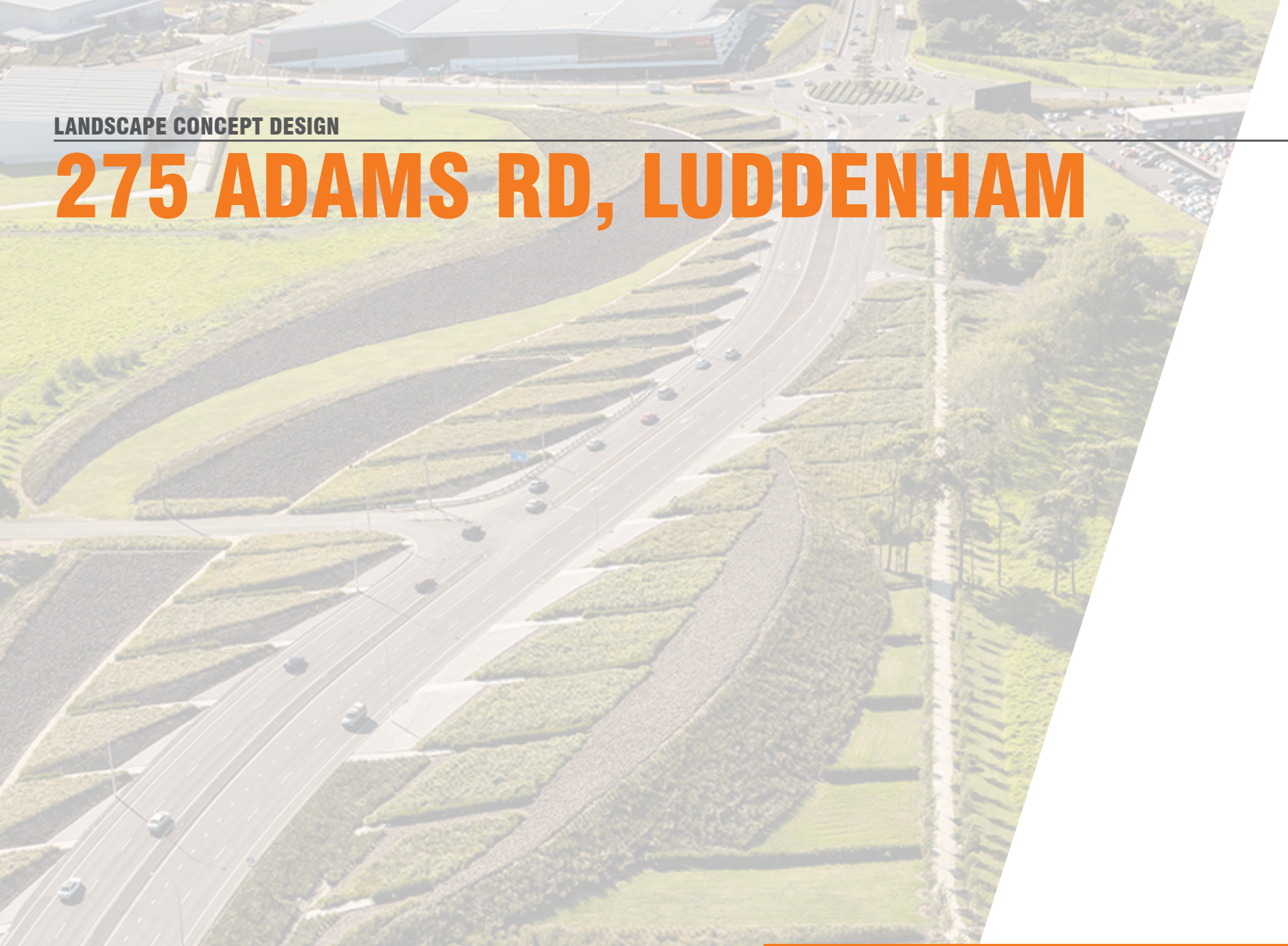
APPENDIX T – LANDSCAPE CONCEPT DESIGN

EMM
creating opportunities



LANDSCAPE CONCEPT DESIGN

275 ADAMS RD, LUDDENHAM

INDESCO

JULY 2020

CONTENTS

1. INTRODUCTION
2. DESIGN GOALS
3. DESIGN PRINCIPLES
4. DESIGN APPROACH
5. LANDSCAPE CONCEPT MASTERPLAN
6. STAGE 1 CONCEPT LANDSCAPE PLAN
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9. PLANTING STRATEGIES TO MINIMISE BIRD AND WILDLIFE ATTRACTION
10. CONCLUSION

INTRODUCTION

CFT No 13 Pty Ltd, a member of Coombes Property Group (CPG), has recently acquired the property at 275 Adams Road, Luddenham NSW (Lot 3 in DP 623799, 'the site') within the Liverpool City Council municipality. The site is host to an existing shale/clay quarry.

CPG owns, develops, and manages a national portfolio of office, retail, entertainment, land, and other assets. The company's business model is to retain long-term ownership and control of all its assets. CPG has the following staged vision to the long-term development of the site:

- Stage 1 Quarry Reactivation: Solving a problem. CPG intends to responsibly avoid the sterilisation of the remaining natural resource by completing the extraction of shale which is important to the local construction industry as a raw material used by brick manufacturers in Western Sydney. Following the completion of approved extraction activities, the void would be prepared for rehabilitation.
- Stage 2 Advanced Resource Recovery Centre (ARRC) and Quarry Rehabilitation: A smart way to fill the void. CPG in partnership with KLF Holdings Pty Ltd (KLF) and in collaboration between the circular economy industry and the material science research sector, intends to establish a technology-led approach to resource recovery, management, and reuse of Western Sydney's construction waste, and repurposing those materials that cannot be recovered for use to rehabilitate the void. This will provide a sustainable and economically viable method of rehabilitating the void for development.
- Stage 3 High Value Employment Generating Development: Transform the land to deliver high value agribusiness jobs. CPG intends to develop the rehabilitated site into a sustainable and high-tech agribusiness hub supporting food production, processing, freight transport, warehousing, and distribution, whilst continuing to invest in the resource recovery research and development initiatives. This will deliver the vision of a technology-led agribusiness precinct as part of the Aerotropolis that balances its valuable assets including proximity to the future Western Sydney Airport (WSA) and Outer Sydney Orbital.

This landscape concept design report relates to the establishment of the ARRC in Stage 2 and the future development of the rest of the site in Stage 3, as described above.

