Water Management Referral Response

Application Number:	DA2020/0816

Date:	26/11/2020
To:	Adam Croft
Land to be developed (Address):	Lot 38 DP 7236 , 23 Bassett Street MONA VALE NSW 2103 Lot 2 DP 748426 , 33 Bassett Street MONA VALE NSW 2103

Reasons for referral

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

Officer comments

Referral comments 18/11/20 - recommended for approval
The applicant has provided revised stormwater plans and a written response. The only change is to include two small swales.
Due to the highly impervious nature of the site and the water use expected from the large number of residents, the concern remains that this development does not meet Council's objectives for water sensitive urban design.
The applicant has claimed that biofiltration is not possible in flood-affected areas. Bio-filtration is designed to capture and treat flows during normal, small rainfall events and therefore they are suitable for use in flood-affected areas. The swales that have been added to the design do not make a significant difference to water quality due to their small area and the lack of roof catchment draining to them, but they will contribute to increased infiltration.
The applicant has claimed that rainwater/stormwater reuse is not possible in aged care due to infection risk. The Seniors SEPP specifies in Clause 36 that re-use should be incorporated where practical for second quality water uses (this includes toilets and laundry). The NSW Health guidelines for stormwater re-use state that rainwater/stormwater in aged care developments only needs to be treated to a very high level if being used for drinking. It is not accepted that re-use will create an unacceptable maintenance load.

While this proposal meets Council's requirements for water quality, it does not meet the requirements for water sensitive urban design. The addition of the swales is welcomed and must be retained, as infiltration is necessary to supplement flows to the coastal sands aquifer under the site.

The applicant is conditioned to include water re-use for toilets as a minimum (laundries should be included as well), which will reduce their consumption of potable water and the quantity of runoff from the site.

This referral supports the increase of deep soil landscaped area of the site wherever or however possible, as this will contribute to further infiltration of stormwater.

Referral comments 15/8/20
The applicant was provided with additional advice on what Council's expectations were for water management (email to Shebak Khan, ACOR Consultants):

"You will note that Pittwater 21 DCP B5.9 requires that you demonstrate application of water sensitive

urban design principles in your approach.

In the Northern Beaches, we consider the WSUD principles to be represented in development through:

1. Protecting and enhancing receiving environments
2. Appropriate treatment for reuse or discharge to receiving environments
3. Reducing potable water demand
4. Minimising wastewater generation and treating for reuse
5. Integrated vegetated stormwater treatment and harvesting systems into the landscape
6. Increased biodiversity, amenity and micro-climate benefits
7. Providing green infrastructure and green links.

While you have met the ‘targets’ for water quality, filters are not the best solution and may not remove as many pollutants (especially dissolved nutrients) as a vegetated device given equal maintenance conditions.

The design includes a 30kL rainwater tank. 1500sqm of landscaping typically requires 30kL water a year, perhaps less when a percentage of your landscaped area is paving, shaded, and the site is on the coast and receives a fair amount of rainfall. There is likely to be insufficient demand for the water in the external areas.

Filters are below ground and therefore owners cannot easily determine when they require maintenance.

The landscaping is all narrow strips around the perimeter of the lot, and is unlikely to provide any significant biodiversity or micro-climate benefits.

There is limited capacity to reduce potable water demand, and there is no recycling proposed.

There is no green infrastructure, although rainwater is being captured for use on landscaping.

To apply water sensitive design to a greater degree the development must consider one or more of the following:

- reduce their footprint to allow the incorporation of a vegetated stormwater device. This would need to be approximately 85sqm and could include swales, bio-retention strips alongside roads/paths. There are many ways to include treatment without having one large basin.
- Reuse rainwater internally for toilets and laundry and cooling towers (if used). Treatment is not required for any of these uses, and with the number of residents expected, will significantly increase reuse and reduce potable water demand.
- Incorporation of a roof garden, or green roof given the significant roof space available.

