Transport
for NSW

M1 Western Distributor Smart Motorway

Review of Environmental Factors Consistency Review No.2

February 2024

NSW GOVERNMENT

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Acknowledgement of Country

Transport for NSW acknowledges the traditional custodians of the land on which we work and live.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.

Prepared by Seymour Whyte Constructions and Transport for NSW.

Document controls

Approval and authorisation

Title	Western Distributor Smart Motorway review of environmental factors consistency review
Accepted on behalf of Transport for NSW by:	
Signed:	
Dated:	15/2/24

Document status

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1. Introduction

1.1 The determined project

Transport for NSW (TfNSW) completed a review of environmental factors (REF) of the Western Distributor Smart Motorway (WDSM) project (the Project) in May 2021. The REF described the project, assessed the potential environmental and social impacts associated with the construction and operation of the project and identified safeguards and management measures to avoid, mitigate or manage those potential impacts.

After consideration of the REF, TfNSW made the decision to proceed with the project on 27 May 2021. The REF was not placed on public display.

Subsequent addendum REFs and a Consistency Assessment for the Western Distributor Smart Motorway project were prepared and a decision to proceed with the project was made on each:

- Addendum Review of Environmental Factors No. 1, December 2022 for two construction work compounds on TfNSW owned land at White Bay.
- Addendum Review of Environmental Factors (REF) No. 2, April 2023 for changes to the project scope and extent.
- Addendum Review of Environmental Factors No. 3, February 2023 for a work compound on TfNSW owned land at Colebee NSW.
- Addendum Review of Environmental Factors No. 4, June 2023 for a staff parking compound on TfNSW owned land at Pyrmont.
- Consistency Assessment No.01, September 2023 for the relocation of Gantry #12.
- Addendum Review of Environmental Factors No. 5, October 2023 for modifications to proposed works, including:
  - The removal of one (1) additional semi-mature tree (Ficus micropara var hilllii) (Tree ID #70) from TfNSW land
  - The modification of the existing WDSM Project boundary to facilitate required point of supply (POS) connections for Roadside Cabinets (RSC) #17, #18 and #19
  - Modification of the approved WDSM Project with the redesign of RSC #30. Trenching, cable tray installation works, and positioning of the communications cabinet
- Addendum Review of Environmental Factors No. 6, December 2023 for the removal of one (1) additional semi-mature tree and the relocation of RSC #16.

Under the EPBC Act strategic assessment approval a referral is not required for proposed road actions that may affect nationally listed threatened species, populations, endangered ecological communities, and migratory species. Impacts on these matters are assessed in detail as part of this addendum REF in line with Australian Government significant impact criteria and considering relevant guidelines and policies. No Species Impact Statement has been prepared for the project.

1.2 Purpose

This consistency review is prepared when there is a proposed modification to a determined REF. It helps to ensure that any proposed modifications are undertaken in accordance with the statutory requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The purpose of this consistency review is to:

- Describe the determined project and the proposed modification.
- Review the potential environmental impacts of the proposed modification against the environmental impacts of the determined project.
- Decide whether or not the proposed modification is consistent with the determined project in accordance with the EP&A Act and the EPBC Act requirements.
- Based on the decision of whether or not the proposed modification is consistent with the determined project, identify any further environmental impact assessment or environmental management requirements applicable to the proposed modification.

2. The proposed modification

2.1 The proposed modification

There are two (2) modifications proposed to the works of the M1 Western Distributor Smart Motorway (WDSM) Project that are under assessment.

1. TfNSW proposed to modify the WDSM Project scope of works by changing the position of RSC#25 to eliminate the requirement to acquire an easement over private property at 12-20 Shelley Street, Sydney. The changed works of this proposal includes:
    - Installation of RSC#25 with associated electrical and communications pits and underground conduits on the northern footpath of Erskine Street adjacent to the intersection with Sussex Street, Sydney.
    - Restoring the disturbed footpath and make-good of existing footpath. Refer to Appendix A for the original design of RSC#25, as assessed by the determined Project REF. Refer to Appendix B and Appendix C for the proposed relocation/modification of RSC#25. Refer to Appendix D for the proposed methodology for construction of RSC#25 and foundation (trenching) works associated required for point of supply connections.
2. TfNSW proposed to modify the existing WDSM Project Boundary to facilitate required point of supply (POS) connections for RSC#25 as follows:
    - Approximately 600m2 of land to the east of the Western Distributor adjacent to the intersection of Erskine Street and Sussex Street, Sydney is proposed to be added to the approved project area. Refer to Appendix E for illustration of the proposed modification.

2.2 Need for the proposed modification

Relocation of Roadside Cabinet 25 (RSC#25)

Detailed site investigations for the construction of RSC#25 were not able to be carried out until after the project review of environmental factors (REF) was determined and before detailed design was completed. The design of RSC#25 was based on preliminary desktop assessments, which omitted consideration of property ownership and easement requirements.

A decision was made to identify an alternative location for RSC#25 once it was discovered that the concept design location was on private property. To reassess requirements to integrate the proposed Smart Motorway asset to utilize existing electrical and communications infrastructure provided by Ausgrid.

WDSM Project Boundary Modification

The modification to the WDSM project boundary is required to connect the electrical and communications supply requirements to the nearest available point of supply for RSC#25. This requirement has been advised by Ausgrid, the local electricity distributor. The adjusted project boundary will suitably reflect the WDSM total scope of works.

2.3 Consultation / Stakeholder Engagement

Stakeholders identified include Ausgrid, and the proprietors of 12-20 Shelley Street, Sydney. No consultation regarding the proposed modification has been proposed nor considered to be required. The decision to relocate RSC#25 has been made to avoid land acquisition. Additionally, the decision to relocate considers the requirements of Ausgrid regarding access and integration with existing electrical assets in the area.

3. Consistency review

3.1 Potential environmental impacts

Table 3-1: Comparison of environmental impacts

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project [i.e., additional positive, negative and/or neutral impacts]
Geology and soils	Trenching works associated with the construction of RSC#25 are occurring in an area of Disturbed Terrain. Although classified as Class 1 area for Acid Sulfate Soils the risks are considered manageable as assessed within the determined WDSM Project REF (see Appendix F or Table 6-26 – WDSM REF May-2021). This potential environmental risk has been assessed as manageable for the purposes of the proposed modification and is consistent with the determined REF.
Land surface	No variation of impact from construction or operation
Hydrology/Hydrological issues	No variation of impact from construction or operation
Biodiversity	A potential impact on one (1) additional street tree has been identified. Trenching works associated with the construction of RSC#25 will be required within and/or adjacent to the tree protection zone (TPZ) of one (1) mature Hills Weeping Fig (Microcarpa var hilllii) located at Erskine Street, Sydney. The specimen is exotic and has been assessed as desirable in respect to amenity. The tree, as assessed by the WDSM Project arborist (see Appendix G) has been identified as Tree ID#71 and has subsequently been included in the project tree register (see Appendix H). Tree ID#71 has been valued for retention and will be protected for the duration of work associated with the construction of RSC#25. Establishment of tree protection zones and construction tree protection measures consistent with AS4970-2009 Protection of Trees on Development Sites will be implemented for all trees within or immediately adjacent to the construction footprint. Temporary protective barriers around Tree ID#71 should be erected prior to machinery and materials being brought to site. Once erected, protective fencing should not be removed or altered without approval by the Project Arborist. Signs identifying the TPZ should be placed on protective fencing and be visible from within the development site. For manual excavations of trenches within or adjacent to the TPZ the project arborist should advise on roots to be retained and should monitor the works. Safeguards have been proposed within the determined REF and its addenda to maximise protection of street trees during foundation (trenching) works and placement of underground conduits. For the purposes of this assessment, the proposed modification remains consistent with the determined safeguards and the WDSM Project REF and its addenda.
Traffic, transportation	No variation of impact from construction or operation
Water transport	No variation of impact from construction or operation

