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02 September 2015

Mr A. Albury
General Manager
Western Region
Department of Planning and Environment
PO Box 58
Dubbo NSW 2830

***Subject:*** **Gateway Determination Conditions**

Dear Sir,

Council received the Gateway Determination from Planning and Environment on the 16th April 2015. The Gateway Determination stated that Council must undertake the following activities prior to commencing public exhibition of the proposal.

1. Prior to undertaking Public Exhibition, Council is to prepare a Flood Study and Floodplain Management Plan that seeks to determine the extent and risks of potential flooding on the site and measures necessary to mitigate these risks.

2. Prior to undertaking public exhibition, Council is to seek advice from the NSW Office of Water, and NSW Office of Environment and Heritage following the preparation of the Flood Study and Flood Plain Management Plan and address any concerns and comments provided by the public agencies.

3. Council is to address inconsistencies with s117 Direction 4.3 Flood Prone Land prior to the commencement of public exhibition and satisfy the Department of these inconsistencies prior to the finalisation of the plan.

Attached to this letter is documentation that addresses the above points.

1. Flood Assessment for Reducing Minimum Lot Size

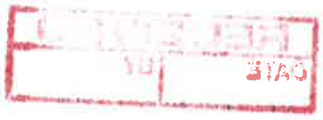
Jacobs were commissioned to undertake a Flood Impact Assessment of the study area. The assessment indicated the following:

> *"Hydraulic impacts due to the proposed reduction of the minimum lot size for the construction of a dwelling for the area are considered negligible and are within the confidence limit (ie. +/-0.01m) of the computer model (SKM 2001)".*

Full report is attached.

2. Correspondence to the NSW Office of Water and NSW Office of Environment and Heritage.

The NSW Office of Water has raised an issue regarding the impacts of fencing, sheds, and other infrastructure on the flow and misplacement of flood waters. Council's flooding consultant has provided advice on these scenarios, maintaining that there will be negligible impact on flood waters from fences and sheds within the study area. Advice stating same is included in the correspondence attached.



The NSW Office of Water suggested that a rezoning of the study area to R2 would be appropriate given the proposed lot size. Council does not currently have R2 zoned land within the shire and does not seek to change the zone of the land. Additionally, the proposed change to the minimum lot size will create a consistent lot size for R5 zoned land in the Reymond Street area, as currently a portion of the street has a minimum lot size of 1500m$^2$. Please refer to the attached correspondence for more detailed response on the change to zone.

The NSW Office of Environment and Heritage acknowledged that the flood assessment undertaken illustrated that a negligible impact was likely for the proposed study area. Please refer to the attached correspondence for further information on the response to the NSW Office of Environment and Heritage.

3. Address the inconsistencies with the s117 Direction.

Please refer to the attached updated Planning Proposal that addresses the s117 Direction for Flood Affected lands, taking into account the outcome of the Flood Impact Assessment for the Study Area.

4. Public Exhibition

Council considers that the above coupled with the attached documentation satisfy points 1, 2, and 3 of the Gateway Determination. As such, public exhibition has been undertaken in accordance with the point 4 of the gateway determination. Public Exhibition commenced on the 3rd of September and will conclude on the 5th of October.

Should you have any enquiries regarding this matter, please contact ***Melissa Ross,*** Council's Town Planner on ***02 6850 2344***

Yours faithfully

Paul Bennett
**Director**
**ENVIRONMENTAL SERVICES & PLANNING**

Attached:

1. Flood Assessment for change to minimum lot size. Prepared by Jacobs, dated July 2015.
2. Letter to NSW Office of Water, dated 31 July 2015.
3. NSW Office of Water Response, dated 12 August 2015.
4. Council response to NSW Office of Water, dated 1September 2015.
5. Letter to NSW Office of Environment and Heritage, dated 31 July 2015.
6. Email from Jacobs, dated 18 August 2015.
7. NSW Office of Environment and Heritage response, dated 25 August 2015.
8. Letter to NSW Office of Environment and Heritage, dated 1 September 2015.
9. Planning Proposal v.2 incorporating s117 Direction Flood Prone Land

FORBES SHIRE COUNCIL

# Flood Assessment for Reducing Minimum Lot Size

## Areas around Reymond and Church Streets

July 2015

JACOBS

JACOBS

# Flood Assessment for Reducing Minimum Lot Size

| | |
|---|---|
| Project no: | IA082300 |
| Document title: | Flood Assessment for Reducing Minimum Lot Size |
| Revision: | Final |
| Date: | 29 July 2015 |
| Client name: | Forbes Shire Council |
| Client no: | |
| Project manager: | Akhter Hossain |
| Author: | Michael Reeves/ Akhter Hossain |
| File name: | I:\ENVR\Admin\Section folders\NRM\2015_Water Resources\Projects\IA082300_Forbes\Deliverables\Reports\Area1\Flood Assessment for Minimum Lot size.docx |

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**Document history and statu**

| Revision | Date | Description | By | Review | Approved |
|---|---|---|---|---|---|
| Draft | 22/7/2015 | Draft Flood Assessment Report | MR/AH | AH | A Hossain |
| Final | 29/7/2013 | Flood Assessment Report | AH | AH | A Hossain |

**Distribution of copies**

| Revision | Issue approved | Date issued | Issued to | Comments |
|---|---|---|---|---|
| Draft | | 22/7/2015 | Forbes Shire Council | PDF |
| Final | Council | 29/7/2015 | Forbes Shire Council | PDF |

## Contents

# Executive Summary

Forbes Shire Council (Council) intends to reduce the minimum lot size for the construction of a dwelling in the *Zone R5 Large Lot Residential* zone as defined in the Forbes Local Environment Plan 2013 for an area in Forbes. The subject area is bounded by Reymond Street to the north, Wambat Street to the west and College Road to the east. The proposed change in minimum lot size allow up to 46 new lots for the area and each lot would have up to 500m$^2$ building platform. Approximately 50% of the new building platforms would be located within the Flood Risk Precinct (FRP) with Low Hazard Flood Fringe and the remaining building platforms would be located within FRP with Low Hazard Flood Storage as defined in Forbes Development Control Plan (DCP) 2013 (V2).

Hydraulic impacts due to the proposed change of minimum lot size for the area was assessed for the adopted flood event (ie. 1952 flood flow with 2000 topography) utilising the same MIKE11 hydraulic model which was utilised in the SKM 2013 Flood Assessment Study. Indicative locations of building platforms for 46 proposed buildings were represented in the MIKE11 model. Each building platform, covering approximately 500m$^2$ area, was represented in the MIKE11 model as a solid obstruction. Obstruction to flow due to fencing was considered negligible as there are prescriptive controls in the Forbes DCP 2013 (V2) relating to fencing. It was assumed that no further infrastructure development would occur in the area which would impede flood flow.

Hydraulic impacts due to the proposed change of minimum lot size for the area are considered negligible and are within the confidence limit (ie. +/-0.01m) of the MIKE11 model for Forbes.

A review of other flooding issues (eg. flood warning, evacuation etc) for the proposed new lots was not evaluated as part of this study. Consultation with the State Emergency Service would identify the implications (if any) of the proposed new lots on flood warning and evacuation.

## Important note about this report

The sole purpose of this report and the associated services performed by Jacobs is to document outcomes from the flood impact assessment for the proposed change of lot size of the area bounded by Reymond Street, Wambat Street and College Road in Forbes in accordance with the scope of services set out in the contract between Jacobs and the Client. That scope of services, as described in this report, was developed with the Client.

In preparing this report, Jacobs has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

Jacobs derived the data in this report from information sourced from the Client (if any) and/or available in the public domain at the time or times outlined in this report. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. Jacobs has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by Jacobs for use of any part of this report in any other context.

This report has been prepared on behalf of, and for the exclusive use of, Jacobs's Client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

# 1. Introduction

## 1.1 Background

Forbes Shire Council (Council) intends to reduce the minimum lot size for the construction of a dwelling from 4,000m$^2$ to 1,500m$^2$ for an area in Forbes which is located within *Zone R5 Large Lot Residential* as defined in the Forbes Local Environment Plan (LEP) 2013. The subject area is bounded by Reymond Street to the north, Wambat Street to the west and College Road to the east. The area is flood liable and flooding may be a significant constraint for the proposed changes in minimum lot size for the construction of a dwelling. Council has engaged Jacobs to undertake a sensitivity analysis of hydraulic impacts due to the proposed changes in minimum lot size for the area.

## 1.2 Objective

The objective of this study is to assess flood impacts due to the proposed change of minimum lot size for the subject area using the catchment inflow for the 1952 flood event. This flood event has been adopted by Council to define flood planning levels in the Forbes Township.

## 1.3 Study Area

The area for which the minimum lot size is to be reduced is shown in **Figure 1** and a draft Master Plan for the area (refer to **Figure 2**) shows that up to forty six (46) additional lots can be developed within the subject area. The new lots are to have a lot size of 1,500m$^2$ in lieu of the current 4,000m$^2$ as defined in the Forbes Local Environment Plan (LEP) 2013. Each lot is expected to have a building platform approximately 500m$^2$ (25m x 20m) in area.

## 1.4 Structure of the Report

This report is structured as follows:

**Section 1 – Introduction**

**Section 2 – Available Data**: Provides details on the data used in this study

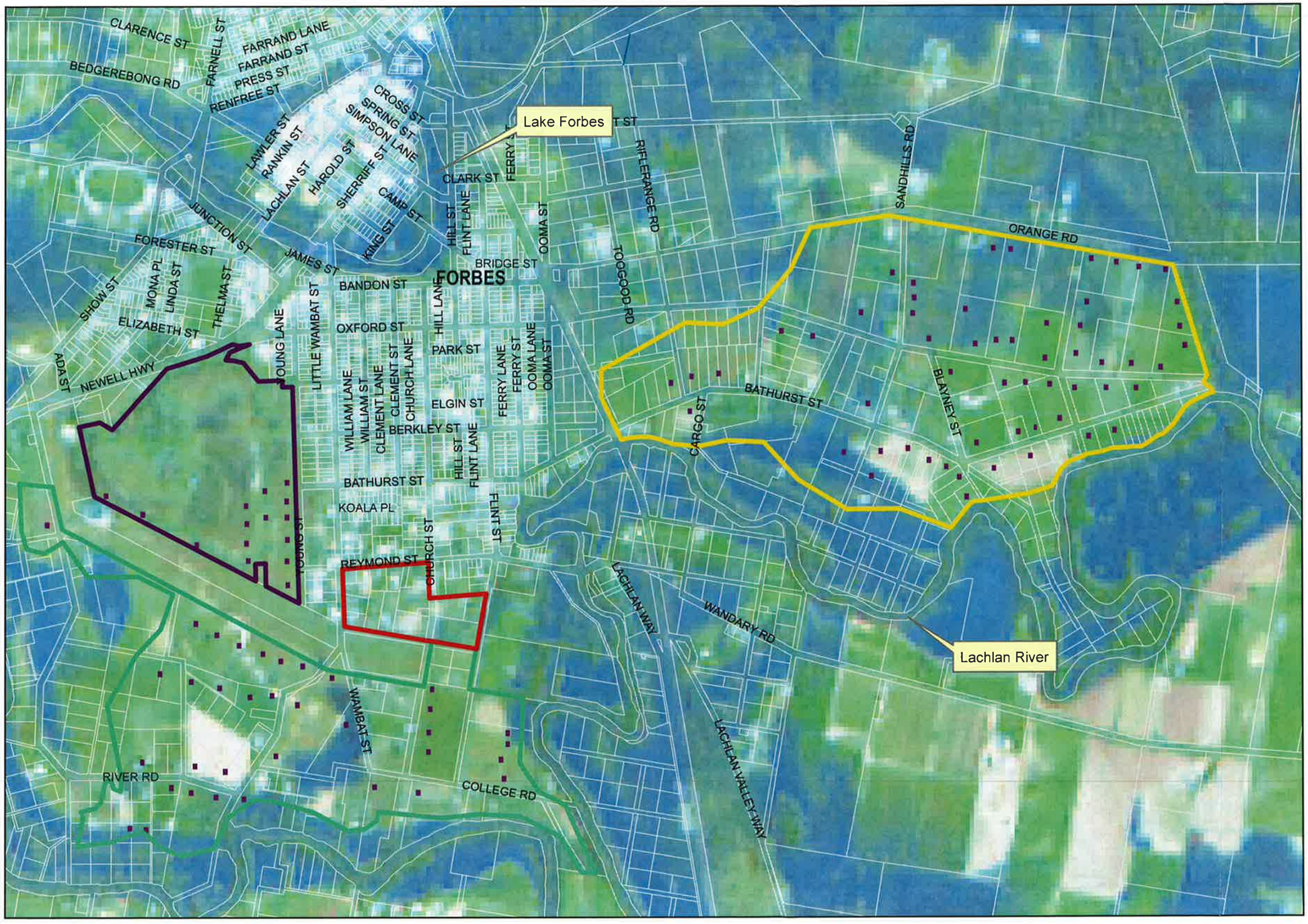
**Section 3 – Hydraulic Modelling**: Details flood impact assessment methodology and outcomes

