

LOCAL STRUCTURE PLAN

Lots 500 & 501 (No. 202 & 214) Bertram Road, Wellard

Prepared by



October 2017

Modified by



June 2022

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Document Version Control				
Version	Date	Description	Author	Review
1	24/08/2016	Complete draft for client review	BL	JA
2	01/09/2016	Consultant & client feedback	BL	JA
3	21/12/2016	CoK Preliminary Assessment	BL	JA
4	03/10/2017	WAPC Requested Modifications	BL	JA
5	28/06/2022	Structure Plan Amendment No. 2	RH	RD

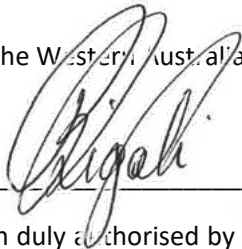
Endorsement Page

This structure plan is prepared under the provisions of the City of Kwinana Town Planning Scheme No. 2

IT IS CERTIFIED THAT AMENDMENT NO. 2 TO LOTS 500 & 501 BERTRAM ROAD WELLARD
LOCAL STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN
PLANNING COMMISSION ON:

27 September 2022

Signed for and on behalf of the Western Australian Planning Commission:



an officer of the Commission duly authorised by the Commission pursuant to section 16 of the
Planning and Development Act 2005 for that purpose.

Table of Amendments

Amendment No.	Summary of the Amendment	Amendment type	Date approved by WAPC
1	Introduce Special Use – Educational Establishment over Lot 500 Bertram Road, Wellard and modification to road layout and POS configuration.	Standard	
2	Increase the density of portions of the site from 'R25' to 'R40'.	Minor	27 September 2022

Table of Density Plans

Density Plan No.	Area of density plan application	Date endorsed by WAPC

Executive Summary

This Local Structure Plan has been prepared to fulfil the statutory obligations of the Planning and Development (Local Planning Schemes) Regulations 2015 and the City of Kwinana ('the City') Town Planning Scheme No. 2 ('TPS2') for the subdivision and development of Lots 500 & 501 (No. 202 & 214) Bertram Road, Wellard ('the parent lots').

The parent lots exist as two (2) freehold lots to the north-east of the intersection of Tamblyn Place and Bertram Road, Wellard. In total, these properties measure 20.382 hectares, with approximately 8.94 hectares contained within the Urban Zone pursuant to the Metropolitan Region Scheme ('MRS') and the balance of the land being zoned Rural.

This Local Structure Plan has been prepared for the Urban zoned portions of Lots 500 and 501 ('the subject land' or 'LSP area') which is part of the eastern flank of the Bollard Bulrush Swamp ('BBS') which, together with the western flank, forms a residential enclave that is isolated from surrounding residential development by the roads that circulates around the BBS, being Bertram Road, Wellard Road and Johnson Road.

The purpose of this Local Structure Plan is to accommodate future subdivision and development of the subject land for residential purposes, including the associated areas for public open space and drainage.

The Local Structure Plan is consistent with the established strategic planning framework for the area including the Western Australian Planning Commission's ('WAPC') draft South Metropolitan Peel Sub-Regional Planning Framework, Jandakot Structure Plan and the City's draft Eastern Residential Intensification Concept District Structure Plan ('ERIC'). The Local Structure Plan is also consistent with the City's Bollard Bulrush East Landscape Master Plan which provides an integrated plan for the public open space at the face of the BBS in the different structure plan areas surrounding the BBS.

The particulars of the Local Structure Plan are as follows:

Item	Data		Structure Plan Ref (Section No.)
Total area covered by the Structure Plan	8.97 hectares		Part One, 1
Area of each land use proposed:	Hectares	Lot Yield	Part Two, 3.1
Zone			
• Residential	4.46	136	
Reserves			
• Road and Drainage	2.14		Part Two, 3.3
• Public Open Space	2.37		
Total estimated lot yield	136		Part Two, 3.3
Estimated number of dwellings	136		Part Two, 3.3
Estimated residential site density	R25, R40		Part Two, 3.3

<ul style="list-style-type: none"> • Directions 2031 (per gross urban hectare) • Perth and Peel @ 3.5million (per residential site hectare) 	15.2 dwellings per gross urban zoned hectare 30.5 dwellings per residential site hectare	
Estimated population	380 people @ 2.8 people/household	Part Two, 3.3
Estimated area and percentage of public open space given over to: <ul style="list-style-type: none"> • Local Parks • Other (Wetland Buffer) 	0.59 hectares (6.6%) 1.78 hectares (19.9%)	Part Two, 3.2
Estimated percentage of natural area	2.37 hectares (26.4%)	Part Two, 3.1

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Part One: Implementation

1. Structure Plan Area

The Local Structure Plan area comprises of the Urban zoned portions of Lots 500 and 501 Bertram Road and measures approximately 8.97 hectares. More specifically, the Local Structure Plan applies to the land contained within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan Map.

This Structure Plan is identified as the 'Lot 500 & 501 Bertram Road, Wellard Local Structure Plan' ('LSP').

2. Operation

Pursuant to clause 28(1) of the Planning and Development (Local Planning Schemes) Regulations 2015 ('LPS Regulations'), this LSP has effect for a period of ten (10) years commencing on the day on which the WAPC approves the plan, or another period determined by the WAPC.

The approved LSP is to be given due regard by decision-makers when making decisions on subdivision and development of land within the LSP area.

Pursuant to clause 29 of the LPS Regulations, any amendment to this LSP is to follow the procedures set out within Part 4 of the LPS Regulations for preparing a structure plan.

3. Staging

Whilst not definitive at this juncture, subdivision of the LSP area is proposed to be in a single stage in accordance with the LSP due to the required infrastructure upgrades and road layout.

4. Subdivision and Development Requirements

- a) Residential density for the LSP area is the residential density shown on the LSP Map.
- b) Public open space ('POS') is to be provided in accordance with the LSP Map.
- c) Land use permissibility within the LSP area shall accord with the corresponding use classification in the City of Kwinana ('the City') Town Planning Scheme No. 2 ('TPS2').
- d) This LSP is supported by a bushfire management plan ('BMP'), *Bushfire Management Plan – Lots 500 & 501 (Nos 202 & 214) Bertram Road, Wellard*, August 2016 by Smith Consulting, as amended. Any land falling within 100 metres of a bushfire hazard identified in the BMP is designed as a Bushfire Prone Area for the purpose of the Building Code of Australia.
- e) Notifications on Title

The Council shall recommend to the WAPC that a condition be imposed on the grant of subdivision approval for a notification to be placed on the Certificate of Title to respond to the following:

- That lots with a bushfire attack level ('BAL') rating of 12.5 or above are within a bushfire prone area and that additional planning and building requirements may apply to development of the land.

f) Management plans

The Council shall recommend to the WAPC that a condition be imposed on the grant of subdivision approval for the preparation, approval and implementation of a:

- Wetland Management Plan providing for the protection of the adjoining Conservation Category Wetland ('CCW'); and a
- Mosquito and Midge Management Plan.

5. Local Development Plans

Local Development Plans are to be prepared for lots with one or more of the following attributes:

- a) Having the potential for grouped and/or multiple dwellings;
- b) With frontages of less than 12 metres; and
- c) With a BAL rating of 12.5 or above.

6. Other Requirements

6.1 Developer Contributions

In the City's TPS2, the following developer contribution arrangements apply and/or are contemplated:

- i) Development Contribution Plan 1 ('DCP1') for the funding of traditional infrastructure.
- ii) Development Contribution Plan 7 ('DCP7') for the funding of traditional infrastructure (including the land for a district sporting ground); and
- iii) Development Contribution Plan 12 for the funding of community infrastructure.

6.2 Conservation Category Wetland

The CCW (as a balance of title lot) will be shown as a reserve for conservation and ceded free of cost and vested in the Crown at the subdivision stage of planning.

6.3 Infrastructure Upgrades

Access is required to a new wastewater pump station which is to be constructed within Lot 503 Tamblyn Place, Wellard.

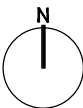
A left in left out intersection with Bertram Road will be provided to access both Lots 500 and 501 at their common boundary.

