Our Job Number: 240101
23 February 2024

Attn: LAXDTX 2 Pty Ltd
c/- Walsh Architects: Scott Walsh scott@walsharchitects.com.au

STORMWATER CONCEPT DESIGN STATEMENT

RE: STORMWATER MANAGEMENT PLANS FOR A PROPOSED RESIDENTIAL DEVELOPMENT WITH BASEMENT CARPARK AT 32 GOLF AVENUE, MONA VALE NSW

Please find attached the stormwater management concept plans in support of the pre-lodgement meeting for 32 Golf Avenue, Mona Vale.

At the request of LAXDTX 2 Pty Ltd, RTS Civil Consulting Engineers Pty Ltd was engaged to prepare a stormwater management plan for the proposed new residential development with basement carpark at 32 Golf Avenue, Mona Vale. The stormwater management plans are referenced below:

- SW001A - COVER PAGE, NOTES & CALCULATIONS SHEET 1 OF 2
- SW002A - COVER PAGE, NOTES & CALCULATIONS SHEET 2 OF 2
- SE100A - SEDIMENT & EROSION CONTROL PLAN
- SE200A - SEDIMENT & EROSION CONTROL PLAN DETAILS
- SW100A - SITE STORMWATER CATCHMENT & EASEMENT PLAN
- SW101A - BASEMENT STORMWATER MANAGEMENT PLAN
- SW102A - GROUND STOMRWATER MANAGEMENT PLAN
- SW200A - STORMWATER DRAINAGE DETAILS SHEET 1 OF 2
- SW201A - STORMWATER DRAINAGE DETAILS SHEET 2 OF 2
- SW300A - STORMWATER EASEMENT PIPELINE LONGITUDINAL SECTION

The designed stormwater management plans (referenced above) are in general accordance with the intent of the Building Code of Australia, Australian Standards AS3500.3 – Stormwater Drainage, the National Construction Code, Australian Rainfall & Runoff, Northern Beaches Council Council's Water Management Policy (2021), and discussions with Council engineers.

Below is a summary of the stormwater requirements and recommendations:

1. The subject site is described as SP57603, 32 Golf Avenue, Mona Vale. Site levels range from approximately RL 20.5m AHD fronting Golf Avenue to RL 17.2m AHD grading to the rear.
2. The site area is approximately 1,394m^2. The existing site contains attached double storey townhouses and internal concrete driveway. The site is located to the southern side of Golf Avenue, opposite the Mona Vale Golf Club.
3. There currently is an existing 225mm diameter stormwater drainage easement pipeline draining through 33 Darley Street East. The existing site drainage for the existing site is directed to the drainage easement. The drainage easement pipeline ultimately discharges to

Council's kerb and gutter in Darley Street East. There is a 375mm diameter reinforced concrete pipe (RCP) Council drainage pipeline fronting 35-39 Darley Street East.

   a. It is proposed to provide a new 375mm diameter reinforced concrete pipe (RCP) Council drainage pipeline and pit system to the existing downstream pit.

   b. DRAINS modelling of the existing and proposed stormwater pipeline regime has been assessed. Refer to Figure 1.0 of this report demonstrating no overflow for all storms up to and including the 1% AEP storm event.

4. It is proposed to pipe the development flows to the existing easement pipeline via a water quality system.

5. Water Sensitive Urban Design (WSUD) is required to ensure the stormwater quality targets are achieved according to Section 2.2.1 of Council's WSUD & MUSIC Modelling Guidelines.

   a. The computer program MUSIC was used to model the water quality requirements. Figure 2.0 of this report displays the MUSIC model calculations which indicate the proposed development meets the stormwater pollutant reduction targets required by Council.

   b. The rainwater tank system and Stormwater Quality Improvement Devices (SQID) located within three associated pits will achieve the Council targets on the treatment train.

   c. The SQID's proposed to treat the development size, in addition to the rainwater harvesting tanks (8,000L in total), are 3 x SPEL Stormsacks produced by SPEL (Atlan) or an equivalent approved device located within 3 x 450 x 450 minimum grated pits as well as a 5m^2 infiltration trench.

