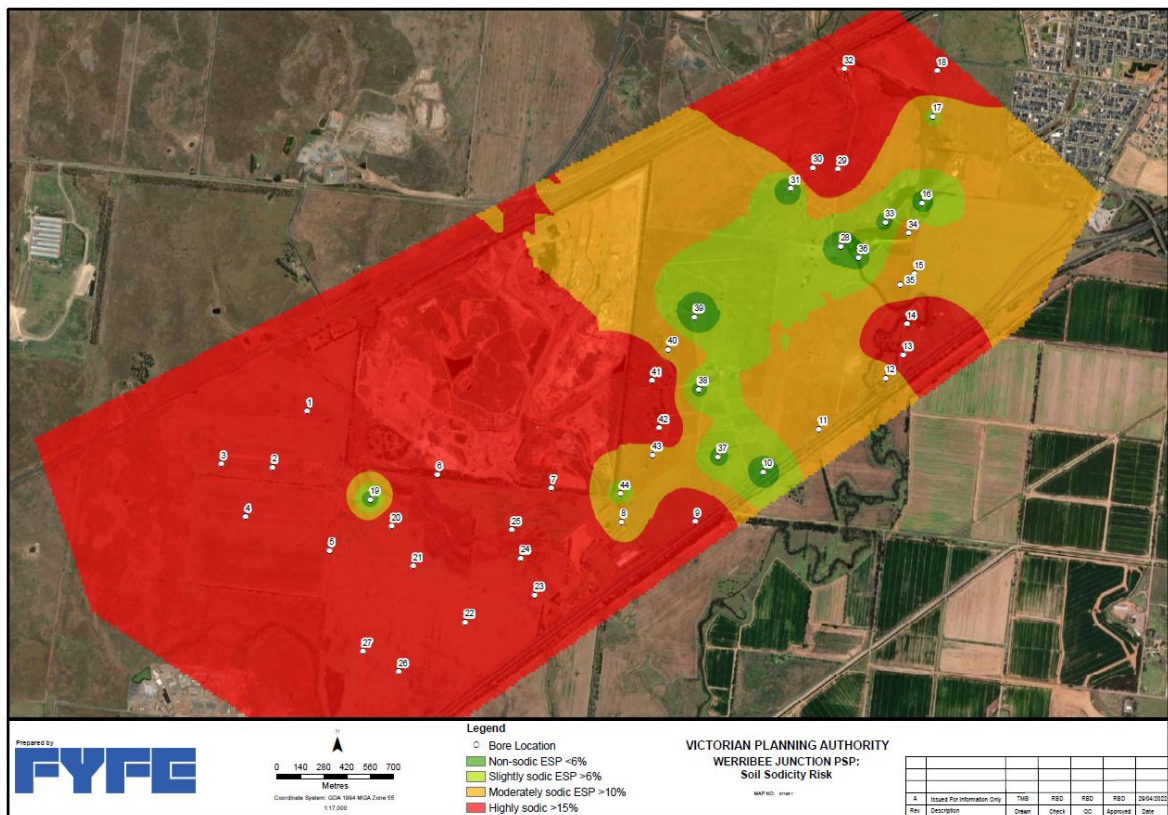


Figure 3: Sodic Soils Extent

4.4 SERA AND QUARRY SITES

Each development scenario considered the key requirements of the SERA Pilot (State Resource Overlay (SRO) Schedules 1 and 2) and the Extractive Resources Policy. Figure 4 below shows the location of the SRO1 and 2 and two active quarry sites (land in the Special Use Zone) in WJ and ME.

Resources Victoria confirmed that land covered by SRO1 is not suitable for urban development through the precinct planning process and therefore, must remain unmodified. They confirm that land within the SRO2 should only be rezoned for industrial purposes.

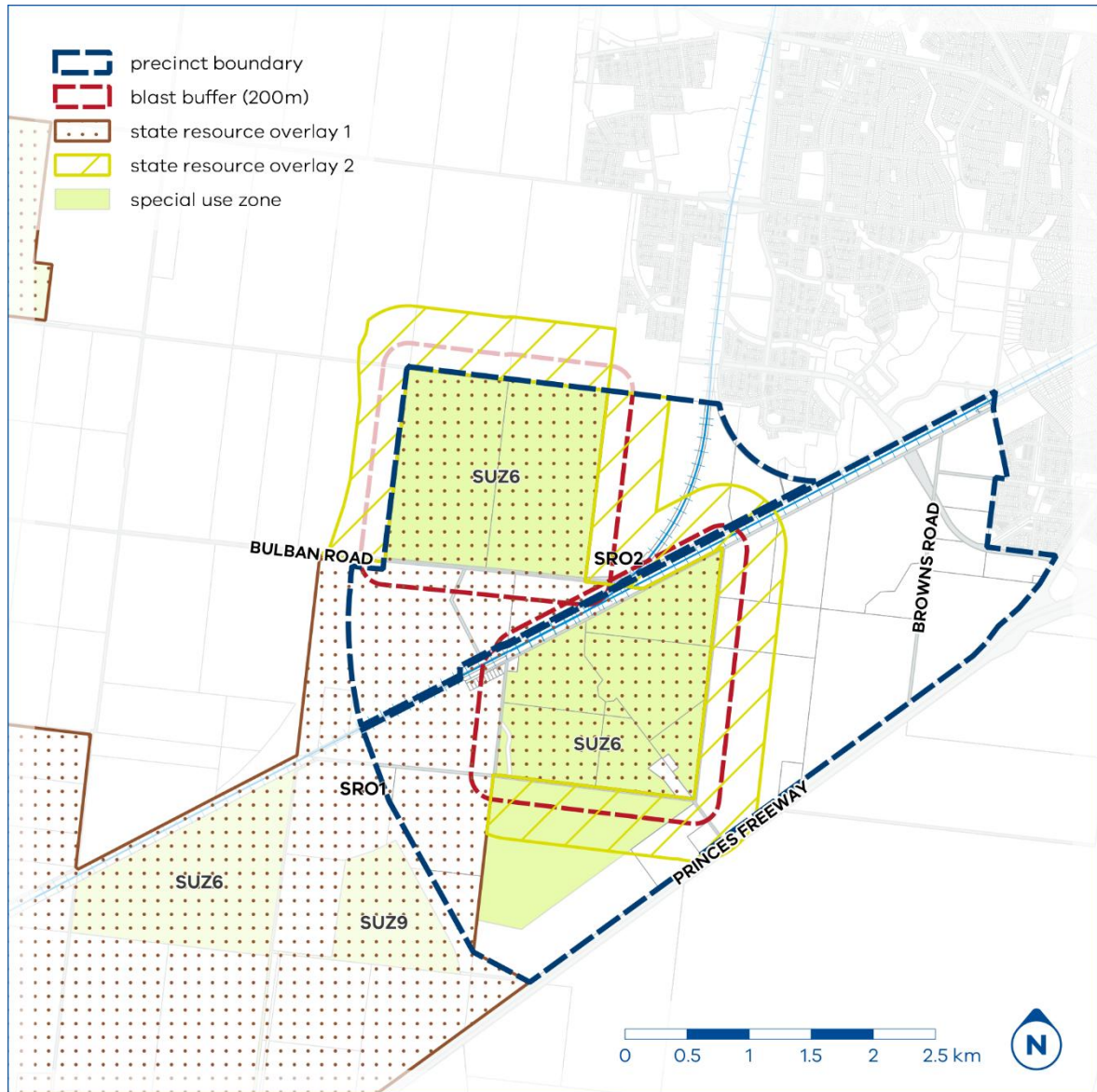


Figure 4: Extent of State Resource Overlay

4.5 FLOODPLAIN MANAGEMENT

Jacobs undertook a flood study in 2020 to inform the design of Development Services Schemes in Werribee Junction PSP area. The modelling was undertaken to the current Australian Rainfall and Runoff (ARR 2019) but used 2018 Melbourne Water's Flood Mapping Project Specifications (Tech Specs) that were updated in August 2023. Figure 5 below illustrates the 1% AEP flood extent modelled and Melbourne Water data.

Melbourne Water confirmed in March 2024 that that the flood mapping from the 2020 hydrological report was still valid for WJ and that Melbourne Water may also investigate other flood management options as part of future planning for the WJ PSP.

The preliminary flood modelling did not evaluate the merits of any scenario presented.

