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WESTERN AUSTRALIA

BUNBURY OUTER RING ROAD | PLANNING AND DEVELOPMENT

BUILDING OUR FUTURE

Bunbury Outer Ring Road Northern & Central Community Reference Group

13 March 2019



Agenda

4:45	Arrival – light refreshments available from 4:45pm	
5.00	Meeting Purpose and Context	Linton Pike / Dominic Boyle
	Environmental Approval Process	Fionnuala Hannon
	WRP Regional Survey	Martine Scheltema
	Environmental Impacts for North	Fionnuala Hannon
	Noise Impacts	Fionnuala Hannon
	Raymond Road Alignment	Padraic Murphy
	CRG Member Round Table Discussion	CRG Members
	Next Steps	Dominic Boyle
8.00	Close	Linton Pike



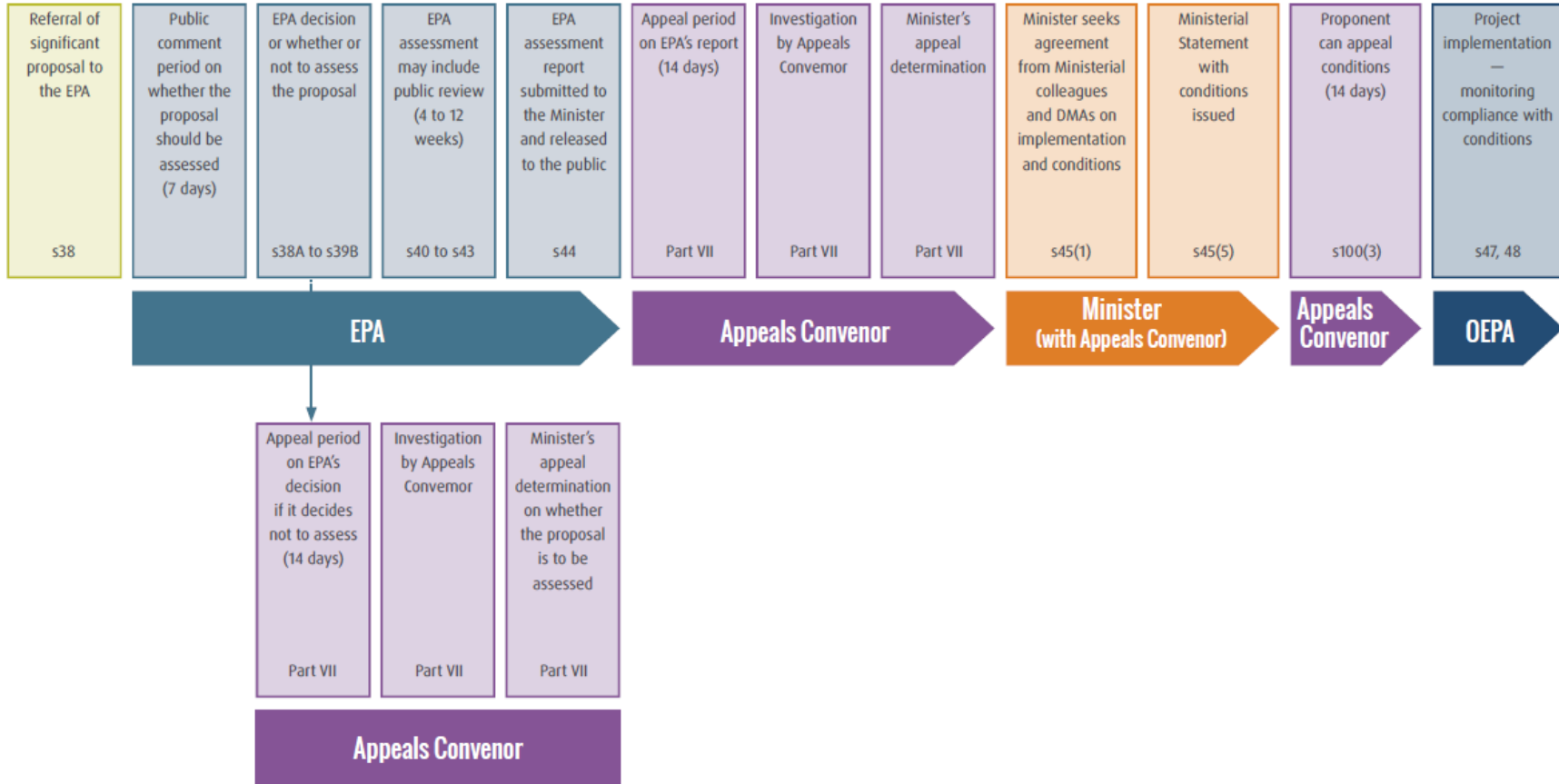
Meeting Purpose and Context



Environmental Approval Process

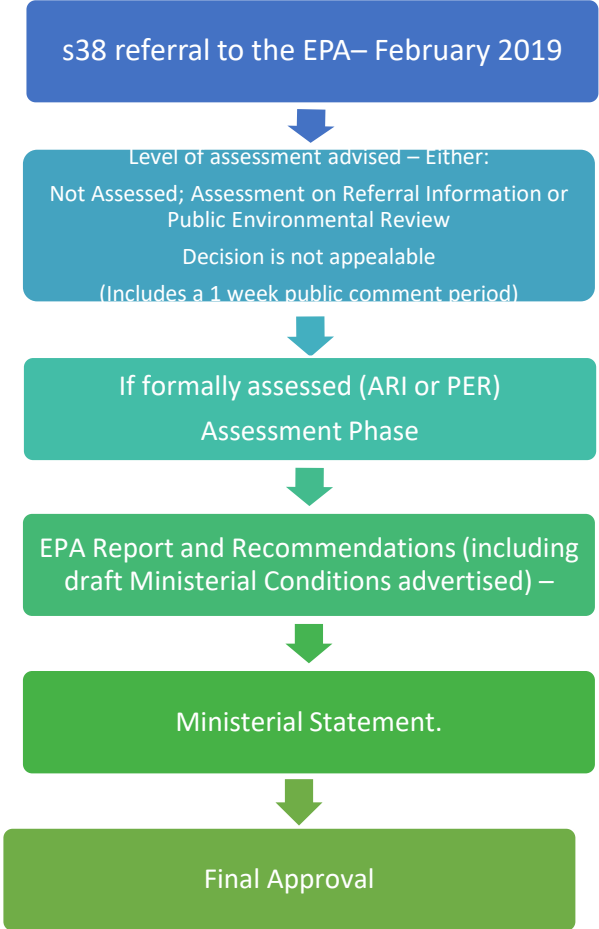
Fionnuala Hannon

Environmental Impact Assessment Process

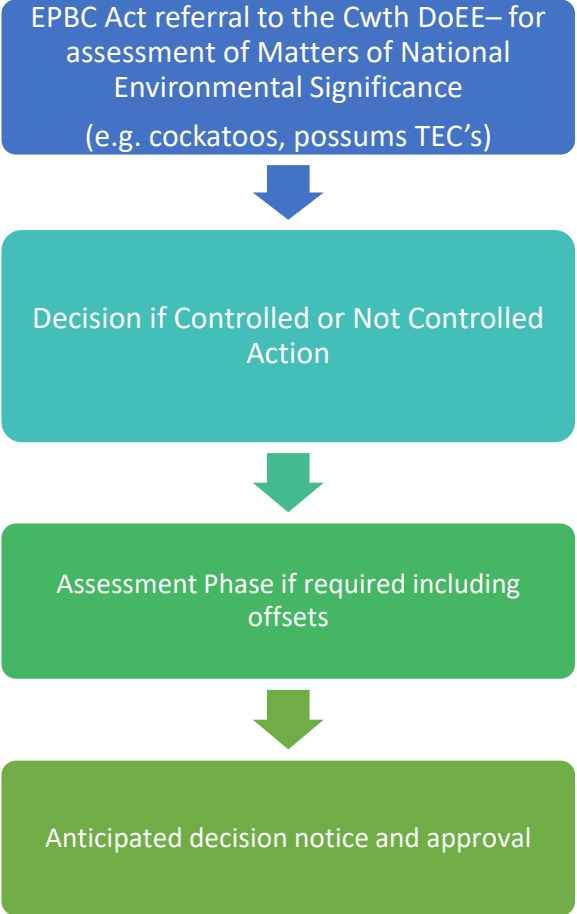


Proposed Approvals Pathway

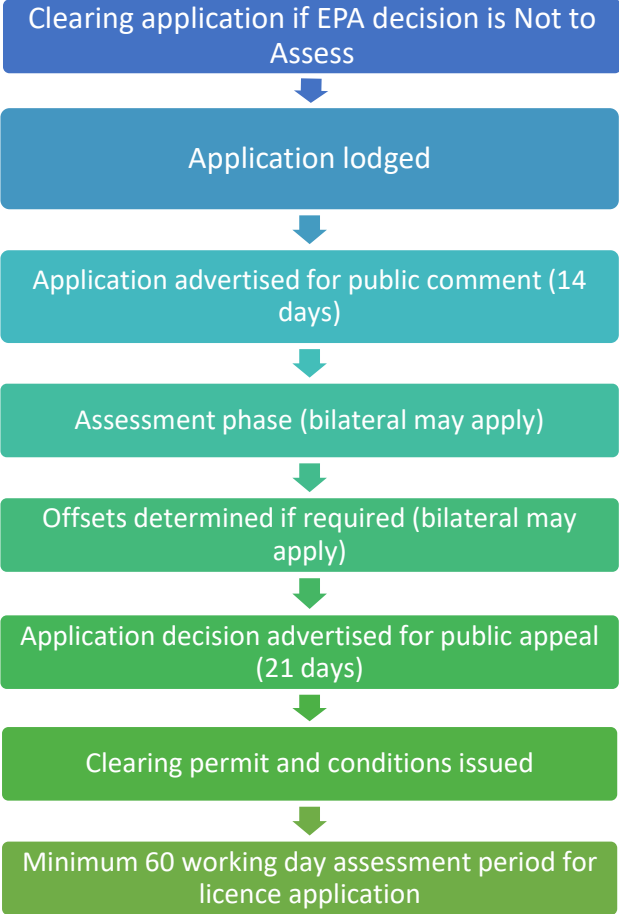
Part IV EP Act (WA)



