WATERWAYS IMPACT STATEMENT

PROPOSED DEVELOPMENT

DEE WHY BOWLING CLUB

221 FISHER ROAD
NORTH CROMER

OCTOBER 2017
REF:7073

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1. INTRODUCTION

Conacher Consulting has been engaged to prepare a Waterways Impact Statement (WIS) for a proposed redevelopment of the Dee Why Bowling Club at North Cromer.

This Report has been prepared to provide information to enable Council to conduct an adequate environmental assessment of the proposed development works to ensure that the waterways and riparian areas within Warringah Local Government Area are maintained and enhanced.

This Waterways Impact Statement follows the format set out in Warringah Council's *Guidelines for Preparing a Waterways Impact Statement*.

1.1 Proposed Development

The proposal is for the demolition and relocation of an existing club house (Dee Why Bowling Club), construction of Serviced Self Care Housing (pursuant to State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004), ground level and basement car parking and landscape works.

Detailed plans of the proposal have been provided as separate documentation to this report.

1.2 Site Description

The planning and cadastral details of the subject site are provided in Table 1.1 while Table 1.2 summarises the geographical characteristics of the site.

TABLE 1.1 SITE DETAILS	
Location (Subject site)	Lot 32 DP 868310 Fisher Road North Cromer.
Area	Approximately 1.1 hectares
Topographic Maps	Sydney 1:100000
Grid Reference (MGA Zone 56)	340779E 6265505N
Local Government Area	Northern Beaches
Existing Land Use	Dee Why Bowling Club – Bowling Greens, Club Rooms, Car Park

TABLE 1.2 SITE CHARACTERISTICS	
Elevation	Approximately 11m AHD
Slope	Approximately 2°
Aspect	Slight NE
Catchment	Dee Why Lagoon Catchment
Drainage	By stormwater pipes to drainage channel to the south
Vegetation On Site	Cleared Land
Vegetation Offsite	Bloodwood / Scribbly Gum Forest, Angophora / Peppermint Forest, Wet Heath and Cleared Land.

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Drawn By: AM
Drawing Version: 1
Drawing No: 7073
Date: 27/10/2017

* Plan for indicative purposes only. Not for detailed measurement.
Source: Aerial © NSW Govt. Land and Property Information (2017)

Figure 1
Subject Site Details
Fisher Road, North Cromer

2. WATERWAYS ANALYSIS

2.1 The ecological value of the subject waterway and riparian land

The subject site occurs within the Dee Why Lagoon catchment area, upstream of a mapped section of the first order watercourse known as Dee Why Creek.

An area known as the Dee Why Valley Wetlands occurs to the north of the site and drains via an open channel drain to the site where it is piped through the site to the south into Dee Why Creek.

The site contains no natural watercourses or riparian vegetation of ecological value. Areas of disturbed natural vegetation with riparian and wetland characteristics occur to the north of the site within the Dee Why Valley Wetlands and to the south of the site along the channel of Dee Why Creek.

2.2 The nature and extent of proposed construction activities

The proposal is for the demolition and relocation of an existing club house (Dee Why Bowling Club), construction of Serviced Self Care Housing (pursuant to State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004), ground level and basement car parking and landscape works. The proposed construction activities will occur across the central and southern parts of the site.

An Erosion & Sediment Control Plan has been prepared for the proposed works by EWFW Consulting Engineers (2017a) to mitigate potential impacts to adjoining waterway areas. This document has been submitted as separate documentation as part of the development application.

2.3 The nature and extent of proposed operational activities

The site will continue to be utilised as part of the Dee Why Bowling Club and will also include Serviced Self Care Housing.

A Proposed Drainage & Catchment Boundaries Plan for the future development has been prepared by EWFW Consulting Engineers (2017b). This document this document has been submitted as separate documentation as part of the development application. The future development will incorporate the use of on-site stormwater detention tanks to manage stormwater flows which will outlet at two points to the south of the site via headwalls to the existing drainage channel.

