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& PARTNERS

ENGINEERS PLANNERS SURVEYORS ENVIRONMENTAL PROJECT MANAGEMENT

PRELIMINARY STORMWATER MANAGEMENT PLAN

Lot 2 DP 620838
9 Byron Bay Road, Lennox Head

For:



November 2018

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1. Introduction

Ardill Payne and Partners (APP) has been commissioned by Ballina Shire Council to develop a Preliminary Stormwater Management Plan (SMP) to support the rezoning application for Lot 2 DP 620838 located at 9 Byron Bay Road, Lennox Head. The preliminary SMP is required to demonstrate compliance with the Ballina Shire Council (Council) *'Development Control Plan 2012 (DCP) – Chapter 2'* and Council's *'Stormwater Standards for Development'*.

The objective of this preliminary stormwater assessment is to:

- introduce a lawful point of discharge for the future development
- propose a location for an onsite detention pond to enable restricting post-development stormwater flows to pre-development rates
- propose methods to improve post-development stormwater quality.

2. Site Condition

The locality of the subject 0.985ha site is shown below in **Figure 1**.



Figure 1: Site Locality Plan

The site falls generally in an east to west direction at grades of about 9%. The current condition of the site is shown in **Figure 2**. As shown, the site currently includes an existing residential building, associated driveway, a shed and open vegetated areas.



Figure 2: Aerial view of the site at 9 Byron Bay Road, Lennox Head

It is proposed that the site will be partly used for the future extension of Hutley Drive to Byron Bay Road. The proposed road footprint within the site is shown in **Figure 2**. As shown the proposed road will divide the site creating an eastern and western portion.

The site has a total of 0.6ha external catchment including Lot 1 DP 620838 (known as Telstra site), and a small portion of North Creek Road. As of the date of this report a development plan for the site has not been prepared. Provisions regarding diversion of the external catchment will be provided in the next study stage with more information regarding the site development plan.

The site runoff is currently discharging from the western boundary to the existing neighbouring properties. The natural discharge point of the site is located approximately in the middle of the western boundary. Discharge to the neighbouring properties in the developed condition will not be possible.

The site land use in the existing condition is shown in **Table 1**.

Table 1: Site current land use

Land Use	Existing
Roads and Driveways	240 m ²
Roofs	430 m ²
Vegetated Areas	9180 m ²
Site Perviousness	93.2 %

3. Proposed Stormwater Management

The main concepts of the site stormwater management were discussed with Council in a meeting dated 7th November 2018. In this meeting, Hutley Drive was determined as the site discharge point. Furthermore, the draft road design (prepared and provided by Council) was reviewed to ensure connecting the site stormwater discharge pipe to the future piped road drainage was possible.

The proposed preliminary SMP concept plan is provided in **Attachment 1** and is summarised below.

- The proposed future extension of Hutley Drive will divide the site into an eastern and western portion. Runoff from the eastern portion will be diverted to the proposed road drainage. Runoff from the western portion will be collected in a detention storage located at the western boundary, from where it will be piped south to connect to the proposed road drainage. Piped drainage in Hutley Drive will have to be designed to a suitable size and level to accommodate this connection.
- Depending on the future development plan, an underground or open detention storage will be located at the site sag point located almost in the middle of the western boundary. The detention storage will be sized to mitigate the site post development peak flows to quantities equal to or less than the existing condition. The discharge from both eastern and western portion of the site will be considered in sizing the detention volume.
- Based on Council's request, the site detention storage and drainage system will be designed to prevent stormwater discharging to the western neighbours for flows up to 100 year events. It may be necessary to fill part of the western portion to achieve the required falls for surcharge flows, with a bund or kerb required along part of the western boundary. Some retaining of fill may be required along the western boundary.
- Stormwater quality treatment measures such as rainwater tanks, vegetation buffers, and/or bioretention swales will be used for stormwater quality treatment in accordance to Council's defined objectives. The arrangement of the stormwater quality treatment train will be provided in the future study stage after preparation of the site development plan.
- Hutley Drive is considered a separate development project and the road SMP is not the subject of this study.

4. Conclusion

This Preliminary SMP allocates a lawful discharge point to the site and demonstrates that compliance with Council's requirements with respect to stormwater quantity and quality will be possible.

The site SMP will need to be further developed at the DA stage based on the site development plan. In development of the site SMP the necessary hydraulic and stormwater quality modelling will be undertaken.

5. Scope of Engagement

This report has been prepared by Ardill Payne & Partners (APP) at the request of Ballina Shire Council for the purpose of Preliminary Stormwater Management Planning at 9 Byron Bay Road, Lennox Head and is not to be used for any other purpose or by any other person or corporation.

