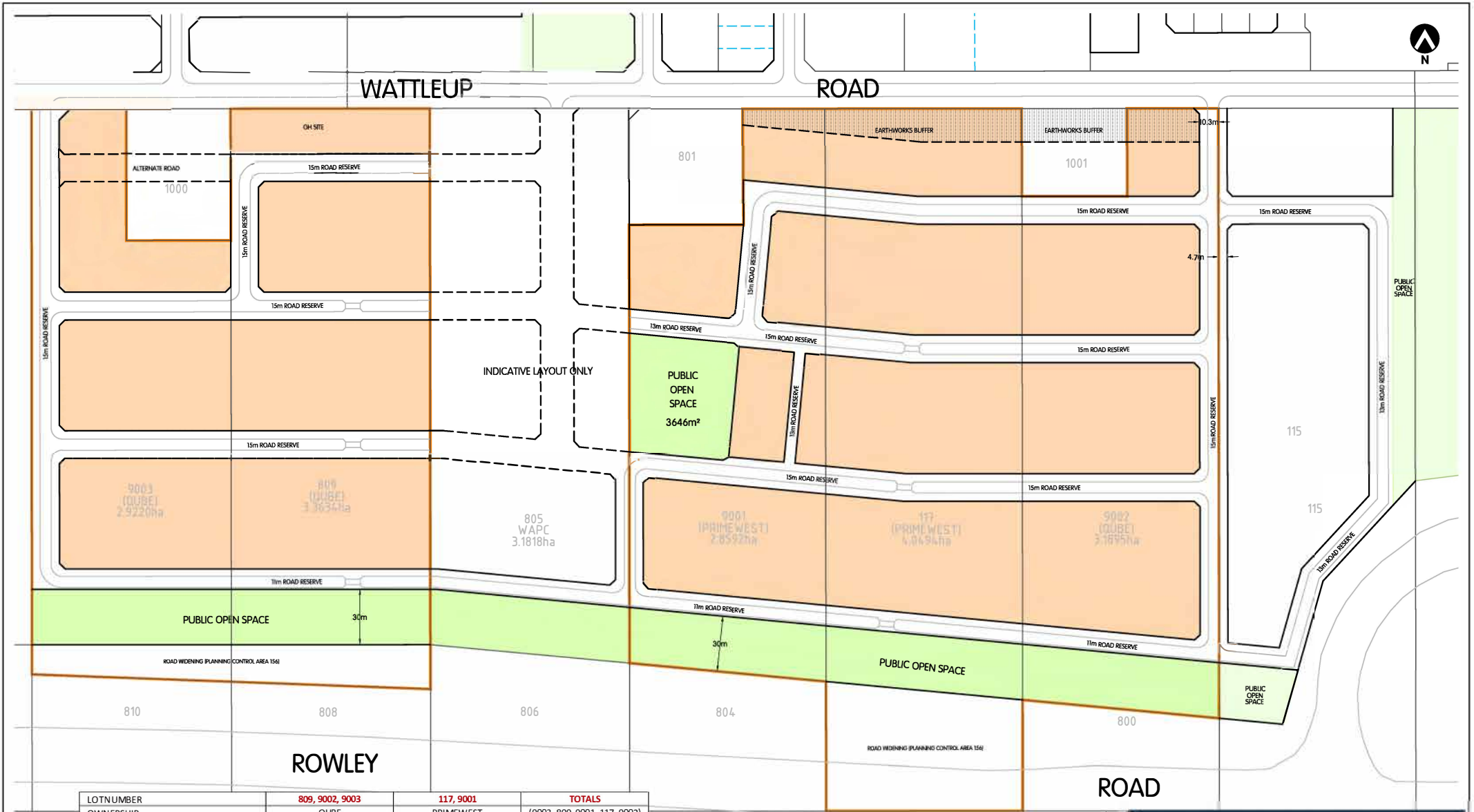


Appendix A

Ministerial and EPBC Approval (Hatch, 2022)



LOTNUMBER	809, 9002, 9003		117, 9001		TOTALS	
OWNERSHIP	QUBE		PRIMEWEST		(9003, 809, 9001, 117, 9002)	
EXISTING LOT AREA (HA)	9.4749		6.9086		16.3835	
LESS PLANNING CONTROL AREA 156	0.4311		0.6917		1.1228	
GROSS DEVELOPABLE AREA (HA)	9.0438		6.2169		15.2607	
BREAKDOWN						
DEVELOPABLE AREA	5.7533	63.6%	3.9547	63.6%	9.708	63.6%
POS	0.9684	10.7%	1.006	16.2%	1.9744	12.9%
ROADS	2.3221	25.7%	1.2562	20.2%	3.5783	23.4%
	9.0438	100.0%	6.2169	100.0%	15.2607	100.0%