02

SAFETY

The landscape design will be cogniscent of safety concerns including minimising bird and wildlife attraction

SUSTAINABLE

Provide sustainable landscapes that contribute to biodiversity, manage water resources effectively, reduce energy requirements and minimise waste production

LANDSCAPE CHARACTER

The landscape design will seek to contribute positively to the character and identity of the site and the experience of users

FUNCTIONAL

The landscape design will support the operational and functional requirements including access to facilities, on going maintenance and vegetated buffer zones

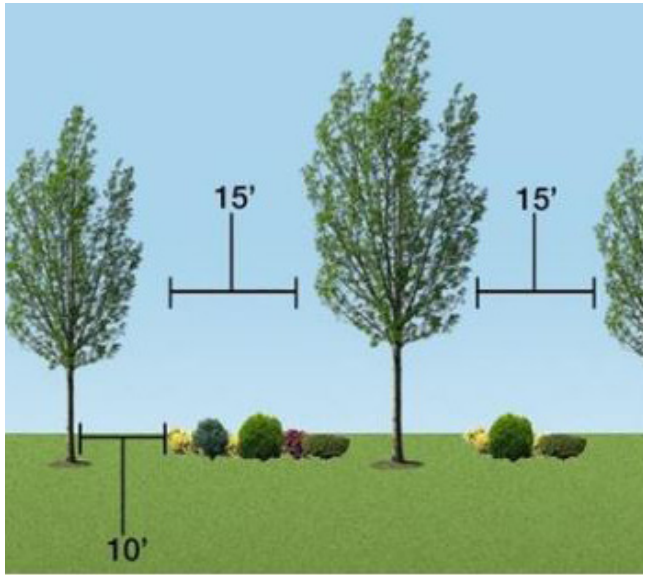
LANDSCAPE PLAN PRINCIPLES

MINIMISE BIRD AND WILDLIFE ATTRACTION

Ensure the site and planting design minimises bird and wildlife attraction

ACTIONS AND INNOVATION

- Use plant species that have a low attraction for birds and bird prey
- Setout tree planting so that at maturity overlapping canopy structures are minimised and bird movement between trees is mitigated
- Use columnar tree species with vertical branching to minimise nesting and perching opportunities for birds
- Avoid landscape elements that can be used as perching or nesting sites such as totems or vertical features
- Avoid species with excessive fruits and berries



LANDSCAPE IDENTITY

Landscape will be critical to making a positive contribution to the changing identity and character of Western Sydney

ACTIONS AND INNOVATION

- Landscaping will suit local/regional conditions including species endemic to the area and language sensitive to rural and airport operations
- Landscaping shall enhance the streetscapes and presentation of the development and provide appropriate screening/buffering
- Promote energy efficient sustainable design and reduce urban heat
- Provide carefully selected tree species to shade carparking and pedestrian areas

LANDSCAPE FUNCTION

The landscape should not impede the function of, or access to, services, facilities and sight lines for vehicle movement

ACTIONS AND INNOVATION

- Provide landscaping to all frontages where possible
- Landscaping should visually enhance the streetscape by softening hard edges and surfaces and transitions between the roads and built form
- Encourage drought tolerant, low maintenance plants and treatments
- Tree planting hierarchy will compliment road hierarchy including grand entry streets, internal roads and carparking areas

LANDSCAPE PLAN CONSIDERATIONS

LANDSCAPE BUFFERS

Buffers to consider topography and use species that are appropriate for narrow buffer planting zones

ACTIONS AND INNOVATION

- Meet aviation safety standards (MOS139)
- Use simple uniform plant species selection for ease of construction and ongoing maintenance
- Use climbing and spreading plants to overflow or climb over retaining walls, where neccessary
- Employ practical water conservation measures such as mulch, efficient irrigation and grouping of plants
- Landscape buffers to incorporate stormwater and drainage corridors where possible

WETLAND HAZARDS AND APZ ZONES

Existing and proposed vegetation to reduce fire risk and bird and wildlife risk whilst maintaining environmental values

ACTIONS AND INNOVATION

- Use buffers as managed transition between wetland zone
- Minimise canopy trees and rows of trees in APZ areas
- Reduce flammable plant understorey in APZ zones
- Avoid planting that creates continuous vegetation zones or habitats that may attract birds and wildlife
- Protect vulnerable flora and fauna on site where possible
- Staggered noncontinuous planting patterns will minimise both fire risk and reduce bird and wildlife attraction

LANDSCAPE AMENITY

Propose landscape treatments that improve way-finding, soften the scale and bulk of the development and reduce urban heat effect

ACTIONS AND INNOVATION

- Use carparks as Water Sensitive Urban Design (WSUD) opportunities for stormwater management and shade
- Low level shrubs to provide visual sightlines and contrast
- Maximise existing site features
- Minimise hard heat absorbing surfaces
- Create people friendly nodes and clear pathway connections
- Consider the airport and logistics operations in landscape design

05

LANDSCAPE CONCEPT MASTER PLAN

LEGEND

- Proposed street trees
- Proposed shrub and buffer planting
- Large shade trees for landscape amenity and to reduce urban heat effect
- Small people friendly amenity spaces and pathway connections
- Existing vegetation

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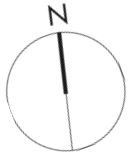
STAGE 1 - ARRC SITE - LANDSCAPE PLAN

LEGEND

- Stage 1 Boundary
- Proposed street trees
- Proposed shrub and buffer planting
- Large shade trees for landscape amenity and to reduce urban heat effect
- Small people friendly amenity spaces and pathway connections
- Existing vegetation



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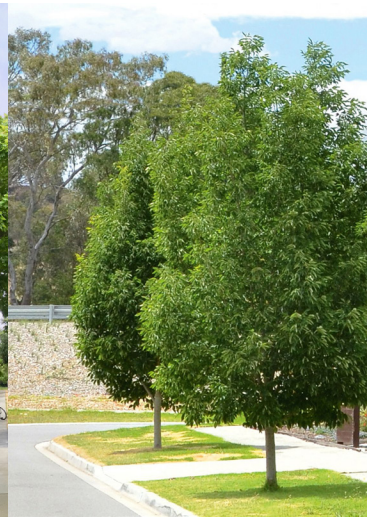
LANDSCAPE TYPOLOGY AND REFERENCE IMAGES



