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Flood Assessment Report – In-fill Affordable Housing, Edmondson Park Precinct 9 (Rev C)

1. Executive Summary

The proposed works involve an infill affordable housing development within Edmondson Park Precinct 9, located immediately south of Maxwell Creek. This report has been prepared to address the flood-related requirements of the Secretary's Environmental Assessment Requirements (SEARs), particularly SEAR No. 19 relating to flood risk, and to assess compliance with Liverpool City Council's flood-related planning controls.

Review of adopted flood studies by Liverpool City Council confirms that the site is not flood-prone and lies outside the Probable Maximum Flood (PMF) extent. The proposed lobby level of RL 54.300 is situated well above the adjacent PMF level, and therefore a detailed Flood Impact and Risk Assessment is not required to satisfy the SEARs. As the site is not flood-affected, no flood risk management measures are required.

GRC has also assessed the potential for local overland flooding. A small upstream catchment of approximately 2.3 ha contributes runoff toward the site. Hydraulic modelling of existing conditions shows that this catchment generates only minor flows (approximately 0.5 m³/s in the 1% AEP event), which are typically managed through standard stormwater design and do not present a design-critical flooding constraint. Overland flows can be effectively managed during detailed design.

Overall, the site is not flood-affected under either mainstream or overland flooding mechanisms, and no flood-related statutory requirements or Council controls apply for the proposed development.

2. Introduction

GRC has been engaged by Landcom to undertake a flood assessment for the proposed in-fill affordable housing development within Edmondson Park Precinct 9. The site is legally known as Lot 40 DP1286151, and the development will be located on future lot 401 and 402 which will be created after subdivision of the larger Lot 40. The development is also known as Block 20a. The site is located within the Maxwell Creek catchment, on the eastern bank of the creek just downstream of Buchan Avenue.

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The latest architectural plan “20230302_Block 20A_SSDA_Architectural Drawings.pdf” (Fuse Architects, Mar 2026) has been reviewed as part of this assessment. The design adopts a proposed lobby level of RL54.300, which forms the reference level for the flood assessment.

This report addresses the flood-related requirements of the Secretary’s Environmental Assessment Requirements (SEARs) and to assess compliance with Liverpool City Council’s flood-related planning controls under the Local Environmental Plan (LEP 2008) and Development Control Plan (DCP 2008).

3. SEARs Flood-Related Requirements

As part of the State Significant Development Application (SEARs Application Number: SSD-99909078), the “Planning Secretary’s Environmental Assessment Requirements – Housing, NSW Department of Planning, Housing and Infrastructure” has outlined the following flood risk requirements for the development.

19. Flood Risk

- Identify the flood planning area and level as set out in the relevant EPI and other supporting documents to determine;
 - The flood extent and velocity up to the Probable Maximum Flood and risk on-site having regard to adopted flood studies and, floodplain risk management studies and plans.
 - The site access and egress routes.
 - The potential effects of climate change,
 - Any relevant provisions of the NSW Flood Risk Management Manual, and any other relevant guidelines.
- Where the development is occurring on flood prone land a flood impact and risk assessment (FIRA) must be prepared having regard to the *Flood Impact and Risk Assessment – Flood Risk Management Guide LU01*. When determining the scope and category of the FIRA the requirements outlines in the FIRA guide must be considered.
- Detail any flood risk management measures that are to be incorporated as part of the development having regard to relevant guidelines (including any design solutions, flood modification measures, property modification measures, operational procedures or Flood Emergency Response Plan).