DEPARTMENT OF PLANNING, LANDS AND HERITAGE

DATE06-Apr-2021FILE148010 & 147987



CADASTRAL INFORMATION
SOURCE: LANDGATE
YYMMDD: 201125
DWG REF: 201125-cad.DWG
PROJECTION: PCG94



AERIAL PHOTOGRAPHY
SOURCE: NA
YYMMDD: NA

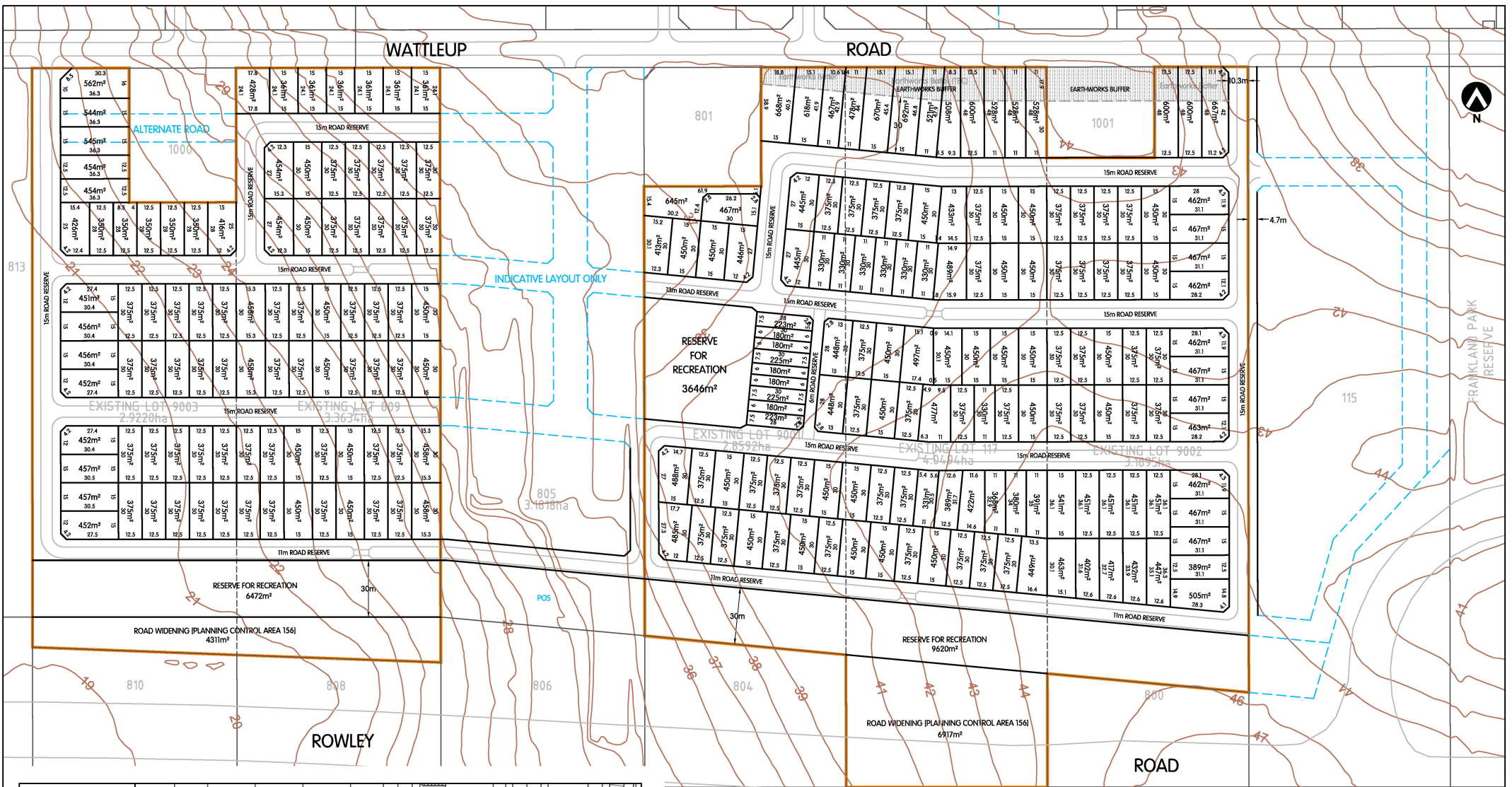


J	REVISE POS DESIGN	210331	SB	DW
REV	CALCULATIONS TABLE DESCRIPTION	210323	TT	DW
		YYMMDD	DRAWN	APPRD

MODIFIED PLAN OF SUBDIVISION
Wattleup Road - Hammond Park
City of Cockburn

JOB CODE	DRAW NO.	REV.
QUB WAT	RD1 008	J

DISCLAIMER: ISSUED FOR DESIGN INTENT ONLY. ALL AREAS AND DIMENSIONS ARE SUBJECT TO DETAIL DESIGN AND SURVEY





Notification of approval

Residential Development of Lot 809 Wattleup Road, Hammond Park, WA (EPBC 2021/8933)

This decision is made under section 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). Note that section 134(1A) of the EPBC Act applies to this approval. That provision provides, in general terms, that if the approval holder authorises another person to undertake any part of the Action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such conditions.

Proposed Action

Person to whom the approval is granted (approval holder)	QUBE Wattleup Development Pty Ltd
ACN of approval holder	117 433 084
Action	To clear vegetation and construct a residential development on Lot 809 Wattleup Road, Hammond Park, WA [See EPBC Act referral 2021/8933]

Approval Decision

Decision	My decision on whether or not to approve the taking of the Action for the purposes of the controlling provision for the Action is as follows.
-----------------	---

Controlling Provision	Decision
------------------------------	-----------------

Listed threatened species and communities (section 18 and section 18A)	Approve
--	---------

Period for which the approval has effect	This approval has effect until 25 August 2027
---	---

Conditions of approval	The approval is subject to conditions under the EPBC Act as set out in Annexure A.
-------------------------------	--

Person authorised to make decision

Name and Position	Kylie Calhoun Assistant Secretary Environment Assessments West (WA, SA, NT) Branch
--------------------------	--

Signature	
------------------	--

Date of decision	13 September 2022
-------------------------	-------------------

ANNEXURE A

Note: Words appearing in **bold** have the meaning assigned to them at PART C – DEFINITIONS.

PART A – CONDITIONS SPECIFIC TO THE ACTION

1. To avoid and mitigate impacts to **protected matters** the approval holder must not:
 - a. **Clear** outside of the **project area**
 - b. **Clear** more than 3.03 ha of **Banksia TEC**
 - c. **Clear** more than 2.55 ha of **foraging habitat** for **black cockatoos**

PART B – ADMINISTRATIVE CONDITIONS

NOTIFICATION OF DATE OF COMMENCEMENT OF THE ACTION

2. The approval holder must notify the **department** electronically of the date of **commencement of the Action**, within **5 business days of commencement of the Action**.
3. If the **commencement of the Action** does not occur within 5 years from the date of this approval, then the approval holder must not **commence the Action** without the prior written agreement of the **Minister**.

COMPLIANCE RECORDS

4. The approval holder must maintain accurate and complete **compliance records**.
5. If the **department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **department** within the timeframe specified in the request.

Note: **Compliance records** may be subject to audit by the **department**, or by an independent auditor in accordance with section 458 of the **EPBC Act**, and/or be used to verify compliance with the conditions. Summaries of the results of an audit may be published on the **department's** website or through the general media.

6. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the **department's Guidelines for biological survey and mapped data** (2018), or any subsequent official version or as otherwise specified by the **Minister** in writing.
7. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the **department's Guide to providing maps and boundary data for EPBC Act projects** (2021), or any subsequent official version or as otherwise specified by the **Minister** in writing.
8. The approval holder must submit all **monitoring data** (including **sensitive ecological data**), surveys, maps, other spatial and metadata and all species occurrence record data (sightings and evidence of presence) electronically to the **department** within 12 months of the approval.