2.4 The location of proposed construction and operational activities relative to the:

i. Riparian buffer
No riparian buffers are proposed or required within the site as drainage through the site is piped. There is a drainage channel present to the north of the site which is not mapped on the current topographic map. No on-site buffers are proposed to this channel.

ii. Riparian zone
No riparian zones are proposed or required within the site as drainage through the site is piped.

iii. Creek centreline
There is no creek centreline as drainage through the site is piped.

iv. Wetland
The Dee Why Valley Wetlands are located approximately 20 metres to the north of the site on the adjoining allotment. There are no wetlands within the site.

v. Wetland buffer
No wetland buffers are proposed within the site.

2.5 Site and surrounds – the quality of the on-site and off-site waterways and riparian lands which may be directly or indirectly affected by the development, including, but not limited to:

i. Physical characteristics of the waterway and riparian land

A watercourse known as Dee Why Creek is mapped to the south of the subject site on the 1:25 000 Topographic Map. The watercourse is mapped as a first order watercourse in accordance with the Strahler System. This watercourse is referred to as Dee Why Creek in Council's Warringah Creek Management Strategy (WCMS).

The riparian land adjoining the site is in disturbed and managed to the north, and in disturbed condition with high levels of exotic vegetation with some remnant and planted vegetation to the south of the site.

ii. Connectivity with waterway corridors, bushland and open space

A corridor of land zoned RE1 Public Recreation occurs to the north, east and south of the site and contains the waterway areas to the north and south of the site. The site is cleared and is considered to not form part of this corridor.

iii. Details of the location of threatened or endangered aquatic flora and fauna

The subject site is cleared and no threatened or endangered aquatic flora or aquatic fauna have been observed within the subject site.

iv. Existing erosion and sediment conditions

Flows through the site are piped and no areas of erosion or sediment accumulation were observed.

v. Channel form, erosion rate and bank stability

The site does not contain any channels as flows through the site are piped.

vi. Stormwater discharge points and stormwater treatment measures

An Erosion & Sediment Control Plan has been prepared for the proposed works by EWFW Consulting Engineers (2017a) to mitigate potential impacts to adjoining waterway areas. This document has been provided as separate documentation with the development application.

A Proposed Drainage & Catchment Boundaries Plan for the future development has been prepared by EWFW Consulting Engineers (2017b). This document has been provided as separate documentation with the development application.

3. ASSESSMENT OF IMPACTS

The proposed development has been designed to minimise the impacts on the adjoining area and improve water quality for flows leaving the site. The following possible impacts on Dee Why Creek and its surrounding riparian area are assessed below:

TABLE 3.1
DEVELOPMENT IMPACT ASSESSMENT

Impact description	Likely Impact Y/N	Comment
Impact upon water quality	N	On-site detention (OSD) tanks containing WSUD devices will be utilised to manage stormwater runoff rates and filter pollutants.
Impacts on channel form, erosion rate and bank stability	N	There are no drainage channels or banks present within the site.
Impacts on stormwater discharge points and stormwater treatment measures	N	Water flow from the site will be managed by the utilisation of OSD tanks containing WSUD devices. Outlets will also be constructed to Council and NSW Office of Water requirements.
Ecological impacts of the development	N	The site is cleared and the proposal is not likely to have a significant ecological impact.
Landscape impacts of the development	N	A landscape plan has been prepared for the proposal in accordance with Council's requirements and submitted as separate documentation to this report (Group N, 2017).
Flood impact assessment	N	See Drainage and OSD Report prepared for the site by EWFW P/L (2017).
Bank stability assessment demonstrating the building and development is not at risk	N	A bank stability assessment has not been undertaken for the site as no watercourse is present within the site. Details on requirements for site preparation and building foundations are outlined in the Geotechnical Investigation Report prepared by D. Katauskas Consulting Geotechnical Engineer, submitted as part of the development application.
The extent of native vegetation proposed to be removed	Y	The site does not contain native areas of vegetation. Clearing of some disturbed areas containing predominantly *Typha orientalis* and a variety of exotic species may be required for construction of the stormwater outlet headwalls.
Any modification to natural creeklines or overland flow.	N	The flows through the site are currently piped. The proposal is likely to result in improved management of stormwater flows and capture of pollutants.