This report has been prepared from the information provided to us and from other information obtained as a result of enquiries made by us. APP accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

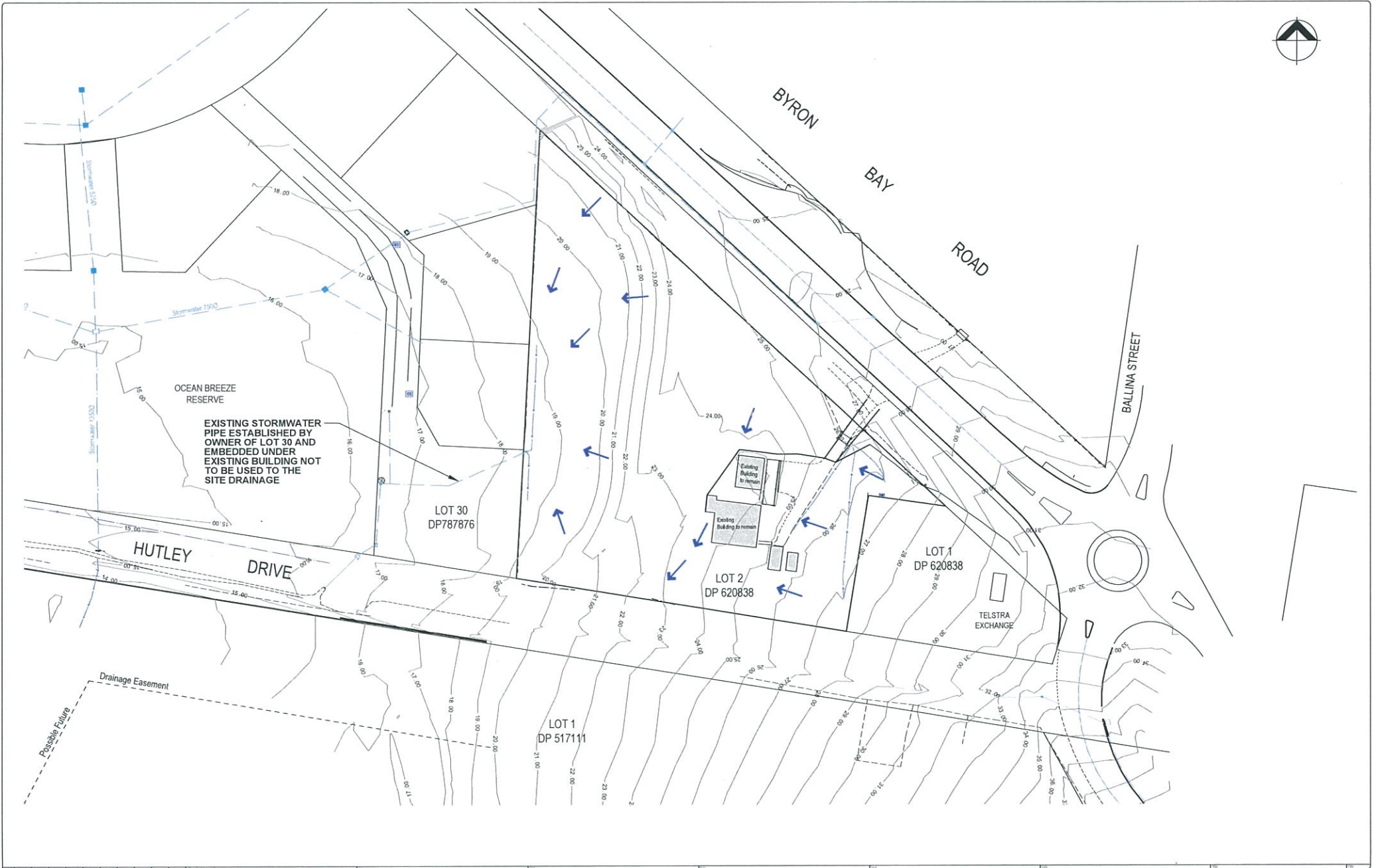
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APP declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately it is recommended that you consult with APP before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

