Sydney Metro West
Sydney Metro
13 October 2021

BDAR Waiver Request

Sydney Metro West - Rail infrastructure, stations, precincts and operations

BDAR Waiver Request

Client: Sydney Metro

ABN: 000

Prepared by

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1.0 Introduction

Sydney Metro West (this project) is a new 24-kilometre metro line that will connect Greater Parramatta with the Sydney CBD. Confirmed stations include Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD). This infrastructure investment will double the rail capacity of the Greater Parramatta to Sydney CBD corridor with a travel time target between the two centres of about 20 minutes.

The delivery of Sydney Metro West is critical to keeping Sydney moving and is identified in a number of key strategic planning documents including the *Greater Sydney Region Plan: A Metropolis of Three Cities – connecting people* (Greater Sydney Commission, 2018a), *Building Momentum: State Infrastructure Strategy 2018-2038* (Infrastructure NSW, 2018) and *Future Transport Strategy 2056* (Transport for NSW, 2018).

Sydney Metro West is being assessed as a staged infrastructure application under section 5.20 of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

The approved Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (application number SSI-10038), was approved by the Minister for Planning and Public Places on 11 March 2021. A full biodiversity development assessment report (BDAR) was prepared to support this application.

An Environmental Impact Statement (EIS) for the proposed major civil construction work between The Bays and Sydney CBD is currently being prepared and a BDAR Waiver was granted on 24 June 2021.

This BDAR Waiver Request relates to rail infrastructure, stations, precincts and operation of Sydney Metro West. Sydney Metro is the proponent and will be seeking planning approval to enable the approved Concept to be realised by undertaking the tunnel fit-out, construction of stations, ancillary facilities and station precincts, and operation and maintenance of the Sydney Metro West line (this proposal). The main elements of Sydney Metro West are shown in Figure 1.

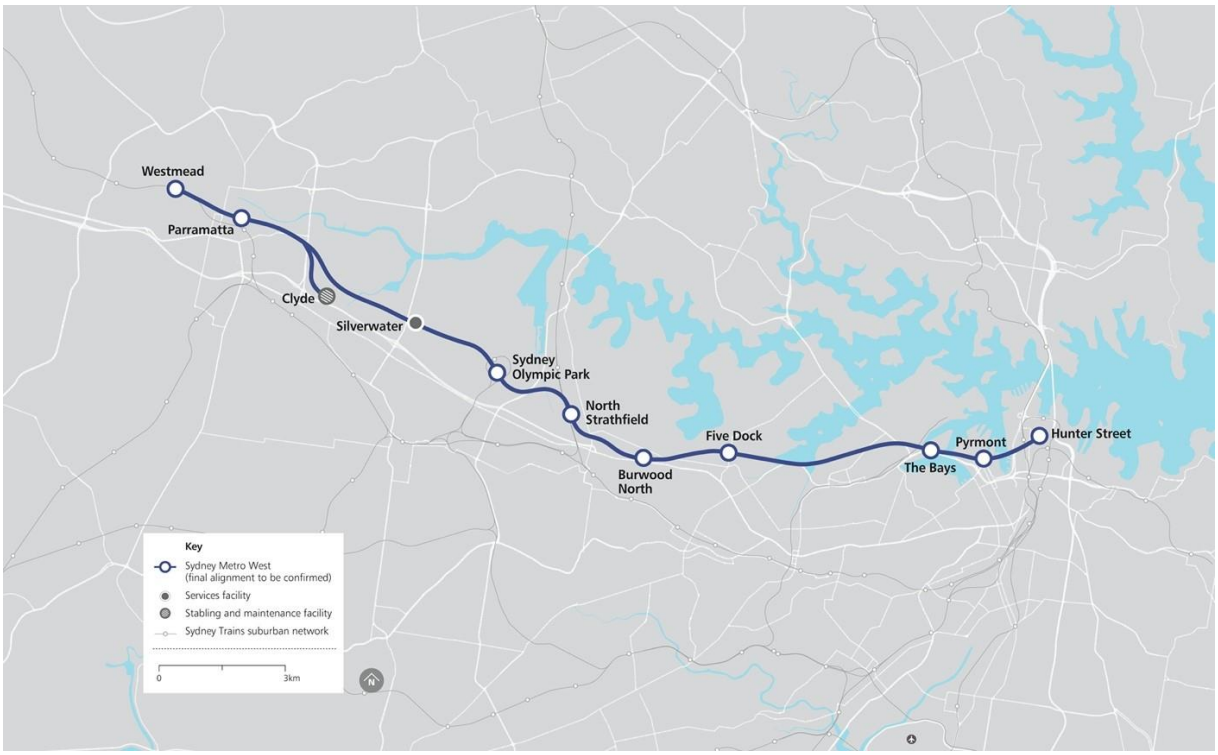

Figure 1 Sydney Metro West

Key elements of this proposal are outlined in Chapter 2.0. The design and implementation of this proposal is still subject to further design development, and changes may be made during the ongoing design which take into account the outcomes of community and stakeholder engagement and environmental investigations.

This proposal carries on from the previous stages of the Sydney Metro West project. The preceding approved major civil construction work between Westmead and The Bays provides for the removal of existing vegetation, demolition of existing buildings and infrastructure and bulk earthworks, including tunnelling and excavation of the station boxes, at all locations between Westmead and The Bays. The preceding proposed major civil construction work between The Bays and Sydney CBD is not yet approved. Subject to approval, it will provide for the removal of existing vegetation, demolition of existing buildings and infrastructure and bulk earthworks, including tunnelling and excavation of the station boxes, at all locations between The Bays and Hunter Street (Sydney CBD).

This BDAR Waiver Request assumes biodiversity impacts associated with the preceding approved major civil construction work between Westmead and The Bays and the preceding proposed major civil construction work between The Bays and Sydney CBD have been realised and form part of the baseline condition for this proposal (that is, sites are active construction sites with little to no vegetation or other habitat value present). Small areas of additional footprint, not assessed in the preceding Sydney Metro West planning applications, are required as part of this proposal at the following locations:

- Westmead metro station
- Sydney Olympic Park metro station
- North Strathfield metro station
- The Bays Station.

In addition to the above small areas of additional footprint, some planted street trees would also be removed as part of this proposal at Burwood North and Pyrmont. Potential impacts associated with these additional footprint areas would be fully assessed within the biodiversity chapter of the EIS for this proposal.

The Secretary's environmental assessment requirements (SEARs) for this proposal require the preparation of a BDAR. Given the highly urbanised nature of the area and the baseline environment assumed at each site based on construction activity associated with the preceding approved major civil construction work between Westmead and The Bays and the preceding proposed major civil construction work between The Bays and Sydney CBD, Sydney Metro requests that the requirement for a BDAR be formally waived as per section 7.9(2) of the *Biodiversity Conservation Act 2016*, on the basis that this proposal:

- would remove only isolated vegetation with little native components and very low habitat connectivity
- would not result in any significant adverse impact on threatened species or ecological communities
- would not affect any areas designated as coastal wetland under *State Environmental Planning Policy (Coastal Wetlands) 2018*
- would not directly affect land identified as having biodiversity values on the Biodiversity Values Map, and
- would not result in adverse impacts upon adjacent waterways.

Potential biodiversity impacts associated with this proposal will be assessed in the EIS for this proposal. The EIS assessment will consider the relevant extent of potential impacts associated with the construction and operation of this proposal and provides suitable measures to mitigate impacts. On this basis, biodiversity impacts associated with this proposal are considered to be adequately managed and would not result in any significant impact upon threatened species or threatened ecological communities. This is further demonstrated in the detail provided below.

2.0 Project information

The following table provides relevant information in relation to this proposal and the BDAR Waiver Request information requirements.

Table 1 BDAR Waiver Request information requirements

	BDAR Waiver Request information requirements
Proponent name	Sydney Metro
Project name	Sydney Metro West - Rail infrastructure, stations, precincts and operation
Project ID	SSI-22765520
Name and Ecological qualifications of person completing	Jamie McMahon • Bachelor of Environmental Science (Hons) Biological Sciences • 20 years' experience in ecological impact assessment and ecological assessment • Certified Environmental Practitioner – Impact Assessment Specialist no. 11004
Site street address, Lot and DP, local government area	Selected locations between Westmead and the Sydney CBD across the following local government areas: • City of Parramatta • Cumberland • Strathfield • Burwood • Inner West • City of Sydney. **Westmead metro station** **Address:** 141 Hawkesbury Road, 139 Hawkesbury Rd, 51 Alexandra Avenue, 29 Alexandra Avenue, 27 Alexandra Avenue, 26 Alexandra Avenue, 24 Alexandra Avenue, 20-22 Alexandra Avenue, 3 Hassall Street, 9-11 Hassall Street, 15-19 Hassall Street, 21 Hassall Street, 27-29 Hassall Street, 31 Bailey Street, 33 Bailey Street, 35 Bailey Street, 37 Bailey Street, 131 Hawkesbury Road, 3 Railway Parade. **Lot and DP:** Lot 1-2 in DP1409 SEC A, Lot null in SP1781 SEC A, Lot 51 in DP4036 SEC A, Lot 49-50 in DP1409 SEC A, Lot 47-48 in DP1409 SEC A, Lot 45-46 in DP4036 SEC A, Lot 42-44 in DP4036 SEC A, Lot null in SP67282, Lot 35-37 in DP4036 SEC A, Lot null in DP949987, Lot null in SP61570, Lot 26-27 in DP4036 SEC A, Lot null in SP51391, Lot 20-21 in DP434199 SEC A, Lot 22-23 in DP434199 SEC A, Lot 16A in DP434199, Lot 14A in DP434199, Lot 44476 in DP4036 SEC A, Lot 41579 in DP1409 SEC A, Lot 3 in DP1002926, Lot 1 in DP1208880. **Local Government Area:** Cumberland; Parramatta **Parramatta metro station** **Address:** 41-59 George Street, 61B George Street, 71 George Street, 238 Church Street, 236 Church Street, 232 Church Street, 222 Church Street, 220 Church Street, 48 Macquarie Street, 58-60 Macquarie Street, 62-64 Macquarie Street, 8 Macquarie Street, 70 Macquarie Street, 72 Macquarie Street, 74 Macquarie Street. **Lot and DP:** Lot 10 in DP858392, Lot 1 in DP607181, Lot 100 in DP607789, Lot 2 in DP591454, Lot 1 in DP128437, Lot 1 in DP651992, Lot 1 in DP702291, Lot 1 in DP1041242, Lot B in DP394050, Lot 1 in DP399104, Lot AY in DP400258, Lot 1 in DP711982, Lot E in DP402952, Lot 3 in DP218510, Lot H in DP405846. **Local Government Area:** Parramatta