ANNUAL COMPLIANCE REPORTING

9. The approval holder must prepare a **compliance report** for each 12-month period following the date of this approval, or as otherwise agreed to in writing by the **Minister**.
10. Each **compliance report** must be consistent with the **department's Annual Compliance Report Guidelines** (2014), or any subsequent official version.
11. Each **compliance report** must include:

- a. Accurate and complete details of compliance and any non-compliance with the conditions and the **plans**, and any **incidents**.
- b. One or more **shapefile** showing all **clearing** of any **protected matters**, and/or their habitat, undertaken within the 12-month period at the end of which that **compliance report** is prepared.
- c. A schedule of all **plans** in existence in relation to these conditions and accurate and complete details of how each plan is being implemented.

12. The approval holder must:

- a. Publish each **compliance report** on the **website** within 60 **business days** following the end of the 12-month period for which that **compliance report** is required.
- b. Notify the **department** electronically, within 5 **business days** of the date of publication that a **compliance report** has been published on the **website**.
- c. Provide the weblink for the **compliance report** in the notification to the department.
- d. Keep all published **compliance reports** required by these conditions on the **website** until the expiry date of this approval.
- e. Exclude or redact **sensitive ecological data** from **compliance reports** published on the **website** or otherwise provided to a member of the public.
- f. If **sensitive ecological data** is excluded or redacted from the published version, submit the full **compliance report** to the **department** within 5 **business days** of its publication on the **website** and notify the **department** in writing what exclusions and redactions have been made in the version published on the website.

Note: Compliance reports may be published on the **department's** website.

REPORTING NON-COMPLIANCE

13. The approval holder must notify the **department** electronically, within 2 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a **plan**.

14. The approval holder must specify in the notification:

- a. Any condition or commitment made in a **plan** which has been or may have been breached.
- b. A short description of the **incident** and/or potential non-compliance and/or actual non-compliance.
- c. The location (including co-ordinates), date, and time of the **incident** and/or potential non-compliance and/or actual non-compliance.

Note: If the exact information cannot be provided, the approval holder must provide the best information available.

15. The approval holder must provide to the **department** in writing, within 12 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance, the details of that **incident** and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a **plan**. The approval holder must specify:

- a. Any corrective action or investigation which the approval holder has already taken
- b. The potential impacts of the **incident** and/or non-compliance and/or non-compliance
- c. The method and timing of any corrective action that will be undertaken by the approval holder.

INDEPENDENT AUDIT

16. The approval holder must ensure that an **independent audit** of compliance with the conditions is conducted for every five-year period following the **commencement of the Action** until this approval expires, unless otherwise specified in writing by the **Minister**.
17. For each **independent audit**, the approval holder must:
 - a. Provide the name and qualifications of the nominated **independent** auditor, the draft audit criteria, and proposed timeframe for submitting the **audit report** to the **department** prior to commencing the **independent audit**.
 - b. Only commence the **independent audit** once the nominated **independent** auditor, audit criteria and timeframe for submitting the **audit report** have been approved in writing by the **department**.
 - c. Submit the **audit report** to the **department** for approval within the timeframe specified and approved in writing by the **department**.
 - d. Publish each **audit report** on the **website** within 15 **business days** of the date of the **department's** approval of the **audit report**.
 - e. Keep every **audit report** published on the **website** until this approval expires.
18. Each **audit report** must report for the five-year period preceding that audit report.
19. Each **audit report** must be completed to the satisfaction of the **Minister** and be consistent with the **department's** *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines* (2019), or any subsequent official version.

COMPLETION OF THE ACTION

20. The approval holder must notify the **department** electronically 60 **business days** prior to the expiry date of this approval, that the approval is due to expire.
21. Within 20 **business days** after the **completion of the Action**, and, in any event, before this approval expires, the approval holder must notify the **department** electronically of the date of **completion of the Action** and provide **completion data**.

PART C - DEFINITIONS

In these conditions any bolded use of a word or term refers to the below definition of that word or term:

Audit report means a written report of compliance and fulfilment of the conditions attached to this approval, objectively evaluated against the audit criteria approved by the **department**.

Banksia TEC means the **EPBC Act** listed threatened ecological community (TEC) Banksia Woodlands of the Swan Coastal Plain ecological community.

Black cockatoos means the **EPBC Act** listed threatened species Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*), Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) and Baudin's Black Cockatoo (*Calyptorhynchus baudinii*).

Business day means a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the Action.

Clear, cleared or clearing means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting, or burning of vegetation, but does not include control of specified weeds (see the *Australian weeds strategy 2017 to 2027*, Commonwealth of Australia 2017 for further guidance).

Commence the Action or Commencement of the Action means the date on which the first instance of any activity associated with the Action (including **clearing** and **construction**) is undertaken. **Commencement of the Action** does not include minor physical disturbance necessary to:

- a. Undertake pre-clearance surveys or monitoring programs.
- b. Install signage and /or temporary fencing to prevent unapproved use of the project area.
- c. Protect environmental and property assets from fire, weeds, and feral animals, including use of existing surface access tracks.
- d. Install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on any **protected matter**.

Completion data means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The **department's** chosen format for spatial data is a **shapefile**.

Completion of the Action means the date on which all activities associated with this approval have permanently ceased and/or been completed.

Compliance records means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession, or that are within the approval holder's power to obtain lawfully.

Compliance report means a written report of compliance with, and fulfilment of, the conditions attached to the approval.

Construction means the erection of a building or structure that is, or is to be, fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; any work which involves breaking of the ground (including pile driving) or bulk earthworks; the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding the installation of temporary fences and signage.

Department means the Australian Government agency responsible for administering the **EPBC Act**.

EPBC Act means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Foraging Habitat means habitat that provides food sources for a species.

Incident means any event which has the potential to, or does, impact on any **protected matter**.

Independent means a person or firm who does not have any individual, financial*, employment* or family affiliation or any conflicting interests with the project, the approval holder or the approval holder's staff, representatives or associated persons.

*Other than for the purpose of undertaking the role for which an independent person is required

Independent audit means an audit conducted by an **independent** and **suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines* (2019), or any subsequent official version.

Minister means the Australian Government Minister administering the **EPBC Act**, including any delegate thereof.

Monitoring data means the data required to be recorded under the conditions of this approval.

Plan means any action management plan or strategy that the approval holder is required by these conditions to implement.

Project Area means the location of the action, represented in Attachment A by the area enclosed by the red line labelled 'EPBC 2021/8933 boundary'.

Protected matter means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.

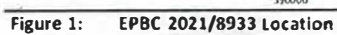
Sensitive ecological data means data as defined in the Australian Government Department of the Environment *Sensitive Ecological Data – Access and Management Policy V1.0* (2016), or any subsequent official version.

Shapefile(s) means location and attribute information about the Action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.

