

COMPANY NAME	Hames Sharley
ATTENTION	Denise Harper
SUBJECT	The Family Place Woodridge Flood Risk Assessment

Dear Denise,

Wallbridge Gilbert Aztec (WGA) have been engaged to provide preliminary flood risk and stormwater drainage advice with regards to the expansion of The Family Place Community Centre located at 35A and 35B North Road, Woodridge QLD 4114.

1. INTRODUCTION

This memorandum contains preliminary considerations and due diligence for stormwater and flooding impacts in accordance with the Logan City Council Flood Overlay Plan.

2. AVAILABLE INFORMATION

The flood risk assessment is based on the following information available at the time of issue:

- Council Property Flood Report (see Appendix A)
- Logan City Council Planning Scheme Policy
- Bennett & Bennett Site Survey (see Appendix B)
- Queensland Globe

This accuracy and detail of this information is likely to change as the project develops and as such the advice and project direction is subject to change.

3. EXISTING SITE CONDITIONS

The site generally falls from the west to the east towards Orchid Street with an average slope of 4%. The existing southern building slab level is RL 30.27m Australian Height Datum (AHD) while the northern building slab level is RL 29.87m AHD. The eastern portion of the site is a grassed play area.

There is a natural overland flowpath depicted by the blue arrows in Figure 1 with the extents highlighted in white. This flowpath has an upstream catchment of approximately 34ha as shown in Figure 2. These overland flow extents are indicative only. There has not been reports of ponding of water within the site boundary, so it can be assumed that the overland flow is likely shallow and does not pond for extended periods of time.

The earthworks are to consider this flowpath and ensure that it is unobstructed so that the building pads achieve a minimum of 300mm freeboard, and the downstream properties are not affected.

A survey conducted by Bennett & Bennett did not pick up any stormwater infrastructure within the property boundary. There were field inlet pits located within a natural overland flowpath. No additional stormwater infrastructure is recommended for the scope of works. Refer to Appendix B for the survey.

4. PROPERTY FLOOD REPORT

A property flood report was obtained for Lots 3 and 4 RP 126257 through the Logan City Council Flood portal. The property flood report for both lots indicate that the site is not considered a flood risk area. Figure 3 shows that the site is not subject to flooding from Slacks Creek in all events up to and including 0.05% Annual Exceedance Probability (AEP).

