L&Co
CONSULTANCY
ARBORICULTURE
PLANT PATHOLOGY

Arboricultural Impact Assessment & Tree Protection Report

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SITE ADDRESS | Greenway Public School, Wyattville Dr, Carnes Hill NSW
PREPARED FOR | The Department of Education (DoE)
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1.0 EXECUTIVE SUMMARY |

1.1 This Arboricultural Impact Assessment and Tree Protection report has been prepared to accompany a Review of Environmental Factors (REF) prepared for the Department of Education (DoE) relating toupgrades to Greenway Park Public School (the development) under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP TI).

1.2 This document has been prepared in accordance with the Guidelines for Division 5.1 assessments – Consideration of environmental factors for health services facilities and schools, October 2024 (the Guidelines) by the Department of Planning, Housing and Infrastructure. This report examines and takes into account the relevant environmental factors in the Guidelines and Section 170, Section 171 and Section 171A of the Environmental Planning and Assessment Regulations 2021 (EP&A Regulation).

1.3 A total of sixty (60) trees were assessed that were a mix of Australian native and exotic species.

1.4 In total, eleven (11) trees will need to be removed to accommodate the proposed activities. Details on impacts as follows.

1.5 The supplied plans show no works are proposed within the TPZs of Trees 1, 31, 32, 34, 35, 36, 37, 41, 42, 43, 47, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 72, 73, 74, 76, 77, 81, 101, 102, 104 & 106 and the trees can be retained. However, the tree protection measures outlined in this report should be implemented to avoid indirect impacts.

1.6 The proposed GLS building, Early Learning Centre and trenching activities represent a *Minor Encroachment* (as defined by AS4970) on Trees 39, 45, 49, 65, 82 & 103. However, a minor encroachment is considered acceptable by the standard when it is compensated for elsewhere and contiguous within the TPZ, as in the current cases. Further, the tree protection measures outlined in this report will reduce the likelihood of negative impacts on Trees 39, 45, 49,65, 82 & 103 and the trees can be retained.

1.7 The proposed landscaping activities are within the TPZ/SRZ of Trees 30, 33, 38, 40, 46 & 80 and represent a *Major Encroachment* (as defined by AS4970). However, the proposed activities can be constructed using either tree sensitive construction methods or installed at or above grade and the trees can be retained if the tree sensitive construction methods and protection measures outlined in this report are implemented under supervision of the Project Arborist. The activities and therefore considered acceptable under the Australian Standard AS4970, Clause 3.3.4.

1.8 The proposed activities are within the TPZ/SRZs of Trees 44, 50, 62, 71, 75, 78 & 79 and also represents a *Major Encroachment* (as defined by AS4970). However, these trees will need to be removed as the TPZ encroachment is too large for their long-term viability, based on a consideration of their health, structure and the size of the encroachment. Trees 50, 71, 75 & 78 Moderate Landscape Significance Values and Trees 44, 62 & 79 High Landscape Significance Values.

1.9 Trees 48, 63, 64 & 105 are within the proposed building footprint and will need to be removed. These trees were assigned Low, High, Low and Moderate Landscape Significance Values.

1.10 No Construction Management Plan (CMP) was provided and the impact from site access could not be assessed. The impacts from the CMP must be reviewed by the Project Arborist prior to the issue of the Construction Certificate to minimise indirect impacts on the tree population.

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2.0 INTRODUCTION |

2.1 Background

2.1.1 This Arboricultural Impact Assessment and Tree Protection report has been prepared to accompany a Review of Environmental Factors (REF) prepared for the Department of Education (DoE) relating toupgrades to Greenway Park Public School (the development) under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP TI).

2.1.2 This document has been prepared in accordance with the Guidelines for Division 5.1 assessments – Consideration of environmental factors for health services facilities and schools, October 2024 (the Guidelines) by the Department of Planning, Housing and Infrastructure. This report examines and takes into account the relevant environmental factors in the Guidelines and Section 170, Section 171 and Section 171A of the Environmental Planning and Assessment Regulations 2021 (EP&A Regulation).

2.1.3 In preparing this report, the author is aware of and has considered the objectives of the Liverpool City Council's- Liverpool Development Control Plan Part 2: Tree Preservation (2008), Liverpool Local Environment Plan (2008); Liverpool City Council Tree Management Policy (2016) , Australian Standard 4970 Protection of Trees on Development Sites (2009), Australian Standard 4373 Pruning of Amenity Trees (2007) and Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016).

2.1.4 Further methodology used in the preparation of this report is detailed in Appendix 1.

2.1.5 This Arboricultural Impact Assessment was based on an assessment of the following supplied documentation/plans only (Appendix 4):

- Existing Site Plan Prepared by Fulton Trotter Architects. Dated 14.03.2025
- Demolition Site Plan Prepared by Fulton Trotter Architects. Dated 06.03.2025
- Proposed Site Plan Prepared by Fulton Trotter Architects. 14.03.2025
- External Works Plan Prepared by Fulton Trotter Architects. Dated 14.03.2025.
- External Works Plan Preschool Prepared by Fulton Trotter Architects. Dated 14.03.2025.
- Proposed Preschool Carpark Prepared by Fulton Trotter Architects. Dated 14.03.2025.
- Landscape Plan Final State Prepared by Ground Ink Landscape Architects. Dated 31.03.2025
- Landscape Plan Early Learning Prepared by Ground Ink Landscape Architects. Dated 20.02.2025
- Bulk Earthworks Plan Prepared by Meinhardt. Dated 13.03.2025
- Bulk Earthworks Plan Sheet 1 Prepared by Meinhardt. Dated 14.03.2025
- Bulk Earthworks Plan Sheet 2 Prepared by Meinhardt. Dated 14.03.2025
- Civil Siteworks Plan Prepared by Meinhardt. Dated 13.03.2025
- Civil Siteworks Plan Sheet 1 Prepared by Meinhardt. Dated 14.03.2025
- Electrical Services Site Plan Prepared by NDY Consultants. Dated 28.02.2025
- Hydraulic Services Existing Site Plan & Demolition Prepared by ACOR. Dated 18.03.2025
- Hydraulic Services Proposed Site Plan & Demolition Prepared by ACOR. Dated 18.03.2025
- Topographical Survey and Utility Mapping in Accordance with AS4588.1-2019 Prepared by Astrea. Dated 18.10.2023

2.2 The Proposal

2.2.1 The proposed activity for the Greenway Park Public School upgrade includes:

2.2.2 **Demolition/ earthworks:**

- Demolish part of boundary fence on Chapman Street for new vehicular crossover;
- Demolish parts of boundary fence on Chapman Street for new gates;
- Demolish shade structure and associated concrete slab and footpath;
- Demolish footpaths;
- Tree removal;
- Trenching for underground services; and

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- Earthworks associated with new buildings and landscaping

2.2.3 **Construction:**

- Construction and operation of single storey classroom building with associated
- covered walkways;
- Construction and operation of a new preschool building, including covered walkways,
- new carpark (12 spaces and one (1) accessible space) and vehicular crossover to Chapman Street;
- Installation of artwork on Block H and Block J façades, as well as a preschool retaining wall;
- Laying of services within trenches;
- New pedestrian entry points;
- Fencing and gates;
- Underground OSD tanks;
- Rainwater tanks;
- Shed for preschool;
- Outdoor play equipment for the preschool;
- New fire hydrant booster & associated building services connections;
- Retaining walls associated with the preschool;
- Signage;
- Landscaping; and Associated earthworks

3.0 RESULTS |

3.1 The Site

3.1.1 The activity site is located on Wyattville Drive, West Hoxton and is legally described as:

- Lot 11 DP 858025; and
- Lot 20 DP 867282

3.1.2 Greenway Park Public School is located on the south eastern side of Chapman Street and the north eastern side of Wyattville Drive. The surrounding context of the site is predominantly low density residential as well as a childcare centre to the north.

Figure 1 is an aerial photograph of the site.

Figure 1: Aerial Photograph

3.2 The Trees

3.2.1 A Visual Tree Assessment (VTA) (Mattheck & Breloer, 2003) has been undertaken on trees growing within the site to determine their health and structural condition (Appendix 2). A full VTA of trees located outside of the site boundaries was not undertaken due to limited access. The species and trunk diameter were recorded for the purposes of determining Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) calculations only. The distance of each tree from the site boundary is an approximation due to limited access.

3.2.2 The Australian Standard 4970: *Protection of Trees on Development Sites* (2009) Clause 2.3.2, requires the allocation of a Tree Retention Value. This value is based on the Useful Life Expectancy (ULE) and Landscape Significance, which considers the tree's health, structural condition and site suitability. The Retention Value does not consider any proposed development works and is not a schedule for tree retention or removal. The trees have been allocated one of the following Retention Values:

- Priority for Retention
- Consider for Retention
- Consider for Removal
- Priority for Removal

3.2.3 The Australian Standard 4970: *Protection of Trees on Development Sites* (2009) also requires the calculation of the Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) for each tree (Appendix 1).

3.2.4 A total of sixty (60) trees and group trees were assessed which were a mix of Australian native and exotic species.

3.2.5 A search of the BioNet Atlas of NSW Wildlife Database was undertaken in March 2025. No individual threatened tree species that were listed within this database for the area were identified during the current field investigations of the site. The ecological significance and habitat value of the trees has not been assessed and is beyond the scope of this report.

3.2.6 Trees 1, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 101, 102, 103, 105 & 106 were within the site boundary and covered by the council's tree management controls.

3.2.7 Tree 104 is exempt from the council's tree management controls based on dimensions/species and can be removed without Council consent.

4.0 ARBORICULTURAL IMPACT ASSESSMENT |

4.1 **Trees 1, 31, 32, 34, 35, 36, 37, 41, 42, 43, 47, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 72, 73, 74, 76, 77, 81, 101, 102, 104 & 106**

4.1.1 Trees 1, 31, 32, 34, 35, 36, 37,41, 42, 43, 47, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 72, 73, 74, 76, 77, 81, 101, 102, 104 & 106 are not directly impacted by the proposed activities. Refer to Appendix 2 for species identifications and further details.

4.1.2 The following TPZ protection must be installed to avoid indirect impacts.

4.1.3 TPZ fencing should be installed prior to any site works (including demolition) and remain in place for the duration of the demolition and construction processes.

4.1.4 The area within the TPZ fencing should be mulched to a depth of 50mm with a non-toxic product (i.e. woodchips) with no fines.

4.1.5 Coir logs should be installed on the perimeter of the TPZ fencing to prevent runoff from the building works into the TPZ.

4.1.6 Materials, waste storage and temporary services should not be located within the TPZ fenced area. If works are required within the TPZ fenced area, then they should be supervised by the Project Arborist.

4.1.7 The tree protection measures must be inspected by the Project Arborist prior to the start prior of site works, including demolition.

4.1.8 Refer to AS4970 and Appendices 5, 6, 7, 8 & 9 for further details for further details.

4.2 **Trees 39, 45, 49, 65, 82 & 103**

4.2.1 The proposed GLS building, Early Learning Centre and trenching activities are within the TPZs of Trees 39, 45, 49, 65, 82 & 103. The overall TPZ encroachments ranged from 1% to 9%, which represents *a Minor Encroachment* as defined by AS4970 and is considered acceptable by the standard when it is compensated for elsewhere and contiguous within the TPZ, as in the current cases.

4.2.2 Given the good physiological condition of the trees and the size of the encroachment, the proposed activities can be accommodated without affecting the long term structural and physiological viability of Trees 39, 45, 49, 65, 82 & 103 if the following tree sensitive construction methods and protection measures are carefully implemented under the supervision of the Project Arborist

4.2.3 TPZ fencing should be installed prior to any site works (including demolition) and remain in place for the duration of the demolition and construction processes.

4.2.4 The area within the TPZ fencing should be mulched to a depth of 50mm with a non-toxic product (i.e. woodchips) with no fines.

4.2.5 Coir logs should be installed on the perimeter of the TPZ fencing to prevent runoff from the building works into the TPZ.

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4.2.6 Materials, waste storage and temporary services should not be located within the TPZ fenced area. If works are required within the TPZ fenced area, then they should be supervised by the Project Arborist.

4.2.7 The tree protection measures must be inspected by the Project Arborist prior to the start prior of site works, including demolition.

4.2.8 Refer to AS4970 and Appendices 5, 6, 7, 8 & 9 for further details for further details.

4.3 **Trees 30, 33, 38, 40, 46 & 80**

4.3.1 The proposed landscaping and trenching activities are within the TPZ/SRZ of Trees 30, 33, 38, 40, 46 & 80. Refer to Appendix 2 for species identifications and further details.

4.3.2 The TPZ encroachment for the proposed grade changes associated with the landscaping was estimated to be 14%, 12%, 16%, 13% and 16% for Trees 30, 38,40,46 & 80 respectively and represents a *Major Encroachment* as defined by AS-4970.

4.3.3 The proposed fencing transects the TPZ of Tree 33 and was within the SRZ. Works within the SRZ represent a *Major Encroachment* as defined by AS-4970 as root severance within the SRZ can lead to the destabilisation of the tree. The overall TPZ encroachment was estimated to be 22% and also represents a *Major Encroachment* as defined by AS-4970.

4.3.4 Given the size and location of the proposed encroachment, the proposed activities represent a significant risk to the trees long term structural and physiological viability. However, However, Clause 3.3.4 of AS-4970 does allow for major encroachments if design factors (e.g. tree sensitive construction methods) are used to minimise negative impacts.

4.3.5 Trees 30, 33, 38, 40, 46 & 80 can be retained under Clause 3.3.4 of AS-4970 if the following tree sensitive construction methods and protection measures are carefully implemented under the supervision of the Project Arborist. Significant departures from the detailed tree sensitive construction methods and protection measures are likely to result in a shortened ULE and/or tree removal.

4.3.6 The proposed grade changes associated with turfing should be avoided within the TPZ of Trees 30 & 33.

4.3.7 The proposed paving within the TPZ of Tree 80 must be installed at or above grade (including sub-base) using a permeable material.

4.3.8 The fence within the SRZ of Tree 33 must be constructed using the following tree sensitive methods. The fence footings must be minimal or span the SRZ. The locations for the footings must be hand excavated and placed around structural roots (great than 40mmØ). The activities must be supervised by the Project Arborist.

4.3.9 The following TPZ protection must be installed to avoid indirect impacts.

4.3.10 TPZ fencing should be installed prior to any site works (including demolition) and remain in place for the duration of the demolition and construction processes.

4.3.11 The area within the TPZ fencing should be mulched to a depth of 50mm with a non-toxic product (i.e. woodchips) with no fines.

4.3.12 Coir logs should be installed on the perimeter of the TPZ fencing to prevent runoff from the building works into the TPZ.

4.3.13 Materials, waste storage and temporary services should not be located within the TPZ fenced area. If works are required within the TPZ fenced area, then they should be supervised by the Project Arborist.

4.3.14 The tree protection measures must be inspected by the Project Arborist prior to the start prior of site works, including demolition.

4.3.15 Refer to AS4970 and Appendices 5, 6, 7, 8 & 9 for further details for further details.

4.4 **Trees 44, 50, 62, 71, 75, 78 & 79**

4.4.1 Trees 44, 50, 62, 71, 75, 78 & 79 were assigned a Low, Moderate and High Landscape Significance Values. Refer to Appendix 2 for species identifications and further details.

4.4.2 The proposed footpath activities associated with the GLS are within the TPZ/SRZ of Trees 44 & 50. Works within the SRZ represent a *Major Encroachment* as defined by AS-4970 as root severance within the SRZ can lead to the destabilisation of the tree. The overall TPZ encroachment was estimated to be 27% and 23%, respectively and also represents a *Major Encroachment* as defined by AS-4970.

4.4.3 The proposed carpark and hydraulic activities associated with the Early Learning Centre are within the TPZ/SRZ of Trees 62, 71, 75, 78 & 79. The overall TPZ encroachment was estimated to be 27%,63% and 27%,18% and 23% respectively and also represents a *Major Encroachment* as defined by AS-4970.

4.4.4 Given the size and location of the encroachments, the long term structural and physiological viability of Trees 44, 50, 62, 71, 75, 78 & 79 is highly likely to be compromised by the proposed encroachment and the trees will need to be removed to accommodate the activities.

4.4.5 Refer to Appendix 5 for further detail.

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4.4.6 Removal and replacement with a healthy advanced size specimen would replace the loss of amenity within a medium to long timeframe.

4.5 **Trees 48, 63, 64 & 105**

4.5.1 Trees 48, 63, 64 & 105 were assigned Low, High, Low and Moderate Landscape Significance Values. Refer to Appendix 2 for species identifications and further details.

4.5.2 Trees 48, 63, 64 & 105 are within the footprint of the proposed carpark and associated pathway and will need to be removed to accommodate the activities.

4.5.3 Removal and replacement with a healthy advanced size specimen would replace the loss of amenity within a medium to long timeframe.

4.6 **Removal & Replacement Planting**

4.6.1 Removal works should be carried out by a practising arborist. The practising arborist should hold a minimum qualification equivalent (using Australian Qualifications Framework) of Level 3 or above in arboriculture or its recognised equivalent. The practising arborist should have a minimum of 3 years of practical experience. Removal works should be undertaken in accordance with the Australian Standard 4373: Pruning of Amenity Trees (2007), Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016) and other applicable legislation and codes.

4.6.2 Replacement tree planting should be provided when trees are removed. Replacement trees should be supplied as advanced size stock to help offset the loss of amenity resultant from the tree removals.

4.6.3 Replacement planting should be supplied in accordance with Australian Standard 2303: Tree Stock for Landscape Use (2015).

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5.0 REFERENCES |

Mattheck & Breloer (2003), *The Body Language of Trees – A Handbook for Failure Analysis*.

NSW Office of Environment and Heritage's Atlas of NSW Wildlife (2011), *BioNet Atlas of NSW Wildlife*.

Standards Australia (2009) Protection of Trees on Development Sites AS4970.

Standards Australia (2007) Pruning of Amenity Trees AS4373.

Standards Australia (2015) Tree Stock for Landscape Use AS2303.

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6.0 APPENDIX 1 | METHODOLOGY

6.1 This report was based on data from a site inspection conducted on the 02.11.2023 & 20.02.2025. The recommendations in this report are based on and limited to observations from these site inspections.

6.2 The subject tree(s) was assessed using the Visual Tree Assessment methodology described in *The Body Language of Trees – A Handbook for Failure Analysis* (Mattheck et al., 2003). Subject trees were assessed from the ground only to provide an Arboricultural Impact Assessment and Tree Protection Report report. No internal diagnostic testing was undertaken as part of this assessment. Trees outside the subject site were assessed from the property boundaries only.

6.3 The dimensions of the subject tree(s) are an approximation only.

6.4 The location of the subject tree(s) was determined from the location plan provided. Trees not shown on this plan have been plotted in their approximate location only.

6.5 Tree Protection Zones & Structural Root Zones for the subject tree(s) was based on methods outlined in Australian Standard 4970: *Protection of Trees on Development Sites* (2009).

6.6 The health of the subject tree(s) was determined by assessing:

- Foliage size and colour
- Pest and disease infestation
- Extension growth
- Crown density
- Deadwood size and volume
- Presence of epicormic growth

6.7 The structural condition of the subject tree(s) was assessed by:

- Visible evidence of structural defects or instability
- Evidence of previous pruning or physical damage

6.8 The Useful Life Expectancy (ULE) is used to estimate a tree's longevity in its growing environment. The ULE is based on a tree's species, health, structural condition and site suitability. The tree(s) has been allocated one of the following ULE categories (modified from Barrell, 2001):

- 40 years +
- 15-40 years
- 5-15 years
- Less than 5 years

6.9 The Landscape Significance is based on a qualitative assessment of a tree's cultural, environmental and aesthetic value. This provides a relative measure of a tree's Landscape Significance and can be used to determine its Retention Value. Trees are rated under the following categories:

- Very High
- High
- Moderate
- Low
- Insignificant

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LANDSCAPE SIGNIFICANCE	DESCRIPTION
VERY HIGH	The subject tree is listed as a Heritage Item under the Local Environmental Plan with a local or state level of significance.
	The subject tree is listed on Council's Significant Tree Register.
	The subject tree is a remnant tree.
HIGH	The subject tree creates a 'sense of place' or is considered 'landmark' tree.
	The subject tree is of local, cultural or historical importance or is widely known.
	The subject tree has been identified by a suitably qualified professional as a species scheduled as a Threatened or Vulnerable Species or forms part of an Endangered Ecological Community associated with the subject site, as defined under the provisions of the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999.
	The subject tree is known to provide habitat to a threatened species.
	The subject tree is an excellent representative of the species in terms of aesthetic value.
	The subject tree is of significant size, scale or makes a significant contribution to the canopy cover of the locality.
	The subject tree forms part of the curtilage of a heritage item with a known or documented association with that item.
MODERATE	The subject tree makes a positive contribution to the visual character or amenity of the area.
	The subject tree provides a specific function such as screening or minimising the scale of a building.
	The subject tree has a known habitat value.
	The subject tree is a good representative of the species in terms of aesthetic value.
LOW	The subject tree is an environmental pest species or is exempt under the provisions of the local Council's Tree Management Controls.
	The subject tree makes little or no contribution to the amenity of the locality.
	The subject tree is a poor representative of the species in terms of aesthetic value.
INSIGNIFICANT	The subject tree is declared a Noxious Weed under the Noxious Weeds Act.

The above table was provided by Anna Hopwood of TreeIQ™ and was modified from the Earthscape Criteria for Assessment of Landscape Significance.

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6.10 The Retention Value is based on a tree's ULE and Landscape Significance. The subject tree(s) has been allocated one of the following Retention Values:

- Priority for Retention
- Consider for Retention
- Consider for Removal
- Priority for Removal

<table>
<tr><th>ULE</th><th colspan="5">LANDSCAPE SIGNIFICANCE</th></tr>
<tr><td></td><td>VERY HIGH</td><td>HIGH</td><td>MODERATE</td><td>LOW</td><td>INSIGNIFICANT</td></tr>
<tr><td>40 years +</td><td rowspan="2">Priority for Retention</td><td colspan="2">Priority for Retention</td><td rowspan="3">Consider for Removal</td><td rowspan="3">Priority for Removal</td></tr>
<tr><td>15-40 years</td><td>Priority for Retention</td><td>Consider for Retention</td></tr>
<tr><td>5-15 years</td><td colspan="3">Consider for Retention</td></tr>
<tr><td>Less than 5 years</td><td>Consider for Removal</td><td colspan="4">Priority for Removal</td></tr>
</table>

The above table was provided by Anna Hopwood of TreeIQ™

6.11 The Tree Protection Zone (TPZ) is the area above and below ground required to preserve the vigour and long-term viability of the tree. The TPZ is based on scientific research and is generally considered by the arboricultural industry as the area required to provide adequate tree protection during construction. The TPZ is the primary means of protecting trees on development sites (Australian Standard 4970:*Protection of Trees on Development Sites*, 2009).

6.12 Works within the TPZ should be avoided. However, *Minor Encroachments,* defined in AS4970 as less than 10% of the TPZ area, are considered acceptable when it is compensated for elsewhere and contiguous within the TPZ. A *Major Encroachment*, defined in AS4970 as greater than 10% of the TPZ area or within the Structural Root Zone (SRZ), may require root investigations by non-destructive methods and tree sensitive construction methods.

6.13 The TPZ is the area within a circle that is centred on the trunk. The radius of the TPZ is calculated by the following formula:

TPZ= DBH x 12

where

DBH= Diameter at Breast Height (1.4m)

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6.14 The SRZ is the minimum area around the base of the tree required for the tree's stability. The SRZ only relates to tree stability and not the vigour and long-term viability of the tree.

6.15 The SRZ is the area within a circle that is centred on the trunk. The radius of the SRZ is calculated by the following formula:

$$SRZ = (Dx50)^{0.42} \times 0.64$$

where

D= Trunk diameter (m) above the root buttress

6.16 Encroachment into SRZ (i.e. severance of structural roots >25mmØ) may lead to the destabilisation of the tree and the long-term viability must be demonstrated in such cases. This may require root investigations by non-destructive methods.

6.17 For further details on the TPZ and SRZ please refer to Australian Standard 4970: *Protection of Trees on Development Sites* (2009).

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7.0 APPENDIX 2 | TREE ASSESSMENT SCHEDULE

Tree No.	Species	Height (m)	Radial Crown Spread (m)	DBH comb. (mm)	Radial TPZ (m)	TPZ Area (m^2)	Radial SRZ (m)	Health Rating	Structural Rating	Age Class	ULE (years)	L/Sign	Retention Value	Comments	TPZ Encroachment (%)
1	*Malus sp.* (Crab Apple)	4	4	100	2	13	1.5	Good	Good	Mature	5-15	Low	*Consider for Removal*	Small (<25mmø) deadwood in moderate volumes.	No Encroachment (Retain)
30	*Corymbia maculata* (Spotted Gum)	18	8	600	7	163	2.8	Good	Fair	Mature	15-40	High	*Priority for Retention*	Co-dominant inclusions, major. Wound(s), early signs of decay. Trunk cavity(s), minor. Structures within SRZ. Adaptive growth.	14.1% (TPZ – Retain)
31	*Corymbia maculata* (Spotted Gum)	12	5	300	4	41	2.1	Good	Fair	Semi-mature	5-15	Moderate	*Consider for Retention*	Crown density 50-75%. Co-dominant inclusions, major. Structures within SRZ. Adaptive growth.	No Encroachment (Retain)
32	*Olea europaea var. europea* (European Olive)	4	4	300	4	41	2.1	Good	No access to base. No rating.	Mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
33	*Eucalyptus tereticornis* (Forest Red Gum)	15	6	500	6	113	2.6	Good	Good	Semi-mature	15-40	Moderate	*Consider for Retention*	Small (<25mmø) deadwood in moderate volumes.	22% (SRZ – Retain)
34	*Melalueca stypheloides* (Prickly Leaved Paperbark)	5	3	300	4	41	2.1	Good	No access to base. No rating.	Mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
35	*Eucalyptus tereticornis* (Forest Red Gum)	5	2	100	2	13	1.5	Fair	No access to base. No rating.	Semi-mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
36	*Casuarina glauca* (Swamp She Oak)	12	4	300	4	41	2.1	Good	No access to base. No rating.	Mature	5-15	Moderate	*Consider for Retention*	Multiple stens Co-dominant inclusions, minor.	No Encroachment (Retain)

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Tree No.	Species	Height (m)	Radial Crown Spread (m)	DBH comb. (mm)	Radial TPZ (m)	TPZ Area (m^2)	Radial SRZ (m)	Health Rating	Structural Rating	Age Class	ULE (years)	L/Sign	Retention Value	Comments	TPZ Encroachment (%)
37	*Corymbia maculata* (Spotted Gum)	17	8	500	6	113	2.6	Good	Good	Mature	15-40	High	*Priority for Retention*	Small (<25mmø) deadwood in low volumes. Structures within SRZ.	No Encroachment (Retain)
38	*Casuarina glauca* (Swamp She Oak)	16	4	325	4	48	2.1	Fair	Good	Late Mature	5-15	Moderate	*Consider for Retention*	Crown density 25-50%. Small (<25mmø) deadwood in high volumes. Wound(s), early signs of decay.	12.1% (TPZ – Retain)
39	*Eucalyptus sp.* (Gum tree)	16	7	520	6	122	2.6	Good	Poor	Mature	5-15	High	*Consider for Retention*	Crown density 75-95%. Small (<25mmø) epicormic growth Co-dominant inclusions, major. Wound(s), early signs of decay. Trunk cavity(s), major.	0.8% (Retain)
40	*Casuarina glauca* (Swamp She Oak)	15	4	300	4	41	2.1	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		16.2% (TPZ – Retain)
41	*Casuarina glauca* (Swamp She Oak)	6	3	125	2	13	1.5	Good	Good	Semi-mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
42	*Casuarina glauca* (Swamp She Oak)	15	4	266	3	32	2.0	Good	Fair	Mature	15-40	Moderate	*Consider for Retention*	Co-dominant inclusions, minor. Adaptive growth.	No Encroachment (Retain)
43	*Casuarina glauca* (Swamp She Oak)	14	6	400	5	72	2.3	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
44	*Eucalyptus tereticornis* (Forest Red Gum)	17	6	400	5	72	2.3	Fair	Fair	Late Mature	5-15	High	*Consider for Retention*	Crown density 50-75%. Previously crown lifted. Wound(s), early signs of decay. Trunk cavity(s), major. Order branch cavity, major.	47.8% (SRZ - Remove)

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Tree No.	Species	Height (m)	Radial Crown Spread (m)	DBH comb. (mm)	Radial TPZ (m)	TPZ Area (m^2)	Radial SRZ (m)	Health Rating	Structural Rating	Age Class	ULE (years)	L/Sign	Retention Value	Comments	TPZ Encroachment (%)
45	*Eucalyptus tereticornis* (Forest Red Gum)	14	4	250	3	28	1.9	Good	Good	Semi-mature	5-15	Moderate	*Consider for Retention*	Small (<25mmø) epicormic growth in low volumes.	4% (Retain)
46	*Eucalyptus tereticornis* (Forest Red Gum)	18	7	425	5	82	2.4	Good	Good	Mature	15-40	Moderate	*Consider for Retention*	Crossing branches. Co-dominant inclusions, minor.	12.6% (TPZ – Retain)
47	*Eucalyptus tereticornis* (Forest Red Gum)	20	8	425	5	82	2.4	Good	Good	Mature	15-40	High	*Priority for Retention*	Previously crown lifted.	No Encroachment (Retain)
48	*Eucalyptus sp.* (Gum tree)	6	5	340	4	52	2.2	Good	Fair	Semi-mature	5-15	Low	*Consider for Removal*	Co-dominant inclusions, minor.	Within Development Footprint (Remove)
49	*Casuarina glauca* (Swamp She Oak)	12	4	200	2	18	1.8	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		9% (Retain)
50	*Casuarina glauca* (Swamp She Oak)	12	4	250	3	28	1.9	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		30.4% (SRZ - Remove)
51	*Casuarina glauca* (Swamp She Oak)	12	4	200	2	18	1.8	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
52	*Casuarina glauca* (Swamp She Oak)	12	4	250	3	28	1.9	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
53	*Casuarina glauca* (Swamp She Oak)	14	6	250	3	28	1.9	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)

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Tree No.	Species	Height (m)	Radial Crown Spread (m)	DBH comb. (mm)	Radial TPZ (m)	TPZ Area (m^2)	Radial SRZ (m)	Health Rating	Structural Rating	Age Class	ULE (years)	L/Sign	Retention Value	Comments	TPZ Encroachment (%)
54	*Casuarina glauca* (Swamp She Oak)	14	6	300	4	41	2.1	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
55	*Casuarina glauca* (Swamp She Oak)	14	6	300	4	41	2.1	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
56	*Eucalyptus robusta* (Swamp Mahogany)	7	4	266	3	32	2.0	Poor	Fair	Senescent	<5	Low	*Priority for Removal*	Crown density 0-25%. Small (<25mmø) epicormic growth in high volumes. Co-dominant inclusions, minor.	No Encroachment (Retain)
57	*Casuarina glauca* (Swamp She Oak)	14	5	225	3	23	1.8	Good	Poor	Mature	5-15	Moderate	*Consider for Retention*	Trunk cavity(s), major.	No Encroachment (Retain)
58	*Eucalyptus robusta* (Swamp Mahogany)	10	5	200	2	18	1.8	Poor	Fair	Senescent	<5	Low	*Priority for Removal*		No Encroachment (Retain)
59	*Eucalyptus tereticornis* (Forest Red Gum)	15	6	350	4	55	2.2	Good	Fair	Mature	15-40	High	*Priority for Retention*	Wound(s), early signs of decay.	No Encroachment (Retain)
60	*Eucalyptus tereticornis* (Forest Red Gum)	16	6	325	4	48	2.1	Good	Poor	Mature	5-15	Moderate	*Consider for Retention*	Co-dominant inclusions, major. Bark inclusion(s), major. Wound(s), advanced stages of decay.	No Encroachment (Retain)
61	*Eucalyptus tereticornis* (Forest Red Gum)	17	8	400	5	72	2.3	Good	Fair	Mature	15-40	High	*Priority for Retention*	Co-dominant inclusions, minor. Bark inclusion(s), minor.	No Encroachment (Retain)
62	*Eucalyptus tereticornis* (Forest Red Gum)	15	6	375	5	64	2.3	Good	Fair	Mature	15-40	High	*Priority for Retention*	Co-dominant inclusions, major.	27.2% (TPZ – Remove)

