



Warriewood Valley Landscape Masterplan and Design Guidelines (Public Domain)

2018



northern
beaches
council

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2018

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DISCLAIMER

NOTE:

The facilities and features on this plan are diagrammatic only and the actual location will be subject to regular reviews of the Contributions Plan by Council, and will also be dependant on survey, site considerations and compliance with all relevant standards and requirements.

All internal Sector Road Layouts/ Landscaping/ Open Space (Apart from Sectors 1, 2, 8, 10, 11 and 12) are indicative only and reflect submissions by the Developers at the time of preparation of this Plan.

Council does not endorse or otherwise the proposals by the Developer in each Sector

1.1 Generally

The Warriewood Release Area Landscape Masterplan and Design Guidelines (Public Domain) have been prepared to provide Northern Beaches Council and the development community with a coordinated basis upon which planning and design of streetscape, open space and creekline corridor improvements can be undertaken through out staged development of the release area.

The design guidelines are aimed to provide minimum standards upon which site specific design development of sustainable landscape strategies can be undertaken. Landscape elements include:

- Setbacks of street tree planting to road corridors
- Standards for street tree planting materials and size
- Standards for open space and creekline landscape enhancement and key design principles

The Warriewood Valley Release Area project is a significant initiative which aims to establish a coordinated framework for integrated development to occur in the valley focusing upon the “green” corridors provided by creekline corridors and related open space and roadway links.

The Landscape Masterplan and Design Guidelines (Public Domain) build upon the planning controls in place for the Warriewood Valley Release Area which are amended from time to time and should be read in conjunction with the specifications within the Warriewood Valley Roads Masterplan.

The recommendations and principles established by the masterplan/design guidelines supplement the landscape controls provided in these documents and should be read in conjunction with them.

The development of site specific design solutions by development consortiums must take into account detailed site conditions including soil conditions and preparation, utilities, levels, existing vegetation, etc. The solutions must integrate and respond to the requirements outlined in this document and the preceding planning controls identified above. Design solutions must also encompass the opportunities for innovative and stimulating landscape design which can enhance the lifestyles of permanent and workforce residents, and develop a sustainable and attractive environment for Warriewood Valley.

1.2 Structure of the Report

This report is presented in three principal sections:

Section 2 Landscape Masterplan

Describes the overall landscape strategies for the release area incorporating creekline corridors, open space areas (Central Local Park, Neighbourhood Parks, and Sport Fields), and road corridors (Avenues, Industrial Avenues, and Sector Roads).

Section 3 Streetscape Planting Guidelines

Landscape plan and sectional guidelines for design development of street corridor plantings.

Section 4 Creekline Planting Guidelines

Landscape plan and sectional guidelines for design development of creekline corridors landscape treatments. Guidelines provide design principles which must be subject to site specific Hydraulic and Civil Engineering design.

Section 5 Central Local Park and Active Sportsfield

Schematic plans of generic active sportsfield and schematic design of the Central Local Park.



2.1 Generally

The Landscape Masterplan on the following page summarises the landscape related components of the Warriewood Valley Release Area Planning Controls (including the DCP's, Warriewood Valley Contributions Plan, and Warriewood Valley Roads Masterplan specifications as amended from time to time). These include:

- Street Corridors** Street tree planting themes to avenues, industrial avenues, and sector streets. Street trees species for sector shareways and accessways are also identified.
- Creekline Corridors, Open Space and Buffer Zones** Indicate the 50 m wide multi-use open space reservation to the Narrabeen and Fern Creek Corridors to incorporate pedestrian/cycleway access, creekline rehabilitation and bank stabilisation, weed removal and native revegetation, and passive use recreation.
- Open Space and Buffer Zones** The Masterplan incorporates an indicative open space scheme for district and neighbourhood parks incorporating development conservation proposals. Buffer zones as indicated represent proposed location of dual purpose (buffer and access link) zones adjoining sensitive areas or required setbacks and screening.
- Service and Recreation** Identify the indicative location of off road pedestrian and cycleway linkages, playground facilities and public transport nodes.

The aim of the masterplan is to provide a consolidated reference document encompassing all landscape related objectives and requirements of the planning controls for the release area.

Key Public Domain Principles outlined in the DCP which underpin the masterplan and design guidelines following include:

- Safety** Provision of safe pedestrian and cycle access through road corridors, creek corridors, and open space areas.
- Connectivity** Vehicular and pedestrian access is efficiently managed through a hierarchy network of attractive and clearly defined links.
- Bush in the Valley** A minimum of 40% of creekline corridor area is to comprise native vegetation (existing and new) to establish interconnected flora and fauna corridors. The corridors are to support multi-use objectives including pedestrian/cycle access, and passive recreation.
- Recreation in the Valley** Distribution of open space / parkland areas to cater for a variety of functions and user types including playground facilities and park furniture.

Streetscape guidelines have been prepared to guide those responsible for planning and development of the public domain in the Warriewood Valley in the implementation of Council's objectives for a coordinated, functional and attractive landscape image.

A key consideration in the development of guideline has been the objective of establishing common themes for the layout of streetscape elements such as tree planting, shared pedestrian/cycle paths and street lighting.

The presence of underground services and utilities places a significant constraint on the ability to provide meaningful street tree canopy. Street trees of adequate scale (height and spread) are the fundamental strategy by which Council's objectives of "Bushland in the Valley" and quality of living and working environment can be realised.

The cross sections shown on the streetscape guidelines indicate the options available for incorporation of street tree planting in the typical footpath reserve situation identified by Council's Masterplan.

These options indicate that for Sub Arterials a consistent setback 0.55 metres from the property boundary is preferred. To Avenues incorporating existing kerb and footpath formations and services/ utilities (eg. section of Macpherson Street) this may require adjustment based on exact location of Ausgrid Utilities.

For Collector Roads, a centred carriageway, enabling a tree alignment of 2.0 metres from property boundary is preferred.

Liaison will be required with Ausgrid (Avenues) and Telstra (Collector Roads) to ensure that tree alignments can be achieved for these corridor types.



Facilities and features on this plan are diagrammatic only and the actual location will be subject to regular reviews of the Contributions Plan by Council, and to the design survey, site considerations and compliance with all relevant standards and requirements.

All internal sector road layouts, landscaping and open space are indicative only and reflect submissions by developers at the time of preparation of this plan.

- Existing Vegetation
 - Native trees and understory planting to be retained unless approved for removal by Council. All roads and open spaces to be reserved in creekline and site development works.
 - Open Space Areas (Recreation) including Creekline corridors and Riparian Areas. Proposed native tree and understory planting. Location and species to be confirmed through detailed design.
 - Open Space Areas (Sports Fields) Open space for sports fields. Facilities and planting to be confirmed through detailed design.
 - Community Facilities Recreational and community buildings and car parking.
- Street Corridors
- Sub-Arterial Roads: Refer to Streetscape Guidelines S1
 - Collector Roads: Refer to Streetscape Guidelines S2
 - Local Streets: Refer to Streetscape Guidelines S3

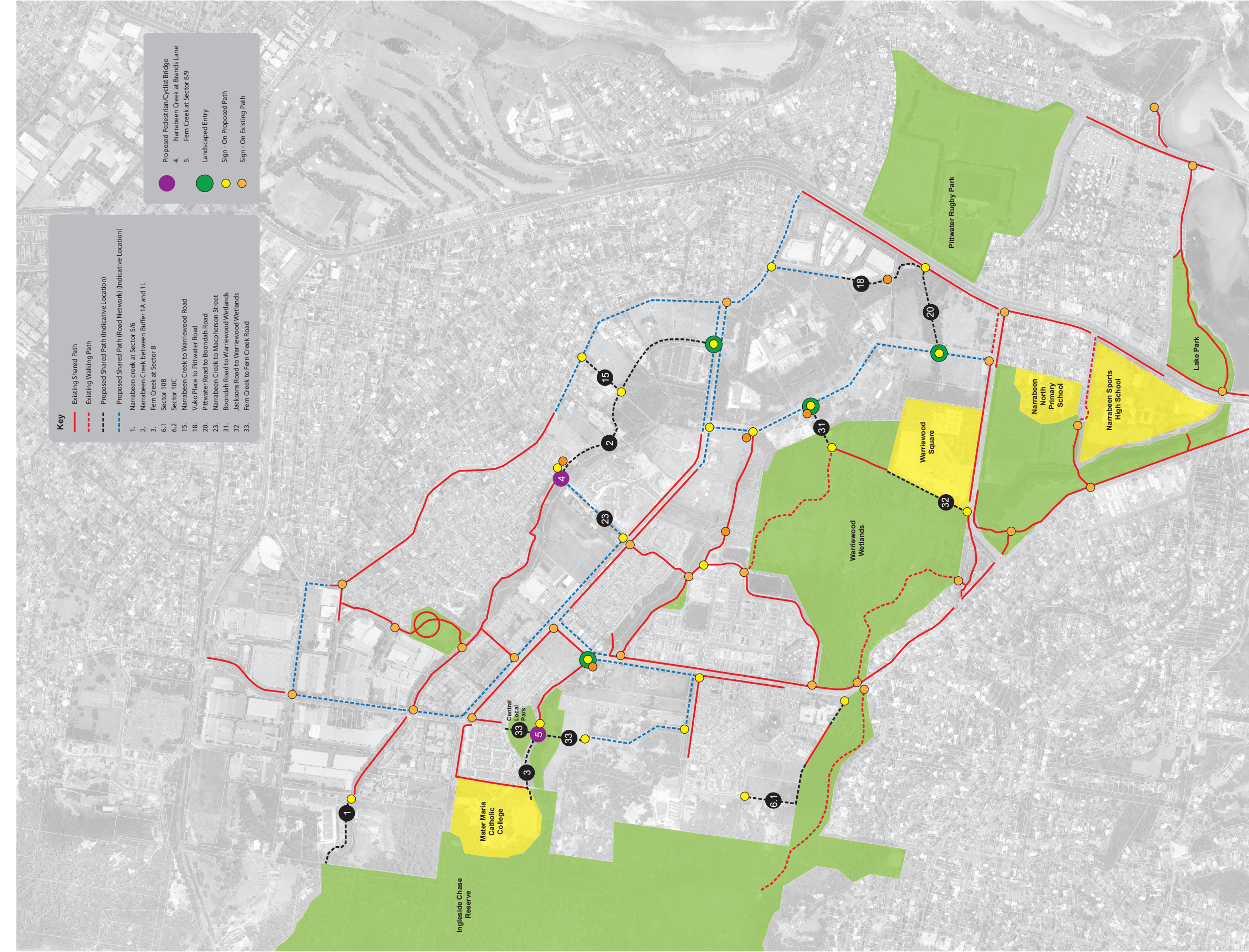
- Open Space Areas (Sports Fields)
- Warriewood Valley Sports Ground
- Narrabeen Sports High School (Turf Field)
- Narrabeen Sports High School (Synthetic Field)
- Land for Future Purchase for Sports Grounds
- Warriewood Valley Sports Field Car Park
- Open Space Areas (Parks and Playgrounds)
- Detention Basin (Public open space)
- Warriewood Valley Central Local Park
- Warriewood Valley Local Park - Stage 2 (Final shape subject to negotiations with landowners)
- Valley View Reserve (Sector 1) Local Playground
- Shearwater Estate (Sector 12) Local Playground
- Fernbrook Reserve (Sector 10) Local Playground
- Landscaped Entry Feature to Shared Path
- Narrabeen Creek/Completed
- Narrabeen Creek/Completed
- Narrabeen Creek (Proposed)
- Fern Creek (Proposed)
- Boondiah Road (Proposed)
- Boondiah Road (Proposed)
- Community Facilities
- Proposed Community Facility
- Nelson Heather Centre and Food Services Building
- Ted Blackwood Youth and Community Centre
- Fire Road Crossing
- Fern Creek (Proposed)



WARRIEWOOD VALLEY RELEASE AREA
WARRIEWOOD VALLEY OPEN SPACE & STREETSCAPE MASTERPLAN Update Aug 2016

NORTHERN BEACHES
COUNCIL

Landscape Masterplan



WARRIEWOOD VALLEY RELEASE AREA
 WARRIEWOOD VALLEY ACTIVE TRAVEL MASTERPLAN

Update Nov. 2016



NORTHERN BEACHES
 COUNCIL

**Landscape
 Masterplan**

2.0

2018

Plant species for landscape development

STREET CORRIDORS

Category	Species	
LARGE CANOPY TREES	ANGOPHORA COSTATA	
	ANGOPHORA FLORIBUNDA	
	EUCALYPTUS PUNCTATA	
	LOPHOSTEMON CONFERTUS	
	SYNCARPIA GLOMULIFERA	
	SYZYGIUM PANICULUTUM	
MEDIUM CANOPY TREES	WATERHOUSIA FLORIBUNDA	
MEDIUM CANOPY TREES	BANKSIA INTEGRIFOLIA	
	CALLISTEMON 'HANNAH RAY'	
	CORYMBIA FICIFOLIA	
	EUCALYPTUS HAEMASTOMA	
	SYZYGIUM LEUHMANNII	
	MELALEUCA STYPHELOIDES	
	TRISTANIOPSIS LAURINA	
	XANTHOSTEMON CHRYSANTHUS	
	SMALL CANOPY TREES	ACMENA SMITHII 'CULTIVARS'
		BACKHOUSIA MYRTIFOLIA
BUCKINGHAMIANA CELSISSIMA		
CALLISTEMON 'ENDEAVOUR'		
CALLITRIS RHOMBOIDEA		
CERATOPETALUM GUMMIFERUM		
ELAEOCARPUS RETICULATUS		
HYMENOSPORUM FLAVUM		
LEPTOSPERMUM PETERSONII		
MELALEUCA LINARIIFOLIA		
METROSIDEROS EXCELSA		
SYZYGIUM PANICULATUM 'SMALL CULTIVARS'		
TRISTANIA LAURINA		
* ACER PALMATUM		
* LAGERSTROEMIA 'CULTIVARS'		
* MURRAYA PANICULATA (not hedged)		
* PHOTINIA 'CULTIVARS'		
* VIBURNUM TINUS (not hedged)		
* Selected exotic small trees to be used for small lots less than 6m wide and front setback of 3m only.		
PALM TREES		LIVISTONA AUSTRALIS
SHRUBS	CALLISTEMON 'SMALL CULTIVARS' to 1m	
	CORREA ALBA	
	WESTRINGIA 'SMALL CULTIVARS' to 1m	
GROUNDCOVERS	DIANELLA SP.	
	LOMANDRA 'SMALL CULTIVARS'	