Suitably qualified expert (for the purpose of undertaking environmental surveys) means a person who has relevant professional qualifications and at least 3 years of work experience designing and implementing surveys for listed threatened species and communities and can give an authoritative assessment and advice on the presence of listed threatened species and communities using relevant protocols, standards, methods and/or literature.

Website means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

Attachment A – Site Map



Project: Preliminary Documentation Report
EPBC 2021/8933

Client: Qube Wattleup Road Development Company Pty Ltd

Plan Number: EP20-151(04)-F24
Drawn: GAR
Date: 18/11/2021
Checked: PPS
Approved: JDH
Date: 04/12/2021



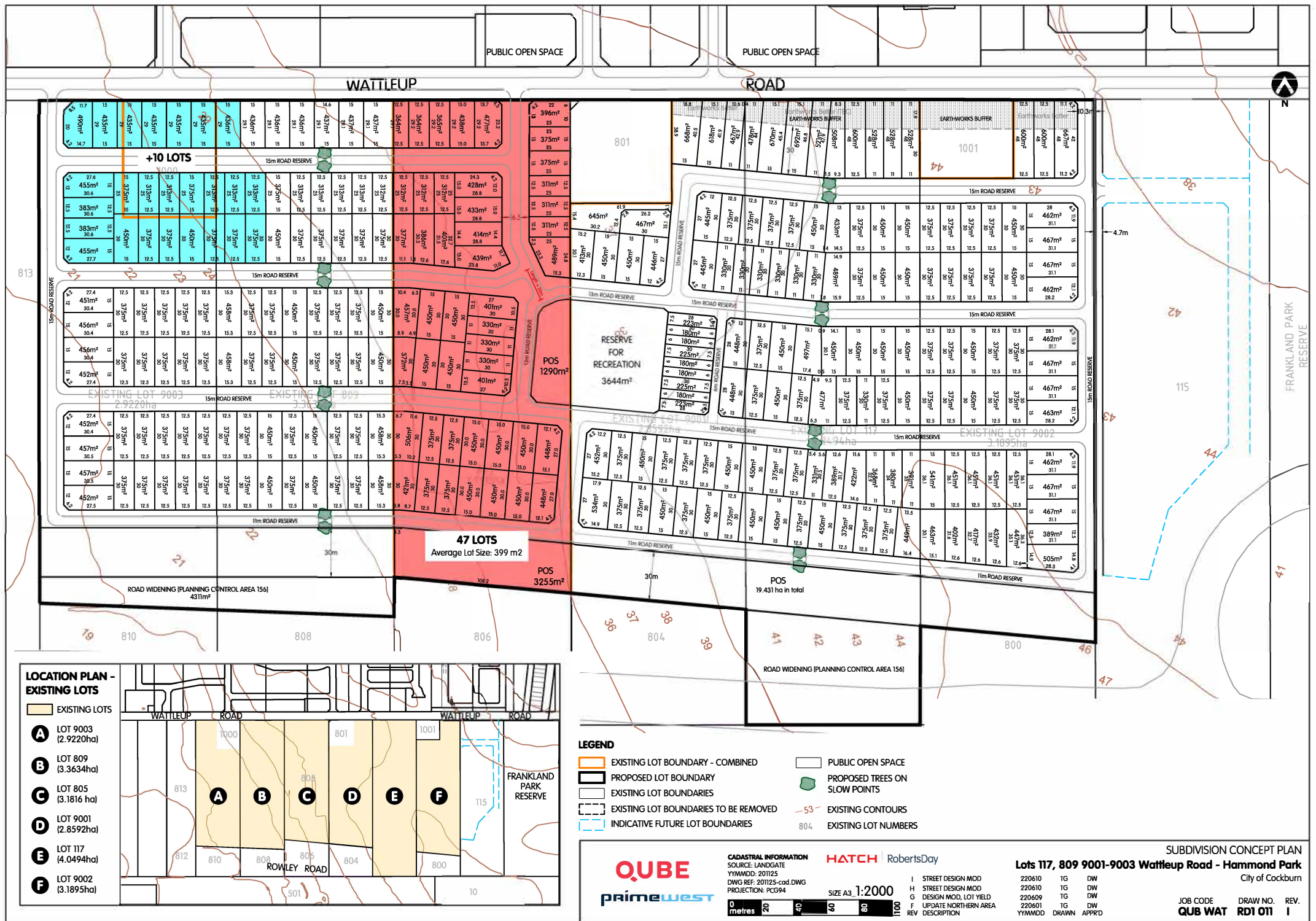
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Metres
Scale: 1:2,500@A4
GDA 1994 MGA Zone 50



While Image Associates makes every attempt to ensure the accuracy and completeness of data, Image accepts no responsibility for externally sourced data used and/or data (2020). Hearst Imagery date: 2/10/2021

Appendix B

Subdivision Concept Plan (Hatch, 2022)



Appendix C

Landscape Concepts (Plan E, 2022)



LEGEND

-  PROPOSED TREES.
-  PROPOSED FEATURE TREES.
-  RETAINED TREES FOR PROTECTION (SUBJECT TO ARBORIST REPORT AND SURVEY)
-  01 ENTRY WITH LARGE DECIDUOUS FEATURE TREES.
-  02 CONCRETE FOOTPATH.
-  03 FEATURE PAVING TO STREET INTERSECTIONS TO SLOW TRAFFIC AND ENHANCE CONNECTION TO POS.
-  04 FEATURE DECIDUOUS TREES TO SLOW POINTS.
-  05 SCREEN PLANTING WITH TREES.

HAMMOND SOUTH

PREPARED FOR QUBE MANDOGALUP PTY LTD AND PRIMWEST

LANDSCAPE MASTERPLAN

AUGUST 2022

JOB NO. 2102804

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M1.101

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REV F

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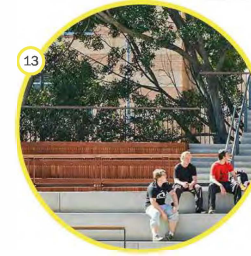
LANDSCAPE ARCHITECTS