7. Additional Information

Additional Information	Approval Stage	Consultation Required
Acid Sulfate Soils & Dewatering Management Plan	Condition of Subdivision	City / Department of Environment Regulation ('DER')
Construction Environmental Management Plan (as required)	Condition of Subdivision	City
Landscaping Plan	Condition of Subdivision	City
Urban Water Management Plan	Condition of Subdivision	City
Wetland Management Plan (as required)	Condition of Subdivision	City



LOCAL STRUCTURE PLAN
LOTS 500 AND 501 BERTRAM ROAD
WELLARD



0 37.5 m
SCALE @ A3: 1:1500
9448-FIG-06-B

DRAWN:
DATE CREATED:
PROJECTION:
CADASTRE:

VR
2022.07.08
MGA50 GDA94
LANDGATE

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Part Two: Explanatory Section

1. Planning Background

1.1. Introduction and Purpose

The LSP has been prepared by Altus Planning on behalf of Bollard (WA) Pty Ltd ATF Bollard Unit Trust and M & J Van Asselt.

The LSP applies to the 'Urban' zoned portion of the land which is located to the west of the BBS wetland, and extends to Bertram Road to the east.

The LSP provides a statutory planning framework to guide the future subdivision and development of the land, as required by clause 6.15.3 of the City of Kwinana ('the City') Town Planning Scheme No. 2 ('TPS2') for 'Development' zoned land. This LSP further refines the detail of planning contained within the Western Australian Planning Commission's ('WAPC') draft South Metropolitan Peel Sub-Regional Planning Framework, Jandakot Structure Plan and the City's draft Eastern Residential Intensification Concept District Structure Plan ('ERIC').

The LSP has been prepared in accordance with the Planning and Development (Local Planning Schemes) Regulations 2015 ('LPS Regulations') and more specifically, the format of the LSP accords with the WAPC's Structure Plan Framework (August 2015).

1.2. Land Description

1.2.1. Location

The LSP area is located to the north-west of the intersection of Bertram Road and Tamblyn Place, Wellard and is bound by the Peel Main Drain to the west and Bertram Road to the east. The land is approximately 1.25km from the Kwinana Freeway via Bertram Road/Mortimer Road and approximately 2.7km from the Wellard Train Station (refer to Figure 1).

The immediate surrounding locality consists of the following:

- The land abutting the northern boundary of the LSP (Lot 680 Bertram Road) is owned by El Shaddai Kwinana Christian Fellowship (trading as Freeway Church). The King's College Perth Christian School for Pre-Kindy to Year 12 facilities are, generally, on land leased from the Church located in the northern part of Lot 680;
- The land abutting the southern boundary of the LSP is the Lot 502 Tamblyn Place, Wellard LSP area (approved by the WAPC is November 2016);
- The land abutting the western boundary of the LSP area is a Conservation Category Wetland ('CCW') commonly known as the Bollard Bulrush Swamp ('BBS'); and

- The land to the east of Bertram Road is 'Urban' zoned land which has been developed for residential purposes.

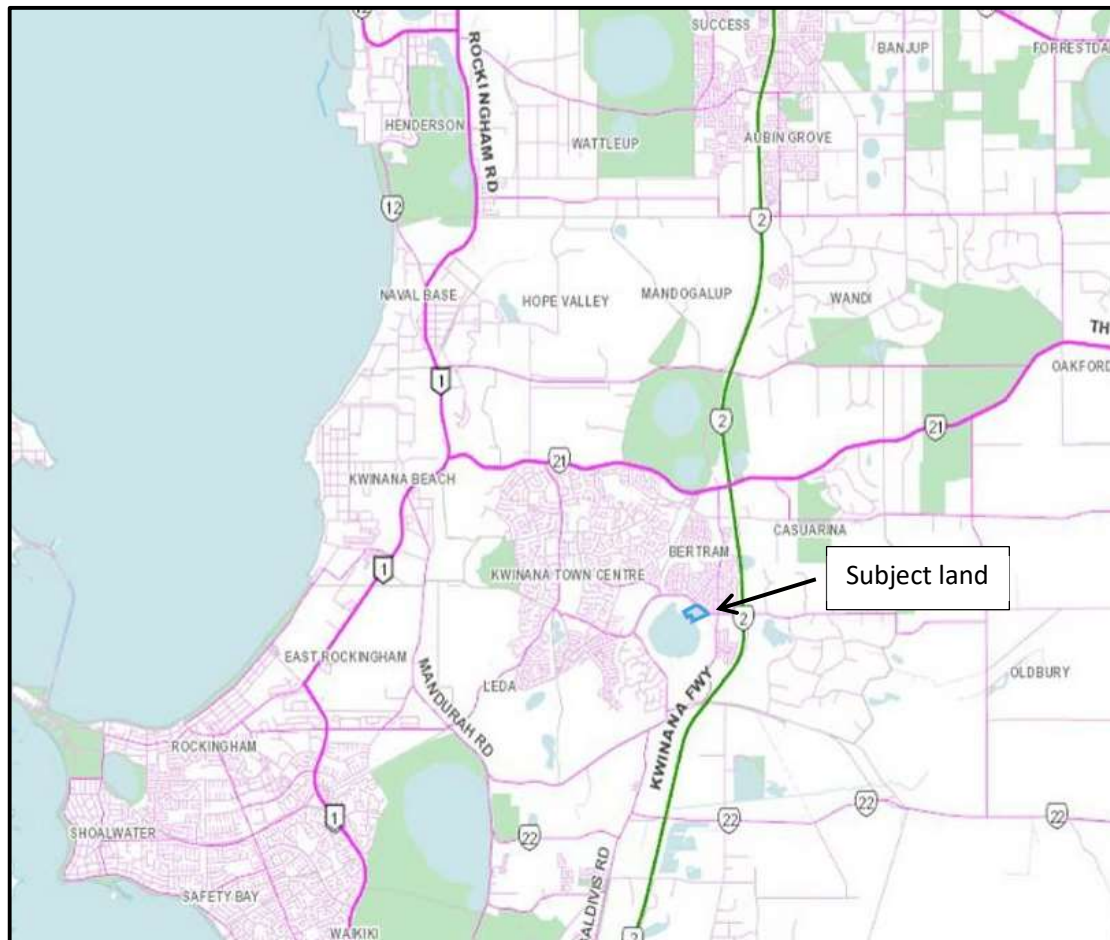


Figure 1: Regional context (Source: PlanWA 2016)

1.2.2. Area and Land Use

The overall land area of the parent lots is 20.382 hectares. Specifically, Lot 500 (No. 202) Bertram Road measures approximately 9.7840 hectares and contains an existing dwelling and numerous outbuildings, whilst Lot 501 (No. 214) Bertram Road measures approximately 10.598 hectares and is currently vacant.

The total land area of the LSP is 8.97 hectares.

1.2.3. Legal description and ownership

The land subject of this LSP is contained under the following Certificates of Title:

Lot	Diagram/Plan	Volume	Folio	Street Address	Registered Proprietor
500	70999	2796	129	202 Bertram Road, Wellard	Marinus Hendrik van Asselt & Jillian Patricia van Asselt
501	70999	2796	130	214 Bertram Road, Wellard	Bollard (WA) Pty Ltd

Copies of the abovementioned Certificates of Title are contained at Appendix 1.

1.3. Planning Framework

1.3.1. Zoning and Reservations

Metropolitan Region Scheme

The LSP area was recently transferred from the 'Urban Deferred' zone to the 'Urban' zone under the MRS and the balance of the parent lots is zoned 'Rural' (MRS Amendment 1296/27). However, the delineation between the Urban and Rural zone was determined in the previous MRS Amendment 1188/57, retaining the BBS in the 'Rural' zone. A plan depicting the current MRS zoning of the LSP area and surrounds is provided at Figure 2 (below).

Furthermore, as part of the MRS Amendment 1188/57, the Environmental Protection Authority ('EPA') concluded that the amendment should be formally assessed. During the assessment, it was determined that a buffer distance of 50m was considered appropriate to adequately protect the wetland.



Figure 2: MRS Zoning

City of Kwinana Town Planning Scheme No. 2

Consistent with the MRS zoning for the land, the LSP area is also zoned 'Development' whilst the balance of the parent lots is zoned 'Rural' pursuant to the City's TPS2.