**Section 4 – Conclusions and recommendations**: Key conclusions and recommendations on the flood impact assessment for the proposed change in minimum lot size for the construction of a dwelling

**Section 5 – References**: cited in the report

**Appendix A - Hydraulic modelling results**

FIGURE 1 Study Area




LEGEND

- Study Area
- Cadastre
- River Road Area
- Lachlan Vintage Village Area
- Bathurst Street Area
- Building Platform (proposed)



GDA1994 MGA ZONE 55

0 750

Metres

SPOT5 Image Captured on 7 March 2012 shows the extent of flooding close to the peak of the flood in Forbes. The Image was provided by NSW Office of Environment & Heritage

**Figure 2: Draft Master Plan**

# 2. Available Data

All information used in this study was available from the following sources:

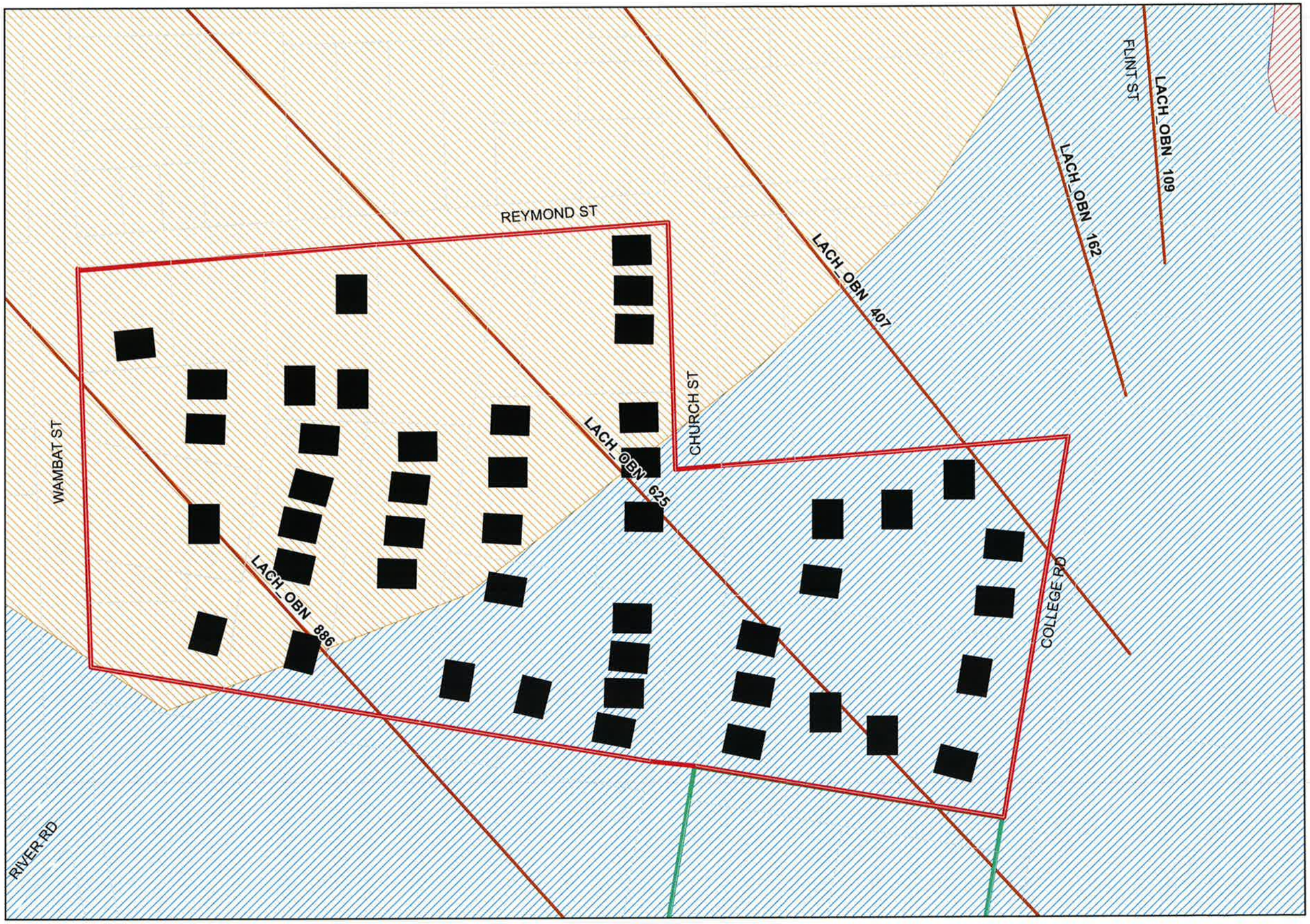
- The Draft Master Plan (refer to **Figure 2**) for the area provided by Council shows the location of the proposed 46 new lots. Council indicated that the new lots would be constructed on building platforms and each building platform is expected to be up to 25m x 20m in size. Indicative location of forty six (46) building platforms and the flood risk precincts (FRP) defined in Forbes DCP 2013 (V2) are shown in **Figure 3**. **Figure 3** shows that approximately 50% of the building platforms are located within FRP with Low Hazard Flood Fringe and the remaining building platforms are located within FRP with Low Hazard Flood Storage.
- Flood Assessment for Rezoning of Three Areas in Forbes (SKM 2013): Sinclair Knight Merz (SKM) was commissioned by Forbes Shire Council to undertake a flood impact assessment for the proposed rezoning of three sites in Forbes. A description on the proposed nature of residential development for each area is given below and details on the location of the sites and the proposed building platforms are shown in **Figure 1**:
  - **Bathurst Street Site**: The site covers an area of 435ha which will include 58 additional Lots with *Zoned R5 - Large Lot Residential* development;
  - **River Road Site**: The site covers an area of 241.5ha which will include 27 additional Lots with *Zoned R5 - Large Lot Residential* development and eight (8) existing Lots which will have new dwelling entitlements; and
  - **Former Lachlan Vintage Village Site**: The site covers an area of 73ha which will include fifteen (15) additional Lots with *Zoned R5 - Large Lot Residential* development.

  The objective of the study was to assess flood impacts due to the proposed residential land uses at the above three sites both separately and in combination, using the catchment inflow for the 1952 flood event. The MIKE11 hydraulic model developed for Forbes as part of Forbes Flood Study (SKM 2001) was updated to assess flood impacts due to the proposed rezoning for each site separately and in combination. The updated MIKE11 model has been used in this flood impact assessment.
- Topographic Data for Forbes: Council provided the available topographic data for Forbes as x, y and z points for the SKM 2013 study.
- Information on March 2012 Flood in Forbes: The flood event of March 2012 is the most recent largest flood event in Forbes since completion of the Forbes Flood Study, 2001. A comparison between March 2012 flood event and other major flood events in Forbes is shown in **Table 1. Table 1** shows that peak water levels in the Lachlan River for the March 2012 event are 0.24m and 0.5m lower than the corresponding 1952 peak water levels recorded at Forbes Iron Bridge and Cottons Weir respectively. NSW Office of Environment and Heritage (OEH) captured Spot 5 satellite images (captured on 7 March 2012 – see **Figure 1**) and collated streamflow gauging and hydrometric data for this flood event. A review of information collected by OEH for the flood event of March 2012 indicates that the subject site was not impacted by flooding during the flood event of March 2012.
- Forbes Flood Study (SKM 2001): Sinclair Knight Merz (SKM) was commissioned by Forbes Shire Council to carry out a review of flood levels contained in the Forbes Floodplain Management Report and Plan, 1994. Following a review, a revised flood study for Forbes was carried out using more accurate topographic survey data and updating the steady MIKE11 hydraulic model to an unsteady one utilising version 1999b of MIKE11. The unsteady MIKE11 model was calibrated against flood events of 1952 and 1990. The calibrated model was used to estimate flood levels with 1952 catchment inflow using 2000 topography. Model results and topographic data were utilised to prepare a flood hazard categorisation map for Forbes. The flood hazard map has been adopted in the Forbes DCP 2013 (V2). The MIKE11 model developed and GIS layers used in flood hazard mapping in the 2001 Forbes Flood Study, were available for this flood impact assessment. MIKE11 cross sections and FRP adopted in Forbes DCP 2013 (V2) in the proximity of the subject site is shown in **Figure 3**.

Table 1 : Recorded Gauge Heights in Forbes for Major Flood Events (source: SKM 2013)

| Flood Event | Lachlan River @ Forbes Iron Bridge | Lachlan River @ Cottons Weir |
|---|---|---|
| Jun 1952 | 10.79 | 7.57 |
| Aug 1990 | 10.64 | 7.30 |
| Sep 1974 | 10.62 | 7.27 |
| Apr 1990 | 10.61 | 7.17 |
| Mar 2012 | 10.55 | 7.07 |
| Oct 1976 | 10.46 | 6.96 |
| Oct 1996 | 10.46 | 6.42 |

FIGURE 3 Indicative Location of Building Platforms in Relation to Flood Risk Precincts




LEGEND

- Study Area
- Cadastre
- River Road Area
- Indicative Building Platform
- Low Hazard Flood Fringe
- Low Hazard Flood Storage
- High Hazard Floodway
- MIKE11 Cross Section



GDA1994 MGA ZONE 55

0 100

Metres

# 3. Hydraulic Modelling

## 3.1 Background

A hydrodynamic model was formulated as part of Forbes Flood Study (SKM 2001) using the MIKE11 (version 1999b) modelling system. Topographic data used to develop the model were sourced from: a previous MIKE11 model for Forbes; detailed topographic survey for the township; additional topographic survey undertaken for the 2001 study; and the 1936 compilation irrigation maps. The MIKE11 model was calibrated against the flood events of August 1990 and June 1952. The calibrated model was updated to represent the 2000 topography and the model was run for the 1952 flood to define flood levels, flood extents and flood hazards. An extreme flood (equivalent to 2 times 1952 flood) under 2000 topography was also assessed in the 2001 Flood Study. Modelling results and a digital terrain model were used to delineate flood hazard maps and flood categorisations using the NSW Government's Floodplain Management Manual (January 2001). The following flood categories were defined in the 2001 Forbes Flood Study and were subsequently adopted in the Forbes DCP 2013 (V2):

- High Hazard Floodway;
- High Hazard Flood Storage;
- High Hazard Flood Fringe;
- Low Hazard Flood Storage; and
- Low Hazard Flood Fringe.

## 3.2 Updating of the MIKE11 Model

A review of MIKE11 model cross sections was undertaken as part of the flood impact assessment for rezoning of three areas in Forbes (SKM 2013) and it was found that MIKE11 cross sections were spaced approximately one kilometre apart along the Lachlan River (MIKE11 branch called LACHLAN) and Lake Forbes (MIKE11 branch called LAKEF). In order to represent the proposed building platforms (say 25m x 20m for each building) for the three areas in the MIKE11 model, additional cross sections needed to be included in the model. A feasible way to include additional cross sections in the MIKE11 model was to interpolate cross sections. Interpolated cross sections between 25m (for all but LACHLAN branch) and 100m interval were included for the following MIKE11 model reaches as part of the MIKE11 model upgrade:

- LACHLAN -1360 to LACHLAN 2937;
- LACHLAN 6463 to LACHLAN 11250;
- LAKEF -1400 to LAKEF 2852;
- LACH_OBN 407 to LACH_OBN 1424; and
- OXFD 380 to OXFD 714.

Minor adjustments were made to the MIKE11 model for this flood impact assessment including one additional interpolated cross section "COLLEGE2 410".