4. Background Flooding Information

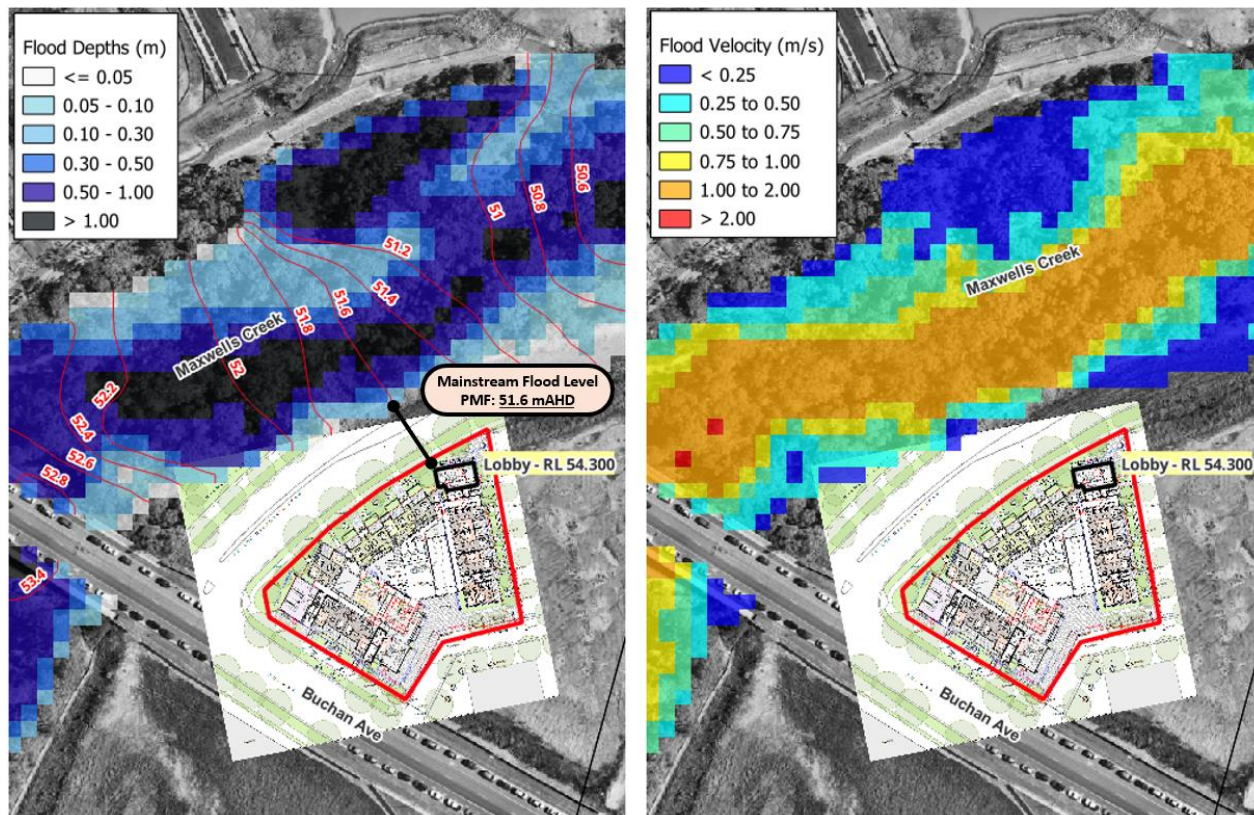
4.1. Mainstream Flooding Context

The site lies within the broader Cabramatta Creek catchment, which has been modelled in the *Cabramatta Creek Flood Study and Basin Strategy Review* (Bewsher, 2011) and the subsequent FloodMit (2014) update. These studies focus on mainstream flooding from Maxwells Creek and Cabramatta Creek.

As shown in Image 1, the site is flood-free in the Probable Maximum Flood (PMF). Since the PMF defines the outer extent of the Flood Planning Area (FPA) under the Liverpool City Council’s LEP and DCP framework, this confirms that the site is outside the FPA and is unaffected by mainstream flooding.

The proposed lobby level of RL54.300 (Fuse Architects, March 2026) has been compared with the adopted PMF level adjacent to the site, which is approximately 51.6 mAHD. The lobby is therefore situated well above the PMF and is not subject to mainstream flood risk.