6. Attachment

Preliminary Stormwater Concept Plan



Issue	Date	Description	App'd
P1	20-11-18	PRELIMINARY ISSUE	PG

Client:
BALLINA SHIRE COUNCIL

Project:
REZONING APPLICATION
LOT 2 DP620838 9 BYRON BAY ROAD, LENNOX HEAD

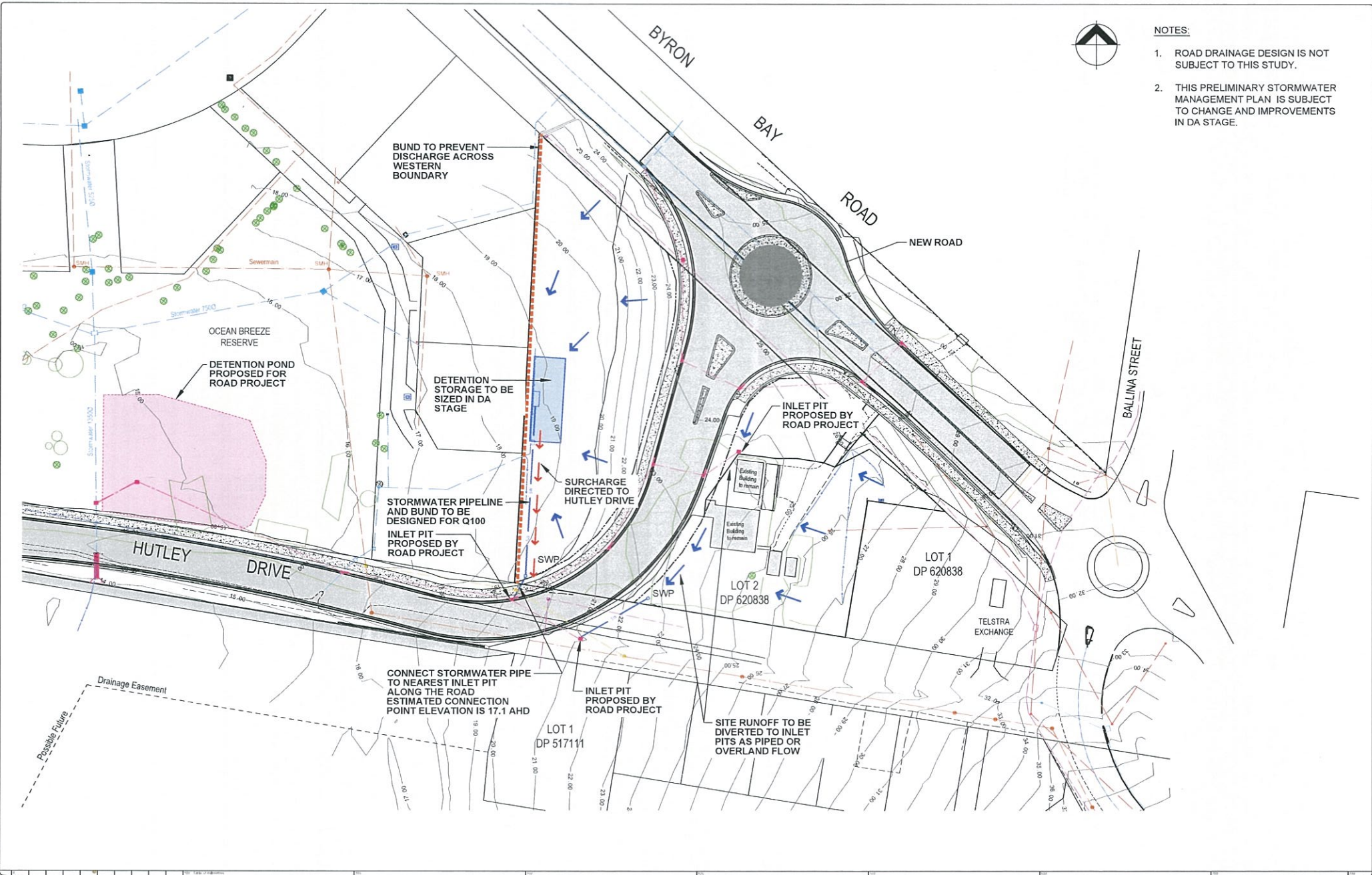
Title:
EXISTING SITE LAYOUT

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		Issue P1



- NOTES:**
1. ROAD DRAINAGE DESIGN IS NOT SUBJECT TO THIS STUDY.
 2. THIS PRELIMINARY STORMWATER MANAGEMENT PLAN IS SUBJECT TO CHANGE AND IMPROVEMENTS IN DA STAGE.

Issue	Date	Description	App'd
P1	20-11-18	PRELIMINARY ISSUE	PG

Client:
BALLINA SHIRE COUNCIL

Project:
REZONING APPLICATION
LOT 2 DP620838 9 BYRON BAY ROAD, LENNOX HEAD

Title:
PRELIMINARY STORMWATER CONCEPT PLAN

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