4. PROVISION OF MITIGATION MEASURES

Outcome 1: Protecting native species and communities.

Performance criteria	Acceptable mitigation measures
Maintain natural habitats	The site does not contain natural habitats. Areas adjoining the site identified for stormwater outlets will be revegetated following construction works with endemic native species.
Provide fauna movement routes	The site is currently cleared and does not contain suitable areas for fauna movement routes.
Prevent unnatural erosion or sediment deposition	The proposal is likely to result in improved management of stormwater flows and capture of pollutants through the utilisation of OSD tanks and WSUD devices.
Maintain acceptable water quality	Water quality will be maintained through the use of OSD tanks and a trash (pollutant) screen.
Maintain connectivity between waterways and floodplains	The site is currently cleared and stormwater flow through the site is piped. There is no riparian connectivity present to maintain. Limited vegetation connectivity occurs offsite to the east.

Outcome 2: Prevent loss of natural diversity through protecting waterway and riparian vegetation (including non-native vegetation).

Performance criteria	Acceptable mitigation measures
Avoid introducing plants or animals which may displace natural species	There is no riparian vegetation present within the site. The introduction of plants or animals to the site which may displace natural species within the waterway and riparian area is not proposed. The Landscape Plan prepared for the site incorporates native species.
No increase in nutrient loads to riparian soils and waterways	There is no riparian vegetation present within the site. Nutrients will be filtered from stormwater prior to discharge through the use of OSD tanks and trash screens.
Avoid displacing species by habitat changes	There is no riparian vegetation present within the site. Waterway and riparian habitats will not be subject to direct impacts as a result of the proposal.
Protect natural areas from contamination	Contamination of natural areas is not likely to occur and there is no waterway and riparian vegetation present within the site.
Prevent the loss of any rare or threatened natural features	No rare or threatened natural features are present.
Protect downstream protected areas, such as National Parks	Suitable stormwater management measures are proposed to protect downstream environments. No National Parks are located downstream.

Outcome 3: Minimise damage to public and private property by waterway processes through maintaining the relative stability of the bed and banks.

Performance criteria	Acceptable mitigation measures
Avoid increases in peak channel flows and sediment exports for events smaller than 2 year Average Recurrence Interval (ARI)	On-site management of stormwater runoff will be undertaken through the utilisation of OSD Tanks.
Avoid local erosion at stormwater outlets	Stormwater outlets will be constructed to mimic natural drainage conditions and suitable headwalls will be installed with rip rap protection to prevent local erosion.
Avoid export of weeds from private properties into waterways	No disposal of garden refuse is to occur in riparian areas.
Channel banks are not over steepened	No channel banks are present within the site.
Channel banks are stable	No channel banks are present within the site.

Outcome 4: Preserve natural ecological processes

Performance criteria	Acceptable mitigation measures
Stream flow and water quality are natural	The watercourse through the site is piped. Flow and water quality will be managed with OSD tanks and trash screens.
Aquatic and riparian vegetation are undisturbed and unmodified	There is no riparian vegetation within the site. The existing vegetation at the proposed outlet points is mostly exotic.
Aquatic and riparian fauna habitat and movement corridors are retained	There are no aquatic and riparian fauna present within the site.

Outcome 5: Create opportunities for public access and recreation in waterway corridors

Performance criteria	Acceptable mitigation measures
Provide public access along creek corridors where appropriate	There are no creek corridors present within the site. Access to offsite creek corridors will not be affected.

5. CONCLUSIONS

Based on the detailed site inspection and information provided in this report it is concluded that:

i. There is no riparian or waterway vegetation within the site;

ii. Stormwater flows through the site are currently piped;

iii. No riparian corridors are present within the site and on-site riparian buffers are not proposed;

iv. Water quality and flows are to be managed with onsite stormwater detention tanks fitted with trash screens in accordance with the Proposed Drainage Plan prepared by EWFW Consulting Engineers for the proposal;

v. Disturbed areas associated with the installation of offsite stormwater discharge points are to be rehabilitated with native flora species following construction; and

vi. The proposed development is likely to have a negligible impact on the local waterways.

