

04_____Landscape and Urban Design Strategy

284 4.5_Urban and Landscape Concept Design

4.5.2_Detailed landscape strategy plans (Scale 1:5000)






A series of detailed 1:5000 scale landscape strategy plans show more detailed landscape strategies at proposed key interchange and bridge locations. At this stage these are indicative and subject to alteration during detail design. The list of detail plans includes:

- LA 101_ Interchange at Range Road (South)
- LA 102 _ Interchange at Range Road (North)
- LA 103_ Pine Brush Forest Rest Area
- LA 104_ Interchange at Tyndale (South)
- LA 105_ Interchange at Tyndale
- LA 106_ Interchange at Tyndale (North)
- LA 107_ Interchange at Maclean
- LA 108_ Proposed bridge over Clarence river (South)
- LA 109_ Proposed bridge over Clarence river (North)
- LA 110_ Interchange at Harwood
- LA 111_ Interchange at Iluka
- LA 112_ Interchange at Woodburn
- LA 113_ Woodburn Evans Head Overpass
- LA 114_ Interchange at Broadwater
- LA 115_ Richmond River Bridge (South)
- LA 116_ Richmond River Bridge (North)
- LA 117_ Richmond River Rest Area
- LA 118_ Interchange at Wardell
- LA 119_ Interchange at Coolgardie













Legend

Note: The following legend is to be read in conjunction with the landscape strategy plans LA101 - LA119




General

-  Project corridor and chainages
-  Roadway bridge
-  Contours at 10m interval
-  Section line
-  Ultimate upgrade






Planting

-  Fill Batter Type 1_Plant with dense tree and shrub planting. Refer typical plan LA201, LA206, LA210, LA 211
-  Fill Batter Type 2_Plant with open tree and shrub planting. Refer typical plan LA 202, LA 204, LA 205, LA 207, LA 209, LA 212
-  Fill Batter Type 3_Plant with grassland planting. Refer typical plan LA203, LA 208, LA 213
-  Cut Batter Type 1_Plant with grassland planting or stabilised rock. Refer typical plan LA 215, LA 217, LA 219, LA 220, LA 221.
-  Cut Batter Type 2_Plant with dense tree and shrub planting. Refer typical plan LA 214, LA 216, LA218
-  Landmark Tree Planting - Type 1_Use single tree species to specific detail to highlight landmarks, locations or destinations.
-  Landmark Tree Planting-Type 2_Use spreading canopy tree species to specific detail design.
-  Screen Planting_Use a mix of native trees and shrubs to create a dense screen to properties adjacent to the development
-  Forest/Woodland Forest_Plant local forest/ woodland trees to augment adjacent forest woodland and to reinforce enclosed driving experience
-  Tree and Shrub Planting_ To specific detail design
-  Roundabout_Plant feature shrub and ground cover species according to sightline and clear zone requirements to specific detail design
-  Clear Zone Planting_Plant with frangible native vegetation species to detail design

Clearance Zones

-  11m clear zone (110km/h zone)
-  5m clear zone (80km/h zone)
-  3m clear zone (<60km/h zone)

Revegetation

-  Forest Outcome_Retain or revegetate with dense native forest/woodland tree planting. Layout to complement surrounding planting patterns and to reinforce enclosed driving experience.
-  Filtered Landscape Outcome_ Retain or rehabilitate native forest/woodland planting. Planting pattern to allow for filtered views of the surrounding landscape.
-  Agricultural Outcome_Retain or reinstate agricultural land use or reinstate grass/ground cover planting to emulate agricultural landscape.
-  Construction Zone_Reinstate forest/woodland or agricultural landscape following construction activity in accordance with site specific detail design.
-  Constructed wetland area.

Interchange at Range Road (S)



Legend

Refer to Page 283 for full legend

	Project corridor and chainages		11m clear zone (110km/h zone)
	Roadway bridge		5m clear zone (80km/h zone)
	Contours at 10m interval		3m clear zone (<60km/h zone)
			Section line
			Ultimate upgrade

Planting

	Fill Batter Type 1		Landmark Tree Planting-Type 1
	Fill Batter Type 2		Landmark Tree Planting-Type 2
	Fill Batter Type 3		Screen Planting
	Cut Batter Type 1		Forest/Woodland Forest
	Cut Batter Type 2		Tree and Shrub Planting
			Roundabout
			Clear Zone Planting

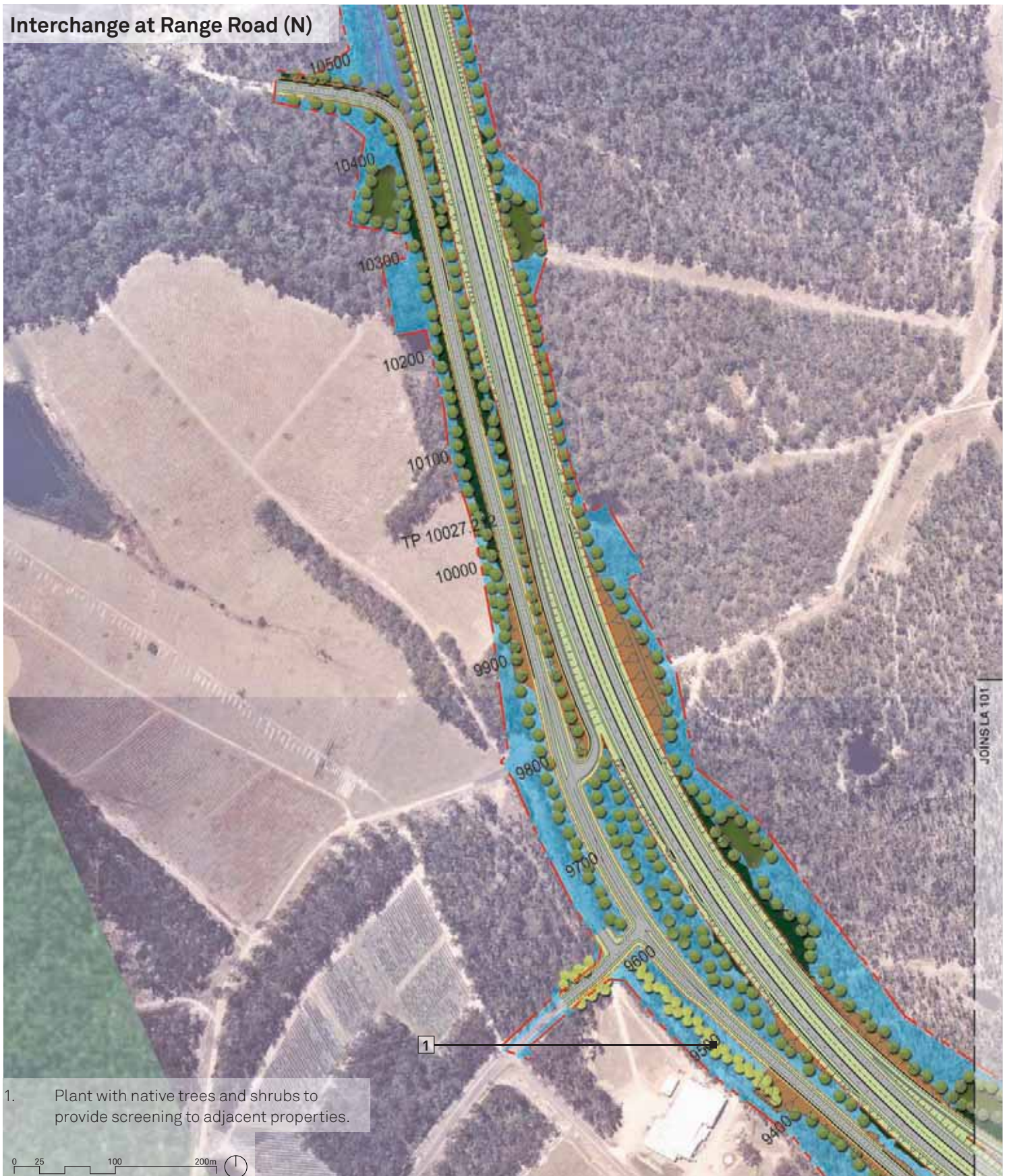
Revegetation

	Forest Outcome
	Filtered Landscape Outcome
	Agricultural Outcome
	Construction Zone
	Constructed wetland area.

LA101



Interchange at Range Road (N)



1. Plant with native trees and shrubs to provide screening to adjacent properties.

Scale 1:5000 @ A4

Legend	
Refer to Page 283 for full legend	
	Project corridor and chainages
	Roadway bridge
	11m clear zone (110km/h zone)
	5m clear zone (80km/h zone)
	3m clear zone (<60km/h zone)
	Section line
	Ultimate upgrade
	Contours at 10m interval

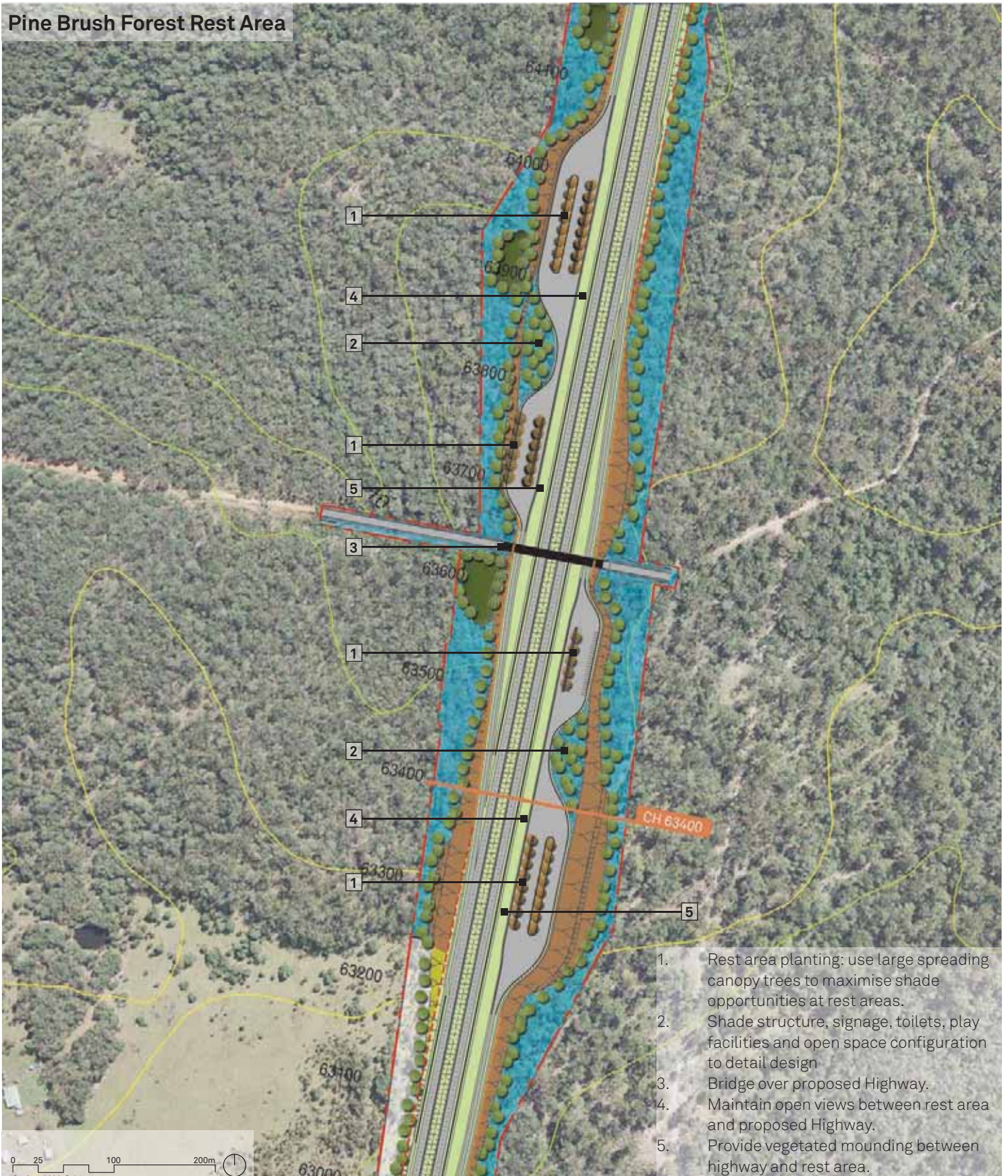
Planting	
	Fill Batter Type 1
	Fill Batter Type 2
	Fill Batter Type 3
	Cut Batter Type 1
	Cut Batter Type 2
	Landmark Tree Planting-Type 1
	Landmark Tree Planting-Type 2
	Screen Planting
	Forest/Woodland Forest
	Tree and Shrub Planting
	Roundabout
	Clear Zone Planting

Revegetation	
	Forest Outcome
	Filtered Landscape Outcome
	Agricultural Outcome
	Construction Zone
	Constructed wetland area.

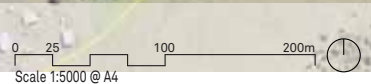
LA102



Pine Brush Forest Rest Area



1. Rest area planting: use large spreading canopy trees to maximise shade opportunities at rest areas.
2. Shade structure, signage, toilets, play facilities and open space configuration to detail design
3. Bridge over proposed Highway.
4. Maintain open views between rest area and proposed Highway.
5. Provide vegetated mounding between highway and rest area.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade
- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2

Planting

- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

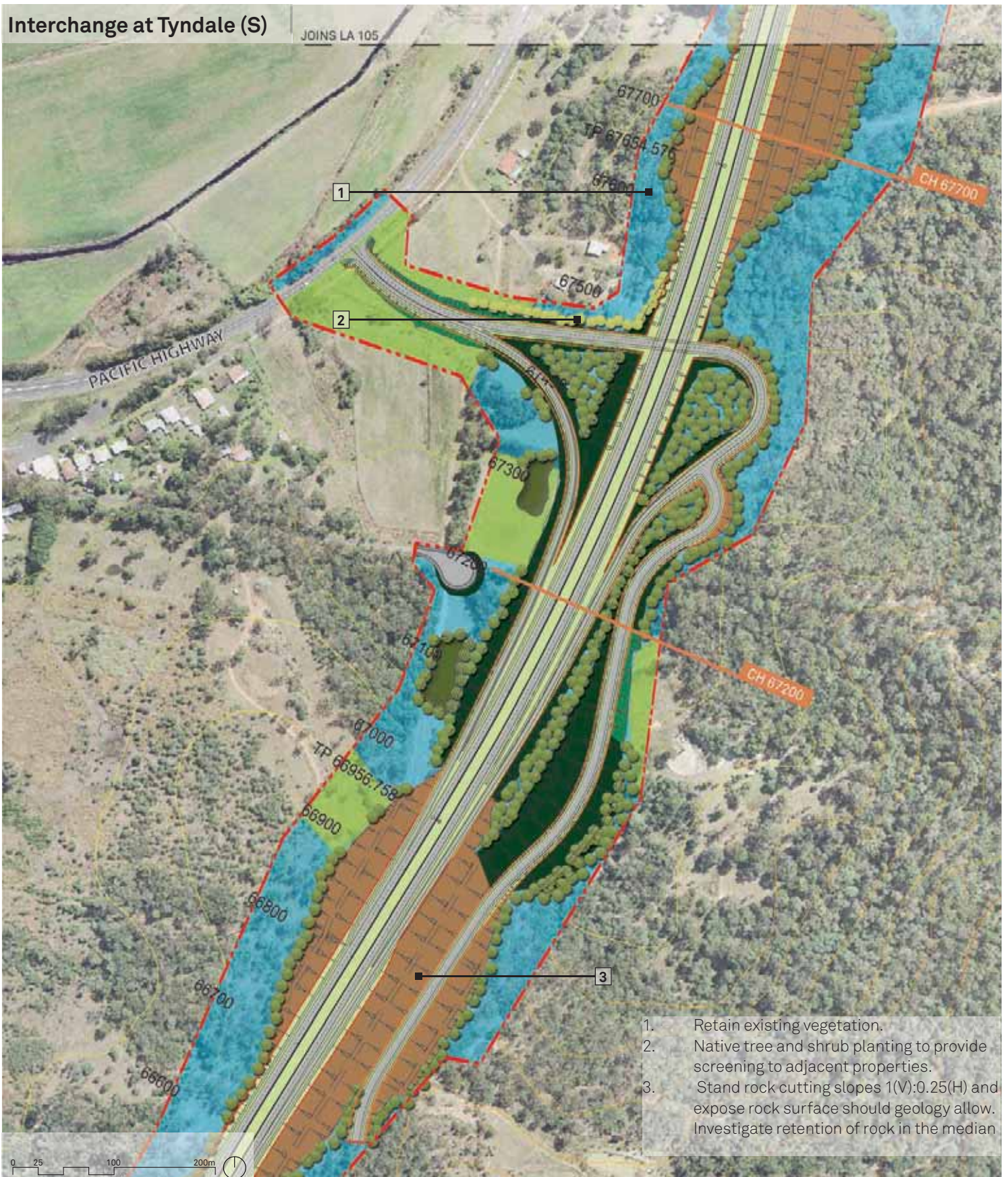
Revegetation LA103

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.



Interchange at Tyndale (S)

JOINS LA 105



1. Retain existing vegetation.
2. Native tree and shrub planting to provide screening to adjacent properties.
3. Stand rock cutting slopes 1(V):0.25(H) and expose rock surface should geology allow. Investigate retention of rock in the median



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade
- Contours at 10m interval

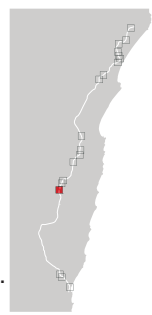
Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

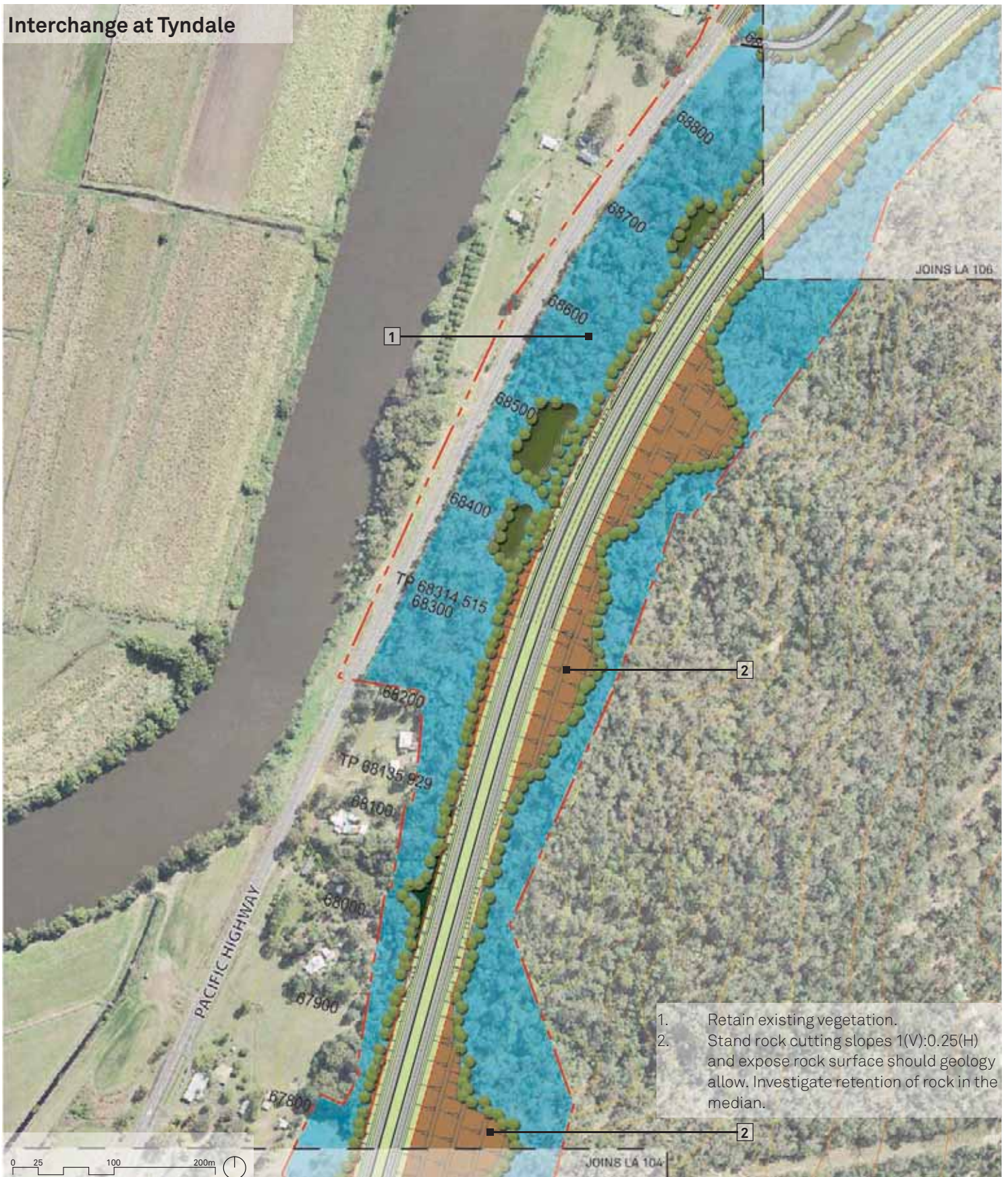
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