Land use and property	The proposed relocation of RSC#25 will negate the need for the acquisition of an easement over private property. The modification may also have a lesser impact on the commercial space operated at the address of 12-20 Shelley Street for the duration of works. During operation, the proposal is not anticipated to have any long-term negative cumulative impacts. The subject land for RSC#25 relocation at Erskine Street (ground-level), Sydney has been designated as a public road and has been identified as a suitable alternative. The need for property acquisition was not identified within the determined Project REF or its addenda, and in eliminating the requirement the proposed modification remains consistent with the previous assessment.
Noise and vibration	No variation of impact from construction or operation
Aboriginal cultural heritage	No variation of impact from construction or operation
Non-Aboriginal heritage	No variation of impact from construction or operation
Landscape character and visual impacts	No variation of impact from construction or operation. Proper project methodology will prevent any loss or damage of street trees would have an impact on the streetscape and visual amenity at these locations. Appropriate safeguards have been proposed to address potential impacts on street trees. The safeguards have been proposed to ensure protection of street trees during foundation works and placement of underground conduits. See *Biodiversity* for safeguards.
Water quality	No variation of impact from construction or operation
Air quality	No variation of impact from construction or operation
Socio-economic issues	No variation of impact from construction or operation
Climate change	No variation of impact from construction or operation
Waste and resource management	No variation of impact from construction or operation
Hazard and risk	No variation of impact from construction or operation
Cumulative impacts	No variation of impact from construction or operation

3.2 EPBC Act factors

Under the environmental assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999*, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered for the proposed modification.

Table 3-2: Comparison of EPBC Act factors

Factor	Consideration of the relative impact of the proposed modification compared to the determined project and if applicable any change to the EPBC strategic assessment or other EPBC approval [i.e. any change including additional positive, negative and/or neutral impacts]
Any impact on a World Heritage property?	No impact.
Any impact on a National Heritage place?	No impact.
Any impact on a wetland of international importance?	No impact.
Any impact on a listed threatened species or communities?	No impact.
Any impacts on listed migratory species?	No impact.
Any impact on a Commonwealth marine area?	No impact.
Does the proposed modification involve a nuclear action (including uranium mining)?	No.
Additionally, any impact (direct or indirect) on Commonwealth land?	No impact.

3.3 Licences, permits and approvals

No additional licenses, permits or approvals are required.

3.4 Consistency review

Table 3-3 below presents a set of questions to assist in identifying whether the proposed modification is consistent with the determined project, or if further environmental impact assessment is required. These questions are addressed with consideration to the information above.

Table 3-3: Consistency review questions

Consistency questions		Discussion	Response
1	Is the proposed modification to be carried out as part of a project which has a determined REF? *If answered No, this consistency review does not apply to your proposed works. Seek advice from your Environmental Manager.*	TfNSW completed a review of environmental factors (REF) for the Western Distributor Smart Motorway project in May 2021.	Yes

Consistency questions		Discussion	Response
		Subsequent to this REF approval, one (1) Consistency Assessment and six (6) addendum REFs have been approved.	
2	Is the proposed modification so different in scope and impacts to the determined REF as to be a radical transformation and so, in reality, an entirely new project? *If answered Yes, a separate environmental impact assessment is required. This may take the form of a new REF, an environmental impact statement or a development application as advised by the TfNSW Senior Manager Environment and Sustainability.* *If answered No, proceed to the next question*.	No. The proposed modification is a minor physical relocation of RSC#25 from the position shown in the approved WDSM project design. The relocation will have no further environmental or other impact in comparison to the approved Project design.	No
3	If the project is subject to the EPBC strategic assessment or other EPBC Act approval, would the proposed modification change the potential impacts on matters of national environmental significance or the environment of Commonwealth land? *If answered Yes, advice is to be sought from the TfNSW Senior Manager Environment and Sustainability and the Senior Specialist (Biodiversity) on how to proceed.* *If answered No, proceed to the next question.*	The project is not subject to the EPBC strategic assessment or other EPBC Act approval.	No
4	If the project is subject to a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR), would the proposed modification change the potential impacts on areas of outstanding biodiversity value, threatened species or ecological communities and their habitats as set out in the SIS or BDAR and its Conditions? *If answered Yes, advice is to be sought from the TfNSW Senior Manager Environment and Sustainability and the Senior Specialist (Biodiversity) on how to proceed.* *If answered No, proceed to the next question.*	The project is not subject to an SIS or BDAR.	No
5	Would the proposed modification result in a reduction of the overall environmental impacts of the determined project including that it would not be likely to trigger the EPBC Act strategic assessment, other EPBC approval, SIS or BDAR? *If answered Yes, the proposed modification is consistent with the determined project. This consistency review is to be completed and endorsed. Any actions identified by the TfNSW Senior Manager Environment and Sustainability are to be implemented.* *If answered No, further environmental impact assessment is required and will need to be documented. This may take the form of an Addendum REF (Resource 18 or 19) as advised by the TfNSW Senior Manager Environment and Sustainability.*	The proposed modification and its associated environmental impacts are consistent with that of the determined WDSM Project.	Yes
6	Whatever the outcome of the consistency review, are modifications to any other authorisations, or new authorisations, required, e.g., environment protection	N/A	

Consistency questions	Discussion	Response
licences, *Heritage Act* permits, permits under the *Fisheries Management Act* etc.? *If answered Yes, provide details as to which authorisations would require modification or would now be required and the associated implications.*		

4. Conclusion

The consistency review has considered the proposed modification in terms of consistency against the determined project M1 Western Distributor Smart Motorway.

As set out in Table 3-3 above, the proposed modification is considered to be consistent with the determined project. In addition, the project would not result in any change to the potential impacts identified and assessed in accordance with the existing determined Review of Environmental Factors (REF) and would not result in additional impacts that would likely trigger EPBC approvals.

