

Open Space and Recreation Analysis

SITE ONE - LAKE MUNMORAH

site: Site 1 - Lake Munmorah Local Area
client: ADW Johnson
council: Central Coast Council
by: KH
date: 21.8.18
project no: 11788.5
revision: B



table of contents

SITE ONE - LAKE MUNMORAH

B

Table of Contents

01	INTRODUCTION	03
02	LOCATION	03
03	PHYSICAL DESCRIPTION	03
04	NORTH WYONG SHIRE STRUCTURE PLAN	04
05	BIODIVERSITY	05
06	ACCESSIBILITY	05
07	PROPOSED MASTER PLAN	05
08	DEMOGRAPHICS	08
09	OPENSOURCE AND	09
10	FUTURE DEMAND/PROVISION	11
11	OPENSOURCE AND RECREATION FACILITIES	11
12	DEMAND	11
13	DESIGN CRITERIA	12
14	OPENSOURCE RELEVANT TO REZONING	12
15	PROPOSED OPENSOURCE AND RECREATION AREAS	13
16	AQUISITION	13
17	REFERENCES	13

site details:
pacific highway,
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client:
DARKING JUNG LOCAL
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by:
KH
date:
20.8.18
job number:
11788.5
scale:
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revision:
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SITE ONE - LAKE MUNMORAH

01 INTRODUCTION

This open space and Recreation Report has been prepared by Terras Landscape Architects on behalf of the Darkinjung Local Aboriginal Land Council. This report is to support a Planning Proposal to amend the Wyong Local Environmental Plan 2013 (LEP 2013) to rezone Lot 642 DP 102731 (405-415 Pacific Highway), Lot 100 DP 1044282 (425 Pacific Highway) and Lot 644 DP 1027231 (2 Kanangra Drive) to enable low density residential development.

The following report will review existing studies undertaken in the area to identify existing and proposed recreation spaces available, review the demographics of the area and identify open space required to support the proposed rezoning.

02 LOCATION

The site is located between the suburbs of Chain Valley Bay (north), Lake Munmorah (west) and Crangan Bay (east). Lake Macquarie is located to the north of the site with Lake Munmorah to the south. The site sits to the north of the Pacific Highway and straddles Chain Valley Bay Road. Munmorah State Conservation Area lies to the south east of the site.



FIGURE 1: Locality Plan
(Source: Google Maps, 2018)

The site contains approximately 164 Hectares of land currently zoned E2 Environmental Conservation and E3-Environmental Management with 58 Hectares proposed for rezoning.

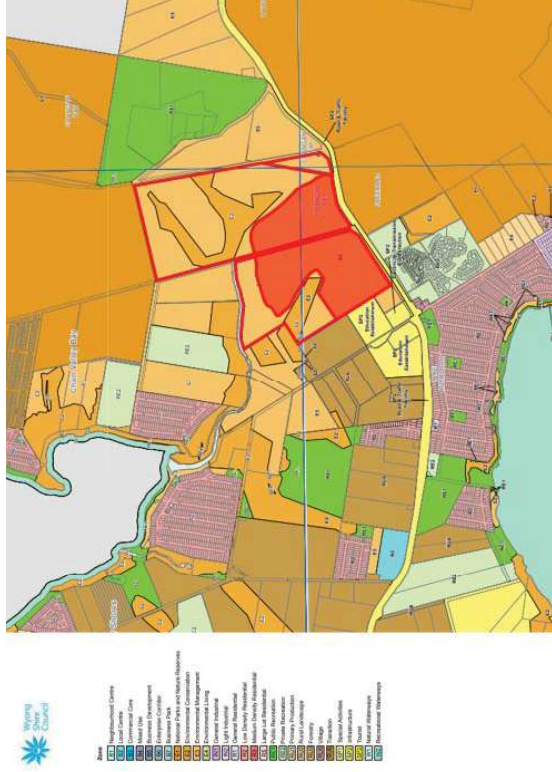


FIGURE 2: Wyong LEP zoning map

03 PHYSICAL DESCRIPTION

The site generally consists of scrubby, slightly disturbed land adjacent to the Pacific Highway and is surrounded by similar land to the north and east. The residential development of Lake Munmorah lies to the southwest of the site across the Pacific Highway and Lake Munmorah High school and Public School to the west of the site.