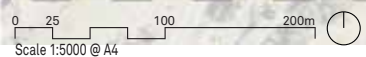
LA104



Interchange at Tyndale



1. Retain existing vegetation.
2. Stand rock cutting slopes 1(V):0.25(H) and expose rock surface should geology allow. Investigate retention of rock in the median.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade
- Contours at 10m interval

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

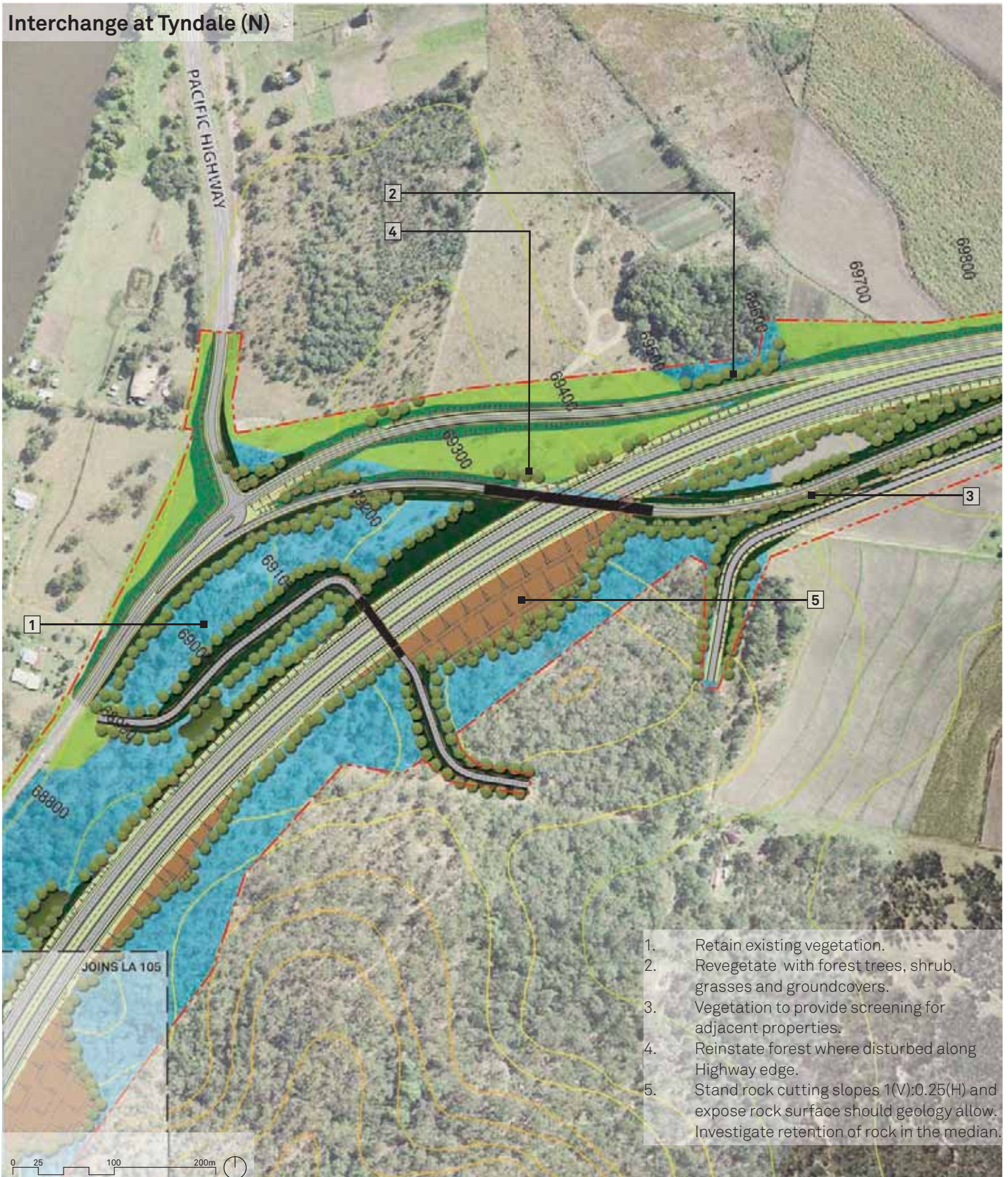
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

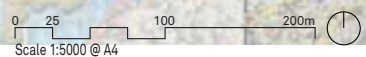
LA105



Interchange at Tyndale (N)



1. Retain existing vegetation.
2. Revegetate with forest trees, shrub, grasses and groundcovers.
3. Vegetation to provide screening for adjacent properties.
4. Reinststate forest where disturbed along Highway edge.
5. Stand rock cutting slopes 1(V):0.25(H) and expose rock surface should geology allow. Investigate retention of rock in the median.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade
- Contours at 10m interval

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

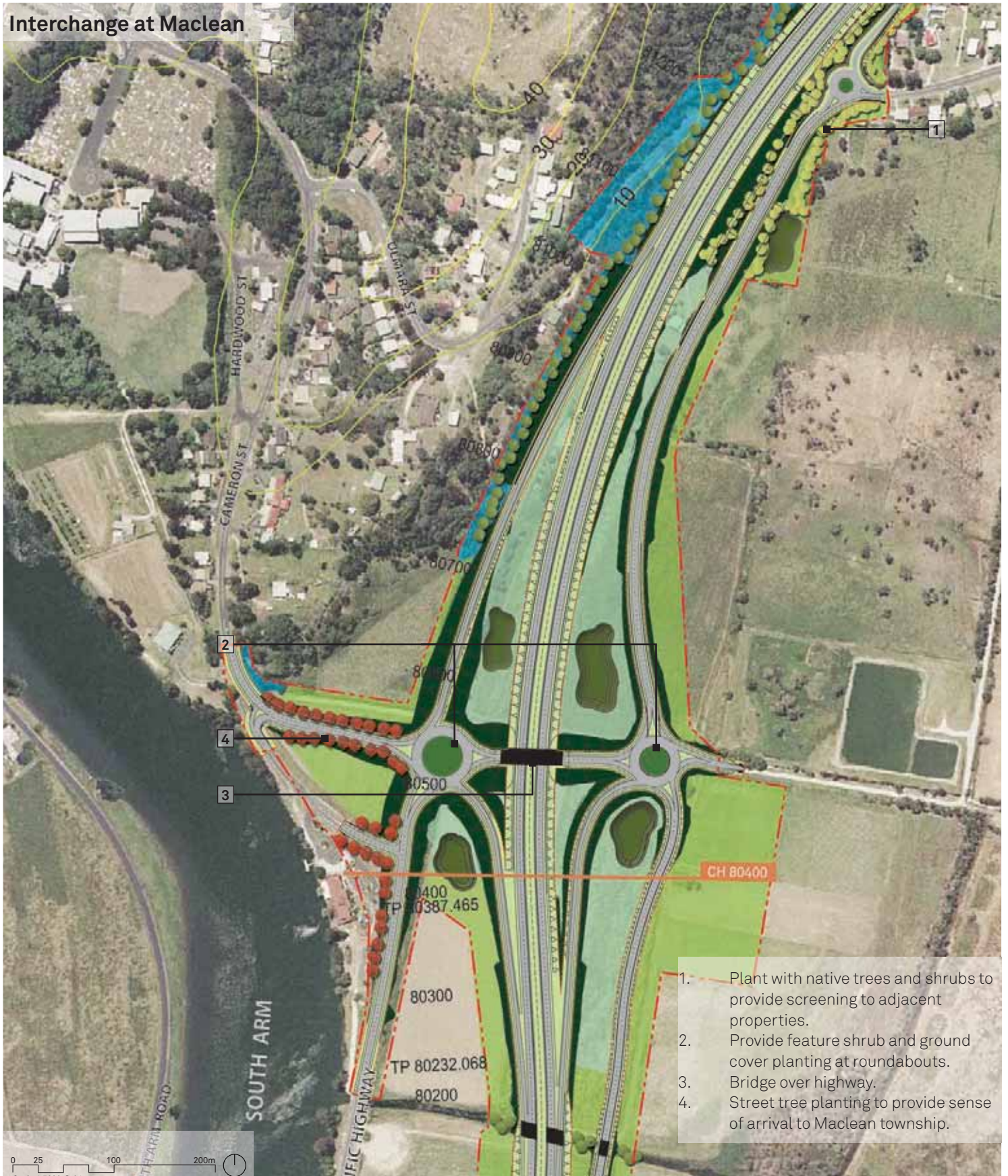
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

LA106



Interchange at Maclean



1. Plant with native trees and shrubs to provide screening to adjacent properties.
2. Provide feature shrub and ground cover planting at roundabouts.
3. Bridge over highway.
4. Street tree planting to provide sense of arrival to Maclean township.

Refer to Page 283 for full legend

- Legend**
- Project corridor and chainages
 - Roadway bridge
 - Contours at 10m interval
 - 11m clear zone (110km/h zone)
 - 5m clear zone (80km/h zone)
 - 3m clear zone (<60km/h zone)
 - Section line
 - Ultimate upgrade

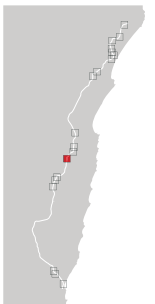
Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

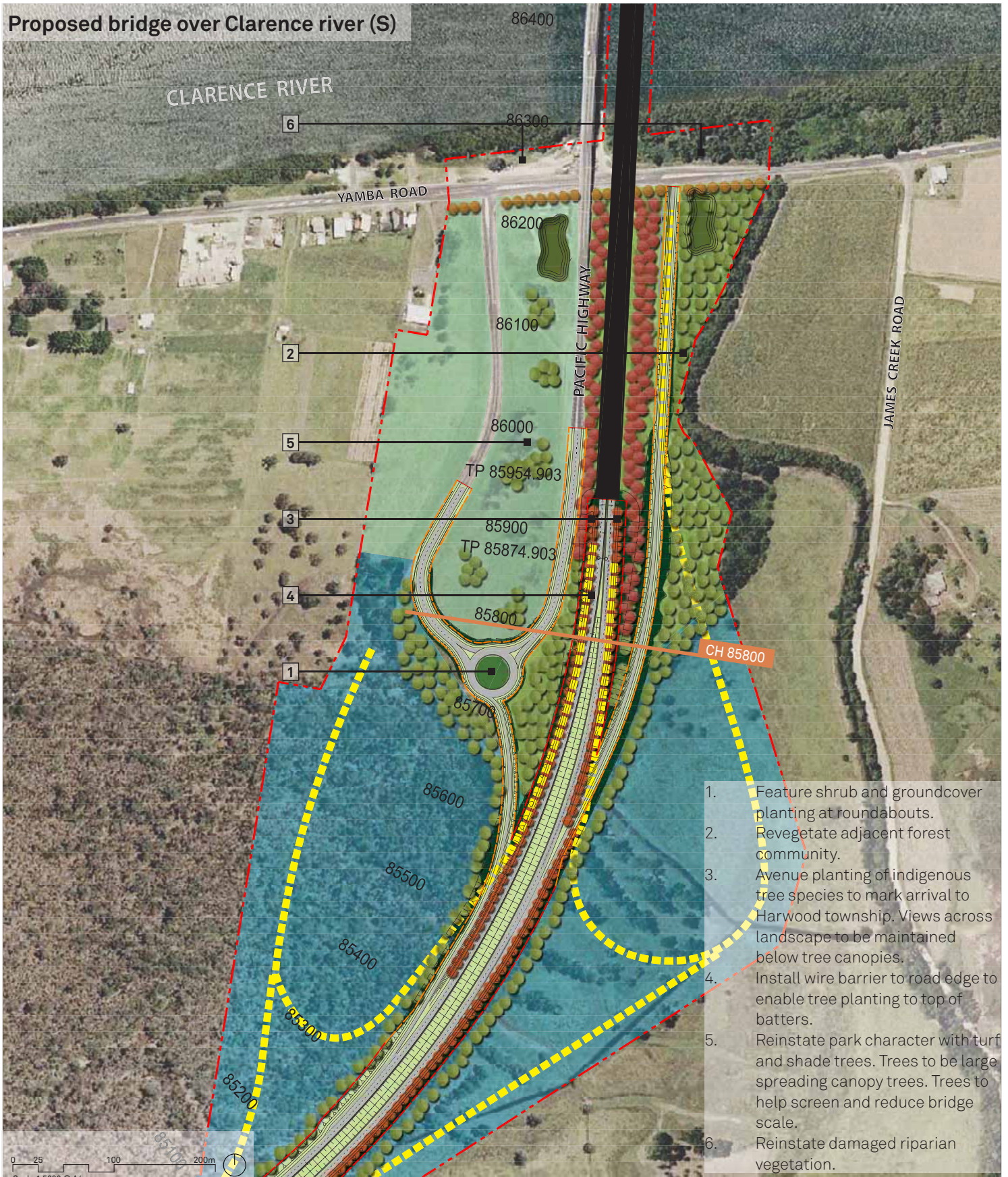
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

LA107



Proposed bridge over Clarence river (S)



Scale 1:5000 @ A4
0 25 100 200m

Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

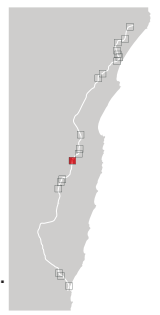
Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

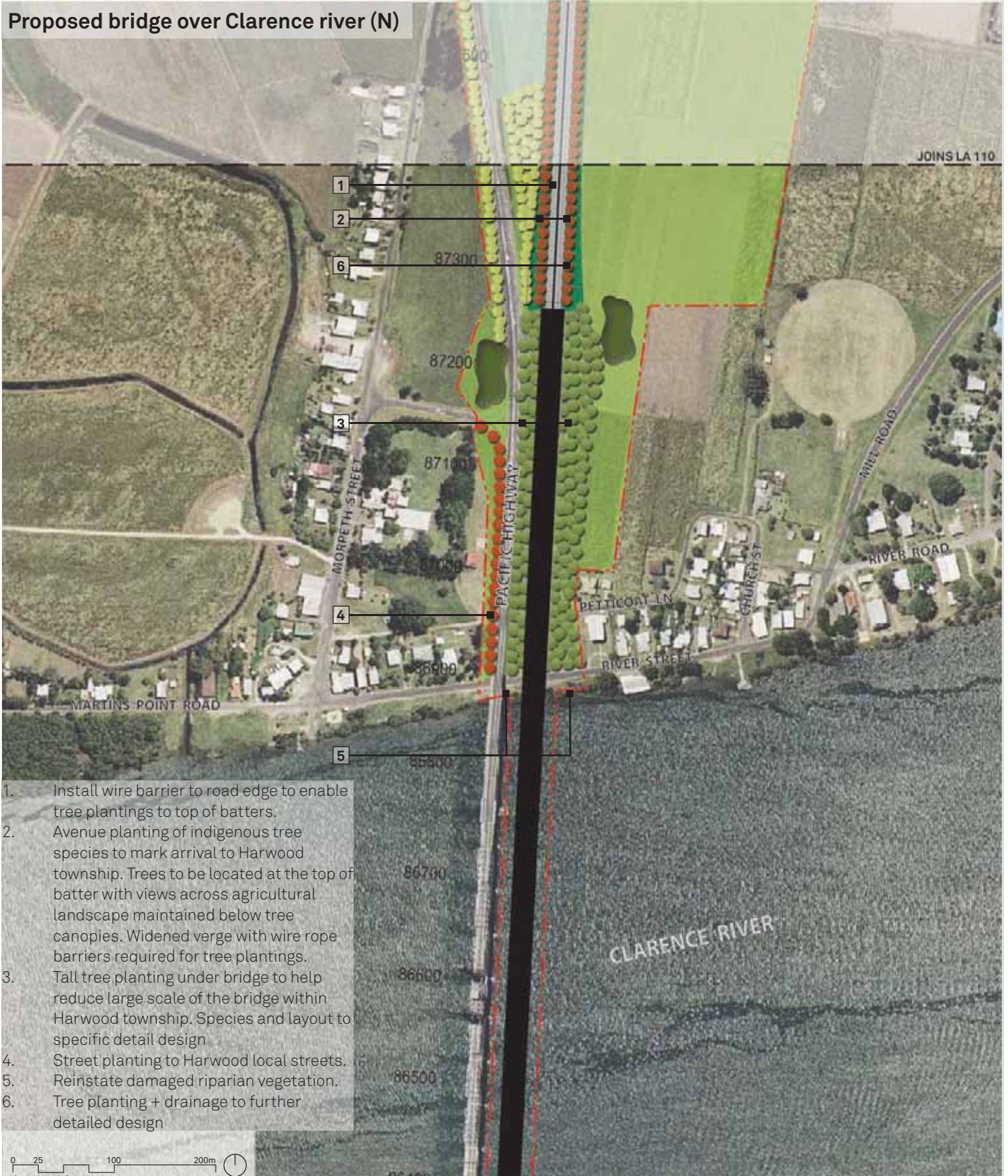
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

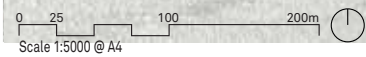
LA108



Proposed bridge over Clarence river (N)



1. Install wire barrier to road edge to enable tree plantings to top of batters.
2. Avenue planting of indigenous tree species to mark arrival to Harwood township. Trees to be located at the top of batter with views across agricultural landscape maintained below tree canopies. Widened verge with wire rope barriers required for tree plantings.
3. Tall tree planting under bridge to help reduce large scale of the bridge within Harwood township. Species and layout to specific detail design
4. Street planting to Harwood local streets.
5. Reinstate damaged riparian vegetation.
6. Tree planting + drainage to further detailed design



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

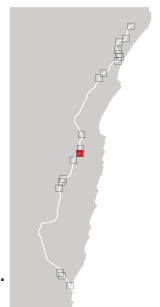
Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