CREEKLINE CORRIDORS

(CENTRAL 50M PUBLIC CORRIDOR)

Category	Species	
AQUATIC PLANTS (0.0 TO 0.3M WATER DEPTH)	ALISMA PLANTAGO-AQUATICA	
	BAUMEA ARTICULATA	
	BAUMEA JUNCEA	
	BAUMEA RIBIGNOSA	
	BOLBOSCHOENUS FLUVIATILIS	
	BOLBOSCHOENUS CADWELLII	
	ELEOCHARIS SPHACELATA	
	PHILYDRUM LANGUINOSUM	
	PHRAGMITES AUSTRALIA	
	SCHENOPECTUS VALIDUS	
	TRIGLOCHIN PROCERA	
	LITTORIAL PLANTS FREQUENTLY INUNDATED	CAREX APPRESSA
		JUNCUS KRAUSSII
		JUNCUS USITATUS
		CYPERUS BREVIFOLIUS
ISCAHNE GLOBOSA		
PHILYDRUM LANGUINOSUM		
GRASSES INFREQUENTLY INUNDATED		CAREX APPRESSA
		DIANELLA CAERULEA
		GAHNIA SIEBERANA
		ISOLEPIS NODOSA
	LOMANDRA LONGIFOLIA	
	JUNCUS USITATUS	
	PLUS LOCALLY NATIVE GRASSES	
	SHRUBS	ACACIA ELONGATA
		ACACIA LONGIFOLIA
		ACACIA SUAVEOLENS
ACACIA IMPLEXA		
ACACIA DECURRENS		
CALLISTEMON CITRINUS		
CALLISTEMON LINEARIS		
GOODENIA PANICULATA		
LEPTOSPERMUM JUNIPERINUM		
KUNZEA AMBIGUA		
MELALEUCA ERICIFOLIA		
PULTANAEA VILLOSA		
PITTOSPORUM REVOLUTUM		
TREES		ACMENA SMITHII
		ANGOPHORA COSTATA (ON SAND RIDGES)
	ANGOPHORA FLORIBUNDA	
	BACKHOUSIA MYRTIFOLIA	
	CALLITRIS RHOMBOIDEA	
	CASUARINA GLAUCA	
	CERATOPETALUM APETALUM	
	CERATOPETALUM GUMMIFERUM	
	EUCALYPTUS ROBUSTA	
	EUCALYPTUS BOTRYOIDES	
GIOCHIDION FERDINAND		
SYNCARPIA GLOMULIFERA		
LIVISTONA AUSTRALIS		

CREEKLINE CORRIDORS

(25M PRIVATE CREEKLINE BUFFER STRIP)

Category	Species	
CANOPY TREES	SWAMP MAHOGANY	
	PORT JACKSON FIG	
	SANDERPAPER FIG	
	WATER GUM	
	SMOOTH BARKED APPLE	
	ROUGH BARKED APPLE	
	SWAMP SHE-OAK	
	SNOW-IN-SUMMER	
	SWAMP PAPERBARK	
	CABBAGE TREE PALM	
	COAST BANKSIA	
	TURPENTINE	
	GREY GUM	
	BANGALAY	
	LILLY PILLY	
	CHEESE TREE	
	PAPAREBARK	
	COACHWOOD	
	ROUGH TREE FERN	
	UNDERSTOREY/SHRUBS	ROUGH TREE FERN
SWEET WATTLE		
HONEYSUCKLE BANKSIA		
COAST BANKSIA		
NSW CHRISTMAS BUSH		
PINK SPIDER FLOWER		
CYCAD		
RED FLOWERING PAPERBARK		
BLACK WATTLE		
GOLDEN GUINEA FLOWER		
GRASS TREE		
DOG ROSE		
KANGAROO GRASS		
WATER VINE		
RUSH		
WATER SEDGE		
MAT RUSH		
WEeping GRASS		
NATIVE GRASS & AQUATICS	ROUGH TREE FERN	
	SWEET WATTLE	
	HONEYSUCKLE BANKSIA	
	COAST BANKSIA	
	NSW CHRISTMAS BUSH	
	PINK SPIDER FLOWER	
	CYCAD	
	RED FLOWERING PAPERBARK	
	BLACK WATTLE	
	GOLDEN GUINEA FLOWER	
GRASS TREE		
DOG ROSE		
KANGAROO GRASS		
WATER VINE		
RUSH		
WATER SEDGE		
MAT RUSH		
WEeping GRASS		
RECREATION OPEN SPACES	FERN CREEK DISTRICT PARK	
	APOLLO RESERVE WETLAND	
	SECTOR 1 N'BOOD PARK	
	SECTOR 8 N'BOURH'D PARK	
	SECTOR 10 N'BOURH'D PARK	
	BOONDAH RD SPORTSFIELDS	
	BUFFER PLANTINGS	SECTOR ONE
		SECTOR THREE
		WARRIEWOOD WETLAND

	NARRABEEN CREEK	FERN CREEK	MULLET CREEK
ANGOPHORA COSTATA	X		X
FICUS RUBIGINOSA		X	X
FICUS CORONATA		X	
TRISTANIOPSIS LAURINA		X	X
ANGOPHORA COSTATA		X	X
ANGOPHORA FLORIBUNDA		X	
CASUARINA GLAUCA	X		X
MELALEUCA LINEARIFOLIA			X
MELALEUCA ERICIFOLIA	X		X
LIVISTONA AUSTRALIS	X	X	X
BANKSIA INTEGRIFLORA	X		X
SYNCARPIA GLOMULIFERA			X
EUCALYPTUS PUNCTATA	X		X
EUCALYPTUS BOTRYOIDES		X	X
ACMENA SMITHII		X	
GLOCHIDION FERDINANDI		X	X
MELALEUCA QUINQUENERVIA	X		
CERATOPETALUM APETALUM		X	X
CYATHEA AUSTRALIS	X	X	X
CYATHEA AUSTRALIS	X	X	X
ACACIA SUAVEOLENS	X	X	X
BANKSIA SPINULOSA	X		X
BANKSIA INTEGRIFOLIA	X		X
CERATOPETALUM GUMMIFERUM	X	X	X
GREVILLEA SERICEA	X		X
MACROZAMIA COMMUNIS	X		X
MELALEUCA HYPERICIFOLIA	X		X
CALLICOMA SERRATIFOLIA		X	
HIBBERTIA SCANDENS	X	X	X
XANTHORRHOEA SPP	X		X
BAUERA RUBIODES		X	X
THEMEDA AUSTRALIS		X	X
CISSUS HYPOGLAUCA	X	X	X
JUNCUS SPP	X	X	X
GAHNIA SIEBERANA	X		
LOMANDRA LONGIFOLIA	X	X	X
MICROLAENA STIPIOIDES	X	X	X

2.0

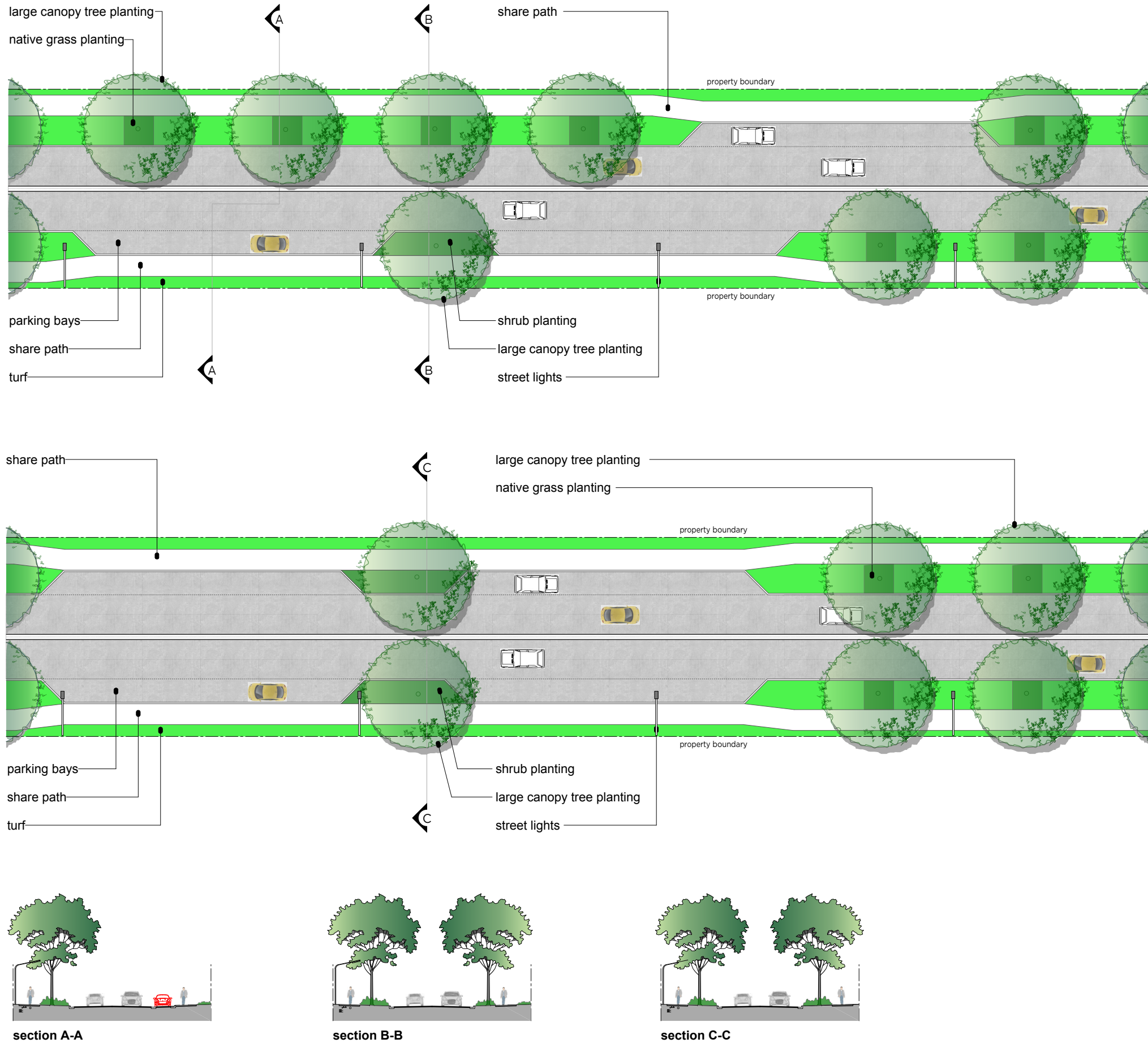
2018

Plant Species

3.0

2018

**Streetscape
Guidelines**



Landscape Materials Schedule

S-1

SHARE PATH

2.1m wide min. concrete construction with broom surface finish to Australian Standards

TURF AREAS

Existing subgrade shall be excavated to loosen the ground conditions to 200mm depth

Retain all quality existing topsoil in place, subject to approval from Council

Poor existing soils shall be replaced with minimum 100mm depth imported soilmix as nominated, subject to approval from Council

SOIL PREPARATION:

GARDEN AREAS and

TREE PLANTING

Existing subgrade shall be excavated to loosen the ground conditions to 400mm depth and at least 600mm for tree planting

Retain all quality existing topsoil in place, subject to approval from Council

Poor existing soils shall be replaced with minimum 400mm depth for garden areas and 700mm depth for tree planting with imported soilmix as nominated, subject to approval from Council

PLANTING

tree pits

soilmix and mulch

tree guards

tree selection

All trees installed shall be certified as compliant to Natspec's Specifying Trees

Tree pits shall be a minimum of 700mm depth x 2.5m wide

Backfilling soilmix shall consist of approved existing site topsoil or replacement soilmix subject to Council approval

All tree pit backfilling shall consist of 100% sandy loam, followed by a 100mm depth toplayer of organic humus mix

Mulch shall consist of 75mm coarse hardwood chip mulch

All street trees shall include hardwood tree guards as follows, and subject to final approval by Council:

Hardwood timber construction consisting of 4 x 75x75 posts into a concrete slurry base set at 1 metre apart, to sit 1.5m above the ground and 1m into the ground, with top and mid rails 25x75, fastened to the posts. Details are to be submitted on all plans.

Shall be selected as listed under section 2.0 Plant Species, for all Medium and Large Canopy Trees, or as advised by Council.

Specification: 400 litre container, 4m overall height above ground, 1.8m clear trunk, 60mm caliper, and to be approved by Council.

REFER TO CURRENT WARRIEWOOD VALLEY ROADS MASTER PLAN FOR ROAD RESERVE AND CARRIAGEWAY WIDTHS

Guidelines

Location

Ponderosa Parade, MacPherson Street, Warriewood Road (east of MacPherson Street), Garden Street

Principles

Street tree planting to be installed as per masterplan generally at 6-12m intervals dependant of the species characteristics, mature size and location.

All street trees to be minimum 400 litre stock for S-1 (large canopy trees), and subject to final approval by Council. All street trees shall be subject to pre-order of plant material. All trees to be grown by recognised nursery under natspec growing guidelines. Alternative street tree container sizes may be considered only when existing services or road infrastructure limit the available soil volume where a large rootball will not be possible, subject to Council approval.

Existing trees over 3 metres in height are to be retained where possible, with consideration to health and condition, within the road reserve. Such trees are to be protected through perimeter 1.8 metre high temporary fencing during the construction of works.

All kerb widenings to incorporate mass planted areas of suitable low height shrubs and groundcovers. Planting should be selected relative to sight lines required for specific locations.

Street tree plantings should generally include underplantings of native grasses as noted for S-1.

Garden area planting to be at a high density (ie. 4 per m2 for shrubs and 9 per m2 for groundcovers) and generally include drought tolerant native species up to 1m in ultimate height. All shrub planting should be a minimum 5 litre pot size and groundcovers shall be 200mm pot size.