The study area slopes north west down towards Lake Macquarie. The eastern side of the study area is approximately 50m above sea level, sloping down to the western side to less than 10m above sea level

site details:
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lake munmorah

client:
DARKINJUNG LOCAL
ABORIGINAL LAND COUNCIL

by:
KH

date:
20.8.18

job number:
11788.5

scale:
NTS @ A3

revision:
B

SITE ONE - LAKE MUNMORAH 04 NORTH WYONG SHIRE STRUCTURE PLAN

The site and surrounding area has been identified within the North Wyong Shire Structure Plan (2012) as being part of a green corridor and habitat network. The Structure Plan identifies the opportunity to provide a system of green corridors and habitat networks including prospects for low impact and passive recreation activities including pedestrian and cycle paths which link to nearby urban development. The planning objectives behind the green corridor which are of significance to this report are:

- To ensure connectivity for organisms at a landscape and regional scale
- To improve the visual amenity of the region and provide an attractive landscape setting for future development
- To provide opportunities for public and private conservation
- To provide for a range of land uses where appropriate that do not adversely affect the overall function of the corridor including dwellings, passive recreation and infrastructure
- To improve the health and well being of the population



FIGURE 3: Aerial - with contours
(Source: Google Maps, 2018)



FIGURE 4: Vegetation existing on the site

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DARKING JUNG LOCAL
ABORIGINAL LAND COUNCIL
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20.8.18
job number:
11788.5
scale:
NTS @ A3
revision:
B

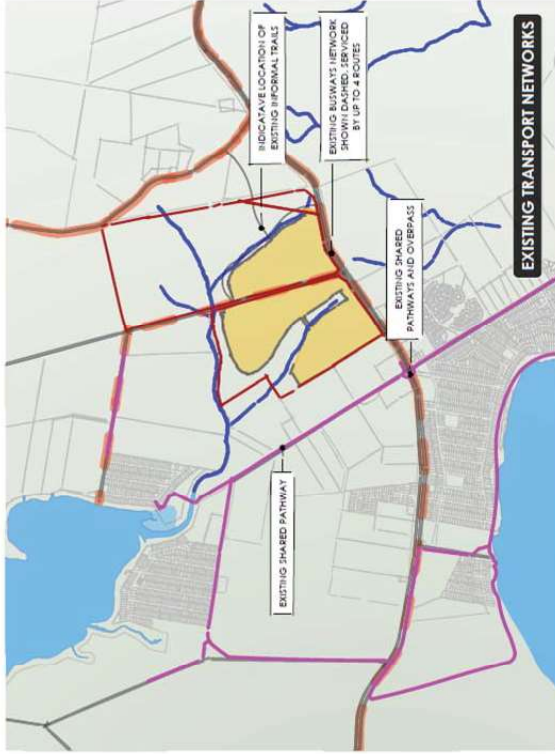


FIGURE 7: Existing transport networks

07 PROPOSED MASTER PLAN

The proposal is to rezone 3 lots occupying approximately 164ha currently zoned E2 - Environmental Conservation and E3 - Environmental Management to a proposed zoning of R2 - Low Density Residential and E2 - Environmental Conservation. The rezoning is proposed to enable development of parts of the site for low density residential purposes. The intended outcome of the rezoning of the site is to enable future low density residential development with an estimated potential yield of 549 lots.

The proposal to retain the remainder of the site as E2 - Environmental Conservation is of significance to this report as this will ensure a significant portion of vegetation surrounding the site will be retained and protected.

site details:
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DARKINGJUNG LOCAL
ABORIGINAL LAND COUNCIL
by:
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20.8.18
job number:
11788.5
scale:
NTS @ A3
revision:
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SITE ONE - LAKE MUNMORAH