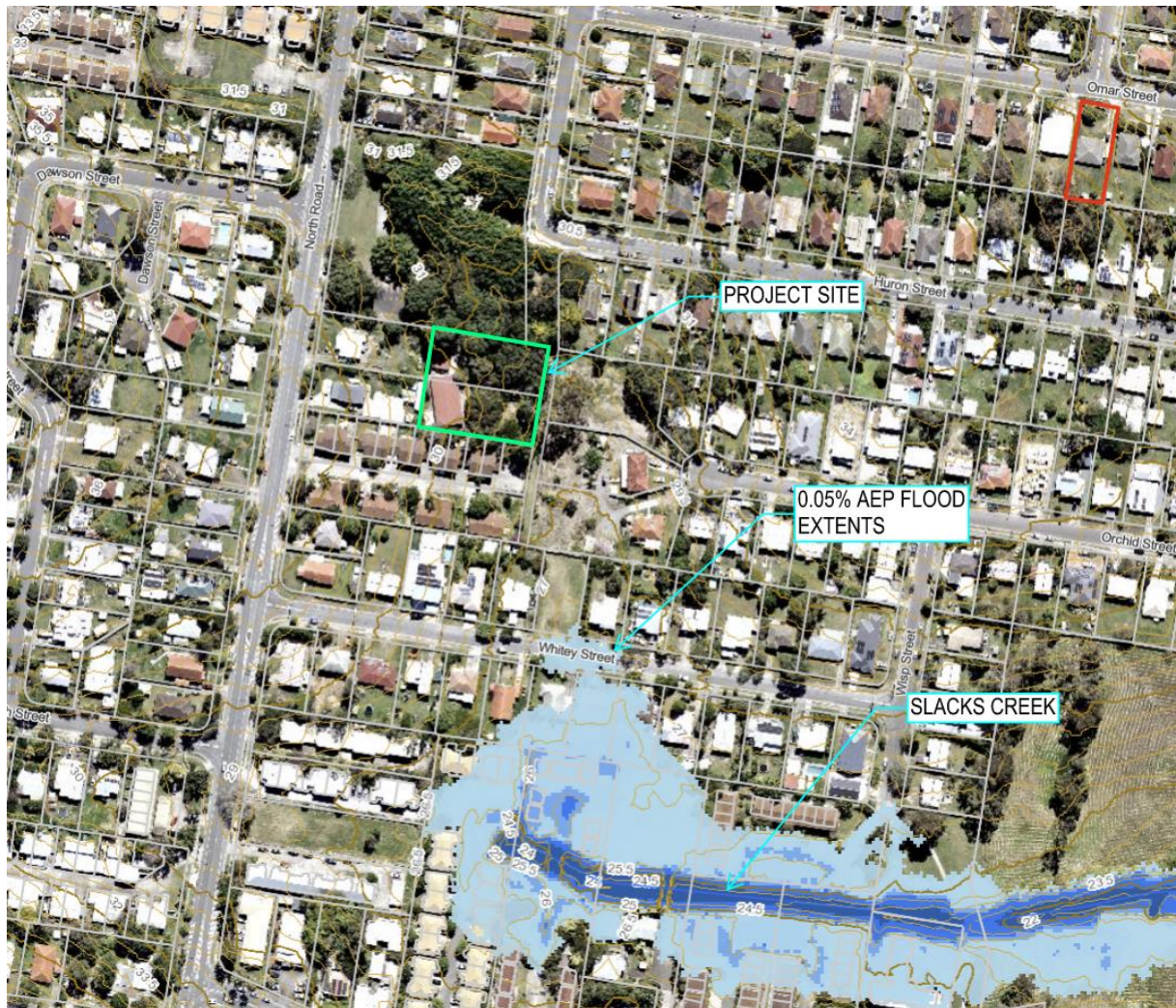


Figure 3: Slacks Creek 0.05% AEP Flood Depth Map

Figure 3 depicts the 0.05% AEP flood extents and levels. The maximum flood level is RL 27m AHD, therefore the minimum building pad levels are to be set at RL 27.3m AHD to achieve minimum freeboard. Logan City Council Planning Scheme Policy Section 8.2.5 states that the “development does not directly, indirectly or cumulatively adversely impact the function and conveyance of flood waters and overland flowpaths on the premises and off-site, including adjoining premises, infrastructure and the environment”. As a result, the natural overland flowpath is to be maintained and unchanged due to the upgrades.

5. SCOPE OF WORKS

The scope of design works is to demolish and reconstruct the northern building and retain and refurbish the southern building. Refer to Figure 4 for existing buildings. Figure 5 shows the proposed architectural layout and extent of works. There is approximately 8% increase in impervious area, which is considered negligible for a small site. Considering that the site itself is less than 2,500m² and outside the flood risk areas, it is unlikely that there will be a significant change in runoff. Consequently, this is not predicted to impede the overland flowpath or downstream properties.



Figure 4: Existing Buildings



Figure 5: Proposed Upgrades

The existing southern building (to be retained) slab level is currently at RL 30.27m AHD. The intent is to build the new administration building to match this level. This will result in the floor level increasing by approximately 400mm compared to current. The tie in point along the northern boundary is unchanged, therefore the impact of the development is predicted to be minimal and no upgrades to the upstream infrastructure would be required.

6. WATER QUANTITY

Based on the survey and proposed plan it is understood that the pre-development impervious area on site is approximately 370m² and the post-development works to have an approximate impervious area of 560m², this will have an increase in the impervious area of 190m². This will be an approximate 8% increase in the imperviousness on site.

Based on above ground features and site grading at pre-development, there will be two legal points of discharge for the stormwater generated through the site. Surface levels at the north of the site grades towards an existing pit located in north-east to the site at Hague Street. The rest of the surface levels show a grading towards the south-east of the site. However, based on the available information the discharge location of the stormwater pit is unknown.

The upstream catchments will be following the existing flowpath, and the proposed development on site does not impact the upstream conditions. Therefore, the existing piped connections are expected to remain unchanged.

Refer to Appendix B for the sketch of the stormwater flowpath overlaid on the survey.

Queensland Urban Drainage Manual (QUDM) Table 7.3.1 and Table 7.3.2 recommends the following major and minor events as per the development category:

- Major Storm Event – 1% AEP
- Minor Storm Event – 10% AEP

The rational method (*Equation 1*) is used to calculate the flow capacity of the existing and proposed concept design. The runoff co-efficient at pre-development is 0.59 and at post-development is 0.65.

$$Q = C I A \text{ (Equation 1)}$$

Q = Flow capacity (m³/s)

C = Coefficient of discharge

I = Average rainfall intensity (mm/hr)

A = Area of catchment (ha)

The fraction impervious was calculated by dividing the total area of the impervious surface by the total area of the site.