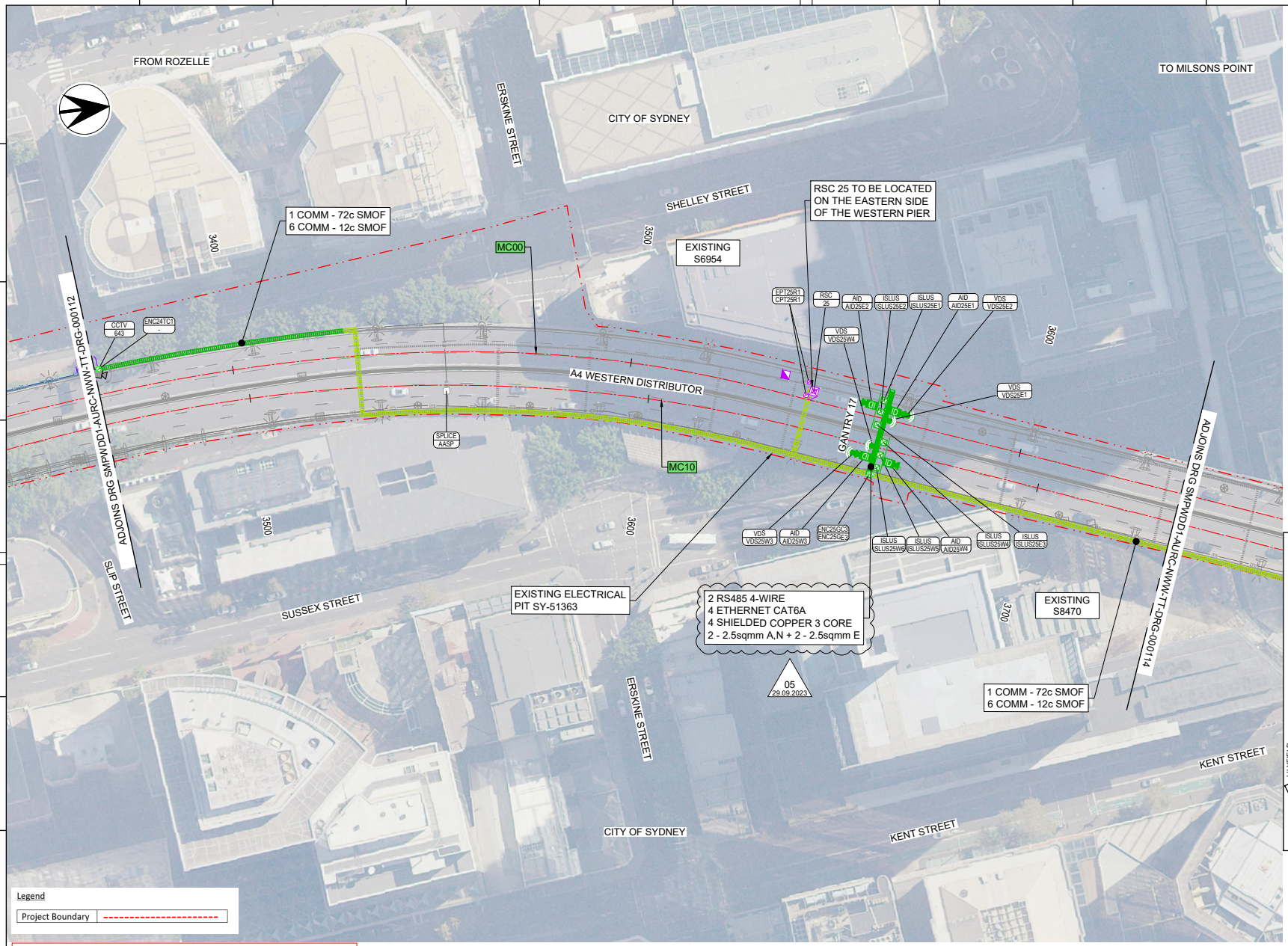
5.2.1 Endorsement

I have examined consistency of the proposed modification with the determined Western Distributor Smart Motorway. In accordance with section 5.4(a) of the EP&A Act, I endorse the findings of this consistency review.

Signed	
Name	Joseph Fanous
Position	Transport for NSW Senior Manager Environment and Sustainability (Assets and Operations)
Date	16-2-2024

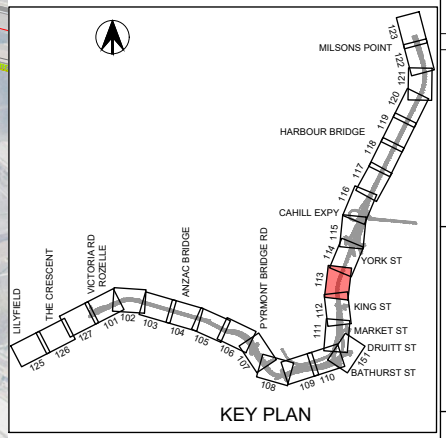
Appendix A

Initial Design of RSC 25, Located Within Private Property of 12-20 Shelley Street, Sydney



NOTES

1. FOR GENERAL LEGEND AND NOTES REFER TO DRG SMPWDD1-AURC-NWW-TT-DRG-000005 & 000006.
2. ELECTRICAL CONNECTIONS IN PIER 3 AND 4 TO BE PROVIDED FROM THE EXISTING ANZAC BRIDGE TDBs.
3. NEW CABLE TRAYS TO BE INSTALLED IN ANZAC BRIDGE PIERS 3 AND 4 FOR CONNECTION FROM THE EXISTING CABLE TRAYS TO RSCs. THE RSCs ARE LOCATED WITHIN THE TIE-IN SECTION BELOW THE DECK AND BETWEEN THE PYLONS.
4. CABLE TRAYS TO BE PROVIDED IN THE TIE-IN BETWEEN THE PYLONS FOR THE ITS CABLES AND CONNECTION TO THE ITS DEVICES ON THE SOUTHERN SIDE OF ANZAC BRIDGE.
5. ITS PITS / ENCLOSURES SHALL BE PROVIDED FOR TRANSITIONS, INCLUDING CHANGE IN DIRECTION AND CONNECTIONS TO ITS GANTRIES AND POLES. CABLE TRANSITIONS SHALL BE SUITABLE FOR THE BENDING RADIUS OF RELEVANT CABLES.
6. THE POWER SUPPLY FOR THE TOP HAT CABINET SHALL BE DRAWN FROM THE EXISTING SPARE OR PROPOSED CIRCUIT BREAKER IN THE TCS CABINET. TfNSW ASSET STEWARD WILL CONDUCT ELECTRICAL CONNECTION WORKS INSIDE THE TCS CABINET.
7. ACCESS TO THE TfNSW COMMUNICATION NODES WILL BE FACILITATED BY TfNSW ASSET STEWARDS.
8. ITS CABLE ACCESS TO THE WESTCONNEX (WCX) COMMUNICATIONS BUILDING / MOTORWAY OPERATIONS CENTRE (MOC2) IS THROUGH THE WESTCONNEX PITS AND CONDUITS.
9. REFER TO SMPWDD1-AURC-NWW-TT-SKE-000046 FOR SPEED LIMIT SIGN AND ASSOCIATED PAVEMENT MARKING IN CCT.
   REFER TO SMPWDD1-AURC-NWW-TT-SKE-000047 FOR GANTRY 20 ELEVATION.
   REFER TO SMPWDD1-AURC-NWW-TT-SKE-000048 FOR VARIABLE SPEED LIMIT ZONE SIGN ARRANGEMENT.



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APPROVED	S. YATES	29.09.2023