	BDAR Waiver Request information requirements
	Clyde stabling and maintenance facility and Rosehill services facility **Address:** 101 James Ruse Drive, 29-33 James Ruse Drive, Lot 11 James Ruse Drive, Lot 9 Unwin Street, James Ruse Drive, 1B Unwin Street, 5 Unwin Street, 8 Shirley Street, 6 Shirley Street, 2 Shirley Street, 1A Unwin Street, 1 Unwin Street, 4 Kay Street, 2 Kay Street, 50-54 Wentworth Street, Lot 1 Wentworth Street, Lot 11 Wentworth Street, 60 Wentworth Street, 9 Kay Street, 7 Kay Street, 5 Kay Street, Lot 70 Kay Street, 32 Wentworth Street, 1 Kay Street, 48 Wentworth Street, 46 Wentworth Street, 38-40 Wentworth Street, 34-36 Wentworth Street, 21 Wentworth Street, 23 Wentworth Street, Lot 5 and Lot 6 Wentworth Street, 1 Tennyson Street, 3 Tennyson Street, 5 Tennyson Street, 7 Tennyson Street, 9 Tennyson Street, 11-13 Tennyson Street, 8 Tennyson Street, 1 Deniehy Street, 6 Tennyson Street, 4 Tennyson Street, Deniehy Street, 4 Deniehy Street, 2 Tennyson Street. **Lot and DP:** Lot 10 in DP1151784, Lot 1 in DP126879, Lot 11 in DP1271374, Lot 11 in DP630649, Lot 9 in DP263940, Lot 1 in DP115004, Lot 201 in DP870298, Lot 202 in DP870298, Lot 10 in DP1242950, Lot 11 in DP1242950, Lot 1 in DP520478, Lot 21 in DP817742, Lot 50 in DP791656, Lot 6 in DP263068, Lot B in DP344102, Lot C in DP344102, Lot D in DP344102, Lot 10 in DP263068, Lot 1 in DP1180007, Lot 1 in DP568177, Lot 11 in DP814837, Lot 2 in DP567736, Lot 7 in DP263068, Lot 3 in DP805263, Lot 4 in DP805263, Lot 9 in DP263068, Lot 70 in DP800279, Lot 71 in DP800279, Lot 1 in DP1160433, Lot 4 in DP701596, Lot 50 in DP777202, Lot 44253 in DP5944, Lot 44252 in DP5944, Lot 44251 in DP5944, Lot 44250 in DP5944, Lot 4 in DP1116474, Lot 2 in DP1116474, Lot 5 in DP1116474, Lot 6 in DP1116474, Lot 58/6 in DP6944, Lot A in DP385416, Lot B in DP385416, Lot 56/6 in DP5944, Lot 54/6 in DP5944, Lot 53/6 in DP5944, Lot 55/6 in DP5944, Lot 51/6 in DP5944, Lot 52/6 in DP5944, Lot 10 in DP712049, Lot 47/6 in DP5944, Lot 48/6 in DP5944, Lot 44 in DP855702, Lot 45 in DP855702, Lot 46 in DP855702, Lot 9 in DP242917, Lot 23 in DP733500, Lot 101 in DP739030, Lot 4 in SP35152, Lot 1 in DP594218, Lot 44356 in DP5944, Lot 44357 in DP5944, Lot 44358 in DP5944, Lot 1 in DP128287, Lot 44359 in DP5944, Lot 44360 in DP5944. **Local Government Area:** Parramatta **Silverwater services facility** **Address:** 103-105 Silverwater Road. **Lot and DP:** 1 DP455462, 2/47 DP5818. **Local Government Area:** Parramatta **Sydney Olympic Park metro station** **Address:** 13 Olympic Boulevard, 8 Herb Elliott Avenue, 7 Figtree Drive, 5 Figtree Drive, Lot 20 Figtree Drive, Herb Elliot Avenue. **Lot and DP:** Lot 2 in DP1256423, Lot 132 in DP1189734, Lot 59 in DP786296, Lot 58 in DP786296, Lot 20 in DP1228905, Lot 5 in DP1205285. **Local Government Area:** Parramatta **North Strathfield metro station** **Address:** 2G Queen Street **Lot and DP:** Lot 50 in DP1219136 **Local Government Area:** Canada Bay **Burwood North Station** **Address:** 26 Burton Street, 20 Burton Street, 19 Parramatta Road, 21 Parramatta Road, 13 Parramatta Road, 3 Parramatta Road, 1 Parramatta Road, 13 Burwood Road, 11 Burwood Road, 9 Burwood Road, 7 Burwood

	BDAR Waiver Request information requirements
	Road, 3 Burwood Road, 1 Burwood Road, 7 Parramatta Road, 20 Burton Street, 26 Burton Street, 2 Burwood Road, 344-336B/366C Parramatta Road. **Lot and DP:** Lot 2 in DP1256423, Lot 15 in DP10926, Lot null in SP73535, Lot B in DP344400, Lot C in DP344400, Lot A in DP340812, Lot B in DP340812, Lot 28 in DP10928, Lot 1 in DP839095, Lot 100 in DP1154740, Lot 4 in DP333924, Lot 19-20 in DP10928, Lot 21-22 in DP10928, Lot 23 in DP10928, Lot 24 in DP10928, Lot 25-26 in DP10928, Lot 27 in DP10928, Lot 1 in DP1027871, Lot 2 in P73535, Lot 15 in DP10928, Lot 14 in DP1217020, Lot 15-19 in DP1217020. **Local Government Area:** Canada Bay; Burwood **Five Dock Station** **Address:** 169 Great North Road, 27 Waterview Street, 25 Waterview Street, 23 Waterview Street, 3 Second Avenue, 31 Waterview Street, 29 Waterview Street, 27 Waterview Street, 25 Waterview Street, 23 Waterview Street. **Lot and DP:** Lot 10 in DP1170170, Lot E in DP1170170, Lot B in DP961640, Lot 15 in DP884 SEC 5, Lot 2 in DP962509, Lot 2 in DP962509, Lot 2 in DP537010, Lot A in DP961640, Lot B in DP961640, Lot 15 in DP884 SEC 5, Lot 2 in DP962509, Lot 2 in DP962509. **Local Government Area:** Canada Bay **The Bays Station** **Address:** Sommerville Road, Lot 5 Robert Street, Lot 6 Robert St, 165 Victoria Road **Lot and DP:** Lot 10 in DP1170710, Lot 5 in DP1063454, Lot 6 in DP1063454, Lot 10 in DP1166179. **Local Government Area:** Inner West **Pyrmont Station** **Address:** 37-69 Union Street and 26-32 Pyrmont Bridge Road in Pyrmont. **Lot and DP:** Lot 1 in DP 620352 and Lot 1 in DP 657429 at 37-69 Union Street; and Lot 10 in DP 1028280 at 26-32 Pyrmont Bridge Road, Pyrmont. **Local Government Area:** City of Sydney **Hunter Street Station (Sydney CBD)** **Address:** 314-318, 312, 300, 296 George Street, 5, 7-13, 9, 48 Hunter Street, 5010 De Mestre Place, De Mestre Place (public laneway), 28 O'Connell Street, 37 and 33 Bligh Street in Sydney. **Lot and DP:** Lot 1 in DP 1107981, Lot 1 in DP 217112, and Lot 1 in DP 536538 at 28-34 O'Connell Street; Lot 1 in DP 626651 at 20-26 O'Connell Street (33 Bligh Street); Lot 1 in DP 59871 and Lot 2 in DP 217112 at 44-48 Hunter Street; SP 58859 SP61852, SP61922, SP61923, SP63146, SP63147, SP74004, SP87437 at 50-58 Hunter Street (37 Bligh Street); Lot 1 in DP 438188 at 296 George Street; Lot CP in SP 596 at 298-302 George Street (300 George Street); Lot CP in SP 71068 at 304-308 George Street (Leda Hunter Arcade); Lot 1 in DP 211120 at 312 George Street; Lot 13 in DP 622968 at 314-318 George Street; Lot CP in SP 65054, Lot CP in SP 77889 at 5 Hunter Street (Leda House); Lot CP in SP 50276, Lot CP in SP 61007, Lot CP in SP 60441, Lot CP in SP 62889, Lot CP in SP 69300, Lot CP in SP 77409 at 7-13 Hunter Street (Hunter Connection); Lot 2 in DP 850895 at 9-13 Hunter Street and; Lot 1 in DP 1003818 at 5010 De Mestre Place, Sydney (Overpass); Public laneway, no title particulars at De Mestre Place, Sydney **Local Government Area:** City of Sydney

	BDAR Waiver Request information requirements
Description of existing development site	All locations proposed for development as part of this proposal are heavily urbanised areas with a long history of disturbance. These sites range from highly developed city centres such as at Parramatta and the Sydney CBD, through to low density residential and commercial or industrial development. For example, the Clyde stabling and maintenance facility site has previously been the site of the Valvoline Raceway and the area surrounding The Bays station site has previous and current ports and power generation-related uses and more recent use by other major construction projects. Small areas of additional footprint, over and above that outlined in preceding Sydney Metro West planning applications, are required as part of this proposal at the following locations: • Westmead metro station • Sydney Olympic Park metro station • North Strathfield metro station • The Bays metro station. In addition to the above small areas of additional footprint, some planted street trees would also be removed as part of this proposal at Burwood North and Pyrmont. Potential impacts associated with these additional footprint areas would be fully assessed within the biodiversity chapter of the EIS. See the 'project description' section of this table below and Chapter 3.0 for further detail.
Location map showing the development site in the context of surrounding areas and landscape features	Refer to Figure 2 to Figure 6
Site map	Refer to Figure 7 to Figure 17
Project description	This proposal would involve: • fit-out of tunnels including rail systems for metro train operations • construction, fit-out and operation of: – metro station buildings and the surrounding metro precincts – services facilities and traction substations – a control centre, test track and stabling and maintenance facility at Clyde. • provisions for over and/or adjacent station development at relevant stations • rail interchange support works, including work to the existing T1 Western Line at Westmead and T9 Northern Line at North Strathfield • transport network modifications such as new interchange facilities and changes to public transport networks to serve metro stations • subdivision of sites • operation and maintenance of the Sydney Metro West line. See Chapter 1.0 for further information on the relationship of this proposal to the preceding Sydney Metro West planning applications. The small areas of additional footprint required as part of this proposal are as follows: • **Westmead metro station construction site** – additional areas would be required for road work to the north and south of the existing rail corridor, work within the existing rail corridor and on platforms at the existing Westmead Station