6. Although there is no Council rainwater harvesting requirement, the development is expected to be required by BASIX to provide a rainwater harvesting system.

   a. The rainwater tank shall provide for the development to service outdoor irrigation only in accordance with the requirements of the BASIX certificate, Sydney Water and AS3500.3.

   b. The tanks are to be watertight in accordance with HB 230-2008 Rainwater Tank Design and Installation Handbook of Australia.

   c. The rainwater harvesting system is to overflow into the adjacent site drainage system directed to the relevant downstream SQID's.

   d. A total of 8,000L rainwater harvesting volume has been recommended.

7. A 6,000L minimum volume pump-out tank with 2 x 10 L/s pumps are required to comply based on the following requirements:

   i. The pump-out system has been designed in accordance with AS3500.3 and Council requirements.

   ii. The pump-out system is to comprise of two (2) submersible type pumps. The two pumps are to be designed and installed to work on an alternative basis to ensure both pumps receive equal use and neither remains continuously idle.

   iii. Each pump shall have a minimum capacity of 10L/s or shall be based on the flow rate generated from a 1% AEP 2-hour duration storm event of the area of the basement that is draining into the system, whichever is greater.

   iv. An alarm warning device (including signage and flashing strobe light) shall be provided for the pump-out system to advise the occupant of pump failure. The location of the signage and flashing strobe light shall be shown on the stormwater management plans.

v. The volume of the pump-out tank shall be designed with a minimum storage capacity equivalent to the runoff volume generated from of the area of the ramp that is draining into the tank for a 1% AEP 2-hour duration storm event.

vi. Backflow prevention devices and measures shall be provided to the outlet of the pump-out system to minimise or eliminate the risk of backflows into the basement.

We trust that this letter and corresponding documentation meets the requirements set by Northern Beaches Council. Please contact the author if further clarification is required (or if the DRAINS or MUSIC files are required) on 0448 448 960 or via email at rhys@rtscivil.com.au.

Yours sincerely

RTS CIVIL CONSULTING ENGINEERS PTY LTD

Rhys Mikhail
Director | Principal Engineer | Design Practitioner
BEng (Civil) Hons MIEAust CPEng NER RPEQ APEC IntPE(Aus)

S:\RTS PROJECTS\2024\240101 - 32 Golf Avenue, Mona Vale\ENG DESIGN\240101 - SW Design Statement_01.doc