MAIN ENTRY ROAD

CENTRAL MEDIAN PLANTING

SIDE STREET TREE PLANTING

ENTRY STATEMENT

BUFFER PLANTING AND SCREENING

LANDSCAPE AMENITY POCKETS

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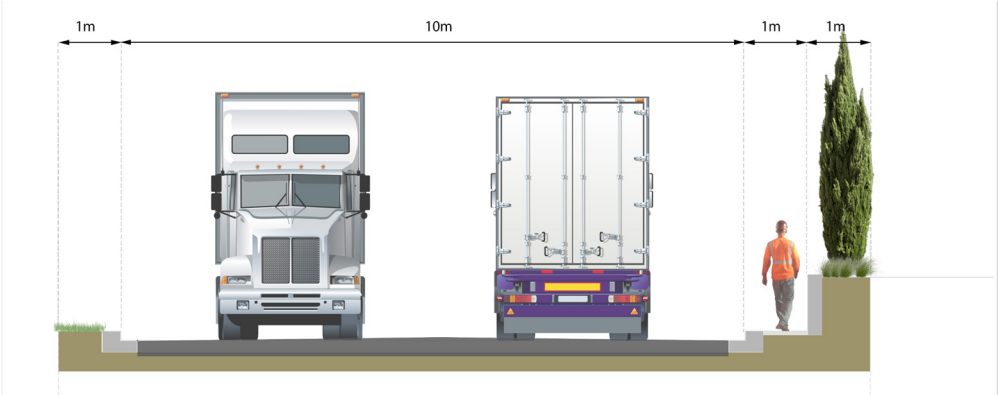
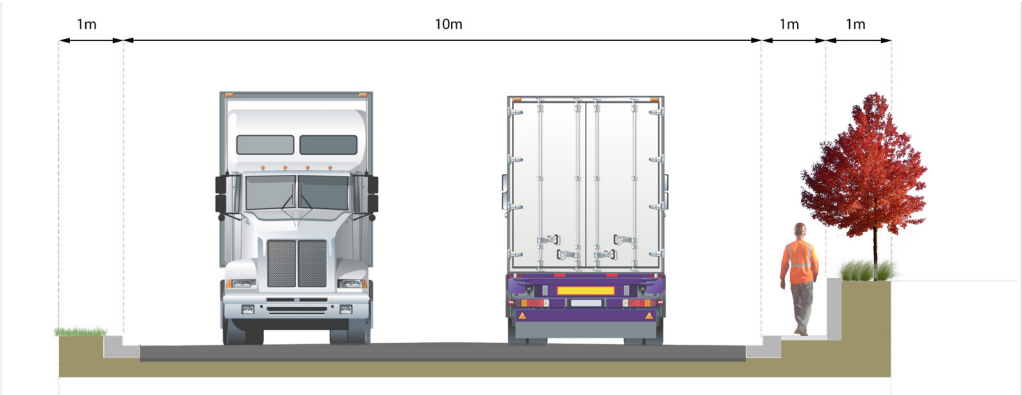
08

LANDSCAPE TYPICAL SECTIONS

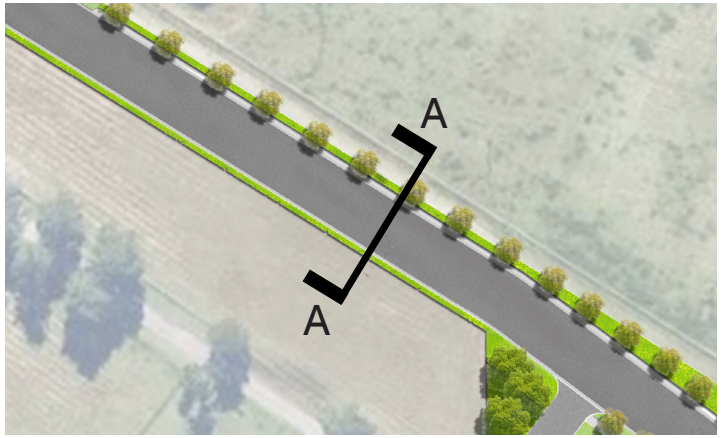


SECTION AA: MAIN ENTRY RD SECTION WITH PENCIL PINES AND GROUND-COVERS



SECTION AA: MAIN ENTRY ROAD WITH ACER FREEMANII TREES AND GROUND-COVERS

SECTION AA: MAIN ENTRY RD SECTION WITH CALISTEMON TREES AND GROUND COVERS



KEY PLAN

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09

PLANTING STRATEGIES TO MINIMISE BIRD AND WILDLIFE ATTRACTION

BIRD AND WILDLIFE ATTRACTION RISK MITIGATION PLANTING STRATEGIES

The landscape design for 275 Adams Road will align with national and international requirements and guidance documents that set out strategies to reduce the risk of attracting birds and wildlife.

A recommended planting list has been prepared based on minimising the attraction to birds and wildlife. This list will be reviewed and further refined with Landrum & Brown who are preparing the Aviation Impact Assessment for the project.

RECOMMENDED PLANTING SPECIES	PRIMARY USE
NATIVE TREES	
Acacia longifolia - Long leaved Wattle	General screen
Angophora costata - Queensland box	Feature trees
Calistemon viminalis - Weeping bottlebrush	General screen
Livinstona australis - Cabbage Palm	Narrow screen
EXOTIC TREES	
Acer freemanii 'Jeffersred' Autumn Blaze - Maple	Main Entry Rd
Cupressus sempervirens - Pencil pine	Narrow screen
Prunus sp - Ornamental Cherry	Side streets
Malus ioensis 'plena' - Crab apple	Side streets
NATIVE SHRUBS + GROUNDCOVERS	
Carex appressa - Carex	Buffer zones
Dianella revoluta 'little rev'	Buffer zones
Grevillea juniperus - Juniper leafed grevillea	General
Lomandra longifolia 'tanika' - flax lily	Edges
Westringia fruticosa - coastal rosemary	Buffer zones
CLIMBING AND CREEPING PLANTS FOR WALLS	
Hardenbergia violacae - False sarsaparilla	Walls
Pondorea pandorana - Wonga vine	Walls
Trachleospermum jasminoides - Jasmine	Walls

PROPOSED PLANTING SCHEDULE

NATIVE TREE PLANTING

CODE	SPECIES	COMMON NAME	MATURE SIZE (H x W)	POT SIZE	SPACING
Aco	Calistemon viminalis	Sydney Red Gum	10m x 6m	45L	As Shown
ACl	Acacia longifolia	Sydney golden wattle	6m x 4m	45L	As Shown

EXOTIC TREE PLANTING

CODE	SPECIES	COMMON NAME	MATURE SIZE (H x W)	POT SIZE	SPACING
Acf	Acer freemanii 'Jeffersred' Autumn Blaze	Freeman's Maple	13m x 10m	45L	As Shown
Cus	Cupressus sempervirens	Pencil Pine	15m x 3m	45L	As Shown
ULp	Malus ioensis 'plena'	Crab Apple	6m x 4m	45L	As Shown