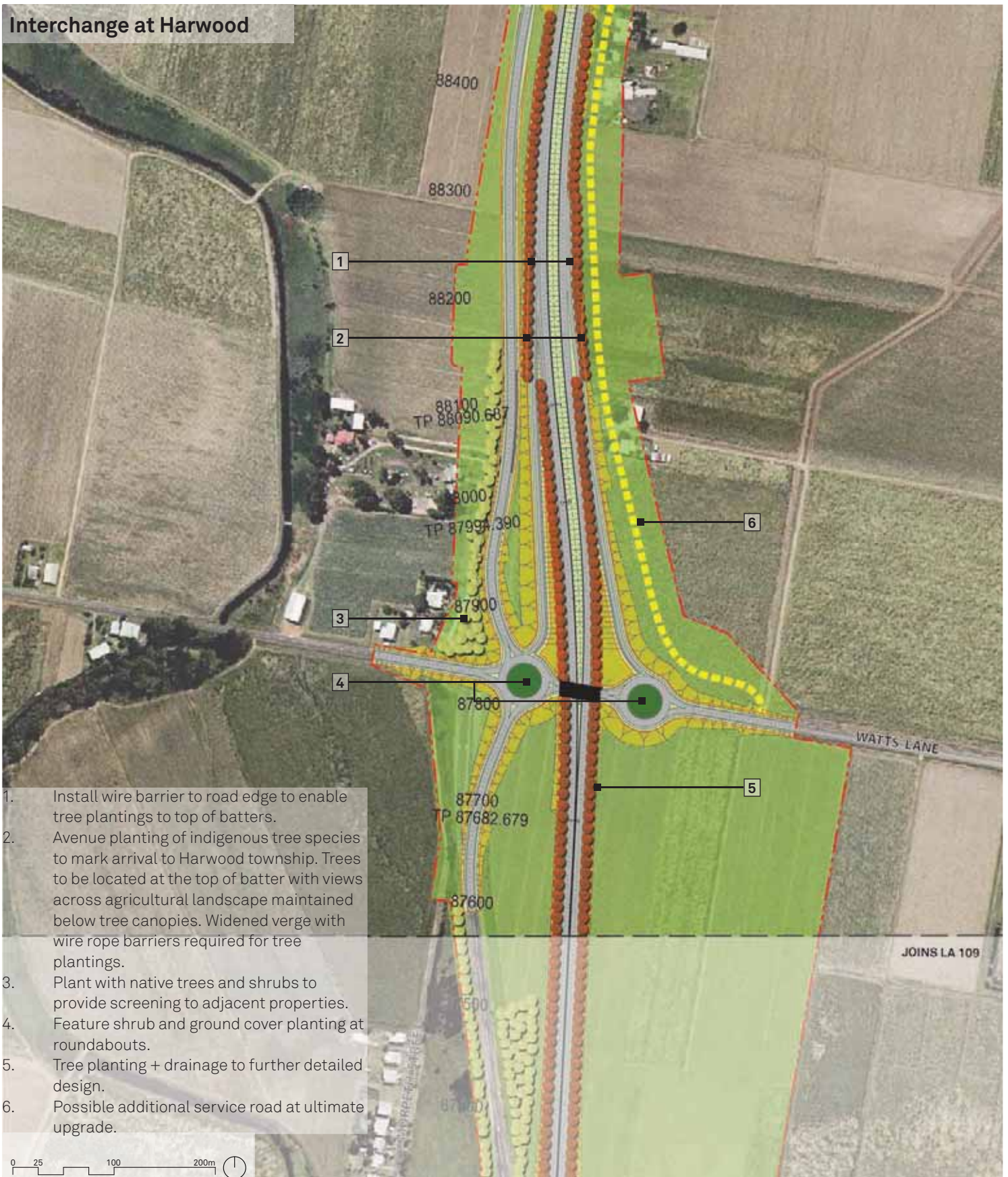
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

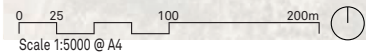
LA109



Interchange at Harwood



1. Install wire barrier to road edge to enable tree plantings to top of batters.
2. Avenue planting of indigenous tree species to mark arrival to Harwood township. Trees to be located at the top of batter with views across agricultural landscape maintained below tree canopies. Widened verge with wire rope barriers required for tree plantings.
3. Plant with native trees and shrubs to provide screening to adjacent properties.
4. Feature shrub and ground cover planting at roundabouts.
5. Tree planting + drainage to further detailed design.
6. Possible additional service road at ultimate upgrade.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

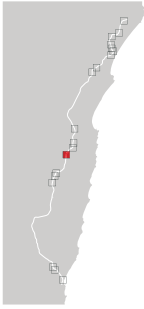
Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

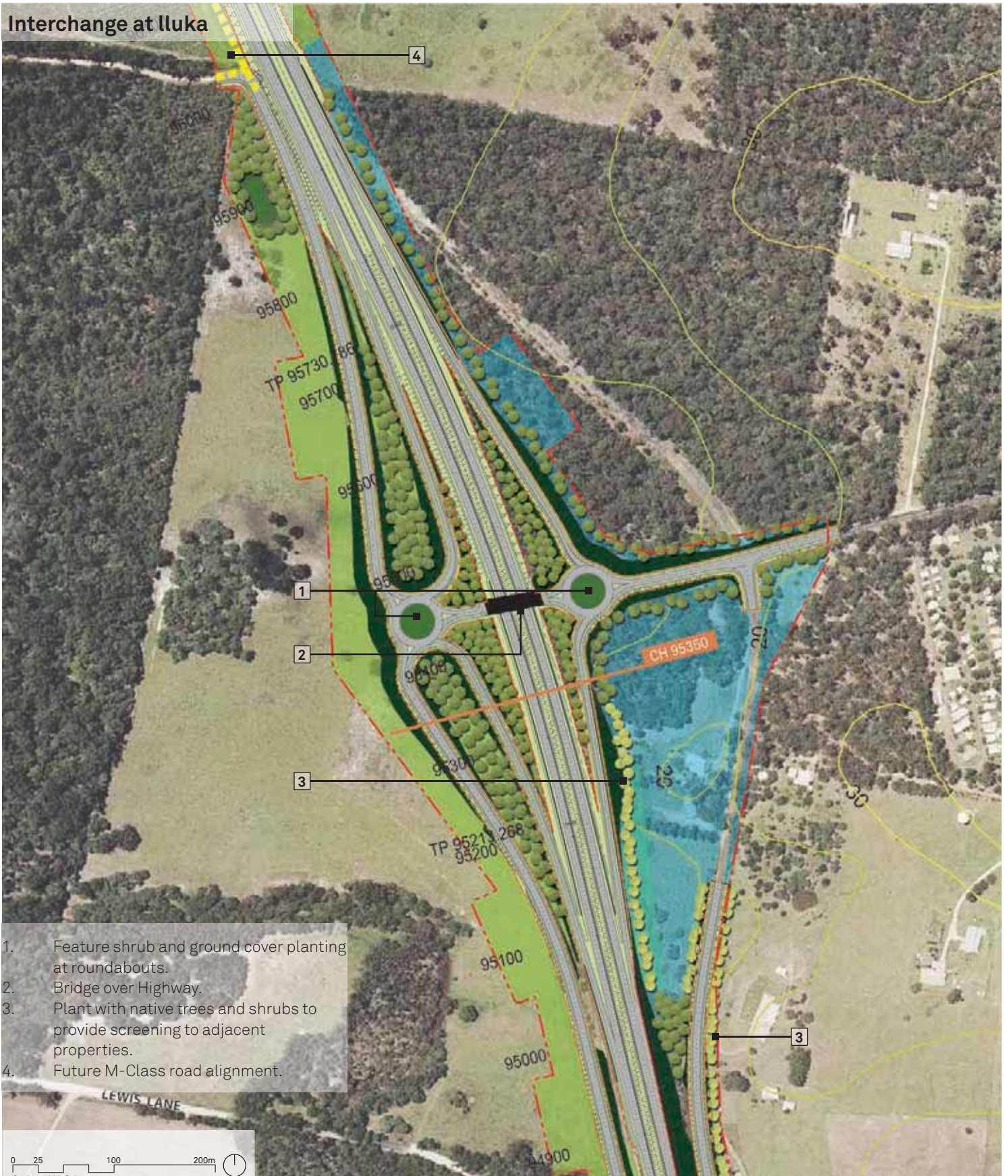
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

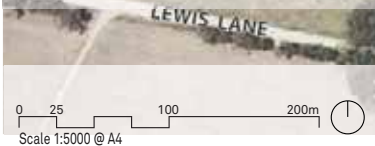
LA110



Interchange at Iluka



1. Feature shrub and ground cover planting at roundabouts.
2. Bridge over Highway.
3. Plant with native trees and shrubs to provide screening to adjacent properties.
4. Future M-Class road alignment.



Legend

Refer to Page 283 for full legend

Project corridor and chainages	11m clear zone (110km/h zone)
Roadway bridge	5m clear zone (80km/h zone)
Contours at 10m interval	3m clear zone (<60km/h zone)
	Section line
	Ultimate upgrade

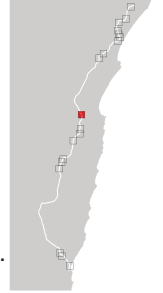
Planting

Fill Batter Type 1	Landmark Tree Planting-Type 1
Fill Batter Type 2	Landmark Tree Planting-Type 2
Fill Batter Type 3	Screen Planting
Cut Batter Type 1	Forest/Woodland Forest
Cut Batter Type 2	Tree and Shrub Planting
	Roundabout
	Clear Zone Planting

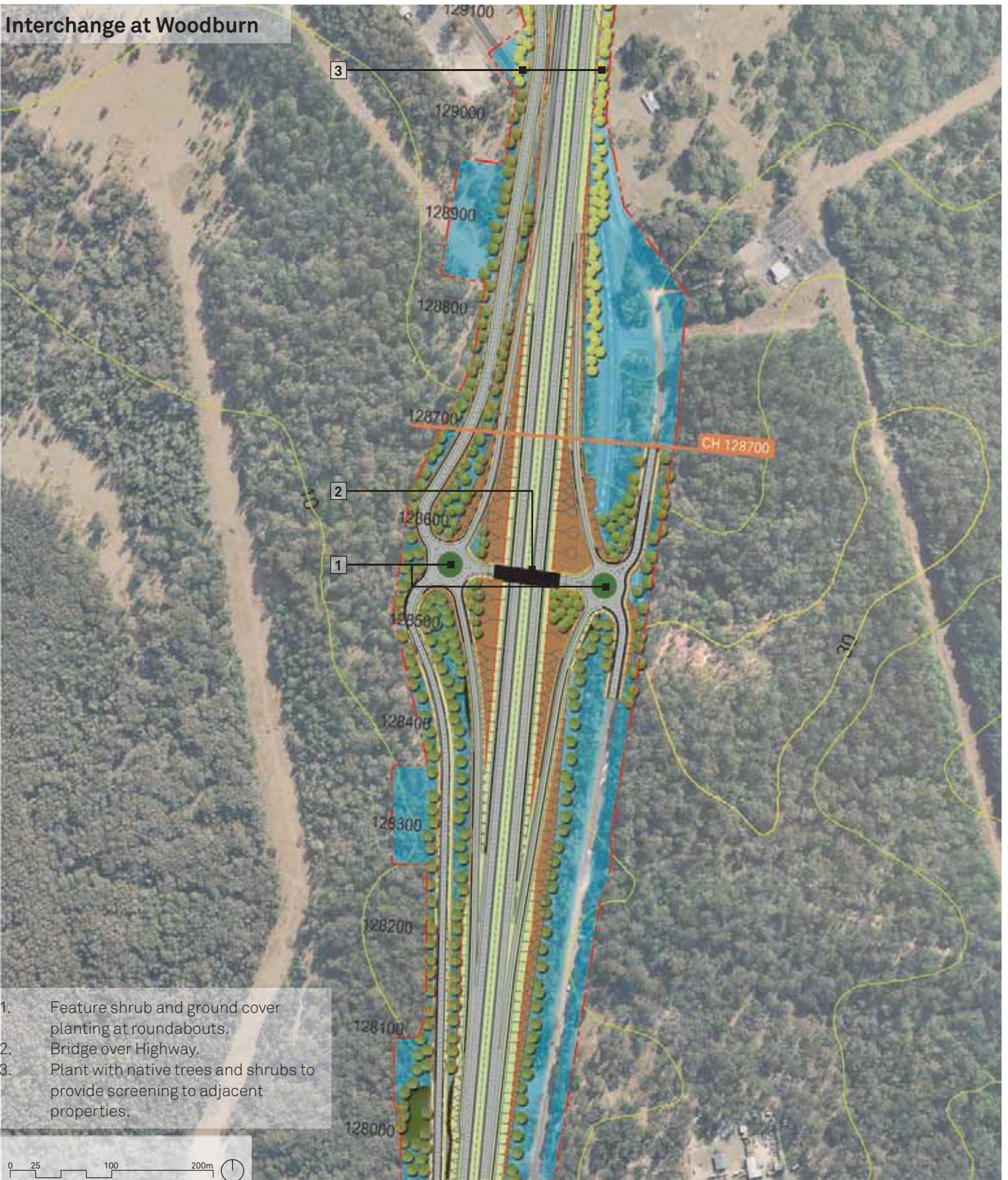
Revegetation

Forest Outcome
Filtered Landscape Outcome
Agricultural Outcome
Construction Zone
Constructed wetland area.

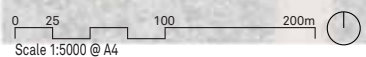
LA111



Interchange at Woodburn



1. Feature shrub and ground cover planting at roundabouts.
2. Bridge over Highway.
3. Plant with native trees and shrubs to provide screening to adjacent properties.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade
- Contours at 10m interval

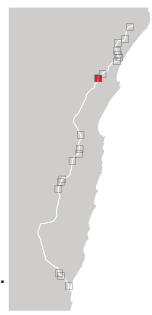
Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

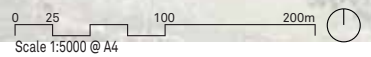
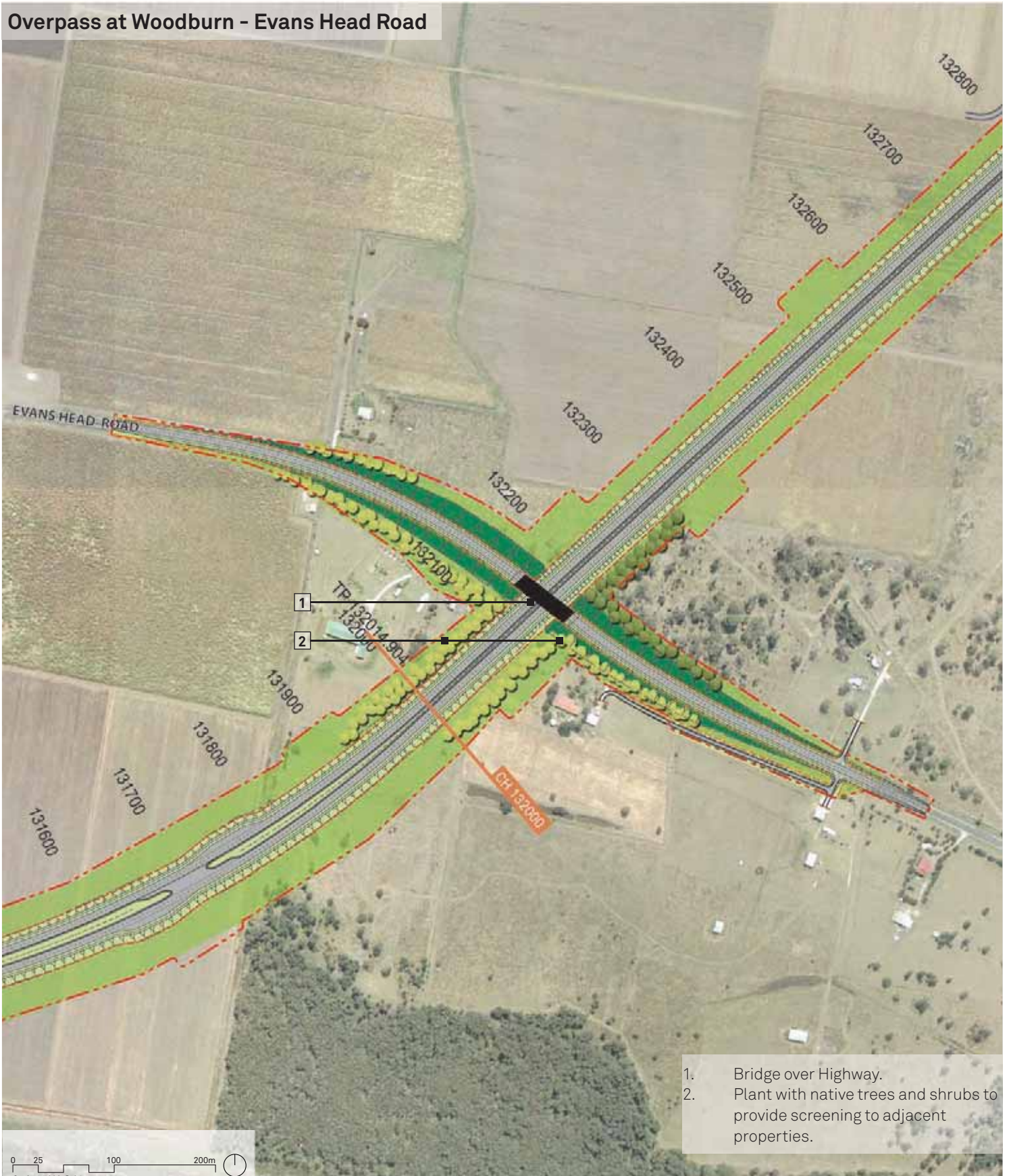
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

LA112



Overpass at Woodburn - Evans Head Road



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

LA113



Interchange at Broadwater



1. Bridge over Highway.
2. Plant with native trees and shrubs to provide screening to adjacent properties.
3. Feature shrub and ground cover planting at roundabouts.

0 25 100 200m
Scale 1:50000 @ A4

Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade
- Contours at 10m interval

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

Revegetation

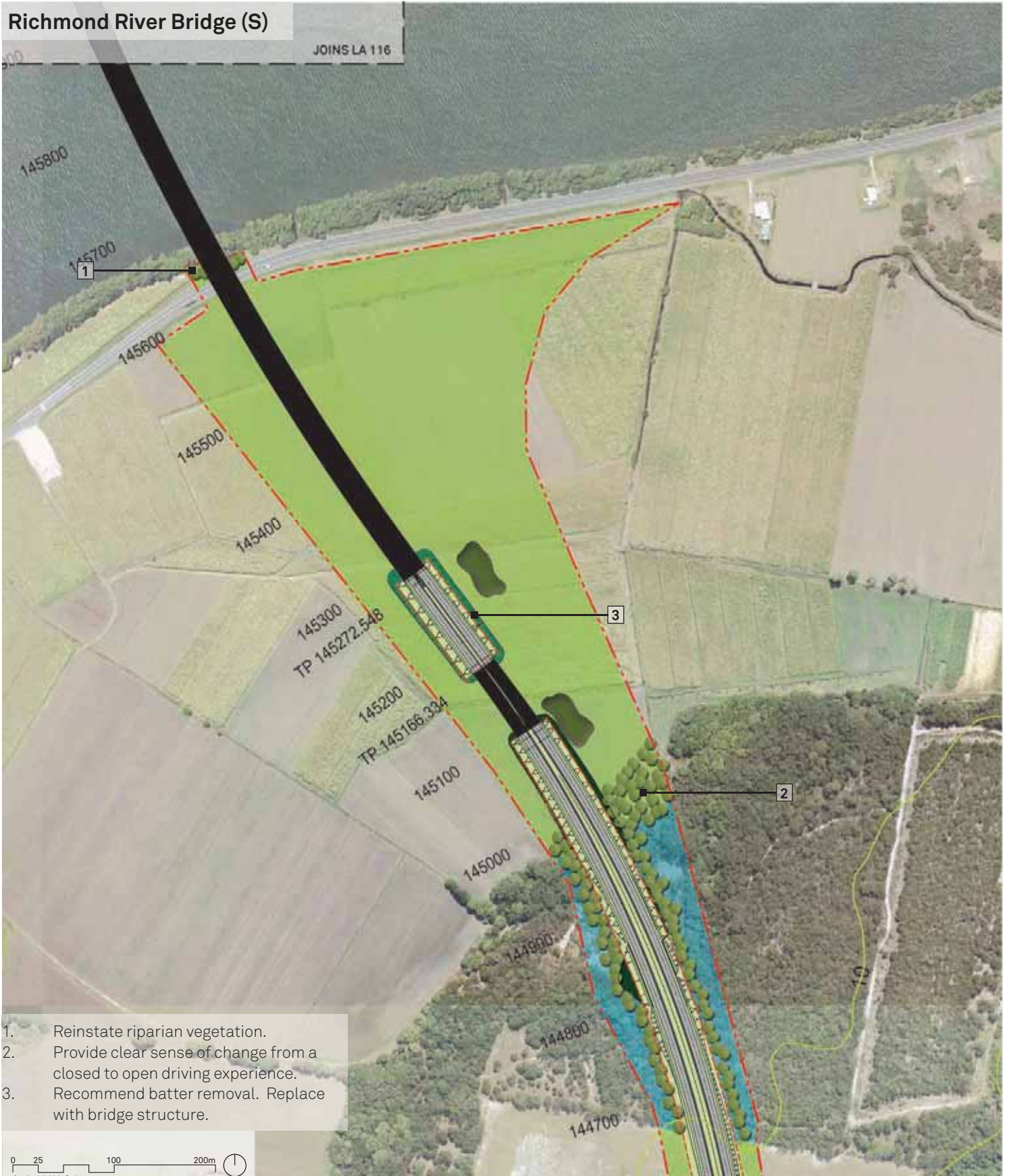
- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