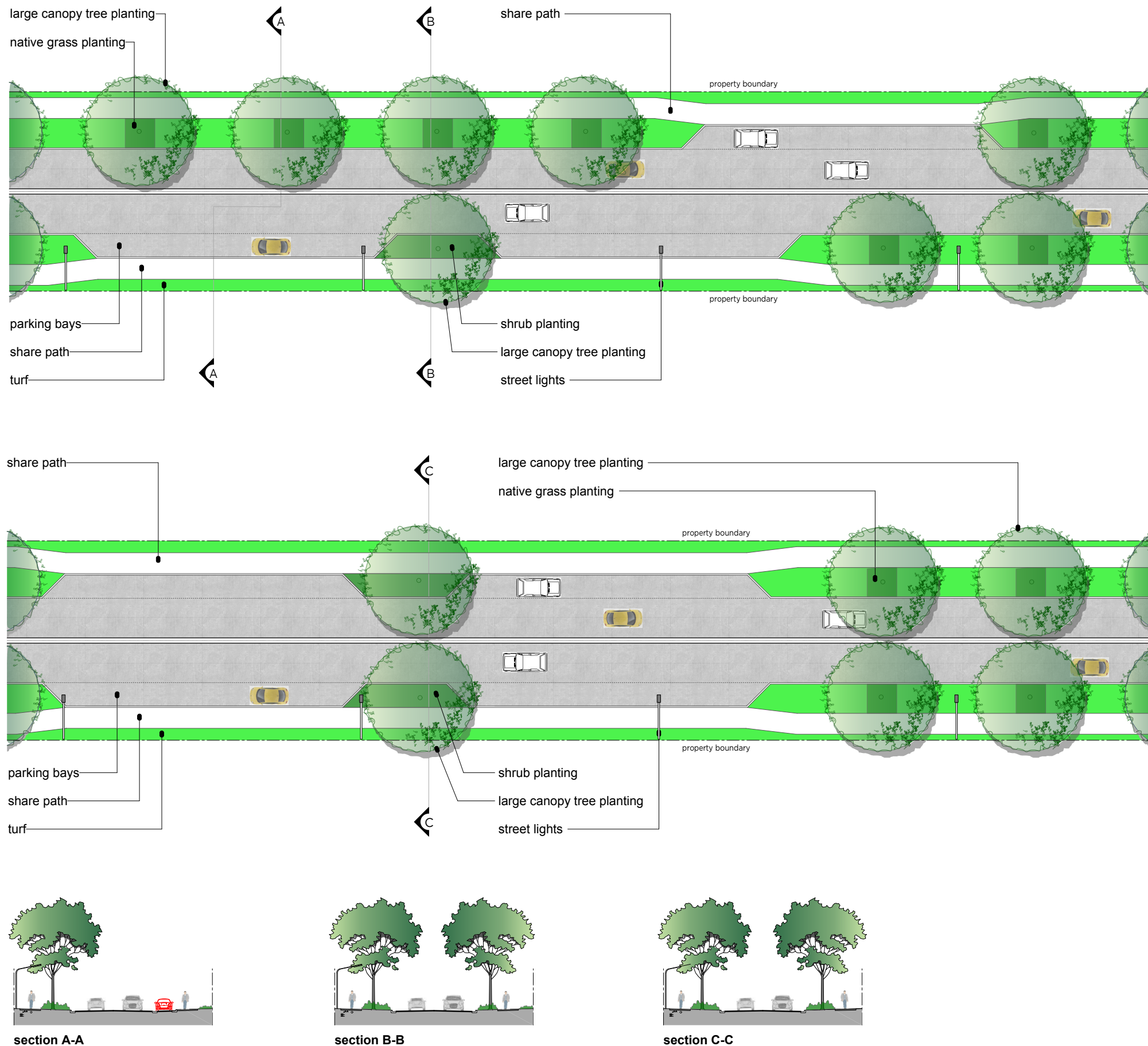
Water points to be provided to verge planting areas at 50-100m centres dependent on ultimate street layout.

All pram or disabled access ramps to be in accordance with Austroad, DDA and Australian Standards.

All proposed works must be liaised with utility authorities (via Dial Before You Dig) with utility location drawings kept on site at all times.

Generally all plant material is to be endemic to the area. Plant material not endemic to the area may be used to accent planting for nominated entries or features but kept to a design minimum.

Street lighting poles must be conventional Energy Australia, i.e. either Decorative Style No.1 or Style No.2.



Landscape Materials Schedule

S-2

SHARE PATH

2.1m wide min. concrete construction with broom surface finish to Australian Standards

TURF AREAS

Existing subgrade shall be excavated to loosen the ground conditions to 200mm depth

Retain all quality existing topsoil in place, subject to approval from Council

Poor existing soils shall be replaced with minimum 100mm depth imported soilmix as nominated, subject to approval from Council

SOIL PREPARATION:
GARDEN AREAS and
TREE PLANTING

Existing subgrade shall be excavated to loosen the ground conditions to 400mm depth and at least 700mm for tree planting

Retain all quality existing topsoil in place, subject to approval from Council

Poor existing soils shall be replaced with minimum 400mm depth for garden areas and 700mm depth for tree planting with imported soilmix as nominated, subject to approval from Council

PLANTING

- tree pits
400 litre stock

All trees installed shall be certified as compliant to Natspec's Specifying Trees

Tree pits shall be a minimum of 700mm depth x 2.5m wide

- soilmix and mulch

Backfilling soilmix shall consist of approved existing site topsoil or replacement soilmix subject to Council approval

All tree pit backfilling shall consist of 100% sandy loam, followed by a 100mm depth top layer of organic humus mix

Mulch shall consist of 75mm coarse hardwood chip mulch

- tree guards

All street trees shall include hardwood tree guards as follows, and subject to final approval by Council:

Hardwood timber construction consisting of 4 x 75x75 posts into a concrete slurry base set at 1 metre apart, to sit 1.5m above the ground and 1m into the ground, with top and mid rails 25x75, fastened to the posts. Details are to be submitted on all plans.

- tree selection
400 litre stock

Shall be selected as listed under section 2.0 Plant Species, for all Medium and Large Canopy Trees, or as advised by Council

Specification: 400 litre container, 4m overall height above ground, 1.8m clear trunk, 60mm caliper, and to be approved by Council.

REFER TO CURRENT WARRIEWOOD VALLEY ROADS MASTER PLAN FOR ROAD RESERVE AND CARRIAGEWAY WIDTHS

Guidelines

Location

Foley Street, Jubilee Avenue, Vineyard Street, Orchard Street, Daydream Street, Boondah Road

Principles

Street tree planting to be installed as per masterplan generally at 6-12m intervals dependant of the species characteristics, mature size and location.

All street trees to be minimum 400 litre stock for S-2 (large canopy trees), and subject to final approval by Council. All street trees shall be subject to pre-order of plant material. All trees to be grown by recognised nursery under natspec growing guidelines. Alternative street tree container sizes may be considered only when existing services or road infrastructure limit the available soil volume where a large rootball will not be possible, subject to Council approval.

Existing trees over 3 metres in height are to be retained where possible, with consideration to health and condition, within the road reserve. Such trees are to be protected through perimeter 1.8 metre high temporary fencing during the construction of works.

All kerb widenings to incorporate mass planted areas of suitable low height shrubs and groundcovers. Planting should be selected relative to sight lines required for specific locations.

Street tree plantings should generally include underplantings of native grasses as noted for S-2.

Garden areas planting to be at a high density (ie. 4 per m2 for shrubs and 9 per m2 for groundcovers) and generally include drought tolerant native species up to 1m in ultimate height. All shrub planting should be a minimum 5 litre pot size and groundcovers shall be 200mm pot size.

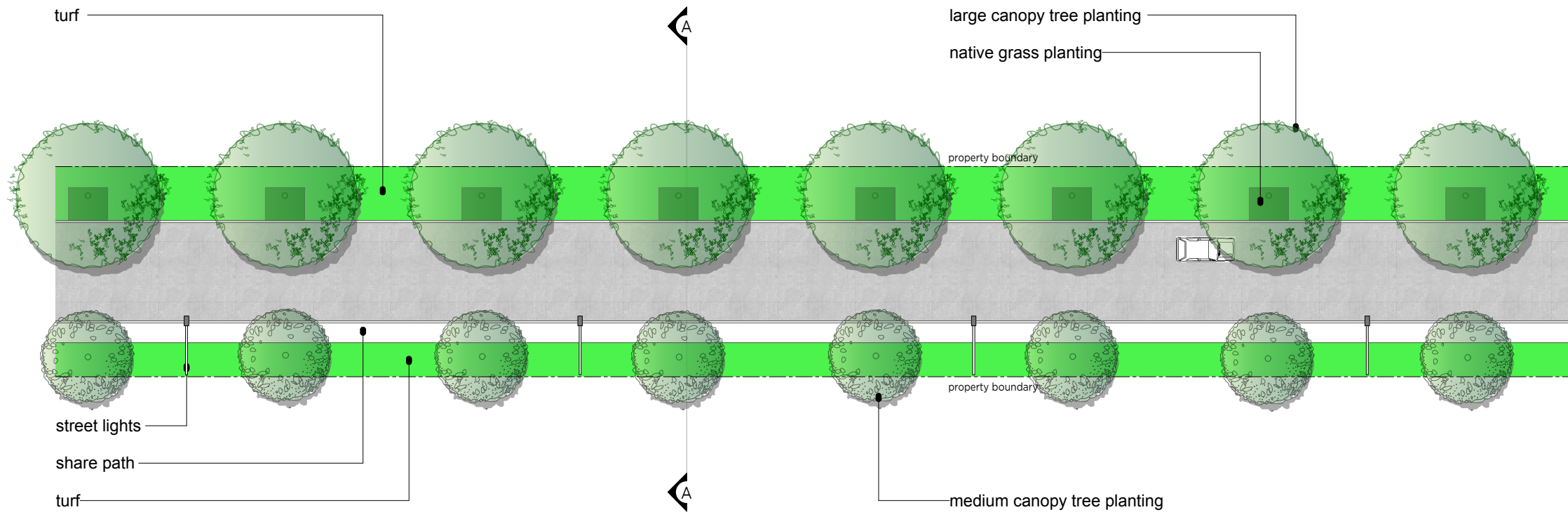
Water points to be provided to verge planting areas at 50-100m centres dependent on ultimate street layout.

All pram or disabled access ramps to be in accordance with Austroad, DDA and Australian Standards.

All proposed works must be liaised with utility authorities (via Dial Before You Dig) with utility location drawings kept on site at all times.

Generally all plant material is to be endemic to the area. Plant material not endemic to the area may be used to accent planting for nominated entries or features but kept to a design minimum.

Street lighting poles must be conventional Energy Australia, i.e. either Decorative Style No.1 or Style No.2.



section A-A

Landscape Materials Schedule

S-3

SHARE PATH	1.5m wide min. concrete construction with broom surface finish to Australian Standards	SOIL PREPARATION: GARDEN AREAS and TREE PLANTING	Existing subgrade shall be excavated to loosen the ground conditions to 400mm depth and at least 600mm for tree planting	PLANTING	All trees installed shall be certified as compliant to Natspec's Specifying Trees	tree guards	All street trees shall include hardwood tree guards as follows, and subject to final approval by Council:
+ Note	The exception to this provision for a 1.5m sharepath applies to Fern Creek Road, which in accordance with the Active Travel Masterplan requires a 2.1m wide sharepath along Fern Creek Road		Retain all quality existing topsoil in place, subject to approval from Council	tree pits 400 litre stock tree pits 200 litre stock	Tree pits shall be a minimum of 700mm depth x 2.5m wide Tree pits shall be a minimum of 700mm depth x 2.0m wide		Hardwood timber construction consisting of 4 x 75x75 posts into a concrete slurry base set at 1 metre apart, to sit 1.5m above the ground and 1m into the ground, with top and mid rails 25x75, fastened to the posts. Details are to be submitted on all plans.
TURF AREAS	existing subgrade shall be excavated to loosen the ground conditions to 200mm depth retain all quality existing topsoil in place, subject to approval from Council poor existing soils shall be replaced with minimum 100mm depth imported soilmix as nominated, subject to approval from Council		Poor existing soils shall be replaced with minimum 400mm depth for garden areas and 700mm depth for tree planting with imported soilmix as nominated, subject to approval from Council	soilmix and mulch	Backfilling soilmix shall consist of approved existing site topsoil or replacement soilmix subject to Council approval All tree pit backfilling shall consist of 100% sandy loam, followed by a 100mm depth toplayer of organic humus mix Mulch shall consist of 75mm coarse hardwood chip mulch	tree selection 400 litre stock and 200 litre stock	Shall be selected as listed under section 2.0 Plant Species, for all Medium and Large Canopy Trees, or as advised by Council Specification: 400 litre container, 4m overall height above ground, 1.8m clear trunk, 60mm caliper, and to be approved by Council. 200 litre container, 3m overall height above ground, 1.8m clear trunk, 40mm caliper, and to be approved by Council.

REFER TO CURRENT WARRIEWOOD VALLEY ROADS MASTER PLAN FOR ROAD RESERVE AND CARRIAGEWAY WIDTHS

Guidelines

Principles

Street tree planting to be installed as per masterplan generally at 6-12m intervals dependent of the species characteristics, mature size and location.

All street trees for S-3 are to be a minimum 400 litre stock for large canopy trees and 200 litre stock for medium canopy trees, and subject to final approval by Council. All street trees shall be subject to pre-order of plant material. All trees to be grown by recognised nursery under natspec growing guidelines. Alternative street tree container sizes may be considered only when existing services or road infrastructure limit the available soil volume where a large rootball will not be possible, subject to Council approval.

Existing trees over 3 metres in height are to be retained where possible, with consideration to health and condition, within the road reserve. Such trees are to be protected through perimeter 1.8 metre high temporary fencing during the construction of works.

All kerb widenings to incorporate mass planted areas of suitable low height shrubs and groundcovers. Planting should be selected relative to sight lines required for specific locations.

Street tree plantings should generally include underplantings of native grasses as noted for S-3.

Garden area planting to be at a high density (ie. 4 per m2 for shrubs and 9 per m2 for groundcovers) and generally include drought tolerant native species up to 1m in ultimate height. All shrub planting should be a minimum 5 litre pot size and groundcovers shall be 200mm pot size.

Water points to be provided to verge planting areas at 50-100m centres dependent on ultimate street layout.