	BDAR Waiver Request information requirements
	• **Sydney Olympic Park metro station construction site** – an additional area adjacent and to the east of Olympic Boulevard would be required to support construction activities and some of this area would form part of the event mode access point to the station from Olympic Boulevard • **North Strathfield metro station construction site** – additional areas would be required for work within the existing rail corridor and on platforms at the existing North Strathfield Station and land (also within the rail corridor) to support construction activities within the existing rail corridor • **The Bays Station construction site** – additional areas to support utility and drainage work, road work, intake substation construction and other station precinct and public domain work. In addition to the above small areas of additional footprint, some planted street trees would also need to be removed as part of this proposal at Burwood North and Pyrmont. These additional scope areas are indicated in Figure 7, Figure 11, Figure 12, Figure 13, Figure 15 and Figure 16 below. Biodiversity impacts associated with these additional footprint areas, not previously assessed as part of the preceding approved and proposed major civil construction work between Westmead and Sydney CBD, would be assessed within the EIS being prepared for this proposal. The proponent intends for the BDAR waiver to also cover these additional footprint areas on the basis that the associated biodiversity impacts are not considered to be significant.
Proposed site plan(s).	Refer to Figure 7 to Figure 17

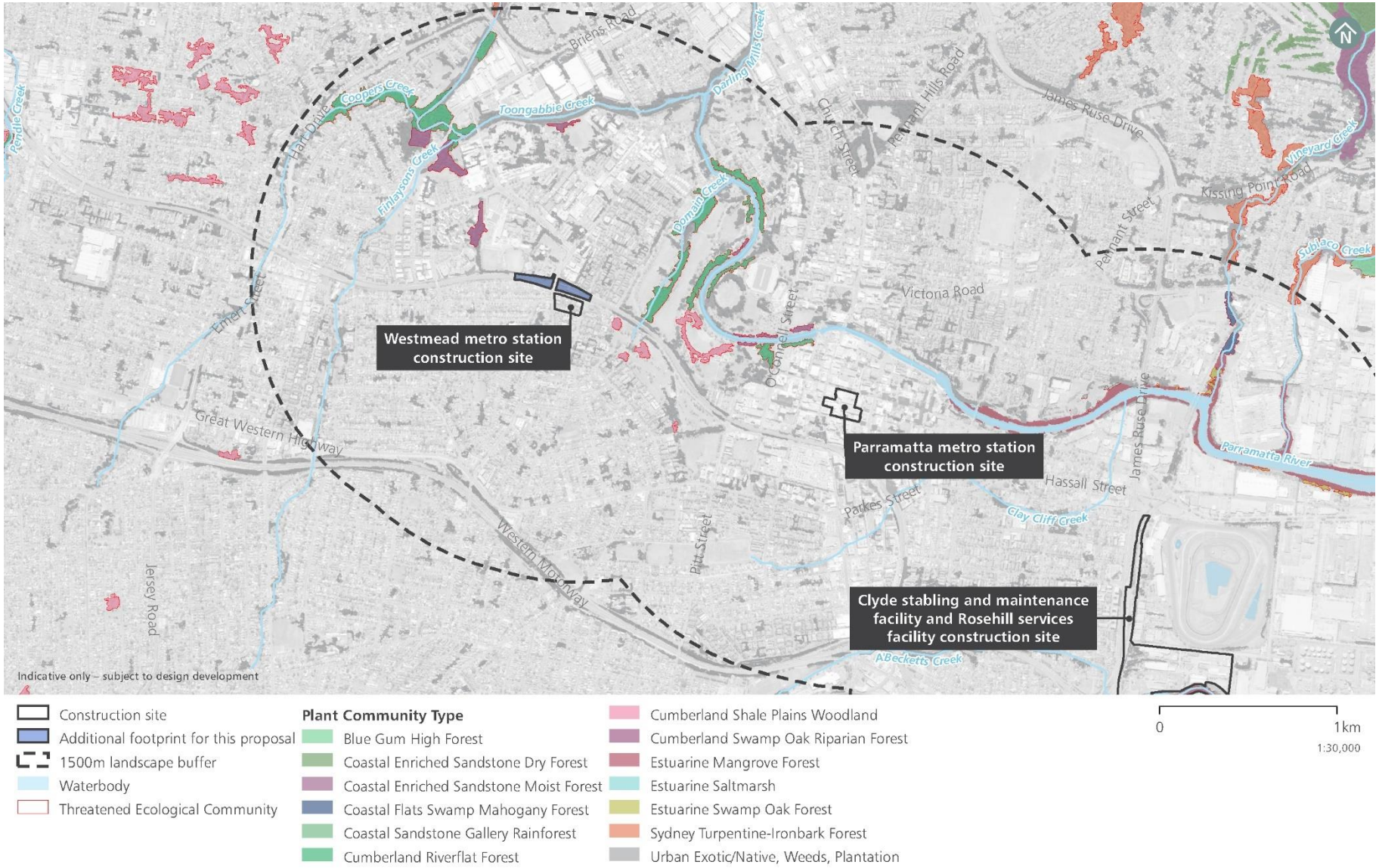

Figure 2 Location plan - Westmead metro station, Parramatta metro station and Clyde stabling and maintenance facility construction sites

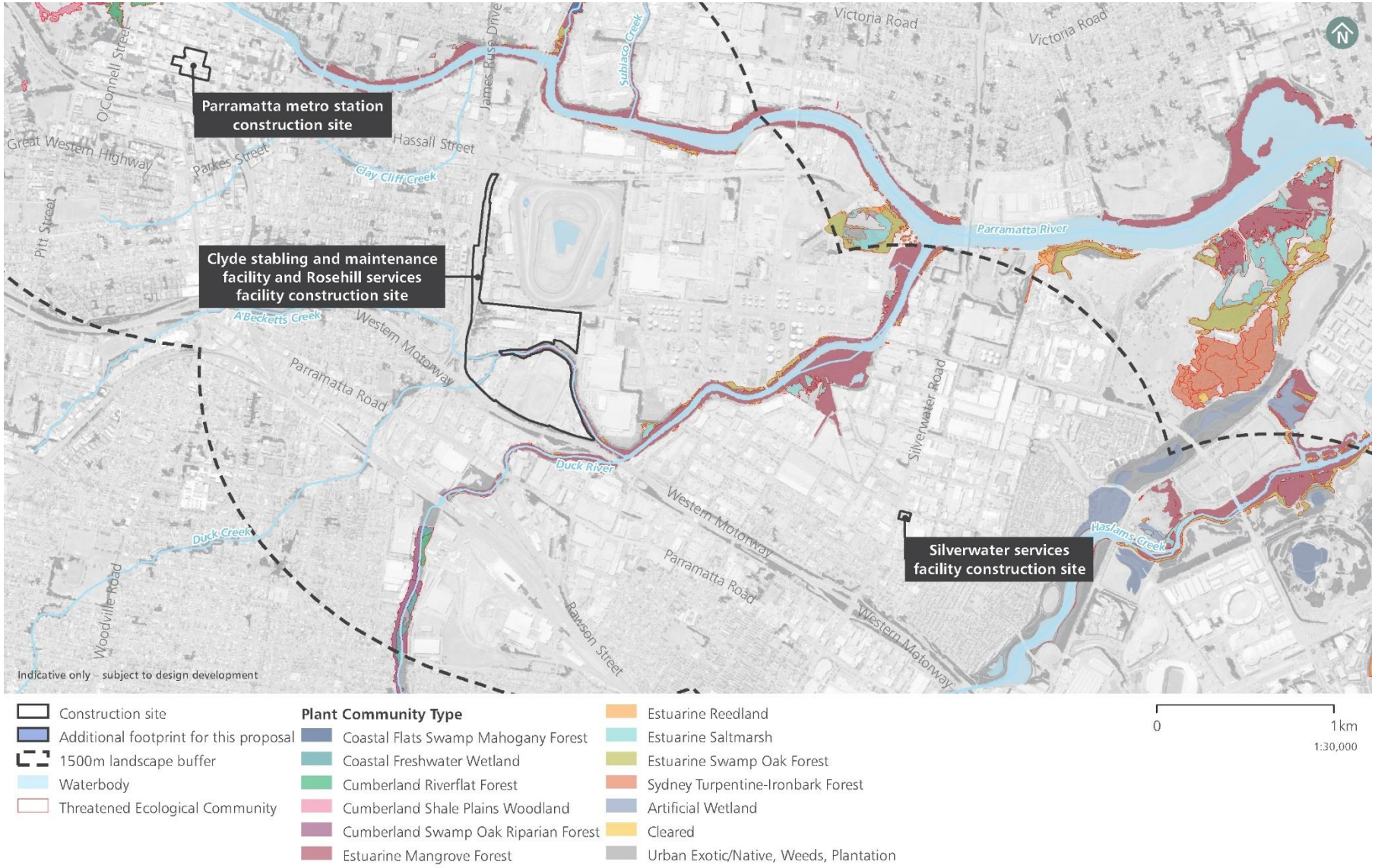

Figure 3 Location plan – Parramatta metro station, Clyde stabling and maintenance facility and Silverwater services facility construction sites