EPBC Act (Commonwealth)



Part V EP Act (WA) Native Vegetation Regulations



Environmental Referral Boundary

Forrest Highway to South West Highway



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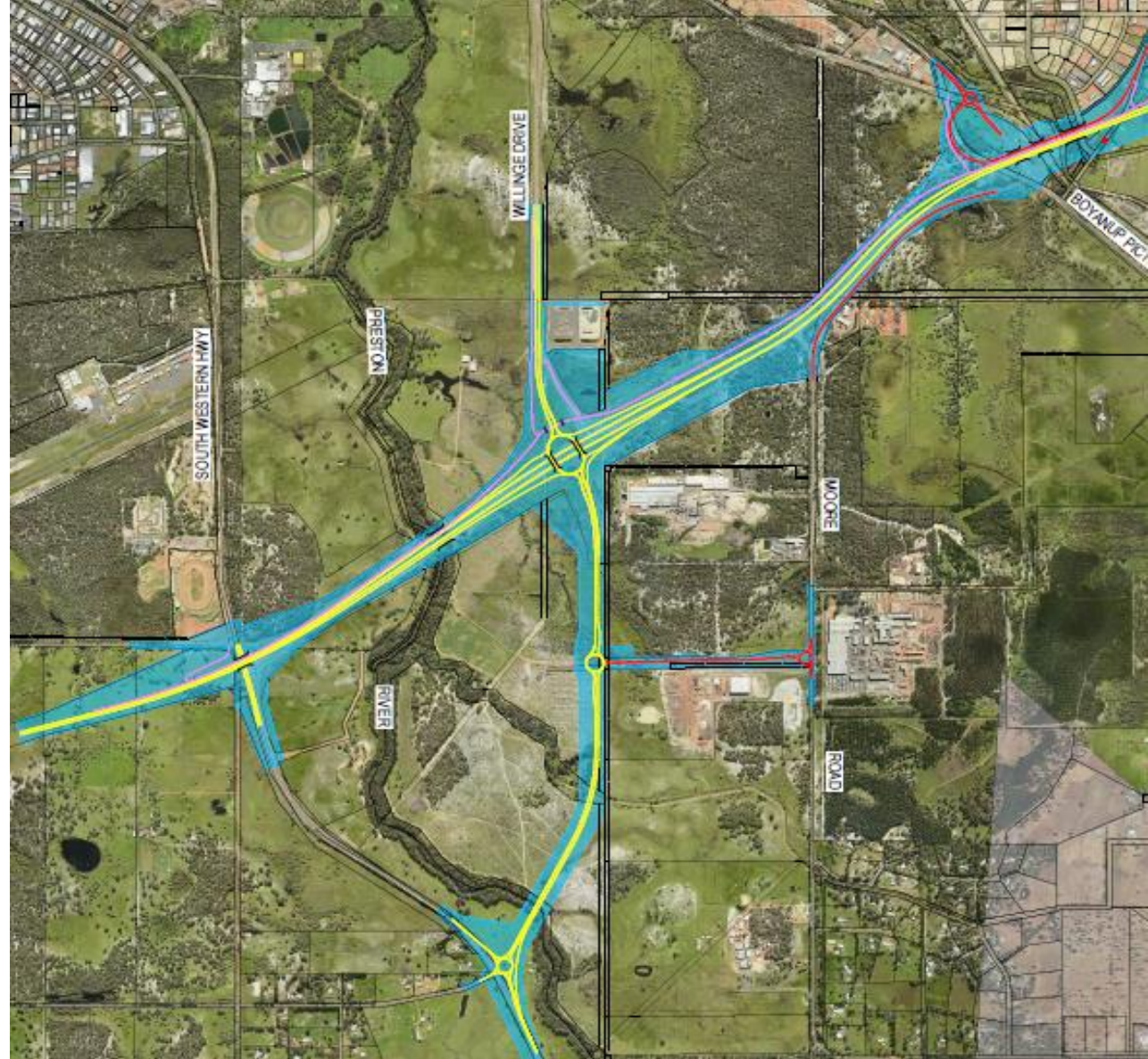
Environmental Referral Boundary

