5 Project description

This chapter describes the proposed scope of work, including the route alignment, corridor width, main project elements, ancillary facilities, design standards and construction activities.

The project description presented in this environmental impact statement represents the preferred tender design. Sufficient flexibility has been provided in the design to allow for refinement during detailed design, to respond to submissions received during the exhibition of the environmental impact statement, or to minimise environmental impacts. The final design may therefore vary from the project described in this chapter.

Table 5-1 sets out the Director-General's Requirements as they relate to the project description, and where in the environmental impact statement these have been addressed.

Table 5-1 Director-General's Requirements – project description

Director-General's Requirement	Where addressed
The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the requirements of, Part 3 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation), including: • A detailed description of the project and its relationship and/or interaction with the existing public transport service (rail and bus), bus stops, passenger facilities, location of routes, operator amenities, cyclist facilities, the proposed removal of trees and the location and operational requirements of construction compounds.	Existing public transport, bus stops and cyclist facilities addressed in **Section 3.3.4** with further details provided in **Section 7.1** (Traffic and transport) and **Section 7.7** (Social and economic). Removal of trees addressed in **Section 5.3.1** with further details provided in **Section 7.6** (Biodiversity). Location and operational requirements of construction compounds addressed in **Section 5.3.12**.

5.1 Project scope

5.1.1 The project

Roads and Maritime is proposing the construction and operation of a multi-lane tolled motorway linking the M1 Pacific Motorway at Wahroonga to the Hills M2 Motorway at West Pennant Hills (the project). The project would comprise twin road tunnels generally following the alignment of Pennant Hills Road (the main alignment tunnels), with interchanges at the northern and southern end of the project.

The project would comprise the following key features:

- Twin motorway tunnels up to around nine kilometres in length with two lanes in each direction. The tunnels would be constructed wide enough for a third lane in each direction if required in the future.
- A northern interchange with the M1 Pacific Motorway and Pennant Hills Road, including sections of tunnel for on-ramps and off-ramps, which also facilitate access to and from the Pacific Highway.
- A southern interchange with the Hills M2 Motorway and Pennant Hills Road, including sections of tunnel for on-ramps and off-ramps.

- Integration works with the Hills M2 Motorway including alterations to the eastbound carriageway to accommodate traffic leaving the Hills M2 Motorway to connect to the project travelling northbound, and the provision of a new westbound lane on the Hills M2 Motorway extending through to the Windsor Road off-ramp.
- Tie-in works with the M1 Pacific Motorway extending to the north of Edgeworth David Avenue.
- A motorway operations complex located near the southern interchange on the corner of Eaton Road and Pennant Hills Road that includes operation and maintenance facilities.
- Two tunnel support facilities incorporating emergency smoke extraction outlets and substations.
- Ancillary facilities for motorway operation, such as electronic tolling facilities, signage, ventilation systems and fire and life safety systems including emergency evacuation infrastructure.
- Modifications to service utilities and associated works at surface roads near the two interchanges and operational ancillary facilities.
- Modifications to local roads, including widening of Eaton Road near the southern interchange and repositioning of the Hewitt Avenue cul-de-sac near the northern interchange.
- Ancillary temporary construction facilities and temporary works to facilitate the construction of the project.

The project does not include ongoing motorway maintenance activities during operation. These would be subject to separate assessment and approval as appropriate.

Construction activities would generally include:

- Commencement of enabling and temporary works, including construction power, water supply, site establishment, demolition works, property and utility adjustments and public transport modifications (if required).
- Construction of the road tunnels, interchanges, intersections and roadside infrastructure.
- Haulage of spoil generated during tunnelling and excavation activities.
- Fit-out of the road tunnels and support infrastructure, including ventilation and emergency response systems.
- Construction and fit-out of the motorway control centre and ancillary operations buildings.
- Realignment, modification or replacement of surface roads, bridges and / or underpasses.
- Implementation of environmental management and pollution control facilities for the project.

5.2 The completed project

The completed project is shown in overview in **Figure 5-1** and in **Figure 5-2** to **Figure 5-9** and described in detail in the following sections.