Clause 6.17.2.1 of TPS2 outlines the requirement for a Structure Plan prior to subdivision and/or development within the Development zone, stating that:

"Within the Development Zone, Kwinana Town Centre Zone or Development Area or the relevant portion of the Zone or Area, unless there is an adopted Structure Plan the local government is not to:

- (a) Consider recommending subdivision; or*
- (b) Approve an application for Planning Approval."*

This LSP has been prepared to satisfy the above requirement so that subdivision of the land can occur.

The LSP area is also contained within the Development Contribution Plans:

- i) Development Contribution Plan 1 ('DCP1') for the funding of traditional infrastructure.
- ii) Development Contribution Plan 7 ('DCP7') for the funding of traditional infrastructure (including the land for a district sporting ground); and
- iii) Development Contribution Plan 12 ('DCP12') for the funding of community infrastructure.

Accordingly, the land developer must make the appropriate contributions, pursuant to Schedule V of TPS2, at the time of subdivision.

1.3.2. Regional and Sub-Regional Spatial Frameworks

Directions 2031 and Beyond

Directions 2031 and Beyond: Metropolitan Planning Beyond the Horizon ('Directions 2031') is a high order spatial framework and strategic plan for metropolitan Perth and the Peel region. The purpose of Directions 2031 is to provide a vision for the future growth of the region based on the estimation that by the year 2031, the Perth and Peel region will have a population exceeding 2.2 million.

The LSP area is contained within the south-west sub-region pursuant to Directions 2031 and it is stated that:

"The sub-region has experienced considerable economic and population growth driven by continued high demand for coastal locations, historically strong demand for lower density suburban development and a consistently high level of industrial activity."

Furthermore, by the year 2031 it is estimated that the population of the south-west sub-region will have grown by 34 per cent under the connected city scenario.

Draft Perth and Peel@3.5million and South Metropolitan Peel Sub-Regional Planning Framework

The draft South Metropolitan Peel Sub-Regional Planning Framework forms part of the WAPC's draft Perth and Peel@3.5million suite of strategic land use planning documents which aim to accommodate 3.5 million people by 2050. When finalised, the draft South Metropolitan Peel Sub-Regional Planning Framework, along with the other three (3) draft sub-regional planning frameworks, will become sub-regional structure plans.

Consistent with the MRS, the land subject of the LSP is identified as 'Urban' whilst the western portion of the parent lots is identified as 'Proposed Open Space – Nature / Passive Recreation'.

1.3.3. Planning Strategies and Structure Plans

City of Kwinana Local Planning Strategy

Under the City's draft Local Planning Strategy (2015), the western portion of The parent lots is identified as 'Existing Rural', whilst the eastern portion (and that which forms part of the LSP) is identified as 'Future Residential Areas'.

This draft Local Planning Strategy is currently under review.

Jandakot Structure Plan

Prepared in 2007, the Jandakot Structure Plan outlines the physical framework for the future development of the land immediately surrounding the Jandakot Underground Water Pollution Control Area, generally comprising the localities of Oakford, Mandogalup, Casuarina, Wellard, Anketell and The Spectacles.

The LSP area is identified as 'Short-Term Urban' under the Jandakot Structure Plan and is also identified as an *"area subject to further investigations to determine specific areas that may be available for future urban land uses"*.

These further investigations were undertaken as part of the MRS rezoning which defined the area that is deemed suitable for residential development.

City of Kwinana Draft Eastern Residential Intensification Concept

The City's draft Eastern Residential Intensification Concept ('ERIC') was prepared as a refinement to the Jandakot Structure Plan. Under ERIC, the LSP area is identified as an area where *"future urbanisation may be considered following full technical environmental review of impacts of urbanisation on wetland area (to be undertaken by landowner/developer in consultation with DoE)"*.

As stated previously, these further investigations were undertaken as part of the MRS rezoning which defined the area that is deemed suitable for residential development.

1.3.4. Planning Policies

State Planning Policy 2.1 – Peel-Harvey Coastal Plain Catchment

The LSP area is located within the Peel-Harvey Coastal Plain Catchment area and therefore State Planning Policy 2.1 – Peel-Harvey Coastal Plain Catchment ('SPP2.1') applies.

The purpose of SPP2.1 is to ensure that land use changes within the Peel-Harvey Estuarine System that are likely to cause environmental damage to the estuary are brought under planning control and prevented.

Furthermore, Section 2 of SPP2.1 outlines the following objectives for the policy:

- *To improve the social, economic, ecological, aesthetic, and recreational potential of the Peel-Harvey Coastal Plain Catchment.*
- *To ensure that changes to land use within the Catchment to the Peel-Harvey Estuarine system are controlled so as to avoid and minimise environmental damage.*
- *To balance environmental protection with the economic viability of the primary sector.*
- *To increase high water-using vegetation cover within the Peel-Harvey Coastal Plain Catchment.*
- *To reflect the environmental objectives in the Draft Environmental Protection Policy (Peel-Harvey Estuarine System) 1992.*
- *To prevent land uses likely to result in excessive nutrient export into the drainage system.*

The abovementioned objectives and the provisions of SPP2.1 have been addressed in the Local Water Management Strategy ('LWMS') prepared by RPS Environment and Planning Pty Ltd ('RPS') to support this LSP (refer to Appendix 2).

State Planning Policy 3.7 – Planning in Bushfire Prone Areas

Gazetted on 7 December 2015, the new State Planning Policy 3.7 – Planning in Bushfire Prone Areas ('SPP3.7') and accompanying Guidelines for Planning in Bushfire Prone Areas outlines how land use should address bushfire risk management and applies to all land which has been designated as bushfire prone. In this regard, the LSP area is located in a bushfire prone area as designated by the Commissioner for Fire and Emergency Services and, given this, SPP3.7 applies to the LSP.

Section 5 of SPP3.7 outlines the following objectives of the policy:

- 5.1 *Avoid any increase in the threat of bushfire to people, property and infrastructure. The preservation of life and the management of bushfire impact are paramount.*
- 5.2 *Reduce vulnerability to bushfire through the identification and consideration of bushfire risks in decision-making at all stages of the planning and development process.*
- 5.3 *Ensure that higher order strategic planning documents, strategic planning proposals, subdivision and development applications take into account bushfire protection requirements and include specified bushfire protection measures.*
- 5.4 *Achieve an appropriate balance between bushfire risk management measures and, biodiversity conservation values, environmental protection and biodiversity management and landscape amenity, with consideration of the potential impacts of climate change.*

Furthermore, Section 6.3 specifies that any strategic planning proposal within designated bushfire prone areas are to be accompanied by a Bushfire Management Plan ('BMP') or an amended BMP where one has previously been endorsed. Accordingly, a BMP has been prepared by Smith Consulting to address the above (refer to Appendix 3).

Draft Liveable Neighbourhoods (2015)

Liveable Neighbourhoods is the WAPC's 'operational policy' for the design and assessment of structure plans and subdivisions for greenfield and large brownfield (urban infill sites). Whilst still in draft form, Liveable Neighbourhoods (2015) is set to replace all previous editions and existing WAPC development control policies.

The LSP has been prepared in accordance with the relevant principles and objectives of Liveable Neighbourhoods, particularly in relation to the design of the road network, public open space requirements, and the application of residential densities.

City of Kwinana Local Planning Policy No. 1 – Landscape Feature and Tree Retention

The City's Local Planning Policy No. 1 – Landscape Feature and Tree Retention ('LPP1') was adopted by Council on 28 September 2016 with the purpose of optimising the retention of significant trees and landscape features as a means of retaining the character of the area. The policy applies to all land within the City's TPS2 and is to be implemented during the preparation and assessment of local structure plans.

Section 4b) of LPP1 requires that a Local Landscape Feature and Tree Retention Strategy is to be submitted to the City as part of a local structure plan. Accordingly, such a strategy has been prepared by Plan E to adequately address LPP1 (refer to Appendix 4).