LA114

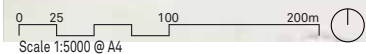


Richmond River Bridge (S)

JOINS LA 116



1. Reinststate riparian vegetation.
2. Provide clear sense of change from a closed to open driving experience.
3. Recommend batter removal. Replace with bridge structure.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

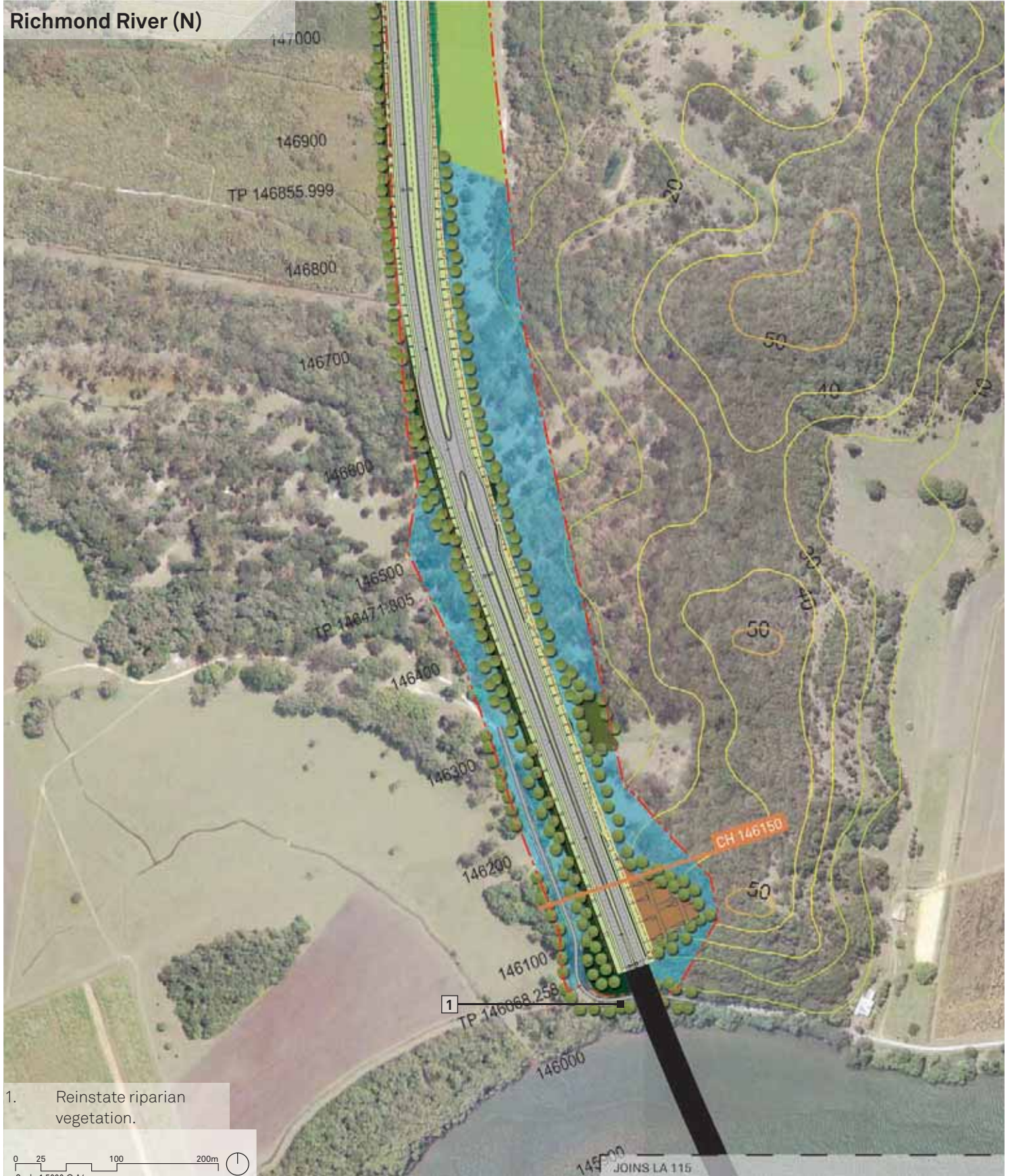
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

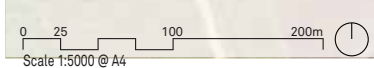
LA115



Richmond River (N)



1. Reinstatement riparian vegetation.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

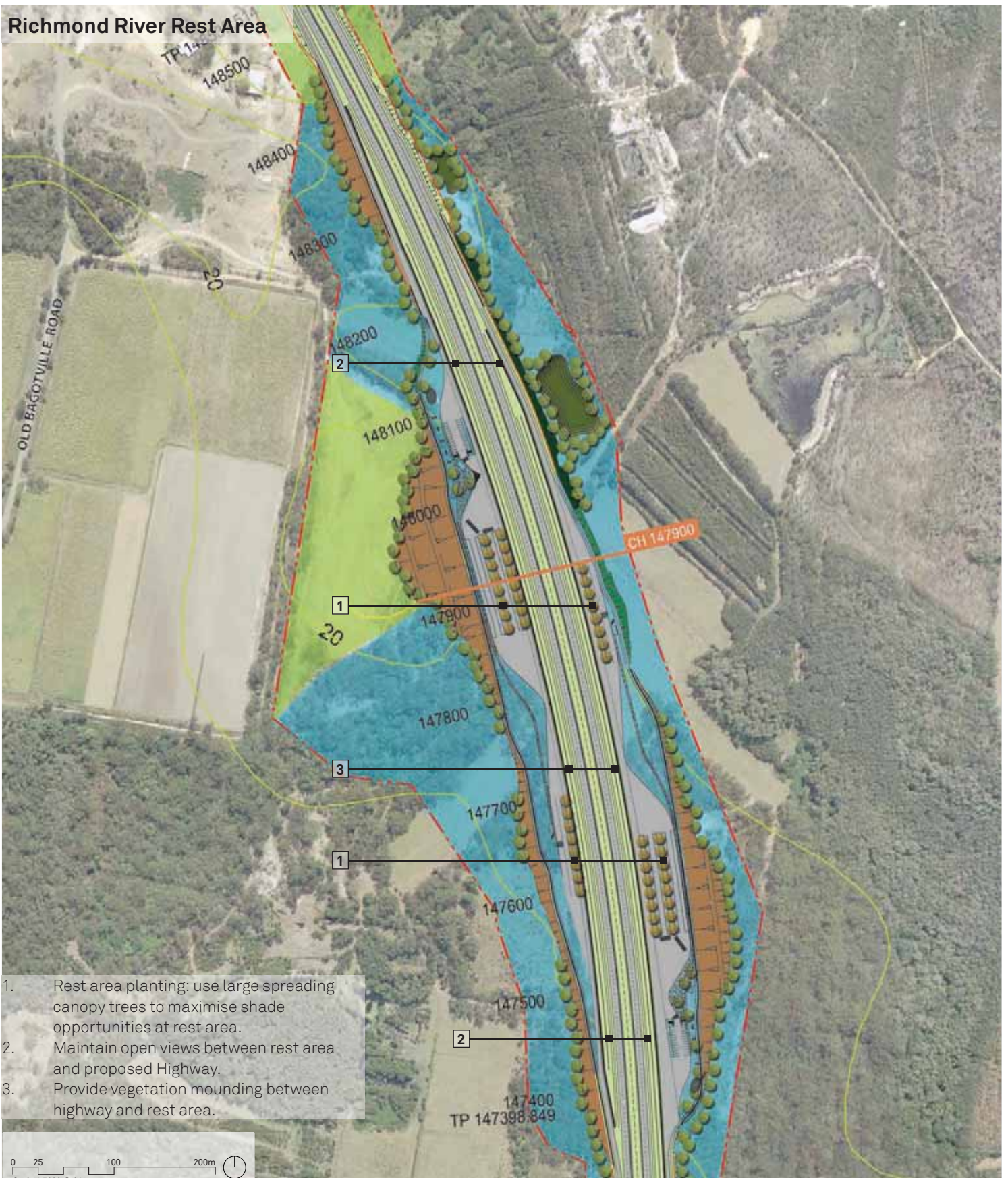
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

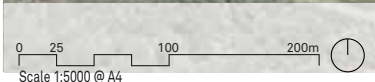
LA116



Richmond River Rest Area



1. Rest area planting: use large spreading canopy trees to maximise shade opportunities at rest area.
2. Maintain open views between rest area and proposed Highway.
3. Provide vegetation mounding between highway and rest area.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

Planting

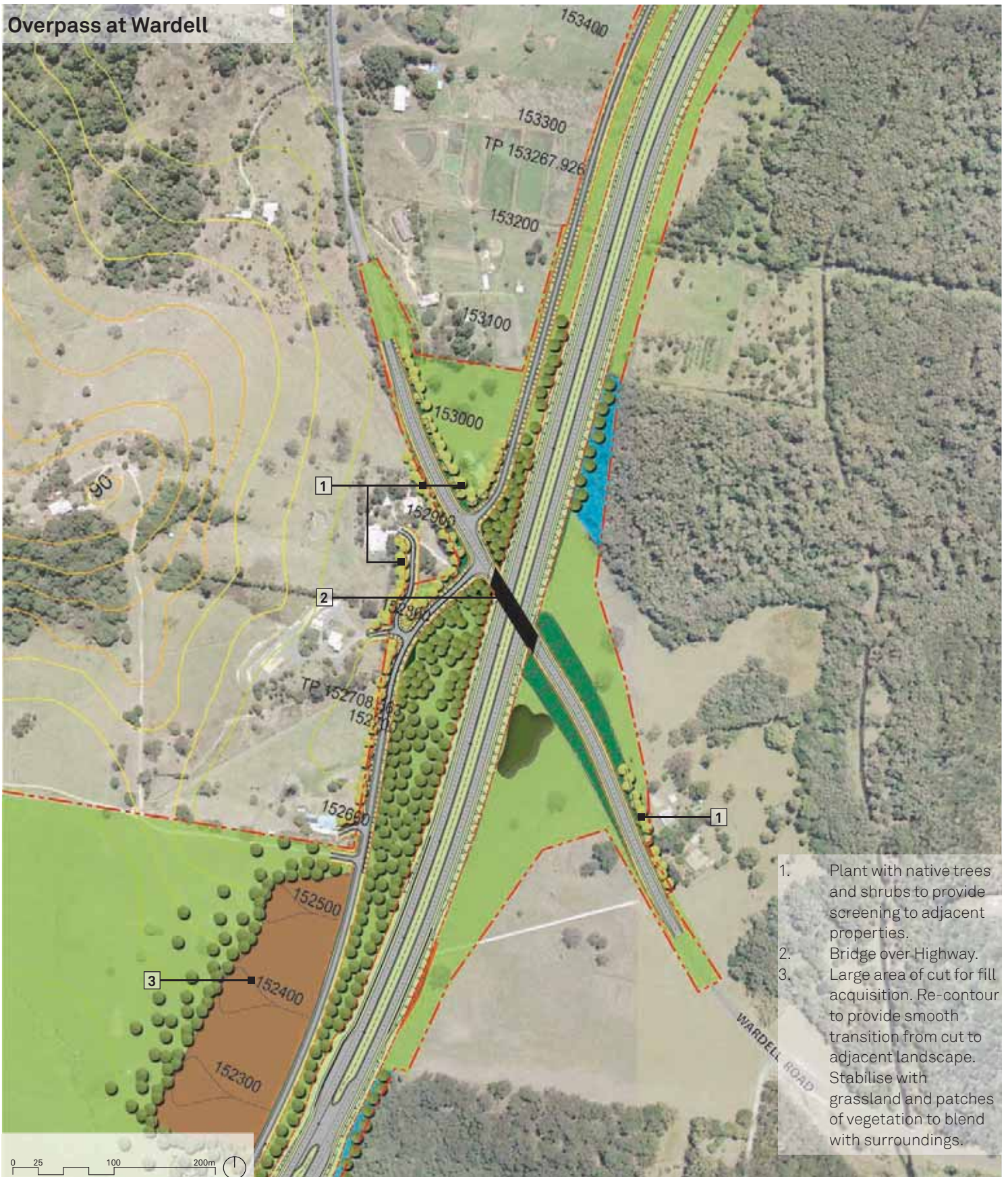
- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

Revegetation LA117

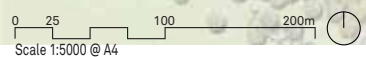
- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.



Overpass at Wardell



1. Plant with native trees and shrubs to provide screening to adjacent properties.
2. Bridge over Highway.
3. Large area of cut for fill acquisition. Re-contour to provide smooth transition from cut to adjacent landscape. Stabilise with grassland and patches of vegetation to blend with surroundings.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

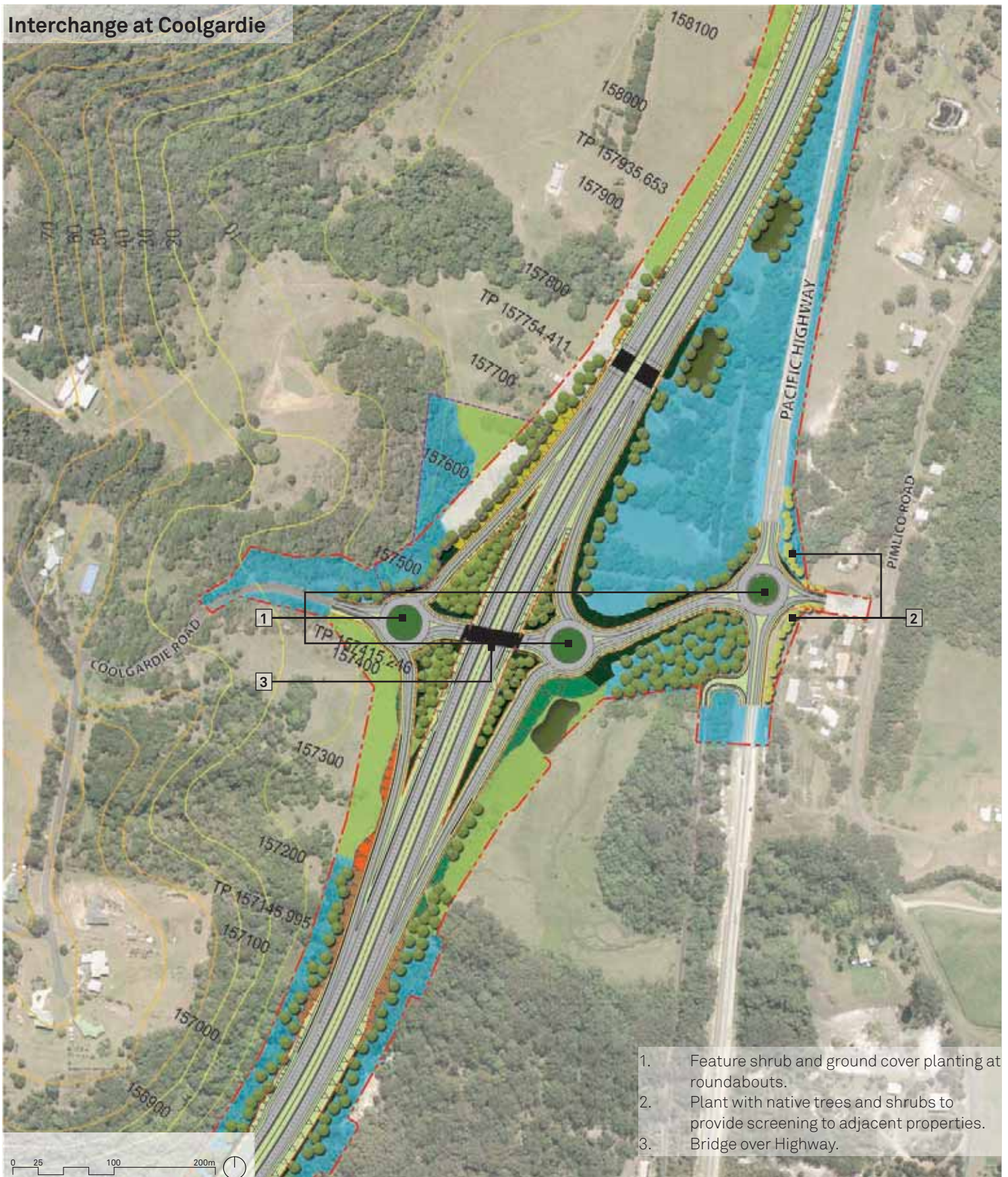
Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

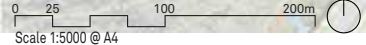
LA118



Interchange at Coolgardie



1. Feature shrub and ground cover planting at roundabouts.
2. Plant with native trees and shrubs to provide screening to adjacent properties.
3. Bridge over Highway.



Legend

Refer to Page 283 for full legend

- Project corridor and chainages
- Roadway bridge
- Contours at 10m interval
- 11m clear zone (110km/h zone)
- 5m clear zone (80km/h zone)
- 3m clear zone (<60km/h zone)
- Section line
- Ultimate upgrade

Planting

- Fill Batter Type 1
- Fill Batter Type 2
- Fill Batter Type 3
- Cut Batter Type 1
- Cut Batter Type 2
- Landmark Tree Planting-Type 1
- Landmark Tree Planting-Type 2
- Screen Planting
- Forest/Woodland Forest
- Tree and Shrub Planting
- Roundabout
- Clear Zone Planting

Revegetation

- Forest Outcome
- Filtered Landscape Outcome
- Agricultural Outcome
- Construction Zone
- Constructed wetland area.

LA119



04_____Landscape and Urban Design Strategy

4.5_Urban and Landscape Concept Design

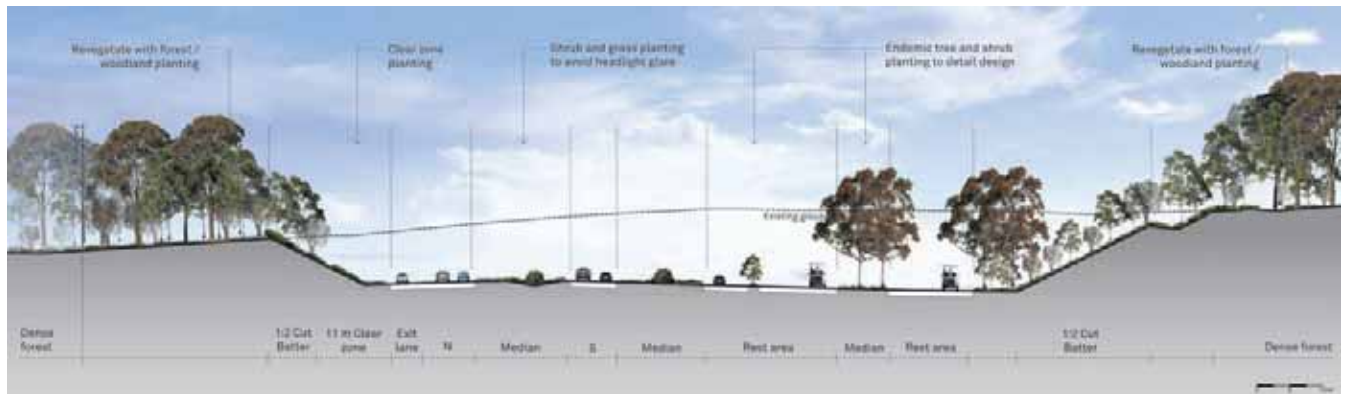
305

4.5.3_ Sections

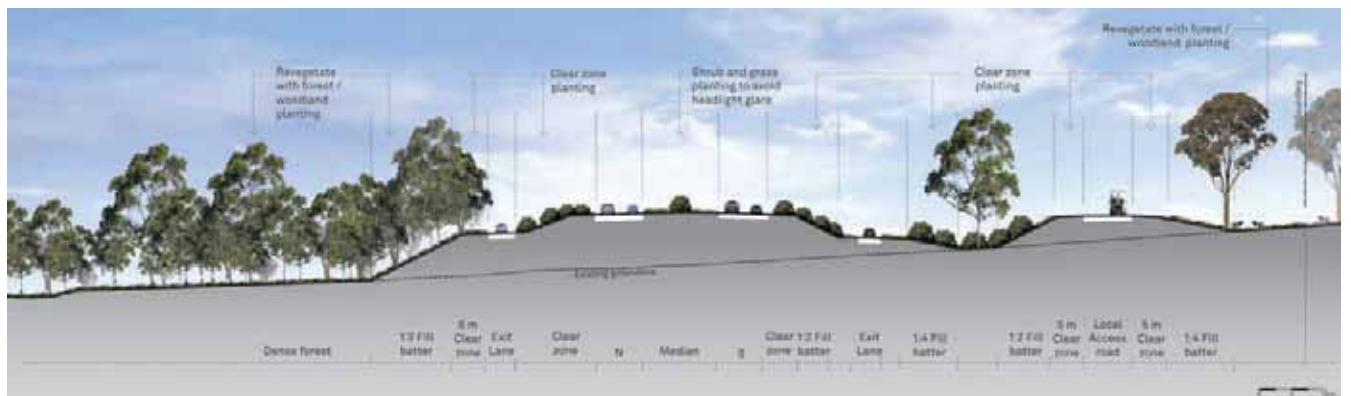
Project design sections, located as per the section markers on the 1:20,000 and 1:5,000 design plans, have been developed to show the typical landscape treatment. The sections and their chainage locations are listed below and presented in the following pages.