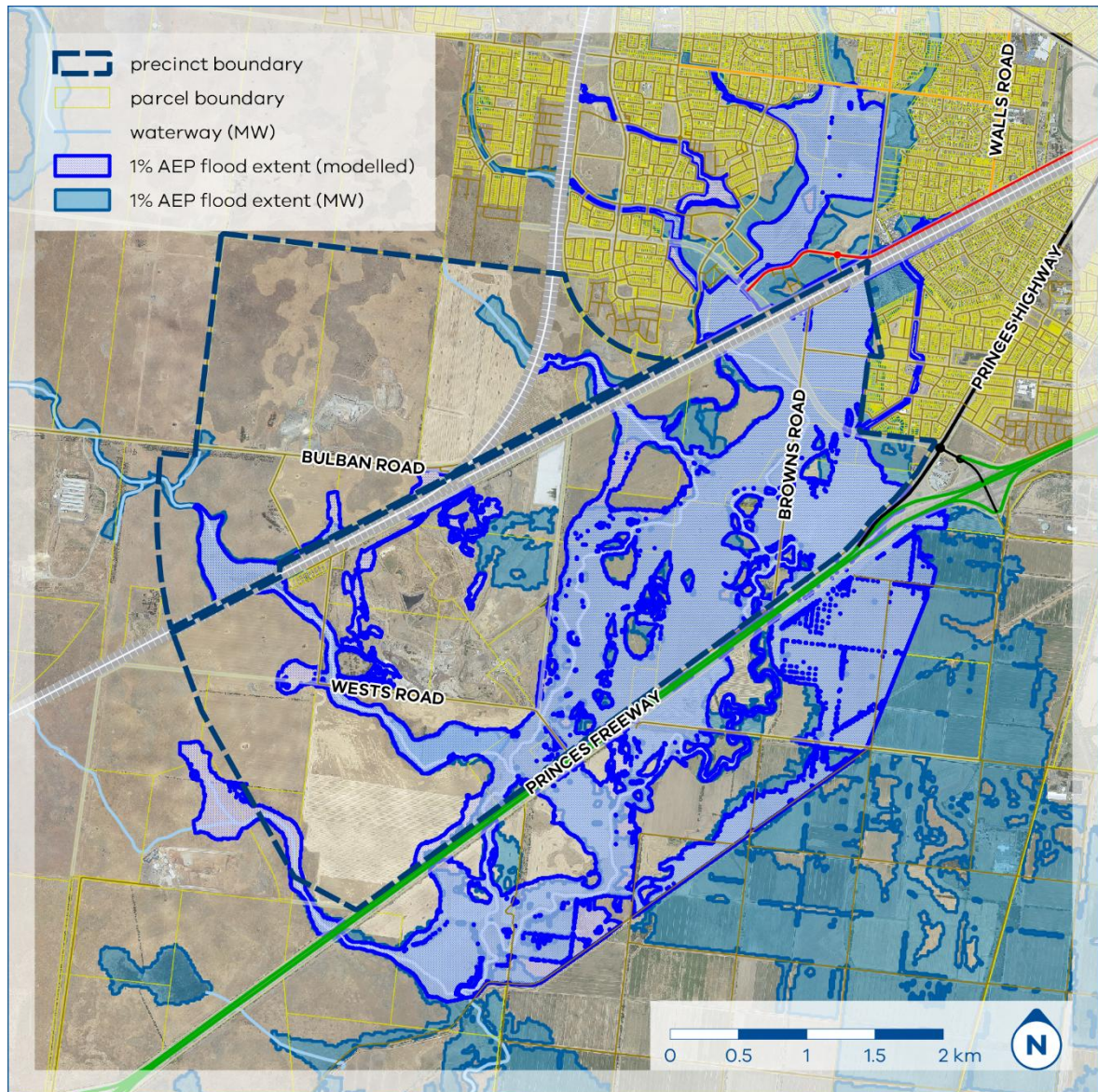


Figure 5: 1% AEP Flood Extent

5. DEVELOPMENT SCENARIO ANALYSIS OUTCOMES

5.1 WERRIBEE JUNCTION SCENARIO 2C

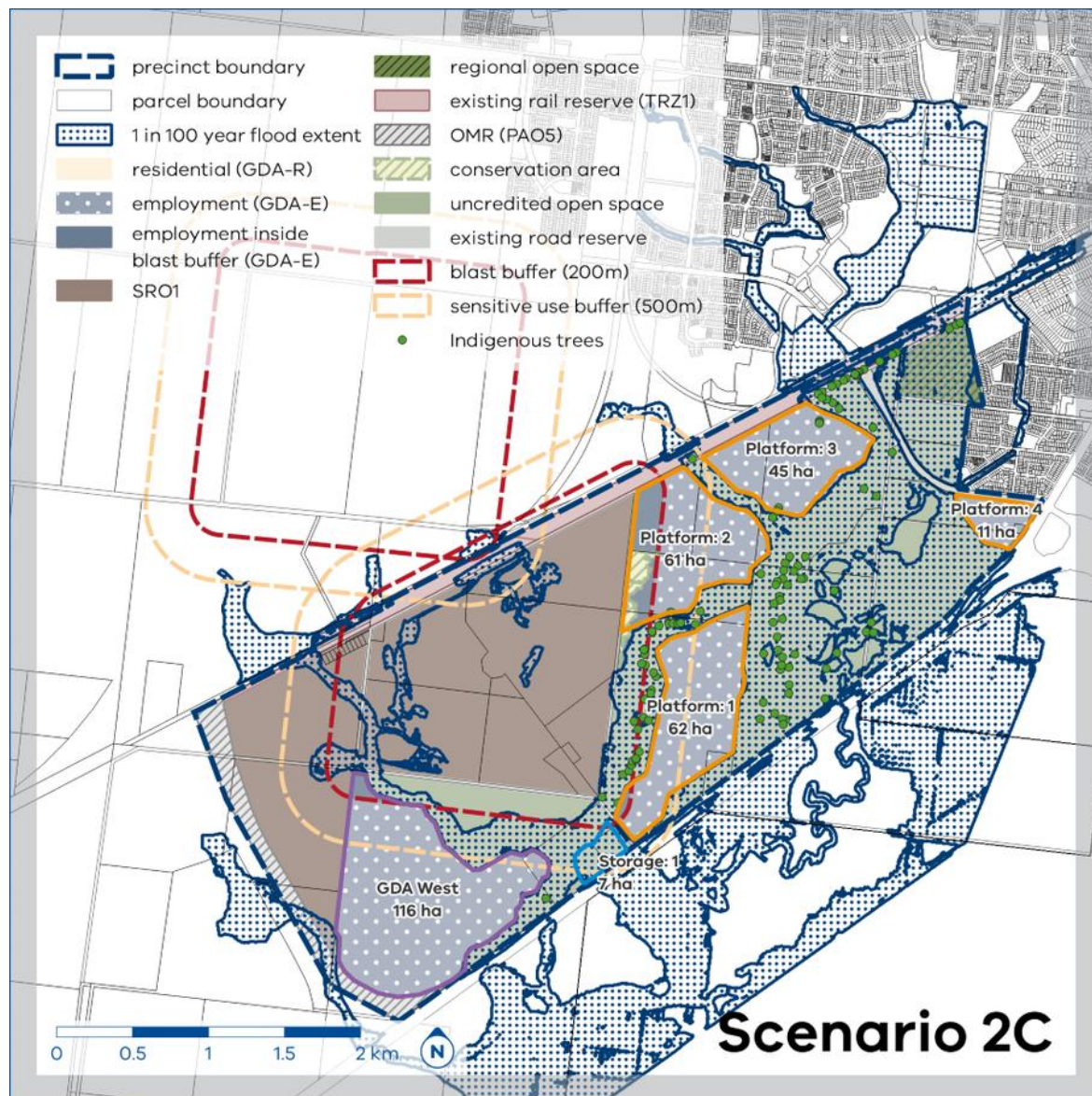


Figure 6 Scenario 2c

5.1.1 ADVANTAGES AND DISADVANTAGES

Table 2 - Advantages and Disadvantages of Scenario 2c

Advantages	Disadvantages
Provision of 8,749 jobs at 30 jobs / hectare	Relatively Low Gross Developable Area (five development areas totalling 292 ha or 26% GDA)

Advantages	Disadvantages
Filling of land to achieve freeboard requirements (floodplain management requirements) is generally confined to existing high points in the landscape	No residential development within the precinct
Volume of fill required for future development is minimised compared to other scenarios	
Only one drainage storage structure (7 ha) is required to assist achieving floodplain storage requirements	
Extent of fill within areas identified as potential Aboriginal cultural heritage sensitivity are minimised	

Assessment

Table 3 - Scenario 2c Assessment

Development Scenario Assessment Scoring Metric						
Criteria	Weight	Low (1)	Med (2)	High (3)	Very High (4)	Weighted Score
Total % GDA	1.5	<30%	30-45%	45-60%	>60%	1.5
Total Jobs (30 Jobs/Ha)	1.0	<915	916-2,127	2,178-10,274	>10,275	3
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20	0
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only	1
Policy Support	1.25	Low	Med	High	Very High	5
Total Score	5.0					10.5

Table 4 - Scenario 2c Recommendation

Total Score	Opportunity	Recommendation
Score 0 – <4.99	Very low opportunity	Do not commence
Score 5 – <9.99	Low opportunity	Consider external stakeholder views
Score 10 – <14.99	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.99	High opportunity	Proceed to commencement
Score 20 – <25	Very high opportunity	Proceed to commencement

Based on a weighted score of 10.5, the recommendation for development scenario 2c was **‘Proceed subject to third party funding’**.

5.1.2 SUMMARY

Scenario 2c was the second-highest scored WJ development scenario. It achieves a GDA of 26% of the total precinct area.

The rationale for the Criterion 5 (Policy support and locational context criteria) score for scenario 2c is documented below.

Drainage and Sodic Soils

Scenario 2c identifies fill platforms in existing high points of the landscape. This minimises potential development impacts of floodplain management, biodiversity, aboriginal cultural heritage and sodic soils identified in background information.

Scenario 2c requires an offline compensatory flood storage of approximately 57,000m³ (approx. 7 ha area) located at the intersection of Wests Road and the Princes Freeway. This is based on an assumption of 9 x 3000mm x 1500mm and 3 x 3000mm x 1500mm culverts in two sets under Ison Road. It's likely the depth of the storage in this location is constrained to a depth of approximately 1 metre by the existing level of the Princes Hwy culverts to ensure a free draining outfall. There would also be a minimum 40m wide floodway to direct flows back into the eastern portion of the floodway prior to discharge. Scenario 2c had the lowest volume of storage required to offset the fill required to meet freeboard.