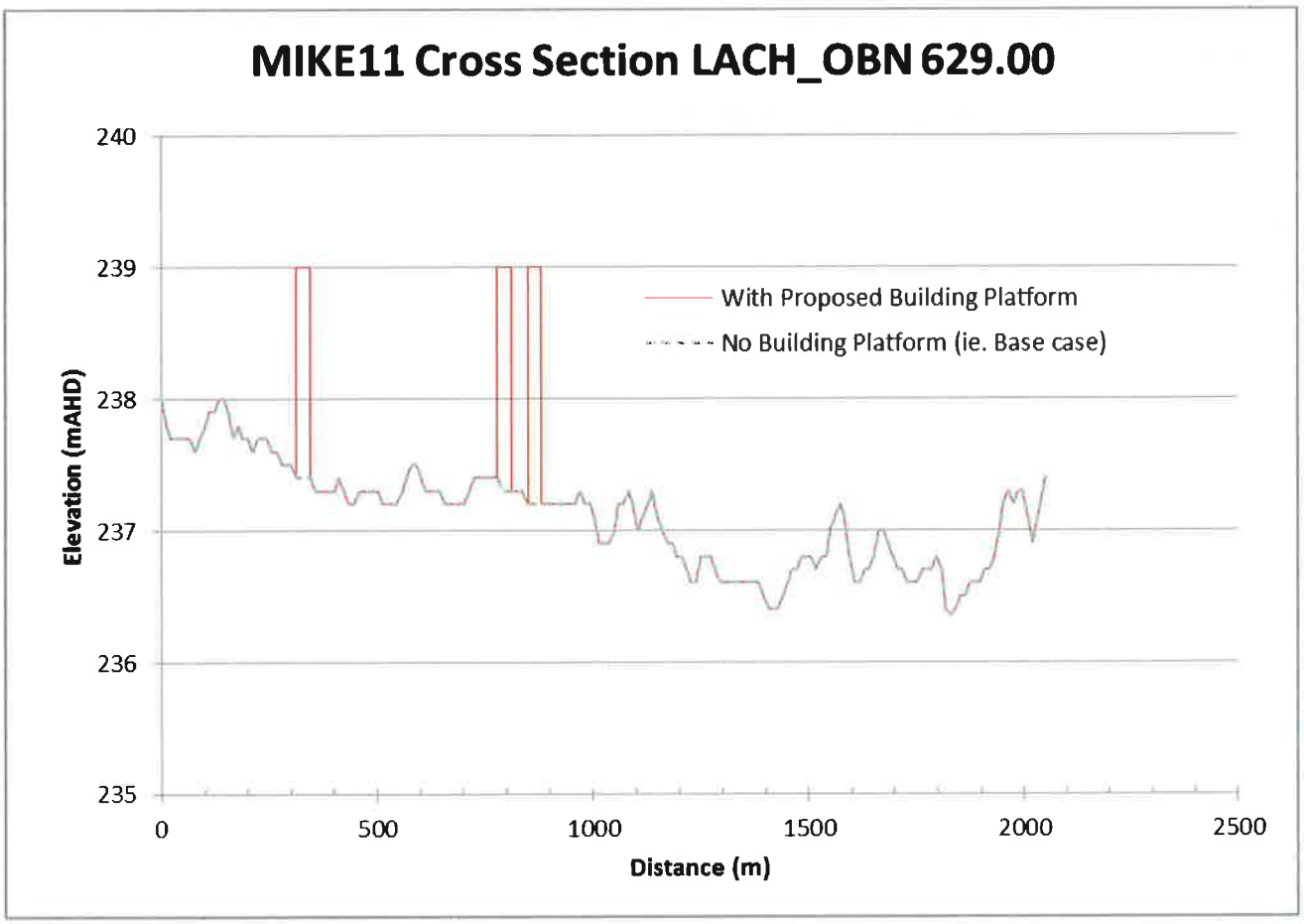
## 3.3 Representation of Building Platforms in the Model

A Digital Elevation Model (DEM) was created in ArcGIS utilising topographic data points provided by Council (SKM 2013). The DEM was available to this study and was interrogated to obtain approximate ground levels in the vicinity of indicative building platforms. The MIKE11 cross section located in close proximity of a building platform was modified to represent the building platform as a solid obstruction in the MIKE11 model. A sample cross section with and without a building platform is shown in **Figure 4**. This approach of representing building platforms in MIKE11 model is considered a conservative one as it is unlikely that all buildings would be constructed on solid platforms. Building platforms were added to MIKE11 cross sections in such a way so that flood impacts for the area could be assessed in combination with the proposed rezoning for three areas (SKM 2013).

There are special requirements in Forbes DCP 2013 (V2) for fencing to ensure fencing will not result in the undesirable obstruction of free flow of floodwaters. Hence, obstruction to flooding due to fencing in the proposed residential areas is expected to be minimal.

The building platforms (25m x 20m) are considered reasonable in size and it was assumed that no further infrastructure development would occur in each new lot which would impede flood flow further.

**Figure 4 : Representation of Building Platform in MIKE11**




## 3.4 Modelled Scenarios

The following scenarios were assessed using the MIKE11 model for the 1952 flood:

- Base case (ie. existing topography with platforms for the proposed buildings for three areas as defined in SKM 2013);
- Base case with the proposed 46 new building platforms for the study area.

## 3.5 Comparison of Modelling Results

### 3.5.1 Base Case

A comparison of modelled flood levels adopted in the SKM 2013 study (for the scenario representing the base case with the proposed building platforms for all three areas) with modelled peak flood levels for the base case (adopted in this study) indicating differences in peak flood levels between -0.02m and +0.05m. The difference in peak flood levels between this study and the SKM 2013 study are considered minor. In addition, this study will look at the relative difference in flood levels between this base case and with the proposed change in minimum

lot size. Considering this, the modelled flood behaviour was accepted as the base case for this study (incorporating the impact due to the three proposed residential areas in Forbes).

Detailed modelling results are presented in **Appendix A**.

### 3.5.2 Proposed Condition

Differences in modelled peak flood levels between this scenario and the base case are less than 0.01m. Changes in modelled peak discharges along the major flow paths between this scenario and the base case are less than 5%. Changes in peak flow velocities are minor. No changes in flood hazard are expected due to the minor changes in peak flood levels and velocities.

Detailed modelling results are presented in **Appendix A**.

# 4. Conclusions and Recommendations

## 4.1 Conclusions

Forbes Shire Council (Council) intends to reduce the minimum lot size for the construction of a dwelling for an area in Forbes which is located in the *Zone R5 Large Lot Residential* zone as defined in the Forbes Local Environment Plan (LEP) 2013. The subject area is bounded by Reymond Street to the north, Wambat Street to the west and College Road to the east. The draft Master Plan for the area includes 46 new lots and each lot would have up to 500m$^2$ building platform. Approximately 50% of the new building platforms would be located within FRP with Low Hazard Flood Fringe and the remaining building platforms would be located within FRP with Low Hazard Flood Storage as defined in Forbes DCP 2013 (V2).

Hydraulic impacts due to the proposed change of minimum lot size for the area was assessed for the adopted flood event (ie. 1952 flood flow with 2000 topography) utilising the same MIKE11 hydraulic model which was used in the SKM 2013 study. One additional interpolated cross section "COLLEGE2 410" was included in the MIKE11 model for this flood impact assessment.

Indicative locations of building platforms for 46 proposed buildings were represented in the MIKE11 model. Each building platform, covering approximately 500m$^2$ area, was represented in the MIKE11 model as a solid obstruction. Obstruction to flow due to fencing was considered negligible as there are prescriptive controls in the Forbes DCP 2013 (V2) relating to fencing. It was assumed that no further infrastructure development would occur in the area which would impede flood flow.

Hydraulic impacts due to proposed residential buildings for the area are considered to be negligible and are within the confidence limit (ie. +/-0.01m) of the computer model (SKM 2001).

## 4.2 Recommendations

Hydraulic impacts due to the proposed reduction of the minimum lot size for the construction of a dwelling for the area are considered negligible and are within the confidence limit (ie. +/-0.01m) of the computer model (SKM 2001).

A review of other flooding issues (eg. flood warning, evacuation etc) for the proposed new lots was not evaluated as part of this study. Consultation with the State Emergency Service would identify the implications (if any) of the proposed new lots on flood warning and evacuation.