Due to the change of levels indicated in the Engineering Servicing Report (Appendix 9) required to accommodate a residential development of this scale, it is not practical or even feasible to retain all of the 'high retention' value trees that currently exist within the LSP area. However, the LSP does seek to retain all existing trees currently within the POS and wetland buffer areas, as well as the majority of trees that currently exist along the Bertram Road boundary which will also provide a screening effect to the estate.

The above approach is consistent with advice we received from the City's officers at our most recent meeting following adoption of LPP1.

City of Kwinana Local Planning Policy No. 3 – Bollard Bulrush East Landscape Masterplan (Draft)

The City's draft Local Planning Policy No. 3 – Bollard Bulrush East Landscape Masterplan ('draft LPP3') applies to all land within the Bollard Bulrush East urban cell that is zoned 'Development' pursuant to TPS2.

The purpose of the policy is to ensure a range of well-designed uniform recreation facilities and activities are provided in a uniform and coordinated matter within the open space areas.

The policy is intended to be applied during the preparation and assessment of local structure plans and pursuant to Section 2, a Landscape Strategy is to be submitted to Council with the local structure plan. Accordingly, a Landscape Strategy that is consistent with the Bollard Bulrush East Landscape Masterplan has been prepared by Plan E and is included at Appendix 5.

1.3.5. Pre-lodgement Consultation

Prior to preparing this LSP, Altus Planning met with officers from the City's planning and engineering departments on 20 August 2015 to discuss requirements of LSP and necessary third-party reports.

The proposed Local Structure Plan prepared by Development Works for the adjoining lot to the south-east (Lot 502 Tamblyn Place, Wellard) was also reviewed and considered, as well as the Council's decision at its Ordinary Council Meeting held 24 February 2016, in the preparation of this LSP to ensure the two developments could connect appropriately.

This LSP has been further revised following a meeting with the City's planning and engineering officers on 29 September 2016 and their subsequent request for further information.

2. Site Conditions and Constraints

As part of MRS Amendment 1188/57, extensive environmental analysis and review was undertaken. Through the EPA's formal assessment of MRS Amendment 1188/57, it was determined that a 50m buffer would be sufficient to protect the wetland.

An Environmental Assessment Report ('EAR') has been prepared by RPS to support this LSP (refer to Appendix 6). The EAR describes the relevant environmental characteristics of the LSP area and presents management and mitigation measures to minimise the impact to these.

2.1. Biodiversity and Natural Area Assets

2.1.1. Vegetation and Flora

A Flora and Vegetation Assessment was undertaken by ENV as part of MRS Amendment 1188/57 and identified one vegetation unit within the amendment area: Low woodland of *Melaleuca raphiophylla*, *Eucalyptus rudis* subsp. *rudis*, *Rubus anglocandicans*, *Zantedeschia aethiopica*, *Paspalum dilatatum*, *Holcus lanatus*, *Centella asiatica*, *Rumex crispus* and *Baumea articulate*. This vegetation unit was limited to the vegetated wetland area with the remainder of the amendment area being mapped as being in a completely degraded condition.

ENV's site survey did not identify any Threatened or Priority species nor any Threatened or Priority Ecological Communities.

2.1.2. Fauna

ENV undertook a Fauna Assessment as part of MRS Amendment 1188/57 and the assessment identified one habitat type over the remnant vegetation: Melaleuca damp-land. However, the survey found that the majority of the vegetation was considered to be of low habitat value due to weed infestation and lack of important habitat structures.

The fauna survey identified 29 terrestrial vertebrate fauna with only one of those species identified as a conservation significant species being the Southern Brown Bandicoot. However, due to the lack of native understorey and the seasonal inundation of low-lying areas, it was considered that the area was not capable of supporting a large population of Southern Brown Bandicoot.

Two conservation significant species were identified as likely to occur within the amendment area (Cattle Egret and Eastern Great Egret). ENV concluded that as both of these species are highly mobile and have the capacity to move to another area, they are unlikely to be impacted by potential development.

As there was no fauna habitat mapped within the LSP boundary, it is considered unlikely that residential development would significantly impact on the southern brown bandicoot population within BBS.

2.1.3. Wetlands

The Geomorphic Wetland Mapping for the Swan Coastal Plain illustrates that the western portion of the parent lots is categorised as a 'CCW', corresponding with the Rural zoned portion of the land. The majority of the Urban zoned portion, and therefore the LSP area, is categorised as a Multiple Use Wetland.

Through MRS Amendment 1188/57 it was identified by the EPA that a 50m buffer to the wetland would be appropriate and this LSP adheres to this recommendation. Furthermore, the CCW (as a balance of title lot in a subdivision application) will be shown as a reserve for conservation, ceded free of cost and vested in the Crown.

2.2. Landform and Soils

2.2.1. Topography

The land declines from Bertram Road (east) to the wetland (west). Specifically, Lot 500 is approximately 8.6m AHD on the eastern boundary and 4.4m AHD on the western boundary of the LSP area. As for Lot 501, it is approximately 9m AHD in the south-eastern corner and 4m AHD to the west.

2.2.2. Geology

Environmental Geological Mapping has identified the majority of the land as Sandy Silt, associated with the Beeliar Wetlands, which separates the Bassendean and Spearwood Dune systems. The eastern edge of the LSP area is mapped as Bassendean Sand.

The soils of the Beeliar Wetlands are of lacustrine origin, being formed by sedimentation in lakes, and comprise of dark brownish grey sandy silts with disseminated fine grains of quartz sand and variable organic matter.

2.2.3. Acid Sulfate Soils

Landgate's Acid Sulfate Soils ('ASS') risk mapping has identified the majority of the subject land as having a *"high to moderate risk of ASS occurring within 3m of natural soil surface (and beyond)"*.

Final fill levels and subsequent excavation will determine whether dewatering is required, however due to the shallow depth to groundwater, it is considered likely. Accordingly, an Acid Sulfate Soil and Dewatering Management Plan will be required to be prepared and approved by the DER as a condition of subdivision, prior to dewatering or excavation.

2.3. Groundwater and Surface Water

2.3.1. Groundwater

Groundwater flow is influenced by the BBS and the Peel Main Drain, flowing in a south-westerly direction. Pre-development observations indicate that some of the area, particularly in the BBS, becomes inundated during the winter months.

Groundwater monitoring has been undertaken and using this data, Average Annual Maximum Groundwater Levels ('AAMGLs') and Maximum Groundwater Levels ('MGLs') were calculated. The AAMGLs were estimated to range from approximately 7.0m AHD on the eastern boundary to 4.8m AHD along the western boundary; while MGLs were estimated to range from 7.3m AHD on the eastern boundary to 4.8m on AHD along the western boundary.

2.3.2. Surface Water

Hydrology of the subject land is dominated by the Peel Main Drain, as well as the low permeability of the underlying soils and flat topography. The majority of rainfall moves as surface run-off, travelling as sheet flow, ponding in sections of BBS, and eventually moving towards the Peel Main Drain.

The Jandakot Drainage and Water Management Plan prepared by the Department of Water in 2009 identified the pre-development flood levels within the Peel Main Drain and resulting flood fringe within

the BBS. The maximum water level for the BBS for the 10 year and 100 year Average Recurrence Interval ('ARI') events are 4.81m AHD and 5.60m AHD respectively.

In order to mitigate the impact from flooding during a 100 year event, imported clean fill will be used to raise the finished lot levels at least 0.5m above the 100 year flood level. A minimum habitable floor level of 6.15m AHD is required to provide 0.5m clearance for flood protection.

2.4. Bushfire Hazard

As part of MRS Amendment 1296/27, FirePlan WA was engaged to carry out a Bushfire Hazard Assessment ('BHA') of the Wellard Concept Structure Plan. This BHA was considered and approved by the Department of Fire and Emergency Services and the City in support of the lifting of the urban deferment to rezone the land 'Urban'.

In its concluding paragraph, the BHA stated that with the appropriate fire strategies incorporated into the Structure Plan, a BMP could be prepared in compliance with the (then) 'Planning for Bush Fire Protection Guidelines' and the Draft SPP 3.7 'Planning for Bushfire Risk Management' and 'Planning for Bushfire Risk Management Guidelines and Appendices'.

Subsequently, in accordance with the requirements of SPP3.7 and the accompanying Guidelines for Planning in Bushfire Prone Areas, a BMP has been prepared by Smith Consulting in support of the LSP (refer to Appendix 3).