Table 1 is a summary of the flow capacity in the 10% AEP and 1% AEP pre and post development.

Table 1: Flow Capacity Post and Pre-Development

WEATHER EVENT	FLOW CAPACITY (m ³ /s)
Pre-Development	
10% AEP	0.052
1% AEP	0.090
Post Development	
10% AEP	0.057
1% AEP	0.099

The flow capacity at 10% AEP and 1% AEP is included in Appendix C.

As the flows from site combine with an existing overland flowpath, the impact to downstream properties is considered to be insignificant.

7. ON SITE DETENTION REQUIREMENTS

Logan City Council references the QUDM for on site detention requirements, which specifies that detention is required to, at minimum, attenuate the flows from a change in impervious area to ensure the post-development peak discharges do not exceed those in the pre-development conditions.

As shown in the calculations, the increase in flow generated by the post-development conditions is negligible (<10L/s), therefore on site detention is unlikely to be required or practical.

8. WATER QUALITY

Stormwater treatment will not be required for this site as the area is less than 2,500m² and there is minimal change to the impervious area. This is in accordance with the planning scheme policy and Queensland State Planning Policy (2017) Table B.

9. SUMMARY OF RECOMMENDATIONS

Overall, there are no significant changes to the footprint and site conditions as a result of this expansion. It is recommended that all overland flowpaths are maintained to ensure upstream and downstream conditions and are not adversely affected. Based on the scale of the project, it is not expected that that stormwater treatment or on site detention is required.

Yours Sincerely,



Prathyusha Sundaravel
Civil Engineer
WALLBRIDGE GILBERT AZTEC

APPENDIX A PROPERTY FLOOD REPORT

APPENDIX B SITE SURVEY

APPENDIX C RATIONAL METHOD CALCULATIONS

APPENDIX A

PROPERTY FLOOD REPORT

Flood Report

During a flood or other emergency event, please visit Logan's [Disaster Dashboard](#) for the latest information.

This Flood Report provides information from Logan's planning scheme and any updated information Council has accepted from more recent flood studies.

Property Details

Address: 35A North Road WOODRIDGE QLD 4114
Lot/Plan: Lot 4 RP 126257
Property Size: 1,138 m² (survey plan area)
Zone and precinct: Low Density Residential - Suburban