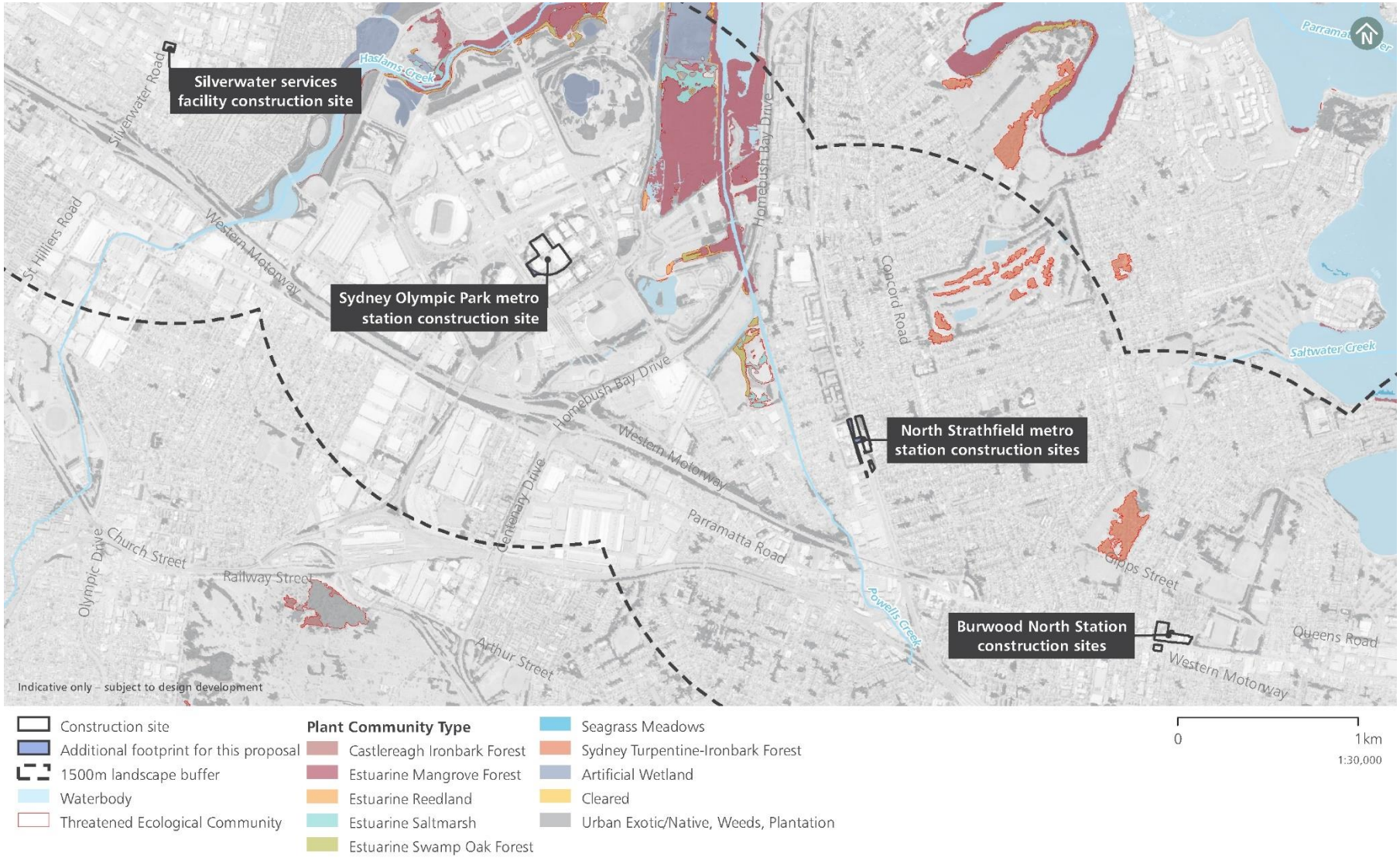

Figure 4 Location plan - Silverwater services facility, Sydney Olympic Park metro station, North Strathfield metro station and Burwood North Station construction sites

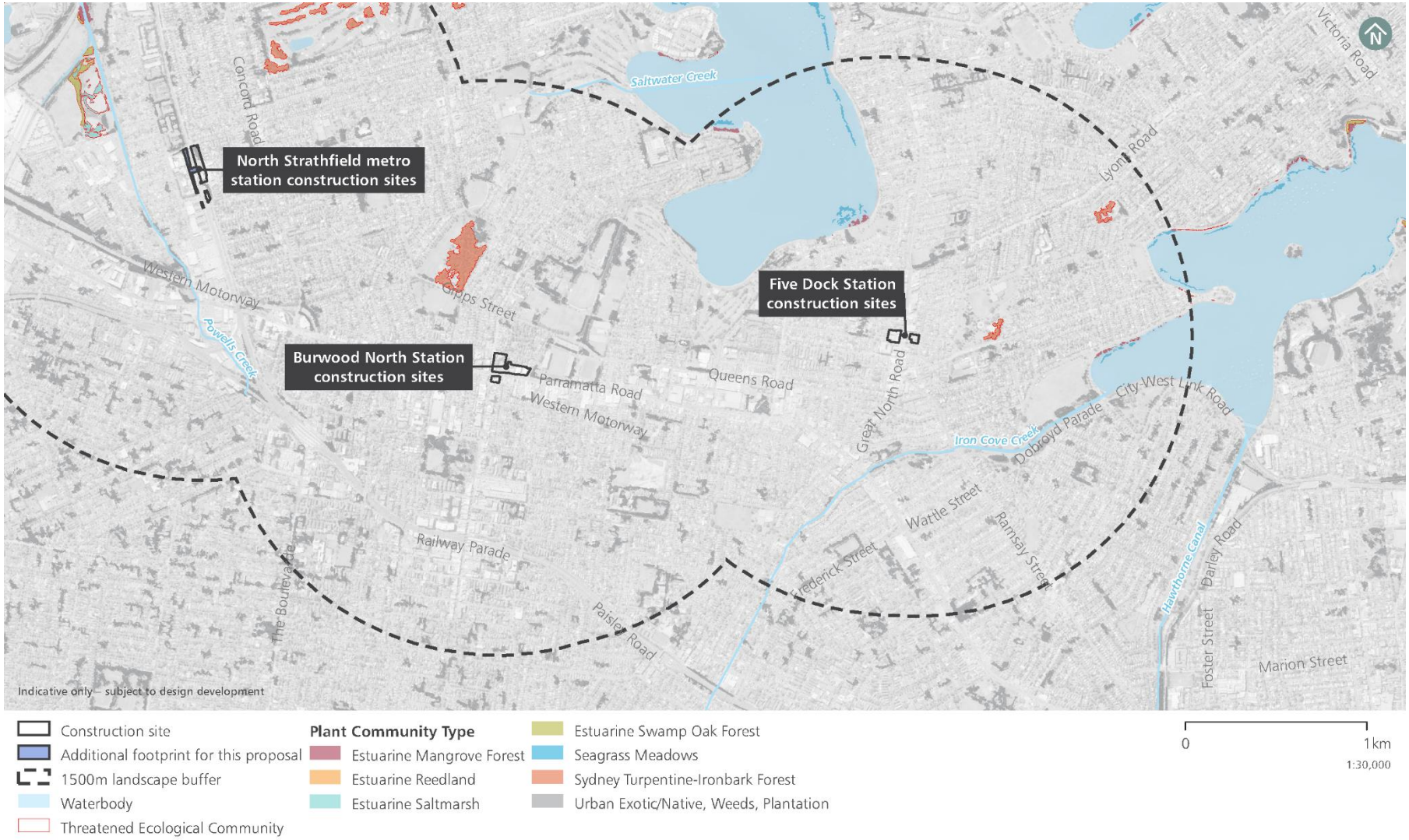

Figure 5 Location plan - North Strathfield metro station and Burwood North Station and Five Dock Station construction sites

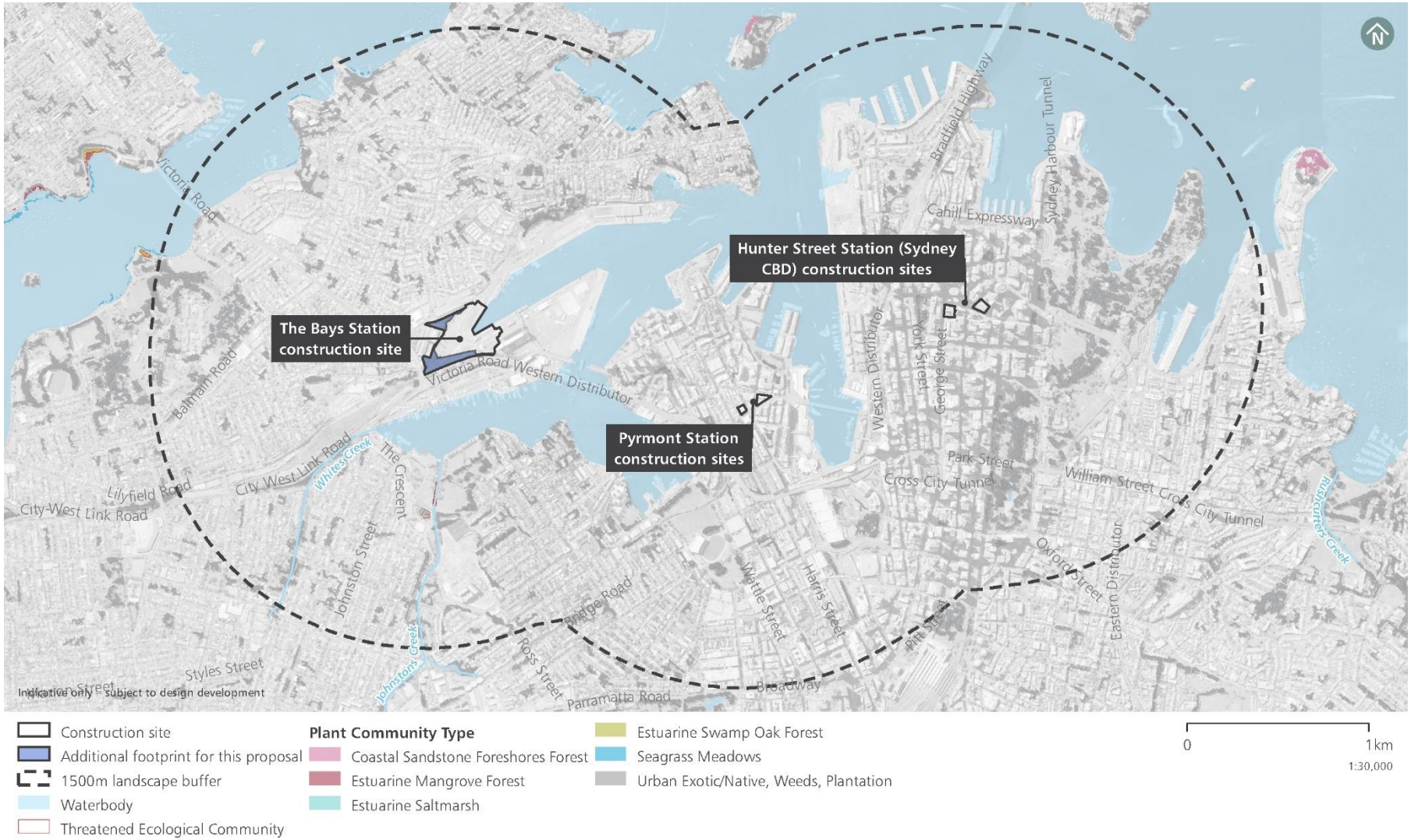

Figure 6 Location plan – The Bays Station, Pyrmont Station and Hunter Street Station (Sydney CBD) construction sites