# 5. References

Forbes Shire Council (2013) Forbes Development Control Plan 2013 (V2), Chapter 4

Forbes Shire Council (2013) Local Environment Plan

SKM (2001) Forbes Flood Study, Final Report, November 2001

SKM (2013) Flood Assessment for Rezoning of Three Areas in Forbes, February 2013

# Appendix A. Modelling Results

**Table A1 Modelled Peak Water Levels (PWL)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| BATT -25.00 | 239.111 | 239.111 | 239.111 | 0.000 | 0.000 |
| BATT 0.00 | 239.09 | 239.09 | 239.09 | 0.000 | 0.000 |
| BATT 25.00 | 239.073 | 239.073 | 239.073 | 0.000 | 0.000 |
| BATT 50.00 | 239.034 | 239.034 | 239.034 | 0.000 | 0.000 |
| BATT 129.00 | 238.921 | 238.921 | 238.921 | 0.000 | 0.000 |
| BATT 145.00 | 238.88 | 238.88 | 238.88 | 0.000 | 0.000 |
| BATT 225.00 | 238.797 | 238.797 | 238.797 | 0.000 | 0.000 |
| BATT 325.00 | 238.549 | 238.549 | 238.549 | 0.000 | 0.000 |
| BATT 401.00 | 238.23 | 238.23 | 238.23 | 0.000 | 0.000 |
| BATT 509.00 | 237.874 | 237.875 | 237.874 | 0.001 | -0.001 |
| BATT 650.00 | 237.606 | 237.608 | 237.606 | 0.002 | -0.002 |
| LACH_OBN 0.00 | 238.897 | 238.901 | 238.901 | 0.004 | 0.000 |
| LACH_OBN 109.00 | 238.892 | 238.896 | 238.896 | 0.004 | 0.000 |
| LACH_OBN 162.00 | 238.586 | 238.592 | 238.592 | 0.006 | 0.000 |
| LACH_OBN 280.00 | 238.172 | 238.175 | 238.175 | 0.003 | 0.000 |
| LACH_OBN 407.00 | 237.917 | 237.909 | 237.912 | -0.008 | 0.003 |
| LACH_OBN 407.00 | 237.917 | 237.909 | 237.912 | -0.008 | 0.003 |
| LACH_OBN 431.67 | 237.812 | 237.804 | 237.804 | -0.008 | 0.000 |
| LACH_OBN 456.33 | 237.73 | 237.722 | 237.723 | -0.008 | 0.001 |
| LACH_OBN 481.00 | 237.657 | 237.65 | 237.649 | -0.007 | -0.001 |
| LACH_OBN 505.67 | 237.6 | 237.593 | 237.592 | -0.007 | -0.001 |
| LACH_OBN 530.33 | 237.564 | 237.557 | 237.555 | -0.007 | -0.002 |
| LACH_OBN 555.00 | 237.543 | 237.536 | 237.538 | -0.007 | 0.002 |
| LACH_OBN 579.67 | 237.531 | 237.524 | 237.527 | -0.007 | 0.003 |
| LACH_OBN 604.33 | 237.525 | 237.518 | 237.521 | -0.007 | 0.003 |
| LACH_OBN 629.00 | 237.52 | 237.513 | 237.517 | -0.007 | 0.004 |
| LACH_OBN 629.00 | 237.52 | 237.513 | 237.517 | -0.007 | 0.004 |
| LACH_OBN 652.36 | 237.508 | 237.502 | 237.506 | -0.006 | 0.004 |
| LACH_OBN 675.73 | 237.497 | 237.49 | 237.495 | -0.007 | 0.005 |
| LACH_OBN 699.09 | 237.485 | 237.479 | 237.484 | -0.006 | 0.005 |
| LACH_OBN 722.45 | 237.473 | 237.467 | 237.471 | -0.006 | 0.004 |
| LACH_OBN 745.80 | 237.461 | 237.455 | 237.459 | -0.006 | 0.004 |
| LACH_OBN 769.18 | 237.448 | 237.441 | 237.445 | -0.007 | 0.004 |
| LACH_OBN 792.55 | 237.433 | 237.427 | 237.431 | -0.006 | 0.004 |
| LACH_OBN 815.91 | 237.419 | 237.413 | 237.415 | -0.006 | 0.002 |
| LACH_OBN 839.27 | 237.401 | 237.395 | 237.396 | -0.006 | 0.001 |
| LACH_OBN 862.64 | 237.381 | 237.375 | 237.376 | -0.006 | 0.001 |
| LACH_OBN 886.00 | 237.361 | 237.355 | 237.355 | -0.006 | 0.000 |
| LACH_OBN 910.09 | 237.34 | 237.333 | 237.333 | -0.007 | 0.000 |
| LACH_OBN 934.18 | 237.319 | 237.313 | 237.313 | -0.006 | 0.000 |
| LACH_OBN 958.27 | 237.298 | 237.292 | 237.292 | -0.006 | 0.000 |
| LACH_OBN 982.36 | 237.278 | 237.272 | 237.272 | -0.006 | 0.000 |
| LACH_OBN 1006.46 | 237.259 | 237.253 | 237.253 | -0.006 | 0.000 |
| LACH_OBN 1030.55 | 237.241 | 237.235 | 237.235 | -0.006 | 0.000 |
| LACH_OBN 1054.64 | 237.224 | 237.218 | 237.218 | -0.006 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LACH_OBN 1078.73 | 237.209 | 237.204 | 237.204 | -0.005 | 0.000 |
| LACH_OBN 1102.82 | 237.197 | 237.191 | 237.191 | -0.006 | 0.000 |
| LACH_OBN 1126.91 | 237.186 | 237.18 | 237.18 | -0.006 | 0.000 |
| LACH_OBN 1151.00 | 237.177 | 237.171 | 237.171 | -0.006 | 0.000 |
| LACH_OBN 1173.90 | 237.168 | 237.162 | 237.162 | -0.006 | 0.000 |
| LACH_OBN 1196.80 | 237.156 | 237.151 | 237.151 | -0.005 | 0.000 |
| LACH_OBN 1219.70 | 237.141 | 237.136 | 237.136 | -0.005 | 0.000 |
| LACH_OBN 1242.60 | 237.124 | 237.119 | 237.119 | -0.005 | 0.000 |
| LACH_OBN 1265.50 | 237.102 | 237.098 | 237.098 | -0.004 | 0.000 |
| LACH_OBN 1288.40 | 237.077 | 237.073 | 237.073 | -0.004 | 0.000 |
| LACH_OBN 1311.30 | 237.047 | 237.043 | 237.043 | -0.004 | 0.000 |
| LACH_OBN 1334.20 | 237.01 | 237.006 | 237.006 | -0.004 | 0.000 |
| LACH_OBN 1357.10 | 236.955 | 236.951 | 236.952 | -0.004 | 0.001 |
| LACH_OBN 1380.00 | 236.858 | 236.856 | 236.857 | -0.002 | 0.001 |
| LACH_OBN 1380.00 | 236.858 | 236.856 | 236.857 | -0.002 | 0.001 |
| LACH_OBN 1402.00 | 236.774 | 236.773 | 236.775 | -0.001 | 0.002 |
| LACH_OBN 1424.00 | 236.776 | 236.775 | 236.777 | -0.001 | 0.002 |
| LACHLAN -1360.00 | 240.209 | 240.209 | 240.209 | 0.000 | 0.000 |
| LACHLAN -1262.86 | 240.2 | 240.2 | 240.2 | 0.000 | 0.000 |
| LACHLAN -1165.71 | 240.193 | 240.193 | 240.193 | 0.000 | 0.000 |
| LACHLAN -1068.57 | 240.186 | 240.186 | 240.186 | 0.000 | 0.000 |
| LACHLAN -971.43 | 240.18 | 240.181 | 240.181 | 0.001 | 0.000 |
| LACHLAN -874.29 | 240.176 | 240.176 | 240.176 | 0.000 | 0.000 |
| LACHLAN -777.14 | 240.172 | 240.172 | 240.172 | 0.000 | 0.000 |
| LACHLAN -680.00 | 240.167 | 240.168 | 240.168 | 0.001 | 0.000 |
| LACHLAN -582.86 | 240.163 | 240.163 | 240.163 | 0.000 | 0.000 |
| LACHLAN -485.71 | 240.158 | 240.158 | 240.158 | 0.000 | 0.000 |
| LACHLAN -291.43 | 240.143 | 240.143 | 240.143 | 0.000 | 0.000 |
| LACHLAN -194.29 | 240.129 | 240.129 | 240.129 | 0.000 | 0.000 |
| LACHLAN -97.14 | 240.1 | 240.1 | 240.1 | 0.000 | 0.000 |
| LACHLAN 0.00 | 240.003 | 240.004 | 240.004 | 0.001 | 0.000 |
| LACHLAN 0.00 | 240.003 | 240.004 | 240.004 | 0.001 | 0.000 |
| LACHLAN 94.00 | 239.997 | 239.997 | 239.997 | 0.000 | 0.000 |
| LACHLAN 188.00 | 239.986 | 239.986 | 239.986 | 0.000 | 0.000 |
| LACHLAN 282.00 | 239.971 | 239.971 | 239.971 | 0.000 | 0.000 |
| LACHLAN 376.00 | 239.953 | 239.953 | 239.953 | 0.000 | 0.000 |
| LACHLAN 470.00 | 239.93 | 239.931 | 239.931 | 0.001 | 0.000 |
| LACHLAN 564.00 | 239.902 | 239.903 | 239.903 | 0.001 | 0.000 |
| LACHLAN 658.00 | 239.858 | 239.859 | 239.859 | 0.001 | 0.000 |
| LACHLAN 752.00 | 239.801 | 239.801 | 239.801 | 0.000 | 0.000 |
| LACHLAN 846.00 | 239.727 | 239.728 | 239.728 | 0.001 | 0.000 |
| LACHLAN 940.00 | 239.591 | 239.592 | 239.592 | 0.001 | 0.000 |
| LACHLAN 1034.00 | 239.306 | 239.307 | 239.307 | 0.001 | 0.000 |
| LACHLAN 1034.00 | 239.306 | 239.307 | 239.307 | 0.001 | 0.000 |
| LACHLAN 1126.75 | 239.324 | 239.325 | 239.325 | 0.001 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LACHLAN 1219.50 | 239.331 | 239.332 | 239.332 | 0.001 | 0.000 |
| LACHLAN 1312.25 | 239.317 | 239.319 | 239.319 | 0.002 | 0.000 |
| LACHLAN 1405.00 | 239.305 | 239.306 | 239.306 | 0.001 | 0.000 |
| LACHLAN 1497.75 | 239.287 | 239.288 | 239.288 | 0.001 | 0.000 |
| LACHLAN 1590.50 | 239.268 | 239.269 | 239.269 | 0.001 | 0.000 |
| LACHLAN 1683.25 | 239.248 | 239.25 | 239.25 | 0.002 | 0.000 |
| LACHLAN 1776.00 | 239.231 | 239.233 | 239.233 | 0.002 | 0.000 |
| LACHLAN 1776.00 | 239.231 | 239.233 | 239.233 | 0.002 | 0.000 |
| LACHLAN 1851.67 | 239.216 | 239.217 | 239.217 | 0.001 | 0.000 |
| LACHLAN 1927.33 | 239.201 | 239.202 | 239.202 | 0.001 | 0.000 |
| LACHLAN 2003.00 | 239.186 | 239.187 | 239.187 | 0.001 | 0.000 |
| LACHLAN 2003.00 | 239.186 | 239.187 | 239.187 | 0.001 | 0.000 |
| LACHLAN 2092.50 | 239.167 | 239.169 | 239.169 | 0.002 | 0.000 |
| LACHLAN 2182.00 | 239.143 | 239.145 | 239.145 | 0.002 | 0.000 |
| LACHLAN 2271.50 | 239.114 | 239.116 | 239.116 | 0.002 | 0.000 |
| LACHLAN 2361.00 | 239.072 | 239.075 | 239.075 | 0.003 | 0.000 |
| LACHLAN 2361.00 | 239.072 | 239.075 | 239.075 | 0.003 | 0.000 |
| LACHLAN 2440.67 | 239.057 | 239.06 | 239.06 | 0.003 | 0.000 |
| LACHLAN 2520.33 | 239.05 | 239.053 | 239.053 | 0.003 | 0.000 |
| LACHLAN 2600.00 | 239.045 | 239.048 | 239.048 | 0.003 | 0.000 |
| LACHLAN 2679.25 | 239.036 | 239.039 | 239.039 | 0.003 | 0.000 |
| LACHLAN 2758.50 | 239.021 | 239.024 | 239.024 | 0.003 | 0.000 |
| LACHLAN 2837.75 | 238.996 | 238.999 | 238.999 | 0.003 | 0.000 |
| LACHLAN 2917.00 | 238.933 | 238.937 | 238.937 | 0.004 | 0.000 |
| LACHLAN 2927.00 | 238.879 | 238.884 | 238.884 | 0.005 | 0.000 |
| LACHLAN 2937.00 | 238.937 | 238.941 | 238.941 | 0.004 | 0.000 |
| LACHLAN 2937.00 | 238.937 | 238.941 | 238.941 | 0.004 | 0.000 |
| LACHLAN 3203.00 | 238.897 | 238.901 | 238.901 | 0.004 | 0.000 |
| LACHLAN 3203.00 | 238.897 | 238.901 | 238.901 | 0.004 | 0.000 |
| LACHLAN 3513.00 | 238.867 | 238.872 | 238.872 | 0.005 | 0.000 |
| LACHLAN 3513.00 | 238.867 | 238.872 | 238.872 | 0.005 | 0.000 |
| LACHLAN 3533.00 | 238.759 | 238.765 | 238.765 | 0.006 | 0.000 |
| LACHLAN 3533.00 | 238.759 | 238.765 | 238.765 | 0.006 | 0.000 |
| LACHLAN 3553.00 | 238.771 | 238.778 | 238.778 | 0.007 | 0.000 |
| LACHLAN 3956.00 | 238.703 | 238.709 | 238.709 | 0.006 | 0.000 |
| LACHLAN 3956.00 | 238.703 | 238.709 | 238.709 | 0.006 | 0.000 |
| LACHLAN 4398.00 | 238.524 | 238.529 | 238.529 | 0.005 | 0.000 |
| LACHLAN 4398.00 | 238.524 | 238.529 | 238.529 | 0.005 | 0.000 |
| LACHLAN 4820.00 | 238.45 | 238.456 | 238.455 | 0.006 | -0.001 |
| LACHLAN 5285.00 | 238.268 | 238.273 | 238.273 | 0.005 | 0.000 |
| LACHLAN 5285.00 | 238.268 | 238.273 | 238.273 | 0.005 | 0.000 |
| LACHLAN 5708.00 | 237.974 | 237.979 | 237.978 | 0.005 | -0.001 |
| LACHLAN 5708.00 | 237.974 | 237.979 | 237.978 | 0.005 | -0.001 |
| LACHLAN 6034.00 | 237.991 | 237.996 | 237.995 | 0.005 | -0.001 |
| LACHLAN 6463.00 | 237.857 | 237.863 | 237.862 | 0.006 | -0.001 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LACHLAN 6559.40 | 237.812 | 237.818 | 237.818 | 0.006 | 0.000 |
| LACHLAN 6655.80 | 237.764 | 237.77 | 237.77 | 0.006 | 0.000 |
| LACHLAN 6752.20 | 237.712 | 237.717 | 237.717 | 0.005 | 0.000 |
| LACHLAN 6848.60 | 237.657 | 237.662 | 237.662 | 0.005 | 0.000 |