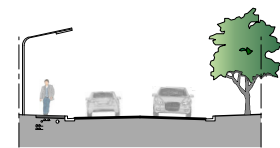
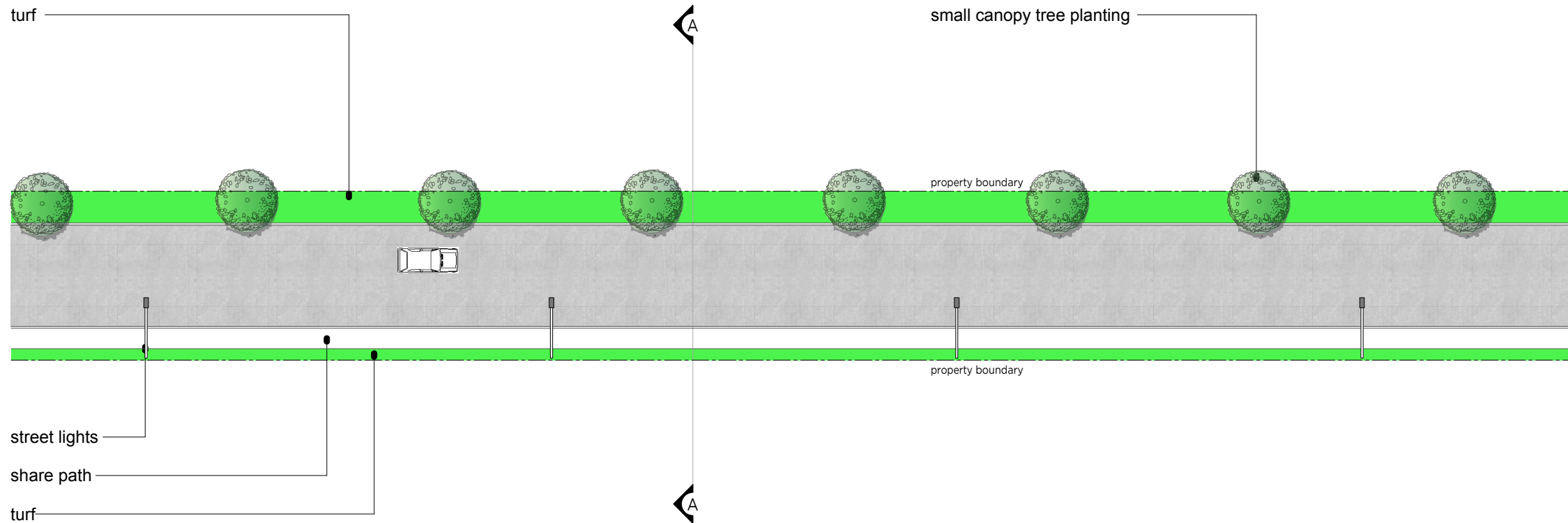
All pram or disabled access ramps to be in accordance with Austroad, DDA and Australian Standards.

All proposed works must be liaised with utility authorities (via Dial Before You Dig) with utility location drawings kept on site at all times.

All trees planted in turf shall include timber edges with min. 2m x 2m hardwood edging and mulched pit

Generally all plant material is to be endemic to the area. Plant material not endemic to the area may be used to accent planting for nominated entries or features but kept to a design minimum.

Street lighting poles must be conventional Energy Australia, i.e. either Decorative Style No.1 or Style No.2.



section A-A

Landscape Materials Schedule

S-4

SHARE PATH	1.5m wide min. concrete construction with broom surface finish to Australian Standards
TURF AREAS	existing subgrade shall be excavated to loosen the ground conditions to 200mm depth retain all quality existing topsoil in place, subject to approval from Council poor existing soils shall be replaced with minimum 100mm depth imported soilmix as nominated, subject to approval from Council

SOIL PREPARATION:	Existing subgrade shall be excavated to loosen the ground conditions to at least 700mm for tree planting
TREE PLANTING	Retain all quality existing topsoil in place, subject to approval from Council Poor existing soils shall be replaced with minimum 700mm depth for tree planting with imported soilmix as nominated, subject to approval from Council

PLANTING	All trees installed shall be certified as compliant to Natspec's Specifying Trees
tree pits	Tree pits shall be a minimum of 700mm depth x 2.0m wide
soilmix and mulch	Backfilling soilmix shall consist of approved existing site topsoil or replacement soilmix subject to Council approval All tree pit backfilling shall consist of 100% sandy loam, followed by a 100mm depth toplayer of organic humus mix Mulch shall consist of 75mm coarse hardwood chip mulch

tree guards

tree selection
200 litre stock

All street trees shall include hardwood tree guards as follows, and subject to final approval by Council:

Hardwood timber construction consisting of 4 x 75x75 posts into a concrete slurry base set at 1 metre apart, to sit 1.5m above the ground and 1m into the ground, with top and mid rails 25x75, fastened to the posts. Details are to be submitted on all plans.

Shall be selected as listed under section 2.0 Plant Species, for Small Canopy Trees, or as advised by Council

Specification:

200 litre container, 3m overall height above ground, 1.8m clear trunk, 40mm caliper, and to be approved by Council.

REFER TO CURRENT WARRIEWOOD VALLEY ROADS MASTER PLAN FOR ROAD RESERVE AND CARRIAGEWAY WIDTHS

Guidelines

Principles

Street tree planting to be installed as per masterplan generally at 6-12m intervals dependant of the species characteristics, mature size and location.

All street trees for S-3 are to be a minimum 200 litre stock for medium canopy trees, and subject to final approval by Council. All street trees shall be subject to pre-order of plant material. All trees to be grown by recognised nursery under natspec growing guidelines. Alternative street tree container sizes may be considered only when existing services or road infrastructure limit the available soil volume where a large rootball will not be possible, subject to Council approval.

Existing trees over 3 metres in height are to be retained where possible, with consideration to health and condition, within the road reserve. Such trees are to be protected through perimeter 1.8 metre high temporary fencing during the construction of works.

Water points to be provided to verge planting areas at 50-100m centres dependent on ultimate street layout.

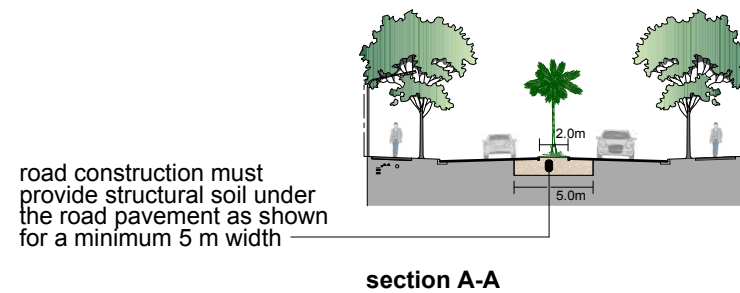
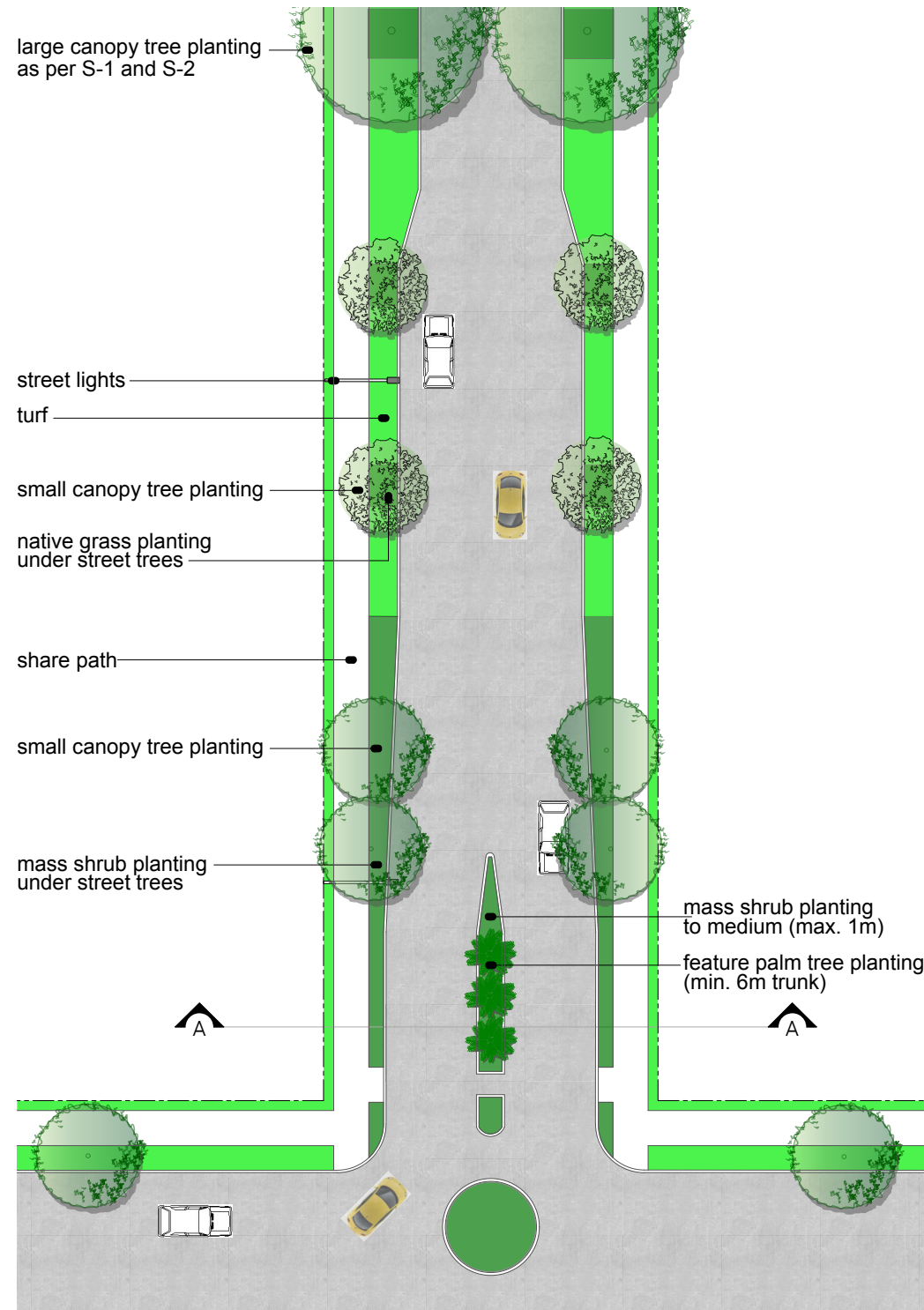
All pram or disabled access ramps to be in accordance with Austroad, DDA and Australian Standards.

All proposed works must be liaised with utility authorities (via Dial Before You Dig) with utility location drawings kept on site at all times.

All trees planted in turf shall include timber edges with min. 2m x 2m hardwood edging and mulched pit

Generally all plant material is to be endemic to the area. Plant material not endemic to the area may be used to accent planting for nominated entries or features but kept to a design minimum.

Street lighting poles must be conventional Energy Australia, i.e. either Decorative Style No.1 or Style No.2.



REFER TO CURRENT WARRIEWOOD VALLEY ROADS MASTER PLAN FOR ROAD RESERVE AND CARRIAGEWAY WIDTHS

Landscape Materials Schedule

S-5

SHARE PATH	2.1m wide min. concrete construction with broom surface finish to Australian Standards
TURF AREAS	Existing subgrade shall be excavated to loosen the ground conditions to 200mm depth Retain all quality existing topsoil in place, subject to approval from Council Poor existing soils shall be replaced with minimum 100mm depth imported soilmix as nominated, subject to approval from Council
SOIL PREPARATION: GARDEN AREAS and TREE / PALM PLANTING	Existing subgrade shall be excavated to loosen the ground conditions to 400mm depth and at least 700mm for tree and palm planting Retain all quality existing topsoil in place, subject to approval from Council Poor existing soils shall be replaced with minimum 400mm depth for garden areas and 700mm depth for tree and palm planting with imported soilmix as nominated, subject to approval from Council
PLANTING	All trees / palms installed shall be certified as compliant to Natspec's Specifying Trees
□ tree / palm pits 400 litre stock	Tree / palm pits shall be a minimum of 700mm depth x 2.5m wide
□ soilmix and mulch	Backfilling soilmix shall consist of approved existing site topsoil or replacement soilmix subject to Council approval All tree pit backfilling shall consist of 100% sandy loam, followed by a 100mm depth top layer of organic humus mix Mulch shall consist of 75mm coarse hardwood chip mulch
□ tree guards	All street trees shall include hardwood tree guards as follows, and subject to final approval by Council: Hardwood timber construction consisting of 4 x 75x75 posts into a concrete slurry base set at 1 metre apart, to sit 1.5m above the ground and 1m into the ground, with top and mid rails 25x75, fastened to the posts. Details are to be submitted on all plans.
□ tree / palm selection 400 litre stock palm stock	Shall be selected as listed under section 2.0 Plant Species, for all Medium and Large Canopy Trees, or as advised by Council. Specification: Trees- 400 litre container, 4m overall height above ground, 1.8m clear trunk, 60mm caliper, and to be approved by Council. Palms-6m clear trunk, and approved by Council.

Guidelines

Principles

Street tree planting to be installed as per masterplan generally at 6-12m intervals dependant of the species characteristics, mature size and location.

Feature palms at the Sector Entry shall be Livistona australis and shall be a minimum clear trunk height of 6 metres tall.

All street trees at Sector Entry to be minimum 400 litre stock for S-5 (large, medium, and small canopy trees), and subject to final approval by Council. Alternative street tree container sizes may be considered only when existing services or road infrastructure limit the available soil volume where a large rootball will not be possible, subject to Council approval. , with nominated tree species subject to final approval by Council.

All palms and street trees shall be subject to pre-order of plant material. All palms and trees to be grown by recognised nursery under natspec growing guidelines.

The feature palms within the median must be installed within a structural soil zone 5m in width requiring the road pavement to be designed to facilitate structural soil under the pavement as detailed.

Existing trees over 3 metres in height are to be retained where possible, with consideration to health and condition, within the road reserve. Such trees are to be protected through perimeter 1.8 metre high temporary fencing during the construction of works.

All kerb widenings to incorporate mass planted areas of suitable low height shrubs and groundcovers. Planting should be selected relative to sight lines required for specific locations.