South West Highway to Boyanup Picton Road



Environmental Referral Boundary

Boyanup Picton Road to South West Highway





WRP Regional Survey

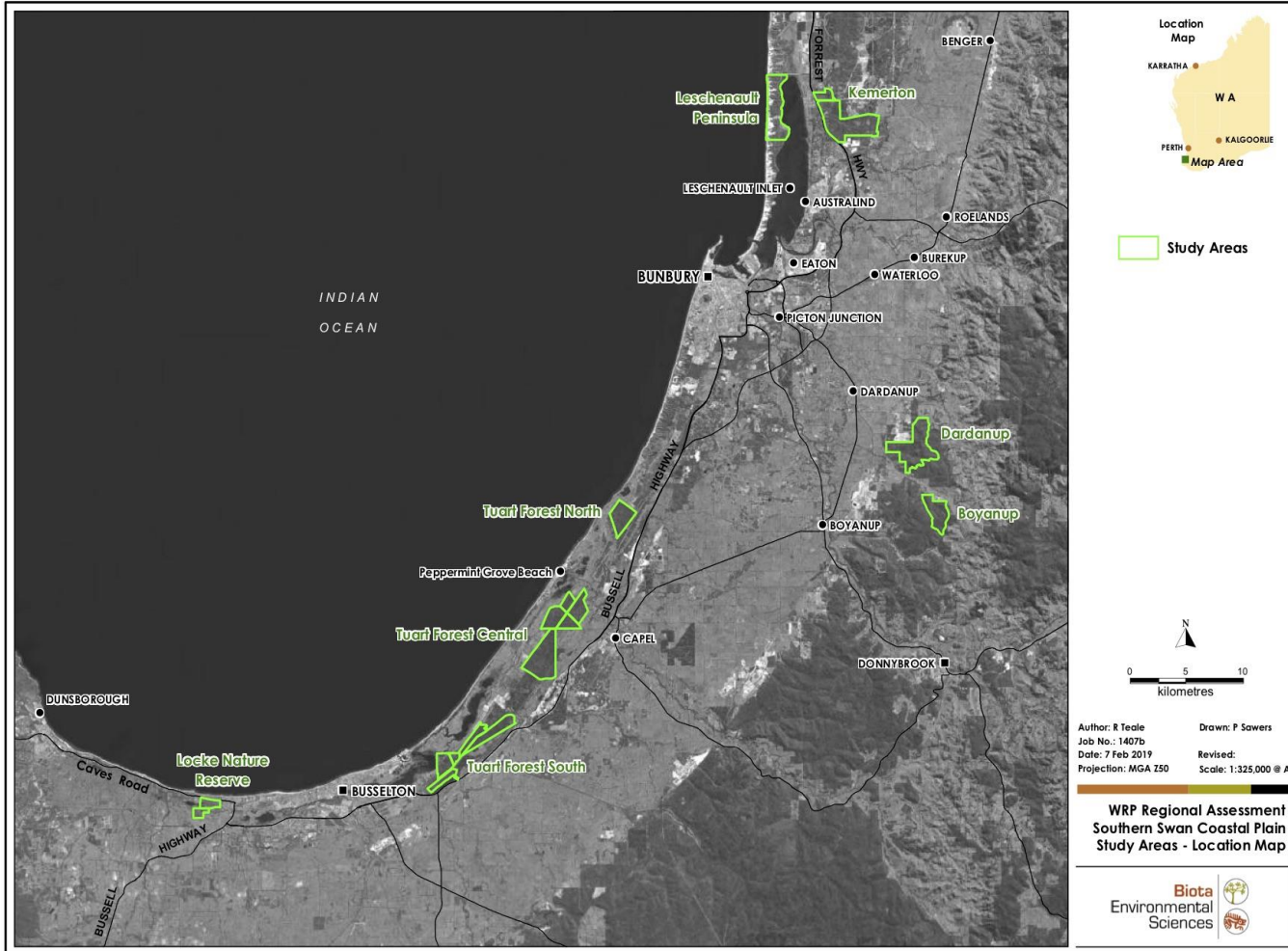
Martine Scheltema

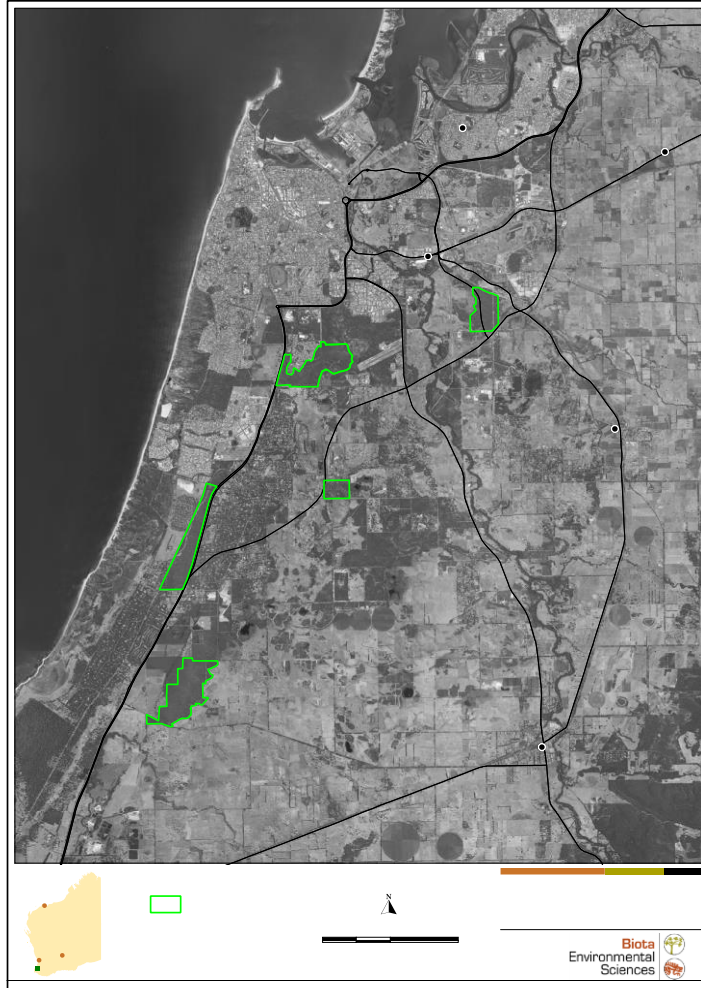
- The total WRP population estimated to be 3,400 in 2017
 - 2,000 of the 3,400 on the southern Swan Coastal Plain
- Main Roads has initiated Regional Surveys to determine if number is accurate
- Methodology agreed by DBCA and WRP Recovery Team
- Survey of Southern Swan Coastal Plain complete:
 - In excess of 5,000 animals
 - only surveyed large areas of vegetation; animals in urban, peri-urban and vegetation in agricultural areas not sampled.
- Currently surveying Cape to Capes, Southern Forests and Albany areas to get a total estimate for the species. Will be completed by early April
- Strong support from DotEE for regional surveys
- Strong interest from EPA



Study sites for WRP regional survey-

Southern Swan Coastal Plain





Study sites for surveys for the Western Ringtail Possum for the Bunbury Outer Ring Road Project



Environmental Impacts North

Fionnuala Hannon



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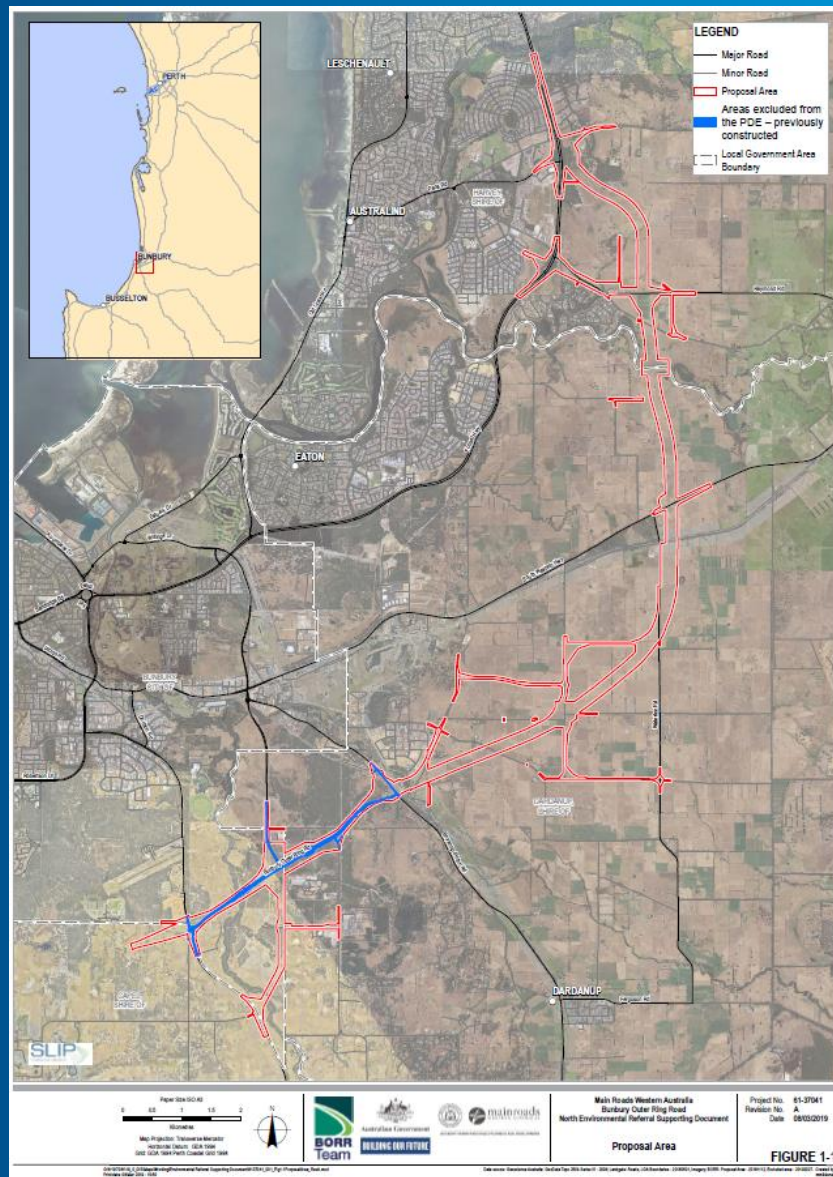
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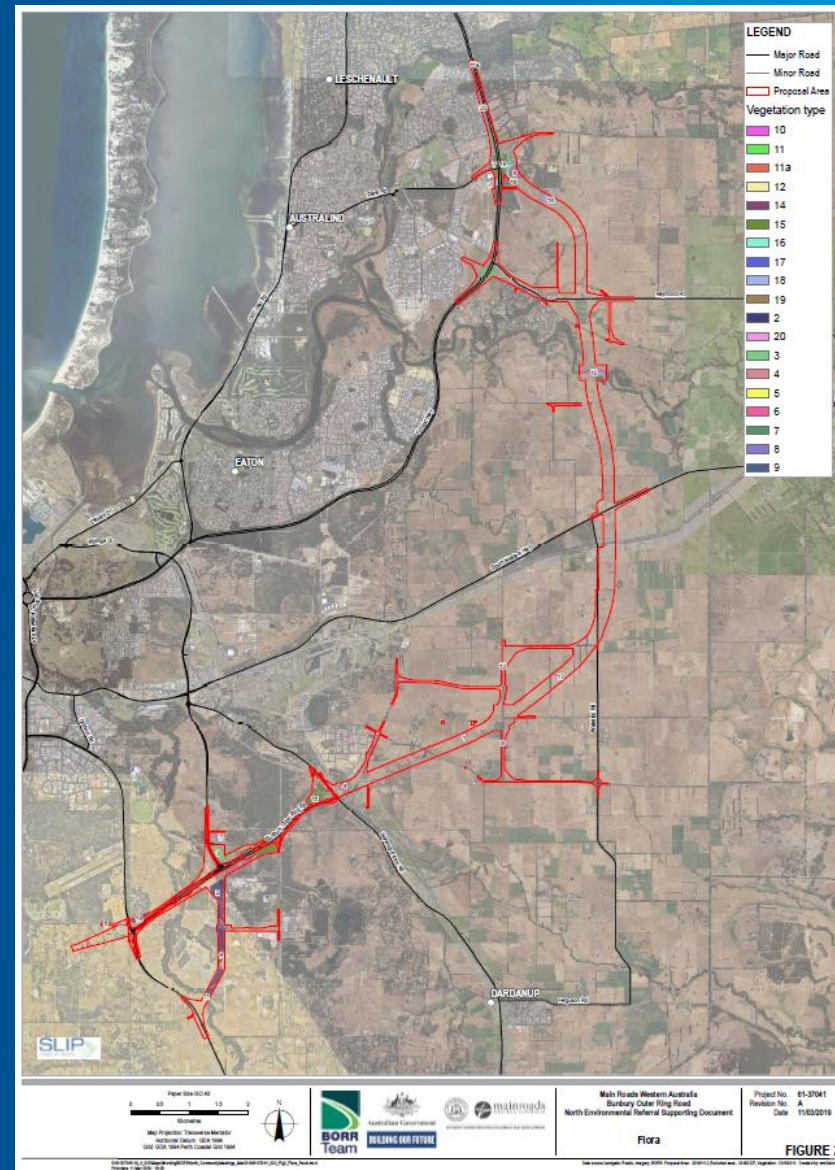
North – Northern and Central Sections