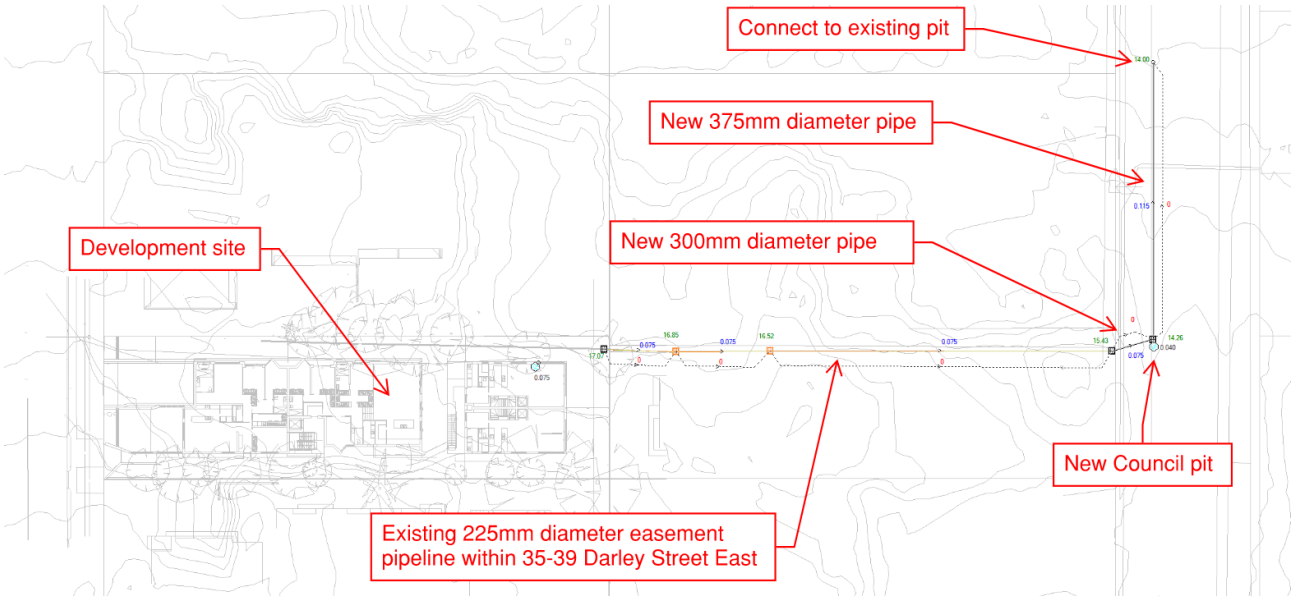
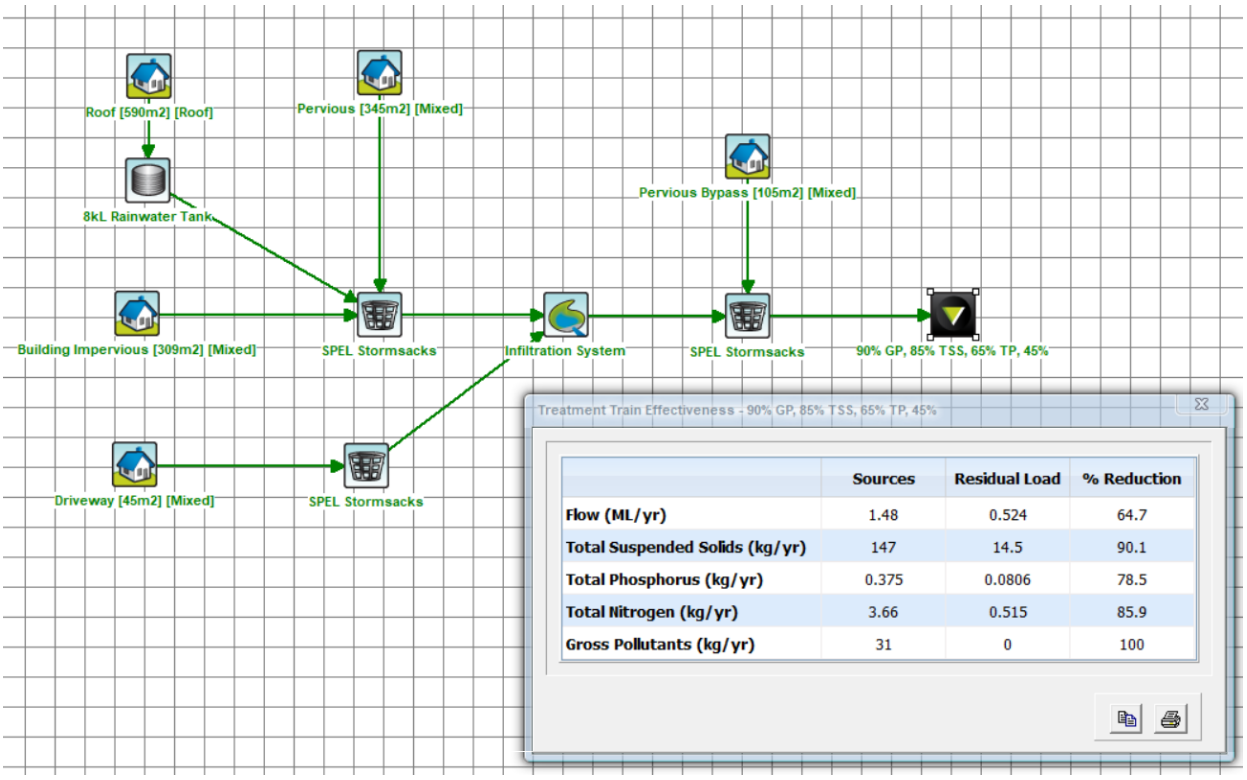


Figure 1.0 – 1% AEP DRAINS Model for Proposed Pipeline



	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.48	0.524	64.7
Total Suspended Solids (kg/yr)	147	14.5	90.1
Total Phosphorus (kg/yr)	0.375	0.0806	78.5
Total Nitrogen (kg/yr)	3.66	0.515	85.9
Gross Pollutants (kg/yr)	31	0	100

Figure 2.0 - Calculation Summary of the Development MUSIC Model