There are two key considerations of Scenario 2c from a drainage infrastructure perspective. First, it minimises the cost of excavation for a storage area and minimises land filling to meet freeboard requirements which is an advantage. Secondly, in addition to drainage infrastructure there would be a cost for filling land (fill platforms) a minimum of 600mm above the 1% AEP flood level which would not be included as part of a Development Services Scheme.

The disadvantage is that there is a relatively low developable area compared to other scenarios. This scenario does not contain any residential development. The relatively low developable area (disadvantage) should be considered in the context of relatively low constraints (advantage). Refer to Section 0 for further information.

Biodiversity and cultural heritage

Scenario 2c is likely to have the lowest impact on existing flora and Aboriginal cultural heritage compared to all other scenarios. The fill platforms and flood storages are largely located away from known sensitive areas.

Policy and strategy

Clause 13.03-1L of the Wyndham Planning Scheme outlines strategies for floodplain management. Strategies outlined in Clause 13.03-1L are:

- *Avoid urban expansion within floodplains that reduces flood storage, obstructs flood flows or increases the risk to life, health and safety;*
- *Discourage raised earthworks that reduce natural flood storage, obstruct or redistribute flood flows or increase flow velocities and levels; and*
- *Discourage development in residential areas that encroach on 1:100 year floodplains or existing waterways.*

The scenario received a 'very high' score for policy because it is also the most consistent with Planning Policy Framework (including Clause 13.02-1L), *The Healthy Waterways Strategy 2018-2028*, the Waterway Corridors Guidelines and also Clause 42.01 'Environmental Significance Overlay – Schedule 1 Waterway Corridors.

Scenario 2c also scored 'very high' for the policy analysis because it strikes a good balance between competing policy priorities. Key to this is achieving strong job provision according with the directions of Plan Melbourne, and Melbourne Industrial and Commercial Land Use Plan (MICLUP) whilst ensuring relatively minor impacts to waterways, vegetation and cultural heritage. This is due to the scenario requiring only one compensatory flood storage as discussed above.

Furthermore, the GDA is achieved without prejudicing existing and potential future quarrying operations, thus meeting key requirements of the SERA Pilot (State Resource Overlay Schedules 1 and 2) and the Extractive Resources Policy.

5.2 WERRIBEE JUNCTION SCENARIO 2D

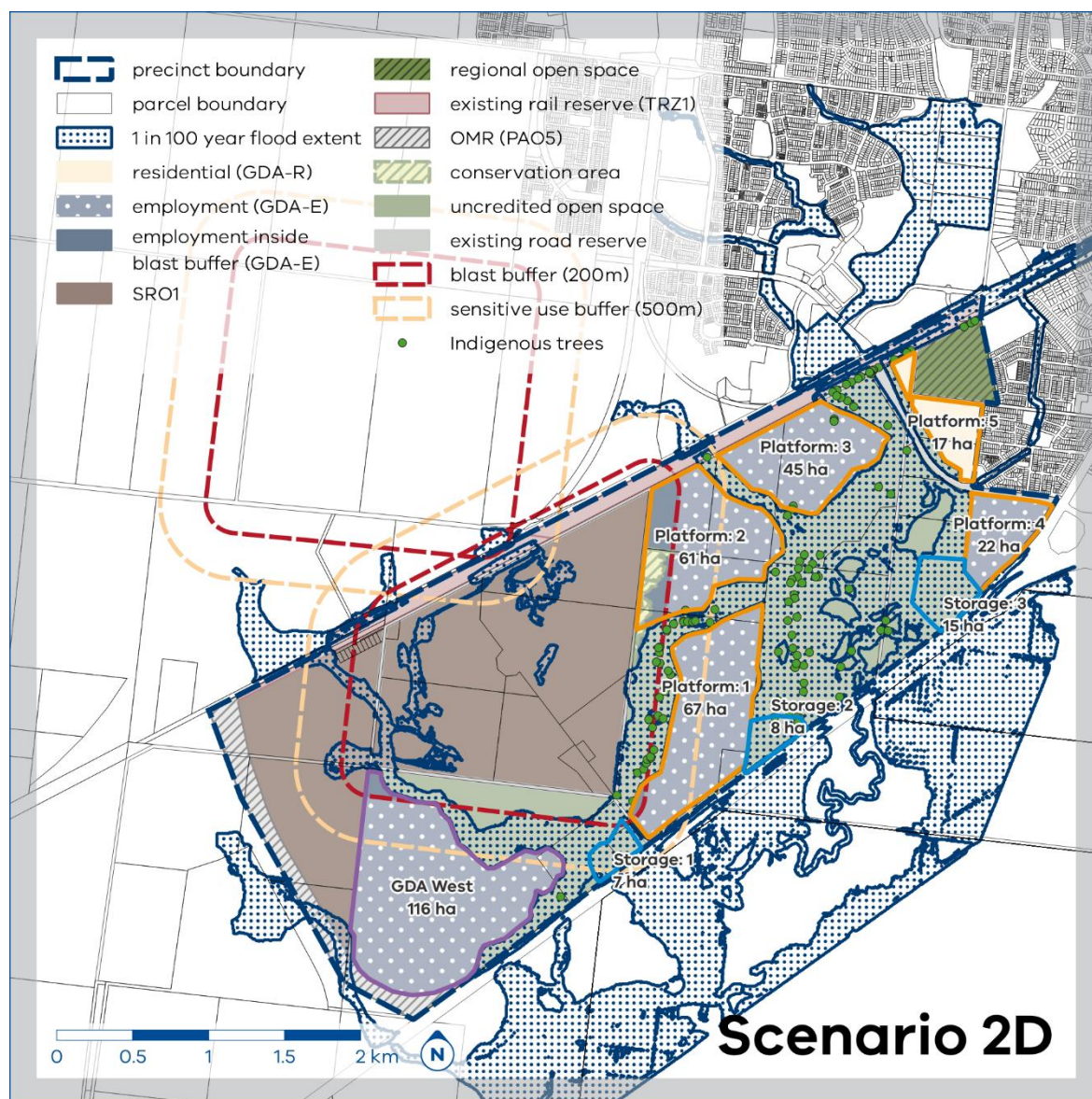


Figure 7 - Scenario 2d

5.2.1 ADVANTAGES AND DISADVANTAGES

Table 5 - Advantages and Disadvantages of Scenario 2d

Advantages	Disadvantages
Provision of 9,191 jobs at 30 jobs / hectare	Relatively Low Gross Developable Area (six development areas total of 323 ha or 28% GDA)
17 ha residential development within the precinct	Three drainage storage structures (total 30 ha) required to assist achieving floodplain storage requirements

Advantages	Disadvantages
	(additional 23 ha of drainage storage required for 2% increase in GDA from Scenario 2C)
Filling of land to achieve freeboard requirements (floodplain management requirements) is generally in existing high points in the landscape	

5.2.2 ASSESSMENT

Table 6 - Scenario 2d Assessment

Development Scenario Scoring Metric						
Criteria	Weight	Low (1)	Med (2)	High (3)	Very High (4)	Weight ed Score
Total % GDA	1.5	<30%	30-45%	45-60%	>60%	1.5
Total Jobs (30 Jobs/Ha)	1.0	<915	916-2,127	2,178-10,274	>10,275	3
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20	0.75
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only	1
Policy Support	1.25	Low	Med	High	Very High	5
Total Score	5.0					11.25

Table 7 - Scenario 2d Recommendation

Total Score	Opportunity	Recommendation
Score 0 – <4.99	Very low opportunity	Do not commence
Score 5 – <9.99	Low opportunity	Consider external stakeholder views
Score 10 – <14.99	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.99	High opportunity	Proceed to commencement
Score 20 – <25	Very high opportunity	Proceed to commencement

Based on a weighted score of 11.25, the recommendation for development scenario 2d was **‘Proceed subject to third party funding’**.

5.2.3 SUMMARY

Scenario 2d was the highest scored WJ development scenario with a score of 11.25. It achieves a GDA of 28% of the total precinct area.

The rationale for the Criterion 5 (Policy support and locational context criteria) score for scenario 2c is detailed below.

Drainage and sodic soils

Scenario 2d increases GDA by 2% (increased developable land) from Scenario 2c, however, it requires additional 23 ha of storage to offset the loss in floodplain storage (loss of floodplain storage from fill required to meet freeboard requirements). As per scenario 2c the Ison Road culverts, offline Storage 1 (57,000m³) and 40m wide floodway is required.

Scenario 2d provides an additional floodway (60m wide) and two additional storages of approximately 37,000m³ and 132,000m³ to compensate for filling to achieve freeboard in Platforms 1 and 4. Like the storage in 2c, the depth of the storages is likely to be limited by the invert level to achieve a free draining outfall. The

advantage of the conceptual drainage infrastructure was that it also facilitated approximately 17 GDA ha of residential development on the eastern side of Ison Road.

The cost of excavation has not been calculated for Scenario 2d's additional 169,000m³ of storage (compared to 2c) and additional 60m wide floodway, it is assumed to be higher than costs for scenario 2c. The equity of flood storage locations was not tested for individual land parcels, but this would need to be considered in drainage design. In addition to drainage infrastructure, the cost of land filling (to achieve freeboard) may also need to be calculated for the precinct. The cost of filling land would not be covered by a DSS and would likely be the responsibility of the developer.

Biodiversity and cultural heritage

The biodiversity assessment highlighted an area that contains matters of national environmental significance within platform 2. Figure 7 above demonstrates the fill platforms avoid patches and corridors of existing indigenous trees, where possible. This area is designated as "conservation area" and is recommended for protected. This 'conservation area' was subtracted from the GDA calculations for that platform.