SHRUB PLANTING

CODE	SPECIES	COMMON NAME	MATURE SIZE	POT SIZE	SPACING
Ca	Carex appressa	Tall sedge	0.5m x 0.5m	140mm	4.0 /m²
Dr	Dianella revoluta	Blueberry Lily	0.5m x 0.5m	140mm	2.8 /m²
LOl	Lomandra longifolia	Spiny-head mat-rush	0.5m x 0.5m	140mm	4.0 /m²
WEf	Westringia fruticosa	Coastal rosemary	2m x 2m	140mm	2.8 /m²
GRj	Grevillea juniperus	Juniper leafed grevillea	2m x 3m	140mm	2.8 /m²

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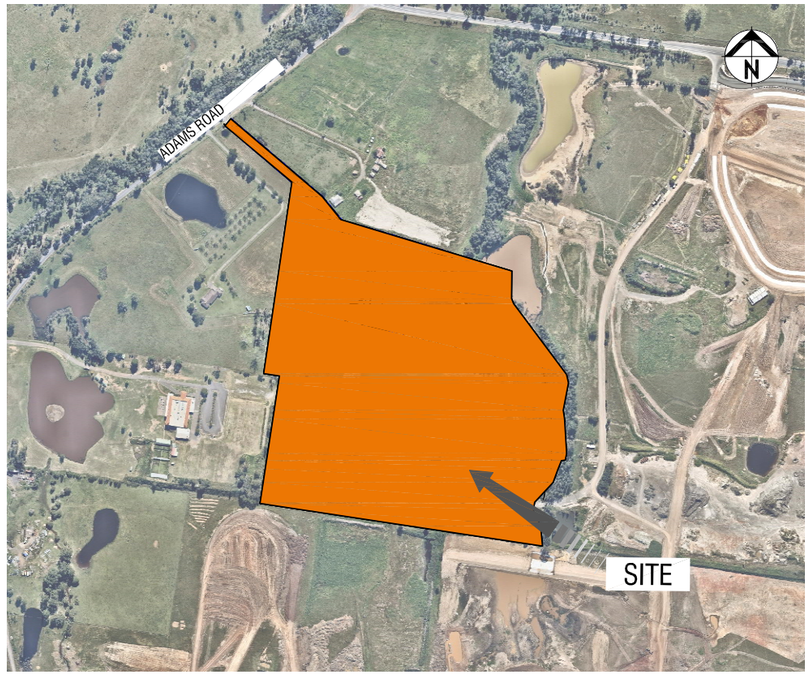
CONCLUSION

This report has outlined the goals, principles, and approach to the landscaping strategy for the proposed developments at 275 Adams Road, Luddenham. These will inform the landscape design during the detailed design phase of the project.

Given the proximity of the site to the future Western Sydney Airport, a key consideration is the selection and spacing of trees and plants to minimise attraction to bird and wildlife. The recommended planting list will need to be assessed in further detail together with Landrum & Brown who are preparing the Aviation Impact Assessment and EMM who are undertaking the Wildlife Strike and Birdstrike Risk Review for the project.

275 ADAMS ROAD
LUDDENHAM

LANDSCAPE PLANS
ISSUE FOR SSDA
JULY 2020



LOCALITY PLAN
NOT TO SCALE

DRAWING SCHEDULE

PLAN NUMBER	DRAWING TITLE	REV
7472-L000	COVER PAGE	B
7472-L300	LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 1 OF 3	B
7472-L301	LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 2	B
7472-L302	LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 3	B
7472-L303	LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 4	B
7472-L600	LANDSCAPE DETAILS	B

CLIENT:

COOMBES PROPERTY GROUP

CONSULTANTS:

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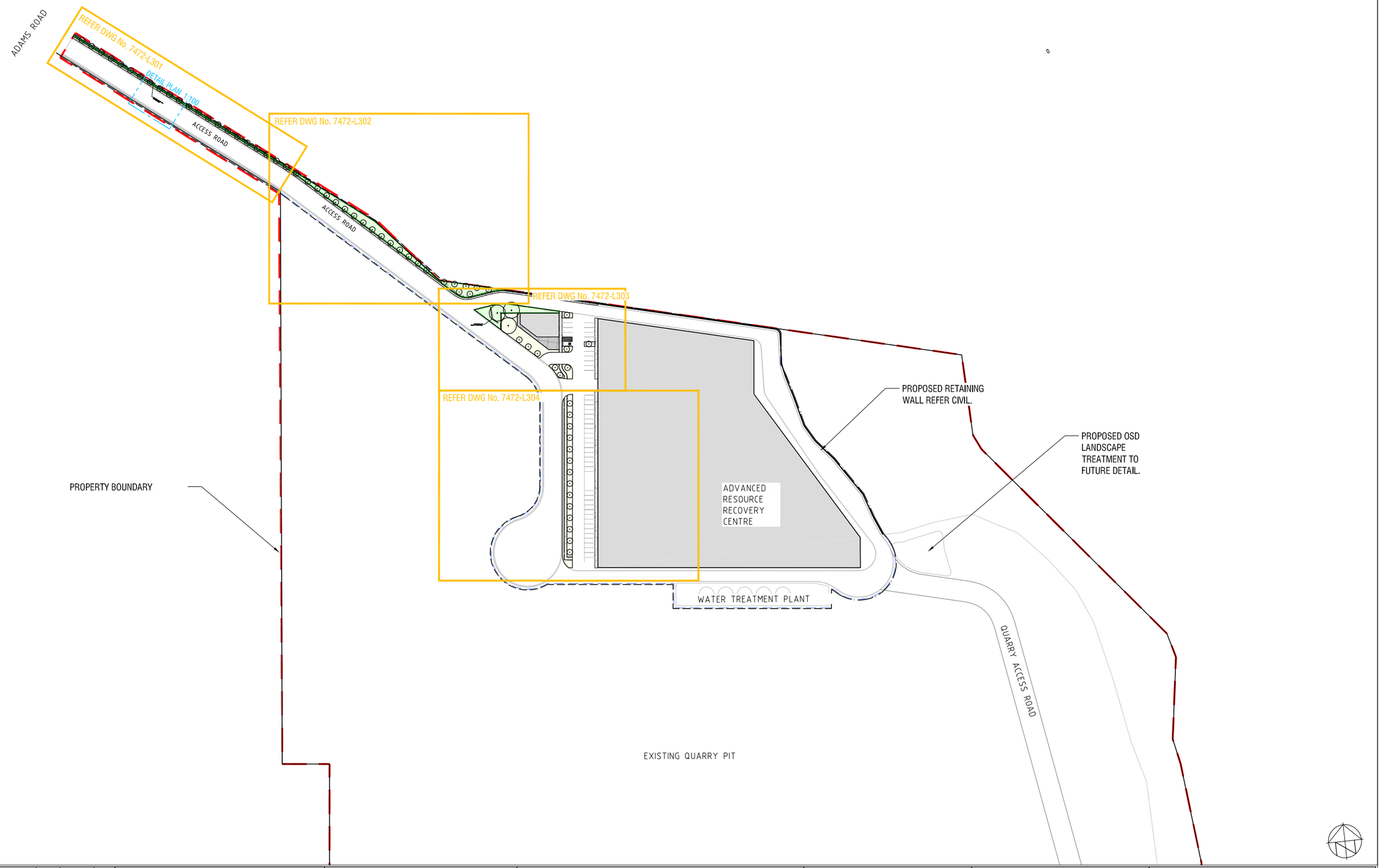