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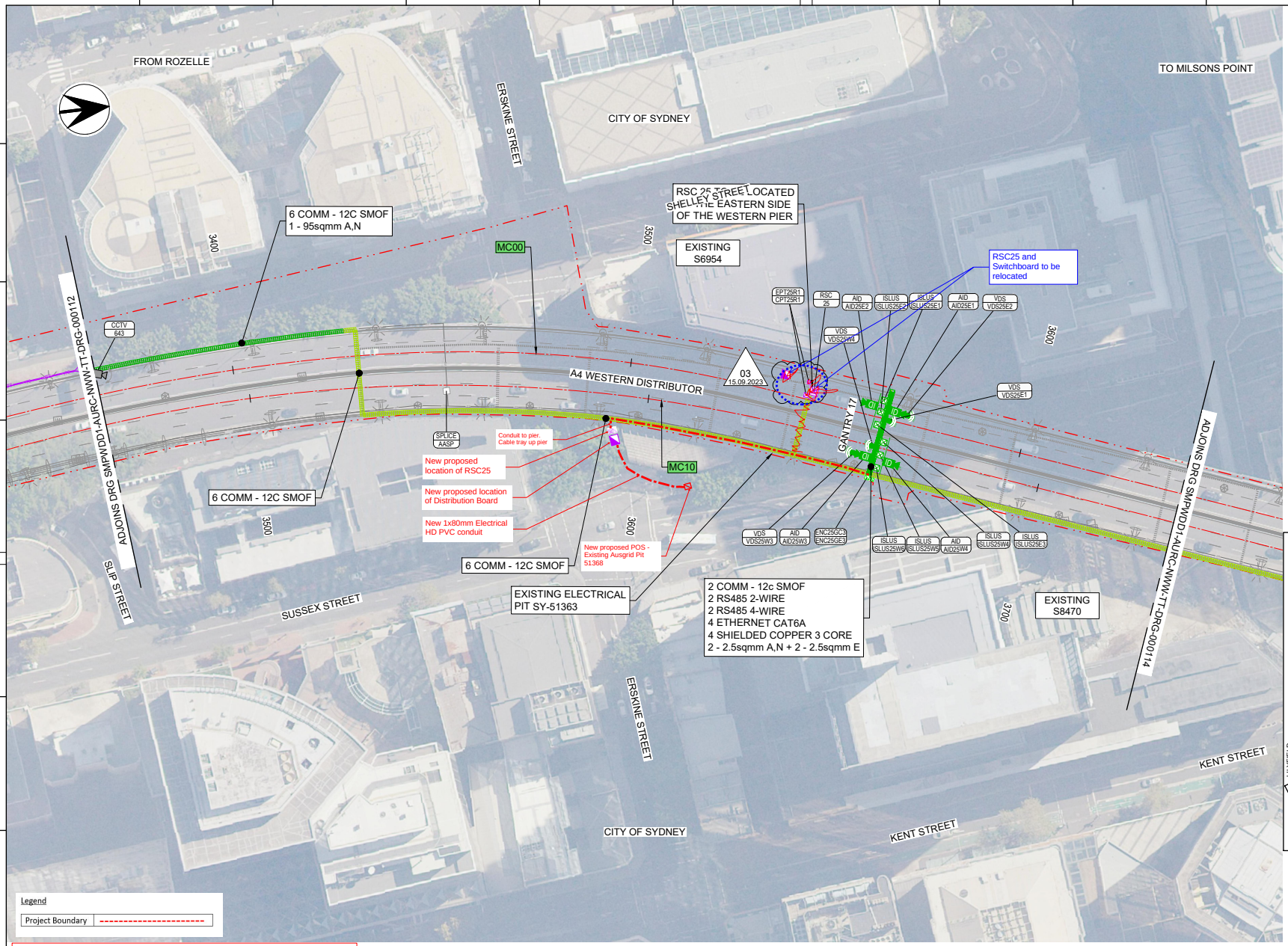
Appendix B

Amended Design of RSC 25, Relocated to the corner of Erskine Street and Sussex Street, Sydney



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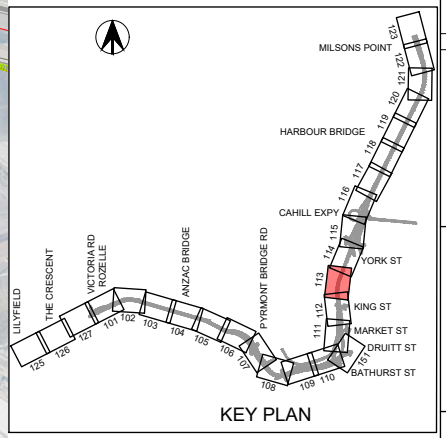

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00	DESIGN - AFC (APPROVED FOR CONSTRUCTION)	SN 05/04/2023	MH 05/04/2023	SY 05/04/2023
E	DETAILED DESIGN - 100%	SN 23/02/2023	AB 23/02/2023	SY 23/02/2023
D	DETAILED DESIGN - 80%	SN 7/11/2022	AB 7/11/2022	SY 7/11/2022
D	DETAILED DESIGN - 50%	SN 19/08/2022	AB 19/08/2022	SY 19/08/2022

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Appendix C

Amended Markup Design of RSC 25, Relocated to the corner of Erskine Street and Sussex Street, Sydney

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	COORDINATE SYSTEM: MGA_ZONE_56/GDA94		HEIGHT DATUM: AHD71		DESIGN LOT CODE:

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INNER WEST, CITY OF SYDNEY, NORTH SYDNEY COUNCIL
MR165, MR592, MR632, MR650, M4651, 6007
ROZELLE TO MILSONS POINT
WESTERN DISTRIBUTOR SMART MOTORWAY
INTELLIGENT TRANSPORT SYSTEMS
RSC 25 LOCATION

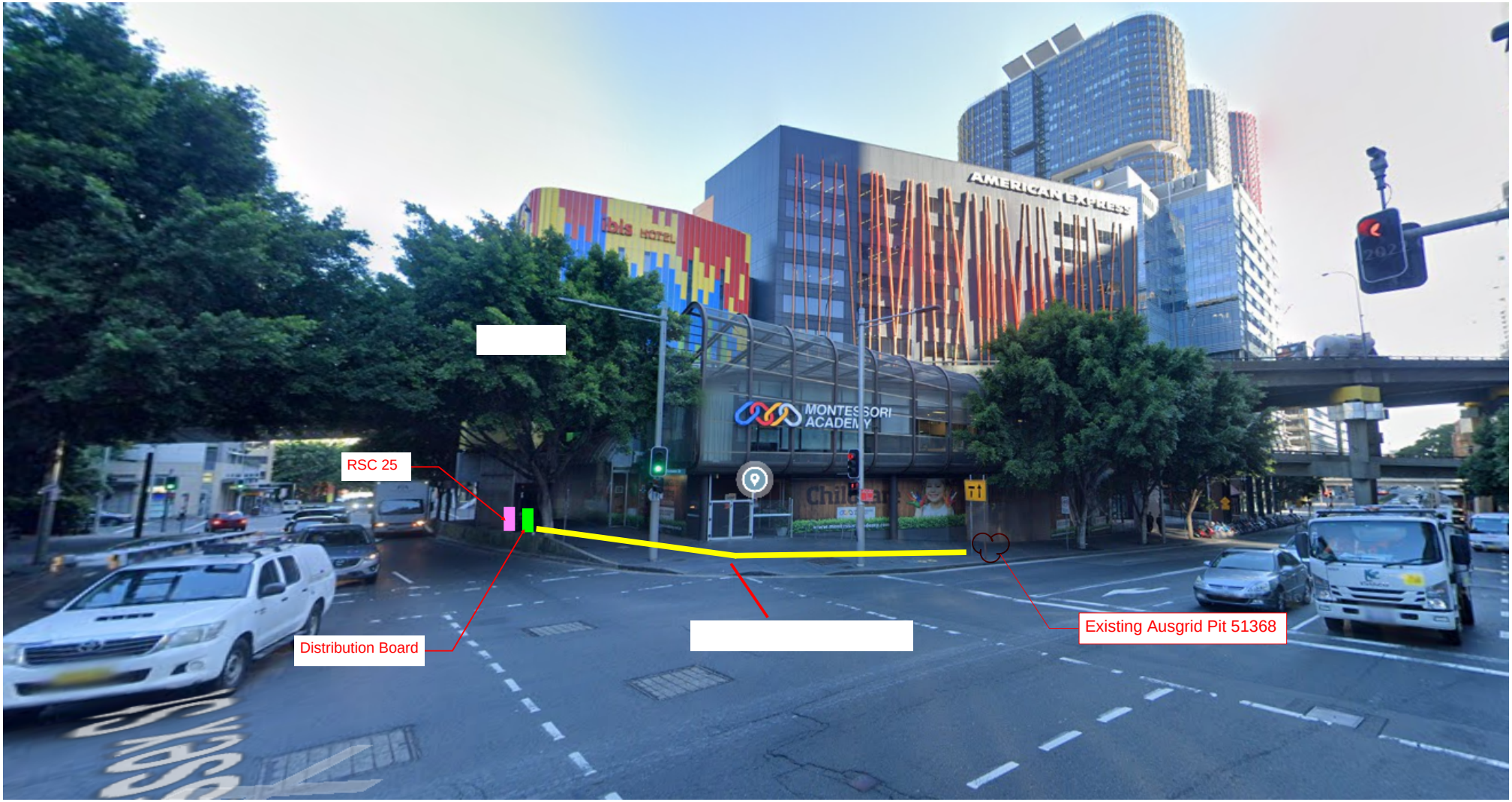
DRAWING SET No: DS2022/000666	PART:	SHEET: 07 OF 18	A1
STATUS: FOR INFORMATION	BRIDGE No:		©
DRG No. SMPWDD1-AURC-NWW-TT-SKE-000266	REV A01	VER 02	EDMS No.	AMD No.