Property Key: 228382
Division: 2

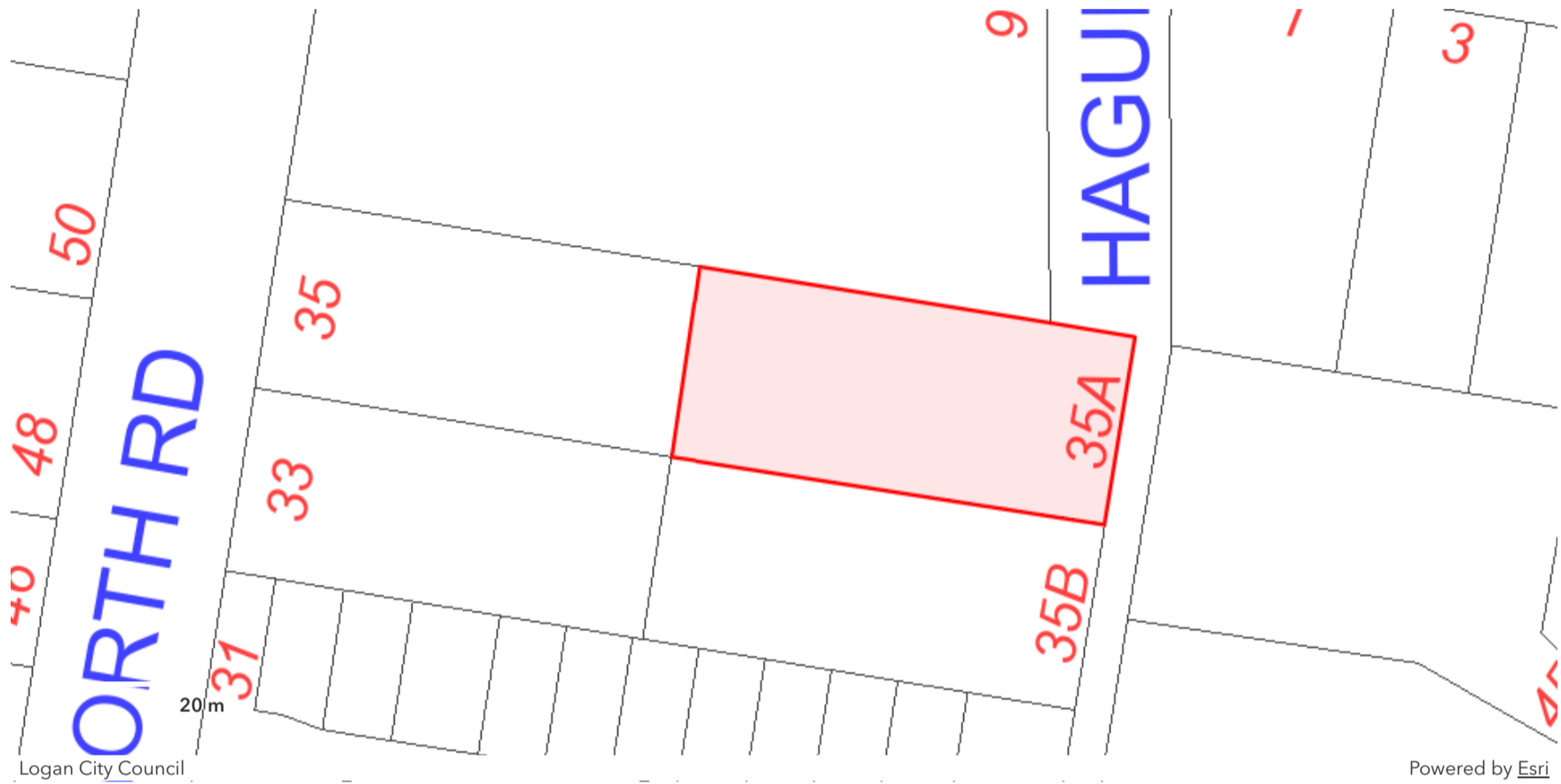
Flood hazard overlay in Logan Planning Scheme 2015	NO	This property is not mapped on the Flood hazard overlay map in the Logan Planning Scheme 2015. If more recent information about the flood hazard is available, it should be used to inform development decisions. This is to ensure risks associated with flood hazard are avoided or mitigated to protect people and property. See further details below.
Flood Level Information	NO	There is no flood level information for this property included in this report. This does not mean the property is not potentially impacted by floods. Please see further details below or contact Council's River and Catchment Engineering Program using the details in the Further Information section below.
Updated flood mapping based on more recent flood studies	YES	Updated flood mapping is available for this property and is included in this report. It should be used to inform development decisions.

Planning Scheme Flood hazard overlay map

The selected property is shown on the extract below of the Flood hazard overlay map in the Logan Planning Scheme 2015.

Various provisions of the [Logan Planning Scheme 2015](#) which refer to premises affected by the 'flood hazard overlay' apply to the part(s) of the property affected by the Flood hazard overlay map. The map may not reflect the most recent information about flood hazard.

If more recent information is available about the flood hazard for this property, that should be used to inform development decisions to ensure risks associated with flood hazard are avoided or mitigated to protect people and property. Please refer to the Updated flood mapping section below.



Flood Level Information

The table below identifies the estimated flood level for the selected property by Annual Exceedance Probability (AEP). The AEP is the likelihood of a flood event of a particular size (or larger) occurring in any given year. Council requires that development is designed to protect against a 1% AEP flood event as a minimum.

N/A = not available

Defined Flood Event	1 % AEP
Flood Level	N/A
Flood Study	<i>Note: The %AEP may be approximate for flood levels sourced from a study completed before 2017. Flood studies are available from the Flood page on Council's website.</i>

Ground Level Information

Minimum Ground Level	28.3 metres AHD
Maximum Ground Level	30.5 metres AHD
Source	2021 Digital Elevation Model (1 metre grid)