| LACHLAN 6945.00 | 237.603 | 237.608 | 237.608 | 0.005 | 0.000 |
| LACHLAN 7041.40 | 237.553 | 237.559 | 237.558 | 0.006 | -0.001 |
| LACHLAN 7137.80 | 237.508 | 237.513 | 237.513 | 0.005 | 0.000 |
| LACHLAN 7234.20 | 237.464 | 237.468 | 237.468 | 0.004 | 0.000 |
| LACHLAN 7330.60 | 237.422 | 237.427 | 237.426 | 0.005 | -0.001 |
| LACHLAN 7427.00 | 237.364 | 237.368 | 237.367 | 0.004 | -0.001 |
| LACHLAN 7427.00 | 237.364 | 237.368 | 237.367 | 0.004 | -0.001 |
| LACHLAN 7517.67 | 237.365 | 237.37 | 237.369 | 0.005 | -0.001 |
| LACHLAN 7608.33 | 237.321 | 237.325 | 237.325 | 0.004 | 0.000 |
| LACHLAN 7699.00 | 237.295 | 237.299 | 237.298 | 0.004 | -0.001 |
| LACHLAN 7789.67 | 237.275 | 237.279 | 237.278 | 0.004 | -0.001 |
| LACHLAN 7880.33 | 237.251 | 237.254 | 237.253 | 0.003 | -0.001 |
| LACHLAN 7971.00 | 237.229 | 237.232 | 237.231 | 0.003 | -0.001 |
| LACHLAN 8061.67 | 237.207 | 237.21 | 237.209 | 0.003 | -0.001 |
| LACHLAN 8152.33 | 237.187 | 237.19 | 237.189 | 0.003 | -0.001 |
| LACHLAN 8243.00 | 237.171 | 237.173 | 237.172 | 0.002 | -0.001 |
| LACHLAN 8343.00 | 237.155 | 237.158 | 237.157 | 0.003 | -0.001 |
| LACHLAN 8443.00 | 237.165 | 237.167 | 237.166 | 0.002 | -0.001 |
| LACHLAN 8543.00 | 237.164 | 237.166 | 237.165 | 0.002 | -0.001 |
| LACHLAN 8643.00 | 237.16 | 237.162 | 237.161 | 0.002 | -0.001 |
| LACHLAN 8743.00 | 237.153 | 237.155 | 237.154 | 0.002 | -0.001 |
| LACHLAN 8843.00 | 237.142 | 237.145 | 237.144 | 0.003 | -0.001 |
| LACHLAN 8943.00 | 237.109 | 237.111 | 237.11 | 0.002 | -0.001 |
| LACHLAN 9043.00 | 237.041 | 237.043 | 237.042 | 0.002 | -0.001 |
| LACHLAN 9043.00 | 237.041 | 237.043 | 237.042 | 0.002 | -0.001 |
| LACHLAN 9132.00 | 237.021 | 237.023 | 237.022 | 0.002 | -0.001 |
| LACHLAN 9221.00 | 236.984 | 236.986 | 236.984 | 0.002 | -0.002 |
| LACHLAN 9310.00 | 236.959 | 236.96 | 236.959 | 0.001 | -0.001 |
| LACHLAN 9399.00 | 236.93 | 236.931 | 236.929 | 0.001 | -0.002 |
| LACHLAN 9488.00 | 236.904 | 236.905 | 236.903 | 0.001 | -0.002 |
| LACHLAN 9488.00 | 236.904 | 236.905 | 236.903 | 0.001 | -0.002 |
| LACHLAN 9577.60 | 236.898 | 236.899 | 236.898 | 0.001 | -0.001 |
| LACHLAN 9667.20 | 236.892 | 236.893 | 236.891 | 0.001 | -0.002 |
| LACHLAN 9756.80 | 236.885 | 236.886 | 236.884 | 0.001 | -0.002 |
| LACHLAN 9846.40 | 236.878 | 236.879 | 236.877 | 0.001 | -0.002 |
| LACHLAN 9936.00 | 236.875 | 236.875 | 236.874 | 0.000 | -0.001 |
| LACHLAN 9966.00 | 236.863 | 236.863 | 236.865 | 0.000 | 0.002 |
| LACHLAN 10057.75 | 236.85 | 236.85 | 236.851 | 0.000 | 0.001 |
| LACHLAN 10149.50 | 236.84 | 236.84 | 236.841 | 0.000 | 0.001 |
| LACHLAN 10241.25 | 236.828 | 236.828 | 236.83 | 0.000 | 0.002 |
| LACHLAN 10333.00 | 236.816 | 236.816 | 236.817 | 0.000 | 0.001 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LACHLAN 10424.75 | 236.803 | 236.802 | 236.804 | -0.001 | 0.002 |
| LACHLAN 10516.50 | 236.789 | 236.788 | 236.79 | -0.001 | 0.002 |
| LACHLAN 10608.25 | 236.775 | 236.774 | 236.775 | -0.001 | 0.001 |
| LACHLAN 10700.00 | 236.768 | 236.767 | 236.768 | -0.001 | 0.001 |
| LACHLAN 10700.00 | 236.768 | 236.767 | 236.768 | -0.001 | 0.001 |
| LACHLAN 10786.00 | 236.734 | 236.733 | 236.734 | -0.001 | 0.001 |
| LACHLAN 10800.00 | 236.728 | 236.727 | 236.729 | -0.001 | 0.002 |
| LACHLAN 10800.00 | 236.728 | 236.727 | 236.729 | -0.001 | 0.002 |
| LACHLAN 10872.00 | 236.699 | 236.699 | 236.7 | 0.000 | 0.001 |
| LACHLAN 11061.00 | 236.613 | 236.612 | 236.613 | -0.001 | 0.001 |
| LACHLAN 11155.50 | 236.583 | 236.583 | 236.584 | 0.000 | 0.001 |
| LACHLAN 11250.00 | 236.525 | 236.524 | 236.525 | -0.001 | 0.001 |
| LACHLAN 11278.00 | 236.274 | 236.274 | 236.275 | 0.000 | 0.001 |
| LACHLAN 11300.00 | 236.289 | 236.288 | 236.289 | -0.001 | 0.001 |
| LACHLAN 11400.00 | 236.25 | 236.249 | 236.25 | -0.001 | 0.001 |
| LACHLAN 11400.00 | 236.25 | 236.249 | 236.25 | -0.001 | 0.001 |
| LACHLAN 11530.00 | 236.258 | 236.257 | 236.258 | -0.001 | 0.001 |
| LACHLAN 11530.00 | 236.258 | 236.257 | 236.258 | -0.001 | 0.001 |
| LACHLAN 11805.00 | 236.172 | 236.171 | 236.172 | -0.001 | 0.001 |
| LACHLAN 11805.00 | 236.172 | 236.171 | 236.172 | -0.001 | 0.001 |
| LACHLAN 12862.00 | 235.302 | 235.302 | 235.302 | 0.000 | 0.000 |
| LACHLAN 13605.00 | 235.227 | 235.227 | 235.227 | 0.000 | 0.000 |
| LACHLAN 13605.00 | 235.227 | 235.227 | 235.227 | 0.000 | 0.000 |
| LACHLAN 14349.00 | 235.021 | 235.02 | 235.021 | -0.001 | 0.001 |
| LACHLAN 16300.00 | 233.741 | 233.741 | 233.742 | 0.000 | 0.001 |
| LAKEF -1400.00 | 239.801 | 239.801 | 239.801 | 0.000 | 0.000 |
| LAKEF -1375.00 | 239.778 | 239.778 | 239.778 | 0.000 | 0.000 |
| LAKEF -1350.00 | 239.755 | 239.755 | 239.755 | 0.000 | 0.000 |
| LAKEF -1325.00 | 239.734 | 239.734 | 239.734 | 0.000 | 0.000 |
| LAKEF -1300.00 | 239.714 | 239.714 | 239.714 | 0.000 | 0.000 |
| LAKEF -1275.00 | 239.695 | 239.695 | 239.695 | 0.000 | 0.000 |
| LAKEF -1225.00 | 239.66 | 239.66 | 239.66 | 0.000 | 0.000 |
| LAKEF -1200.00 | 239.644 | 239.644 | 239.644 | 0.000 | 0.000 |
| LAKEF -1175.00 | 239.629 | 239.629 | 239.629 | 0.000 | 0.000 |
| LAKEF -1150.00 | 239.615 | 239.615 | 239.615 | 0.000 | 0.000 |
| LAKEF -1125.00 | 239.602 | 239.602 | 239.602 | 0.000 | 0.000 |
| LAKEF -1100.00 | 239.589 | 239.589 | 239.589 | 0.000 | 0.000 |
| LAKEF -1075.00 | 239.578 | 239.578 | 239.578 | 0.000 | 0.000 |
| LAKEF -1050.00 | 239.567 | 239.567 | 239.567 | 0.000 | 0.000 |
| LAKEF -1025.00 | 239.557 | 239.557 | 239.557 | 0.000 | 0.000 |
| LAKEF -1000.00 | 239.547 | 239.547 | 239.547 | 0.000 | 0.000 |
| LAKEF -975.00 | 239.538 | 239.538 | 239.538 | 0.000 | 0.000 |
| LAKEF -950.00 | 239.53 | 239.53 | 239.53 | 0.000 | 0.000 |
| LAKEF -925.00 | 239.522 | 239.522 | 239.522 | 0.000 | 0.000 |
| LAKEF -900.00 | 239.515 | 239.515 | 239.515 | 0.000 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LAKEF -875.00 | 239.508 | 239.508 | 239.508 | 0.000 | 0.000 |
| LAKEF -850.00 | 239.502 | 239.502 | 239.502 | 0.000 | 0.000 |
| LAKEF -825.00 | 239.496 | 239.496 | 239.496 | 0.000 | 0.000 |
| LAKEF -800.00 | 239.491 | 239.491 | 239.491 | 0.000 | 0.000 |
| LAKEF -775.00 | 239.486 | 239.486 | 239.486 | 0.000 | 0.000 |
| LAKEF -750.00 | 239.481 | 239.481 | 239.481 | 0.000 | 0.000 |
| LAKEF -725.00 | 239.477 | 239.477 | 239.477 | 0.000 | 0.000 |
| LAKEF -700.00 | 239.473 | 239.473 | 239.473 | 0.000 | 0.000 |
| LAKEF -675.00 | 239.469 | 239.469 | 239.469 | 0.000 | 0.000 |
| LAKEF -650.00 | 239.465 | 239.465 | 239.465 | 0.000 | 0.000 |
| LAKEF -625.00 | 239.462 | 239.462 | 239.462 | 0.000 | 0.000 |
| LAKEF -600.00 | 239.459 | 239.459 | 239.459 | 0.000 | 0.000 |
| LAKEF -575.00 | 239.456 | 239.456 | 239.456 | 0.000 | 0.000 |
| LAKEF -550.00 | 239.453 | 239.453 | 239.453 | 0.000 | 0.000 |
| LAKEF -525.00 | 239.45 | 239.451 | 239.451 | 0.001 | 0.000 |
| LAKEF -500.00 | 239.448 | 239.448 | 239.448 | 0.000 | 0.000 |
| LAKEF -475.00 | 239.446 | 239.446 | 239.446 | 0.000 | 0.000 |
| LAKEF -450.00 | 239.444 | 239.444 | 239.444 | 0.000 | 0.000 |
| LAKEF -425.00 | 239.442 | 239.442 | 239.442 | 0.000 | 0.000 |
| LAKEF -400.00 | 239.44 | 239.44 | 239.44 | 0.000 | 0.000 |
| LAKEF -375.00 | 239.438 | 239.438 | 239.438 | 0.000 | 0.000 |
| LAKEF -350.00 | 239.437 | 239.437 | 239.437 | 0.000 | 0.000 |
| LAKEF -325.00 | 239.435 | 239.435 | 239.435 | 0.000 | 0.000 |
| LAKEF -300.00 | 239.434 | 239.434 | 239.434 | 0.000 | 0.000 |
| LAKEF -275.00 | 239.432 | 239.432 | 239.432 | 0.000 | 0.000 |
| LAKEF -250.00 | 239.431 | 239.431 | 239.431 | 0.000 | 0.000 |
| LAKEF -225.00 | 239.43 | 239.43 | 239.43 | 0.000 | 0.000 |
| LAKEF -200.00 | 239.429 | 239.429 | 239.429 | 0.000 | 0.000 |
| LAKEF -175.00 | 239.428 | 239.428 | 239.428 | 0.000 | 0.000 |
| LAKEF -150.00 | 239.427 | 239.427 | 239.427 | 0.000 | 0.000 |
| LAKEF -125.00 | 239.426 | 239.426 | 239.426 | 0.000 | 0.000 |
| LAKEF -100.00 | 239.425 | 239.425 | 239.425 | 0.000 | 0.000 |
| LAKEF -75.00 | 239.424 | 239.424 | 239.424 | 0.000 | 0.000 |
| LAKEF -50.00 | 239.423 | 239.423 | 239.423 | 0.000 | 0.000 |
| LAKEF -25.00 | 239.423 | 239.423 | 239.423 | 0.000 | 0.000 |
| LAKEF 0.00 | 239.422 | 239.422 | 239.422 | 0.000 | 0.000 |
| LAKEF 0.00 | 239.422 | 239.422 | 239.422 | 0.000 | 0.000 |
| LAKEF 24.56 | 239.42 | 239.42 | 239.42 | 0.000 | 0.000 |
| LAKEF 49.13 | 239.418 | 239.418 | 239.418 | 0.000 | 0.000 |
| LAKEF 73.69 | 239.416 | 239.416 | 239.416 | 0.000 | 0.000 |
| LAKEF 98.25 | 239.414 | 239.414 | 239.414 | 0.000 | 0.000 |
| LAKEF 122.82 | 239.413 | 239.413 | 239.413 | 0.000 | 0.000 |
| LAKEF 147.38 | 239.411 | 239.411 | 239.411 | 0.000 | 0.000 |
| LAKEF 171.95 | 239.409 | 239.409 | 239.409 | 0.000 | 0.000 |
| LAKEF 196.51 | 239.407 | 239.407 | 239.407 | 0.000 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LAKEF 221.07 | 239.405 | 239.405 | 239.405 | 0.000 | 0.000 |
| LAKEF 245.64 | 239.403 | 239.403 | 239.403 | 0.000 | 0.000 |
| LAKEF 270.20 | 239.401 | 239.401 | 239.401 | 0.000 | 0.000 |
| LAKEF 294.76 | 239.399 | 239.4 | 239.4 | 0.001 | 0.000 |
| LAKEF 319.33 | 239.398 | 239.398 | 239.398 | 0.000 | 0.000 |
| LAKEF 343.89 | 239.396 | 239.396 | 239.396 | 0.000 | 0.000 |
| LAKEF 368.45 | 239.394 | 239.394 | 239.394 | 0.000 | 0.000 |
| LAKEF 393.02 | 239.392 | 239.392 | 239.392 | 0.000 | 0.000 |
| LAKEF 417.58 | 239.39 | 239.39 | 239.39 | 0.000 | 0.000 |
| LAKEF 442.14 | 239.388 | 239.389 | 239.388 | 0.001 | -0.001 |
| LAKEF 466.71 | 239.387 | 239.387 | 239.387 | 0.000 | 0.000 |
| LAKEF 491.27 | 239.385 | 239.385 | 239.385 | 0.000 | 0.000 |
| LAKEF 515.84 | 239.383 | 239.383 | 239.383 | 0.000 | 0.000 |
| LAKEF 540.40 | 239.381 | 239.381 | 239.381 | 0.000 | 0.000 |
| LAKEF 564.96 | 239.379 | 239.379 | 239.379 | 0.000 | 0.000 |