Figure 7 Site plan - Westmead metro station construction sites

Figure 8 Site plan – Parramatta metro station construction site

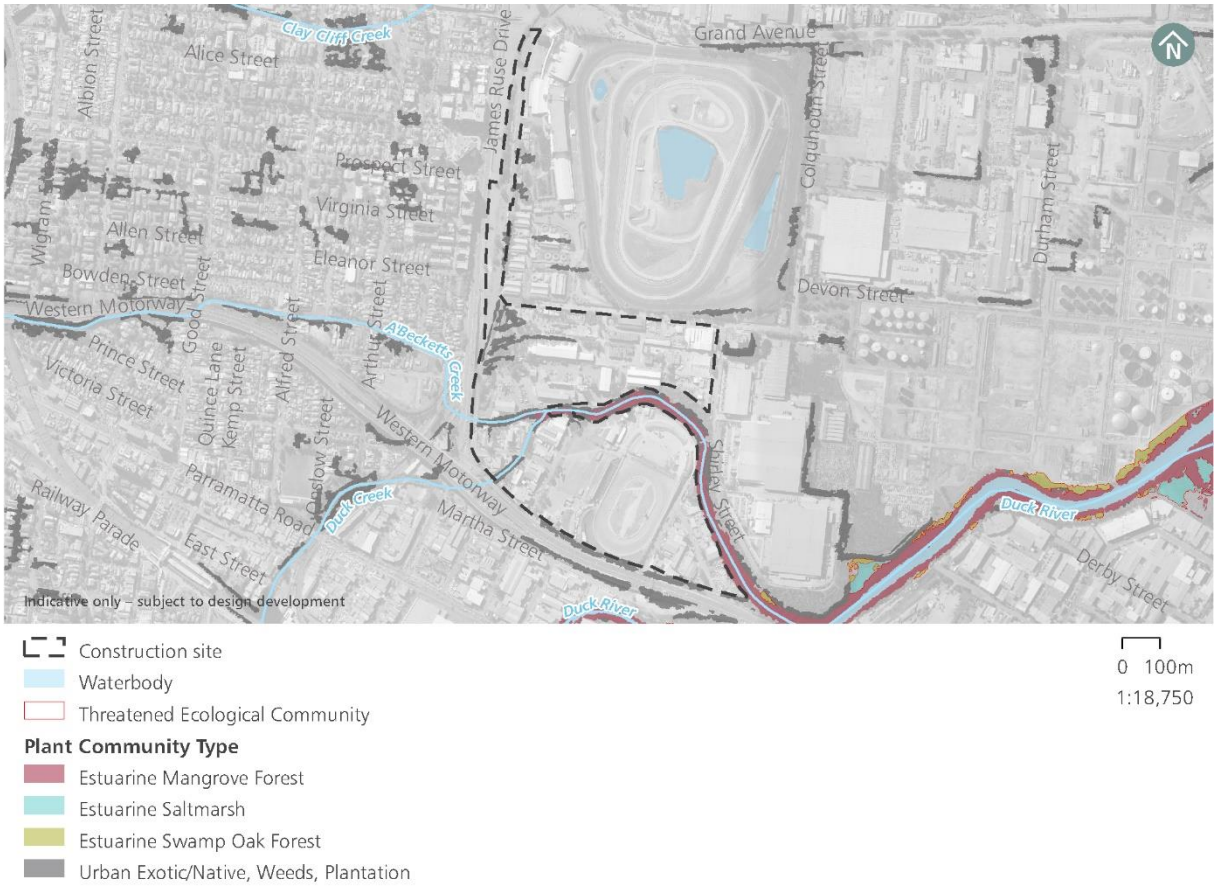

Figure 9 Site plan - Clyde stabling and maintenance facility and Rosehill services facility construction site

Figure 10 Site plan - Silverwater services facility construction site

Figure 11 Site plan - Sydney Olympic Park metro station construction site

Figure 12 Site plan - North Strathfield metro station construction site

Figure 13 Site plan - Burwood North Station construction sites

Figure 14 Site plan - Five Dock Station construction sites

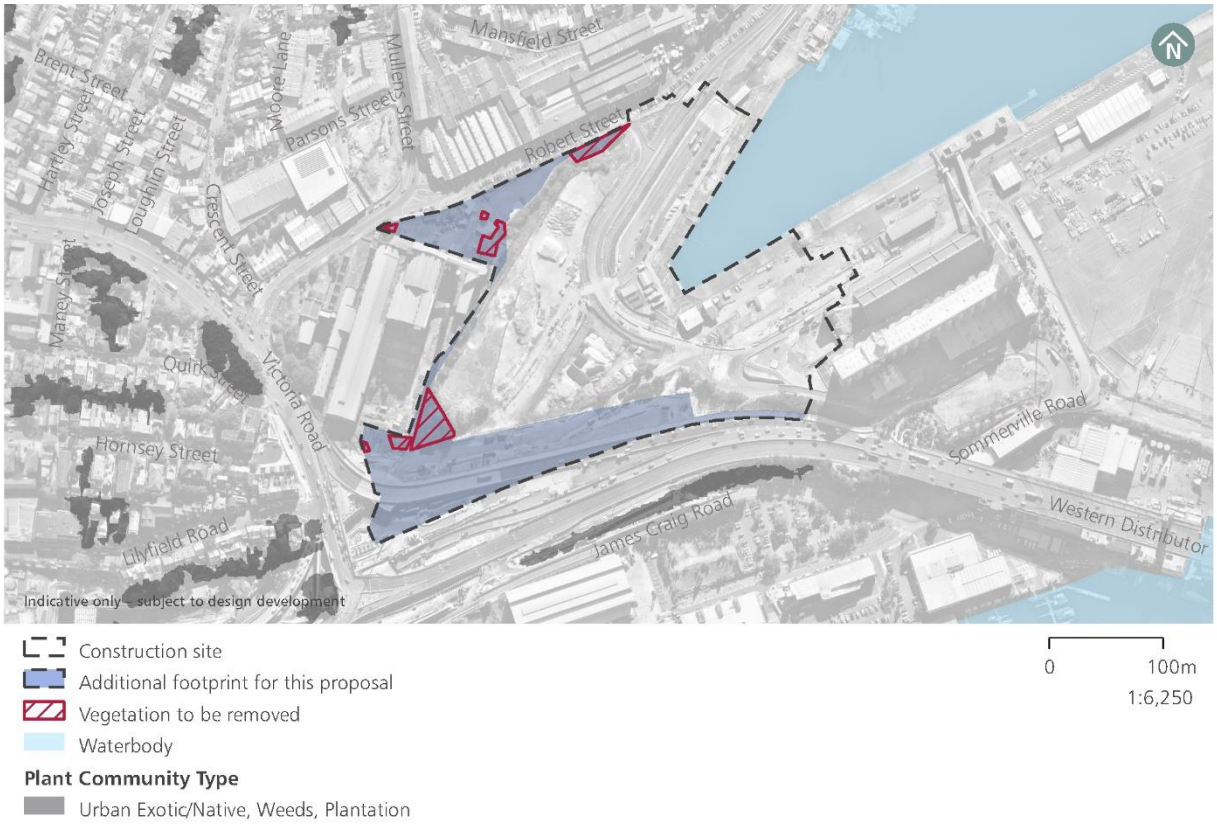

Figure 15 Site plan - The Bays Station construction site

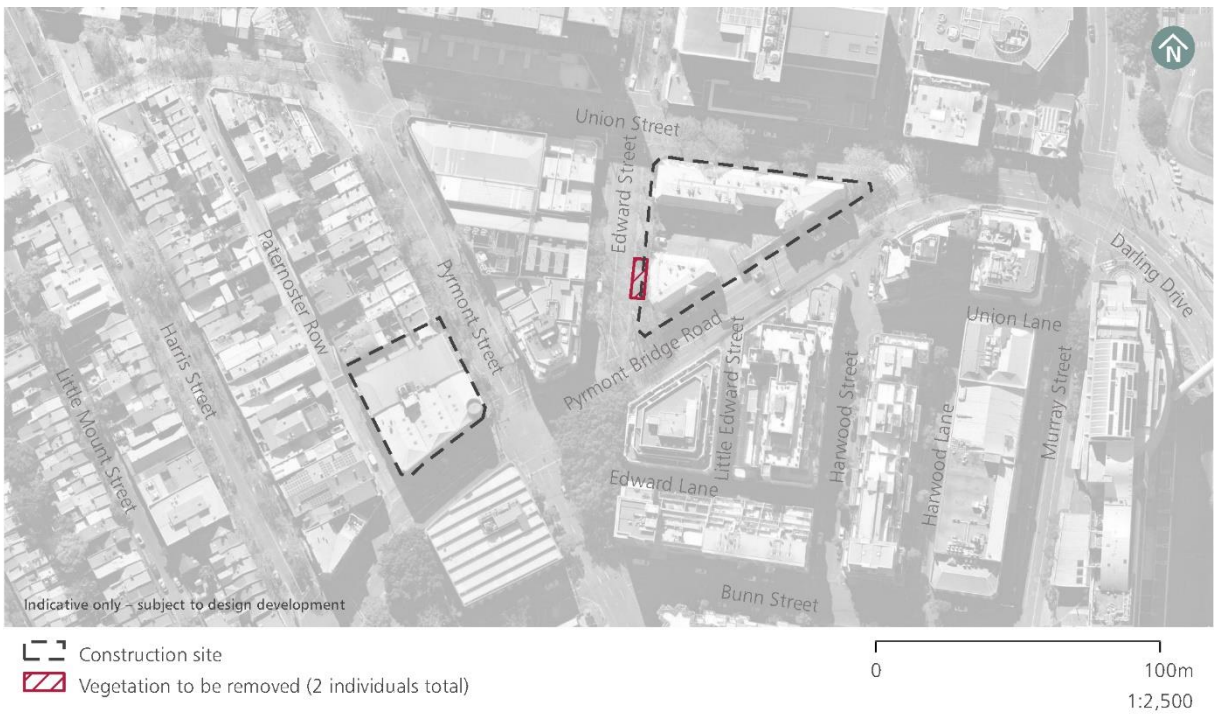

Figure 16 Site plan – Pyrmont Station construction sites

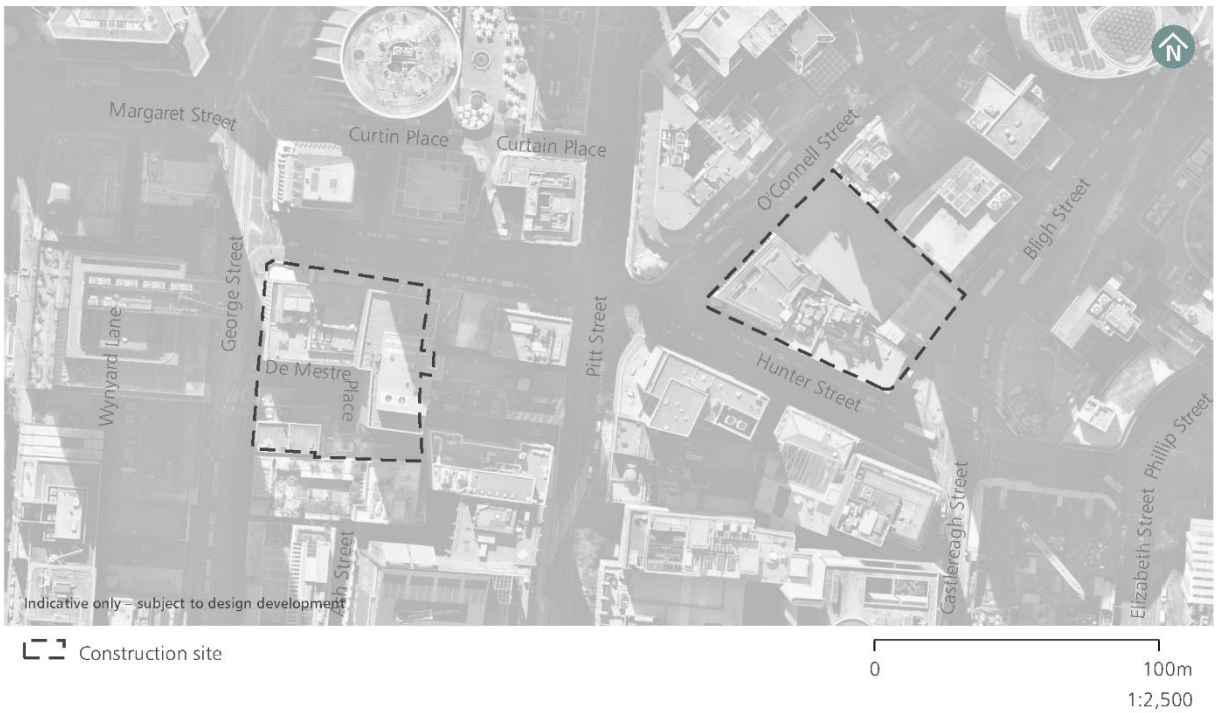

Figure 17 Site plan - Hunter Street Station (Sydney CBD) sites

3.0 Biodiversity site context

As outlined in Chapter 1.0 above, this proposal carries on from the previous planning approval stages of the Sydney Metro West project. As such, in most locations, this proposal would be using construction sites with little-to-no vegetation or other habitat value present.