FILE NAME: SMPWDD1-AURC-NWW-TT-SKE-000266.dwg

PLOT DATE & TIME: 15/11/2023 9:38:18 AM

Appendix D

Proposed Route for Foundation Works Associated with RSC 25



Legend

RSC #25	
Distribution Board	
Proposed Trenching / Foundation Works Alignment	

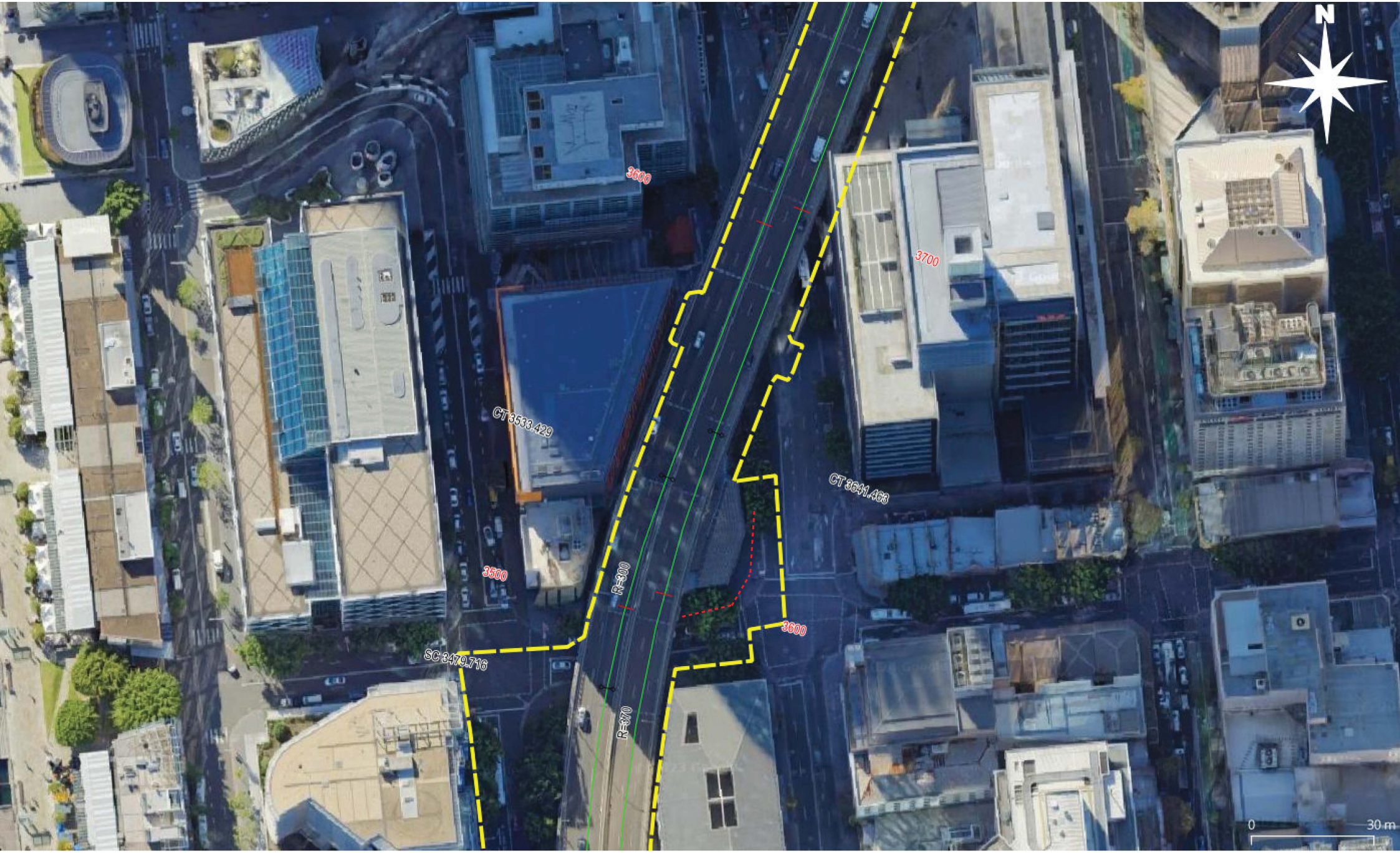
Appendix E

Adjusted WDSM Project Boundary

Original Project Boundary as Assessed in Determined WDSM Project REF

Legend

Project Boundary	- - - - - - - - - -



Proposed Modification to WDSM Project Boundary

Legend

Project Boundary	
Trenching / Foundation Works Alignment	

Appendix F

WDSM REF Assessment of Soils and Water

6.5 Other impacts

6.5.1 Existing environment and potential impacts

Table 6-26: Existing environment and potential impacts – other issues

Environmental factor	Existing environment	Potential impacts
Soils and water	The soil landscape broadly replicates the underlying geology whereby three soil landscapes underlie the proposal footprint. Most of the proposal corridor is underlain by Gymea soil, comprising moderately deep yellow earthy sands and shallow silicon-based sands. The exceptions include: • Disturbed Terrain. A soil type created by manmade fill of waste materials capped with a sandy loam or compacted clay over fill. • Deep Creek. A fluvial soil landscape, comprising deep podzolic soils on well-drained terraces. The foreshore areas of Blackwattle Bay and Darling Harbour are identified as disturbed terrain. Assessment of environmental risk in areas of disturbed terrain requires soil investigation based on the nature of the existing land disturbance and elevation of the site.	There is the potential soil disturbance associated with excavation of sign footings (where required), however quantities of spoil generated would be small. Potential impacts on surface water and hydrology during construction of the proposal would include: • Release of sediment to waterways and drainage lines during earthworks • Temporary changes to onsite drainage • Localised inundation of work sites during high rainfall events • Pollution as a result of fuel or oil spills. Given the minor nature of ground disturbance proposed, it is considered that the potential for the release of sediments off site is minimal provided the implementation of appropriate controls. Risk associated with potential acid sulfate soils in areas of disturbed terrain are considered manageable.
Contamination	The proposal corridor traverses over or within 30 metres of several significant waterbodies including Sydney Harbour, Cockle Bay and Blackwattle Bay. The search of the NSW Environment Protection Authority contaminated land record identified two sites within one kilometre of the proposal corridor: • Decommissioned Pyrmont Power Station at Pyrmont Road • Former AGL Gasworks, Hickson Road, Millers Point	The preliminary site investigation suggests that encountering extensive contamination within the proposal footprint is unlikely. Interaction with known contaminated sites is not expected. Construction activities such excavation could pose potential health risks and impacts to construction workers, nearby residents and the surrounding environment due to: • Direct contact with or ingestion of impacted surface or near surface soils by construction workers during the