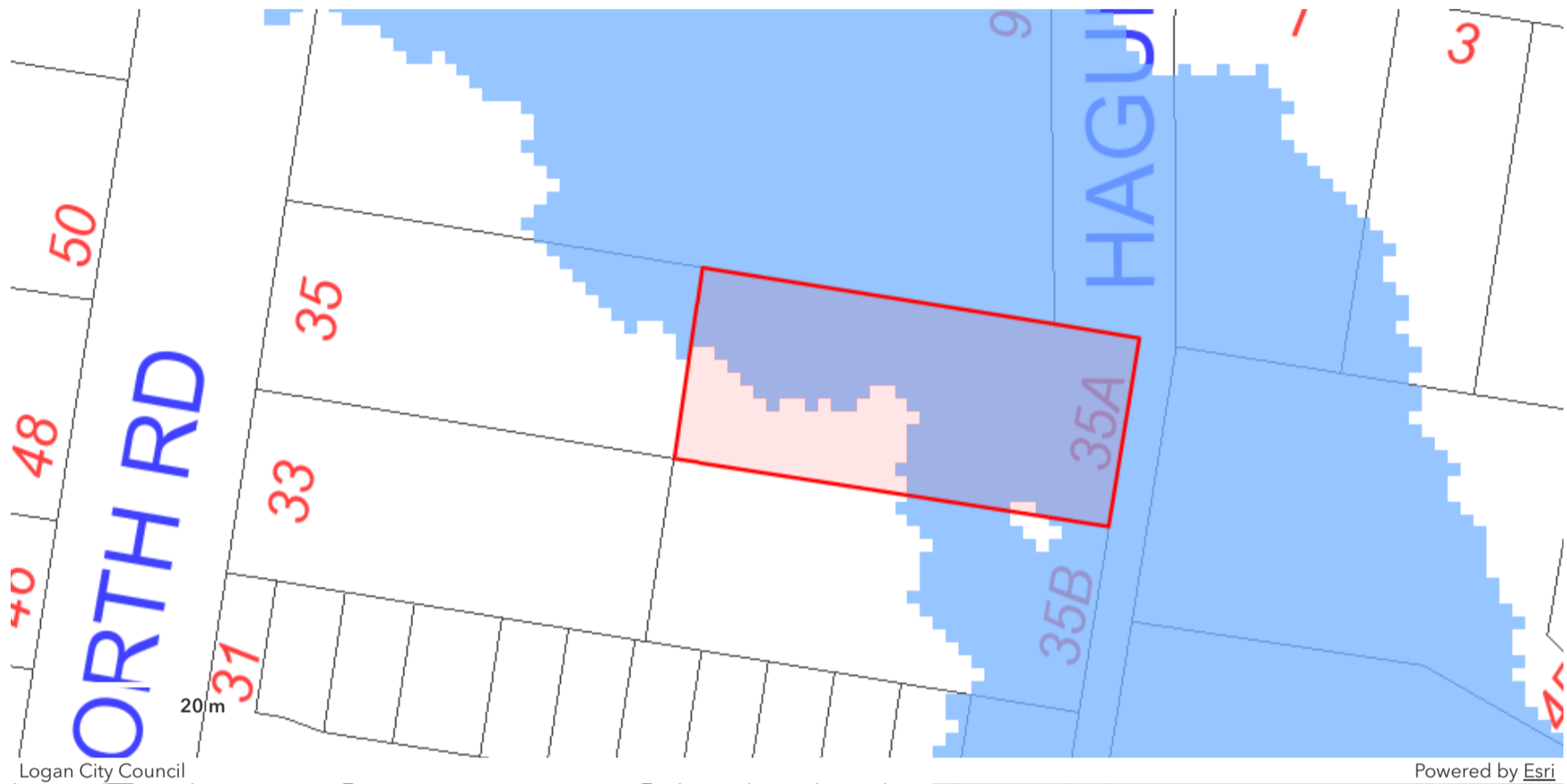


Updated flood mapping

Council undertakes new flood studies to obtain updated flood risk information in accordance with the endorsed Flood Studies Review Program. The latest available mapping for the selected property is shown and indicates flood risk for the 1% AEP flood event. This updated information will be incorporated into the planning scheme in a future amendment. It is important that this updated information is used to inform development decisions to ensure risks associated with flood hazard are avoided or mitigated to protect people and property.

Please note that the local planning scheme does not apply to properties in priority development areas (PDAs), where development is managed by Economic Development Queensland.

Please check this report in future to see if any further updates affect this property. Flood studies are available from the [Flood page](#) on Council's website.



Further Information

Please refer to the [Flood Risk Fact Sheet](#) or contact Council using the details below.

Planning and development enquiries	Contact Council on 07 3412 5269 or email development@logan.qld.gov.au Before lodging a development application, pre-lodgement advice is recommended.
Building information	Contact Council on 07 3412 3412 or email council@logan.qld.gov.au . You can also contact a private building certifier .
Flood studies and modelling information	Contact Council on 07 3412 3412 or email council@logan.qld.gov.au . Flood studies are available from the Flood page on Council's website.
Properties in Priority Development areas	Contact Economic Development Queensland .

