

## Water Management Referral Response

<b>Application Number:</b>	DA2019/0263
<b>To:</b>	Rebecca Englund
<b>Land to be developed (Address):</b>	Lot 3 DP 1115877 , 53 B Warriewood Road WARRIEWOOD NSW 2102 Lot 3 DP 942319 , 53 Warriewood Road WARRIEWOOD NSW 2102

### Reasons for referral

Council's Water Management Officers are required to consider the likely impacts.

### Officer comments

This referral relates to water quality management on the site. Conditions related to the creekline corridor and Narrabeen Creek are in a separate referral. The application has been assessed under:  
 Pittwater LEP 2014 6.1 Warriewood Valley Release Area  
*(Impacts to water quality of creeks)*  
 Pittwater 21 DCP C6.1 Integrated Water Cycle Management  
*(Water Management Report, surface and groundwater quality management and monitoring)*  
 Pittwater 21 DCP C6.2 Natural Environment and Landscaping Principles  
*(Location of water quality treatment measures)*  
 Warriewood Valley Water Management Specification (2001)  
*(Detailed guidance on water quality monitoring and management)*  
 SEPP (Coastal Management) 2018 - Coastal Wetlands Proximity Area  
*(Protecting the hydrological integrity of the adjacent coastal wetland and no impact to quantity and quality of surface AND groundwater flows)*

### 22/07/2019 - Response

The applicant has addressed the changes required below. There are no further concerns. Conditions are provided.

### 17/05/2019 - Response and further information/alterations required

#### 1. Water Quality Monitoring

While the applicant has noted that baseline water quality data for Narrabeen Creek is available from various sources, they haven't provided a report with the application. The data must be obtained and analysed in a report for submission as part of the DA. The water quality monitoring plan is satisfactory. The three monitoring points may seem a lot, but it will allow the applicant to separate out any impacts from Council's drainage at the downstream boundary of the site.

#### 2. Bio-retention/detention basin

There are a number of improvements required for the bio-retention basin.

- In the concept design provided, the flows enter and exit a long and narrow basin at the same end, creating a high-impact zone at the northern end of the basin that is likely to show the effects of scour and sedimentation.
- There is no vehicular access to the southern end of the basin for maintenance (when for example sediment needs to be removed or the filter media needs replacing), with a long-arm excavator most

likely only being able to reach the first third of the basin from the access driveway to the GPT.

- As the GPT will go into bypass in anything greater than a 1 in 3-month rainfall event, the first pit with the orifice plate should have a trash screen to prevent floatables such as large plastic bottles entering the creek. The pit should have a hinged grate so that the trash screen can be cleaned by suction hose from a truck parked on the access driveway.

- The landscape plan indicates that planting will only take place around the edge of the bio-retention basin. The basin should be fully planted.

### 3. GPT

The stormwater plans specify a Rocla CDS unit 1012, whereas the water management report specifies a Rocla CDS unit 1018 (or equivalent). This discrepancy needs to be resolved. Please note approval from Council will be required before an 'equivalent' device can be used.

### 4. Council's stormwater pipe

The outlet for Council's stormwater pipe (2-10) will require more structure in terms of dissipation of flows than has been shown on the General Arrangement Plan 076-18C-DA-1101. Please see comment in the riparian referral.

### 5. Erosion and sediment controls

While the erosion and sediment control plan is suitable for the developed area of the site, please see the riparian referral for further requirements during creek works.

### 6. Groundwater

It is possible that excavation for roads and drainage may encounter groundwater. The Geotech report identifies that groundwater is close to the surface from 0.8-3.5m depth, which is consistent with our knowledge of this particular aquifer. Our understanding is that there is a significant groundwater pathway from the north-western corner of 53A Warriewood Road (near the road) that spreads out across 53B and 53C and provides a water source for the Swamp Sclerophyll/Swamp Oak Floodplain Forest Endangered Ecological Community (EEC) on 41-49 Warriewood Road and 4 Macpherson Street. Due to the possible presence of acid sulphate soils there is a risk of acidification of the groundwater aquifer. The most significant area of excavation proposed is for the bio-basin, however excavation in this area is unlikely to impact groundwater flows to the EEC. Any dewatering will need to be accompanied by a permit from the Natural Resources Access Regulator.