Appendix G

Arborist Impact Assessment of Tree ID#71

Location Description

T71 cnr Erskine St and Sussex Street

Genus

Ficus

Species

microcarpa hillii

Common Name

Hills Weeping Fig

Maturity

Mature

Height (m)

13.70

Spread (m)

17.00

Diameter Breast Height (cm)

48.00

Diameter Above Buttress (cm)

50.00

Distance from Construction (m)

-

Percentage of Encroachment

-

TPZ (m)

5.76

SRZ (m)

2.47

Current Health

Good

Current Structure

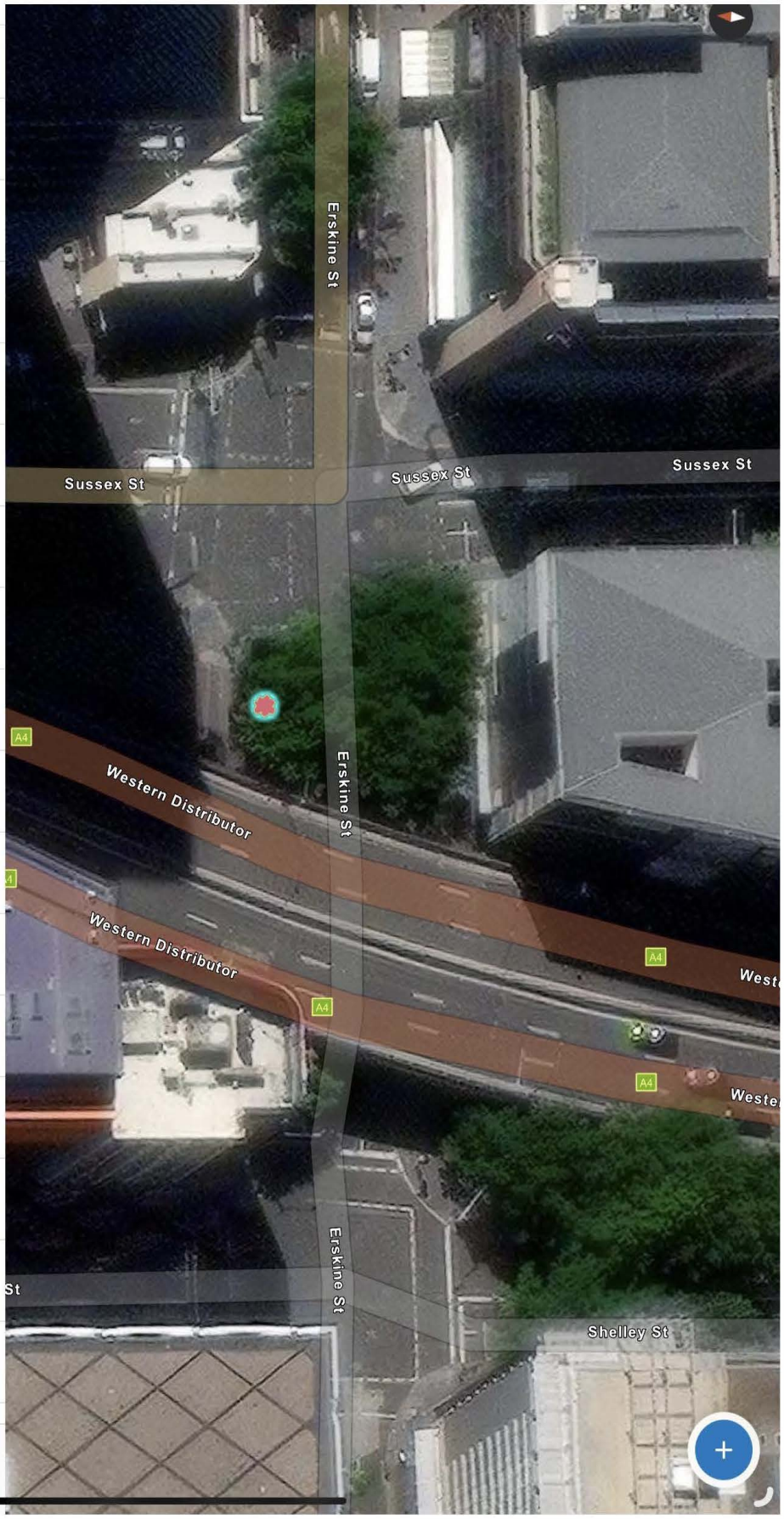
Good

Tree Form

Good

Amenity Value

High



Legend

Tree ID#71	

Appendix H

WDSM Project Tree Register

Western Distributor Smart Motorway Tree Data Tree Protection Detail Rev 05 16/01/24

Tree No.	Genus	Species	Common Name	Tree Significance	Height (m)	Spread (m)	Diameter Breast Height (cm)	Diameter Above Buttress (cm)	TPZ	SRZ	TPZ m2	SRZ Encroachment (Y/N)	% Encroachment	Health	Structure	Amenity Value	ULE	Retention Value	Origin	Maturity	Defects	Works Description	Retention Comments
1	*Livistona*	*australis*	Cabbage Palm	Desirable	6	3	36	47	4.30	2.40	59	N	0%	Good	Good	High	25-50	High	Sydney	Mature	NII	To be Removed	Remove within footprint of works
2	*Livistona*	*australis*	Cabbage Palm	Desirable	6.8	4	42	47	5.00	2.40	79	Y	15%	Good	Good	High	25-50	High	Sydney	Mature	Nil	To be Removed	Remove within footprint of works
3	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	13.4	17	78	77	9.40	3.00	275	N	5%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~0.5m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
4	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	13	21	92	124	11.80	3.70	383	N	7%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
5	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	16	13	101	77	12.10	3.00	462	N	5%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
6	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	14	19	88	92	10.60	3.20	350	N	8%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
6A	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	14.80	19	88	92	10.60	3.20	350	N	5%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
6B	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	10.80	19	58	62	10.60	3.20	152	N	5%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
7	*Livistona*	*australis*	Cabbage Palm	Desirable	2	2	25	27	3.00	2.00	28	Y	46%	Good	Good	High	15-25	Moderate	Sydney	Young	NII	Trench (~1.5m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
8	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	16	19	82	81	9.80	3.00	304	N	6%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1.5m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
8A	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	13.00	15	66	64	7.90	2.70	197	N	5%	Good	Good	High	25-50	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1.5m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
9	*Livistona*	*australis*	Cabbage Palm	Desirable	2	2	15	17	2.00	1.60	13	N	0%	Good	Good	Moderate	25-50	High	Sydney	Young	NII	None	Unaffected
10	*Livistona*	*australis*	Cabbage Palm	Desirable	2	2	15	17	2.00	1.60	13	N	0%	Good	Good	Moderate	25-50	High	Sydney	Young	NII	None	Unaffected
11	*Butia*	*capitata*	Brazilian Jelly Palm	Desirable	3	4	30	32	3.60	2.10	5	N	0%	Fair	Fair	Moderate	25-50	Moderate	Exotic	Young	Nil	None	Unaffected
12	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	18.4	12	75	96	9.00	3.30	255	N	2%	Fair	Fair	Moderate	25-50	Moderate	Sydney	Mature	Deadwood	Trench (~0.5m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
13	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	7	3	18	20	2.20	1.70	15	N	0%	Fair	Fair	Moderate	5-15	Moderate	Sydney	Semi-mature	Suppressed with mechanical damage	Trench (~0.5m width)	Unaffected
14	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	14.6	7	44	64	5	3	88		<30%	Fair	Fair	Moderate	25-50	Moderate	Sydney	Mature	Nil	Removed	Remove within footprint of works
15	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	4.5	4	18	20	2	2	15		<30%	Fair	Poor	Moderate	5-15	Moderate	Sydney	Semi-mature	Suppressed	Removed	Remove within footprint of works
16	*Eucalyptus*	*microcorys*	Tallowwood	Desirable	13	10	47	49	6	2	100		<30%	Fair	Fair	Moderate	15-25	Moderate	NSW	Mature	Deadwood	Removed	Remove within footprint of works
17	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	9	2	20	22	2	2	18		<30%	Fair	Fair	Moderate	25-50	Moderate	Sydney	Semi-mature	NII	Removed	Remove within footprint of works
18	*Eucalyptus*	*paniculata*	Grey Ironbark	Desirable	6	3	15	16	2	2	13		<30%	Fair	Fair	Moderate	5-15	Moderate	Sydney	Semi-mature	NII	Removed	Remove within footprint of works
19	*Eucalyptus*	*microcorys*	Tallowwood	Desirable	12	9	40	46	5	2	72		<30%	Fair	Fair	High	15-25	High	NSW	Mature	Nil	Removed	Remove within footprint of works
20	*Corymbia*	*gummifera*	Bangalay	Desirable	9	4	23	24	3	2	24		<30%	Fair	Fair	Moderate	5-15	Moderate	Sydney	Semi-mature	Nil	Removed	Remove within footprint of works
21	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	4	2	11	13	2	2	13		<30%	Poor	Fair	Moderate	5-15	Moderate	Sydney	Semi-mature	Poor specimen	Removed	Remove within footprint of works