Please note:

1. This report can be used for the purposes of development assessment but should **not** be relied upon as part of a property transaction.
2. This report does not represent the highest possible flood level that might affect the property, as floods are highly unpredictable and variable.
3. A property may also be affected by other sources of potential inundation.
4. The flood levels are sourced from Council's accepted flood studies and flood modelling and are measured in metres Australian Height Datum (AHD), where mean sea level is approximately zero (0) metres AHD. Ground level information for the property is provided as context for the flood levels.
5. The flood mapping and levels in this report are based on data that was obtained through flood studies undertaken at a particular time and date and which are subject to change. For example, if the method for calculating flood levels is updated, industry guidelines are amended, or more recent information becomes available, this may result in changes to the information in this report.
6. If flood level information is not available (shown as 'N/A'), you will need to contact Council using the details in the table above.
7. This report provides limited information for development assessment purposes and is not a substitute for independent professional advice. You should engage the services of a Registered Professional Engineer of Queensland (RPEQ) to obtain site specific information regarding the flood risk to your property and any the implications for any proposed building or development.
8. Although Logan City Council takes reasonable care in producing this report, it does not guarantee the information is accurate, complete, or current. Logan City Council does not accept any responsibility for any loss or damage (however it was caused) in connection with the use of or reliance on the information in this report.