414 ROKEBY RD SUBIACO WA 6008
T: (08) 9388 9566 E: mail@plane.com.au



LEGEND

- PROPOSED TREE PLANTING
- PROPOSED FEATURE TREES.
- RETAINED TREES FOR PROTECTION (SUBJECT TO ARBORIST REPORT AND SURVEY)
- CONCRETE FOOTPATH
- PLANTED BIORETENTION BASIN WITH WINTER WET NATIVE TREES AND PLANT SPECIES. 1:1 ARI, BASE AREA: 740 M2, VOLUME: 376 M3
- PLANTED DETENTION BASIN - 1:100 ARI, BASE AREA: 1640 M2, VOLUME: 2157 M3
- PASSIVE TURF AREA
- KICKABOUT TURF AREA
- INFORMAL PLAYGROUND EQUIPMENT IN MULCH
- SHELTER WITH TABLE SEATINGS & BBQ.
- NATIVE PLANTING WITH GROVES OF TREES
- ALL-AGES FITNESS EQUIPMENT NODE
- ACTIVE ZONE WITH HIT UP WALL, BASKETBALL HOOP, SOCCER AND COLOURED LINEMARKING
- SEATING NODE
- REFLECTIVE NODE - TERRACED TIMBER SEATING.
- TERRACED SEATING WITH CLIMBING OPPORTUNITIES
- SMALL PLAY EQUIPMENT NODE WITH MULCH SOFTFALL
- EARTHWORKS BATTER
- 3M MAINTENANCE ACCESS (OFF SITE)
- OVERFLOW SPILLWAY FROM 1:1 TO 1:100 BASIN



HAMMOND SOUTH

PREPARED FOR QUBE MANDOGALUP PTY LTD AND PRIMEWEST

LINEAR POS
AUGUST 2022

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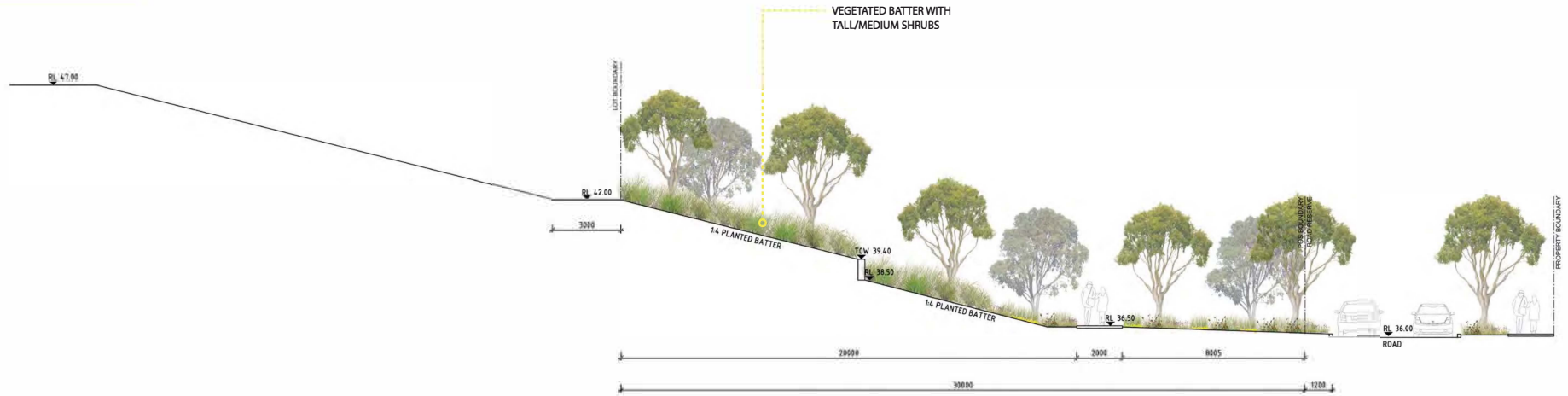
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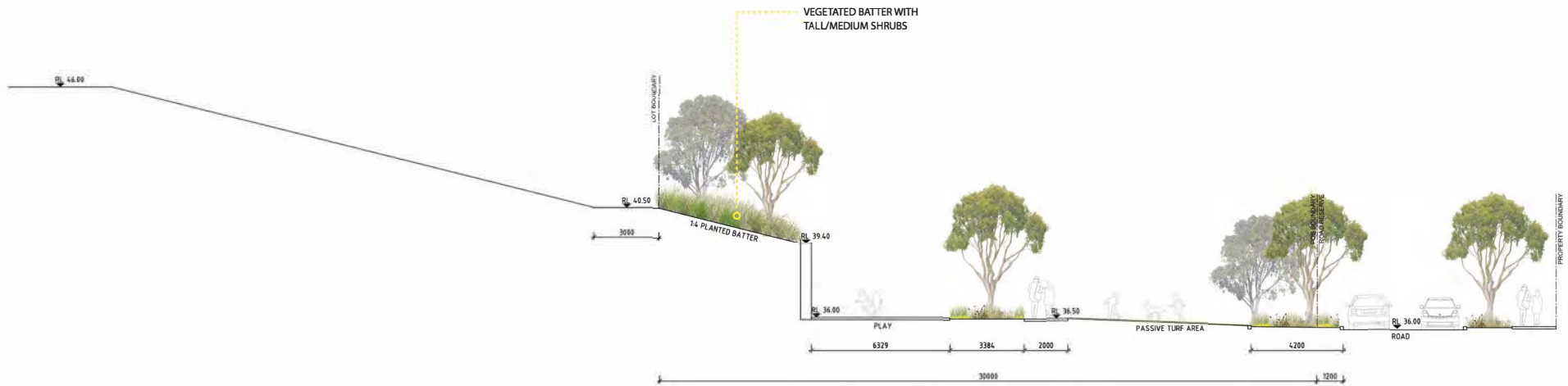
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SECTION A