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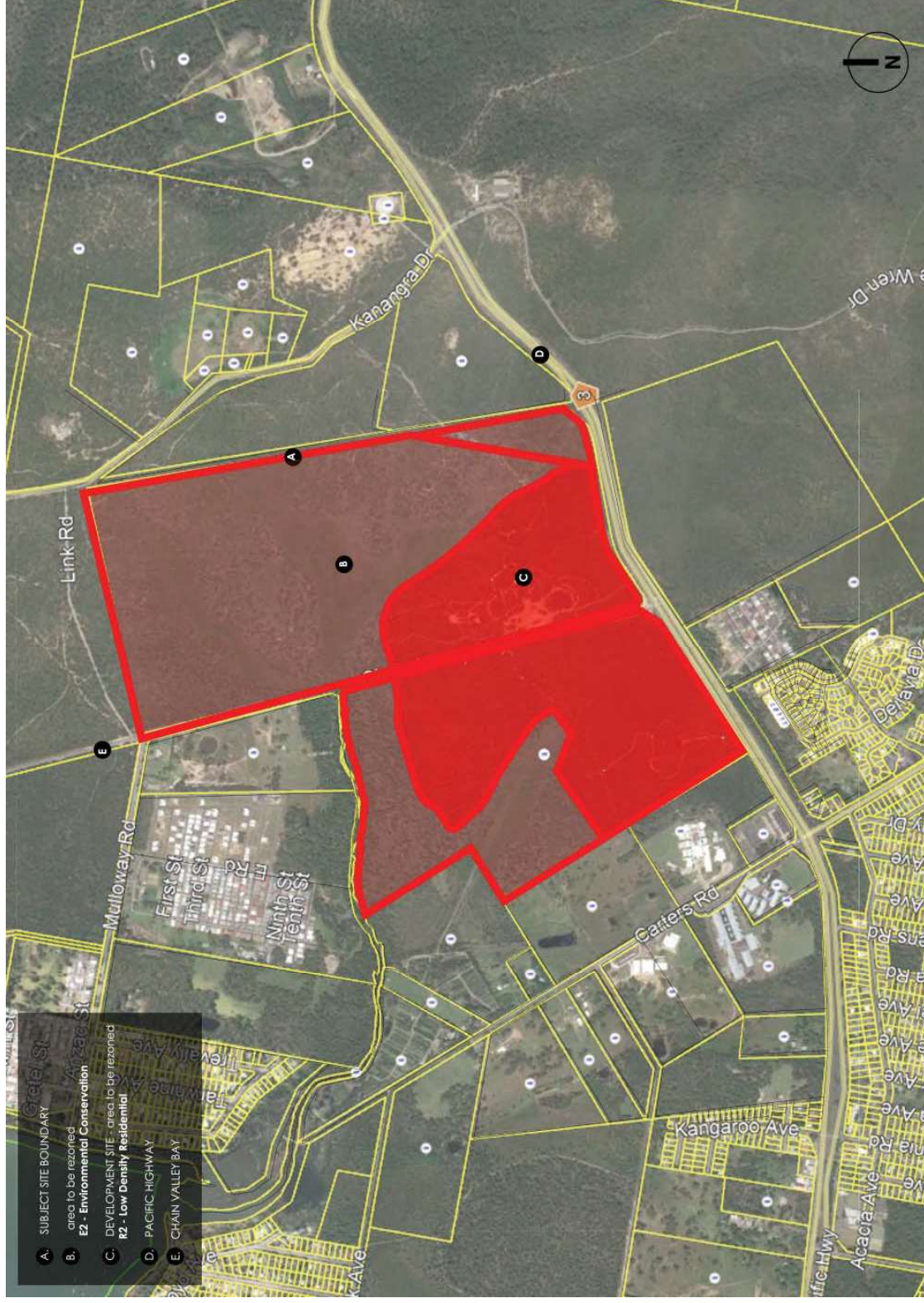


FIGURE 8: The Proposal

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DARKING JUNG LOCAL
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date:
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job number:
11788.5

scale:
NTS @ A3

revision:
B

08 DEMOGRAPHICS

The site lies within the Northern Districts catchment identified within the Northern Districts Development Contribution Plan 2013. It is forecast that a further 3,017 lots will be developed within the catchment area. The projected population increase for the catchment area is anticipated to be 9,935. This is based on an occupancy rate of 2.92 persons per dwelling unit (DU).