REFERENCES

Appleton A. 2004, Warringah Council Final Creek Management Study, MWH Australia, Pty Ltd. Report prepared for Warringah Council.

D. Katauskas Geotechnical Consultant (2016) Geotechnical Investigation Proposed Development Dee Why Bowling Club Fisher Road North, Dee Why. Unpublished Report.

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GroupN (2017) Landscape Plan prepared for Club House and Seniors Living Development, 221-223 Fisher Road North Cromer NSW.

MWH Australia Pty Ltd (2004) *Warringah Council Final Creek Management Study*. Report Prepared for Warringah Council. MWH Australia Pty Ltd, Milton, Queensland.

NSW Government DPI Office of Water (2012) Guidelines for Controlled Activities on Waterfront Land. Accessed Online: http://www.water.nsw.gov.au/Water-licensing/Approvals/Controlled-activities/Controlled-activities/default.aspx

SITE PHOTOGRAPHS

Photo Point 1. Open drainage channel adjacent to northern site boundary.

Photo Point 2. Open drainage channel adjacent to northern site boundary.

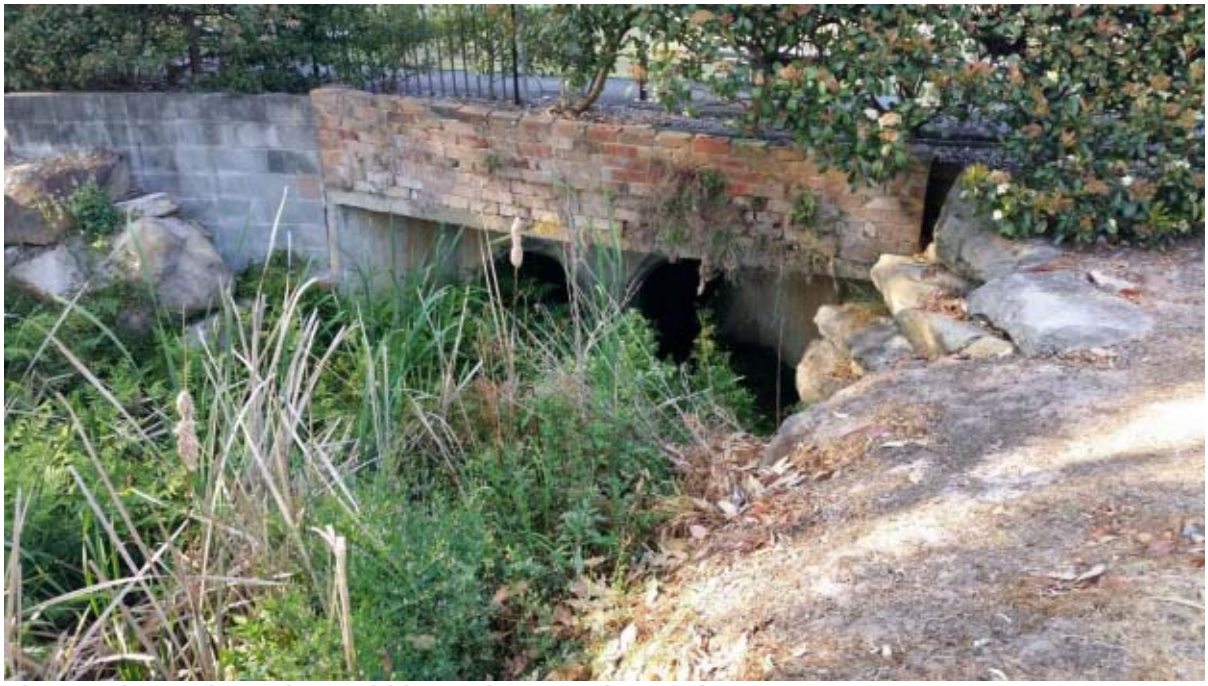

Photo Point 3. Pipe culvert within northern section of site.

Photo Point 4. Open drainage channel adjacent to northern site boundary.

Photo Point 5. Open drainage channel adjacent to southern site boundary

Photo Point 6. Open drainage channel adjacent to southern site boundary

Photo Point 7. Channel outlet in southern section of site.