- 623 ha Proposal area



Flora and Vegetation

Total native vegetation Cleared	<p>19 vegetation communities</p> <p>Up to 118 ha (approx. 19% of the Proposal area)</p> <p>505 ha (approx. 81% of the Proposal area)</p>
Threatened Ecological Communities	<p>Up to 4.1 ha of Banksia Woodlands of the Swan Coastal Plain ecological community – listed as Endangered under the EPBC Act</p> <p>(less than 1% of the Proposal area)</p>
Conservation significant flora	<p><i>Acacia semitrullata</i> (P4)</p> <p><i>Caladenia speciosa</i> (P4)</p> <p><i>Chamaescilla gibsonii</i> (P3)</p>



Fauna

CONSERVATION SIGNIFICANT FAUNA AND HABITAT

Fauna habitat	<p>Six habitat types identified within the Proposal area</p> <p>Majority of the Proposal area is highly modified/ cleared for agriculture, housing, roads and other infrastructure</p>
Black Cockatoo's	<p>Up to 1150 future potential breeding trees (DBH >500 mm)</p> <p>Of these, 68 were trees with hollows</p> <p>Up to 70 ha foraging habitat</p>
Western Ringtail Possum	<p>Up to 82 ha habitat</p>
Wambenger / Brush-tailed Phascogale	<p>2 brush-tailed phascogales were observed in the wider survey area (but 8 records of this species in close proximity)</p> <p>Up to 48 ha habitat present (Riparian woodland and Marri/ Eucalyptus woodland)</p>
Carter's Freshwater Mussel	<p>Recorded, Collie River tributary, Ferguson River and Preston River</p>
Black-stripe Minnow	<p>Recorded, has potential to occur in wetland areas at the southern end of the Proposal area</p>
South-Western Snake-necked Turtle	<p>Recorded, has potential to occur in wetland areas</p>



Heritage

ABORIGINAL AND EUROPEAN HERITAGE ASPECTS

Aboriginal Heritage

Registered Sites

- Site ID 16713 Collie River Waugal
- Site ID 17776 Brunswick River
- Site 19795 Preston River

Other Heritage Places

- Place ID 4877 Bunbury 16
- Place ID 5168 NATGAS 262
- Place ID 5169 NATGAS 263
- Place ID 18885 Bunbury Bypass Archaeological Site 2
- Place ID 18886 Bunbury Bypass Archaeological Site 3
- Place ID 19796 Ferguson River
- Place ID 20057 Howson Drive Lagoon

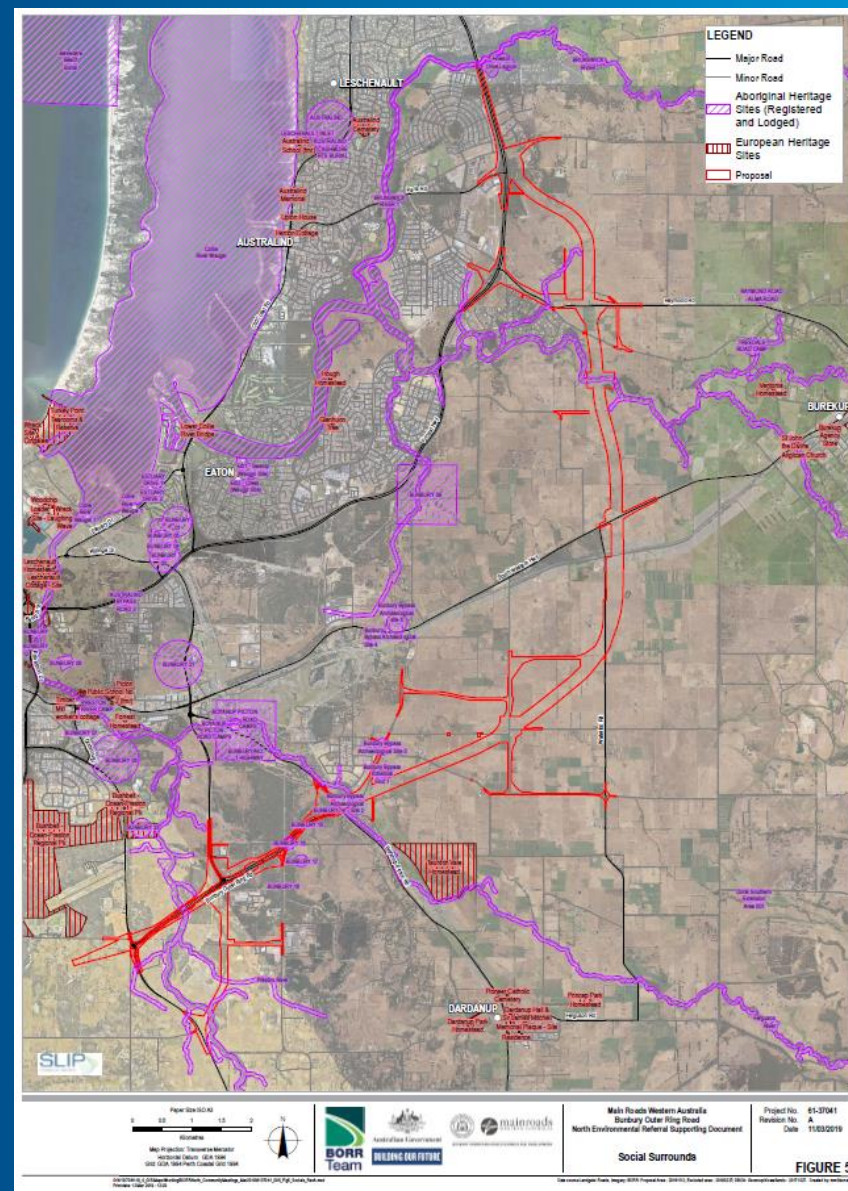
European Heritage

State Heritage Sites

There are no registered State Heritage sites located within the Proposal area

Municipal Inventory

There are no registered State Heritage sites located within the Proposal area



Wetlands and Waterways

Geomorphic Wetlands	
Conservation Category	Up to 3 ha (less than 1% of the Proposal area)
Resource Enhancement	Up to 0.2 ha (less than 0.1 % of the Proposal area)
Multiple Use	Up to 550 ha (approx. 88% of the Proposal area)
Artificial Lake	Up to 0.7 ha (approx. 0.1% of the Proposal area)
Waterways	
Rivers	<ul style="list-style-type: none"> • Collie River • Ferguson River • Preston River