Xylem TreeCare

22	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	11	3	18	20	2	2	15		<30%	Fair	Fair	Moderate	5-15	Moderate	Sydney	Semi-mature	Nil	Removed	Remove within footprint of works
23	*Corymbia*	*gummifera*	Red Bloodwood	Desirable	11	4	29	30	3.50	2.00	38	N	0%	Fair	Fair	Moderate	5-16	Moderate	Sydney	Semi-mature	Significant lean	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
24	*Eucalyptus*	*microcorys*	Tallowwood	Desirable	8.6	5	28	30	3.40	2.00	36	N	0%	Fair	Fair	Moderate	15-25	Moderate	NSW	Semi-mature	Suppressed	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
25	*Eucalyptus*	*microcorys*	Tallowwood	Desirable	12	9	39	48	4.70	2.40	69	N	0%	Fair	Fair	Moderate	15-25	Moderate	NSW	Early-mature	Nil	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
26	*Eucalyptus*	*paniculata*	Grey Ironbark	Undesirable	9.6	3	20	20				N	0%	Dead	Poor	Very Low	0	Very Low	Sydney	Mature	Deadwood	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
27	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	11	4	24	24	2.90	1.80	26	N	0%	Good	Fair	Moderate	25-50	Moderate	Sydney	Semi-Mature	Nil	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
28	*Eucalyptus*	*microcorys*	Tallowwood	Desirable	10.4	6	34	38	4.10	2.20	52	N	0%	Good	Fair	Moderate	15-25	Moderate	NSW	Semi-mature	Nil	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
29	*Corymbia*	*gummifera*	Red Bloodwood	Desirable	8	4	19	20	2.30	1.70	16	N	0%	Fair	Fair	Moderate	15-25	Moderate	Sydney	Semi-mature	Nil	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
30	*Celtis*	*australis*	European Nettle Tree	Desirable	3	3	6	7	2.00	1.50	13	N	0%	Fair	Fair	Low	15-25	Low	Exotic	Young	Nil	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
31	*Eucalyptus*	*sp.*	Gum Tree	Undesirable	16	4	38	40				N	0%	Dead	Poor	Very Low	0	Very Low	Australian	Mature	Dead	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
32	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	15	6	36	60	4.30	2.70	59	N	0%	Fair	Poor	Moderate	5-15	Moderate	Sydney	Early-mature	Suppressed	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
33	*Celtis*	*australis*	European Nettle Tree	Desirable	4	3	6	7	2.00	1.50	13	N	0%	Fair	Fair	Low	0	Low	Exotic	Young	Nil	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
34	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	5	2	14	17	2.00	1.60	13	N	0%	Fair	Poor	Moderate	5-15	Low	Sydney	Semi-mature	Suppressed	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
35	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	9	3	16	17	2.00	1.60	13	N	0%	Fair	Poor	Moderate	5-15	Low	Sydney	Semi-mature	Suppressed	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
36	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	7	4	20	22	2.40	1.80	18	N	0%	Fair	Poor	Moderate	5-15	Moderate	Sydney	Semi-mature	Nil	Above Ground Mounted to Concrete Wall, Works within TPZ	Unaffected
37	*Celtis*	*sinensis*	Chinese Celtis	Desirable	14	8	45	47	5.40	2.40	92	N	0%	Fair	Fair	Moderate	5-15	Moderate	Exotic	Early-mature	Nil	Trench	Potential removal due to location of RC
38	*Celtis*	*sinensis*	Chinese Celtis	Desirable	14	8	26	28	3.10	1.90	31	N	0%	Fair	Fair	Moderate	5-15	Very Low	Exotic	Early-mature	Nil	None	Unaffected
39	*Celtis*	*sinensis*	Chinese Celtis	Desirable	13	6	20	22	2.40	1.80	18		<30%	Fair	Fair	Moderate	5-15	Low	Exotic	Early-mature	Nil	To be Removed	Remove within footprint of works
40	*Celtis*	*sinensis*	Chinese Celtis	Desirable	13	6	20	22	2.40	1.80	18	N	0%	Fair	Fair	Moderate	5-15	Low	Exotic	Early-mature	Nil	None	Unaffected