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Tree No.	Species	Height (m)	Radial Crown Spread (m)	DBH comb. (mm)	Radial TPZ (m)	TPZ Area (m^2)	Radial SRZ (m)	Health Rating	Structural Rating	Age Class	ULE (years)	L/Sign	Retention Value	Comments	TPZ Encroachment (%)
63	*Eucalyptus tereticornis* (Forest Red Gum)	18	6	475	6	102	2.5	Fair	Good	Mature	5-15	High	*Consider for Retention*	Grade change for fence Crown density 50-75%. Large (>75mmø) deadwood in moderate volumes. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes. Root severance within SRZ.	Within Development Footprint (Remove)
64	*Eucalyptus robusta* (Swamp Mahogany)	6	4	300	4	41	2.1	Poor	Poor	Semi-mature	<5	Low	*Priority for Removal*	Crown density 0-25%. Crown consists mainly of epicormic growth. Wound(s), early signs of decay. Trunk cavity(s), minor. Borer.	Within Development Footprint (Remove)
65	*Casuarina glauca* (Swamp She Oak)	8	3	100	2	13	1.5	Good	Good	Semi-mature	5-15	Low	*Consider for Removal*		4.8% (Retain)
66	*Casuarina glauca* (Swamp She Oak)	8	3	100	2	13	1.5	Good	Good	Semi-mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
67	*Casuarina glauca* (Swamp She Oak)	8	3	135	2	13	1.5	Good	Good	Semi-mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
68	*Casuarina glauca* (Swamp She Oak)	8	3	150	2	13	1.6	Good	Good	Semi-mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
69	*Casuarina glauca* (Swamp She Oak)	8	3	225	3	23	1.8	Good	Good	Semi-mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)
70	*Casuarina glauca* (Swamp She Oak)	8	3	75	2	13	1.5	Good	Good	Semi-mature	5-15	Low	*Consider for Removal*		No Encroachment (Retain)

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Tree No.	Species	Height (m)	Radial Crown Spread (m)	DBH comb. (mm)	Radial TPZ (m)	TPZ Area (m^2)	Radial SRZ (m)	Health Rating	Structural Rating	Age Class	ULE (years)	L/Sign	Retention Value	Comments	TPZ Encroachment (%)
71	*Casuarina glauca* (Swamp She Oak)	14	6	354	4	57	2.2	Good	Fair	Mature	15-40	Moderate	*Consider for Retention*	Co-dominant inclusions, major. Structures within SRZ.	63.7% (SRZ - Remove)
72	*Casuarina glauca* (Swamp She Oak)	14	6	250	3	28	1.9	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
73	*Casuarina glauca* (Swamp She Oak)	14	6	300	4	41	2.1	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
74	*Casuarina glauca* (Swamp She Oak)	14	6	407	5	75	2.4	Good	Fair	Mature	15-40	Moderate	*Consider for Retention*	Co-dominant inclusions, major.	No Encroachment (Retain)
75	*Casuarina glauca* (Swamp She Oak)	14	6	300	4	41	2.1	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		27.0% (SRZ - Remove)
76	*Casuarina glauca* (Swamp She Oak)	14	6	300	4	41	2.1	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
77	*Casuarina glauca* (Swamp She Oak)	14	6	200	2	18	1.8	Good	Good	Mature	15-40	Moderate	*Consider for Retention*		No Encroachment (Retain)
78	*Casuarina glauca* (Swamp She Oak)	14	6	275	3	34	2.0	Fair	Good	Mature	15-40	Moderate	*Consider for Retention*	Crown density 50-75%. Storm damage.	17.8% (SRZ - Remove)
79	*Casuarina glauca* (Swamp She Oak)	20	8	550	7	137	2.7	Good	Fair	Late Mature	15-40	High	*Priority for Retention*	Co-dominant inclusions, minor. Structures within SRZ.	23.2% (TPZ – Remove)

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Tree No.	Species	Height (m)	Radial Crown Spread (m)	DBH comb. (mm)	Radial TPZ (m)	TPZ Area (m^2)	Radial SRZ (m)	Health Rating	Structural Rating	Age Class	ULE (years)	L/Sign	Retention Value	Comments	TPZ Encroachment (%)
80	*Casuarina glauca* (Swamp She Oak)	15	6	375	5	64	2.3	Good	Good	Mature	15-40	Moderate	*Consider for Retention*	Trunk cavity(s), minor.	15.7% (TPZ – Retain)
81	*Araucaria cunninghamii* (Hoop Pine)	17	6	400	5	72	2.3	Good	Good	Mature	15-40	Moderate	*Consider for Retention*	Mechanical damage to exposed surface roots. Structures within SRZ.	No Encroachment (Retain)
82	*Melaleuca decora* (White Feather Honeymyrtle)	6	4	237	3	25	1.9	Good	Good	Mature	5-15	Low	*Consider for Removal*	Wound(s), no visible sign of decay. Trunk cavity(s), minor.	7% (Retain)
101	*Malus sp.* (Crab Apple)	5	6	300	4	41	2.1	Good	No access to base. No rating.	Mature	5-15	Moderate	*Consider for Retention*	Structures within SRZ.	No Encroachment (Retain)
102	*Malus sp.* (Crab Apple)	5	6	260	3	31	2.0	Good	Good	Mature	5-15	Moderate	*Consider for Retention*	Small (<25mmø) epicormic growth in low volumes. Wound(s), early signs of decay. Trunk cavity(s), minor.	No Encroachment (Retain)
103	*Malus sp.* (Crab Apple)	5	6	300	4	41	2.1	Good	Fair	Mature	5-15	Moderate	*Consider for Retention*	Mechanical damage to exposed surface roots. Wound(s), early signs of decay. Trunk cavity(s), minor.	4.2% (Retain)
104	*Malus sp.* (Crab Apple)	3	2	125	2	13	1.5	Poor	Fair	Senescent	<5	Low	*Priority for Removal*	Crown density 0-25%. Lopped. Wound(s), early signs of decay.	No Encroachment (Retain)
105	*Malus sp.* (Crab Apple)	5	6	300	4	41	2.1	Good	No access to base. No rating.	Mature	5-15	Moderate	*Consider for Retention*	Group of two trees	Within Development Footprint (Remove)
106	*Malus sp.* (Crab Apple)	5	6	300	4	41	2.1	Good	No access to base. No rating.	Mature	5-15	Moderate	*Consider for Retention*		No Encroachment (Retain)

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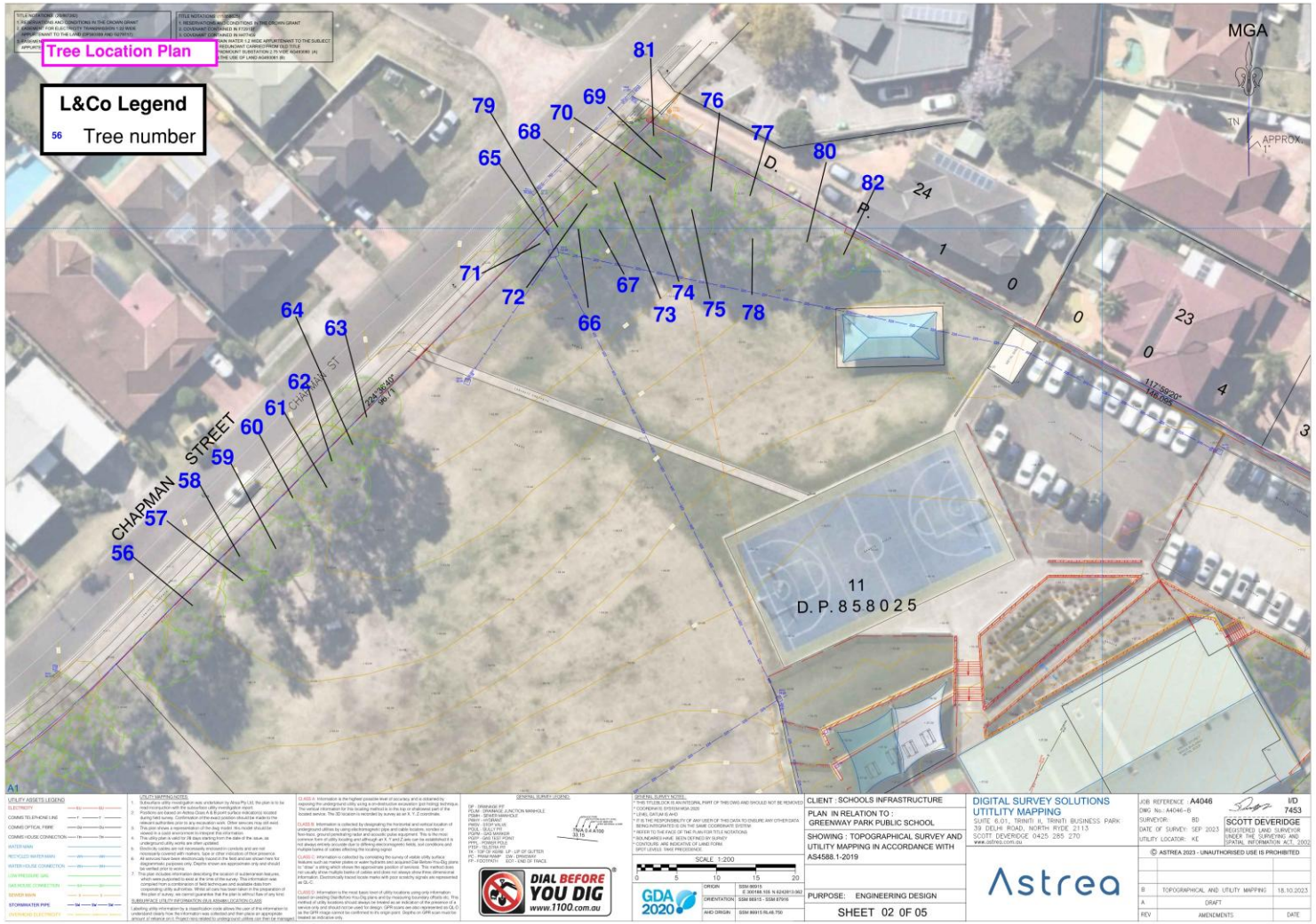
8.0 APPENDIX 3 | TREE LOCATION PLAN



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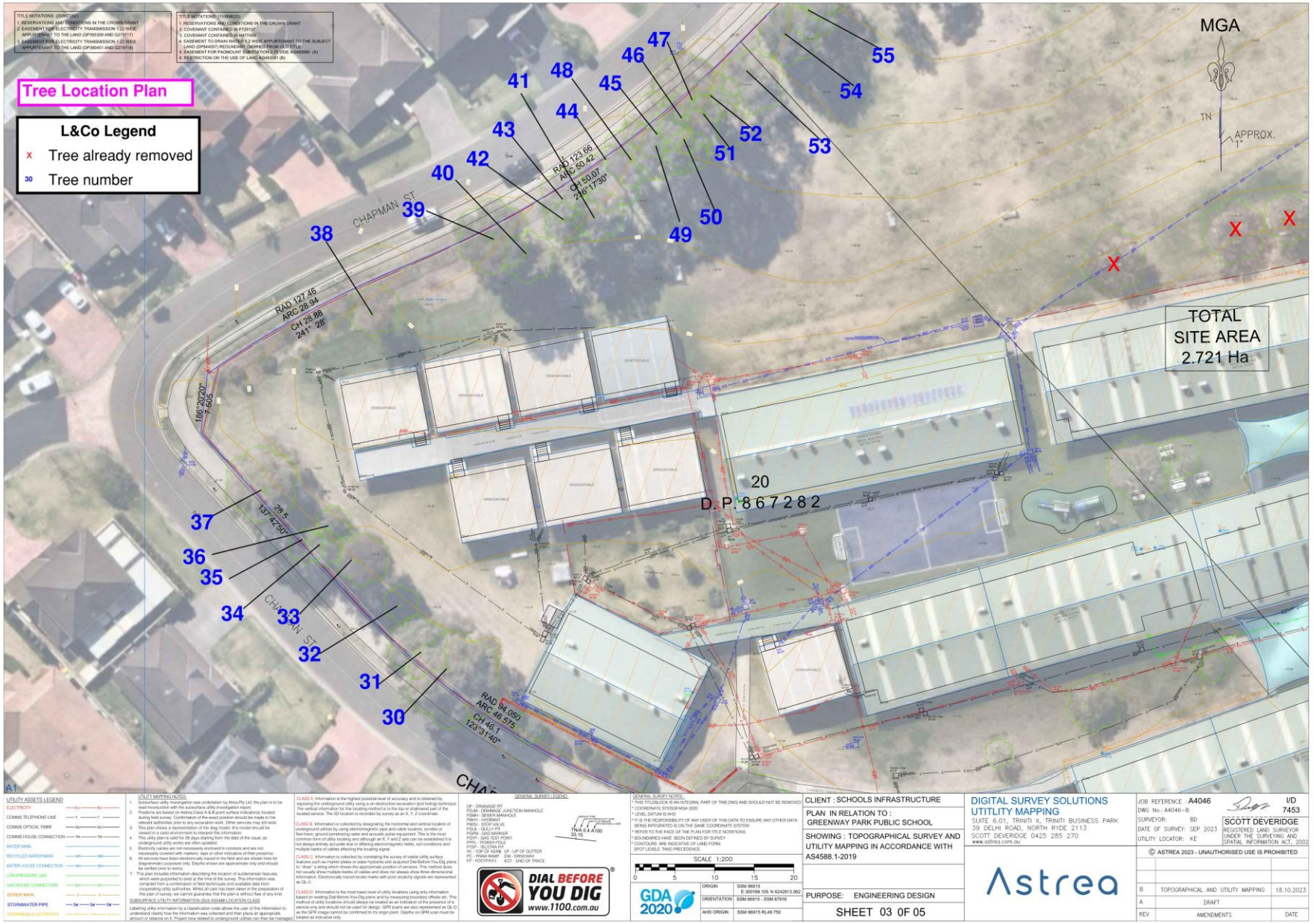


A1

UTILITY ASSETS LEGEND

ELECTRICITY
COMMS TELEPHONE LINE
COMMS OPTICAL FIBRE
COMMS HOUSE CONNECTION
WATER MAIN
RECYCLED WATER MAIN
WATER HOUSE CONNECTION
LOW PRESSURE GAS
GAS HOUSE CONNECTION
SEWER MAIN
STORMWATER PIPE
OVERHEAD ELECTRICITY

UTILITY MAPPING NOTES:

1. Subsurface utility investigation was undertaken by Ainsa Pty Ltd, the plan is to be read in conjuction with the subsurface utility investigation report.
2. Positions are based on Aishea Class A & B point surface indicator(s) located during field survey. Confirmation of the exact position should be made to the relevant authorities prior to any excavation work. Other services may still exist.
3. This plan shows a representation of the dwg model, this model should be viewed in a cad environment to interpret this information.
4. The plan is a "snap shot" of the information at the date of the issue, as underground utility works are often updated.
5. Electricity cables are not necessarily enclosed in conduits and are not necessarily covered with markers, tape or other indications of their presence.
6. All services have been electronically traced in the field and are shown here for diagrammatic purposes only. Depths shown are approximate only and should be verified prior to works.
7. This plan includes information describing the location of subterranean features which were purported to exist at the time of the survey. This information was compiled from a combination of field techniques and available data from cooperating utility authorities. Whilst all care has been taken in the preparation of this plan of survey, we cannot guarantee that the plan is without flaw of any kind.

SUBSURFACE UTILITY INFORMATION (SUI) AS5488 LOCATION CLASS

Labeling utility information by a classification code allows the user of this information to understand clearly how the information was collected and then place an appropriate amount of reliance on it. Project risks related to underground utilities can then be managed

CLASS A: Information is the highest possible level of accuracy and is obtained by exposing the underground utility using a on-destructive excavation (pot holing) technique. The vertical information for this locating method is to the top or shallowest part of the located service. The 3D location is recorded by survey as an X, Y, Z coordinate.

CLASS B: Information is collected by designating the horizontal and vertical location of underground utilities by using electromagnetic pipe and cable locators, sondes or fixed-trace, ground penetrating radar and acoustic pulse equipment. This is the most common form of utility locating and although an X, Y and Z axis can be established it is not always entirely accurate due to differing electromagnetic fields, soil conditions and multiple banks of cables affecting the locating signal.

CLASS C: Information is collected by correlating the survey of visible utility surface features such as marker plates or water hydrants and acquired Dial-Before-You-Dig plans to "draw" a string which shows the approximate position of services. This method does not usually show multiple banks of cables and does not always show three dimensional information. Electronically traced locate marks with poor scratchy signals are represented as QL-C.

CLASS D: Information is the most basic level of utility locations using only information based on existing Dial-Before-You-Dig plans and by measuring boundary offsets etc. This method of utility locations should always be treated as an indication of the presence of a service only and should not be used for design. GPR scans are also represented as QL-D as the GPR image cannot be confirmed to its origin point. Depths on GPR scan must be treated as indicative only.

GENERAL SURVEY LEGEND:

DF - DRAINAGE PIT
PDJM - DRAINAGE JUNCTION MANHOLE
PSMH - SEWER MANHOLE
PWHY - HYDRANT
PWSV - STOP VALVE
PGUL - GULLY PIT
PGPM - GAS MARKER
PTEL - TELSTRA PIT
PPPL - POWER POLE
PTSP - TELSTRA PIT
TK - TOP OF KERB LIP - LIP OF GUTTER
PC - PRAM RAMP DW - DRIVEWAY
FP - FOOTPATH EOT - END OF TRACE

TRAN D.A A1(B) 33 15

DIAL BEFORE YOU DIG www.1100.com.au

GDA 2020

GENERAL SURVEY NOTES

* THIS TITLEBLOCK IS AN INTEGRAL PART OF THIS DWG AND SHOULD NOT BE REMOVED
* COORDINATE SYSTEM MGA 2020
* LEVEL DATUM IS AHD
* IT IS THE RESPONSIBILITY OF ANY USER OF THIS DATA TO ENSURE ANY OTHER DATA BEING INTEGRATED IS ON THE SAME COORDINATE SYSTEM
* REFER TO THE FACE OF THE PLAN FOR TITLE NOTATIONS.
* BOUNDARIES HAVE BEEN DEFINED BY SURVEY
* CONTOURS ARE INDICATIVE OF LAND FORM.
SPOT LEVELS TAKE PRECEDENCE.

SCALE 1:200

0 5 10 15 20

ORIGIN	SSM 86915 E 350168.105 N 6242813.062
ORIENTATION	SSM 86915 - SSM 87916
AHD ORIGIN	SSM 86915 RL48.750

CLIENT : SCHOOLS INFRASTRUCTURE

PLAN IN RELATION TO : GREENWAY PARK PUBLIC SCHOOL

SHOWING : TOPOGRAPHICAL SURVEY AND UTILITY MAPPING IN ACCORDANCE WITH AS4588.1-2019

PURPOSE: ENGINEERING DESIGN

SHEET 03 0F 05

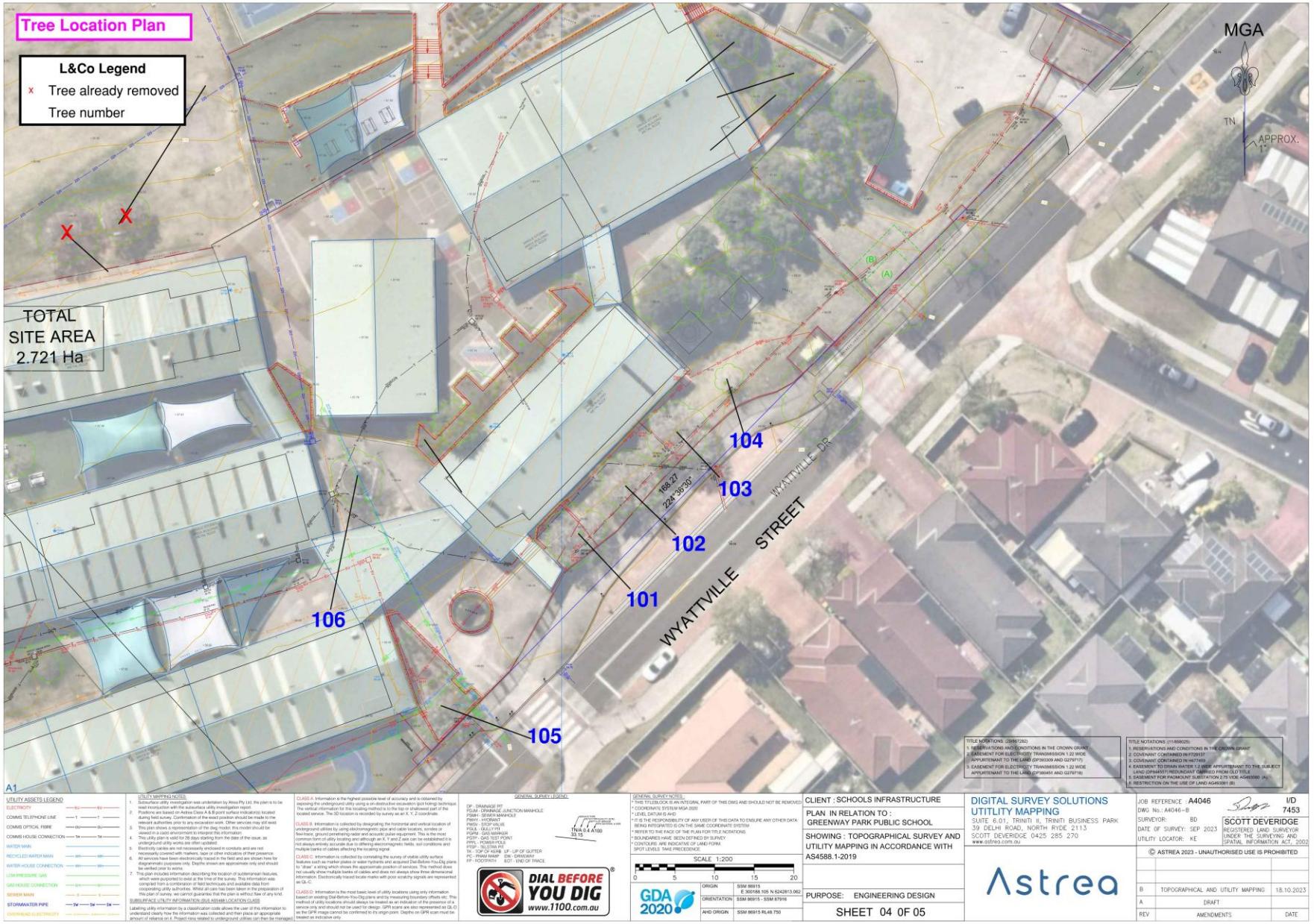
DIGITAL SURVEY SOLUTIONS
UTITILITY MAPPING
SUITE 6.01, TRINITI II, TRINITI BUSINESS PARK
39 DELHI ROAD, NORTH RYDE 2113
SCOTT DEVERIDGE 0425 285 270
www.astrea.com.au

Astrea

JOB REFERENCE : A4046
DWG No.: A4046-B
SURVEYOR: BD
DATE OF SURVEY: SEP 2023
UTILITY LOCATOR: KE

I/D 7453
SCOTT DEVERIDGE
REGISTERED LAND SURVEYOR UNDER THE SURVEYING AND SPATIAL INFORMATION ACT, 2002

REV	AMENDMENTS	DATE
B	TOPOGRAPHICAL AND UTILITY MAPPING	18.10.2023
A	DRAFT	



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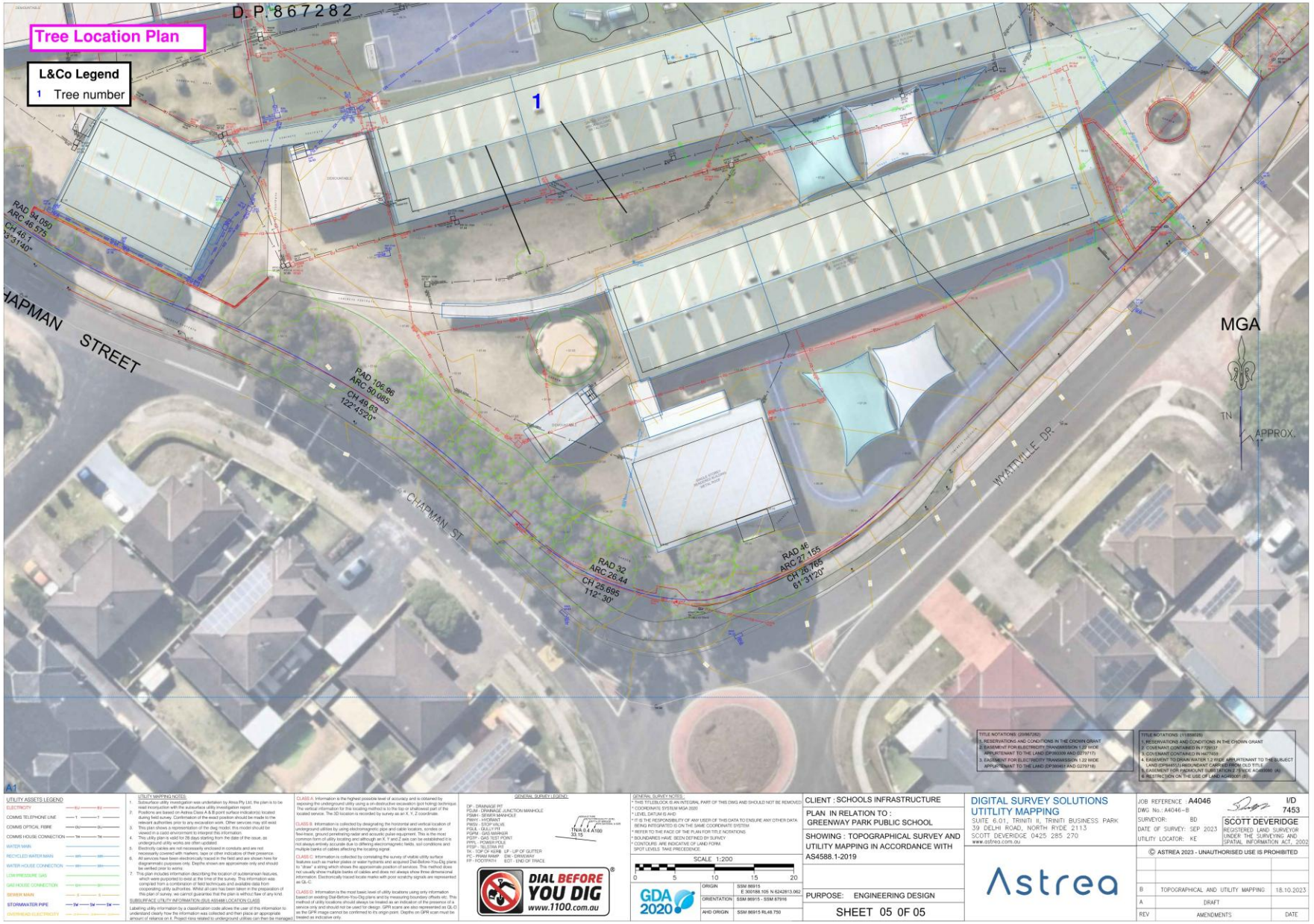
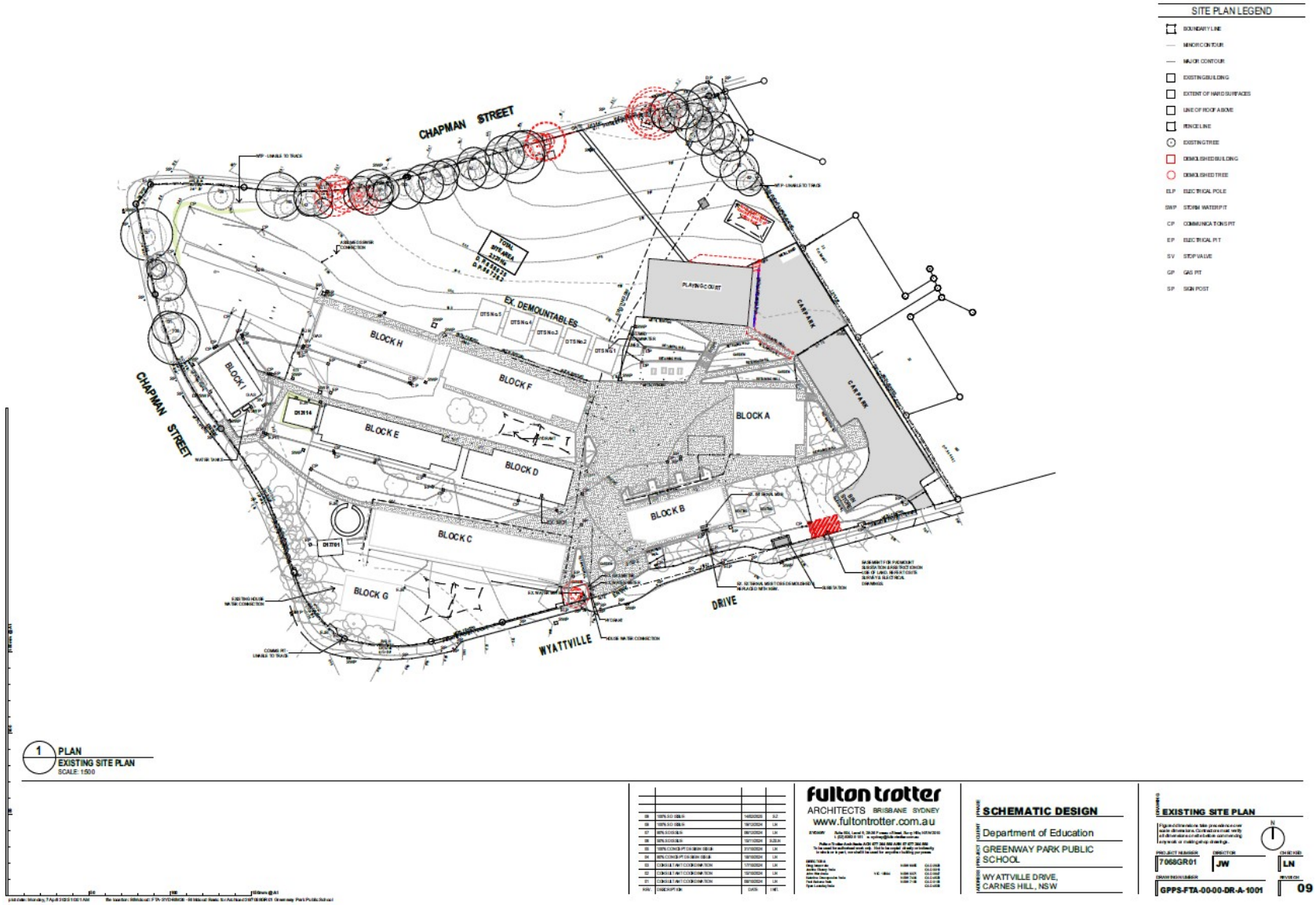
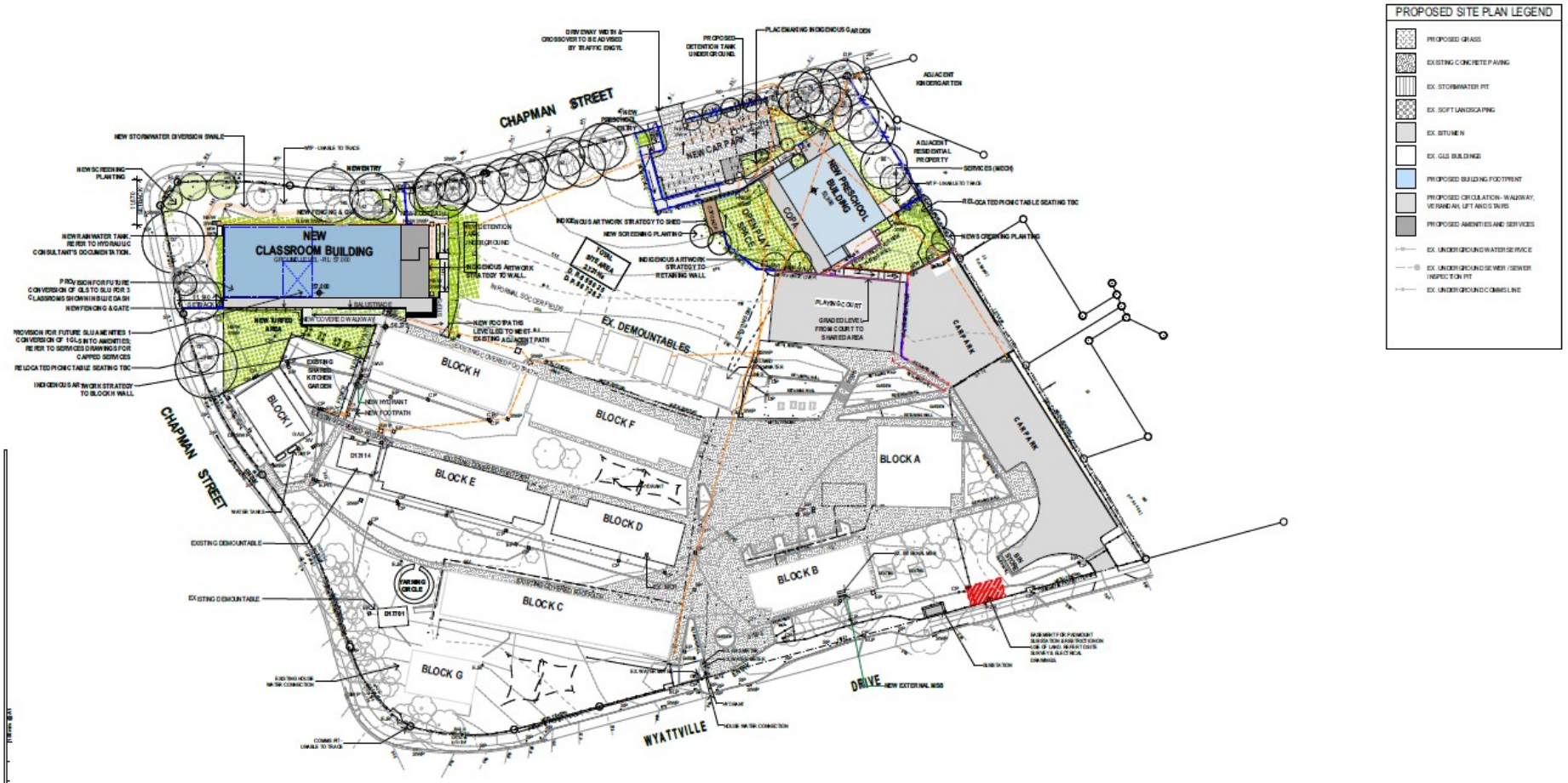