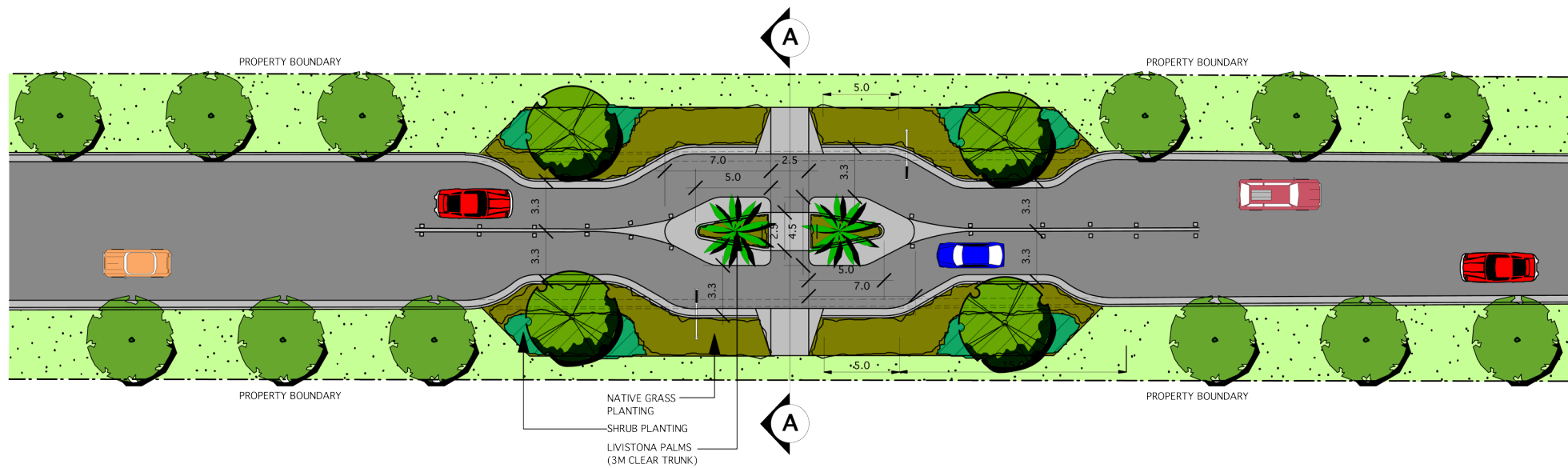
Garden area planting to be at a high density (ie. 4 per m2 for shrubs and 9 per m2 for groundcovers) and generally include drought tolerant native species up to 1m in ultimate height. All shrub planting should be a minimum 5 litre pot size and groundcovers shall be 200mm pot size.

Water points to be provided to verge planting areas at 50-100m centres dependent on ultimate street layout.

All pram or disabled access ramps to be in accordance with Austrorad, DDA and Australian Standards.

All proposed works must be liaised with utility authorities (via Dial Before You Dig) with utility location drawings kept on site at all times.

Street lighting poles must be conventional Energy Australia, i.e. either Decorative Style No.1 or Style No.2.



Plan (Not to scale)



Section A-A (Not to scale)

NATIVE GRASS PLANTING
SHRUB PLANTING
LIVISTONA PALMS (3M CLEAR TRUNK)

Landscape Materials Schedule

S-6

SHARE PATH

concrete construction with broom surface finish to Australian Standards

TURF AREAS

existing subgrade shall be excavated to loosen the ground conditions to 200mm depth

SOIL PREPARATION:
GARDEN AREAS and
TREE / PALM PLANTING

Existing subgrade shall be excavated to loosen the ground conditions to 400mm depth and at least 700mm for tree and palm planting

PLANTING

All trees / palms installed shall be certified as compliant to Natspec's Specifying Trees

tree / palm pits
400 litre stock

Tree / palm pits shall be a minimum of 700mm depth x 2.5m wide

soilmix and mulch

Backfilling soilmix shall consist of approved existing site topsoil or replacement soilmix subject to Council approval

All tree pit backfilling shall consist of 100% sandy loam, followed by a 100mm depth top layer of organic humus mix

Mulch shall consist of 75mm coarse hardwood chip mulch

tree guards

All street trees shall include hardwood tree guards as follows, and subject to final approval by Council:

Hardwood timber construction consisting of 4 x 75x75 posts into a concrete slurry base set at 1 metre apart, to sit 1.5m above the ground and 1m into the ground, with top and mid rails 25x75, fastened to the posts. Details are to be submitted on all plans.

tree / palm selection
400 litre stock
palm stock

Shall be selected as listed under section 2.0 Plant Species, for all Medium and Large Canopy Trees, or as advised by Council.

Specification:

Trees- 400 litre container, 4m overall height above ground, 1.8m clear trunk, 60mm caliper, and to be approved by Council.

Palms-6m clear trunk, and approved by Council.

REFER TO CURRENT WARRIEWOOD VALLEY ROADS MASTER PLAN FOR ROAD RESERVE AND CARRIAGEWAY WIDTHS

Guidelines

Principles

Nodal planting of specific canopy trees to identify pedestrian refuge crossing points.

All street trees to be minimum 35-400 litre stock, dependant of species selection and location, and this is subject to final approval by Council. All street trees shall be subject to pre-order of plant material. All trees to be grown by recognised nursery under natspec growing guidelines.

Existing trees over 3 metres in height are to be retained where possible, with consideration to health and condition, within the road reserve. Such trees are to be protected through perimeter 1.8 metre high temporary fencing during the construction of works.

All kerb widenings to incorporate mass planted areas of suitable low height shrubs and groundcovers. Planting should be selected relative to sight lines required for specific locations.

Street tree plantings to footpath should generally include underplantings of native grasses.

Garden area planting to be at a high density (ie. 4 per m2 for shrubs and 9 per m2 for groundcovers) and generally include drought tolerant native species up to 1m in ultimate height. All shrub planting should be a minimum 5 litre pot size and groundcovers shall be 200mm pot size.

Water points to be provided to verge planting areas at 50-100m centres dependent on ultimate street layout.

All pram or disabled access ramps to be in accordance with Austroad, DDA and Australian Standards.

All proposed works must be liaised with utility authorities (via Dial Before You Dig) with utility location drawings kept on site at all times.

All trees planted in turf shall include timber edges with min. 2m x 2m hardwood edging and mulched pit

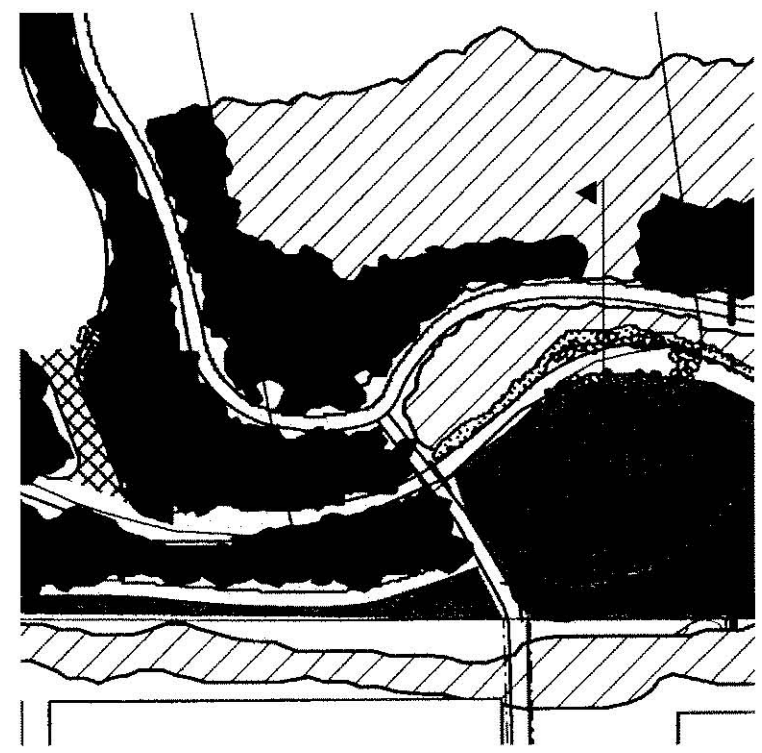
Generally all plant material is to be endemic to the area. Plant material not endemic to the area may be used to accent planting for nominated entries or features but kept to a design minimum.

Street lighting poles must be conventional Energy Australia, i.e. either Decorative Style No.1 or Style No.2.

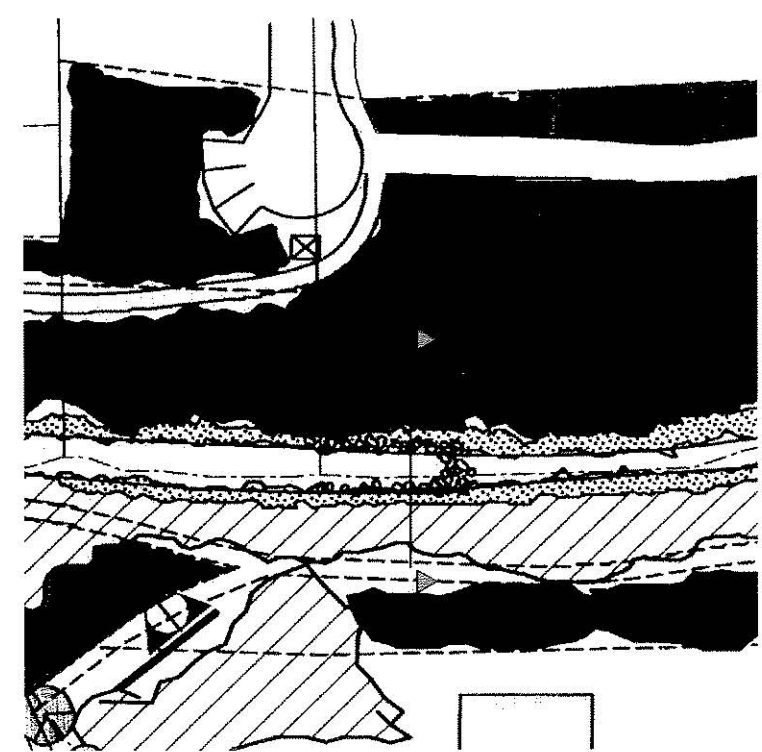
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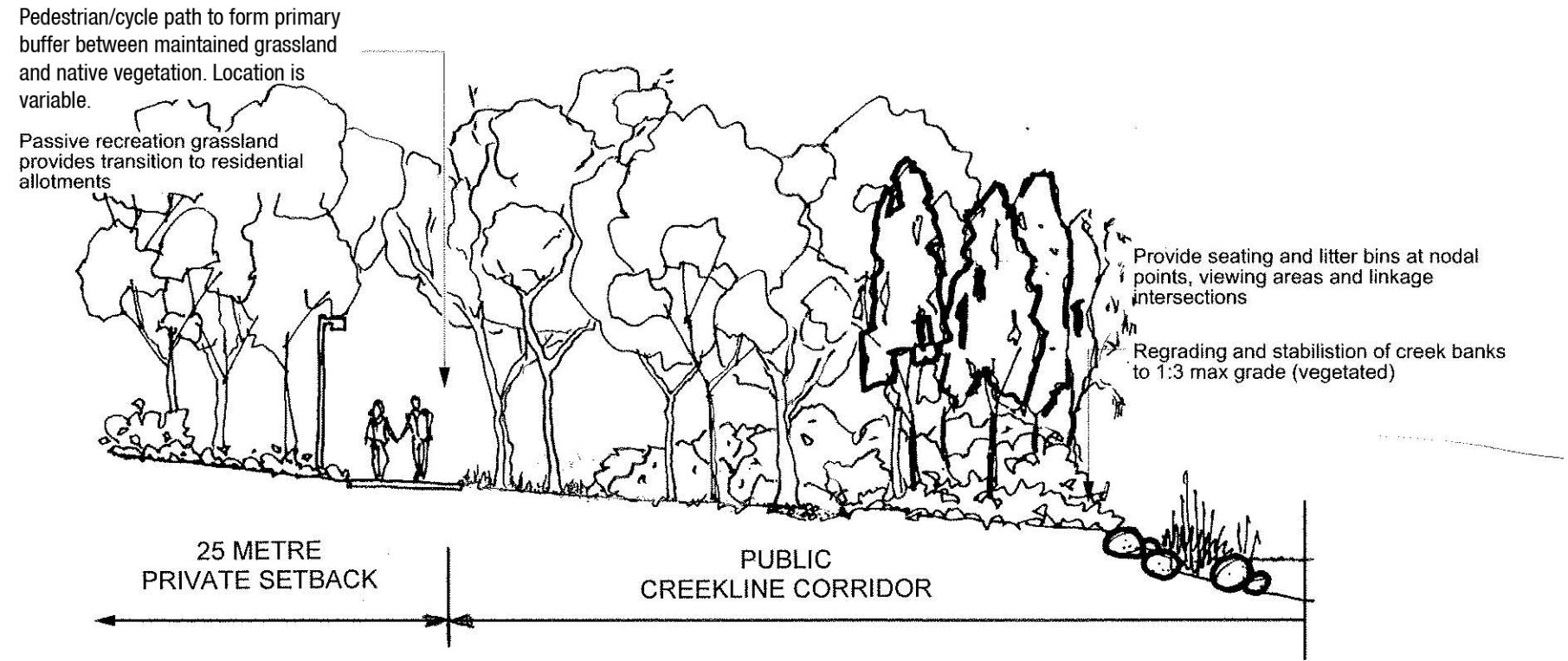
Creekline Guidelines