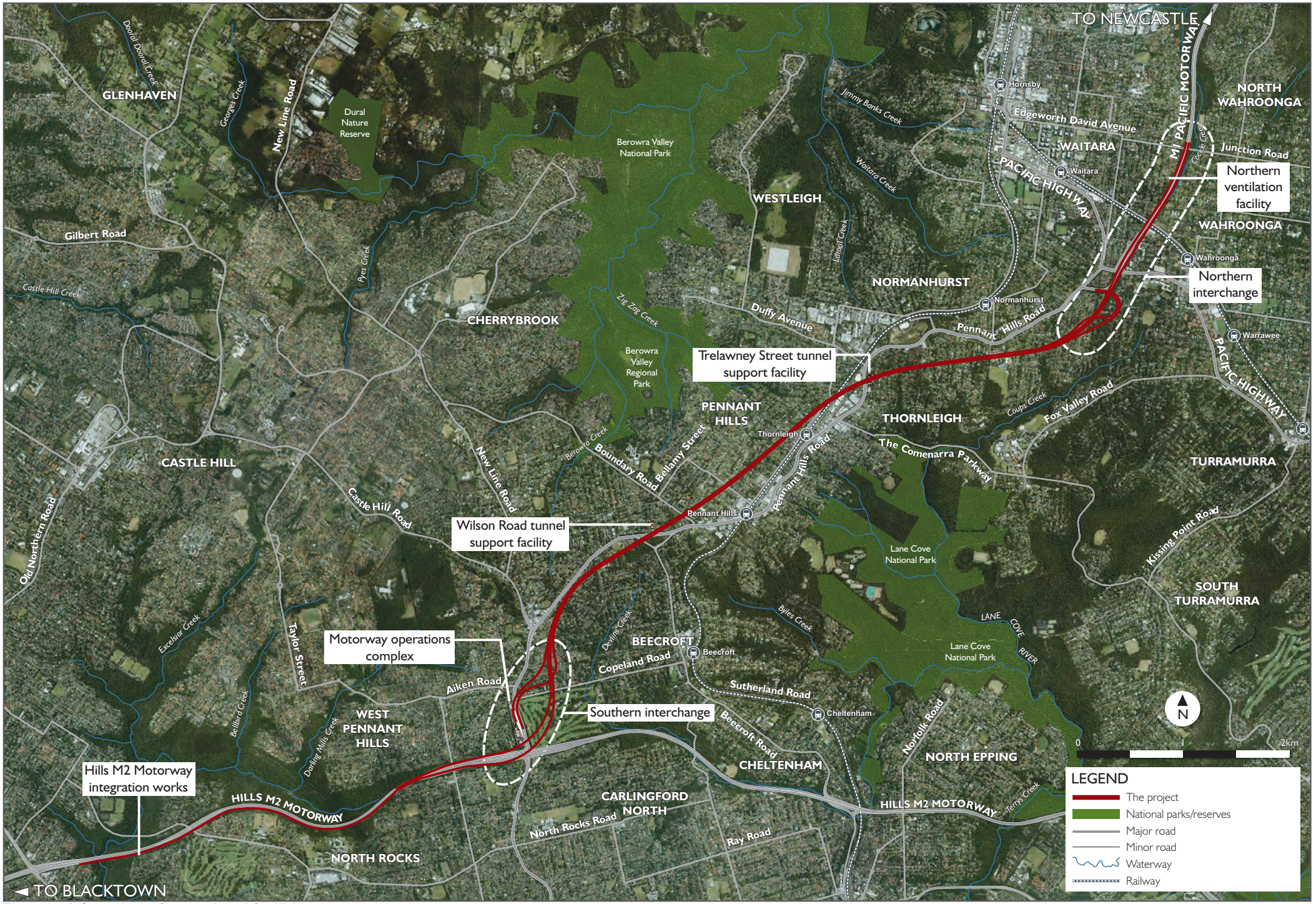

Figure 5-1 Overview of operational facilities

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Figure 5-2 Project operational footprint - Map 1