04 Landscape and Urban Design Strategy

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Section Chainage 63,400_ Pine Brush State Forest

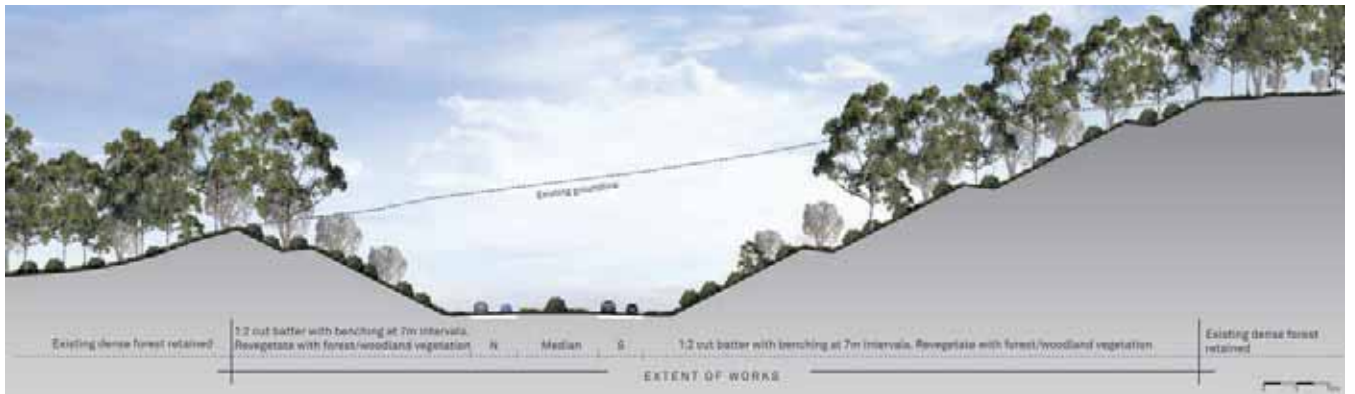


Section Chainage 67,200_ Tyndale Interchange (South)

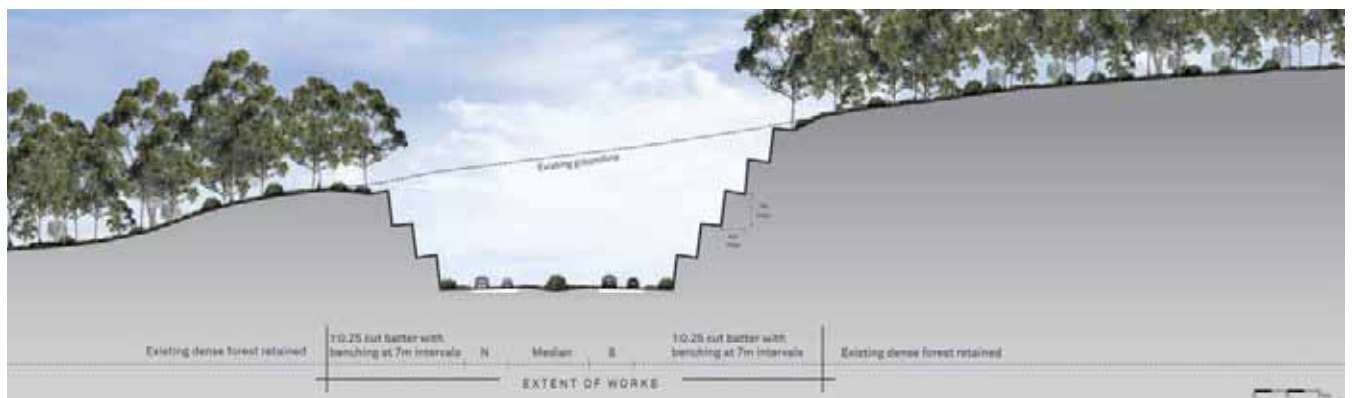


Section_ Location key plan
 Refer detail design plan
 _LA 103 (top)
 _LA 104 (bottom)

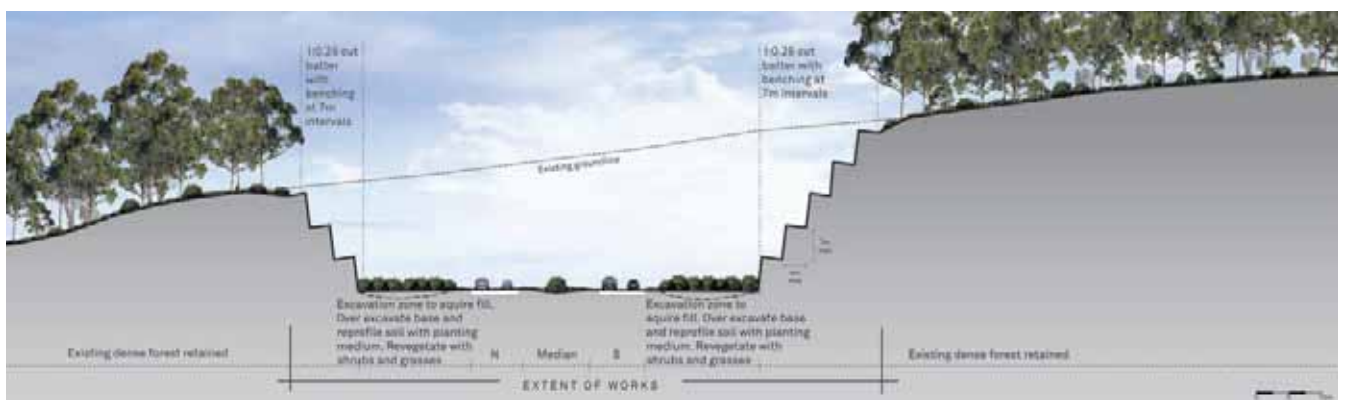
04 Landscape and Urban Design Strategy



Section Chainage 67,700_ Tyndale interchange (south) option 1



Section Chainage 67,700_ Tyndale interchange (south) option 2



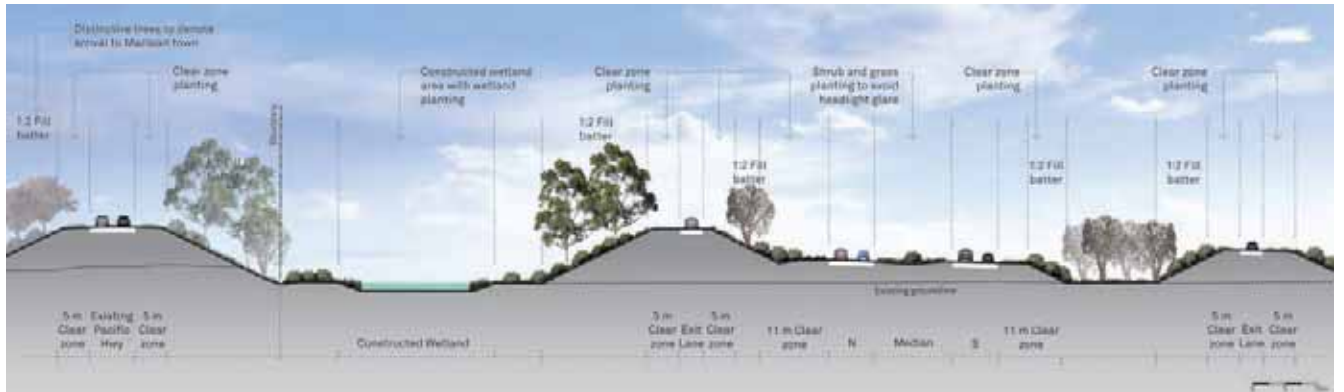
Section Chainage 67,700_ Tyndale interchange (south) option 23

Section_ Location key plan
Refer detail design plan
_LA 104 (top, centre and
bottom)

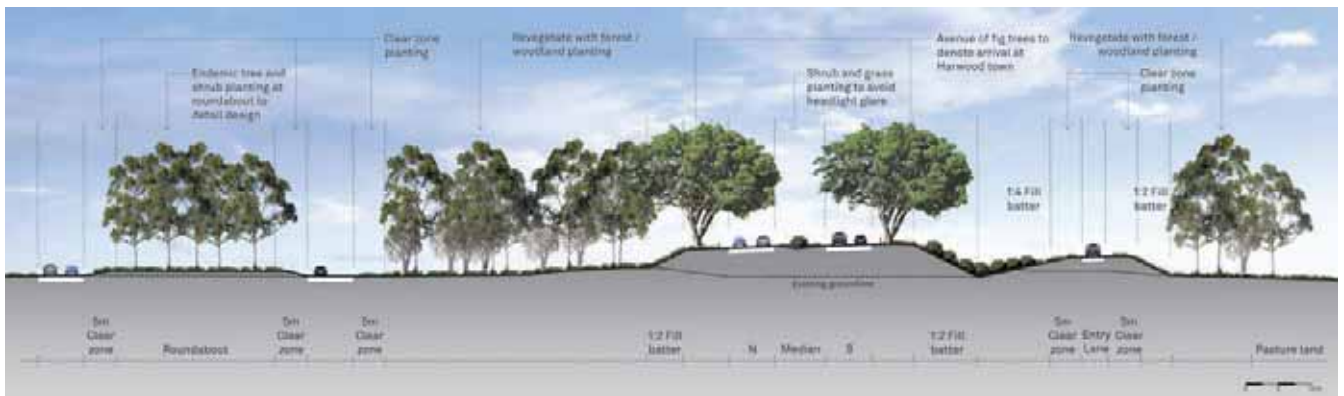


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Section Chainage 80,400_ Interchange at Maclean

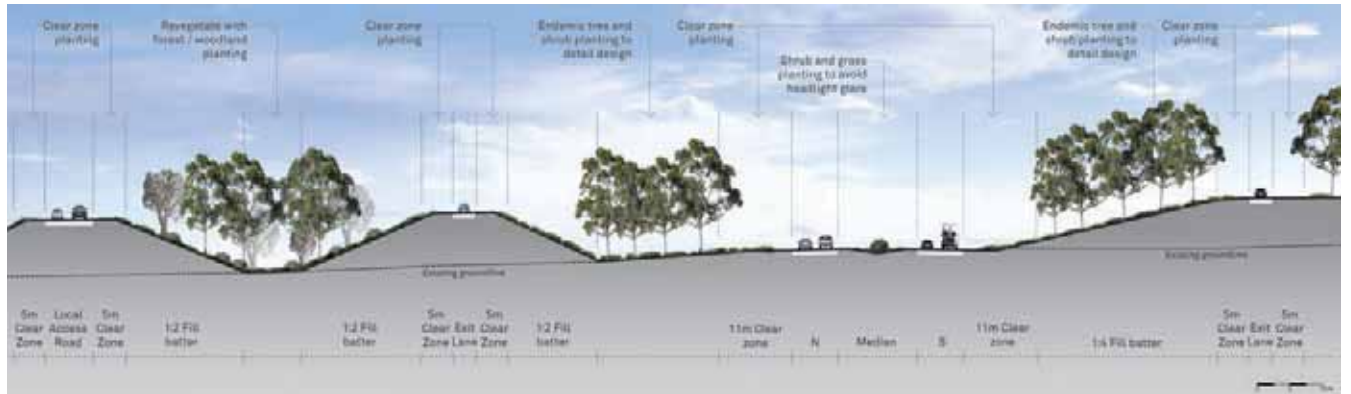


Section Chainage 85,800_ Harwood Bridge (South)



Section_ Location key plan
 Refer detail design plan
 _LA 107 (top)
 _LA 108 (bottom)

04 Landscape and Urban Design Strategy



Section Chainage 95,350_ Interchange at Iluka



Section Chainage 128,700_ Interchange at Woodburn (South)



Section_ Location key plan

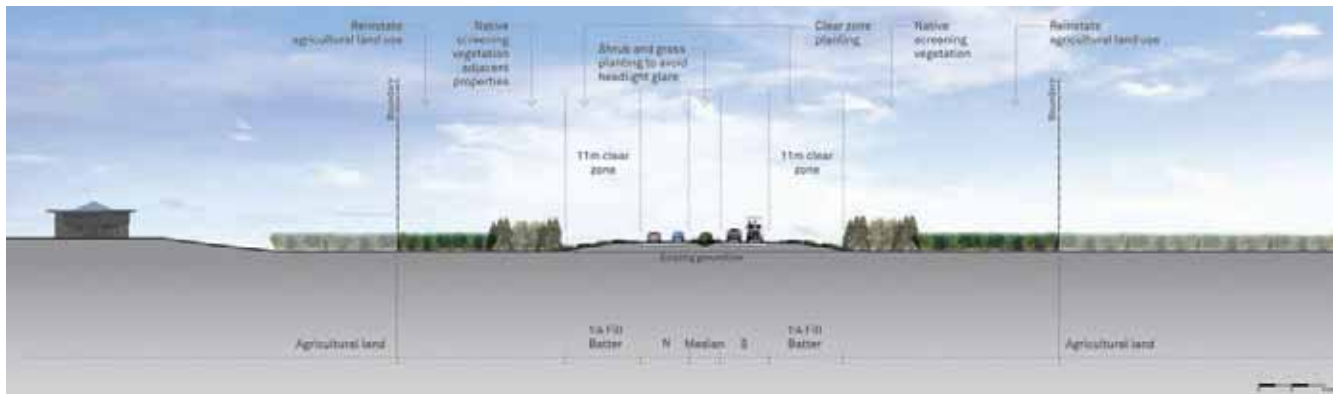
Refer detail design plan

_LA 111 (top)

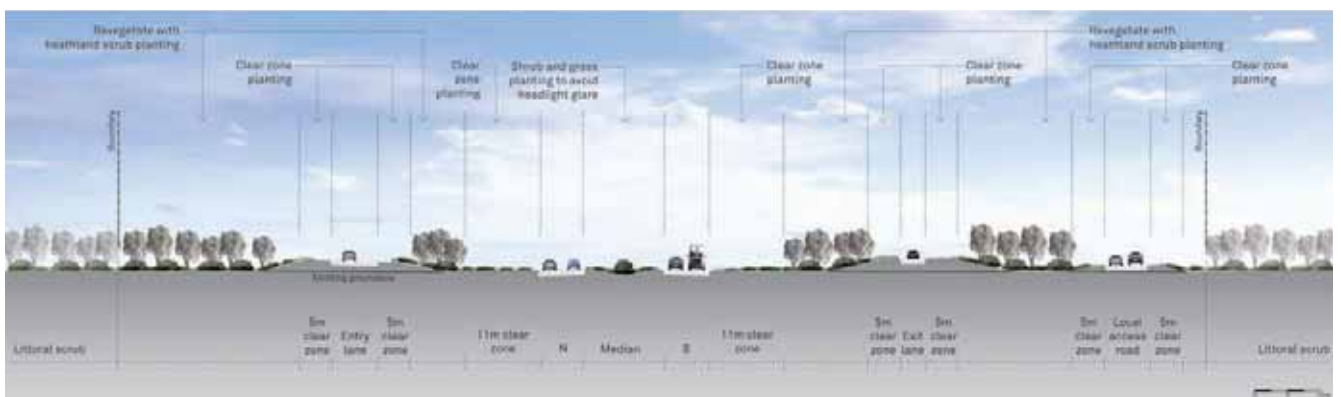
_LA 112 (bottom)

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Section Chainage 132,000_ Floodplain crossing near Woodburn / Evans Head Road

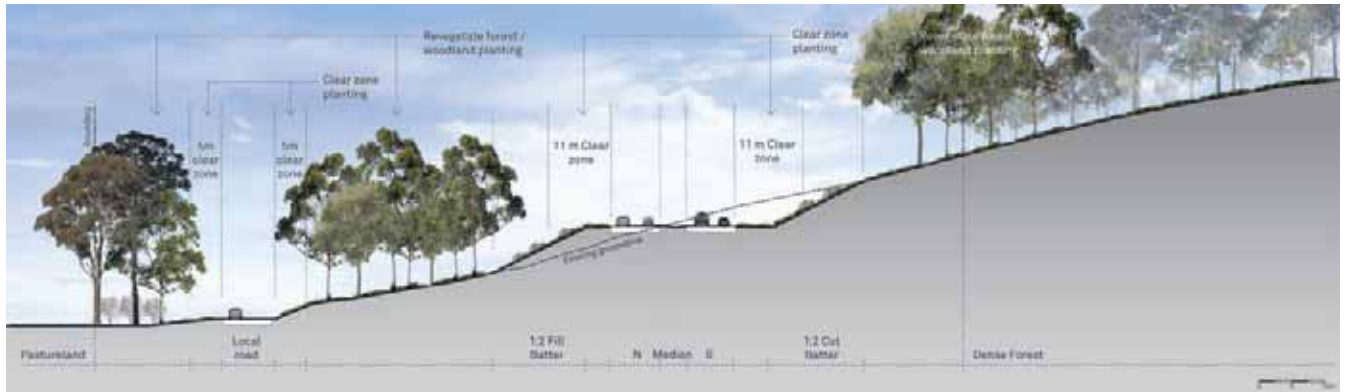


Section Chainage 142,000_ Broadwater / Evans Head Road Interchange



Section_ Location key plan
 Refer detail design plan
 _LA 113 (top)
 _LA 114 (bottom)

04 Landscape and Urban Design Strategy



Section Chainage 146,150_ Richmond River, north of bridge landing



Section Chainage 147,900_ Richmond River Rest Area



Section_ Location key plan
Refer detail design plan
_LA 116 (top)
_LA 117 (bottom)

312 This page is intentionally blank

04 Landscape and Urban Design Strategy

4.5 Urban and Landscape Concept Design

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4.5.4 Typical Configurations

A series of typical construction conditions are proposed for the length of the project. A typical landscape response to each of these conditions is identified and presented in the following series of detailed typical landscape plans and sections. The typical landscape treatments respond to a range of engineering scenarios and landscape contexts along the project route as follows.

Typical engineering conditions:

- _Fill batters up to 2.5 m
- _Fill batters 2.5 m to 10.0 m
- _High fill batters above 10.0 m
- _Shallow cut slopes up to 2.5 m
- _Shallow cut slopes 2.5 - 10.0 m
- _Deep cut in earth or soft rock
- _Deep cut in hard rock

Typical landscape settings:

- _Dense forest
- _Filtered forest
- _Open agricultural land (pasture or cropping)

The combination of the proposed engineering conditions and the landscape setting dictates the landscape response.