"

Referral comments 30/7/20
The use of filter cartridges for the removal of stormwater pollutants is not accepted for this development. The lot is located over a coastal sands groundwater aquifer and infiltration is important to maintain a balance against sea water ingress. Filters also fail to remove dissolved nutrients, and do not meet other objectives of water sensitive urban design.

The applicant must incorporate a vegetated infiltration device that removes pollutants according to the targets GPT 90, TSS 85, TP 65, TN 45 and a MUSIC model file to allow Council to check the parameters used.

The proposal is therefore supported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

Recommended Water Management Conditions:

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

Detailed Design of Stormwater Treatment Measures
A certificate from a Civil Engineer, stating that the stormwater treatment measures have been designed in accordance with the plans by ACOR Consultants, the conditions of the development consent and Council's Water Management for Development Policy.

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

Reason: Protection of the receiving environment.

Roofwater re-use
The applicant must capture roof water for use for toilet flushing, connecting to at least 50 percent of toilets within the building. Roof water may also be used to irrigate landscaping and internally for washing machines. All stormwater treatment measures must make provision for convenient and safe regular inspection, periodic cleaning, and maintenance.

Details demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To reduce potable water consumption and decrease stormwater runoff to protect receiving catchments.

Dewatering permit

A dewatering permit is required from Council's Catchment Team
at catchment@northernbeaches.nsw.gov.au to dewater tailwater from the sediment settling tank to be used as part of the sediment and erosion controls. The dewatering permit will also cover any dewatering required due to tailwater collecting in excavations.

To obtain a permit, the following information must be contained in a dewatering management plan and provided to Council's Catchment Team. 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).

1. Preliminary testing of groundwater/tailwater must be conducted by a NATA accredited laboratory to establish a correlation between NTU and TSS. This will allow the use of grab sampling at short notice prior to planned discharges.

2. Grab samples must be collected **within 1 hour before planned discharge** that comply with the parameters in the table below.

3. The groundwater/tailwater to be discharged must be compliant with the water quality requirements below, the General Terms of Approval/Controlled Activity permit issued by WaterNSW (if applicable), Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) (Blue Book), Council's Compliance and Enforcement Policy and legislation including Protection of the Environment Operations Act 1997 and Contaminated Lands Act 1997.

Water Quality (<one hour of planned discharge)

Oil and grease, not visible

pH, 6.5-8.5

Total Suspended Solids (TSS), <50mg/L NTU from a meter/grab sample

4. All approvals, 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.

5. 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. Where there is no stormwater pit within 100 metres of the site, Council's Catchment Team must be contacted to discuss alternative arrangements.

On receipt of a satisfactory dewatering management plan, Council's Catchment Team will issue a permit that will allow dewatering for up to one year.

A dewatering permit must be obtained from Council prior to the issue of the Construction Certificate.

Reason: Protection of the receiving environment

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

Substitution of Stormwater Treatment Measure
The substitution of an "equivalent" device for the stormwater treatment measure approved under the Development Consent must submitted to the Principal Certifying Authority for approval prior to installation.

Reason: To ensure stormwater is appropriately managed and in accordance with the Water Management for Development Policy.

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 ACOR Consultants.

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.

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

Certification for the Installation of Stormwater Treatment Measures
A certificate from a Civil Engineer, who has membership to Engineers Australia and the National Engineers Register must be provided, stating that the stormwater treatment measures and rainwater reuse system have been installed in accordance with the plans prepared by ACOR Consultants. The certificate must confirm that stormwater treatment measures are completed, online, in good condition and are not impacted by sediment. Vegetated measures must exhibit an 80 percent survival rate of plantings.

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

Reason: Protection of the receiving environment.

Positive Covenant, Restriction as to User and Registration of Encumbrances for Stormwater Treatment Measures
A positive covenant shall be created on the title of the land requiring the proprietor of the land to maintain the stormwater treatment measures in accordance with the standard requirements of Council, the manufacturer and as required by the Stormwater Treatment Measures Operation and Maintenance Plan.