Tree Location Plan
L&Co Legend
1 Tree number
D.P. 867282
1
RAD 84.050
ARC 46.575
CH 46.1
CHAPMAN STREET
RAD 106.96
ARC 50.085
CH 49.63
122°45'20"
CHAPMAN ST
RAD 32
ARC 26.44
CH 25.695
112° 30'
RAD 46
ARC 27.155
CH 26.765
61°31'20"
WYATTVILLE DR
MGA
TN
APPROX.
A1
UTILITY ASSETS LEGEND
ELECTRICITY
COMMS TELEPHONE LINE
COMMS OPTICAL FIBRE
COMMS HOUSE CONNECTION
WATER MAIN
RECYCLED WATER MAIN
WATER HOUSE CONNECTION
LOW PRESSURE GAS
GAS HOUSE CONNECTION
SEWER MAIN
STORMWATER PIPE
OVERHEAD ELECTRICITY
UTILITY MAPPING NOTES:
SUBSURFACE UTILITY INFORMATION (QUALITY LEVEL) AS5488 LOCATION CLASS
CLASS A: Information is the highest possible level of accuracy and is obtained by exposing the underground utility using a non-destructive excavation (pot holing) technique. The vertical information for this locating method is to the top or shallowest part of the located service. The 3D location is recorded by survey as an X, Y, Z coordinate.
CLASS B: Information is collected by designating the horizontal and vertical location of underground utilities by using electromagnetic pipe and cable locators, sondes or free-trace, ground penetrating radar and acoustic pulse equipment. This is the most common form of utility locating and although an X, Y and Z axis can be established it is not always entirely accurate due to differing electromagnetic fields, soil conditions and multiple banks of cables affecting the locating signal.
CLASS C: Information is collected by correlating the survey of visible utility surface features such as marker plates or water hydrants and acquired Dial-Before-You-Dig plans to "draw" a string which shows the approximate position of services. This method does not usually show multiple banks of cables and does not always show three dimensional information. Electronically traced locate marks with poor scratchy signals are represented as QL-C.
CLASS D: Information is the most basic level of utility locations using only information based on existing Dial-Before-You-Dig plans and by measuring boundary offsets etc. This method of utility locations should always be treated as an indication of the presence of a service only and should not be used for design. GPR scans are also represented as QL-D as the GPR image cannot be confirmed to its origin point. Depths on GPR scan must be treated as indicative only.
GENERAL SURVEY LEGEND:
GENERAL SURVEY NOTES:
SCALE 1:200
0 5 10 15 20
GDA 2020
ORIGIN SSM 86915 E 300168.105 N 6242813.062
ORIENTATION SSM 86915 - SSM 87916
AHD ORIGIN SSM 86915 RL48.750
DIAL BEFORE YOU DIG www.1100.com.au
CLIENT : SCHOOLS INFRASTRUCTURE
PLAN IN RELATION TO : GREENWAY PARK PUBLIC SCHOOL
SHOWING : TOPOGRAPHICAL SURVEY AND UTILITY MAPPING IN ACCORDANCE WITH AS4588.1-2019
PURPOSE: ENGINEERING DESIGN
SHEET 05 OF 05
DIGITAL SURVEY SOLUTIONS
UTILITY MAPPING
SUITE 6.01, TRINITI II, TRINITI BUSINESS PARK
39 DELHI ROAD, NORTH RYDE 2113
SCOTT DEVERIDGE 0425 285 270
www.astrea.com.au
Astrea
JOB REFERENCE: A4046
DWG No.: A4046-B
SURVEYOR: BD
DATE OF SURVEY: SEP 2023
UTILITY LOCATOR: KE
I/D 7453
SCOTT DEVERIDGE
REGISTERED LAND SURVEYOR
UNDER THE SURVEYING AND SPATIAL INFORMATION ACT, 2002
© ASTREA 2023 - UNAUTHORISED USE IS PROHIBITED
B TOPOGRAPHICAL AND UTILITY MAPPING 18.10.2023
A DRAFT
REV AMENDMENTS DATE

9.0 APPENDIX 4 | PROPOSED DEVELOPMENT PLANS



PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530



14	SCHEME DESIGN	14/02/2025	SJ
13	100% SCD (BLDG REVISED)	06/02/2025	LN
12	100% SCD (BLDG)	14/02/2025	SJ
11	50% SCD (BLDG) (FOR TR)	24/01/2025	LN
10	100% SCD (BLDG)	19/12/2024	LN
09	90% SCD (BLDG)	06/12/2024	LN
08	SD FINE PACK	29/11/2024	LN
07	50% SCD (BLDG)	15/11/2024	SJ/LN
06	100% CONCEPT DESIGN (BLDG)	31/10/2024	LN
05	90% CONCEPT DESIGN (BLDG)	18/10/2024	LN
04	CONSULTANT COORDINATION	17/10/2024	LN
03	CONSULTANT COORDINATION	10/10/2024	LN
ISSUE	DESCRIPTION	DATE	INIT.

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SCHEMATIC DESIGN

Department of Education

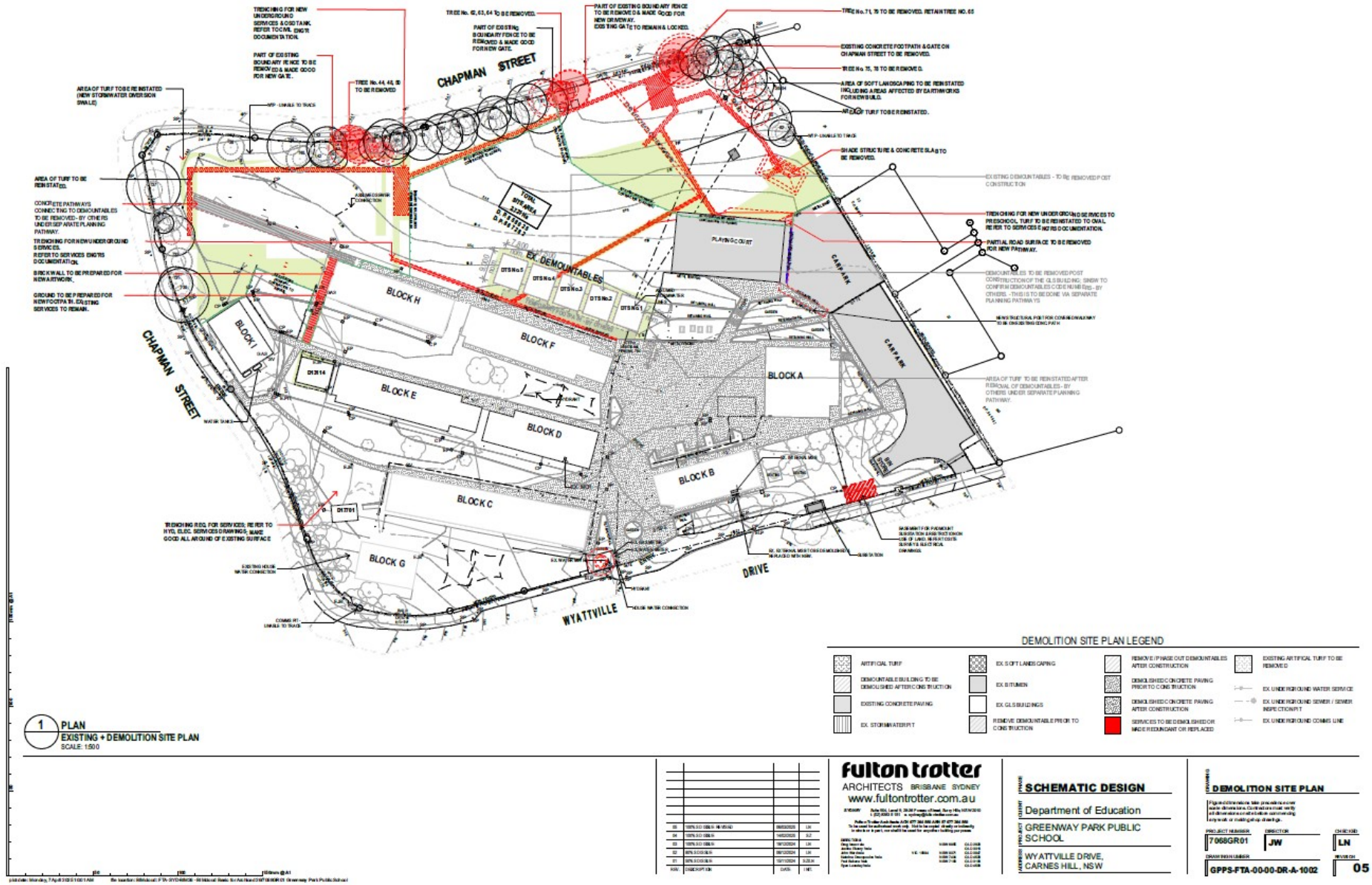
GREENWAY PARK PUBLIC SCHOOL

WYATTVILLE DRIVE, CARNES HILL, NSW

PROPOSED SITE PLAN

PROJECT NUMBER 7068GR01 | DIRECTOR JW | CHECKED LN

DRAWING NUMBER GPPS-FTA-0000-DR-A-1101 | REVISION 14



1 PLAN
EXISTING + DEMOLITION SITE PLAN
SCALE: 1:500

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SCHEMATIC DESIGN

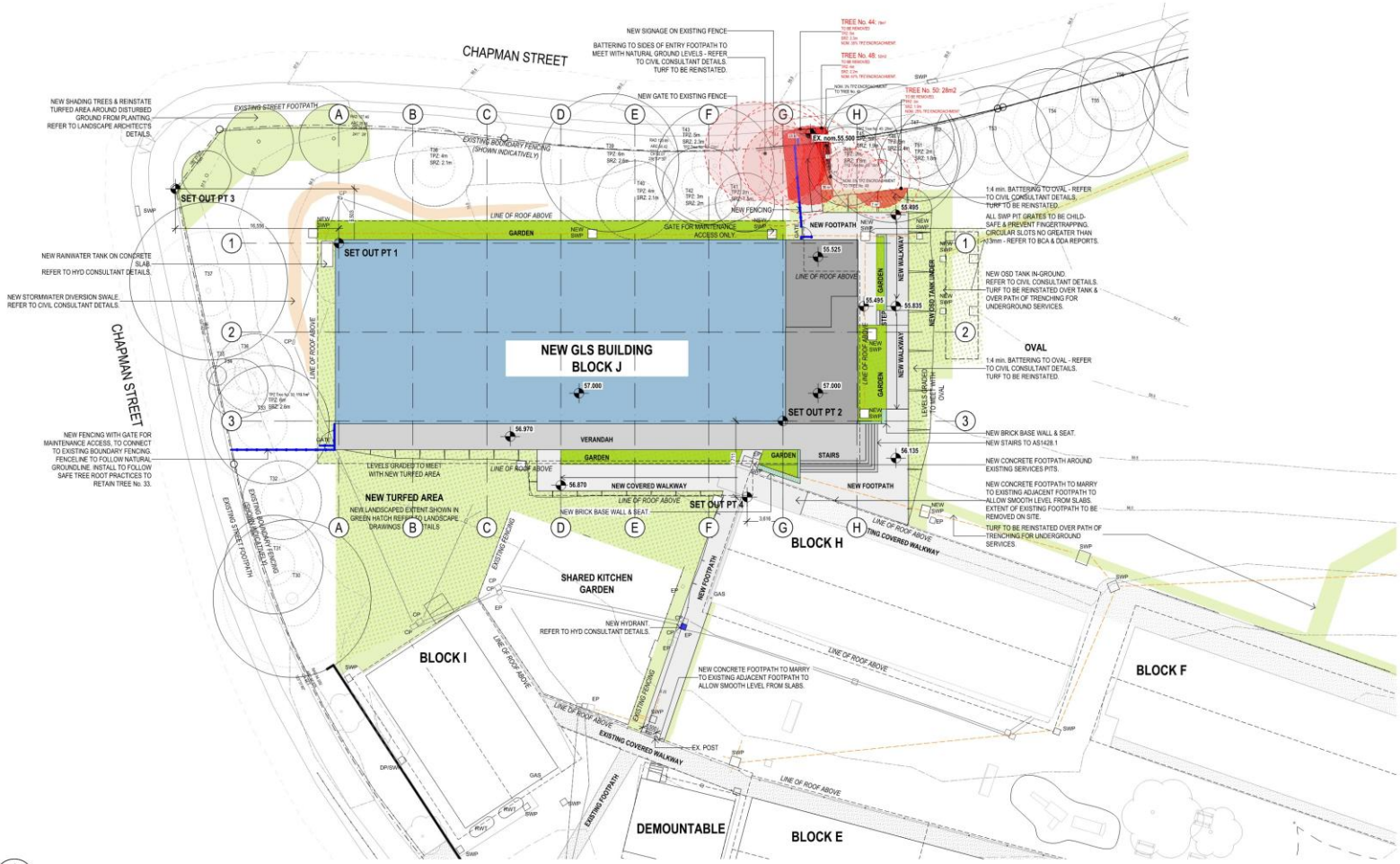
Department of Education

GREENWAY PARK PUBLIC SCHOOL

WYATTVILLE DRIVE, CARNES HILL, NSW

DEMOLITION SITE PLAN

PROJECT NUMBER: 7068GR01
DIRECTOR: JW
CHECKED: LN
DRAWING NUMBER: GPPS-FTA-00-00-DR-A-1002
REVISION: 05



1 PLAN
EXTERNAL WORKS SITE PLAN
SCALE: 1:200

NOTE: SETOUT POINTS & DIMENSIONS TO BE CONFIRMED ON SITE. REFER TO SURVEY.

REV.	DESCRIPTION	DATE	INIT.
05	TENDER ISSUE	14/03/2025	SZ
04	100% SD ISSUE REVISED	06/03/2025	LN
03	100% SD ISSUE	14/02/2025	SZ
02	100% SD ISSUE	19/12/2024	LN
01	80% SD ISSUE	06/12/2024	LN

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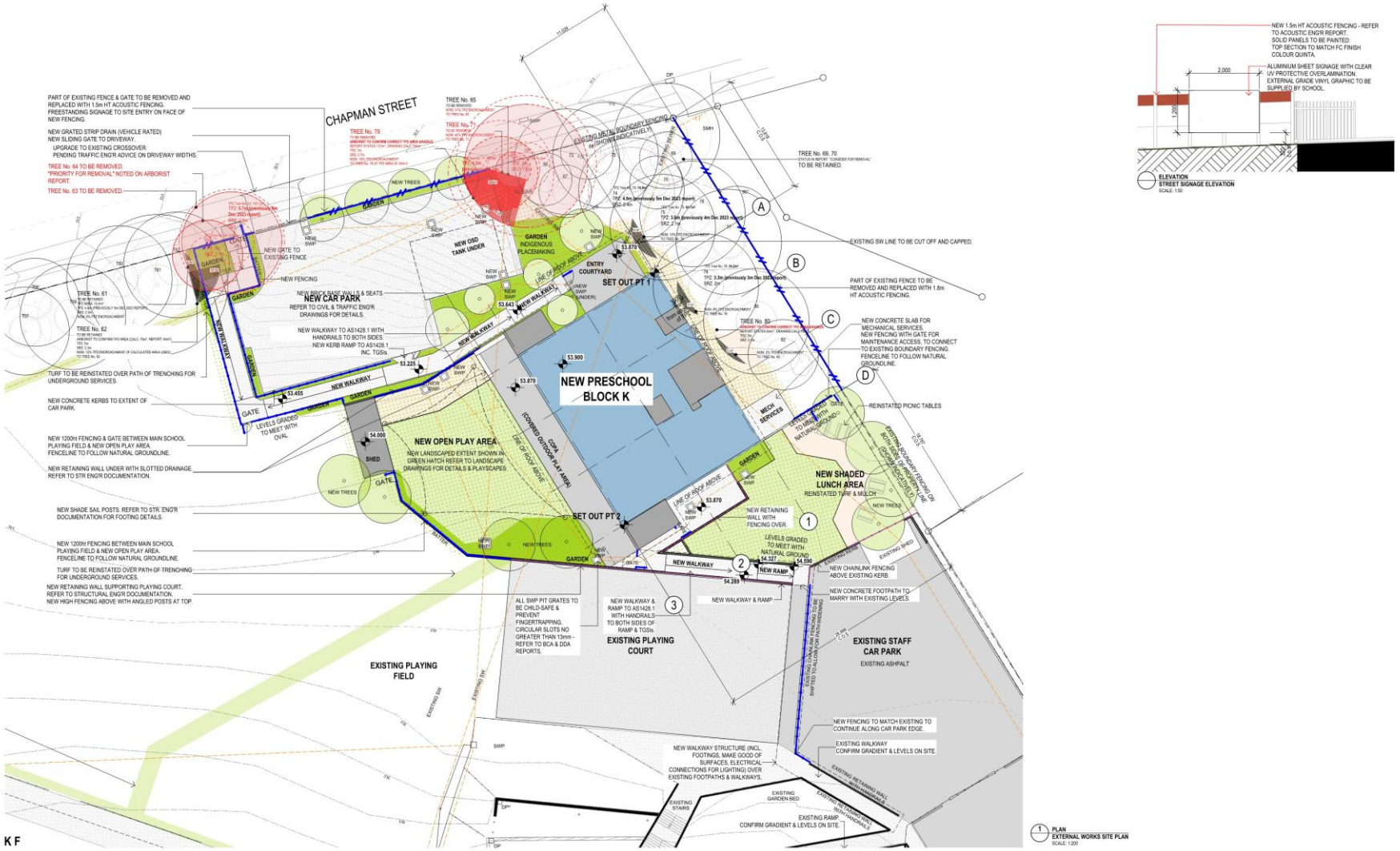
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

PHASE: SCHEDULE DESIGN
CLIENT: Department of Education
PROJECT: GREENWAY PARK PUBLIC SCHOOL
ADDRESS: WYATTVILLE DRIVE, CARNES HILL, NSW

DRAWING: EXTERNAL WORKS PLAN
PROJECT NUMBER: 7068GR01
DIRECTOR: JW
CHECKED: LN
DRAWING NUMBER: GPPS-FTA-B00J-00-DR-A-1401
REVISION: 05

plot date: Friday, 14 March 2025 4:49 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068GR01 Greenway Park Public School



NOTE: SETOUT POINTS & DIMENSIONS TO BE CONFIRMED ON SITE. REFER TO SURVEY.

REV.	DESCRIPTION	DATE	INIT.
04	TENDER ISSUE	14/03/2025	SZ
03	100% SD ISSUE REVISED	06/03/2025	LN
02	100% SD ISSUE	14/02/2025	SZ
01	90% SD ISSUE UPDATE	24/01/2025	LN

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t. (02) 8080 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 617 284 590 ABN 67 617 284 590
To be used for authorised work only. Not to be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes.
DIRECTORS
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Jason Trotter nsw
John Ward nsw
Katerina Dracopoulos nsw
Paul Bakara Hick
Ryan Loveday nsw
VIC 19804
NSW 6855 QLD 2925
NSW 8221 QLD 3847
NSW 7434 QLD 4529
NSW 7160 QLD 3156
QLD 4505

PHASE: **SCHEMATIC DESIGN**
CLIENT: Department of Education
PROJECT: GREENWAY PARK PUBLIC SCHOOL
ADDRESS: WYATTVILLE DRIVE, CARNES HILL, NSW

DRAWING: **EXTERNAL WORKS PLAN PRESCHOOL**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068GR01	JW	LN

DRAWING NUMBER: GPPS-FTA-B00K-00-DR-A-1402
REVISION: 04

plot date: Friday, 14 March 2025 4:49 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068GR01 Greenway Park Public School

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www.laurenceco.com.au
PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530

LANDSCAPE ARCHITECT
GROUND INK
LANDSCAPE ARCHITECTS

NOTE
VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK. REPORT ALL DISCREPANCIES TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DRAWINGS. ALL WORK IS TO CONFORM TO RELEVANT AUSTRALIAN STANDARDS AND OTHER CODES AS APPLICABLE. LOCATION OF UNDERGROUND SERVICES TO BE PROVEN ON SITE AND PROTECTED IF NECESSARY PRIOR TO CONSTRUCTION. DIAL BEFORE YOU DIG. PLANT SPECIES AND QUANTITIES SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO CHANGE BASED ON FUTURE PROJECT REQUIREMENTS.

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	03.12.24	ISSUE FOR COORDINATION	AG	RL
B	05.12.24	ISSUE FOR COORDINATION	AG	RL
C	10.12.24	100% SCHEMATIC	AG	RL
D	23.05.25	ISSUE FOR PCG COORDINATION	AG	RL
E	06.06.25	ISSUE FOR TENDER	GN	RL
F	21.02.25	ISSUE FOR TENDER	GN	RL
G	02.04.25	ISSUE FOR TENDER	GN	RL

DRAWING TITLE
LANDSCAPE PLAN

DRAWING NUMBER
GPPS-SIL-00-00-DR-L-3001

PROJECT
GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL, NSW 2171

NORTH

SCALE 1:200 @ A1
0 2 4 6 8 10M

REV
G

PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530

LANDSCAPE ARCHITECT
GROUND INK
LANDSCAPE ARCHITECTS
SUITE 19, 54 NEWDAY ST, CHATSWOOD NSW 2067 PH. (02) 9417 3279
WWW.GROUNDINK.COM.AU ABN 55 163 025 456 ACN 163 025 456

NOTE
VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK. REPORT ALL DISCREPANCIES TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DRAWINGS. ALL WORK IS TO CONFORM TO RELEVANT AUSTRALIAN STANDARDS AND OTHER CODES AS APPLICABLE. LOCATION OF UNDERGROUND SERVICES TO BE PROVEN ON SITE AND PROTECTED IF NECESSARY PRIOR TO CONSTRUCTION. DIAL BEFORE YOU DIG. PLANT SPECIES AND QUANTITIES SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO CHANGE BASED ON FUTURE PROJECT REQUIREMENTS.

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	20.02.25	ISSUE FOR REF	GN	RL

DRAWING TITLE
LANDSCAPE PLAN
EARLY LEARNING

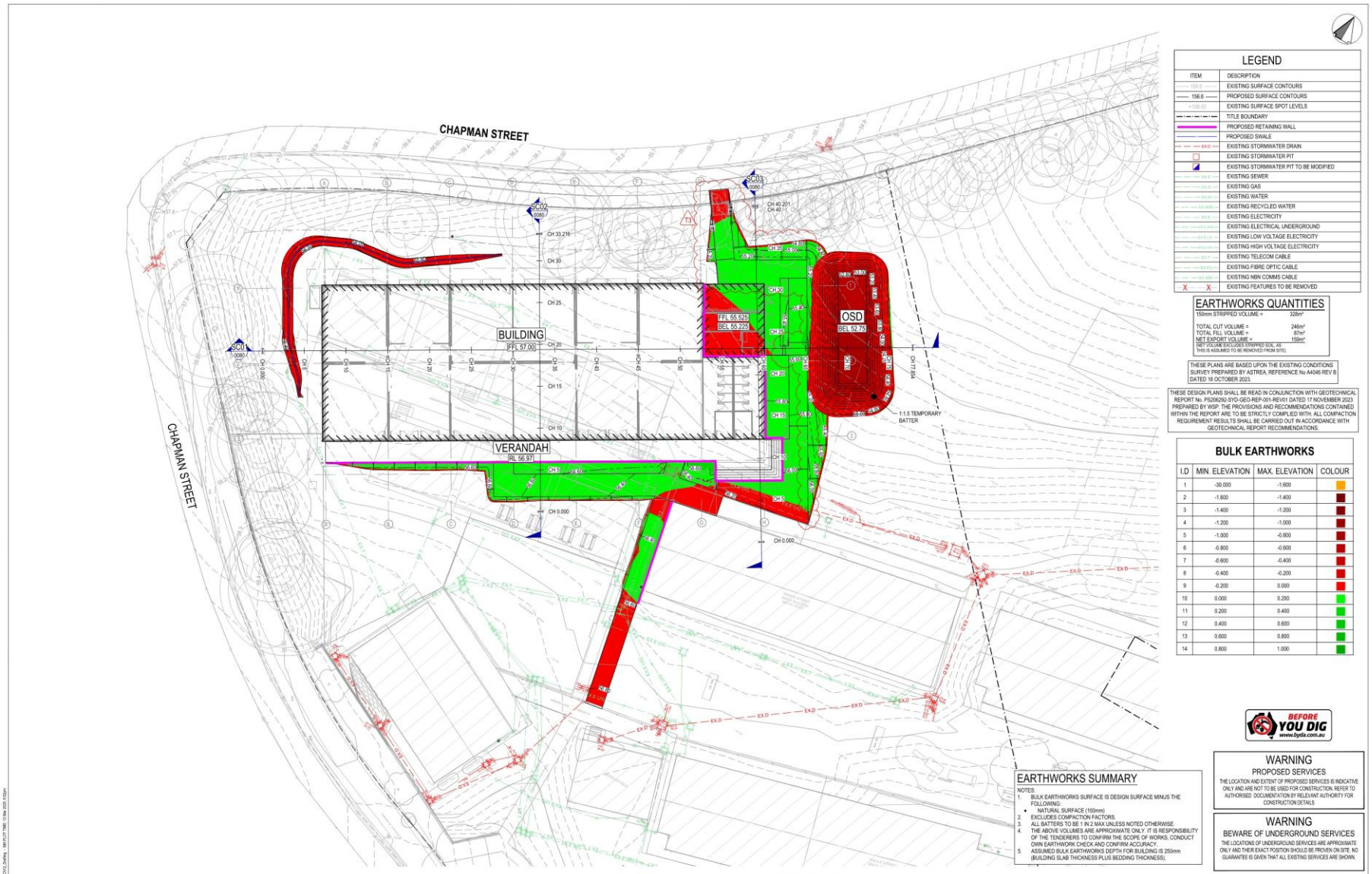
DRAWING NUMBER
GPPS-GIL-00-00-DR-L-3002

PROJECT
GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL, NSW 2171

NORTH

SCALE 1:150
0 1 2 3 4 5M

REV
A



LEGEND

ITEM	DESCRIPTION
156.6	EXISTING SURFACE CONTOURS
156.6	PROPOSED SURFACE CONTOURS
+158.60	EXISTING SURFACE SPOT LEVELS
	TITLE BOUNDARY
	PROPOSED RETAINING WALL
	PROPOSED SWALE
EX.D	EXISTING STORMWATER DRAIN
	EXISTING STORMWATER PIT
	EXISTING STORMWATER PIT TO BE MODIFIED
EX.S	EXISTING SEWER
EX.G	EXISTING GAS
EX.W	EXISTING WATER
EX.RW	EXISTING RECYCLED WATER
EX.E	EXISTING ELECTRICITY
EX.ELU	EXISTING ELECTRICAL UNDERGROUND
EX.LV	EXISTING LOW VOLTAGE ELECTRICITY
EX.HV	EXISTING HIGH VOLTAGE ELECTRICITY
EX.T	EXISTING TELECOM CABLE
EX.FO	EXISTING FIBRE OPTIC CABLE
EX.NBN	EXISTING NBN COMMS CABLE
X X	EXISTING FEATURES TO BE REMOVED

EARTHWORKS QUANTITIES

150mm STRIPPED VOLUME = 328m³

TOTAL CUT VOLUME = 246m³
TOTAL FILL VOLUME = 87m³
NET EXPORT VOLUME = 159m³
NET VOLUME EXCLUDES STRIPPED SOIL, AS THIS IS ASSUMED TO BE REMOVED FROM SITE)

THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY ASTREA, REFERENCE No A4046 REV B DATED 18 OCTOBER 2023.

THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. PS206292-SYD-GEO-REP-001-REV01 DATED 17 NOVEMBER 2023 PREPARED BY WSP. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.

BULK EARTHWORKS

I.D	MIN. ELEVATION	MAX. ELEVATION	COLOUR
1	-30.000	-1.600	
2	-1.600	-1.400	
3	-1.400	-1.200	
4	-1.200	-1.000	
5	-1.000	-0.800	
6	-0.800	-0.600	
7	-0.600	-0.400	
8	-0.400	-0.200	
9	-0.200	0.000	
10	0.000	0.200	
11	0.200	0.400	
12	0.400	0.600	
13	0.600	0.800	
14	0.800	1.000	

EARTHWORKS SUMMARY

NOTES:
1. BULK EARTHWORKS SURFACE IS DESIGN SURFACE MINUS THE FOLLOWING:
   - NATURAL SURFACE (150mm)
2. EXCLUDES COMPACTION FACTORS.
3. ALL BATTERS TO BE 1 IN 2 MAX UNLESS NOTED OTHERWISE.
4. THE ABOVE VOLUMES ARE APPROXIMATE ONLY. IT IS RESPONSIBILITY OF THE TENDERERS TO CONFIRM THE SCOPE OF WORKS, CONDUCT OWN EARTHWORK CHECK AND CONFIRM ACCURACY.
5. ASSUMED BULK EARTHWORKS DEPTH FOR BUILDING IS 250mm (BUILDING SLAB THICKNESS PLUS BEDDING THICKNESS).