| LAKEF 589.53 | 239.377 | 239.377 | 239.377 | 0.000 | 0.000 |
| LAKEF 614.09 | 239.376 | 239.376 | 239.376 | 0.000 | 0.000 |
| LAKEF 638.66 | 239.374 | 239.374 | 239.374 | 0.000 | 0.000 |
| LAKEF 663.22 | 239.372 | 239.372 | 239.372 | 0.000 | 0.000 |
| LAKEF 687.78 | 239.37 | 239.37 | 239.37 | 0.000 | 0.000 |
| LAKEF 712.34 | 239.368 | 239.368 | 239.368 | 0.000 | 0.000 |
| LAKEF 736.91 | 239.366 | 239.367 | 239.367 | 0.001 | 0.000 |
| LAKEF 761.47 | 239.365 | 239.365 | 239.365 | 0.000 | 0.000 |
| LAKEF 786.04 | 239.363 | 239.363 | 239.363 | 0.000 | 0.000 |
| LAKEF 810.60 | 239.361 | 239.361 | 239.361 | 0.000 | 0.000 |
| LAKEF 835.16 | 239.359 | 239.359 | 239.359 | 0.000 | 0.000 |
| LAKEF 859.73 | 239.357 | 239.358 | 239.357 | 0.001 | -0.001 |
| LAKEF 884.29 | 239.356 | 239.356 | 239.356 | 0.000 | 0.000 |
| LAKEF 908.85 | 239.354 | 239.354 | 239.354 | 0.000 | 0.000 |
| LAKEF 933.42 | 239.352 | 239.352 | 239.352 | 0.000 | 0.000 |
| LAKEF 957.98 | 239.35 | 239.35 | 239.35 | 0.000 | 0.000 |
| LAKEF 982.54 | 239.348 | 239.349 | 239.349 | 0.001 | 0.000 |
| LAKEF 1007.11 | 239.347 | 239.347 | 239.347 | 0.000 | 0.000 |
| LAKEF 1031.67 | 239.345 | 239.345 | 239.345 | 0.000 | 0.000 |
| LAKEF 1056.24 | 239.343 | 239.343 | 239.343 | 0.000 | 0.000 |
| LAKEF 1080.80 | 239.341 | 239.341 | 239.341 | 0.000 | 0.000 |
| LAKEF 1105.36 | 239.34 | 239.34 | 239.34 | 0.000 | 0.000 |
| LAKEF 1129.93 | 239.338 | 239.338 | 239.338 | 0.000 | 0.000 |
| LAKEF 1154.49 | 239.336 | 239.336 | 239.336 | 0.000 | 0.000 |
| LAKEF 1179.06 | 239.334 | 239.334 | 239.334 | 0.000 | 0.000 |
| LAKEF 1203.62 | 239.332 | 239.332 | 239.332 | 0.000 | 0.000 |
| LAKEF 1228.18 | 239.331 | 239.331 | 239.331 | 0.000 | 0.000 |
| LAKEF 1252.74 | 239.329 | 239.329 | 239.329 | 0.000 | 0.000 |
| LAKEF 1277.31 | 239.327 | 239.327 | 239.327 | 0.000 | 0.000 |
| LAKEF 1301.87 | 239.325 | 239.325 | 239.325 | 0.000 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LAKEF 1326.44 | 239.323 | 239.324 | 239.324 | 0.001 | 0.000 |
| LAKEF 1351.00 | 239.322 | 239.322 | 239.322 | 0.000 | 0.000 |
| LAKEF 1351.00 | 239.322 | 239.322 | 239.322 | 0.000 | 0.000 |
| LAKEF 1375.66 | 239.32 | 239.32 | 239.32 | 0.000 | 0.000 |
| LAKEF 1400.32 | 239.318 | 239.318 | 239.318 | 0.000 | 0.000 |
| LAKEF 1424.98 | 239.316 | 239.316 | 239.316 | 0.000 | 0.000 |
| LAKEF 1449.64 | 239.314 | 239.314 | 239.314 | 0.000 | 0.000 |
| LAKEF 1474.30 | 239.313 | 239.313 | 239.313 | 0.000 | 0.000 |
| LAKEF 1498.95 | 239.311 | 239.311 | 239.311 | 0.000 | 0.000 |
| LAKEF 1523.61 | 239.309 | 239.309 | 239.309 | 0.000 | 0.000 |
| LAKEF 1548.27 | 239.307 | 239.307 | 239.307 | 0.000 | 0.000 |
| LAKEF 1572.93 | 239.305 | 239.306 | 239.306 | 0.001 | 0.000 |
| LAKEF 1597.59 | 239.304 | 239.304 | 239.304 | 0.000 | 0.000 |
| LAKEF 1622.25 | 239.302 | 239.302 | 239.302 | 0.000 | 0.000 |
| LAKEF 1646.91 | 239.3 | 239.3 | 239.3 | 0.000 | 0.000 |
| LAKEF 1671.57 | 239.298 | 239.299 | 239.299 | 0.001 | 0.000 |
| LAKEF 1696.23 | 239.297 | 239.297 | 239.297 | 0.000 | 0.000 |
| LAKEF 1720.89 | 239.295 | 239.295 | 239.295 | 0.000 | 0.000 |
| LAKEF 1745.55 | 239.293 | 239.293 | 239.293 | 0.000 | 0.000 |
| LAKEF 1770.20 | 239.292 | 239.292 | 239.292 | 0.000 | 0.000 |
| LAKEF 1794.86 | 239.29 | 239.29 | 239.29 | 0.000 | 0.000 |
| LAKEF 1819.52 | 239.288 | 239.288 | 239.288 | 0.000 | 0.000 |
| LAKEF 1844.18 | 239.286 | 239.286 | 239.286 | 0.000 | 0.000 |
| LAKEF 1868.84 | 239.284 | 239.285 | 239.285 | 0.001 | 0.000 |
| LAKEF 1893.50 | 239.283 | 239.283 | 239.283 | 0.000 | 0.000 |
| LAKEF 1918.16 | 239.281 | 239.281 | 239.281 | 0.000 | 0.000 |
| LAKEF 1942.82 | 239.279 | 239.279 | 239.279 | 0.000 | 0.000 |
| LAKEF 1967.48 | 239.277 | 239.277 | 239.277 | 0.000 | 0.000 |
| LAKEF 1992.14 | 239.276 | 239.276 | 239.276 | 0.000 | 0.000 |
| LAKEF 2016.80 | 239.274 | 239.274 | 239.274 | 0.000 | 0.000 |
| LAKEF 2041.45 | 239.272 | 239.272 | 239.272 | 0.000 | 0.000 |
| LAKEF 2066.11 | 239.27 | 239.27 | 239.27 | 0.000 | 0.000 |
| LAKEF 2090.77 | 239.268 | 239.269 | 239.269 | 0.001 | 0.000 |
| LAKEF 2115.43 | 239.267 | 239.267 | 239.267 | 0.000 | 0.000 |
| LAKEF 2140.09 | 239.265 | 239.265 | 239.265 | 0.000 | 0.000 |
| LAKEF 2164.75 | 239.263 | 239.263 | 239.263 | 0.000 | 0.000 |
| LAKEF 2189.41 | 239.261 | 239.262 | 239.262 | 0.001 | 0.000 |
| LAKEF 2214.07 | 239.26 | 239.26 | 239.26 | 0.000 | 0.000 |
| LAKEF 2238.73 | 239.258 | 239.258 | 239.258 | 0.000 | 0.000 |
| LAKEF 2263.39 | 239.256 | 239.257 | 239.257 | 0.001 | 0.000 |
| LAKEF 2288.04 | 239.255 | 239.255 | 239.255 | 0.000 | 0.000 |
| LAKEF 2312.71 | 239.253 | 239.253 | 239.253 | 0.000 | 0.000 |
| LAKEF 2337.36 | 239.252 | 239.252 | 239.252 | 0.000 | 0.000 |
| LAKEF 2362.02 | 239.25 | 239.25 | 239.25 | 0.000 | 0.000 |
| LAKEF 2386.68 | 239.248 | 239.248 | 239.248 | 0.000 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LAKEF 2411.34 | 239.246 | 239.247 | 239.246 | 0.001 | -0.001 |
| LAKEF 2436.00 | 239.245 | 239.245 | 239.245 | 0.000 | 0.000 |
| LAKEF 2436.00 | 239.245 | 239.245 | 239.245 | 0.000 | 0.000 |
| LAKEF 2460.47 | 239.244 | 239.244 | 239.244 | 0.000 | 0.000 |
| LAKEF 2484.94 | 239.244 | 239.244 | 239.244 | 0.000 | 0.000 |
| LAKEF 2509.41 | 239.243 | 239.244 | 239.243 | 0.001 | -0.001 |
| LAKEF 2533.88 | 239.243 | 239.243 | 239.243 | 0.000 | 0.000 |
| LAKEF 2558.35 | 239.242 | 239.242 | 239.242 | 0.000 | 0.000 |
| LAKEF 2582.82 | 239.242 | 239.242 | 239.242 | 0.000 | 0.000 |
| LAKEF 2607.29 | 239.241 | 239.241 | 239.241 | 0.000 | 0.000 |
| LAKEF 2631.76 | 239.24 | 239.24 | 239.24 | 0.000 | 0.000 |
| LAKEF 2656.24 | 239.239 | 239.239 | 239.239 | 0.000 | 0.000 |
| LAKEF 2680.71 | 239.238 | 239.238 | 239.238 | 0.000 | 0.000 |
| LAKEF 2705.18 | 239.237 | 239.237 | 239.237 | 0.000 | 0.000 |
| LAKEF 2729.65 | 239.236 | 239.236 | 239.236 | 0.000 | 0.000 |
| LAKEF 2754.12 | 239.234 | 239.234 | 239.234 | 0.000 | 0.000 |
| LAKEF 2778.59 | 239.232 | 239.232 | 239.232 | 0.000 | 0.000 |
| LAKEF 2803.06 | 239.23 | 239.23 | 239.23 | 0.000 | 0.000 |
| LAKEF 2827.53 | 239.227 | 239.227 | 239.227 | 0.000 | 0.000 |
| LAKEF 2852.00 | 239.223 | 239.223 | 239.223 | 0.000 | 0.000 |
| LAKEF 2869.00 | 239.225 | 239.225 | 239.225 | 0.000 | 0.000 |
| LAKEF 2875.00 | 239.15 | 239.15 | 239.15 | 0.000 | 0.000 |
| LAKEF 2892.00 | 239.146 | 239.146 | 239.146 | 0.000 | 0.000 |
| LAKEF 3089.00 | 239.111 | 239.111 | 239.111 | 0.000 | 0.000 |
| LAKEF 3089.00 | 239.111 | 239.111 | 239.111 | 0.000 | 0.000 |
| LAKEF 3240.00 | 239.111 | 239.111 | 239.111 | 0.000 | 0.000 |
| LAKEF 3245.00 | 239.108 | 239.108 | 239.108 | 0.000 | 0.000 |
| LAKEF 3374.00 | 239.105 | 239.105 | 239.105 | 0.000 | 0.000 |
| LAKEF 3374.00 | 239.105 | 239.105 | 239.105 | 0.000 | 0.000 |
| LAKEF 3569.00 | 239.069 | 239.07 | 239.069 | 0.001 | -0.001 |
| LAKEF 3569.00 | 239.069 | 239.07 | 239.069 | 0.001 | -0.001 |
| LAKEF 3704.00 | 239.035 | 239.035 | 239.035 | 0.000 | 0.000 |
| LAKEF 3704.00 | 239.035 | 239.035 | 239.035 | 0.000 | 0.000 |
| LAKEF 3709.00 | 239.035 | 239.035 | 239.035 | 0.000 | 0.000 |
| LAKEF 3724.00 | 238.95 | 238.95 | 238.95 | 0.000 | 0.000 |
| LAKEF 3724.00 | 238.95 | 238.95 | 238.95 | 0.000 | 0.000 |
| LAKEF 3866.00 | 238.952 | 238.952 | 238.952 | 0.000 | 0.000 |
| LAKEF 3866.00 | 238.952 | 238.952 | 238.952 | 0.000 | 0.000 |
| LAKEF 4061.00 | 238.87 | 238.87 | 238.87 | 0.000 | 0.000 |
| LAKEF 4265.00 | 238.585 | 238.585 | 238.584 | 0.000 | -0.001 |
| LAKEF 4285.00 | 238.289 | 238.289 | 238.288 | 0.000 | -0.001 |
| LAKEF 4285.00 | 238.289 | 238.289 | 238.288 | 0.000 | -0.001 |
| LAKEF 4352.00 | 237.953 | 237.953 | 237.952 | 0.000 | -0.001 |
| LAKEF 4369.00 | 237.846 | 237.847 | 237.846 | 0.001 | -0.001 |
| LAKEF 4392.00 | 237.924 | 237.924 | 237.923 | 0.000 | -0.001 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| LAKEF 4560.00 | 237.88 | 237.88 | 237.88 | 0.000 | 0.000 |
| LAKEF 4560.00 | 237.88 | 237.88 | 237.88 | 0.000 | 0.000 |
| LAKEF 4574.00 | 237.88 | 237.88 | 237.879 | 0.000 | -0.001 |
| LAKEF 4589.00 | 237.871 | 237.871 | 237.87 | 0.000 | -0.001 |
| LAKEF 4614.00 | 237.753 | 237.753 | 237.752 | 0.000 | -0.001 |
| LAKEF 4614.00 | 237.753 | 237.753 | 237.752 | 0.000 | -0.001 |
| LAKEF 4950.00 | 237.606 | 237.608 | 237.606 | 0.002 | -0.002 |
| LAKEF 4950.00 | 237.606 | 237.608 | 237.606 | 0.002 | -0.002 |
| LAKEF 5044.00 | 237.555 | 237.56 | 237.559 | 0.005 | -0.001 |
| LAKEF 5064.00 | 237.545 | 237.545 | 237.544 | 0.000 | -0.001 |
| LAKEF 5777.00 | 237.064 | 237.064 | 237.064 | 0.000 | 0.000 |
| LAKEF 5777.00 | 237.064 | 237.064 | 237.064 | 0.000 | 0.000 |
| LAKEF 6896.00 | 236.573 | 236.573 | 236.573 | 0.000 | 0.000 |
| LAKEF 7660.00 | 236.125 | 236.125 | 236.125 | 0.000 | 0.000 |
| LAKEF 7700.00 | 236.091 | 236.091 | 236.091 | 0.000 | 0.000 |
| LAKEF 7776.00 | 236.071 | 236.071 | 236.071 | 0.000 | 0.000 |
| LAKEF 8552.00 | 235.879 | 235.879 | 235.879 | 0.000 | 0.000 |
| OXFD 0.00 | 238.289 | 238.289 | 238.288 | 0.000 | -0.001 |
| OXFD 119.00 | 238.253 | 238.253 | 238.252 | 0.000 | -0.001 |
| OXFD 289.00 | 237.983 | 237.983 | 237.983 | 0.000 | 0.000 |
| OXFD 380.00 | 237.651 | 237.648 | 237.65 | -0.003 | 0.002 |
| OXFD 380.00 | 237.651 | 237.648 | 237.65 | -0.003 | 0.002 |
| OXFD 404.67 | 237.635 | 237.631 | 237.633 | -0.004 | 0.002 |
| OXFD 429.33 | 237.625 | 237.621 | 237.623 | -0.004 | 0.002 |
| OXFD 454.00 | 237.618 | 237.613 | 237.616 | -0.005 | 0.003 |
| OXFD 477.64 | 237.61 | 237.605 | 237.608 | -0.005 | 0.003 |
| OXFD 501.27 | 237.601 | 237.597 | 237.599 | -0.004 | 0.002 |
| OXFD 524.91 | 237.593 | 237.588 | 237.591 | -0.005 | 0.003 |
| OXFD 548.54 | 237.586 | 237.581 | 237.584 | -0.005 | 0.003 |
| OXFD 572.18 | 237.579 | 237.574 | 237.577 | -0.005 | 0.003 |