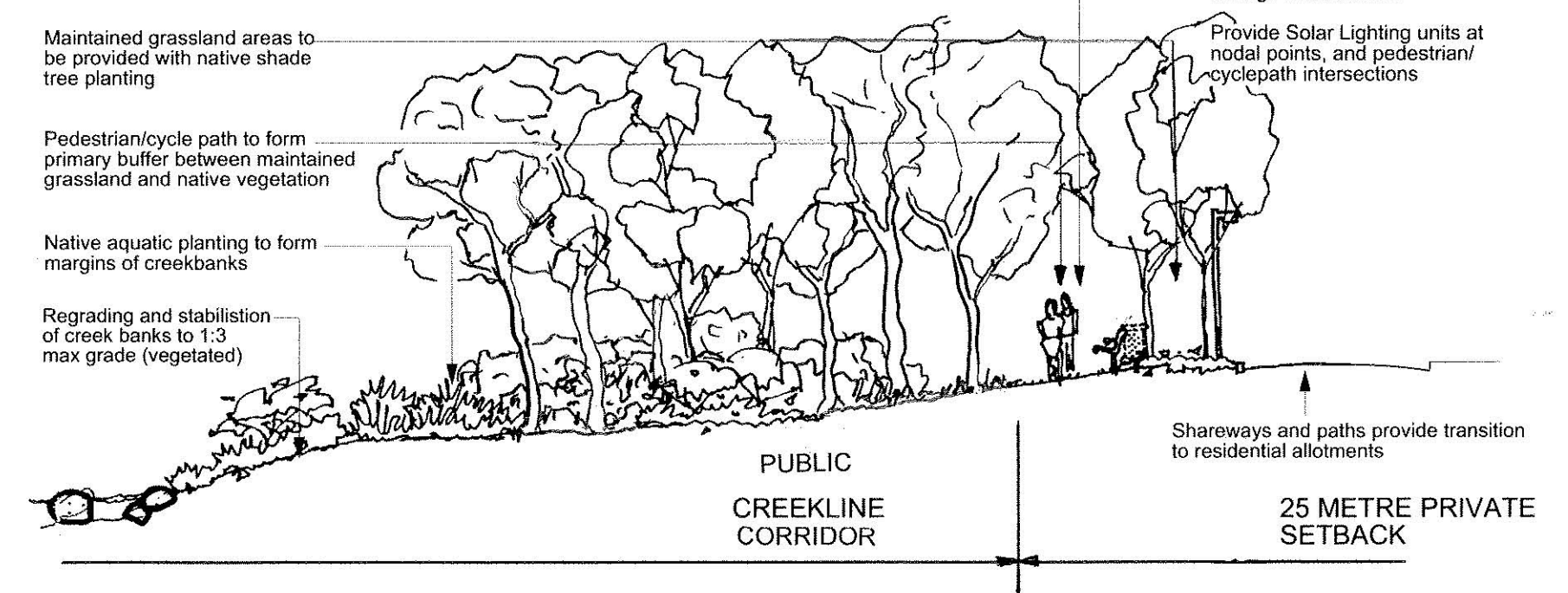
Plan: Vegetated corridor



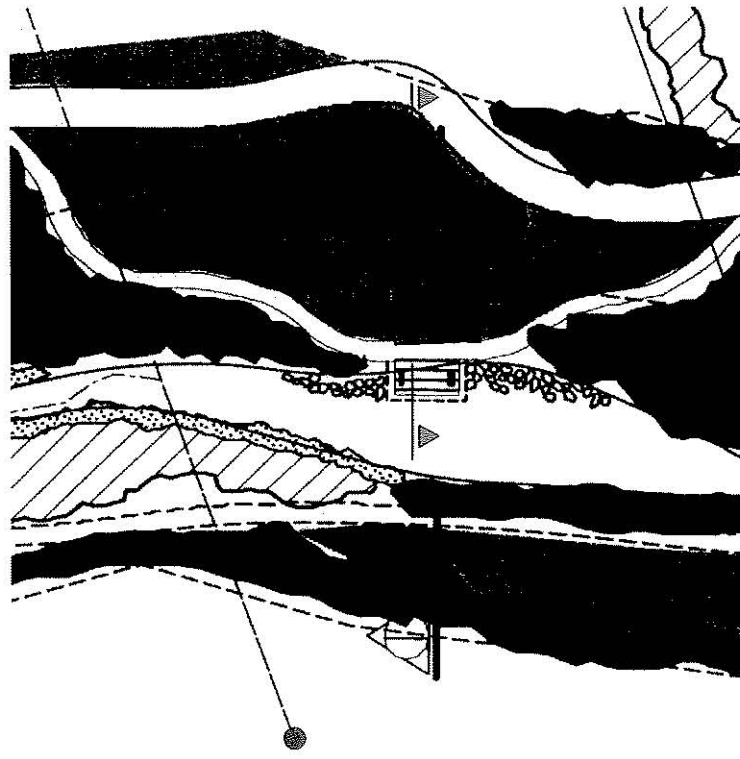
Section: Multiuse corridor areas



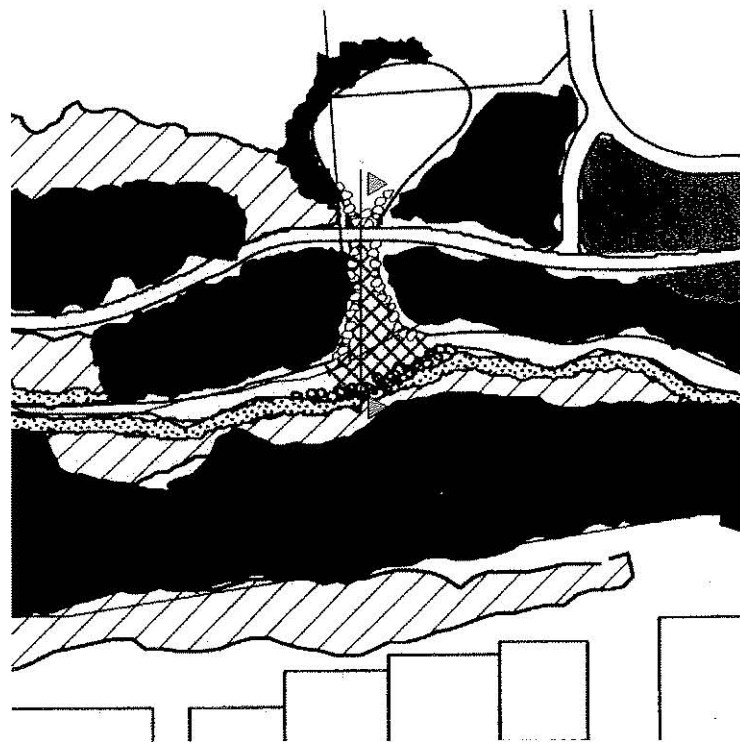
Section: Native flora/fauna corridor



- Guidelines**
- Location:**
The 50 metre creekline reservation of Narrabeen and Fern Creek.
- Principles:**
50 metre creekline reservation to be planned and implemented as multi-use open space corridors to incorporate:
Creeklane rehabilitation; regrading and stabilisation of creek banks to 1:3 max grade (vegetated) and 1:6 max grade (at water access points, see C-2)
Rock armouring of waterline to reduce propensity for erosion. Weed removal and native revegetation
Recreational amenity; Pedestrian/cycle linkages to residential areas and for district access.
Integrate corridors with Neighbourhood Park areas where possible to consolidate open space area, share facilities (eg. Playgrounds)
Flora and Fauna Habitat; Provide for native vegetation or revegetation to a minimum of 40% of areas as interlinked vegetation corridor creekline reserve.
- Locate pedestrian/cycle path to form edge between maintained grassland and native vegetation. Where alternate edge is required provide timber edge (150x50mm Band) with 1.5mtr width of Nepean River gravel margin as maintenance barrier.
Pedestrian/cycle paths to be located above the 20% AEP flood level for that specific location. It is preferred the pedestrian/cycle path acts as a transition between the Inner 25 metre Creeklane Corridor and the Outer 25 metre Creeklane Corridor. The location is variable to ensure connectivity with existing sections of the path and vegetation conservation.
Maintained grassland areas to be provided with native shade tree planting.
Provide widenings to creek waterbody where possible to slow water movement and provide additional environmental feature.
Maintain adequate sightlines to pedestrian/cycle path alignment to meet Austroads standards.
Provide seating and litter bins at nodal points, viewing areas and linkage intersections.
- Seats at litter bins at nominal 250 metre spacing
- Signs at nominal 100 metre spacings
- Solar lights at nominal 50 metre spacings
- Refer to Water Management Specification