BEFORE YOU DIG www.byda.com.au

WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	80% SCHEMATIC DESIGN	D.H	G.P	Y.C	12.12.24
P2	100% SCHEMATIC DESIGN	D.H	G.P	Y.C	19.01.25
T1	TENDER ISSUE	D.H	G.P	Y.C	21.02.25
T2	TENDER ISSUE	D.H	G.P	Y.C	25.02.25
T3	TENDER ISSUE	D.H	G.P	Y.C	13.03.25

0 2 4 6 8 10m
SCALE 1:200 AT ORIGINAL SIZE (A1)

MEINHARDT
Meinhardt Infrastructure and Environment PTY. LTD.
A.C.N. 001 627 591
Level 4, 66 Clarence Street
Sydney NSW 2000
Australia
T: +61 2 9699 3380
F: +61 2 9219 7510
info@meinhardtgroup.com
http://www.meinhardtgroup.com
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CLIENT: NSW School Infrastructure NSW

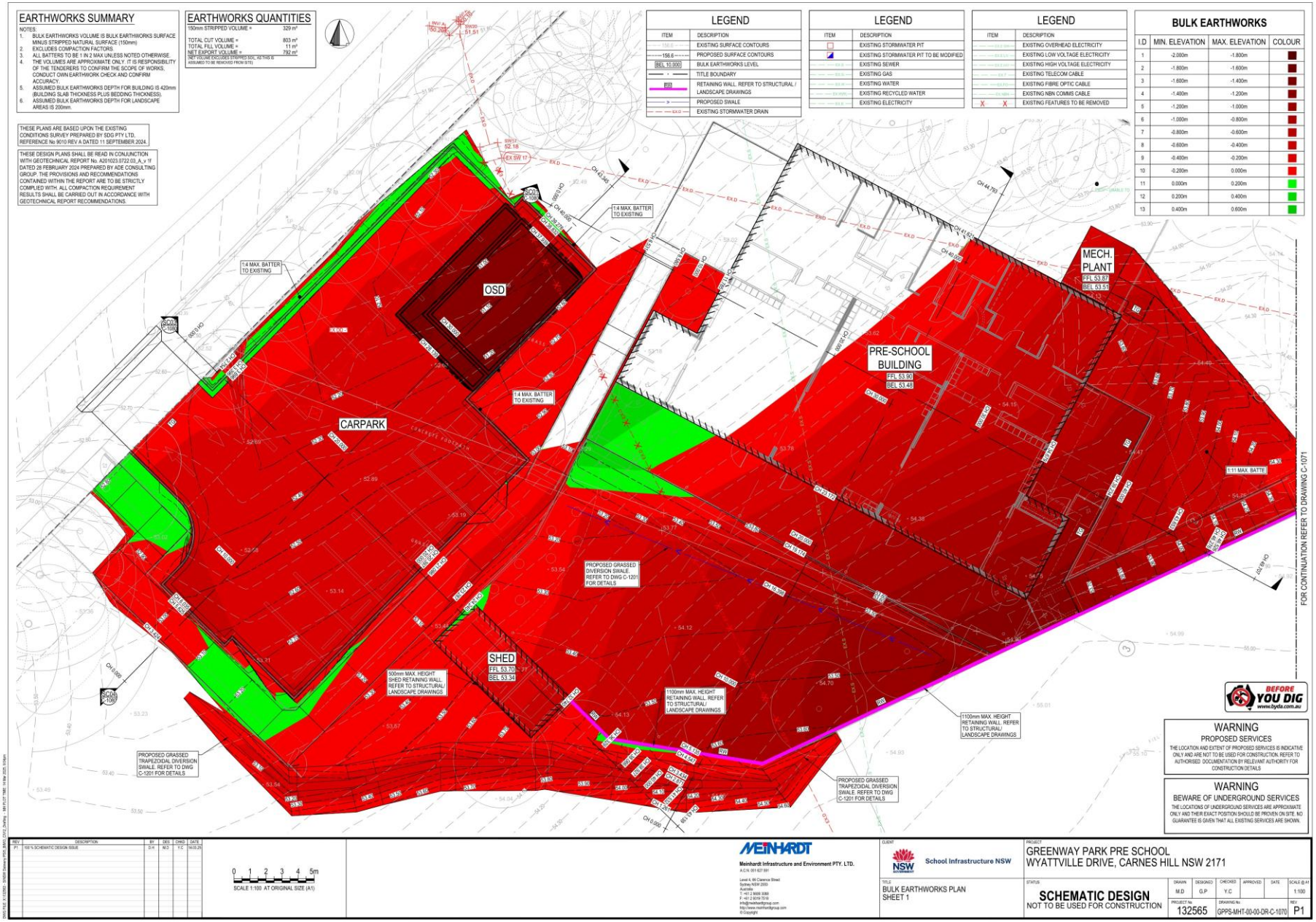
PROJECT: GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL NSW 2171

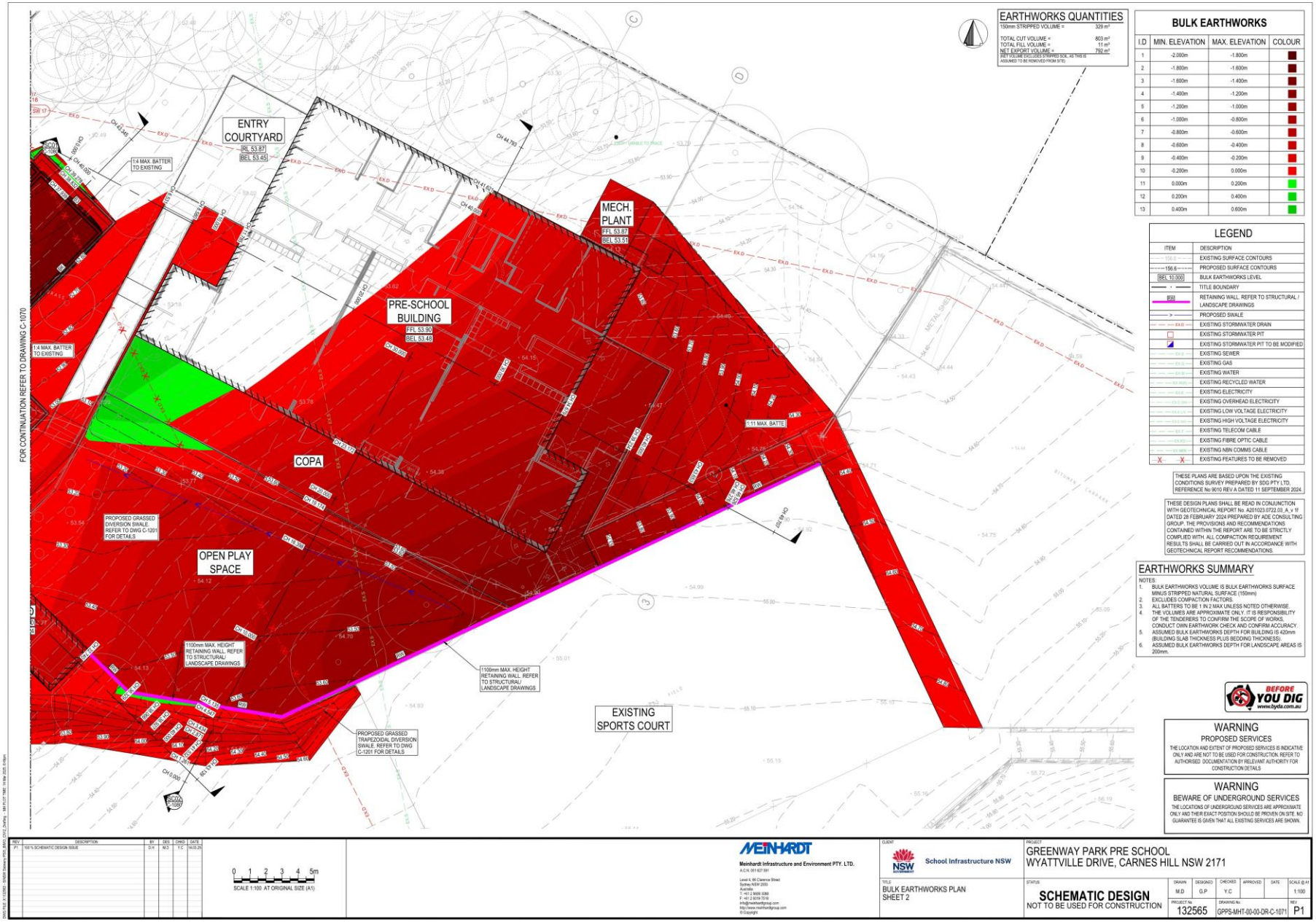
TITLE: BULK EARTHWORKS PLAN

STATUS: TENDER ISSUE
NOT TO BE USED FOR CONSTRUCTION

DRAWN	DESIGNED	CHECKED	APPROVED	DATE	SCALE @ A1
M.D	G.P	Y.C			1:200

PROJECT No: 132565
DRAWING No: GPPS-MHT-00-00-DR-C-0070
REV: T3


EARTHWORKS SUMMARY
NOTES:
1. BULK EARTHWORKS VOLUME IS BULK EARTHWORKS SURFACE MINUS STRIPPED NATURAL SURFACE (150mm)
2. EXCLUDES COMPACTION FACTORS.
3. ALL BATTERS TO BE 1 IN 2 MAX UNLESS NOTED OTHERWISE.
4. THE VOLUMES ARE APPROXIMATE ONLY. IT IS RESPONSIBILITY OF THE TENDERERS TO CONFIRM THE SCOPE OF WORKS, CONDUCT OWN EARTHWORK CHECK AND CONFIRM ACCURACY.
5. ASSUMED BULK EARTHWORKS DEPTH FOR BUILDING IS 420mm (BUILDING SLAB THICKNESS PLUS BEDDING THICKNESS).
6. ASSUMED BULK EARTHWORKS DEPTH FOR LANDSCAPE AREAS IS 200mm.
EARTHWORKS QUANTITIES
150mm STRIPPED VOLUME = 329 m³
TOTAL CUT VOLUME = 803 m³
TOTAL FILL VOLUME = 11 m³
NET EXPORT VOLUME = 792 m³
NET VOLUME EXCLUDES STRIPPED SOIL, AS THIS IS ASSUMED TO BE REMOVED FROM SITE)
THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY SDG PTY LTD, REFERENCE No 9010 REV A DATED 11 SEPTEMBER 2024.
THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. A20123.0722.03_A_v 1f DATED 28 FEBRUARY 2024 PREPARED BY ADE CONSULTING GROUP. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.
LEGEND
ITEM DESCRIPTION
EXISTING SURFACE CONTOURS
PROPOSED SURFACE CONTOURS
BEL 10.000 BULK EARTHWORKS LEVEL
TITLE BOUNDARY
RETAINING WALL. REFER TO STRUCTURAL / LANDSCAPE DRAWINGS
PROPOSED SWALE
EXISTING STORMWATER DRAIN
LEGEND
ITEM DESCRIPTION
EXISTING STORMWATER PIT
EXISTING STORMWATER PIT TO BE MODIFIED
EXISTING SEWER
EXISTING GAS
EXISTING WATER
EXISTING RECYCLED WATER
EXISTING ELECTRICITY
LEGEND
ITEM DESCRIPTION
EXISTING OVERHEAD ELECTRICITY
EXISTING LOW VOLTAGE ELECTRICITY
EXISTING HIGH VOLTAGE ELECTRICITY
EXISTING TELECOM CABLE
EXISTING FIBRE OPTIC CABLE
EXISTING NBN COMMS CABLE
EXISTING FEATURES TO BE REMOVED
BULK EARTHWORKS
I.D MIN. ELEVATION MAX. ELEVATION COLOUR
1 -2.000m -1.800m
2 -1.800m -1.600m
3 -1.600m -1.400m
4 -1.400m -1.200m
5 -1.200m -1.000m
6 -1.000m -0.800m
7 -0.800m -0.600m
8 -0.600m -0.400m
9 -0.400m -0.200m
10 -0.200m 0.000m
11 0.000m 0.200m
12 0.200m 0.400m
13 0.400m 0.800m
OSD
CARPARK
PRE-SCHOOL BUILDING
FFL 53.90
SEL 53.48
MECH. PLANT
FFL 53.87
SEL 53.51
SHED
FFL 53.70
SEL 53.34
1:4 MAX. BATTER TO EXISTING
1:11 MAX. BATTE
PROPOSED GRASSED DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
PROPOSED GRASSED TRAPEZOIDAL DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
500mm MAX. HEIGHT SHED RETAINING WALL. REFER TO STRUCTURAL/ LANDSCAPE DRAWINGS
1100mm MAX. HEIGHT RETAINING WALL. REFER TO STRUCTURAL/ LANDSCAPE DRAWINGS
FOR CONTINUATION REFER TO DRAWING C-1071
BEFORE YOU DIG www.byda.com.au
WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS
WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
REV DESCRIPTION BY DES DWD CHD DATE
P1 100 % SCHEMATIC DESIGN ISSUE D.H M.D Y.C 14.03.25
0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE (A1)
MEINHARDT
Meinhardt Infrastructure and Environment PTY. LTD.
CLIENT
NSW School Infrastructure NSW
PROJECT
GREENWAY PARK PRE SCHOOL
WYATTVILLE DRIVE, CARNES HILL NSW 2171
TITLE
BULK EARTHWORKS PLAN
SHEET 1
STATUS
SCHEMATIC DESIGN
NOT TO BE USED FOR CONSTRUCTION
DRAWN M.D DESIGNED G.P CHECKED Y.C APPROVED DATE SCALE @ A1 1:100
PROJECT No 132565
DRAWING No GPPS-MHT-00-00-DR-C-1070
REV P1


EARTHWORKS QUANTITIES
150mm STRIPPED VOLUME = 329 m³
TOTAL CUT VOLUME = 803 m³
TOTAL FILL VOLUME = 11 m³
NET EXPORT VOLUME = 792 m³
(NET VOLUME EXCLUDES STRIPPED SOIL, AS THIS IS ASSUMED TO BE REMOVED FROM SITE)
BULK EARTHWORKS
I.D | MIN. ELEVATION | MAX. ELEVATION | COLOUR
1 | -2.000m | -1.800m
2 | -1.800m | -1.600m
3 | -1.600m | -1.400m
4 | -1.400m | -1.200m
5 | -1.200m | -1.000m
6 | -1.000m | -0.800m
7 | -0.800m | -0.600m
8 | -0.600m | -0.400m
9 | -0.400m | -0.200m
10 | -0.200m | 0.000m
11 | 0.000m | 0.200m
12 | 0.200m | 0.400m
13 | 0.400m | 0.600m
LEGEND
ITEM | DESCRIPTION
EXISTING SURFACE CONTOURS
PROPOSED SURFACE CONTOURS
BEL 10.000 BULK EARTHWORKS LEVEL
TITLE BOUNDARY
RW RETAINING WALL. REFER TO STRUCTURAL / LANDSCAPE DRAWINGS
PROPOSED SWALE
EXISTING STORMWATER DRAIN
EXISTING STORMWATER PIT
EXISTING STORMWATER PIT TO BE MODIFIED
EXISTING SEWER
EXISTING GAS
EXISTING WATER
EXISTING RECYCLED WATER
EXISTING ELECTRICITY
EXISTING OVERHEAD ELECTRICITY
EXISTING LOW VOLTAGE ELECTRICITY
EXISTING HIGH VOLTAGE ELECTRICITY
EXISTING TELECOM CABLE
EXISTING FIBRE OPTIC CABLE
EXISTING NBN COMMS CABLE
EXISTING FEATURES TO BE REMOVED
THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY SDG PTY LTD. REFERENCE No 9010 REV A DATED 11 SEPTEMBER 2024.
THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. A201023.072J.03_A_v 1f DATED 28 FEBRUARY 2024 PREPARED BY ADE CONSULTING GROUP. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.
EARTHWORKS SUMMARY
NOTES:
1. BULK EARTHWORKS VOLUME IS BULK EARTHWORKS SURFACE MINUS STRIPPED NATURAL SURFACE (150mm)
2. EXCLUDES COMPACTION FACTORS.
3. ALL BATTERS TO BE 1 IN 2 MAX UNLESS NOTED OTHERWISE.
4. THE VOLUMES ARE APPROXIMATE ONLY. IT IS RESPONSIBILITY OF THE TENDERERS TO CONFIRM THE SCOPE OF WORKS, CONDUCT OWN EARTHWORK CHECK AND CONFIRM ACCURACY.
5. ASSUMED BULK EARTHWORKS DEPTH FOR BUILDING IS 420mm (BUILDING SLAB THICKNESS PLUS BEDDING THICKNESS).
6. ASSUMED BULK EARTHWORKS DEPTH FOR LANDSCAPE AREAS IS 200mm.
BEFORE YOU DIG www.byda.com.au
WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS
WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
ENTRY COURTYARD
RL 53.87
BEL 53.45
MECH. PLANT
FFL 53.87
BEL 53.51
PRE-SCHOOL BUILDING
FFL 53.90
BEL 53.48
COPA
OPEN PLAY SPACE
EXISTING SPORTS COURT
1:4 MAX. BATTER TO EXISTING
1:11 MAX. BATTE
PROPOSED GRASSED DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
1100mm MAX. HEIGHT RETAINING WALL. REFER TO STRUCTURAL/ LANDSCAPE DRAWINGS
PROPOSED GRASSED TRAPEZOIDAL DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
FOR CONTINUATION REFER TO DRAWING C-1070
REV | DESCRIPTION | BY | DES | CHKD | DATE
P1 | 100 % SCHEMATIC DESIGN ISSUE | D.H | M.D | Y.C | 04.03.25
0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE (A1)
MEINHARDT
Meinhardt Infrastructure and Environment PTY. LTD.
A.C.N. 001 627 591
Level 4, 66 Clarence Street
Sydney NSW 2000
Australia
T: +61 2 9009 3260
F: +61 2 9219 7510
info@meinhardtgroup.com
http://www.meinhardtgroup.com
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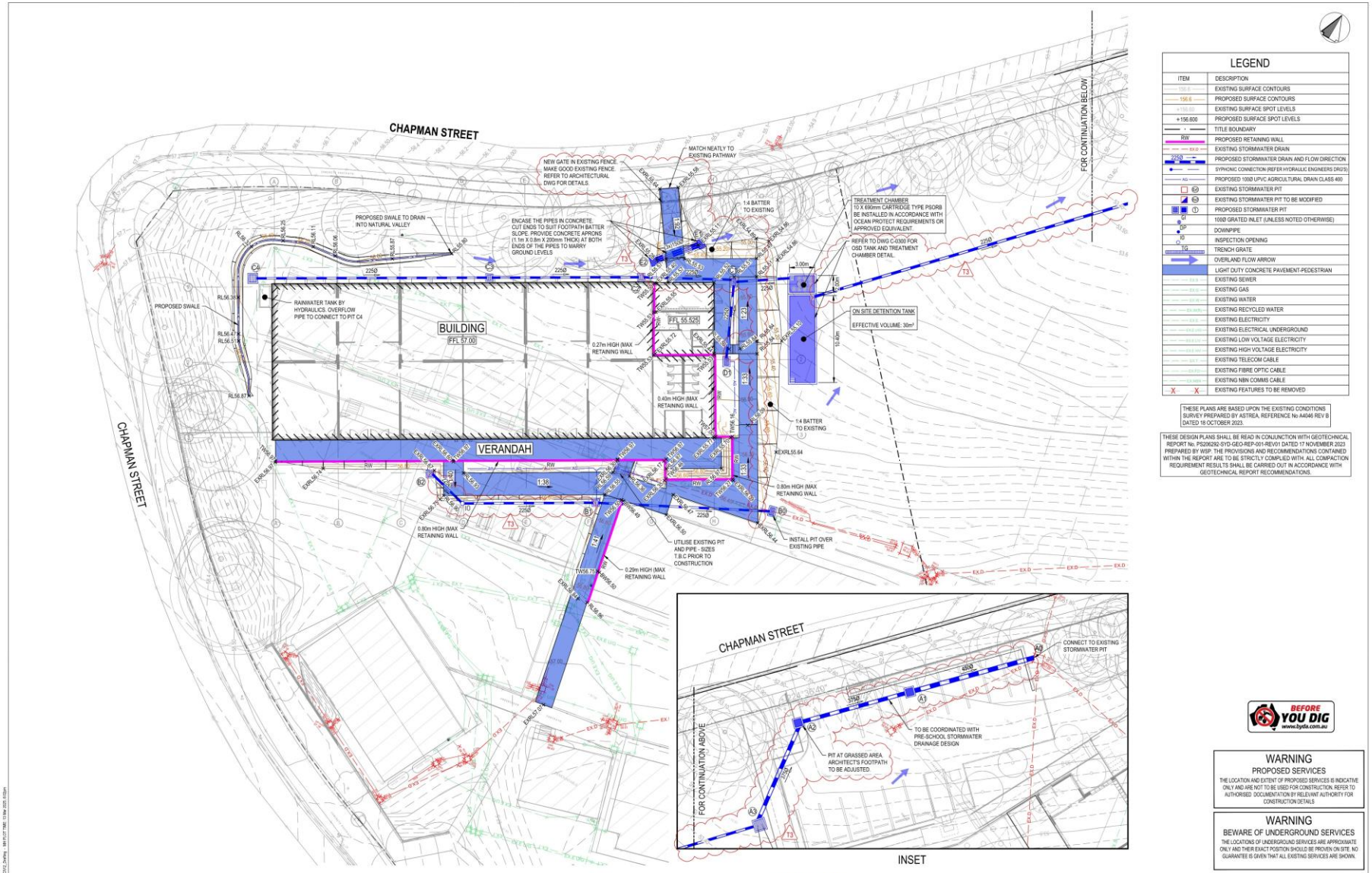
CLIENT
NSW GOVERNMENT School Infrastructure NSW
PROJECT
GREENWAY PARK PRE SCHOOL
WYATTVILLE DRIVE, CARNES HILL NSW 2171
TITLE
BULK EARTHWORKS PLAN
SHEET 2
STATUS
SCHEMATIC DESIGN
NOT TO BE USED FOR CONSTRUCTION
DRAWN M.D | DESIGNED G.P | CHECKED Y.C | APPROVED | DATE | SCALE @ A1 1:100
PROJECT No 132565
DRAWING No GPPS-MHT-00-00-DR-C-1071
REV P1



LEGEND

ITEM	DESCRIPTION
	EXISTING SURFACE CONTOURS
	PROPOSED SURFACE CONTOURS
	EXISTING SURFACE SPOT LEVELS
+156.600	PROPOSED SURFACE SPOT LEVELS
	TITLE BOUNDARY
RW	PROPOSED RETAINING WALL
EX.D	EXISTING STORMWATER DRAIN
225Ø	PROPOSED STORMWATER DRAIN AND FLOW DIRECTION
	SYPHONIC CONNECTION (REFER HYDRAULIC ENGINEERS DRGTS)
AG	PROPOSED 100Ø UPVC AGRICULTURAL DRAIN CLASS 400
EX.P	EXISTING STORMWATER PIT
EX.P	EXISTING STORMWATER PIT TO BE MODIFIED
	PROPOSED STORMWATER PIT
GI	100Ø GRATED INLET (UNLESS NOTED OTHERWISE)
DP	DOWNPIPE
IO	INSPECTION OPENING
TG	TRENCH GRATE
	OVERLAND FLOW ARROW
	LIGHT DUTY CONCRETE PAVEMENT-PEDESTRIAN
	EXISTING SEWER
	EXISTING GAS
	EXISTING WATER
	EXISTING RECYCLED WATER
	EXISTING ELECTRICITY
	EXISTING ELECTRICAL UNDERGROUND
	EXISTING LOW VOLTAGE ELECTRICITY
	EXISTING HIGH VOLTAGE ELECTRICITY
	EXISTING TELECOM CABLE
	EXISTING FIBRE OPTIC CABLE
	EXISTING NBN COMMS CABLE
X X	EXISTING FEATURES TO BE REMOVED

THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY ASTREA, REFERENCE No A4046 REV B DATED 18 OCTOBER 2023.

THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. PS206292-SYD-GEO-REP-001-REV01 DATED 17 NOVEMBER 2023 PREPARED BY WSP. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.

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WARNING
PROPOSED SERVICES
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WARNING
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THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	80% SCHEMATIC DESIGN	D.H	G.P	Y.C	12.12.24
P2	100% SCHEMATIC DESIGN	D.H	G.P	Y.C	19.01.25
T1	TENDER ISSUE	D.H	G.P	Y.C	21.02.25
T2	TENDER ISSUE	D.H	G.P	Y.C	26.02.25
T3	TENDER ISSUE	D.H	G.P	Y.C	10.03.25

0 2 4 6 8 10m
SCALE 1:200 AT ORIGINAL SIZE (A1)

MEINHARDT
Meinhardt Infrastructure and Environment PTY. LTD.
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Sydney NSW 2000
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F: +61 2 9319 7510
info@meinhardtgroup.com
http://www.meinhardtgroup.com
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CLIENT: School Infrastructure NSW

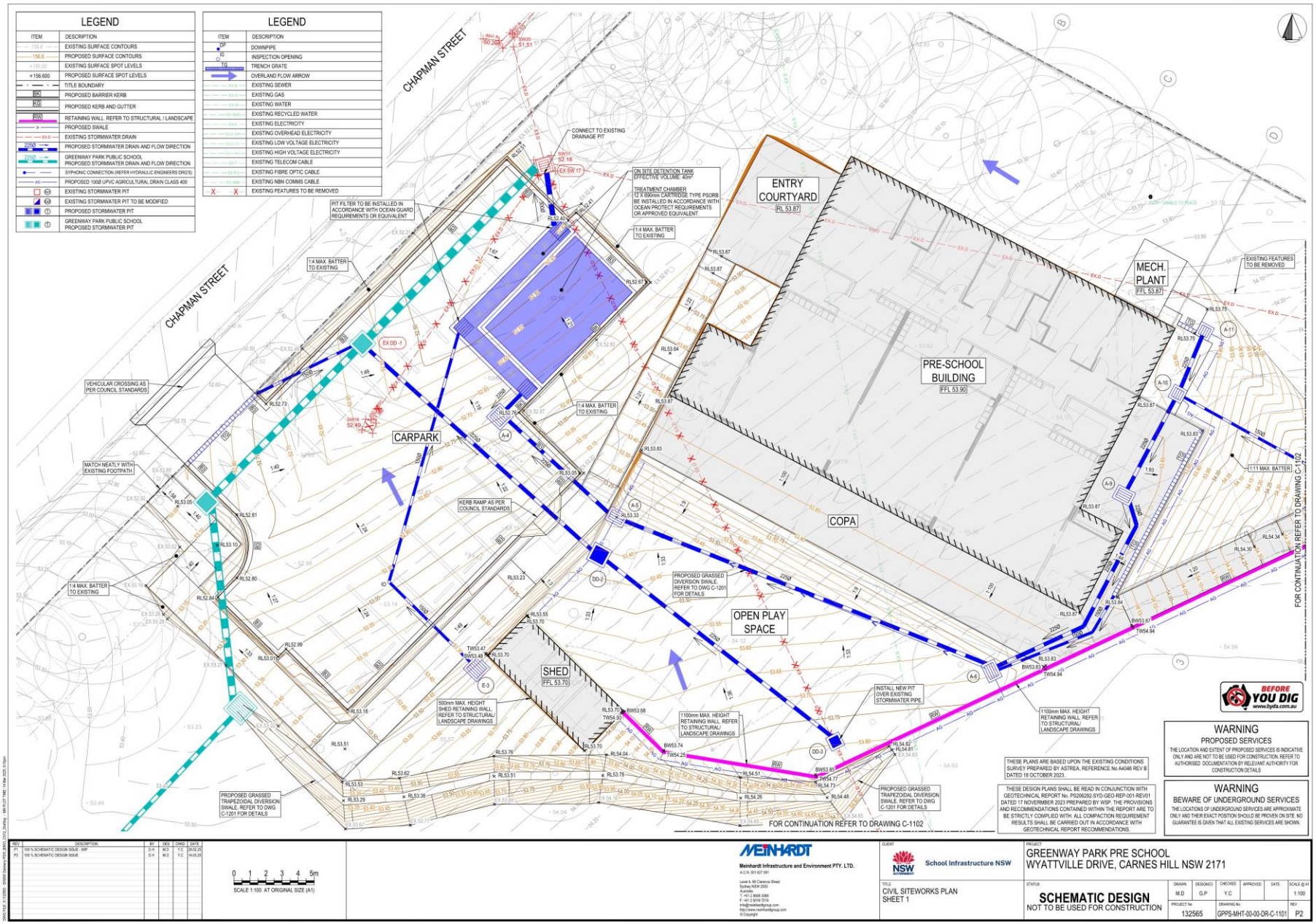
TITLE: CIVIL SITEWORKS PLAN

STATUS: TENDER ISSUE
NOT TO BE USED FOR CONSTRUCTION

PROJECT: GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL NSW 2171

DRAWN	DESIGNED	CHECKED	APPROVED	DATE	SCALE @ A1
M.D	G.P	Y.C			1:200

PROJECT No: 132565
DRAWING No: GPPS-MHT-00-00-DR-C-0101
REV: T3


LEGEND
ITEM
DESCRIPTION
EXISTING SURFACE CONTOURS
PROPOSED SURFACE CONTOURS
EXISTING SURFACE SPOT LEVELS
PROPOSED SURFACE SPOT LEVELS
TITLE BOUNDARY
PROPOSED BARRIER KERB
PROPOSED KERB AND GUTTER
RETAINING WALL. REFER TO STRUCTURAL / LANDSCAPE
PROPOSED SWALE
EXISTING STORMWATER DRAIN
PROPOSED STORMWATER DRAIN AND FLOW DIRECTION
GREENWAY PARK PUBLIC SCHOOL PROPOSED STORMWATER DRAIN AND FLOW DIRECTION
SYPHONIC CONNECTION (REFER HYDRAULIC ENGINEERS DRGS)
PROPOSED 100Ø UPVC AGRICULTURAL DRAIN CLASS 400
EXISTING STORMWATER PIT
EXISTING STORMWATER PIT TO BE MODIFIED
PROPOSED STORMWATER PIT
GREENWAY PARK PUBLIC SCHOOL PROPOSED STORMWATER PIT
LEGEND
ITEM
DESCRIPTION
DOWNPIPE
INSPECTION OPENING
TRENCH GRATE
OVERLAND FLOW ARROW
EXISTING SEWER
EXISTING GAS
EXISTING WATER
EXISTING RECYCLED WATER
EXISTING ELECTRICITY
EXISTING OVERHEAD ELECTRICITY
EXISTING LOW VOLTAGE ELECTRICITY
EXISTING HIGH VOLTAGE ELECTRICITY
EXISTING TELECOM CABLE
EXISTING FIBRE OPTIC CABLE
EXISTING NBN COMMS CABLE
EXISTING FEATURES TO BE REMOVED
CHAPMAN STREET
CHAPMAN STREET
CONNECT TO EXISTING DRAINAGE PIT
ON SITE DETENTION TANK EFFECTIVE VOLUME: 40m³
TREATMENT CHAMBER 12 X 690mm CARTRIDGE TYPE PSORB BE INSTALLED IN ACCORDANCE WITH OCEAN PROTECT REQUIREMENTS OR APPROVED EQUIVALENT.
PIT FILTER TO BE INSTALLED IN ACCORDANCE WITH OCEAN GUARD REQUIREMENTS OR EQUIVALENT
1:4 MAX. BATTER TO EXISTING
1:4 MAX. BATTER TO EXISTING
1:4 MAX. BATTER TO EXISTING
ENTRY COURTYARD
RL 53.87
PRE-SCHOOL BUILDING
FFL 53.90
MECH. PLANT
FFL 53.87
EXISTING FEATURES TO BE REMOVED
1:11 MAX. BATTER
VEHICULAR CROSSING AS PER COUNCIL STANDARDS
CARPARK
MATCH NEATLY WITH EXISTING FOOTPATH
KERB RAMP AS PER COUNCIL STANDARDS
COPA
1:4 MAX. BATTER TO EXISTING
PROPOSED GRASSED DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
OPEN PLAY SPACE
SHED
FFL 53.70
550mm MAX. HEIGHT SHED RETAINING WALL. REFER TO STRUCTURAL/ LANDSCAPE DRAWINGS
1100mm MAX. HEIGHT RETAINING WALL. REFER TO STRUCTURAL/ LANDSCAPE DRAWINGS
INSTALL NEW PIT OVER EXISTING STORMWATER PIPE.
1100mm MAX. HEIGHT RETAINING WALL. REFER TO STRUCTURAL/ LANDSCAPE DRAWINGS
PROPOSED GRASSED TRAPEZOIDAL DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
PROPOSED GRASSED TRAPEZOIDAL DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
FOR CONTINUATION REFER TO DRAWING C-1102
FOR CONTINUATION REFER TO DRAWING C-1102
THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY ASTREA, REFERENCE No A4046 REV B DATED 18 OCTOBER 2023.
THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. PS206292-SYD-GEO-REP-001-REV01 DATED 17 NOVEMBER 2023 PREPARED BY WSP. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.
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WARNING
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REV
DESCRIPTION
BY
DES
DWD
DATE
P1
100 % SCHEMATIC DESIGN ISSUE - WIP
D.H
M.D
Y.C
28.02.25
P2
100 % SCHEMATIC DESIGN ISSUE
D.H
M.D
Y.C
14.03.25
0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE (A1)
MEINHARDT
Meinhardt Infrastructure and Environment PTY. LTD.
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info@meinhardtgroup.com
http://www.meinhardtgroup.com
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CLIENT
NSW GOVERNMENT
School Infrastructure NSW
PROJECT
GREENWAY PARK PRE SCHOOL
WYATTVILLE DRIVE, CARNES HILL NSW 2171
TITLE
CIVIL SITEWORKS PLAN
SHEET 1
STATUS
SCHEMATIC DESIGN
NOT TO BE USED FOR CONSTRUCTION
DRAWN
M.D
DESIGNED
G.P
CHECKED
Y.C
APPROVED
DATE
SCALE @ A1
1:100
PROJECT No
132565
DRAWING No
GPPS-MHT-00-00-DR-C-1101
REV
P2


