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Emma and Matt Smith
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c/o Marika Jarv <mj@marikajarv.com.au>

**Waterways Impact Statement in support of the proposed alterations and additions at 87 Wallumatta Road**

Dear Emma and Matt

## 1.0 Executive Summary

Stellen Consulting was engaged to assess the proposed alterations and additions at 87 Wallumatta Road in reference to potential risks and impacts presented to an existing natural watercourse through the site as a result of the proposed development.

This Waterway Impact Statement (WIS) has been prepared in accordance with the Northern Beaches Council's (Council) *"GUIDELINES for Preparing Waterways Impact Statement"* policy, advice from Council's Environment Officer (David Hellot) and supports the proposed alterations and additions.

Provided that the recommendations within this report are followed, no additional adverse impacts in terms of disturbance, erosion, sediment, or peak flows are expected to occur to the watercourse through the site as a result of the proposed development.

## 2.0 Site description and existing development

The property located at 87 Wallumatta Road, Newport is approximately 490 $m^2$ and naturally falls away from the street. The property is located within an existing gulley which ultimately drains to the Pittwater Waterway. The site is roughly bisected by an existing 600mm council owned stormwater pipe which discharges to a natural watercourse below the existing dwelling, midway through the site.

Existing development of the land consists of a two-storey brick dwelling. The site and surrounding locality is shown in Figure 1 below.

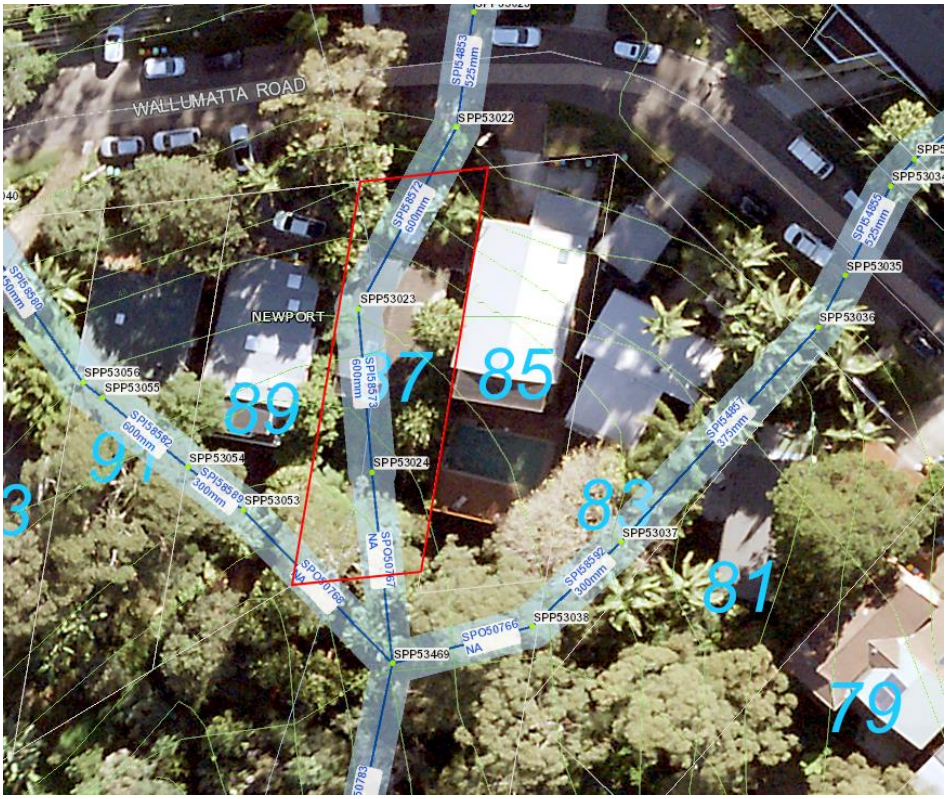


**Figure 1: Location of Subject Site (Northern Beaches Council. Image Jacobs & Aerometrex)**

## 3.0 Proposed Development

The development proposes alterations and additions to the existing dwelling including a ground floor extension to the rear and reconfiguration of the internal living space.