## Referral Body Recommendation

Recommended for approval, subject to conditions

## Refusal comments

## Recommended Water Management Conditions:

# CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

## Detailed Design of Stormwater Quality System

A certificate from a Civil Engineer, stating that the stormwater quality management system has been designed in accordance with the Engineering Plans and the Water Management Report both prepared by Craig and Rhodes (both REV B, June 2019) and the Warriewood Valley Water Management Specification (2001).

The certificate shall be submitted to the Certifying Authority prior to the release of the Construction

Certificate.

Reason: Protection of the receiving environment

**Construction, Excavation and Associated Works Security Bond (Bio-retention basin)**

The applicant must lodge with Council a bond of \$80,000 for the completion of the bio-retention basin, including installation of pipes, filter media and plantings. Completion of the bio-retention basin as described must not occur until 90 percent of the house lots have been completed, or five years has passed since the issue of the Subdivision Certificate, whichever milestone occurs first. The basin may be used as a sediment basin until it is converted to a bio-retention basin. The bond will only be refunded if work has been completed in accordance with the approved plans and to the satisfaction of Council.

Details demonstrating payment of the bond are to be submitted to the Certifying Authority prior to issue of the Construction Certificate.

Reason: Protection and completion of community title infrastructure.

**Updated Water Management and Water Quality Monitoring Report and Checklist - Construction Certificate**

The applicant must provide an updated Water Management Report (that includes an updated Water Quality Monitoring Report). The reports must address all the requirements of the Warriewood Valley Water Management Specification 2001 - Checklist - Construction Certificate. The checklist is to be completed by a suitably qualified water/environmental/civil engineer who has membership of Engineers Australia and appears on the National Engineering Register (NER).

The signed checklist and the updated Water Management Report must be provided to the Certifying Authority prior to issue of the Construction Certificate.

Reason: To ensure water is appropriately managed and in accordance with the Warriewood Valley Water Management Specification and Pittwater 21 DCP.

**CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK**

**Groundwater monitoring**

Groundwater levels must be maintained as close as possible to the pre-development conditions during construction (allowances for rainfall made).

Once excavation of the site begins, groundwater levels must be monitored quarterly at sites BH1, BH3, BH4, and BH7 used for the study conducted by Geotechnique Pty Ltd in their report dated 12 March 2019, until excavation ceases and ground surfaces are stabilised.

A monitoring report from a suitably qualified engineer who has membership of Engineers Australia and appears on the National Engineering Register (NER) must be provided following each quarterly monitoring event to the Principal Certifying Authority, and a groundwater management plan prepared where groundwater levels are lowered by greater than 0.2 metres (allowances for rainfall made).

Reason: Protection of groundwater dependent endangered ecological community.

**Installation and Maintenance of Sediment and Erosion Control**

Sediment and erosion controls must be installed in accordance with Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) and the Erosion and Sediment Control Plan prepared by Craig and Rhodes (Rev B, June 2019).

Erosion and sediment controls are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and the site is sufficiently stabilised with vegetation.

Reason: To protect the surrounding environment from the effects of sedimentation and erosion from the site.

**Dewatering - Water Quality**

Discharge must achieve the following water quality targets in addition to any conditions/documentation of this consent, any requirements of the General Terms of Approval/Controlled Activity permit issued by DPI Water, and legislation including Protection of The Environment Operations Act 1997 and Contaminated Lands Act 1997.

Parameter	Criterion	Method	Time Prior to Discharge
Oil and grease	No visible	Visual inspection	<1 hour
pH	6.5- 8.5	Probe/meter	<1 hour
Total Suspended Solids (TSS)	<50mg/L	Meter/grab sample measures as NTU	<1 hour

*NOTE: The correlation between NTU and TSS must be established by a NATA accredited laboratory prior to the commencement of dewatering activities.*

All records of water discharges and monitoring results are to be documented and kept on site. Copies of all records shall be provided to the appropriate regulatory authority, including Council, upon request.

Tailwater must be discharged to the nearest stormwater pit in accordance with Council’s Auspec1 Design Manual and must not spread over any road, footpath and the like. Discharge to the kerb and gutter will not be accepted.

Reason: Protection of the receiving environment.

**Dewatering management**

If groundwater (greater than seepage) is encountered during excavations of greater than one metre depth from the existing ground surface level and dewatering is required to continue work, work must cease until the applicant has made an application for a dewatering permit to the Natural Resource Access Regulator (NRAR), and a dewatering management plan has been prepared.

The dewatering management plan must be certified by a suitably qualified civil engineer who has membership of Engineers Australia and appears on the National Engineering Register (NER), and the plan(s) provided to the Principal Certifying Authority. Council must issue a permit based on the plan and general terms of approval from the NRAR prior to dewatering commencing.