ELECTRICAL DISTRIBUTION BOARD (EDB)
(PROPOSED NEW)
NOMINAL LOCATION OF SUBMAIN CONDUIT ENTRY POINT TO BLOCK J. SEE POWER AND COMMUNICATIONS ARRANGEMENTS FOR DETAILS.
BUILDING COMMUNICATIONS ROOM (BCR)
(PROPOSED NEW)
SEE BLOCK J POWER AND COMMUNICATIONS ARRANGEMENT FOR DETAILS.
WALKWAY & PATH LIGHTING
(PROPOSED NEW)
LIGHTING TO BE PROVIDED ALONG THE ENTIRE LENGTH OF THE NEW EXTERNAL WALKWAYS
MAIN COMMUNICATIONS ROOM (MCR)
(EXISTING - TO BE RETAINED)
THE MCR IS LOCATED WITHIN BLOCK D; ONE COMMUNICATIONS CABINET ACCOMMODATES CAMPUS DISTRIBUTOR. NEW 45 RU x 800 x 1000 RACK TO BE PROVIDED. THE EXISTING TELSTRA LEAD IN FROM WYATTVILLE DRIVE COMPLIES WITH DoE ICT REQUIREMENTS. NO UPGRADES TO LEAD IN REQUIRED
BUILDING COMMUNICATIONS ROOM (BCR)
(PROPOSED NEW)
SEE PRESCHOOL POWER AND COMMUNICATIONS ARRANGEMENT FOR DETAILS.
ELECTRICAL DISTRIBUTION BOARD (EDB)
(PROPOSED NEW)
NOMINAL LOCATION OF SUBMAIN CONDUIT ENTRY POINT TO PRESCHOOL. SEE POWER AND COMMUNICATIONS ARRANGEMENTS FOR DETAILS.
MAIN SWITCHBOARD (MSB)
(EXISTING - TO BE DEMOLISHED)
INDICATIVE LOCATION OF EXISTING MAIN SWITCHBOARD TO BE DISCONNECTED AND REMOVED. ALL EXISTING OUTGOING SUBMAINS ARE TO BE RETAINED FOR CONNECTION TO NEW MSB.
MAIN SWITCHBOARD (MSB)
(PROPOSED NEW)
EXTERNAL MAIN SWITCHBOARD TO BE PROVIDED GENERALLY IN SITU WITH EXISTING. BOARD TO BE 630A RATED WITH CIRCUIT BREAKERS PROVIDED FOR ALL EXISTING LOADS AND ALL NEW LOADS.
AUTHORITY SUBSTATION (315kVA)
(EXISTING - TO BE RETAINED)
INDICATIVE LOCATION OF EXISTING ENDEAVOUR ENERGY SUBSTATION S.28507 TO BE RETAINED. TOTAL LOAD OF 455 AMP PER PHASE APPROVED BY ENDEAVOUR ENERGY FOR SCHOOL USE. PENDING DEPARTURE FROM 15% SPARE CAPACITY REQUIRED BY EFSG. EXISTING CONSUMER MAINS DO NOT HAVE A CURRENT RATING SUITABLE FOR PROPOSED WORKS. EXISTING SPARE CONDUIT TO BE USED TO UPGRADE MAINS TO PARALLEL SET.
CHAPMAN STREET
NEW CLASSROOM BUILDING
NEW ENTRY
NEW CAR PARK
NEW PRESCHOOL BUILDING
OPEN PLAY SPACE
PLAYING COURT
CARPARK
NEW TURFED AREA
EXISTING SHARED KITCHEN GARDEN
BLOCK H
BLOCK I
BLOCK F
BLOCK E
BLOCK D
BLOCK A
BLOCK B
BLOCK C
BLOCK G
YARNING CIRCLE
D13114
D17701
ENTRY
WYATTVILLE DRIVE
GENERAL NOTE
NEW POWER, SECURITY AND COMMUNICATIONS PITS TO BE PROVIDED EVERY 30M OR IN CHANGE OF DIRECTION OF CONDUIT RETICULATION ROUTE.
Education
School Infrastructure
SCHOOL INFRASTRUCTURE NEW SOUTH WALES
www.schoolinfrastructure.nsw.gov.au
1 : 500 @ A1
SERVICES CONSULTANTS
NDY
A TETRA TECH COMPANY
LEVEL 13, 50 ARTHUR ST
NORTH SYDNEY NSW 2060
AUSTRALIA
ARCHITECT
fulton trotter
SUITE 904, LEVEL 9, 28-36 FOVEAUX STREET
SURRY HILLS, Sydney NSW 2010 Australia
T +61 2 8383 5151 W www.fultontrotter.com.au
PROJECT MANAGER
RP INFRASTRUCTURE
Converting visions to reality
KEY PLAN
NORTH
REV BY DATE DESCRIPTION
1 CG 11/10/2024 CONCEPT DESIGN
2 CG 30/10/2024 CONCEPT DESIGN
3 CG 06/12/2024 SCHEMATIC DESIGN
4 CG 17/12/2024 SCHEMATIC DESIGN
5 CG 19/12/2024 SCHEMATIC DESIGN
6 CG 24/02/2025 SCHEMATIC DESIGN
7 CG 28/02/2025 SCHEMATIC DESIGN
PROJECT NAME
SNSW - GREENWAY PARK PUBLIC SCHOOL UPGRADE
WYATTVILLE DR, CARNES HILL NSW 2171
SITE
DRAWING TITLE
ELECTRICAL SERVICES
SITE PLAN
PROJECT NO.
758-0120.0041153.0001
STATUS
SCHEMATIC DESIGN
DRW CG | CHK AB | APP SS | DATE 28/02/2025 | SCALE 1 : 500 @A1
DRAWING NO.
GPPS-NDY-00-00-DR-E-001011
REV
7

Issue	Description	Date	Drawn	Approved
E	100% SCHEME DESIGN (UPDATES)	18.03.25	GB	RE
D	100% SCHEME DESIGN (UPDATES)	26.02.25	GB	RE
C	100% SCHEME DESIGN (PHASE 3)	16.12.24	MS	RE
B	80% SCHEME DESIGN (PHASE 3)	13.12.24	MS	RE
A	50% SCHEME DESIGN (PHASE 3)	25.11.24	MS	RE

North

Scale
SCALE BAR 1:500

PRINT IN COLOUR

Client

Architect
FULTON TROTTER ARCHITECTS
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SURRY HILLS NSW 2010
T: 02 8383 5151 E: sydney@fultontrotter.com.au

ACOR CONSULTANTS

ACOR Consultants Pty Ltd
Suite 2, Level 1, 33 Herbert Street
St Leonards NSW 2065
T: +61 2 9438 5098

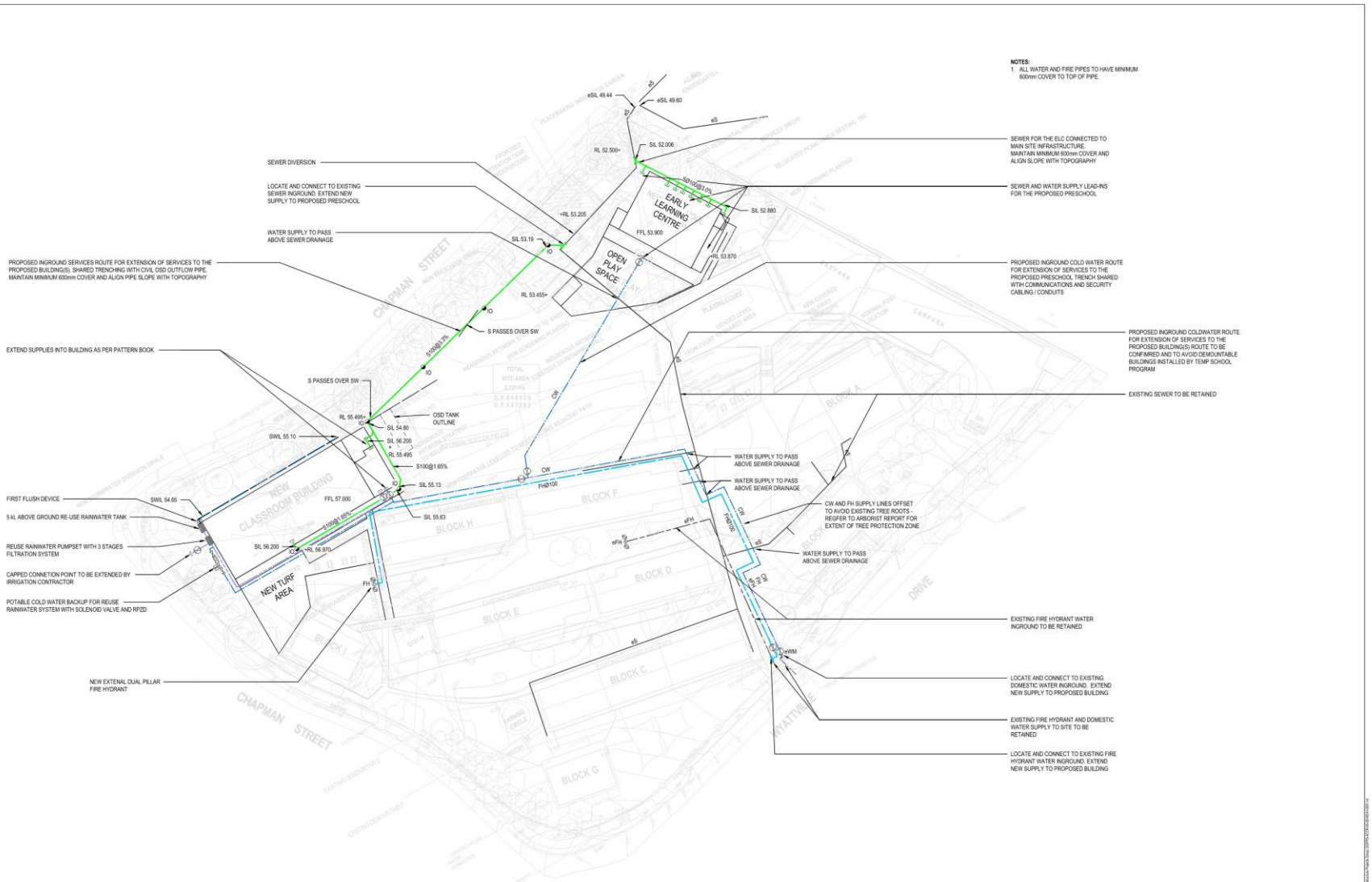
Project
SCHOOL INFRASTRUCTURE NSW
GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL, NSW

SCHEMATIC DESIGN

Drawing Title
HYDRAULIC SERVICES
EXISTING SITE PLAN & DEMOLITION

Drawn	Designed	QA. Check	QA. Date	Scale @ A1
GB	RE	RE	18.03.25	1 : 500

Project No.	Drawing No.	Issue
NA232021	GPPS-ACOR-00-00-DR-H-1100	E



E	100% SCHEME DESIGN (UPDATES)	18.03.25	GB	RE
D	100% SCHEME DESIGN (UPDATES)	26.02.25	GB	RE
C	100% SCHEME DESIGN (PHASE 3)	16.12.24	MS	RE
B	80% SCHEME DESIGN (PHASE 3)	13.12.24	MS	RE
A	50% SCHEME DESIGN (PHASE 3)	25.11.24	MS	RE
Issue	Description	Date	Drawn	Approved

North

Scale: SCALE BAR 1: 500

PRINT IN COLOUR

Client

Architect
FULTON TROTTER ARCHITECTS
SUITE 904, LEVEL 9, 28-36 FOVEAUX STREET
SURRY HILLS NSW 2010
T: 02 8383 5151 E: sydney@fultontrotter.com.au

ACOR CONSULTANTS

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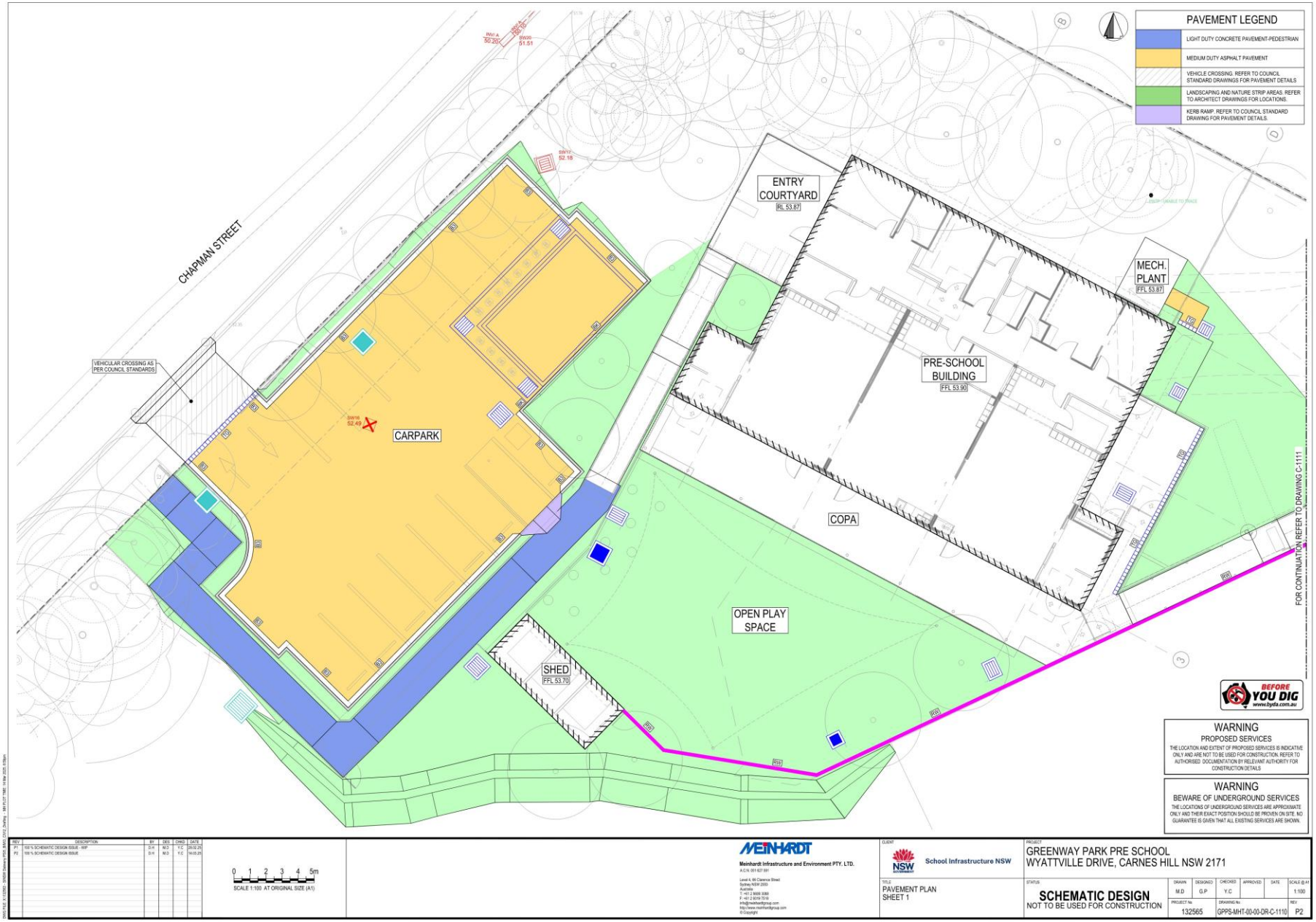
Project
SCHOOL INFRASTRUCTURE NSW
GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL, NSW

SCHEMATIC DESIGN

Drawing Title
HYDRAULIC SERVICES
PROPOSED SITE PLAN

Drawn	Designed	Q.A. Check	Q.A. Date	Scale @ A1
GB	RE	RE	18.03.25	1 : 500

Project No.	Drawing No.	Issue
NA232021	GPPS-ACOR-00-00-DR-H-1200	E

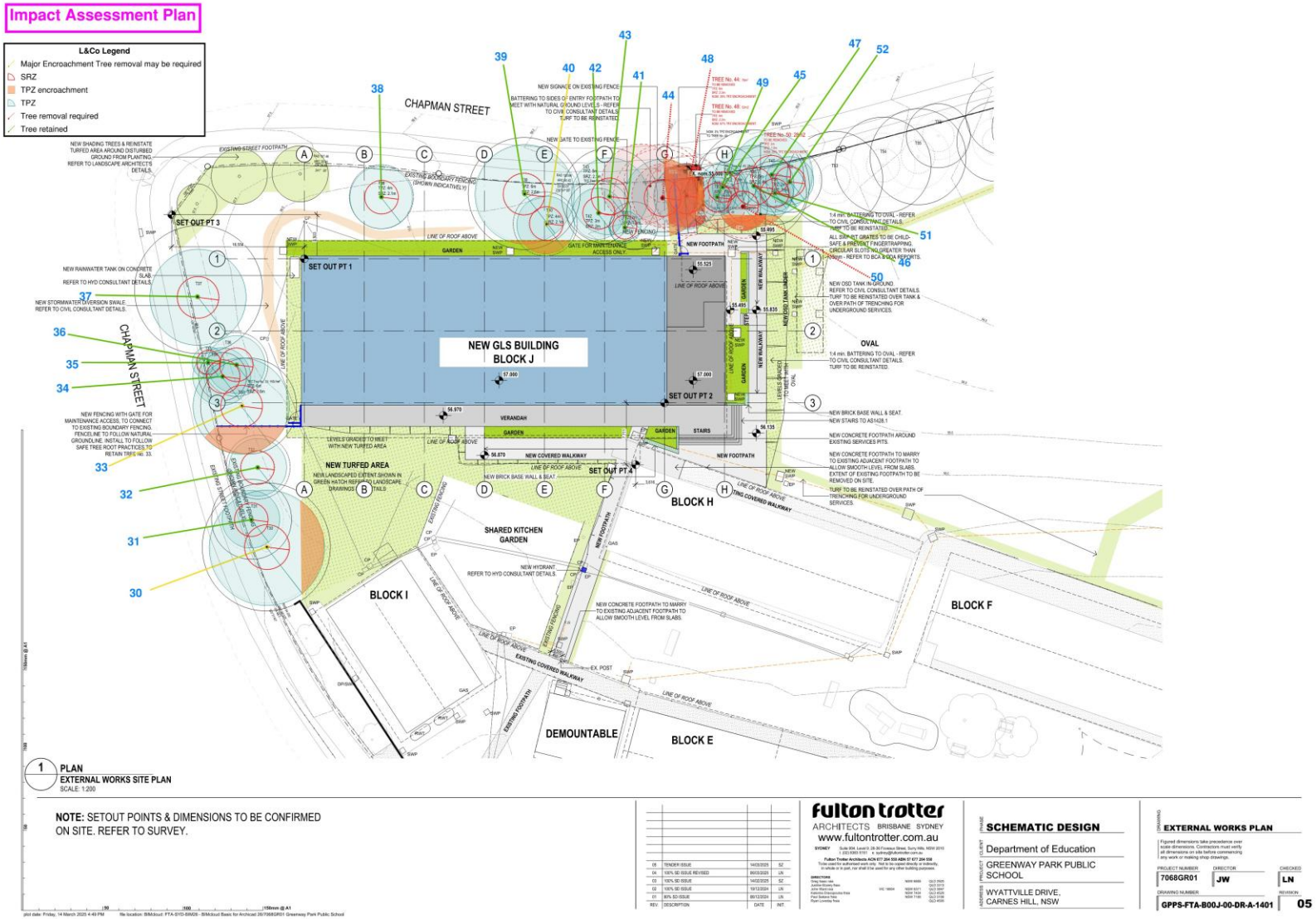


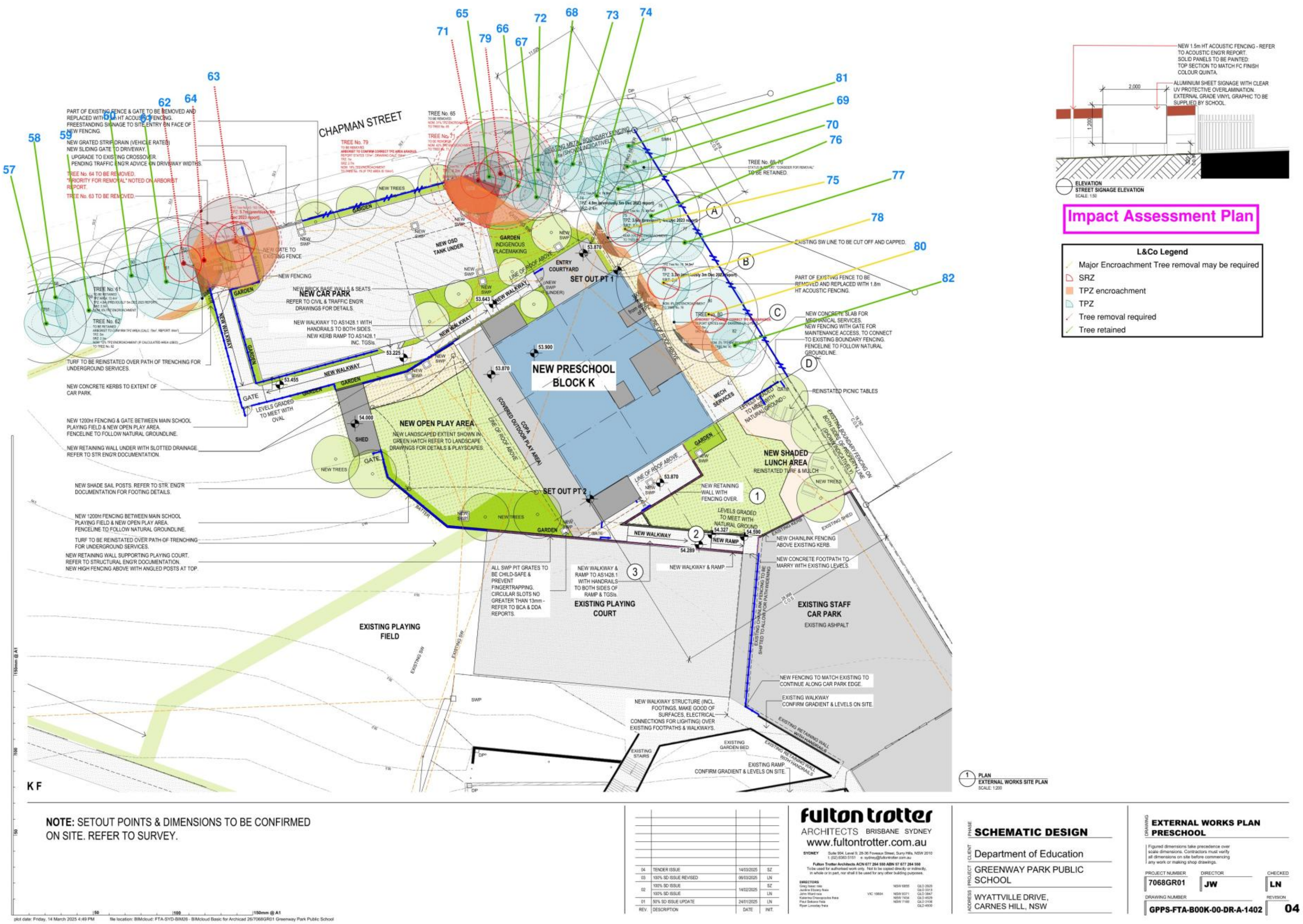
L&
CONSULTANCY
ARBORICULTURE
PLANT PATHOLOGY

www.laurenceco.com.au

PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530

10.0 APPENDIX 5 | ARBORICULTURAL IMPACT ASSESSMENT PLANS





CONSULTANCY
ARBORICULTURE
PLANT PATHOLOGY

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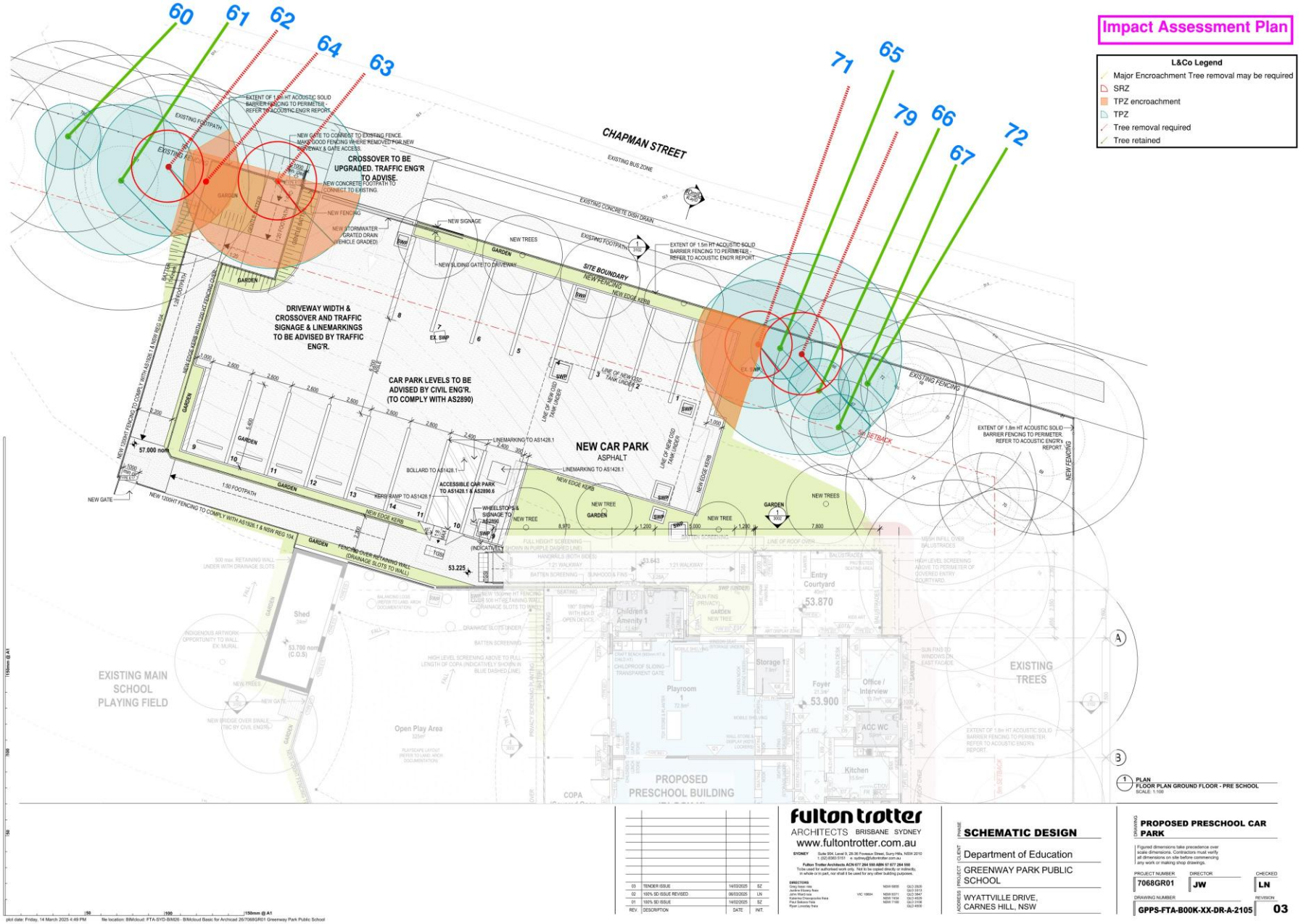
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530



PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530

LANDSCAPE ARCHITECT
GROUND INK LANDSCAPE ARCHITECTS

NOTE
VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK. REPORT ALL DISCREPANCIES TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DRAWINGS. ALL WORK IS TO CONFORM TO RELEVANT AUSTRALIAN STANDARDS AND OTHER CODES AS APPLICABLE. LOCATION OF UNDERGROUND SERVICES TO BE PROVEN ON SITE AND PROTECTED IF NECESSARY PRIOR TO CONSTRUCTION. DIAL BEFORE YOU DIG. PLANT SPECIES AND QUANTITIES SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO CHANGE BASED ON FUTURE PROJECT REQUIREMENTS.

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	03.12.24	ISSUE FOR COORDINATION	AG	RL
B	20.12.24	ISSUE FOR COORDINATION	AG	RL
C	9.12.25	100% SCHEMATIC	AG	RL
D	23.01.25	ISSUE FOR PCG COORDINATION	AG	RL
E	28.03.25	ISSUE FOR TENDER	DN	RL
F	21.02.25	ISSUE FOR TENDER	DN	RL
G	02.04.25	ISSUE FOR TENDER	DN	RL

DRAWING TITLE
LANDSCAPE PLAN

DRAWING NUMBER
GPPS-GIL-00-00-DR-L-3001

PROJECT
GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL, NSW 2171

NORTH

SCALE 1:500 @ A1
0 5 10 15 20 25M

REV
G

Impact Assessment Plan

LANDSCAPE ARCHITECT
GROUND INK LANDSCAPE ARCHITECTS
SUITE 19, 54 NORWAY ST, CHATSWOOD NSW 2067 PH. (02) 9411 3279
WWW.GROUNDINK.COM.AU ABN 55 163 025 456 ACN 163 025 456
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NOTE
VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK. REPORT ALL DISCREPANCIES TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DRAWINGS. ALL WORK IS TO CONFORM TO RELEVANT AUSTRALIAN STANDARDS AND OTHER CODES AS APPLICABLE. LOCATION OF UNDERGROUND SERVICES TO BE PROVEN ON SITE AND PROTECTED IF NECESSARY PRIOR TO CONSTRUCTION. DIAL BEFORE YOU DIG. PLANT SPECIES AND QUANTITIES SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO CHANGE BASED ON FUTURE PROJECT REQUIREMENTS.