## 4.0 Flooding

Council supplied flood information identifies the site as being affected by an overland flow flooding during the 1% AEP event. For a flood risk assessment of the proposed alterations and additions please refer to the flood risk report prepared by Stellen Consulting (P170730-RP-FL-001).

## 5.0 Existing creek

The site is bisected by an existing council stormwater pipe that daylights below the existing dwelling and discharges into the waterway below approximately half-way up the site. The site (and creek bed) slopes steeply to the south with the orientation of the creek flowing north to south. The existing 600mm outlet below the existing dwelling is shown below in **Image 1**. The existing creek and its bed predominantly consist of large sandstone rocks. The eastern creek bank is formed by sandstone retaining walls and is no longer in a natural state (**Image 2**). The western bank of the creek is in a semi natural state and lined by large sandstone rocks. In spite of the banks and creek consisting largely of rock both banks are heavily vegetated and make accessing the creek somewhat difficult (Image 3). The width of the creek varies along its extent but is generally less than 2-3m with the creek bed approximately 0.5m to 1.5m wide.

**Image 1 - Existing sandstone headwall (looking north-east)**

**Image 2 - Existing creek (looking north)**

**Image 3 - Western bank looking east**

## 6.0 Assessment of potential risks posed to the creek

The following items have been identified as potential risks posed to the creek as a result of the proposed development.

- Erosion of existing banks and creek bed due to stormwater discharge.
    - The proposed development will discharge stormwater into the existing creek via a new piped connection near the existing 600mm headwall outlet. Erosion and scouring of the creek bed and its banks is not anticipated as the existing creek is predominately sandstone. No additional scour protection is proposed.
- Increase in stream flows
    - The development proposes a minor increase in impervious area for the site and will have a negligible impact on peak flows within the creek itself. Additionally, on-site detention is not recommended due to the existing widespread flooding of the site.
- Leeching of sediment generated during excavation and construction into the receiving waterway
    - Other than the small excavations required for the structural footings and pipework no significant excavation is required.
    - During construction erosion and sediment control will be managed in accordance with Landcom's "The Blue Book". A proposed erosion and sediment control plan has been prepare in support of the development to manage this risk (refer to Stellen Consulting drawing SD-100).
- Bank stability due to additional construction loads
    - The use of heavy equipment and machinery around the existing creek and its bank is not anticipated because of site access constraints.
- Bank stability due to long term loads as a result of the development.
    - The proposed deck is to be supported on piers taken into the underlying Medium Strength Sandstone (refer White Geotechnical report). White Geotechnical does not anticipate the creation of any geotechnical hazards as a result of the development provided the recommendations within its report are followed.
- Footing and piers constructed within creek bed, blockage of flows

- No footings, piers or other structures are proposed within the creek bed. The proposed footings and piers will be located either side of the creek as far as feasible to limit any disturbance of the creek itself.

## 7.0 Conclusion and recommendations

Based on an assessment of the risks presented to the existing creek by the proposed development the following is recommended:

- All footings piers and structures must be:
  - located clear of the creek bed so as not to impede the flow of water through the creek.
  - located as far as feasibly possible from the creek itself to limit any disturbance.
  - installed in accordance with the recommendations of the geotechnical and structural engineers.
- The proposed erosion and sediment control plan (SD-100) must be followed during construction.

Provided that the recommendations within this report are followed, no additional adverse impacts in terms of disturbance, erosion, sediment or peak flows are expected to occur to the watercourse through the site as a result of the proposed development.

Kind regards,

Logan English-Smith
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**Drawing List**

NB Council PLM notes PLM2019/0146

Survey by DP Surveying
Ref: 3097 (28.03.2018)

Architectural Plans by Marika Jarv all dated 08.07.2019

MASTER SET 1:100

| | |
|---|---|
| FG01-PLDA | Existing Floor Plan |
| FG02-PLDA | Proposed Floor Plan |
| FG03-PLDA | Section AA |
| FG04-PLDA | Section BB |
| FG05-PLDA | West Elevation |
| FG06-PLDA | East Elevation |
| FG07-PLDA | South Elevation |