Reason: Protection of the adjacent groundwater dependent endangered ecological community.

**CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE**

**Certification for the Installation of Stormwater Quality System**

A certificate from a suitably qualified water/environmental/civil engineer who has membership of Engineers Australia and appears on the National Engineering Register (NER) must be submitted, stating that the stormwater quality management system has been installed in accordance with the

Engineering Plans and the Water Management Report prepared by Craig and Rhodes (both REV B, June 2019) and the Warriewood Valley Water Management Specification (2001).

The certificate shall be submitted to the Principal Certifying Authority prior to the release of the Subdivision Certificate.

Reason: Protection of the receiving environment.

#### **Positive Covenant for Stormwater Quality System**

A positive covenant shall be created on the title of the land requiring the proprietor of the land to maintain the stormwater quality system in accordance with the standard requirements of Council, the manufacturer and as required by the Stormwater Quality Operation and Maintenance Plan.

The terms of the positive covenant are to be prepared to Council's standard requirements, (available from Council), at the applicant's expense and endorsed by the Northern Beaches Council's delegate prior to lodgement with the Department of Lands. The Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Subdivision Certificate.

Reason: To ensure ongoing maintenance of the on-site stormwater detention system.

#### **Registration of Encumbrances for Stormwater Quality System**

A copy of the certificate of title demonstrating the creation of the positive covenant and restriction for stormwater quality system as to user is to be submitted.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Subdivision Certificate.

Reason: To identify encumbrances on land.

#### **Restriction as to User for Stormwater Quality System**

A restriction as to user shall be created on the title over the stormwater quality system, restricting any alteration to system. The terms of such restriction are to be prepared to Council's standard requirements, (available from Northern Beaches Council), at the applicant's expense and endorsed by Council prior to lodgement with the NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such restriction.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Subdivision Certificate.

Reason: To ensure modification to the on-site stormwater detention structure is not carried without Council's approval.

#### **Stormwater Quality Operation and Maintenance Plan**

An Operation and Maintenance Plan is to be prepared to ensure proposed stormwater quality system remain effective.

The Plan must contain the following:

- a) Maintenance schedule of all stormwater quality treatment devices
- b) Identification of maintenance and management responsibilities

- c) Maintenance requirements for establishment period
- d) Routine maintenance requirements
- e) Inspection and maintenance record and reporting (to be made available to Council upon request)
- f) Funding arrangements for the maintenance of all stormwater quality treatment devices
- g) Vegetation species list associated with each type of vegetated stormwater treatment device
- h) Waste management and disposal
- i) Traffic control measures (if required)
- j) Maintenance and emergency contact information
- k) Renewal, decommissioning and replacement timelines and activities of all stormwater quality treatment devices
- l) Work Health and Safety requirements

Details demonstrating compliance shall be submitted to the Principal Certifying Authority prior to the release of the Subdivision Certificate.

Reason: Protection of the receiving environment.

#### **Works as Executed Drawings - Stormwater Quality System**

Works as Executed Drawings for the stormwater quality system must be prepared in accordance with Council's Guideline for Preparing Works as Executed Data for Council Stormwater Assets.

The drawings shall be submitted to the Principal Certifying Authority prior to the release of the Subdivision Certificate.

Reason: Protection of the receiving environment.

### **ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES**

#### **Maintenance of Stormwater Quality System**

The stormwater quality system must be maintained at all times in accordance with the Stormwater Quality Operation and Maintenance Plan, manufacturer's specifications and as necessary to achieve the required stormwater quality targets for the development.

Reason: Protection of the receiving environment.

### **CONDITIONS THAT MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF ANY STRATA SUBDIVISION OR SUBDIVISION CERTIFICATE**

#### **Updated Water Management and Water Quality Monitoring Report and Checklist - Subdivision Certificate**

The applicant must provide an updated Water Management Report (that includes an updated Water Quality Monitoring Report). The reports must address all the requirements of the Warriewood Valley Water Management Specification 2001 - Checklist - Subdivision Certificate. The checklist is to be completed by a suitably qualified water/environmental/civil engineer who has membership of Engineers Australia and appears on the National Engineering Register (NER).

The signed checklist and the updated Water Management Report must be provided to the Principal



Certifying Authority prior to issue of the Subdivision Certificate.

Reason: To ensure water is appropriately managed and in accordance with the Warriewood Valley Water Management Specification and Pittwater 21 DCP.