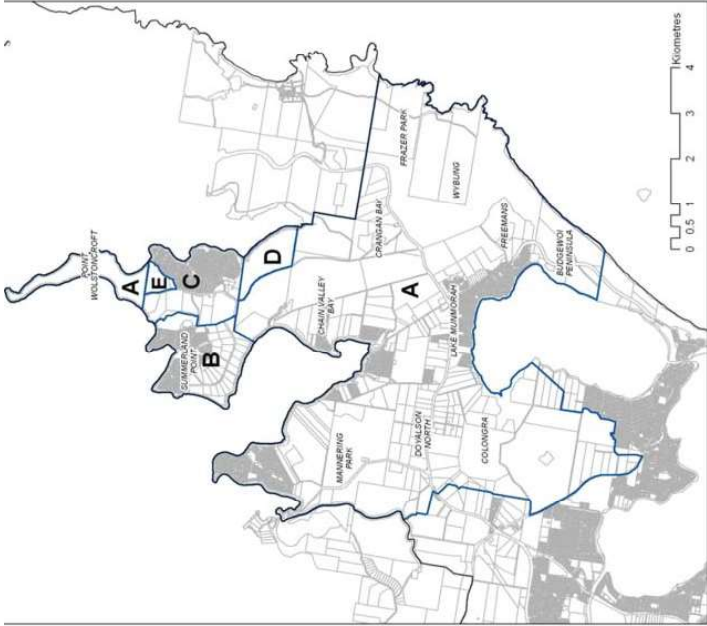
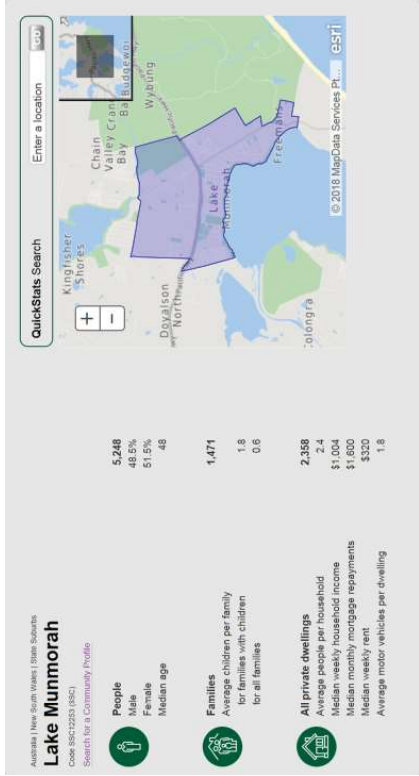


FIGURE 8: Northern Districts Catchment area (A)

The site lies partly within the Lake Munmorah State Suburb(SSC). The existing population profile of Lake Munmorah is detailed within Figure 9 below.

SITE ONE - LAKE MUNMORAH



Age	Lake Munmorah	%	New South Wales	%	Australia	%
Median age	48	38	38	38	38	38
0-4 years	208	5.1	465,135	6.2	1,464,779	6.3
5-9 years	294	6.0	478,184	6.4	1,502,846	6.4
10-14 years	282	5.4	443,009	5.9	1,397,183	6.0
15-19 years	268	5.7	448,425	6.0	1,421,895	6.1
20-24 years	295	5.6	458,673	6.5	1,566,793	6.7
25-29 years	255	4.9	427,161	7.0	1,604,802	7.1
30-34 years	234	4.6	406,390	7.2	1,703,817	7.3
35-39 years	214	4.3	385,619	7.7	1,874,479	7.8
40-44 years	202	4.1	364,848	8.0	1,963,253	8.1
45-49 years	191	3.6	343,077	8.3	2,052,027	8.3
50-54 years	180	3.4	321,306	8.6	2,140,801	8.5
55-59 years	169	3.2	299,535	8.9	2,229,575	8.6
60-64 years	158	3.0	277,764	9.2	2,318,349	8.7
65-69 years	147	2.8	255,993	9.5	2,407,123	8.8
70-74 years	136	2.6	234,222	9.8	2,495,897	8.9
75-79 years	125	2.4	212,451	10.1	2,584,671	9.0
80-84 years	114	2.2	190,680	10.4	2,673,445	9.1
85 years and over	103	2.0	168,909	10.7	2,762,219	9.2

The median age of people in Lake Munmorah (State Suburb) was 48 years. Children aged 0 - 14 years made up 15.1% of the population and people aged 65 years and over made up 27.9% of the population.