Small areas of additional footprint are required as part of this proposal at the following locations:

- Westmead metro station
- Sydney Olympic Park metro station
- North Strathfield metro station
- The Bays metro station.

In addition to the above small areas of additional footprint, some planted street trees would also need to be removed as part of this proposal at Burwood North and Pyrmont. The biodiversity site context for all station sites, including those not affected by direct biodiversity impacts associated with this proposal, have been presented below for completeness.

Westmead metro station

Westmead metro station would be located in a heavily urbanised area, with a long history of development. This proposal would require work to be carried out on the northern and southern sides of the existing rail line within the rail corridor (east and west of Hawkesbury Road), as well as a small area on the northern side of Railway Parade, opposite the existing Westmead Station. The area surrounding the proposed Westmead metro station construction site is primarily occupied by residential and commercial properties alongside the Westmead campus of Western Sydney University. Development in this area is comprised of detached single dwellings, apartment buildings, educational facilities and commercial development.

As outlined above, existing structures and vegetation within the footprint for the preceding approved major civil construction work between Westmead and The Bays would be removed as part of construction activities for that activity.

Vegetation in the general area is characterised by street plantings, private landscaping and planted and naturally propagated native and exotic vegetation within the rail corridor. This includes a number of common landscaping species such as Box brush, Callistemon, Jacaranda, Cocos palm, Silky oak, Banksia and Conifer.

Biodiversity assessment undertaken for the preceding approved major civil construction work between Westmead and The Bays identified 0.03 ha of poor condition Cumberland Plain Woodland on the southern side of the rail corridor to the east of Hawkesbury Road. The vegetation integrity score assigned to this patch was 11.5 and, being below the minimum threshold of 15, offsetting of this vegetation was not required.

With respect to the additional footprint, none of the vegetation present in these areas is considered to be remnant, with the majority being naturally propagated or planted common native and exotic species. On the southern side of the rail corridor (west of Hawkesbury Road) the vegetation assemblage is largely native. Dominant species in this area include *Acacia podalyriifolia*, *Kunzea ambigua*, *Lomandra longifolia*, *Westringia fruticosa*, *Acacia parramattensis*, *Lantana camara*, *Bursaria spinosa* and *Dianella cerulea*. Historical photography of this location indicates that some or all of this vegetation has been planted.

On the northern side of the rail corridor (west of Hawkesbury Road) the vegetation assemblage is made up of weed species only, including African olive (*Olea europaea* subsp. *cuspidata*), Large-leaved privet (*Ligustrum lucidum*), Small-leaved privet (*Ligustrum sinense*), Cotoneaster (*Cotoneaster glaucophyllus*), Bougainvillea (*Bougainvillea sp.*), Lantana (*Lantana camara*), Sweet briar (*Rosa rubiginosa*) and Bamboo (*Bambusa sp*).

The small area of additional footprint on the northern side of Railway Parade is occupied by two planted mature Brush Box trees (*Lophostemon confertus*).

Parramatta metro station

The proposed location of the Parramatta metro station is heavily urbanised, being occupied by several multi-storey buildings prior to their demolition as part of construction activities associated with the preceding approved major civil construction work between Westmead and The Bays. All structures and any vegetation within this site would be removed as part of construction activities associated with the preceding approved major civil construction work between Westmead and The Bays.

Canopy vegetation within the proposed station precinct is limited to a small number of mature London Plane trees, Brush box and weeping fig, all of which are planted.

None of the vegetation present in this area is considered to be remnant, with only a small portion native to NSW.

No additional vegetation would be affected by this proposal at this location.

Clyde stabling and maintenance facility and Rosehill services facility

The proposed Clyde stabling and maintenance facility and Rosehill services facility would be constructed within an area occupied largely by existing industrial development, as well as the Valvoline Raceway. All of this infrastructure and associated landscaping vegetation would be removed as part of construction activities associated with the preceding approved major civil construction work between Westmead and The Bays (or proposed modification to the preceding approved major civil construction work between Westmead and The Bays). Since initial biodiversity surveys in this area, an environmentally sensitive area with protective fencing containing a small number of individuals of *Acacia pubescens* (listed as vulnerable under the EPBC Act and BC Act) has been identified within the now decommissioned T6 Carlingford Line rail corridor. Subsequent surveys have also identified additional individuals in the vicinity of this fenced area. Impacts to this species are being managed as part of a BDAR being prepared to assess biodiversity impacts associated with the proposed modification to the preceding approved major civil construction work between Westmead and The Bays.

Running through the centre of the stabling and maintenance facility site is A'becketts Creek and Duck Creek. At the western end of the site both creeks would be enclosed in concrete culverts delivered as part of the preceding approved major civil construction work between Westmead and The Bays. Riparian vegetation downstream of these structures is outside of the footprint of this proposal and

would remain unaffected by direct impacts. Indirect impacts to this vegetation and the waterways would be considered within the EIS for this proposal.

Vegetation within this precinct is generally comprised of naturally propagated or planted common native and exotic species, with a mix of native and exotic species along the riparian areas of the waterways. These waterways are tidal and include mangrove vegetation within the main channel.

Whilst vegetation within the waterway includes several native species, including mangroves, the vegetation assemblage is not considered to be remnant. It is likely however to share some characteristics of the original vegetation assemblage, albeit skewed towards more urban resilient species e.g. Casuarinas. All riparian areas along A'becketts Creek and Duck Creek include mild to heavy weed infestation, with Balloon vine, Large-leaved Privet and Camphor laurel being particularly dominant.

No additional vegetation would be affected by this proposal at this location.

Sydney Olympic Park metro station

The station precinct at Sydney Olympic Park is heavily developed, and is currently occupied by commercial office premises and associated car parking. Vegetation within these premises and on adjacent streets is generally native, with the canopy layer being dominated by *Corymbia maculata*, *Eucalyptus sideroxylon*, *Eucalyptus microcorys, Eucalyptus saligna* and Hoop Pine (*Araucaria cunninghamii*). Common understorey species (all planted) include *Westringia fruticosa, Liriope muscari* and *Lomandra longifolia*. All structures and most vegetation within this construction site would be removed as part of construction activities associated with the preceding approved major civil construction work between Westmead and The Bays.

This proposal would affect some additional vegetation within an additional footprint area at the western extent of the proposed construction site, at the boundary with Olympic Boulevard.

None of the vegetation present in this area is considered to be remnant, though the majority is native to NSW (if not the Sydney area).

North Strathfield metro station

The area around the North Strathfield metro station is heavily urbanised, being surrounded by a mix of residential and commercial property. The location of the proposed metro station is within a maintenance area adjacent and to the east of the existing station.

As with all other sites, all existing infrastructure and vegetation within the construction footprint for the preceding approved major civil construction work between Westmead and The Bays would be removed as part of that stage, prior to the commencement of works associated with this proposal. This proposal would affect vegetation in two additional footprint areas, being the area to the northwest of the existing station and the platform itself.

The area to the northwest is comprised of planted street trees and naturally propagated common native and exotic species. Canopy species in this location include *Corymbia citriodora*, *Eucalyptus punctata*, *Pittosporum undulatum*, Camphor laurel, Chinese hackberry (*Celtis sinensis*), Brush box, *Casuarina glauca, Acacia dealbata, Acacia podalyriifolia* and *Acacia falcata*. The understorey is dominated by planted shrubs, groundcovers and grasses, particularly *Westringia fruticosa*, *Lomandra longifolia*, *Liriope muscari* and *Hardenbergia violacea.*

None of the vegetation present in this area is considered to be remnant, though the majority is native to NSW (if not the Sydney area).

Burwood North Station

The area surrounding the proposed Burwood North station is highly urbanised, fronting onto Parramatta Road. Development in this area is characteristic of early to mid 20th century, with a mixture of commercial and residential land uses. As part of this proposal one planted street tree on Loftus Street (Brush box), five planted street trees (*Callistemon sp*. (x1), *Murraya paniculata* (x3) and Chinese Tallow tree (x1)) on Burton Street and one planted street tree (Water gum) on Burwood Road would be removed to allow for construction vehicle access and egress points for the northern part of the Burwood North Station construction site.

Vegetation in this area is generally dominated by street plantings and residential properties. Common species include Brush box, Water gum, Camphor laurel, Jacaranda and Large-leaved Privet.

None of the vegetation present in this area is considered to be remnant, with only a small portion native to NSW.

Five Dock Station

The proposed Five Dock Station location is within and around the commercial centre of Five Dock. As such this area is generally characterised by low rise commercial development with some shop-top housing. All structures and any vegetation within this site would be removed as part of the preceding approved major civil construction work between Westmead and The Bays.

Canopy vegetation within the proposed station precinct is limited to a small number of mature London Plane trees, Brush box and weeping fig.

None of the vegetation present in this area is considered to be remnant, with only a small portion native to NSW.

No additional vegetation would be affected by this proposal at this location.

The Bays Station

The proposed Bays Station would be developed within largely vacant land adjacent to the White Bay Power Station. Both the proposed construction site and the surrounding area have a long history of industrial and port land use, and as such are heavily disturbed.