The desktop cultural heritage assessment indicates that areas of sensitivity are predominantly located in the waterway corridors. As the fill platforms for scenario 2d generally follow waterway alignments, it is considered that the provision of the platforms can be balanced with cultural heritage assets to be protected (subject to future detailed precinct planning).

The accommodation of three water storages within the floodplain will need to be sensitively managed from a cultural heritage perspective. With information available to date and for the purpose of this Report, the storage sizes and locations are generally suitable. However, the location and size of the storages may need to be revised, which may then impact the size of fill platforms and the amount of GDA achievable.

Policy and strategy

Scenario 2d scores 'very high' for policy considerations. It balances the policy direction from Plan Melbourne, MICLUP and the VPA 50k jobs target with respect to job provision whilst also responding to a demand for housing in accordance with Plan Melbourne, the Wyndham Planning Scheme and the draft Avalon Corridor Strategy.

As with scenario 2c, this is balanced with an appropriate flood management, biodiversity and cultural heritage outcome. Clause 13.03-1L of the Wyndham Planning Scheme outlines strategies for Floodplain management which are outlined in section 2.3.1 of this report. The scenario achieves consistency with the planning policy framework as land filling has been generally confined to areas of higher elevation. Further discussions would be required with Melbourne Water to understand whether the additional flood storages would be consistent with *The Healthy Waterways Strategy 2018-2028*.

Furthermore, the additional GDA is achieved without prejudicing existing and potential future quarrying operations, thus meeting key requirements of the SERA Pilot (State Resource Overlay Schedules 1 and 2) and the Extractive Resources Policy.

5.3 WERRIBEE JUNCTION SCENARIO 2E

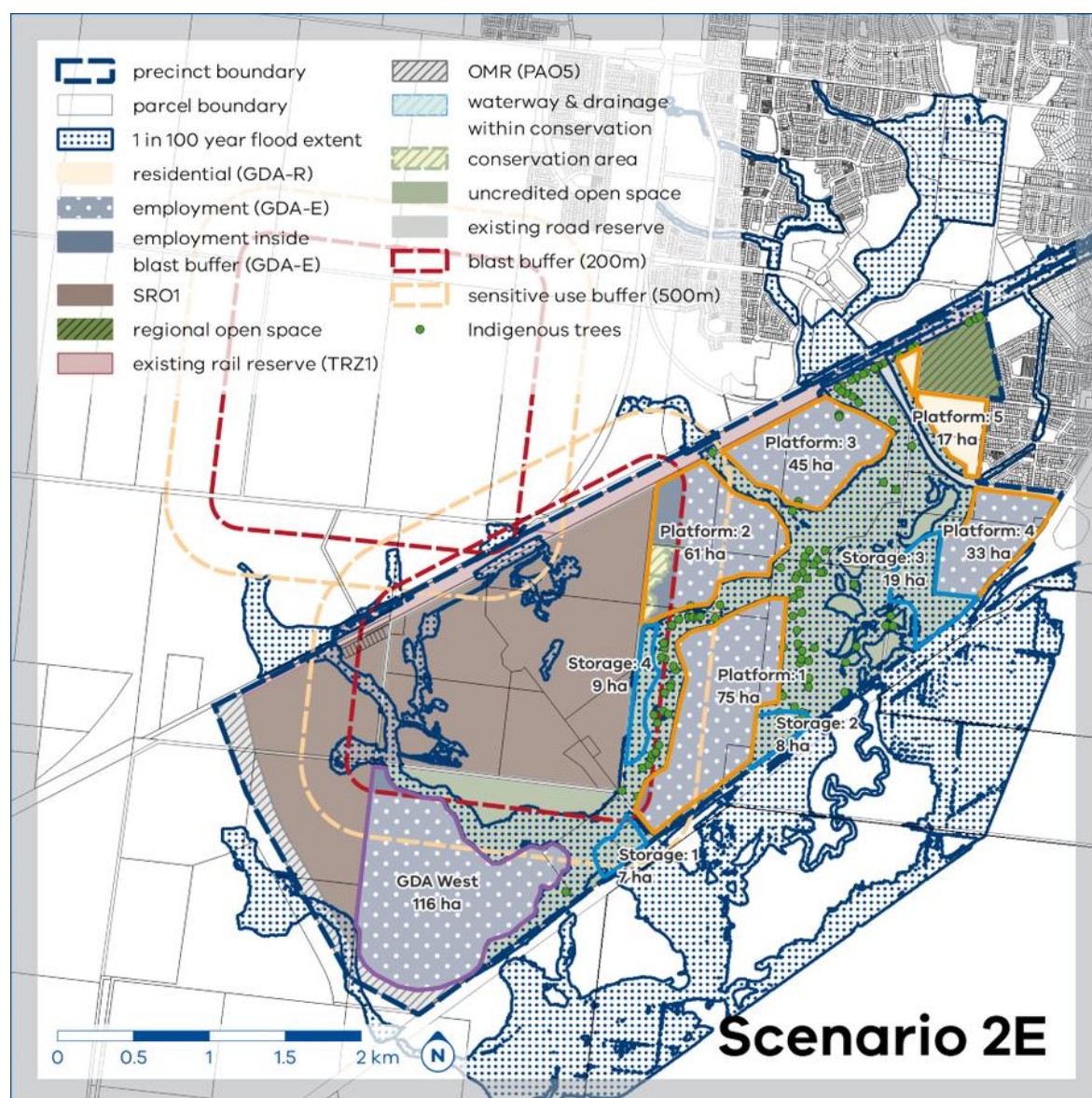


Figure 8 - Scenario 2E

5.3.1 ADVANTAGES AND DISADVANTAGES

Table 8 - Advantages and Disadvantages of Scenario 2e

Advantages	Disadvantages
Provision of 9,773 jobs at 30 jobs/ hectare	Relatively medium Gross Developable Area (six development areas total of 343 ha or 30% GDA)
17 ha residential development within the precinct	Four drainage storage structures (total 43 ha) required to assist achieving floodplain storage requirements

	(additional 13 ha of drainage storage required for 2% increase in GDA from Scenario 2d)
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5.3.2 ASSESSMENT

Table 9 - Scenario 2e Assessment

Development Scenario Scoring Metric						
Criteria	Weight	Low (1)	Med (2)	High (3)	Very High (4)	Weight ed Score
Total % GDA	1.5	<30%	30-45%	45-60%	>60%	3
Total Jobs (30 Jobs/Ha)	1.0	<915	916-2,127	2,178-10,274	>10,275	3
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20	0.75
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only	1
Policy Support	1.25	Low	Med	High	Very High	2.5
Total Score	5.0					10.25

Table 10 - Scenario 2e Recommendation

Total Score	Opportunity	Recommendation
Score 0 – <4.99	Very low opportunity	Do not commence
Score 5 – <9.99	Low opportunity	Consider external stakeholder views
Score 10 – <14.99	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.99	High opportunity	Proceed to commencement
Score 20 – <25	Very high opportunity	Proceed to commencement

Based on a weighted score of 10.25, the recommendation for development scenario 2e was **‘Proceed subject to third party’**.

5.3.3 SUMMARY

Scenario 2e was the equal-third ranked WJ development scenario (alongside 3b) with a score of 10.25. It achieves a GDA of 30% of the total precinct area.

The rationale for the Criterion 5 (Policy support and locational context criteria) score for scenario 2e is detailed below.

Drainage and Sodic Soils

Scenario 2e shows an increased GDA of 2% above Scenario 2d (the highest ranked Werribee Junction scenario). To offset the impact of land filling to achieve freeboard, scenario 2e requires 4 storages (57,000m³, 37,000m³, 245,000m³ and 44,000m³). This is an additional 157,000m³ (13ha) above scenario 2d to achieve 2% additional GDA.

There are also additional bunds required for storage 3 which may trigger the need for an ANCOLD assessment. An ANCOLD¹ assessment is applicable for water or tailings dams with the potential to cause loss of life or significant environmental or physical damage through operation or failure. A specialist consultant

¹ Australian National Committee on Large Dams

would be required to undertake an ANCOLD assessment and it may have cost implications for the future delivery of the asset (i.e. specification of filters in the wall of the embankment to prevent seepage).

Based on soil sampling, it is possible Storage 3 and 4 would be in very highly sodic and dispersive soils. This may increase the cost and complexity of future asset delivery. This will need to be considered in future planning.

The cost of excavation and ANCOLD assessments has not been calculated, but there are also issues of equity to consider with flood storage location. Based on the conceptual scenario, properties in the south of the Werribee Junction precinct would provide additional flood storage so that fill platforms in the north and eastern sides of the precinct could be constructed.

The disadvantage is that development would require an additional 13 ha of drainage storages (above 2d) to help offset the loss of flood storage from fill platforms (to achieve freeboard). The cost of four flood storages, a potential ANCOLD assessment and two floodways has not been completed for the scenario, however, it is very likely to be higher than 2c and 2d due to additional drainage works.

Based on possible increases in flood levels, avoiding urban expansion within floodplains, discouraging development in residential areas that encroach on the 1:100 year floodplain or existing waterways, Scenario 2e is somewhat inconsistent with each of the strategies outlined in Clause 13.03-1L of the Wyndham Planning Scheme.

Biodiversity and Cultural Heritage

The location of Storage 4 and Storage 1 is within an area identified for desktop area of cultural sensitivity. This may constrain the location of flood storage infrastructure which is required to offset the fill required to meet freeboard above the flood level. If constraints are identified, it may not be as simple as constructing deeper storages to achieve volumes. The invert of storages would need to be carefully considered to ensure a free draining outfall.