A restriction as to user shall be created on the title over the stormwater treatment measures, restricting any alteration to the measures.

The terms of the positive covenant and restriction as to user 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. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant.

A copy of the certificate of title demonstrating the creation of the positive covenant and restriction as to user is to be submitted to the Principal Certifying Authority prior to the issue of the final Occupation Certificate.

Reason: To identify encumbrances on land, ensure ongoing maintenance, and ensure modification to the stormwater treatment measures is not carried out without Council's approval.

Stormwater Treatment Measures Operation and Maintenance Plan
An Operation and Maintenance Plan is to be prepared to ensure the proposed stormwater treatment measures remain effective.

The Plan must be attached to the Positive Covenant (and the community or strata management statement if applicable) and contain the following:

1. Detail on the stormwater treatment measures:
a) Work as executed drawings
b) Intent of the stormwater treatment measures including modelled pollutant removal rates
c) Site detail showing catchment for each device
d) Vegetation species list associated with each type of vegetated stormwater treatment measure
e) Impervious area restrictions to maintain the water balance for the site
f) Funding arrangements for the maintenance of all stormwater treatment measures
g) Identification of maintenance and management responsibilities
h) Maintenance and emergency contact information

2. Maintenance schedule and procedure - establishment period of one year following commissioning of the stormwater treatment measure:
a) Activity description, and duration and frequency of visits
Additionally for vegetated devices:
b) Monitoring and assessment to achieve an 80 percent survival rate for plantings
c) Management of weeds, pests and erosion, with weed and sediment cover limited to a maximum of 5 percent of the total area of the stormwater treatment measure

3. Maintenance schedule and procedure - ongoing
a) Activity description, and duration and frequency of visits
b) Routine maintenance requirements
c) Work Health and Safety requirements
d) Waste management and disposal
e) Traffic control (if required)
f) Renewal, decommissioning and replacement timelines and activities of all stormwater treatment measures (please note that a DA may be required if an alternative stormwater treatment measure is proposed)
g) Requirements for inspection and maintenance records, noting that these records are required to be maintained and made available to Council upon request.

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

Reason: Protection of the receiving environment.

Works as Executed Drawings - Stormwater Treatment Measures
Works as Executed Drawings for the stormwater treatment measures 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 Occupation Certificate.

Reason: Protection of the receiving environment.

Strata Management Statement
The Strata Management Statement must specifically list the stormwater treatment measures that will be maintained under strata title. The statement must also reference the approved Stormwater Treatment Measure Operation and Maintenance Plan.

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

Reason: To ensure maintenance of all stormwater management assets and protection of the receiving environment.

Installation of Water Efficient Fittings
The following Water Efficiency Labelling and Standards (WELS) Scheme rated fittings must be installed:

a) 4 star dual-flush toilets
b) 3 star showerheads
c) 4 star taps (for all taps other than bath outlets and garden taps)
d) 3 star urinals
e) 3.5 star washing machines
f) 4 star dishwashers

A certificate from a licenced plumber shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate demonstrating compliance with this condition.

Reason: To conserve potable water.

Maintenance contract for stormwater filtration cartridges
A minimum of a five-year contract with a suitably qualified provider is required for the maintenance of the stormwater filtration cartridges.

A copy of the maintenance contract must be submitted to the Principal Certifying Authority prior to the issue of the final Occupation Certificate.

Reason: To ensure maintenance of the stormwater treatment measures.

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

Maintenance of Stormwater Treatment Measures
Stormwater treatment measures and rainwater reuse systems must be maintained at all times in accordance with the Stormwater Treatment Measure Operation and Maintenance Plan, manufacturer's specifications to achieve the required stormwater quality targets for the development.

Vegetated stormwater treatment measures must maintain an 80 percent survival rate of plantings and limit weed cover to no more than 10 percent of the total area of the stormwater treatment measure.

Reason: Protection of the receiving environment.