Vegetation within this area is a mixture of landscaping vegetation and naturally propagated native and exotic vegetation. This includes Casuarina glauca, Lantana (*Lantana camara*), Castor Oil Plant (*Ricinus communis*), Date palm (*Phoenix dactylifera*), Wandering jew (*Tradescantia fluminensis*), Fountain grass (*Cenchrus setaceus*), Camphor laurel (*Cinnamomum camphora*), Poplar (*Populus alba*) and Brush box (*Lophostemon confertus*).

There are some small areas of the construction site for this proposal that are not affected by construction activities associated with preceding Sydney Metro West planning applications, or that haven't already been affected by the construction of other projects (such as WestConnex Rozelle Interchange). Structures and vegetation within the construction footprint for the preceding approved major civil construction work between Westmead and The Bays and the preceding proposed major civil construction work between The Bays and Sydney CBD would be removed as part of those activities, prior to the commencement of work associated with this proposal. About 0.5 ha of additional common native and exotic vegetation would be affected as a result of this proposal. This is predominately comprised of the exotic species outlined above.

None of the vegetation present in this area is considered to be remnant, with only a small portion native to NSW.

Pyrmont Station

The location of the proposed Pyrmont Station is heavily urbanised with medium rise commercial and residential development present throughout the precinct. All structures and any vegetation within this site would be removed as part of construction activities associated with the preceding proposed major civil construction work between The Bays and Sydney CBD, except for two London Plane trees on Edward Street planted as street trees. These trees would be removed as part of this proposal.

Vegetation in this location is limited to street and landscaping plantings. Common species include London Plane Tree, Chinese Elm and Hill's Fig.

None of the vegetation present in this area is considered to be remnant, with only a small portion native to NSW.

Hunter Street (Sydney CBD) Station

The Hunter Street (Sydney CBD) Station precinct has some of the longest history of urbanisation in Australia. The area is dominated by high rise commercial office buildings with ground floor retail. All structures and any vegetation within this site would be removed as part of construction activities

associated with the preceding proposed major civil construction work between The Bays and Sydney CBD.

Vegetation in this area is restricted to planted street trees, in this case being Chinese Elm. None of the vegetation present in this area is considered to be remnant, and none is native to NSW.

No additional vegetation would be affected by this proposal at this location.

4.0 Impacts on biodiversity values

Table 2 below identifies the potential impacts of this proposal on biodiversity values.

Table 2 Impacts of this proposal on biodiversity values

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
Vegetation abundance 1.4(b) BC Regulation	Occurrence and abundance of vegetation at a particular site	N/A	As outlined above, construction activities associated with preceding Sydney Metro West planning applications would remove all existing infrastructure and vegetation within the construction footprints identified in those applications. This would occur prior to the commencement of construction associated with this proposal. There are however additional areas affected by this proposal that are not affected by the preceding Sydney Metro West planning applications. This includes additional footprint at Westmead, Sydney Olympic Park, North Strathfield and The Bays. In addition to the above small areas of additional footprint, some planted street trees would also need to be removed as part of this proposal at Burwood North and Pyrmont. Further detail regarding the vegetation affected at these locations is provided below. Westmead metro station construction site – the additional footprint at this location includes two strips of vegetation north and south of the existing rail corridor to the west of Hawkesbury Road. This vegetation is comprised of a mixture of native and exotic species that have regenerated or been planted after historical disturbance (assumed full historic clearing). This vegetation is broadly typical of rail corridors within the broader Sydney area, being a mix of common native and exotic urban species. On the southern side of the rail corridor the vegetation assemblage is largely native. Dominant species in this area include *Acacia podalyriifolia*, *Kunzea ambigua*, *Lomandra longifolia*, *Westringia fruticosa*, *Acacia parramattensis*, *Lantana camara*, *Bursaria spinosa* and *Dianella cerulea*. Historical photography of this location indicates that some or all of this vegetation has been planted. On the northern side of the rail corridor the vegetation assemblage is dominated solely by weeds, including African olive (*Olea europaea* subsp. *cuspidata*), Large-leaved privet (*Ligustrum lucidum*), Small-leaved privet (*Ligustrum sinense*), Cotoneaster (*Cotoneaster glaucophyllus*), Bougainvillea, Lantana (*Lantana camara*), Sweet briar (*Rosa rubiginosa*) and Bamboo (*Bambusa sp*). Street trees to be removed would include *Eucalyptus sideroxylon* and Callistemon sp. Vegetation is also proposed to be cleared on the eastern side of Hawkesbury Road, to the south of Railway Parade (northern side of the rail corridor). This vegetation is highly disturbed, being dominated by Lantana, Moth vine, Large-leaved privet, Cobbler's pegs, Bougainvillea., *Callistemon* sp., *Lomandra longifolia*, and *Acacia parramattensis*. This area appears to have been largely cleared in around 2008, with all vegetation being regrowth since this time. Three other planted street trees are also proposed to be removed: 1 x *Banksia serrata* beneath the existing station concourse, and 2 x Brush Box on the corner of Railway Parade and Ashley Lane.

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
			The total area of vegetation affected by the additional footprint within and around the Westmead metro station site is 0.36 ha. Sydney Olympic Park metro station construction site - the additional footprint proposed at Sydney Olympic Park is adjacent to Olympic Boulevard and to the west of the construction site for the preceding approved major civil construction work between Westmead and The Bays and includes pedestrian footpaths, a driveway, palisade fencing and landscape planting. Vegetation within this area is dominated by *Corymbia maculata, Eucalyptus sideroxylon, Eucalyptus microcorys, Eucalyptus saligna* and Hoop Pine. Common understorey species include *Westringia fruticosa, Liriope muscari* and *Lomandra longifolia*, all of which are planted. None of the vegetation present in this area is considered to be remnant, though the majority is native to NSW (if not the Sydney area). The total area of vegetation affected by the additional footprint within and around the Sydney Olympic Park metro station site is approximately 0.12 ha. North Strathfield metro station construction site - the additional footprint at this location includes a strip of vegetation within the existing rail corridor to the west and north of the existing station. This vegetation is fully comprised of landscaping plantings. The dominant canopy species are Camphor laurel and Brush Box, with the following species also present as plantings: *Corymbia citriodora*, *Eucalyptus punctata*, *Pittosporum undulatum*, Camphor laurel, Chinese hackberry (*Celtis sinensis*), Brush box, *Casuarina glauca, Acacia dealbata, Acacia podalyriifolia* and *Acacia falcata*. The understorey is dominated by planted shrubs, groundcovers and grasses, particularly *Westringia fruticosa*, *Lomandra longifolia*, *Liriope muscari* and *Hardenbergia violacea.* Vegetation on the existing platform that would require removal includes 2 x *Fraxinus griffithii* and 1 x *Murraya paniculata*, with *Liriope muscari* planted underneath. The total area of vegetation affected by the additional footprint within and around the North Strathfield metro station site is approximately 0.14 ha. The Bays Station construction site - the additional footprint at this location includes a small area of regenerated exotic and native vegetation to the south of White Bay Power Station, as well as a small area to the northeast of the same building.

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
			Vegetation within this area is a mixture of landscaping vegetation and naturally propagated common native and exotic vegetation. This includes *Casuarina glauca*, Lantana (*Lantana camara*), Castor Oil Plant (*Ricinus communis*), Date palm (*Phoenix dactylifera*), Wandering jew (*Tradescantia fluminensis*), Fountain grass (*Cenchrus setaceus*), Camphor laurel (*Cinnamomum camphora*), Poplar (*Populus alba*) and Brush box (*Lophostemon confertus*). Vegetation in this area, including with the footprint of this proposal, has been recently subject to disturbance and partial clearance associated with the construction of the WestConnex Rozelle Interchange. About 0.5 ha of vegetation would be affected as part of the additional footprint area required by this proposal within and around The Bays Station construction site. <u>Other isolated street tree removal</u> In addition to the vegetation removal at the above sites, the following isolated planted street trees would also require removal as part of this proposal: • Burwood North Station construction site: one planted street tree on Loftus Street (Brush box), five planted street trees (*Callistemon sp*. (x1), *Murraya paniculata* (x3) and Chinese Tallow (x1)) on Burton Street and one planted street tree (Water gum) on Burwood Road • Pyrmont Station construction site: two planted London Plane trees on Edward Street.
Vegetation integrity 1.5(2)(a) *Biodiversity Conservation Act 2016* (BC Act)	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state	N/A	The only vegetation that would require removal as part of this proposal are the planted street trees at Burwood North and Pyrmont and those associated with additional footprint areas at Westmead, Sydney Olympic Park, North Strathfield and The Bays. Vegetation within and surrounding these areas is highly modified from its natural state and does not conform to any recognised PCT. None of the vegetation within any of these areas is considered to be remnant, with all of it comprised of planted landscaping species, or recently regenerated common exotic or native species (since historic clearing). The composition and structure of the vegetation at all of these locations retains little similarity with the vegetation and ecological function that would have originally occupied these areas, or the region generally.

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*

Habitat suitability 1.5(2)(b) BC Act	Degree to which the habitat needs of threatened species are present at a particular site	N/A	Planted and exotic vegetation affected by this proposal would provide highly limited habitat value for urban-adapted native and exotic fauna. This is based on the lack of any substantial areas containing more than isolated strips of disturbed vegetation, many of which contain no more than a single layer of intact stratum. While the value of this vegetation within the broader developed urban context is recognised, the compositional diversity and functional structure of this vegetation is poor and its loss would result in no more than a minimal impact on the habitat of threatened species.
			
			As outlined above, the construction impacts associated with this proposal would be minor, with most vegetation clearance occurring as part of the preceding approved and proposed major civil construction work between Westmead and the Sydney CBD. As such the impact during construction of this proposal on the habitat of threatened species would negligible.
			
			This proposal also includes the operation of the metro railway. The presence of threatened species in and around these locations, and their potential to be affected by operational activities is outlined below.
			