Image 1: PMF Flood Extent and Velocity (Bewsher, 2011) with Architectural Plan Overlay



4.2. Overland Flooding Context

The adopted flood studies assess mainstream flooding only and do not include local overland flow behaviour on the site. To address this, this assessment includes a high-level review of the small upstream catchment and the potential for local overland flow, as outlined in Section 5.

5. Overland Flooding Liability

To define the potential for overland flooding at the site, a review of available topographic data and local catchment characteristics was undertaken.

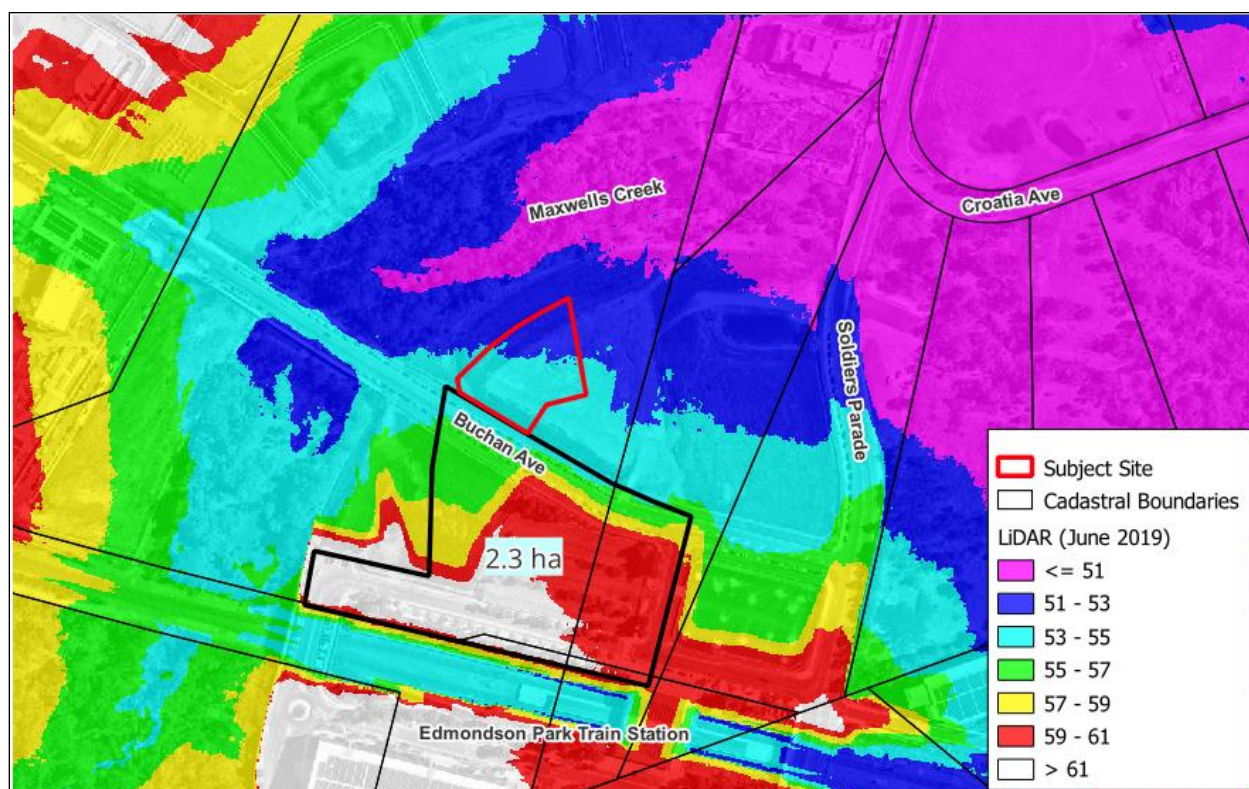
5.1. Overview of Overland Flow Catchment

Analysis of the publicly available LiDAR dataset captured in June 2019 indicates that a small upstream catchment of approximately 2.3 ha drains towards the site (see Image 2). This catchment extends south from Buchanan Avenue toward Edmondson Park Station.