Element 3: Vehicular Access of the Guidelines requires two (2) different access routes from this LSP area to the public road network and due to this requirement, a second (temporary) access point to Bertram Road from the LSP area is shown on the LSP. Such an access point is only required until such time as the Lot 502 Tamblyn Place, Wellard LSP is constructed.

2.5. Heritage

A desktop search of the Department of Aboriginal Affairs' Aboriginal Heritage Inquiry System has revealed that no registered Aboriginal Heritage sites are recorded within the subject land.

A desktop search of the Heritage Council's inherit system has revealed one match for the Wellard Swamp / BBS (Place No: 12107). The interface of urban development with the BBS was agreed by the EPA as part of the formal assessment of MRS Amendment 1188/57.

2.6. Context and Other Land Use Constraints and Opportunities

This LSP covers the Urban zoned portion of Lots 500 and 501 and as agreed with the City's officers, the LSP only covers the subject land.

The land abutting the southern boundary of the LSP area is the Lot 502 Tamblyn Place, Wellard LSP area (approved by the WAPC in November 2016) and this LSP has been designed to fit seamlessly with that Structure Plan. The land abutting the northern boundary of the LSP (Lot 680 Bertram Road) is owned by the El Shaddai Kwinana Christian Fellowship (trading as Freeway Church). The King's College Perth Christian School facilities are, generally, on land leased from the Church located on the northern part of Lot 680 and a suitable connection point has been provided at the north-eastern corner of Lot 500 to allow for the continuation of the north-south road connection.

The main constraints and factors influencing the future subdivision of the LSP area include:

- The location of the wetland and associated recommended buffer;
- The land's topography and resultant drainage strategy;
- Restricted access to Bertram Road; and
- The north-south road is required as part of a continuous movement network at the face of the BBS and associated POS located there.

The above constraints and factors have been addressed in the LSP and its indicative subdivision design by:

- Incorporating the recommended 50m wetland buffer into the POS area;
- Primarily east-west internal road layout to accommodate stormwater flow towards POS and wetland area;
- Left in left out intersection with Bertram Road to be provided at the common boundary of Lots 500 & 501 with no direct lot access from Bertram Road; and
- Continuation of north-south road adjoining western edge of wetland buffer / POS area from the adjoining Structure Plan area to the south and providing future connection point for the adjoining land to the north.

3. Land Use and Subdivision Requirements

3.1. Land Use

This LSP provides an extension of the Structure Plans prepared over the lands to the south, forming a residential urban cell bound by Johnson Road, Bertram Road and the BBS wetland. The LSP focuses on residential land uses with a supporting open space network which factors in protection of the sensitive natural environment. Specifically, the land use composition of the LSP is as follows:

Land Use	Area (ha)
Residential	4.46
Roads and Drainage	2.14
Public Open Space	2.37

3.2. Public Open Space

The location of the POS on the LSP has been determined by the location of the wetland and the need to accommodate a 50m wetland buffer in accordance with the EPA's recommendation contained within its formal assessment of MRS Amendment 1188/57. Similar to the adjoining Structure Plan for Lot 502, and consistent with the City's 'draft LPP3', the unrestricted POS has been situated adjacent to the wetland buffer for land efficiencies and to create a consolidated POS area.

Furthermore and as previously mentioned, a Landscape Strategy has been prepared by Plan E which is consistent with the requirements of draft LPP3 and the accompanying Bollard Bulrush East Masterplan which provides an integrated plan for the development of the POS at the face of the BBS. It is proposed that a path network will be provided linking the POS areas to the north and south, allowing for interaction with the wetland whilst also providing POS facilities for the use of local residents.

In accordance with the requirements of Liveable Neighbourhoods, a POS calculation has been provided in the table overleaf. As is evident in the table, there is currently a surplus of land provided for POS (approximately 0.04%) however further refinement of the POS network may be undertaken at subdivision stage.

Calculation of Required POS Provision		
Total Site Area (ha)		8.97
<i>Deductions</i>		
Other		
Surplus Restricted Public Open Space	1.63	
<i>Total Deductions</i>		
Total Deductions		1.63
Gross Subdivisible Area (total area minus deductions)		7.34
Required Public Open Space (10%)		0.73
Breakdown of POS Provided		
Restricted Public Open Space		
Wetland Buffer	1.78	
<i>Total Restricted POS</i>		
Total Restricted POS Credited to a maximum of 20% (i.e. 20% of 0.73)		0.15
Surplus Restricted POS Not Credited i.e. over maximum 20% (refer Note 1)	1.63	
Unrestricted Public Open Space: by function		
<i>Total Unrestricted POS</i>		
Total Unrestricted POS		0.59
Total POS		0.74
POS Provision as Percentage of Gross Subdivisible Area		10.04%

Note

1. Surplus restricted public open space (in excess of 20% maximum) has been calculated as a deduction, in accordance with Liveable Neighbourhoods Policy.

3.3. Residential

Specifically, the LSP proposes a total of 136 freehold residential allotments at an equivalent density coding of predominately R25, with various lots coded R40 to facilitate the delivery of medium density housing. A subdivision concept plan is provided at Appendix 7 and was prepared to assist with the preparation of the relevant technical studies also appended to this LSP.

As it stands, lot sizes within the LSP area range from 188m² to 418m² with the lot typologies including:

- 7.5m x 25m (188m²)
- 7.5m x 30m (225m²)
- 10.5m x 30m (315m²)
- 12.5m x 25m (312m²)
- 12.5m x 30m (375m²)

As per Part One, Section 1.3 of this report, various strategic planning documents such as Directions 2013 and the draft South Metropolitan Peel Sub-Regional Planning Framework / draft Perth and Peel@3.5million specify density targets for new residential developments. The table below demonstrates how the LSP addresses those targets:

Strategic Document	Density Target	Density Proposed
Directions 2031	15 dwellings per gross urban hectare	15.2 dwellings per gross urban zoned hectare
Perth and Peel @ 3.5million	26 dwellings per residential site hectare	30.5 dwellings per residential site hectare

It is noted that whilst the former Liveable Neighbourhoods (2009) did provide a residential density target, the draft Liveable Neighbourhoods only reiterates the targets set out under Directions 2031 and Perth and Peel@3.5 million.

Based on an average of 2.8 persons per household, the estimated population of the LSP area is 380 (based on 136 dwellings).

3.4. Movement Networks

A Transport Assessment has been prepared by Transcore in support of this LSP and is contained at Appendix 8.

3.4.1. Road Network

In terms of the existing road network, Bertram Road abuts the LSP area at its eastern boundary; Bertram Road is classified as a 'District Distributor A' road under the Main Roads WA Functional Road Hierarchy document and is currently constructed to dual divided carriageway standard. Tamblyn Place, located to the south-east of the LSP area, is an access road which connects Bertram Road to Johnson Road. The current intersection is in the form of a priority-controlled T-intersection with an auxiliary right turn lane of about 85m on Bertram Road.

The only change to the surrounding road network due to the LSP is the construction of a new left in left out intersection on Bertram Road approximately 200m north of Tamblyn Place. The LSP will also provide for a connection to Tamblyn Place through the adjacent lot (Lot 502).

The proposed road hierarchy for the LSP area (refer to Figure 3) has been based on traffic projections and Liveable Neighbourhoods classifications. The main east-west road which runs to the south of the LSP area along the wetland buffer / POS area and connects the future developments to the west and east side of the LSP area is classified as 'Neighbourhood Connector B' road with a 17m wide reserve, consistent with the road reserve width approved in the adjoining Local Structure Plan for Lot 502. Tamblyn Place is similarly classified as a 'Neighbourhood Connector B' road.

'Access Street D' roads with a 15m wide reserve are proposed to connect the LSP area to Bertram Road and the main east-west Neighbourhood Connector road, providing access to the residential allotments.