43	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	9.4	12	34	37	4.10	2.20	52	Y	15%	Good	Good	High	15-25	High	Exotic	Early-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
44	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	7.2	7	24	27	2.90	1.90	26	Y	23%	Good	Good	High	15-25	High	Exotic	Semi-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
45	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	7.6	7	25	27	3.00	1.90	28	Y	21%	Good	Good	High	15-25	High	Exotic	Semi-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
46	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	9.5	7.0	30	32	3.60	2.50	41		<30%	Good	Good	High	15-25	High	Exotic	Semi-mature	Bark inclusions as for the habit of this species	To be Removed	Remove within footprint of works
47	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	10	7	26	28	3.10	1.90	31	Y	21%	Good	Good	High	15-25	High	Exotic	Semi-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
48	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	12	7	36	37	4.30	2.20	59	Y	15%	Good	Good	High	15-25	High	Exotic	Early-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
49	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	13	14	47	45	5.60	2.40	100	Y	12%	Good	Good	High	15-25	High	Exotic	Early-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
50	*Ficus*	*benjamina*	Weeping Fig	Desirable	12	21	60	64	7.20	2.70	163	Y	9%	Fair	Fair	High	15-25	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
51	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	12	19	59	60	7.10	2.70	158	Y	9%	Good	Fair	High	15-25	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
52	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	11	11	63	53	7.60	2.50	179	Y	8%	Good	Good	Good	15-25	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
53	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	11	11	63	60	7.60	2.70	180	Y	8%	Good	Good	High	15-25	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
54	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	11	11	52	55	6.20	2.60	122	Y	10%	Good	Good	High	15-25	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
55	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	11	14	65	63	7.80	2.70	191	Y	8%	Good	Good	High	15-25	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
56	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	11	14	85	83	10.20	3.10	327	Y	6%	Good	Good	High	15-25	High	Exotic	Mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Works within SRZ, design to be modified to route works outside SRZ and limit effects to TPZ. Utilise low pressure NDD to advise on relocation of works.
57	*Ficus*	*macrophylla*	Moreton Bay Fig	Desirable	10.6	8	42	52	5.00	2.50	80	N	0%	Fair	Fair	High	25-50	High	NSW	Semi-Mature	Possible evidence of Phellinussp.	None	Unaffected
58	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	12.6	17	78	95	9.40	3.20	275	N	6%	Good	Fair	High	15-25	High	Exotic	Early-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
59	*Ficus*	*macrophylla*	Moreton Bay Fig	Desirable	6	13	43	44	5.20	2.30	84	N	0%	Fair	Fair	High	25-50	High	NSW	Semi-Mature		None	Unaffected
60	*Ficus*	*rubiginosa*	Port Javkson Fig	Desirable	6.2	7	54	56	6.50	2.60	132	N	9%	Good	Good	High	25-50	High	Sydney	Semi-mature	Deadwood	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
61	*Ficus*	*macrophylla*	Moreton Bay Fig	Desirable	4.8	7	18	34	2.20	2.10	15	N	0%	Fair	Fair	High	25-50	High	NSW	Young		None	Unaffected
62	*Ficus*	*rubiginosa*	Port Javkson Fig	Desirable	5	8	47	60	5.60	2.70	100	N	9%	Good	Good	High	25-50	High	Sydney	Semi-mature	Minor Deadwood	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist

63	*Ficus*	*macrophylla*	Moreton Bay Fig	Desirable	6	12	46	61	5.50	2.70	96	N	0%	Fair	Fair	High	25-50	High	NSW	Semi-mature		None	Unaffected
64	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	7	13	48	59	5.80	2.70	104	N	8%	Fair	Good	High	15-25	High	Exotic	Semi-mature	Pest affected	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
65	*Ficus*	*macrophylla*	Moreton Bay Fig	Desirable	6	12	41	51	4.90	2.50	76	N	0%	Fair	Fair	High	15-25	High	NSW	Semi-mature		None	Unaffected
66	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	10	20	77	106	9.20	3.40	268	N	6%	Fair	Fair	High	15-25	High	Exotic	Early-mature	Deadwood and pest affected	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
67	*Ficus*	*rubiginosa*	Port Javkson Fig	Desirable	7	13	95	74	11.40	2.90	408	N	5%	Good	Fair	High	25-50	High	Sydney	Early-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
68	*Ficus*	*rubiginosa*	Port Javkson Fig	Desirable	5	4	43	37	5.20	2.20	84	N	10%	Good	Good	High	25-50	High	Sydney	Early-mature	Bark inclusions as for the habit of this species	Trench (~1m width)	Minor encroachment works are acceptable provided the trench is installed with low pressure NDD under supervision of the project arborist
69	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	9.6	14	55	55	6.60	2.50	137	N	0%	Fair	Fair	High	15-25	High	Exotic	Semi Mature	Minor deadwood and pest affectedf	None	Unaffected
70	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	4.00	4	30	28	3.60	1.90	41	Y	<30%	Fair	Fair	Moderate	0-5	Low	Exotic	Semi Mature	Bark inclusions as for the habit of this species	Removed	Remove within footprint of works and tree is growing out of the existing wall structure and will in time need to be removed due to potential damage to the existing wall.
71	*Ficus*	*microcarpa var hillii*	Hills Weeping Fig	Desirable	13.70	17	48	50	5.76	2.47	104	Y	Yet to be determined	Good	Good	High	15-25	High	Exotic	Mature	Minor deadwood	Yet to be determined by final design	Potentially affected
72	*Eucalyptus*	*microcorys*	Tallowood	Desirable	11.00	10	35	37	4.20	2.18	55	N	10%	Fair	Fair	Moderate	15-25	High	Sydney	Mature	Nil	Yet to be determined by final design	Potentially affected
73	*Melaleuca*	*nesophila*	Showy Paperbark	Desirable	3.50	3	14	15	2.00	1.00	13	Y	<30%	Poor	Fair	Low	0-5	Low	NSW	Mature	Sparse crown	Yet to be determined by final design	Remove within footprint of works
74	*Celtis*	*sinensis*	Chinese Celtis	Undesirable	5.00	4	25	7	3.00	1.90	28	N	Pruning only	Fair	Fair	Moderate	15-25	Low	Exotic	Early-mature	Nil	Pruning up to 20% of crown	Prune to clear bridge deck
75	*Angophora*	*costata*	Sydney Red Gum	Desirable	13.00	10	45	47	5.40	2.40	92	N	Pruning only	Good	Good	High	15-25	High	Sydney	Mature	Nil	Pruning up to 20% of crown	Prune to clear bridge deck
76	*Eucalyptus*	*grandis*	Flooded Gum	Desirable	28.00	20	74	7	8.90	2.90	247	N	Pruning only	Good	Good	High	15-25	High	NSW	Mature	Nil	Pruning up to 10% of crown	Prune to clear bridge deck
78	*Livistona*	*australis*	Cabbage Palm	Desirable	8.00	3	28	33	3.40	2.10	36	N	27%	Good	Good	High	15-25	High	Sydney	Mature	Nil	Yet to be determined by final design	Works within TPZ, design to be modified to route worksto limit effects to TPZ. Utilise low pressure NDD to excavate.
79	*Livistona*	*australis*	Cabbage Palm	Desirable	6.60	3	27	31	3.20	2.00	33	N	27%	Good	Good	High	15-25	High	Sydney	Mature	Nil	Yet to be determined by final design	Works within TPZ, design to be modified to route worksto limit effects to TPZ. Utilise low pressure NDD to excavate.
80	*Livistona*	*australis*	Cabbage Palm	Desirable	8.00	3	32	36	3.80	2.20	46	N	27%	Good	Good	High	15-25	High	Sydney	Mature	Nil	Yet to be determined by final design	Works within TPZ, design to be modified to route worksto limit effects to TPZ. Utilise low pressure NDD to excavate.
81	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	20.00	5	36	38	4.30	2.20	59	Y	35%	Fair	Fair	Moderate	15-25	Moderate	Sydney	Mature	Nil	Utilise NDD to undertake required trenching under Project Arborist Supervision	Works within SRZ, utilise NDD to find pathway for required service installation.
82	*Casuarina*	*cunninghamiana*	River She-Oak	Desirable	19.00	3	23	25	2.80	1.80	24	Y	17%	Fair	Fair	Moderate	15-25	Moderate	Sydney	Semi-mature	Nil	Utilise NDD to undertake required trenching under Project Arborist Supervision	Works within SRZ, utilise NDD to find pathway for required service installation.
83	*Platanus*	*acerifolia*	Plane Tree	Desirable	19.00	5	60	62	7.20	2.70	163	N	0%	Fair	Fair	Moderate	15-25	Moderate	Exotic	Mature	Nil	Should be unaffected by works	Unaffected

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