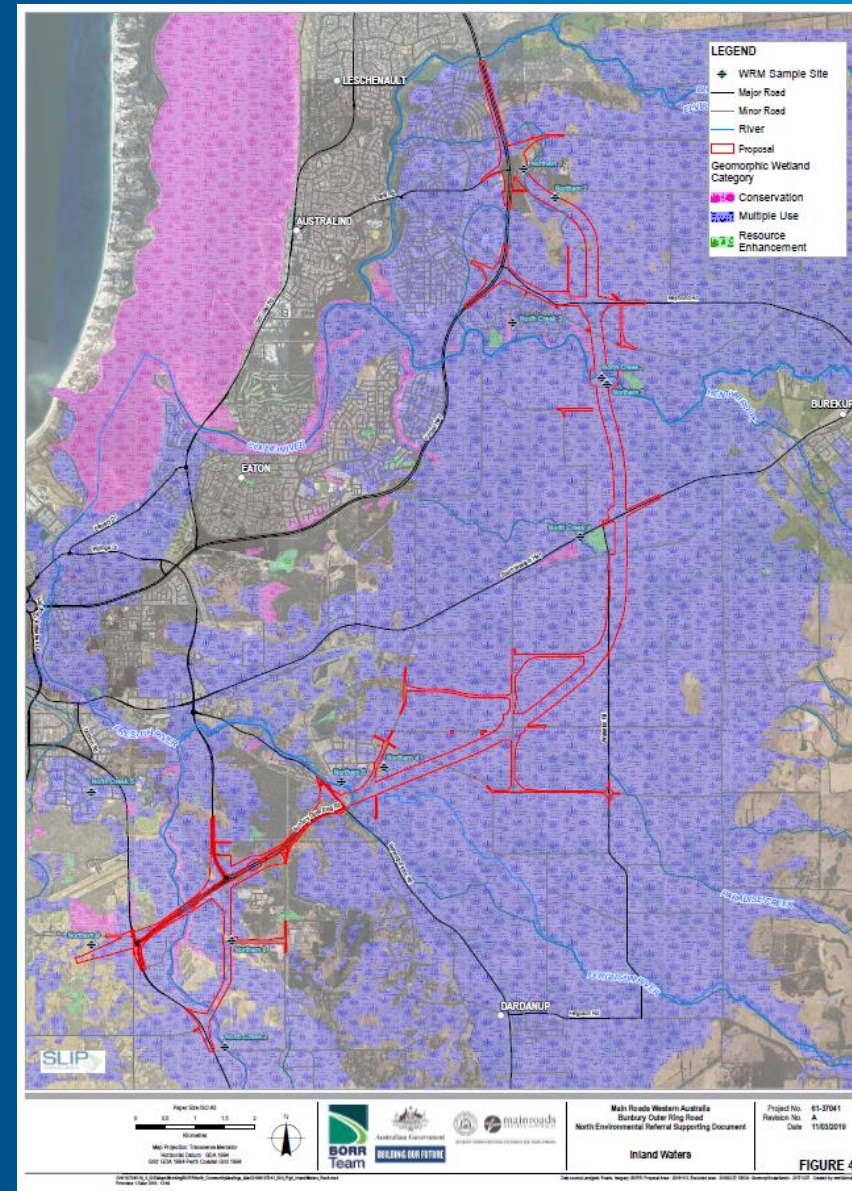


FIGURE 4

A blurred image of a truck driving under a bridge, with a blue overlay on the right side containing text.

Noise Impacts

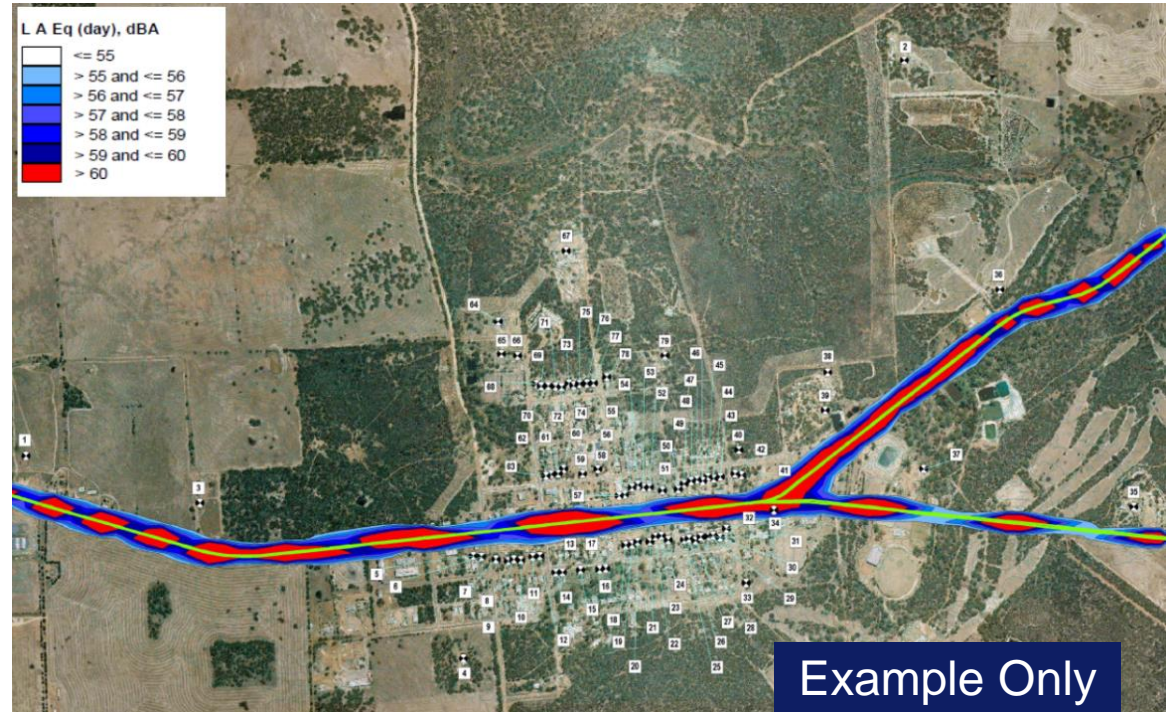
Fionnuala Hannon

Noise Modelling

- Noise Monitoring and modelling has been completed and independently peer reviewed
- Noise Model has been calibrated to the existing conditions with good similarity
- Model data are based on forecast traffic volumes for 2041
- Chip seal surface on BORR, Dense Graded Asphalt on Raymond Road
- Day time noise is the controlling factor
- Sensitive Receptors have been identified that will experience noise above the 55 dB Target and the 60 dB Limit
- BORR Team will consult with these affected parties directly before releasing data further

What Goes Into a Noise Model

- House Ground Levels
- Property Fences (where solid)
- Designed Road Ground Levels
- Vehicle Heights
- Future Traffic Volumes
- Heavy Vehicle Numbers
- Road Surface Types
- Road Gradients
- Meteorological data
- Landform

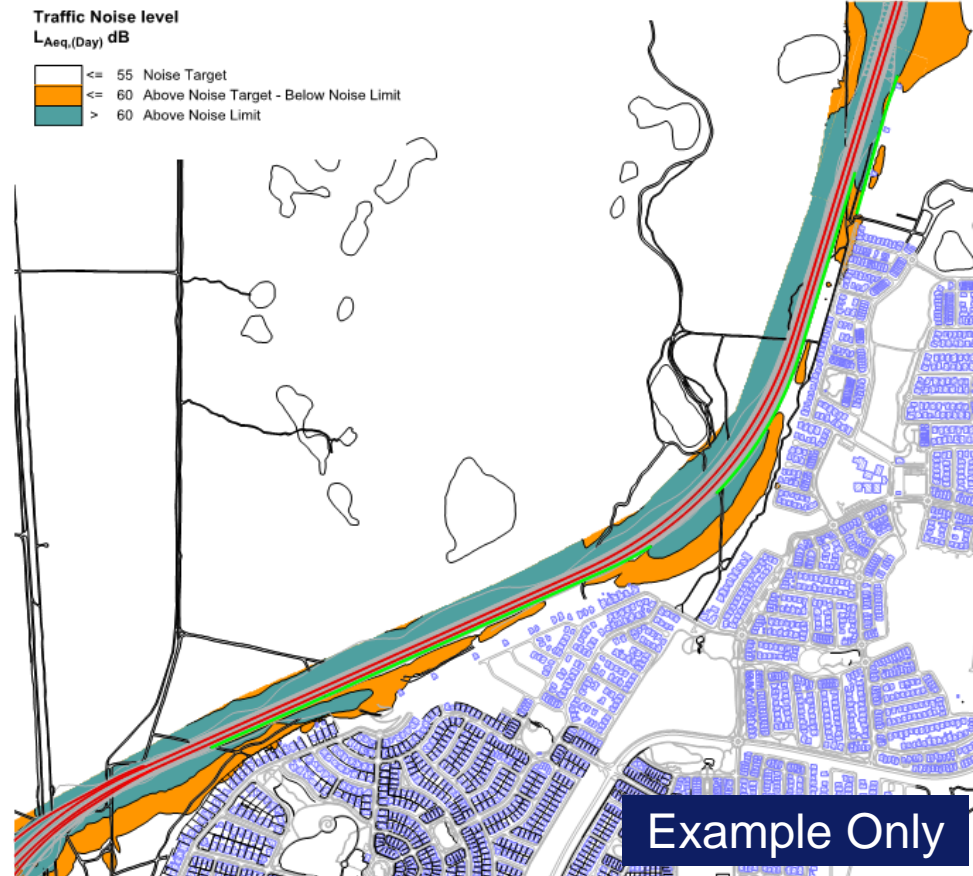


Possible noise outcomes

- Potential Noise Walls
- Architectural mitigation
- Quiet Pavement

Accepted corrections for various road surfaces are:

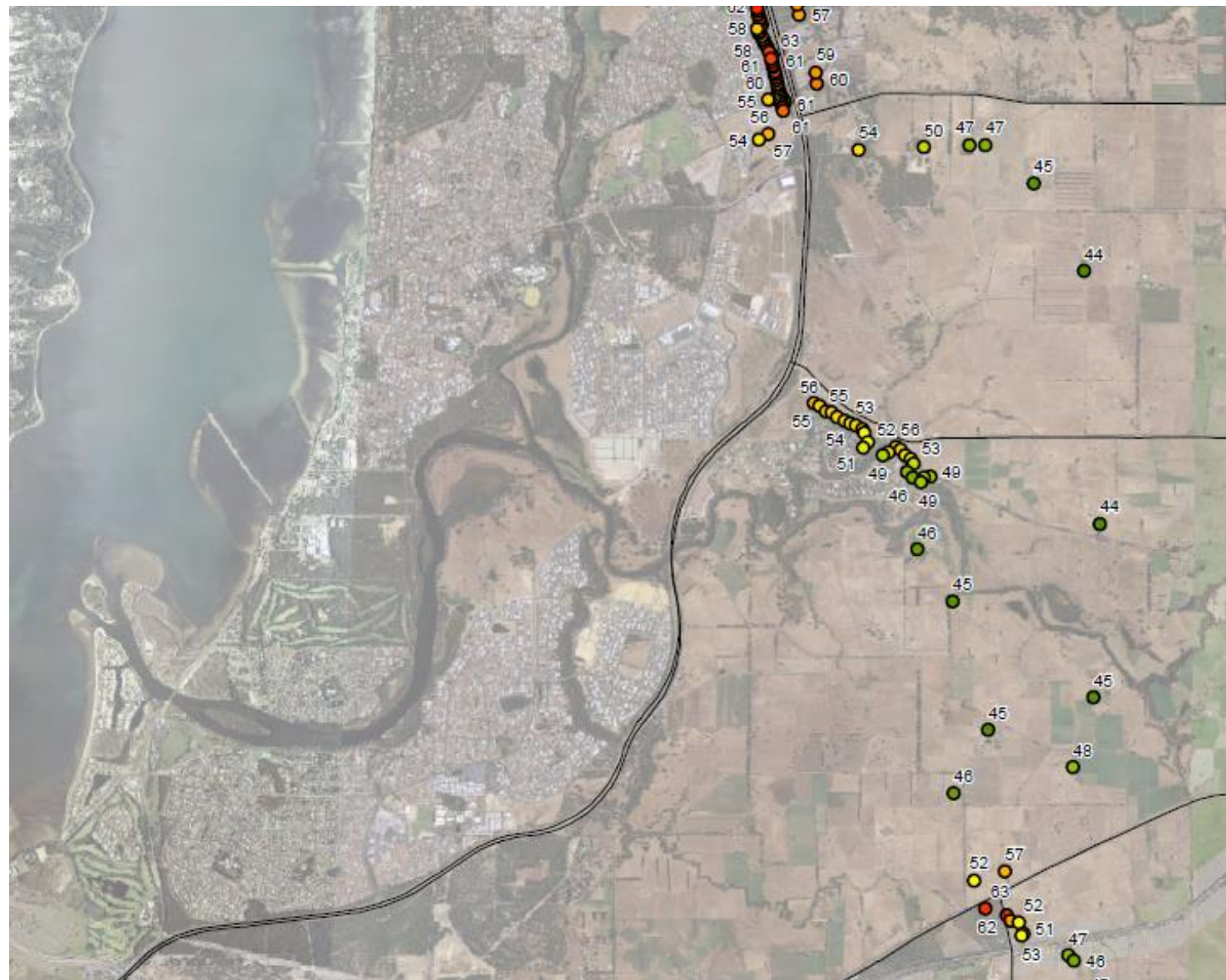
- 14mm chip seal	+3.5dB
- 10mm chip seal	+2.5dB
- 5mm chip seal	+1.5dB
- Dense graded asphalt	0.0dB
- Novachip	-0.2dB
- Stone mastic asphalt	-1.5dB
- Open graded asphalt	-2.5dB



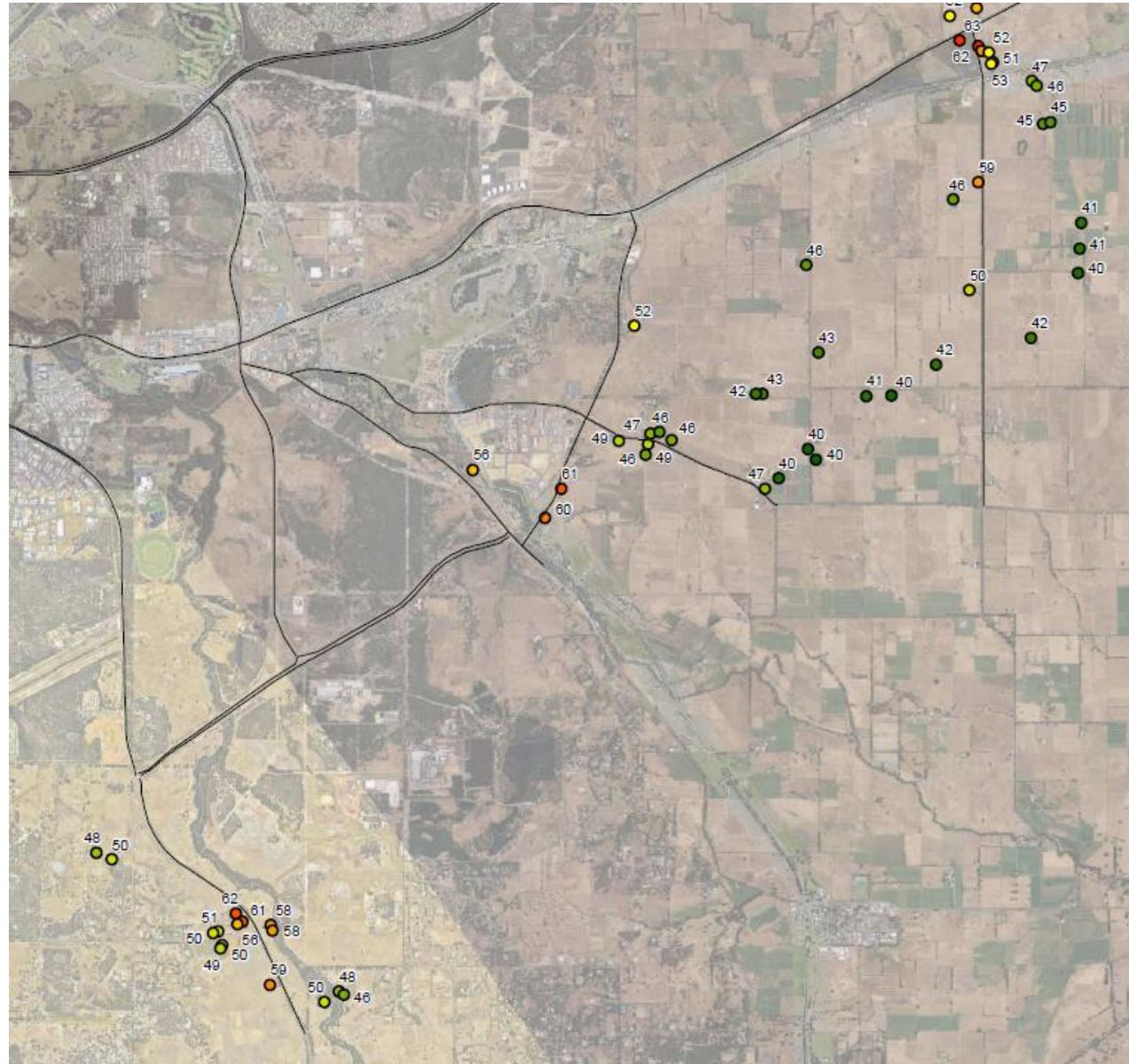
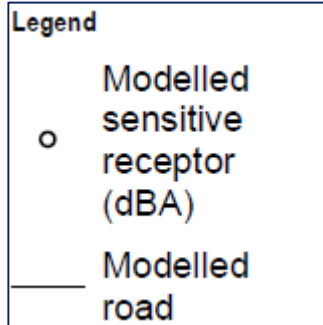
Existing Noise Levels