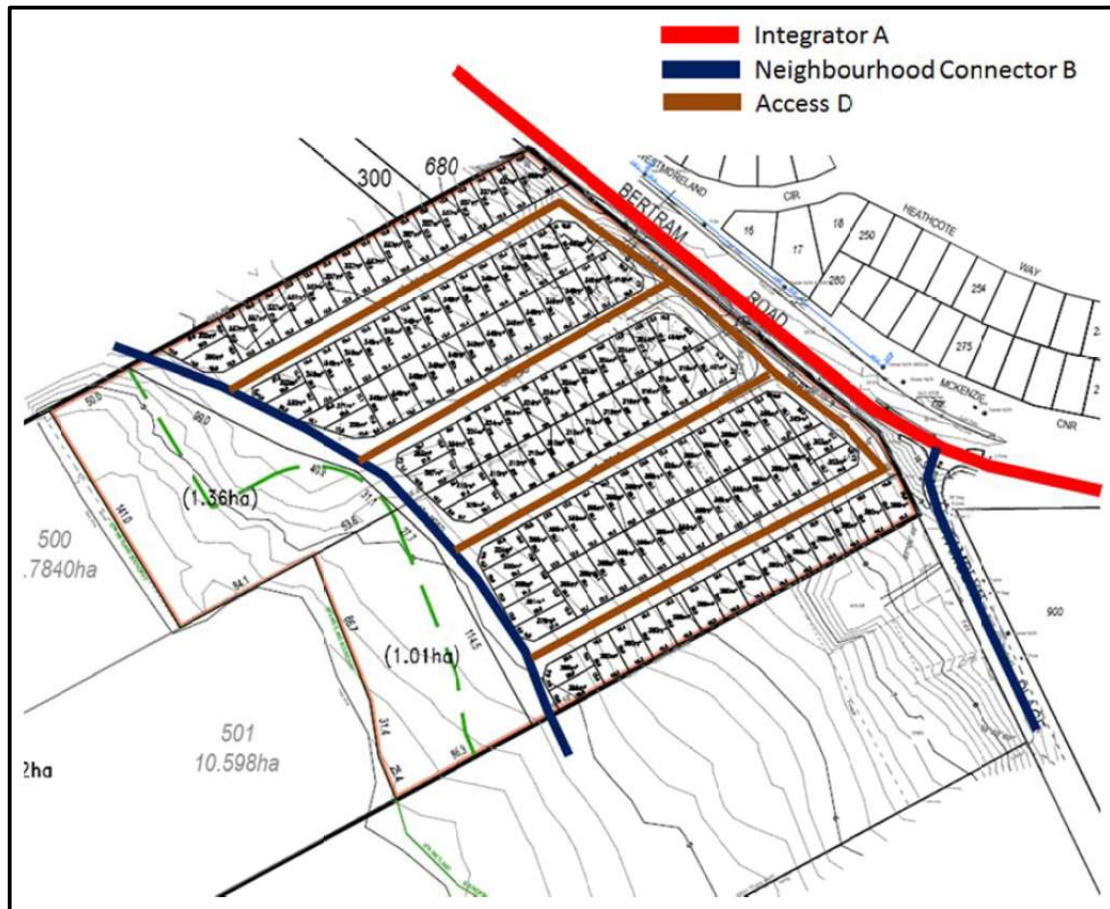


Figure 3: Proposed Road Hierarchy

3.4.2. Public Transport

Bus Route 543 which travels between the Kwinana Bus Station and the Kwinana Train Station currently traverses along Bertram Road, serving the residential developments on both sides of Bertram Road. Bus stops are available on both sides of Bertram Road within walking distance of the LSP area (approximately 150m from the subject land).

3.4.3. Pedestrian and Cyclist Facilities

Shared paths are currently in place along the eastern side of Bertram Road. A small section of shared path is also in place along the western side of Bertram Road (immediately south of Tamblyn Place) which is proposed to be extended further north, fronting the LSP area.

A shared path is depicted along the proposed Neighbourhood Connector B road which will connect with the shared path provided from adjoining Lot 502. The proposed Access Street D roads are also shown to be provided with footpaths providing links to the shared paths to the east and west of the LSP area. The pedestrian and cycle network is shown on Figure 4.

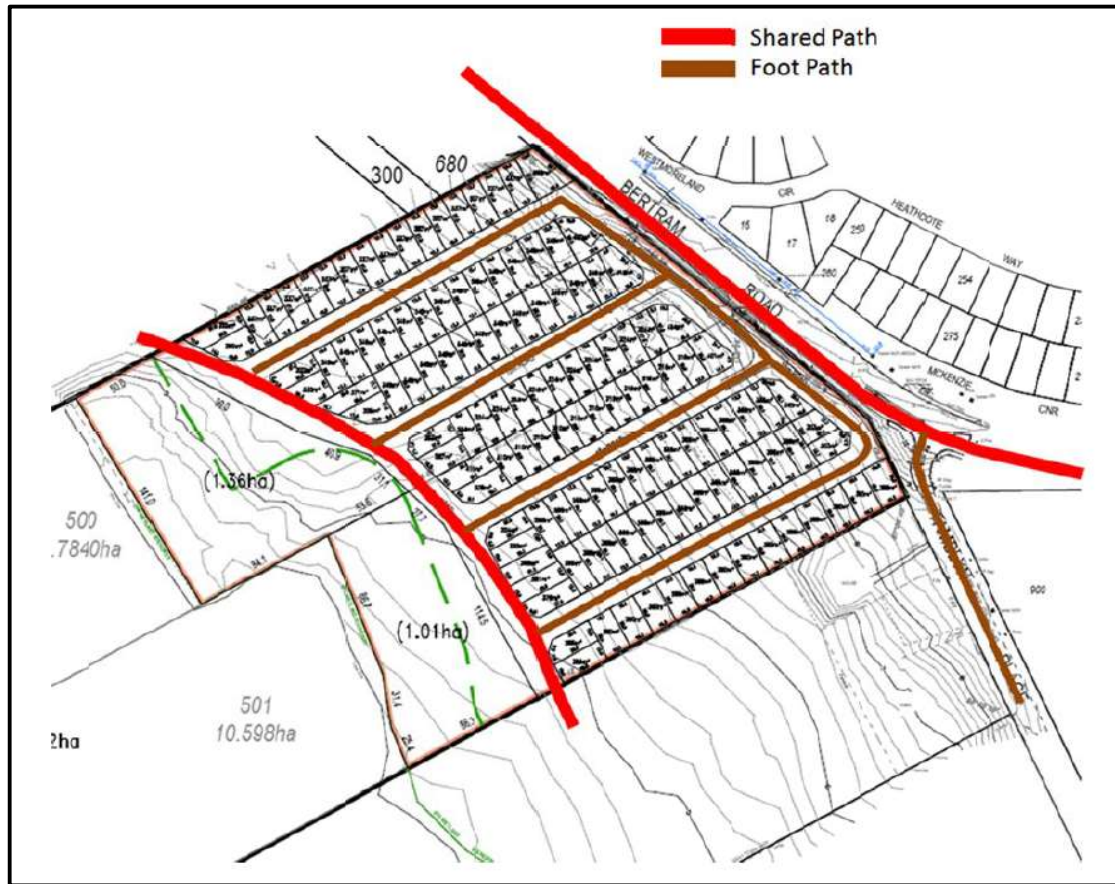


Figure 4: Proposed Pedestrian and Cyclist Network

3.5. Water Management

As previously stated, an LWMS has been prepared by RPS in support of the LSP (refer to Appendix 2). The LWMS has been developed to establish the general design measures for flood mitigation and stormwater management for the LSP area, and will guide the development of an Urban Water Management Plan ('UWMP') which is to be prepared at the subdivision stage.

Specifically, the LWMS outlines strategies and management techniques to address the following:

- Compliance with the design objectives contained within the District Water Management Strategy ('DWMS');
- Water conservation and efficiency of use;
- Stormwater management;
- Specific structural and non-structural controls for water quality treatment;
- Protection and management of the CCW wetland;
- Management of groundwater levels and quality;
- Monitoring requirements; and
- Implementation of the LWMS including roles and responsibilities.

3.6. Education Facilities

The King's College Perth Christian School for Pre-Kindy to Year 12 exists immediately to the north of the LSP area and there is a planned primary school for Johnston Road, approximately 1km from the LSP area, which the Department of Education has indicated will open in 2018.