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	20.02.25	ISSUE FOR REF	GN	RL

DRAWING TITLE
LANDSCAPE PLAN
EARLY LEARNING

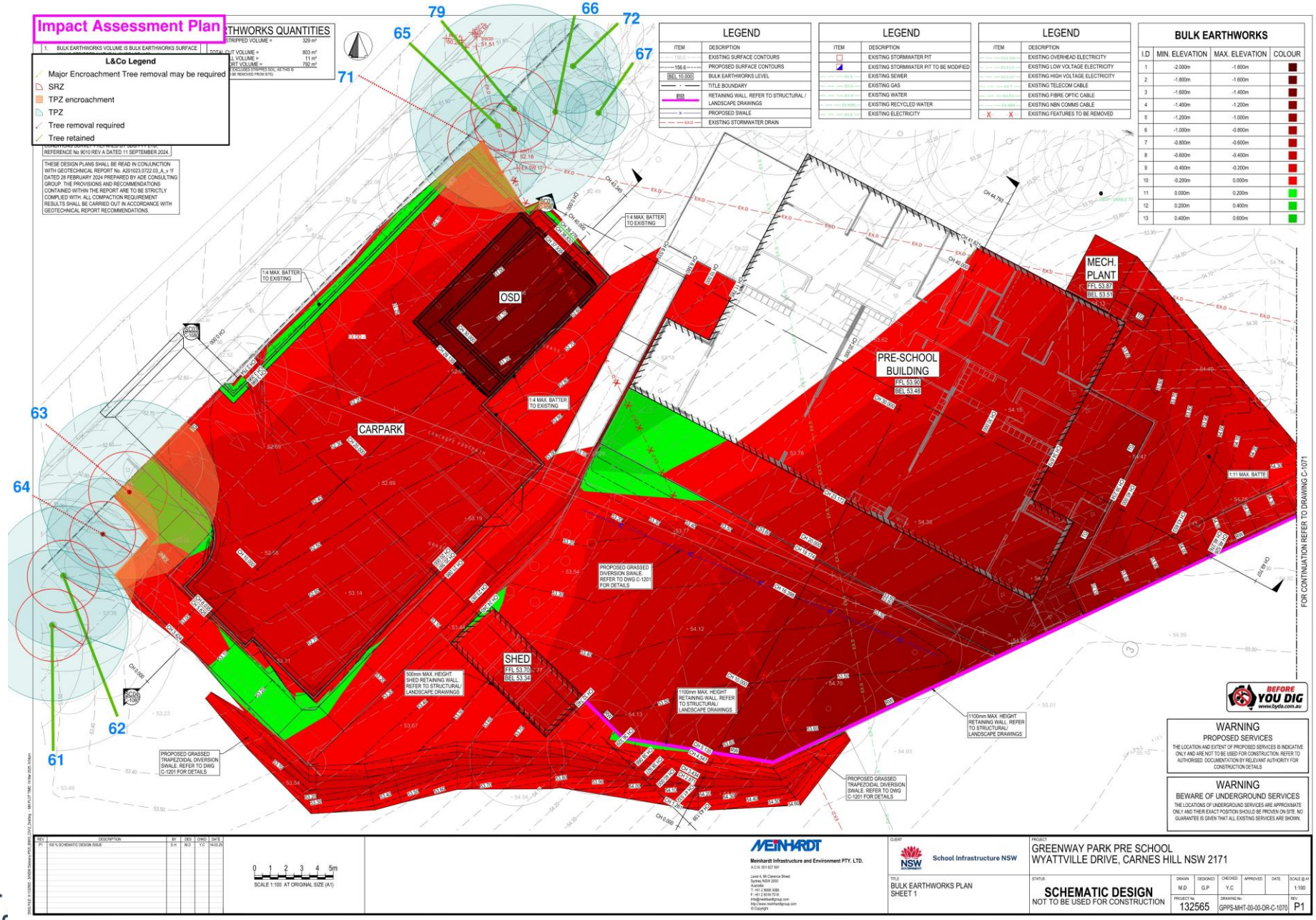
DRAWING NUMBER
GPPS-GIL-00-00-DR-L-3002

PROJECT
GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL, NSW 2171

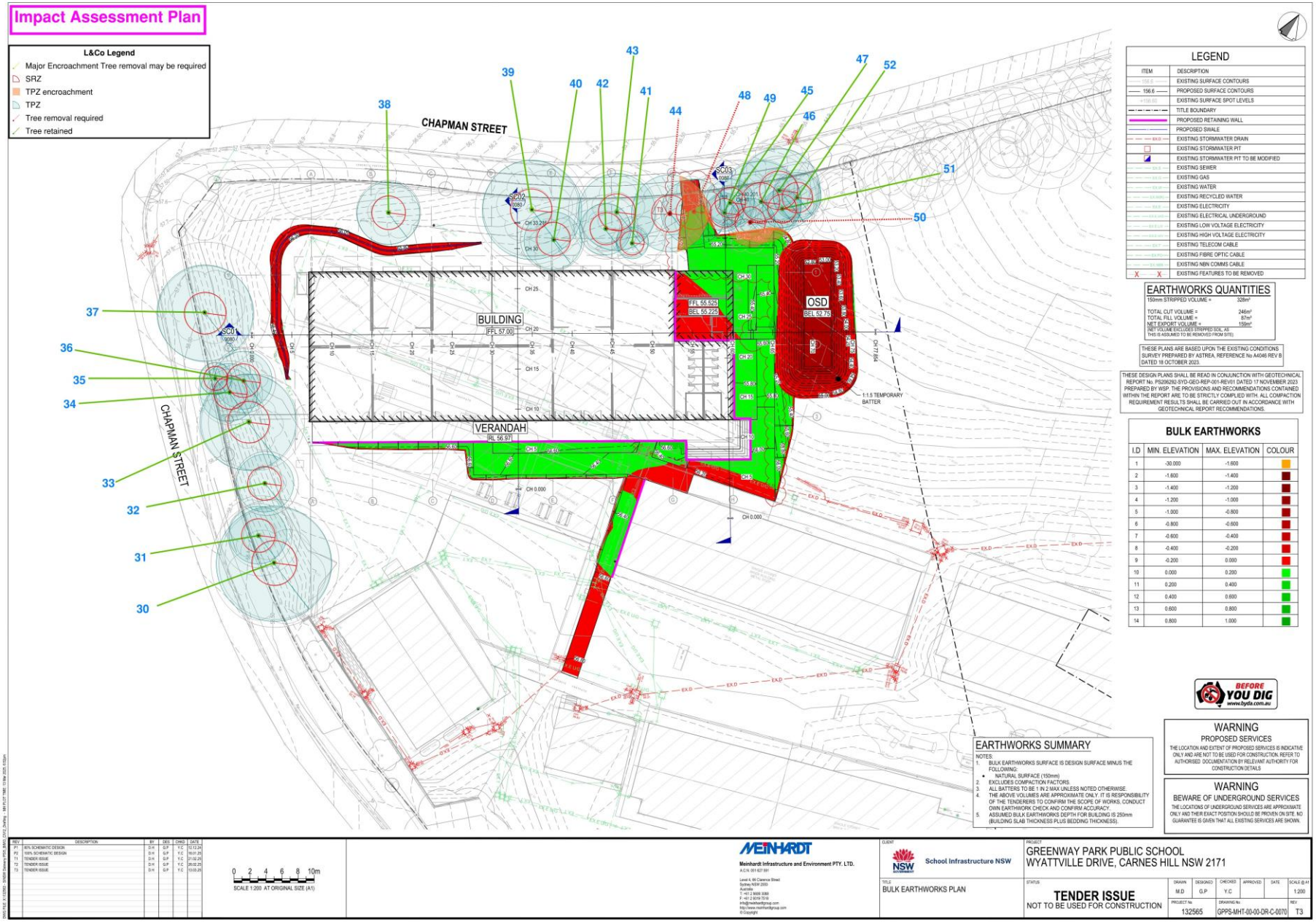
NORTH

SCALE 1:150
0 1 2 3 4 5M

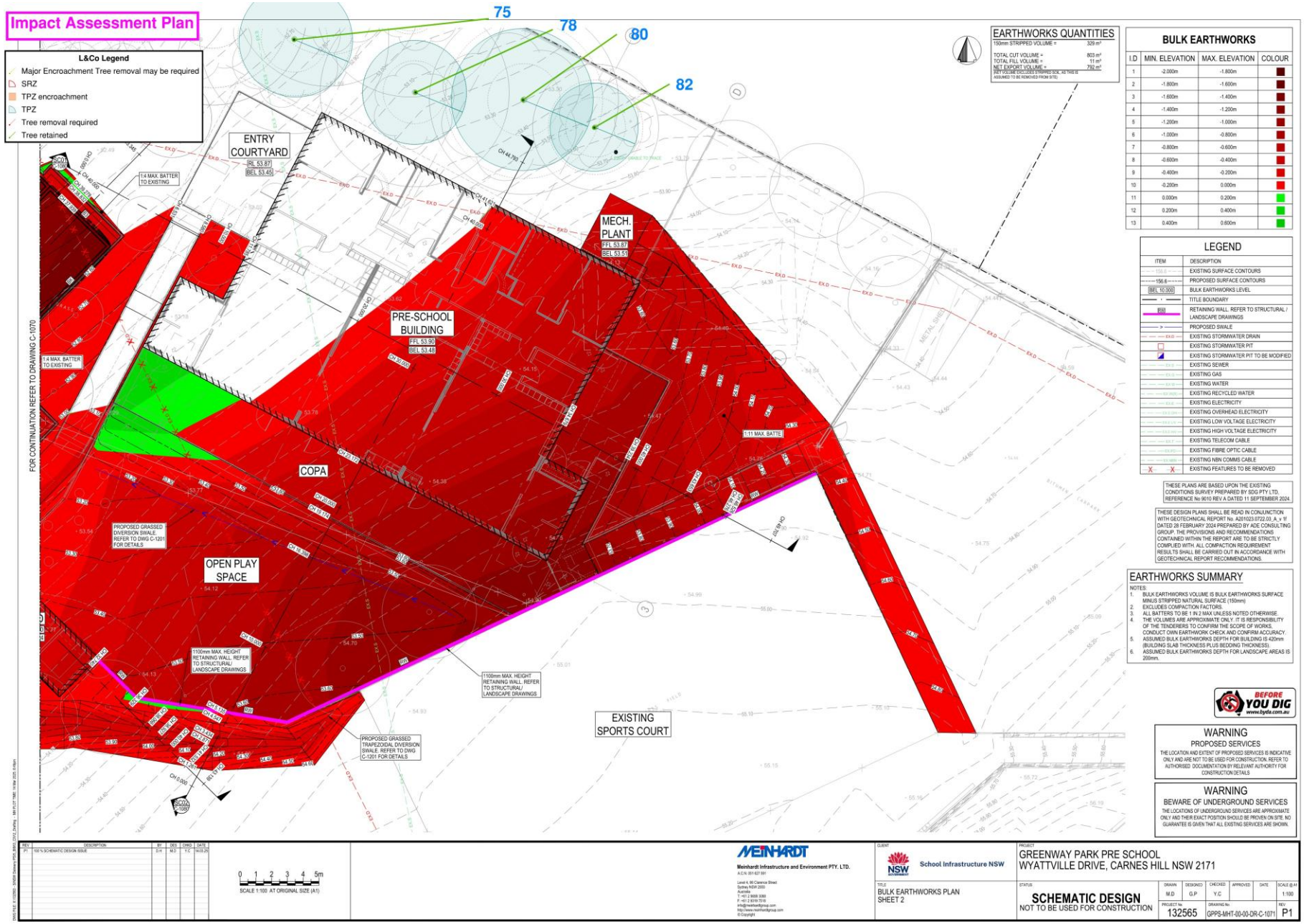
REV
A



PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530



L& CONSULTANCY ARBORICULTURE PLANT PATHOLOGY
www.laurenceco.com.au
PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530


Impact Assessment Plan
L&Co Legend
Major Encroachment Tree removal may be required
SRZ
TPZ encroachment
TPZ
Tree removal required
Tree retained
75
78
80
82
ENTRY COURTYARD
RL 53.87
BEL 53.45
MECH. PLANT
FFL 53.87
BEL 53.51
PRE-SCHOOL BUILDING
FFL 53.90
BEL 53.48
COPA
OPEN PLAY SPACE
EXISTING SPORTS COURT
1:4 MAX. BATTER TO EXISTING
1:11 MAX. BATTE
PROPOSED GRASSED DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
1100mm MAX. HEIGHT RETAINING WALL. REFER TO STRUCTURAL/ LANDSCAPE DRAWINGS
PROPOSED GRASSED TRAPEZOIDAL DIVERSION SWALE. REFER TO DWG C-1201 FOR DETAILS
FOR CONTINUATION REFER TO DRAWING C-1070
EARTHWORKS QUANTITIES
150mm STRIPPED VOLUME = 329 m³
TOTAL CUT VOLUME = 803 m³
TOTAL FILL VOLUME = 11 m³
NET EXPORT VOLUME = 792 m³
BULK EARTHWORKS
I.D | MIN. ELEVATION | MAX. ELEVATION | COLOUR
1 -2.000m -1.800m
2 -1.800m -1.600m
3 -1.600m -1.400m
4 -1.400m -1.200m
5 -1.200m -1.000m
6 -1.000m -0.800m
7 -0.800m -0.600m
8 -0.600m -0.400m
9 -0.400m -0.200m
10 -0.200m 0.000m
11 0.000m 0.200m
12 0.200m 0.400m
13 0.400m 0.600m
LEGEND
ITEM | DESCRIPTION
EXISTING SURFACE CONTOURS
156.6 PROPOSED SURFACE CONTOURS
BEL 10.000 BULK EARTHWORKS LEVEL
TITLE BOUNDARY
RW RETAINING WALL. REFER TO STRUCTURAL / LANDSCAPE DRAWINGS
PROPOSED SWALE
EXISTING STORMWATER DRAIN
EXISTING STORMWATER PIT
EXISTING STORMWATER PIT TO BE MODIFIED
EXISTING SEWER
EXISTING GAS
EXISTING WATER
EXISTING RECYCLED WATER
EXISTING ELECTRICITY
EXISTING OVERHEAD ELECTRICITY
EXISTING LOW VOLTAGE ELECTRICITY
EXISTING HIGH VOLTAGE ELECTRICITY
EXISTING TELECOM CABLE
EXISTING FIBRE OPTIC CABLE
EXISTING NBN COMMS CABLE
EXISTING FEATURES TO BE REMOVED
THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY SDG PTY LTD. REFERENCE No 9010 REV A DATED 11 SEPTEMBER 2024.
THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. A201023.072J.03_A_v 1f DATED 28 FEBRUARY 2024 PREPARED BY ADE CONSULTING GROUP. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.
EARTHWORKS SUMMARY
NOTES:
1. BULK EARTHWORKS VOLUME IS BULK EARTHWORKS SURFACE MINUS STRIPPED NATURAL SURFACE (150mm)
2. EXCLUDES COMPACTION FACTORS.
3. ALL BATTERS TO BE 1 IN 2 MAX UNLESS NOTED OTHERWISE.
4. THE VOLUMES ARE APPROXIMATE ONLY. IT IS RESPONSIBILITY OF THE TENDERERS TO CONFIRM THE SCOPE OF WORKS, CONDUCT OWN EARTHWORK CHECK AND CONFIRM ACCURACY.
5. ASSUMED BULK EARTHWORKS DEPTH FOR BUILDING IS 420mm (BUILDING SLAB THICKNESS PLUS BEDDING THICKNESS).
6. ASSUMED BULK EARTHWORKS DEPTH FOR LANDSCAPE AREAS IS 200mm.
BEFORE YOU DIG www.byda.com.au
WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS
WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
REV P1 DESCRIPTION 100 % SCHEMATIC DESIGN ISSUE BY D.H DES M.D CHKD Y.C DATE 14.03.25
0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE (A1)
MEINHARDT
Meinhardt Infrastructure and Environment PTY. LTD.
A.C.N. 001 627 591
Level 4, 66 Clarence Street Sydney NSW 2000 Australia
T: +61 2 9009 3260
F: +61 2 9219 7510
info@meinhardtgroup.com
http://www.meinhardtgroup.com
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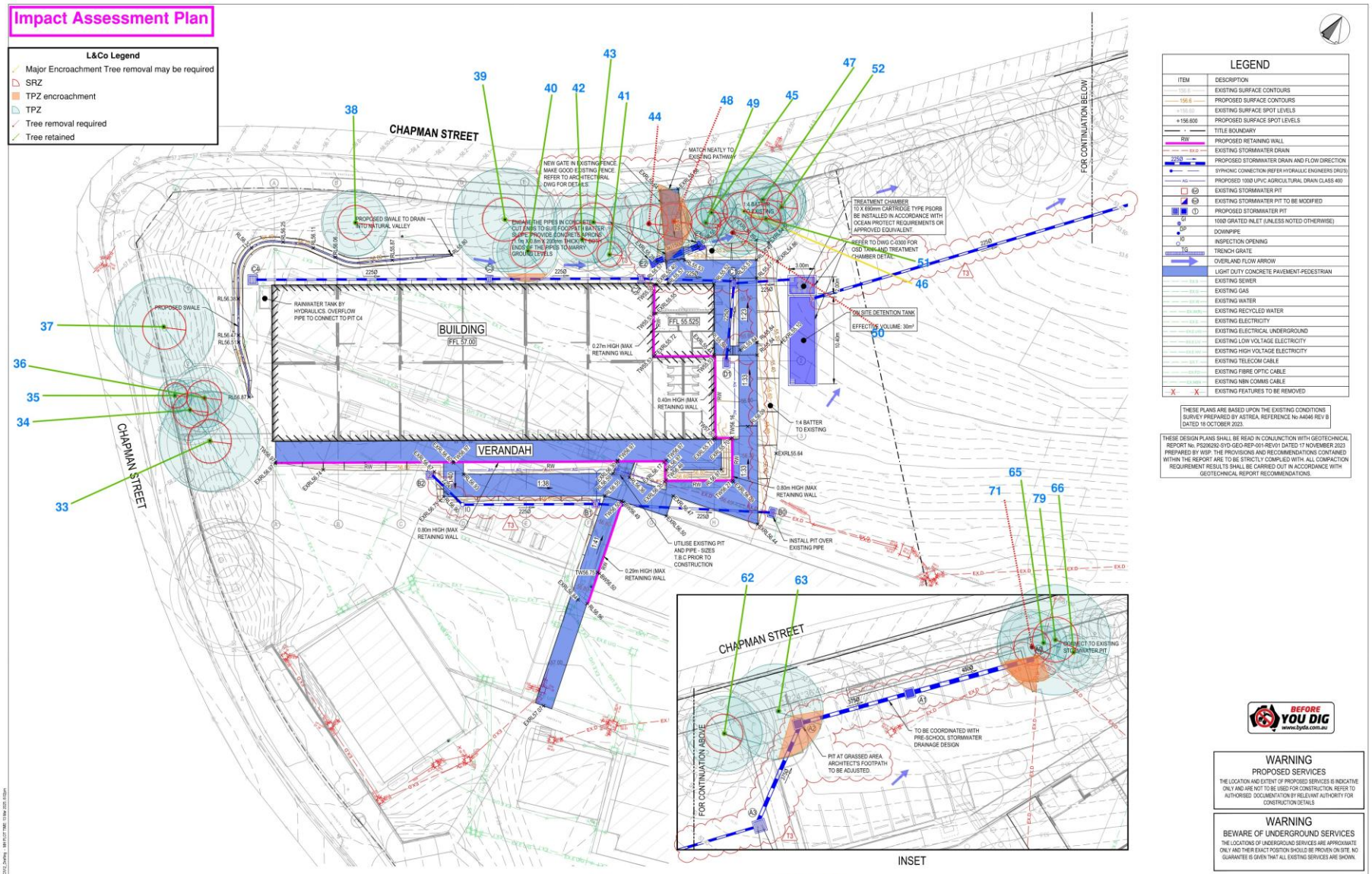
CLIENT
NSW School Infrastructure NSW
PROJECT
GREENWAY PARK PRE SCHOOL
WYATTVILLE DRIVE, CARNES HILL NSW 2171
TITLE
BULK EARTHWORKS PLAN
SHEET 2
STATUS
SCHEMATIC DESIGN
NOT TO BE USED FOR CONSTRUCTION
DRAWN M.D DESIGNED G.P CHECKED Y.C APPROVED DATE SCALE @ A1 1:100
PROJECT No 132565
DRAWING No GPPS-MHT-00-00-DR-C-1071
REV P1


Impact Assessment Plan
L&Co Legend
Major Encroachment Tree removal may be required
SRZ
TPZ encroachment
TPZ
Tree removal required
Tree retained
CHAPMAN STREET
BUILDING
FFL 57.00
VERANDAH
FFL 55.525
PROPOSED SWALE TO DRAIN INTO NATURAL VALLEY
PROPOSED SWALE
RAINWATER TANK BY HYDRAULICS. OVERFLOW PIPE TO CONNECT TO PIT C4
NEW GATE IN EXISTING FENCE MAKE GOOD EXISTING FENCE REFER TO ARCHITECTURAL DWG FOR DETAILS
ENLARGE THE PIPES IN CONSIDERABLE CUT ENDS TO SUIT FOOTPATH / BATTER SLOPE. PROVIDE CONCRETE APRONS (1.1m W x 0.6m H x 200mm THICK) TO THE ENDS OF THE PIPES TO MARRY GROUND LEVELS
MATCH NEATLY TO EXISTING PATHWAY
TREATMENT CHAMBER 10 X 690mm CARTRIDGE TYPE PSORB BE INSTALLED IN ACCORDANCE WITH OCEAN PROTECT REQUIREMENTS OR APPROVED EQUIVALENT.
REFER TO DWG C-0300 FOR OSD TANK AND TREATMENT CHAMBER DETAIL
ON SITE DETENTION TANK
EFFECTIVE VOLUME: 30m³
1:4 BATTER TO EXISTING
0.27m HIGH (MAX RETAINING WALL
0.40m HIGH (MAX RETAINING WALL
0.80m HIGH (MAX RETAINING WALL
0.20m HIGH (MAX RETAINING WALL
UTILISE EXISTING PIT AND PIPE - SIZES T.B.C PRIOR TO CONSTRUCTION
INSTALL PIT OVER EXISTING PIPE
FOR CONTINUATION BELOW
FOR CONTINUATION ABOVE
CONNECT TO EXISTING STORMWATER PIT
TO BE COORDINATED WITH PRE-SCHOOL STORMWATER DRAINAGE DESIGN
PIT AT GRASSED AREA. ARCHITECTS FOOTPATH TO BE ADJUSTED.
INSET
LEGEND
ITEM
DESCRIPTION
EXISTING SURFACE CONTOURS
PROPOSED SURFACE CONTOURS
EXISTING SURFACE SPOT LEVELS
PROPOSED SURFACE SPOT LEVELS
TITLE BOUNDARY
PROPOSED RETAINING WALL
EXISTING STORMWATER DRAIN
PROPOSED STORMWATER DRAIN AND FLOW DIRECTION
SYPHONIC CONNECTION (REFER HYDRAULIC ENGINEERS DRGTS)
PROPOSED 100Ø UPVC AGRICULTURAL DRAIN CLASS 400
EXISTING STORMWATER PIT
EXISTING STORMWATER PIT TO BE MODIFIED
PROPOSED STORMWATER PIT
100Ø GRATED INLET (UNLESS NOTED OTHERWISE)
DOWNPIPE
INSPECTION OPENING
TRENCH GRATE
OVERLAND FLOW ARROW
LIGHT DUTY CONCRETE PAVEMENT-PEDESTRIAN
EXISTING SEWER
EXISTING GAS
EXISTING WATER
EXISTING RECYCLED WATER
EXISTING ELECTRICITY
EXISTING ELECTRICAL UNDERGROUND
EXISTING LOW VOLTAGE ELECTRICITY
EXISTING HIGH VOLTAGE ELECTRICITY
EXISTING TELECOM CABLE
EXISTING FIBRE OPTIC CABLE
EXISTING NBN COMMS CABLE
EXISTING FEATURES TO BE REMOVED
THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY ASTREA, REFERENCE No A4046 REV B DATED 18 OCTOBER 2023.
THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. PS206292-SYD-GEO-REP-001-REV01 DATED 17 NOVEMBER 2023 PREPARED BY WSP. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.
BEFORE YOU DIG www.byda.com.au
WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS
WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
REV
DESCRIPTION
BY
DES
CHKD
DATE
P1 80% SCHEMATIC DESIGN D.H G.P Y.C 12.12.24
P2 100% SCHEMATIC DESIGN D.H G.P Y.C 19.01.25
T1 TENDER ISSUE D.H G.P Y.C 21.02.25
T2 TENDER ISSUE D.H G.P Y.C 26.02.25
T3 TENDER ISSUE D.H G.P Y.C 10.03.25
0 2 4 6 8 10m
SCALE 1:200 AT ORIGINAL SIZE (A1)
MEINHARDT
Meinhardt Infrastructure and Environment PTY. LTD.
A.C.N. 001 627 591
Level 4, 66 Clarence Street
Sydney NSW 2000
Australia
T: +61 2 9009 3393
F: +61 2 9319 7510
info@meinhardtgroup.com
http://www.meinhardtgroup.com
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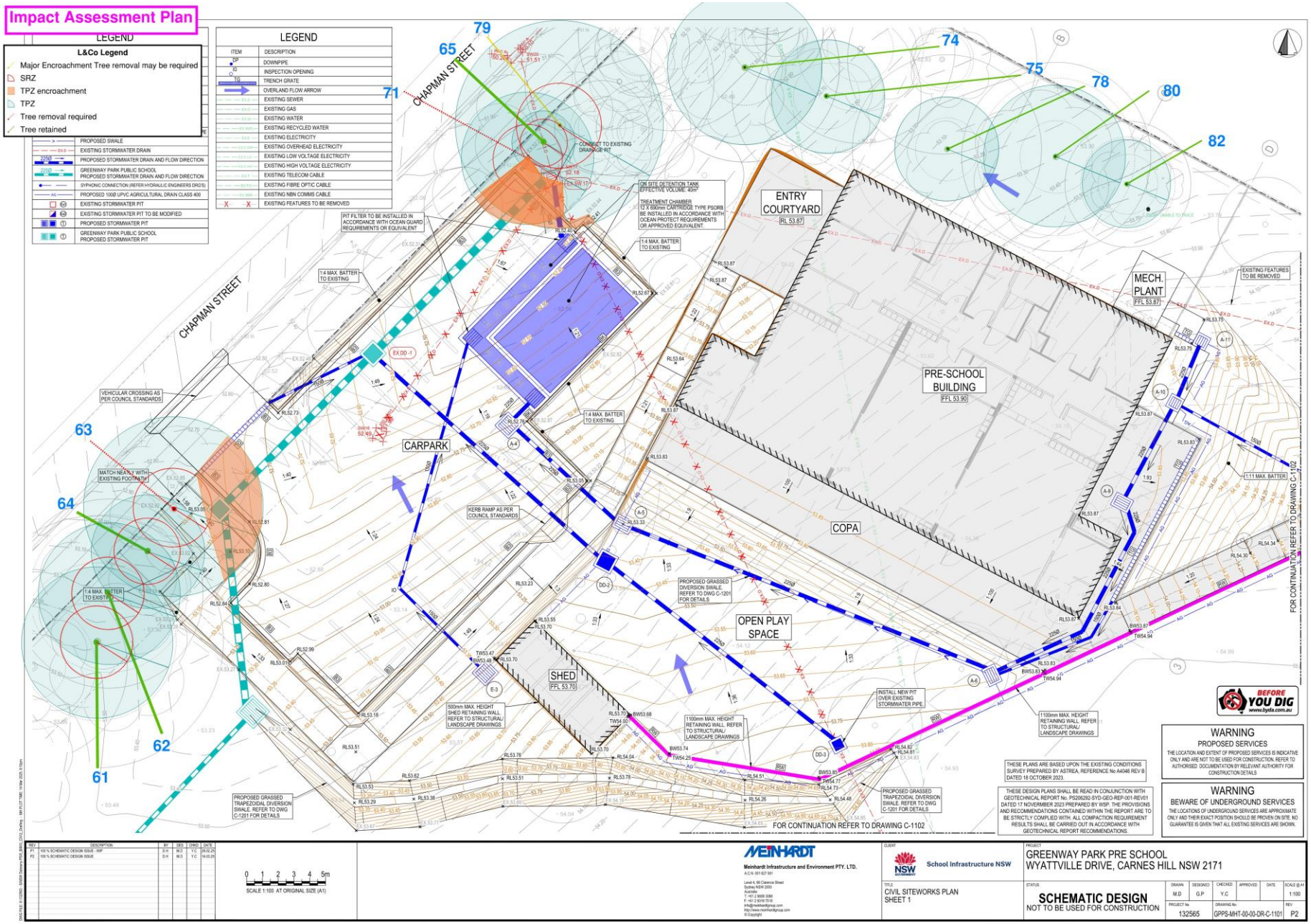
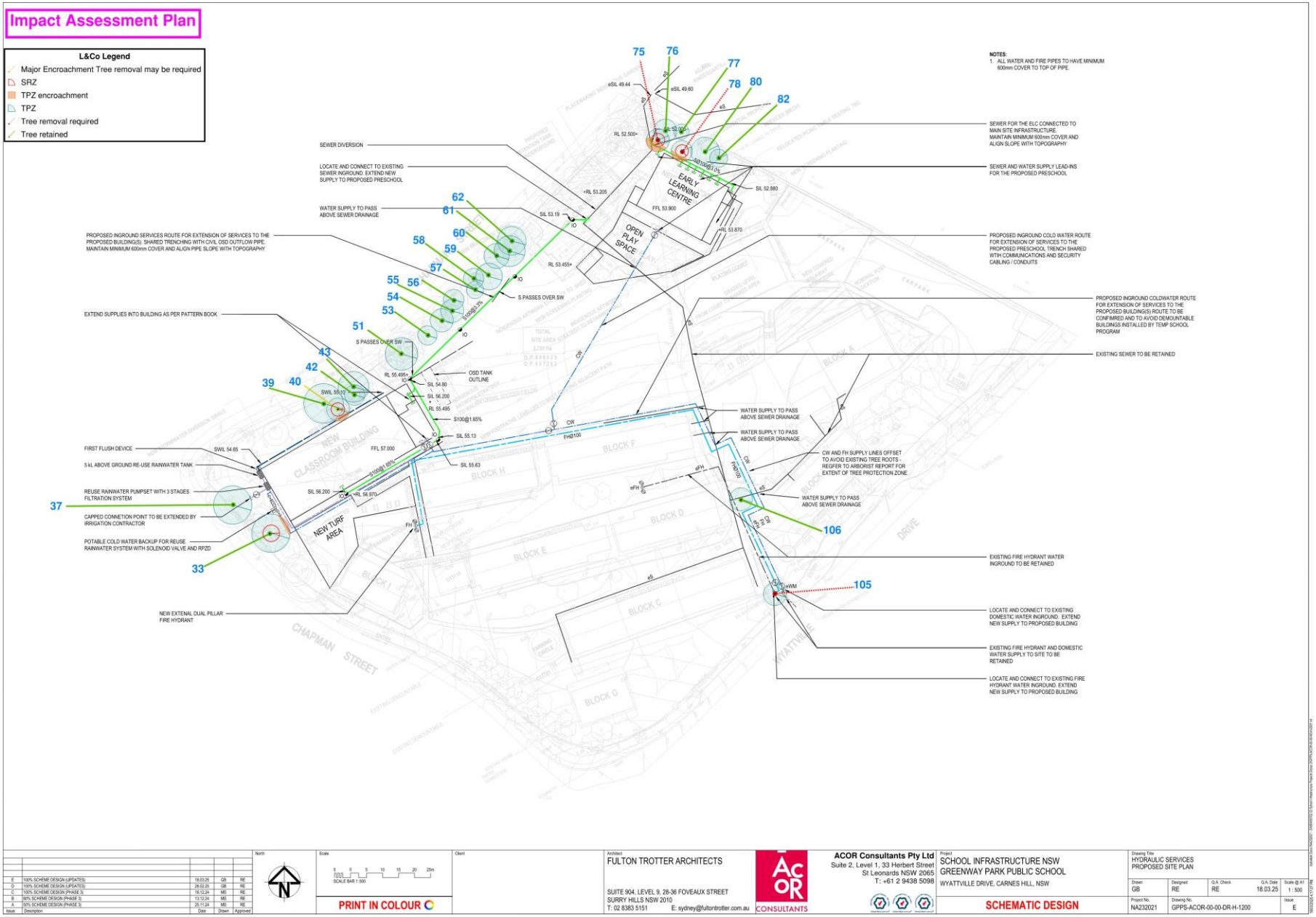
NSW School Infrastructure NSW
TITLE
CIVIL SITEWORKS PLAN
STATUS
TENDER ISSUE
NOT TO BE USED FOR CONSTRUCTION
PROJECT
GREENWAY PARK PUBLIC SCHOOL
WYATTVILLE DRIVE, CARNES HILL NSW 2171
DRAWN M.D
DESIGNED G.P
CHECKED Y.C
APPROVED
DATE
SCALE @ A1 1:200
PROJECT No 132565
DRAWING No GPPS-MHT-00-00-DR-C-0101
REV T3