Legend

- Modelled sensitive receptor (dBA)
- Modelled road



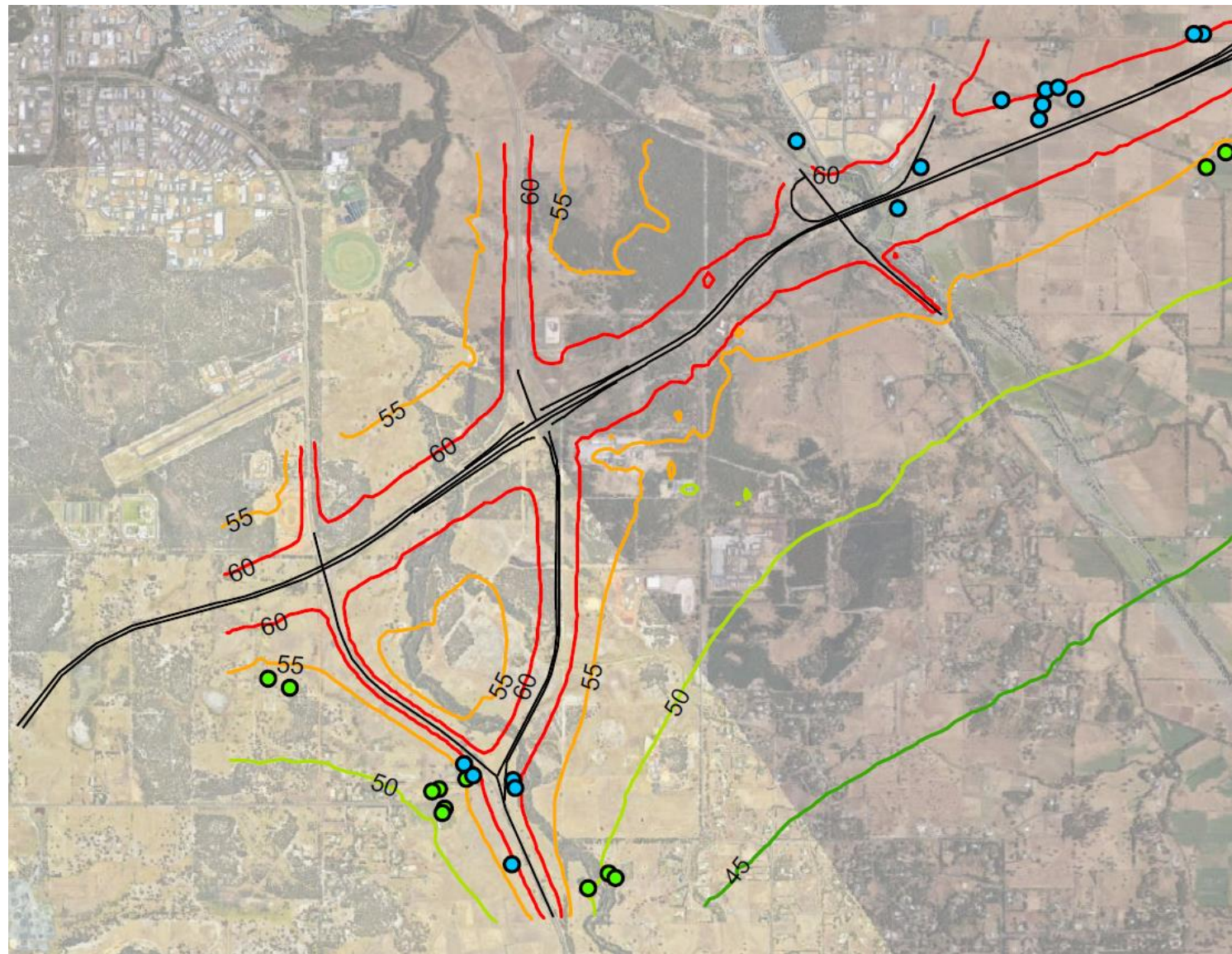
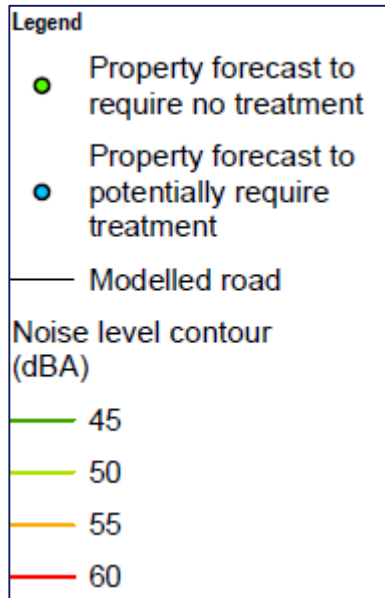
Existing Noise Levels



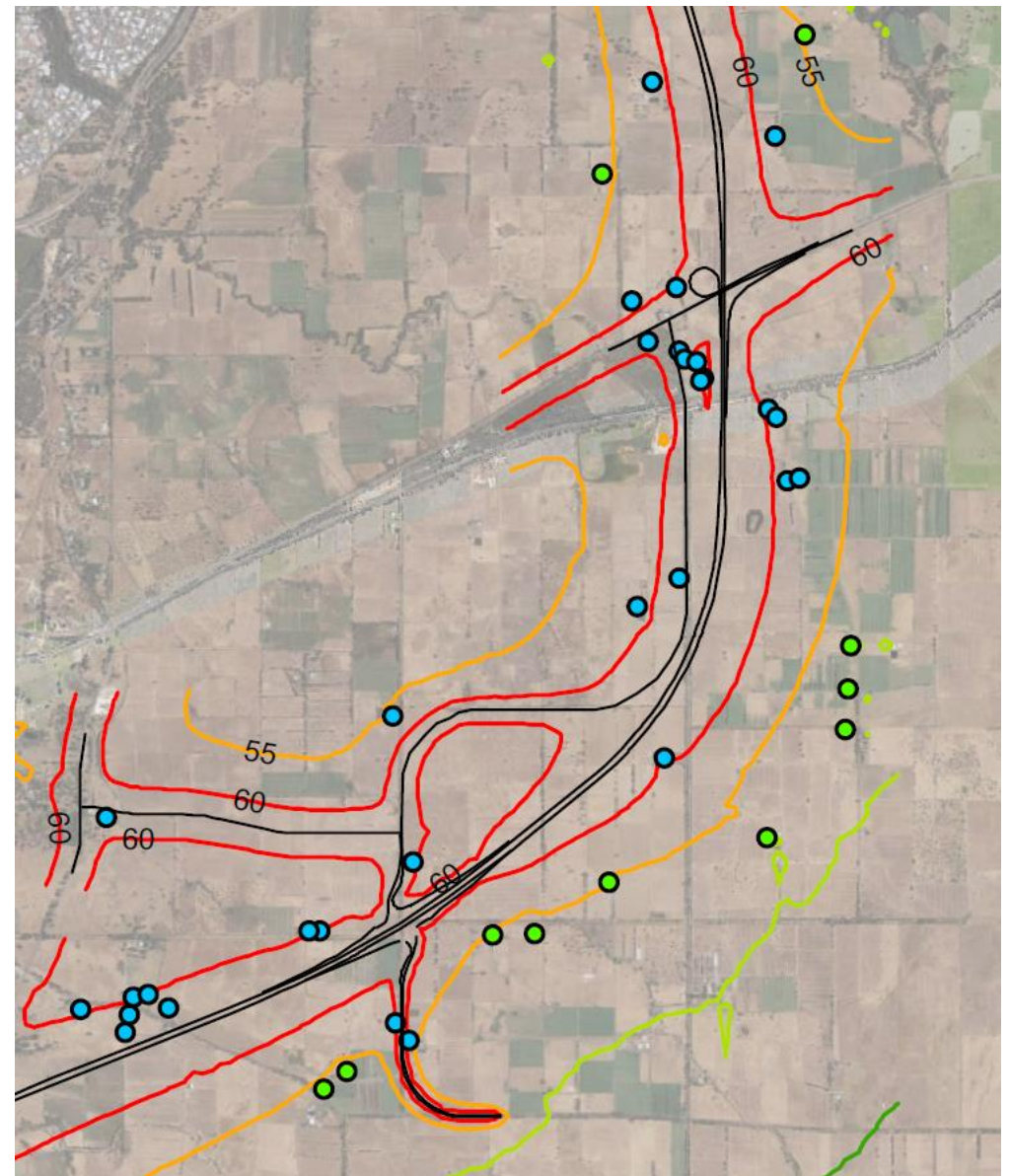
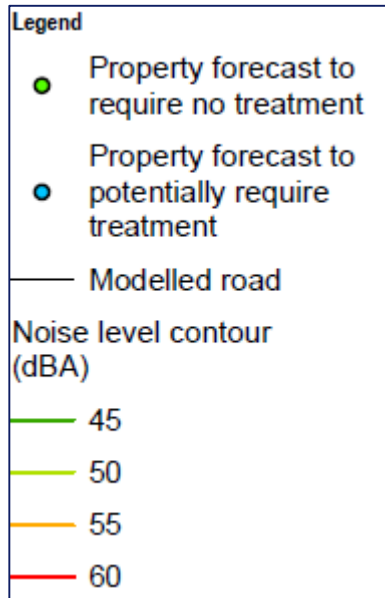
Noise assessment

- The predicted future noise map (2041) with BORR present and no noise mitigations.
- It is found that without any noise mitigation, 90 receptors are predicted to experience noise levels above the SPP 5.4 noise target of LAeq,day 55 dB in 2041, of which 45 are also predicted to experience noise levels above the noise limit of LAeq,day 60 dB.
- Each receptor above the 55 dB noise target will be considered for noise mitigation treatment.