Each of the above typical conditions are illustrated in plan (1:1000) and cross section (1:1000) in the following pages. The list of plans and sections include:

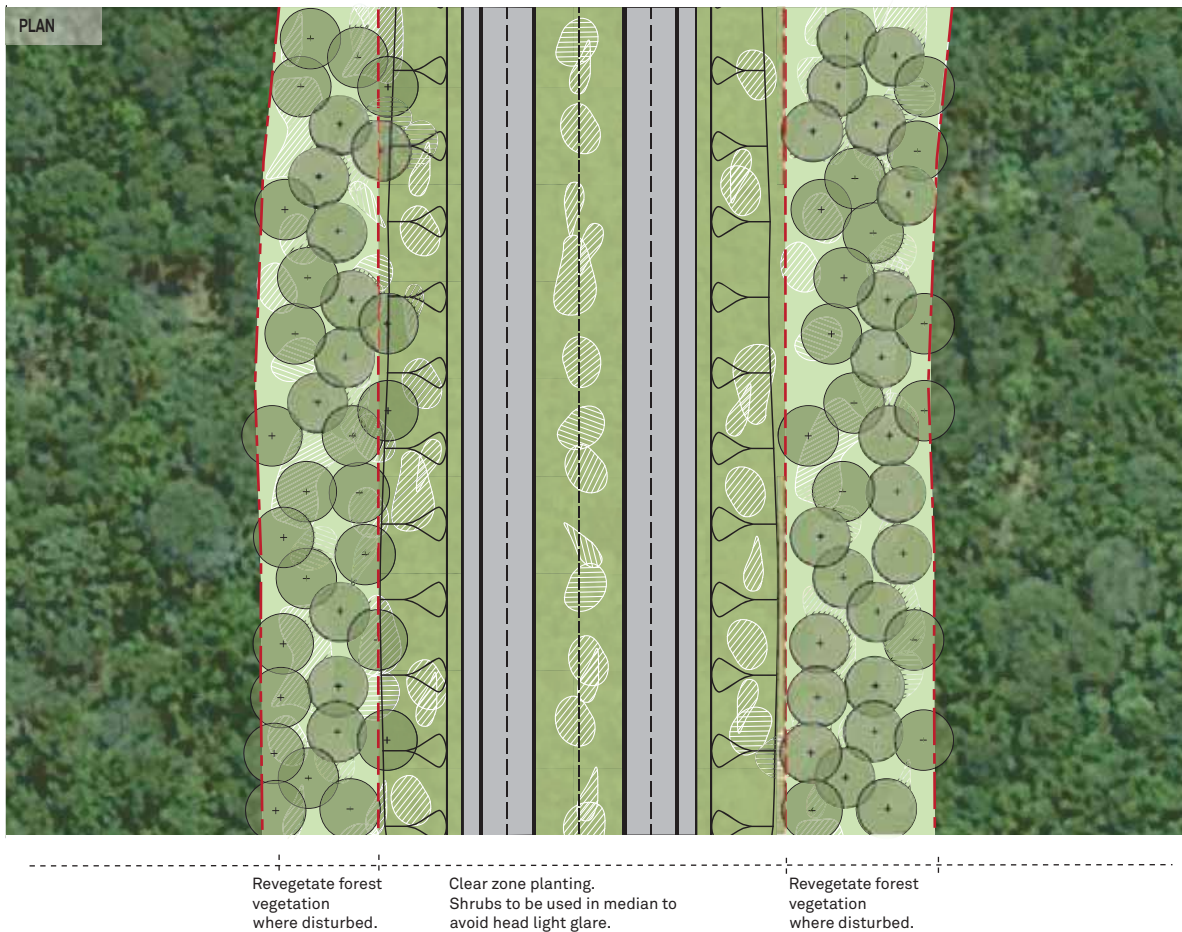
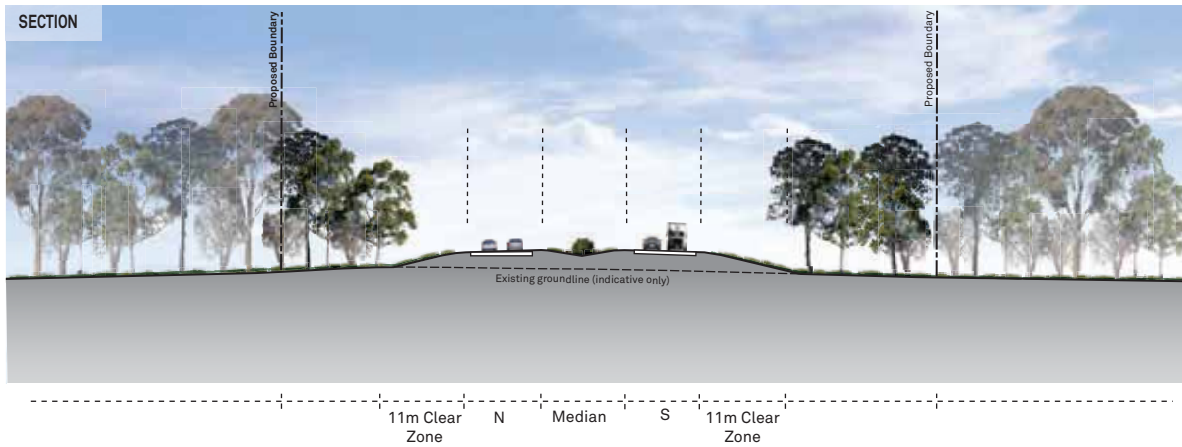
- _Typical fill up to 2.5 m - Dense forest
- _Typical fill up to 2.5 m - Filtered forest
- _Typical fill up to 2.5 m - Agriculture / grassland
- _Typical fill up to 2.5 m - Agriculture / grassland_ Maclean and Broadwater
- _Typical fill up to 2.5 m - Agriculture / grassland_ Iluka Road
- _Typical fill 2.5 m - 10.0 m - Dense forest
- _Typical fill 2.5 m - 10.0 m - Filtered forest
- _Typical fill 2.5 m - 10.0 m - Agriculture / grassland
- _Typical fill 2.5 m - 10.0 m - Agriculture / grassland_ Maclean and Broadwater
- _Typical fill 2.5 m - 10.0 m - Agriculture / grassland_ Iluka Road
- _Typical high fill above 10.0 m - Dense forest
- _Typical high fill above 10.0 m - Filtered forest
- _Typical high fill above 10.0 m - Agriculture / grassland
- _Shallow cut up to 2.5 m - Dense forest
- _Shallow cut up to 2.5 m - Agriculture
- _Typical deep cut in earth or soft rock - Dense forest
- _Typical deep cut in earth or soft rock - Agriculture / grassland
- _Typical deep cut in hard rock_ option 1 - Dense Forest
- _Typical deep cut in hard rock_ option 2 - Dense Forest

The typical conditions are simplified and do not address the following:

- _Service roads
- _On / off ramps
- _Changes in land use or vegetation on different sides of the road corridor
- _Proximity of properties and the need for screen planting
- _Noise mitigation measures

04 Landscape and Urban Design Strategy

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LA 201_ Typical_ Low Fill up to 2.5 m - Dense Forest

0 10 20m
Scale 1:1,000 @ A4

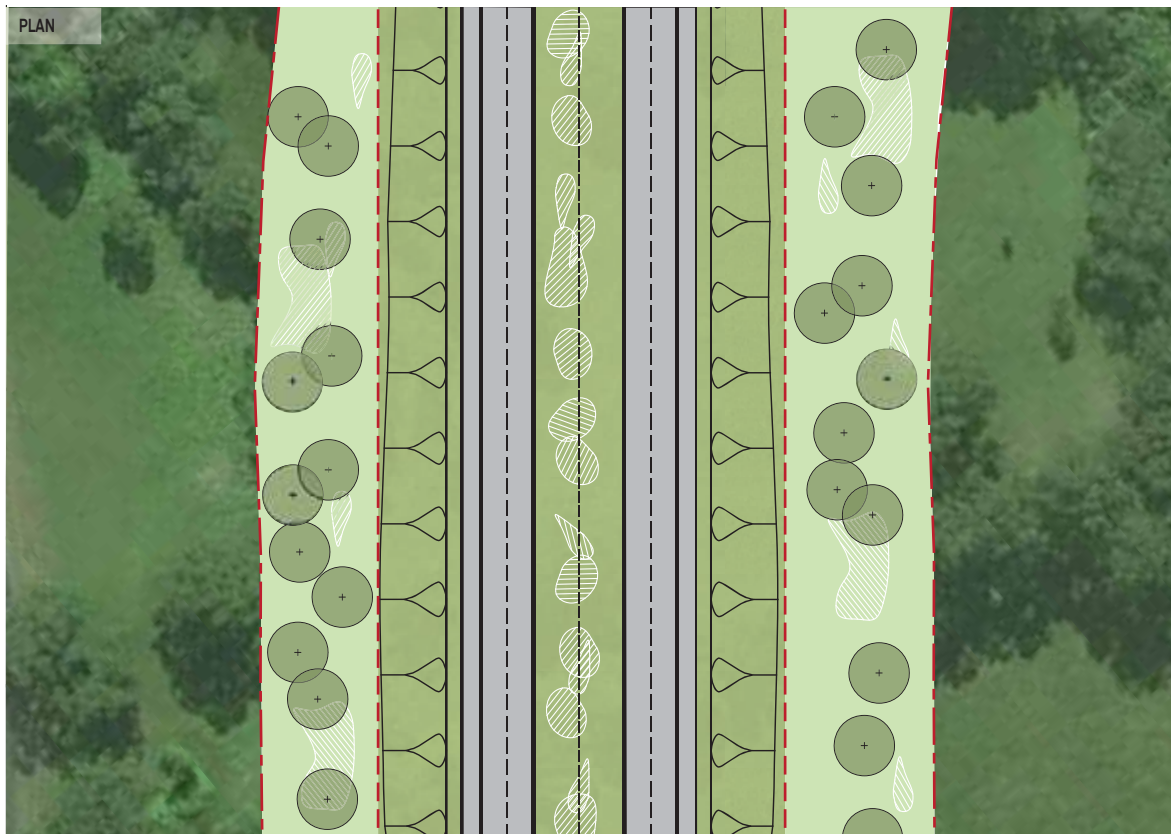
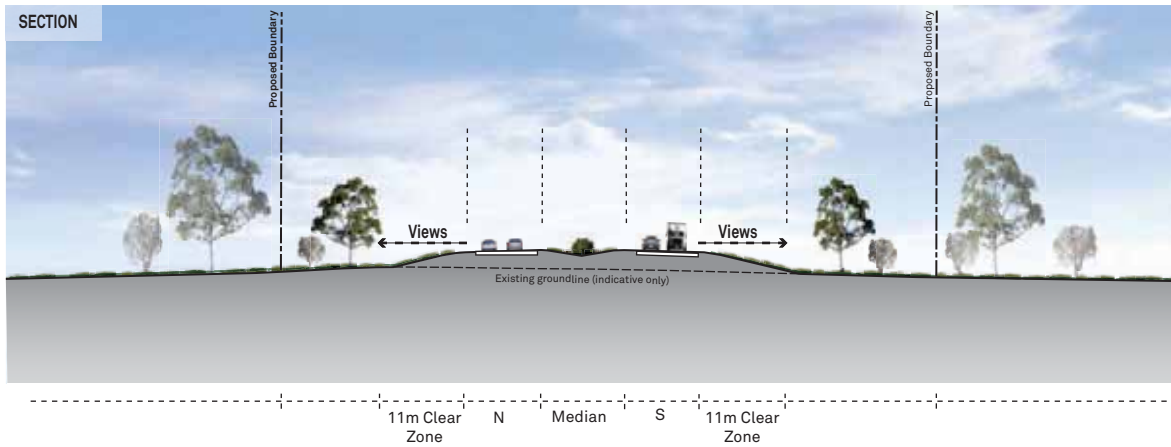
Legend

- | | |
|---------------------|--------------------------|
| Tree | Clear Zone |
| Shrub | Road |
| Groundcover+Grasses | Existing Forest Retained |
| Site Boundary | Fill Batters |

NOTES:

- _Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy



Revegetate with groundcovers, grasses and occasional tree and shrub plantings. Arrangements to mimic adjacent land-use and forest coverage.

Clear zone planting. Ensure filtered views are maintained to surrounding landscape. Plant groundcovers and grasses on batters. Shrubs to be used to avoid headlight glare in median.

Revegetate with groundcovers, grasses and occasional tree and shrub plantings. Arrangements to mimic adjacent land-use and forest coverage.

LA 202_ Typical_ Low Fill up to 2.5 m- Filtered Forest

0 10 20m
Scale 1:1,000 @ A4

Legend

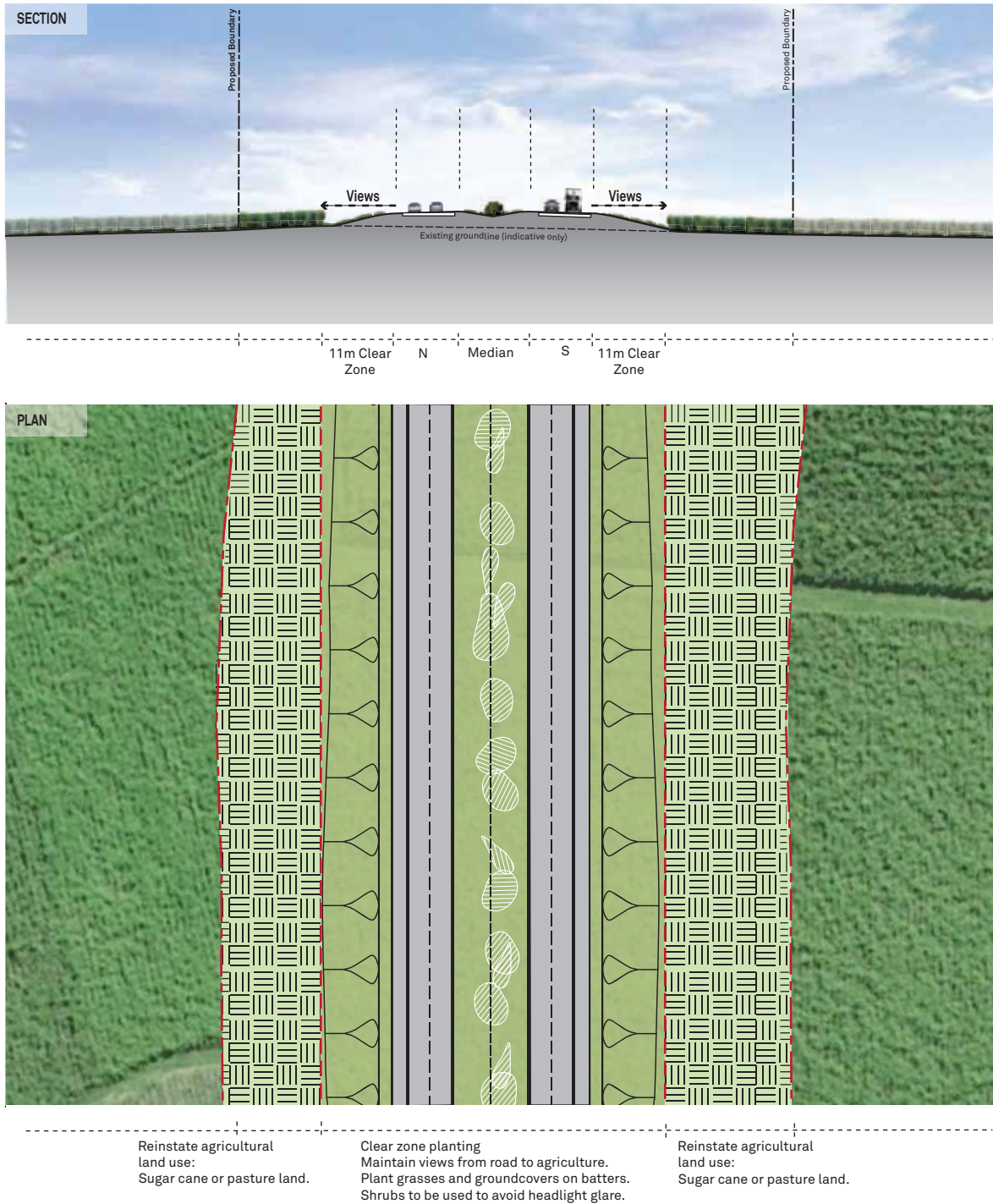
- Tree
- Shrub
- Groundcover+Grasses
- Site Boundary
- Clear Zone
- Road
- Existing Forest Retained
- Fill Batters

NOTES:

- _ Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _ Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy


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LA 203_ Typical_ Low Fill up to 2.5 m - Agriculture / Grassland

0 10 20m
Scale 1:1,000 @ A4

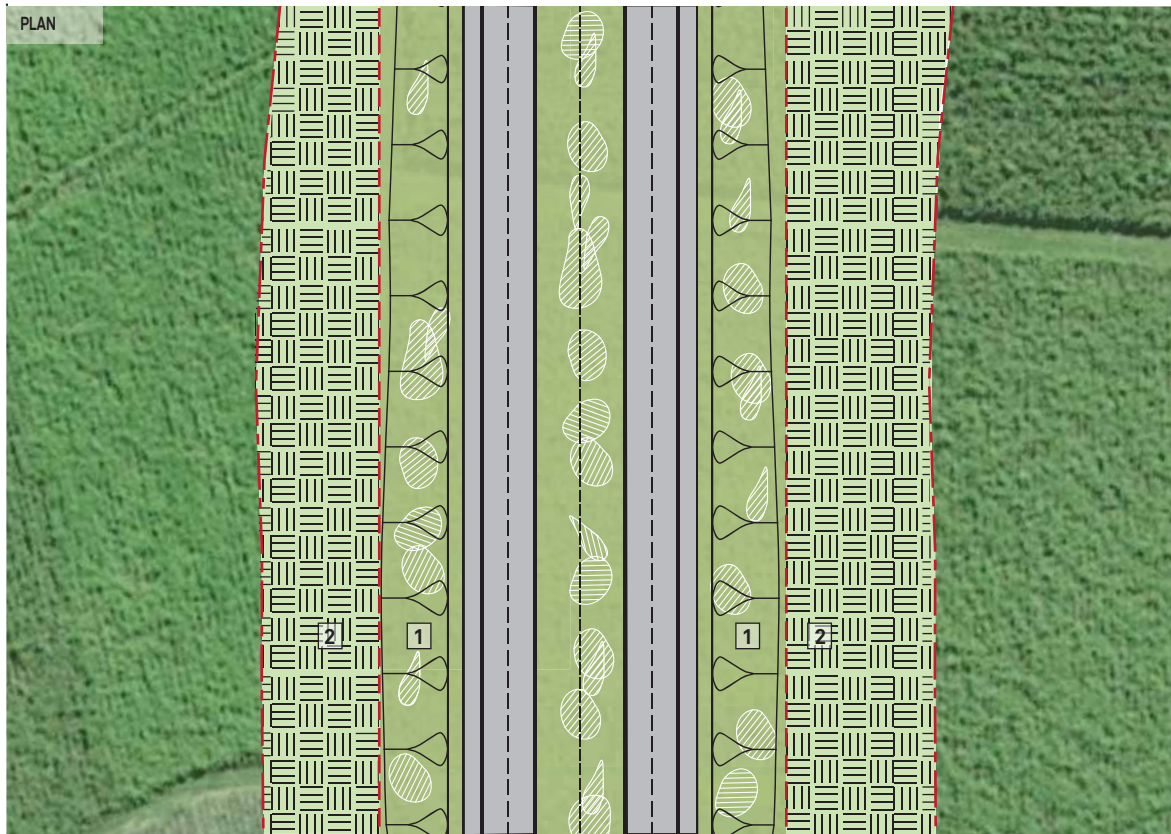
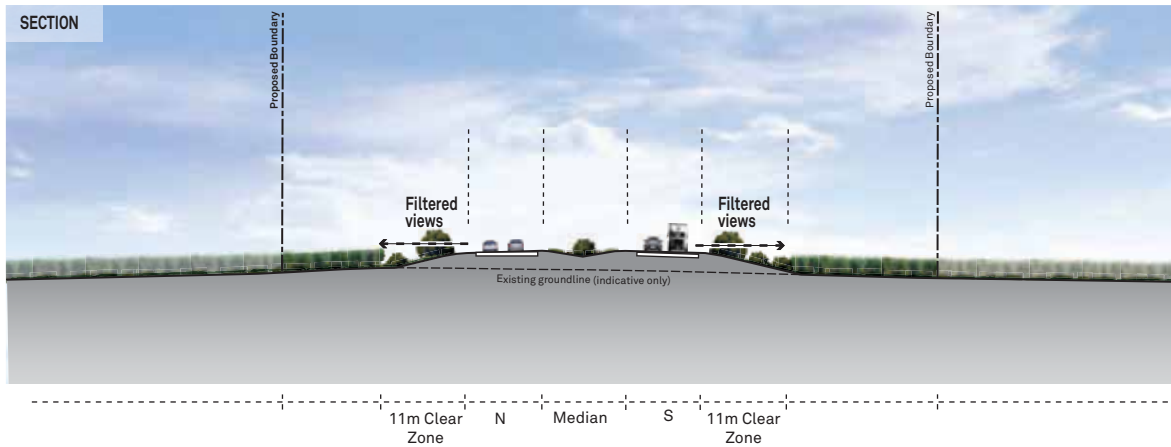
Legend

-  Tree
-  Shrub
-  Groundcover+Grasses
-  Site Boundary
-  Clear Zone
-  Road
-  Existing Agriculture Retained
-  Reinstated Agricultural Land Use
-  Fill Batters

NOTES:

- _Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy



1. Revegetate with groundcovers and grasses with occasional shrub plantings. Arrangements to allow filtered views adjacent landscape
 2. Reinstate agricultural land use: Sugar cane or pasture land
- Clear zone planting.
Shrubs to be used to avoid headlight glare.

