

Our ref: 1723

26 June 2018

RE: 190 Bowral St – Proposed Rezoning

Comment on Flooding and Storm water Servicing of the land

Background

We have been requested by the owner of the site comprising Lot 13 Sec D DP 192732 and Lot 131 DP 524470 (known as 190 Bowral St) to undertake an initial review of storm water disposal, flooding implications and sewer servicing of a proposed residential development of the site and adjoining lands. The owner is seeking a rezoning of the land to reduce the minimum lot size from 2000m² to 500m² to provide for greater density residential development of the site consistent with surrounding development in this part of Bowral.

Concept layout plans for the development have been prepared by Nicholas Bray Landscape Architects to support the planning proposal and we have considered those layouts in this report

Flooding & Overland Flows

The site is located within the catchment area that has been modelled by the Bowral Flood study undertaken by Bewsher and adopted by Wingecarribe Shire Council. Figure 1 below is taken from the flood study map produced as part of the study and it can be seen that the site is completely outside the 100 year flood extents apart from a very small portion in the NW corner of the site .

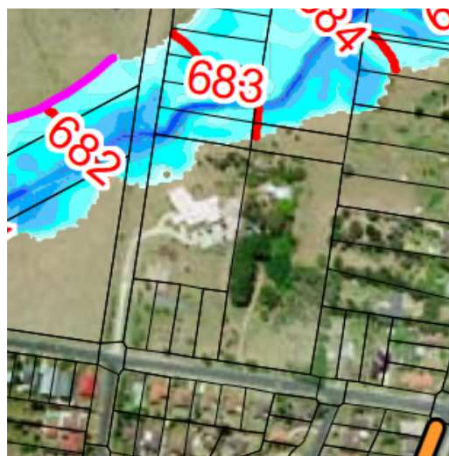


Figure 1 – Extent of flooding from Bewsher Figure 18B – 100 Year Design Flood – Bowral Floodplain Study

We note that the site is shown as low flood fringe area on the flood risk precinct map. This classification allows for residential development with no restrictions or controls according to the Bowral Town DCP.

We have examined the site for potential impact from more localized overland flow in large events and make the following points:

1. LIDAR contour data obtained for the site does show a localized depression which runs through the site from NE to SW and joins into Bowral St. The depression corresponds with a low point of Old South Road to the East
2. In previous times there has been overland flows which have created nuisance flooding for properties fronting Old South Road through this depression due to the limited capacity of a culvert which is located further north on Old South Road – refer attached mark up.
3. Recently this culvert has been substantially upgraded / upsized along with reconstruction of this section of Old South Road. The eastern side of Old South road has also been developed as a residential subdivision and a large detention basin is located to line up with the culvert crossing to collect stormwater run off from the development
4. This combination of road upgrade and formalization of storm water flows on the Eastern side of Old South Road will serve to prevent the flows which previously overtopped Old South Road at the start of this depression area from now entering the depression. Overland flows should be substantially reduced and limited to the flows generated from rainfall on the western side of the road only

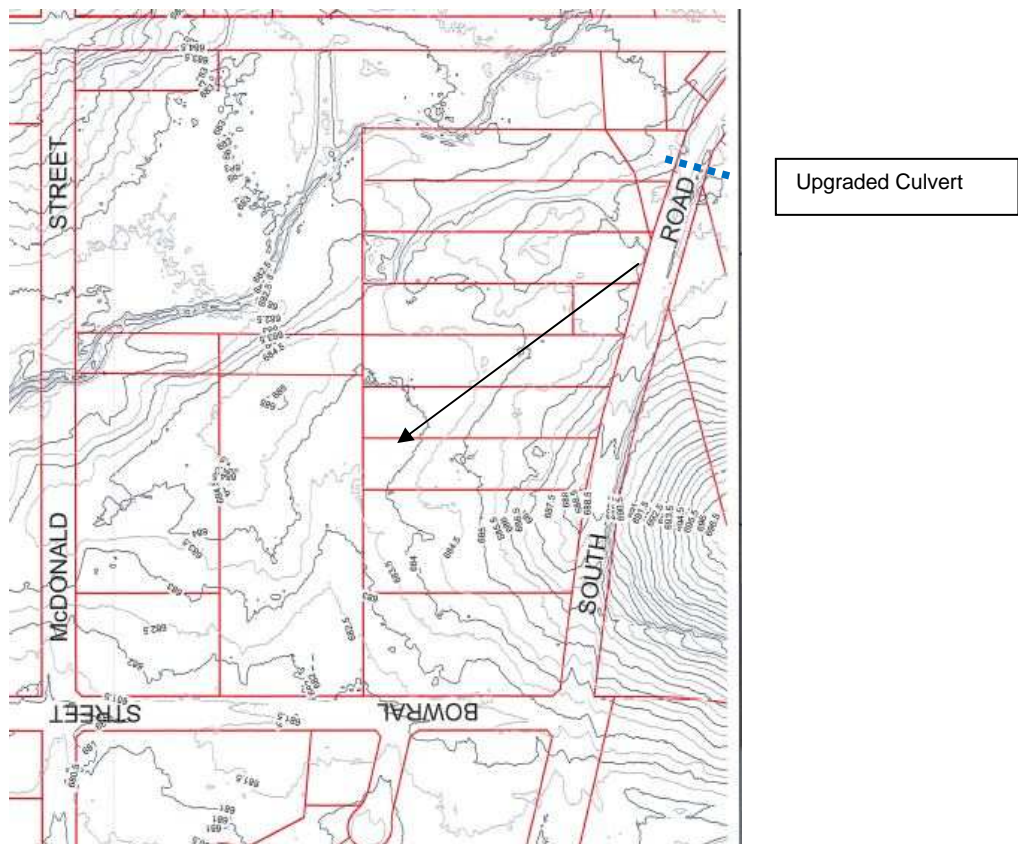


Figure 2 – LIDAR Contours – mark up of depression area & Culvert

Stormwater Drainage

Storm water disposal for this development could be designed to be discharged to Bowral Street and also to Mittagong Creek to the west of the site through lot 22 D 192732 which is also owned by the registered owner of the subject site. The contours would allow a road system to be constructed such that it could provide outlets in both locations.

On site detention could be achieved by provision of infrastructure to be dedicated to council on Lot 22 and potential at the frontage of Bowral Street.

Existing infrastructure is limited in Bowral Street and it is expected that pit and pipe and kerb and gutter would be required within Bowral Street to serve the development. The extent of this pit and pipe system would need to be confirmed by council but may be required to run to the current culvert over Mittagong Creek to the west of the site

It is not expected that there are constraints that would prevent the design of a suitable stormwater system to satisfy council's engineering guidelines for residential development and to meet water quality targets set by Water NSW

Sewer Reticulation

The site is in the vicinity of councils existing gravity sewer reticulation system. It is envisaged that gravity sewer could be provided for lots within the proposed development by construction of a new sewer reticulation system draining to Bowral St which could then connect into existing gravity mains located within properties on the Southern side of Bowral Street or taken west along Bowral St to connect somewhere in MacDonald Street on the Southern side of Bowral St.

Yours faithfully
Civil Development Solutions

Richard Anderson
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