Logan City Council

PO Box 3226 Logan Central QLD 4114

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Phone: (07) 3412 5269

Email: council@logan.qld.gov.au

Web: logan.qld.gov.au

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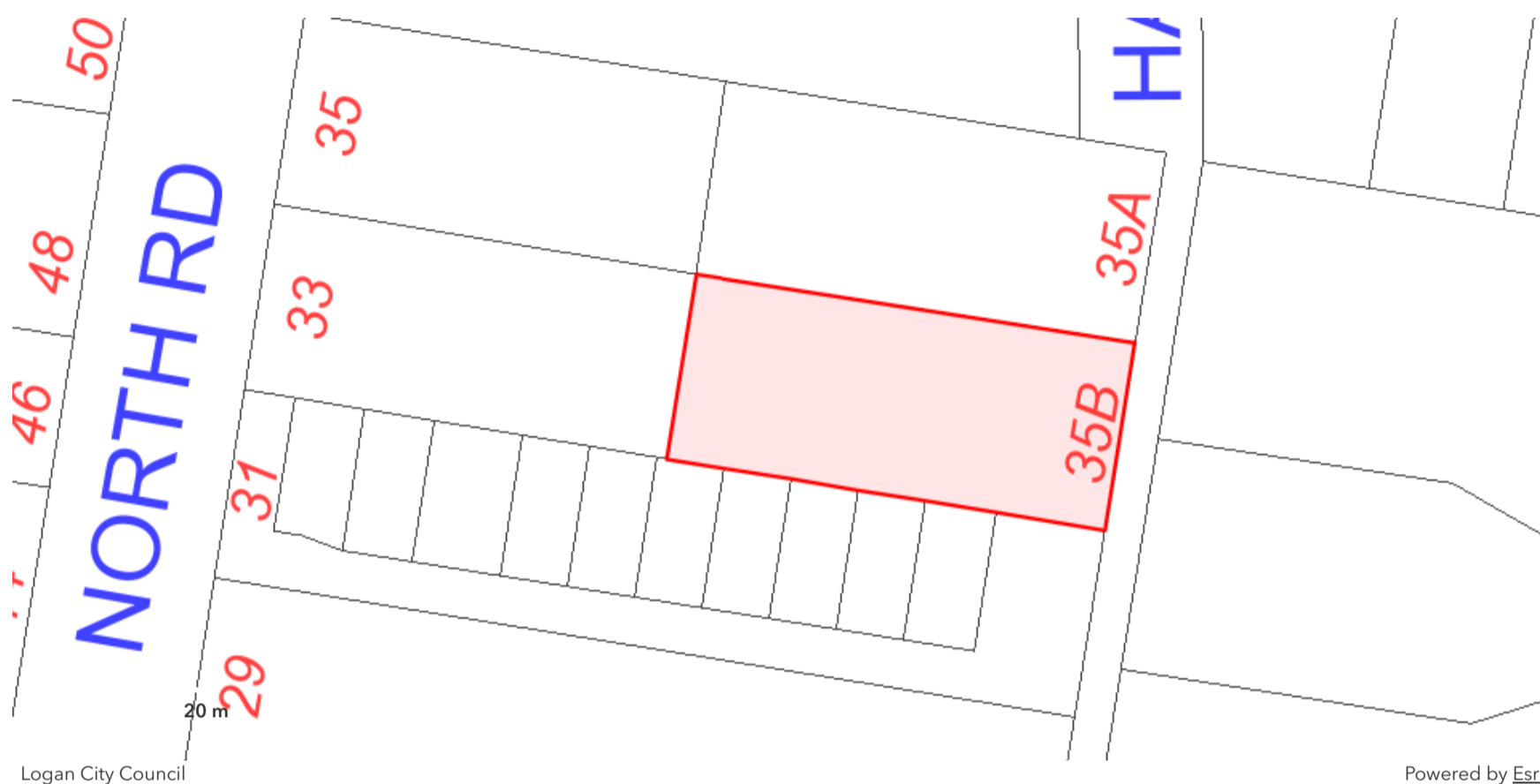
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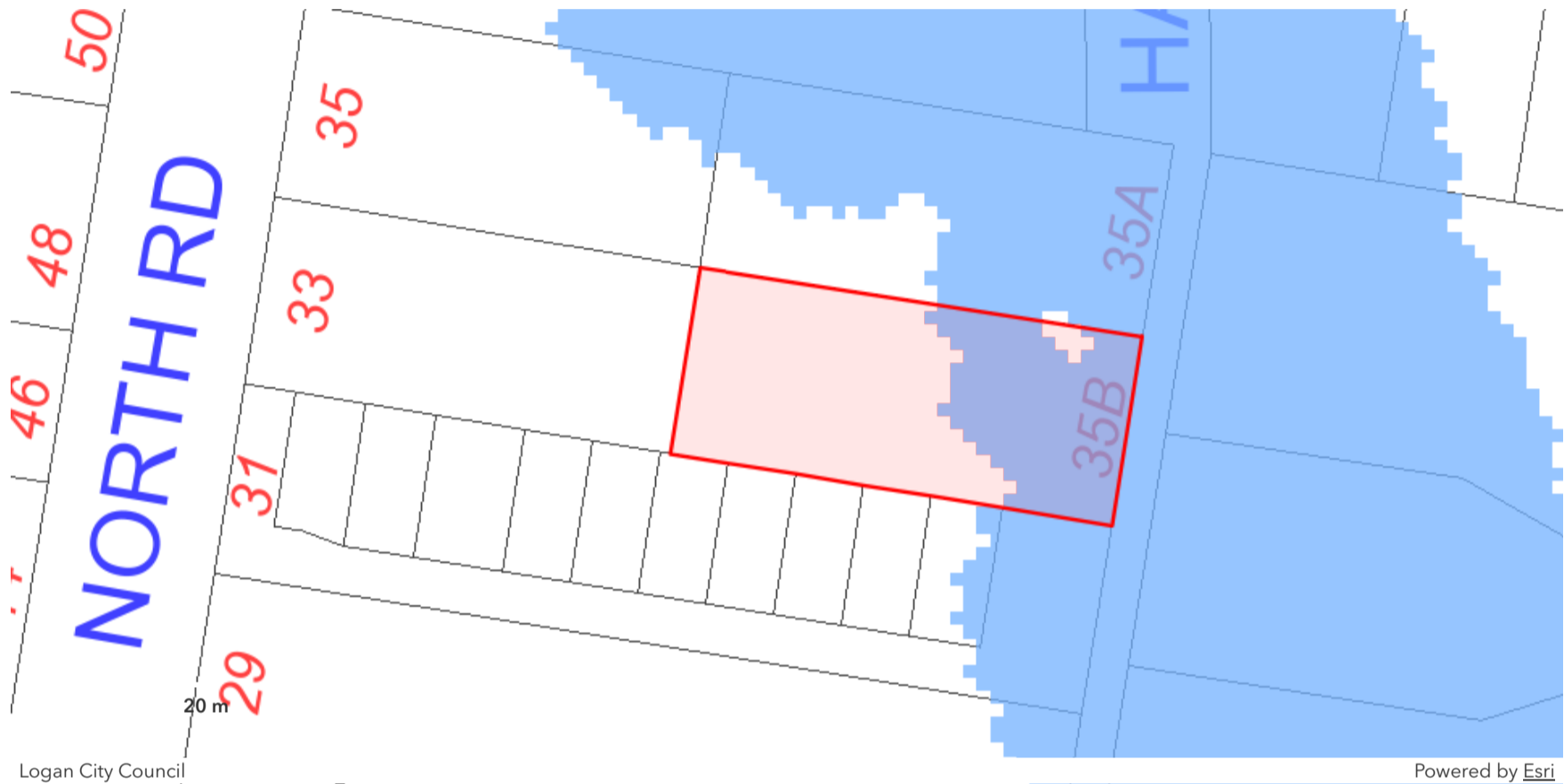