The biodiversity assessment recommended that a significant impact assessment will be required based on the anticipated impacts. As the extent of works increases, it increases the possibility that significant impacts may occur.

Policy and Strategy

Scenario 2e does not score as well as 2c and 2d when considering policy, achieving a “medium” score overall. The reason is that less of a balance is struck between competing policies when compared with other potential development scenarios. Whilst Scenario 2e does achieve increased GDA and job provision, the differences between Scenario 2d are very minor, as shown in Table 11 below.

Table 11 - Comparison of Scenario 2d and 2e

Scenario 2d	Scenario 2e
28% total GDA	30% total GDA
9,191 jobs	9,773 jobs
17 ha residential land	17 ha residential land

The minor gain in GDA does not sufficiently justify the more negative response to policies regarding floodplain management, biodiversity and cultural heritage in particular. To this end, four substantial water storages are required in order to support development. Storages 2, 3 and 4 may be challenging as per the technical studies undertaken encroach into areas of high biodiversity values (including matters of national environmental significance), as well as increasing risk to cultural heritage values and risk of highly sodic soils.

5.4 WERRIBEE JUNCTION SCENARIO 3A

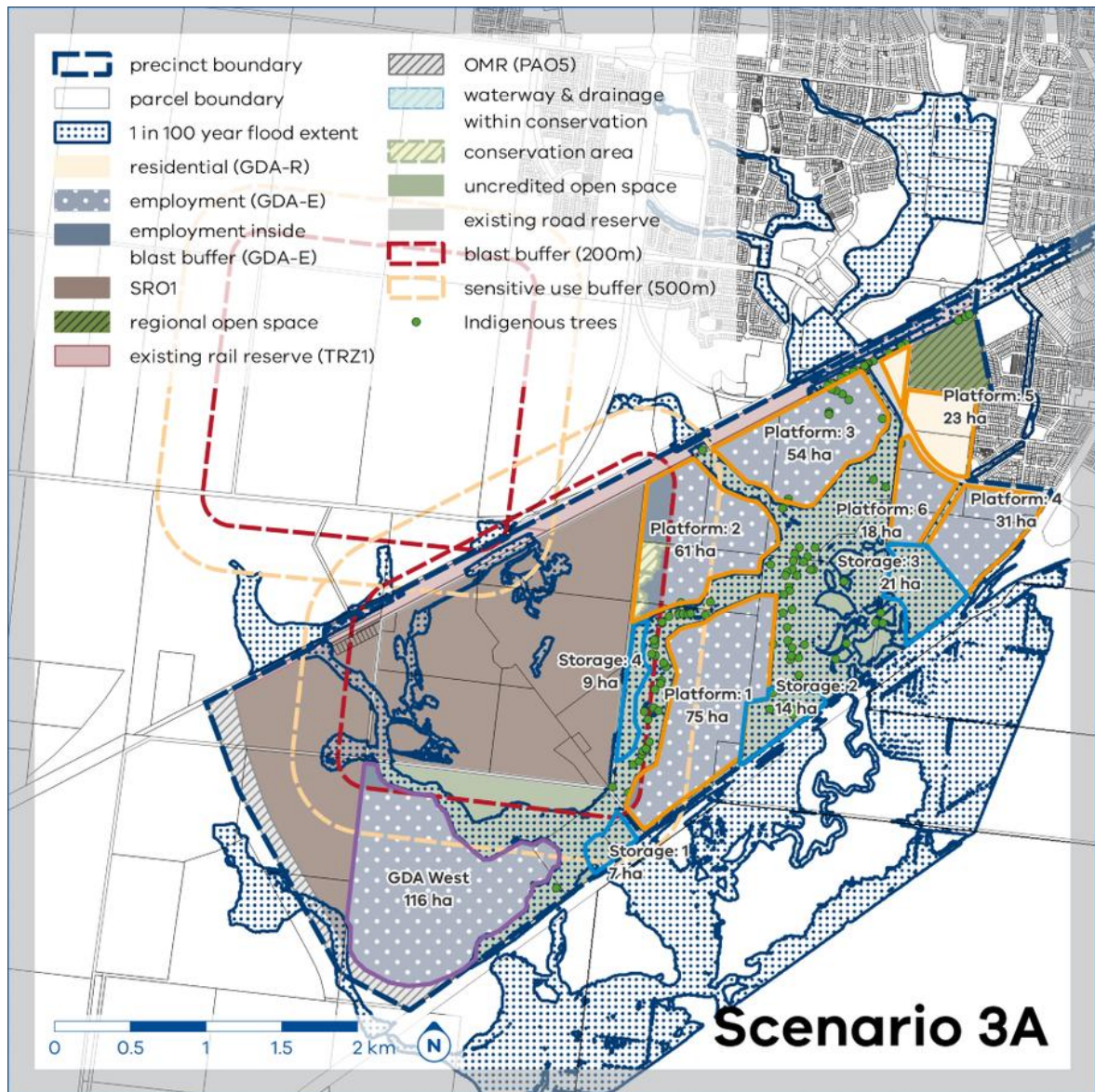


Figure 9 - Scenario 3a

5.4.1 ADVANTAGES AND DISADVANTAGES

Table 12 - Advantages and Disadvantages of Scenario 3a

Advantages	Disadvantages
Provision of 10,490 jobs at 30 jobs/ hectare	Does not meet floodplain management requirements as modelled
23 ha residential development within the precinct	Four drainage storage structures (total 51 ha) required to assist achieving floodplain storage requirements

Advantages	Disadvantages
	(additional 8 ha of drainage storage required for 2% increase in GDA from Scenario 2e)
Relatively high Gross Developable Area (seven development areas total of 373 ha or 33% GDA)	Significant works would be required on the existing alignment of Lollipop and Cherry Creeks which the floodplain management and drainage authority may not accept

5.4.2 ASSESSMENT

Table 13 - Scenario 3a Assessment

Development Scenario Scoring Metric						
Criteria	Weight	Low (1)	Med (2)	High (3)	Very High (4)	Weight ed Score
Total % GDA	1.5	<30%	30-45%	45-60%	>60%	3
Total Jobs (30 Jobs/Ha)	1.0	<915	916-2,127	2,178-10,274	>10,275	4
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20	1
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only	1
Policy Support	1.25	Low	Med	High	Very High	1.25
Total Score	5.0					10.25

Table 14 - Scenario 3a Recommendation

Total Score	Opportunity	Recommendation
Score 0 – <4.99	Very low opportunity	Do not commence
Score 5 – <9.99	Low opportunity	Consider external stakeholder views
Score 10 – <14.99	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.99	High opportunity	Proceed to commencement
Score 20 – <25	Very high opportunity	Proceed to commencement

Based on a weighted score of 10.25, the recommendation for development scenario 3a was **‘Proceed subject to third party funding’**.

5.4.3 SUMMARY

Scenario 3a was the equal-third ranked Werribee Junction development scenario (alongside 2e and 3b) in this Report with a score of 10.25. It achieves a GDA of 33% of the total precinct area.

The rationale for the Criterion 5 (Policy support and locational context criteria) score for scenario 3a is detailed below.

Drainage and Sodic Soils

Based on preliminary modelling, there are broad flood level impacts across the Western Treatment Plant downstream of the Princes Highway major culvert crossing on the east of the site up to 30 mm, but generally under 20 mm. Based on this, the scenario should be excluded from consideration as a conceptual development outcome and this is the key reason Scenario 3a scores ‘low’ for policy considerations. It is still useful to include the analysis of Scenario 3a because it demonstrates there is a potential limit to the provision of flood storage to offset fill imported for platforms to meet freeboard requirements (irrespective of the possible cost of drainage infrastructure).

The major difference between scenarios 2 (c, d & e) and scenarios 3 (a & b) is the increase in the size of culverts on Ison Road and the works required to the existing alignment of Lollypop Creek. This is particularly evident in the increase of Platform 3 towards the east which includes fill over the location of existing trees. Preliminary discussions with the Floodplain Management and Drainage Authority indicated works on Lollypop Creek are unlikely to be supported. The increase in culvert size on Ison Road is likely to require consideration of Wyndham Council and Department of Transport and Planning and would increase the cost of culvert delivery for Ison Road (compared to Option 2c, 2d and 2e).

Scenario 3a requires 4 storages (57,000m³, 37,000m³, 257,000m³ and 44,000m³) for a total of 395,000m³ of storage to offset filling of platforms to achieve freeboard. Despite the volume of storages, this scenario does not meet conceptual flood management requirements. The total area of storages is approximately 51 hectares; which is an additional 8ha from scenario 2e. The presence of sodic and dispersive soils may increase the cost and complexity of delivery of future assets.

There is also a substantial increase in culvert sizes under Ison Road (10 x 3000 x 2100) to account for the fill in platform 5. The potential cost of four flood storages, two possible ANCOLD assessments, two floodways and additional Ison Road culverts has not been completed for the scenario. Whilst the cost of drainage infrastructure has not been calculated, but it is likely to be the highest of all scenarios given the extensive works required.

Sodic soils also pose a risk to the opportunity to deliver these water storages. This would need to be considered in future planning. Refer to section 0 for further information.

Biodiversity and cultural heritage

The increased width of Platform 3 to the east is likely to impact existing trees and riparian vegetation in the northern section of Lollypop Creek. Given the relatively large excavation required for flood storages, the impact on the existing floodplain is likely to be higher than Scenario 2c, 2d and 2e.