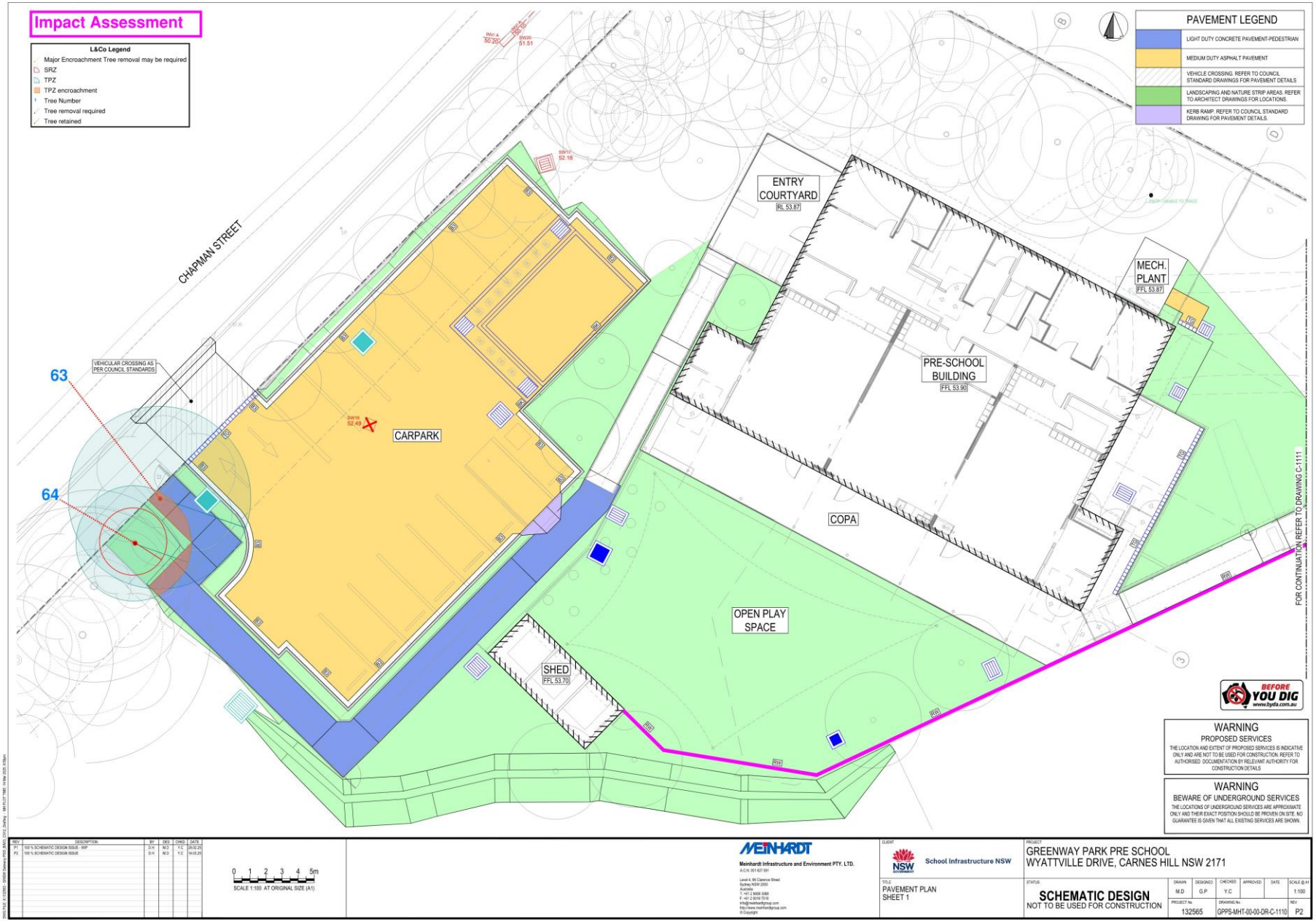
Impact Assessment Plan




ELECTRICAL DISTRIBUTION BOARD (EDB)
(PROPOSED NEW)
NOMINAL LOCATION OF SUBMAIN CONDUIT ENTRY POINT TO BLOCK J. SEE POWER AND COMMUNICATIONS ARRANGEMENTS FOR DETAILS.
BUILDING COMMUNICATIONS ROOM (BCR)
(PROPOSED NEW)
SEE BLOCK J POWER AND COMMUNICATIONS ARRANGEMENT FOR DETAILS.
Impact Assessment Plan
L&Co Legend
Major Encroachment Tree removal may be required
SRZ
TPZ encroachment
TPZ
Tree removal required
Tree retained
WALKWAY & PATH LIGHTING
(PROPOSED NEW)
LIGHTING TO BE PROVIDED ALONG THE ENTIRE LENGTH OF THE NEW EXTERNAL WALKWAYS
MAIN COMMUNICATIONS ROOM (MCR)
(EXISTING - TO BE RETAINED)
THE MCR IS LOCATED WITHIN BLOCK D; ONE COMMUNICATIONS CABINET ACCOMMODATES CAMPUS DISTRIBUTOR. NEW 45 RU x 800 x 1000 RACK TO BE PROVIDED. THE EXISTING TELSTRA LEAD IN FROM WYATTVILLE DRIVE COMPLIES WITH DoE ICT REQUIREMENTS. NO UPGRADES TO LEAD IN REQUIRED
CHAPMAN STREET
NEW CLASSROOM BUILDING
NEW ENTRY
NEW CAR PARK
NEW PRESCHOOL BUILDING
OPEN PLAY SPACE
PLAYING COURT
CARPARK
NEW TURFED AREA
EXISTING SHARED KITCHEN GARDEN
BLOCK H
BLOCK F
BLOCK I
BLOCK E
BLOCK D
BLOCK A
BLOCK B
BLOCK C
BLOCK G
YARNING CIRCLE
SHADE STORE
ENTRY
DRIVE
WYATTVILLE
1
101
102
103
104
BUILDING COMMUNICATIONS ROOM (BCR)
(PROPOSED NEW)
SEE PRESCHOOL POWER AND COMMUNICATIONS ARRANGEMENT FOR DETAILS.
ELECTRICAL DISTRIBUTION BOARD (EDB)
(PROPOSED NEW)
NOMINAL LOCATION OF SUBMAIN CONDUIT ENTRY POINT TO PRESCHOOL. SEE POWER AND COMMUNICATIONS ARRANGEMENTS FOR DETAILS.
MAIN SWITCHBOARD (MSB)
(EXISTING - TO BE DEMOLISHED)
INDICATIVE LOCATION OF EXISTING MAIN SWITCHBOARD TO BE DISCONNECTED AND REMOVED. ALL EXISTING OUTGOING SUBMAINS ARE TO BE RETAINED FOR CONNECTION TO NEW MSB.
MAIN SWITCHBOARD (MSB)
(PROPOSED NEW)
EXTERNAL MAIN SWITCHBOARD TO BE PROVIDED GENERALLY IN SITU WITH EXISTING. BOARD TO BE 630A RATED WITH CIRCUIT BREAKERS PROVIDED FOR ALL EXISTING LOADS AND ALL NEW LOADS.
AUTHORITY SUBSTATION (315kVA)
(EXISTING - TO BE RETAINED)
INDICATIVE LOCATION OF EXISTING ENDEAVOUR ENERGY SUBSTATION S.28507 TO BE RETAINED. TOTAL LOAD OF 455 AMP PER PHASE APPROVED BY ENDEAVOUR ENERGY FOR SCHOOL USE. PENDING DEPARTURE FROM 15% SPARE CAPACITY REQUIRED BY EFSG. EXISTING CONSUMER MAINS DO NOT HAVE A CURRENT RATING SUITABLE FOR PROPOSED WORKS. EXISTING SPARE CONDUIT TO BE USED TO UPGRADE MAINS TO PARALLEL SET.
GENERAL NOTE
NEW POWER, SECURITY AND COMMUNICATIONS PITS TO BE PROVIDED EVERY 30M OR IN CHANGE OF DIRECTION OF CONDUIT RETICULATION ROUTE.
Education
School Infrastructure
SCHOOL INFRASTRUCTURE NEW SOUTH WALES
www.schoolinfrastructure.nsw.gov.au
FOR IMPLEMENTATION/USE OF THE SINSW MMC KIT OF PARTS, NOTE THE FOLLOWING:
INTELLECTUAL PROPERTY
Refer to: SINSW MMC Kit of Parts - Introduction, Copyright and Disclaimer
AGREEMENT OF USE
Refer to: SINSW MMC Kit of Parts - Introduction, Copyright and Disclaimer
SINSW CONTACT
Refer to: SINSW MMC Kit of Parts - Introduction, Copyright and Disclaimer
1 : 500 @ A1
SERVICES CONSULTANTS
NDY
A TETRA TECH COMPANY
LEVEL 13, 50 ARTHUR ST
NORTH SYDNEY NSW 2060
AUSTRALIA
ARCHITECT
fulton trotter
SUITE 904, LEVEL 9, 28-36 FOVEAUX STREET
SURRY HILLS, Sydney NSW 2010 Australia
T +61 2 8383 5151 W www.fultontrotter.com.au
PROJECT MANAGER
RP INFRASTRUCTURE
Converting visions to reality
KEY PLAN
NORTH
REV BY DATE DESCRIPTION
1 CG 11/10/2024 CONCEPT DESIGN
2 CG 30/10/2024 CONCEPT DESIGN
3 CG 06/12/2024 SCHEMATIC DESIGN
4 CG 17/12/2024 SCHEMATIC DESIGN
5 CG 19/12/2024 SCHEMATIC DESIGN
6 CG 24/02/2025 SCHEMATIC DESIGN
7 CG 28/02/2025 SCHEMATIC DESIGN
PROJECT NAME
SINSW - GREENWAY PARK PUBLIC SCHOOL UPGRADE
WYATTVILLE DR, CARNES HILL NSW 2171
SITE
DRAWING TITLE
ELECTRICAL SERVICES
SITE PLAN
PROJECT NO.
758-0120.0041153.0001
STATUS
SCHEMATIC DESIGN
DRW CG | CHK AB | APP SS | DATE 28/02/2025 | SCALE 1 : 500 @A1
DRAWING NO.
GPPS-NDY-00-00-DR-E-001011
REV
7

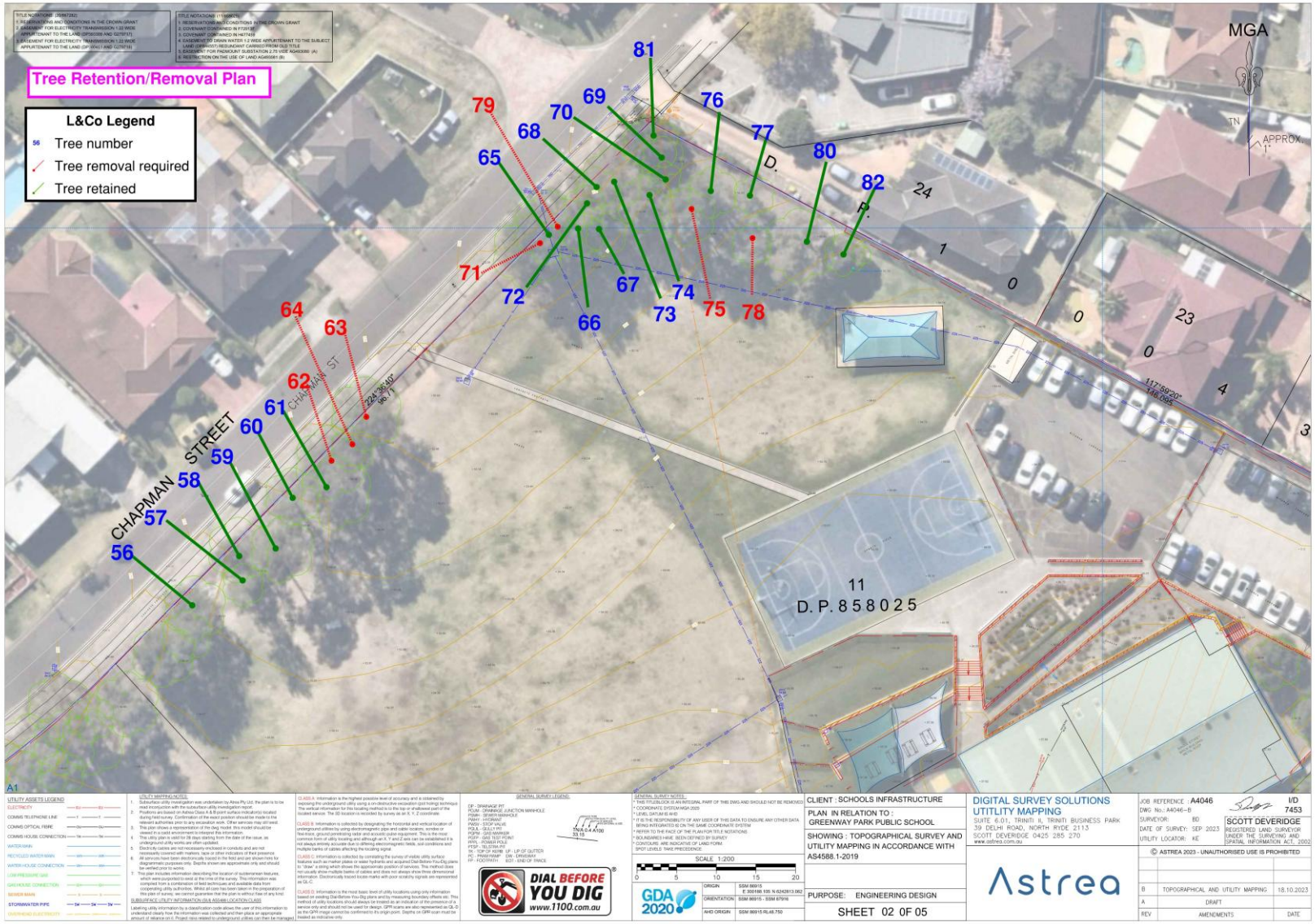
Impact Assessment Plan





PO Box 2169,
Clovelly, NSW 2031
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530

11.0 APPENDIX 6 | TREE RETENTION/REMOVAL PLAN



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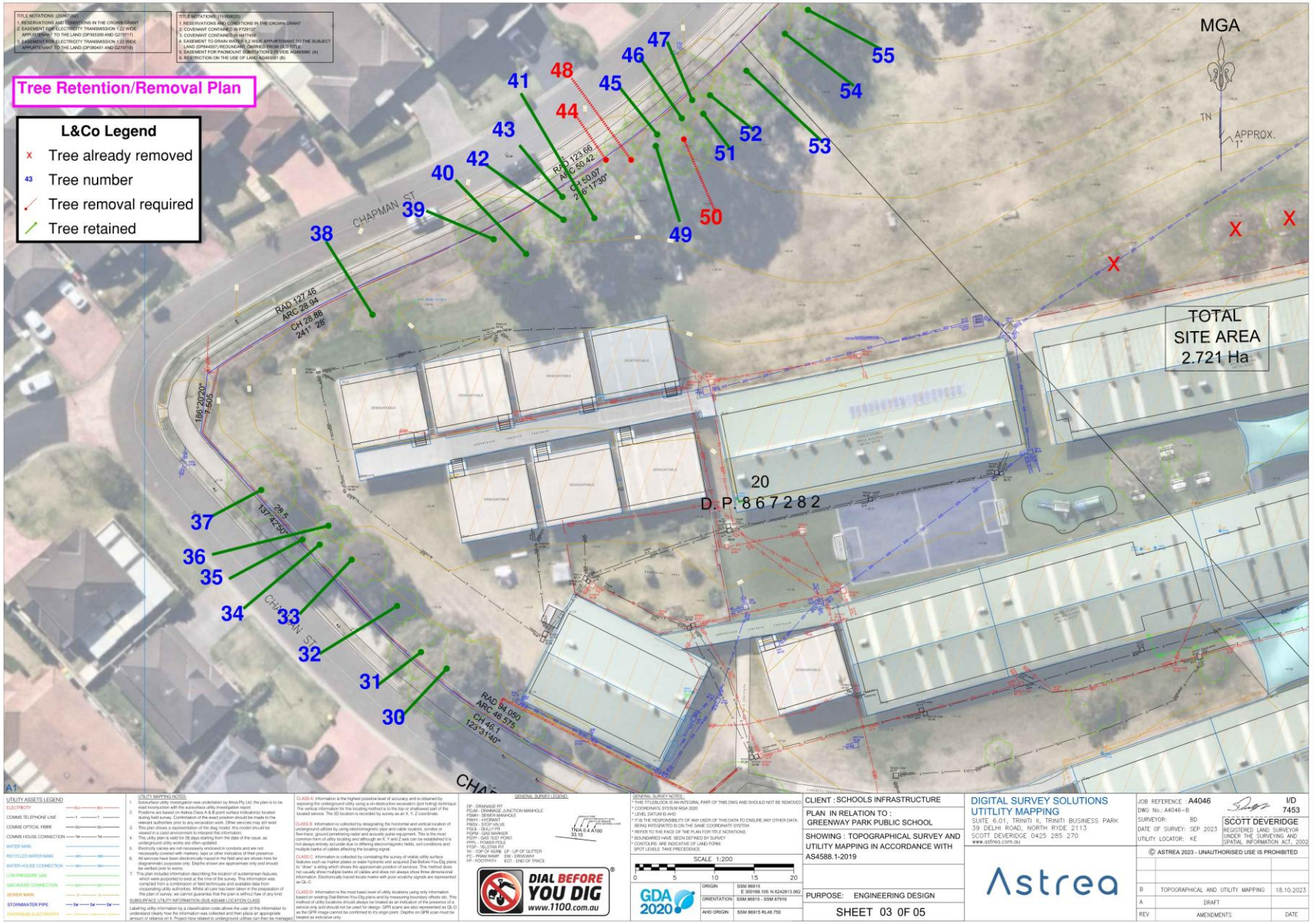
info@laurenceco.com.au
0404 282 825
ACN: 625 300 530


Tree Retention/Removal Plan
L&Co Legend
x Tree already removed
43 Tree number
Tree removal required
Tree retained
MGA
TN
APPROX.
TOTAL SITE AREA 2.721 Ha
20 D.P.867282
CHAPMAN ST
RAD 127.46 ARC 28.94 CH 28.88 241° 28'
RAD 123.66 ARC 60.42 CH 59.07 279°17'30"
RAD 94.050 ARC 46.575 CH 46.1 123°31'40"
186°20'20" 7.605
28.5 137°42'50"
1 TWA 0.4 A1@ 33.15
SCALE 1:200
0 5 10 15 20
GDA 2020
ORIGIN SSM 86915 E 350168.105 N 6242813.062
ORIENTATION SSM 86915 - SSM 87916
AHD ORIGIN SSM 86915 RL48.750
DIAL BEFORE YOU DIG www.1100.com.au
CLIENT : SCHOOLS INFRASTRUCTURE
PLAN IN RELATION TO : GREENWAY PARK PUBLIC SCHOOL
SHOWING : TOPOGRAPHICAL SURVEY AND UTILITY MAPPING IN ACCORDANCE WITH AS4588.1-2019
PURPOSE: ENGINEERING DESIGN
SHEET 03 0F 05
DIGITAL SURVEY SOLUTIONS
UTILITY MAPPING
SUITE 6.01, TRINITI II, TRINITI BUSINESS PARK
39 DELHI ROAD, NORTH RYDE 2113
SCOTT DEVERIDGE 0425 285 270
www.astrea.com.au
Astrea
JOB REFERENCE : A4046
DWG No.: A4046-B
SURVEYOR: BD
DATE OF SURVEY: SEP 2023
UTILITY LOCATOR: KE
I/D 7453
SCOTT DEVERIDGE
REGISTERED LAND SURVEYOR UNDER THE SURVEYING AND SPATIAL INFORMATION ACT, 2002
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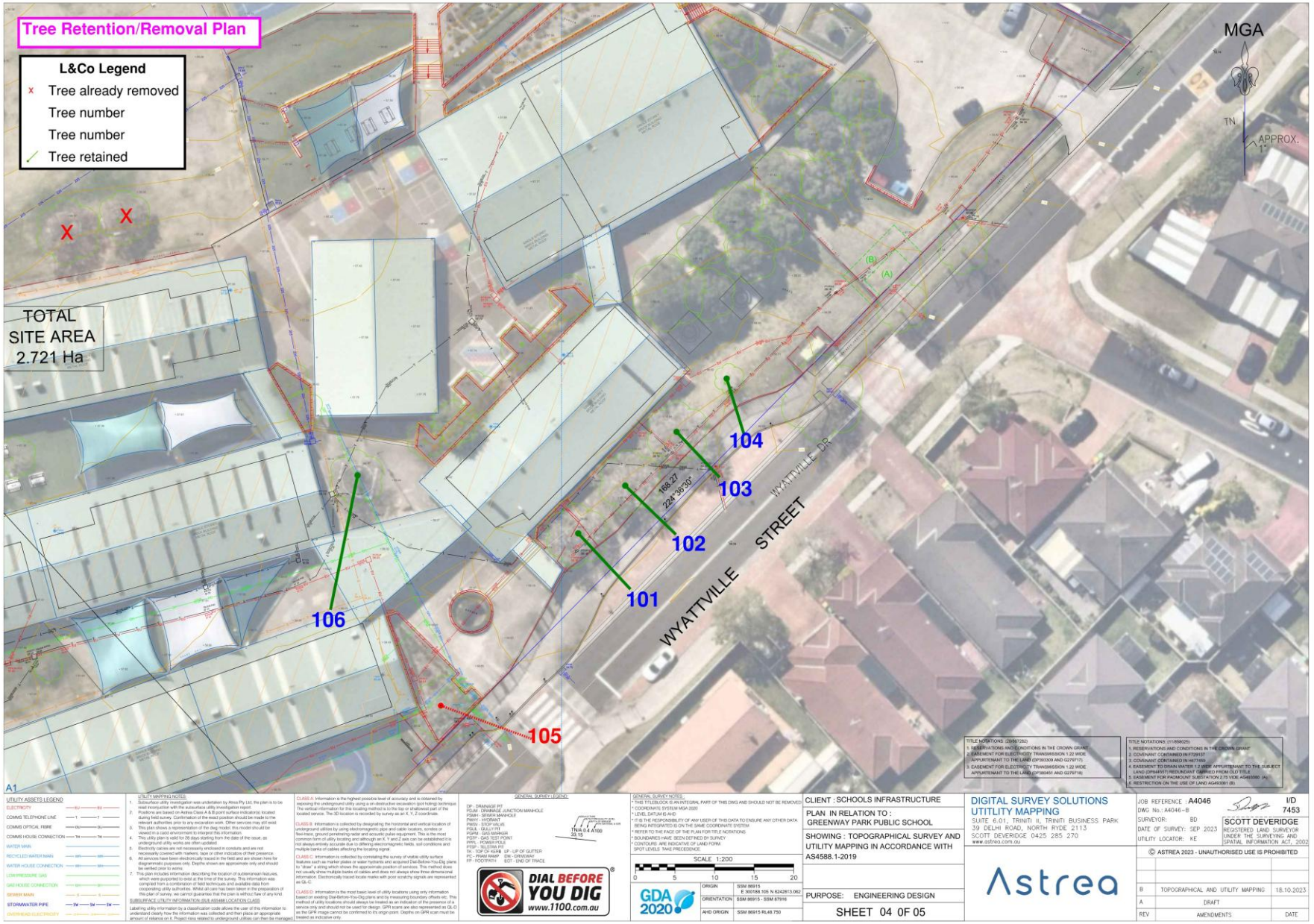
B TOPOGRAPHICAL AND UTILITY MAPPING 18.10.2023
A DRAFT
REV AMENDMENTS DATE


Tree Retention/Removal Plan
L&Co Legend
Tree already removed
Tree number
Tree number
Tree retained
X
X
TOTAL
SITE AREA
2.721 Ha
MGA
TN
APPROX.
1°
104
103
102
101
106
105
WYATTVILLE DR
WYATTVILLE STREET
168.27
224° 36' 30"
(B)
(A)
A1
UTILITY ASSETS LEGEND
UTILITY MAPPING NOTES:
GENERAL SURVEY LEGEND:
GENERAL SURVEY NOTES:
DIAL BEFORE YOU DIG
www.1100.com.au
GDA 2020
SCALE 1:200
0 5 10 15 20
ORIGIN SSM 86915 E 300168.105 N 6242813.062
ORIENTATION SSM 86915 - SSM 87916
AHD ORIGIN SSM 86915 RL48.750
CLIENT : SCHOOLS INFRASTRUCTURE
PLAN IN RELATION TO : GREENWAY PARK PUBLIC SCHOOL
SHOWING : TOPOGRAPHICAL SURVEY AND UTILITY MAPPING IN ACCORDANCE WITH AS4588.1-2019
PURPOSE: ENGINEERING DESIGN
SHEET 04 OF 05
DIGITAL SURVEY SOLUTIONS
UTILITY MAPPING
SUITE 6.01, TRINITI II, TRINITI BUSINESS PARK
39 DELHI ROAD, NORTH RYDE 2113
SCOTT DEVERIDGE 0425 285 270
www.astrea.com.au
Astrea
JOB REFERENCE : A4046
DWG No.: A4046-B
SURVEYOR: BD
DATE OF SURVEY: SEP 2023
UTILITY LOCATOR: KE
I/D 7453
SCOTT DEVERIDGE
REGISTERED LAND SURVEYOR
UNDER THE SURVEYING AND SPATIAL INFORMATION ACT, 2002
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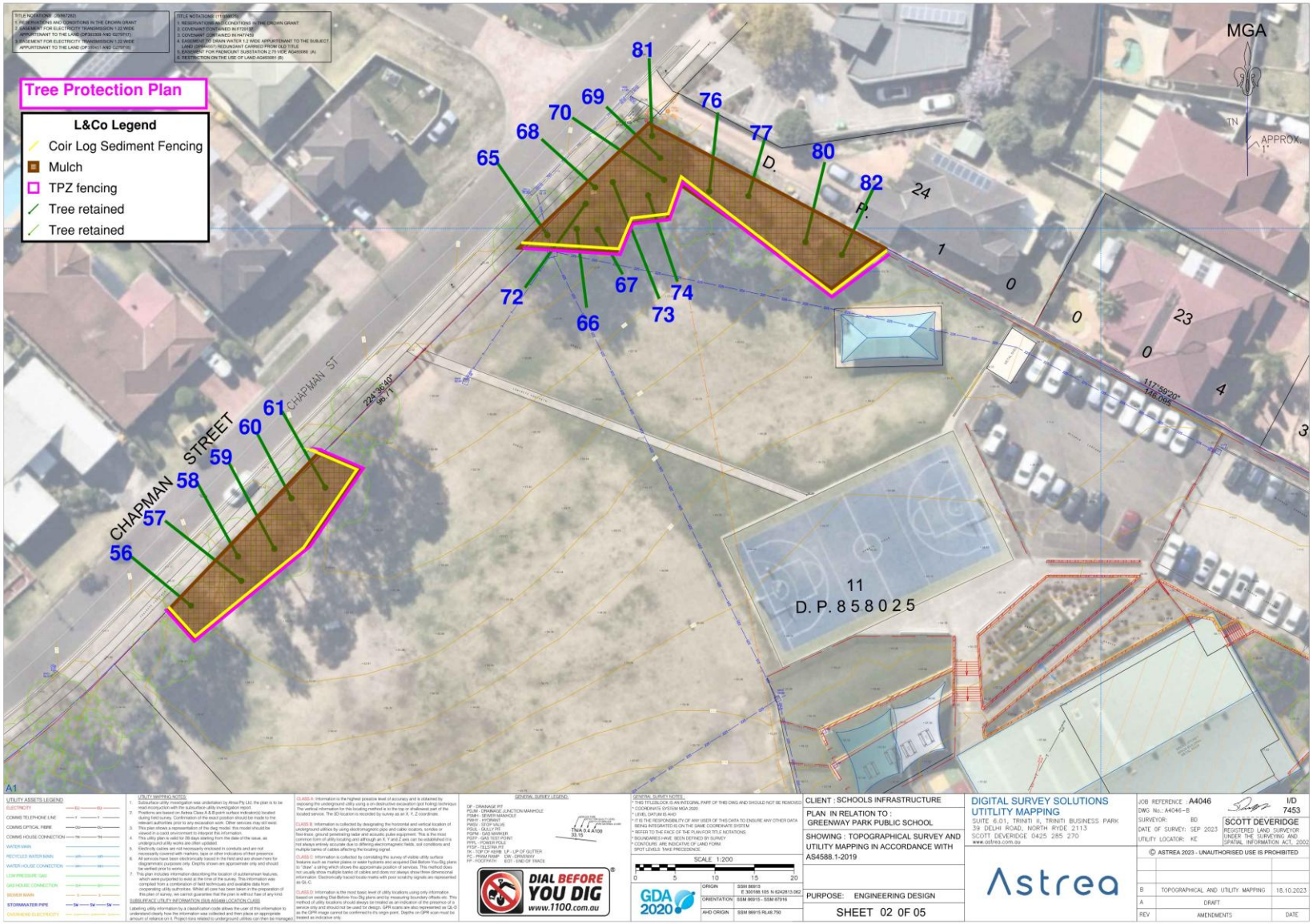
B TOPOGRAPHICAL AND UTILITY MAPPING 18.10.2023
A DRAFT
REV AMENDMENTS DATE