A catchment of this scale is not capable of generating hazardous or design-critical overland flows, and standard drainage infrastructure is typically sufficient to manage runoff from an area of this size. In our professional opinion, flows generated from the 2.3 ha catchment can be readily managed through detailed design and do not present a significant overland flooding constraint to the proposed development.

Further modelling of this catchment is presented in Section 5.2 to confirm this conclusion.

Image 2: Existing Ground Levels (Source: Lidar, June 2019)



5.2. Flood Modelling Approach and Outcomes

A conservative rainfall-on-grid model was developed to assess existing overland flow behaviour within the Maxwell Creek catchment and the small upstream catchment contributing to the site. The publicly available June 2019 LiDAR dataset was adopted as the baseline terrain for this assessment.

A detailed site survey (August 2025) was reviewed to inform the understanding of local ground conditions; however, discontinuities between the survey and surrounding LiDAR levels meant that the survey could not be reliably incorporated into hydraulic modelling. The LiDAR dataset was therefore used exclusively for the existing-conditions model.

Flood depth mapping for the 1% AEP and PMF events are presented in Figure 1. The modelling indicates that overland flow generated from the upstream 2.3 ha catchment is minor, with a peak flow of approximately 0.5 m³/s in the 1% AEP event. Flows of this magnitude are typically managed through standard stormwater drainage design and do not present a significant overland flooding constraint to the

proposed development. The contributing catchment will not increase under the proposed layout, and no adverse change in overland flow magnitudes or behaviour is expected.

6. Compliance with Statutory Requirements and Council Controls

6.1. SEARs Flood-Related Requirements

SEAR 19 Requirement	Response
Identify the flood planning area and level; determine flood extent and velocity up to the PMF; consider adopted flood studies and floodplain risk management plans.	Review of Council's flood studies confirms that the site lies outside the Flood Planning Area. The adjacent PMF level (approx. RL 51.6 mAHD) is well below the proposed lobby level of RL 54.300. Flood extent and velocity information are presented in Section 4.1, which show that mainstream flooding from Maxwell Creek does not affect the site.
Identify site access and egress routes.	The site remains flood-free up to and including the PMF, which means access and egress to and from the development are maintained during the full range of mainstream flood events considered in Council's adopted studies. No flood-related access or egress constraints apply.
Consider the potential effects of climate change.	Climate-change-related increases in mainstream flood levels do not affect the site's status, as the proposed lobby level (RL 54.300) remains several metres above the adjacent Maxwell Creek PMF level (approx. RL 51.6 mAHD). The site therefore remains flood-free under climate-adjusted mainstream conditions. For overland flooding, the upstream catchment is small (2.3 ha) and generates only minor flows. Even with climate-change-related increases in rainfall intensity, these flows would remain within the capacity of standard stormwater design and would not create a design constraint.
Where the development is occurring on flood prone land, a Flood Impact and Risk Assessment (FIRA) must be prepared having regard to the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01.	As demonstrated in Section 4.1 of this report, the site is outside the Flood Planning Area and is not flood-prone under Liverpool City Council's adopted flood studies. Because the site is not flood-affected by mainstream flooding, this requirement does not apply.
The assessment must detail any flood risk management measures to be incorporated as part of the development, including any design solutions, flood modification measures, property modification measures, operational procedures or a Flood Emergency Response Plan.	The site is not flood-prone, and the proposed lobby level (RL 54.300) is well above the adjacent PMF level, no flood risk management measures are required.

6.2. Council Flood Controls (LEP and DCP)

The flood-related development controls in the Liverpool LEP 2008 (Clause 5.21) are not applicable, as these provisions apply only to land within the FPA. For the same reason, the mainstream flooding controls in the Liverpool DCP 2008 do not apply to the proposed development.