| OXFD 595.82 | 237.573 | 237.568 | 237.57 | -0.005 | 0.002 |
| OXFD 619.46 | 237.567 | 237.561 | 237.565 | -0.006 | 0.004 |
| OXFD 643.09 | 237.561 | 237.556 | 237.559 | -0.005 | 0.003 |
| OXFD 666.73 | 237.556 | 237.55 | 237.553 | -0.006 | 0.003 |
| OXFD 690.36 | 237.55 | 237.544 | 237.548 | -0.006 | 0.004 |
| OXFD 714.00 | 237.545 | 237.539 | 237.542 | -0.006 | 0.003 |
| OXFD 820.00 | 237.52 | 237.513 | 237.517 | -0.007 | 0.004 |
| BATH 0.00 | 238.937 | 238.941 | 238.941 | 0.004 | 0.000 |
| BATH 100.00 | 239.203 | 239.203 | 239.203 | 0.000 | 0.000 |
| BATH 280.00 | 239.221 | 239.221 | 239.221 | 0.000 | 0.000 |
| BATH 390.00 | 239.23 | 239.231 | 239.231 | 0.001 | 0.000 |
| BATH 390.00 | 239.23 | 239.231 | 239.231 | 0.001 | 0.000 |
| BATH 550.00 | 238.952 | 238.952 | 238.952 | 0.000 | 0.000 |
| COLLEGE1 50.00 | 238.524 | 238.529 | 238.529 | 0.005 | 0.000 |
| COLLEGE1 175.00 | 237.364 | 237.368 | 237.367 | 0.004 | -0.001 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| SOUTH 0.00 | 238.708 | 238.708 | 238.708 | 0.000 | 0.000 |
| SOUTH 50.00 | 236.705 | 236.705 | 236.705 | 0.000 | 0.000 |
| SOUTH 50.00 | 236.705 | 236.705 | 236.705 | 0.000 | 0.000 |
| SOUTH 3600.00 | 235.475 | 235.475 | 235.475 | 0.000 | 0.000 |
| SOUTH 3930.00 | 235.451 | 235.452 | 235.452 | 0.001 | 0.000 |
| SOUTH 6320.00 | 235.234 | 235.234 | 235.234 | 0.000 | 0.000 |
| SOUTH 8800.00 | 234.602 | 234.602 | 234.602 | 0.000 | 0.000 |
| SOUTH 8800.00 | 234.602 | 234.602 | 234.602 | 0.000 | 0.000 |
| SOUTH 11189.46 | 233.678 | 233.678 | 233.678 | 0.000 | 0.000 |
| SOUTH 11189.46 | 233.678 | 233.678 | 233.678 | 0.000 | 0.000 |
| SOUTH 12520.00 | 233.503 | 233.503 | 233.503 | 0.000 | 0.000 |
| RLR05 0.00 | 239.186 | 239.187 | 239.187 | 0.001 | 0.000 |
| RLR05 100.12 | 239.185 | 239.187 | 239.187 | 0.002 | 0.000 |
| RLR05 100.12 | 239.185 | 239.187 | 239.187 | 0.002 | 0.000 |
| RLR05 490.00 | 239.185 | 239.187 | 239.187 | 0.002 | 0.000 |
| RLR05 530.00 | 238.703 | 238.709 | 238.709 | 0.006 | 0.000 |
| RLR04 -250.00 | 239.231 | 239.233 | 239.233 | 0.002 | 0.000 |
| RLR04 -200.00 | 239.23 | 239.232 | 239.232 | 0.002 | 0.000 |
| RLR04 -200.00 | 239.23 | 239.232 | 239.232 | 0.002 | 0.000 |
| RLR04 0.00 | 239.23 | 239.232 | 239.232 | 0.002 | 0.000 |
| RLR04 40.00 | 238.524 | 238.529 | 238.529 | 0.005 | 0.000 |
| RLR03 0.00 | 239.23 | 239.232 | 239.232 | 0.002 | 0.000 |
| RLR03 40.00 | 238.524 | 238.529 | 238.529 | 0.005 | 0.000 |
| RLR02 -500.00 | 239.306 | 239.307 | 239.307 | 0.001 | 0.000 |
| RLR02 -450.00 | 239.305 | 239.307 | 239.307 | 0.002 | 0.000 |
| RLR02 -450.00 | 239.305 | 239.307 | 239.307 | 0.002 | 0.000 |
| RLR02 0.00 | 239.305 | 239.307 | 239.307 | 0.002 | 0.000 |
| RLR02 40.00 | 238.268 | 238.273 | 238.273 | 0.005 | 0.000 |
| RLR01 0.00 | 239.305 | 239.307 | 239.307 | 0.002 | 0.000 |
| RLR01 40.00 | 237.974 | 237.979 | 237.978 | 0.005 | -0.001 |
| RLF01 0.00 | 239.245 | 239.245 | 239.245 | 0.000 | 0.000 |
| RLF01 40.00 | 239.23 | 239.231 | 239.231 | 0.001 | 0.000 |
| RLF02 0.00 | 239.245 | 239.245 | 239.245 | 0.000 | 0.000 |
| RLF02 40.00 | 239.23 | 239.231 | 239.231 | 0.001 | 0.000 |
| RLF03 0.00 | 239.245 | 239.245 | 239.245 | 0.000 | 0.000 |
| RLF03 40.00 | 239.105 | 239.105 | 239.105 | 0.000 | 0.000 |
| CAMP 0.00 | 239.035 | 239.035 | 239.035 | 0.000 | 0.000 |
| CAMP 20.00 | 238.95 | 238.95 | 238.95 | 0.000 | 0.000 |
| FOOT 0.00 | 239.111 | 239.111 | 239.111 | 0.000 | 0.000 |
| FOOT 40.00 | 239.105 | 239.105 | 239.105 | 0.000 | 0.000 |
| COLLEGE2 0.00 | 238.759 | 238.765 | 238.765 | 0.006 | 0.000 |
| COLLEGE2 100.00 | 238.736 | 238.717 | 238.717 | -0.019 | 0.000 |
| COLLEGE2 350.00 | 238.108 | 238.157 | 238.157 | 0.049 | 0.000 |
| COLLEGE2 410.00 | N/A | 237.986 | 237.988 | N/A | 0.002 |
| COLLEGE2 470.00 | 237.917 | 237.909 | 237.912 | -0.008 | 0.003 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| BATES 0.00 | 237.88 | 237.88 | 237.88 | 0.000 | 0.000 |
| BATES 40.00 | 237.753 | 237.753 | 237.752 | 0.000 | -0.001 |
| RLF04 0.00 | 239.245 | 239.245 | 239.245 | 0.000 | 0.000 |
| RLF04 40.00 | 239.069 | 239.07 | 239.069 | 0.001 | -0.001 |
| BUN3 0.00 | 236.904 | 236.905 | 236.903 | 0.001 | -0.002 |
| BUN3 3000.00 | 233.678 | 233.678 | 233.678 | 0.000 | 0.000 |
| BUN2 0.00 | 237.041 | 237.043 | 237.042 | 0.002 | -0.001 |
| BUN2 3000.00 | 234.602 | 234.602 | 234.602 | 0.000 | 0.000 |
| USLACH 0.00 | 249.747 | 249.747 | 249.747 | 0.000 | 0.000 |
| USLACH 2460.00 | 248.855 | 248.855 | 248.855 | 0.000 | 0.000 |
| USLACH 2460.00 | 248.855 | 248.855 | 248.855 | 0.000 | 0.000 |
| USLACH 4470.00 | 246.582 | 246.582 | 246.582 | 0.000 | 0.000 |
| USLACH 4470.00 | 246.582 | 246.582 | 246.582 | 0.000 | 0.000 |
| USLACH 8310.00 | 245.611 | 245.611 | 245.611 | 0.000 | 0.000 |
| USLACH 8310.00 | 245.611 | 245.611 | 245.611 | 0.000 | 0.000 |
| USLACH 11150.00 | 245.021 | 245.021 | 245.021 | 0.000 | 0.000 |
| USLACH 11150.00 | 245.021 | 245.021 | 245.021 | 0.000 | 0.000 |
| USLACH 14330.00 | 243.161 | 243.161 | 243.161 | 0.000 | 0.000 |
| USLACH 14330.00 | 243.161 | 243.161 | 243.161 | 0.000 | 0.000 |
| USLACH 16900.00 | 241.948 | 241.948 | 241.948 | 0.000 | 0.000 |
| USLACH 16900.00 | 241.948 | 241.948 | 241.948 | 0.000 | 0.000 |
| USLACH 19160.00 | 241.007 | 241.007 | 241.007 | 0.000 | 0.000 |
| USLACH 19160.00 | 241.007 | 241.007 | 241.007 | 0.000 | 0.000 |
| USLACH 20100.00 | 240.432 | 240.432 | 240.432 | 0.000 | 0.000 |
| USLACH 20100.00 | 240.432 | 240.432 | 240.432 | 0.000 | 0.000 |
| USLACH 21070.00 | 240.209 | 240.209 | 240.209 | 0.000 | 0.000 |
| USBUND 0.00 | 245.7 | 245.7 | 245.7 | 0.000 | 0.000 |
| USBUND 470.00 | 245.452 | 245.452 | 245.452 | 0.000 | 0.000 |
| USBUND 2300.00 | 244.504 | 244.504 | 244.504 | 0.000 | 0.000 |
| USBUND 2300.00 | 244.504 | 244.504 | 244.504 | 0.000 | 0.000 |
| USBUND 4890.00 | 242.37 | 242.37 | 242.37 | 0.000 | 0.000 |
| USBUND 4890.00 | 242.37 | 242.37 | 242.37 | 0.000 | 0.000 |
| USBUND 7380.00 | 239.657 | 239.657 | 239.657 | 0.000 | 0.000 |
| USBUND 10130.00 | 238.923 | 238.923 | 238.923 | 0.000 | 0.000 |
| USBUND 10130.00 | 238.923 | 238.923 | 238.923 | 0.000 | 0.000 |
| USBUND 14290.00 | 238.729 | 238.729 | 238.729 | 0.000 | 0.000 |
| USBUND 14290.00 | 238.729 | 238.729 | 238.729 | 0.000 | 0.000 |
| USBUND 15790.00 | 238.708 | 238.708 | 238.708 | 0.000 | 0.000 |
| STHCROSS -3150.00 | 246.157 | 246.157 | 246.157 | 0.000 | 0.000 |
| STHCROSS 0.00 | 243.952 | 243.952 | 243.952 | 0.000 | 0.000 |
| STHCROSS 0.00 | 243.952 | 243.952 | 243.952 | 0.000 | 0.000 |
| STHCROSS 2820.00 | 243.337 | 243.337 | 243.337 | 0.000 | 0.000 |
| STHCROSS 2820.00 | 243.337 | 243.337 | 243.337 | 0.000 | 0.000 |
| STHCROSS 5160.00 | 241.937 | 241.937 | 241.937 | 0.000 | 0.000 |
| STHCROSS 5160.00 | 241.937 | 241.937 | 241.937 | 0.000 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| STHCROSS 7800.00 | 240.474 | 240.474 | 240.474 | 0.000 | 0.000 |
| STHCROSS 9630.00 | 239.889 | 239.889 | 239.889 | 0.000 | 0.000 |
| STHCROSS 10140.00 | 239.801 | 239.801 | 239.801 | 0.000 | 0.000 |
| STHRUN 0.00 | 241.937 | 241.937 | 241.937 | 0.000 | 0.000 |
| STHRUN 5940.00 | 239.938 | 239.939 | 239.939 | 0.001 | 0.000 |
| STHRUN 8190.00 | 239.818 | 239.818 | 239.818 | 0.000 | 0.000 |
| STHRUN 9530.00 | 239.801 | 239.801 | 239.801 | 0.000 | 0.000 |
| USBUNDW 0.00 | 248.855 | 248.855 | 248.855 | 0.000 | 0.000 |
| USBUNDW 1200.00 | 245.7 | 245.7 | 245.7 | 0.000 | 0.000 |
| STHXW 0.00 | 245.611 | 245.611 | 245.611 | 0.000 | 0.000 |
| STHXW 40.00 | 243.952 | 243.952 | 243.952 | 0.000 | 0.000 |
| STHXCAMPW 0.00 | 240.432 | 240.432 | 240.432 | 0.000 | 0.000 |
| STHXCAMPW 1100.00 | 239.641 | 239.641 | 239.641 | 0.000 | 0.000 |
| STHXCAMPW 1400.00 | 239.422 | 239.422 | 239.422 | 0.000 | 0.000 |
| USBUND2W 0.00 | 241.948 | 241.948 | 241.948 | 0.000 | 0.000 |
| USBUND2W 650.00 | 238.923 | 238.923 | 238.923 | 0.000 | 0.000 |
| BUNCUL 0.00 | 238.708 | 238.708 | 238.708 | 0.000 | 0.000 |
| BUNCUL 60.00 | 236.705 | 236.705 | 236.705 | 0.000 | 0.000 |
| USBUNDL1 0.00 | 245.611 | 245.611 | 245.611 | 0.000 | 0.000 |
| USBUNDL1 200.00 | 244.504 | 244.504 | 244.504 | 0.000 | 0.000 |
| USBUNDL2 0.00 | 245.021 | 245.021 | 245.021 | 0.000 | 0.000 |
| USBUNDL2 200.00 | 242.37 | 242.37 | 242.37 | 0.000 | 0.000 |
| USBUNDL5 0.00 | 241.007 | 241.007 | 241.007 | 0.000 | 0.000 |
| USBUNDL5 500.00 | 238.729 | 238.729 | 238.729 | 0.000 | 0.000 |
| OBN_L1 -500.00 | 236.858 | 236.856 | 236.857 | -0.002 | 0.001 |
| OBN_L1 -220.00 | 237.057 | 237.059 | 237.059 | 0.002 | 0.000 |
| OBN_L1 -220.00 | 237.057 | 237.059 | 237.059 | 0.002 | 0.000 |
| OBN_L1 70.00 | 237.364 | 237.368 | 237.367 | 0.004 | -0.001 |
| USLACHL1 0.00 | 246.582 | 246.582 | 246.582 | 0.000 | 0.000 |
| USLACHL1 3000.00 | 246.157 | 246.157 | 246.157 | 0.000 | 0.000 |
| LACH_OBNW 0.00 | 236.776 | 236.775 | 236.777 | -0.001 | 0.002 |
| LACH_OBNW 50.00 | 236.768 | 236.767 | 236.768 | -0.001 | 0.001 |
| RLR06 0.00 | 239.072 | 239.075 | 239.075 | 0.003 | 0.000 |
| RLR06 40.00 | 238.867 | 238.872 | 238.872 | 0.005 | 0.000 |
| RLR07 0.00 | 239.072 | 239.075 | 239.075 | 0.003 | 0.000 |
| RLR07 200.00 | 239.027 | 239.03 | 239.03 | 0.003 | 0.000 |
| RLR07 240.00 | 238.919 | 238.923 | 238.923 | 0.004 | 0.000 |
| RLR07 400.00 | 238.867 | 238.872 | 238.872 | 0.005 | 0.000 |
| USLACHL2 0.00 | 240.003 | 240.004 | 240.004 | 0.001 | 0.000 |
| USLACHL2 2000.00 | 239.322 | 239.322 | 239.322 | 0.000 | 0.000 |
| BRANC3 0.00 | 236.172 | 236.171 | 236.172 | -0.001 | 0.001 |
| BRANC3 200.00 | 237.064 | 237.064 | 237.064 | 0.000 | 0.000 |
| USLACHL3 0.00 | 245.021 | 245.021 | 245.021 | 0.000 | 0.000 |
| USLACHL3 800.00 | 243.337 | 243.337 | 243.337 | 0.000 | 0.000 |
| USLACHL4 0.00 | 243.161 | 243.161 | 243.161 | 0.000 | 0.000 |