SECTION B



HAMMOND SOUTH
PREPARED FOR QUBE MANDOGALUP PTY LTD AND PRIMEWEST

LINEAR POS - SECTIONS
AUGUST 2022

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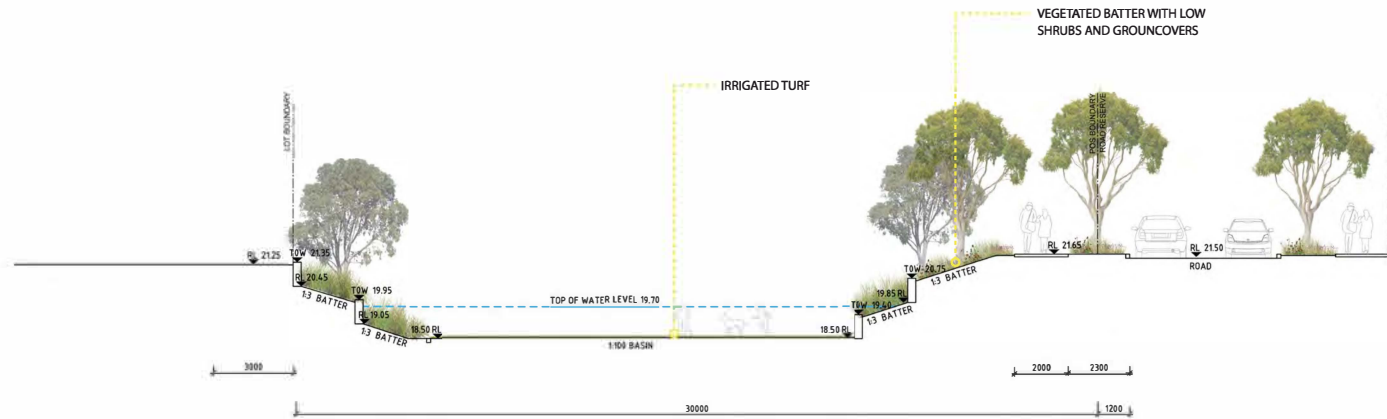
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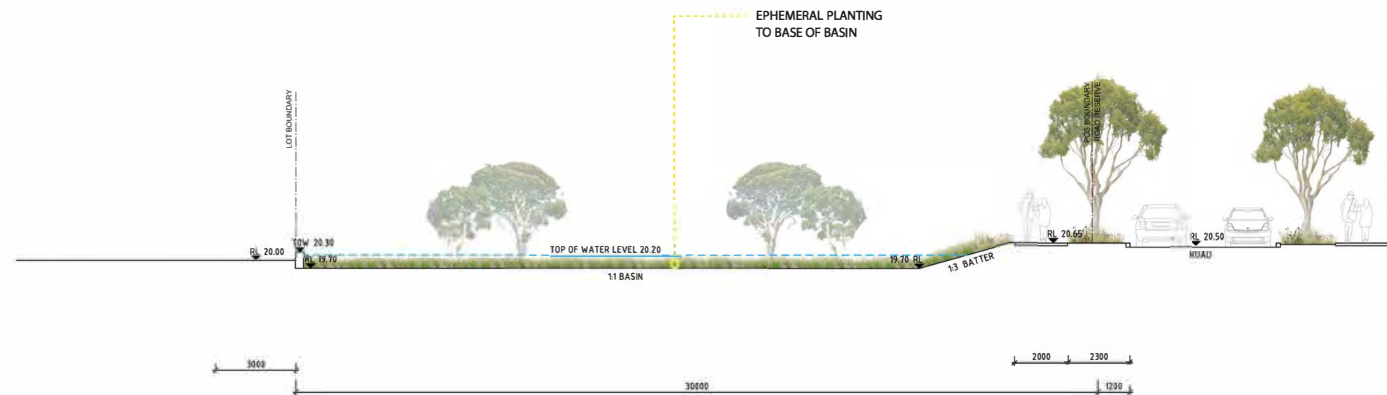


LANDSCAPE ARCHITECTS
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SECTION C



SECTION D



HAMMOND SOUTH

PREPARED FOR QUBE MANDOGALUP PTY LTD AND PRIMEWEST

LINEAR POS - SECTIONS
AUGUST 2022

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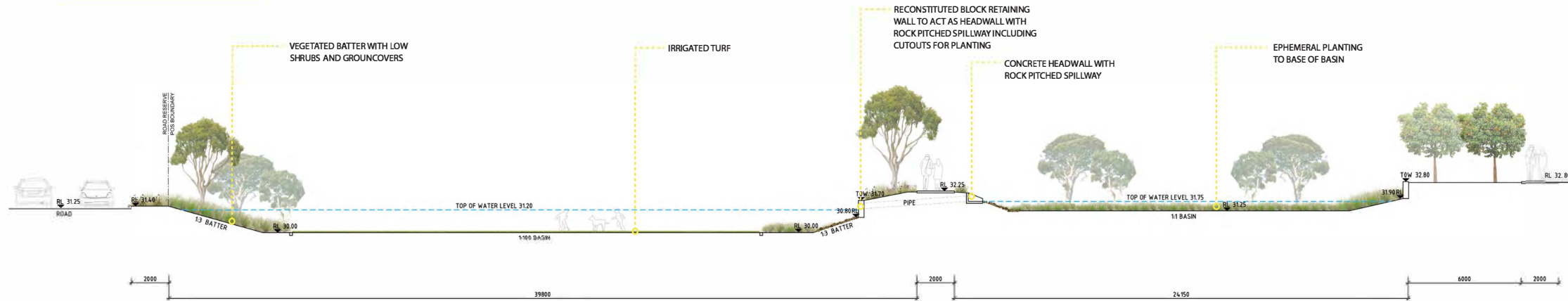
LANDSCAPE ARCHITECTS

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T: (08) 9388 9566 E: mail@plane.com.au