12.0 APPENDIX 7 | TREE PROTECTION PLAN



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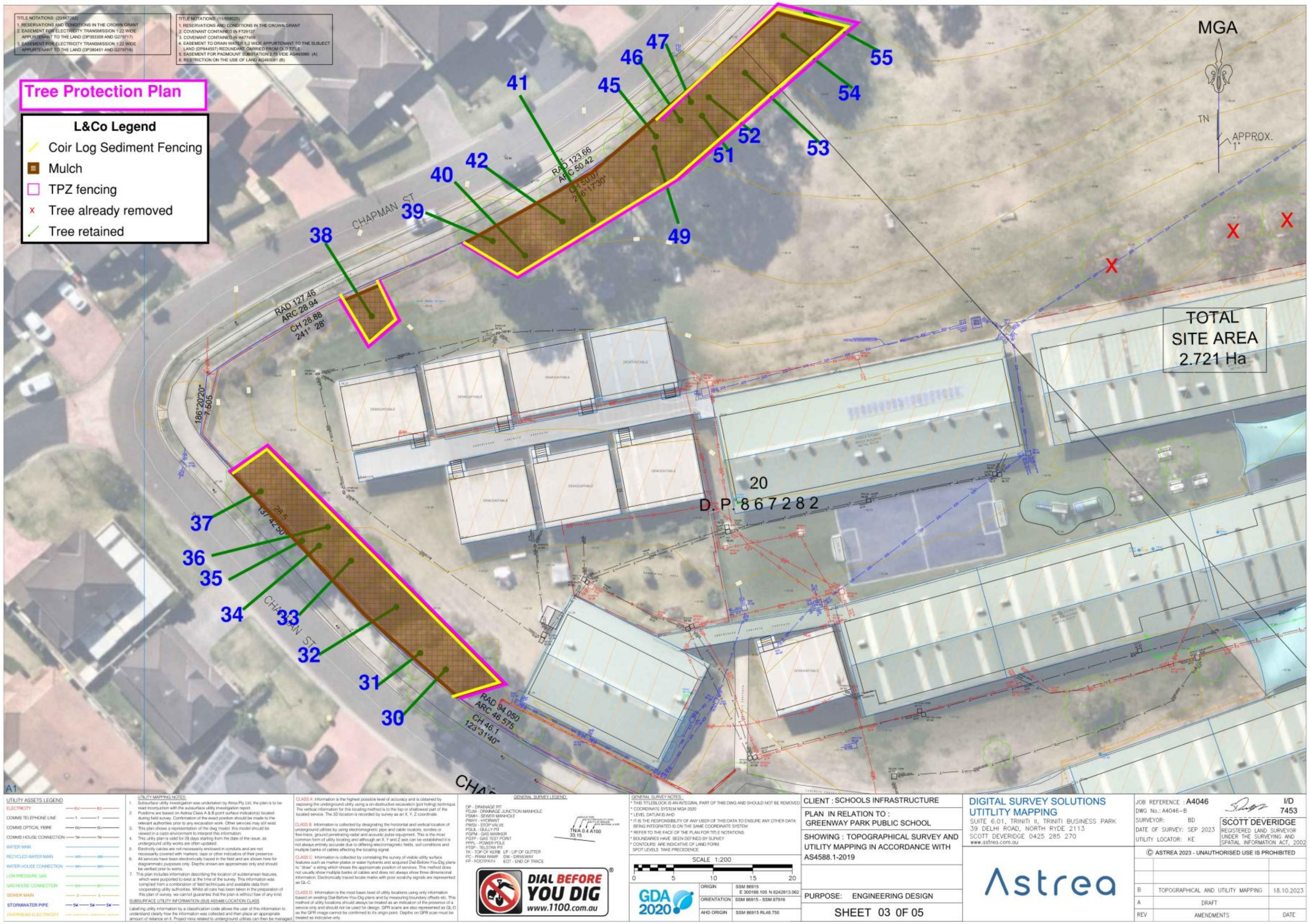
ACN: 625 300 530


Tree Protection Plan
L&Co Legend
Coir Log Sediment Fencing
Mulch
TPZ fencing
Tree already removed
Tree retained
MGA
TN
APPROX. 1°
CHAPMAN ST
TOTAL SITE AREA 2.721 Ha
20
D. P. 867282
30
31
32
33
34
35
36
37
38
39
40
41
42
45
46
47
49
51
52
53
54
55
CLIENT : SCHOOLS INFRASTRUCTURE
PLAN IN RELATION TO : GREENWAY PARK PUBLIC SCHOOL
SHOWING : TOPOGRAPHICAL SURVEY AND UTILITY MAPPING IN ACCORDANCE WITH AS4588.1-2019
PURPOSE: ENGINEERING DESIGN
SHEET 03 OF 05
DIGITAL SURVEY SOLUTIONS UTITLITY MAPPING
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PLANT PATHOLOGY

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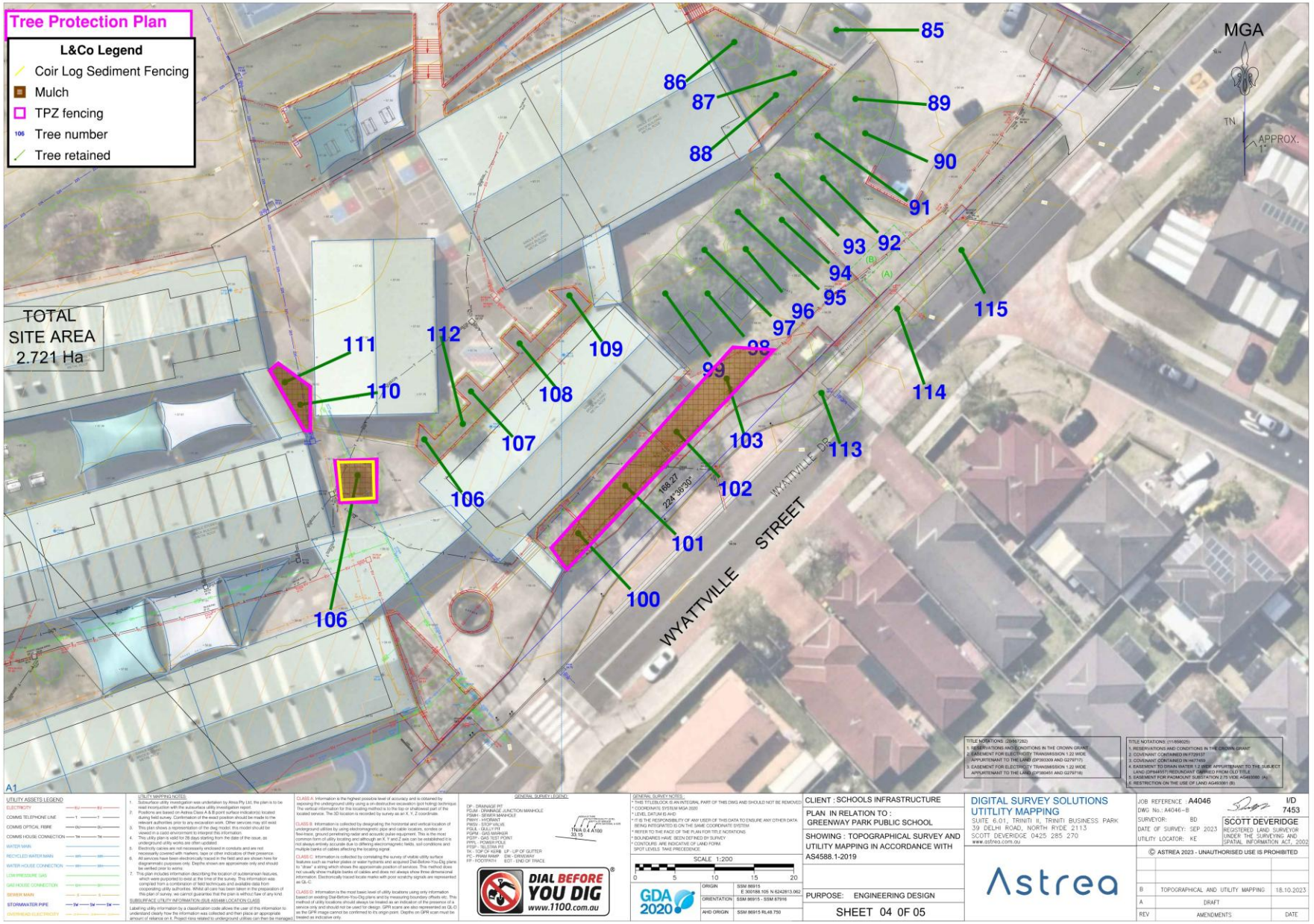

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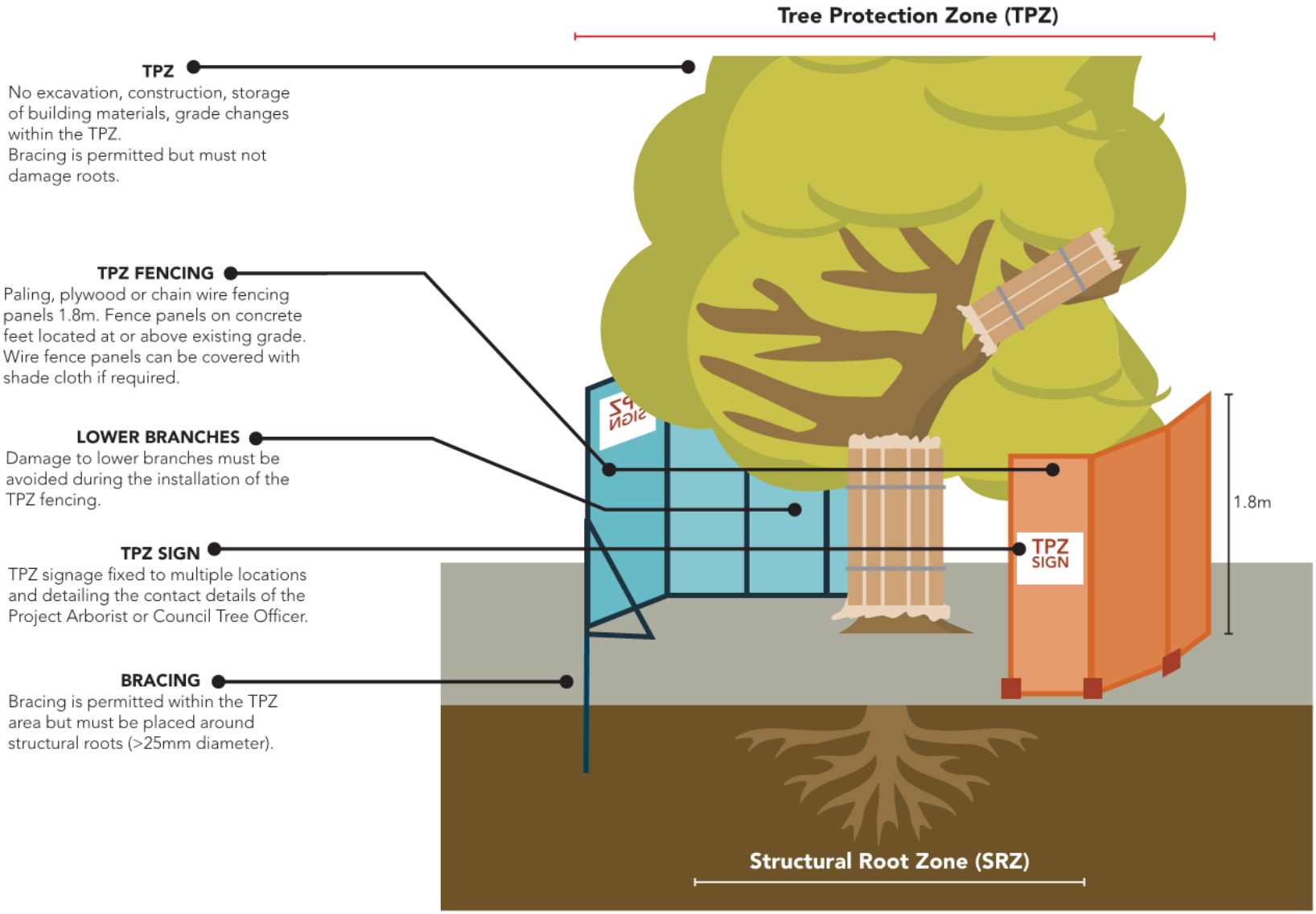
13.0 APPENDIX 8 | TYPICAL TREE PROTECTION DETAIL

Tree Protection Detail - TPZ Fencing



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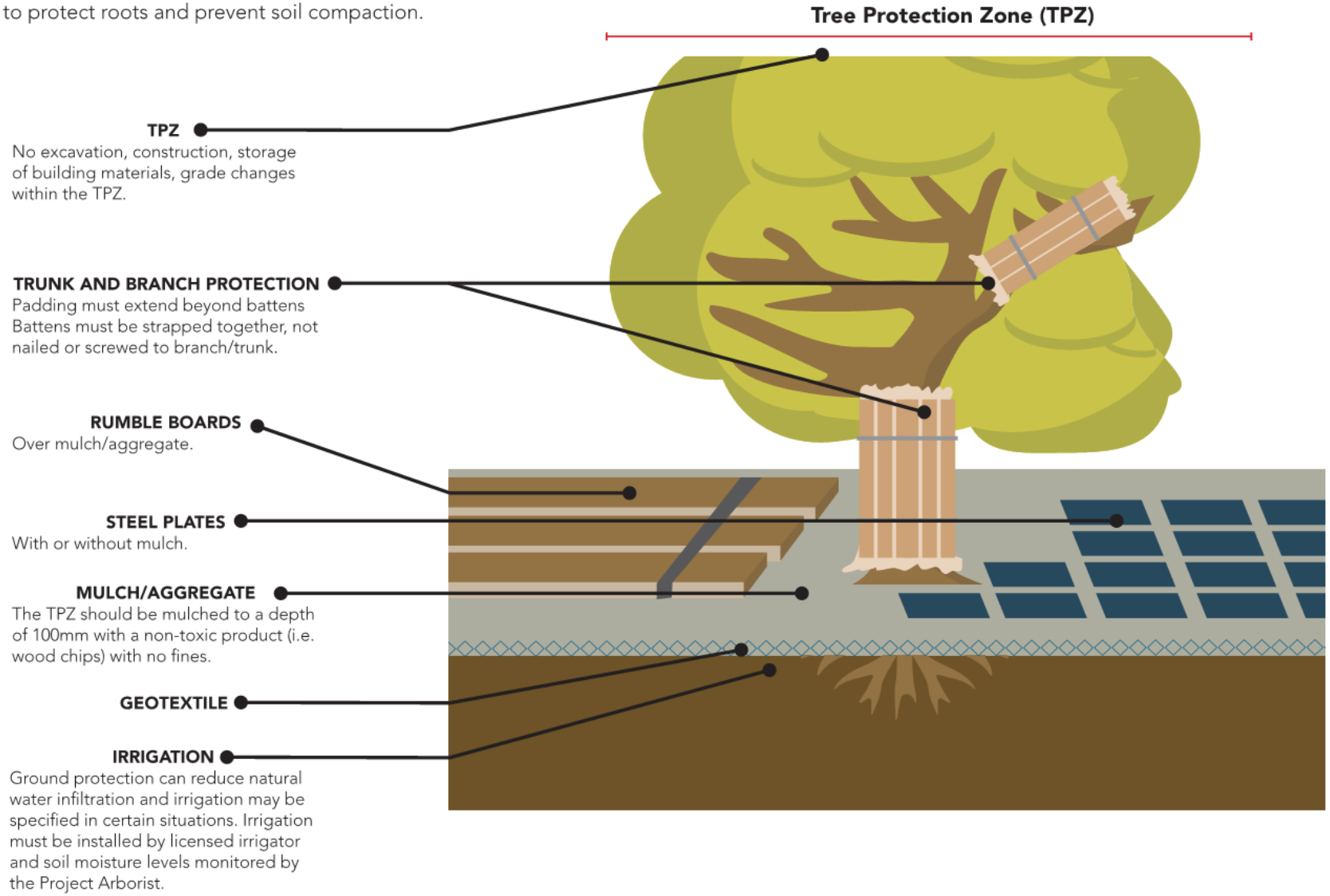
Tree Protection Detail - Ground Protection

Required if temporary access for machinery is required within the TPZ to protect roots and prevent soil compaction.



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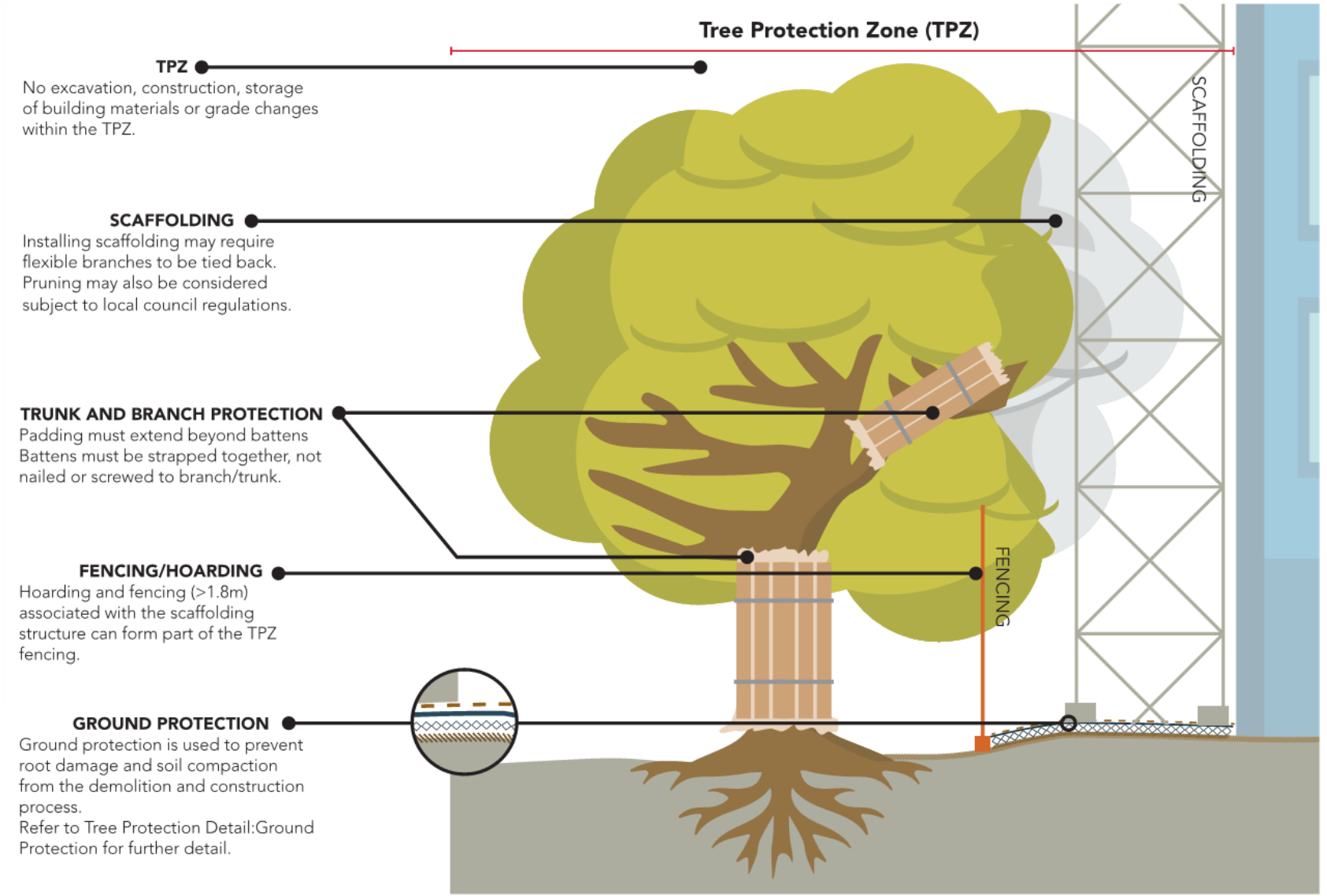
Tree Protection Detail - Scaffolding within TPZ



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14.0 APPENDIX 9 | TREE PROTECTION SPECIFICATION

14.1 Appointment of Project Arborist

14.2 Prior to commencement of works a Project Arborist should be engaged to monitor compliance with the protection measures. The Project Arborist will inspect tree protection measures and prepare a compliance certification for the principal certifying authority prior to the release of compliance certification. Contractors and site workers are to receive these specifications at least 3 days prior to commencing works. Contractors and site workers working within the TPZ should sign the site log confirming they have read and understood these specifications prior to commencing works.

14.3 Compliance

14.4 The Project Arborist will conduct regular site visits to certify the works are compliant with this specification. A compliance document will be prepared by the Project Arborist following each site inspection. The compliance document will include evidence of compliance with the tree protection measures detailed in this specification.

14.5 Tree & Vegetation Removal

14.6 Tree and vegetation removal will be undertaken prior to installation of tree protection measures. Tree removal works should be undertaken in accordance with the *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work* (2016).

14.7 Tree and vegetation removal must not damage trees to be retained.

14.8 Tree Protection Zone

14.9 Trees that are to be retained must be protected prior to and during construction from works that could negatively impact their health and structural integrity. The following works should not occur within the TPZ unless authorised by the Project Arborist:

- Modification of existing soil levels, excavations and trenching
- Mechanical removal of vegetation
- Movement of naturally occurring rock
- Storage of materials, plant/equipment and building of sheds
- No signage or hoarding shall be fixed to the trees
- Preparation of building materials, refuelling or disposal of waste materials and chemicals
- No lighting of fires
- No pedestrian or vehicular traffic
- Temporary or permanent location of services, or works required for their installation
- Any other activities that may damage the tree

14.11 Tree Protection Fencing

14.12 The TPZ fencing must be positioned at the perimeter of the TPZ and may be combined to form a single area where the TPZs of multiple trees overlap. The approximate location of the TPZ fencing is outlined in the Arboricultural Impact Assessment with the exact location determined by consultation between the Principal Contractor/Project Manager and the Project Arborist prior to the commencement of works. Fencing may be setback to allow for demolition/construction access and for the installation of pavements only where appropriate ground protection is installed and approved by the Project Arborist. The TPZ fencing must be at least 1.8m above grade and made of wire mesh panels that are supported by concrete feet and fastened together to prevent sideways movement. Tree damage, including any low branches, must be avoided during the installation of the tree protection fencing. The TPZ fencing must include signage to identify the TPZ fencing and include the Project Arborist contact details.

14.13 Site Management

14.14 Materials, waste storage and temporary services should not be located within the TPZ.

14.15 Works within the Tree Protection Zones

14.16 In certain situations, works within the TPZ may be authorised by the determining authority. These works must be supervised by the Project Arborist. When working within the TPZ, special care should be taken to avoid damage to the tree's root system, trunks and lower branches.

14.17 If roots (>25mm∅) are encountered during excavation, demolition and construction works, these roots must be retained undamaged and advice sought from the Project Arborist. The design and final levels must remain flexible to enable the retention of roots >25mm∅ where deemed necessary by the Project Arborist.

14.18 Ground Protection

14.19 The movement of machinery should be restricted to existing paved areas or in areas with temporary ground protection (i.e. steel road plates, ground mats) when deemed necessary by the Project Arborist.

14.20 Ground protection should be installed as per AS4970 and Appendix 7- *Typical Tree Protection Detail*.

14.21 If irrigation is considered necessary, it should be installed first and by a licensed irrigator under the supervision of the Project Arborist with no trenching.

14.22 The irrigation should be covered with a layer of geotextile and mulched to a depth of 100mm with a non-toxic product (i.e. woodchips) with no fines.

14.23 Once the irrigation, geotextile and mulch are in place then the ground protection boards (steel plates or rumble boards) can in be installed.

14.24 Boards should remain in place for the entire build.

14.25 Trunk & Branch Protection

14.26 If trunk protection is required it should be installed by wrapping the trunk and first order branching with padding (i.e. carpet underlay or 10mm thick geotextile) to a minimum height of 2m. Timber battens (90 x 45mm), spaced at 150mm centres should be strapped together and placed over the padding (Refer to AS4970 for further details).

14.27 Branch protection should be installed when considered necessary by the Project Arborist.

14.28 Branches should be wrapped with padding (i.e. Ableflex) to provide protection. Where possible, branches should be tied back and construction works to take place around branches (with appropriate branch protection installed as required). If pruning is unavoidable it should be in accordance with AS4373 and supervised by the Project Arborist.

14.29 Structure & Pavement Demolition

14.30 The Project Arborist should supervise the demolition of existing structures/pavement within the TPZ. Machinery is to be excluded from the TPZ unless operating from existing slabs, pavements or areas of ground protection. Machinery should not contact the tree's roots, trunks, branches and crown.

14.31 Existing pavement should be hand lifted to minimise disturbance to the existing sub-base and to prevent damage to tree roots. Wherever possible, the existing sub-base material should remain in situ.

14.32 When removing slab sections within the TPZ, machinery must work from the tree outwards to ensure the machinery always remains on the un-demolished section of slab. Wherever possible, footings or elements below grade should be retained to minimise disturbance to the tree's roots.

14.33 Structures must be shattered with hand-operated pneumatic/electric breaker before removal when considered necessary by the Project Arborist.

14.34 If roots (>25mm∅) are encountered during excavation, demolition and construction works these roots must be retained undamaged and advice sought from the Project Arborist. Exposed roots must be protected from direct sunlight, drying out and extremes of temperature by using 10mm thick jute geotextile fabric. This fabric should be kept moist at all times.

14.35 Where the Project Arborist determines that the tree is using underground elements (i.e. footings, pipes, rocks etc.) for support, these elements should be left *in situ*.

14.36 Pavement/Kerb Installation

14.37 Installation of pavements and sub-base within the TPZ must be supervised by the Project Arborist. New surfaces and sub-base materials should be placed above grade to minimise excavations and retain roots (unless prior root mapping has determined that there are no roots within the area of construction).

14.38 If roots (>25mm∅) are encountered during the installation of the new sub-base and surfaces these roots must be retained undamaged and advice sought from the Project Arborist. The design and final levels must remain flexible to enable the retention of roots >25mm∅ where deemed necessary by the Project Arborist.

14.39 Compaction of the ground prior to the installation of fill is not permitted.

14.40 New sub-base material should be a 20mm no-fines road base (i.e. Benedict Sand & Gravel- Product Code 20NF/RB or similar). Recycled concrete aggregates should not be used to avoid raising soil pH levels.

14.41 If required, bedding sand should be washed river sand (no crushed paving blends). The bedding sand should be consolidated with a pedestrian operated plate compactor only. If possible, pavement material should be permeable.

14.42 Kerbs within the TPZ should be modified to bridge roots (>25mm∅) unless root pruning is approved and undertaken by the Project Arborist.

14.43 Underground Services

14.44 The installation of underground services should be located outside of the TPZ. Where this is not possible they should be installed around or below roots (>25mm∅) using either hydrovac or hand excavation and supervised by the Project Arborist.

14.45 Boring methods may be used for the installation of services 800mm below grade. Excavations for starting and receiving pits for the boring equipment should be located outside of the TPZ or located to avoid roots (>25mm∅, or determined by the Project Arborist).

14.46 Excavations, Root Protection & Root Pruning

14.47 Excavations and root pruning within the TPZ must be supervised by the Project Arborist and should be avoided where possible.

14.48 No over-excavation, battering, or benching should be undertaken beyond the footprint of any structure unless approved by the Project Arborist. Hand excavation and root pruning along the excavation line should be completed prior to the commencement of mechanical excavation to prevent tearing and shattering damage to the roots.

14.49 Roots >25mm∅ should be pruned by the Project Arborist only. Roots <25mm∅ may be pruned by the Principal Contractor. Root pruning should be undertaken with clean, sharp secateurs or a pruning saw to ensure a smooth wound face, free from tears.

14.50 Damaged roots should be pruned behind the damaged tissues with the final cut made to the undamaged part of the root.

15.0 APPENDIX 10 | MITIGATION MEASURES

Mitigation Number/ Name	When is Mitigation Measure to be complied with	Mitigation Measure	Reason for Mitigation Measure
Project Arborist	Engage at start of construction prior to CC.	Project Arborist to oversee tree protection measures and ensure compliance.	Ensure compliance with tree protection measures to retain trees.
Tree Removal	Prior to demolition	Removal works should be carried out by a practising arborist. The practising arborist should hold a minimum qualification equivalent (using Australian Qualifications Framework) of Level 3 or above in arboriculture or its recognised equivalent. The practising arborist should have a minimum of 3 years of practical experience. Removal works should be undertaken in accordance with the Australian Standard 4373: Pruning of Amenity Trees (2007), Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016) and other applicable legislation and codes.	Safe removal of correct trees.
Tree Protection Fencing & sediment control	Prior to demolition	TPZ fencing should be installed parallel to the proposed building line prior to any site works (including demolition) and remain in place for the duration of the construction. Coir logs should be installed inside of the TPZ fencing to prevent material runoff into the TPZ. Materials, waste storage and temporary services should not be located within the TPZ fenced area. If works are required within the TPZ fenced area, then they should be supervised by the Project Arborist. The tree protection measures must be inspected by the Project Arborist prior to the start of site works, including demolition.	Retain trees and mitigate construction impacts.
Replacement Trees	Post construction	Replacement tree planting should be provided when trees are removed. Replacement trees should be supplied as advanced size stock to help offset the loss of amenity resultant from the tree removals. Replacement planting should be supplied in accordance with Australian Standard 2303: Tree Stock for Landscape Use (2015).	Replace the loss of amenity

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16.0 APPENDIX 11 | PLATES

a) Showing Tree 30. b) Showing Tree 37. c) Showing Tree 39. d) Showing Trees 63 & 64. e) Showing Trees 71 & 65. f-g) Showing Tree 75.

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17.0 APPENDIX 11 | LIMITATIONS & DISCLAIMERS

17.1 Subject trees were assessed from the ground only and for providing an Arboricultural Impact Assessment and Tree Protection Report.

17.2 All recommendations in this Arboricultural Impact Assessment and Tree Protection Report report are based on the observations made on the day of inspection (02.11.2023 & 20.02.2025). There is no warranty, expressed or implied, that problems or deficiencies relating to the subject trees, or the subject site may not arise in the future.

17.3 Laurence & Co Consultancy takes care to obtain information from reliable sources. However, Laurence & Co Consultancy can neither guarantee nor be responsible for the accuracy of information provided by others. Plans, diagrams, graphs and photographs in this Arboricultural Impact Assessment and Tree Protection Report report are visual aids only and are not necessarily to scale. This report provides recommendations relating to tree management only. Advice should be sought from appropriately qualified consultants regarding design/construction/ecological/heritage etc. issues.

17.4 This report has been prepared for exclusive use by the client. This report should not be viewed by others or for any other reason outside its intended target or without the prior written consent of Laurence & Co Consultancy. Unauthorised alteration or separate use of any section of the report invalidates the report.

17.5 Many factors may contribute to tree failure and cannot always be predicted. Laurence & Co Consultancy takes care to accurately assess tree health and structural condition. However, a tree's internal structural condition may not always correlate to visible external indicators.

17.6 **Limitation of Liability**. Laurence & Co Consultancy shall be liable only for direct damages that result from negligence or wilful misconduct in the performance of its services. Under no circumstances shall Laurence & Co Consultancy be liable for indirect, consequential, special, or punitive damages, or for damages caused by the client's failure to perform its obligations under law or contract. Laurence & Co Consultancy shall not be liable for and Client shall indemnify Laurence & Co Consultancy from and against all claims, demands, liabilities and costs (including attorneys' and expert fees) arising out of or in any way related to our performance or non-performance of services, including all on-site activities except to the extent caused by Laurence & Co Consultancy's negligence or wilful misconduct. In no event shall Laurence & Co Consultancy's liability exceed the amount paid to Laurence & Co Consultancy by the Client for our professional services (net of reimbursable expenses) and Client specifically releases Laurence & Co Consultancy for any damages, claims, liabilities and costs in excess of that amount.

17.7 Reference should be made to any relevant legislation including Tree Management Controls. All recommendations contained within this report are subject to approval from the relevant Consent Authority.

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