In addition, the changes to the existing alignment of Lollypop Creek may impact possible areas of Aboriginal cultural heritage sensitivity. Close consultation with the RAP would be required to progress this scenario.

Policy and Strategy

Preliminary flood modelling indicates Scenario 3a does not meet floodplain management requirements. This is because there is an increase in flood levels caused by the proposed development which is inconsistent with Clause 13.03-1s of the Planning Policy Framework. This is key to why scenario 3a scored 'low' in the policy considerations category of development scenario analysis.

Based on increases in flood levels, avoiding urban expansion within floodplains, discouraging development in residential areas that encroach on the 1:100 year floodplain or existing waterways, Scenario 3a is broadly inconsistent with each of the strategies outlined in Clause 13.03-1L of the Wyndham Planning Scheme.

5.5 WERRIBEE JUNCTION SCENARIO 3B

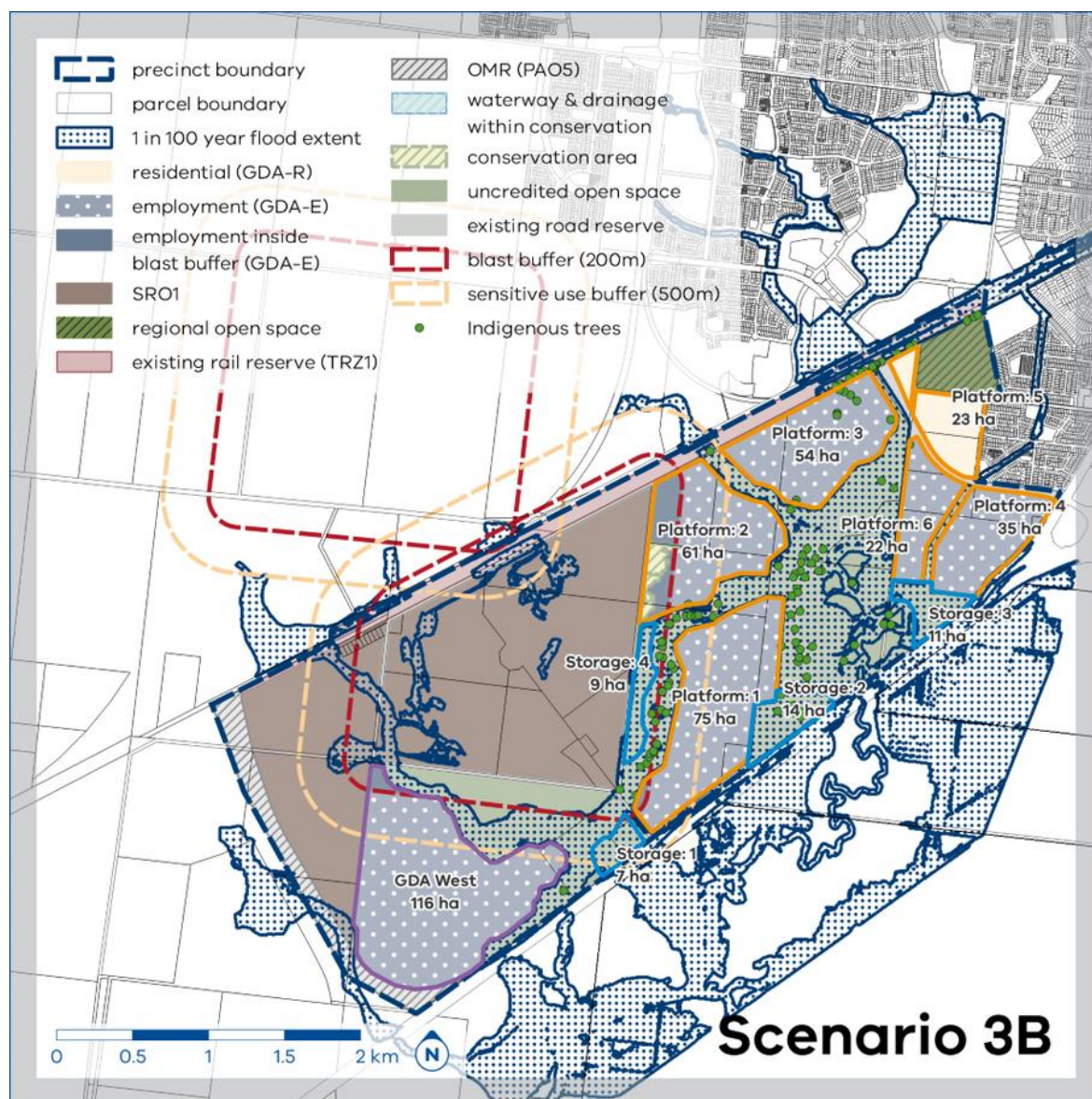


Figure 10 - Scenario 3b

5.5.1 ADVANTAGES AND DISADVANTAGES

Table 15 - Advantages and Disadvantages of Scenario 3b

Advantages	Disadvantages
Provision of 10,745 jobs at 30 jobs/ hectare	Four drainage storage structures (total 41 ha) required to assist achieving floodplain storage requirements (less than 10 ha of drainage storage required for equal GDA from Scenario 3a. However, increase in other drainage works)

23 ha residential development within the precinct	Significant works would be required on the existing alignment of Lollipop and Cherry Creeks which the floodplain management and drainage authority may not accept.
Relatively high Gross Developable Area (seven development areas total of 381 ha or 33% GDA)	Does not meet floodplain management requirements as modelled.

5.5.2 ASSESSMENT

Table 16 - Scenario 3b Assessment

Development Scenario Scoring Metric						
Criteria	Weight	Low (1)	Med (2)	High (3)	Very High (4)	Weighted Score
Total % GDA	1.5	<30%	30-45%	45-60%	>60%	3
Total Jobs (30 Jobs/Ha)	1.0	<915	916-2,127	2,178-10,274	>10,275	4
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20	1
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only	1
Policy Support (as assessed Director OM)	1.25	Low	Med	High	Very High	1.25
Total Score	5.0					10.25

Table 17 - Scenario 3b recommendation

Total Score	Opportunity	Recommendation
Score 0 – <4.9	Very low opportunity	Do not commence
Score 5 – <9.9	Low opportunity	Consider external stakeholder views
Score 10 – <14.9	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.9	High opportunity	Proceed to commencement
Score 20 – <25	Very high opportunity	Proceed to commencement

Based on a weighted score of 10.25, the recommendation for potential development scenario 3b is **‘Proceed subject to third party funding’**.

5.5.3 SUMMARY

Scenario 3b was ranked equal-third WJ development scenarios (with Scenario 3a, 2e) in this Report. It achieves a GDA of 33% of the total precinct area.

The rationale for the Criterion 5 (Policy support and locational context criteria) score for development scenario 3b is detailed below.

Drainage and sodic Soils

Similar to scenario 3a, scenario 3b is likely to require extensive works to the alignment of Lollypop Creek. As noted in the previous scenario, works on Lollypop Creek are unlikely to be supported. The conceptual storages modelled to achieve floodplain management requirements were 57,000m³, 93,400m³, 106,700m³ and 44,000m³.

The location of some fill platforms, flood storages, waterway works, and storages impact areas identified as areas of potential Aboriginal cultural heritage sensitivity. This is particularly evident along Lollypop Creek

(including changes to alignment) and Storages 3 and 4 (Cherry Creek). If any of these works could not be delivered (due to constraints), it may significantly reduce the fill which could be imported into the floodplain (to meet freeboard requirements).

Bunds may be required on three flood storages to maximise storage volumes, and these may trigger ANCOLD requirements which may add cost and complexity to the delivery of drainage assets. One of the other key drawbacks of increased normal water level in storages (by using bunds) is that it's likely to increase the volume of filling in platforms to achieve freeboard.

One of the key differences between scenarios 3a and 3b is the capacity of Storage 2 has been increased whilst Storage 3 has been decreased. This changes the way flood water conceptually moves within the floodplain and the effect downstream. Scenario 3b will still have impacts downstream, but the effects are not as pronounced as 3a. There is a risk that the introduction of waterway crossings (for precinct connectivity) into the flood modelling may violate floodplain management requirements. Further flood modelling would be required to test this. In addition to waterway works, a total of 41 hectares of flood storages would be required to offset fill within the floodplain (fill platforms). The cost of excavation and ANCOLD assessments has not been calculated, but there are also issues of equity to consider with flood storage location and the location of developable area.

The cost of drainage infrastructure has not been calculated but it is likely to be one of the highest given the excavation for storages, construction of embankments (particularly if ANCOLD requirements apply), alterations to existing waterway alignments and the size of Ison Road culverts. The volume of fill to meet freeboard requirements has not been calculated but is likely to be one of the highest given extensive areas of filling to achieve freeboard and the use of embankments to increase the normal water level of storages.

Additionally, sodic soils will need to be considered in future planning.

Biodiversity and Cultural Heritage

Similar to Scenario 3a, scenario 3b requires alterations to the existing alignment of Lollypop Creek. This is most pronounced with filling over existing trees and the centreline of Lollypop Creek (Platform 3). Land filling and volume of excavation required for flood storage for Platform 6 would encroach the existing floodplain which may impact riparian values of Lollypop Creek.

Storages 2, 3 and 4 may unreasonably impact biodiversity values (including matters of national environmental significance) and there is potential impact on areas identified with potential cultural heritage sensitivity. This is important to consider as these storages are required in order to offset the fill imported in the floodplain to increase in GDA.