LA 204_ Typical_ Low Fill up to 2.5 m - Agriculture / Grassland_ Maclean and Broadwater

0 10 20m
Scale 1:1,000 @ A4

Legend

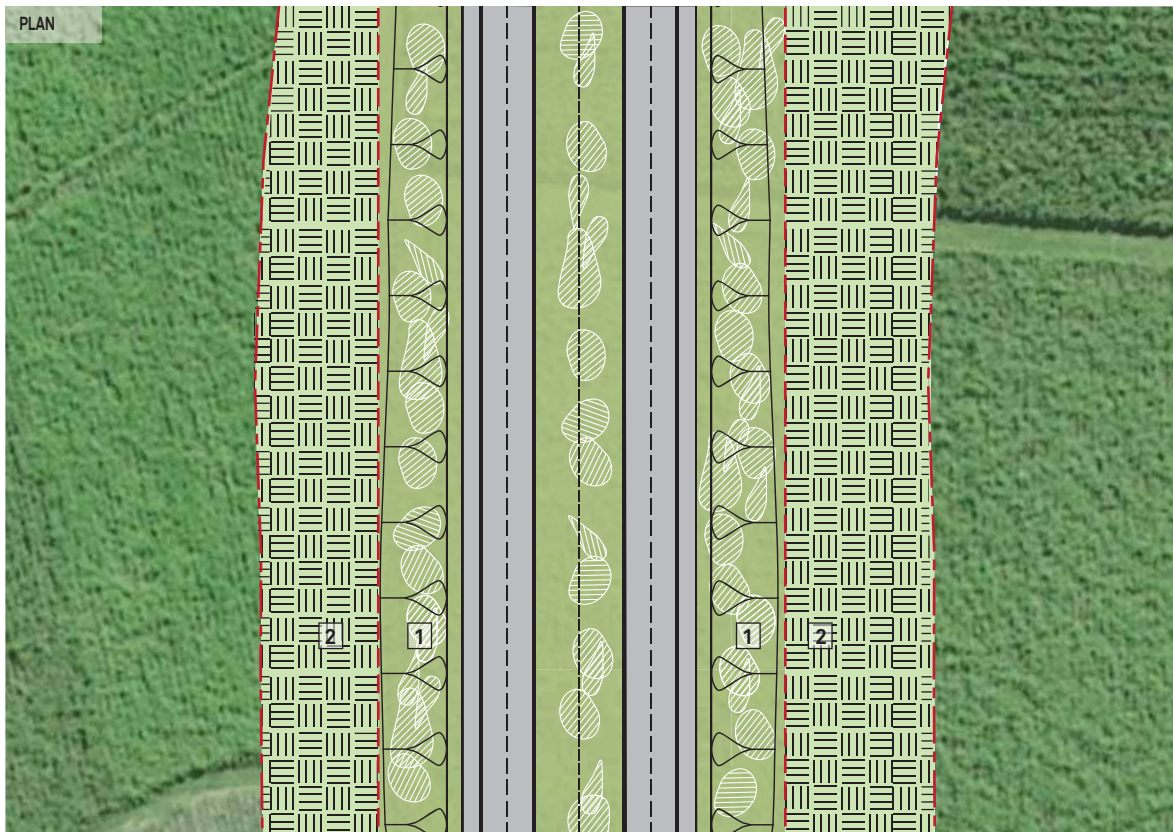
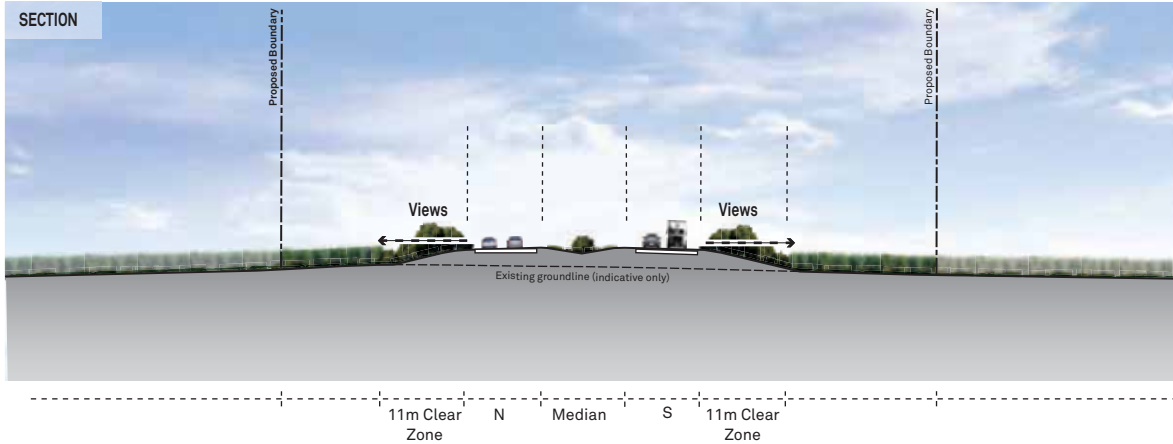
- | | | | |
|--|---------------------|--|----------------------------------|
| | Tree | | Road |
| | Shrub | | Existing Agriculture Retained |
| | Groundcover+Grasses | | Reinstated Agricultural Land Use |
| | Site Boundary | | Fill Batters |
| | Clear Zone | | |

NOTES:

- _ Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _ Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy

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- 1. Revegetate with forest vegetation on batters. Ensure vegetation is frangible within clear zone.
 - 2. Reinststate agricultural land use: Sugar cane or pasture land
- Clear zone planting. Shrubs to be used to avoid headlight glare.

LA 205_ Typical_ Low Fill up to 2.5 m - Agriculture / Grassland_ Iluka Road

0 10 20m
Scale 1:1,000 @ A4

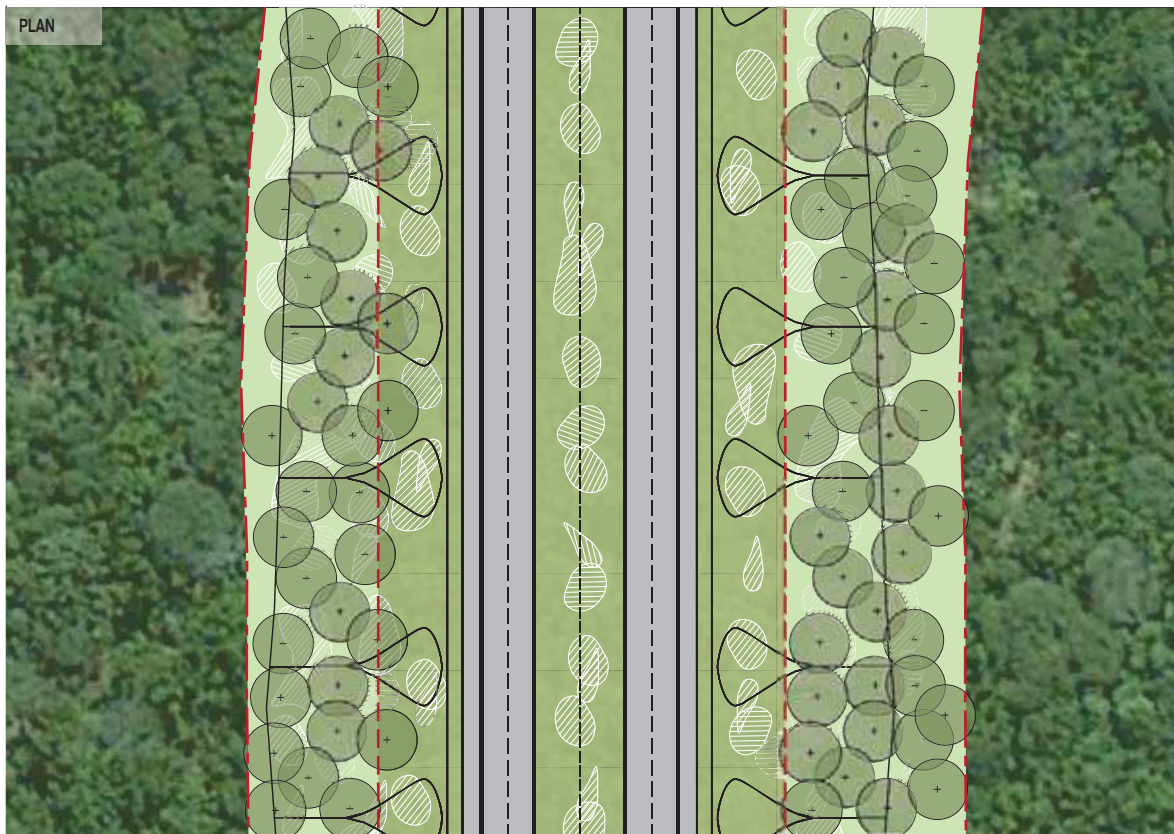
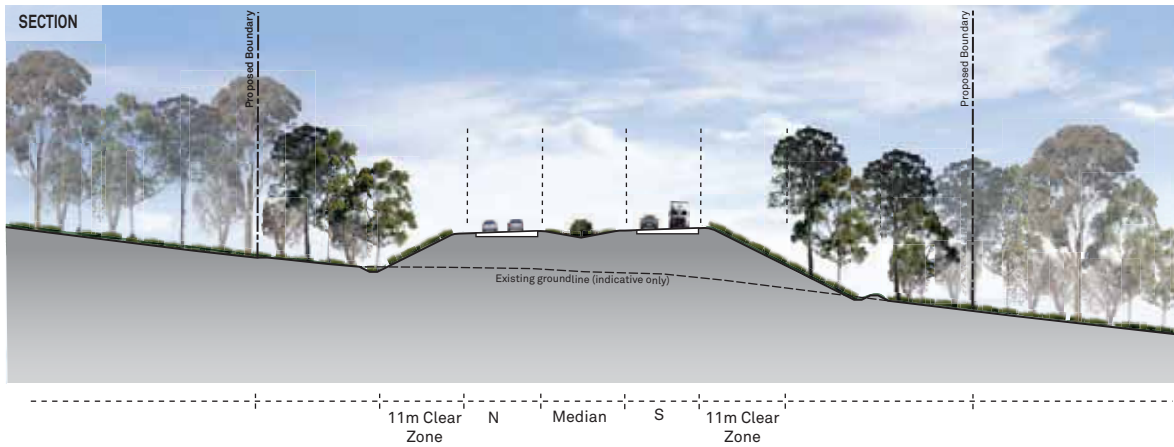
Legend

- | | | | |
|--|---------------------|--|----------------------------------|
| | Tree | | Road |
| | Shrub | | Existing Agriculture Retained |
| | Groundcover+Grasses | | Reinstated Agricultural Land Use |
| | Site Boundary | | Fill Batters |
| | Clear Zone | | |

NOTES:

- _Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy



Revegetate with forest vegetation on batters and where disturbed.

Clear zone planting. Shrubs to be used in median to avoid headlight glare.

Revegetate with forest vegetation on batters and where disturbed.

LA 206_ Typical _ Fill 2.5 m to 10 m - Dense Forest

0 10 20m
Scale 1:1,000 @ A4

Legend

- | | | | |
|--|---------------------|--|--------------------------|
| | Tree | | Clear Zone |
| | Shrub | | Road |
| | Groundcover+Grasses | | Existing Forest Retained |
| | Site Boundary | | Fill Batters |

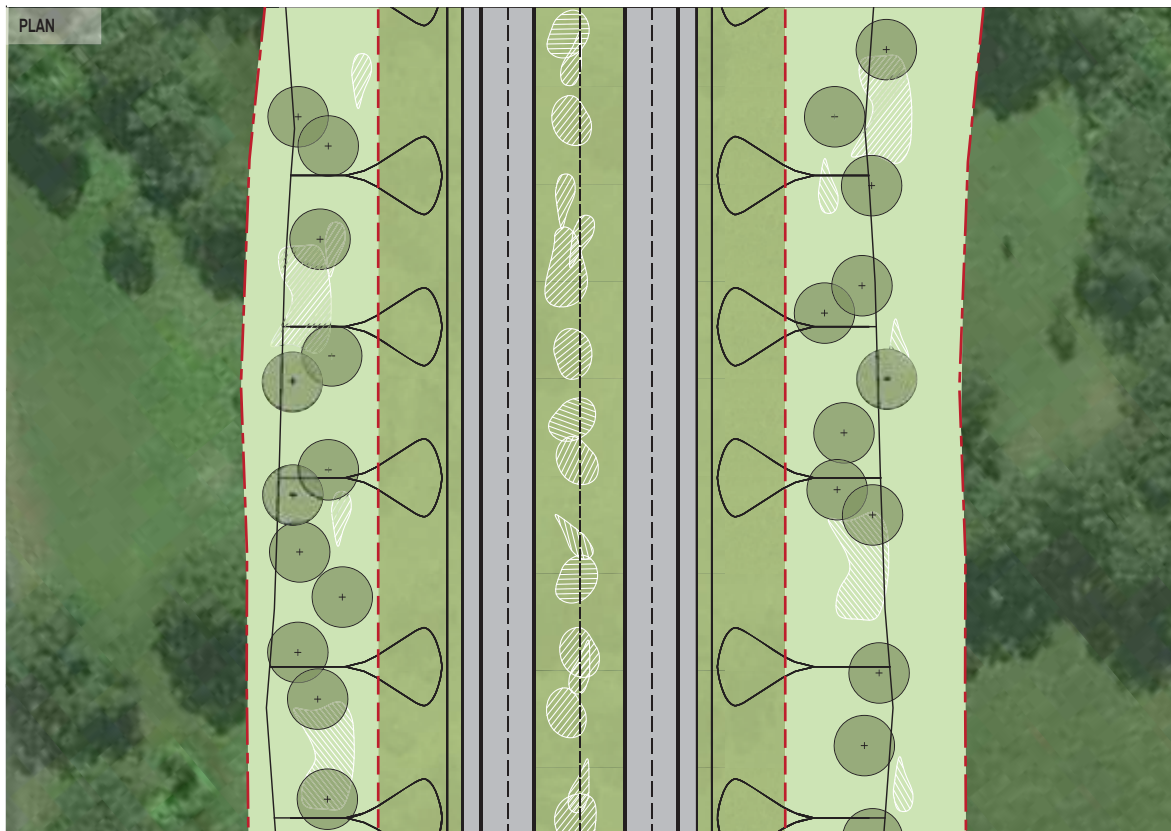
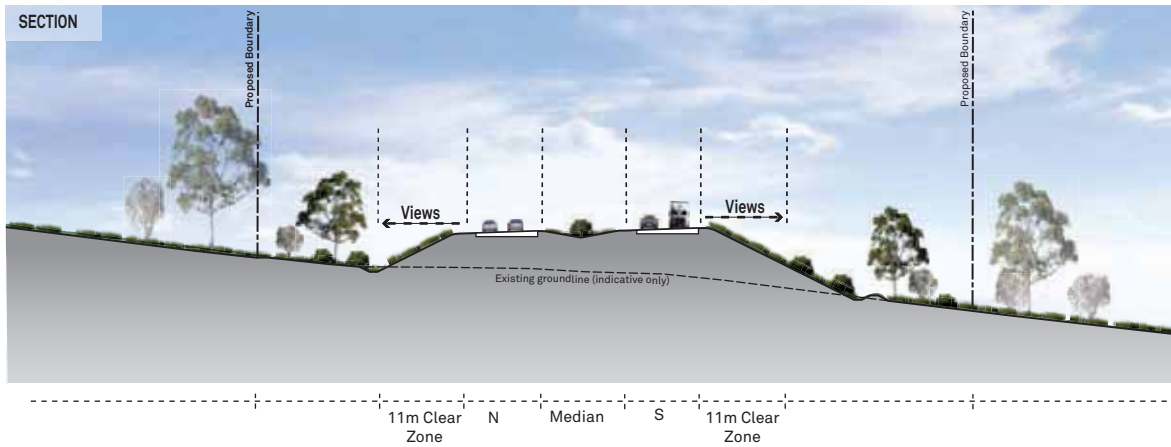
NOTES:

_ Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.

_ Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy

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Revegetate with groundcovers, grasses and occasional tree and shrub plantings. Arrangements to mimic adjacent land-use and forest coverage.

Clear zone planting
Ensure filtered views are maintained to surrounding landscape.
Plant groundcovers+grasses on batters.
Shrubs to be used to avoid headlight glare.

Revegetate with groundcovers, grasses and occasional tree and shrub plantings. Arrangements to mimic adjacent land-use and forest coverage.