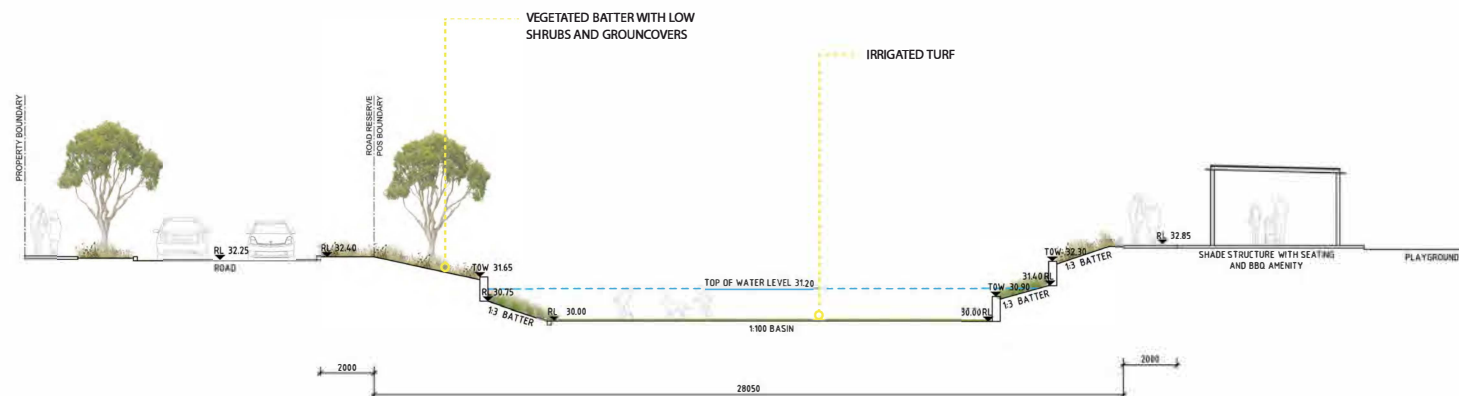


- LEGEND**
- PROPOSED TREE PLANTING.
 - 01 FEATURE TREE PLANTING / VISUAL GREEN CONNECTION FROM ENTRY ROAD
 - 02 OPPORTUNITY FOR ENTRY / WAYFINDING ARTWORK
 - 03 TURF KICKABOUT AREA
 - 04 MOUNDED TURF
 - 05 SHADE STRUCTURE WITH SEATING, BBQ AND AMENITY
 - 06 PLAYGROUND EQUIPMENT IN SAND PIT
 - 07 TIERED RETAINING WALLS WITH PLANTING
 - 08 1:100 ARI DETENTION BASIN
 - 09 PLANTED 1:1 ARI BIORETENTION BASIN WITH WINTER-WET NATIVE TREES AND PLANT SPECIES.
 - 10 CULVERT AND HEADWALL TO CONNECT 1:1 AND 1:100 BASINS
 - 11 COMMUNITY ORCHARD
 - 12 CONCRETE FOOTPATH
 - 13 FEATURE CONCRETE PAVING
 - 14 PATH CONNECTION TO ADJACENT LOTS
 - 15 TREES AND PLANTING TO INTERFACE WITH OVERWATCH PRODUCT
 - 16 POS PARKING BAYS

SECTION E



SECTION F



CENTRAL POS



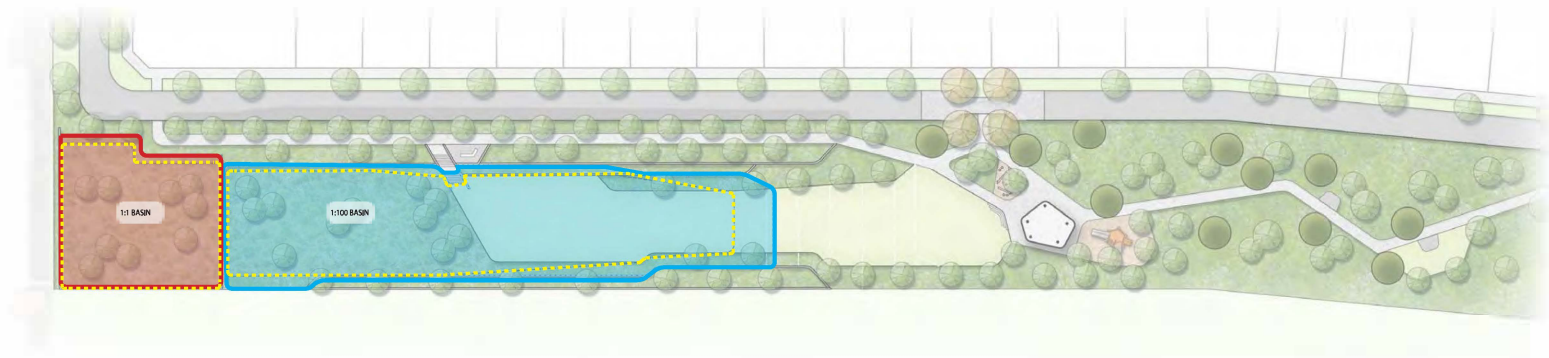
POS CALCULATIONS

POS	TOTAL AREA (ha)	1:1 BASE AREA (ha)	1:100 BASE AREA (ha)	RESTRICTED 1:1 YEAR EVENT (ha)	RESTRICTED 1:100 YEAR EVENT (ha)	BATTERED AREA WITH SLOPE GREATER THAN 1:6 (ha)	USEABLE TURF AREA (HA) INCLUSIVE OF 1:6
Central POS	0.4935 (ex. Verge)	0.0315	0.0734	0.0422	0.1165	0.0714	0.1738
Linear POS	1.9347 (ex. Verge)	0.0740	0.1640	0.0791	0.2050	0.4630	0.2580

LEGEND

- BASIN BOUNDARY AREA
- RESTRICTED 1:1 YEAR EVENT
- RESTRICTED 1:100 YEAR EVENT

LINEAR POS



Appendix D

PC Sump Results



Environmental and Water Resource Software

Project Number / Name:

Wattleup Rd

Project Description:

Catchment A Small Storm

Model Selection:

Deep Water Table Model

Results:

Design Storms				Maximum (Mean of Temporal Patterns)					
Storm	Duration [hrs]	Rainfall Depth [mm]	EY/AEP [%]	Depth [m]	Level [mAHD]	Clearance to Allowable TWL [m]	Volume [m ³]	Area [m ²]	Temporal Pattern No.
1	30 min	15.5	50%	0.5	20.00	0.00	383	980	8
Critical 1	30 min	15.5	50%	0.5	20.00	0.00	383	980	8

Notes:

Temporal pattern matching closest to mean water level

If Water Level is coloured **Red**, Maximum Capacity of the Basin has been Exceeded



Environmental and Water Resource Software

Project Number / Name:

Wattleup Rd

Project Description:

Catchment A 20% AEP

Model Selection:

Deep Water Table Model

Results:

Design Storms				Maximum (Mean of Temporal Patterns)					
Storm	Duration [hrs]	Rainfall Depth [mm]	EY/AEP [%]	Depth [m]	Level [mAHD]	Clearance to Allowable TWL [m]	Volume [m³]	Area [m²]	Temporal Pattern No.
1	30 min	20.1	20%	0.42	19.22	0.78	524	1,534	7
2	1 hour	25.8	20%	0.49	19.29	0.71	630	1,628	2
3	2 hour	32.9	20%	0.5	19.30	0.70	645	1,642	4
4	3 hour	38.1	20%	0.46	19.26	0.74	582	1,585	1
5	6 hour	48.8	20%	0.4	19.20	0.80	491	1,504	3
6	9 hour	56.1	20%	0.27	19.07	0.93	312	1,328	3
7	12 hour	61.7	20%	0.19	18.99	1.01	209	1,220	10
8	24 hour	75.9	20%	0.19	18.99	1.01	212	1,224	6
9	48 hour	90.5	20%	0	18.80	1.20	-	970	10
10	72 hour	100.0	20%	0	18.80	1.20	-	970	1
11	96 hour	109.0	20%	0	18.80	1.20	-	970	1
12	120 hour	118.0	20%	0	18.80	1.20	-	970	1
13	144 hour	127.0	20%	0	18.80	1.20	-	970	1
14	168 hour	137.0	20%	0	18.80	1.20	-	970	1
3	2 hour	32.9	20%	0.5	19.30	0.70	645	1,642	4