In addition, the changes to the existing alignment of Lollypop Creek may impact possible areas of Aboriginal cultural heritage sensitivity which have been identified in a desktop investigation.

Policy and Strategy

Scenario 3b also scores 'low' against policy direction. As discussed above, scenario 3b requires significant alterations and works to existing waterways, as well as requiring substantial flood storages. Further to the Floodplain Management and Drainage Authority indicating an unlikelihood to support this development scenario, it is largely inconsistent with key relevant policies such as *The Healthy Waterways Strategy 2018-2028*.

Contributing to this low score is that based on possible increases in flood levels (see waterway crossings, above), avoiding urban expansion within floodplains, discouraging development in residential areas that encroach on the 1:100 year floodplain or existing waterways, Scenario 3b is broadly inconsistent with each of the strategies outlined in Clause 13.03-1L of the Wyndham Planning Scheme.

Whilst the increase in GDA may indicate a positive response to key development policies such as MICUP, it is considered that the increase in GDA is not substantial enough to achieve the policy balance required to achieve a high score. Table 22 below demonstrates this by comparing the key metrics of scenario 3b with 2d.

Table 18 - Comparison of scenario 2d and 3b

Scenario 2d	Scenario 3b
28% total GDA	33% total GDA
9,191 jobs	10,743 jobs
17 ha residential land	23 ha residential land

5.6 MAMBOURIN EAST SCENARIO

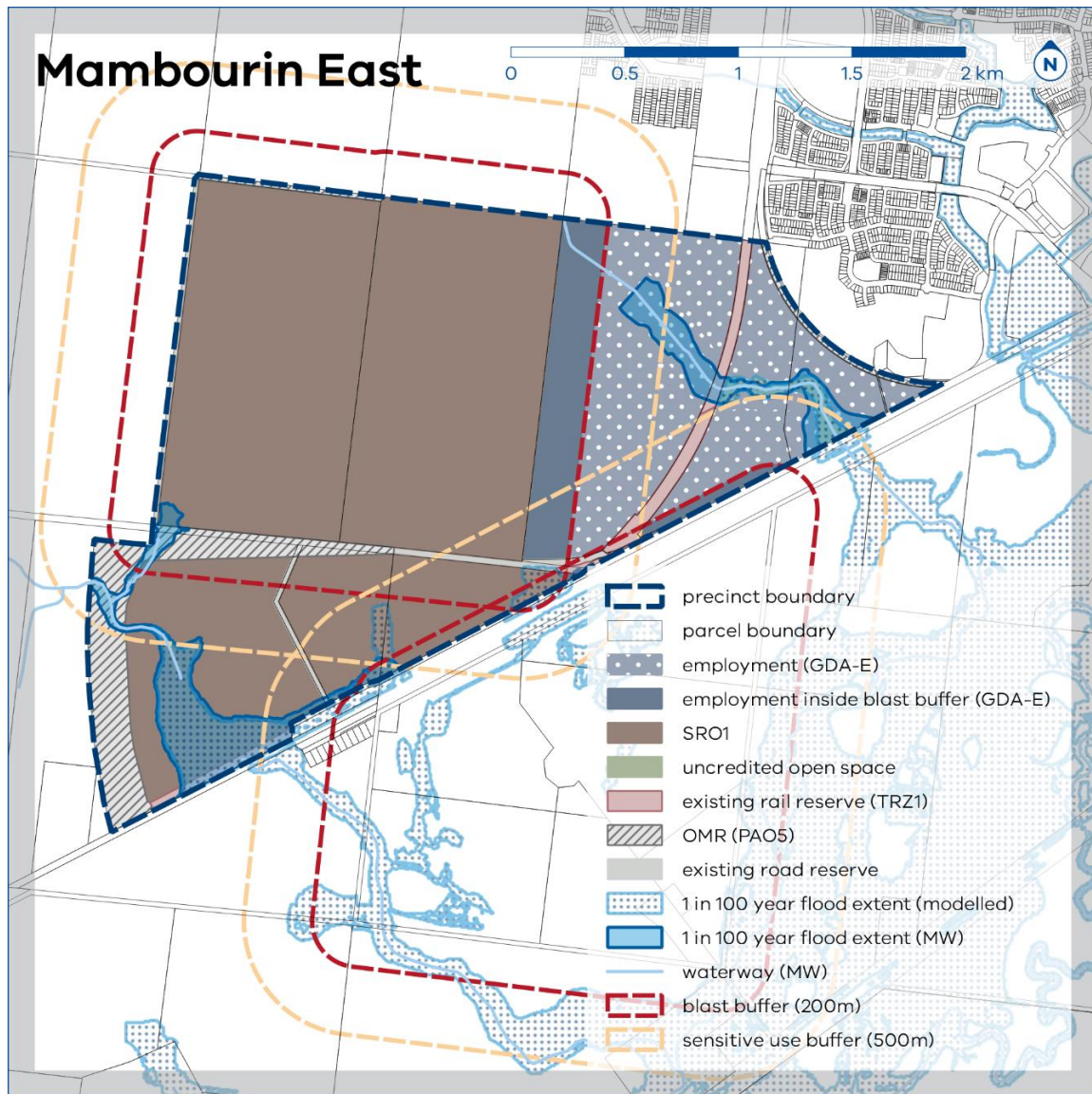


Figure 1 - Mambourin East Scenario

5.6.1 ADVANTAGES AND DISADVANTAGES

Table 19 - Advantages and Disadvantages of Mambourin East Scenario

Advantages	Disadvantages
142 ha (25%) GDA	Detailed plans are not available regarding future transport projects in and around the precinct (e.g. Outer Metropolitan Ring Road, potential port, multiple rail projects). This uncertainty may add complexity for project delivery
Provision of 4,265 jobs at 30 jobs/ hectare	The existing railway line bisects the remaining developable area. This may reduce connectivity within the precinct

5.6.2 ASSESSMENT

Table 20 - Mambourin East Scenario Assessment

Development Scenario Scoring Metric						
Criteria	Weight	Low (1)	Med (2)	High (3)	Very High (4)	Weighted Score
Total % GDA	1.5	<30%	30-45%	45-60%	>60%	1.5
Total Jobs (30 Jobs/Ha)	1.0	<915	916-2,127	2,178-10,274	>10,275	3
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20	0
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only	2
Policy Support (as assessed Director OM)	1.25	Low	Med	High	Very High	5
Total Score	5.0					11.25

Table 21 - Mambourin East Scenario Recommendation

Total Score	Opportunity	Recommendation
Score 0 – <4.9	Very low opportunity	Do not commence
Score 5 – <9.9	Low opportunity	Consider external stakeholder views
Score 10 – <14.9	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.9	High opportunity	Proceed to commencement
Score 20 – <25	Very high opportunity	Proceed to commencement

Based on a weighted score of 11.25, the recommendation for the Mambourin East development scenario was **‘Progress subject to third party funding’**.

5.6.3 SUMMARY

The ME development scenario ranked highest at 11.50 points, 0.25 points higher than highest scoring Werribee Junction development scenario (2d) which scored 11.25. It achieves a GDA of 25% of the total precinct area.

The rationale for the Criterion 5 score for the ME development scenario is detailed below.

Drainage and Sodic Soils

Extensive investigations have not been completed for Mambourin East, however it is anticipated it would be subject to standard requirements under a Development Services Scheme (DSS). This could be undertaken in conjunction with the preparation of the PSP.

Sodic, dispersive and acid sulfate soil analysis for Mambourin East have not been undertaken.

Biodiversity and Cultural Heritage

Based on a desktop assessment and information available, areas of cultural heritage sensitivity are not as extensive as Werribee Junction. Biodiversity considerations may be less complex for this precinct as it is located within the MSA.

Policy and Strategy

There is strong potential for Mambourin East to contribute to the outcomes sought by key employment policies including within Plan Melbourne, MICLUP, and the Wyndham Planning Scheme.

Mambourin East scores very high for policy support Mambourin East has some differences in policy considerations when compared to the Werribee Junction development scenarios. This is primarily because drainage and biodiversity could be addressed using business as usual processes.