LA 207_ Typical_ Fill 2.5 m to 10 m - Filtered Forest

0 10 20m
Scale 1:1,000 @ A4

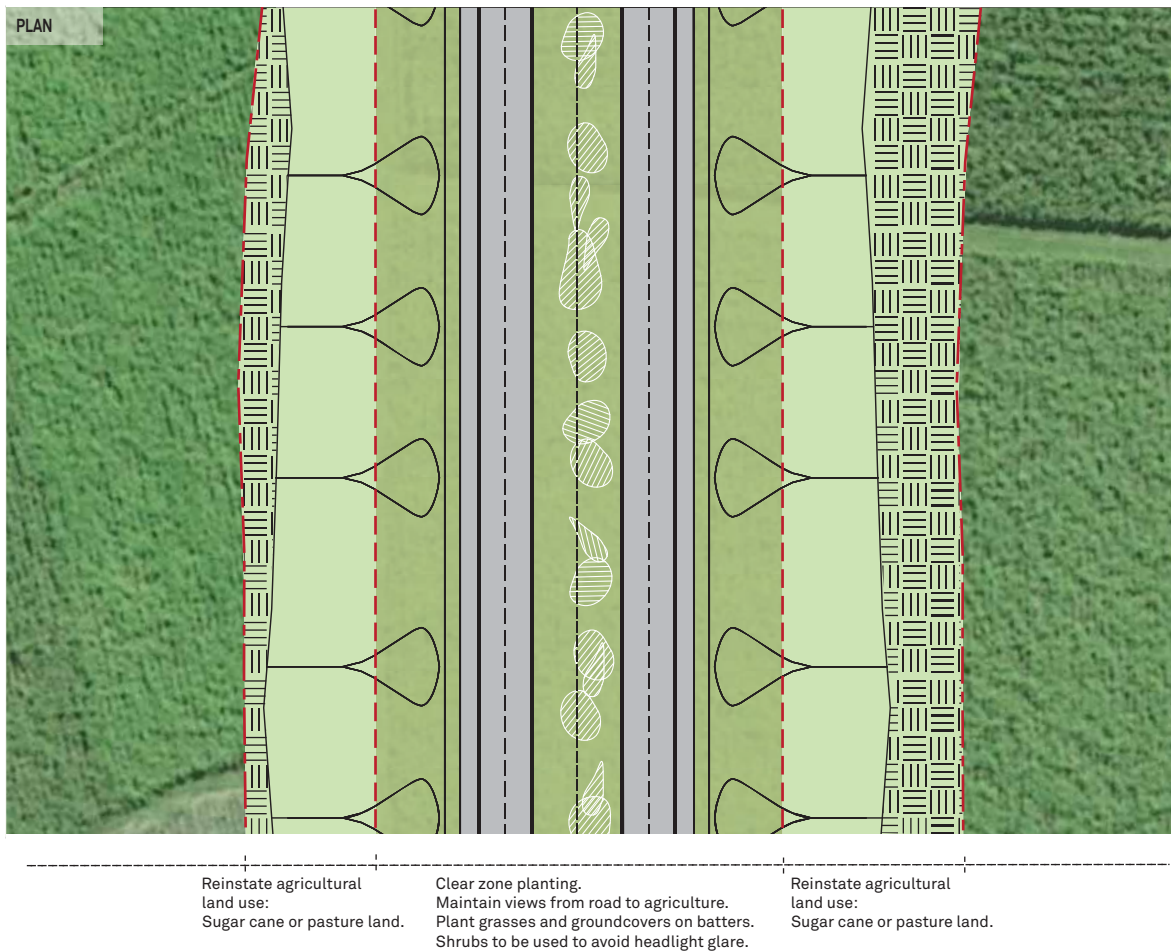
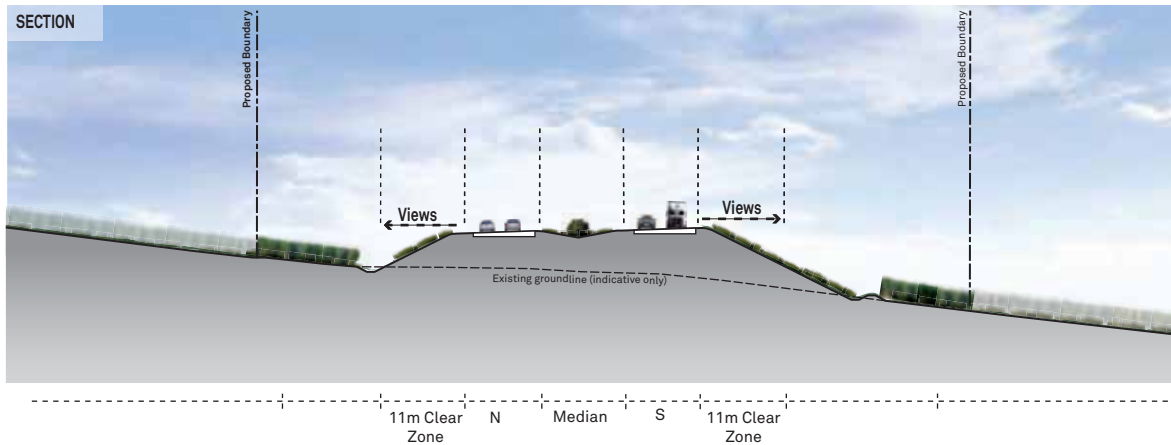
Legend

- Tree
- Shrub
- Groundcover+Grasses
- Site Boundary
- Clear Zone
- Road
- Existing Forest Retained
- Fill Batters

NOTES:

- _ Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _ Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy



LA 208_Typical_Fill 2.5 m to 10 m - Agriculture/Grassland

0 10 20m
Scale 1:1,000 @ A4

Legend

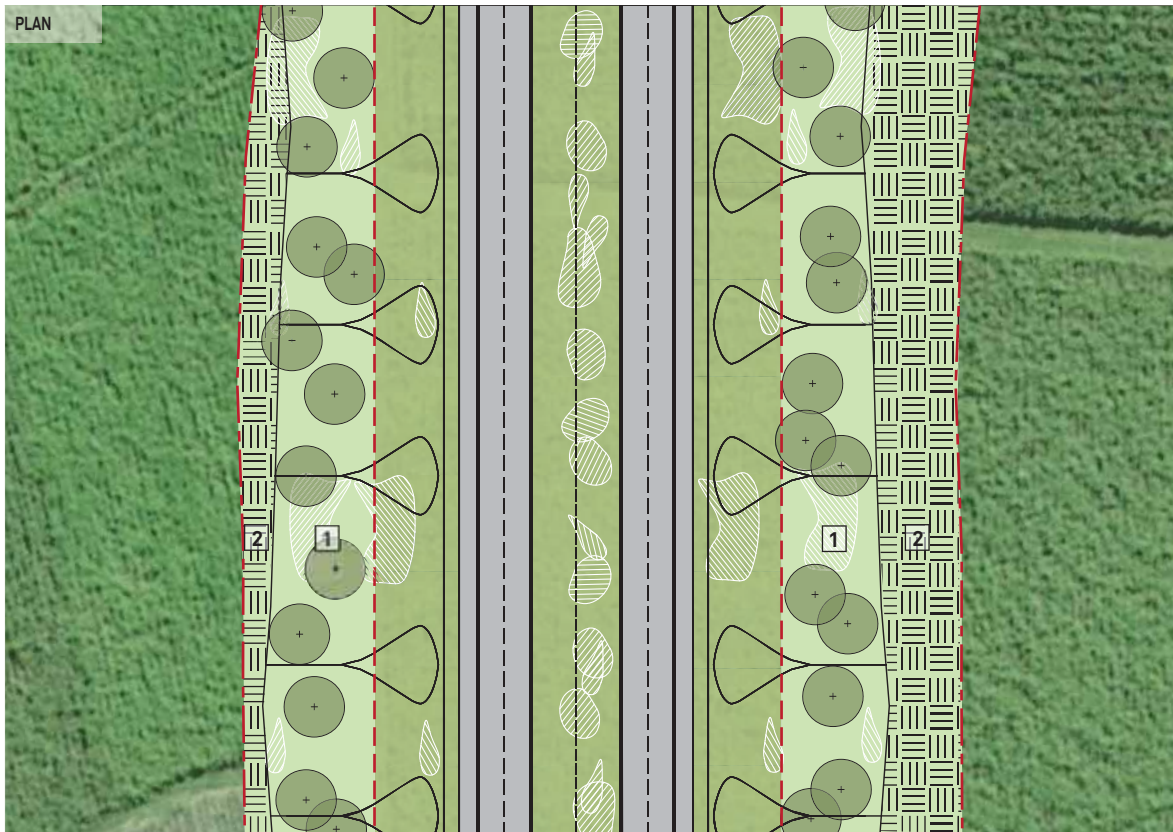
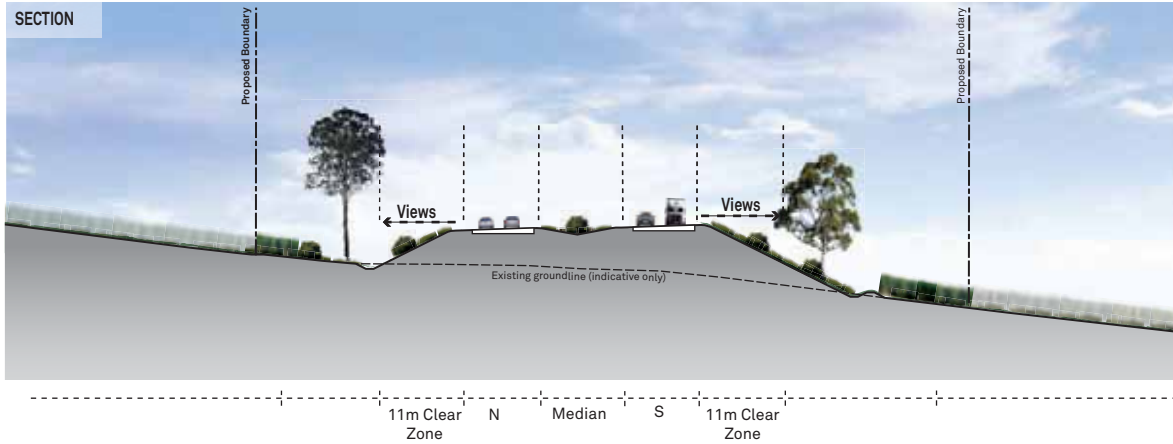
-  Tree
-  Shrub
-  Groundcover+Grasses
-  Site Boundary
-  Clear Zone
-  Road
-  Existing Agriculture Retained
-  Reinstated Agricultural Land Use
-  Fill Batters

NOTES:

- _ Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _ Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy

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1. Revegetate with groundcovers and grasses with occasional tree and shrub plantings. Arrangements to allow filtered views adjacent landscape
 2. Reinstate agricultural land use: Sugar cane or pasture land
- Clear zone planting. Shrubs to be used to avoid headlight glare.

LA 209_ Typical_ Fill 2.5 m to 10 m - Agriculture / Grassland_ Maclean and Broadwater

0 10 20m
Scale 1:1,000 @ A4

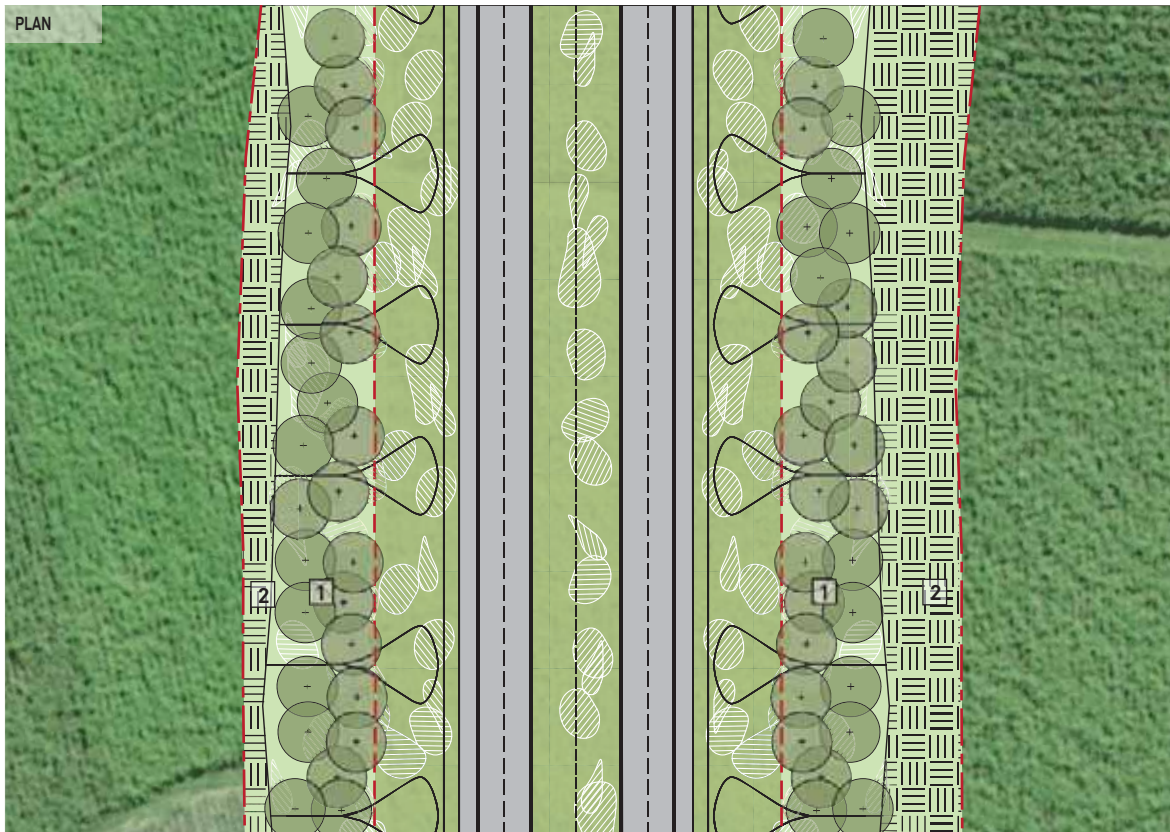
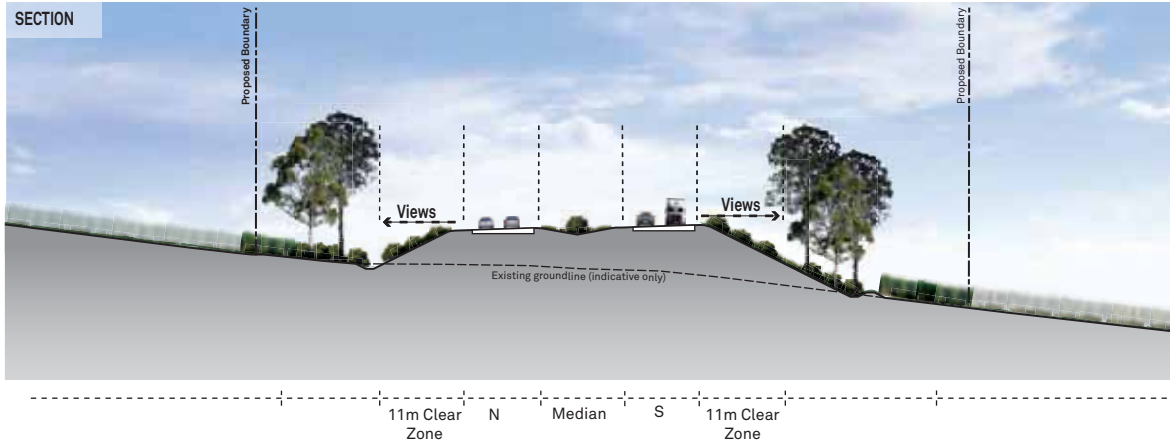
Legend

- | | | | |
|--|---------------------|--|----------------------------------|
| | Tree | | Road |
| | Shrub | | Existing Agriculture Retained |
| | Groundcover+Grasses | | Reinstated Agricultural Land Use |
| | Site Boundary | | Fill Batters |
| | Clear Zone | | |

NOTES:

- _ Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _ Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy



- 1. Revegetate with forest vegetation on batters. Ensure vegetation is frangible within clear zones.
 - 2. Reinstate agricultural land use: Sugar cane or pasture land.
- Clear zone planting.
Shrubs to be used to avoid headlight glare.

LA 210_ Typical_ Fill 2.5 m to 10 m - Agriculture / Grassland_ Iluka Road

0 10 20m
Scale 1:1,000 @ A4

Legend

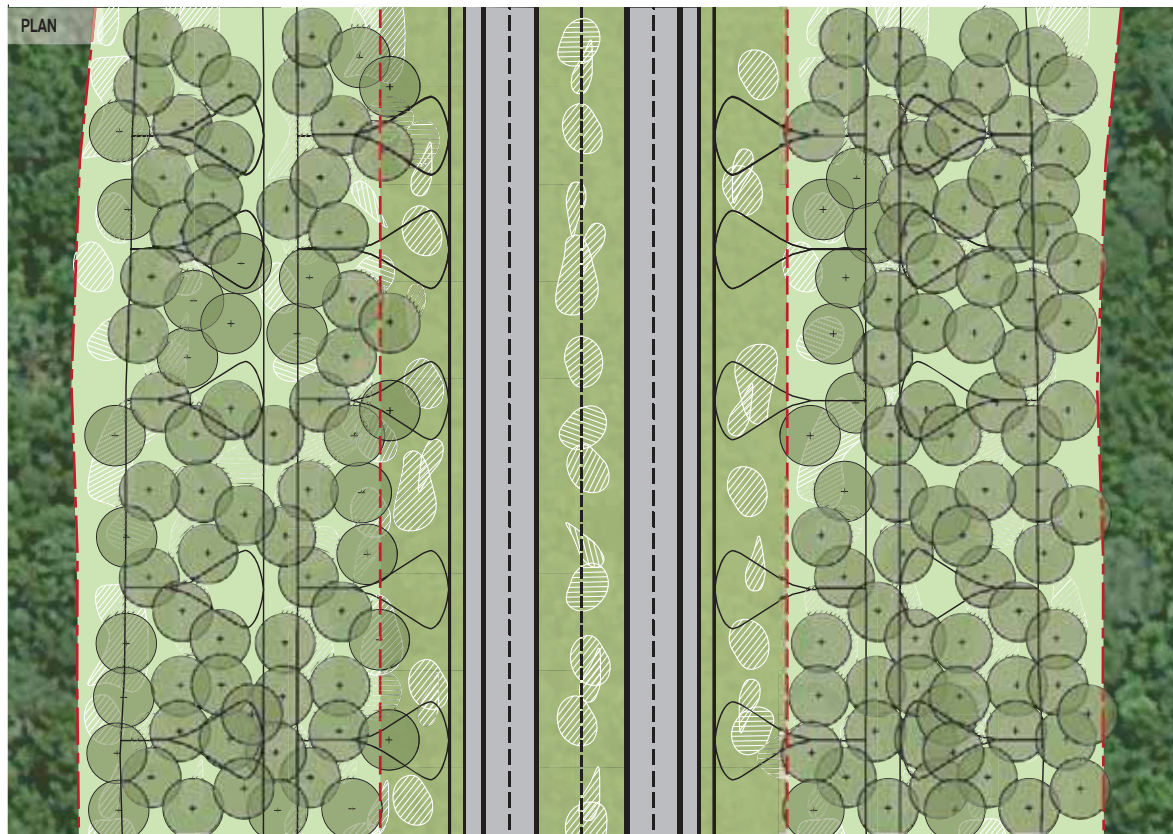
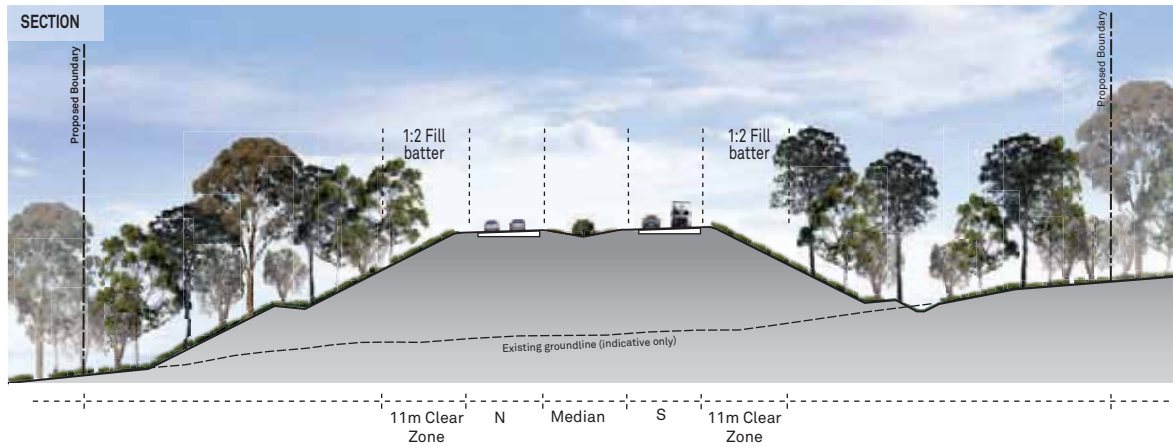
- | | | | |
|--|---------------------|--|----------------------------------|
| | Tree | | Road |
| | Shrub | | Existing Agriculture Retained |
| | Groundcover+Grasses | | Reinstated Agricultural Land Use |
| | Site Boundary | | Fill Batters |
| | Clear Zone | | |

NOTES:

- _ Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _ Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.

04 Landscape and Urban Design Strategy

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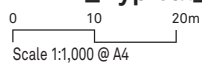


Revegetate with forest vegetation on batters and where disturbed.

Clear zone planting. Shrubs to be used in median to avoid headlight glare.

Revegetate with forest vegetation on batters and where disturbed.

LA 211_ Typical_ High Fill above 10 m - Dense Forest



Legend



NOTES:

- _Maximise the extent of 1:4 embankments where possible to minimise the use of wire rope barriers.
- _Where wire rope barriers are used. Clear zones are reduced to 1.5m past the barrier.