There are also numerous other schools throughout the surrounding localities of Bertram, Kwinana, Parmelia and Wellard.

3.7. Activity Centres and Employment

The LSP area is located approximately 1km from a planned Local Centre on Johnston Road, adjacent to the proposed primary school site, and is also situated approximately 1km from the existing Bertram Neighbourhood Centre to the north-east of the land. Furthermore, the existing Kwinana City Centre Secondary Centre is located approximately 2.5km north-west of the LSP area.

Numerous other existing and proposed Neighbourhood Centres, Local Centres and Mixed Business/Light Industrial Areas are located within the surrounding locality.

3.8. Infrastructure Coordination, Servicing and Staging

An Engineering Servicing Report has been prepared by McDowall Affleck Pty Ltd and is contained at Appendix 9. This servicing report provides an assessment of the engineering aspects required to enable to the subdivision of the LSP area.

Overleaf is a summary of these findings.

3.8.1. Roads

The subdivision roads within the LSP area are to be constructed in accordance with the City's requirements, including an internal road adjacent to the edge of the wetland buffer / POS area that will connect with the future subdivisions to the north and south.

It is proposed that a left in left out intersection with Bertram Road be provided to access both Lots 500 and 501 at their common boundary.

3.8.2. Paths

It is likely that footpaths will be required along the internal roads through this proposed development to interconnect the area with adjacent and future land developments. Dual Use Paths are proposed along the POS and around BBS as shown within the Landscape Plan prepared by Emerge Associates on behalf of the City.

3.8.3. Stormwater Drainage

The LSP area falls within the Peel Main Drain catchment with site surface water being conveyed to the BBS wetland and Peel Main Drain. The wetland area provides detention storage, essentially slowing the flows before entering the Peel Main Drain.

The POS will be designed to achieve a balance between useable passive and active open space, as well as recognising drainage requirements within the POS reserve. The current stormwater design allows for management of the 15mm rainfall event through bio-filtration swales in the road reserve thereby leaving the POS unencumbered by drainage basins.

Stormwater drainage management strategies will include both design of the drainage system to the specified technical requirements and objectives of the City, as well as the implementation of Water Sensitive Urban Design to contain the 1 in 1 year ARI event.

Any overflow from the 1 in 1 year ARI treatment basins will flow towards the POS and BBS. Pollutant traps will be required at the drainage inlets located prior to discharging into the bio-filtration swale to treat water quality prior to entry into swales, POS and BBS.

The design of the road network will be graded to facilitate the flow path of the major stormwater event of the 100 year ARI into the on-site drainage swale within the road reserve but will overtop into the POS, the wetland buffer, and ultimately the wetland itself. The pipe drainage system shall be designed for the 1 in 5 year ARI. This arrangement is subject to the preparation and approval of an UWMP. Water Sensitive Urban Design opportunities will also be used where possible and will include flush kerbs for the roads abutting bio-filtration swales to allow direct runoff into the swales, thereby minimising the need for a piped drainage system.

Subsoil drains are proposed to be installed in the road network and beneath the drainage swales to assist in infiltrating the increased run-off post-development and to provide the Controlled Groundwater Level ('CGL'). The CGL created by the subsoil drainage design will provide a clearance of 1.2m between groundwater and the finished lot levels. Subsoil pipes will be incorporated within the road reserves and discharge through a free draining outlet located within the western boundary of the POS area.

To minimise runoff from roof and paved areas, the proposed dwellings will need to provide soakwells and the lots proposed should have sufficient area to contain the first 15mm rainfall event.

3.8.4. Wastewater Disposal

The proposed development of the LSP area is reliant on a future wastewater pump station 'M' being constructed within Lot 503 abutting the subject land to the south.

The future Wastewater Pump Station 'M' is indicated on the Water Corporation's capital program as being required beyond 2019. Final timing will be subject among other things on funding availability and certainty on land development rates in its proposed catchment.

Gravity sewerage reticulation will be required to connect proposed lots within the subdivision to the future Wastewater Pump Station. There may also to be some capacity in the existing sewer system for the connection of some lots into the 225 diameter sewer along Bertram Road. However, this will require further detailed assessment by the Water Corporation.

3.8.5. Water Supply

The LSP area is located within the current boundary of the Water Corporation's Water Supply Scheme and overall planning for the scheme has made provision for residential development within the area.

Water supply to the subject and the new lots would most likely be serviced by extension of existing 250mm and 300mm reticulation mains on Johnson Rd.

The LSP area can ultimately be serviced with water reticulation.

3.8.6. Underground Power

The initial stages of the development may be supplied from the existing network adjacent to the LSP area however this will require confirmation from Western Power upon commencement of design for the first stage of works.

There is an existing network running along the northern side of Bertram Road. The development will require a cable from the existing network as well as two transformers and a switchgear unit.

The LSP area can ultimately be serviced with underground power.

3.8.7. Telecommunications

Design for telecommunications to the new National Broadband Network ('NBN') specifications will be required. Independent consultants can design the telecommunications to NBN specifications.

The LSP area will be most likely serviced by NBN Co.

3.8.8. Natural Gas

Currently there are no existing gas mains along Bertram Road adjacent to The parent lots. McDowall Affleck is currently seeking information regarding whether an upgrade of the existing network along Johnson Road is necessary.

3.8.9. Summary

Overall the LSP area has very good road access to existing infrastructure and services, and no significant factors have been identified that would preclude the development of the subdivision.

3.9. Developer Contributions Arrangements

As outlined in Part One, Section 6.1 of this report, the LSP area is contained within the following Development Contribution Areas:

- i) Development Contribution Area No. 1 ('DCA1') – Traditional (hard) infrastructure;
- ii) Development Contribution Area No. 7 ('DCA7') – Traditional (hard) infrastructure; and
- iii) Development Contribution Area No. 12 ('DCA12') – Community (soft) infrastructure.

To provide the City and land developers with greater guidance on the administration of Developer Contributions Plans, a Draft Development Contributions Policy has been prepared. The policy has been advertised and the City is currently considering all submissions.

DCA1 is still to be finalised under Amendment No. 132 to TPS2 which proposes to expand the current area of Development Contribution Plan No. 1 ('DCP1') to include the new urban areas around Bollard Bulrush. Amendment No. 132 has been advertised and is currently awaiting final approval by the Minister for Planning.

Similarly, DCA7 is subject to Amendment 100A which has been advertised and is currently awaiting final approval by the Minister for Planning, which is understood to be imminent.

The City has also recently revised its Community Infrastructure Plan 2011-203 and subsequently has prepared Amendment No. 145 to TPS2 to align Development Control Plan No. 12 ('DCP12'), amongst others, with the revised requirements. Both the revised Community Infrastructure Plan 2011-2031 and Amendment No. 145 have been advertised for public comment and the public submissions are currently being reviewed.

A per lot contribution will be paid by the developer for each DCP prior to seeking subdivision clearances.