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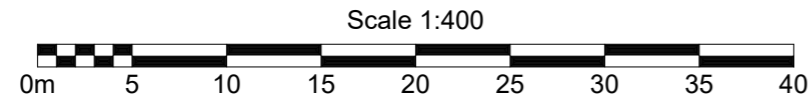
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APPENDIX B

SITE SURVEY



North Road

Hague Street
Unformed Road



Site Benchmark
Nail in Concrete
RL 28.83m

Site Benchmark
Nail in Concrete
RL 29.11m

CP
GTP1249

LEGEND:

Road	Terrain
Kerb Back	Driveway
Kerb Invert	Footpath
Edge of Bitumen	Slab Edge
Edge of Gravel	Retaining Wall Base
Road Crown	Retaining Wall Top
Traffic Park Meter	Change of Grade
Traffic Light	Top of Bank
Traffic Pit	Toe of Bank
Traffic Sign	Waterline
Traffic Post Box	Garden Edge
Structures	Creek Toe of Bank
Building Line	Creek Top of Bank
Roof Ridgeline	Creek Invert
Fence Line	Creek Waterline
Gate	Tree
Hand Rail	Tree Canopy
Cattle Grid	Control Point/PSM
Bollard	Drainage
Sewer	Drainage line
Sewer Line	Open Drain
Valve	Manhole
Inspection Opening	Field Inlet
Manhole	Downpipe
Electrical	Communications
Electricity Line	Communication Line
Overhead Line	Overhead Line
Pits/Manholes	Pits/Manholes
Pole	Pillar
Street Light	Gas
Light In-Ground	Gas Line
Water	Valve
Water Line	Marker
Meter	General
Valve	Pothole
Fire Hydrant	Subsurface Utility - QL
Tap	* (A) * QL-A (H±50mm, V±50mm)
Sprinkler	* (B) * QL-B (H±300mm, V±500mm)
Fuel Line	* (C) * QL-C (H±300mm, 2D)
Fitting	* (D) * QL-D (Exist Record)

NOTES:

1. Drawn to scale on an A3 sheet.
2. Contour Interval... 0.25m
3. All levels are in metres on the Australian Height Datum referred to PSM72991 - RL 59.910 AHD situated in Henty St, Woodridge.
4. All boundaries are vide title and subject to confirmation by survey.
5. The Location of Underground services are in accordance with AS5488:2019, the Australian Standard for classification of Subsurface Utility Information (SUI). The exact nature and location of these services should be confirmed prior to construction.
6. Field Survey Completed on 5/04/2024.

Level datum: AHD Derived (PSM72991)
Horiz datum: MGA Derived GNSS (PSM60650)
Coord Origin: GNSS (GNSS)
GDA System: GDA2020 Coordinate System: Plane 1:1
Meridian: 9008NC

Title:
VERIFICATION PLOT
Lot 3 & 4 on RP126257
35A & 35B North Road
Woodridge

Client:	APG Group Pty Ltd		
Locality:	Woodridge		
Local Gov:	Logan City Council		
Surveyed By:	Various	Approved:	JH
Date Created:	19/04/24	Scale:	1:400
File Ref:	231048		
Plan No:	231048_S001_VER Rev: C		

APPENDIX C

RATIONAL METHOD CALCULATIONS

Rational Method Calculations

Project: Family Place Woodridge
 Location: 35A North Rd, Woodridge QLD 4114

Minor Event : 10% AEP

Catchment ID	Area (A) (m ²)	Area (A) (ha)	Sheet Flow (L) (m)	Fall (m)	Slope %	tc (min)	Rainfall Intensity (mm/h)	1110 (mm/h)	fi	fy	C10	Runoff Coefficient (Cy)	Q (m ³ /s)
Pre-developed	2278	0.2278	53.25	1.90	3.568	12	138	62.9	0.16	1	0.59	0.59	0.052
Post-developed	2278	0.2278	53.25	1.90	3.568	12	138	62.9	0.25	1	0.65	0.65	0.057

Major Event : 1% AEP

Catchment ID	Area (A) (m ²)	Area (A) (ha)	Sheet Flow (L) (m)	Fall (m)	Slope %	tc (min)	Rainfall Intensity (mm/h)	1110 (mm/h)	fi	fy	C10	Runoff Coefficient (Cy)	Q (m ³ /s)
Pre-developed	2278	0.2278	53.25	1.90	3.568	12	240	62.9	0.16	1	0.59	0.59	0.090
Post-developed	2278	0.2278	53.25	1.90	3.568	12	240	62.9	0.25	1	0.65	0.65	0.099