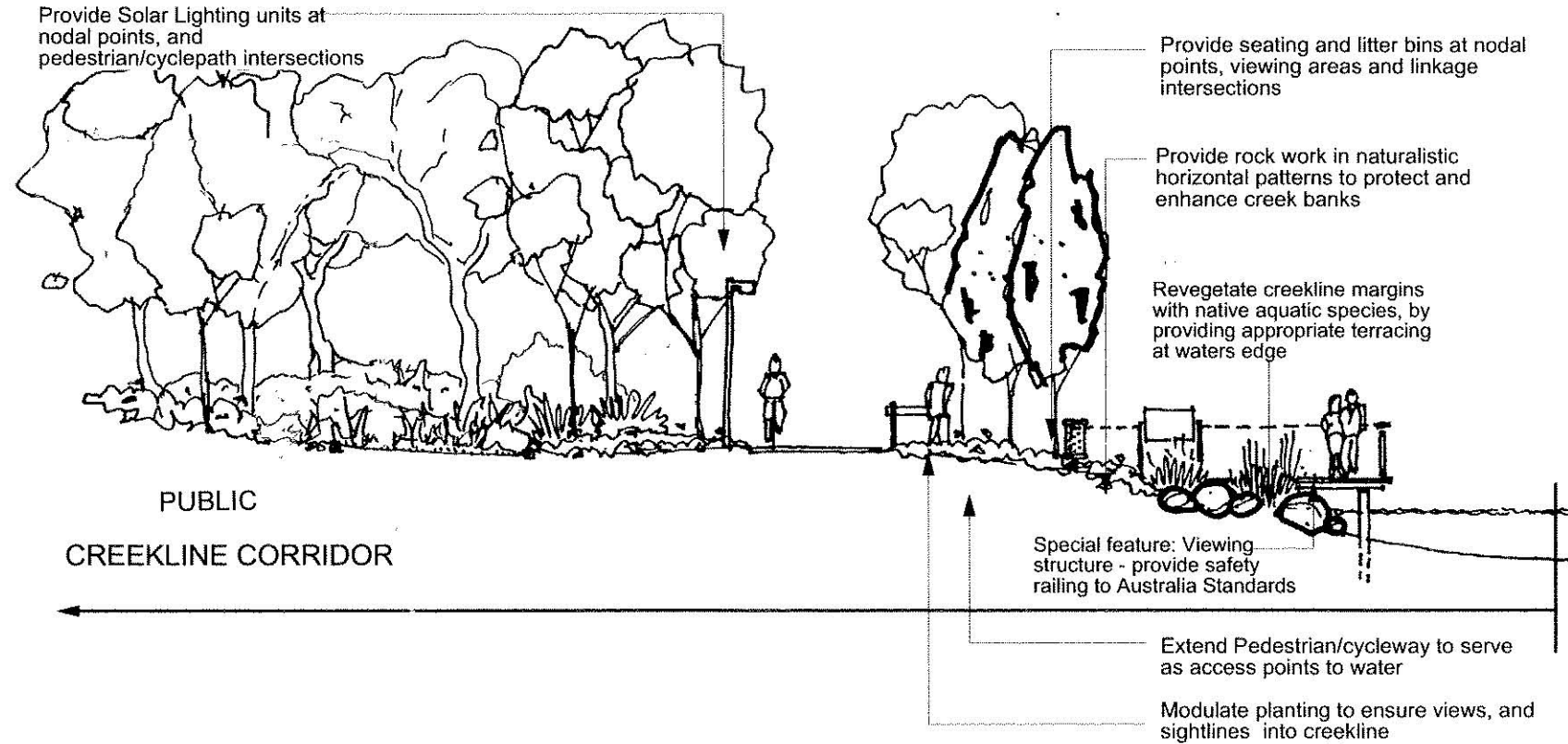


Plan: Accessible water

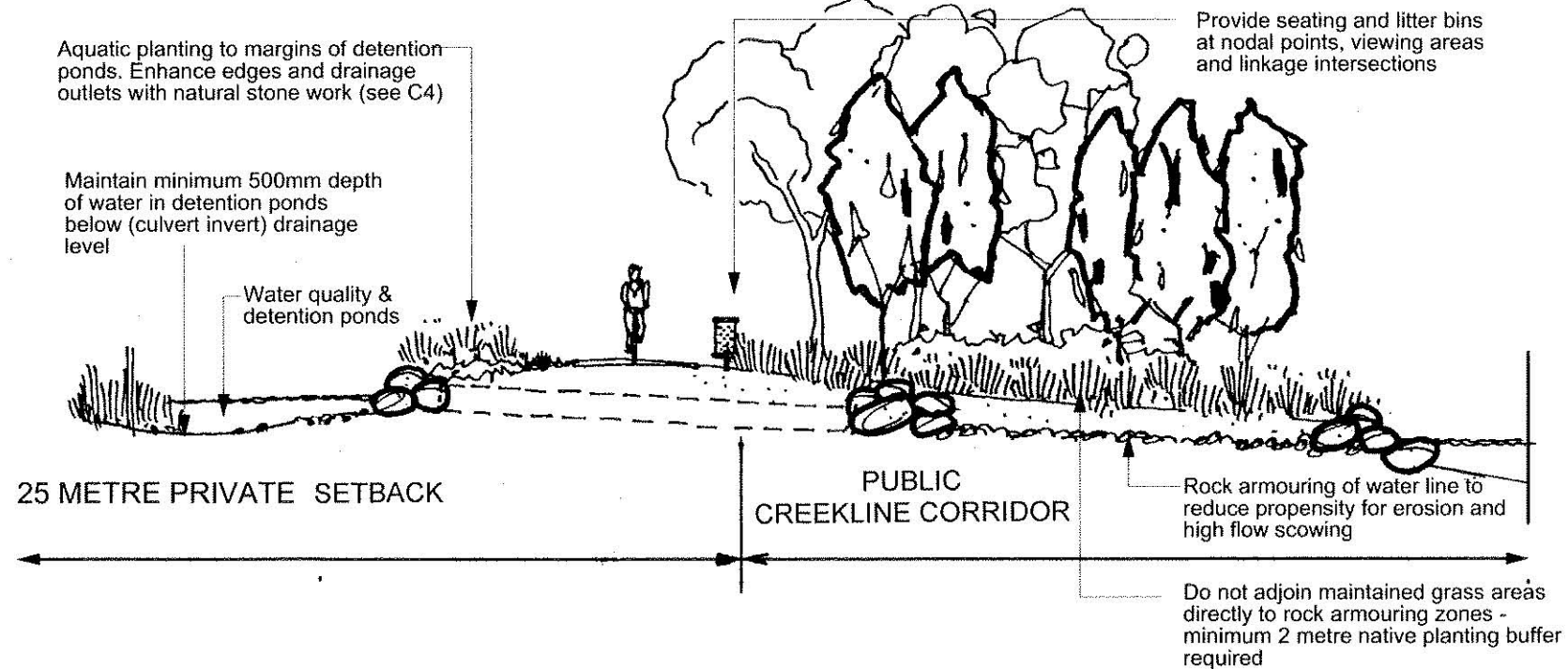


Plan: Water Management bodies

Section: Water bodies and viewing area



Section: Water Quality Detention Ponds

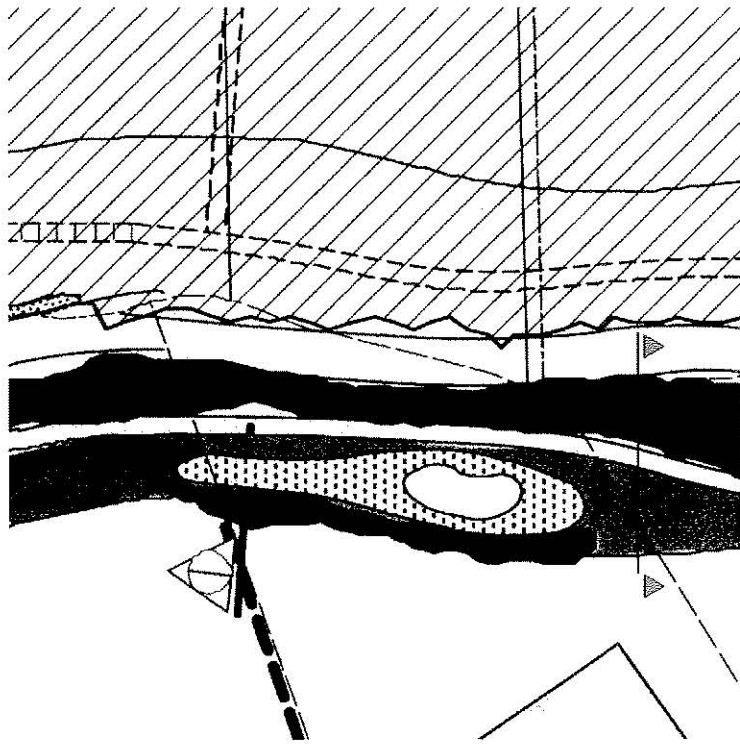


Guidelines

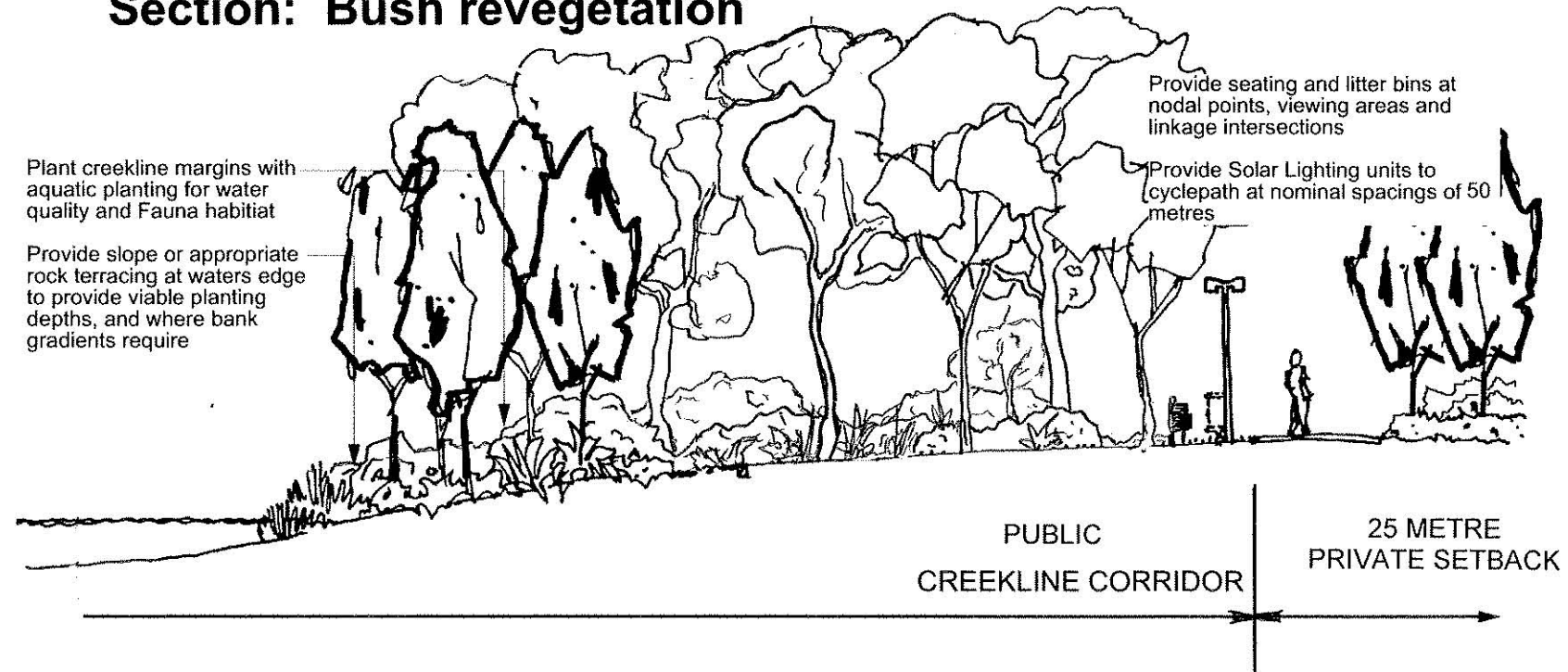
Location:
Adjacent Water Quality Detention ponds, and at creek waterbody widenings

Principles:
Provide varied and safe access to creekline and waters edge at select locations.
Extend Pedestrian/cycleway to serve as access points to water.
Modulate planting to ensure views, and sightlines into creekline.
Revegetate creekline margins with native aquatic species.
Provide appropriate terracing at waters edge to provide viable planting depths, and where bank gradients require.
Provide rock work in naturalistic horizontal patterns protect and enhance creek banks.
Do not adjoin maintained grass areas directly to rock armouring zones - minimum 2 metre native planting buffer required.
Refer to DCP No.20 for recommended creekline species for vegetation precincts.
Maintain Pedestrian/cycle sightlines and security surveillance through alignment of path and planting design.
Pedestrian/cycle paths to be located above the 20% AEP flood level for that specific location. It is preferred the pedestrian/cycle path acts as a transition between the Inner 25 metre Creekline Corridor and the Outer 25 metre Creekline Corridor. The location is variable to ensure connectivity with existing sections of the path and vegetation conservation.
Provide seating and litter bins at nodal points, viewing areas and linkage intersections.
-Seats at litter bins at nominal 250 metre spacings
-Signs at nominal 100 metre spacings
-Solar lights at nominal 50 metre spacings
Lights to conform with Category B2 for minor streets and cycleways.

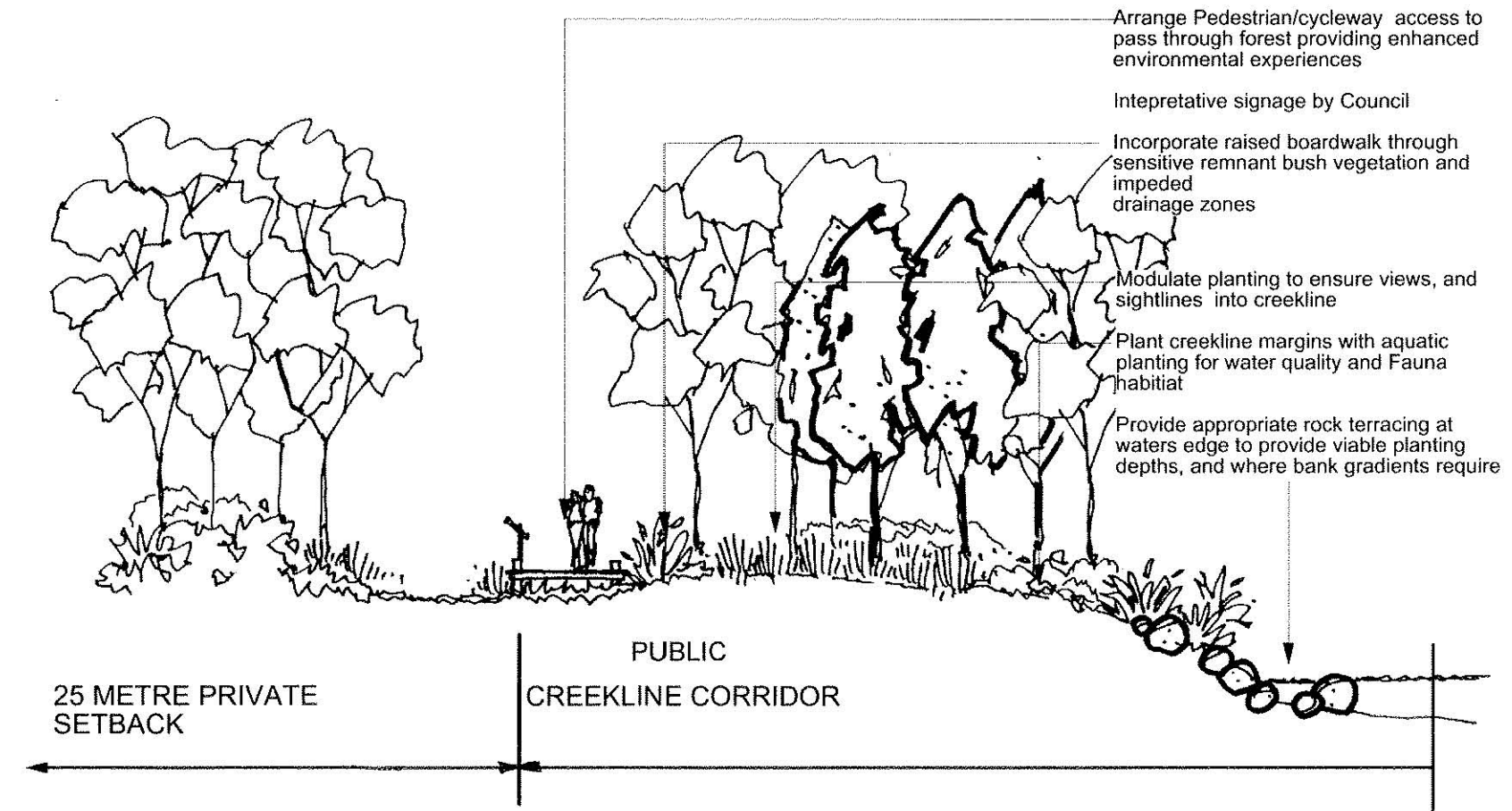
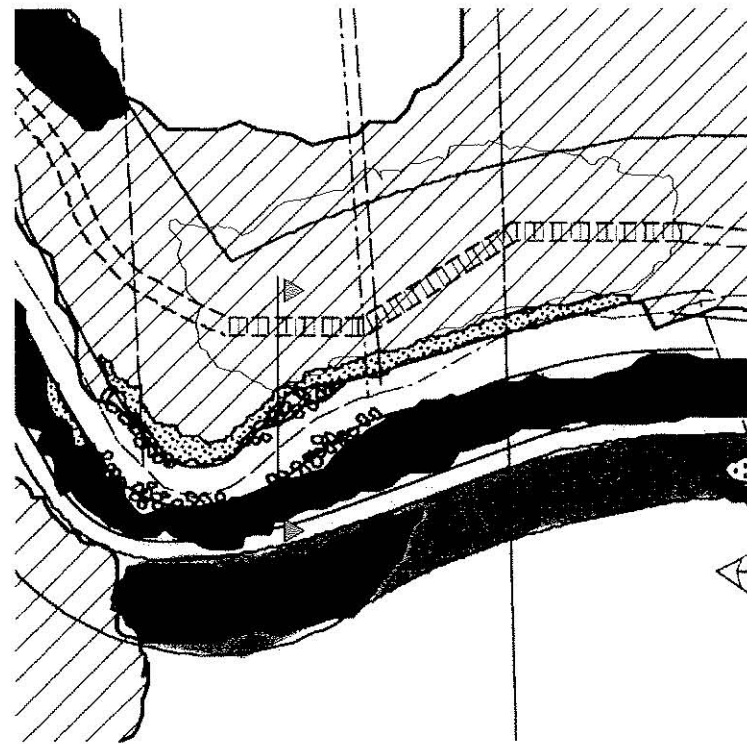
Plan: Remnant Bush



Section: Bush revegetation



Plan: Bush revegetation



Section: Remnant Bush

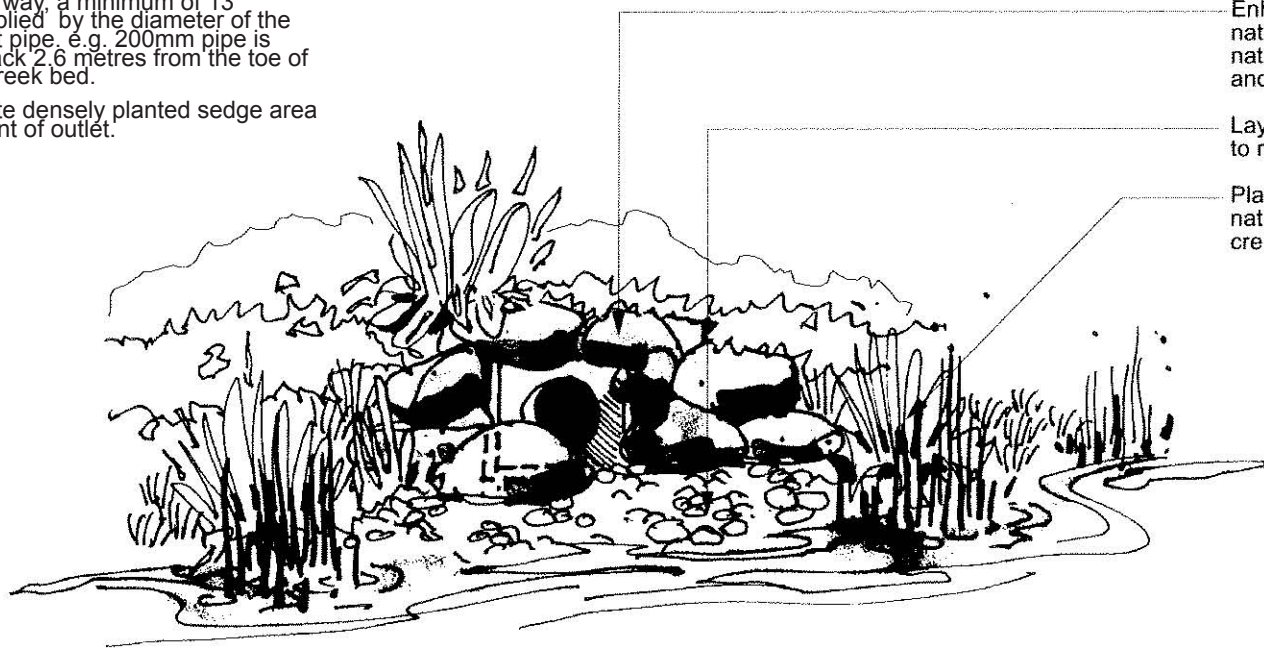
Guidelines

Location:
Adjacent remnant stands of native bush land vegetation, and revegetation zones along creekline reservations.