View the data quality statement for Age (AGEP)

FIGURE 9: Lake Munmorah SSC - Census 2016

The median age of people in Lake Munmorah (SSC) was 48 years old. People aged 65 years and over made up 27.9% of the population in comparison to the state average of 16.2% suggesting a high number of retirees. These statistics indicate an older population in the area. The median age is significantly higher than for the broader population and there are larger proportions of families comprising couples with no children. This is consistent with the two retirement villages in the immediate vicinity of the site and the Pacific Lakes community on Elizabeth Bay Drive, Lake Munmorah.

Of occupied private dwellings in Lake Munmorah (SSC) 98.3% were separate houses in comparison to 66.4% the state average.

The average household size for Lake Munmorah SSC is 2.4. The Northern Lakes is 2.92. The adjacent Warnervale-Wadai SA2 may be considered more indicative of the likely household composition of the proposed site once developed. The average number of people per household for this area is 2.9.

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ABORIGINAL LAND COUNCIL
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scale:
NTS @ A3
revision:
B



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SITE ONE - LAKE MUNMORAH

B

09 EXISTING OPEN SPACE AND RECREATION FACILITIES

The existing population has access to the following broad range of open space and recreational facilities within 5km of the Site.

LOCAL PARKS/PLAYGROUND	SEMI NATURAL	FIELDS	COURTS
Colongra Bay Reserve	Lake Munmorah SCA	Ledgeham Oval	Lake Munmorah tennis/netball skate park
Lake MacQuarie Playground	Lake Macquarie SCA	Gumbyan Oval	
Sunset Parade Playground	Colongra swamp NR		
Chain Valley Bay Playground			
Kingfisher reserve playground			
Kingfisher Reserve			
Mcculloch Reserve			
Lake Munmorah Reserve			
Joshua Point Reserve			
Patrick Kelly Park			
Tom Burke Reserve			
Joey Reserve			
Colongra Bay Reserve			

The below shows how the site fits within the context of the above. It is clear from this map that future residents will have excellent access to existing local and regional open space and recreation services which is largely due to the existence of the State Conservation Areas of Munmorah and Lake Macquarie providing a local natural open space within close proximity to the site.

site details:
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lake munmorah
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DARKING JUNG LOCAL
ABORIGINAL LAND COUNCIL
by:
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20.8.18
job number:
11788.5
scale:
NTS @ A3
revision:
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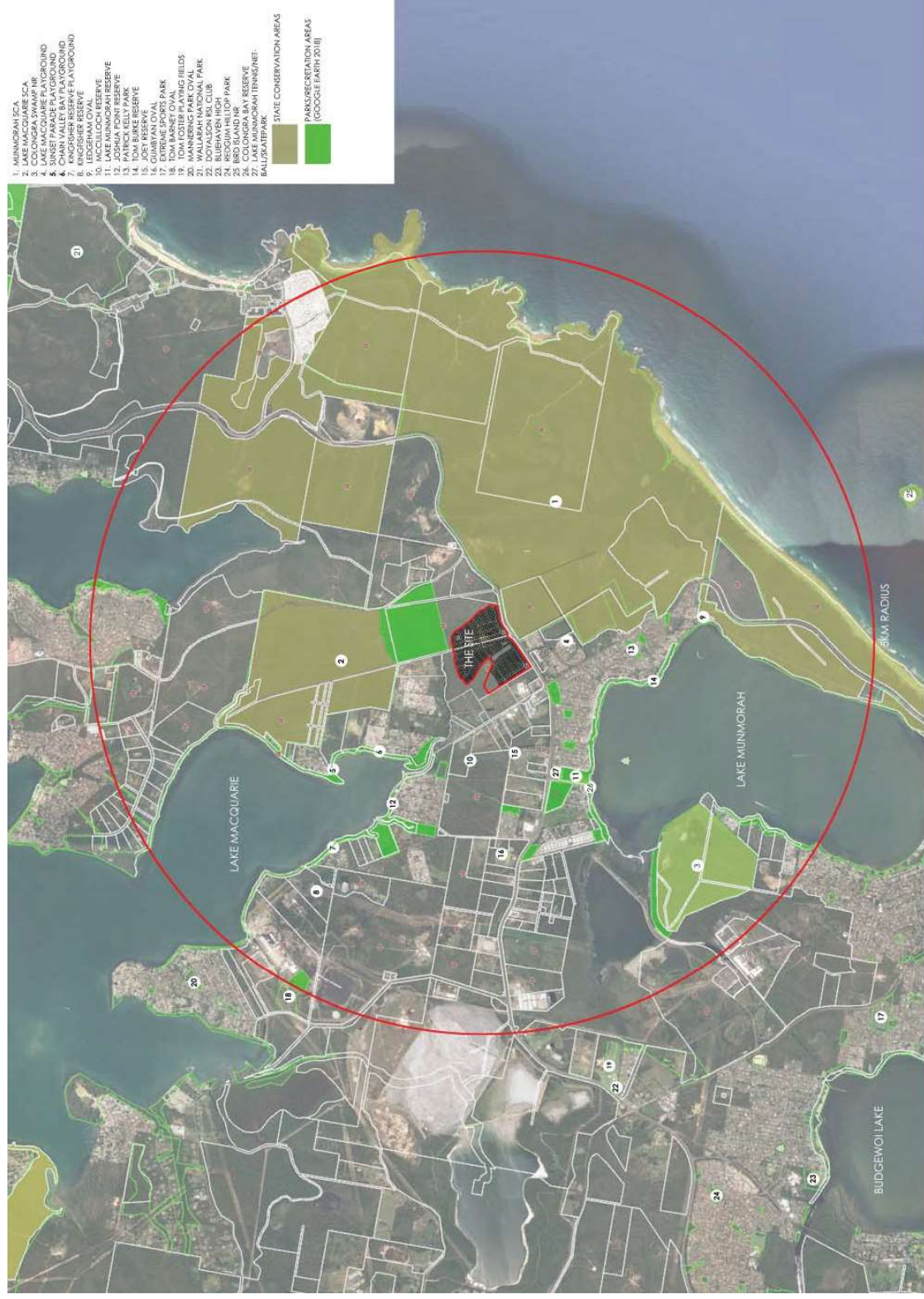