Notes:

Temporal pattern matching closest to mean water level
 If Water Level is coloured **Red**, Maximum Capacity of the Basin has been Exceeded



Environmental and Water Resource Software

Project Number / Name:

Wattleup Rd

Project Description:

Catchment A 1% AEP

Model Selection:

Deep Water Table Model

Results:

Design Storms				Maximum (Mean of Temporal Patterns)					
Storm	Duration [hrs]	Rainfall Depth [mm]	EY/AEP [%]	Depth [m]	Level [mAHD]	Clearance to Allowable TWL [m]	Volume [m³]	Area [m²]	Temporal Pattern No.
1	30 min	34.5	1%	1.02	19.82	0.18	1,707	2,428	8
2	1 hour	44.4	1%	1.12	19.92	0.08	1,968	2,593	7
3	2 hour	57.9	1%	1.2	20.00	0.00	2,157	2,709	2
4	3 hour	68.3	1%	1.09	19.89	0.11	1,876	2,536	1
5	6 hour	90.8	1%	0.94	19.74	0.26	1,514	2,299	3
6	9 hour	106.0	1%	0.88	19.68	0.32	1,388	2,214	2
7	12 hour	117.0	1%	0.64	19.44	0.56	896	1,849	5
8	24 hour	142.0	1%	0.48	19.28	0.72	616	1,616	1
9	48 hour	158.0	1%	0.17	18.97	1.03	189	1,198	5
10	72 hour	167.0	1%	0.07	18.87	1.13	67	1,056	3
11	96 hour	175.0	1%	0	18.80	1.20	-	970	10
12	120 hour	185.0	1%	0	18.80	1.20	-	970	10
13	144 hour	198.0	1%	0.45	19.25	0.75	572	1,576	9
14	168 hour	213.0	1%	0.02	18.82	1.18	18	993	7
3	2 hour	57.9	1%	1.2	20.00	0.00	2,157	2,709	2

Notes:

Temporal pattern matching closest to mean water level

If Water Level is coloured Red, Maximum Capacity of the Basin has been Exceeded



Environmental and Water Resource Software

Project Number / Name:

Wattleup Rd

Project Description:

Catchment B Small Storm

Model Selection:

Deep Water Table Model

Results:

Design Storms				Maximum (Mean of Temporal Patterns)					
Storm	Duration [hrs]	Rainfall Depth [mm]	EY/AEP [%]	Depth [m]	Level [mAHD]	Clearance to Allowable TWL [m]	Volume [m ³]	Area [m ²]	Temporal Pattern No.
1	30 min	15.5	50%	0.5	31.00	0.00	163	447	1
Critical 1	30 min	15.5	50%	0.5	31.00	0.00	163	447	1

Notes:

Temporal pattern matching closest to mean water level

If Water Level is coloured **Red**, Maximum Capacity of the Basin has been Exceeded



Project Number / Name:

Wattleup Rd

Project Description:

Catchment B 20% AEP

Model Selection:

Deep Water Table Model

Results:

Design Storms				Maximum (Mean of Temporal Patterns)					
Storm	Duration [hrs]	Rainfall Depth [mm]	EY/AEP [%]	Depth [m]	Level [mAHD]	Clearance to Allowable TWL [m]	Volume [m ³]	Area [m ²]	Temporal Pattern No.
1	30 min	20.1	20%	0.38	30.18	0.82	263	852	7
2	1 hour	25.8	20%	0.46	30.26	0.74	333	921	2
3	2 hour	32.9	20%	0.51	30.31	0.69	379	966	4
4	3 hour	38.1	20%	0.45	30.25	0.75	329	918	1
5	6 hour	48.8	20%	0.4	30.20	0.80	282	872	3
6	9 hour	56.1	20%	0.26	30.06	0.94	170	752	6
7	12 hour	61.7	20%	0.17	29.97	1.03	105	677	9
8	24 hour	75.9	20%	0.18	29.98	1.02	107	679	6
9	48 hour	90.5	20%	0	29.80	1.20	-	540	10
10	72 hour	100.0	20%	0	29.80	1.20	-	540	1
11	96 hour	109.0	20%	0	29.80	1.20	-	540	1
12	120 hour	118.0	20%	0	29.80	1.20	-	540	1
13	144 hour	127.0	20%	0	29.80	1.20	-	540	1
14	168 hour	137.0	20%	0	29.80	1.20	-	540	1
3	2 hour	32.9	20%	0.51	30.31	0.69	379	966	4

Notes:

Temporal pattern matching closest to mean water level
 If Water Level is coloured **Red**, Maximum Capacity of the Basin has been Exceeded



Project Number / Name:

Wattleup Rd

Project Description:

Catchment B 1% AEP

Model Selection:

Deep Water Table Model

Results:

Design Storms				Maximum (Mean of Temporal Patterns)					
Storm	Duration [hrs]	Rainfall Depth [mm]	EY/AEP [%]	Depth [m]	Level [mAHD]	Clearance to Allowable TWL [m]	Volume [m³]	Area [m²]	Temporal Pattern No.
1	30 min	34.5	1%	1	30.80	0.20	971	1,452	8
2	1 hour	44.4	1%	1.11	30.91	0.09	1,131	1,565	7
3	2 hour	57.9	1%	1.18	30.98	0.02	1,245	1,642	2
4	3 hour	68.3	1%	1.07	30.87	0.13	1,070	1,522	1
5	6 hour	90.8	1%	0.93	30.73	0.27	867	1,373	3
6	9 hour	106.0	1%	0.86	30.66	0.34	778	1,305	2
7	12 hour	117.0	1%	0.62	30.42	0.58	498	1,075	5
8	24 hour	142.0	1%	0.47	30.27	0.73	346	935	1
9	48 hour	158.0	1%	0.14	29.94	1.06	82	649	5
10	72 hour	167.0	1%	0.02	29.82	1.18	8	551	3
11	96 hour	175.0	1%	0	29.80	1.20	-	540	10
12	120 hour	185.0	1%	0	29.80	1.20	-	540	10
13	144 hour	198.0	1%	0.43	30.23	0.77	306	895	9
14	168 hour	213.0	1%	0	29.80	1.20	-	540	10
3	2 hour	57.9	1%	1.18	30.98	0.02	1,245	1,642	2

Notes:

Temporal pattern matching closest to mean water level
 If Water Level is coloured **Red**, Maximum Capacity of the Basin has been Exceeded