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A	FOR CLIENT REVIEW	PB	17.06.2020	AT

DEVELOPMENT TEAM

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PROJECT

275 ADAMS ROAD LUDDENHAM

DRAWING TITLE

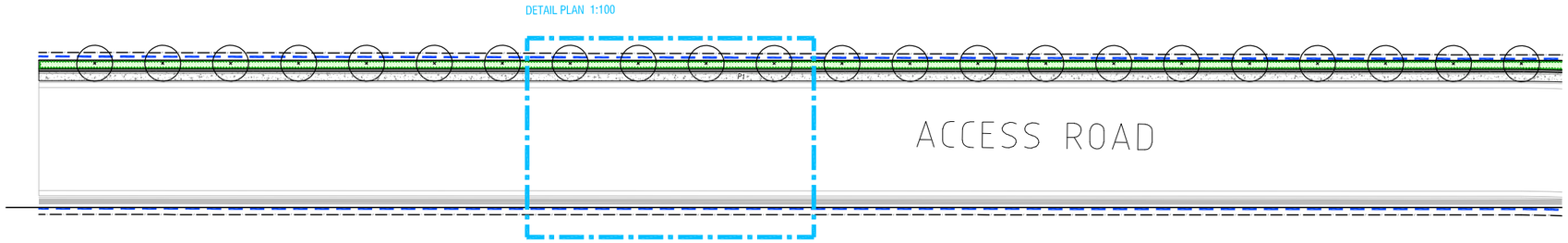
LANDSCAPE

KEY PLAN

PROJECT No.	DRAWING No.	AMDT
7472	L300	A

LEGEND

- STAGE BOUNDARY
- PROPOSED TREE
  Species to future detail
- MULCHED PLANTING BED
  Species to future detail
- SAPPHIRE BUFFALO TURF
- P1 - PLAIN CONCRETE
- P2 - SAWCUT OXIDE COLOURED CONCRETE



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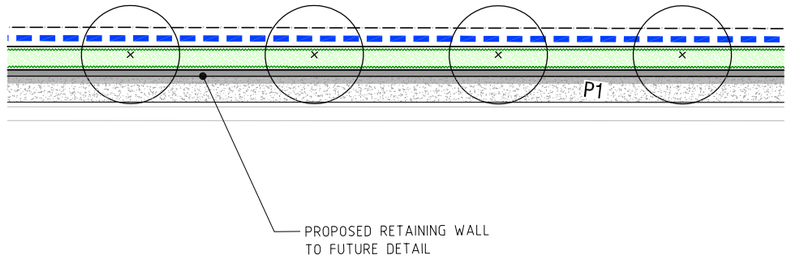

B / L300 ACCESS ROAD DETAIL PLAN
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No.	AMENDMENT	APPROVED	DATE	MADE BY
A	FOR CLIENT REVIEW	PB	17.06.2020	AT

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PROJECT

275 ADAMS ROAD LUDDENHAM

DRAWING TITLE

LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 1

PROJECT No.	DRAWING No.	AMDT
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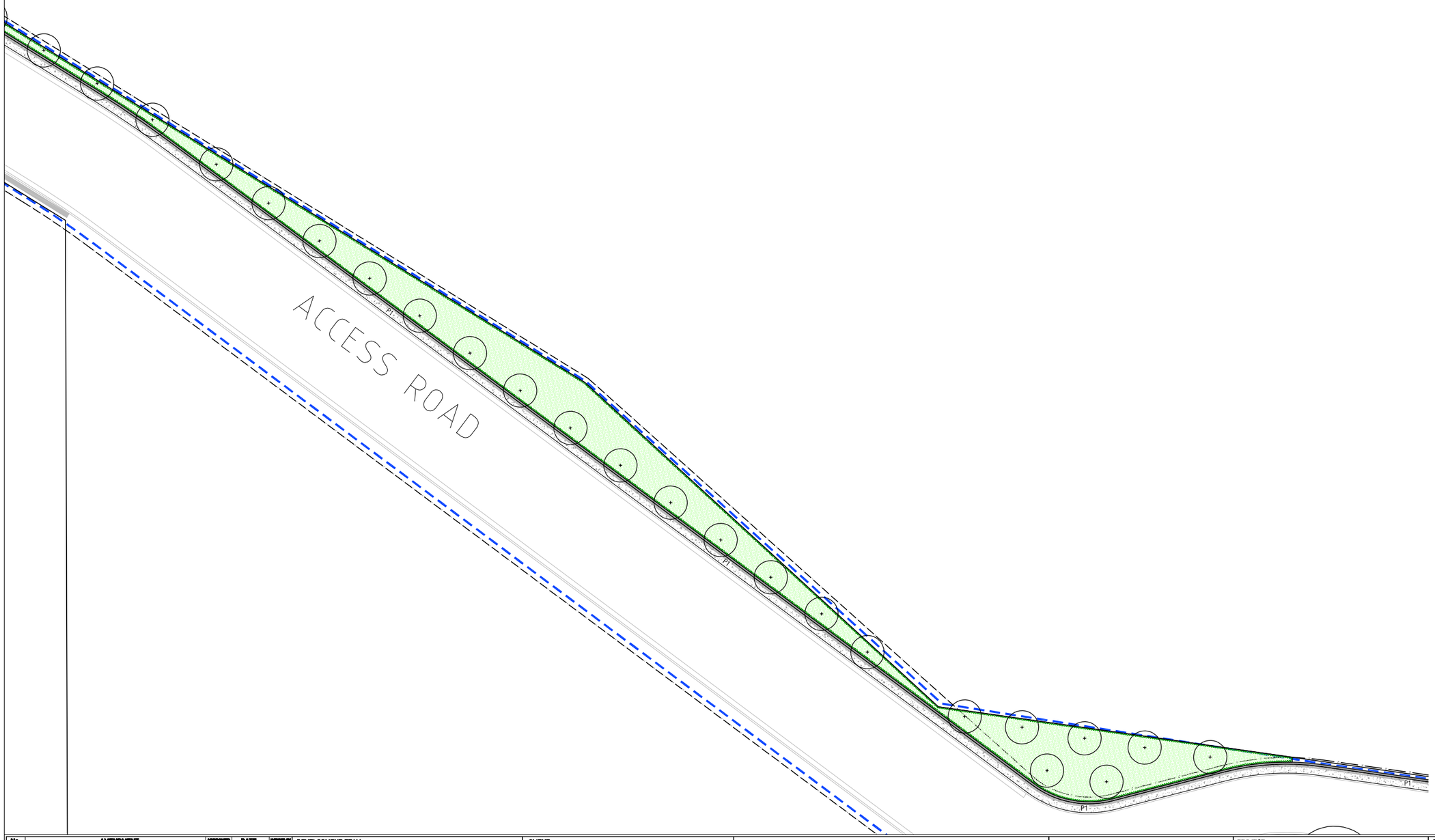