FIGURE 10: Existing open space

site details:
pacific highway,
lake munnorah

client:
DARKING JUNG LOCAL
ABORIGINAL LAND COUNCIL

by:
KH

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20.8.18

job number:
11788.5

scale:
NTS @ A3

revision:
B

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B

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10 FUTURE DEMAND/PROVISION

The population data presented from the Northern Districts Development Contributions Plan suggests there is an estimated population increase for the catchment area of 9935 people.

The intended outcome of rezoning the site has an estimate potential yield of 549 lots of low density residential development therefore the future development site will accommodate approximately 549 dwellings. The remainder of the site is to be retained for conservation purposes.

Lake Munmorah SSC is the immediate area associated to the site however given its high elderly population, the existing demographic is perhaps not indicative of the future nature of the proposed development. For the purpose of this report the Warnervale-Waddalba SA2 statistics of 2.9 people per household will be used which is also aligned with the Northern Districts Catchment area of 2.92 people per household. Given these figures it can be calculated that the projected population for the proposed site is 1592 people (2.9 x 549 lots).

11 OPEN SPACE AND RECREATION REQUIREMENTS

Wyong Shire Council's goal for open space is to implement an open space system, which conserves a sustainable natural character for the Shire and provides a variety of settings for recreation to meet identified community needs.

Council requires that local open space for residential areas be provided at the standard of 3.0ha per 1,000 persons.

There are various categories of open space within Wyong Shire as follows:

- Regional Open Space which includes Semi Natural open space, Regional Parks and Field/Courts;
- District Open Space which includes Large Parks, Fields and Courts;
- Local Open Space which includes Local Parks;
- Ancillary Open Space which is open space that has a dual use such as a drainage corridor and passive open space or a visual use.

Wyong Shire Council's Open Space Principles Plan (2005) provides minimum areas for the different types of open space, however there is flexibility where it can be proven that the open space purpose can be achieved. The minimum area for each of the types is as follows:

The following table determines the range of apportionment for the specific types of open space:

Type	Low	High
Small park	5	30
Semi Natural	10	30
Field	10	30
Court	5	10
Large Park	5	20
Regional field	2	5
Regional park	2	5

The minimum area for each of the types is as follows:

Type of Open Space	Minimum Area (ha)
Field	4.0
Large Park	2.0

Semi Natural Open Space	2.0
Court	1.0
Small Park	0.5

- Provide for a Small park within 0.5 km of new residents
- Give next priority to contribution to Semi-natural areas
- Give next priority to active recreation areas: Fields and Courts
- Give next priority to Large parks
- Give next priority to Regional fields and courts
- Give next priority to Regional parks

12 DEMAND

The following table uses the assumed population data and Councils policy for a minimum 3 ha of open space per 1,000 people to provide an ideal apportionment for the Northern Lakes District.