The assessment of overland flooding presented in Section 5 confirms that the upstream catchment is limited to approximately 2.3 ha and generates only minor flows (approximately 0.5 m³/s in the 1% AEP event). These flows are typically managed through standard stormwater design and do not present a material overland flooding constraint. Accordingly, the DCP overland flow controls are also not applicable.

Overall, the site is not flood-affected under either mainstream or overland flooding mechanisms, and no flood-related statutory requirements or Council controls apply to the proposed development.

7. Conclusion

The assessment confirms that the site is not flood affected under either mainstream or overland flooding mechanisms. Review of Liverpool City Council's adopted flood studies shows that the site lies outside the Probable Maximum Flood extent and is therefore not flood prone. The proposed lobby level of RL 54.300 sits well above the adjacent PMF level, and mainstream flooding from Maxwell Creek does not pose a risk to the development.

The upstream overland flow catchment is limited to approximately 2.3 ha, and hydraulic modelling demonstrates that the resulting flows are minor and typically managed through standard stormwater design without presenting a design-critical flooding constraint.

Because the site is not flood prone and neither mainstream nor overland flooding presents a constraint, no flood risk management measures are required, and no further flood modelling is necessary to support the proposal. Flood-related requirements under the SEARs, and flood-related controls under the Liverpool LEP and DCP, do not apply to this development.