LEGEND

- STAGE BOUNDARY
- PROPOSED TREE
  Species to future detail
- MULCHED PLANTING BED
  Species to future detail
- SAPPHIRE BUFFALO TURF
- P1 - PLAIN CONCRETE
- P2 - SAWCUT OXIDE COLOURED CONCRETE

No.	AMENDMENT	APPROVED	DATE	MADE BY
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PROJECT

275 ADAMS ROAD LUDDENHAM

DRAWING TITLE

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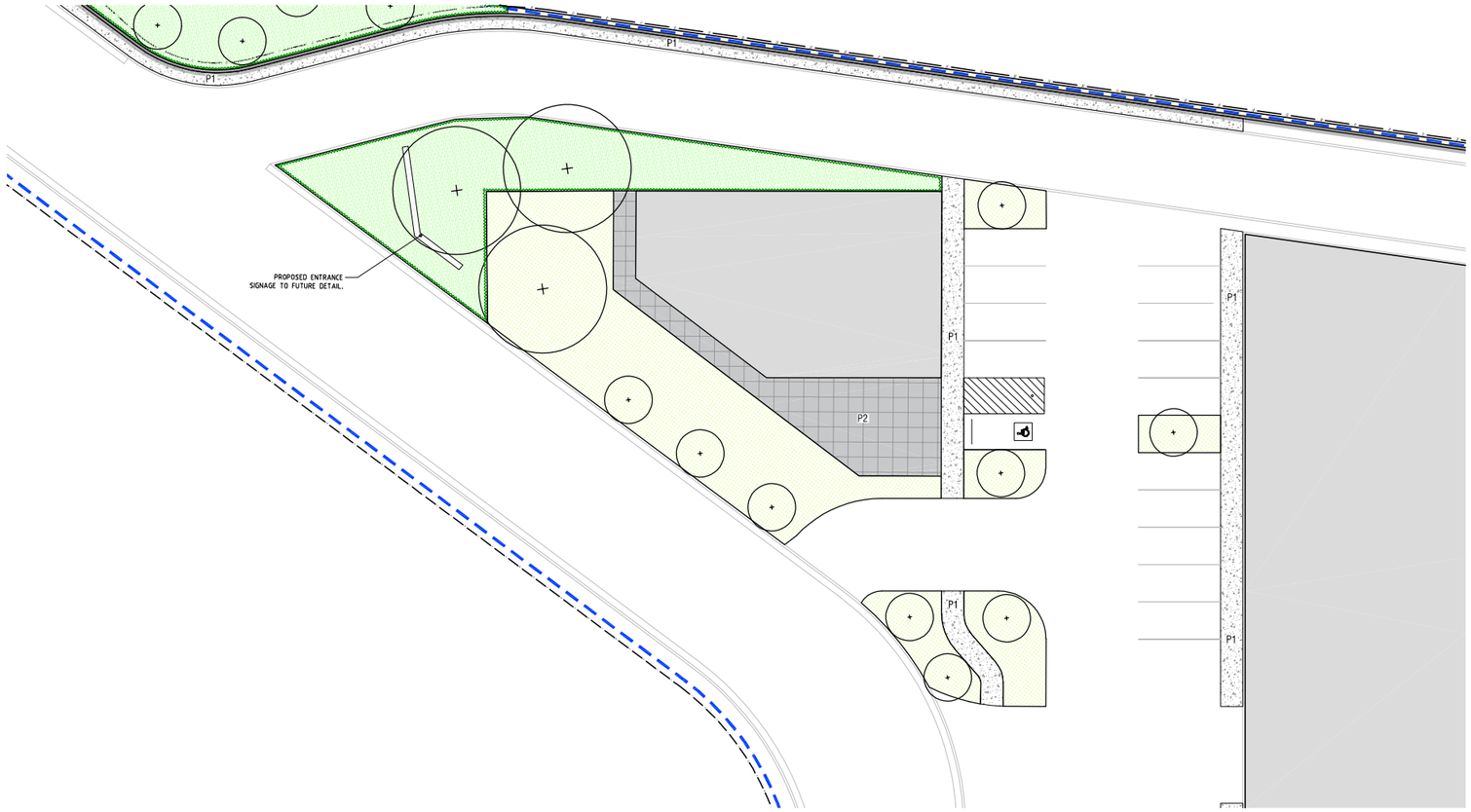

LEGEND

- STAGE BOUNDARY
- PROPOSED TREE Species to future detail
- MULCHED PLANTING BED Species to future detail
- SAPPHIRE BUFFALO TURF
- P1 - PLAIN CONCRETE
- P2 - SAWCUT OXIDE COLOURED CONCRETE

No.	AMENDMENT	APPROVED	DATE	MADE BY
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PROJECT