Total Population (additional)	9935
Hectares per thousand	3
Total Developed open space required	29.8ha

Based on the above 29.8 ha of additional openspace will be required for the anticipated population of the Northern Lakes District.

The following table uses the assumed population data and Councils policy for a minimum of 3ha of open space per 1000 people to provide an appropriate apportionment for the proposed rezoning:

Total Population (additional)	1592		
Hectares per thousand	3		
Total developed open space	4.776		
Type	%	Hectares	Applied
Small Park	30	1.4328	On site
Semi natural	30	1.4328	On Site
Field	20	0.9552	Payment of contributions
Court	10	0.4776	Payment of contributions
Large Park	10	0.4776	Payment of contributions
Total	100%	4.776	

The percentages recommended above fall within the range provided above and have been chosen for the following reasons:

- The anticipated population will have a higher proportion of children and young families and so a higher percentage of small parks are proposed.
- The site is not suitable for courts, fields or large parks. Small parks in combination with Semi-natural areas will provide the majority of the openspace for the proposed development.
- Future courts, fields and large parks will need to be considered external to the site and it is considered that new residents will rely on these facilities in neighbouring areas of Lake Munmorah and outlying suburbs.
- A large proportion of the site will be set aside as E2-Environmental Conservation. If appropriate design criteria are applied as stipulated below for Semi - Natural Open Space

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20.8.18

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NTS @ A3

revision:
B

open space and recreation analysis

SITE ONE - LAKE MUNMORAH

B

- this area has the potential to become a large open space asset to the community while also providing a continuation of the "green corridor" identified within the North Wyong Shire Structure Plan.
- The site has vast areas which are ecologically important and there is provision to retain a significant portion of this.

13 DESIGN CRITERIA

The design criteria for open space in accordance with the Wong Open Space Principles Plan 2005 are:

REGIONAL	
Semi natural	Locate to conserve land with identified environmental value of either vegetation species, vegetation community or faunal habitat
	Locate to provide a link or corridor element
Regional park	Locate at least one regional park with the north and south of the shire adjacent to a major foreshore destination (e.g. memorial park in south)
Regional field/court	Locate at least one more regional sports facility to south of shire and one to north. (Note existing Pollock Ave. and Mingara pool)
	Locate adjacent to major transport corridor
	Locate on land large enough to accommodate the area needed for the facility, infrastructure and parking
DISTRICT	
Large Park	Locate a large park to each social plan district
	Where appropriate locate to conserve an identified environmental, heritage or visual value within the park
	Locate adjacent to a public transport corridor
Field	Locate fields and courts adjacent to each other wherever possible
	Locate a field within 1 km of all consolidated residential areas
	Locate fields on sites no more than 500 metres from school sites
	Locate fields on sites with a slopes of less than 10%
	Do not locate fields on sites with identified high environmental values
Court	Locate fields and courts adjacent to each other wherever possible
	Locate a court within 1 km of all consolidated residential areas
	Locate courts on sites no more than 500 metres from neighbourhood shopping areas
	Locate courts on sites with a slopes of less than 10%
	Do not locate courts on sites with identified high environmental values
LOCAL	
Small Park	Locate small parks within 500 m of all consolidated residential areas
	Do not locate wholly within storm water flood flow areas

14 OPENSOURCE RELEVANT TO PROPOSED REZONING

Of particular relevance to this report are the Small Park and Semi-natural open space types. Additional design guidelines included within the Wong Open Space Principals for these are as follows:

SMALL PARK	
PURPOSE	Provide for recreation accessible to adjacent residents by pedestrian access
INTENT	To provide a network of open space sites that serve the local open space needs of residents
ENVIRONMENTAL VALUES	Tree canopy
SIZE	Reflect the environmental values identified for the site
SHAPE	Minimum size 0.5ha
	Reflect development pattern or physical constraints
	The aspect ratio should not go beyond front 1 to side 5
	Preferred minimum frontage is 30 metres
DEVELOPMENT	Development should support the recreation purpose of the type to include: Canopy trees, Cleared play area, Seating, Play equipment where the site is part of the play equipment network.
MANAGEMENT	Developed elements are maintained to provide safe recreation for small groups of people Remnant bush land is managed to retain its environmental values

SEMI NATURAL	
PURPOSE	Provide for conservation of identified environmental values accessible to residents by vehicular and pedestrian access
	Provide linkage and corridor for fauna
	Provide education opportunities
ENVIRONMENTAL VALUES	Conserve the environmental values identified for the site
SIZE	Minimum size 2ha
SHAPE	The shape should reflect the boundary that is manageable to conserve the environmental values
	Preferred minimum width is 300 metres for faunal corridor purposes
DEVELOPMENT	Development should support the recreation purpose of the type to include: Canopy trees, Cleared play area, Seating, Play equipment where the site is part of the play equipment network.
MANAGEMENT	Developed elements are managed to provide safe recreation by small groups of people to conserve the environmental values of the site

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NTS @ A3
revision:
B



open space and recreation analysis

SITE ONE - LAKE MUNMORAH

B

	Remnant bush land is managed to retain its environmental values • Storm water inputs are managed • Fire management is coordinated • Weed invasion is controlled • Recreation uses are managed • Corridor functions are protected
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The proposed rezoning will incorporate 549 lots with projected population of 1592. Based on the current household occupancy rate (Census data 2016) of Wadialba at 2.9 it can be calculated that 1.43Ha of Small Parks will be required within the proposed development.

Additionally 1.43Ha of Semi natural open space will be required. This is more than satisfied with 106Ha of the site proposed to be retained as E2 - Environmental Conservation.

15 PROPOSED OPENSOURCE AND RECREATION AREAS

Based on the above, it is evident that the future development of the site will require access to a range of openspace and recreational facilities. In order of priority:

SMALL PARKS

Neighbouring areas of Lake Munmorah are well serviced by local parks and playgrounds however to ensure that access is provided within 500m of the new residential development it is proposed to retain sections of the R2-Low density development as Small Parks. In accordance with councils recommendations, Small Parks are required to be a minimum size of 0.5ha. A minimum of 1.43Ha of Small Parks are required for this rezoning proposal and they should be spaced within the development to ensure they are located within 500m of residential allotments. The parks should be developed to provide safe recreation for small groups of people with remnant bushland retained and protected. Development of these should include:

- Canopy trees,
- Cleared play area,
- Seating,
- Play equipment where the site is part of the play equipment network.

SEMI NATURAL OPENSOURCE

With the adjacent Lake Munmorah and Lake Macquarie State Conservation areas there are large Semi Natural areas within close proximity to the site. Additionally the proposal intends to rezone 106ha to E2 - Environmental Conservation which will not only provide amenity to the site but also allow the continuation of the green corridor system identified within the North WYong Shire Structure Plan. In accordance with the North WYong Shire Structure Plan and WYong Shire design criteria for semi natural open space it would be beneficial to consider including:

- Prospects for low impact, and passive recreation activities including pedestrian and cycle paths which link to nearby urban development
- Cleared play area,
- Seating,
- Play equipment

FIELDS AND COURTS

The site is not conducive to accommodating large playing fields or courts. It is recognised that the access to fields and courts within close proximity to the site is low. With expected population increase within the area and associate possible demographic change to young families it is expected that residents will be driving to access sporting venues south of the site

including the WYong Regional Sporting Complex. The payment of contributions will help to meet the demand for higher order facilities such as playing fields external to the site.

Additionally it is recognised that within close proximity to the site there is a shared pathway system providing access south to Lake Munmorah and north to Lake Macquarie.

All open space and recreational areas will need to be located in accordance with the WYong Open Space Principals Plan.

The land identified for open space and recreation purpose will assume the following zoning:

- Small Parks - Re1 Public Recreation
- Semi Natural - E2 Environmental Conservation

16 ACQUISITION

The open space and recreation facilities proposed above will be procured by dedication as part of the development process and the strategy proposed should be subject to periodic review and interim reviews if there is a major change in the planning context.

17 REFERENCES

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