			Bionet data indicates the historic presence of the following threatened species within the vicinity of additional footprint areas for this proposal. These species, and the distance to the most recent record is as follows:
			• Westmead Metro Station
			  ○ Grey-headed Flying Fox (*Pteropus poliocephalus*) – 650 m
			• Sydney Olympic Park Metro Station
			  ○ Grey-headed Flying Fox (*Pteropus poliocephalus*) – 200 m
			  ○ Green and Golden Bell Frog (*Litoria aurea*) – 50 m
			• North Strathfield Metro Station
			  ○ Grey-headed Flying Fox (*Pteropus poliocephalus*) – 100 m
			• Burwood North Station
			  ○ Grey-headed Flying Fox (*Pteropus poliocephalus*) – within footprint
			• The Bays Station
			  ○ Grey-headed Flying Fox (*Pteropus poliocephalus*) – 250 m
			  ○ Dusky Woodswallow (*Artamus cyanopterus cyanopterus*), record from 1963 – 250 m
			• Pyrmont Station
			  ○ Grey-headed Flying Fox (*Pteropus poliocephalus*) – 80 m

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
			As can be seen above Grey-headed flying fox records are present at or near all station locations. This species has several camps throughout Sydney, with a moderately sized (but not nationally significant) camp located on Duck River, approximately 750 metres south of the Clyde stabling and maintenance facility. This species is known to forage on a wide variety of common garden plants across Sydney, particularly fruit or nectar bearing plants. Potential impacts associated the operation of this proposal could include the disruption of fauna due to noise, light and human activity, as well as the potential for vehicle strike (both road vehicles and trains). The Clyde stabling and maintenance facility may also result in indirect impacts associated with accidental spills and mobilisation of sediment into adjacent waterways. These impacts are typical of the urban setting within which the proposal would operate and would be suitably managed through the application of appropriate mitigation measures. On this basis significant impacts to threatened fauna are considered highly unlikely. The only other locations with threatened species records within the vicinity of this proposal are the Regent Honeyeater, near Parramatta metro station; Green and Golden Bell Frog, near Olympic Park metro station; and Dusky Woodswallow, near The Bays Station. Of these, the Regent Honeyeater and Dusky Woodswallow records are all from the 1960s and are not considered to be relevant based on the extremely low remaining habitat value at these locations. The records for Green and Golden Bell Frog at Olympic Park are recent and are likely to represent current habitat, albeit within a broader area of the locality given the relative inaccuracy noted in the specific Bionet records (1,000 metre accuracy). The notes accompanying these records indicate that individuals have been found in stormwater pits and vegetation, with others in the landscaping of public urban areas. These notes also suggest that some of the records were over 300m from the proposed station location. The operation of the metro station in this location is likely to result in a marginally greater potential for direct disturbance, however noting that this location is already subject to substantial human activity it is highly unlikely that additional activity associated with the proposal would result in a significant impact upon this species. In addition to the above species, there is the potential that during operation threatened microbats may utilise the station sites and stabling facility for foraging. This could however also be said for most other urbanised areas within the Sydney basin. The general lack of native vegetation in these locations, particularly dense native vegetation likely to support greater populations of insects for foraging, as well as the limited removal of any structure that may provide roosting habitat (limited to the existing concourse at Westmead Station), suggests that any such impact would be extremely limited. As with the Grey-headed flying fox, operational impacts to microbats would be limited to direct disturbance of their activities within the Clyde stabling and maintenance facility as a result of its operation, including lighting and noise impacts. These impacts would be consistent with the current level of disturbance at the site, noting that it is occupied by both industrial development and a motor speedway which operates mostly at night

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
			under lights. On this basis the construction and operation of this proposal would result in a negligible impact on the local viability of any microbat species and hence no significant impact is expected. Aside from the existing aerial concourse at Westmead Station, this proposal does not include the demolition of buildings, with all other demolition occurring as part of the preceding approved and proposed major civil construction work between Westmead and the Sydney CBD. As such the potential for impacts to potential roosting habitat for threatened microbats within building and other structures would be negligible. This proposal would change the nature and density of lighting sources, noise and human activity both during construction and operation. Whilst this has the potential to deter some fauna from these areas, the threatened species most commonly observed across this area, Grey-headed Flying Fox, is highly habituated to the presence of people, light and noise within Sydney. The camp located around 750 metres south of the Clyde stabling and maintenance facility is located immediately adjacent to the Auburn (train) Maintenance Facility, a four storey office building and the active T1 Western rail line. The number of individuals in this camp has not declined since the construction of the adjacent office building in 2017/18, indicating their habituation to human activity, including lighting. Noting that the majority of movements from the roost (over 90%) are in a southern direction, heading upstream along Duck River (author's direct observation) it is highly unlikely that the operation of this facility would result in a significant impact upon this species' ability to forage in the broader area. Combined with landscape planting that would occur at all station precincts, as well as the stabling and maintenance facility, operational impacts associated with this proposal upon threatened fauna are not expected to be significant. Neither the station sites or the stabling and maintenance facility contain any records of any flora listed as threatened in NSW or at the Commonwealth level. The nearest threatened flora records are for *Wilsonia backhousei* at Sydney Olympic Park, with these records dating back to the early 1990s, prior to development of the site as the Olympic precinct. These individuals are not expected to still persist at the site and hence there would be no potential for a significant impact upon this or any other threated flora.
Threatened species abundance 1.4(a) BC Regulation	Occurrence and abundance of threatened species or threatened	N/A	On the basis of their habitat requirements and the nature of the vegetation within the existing sites, this proposal is considered highly unlikely to result in any significant impact upon threatened fauna. Refer to the discussion on the presence of threatened species provided above. The additional footprint areas affected by this proposal do not contain any threatened ecological communities (TECs). It is noted that poor condition *Cumberland Plain Woodland in the Sydney Basin Bioregion* was noted in the BDAR for the preceding approved major civil construction work between Westmead and The Bays as occurring on

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
	ecological communities, or their habitat, at a particular site		the eastern side of Hawkesbury Road at Westmead Station, albeit in poor condition. Field inspection undertaken for this proposal did not record this TEC on either the northern or southern sides of the rail corridor to the west of Hawkesbury Road. No other TECs were recorded within any other additional footprint areas associated with this proposal. As such there would be no significant impact upon any nearby TECs, directly or indirectly. Sedimentation arising from the limited earthworks and other construction activities within construction sites would be strictly managed in accordance with the conditions of approval, as well as through the implementation of the proposed erosion and sediment control plan. Detailed stormwater management and erosion control plans would be included as part of this proposal's construction environment management plan (CEMP). During operation, water quality management systems such as gross pollutant traps and other water quality devices would be implemented and maintained to reduce the potential for off-site impacts to any threatened species, threatened ecological communities or nearby aquatic systems or waterways more generally. This would include management of the quantity and quality of water discharged from operational tunnels into local waterways at the Clyde stabling and maintenance facility. Sydney Metro is also proposing measures to enhance the ecological health of the A'becketts Creek and Duck Creek riparian corridors as part of this proposal, which would result in a clear beneficial ecological impact to this currently degraded urban waterway. These measures are being undertaken in part to satisfy Conditions of Approval associated with the preceding approved major civil construction work between Westmead and The Bays (specifically C-B2(c) and C-B10). In implementing these measures Sydney Metro would meet, if not exceed the minimum standard required by the conditions in terms of ecological benefit.
Habitat connectivity 1.4(c) BC Regulation	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the	N/A	The proposal is located in areas dominated by existing residential, commercial and/or industrial development. Almost all of the sites provide no substantial habitat value and as such also present a low potential for connectivity to other habitats. The one exception is the Clyde stabling and maintenance facility, which is located next to A'Becketts Creek and Duck Creek. Impacts to the connectivity of this location arising from the site preparation works were assessed within the BDAR developed for the preceding approved major civil construction work between Westmead and The Bays. The construction and operation impacts associated with this proposal would not result in any additional impacts or changes to connectivity along these waterways.

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
	movement of those species across their range		With respect to the additional footprint areas required for the development of this proposal, it is noted that all areas contain small amounts of landscaping or street vegetation. These areas do not however form part of any recognisable movement corridor for threatened or non-threatened species, being isolated from other nearby areas of vegetation and subject to regular and ongoing maintenance and disturbance from surrounding urban activity. Whilst landscaping vegetation is known to provide ad hoc connectivity and/or foraging opportunities for some urban adapted mobile species such as Grey-headed Flying-fox, the highly urbanised nature of the sites that form this proposal means that they are highly unlikely to play any key role in the connectivity (genetic or otherwise) of threatened species populations in the broader region. As such the removal of landscaping vegetation at these sites is unlikely to result in any significant impact upon movement of threatened fauna at a local or regional landscape level, either during construction or operation.
Threatened species movement 1.4(d) BC Regulation	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	N/A	As outlined above, the none of the additional footprint areas are considered important to the connectivity (genetic or otherwise) of any threatened species populations. The development would not place any threatened local flora or fauna populations at risk of extinction, either directly or through the discouragement of movement. During operation, the provision of landscaping as part of station precinct development, generally at a higher density than what is currently present, would act to improve the potential for movement of threatened species. This includes a proposal to enhance the ecological health of the A'becketts Creek and Duck Creek riparian corridors as part of this proposal, which would result in a clear beneficial ecological impact to this currently degraded urban waterway. These measures would be undertaken in part to satisfy Conditions of Approval associated with the preceding approved major civil construction work between Westmead and The Bays (specifically C-B2(c) and C-B10). In implementing these conditions Sydney Metro would meet, if not exceed, the minimum standard required by the conditions in terms of ecological benefit.
Flight path integrity 1.4(e) BC Regulation	Degree to which the flight paths of protected animals over a particular site are free from interference	N/A	This proposal would be developed at existing ground level (for station services infrastructure, the level commensurate with surrounding development) and would not result in any obstruction to overflight patterns of threatened or other protected species.

Biodiversity value	Meaning	Relevant (Yes or NA)	Explain and document potential impacts including additional impacts prescribed under the *Biodiversity Conservation Regulation 2017* (BC Regulation)*
Water sustainability 1.4(f) BC Regulation	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	N/A	The direct impact of this proposal on waterways would be limited to development around A'becketts Creek and Duck Creek at Clyde. The main adverse impacts to these waterways has been assessed and approved as part of the preceding approved major civil construction work between Westmead and The Bays. The BDAR prepared for the preceding approved major civil construction work between Westmead and The Bays indicated that these waterways were deemed not to contain threatened species habitat. Construction associated with this proposal around these waterways would include strict measures to manage off site impacts in terms of water quality and quantity. Detailed stormwater management and erosion control plans would be included as part of the construction environment management plan (CEMP) that would be developed prior to construction commencement. In addition to this, at the Clyde stabling and maintenance facility site, Sydney Metro propose actions to directly enhance these urban waterway corridors through the removal of weeds, revegetation and other interventions to improve the quality of the riparian habitat. These measures would be undertaken in part to satisfy Conditions of Approval associated with the preceding approved major civil construction work between Westmead and The Bays (specifically C-B2(c) and C-B10). This would directly benefit the existing mangrove population in these waterways, which would be expanded, where feasible. During operation, water quality management systems such as gross pollutant traps and other water quality devices would be implemented and maintained to reduce the potential for water quality impacts to any threatened ecological communities or nearby aquatic systems or waterways generally. Whilst this proposal would include the discharge of water from the operational tunnel into the local waterways at the Clyde stabling and maintenance facility it is not expected that this discharge would be of such a volume that it would alter hydrological regimes in the area (including the water level or velocity of A'becketts Creek and Duck Creek) such that any habitat for threatened species or ecological communities upstream or downstream would be placed at risk. Similarly, treatment of water discharged during operation would not substantially alter the nature of the existing water quality in these waterways.