Appendix 1: Certificates of Title

Appendix 2: Local Water Management Strategy

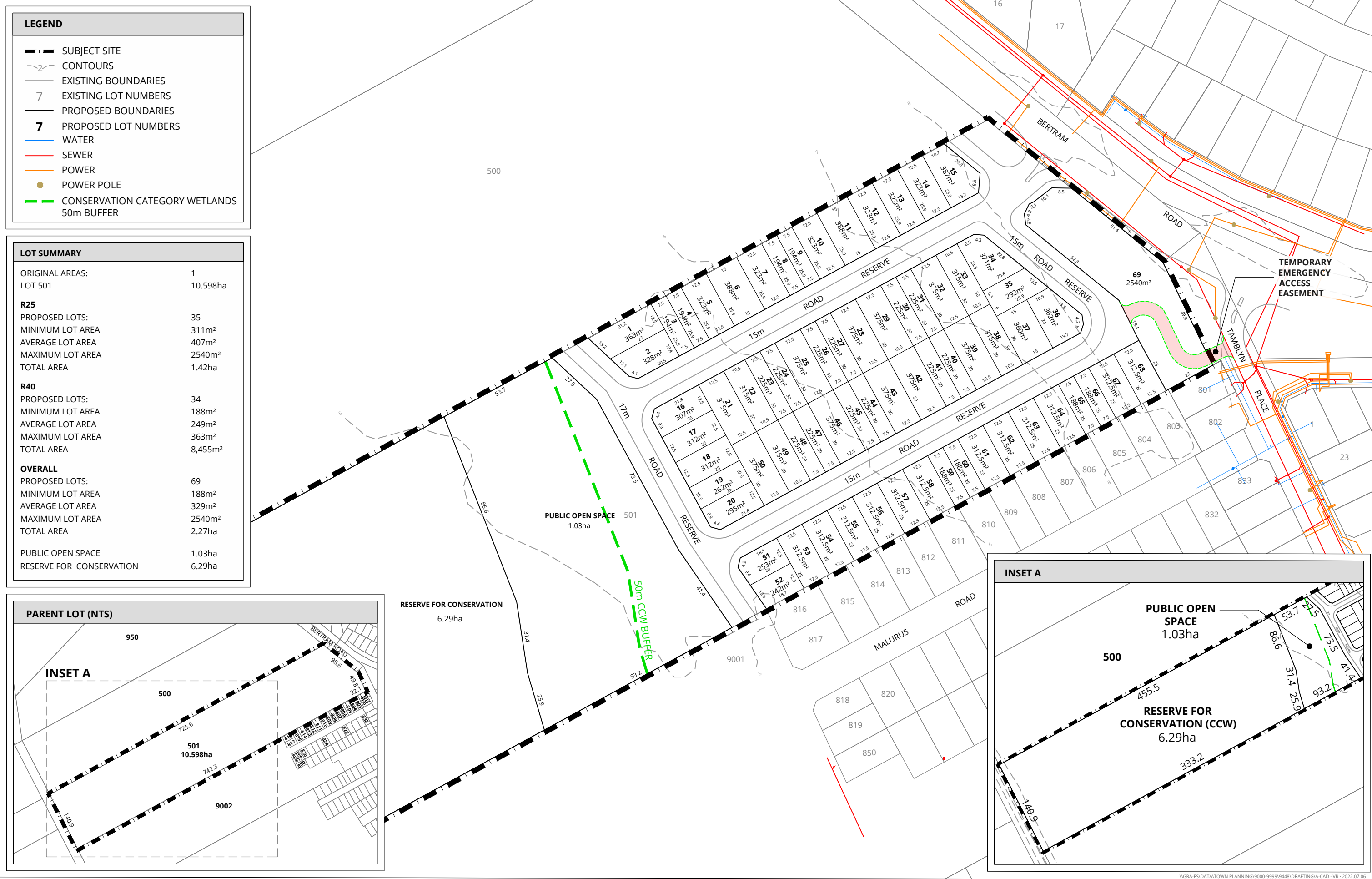
Appendix 3: Bushfire Management Plan

Appendix 4: Local Landscape and Tree Retention Strategy

Appendix 5: Landscape Strategy

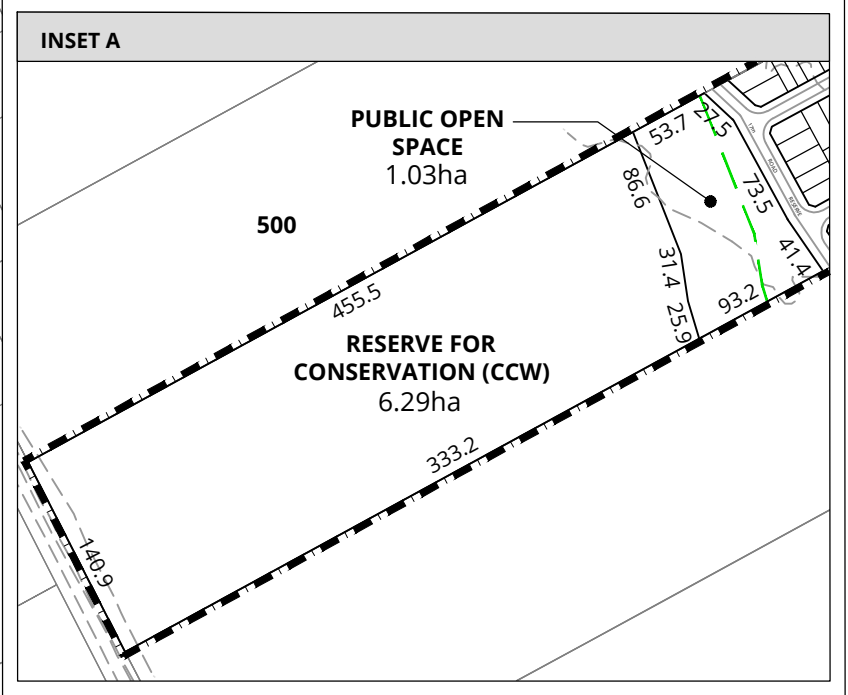
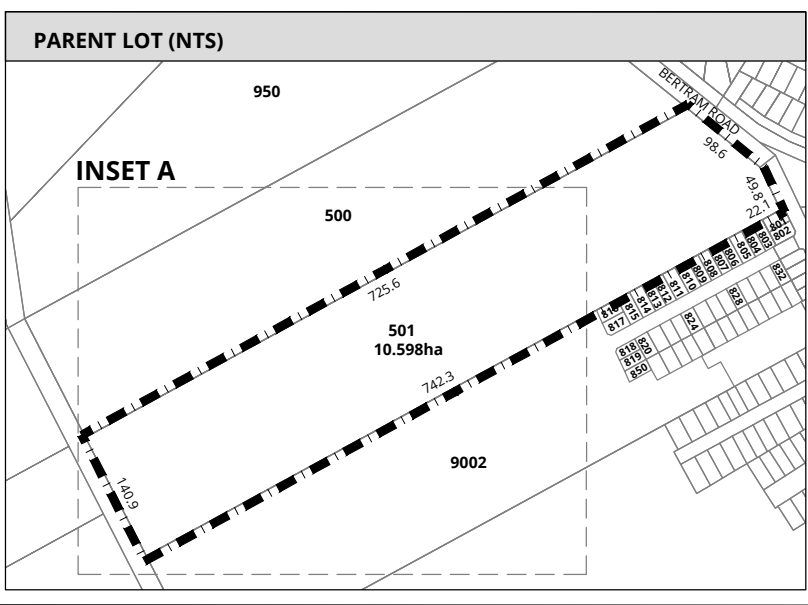
Appendix 6: Environmental Assessment Report

Appendix 7: Subdivision Concept Plan



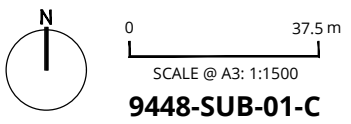
LEGEND	
	SUBJECT SITE
	CONTOURS
	EXISTING BOUNDARIES
	EXISTING LOT NUMBERS
	PROPOSED BOUNDARIES
	PROPOSED LOT NUMBERS
	WATER
	SEWER
	POWER
	POWER POLE
	CONSERVATION CATEGORY WETLANDS 50m BUFFER

LOT SUMMARY	
ORIGINAL AREAS:	1
LOT 501	10.598ha
R25	
PROPOSED LOTS:	35
MINIMUM LOT AREA	311m ²
AVERAGE LOT AREA	407m ²
MAXIMUM LOT AREA	2540m ²
TOTAL AREA	1.42ha
R40	
PROPOSED LOTS:	34
MINIMUM LOT AREA	188m ²
AVERAGE LOT AREA	249m ²
MAXIMUM LOT AREA	363m ²
TOTAL AREA	8,455m ²
OVERALL	
PROPOSED LOTS:	69
MINIMUM LOT AREA	188m ²
AVERAGE LOT AREA	329m ²
MAXIMUM LOT AREA	2540m ²
TOTAL AREA	2.27ha
PUBLIC OPEN SPACE	1.03ha
RESERVE FOR CONSERVATION	6.29ha



PLAN OF SUBDIVISION

LOT 501 (NO.214) BERTRAM ROAD
WELLARD



DRAWN: VR
DATE CREATED: 2022.07.06
PROJECTION: MGA50 GD94
CADASTRE: LANDGATE



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Appendix 8: Transport Assessment

Appendix 9: Engineering Servicing Report