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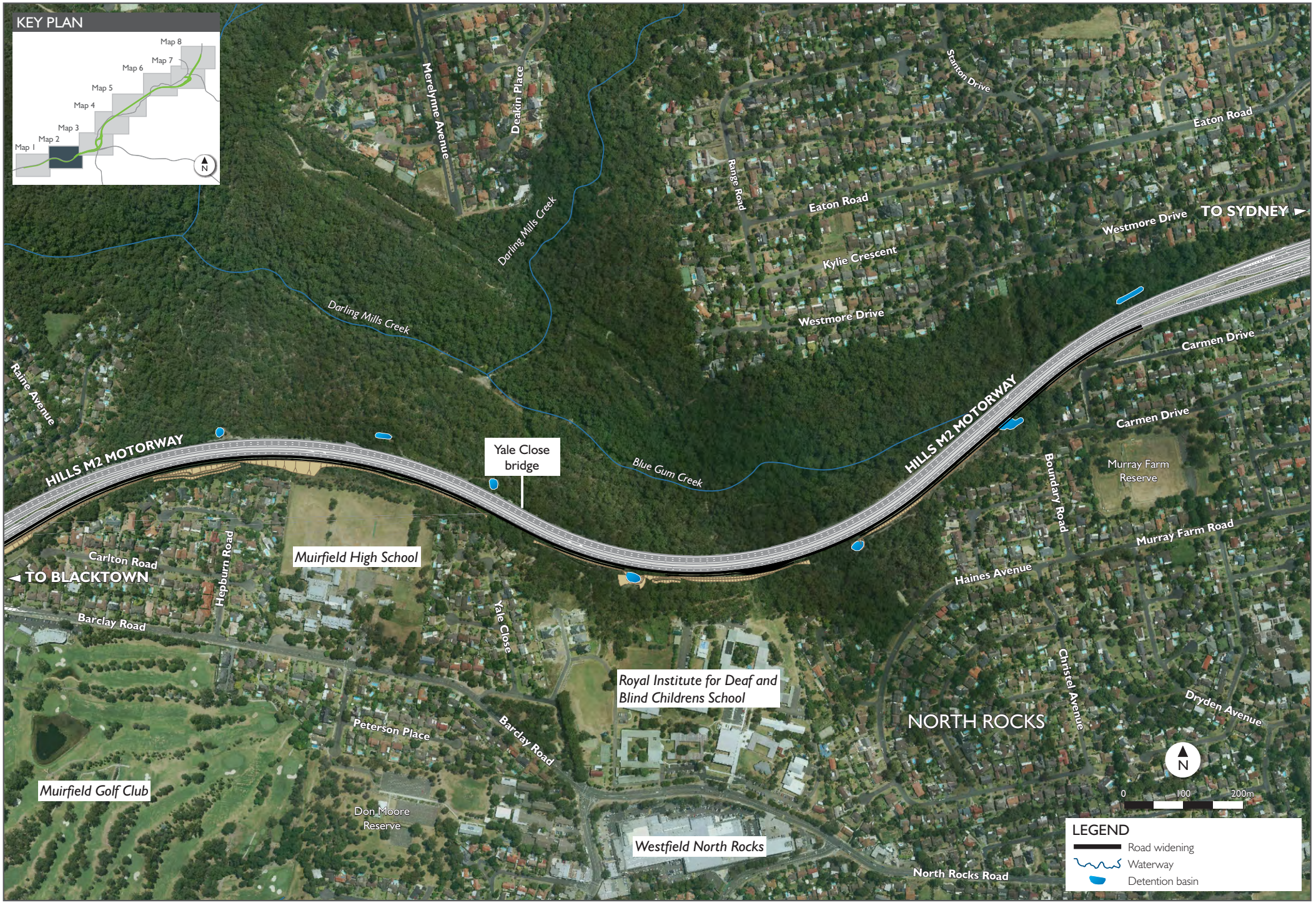

Figure 5-3 Project operational footprint - Map 2

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Figure 5-4 Project operational footprint - Map 3

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Figure 5-5 Project operational footprint - Map 4

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Figure 5-6 Project operational footprint - Map 5

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