275 ADAMS ROAD LUDDENHAM

DRAWING TITLE

LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 3

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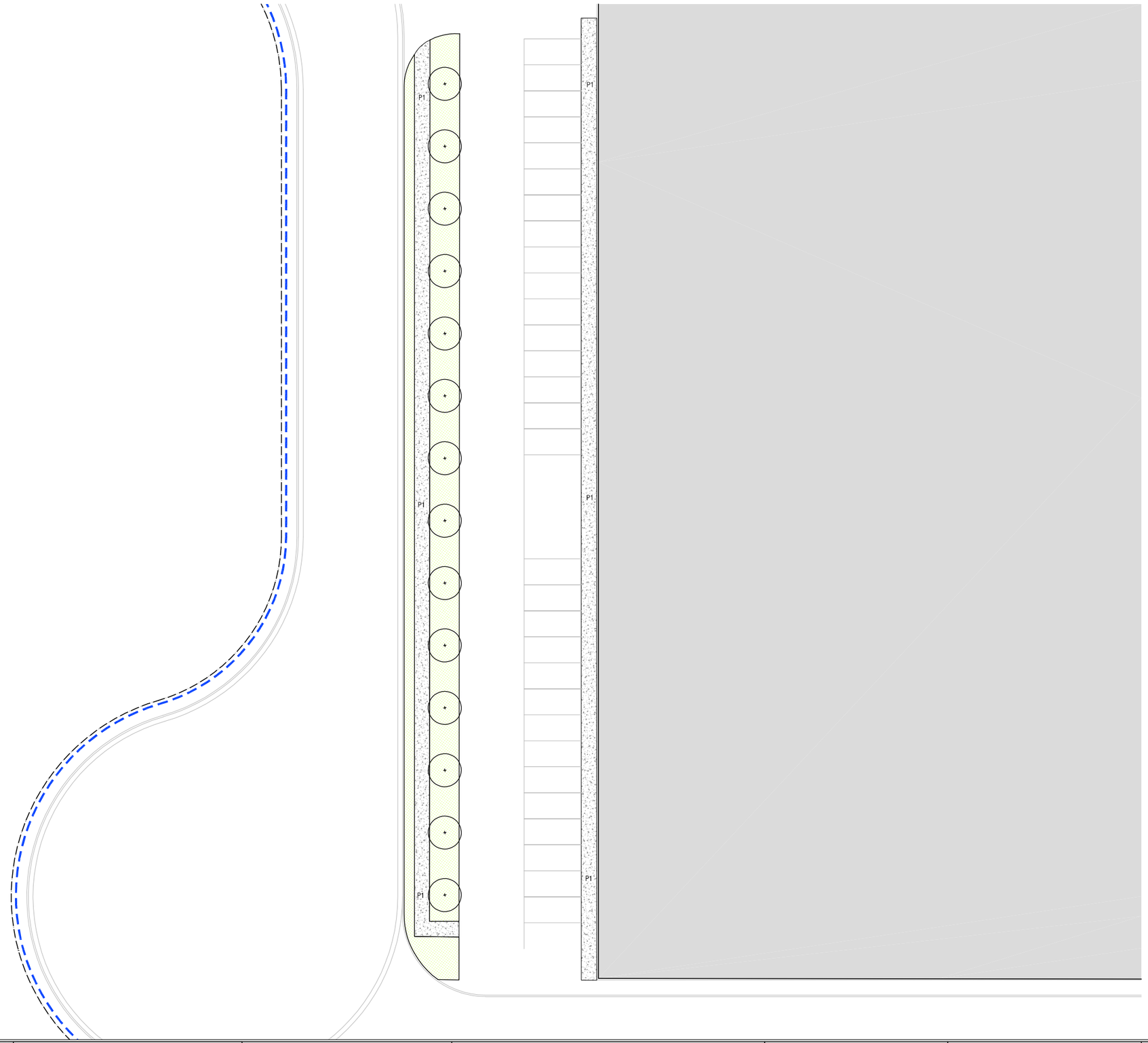

LEGEND

- STAGE BOUNDARY
- PROPOSED TREE
  Species to future detail
- MULCHED PLANTING BED
  Species to future detail
- SAPPHIRE BUFFALO TURF
- P1 - PLAIN CONCRETE
- P2 - SAWCUT OXIDE COLOURED CONCRETE

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PROJECT

275 ADAMS ROAD LUDDENHAM

DRAWING TITLE

LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 4

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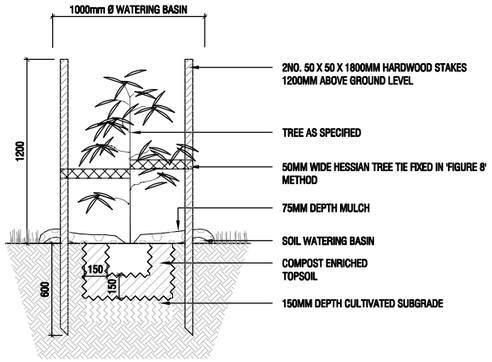

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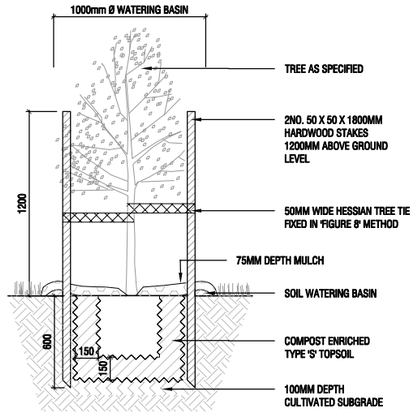

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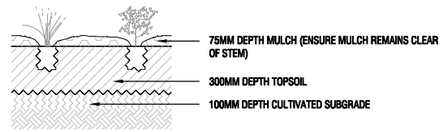

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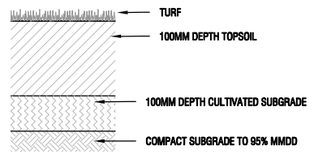


D L600 TURF
1:10@A1 - 1:20@A3

SPECIFICATION:

MULCH

GARDEN BEDS: 75MM DEPTH EUCY MULCH OR APPROVED EQUIVALENT
STREET TREES/OPEN SPACE TREES - 75MM DEPTH HARDWOOD CHIP MULCH OR APPROVED EQUIVALENT

TOPSOIL

TURF: 100MM DEPTH TOPSOIL TO AS 4419 "SOIL FOR TURF AND LAWNS"
SHRUB BEDS AND TREE BACKFILL: COMPOST ENRICHED TOPSOIL TO AS 4419 "LANDSCAPE SOILS (ON GRADE) MEDIUM ORGANIC LOW P".

PLANTS

PLANTS SHALL BE CONTAINER GROWN, FREE FROM DISEASE AND INSECT PEST WITH A STRONG ROOT SYSTEM. PLANTS SHALL BE SOURCED FROM WITHIN 100KM OF THE SITE OR HARDENED OFF AT A LOCATION WITH SIMILAR CLIMATE AND WITHIN 50KM OF THE SITE FOR A MINIMUM OF TWO WEEKS PRIOR TO INSTALLATION.

PRUNING

ALL PRUNING SHALL BE CARRIED OUT TO AS4373 2007 PRUNING OF AMENITY TREES.

TURF

TURF SHALL BE 'SIR WALTER DNA CERTIFIED. INSTALL TURN IN STAGGER PATTERN SO THAT END OF ROLLS DO NOT ALIGN. MINIMUM 1M STAGGER.