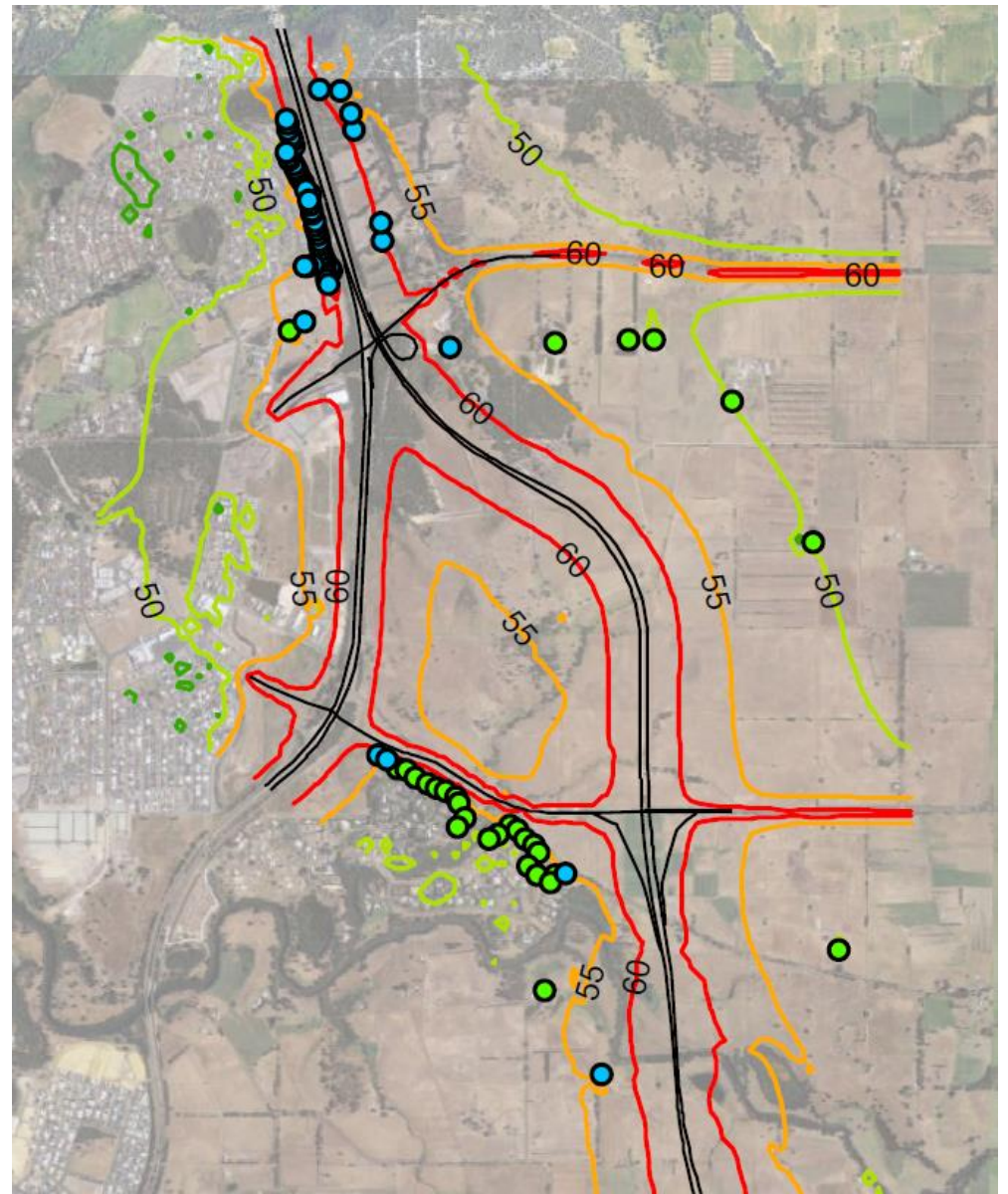
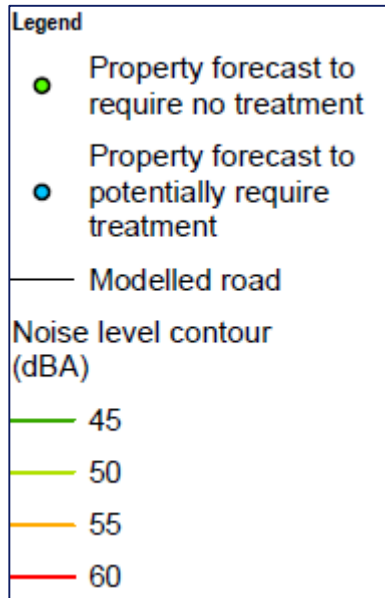
Forecast Noise Levels



Forecast Noise Levels



Forecast Noise Levels



Further Work

- Further noise modelling maybe required depending on the environmental assessment.
- At detailed design stage a refined noise model will be produced reflecting the design.
- Post construction monitoring and model validation will be completed 6 months after road opening.



Raymond Road Alignment

Padraic Murphy

Raymond Road – Treendale Road West

Ultimate Planning
Under
development





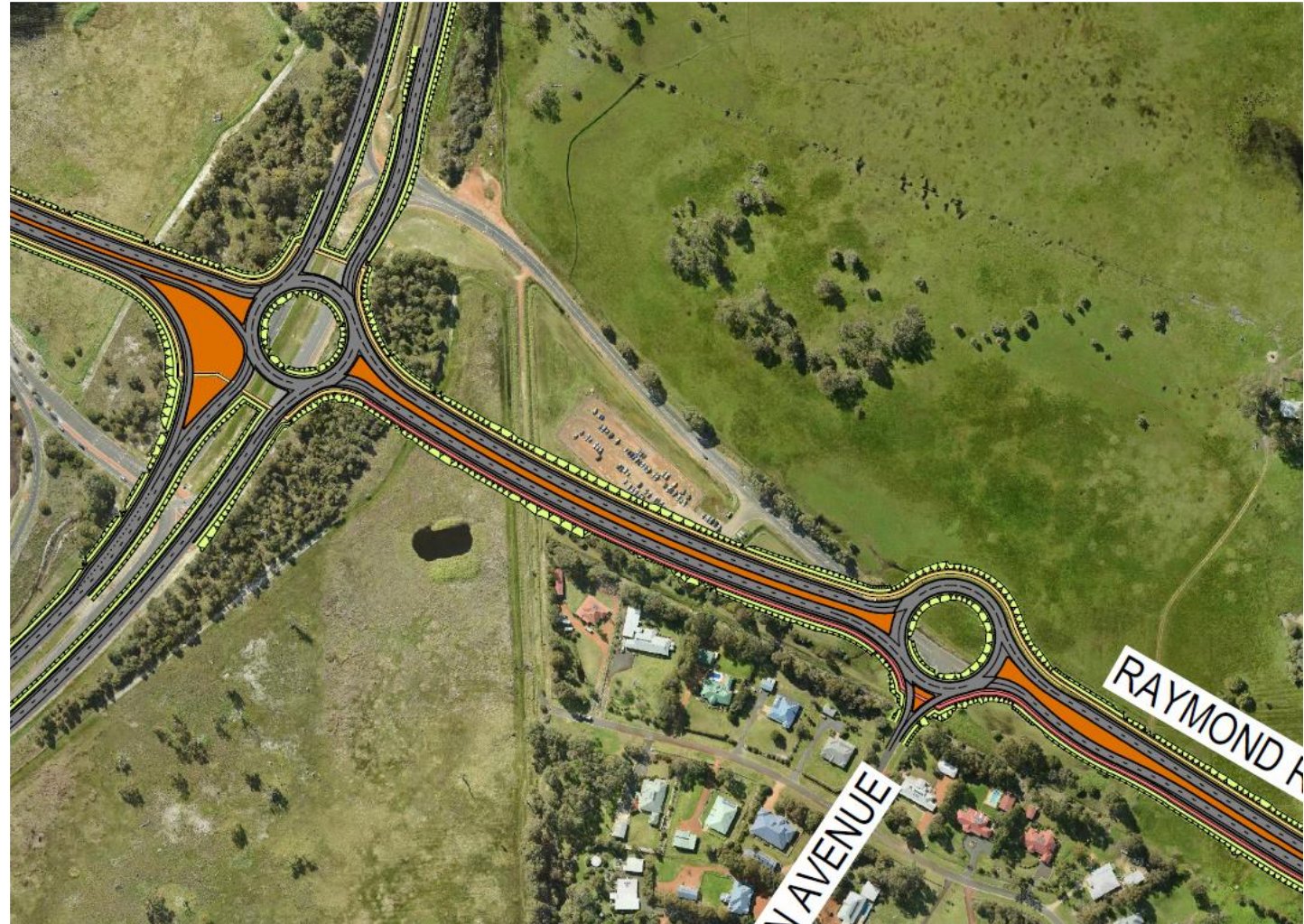
Raymond Road – Meadow Landing Accesses



Ultimate Planning
Under
development

Raymond Road – Grand Entrance Access

Ultimate Planning
Under
development



Raymond Road Alignment



The image shows a blurred truck moving from left to right under a concrete bridge. The truck is white with a blue and green patterned trailer. The bridge has several large concrete pillars. A dark blue rectangular overlay is positioned on the right side of the image, containing the text 'CRG Member Round Table' in white, bold, sans-serif font.

CRG Member Round Table

The image shows a blurred, futuristic train or tram moving through a tunnel. The train is white with blue and red accents and is captured in motion, creating a sense of speed. The tunnel's concrete structure is visible above and below the train. A dark blue rectangular overlay is positioned on the right side of the image, containing the text "Next Steps" in white, bold, sans-serif font.

Next Steps