6. WERRIBEE JUNCTION SCENARIO 2D & MAMBOURIN EAST COMBINED

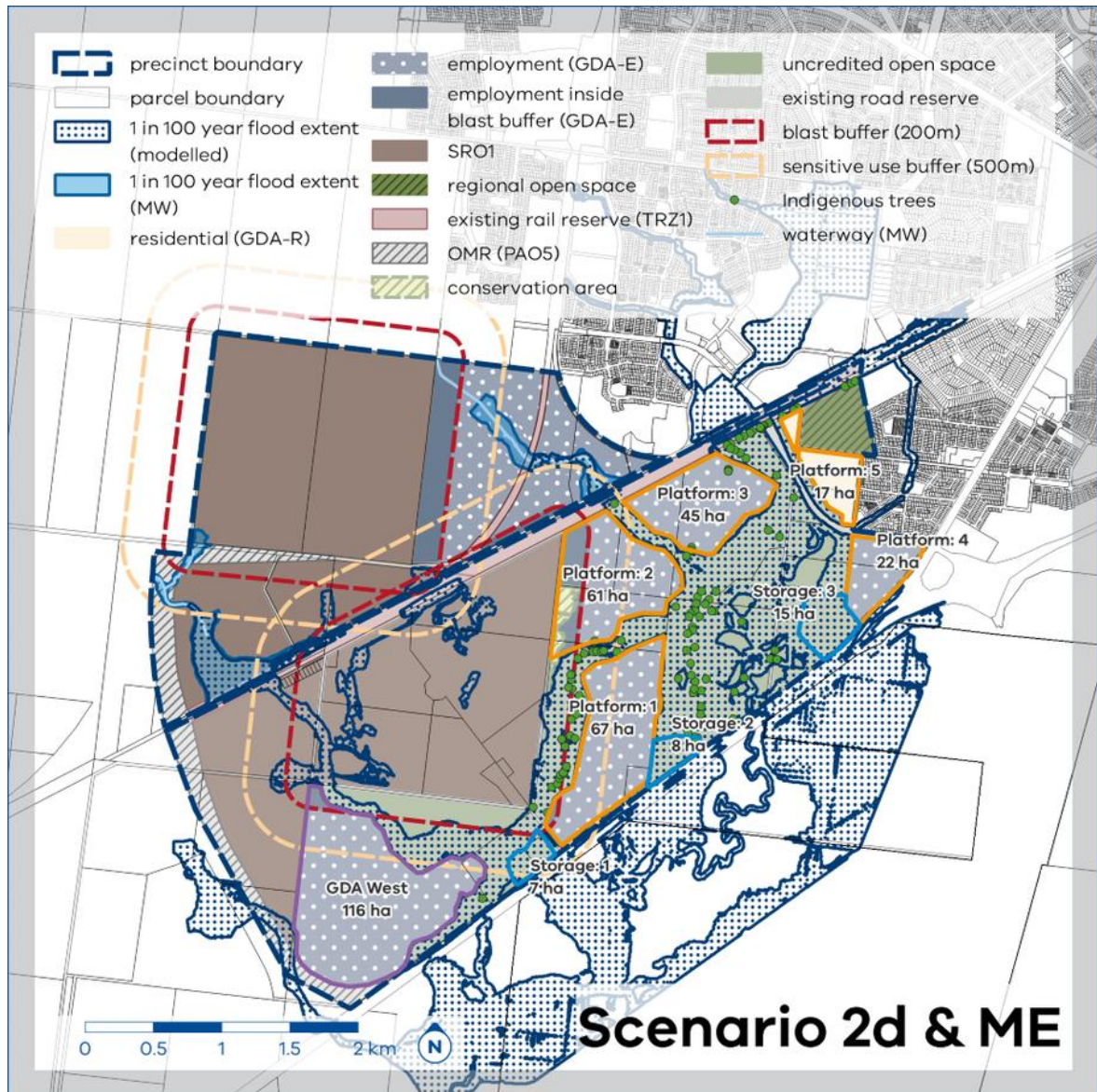


Figure 22 - Werribee Junction Scenario 2D and Mambourin East

6.1 ADVANTAGES AND DISADVANTAGES

Table 22 - Advantages and Disadvantages of Combining Werribee Junction Scenario 2d and Mambourin East

Advantages	Disadvantages
A total of 466 hectares (27%) of GDA	Detailed plans are not available regarding future transport projects in and around the precinct (e.g. Outer Metropolitan Ring Road, potential port, multiple rail projects). This uncertainty may add complexity for project delivery

Advantages	Disadvantages
Provision for 13,456 jobs	Three drainage storage structures in Werribee Junction (total 30 ha) required to assist achieving floodplain storage requirements
17 ha residential development within the precinct	
There will be separation distances (buffers) required from the quarries in both precincts. There would be planning efficiencies by considering separation distances holistically	
Synergies for development of industrial and commercial land use in the context of MICLUP	

6.1.1 ASSESSMENT

Table 23 - Werribee Junction Scenario 2d and Mambourin East Assessment

Criteria	Weight	Development Scenario Scoring Metric				Weighted Score
		Low (1)	Med (2)	High (3)	Very High (4)	
Total % GDA	1.5	<30%	30-45%	45-60%	>60%	1.5
Total Jobs (30 Jobs/Ha)	1.0	<915	916-2,127	2,178-10,274	>10,275	4
Residential Area (Ha)	0.25	<12-14	<15-17	>17-19	>20	0.75
Prelim Supp ICP Calculations (Employment)	1.0	>\$172,757	\$67,597-\$172,756	<\$67,597	Standard Only	1
Policy Support	1.25	Low	Med	High	Very High	5
Total Score	5.0					12.25

Table 24 - Werribee Junction Scenario 2d and Mambourin East Recommendation

Total Score	Opportunity	Recommendation
Score 0 – <4.9	Very low opportunity	Do not commence
Score 5 – <9.9	Low opportunity	Consider external stakeholder views
Score 10 – <14.9	Medium opportunity	Proceed subject to Third-Party funding
Score 15 – <19.9	High opportunity	Proceed to commencement
Score 20 – <25	Very high opportunity	Proceed to commencement

Based on a weighted score of 12.25, the combined Mambourin East with Werribee Junction Scenario 2d development scenarios as found to have a medium development potential and recommended to **‘Proceed subject to third party funding’**.

6.1.2 SUMMARY

The highest scoring WJ (scenario 2d) was considered to be the most suitable development scenario to use as a base for the combined development scenario.

Overall, the combined development Scenario (Werribee Junction scenario 2d with Mambourin East) yields a development scenario score of 12.25, making this development scenario the highest scoring development scenario in this Report. It achieves a GDA of 27% of the total precinct area.

The rationale for the combined development scenario is detailed below.

The advantage of the combined scenario is that it facilitates approximately 466 GDA ha of employment land and an additional 17 GDA ha of residential development on the eastern side of Ison Road within Werribee Junction. There would be efficiencies in the consideration of quarry separation requirements (buffers) holistically for the precincts.

Drainage and Sodic Soils

As discussed in section 5.2.3, WJ Scenario 2d provides a satisfactory balance between addressing floodplain management objectives and delivering GDA.

Mambourin East will likely follow Business-As-Usual (BAU) processes for drainage (see section 5.6.3) which would reduce complexity for delivery.

With regards to sodic soils, refer to section 4 for further information.

Biodiversity and Cultural Heritage

WJ scenario 2d balances GDA and environmental impact. Future development is generally outside the existing waterway corridors and is therefore less likely to impact areas of Aboriginal cultural heritage.

Policy and Strategy

This scenario scored 'very high' for policy support.

As detailed in sections 5.2.2.3 and 5.6.3 that the WJ scenario 2d and the ME scenario align with key policy direction. Combining the two precincts would ensure integrated consideration of future land use and yield synergies for development in both precincts.

SUMMARY

Table 28 below summarises the advantages and disadvantages of each development scenario when against the five weighted criteria listed in Section 3.

The strongest performing Werribee Junction development scenario was scenario 2d with 11.25 points. As a standalone precinct, Mambourin East scored 11.50.

Table 28: Summary Table Scenario Advantages and Disadvantages

Scenario	Advantages	Disadvantages
Scenario 2c – WJ	8,749 jobs at 30 jobs / hectare Only one drainage storage structure (7 ha) Fill is minimised	Low Gross Developable Area (five development areas totalling 292 ha or 26% GDA) No residential development
Scenario 2d - WJ	9,191 jobs at 30 jobs / hectare 17 ha residential development	Low Gross Developable Area (six development areas total of 323 ha or 28% GDA). Three drainage storage structures (total 30 ha)
Scenario 2e - WJ	9,773 jobs at 30 jobs/ hectare 17 ha residential	Medium Gross Developable Area (six development areas total of 343 ha or 30% GDA). Four drainage storage structures (total 43 ha), noting that this scenario requires 13ha more land for drainage storage than scenario 2d to gain 2% GDA.
Scenario 3a - WJ	10,490 jobs at 30 jobs/ hectare 23 ha residential development high Gross Developable Area (seven development areas total of 373 ha or 33% GDA)	Does not meet floodplain management requirements as modelled Four drainage storage structures (total 51 ha)
Scenario 3b - WJ	10,745 jobs at 30 jobs/ hectare 23 ha residential development High Gross Developable Area (seven development areas total of 381 ha or 33% GDA)	Does not meet floodplain management requirements as modelled. Four drainage storage structures (total 41 ha)
Mambourin East (ME)	4,265 jobs at 30 jobs/ hectare 142 ha (25%) GDA	Federal, State and Local projects to be confirmed. Uncertainty adds complexity for project delivery.
WJ 2d & ME	GDA of 27% of the total precinct area, 466ha employment land 17 ha residential development	As above.

Table 25: Summary Scenario Scoring Table

Scenario *	WJ 2c	WJ 2d	WJ 2e	WJ 3a	WJ 3b	ME	WJ 2d & ME
Total Score	10.50	11.25	10.25	(10.25) #	10.25	11.50	12.25
Recommendation	All above scores lead to the recommendation to progress the Werribee Junction and Mambourin East PSP project to third party funding considerations.						
<i>Note: * Scenarios 1 – 2b were not assessed. The reasons for this are discussed in Table 2 of this Report.</i>							
<i>Note: # Option 3a did not comply with floodplain management and drainage requirements and are not considered to be viable development scenario for the purposes of this Report.</i>							

WJ Scenario 2d was the highest scoring of the Werribee Junction scenario and considered the most appropriate scenario be used in a combined scenario assessment with Mambourin East. The combined development scenario of Werribee Junction scenario 2d and Mambourin East was the highest scoring scenario with 12.25 points.

Development scenarios 2d-3b propose additional storages and waterways which will be impacted by soil sodicity, which are assumed in this due diligence as viable and can support the proposed fill platforms.

7. RECOMMENDATIONS

Based on the outcomes of the development scenario assessments, the following recommendation:

1. The combined WJ Scenario 2d and ME offers the best development outcome and should form the basis of the next stage of technical assessment and optioneering that would be undertaken to progress the precincts.



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