RECOMMENDED PLANT SCHEDULE

NATIVE TREE PLANTING

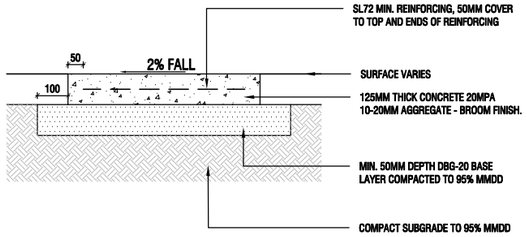
CODE	SPECIES	COMMON NAME	MATURE SIZE (H x W)	POT SIZE	SPACING
Aco	Calistemon viminalis	Sydney Red Gum	10m x 6m	45L	As Shown
ACl	Acacia longifolia	Sydney golden wattle	6m x 4m	45L	As Shown

EXOTIC TREE PLANTING

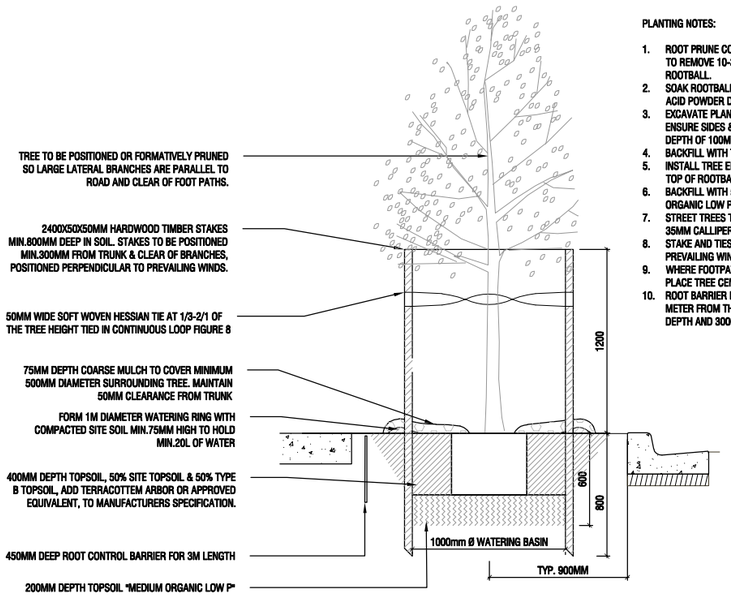
CODE	SPECIES	COMMON NAME	MATURE SIZE (H x W)	POT SIZE	SPACING
Acf	Acer freemanii 'Jeffersred' Autumn Blaze	Freeman's Maple	13m x 10m	45L	As Shown
Cus	Cupressus sempervirens	Pencil Pine	15m x 3m	45L	As Shown
ULp	Malus ioensis 'plena'	Crab Apple	6m x 4m	45L	As Shown

SHRUB PLANTING

CODE	SPECIES	COMMON NAME	MATURE SIZE (H x W)	POT SIZE	SPACING
Ca	Carex appressa	Tall sedge	0.5m x 0.5m	140mm	4.0 /m²
Dr	Dianella revoluta	Blueberry Lily	0.5m x 0.5m	140mm	2.8 /m²
LOl	Lomandra longifolia	Spiny-head mat-rush	0.5m x 0.5m	140mm	4.0 /m²
WEf	Westringia fruticosa	Coastal rosemary	2m x 2m	140mm	2.8 /m²
GRj	Grevillea juniperus	Juniper leafed grevillea	2m x 3m	140mm	2.8 /m²



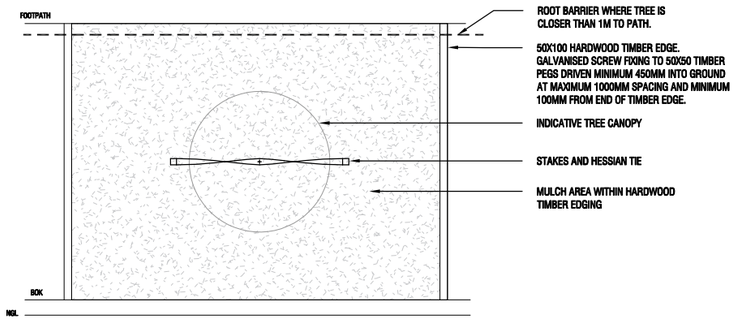
F L600 CONCRETE FOOTPATHS & PAVING
1:10@A1 - 1:20@A3



E L600 TREE PLANTING IN VERGE
1:20@A1 - 1:40@A3

PLANTING NOTES:

1. ROOT PRUNE CONTAINERISED STOCK BY USING A SHARP TOOL TO REMOVE 10-30MM FORM CIRCUMFERENCE & BOTTOM OF ROOTBALL.
2. SOAK ROOTBALL IN 50% SOLUBLE KELP EXTRACT 50% FULVIC ACID POWDER DILUTED AT 1:1000 IE. 10G PER 10L OF WATER.
3. EXCAVATE PLANTING HOLE LONG SIDE PARALLEL TO STREET. ENSURE SIDES & BASE ARE BROKEN OUT TO A MINIMUM DEPTH OF 100MM & SIDES OF HOLE ARE ANGLED AT 45°.
4. BACKFILL WITH TOPSOIL "MEDIUM ORGANIC LOW P".
5. INSTALL TREE ENSURING ROOTS ARE SPREAD LATERALLY AND TOP OF ROOTBALL IS FLUSH WITH GROUND LEVEL.
6. BACKFILL WITH 50% SITE TOPSOIL & 50% TOPSOIL "MEDIUM ORGANIC LOW P".
7. STREET TREES TO BE MINIMUM 75L POT, 2.5M HEIGHT AND 35MM CALLIPER.
8. STAKE AND TIES TO BE POSITIONED PERPENDICULAR TO PREVAILING WIND.
9. WHERE FOOTPATH TO BACK OF KERB IS LESS THAN 1800MM PLACE TREE CENTRALLY.
10. ROOT BARRIER REQUIRED WHERE TREE IS LESS THAN 1 METER FROM THE FOOTPATH. ROOT BARRER TO BE 450MM DEPTH AND 3000 METER LENGTH.



G L600 STREET TREE TYPICAL PLAN
1:20@A1 - 1:40@A3

No.	AMENDMENT	APPROVED	DATE	ADDED BY
B	FOR SSDA	PB	06.07.2020	AT
A	FOR CLIENT REVIEW	PB	17.06.2020	AT

DEVELOPMENT TEAM

CLIENT

COOMBES PROPERTY GROUP

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CONSULT AUSTRALIA

APPROVED	PB	DATE	17.06.20
CHECKED	PB	DATE	17.06.20
DESIGNED BY	AT		
DRAWN BY	AT		

CAD FILE: H:\7472 Coombes 275 Adams Rd, Luddenham Landscape\Acad\Current Drawings\Landscape\7472-L600 LA DETAILS.dwg

SCALE: AS SHOWN
SHEET No.

PROJECT
275 ADAMS ROAD LUDDENHAM

DRAWING TITLE
LANDSCAPE GENERAL ARRANGEMENTS PLAN SHEET 4

PROJECT No.	DRAWING No.	AMDT
7472	L600	B