Principles:
Protect stands of Swamp Mahogany Forest to creekline margin.
Extend Pedestrian/cycleway to serve as access points to water. This maybe in the form of boardwalks
Arrange Pedestrian/cycleway access to pass through forest providing enhanced environmental experiences.
Incorporate raised boardwalk through impeded drainage zones.
Extend Swamp Mahogany vegetation community through natural bushland revegetation techniques, to appropriate areas. Provide Bushland revegetation strategy.
Provide Environmental Impact Assessment of design proposals with Development Application (DA).
Plant creekline margins with aquatic planting for water quality and Fauna habitat. Provide appropriate terracing at waters edge for viable planting depths.
Provide appropriate rock terracing at waters edge to provide viable planting depths, and where bank gradients require.
Maintain Pedestrian/cycle sightlines and security surveillance through alignment of path and planting design. Modulate planting to ensure views, and sightlines into creekline.
Pedestrian/cycle paths to be located above the 20% AEP flood level for that specific location. It is preferred the pedestrian/cycle path acts as a transition between the Inner 25 metre Creekline Corridor and the Outer 25 metre Creekline Corridor. The location is variable to ensure connectivity with existing sections of the path and vegetation conservation.
Provide seating and litter bins at nodal points, viewing areas and linkage intersections

Outlet to be setback, from the waterway, a minimum of 13 multiplied by the diameter of the outlet pipe. e.g. 200mm pipe is setback 2.6 metres from the toe of the creek bed.

Create densely planted sedge area in front of outlet.



Enhance stormwater outlets with natural stone formed and placed to naturalistic pattern for bank stability and creekbed maintenance

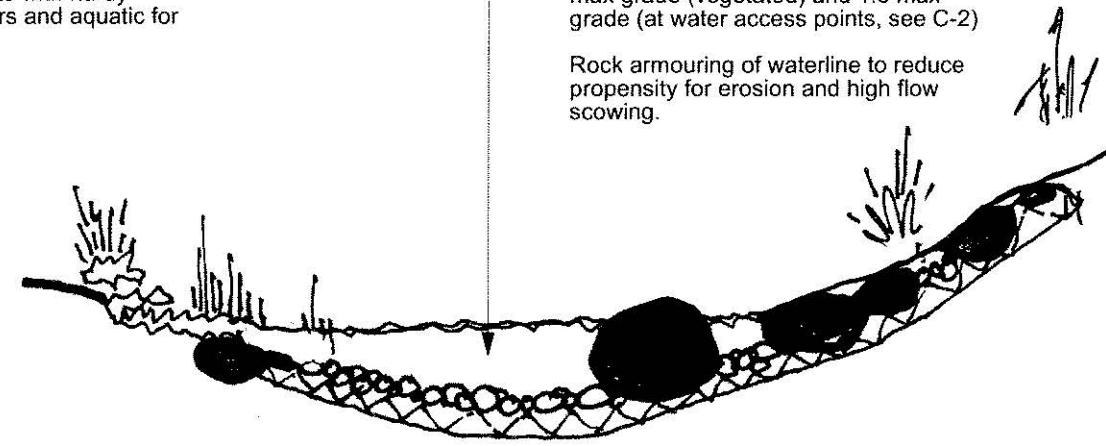
Lay natural stone on concrete base to resist fast flow outlet scowing

Plant around outlets with hardy native groundcovers and aquatic for creekline margins

Illustration: Stormwater outlet

Regrade and stabilize creek banks to 1:3 max grade (vegetated) and 1:6 max grade (at water access points, see C-2)

Rock armouring of waterline to reduce propensity for erosion and high flow scowing.



Section: Rock armouring

Water management features such as weirs, stormwater outlets armouring to creekbed and creekbank should also meet water management and engineering specifications

Locate rock plunge weir to widened waterbody zones, where gradient allows

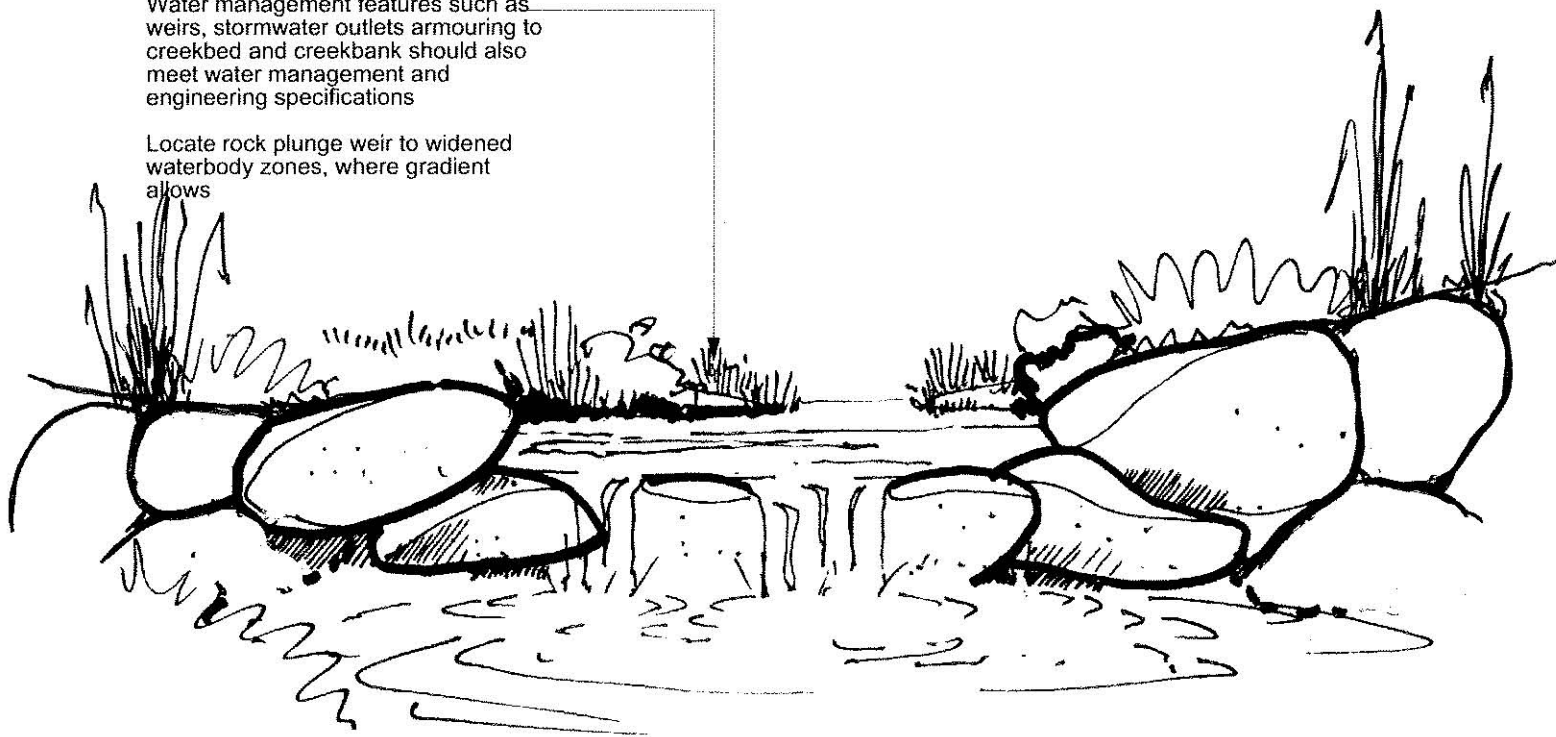


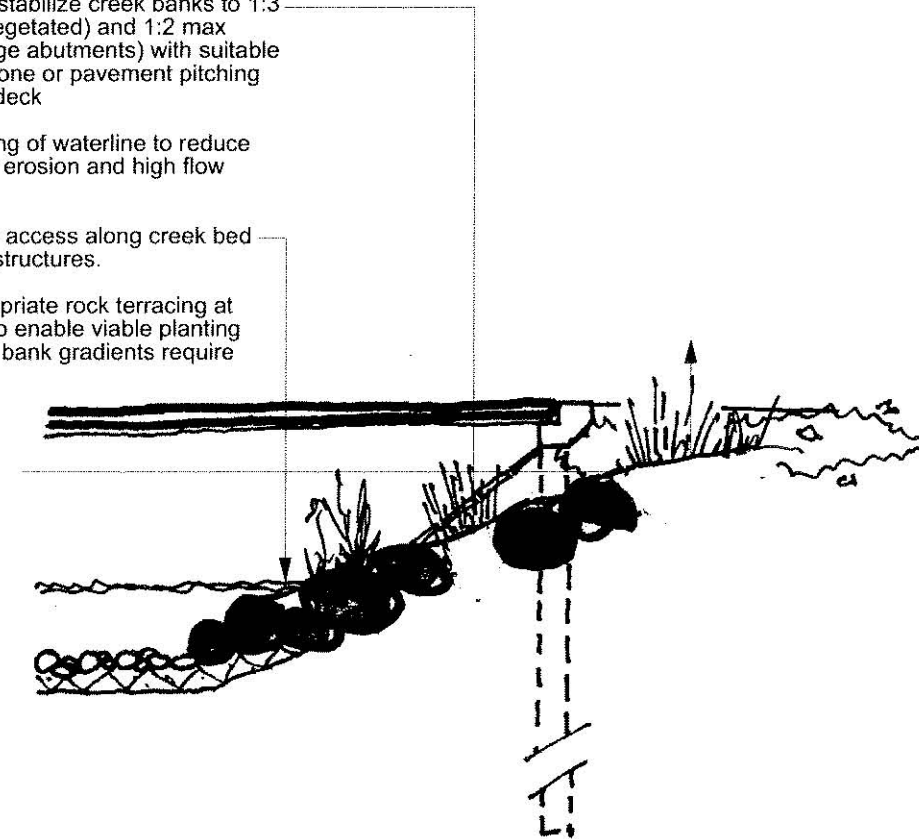
Illustration: Natural weir and rills

Regrade and stabilize creek banks to 1:3 max grade (vegetated) and 1:2 max grade (at bridge abutments) with suitable engineered stone or pavement pitching under bridge deck

Rock armouring of waterline to reduce propensity for erosion and high flow scowing.

Provide fauna access along creek bed under bridge structures.

Provide appropriate rock terracing at waters edge to enable viable planting depths where bank gradients require



Section: Bridge abutments

Guidelines

Location:

The 50 metre creekline reservation of Narrabeen and Fern Creek generally.

Adjacent Detention ponds, stormwater outlets and at creek waterbody widenings

Principles:

50 metre creekline reservation to be planned and implemented as multi-use open space corridors to incorporate water management

features:

Locate rock plunge weir to widened waterbody zones, where gradient allows.

Rock work to be natural sandstone, placed and arranged in naturalistic patterns. Water management features such as weirs, stormwater outlets armouring to creekbed and creekbank should also meet water management and engineering specifications.

Incorporate raised boardwalk through impeded drainage zones.

Plant creekline margins with aquatic planting for water quality and Fauna habitat.

Provide appropriate rock terracing at waters edge to provide viable planting depths, and where bank gradients require.

Do not adjoin maintained grass areas directly to rock armouring zones - minimum 2 metre native planting buffer required.

Provide widenings to creek waterbody where possible to slow water movement and provide additional environmental feature.

Provide seating and litter bins at nodal points, viewing areas and linkage intersections.

-Seats at litter bins at nominal 250 metre spacing

-Signs at nominal 100 metre spacings

-Solar lights at nominal 50 metre spacings

**Central Local Park
and Active Sportfields**



- Guidelines
- Typical Infrastructure:
- Earthworks (incl re-contouring, levelling & sub-grade preparation)
 - Drainage (incl sub-soil drainage)
 - Water Service/Irrigation (bayonet fittings)
 - Sealed Carpark (50 spaces incl kerb/edging, surfacing & planting bays)
 - Access/Pathways
 - Lighting (Solar [10])
 - Turfing (incl topsoiling & laying turf)
 - Landscaping (incl topsoil, tree/shrub planting, mulching, staking & edging)
 - Fencing (painted timber post & rail/log barriers)
 - Signage & Furniture (incl bench seats & litter bins)

DISCLAIMER

NOTE:
The facilities and features on this plan are diagrammatic only and the actual location will be subject to regular reviews of the Contributions Plan by Council, and will also be dependant on survey, site considerations and compliance with all relevant standards and requirements.

All internal Sector Road Layouts/ Landscaping/ Open Space (Apart from Sectors 1, 2, 10, 11 and 12) are indicative only and reflect submissions by the Developers at the time of preparation of this Plan.

Council does not endorse or otherwise the proposals by the Developer in each Sector



Guidelines

Concept plan for southern component of park was adopted by Council in March 2016. Final design of southern component of park to be developed in consultation with community.

Typical Infrastructure:

- Earthworks (incl re-contouring, levelling & sub-grade preparation)
- Structural Work (eg retaining walls)
- Drainage (incl sub-soil drainage)
- Water Service/Irrigation (bayonet fittings)
- Sealed Carpark (incl kerb/edging, surfacing & planting bays)
- Access: Pathways/Bikepaths
- Lighting
- Turfing (incl topsoiling & laying turf)
- Landscaping (incl topsoil, tree/shrub planting, mulching, staking & edging)
- Fencing (painted timber post & rail/log barriers)
- Shelter (including electric BBQs/tables and seating)
- Signage & Furniture (incl bench seats, picnic tables & litter bins)
- Shade Structure (over playground)