Yours Sincerely

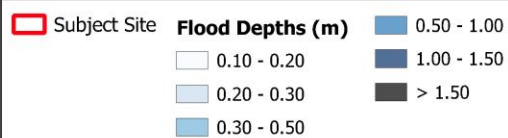
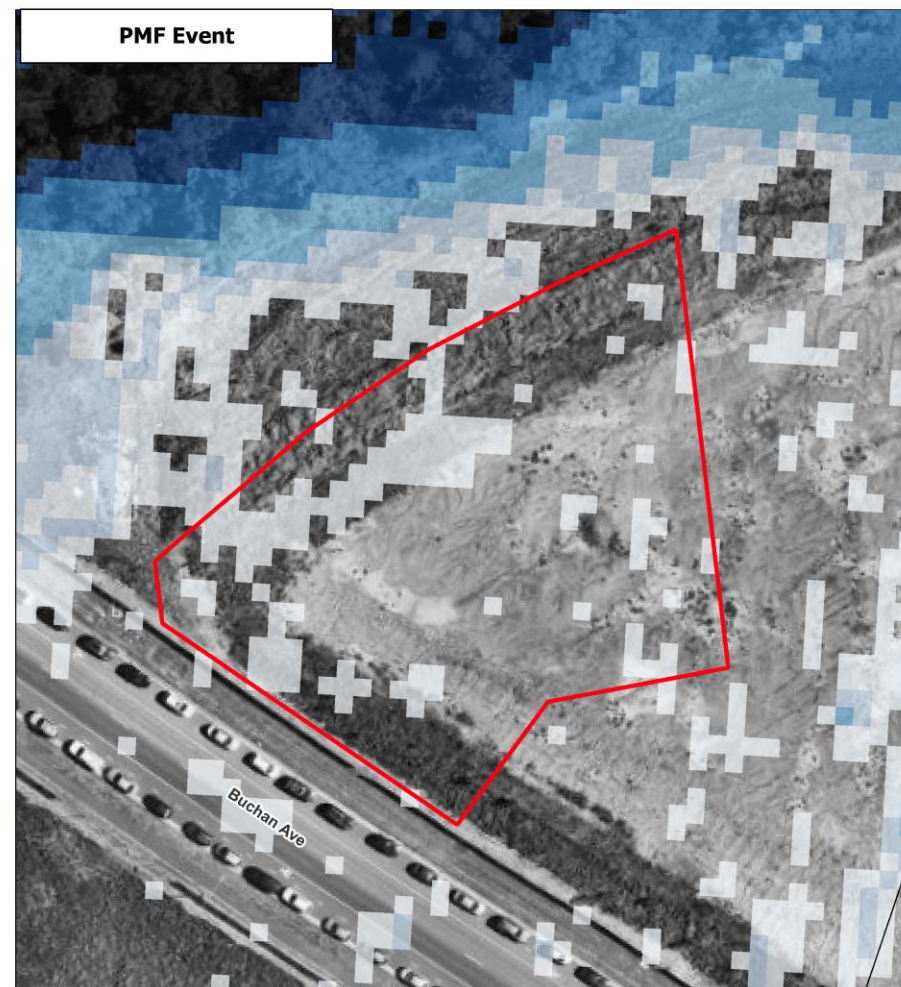
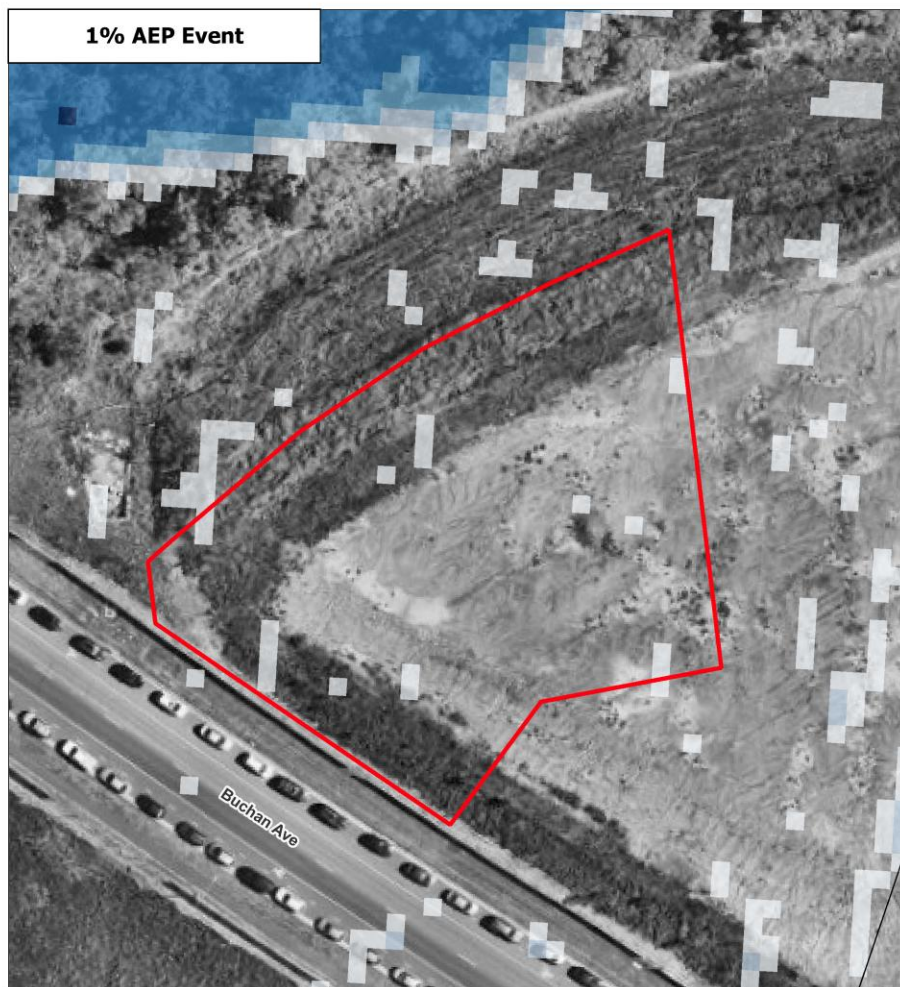


Steve Gray

Director

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FIGURES



NOTE: Depths less than 0.10m not presented on mapping



TITLE: 1% AEP and PMF Flood Depths	PROJECT: In-fill Affordable Housing, Edmondson Park Precinct 9	PROJECT No. 250094	DATE: 03-2026	SCALE: 1:625	FIGURE No. 1
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