**Table A1 Modelled Peak Water Levels (PWL) (Continued)**

| MIKE11 Cross Section | Modelled PWL (mAHD) | | | Difference in PWL (m) | |
|---|---|---|---|---|---|
| | Base Case[1] (1) | Updated Base Case[2] (2) | Proposed Rezoning[3] (3) | (2) -(1) | (3) -(2) |
| USLACHL4 600.00 | 241.937 | 241.937 | 241.937 | 0.000 | 0.000 |
| LAKEFL1 0.00 | 235.879 | 235.879 | 235.879 | 0.000 | 0.000 |
| LAKEFL1 450.00 | 235.227 | 235.227 | 235.227 | 0.000 | 0.000 |
| COLLEGE3 0.00 | 238.703 | 238.709 | 238.709 | 0.006 | 0.000 |
| COLLEGE3 100.00 | 238.03 | 238.034 | 238.034 | 0.004 | 0.000 |
| COLLEGE3 250.00 | 237.057 | 237.059 | 237.059 | 0.002 | 0.000 |
| OXFD1 0.00 | 237.651 | 237.648 | 237.65 | -0.003 | 0.002 |
| OXFD1 40.00 | 237.88 | 237.88 | 237.88 | 0.000 | 0.000 |
| FITZ1 0.00 | 236.776 | 236.775 | 236.777 | -0.001 | 0.002 |
| FITZ1 40.00 | 236.25 | 236.25 | 236.251 | 0.000 | 0.001 |
| FITZ1 90.00 | 236.25 | 236.249 | 236.25 | -0.001 | 0.001 |
| RLR08 0.00 | 239.185 | 239.187 | 239.187 | 0.002 | 0.000 |
| RLR08 250.00 | 239.181 | 239.182 | 239.182 | 0.001 | 0.000 |
| RLR08 290.00 | 238.703 | 238.709 | 238.709 | 0.006 | 0.000 |
| FITZL1 -50.00 | 236.728 | 236.727 | 236.729 | -0.001 | 0.002 |
| **Maximum** | | | | **0.049** | **0.005** |
| **Minimum** | | | | **-0.019** | **-0.002** |

[1] Includes proposed rezoning for Three Areas (SKM 2013)

[2] Includes an additional cross section "COLLEGE2 410" and minor adjustments "COLLEGE2"

[3] Proposed rezoning for Reymond St area

## Table A2 Modelled Peak Discharges for all Scenarios

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| BATT -12.50 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 5.00 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 37.50 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 89.50 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 137.00 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 185.00 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 275.00 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 363.00 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 455.00 | 710 | 711 | 711 | 0.0 | 0.0 |
| BATT 579.50 | 711 | 710 | 711 | -0.1 | 0.1 |
| LACH_OBN 54.50 | 69 | 70 | 70 | 2.8 | 0.0 |
| LACH_OBN 112.00 | 69 | 70 | 70 | 2.8 | 0.0 |
| LACH_OBN 221.00 | 69 | 70 | 70 | 2.8 | 0.0 |
| LACH_OBN 343.50 | 69 | 70 | 70 | 2.8 | 0.0 |
| LACH_OBN 419.33 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 444.00 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 468.67 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 493.33 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 518.00 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 542.66 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 567.34 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 592.00 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 616.66 | 228 | 220 | 220 | -3.5 | 0.0 |
| LACH_OBN 640.68 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 664.04 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 687.41 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 710.77 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 734.13 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 757.49 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 780.86 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 804.23 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 827.59 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 850.96 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 874.32 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 898.05 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 922.14 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 946.23 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 970.32 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 994.41 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1018.50 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1042.59 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1066.68 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1090.77 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1114.86 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1138.95 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1162.45 | 368 | 361 | 360 | -2.2 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LACH_OBN 1185.35 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1208.25 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1231.15 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1254.05 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1276.95 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1299.85 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1322.75 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1345.65 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1368.55 | 368 | 361 | 360 | -2.2 | 0.0 |
| LACH_OBN 1391.00 | 499 | 494 | 494 | -1.1 | 0.0 |
| LACH_OBN 1413.00 | 499 | 494 | 494 | -1.1 | 0.0 |
| LACHLAN -1311.43 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -1214.29 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -1117.14 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -1020.00 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -922.86 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -825.71 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -728.57 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -631.43 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -534.29 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -388.57 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -242.86 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -145.71 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN -48.57 | 1,505 | 1,505 | 1,505 | 0.0 | 0.0 |
| LACHLAN 47.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 141.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 235.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 329.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 423.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 517.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 611.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 705.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 799.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 893.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 987.00 | 1,437 | 1,437 | 1,437 | 0.0 | 0.0 |
| LACHLAN 1080.38 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1173.13 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1265.88 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1358.63 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1451.38 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1544.13 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1636.88 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1729.63 | 1,271 | 1,270 | 1,270 | -0.1 | 0.0 |
| LACHLAN 1813.83 | 1,121 | 1,120 | 1,120 | -0.1 | 0.0 |
| LACHLAN 1889.50 | 1,121 | 1,120 | 1,120 | -0.1 | 0.0 |
| LACHLAN 1965.17 | 1,121 | 1,120 | 1,120 | -0.1 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LACHLAN 2047.75 | 1,058 | 1,056 | 1,056 | -0.2 | 0.0 |
| LACHLAN 2137.25 | 1,058 | 1,056 | 1,056 | -0.2 | 0.0 |
| LACHLAN 2226.75 | 1,058 | 1,056 | 1,056 | -0.2 | 0.0 |
| LACHLAN 2316.25 | 1,058 | 1,056 | 1,056 | -0.2 | 0.0 |
| LACHLAN 2400.83 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2480.50 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2560.17 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2639.63 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2718.88 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2798.13 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2877.38 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2922.00 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 2932.00 | 801 | 799 | 799 | -0.3 | 0.0 |
| LACHLAN 3070.00 | 848 | 845 | 845 | -0.3 | 0.0 |
| LACHLAN 3358.00 | 780 | 775 | 775 | -0.6 | 0.0 |
| LACHLAN 3523.00 | 1,047 | 1,043 | 1,043 | -0.4 | 0.0 |
| LACHLAN 3543.00 | 889 | 894 | 894 | 0.6 | 0.0 |
| LACHLAN 3754.50 | 889 | 894 | 894 | 0.6 | 0.0 |
| LACHLAN 4177.00 | 874 | 878 | 878 | 0.5 | 0.0 |
| LACHLAN 4609.00 | 848 | 850 | 850 | 0.3 | 0.0 |
| LACHLAN 5052.50 | 848 | 850 | 850 | 0.3 | 0.0 |
| LACHLAN 5496.50 | 859 | 862 | 862 | 0.3 | 0.0 |
| LACHLAN 5871.00 | 1,015 | 1,018 | 1,018 | 0.3 | 0.0 |
| LACHLAN 6248.50 | 1,015 | 1,018 | 1,018 | 0.3 | 0.0 |
| LACHLAN 6511.20 | 1,014 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 6607.60 | 1,014 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 6704.00 | 1,014 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 6800.40 | 1,014 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 6896.80 | 1,014 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 6993.20 | 1,014 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 7089.60 | 1,014 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 7186.00 | 1,013 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 7282.40 | 1,013 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 7378.80 | 1,013 | 1,017 | 1,017 | 0.3 | 0.0 |
| LACHLAN 7472.33 | 1,159 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 7563.00 | 1,159 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 7653.67 | 1,159 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 7744.33 | 1,159 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 7835.00 | 1,159 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 7925.67 | 1,159 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8016.33 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8107.00 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8197.67 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8293.00 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8393.00 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8493.00 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LACHLAN 8593.00 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8693.00 | 1,158 | 1,164 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8793.00 | 1,158 | 1,163 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8893.00 | 1,158 | 1,163 | 1,164 | 0.5 | 0.0 |
| LACHLAN 8993.00 | 1,158 | 1,163 | 1,164 | 0.5 | 0.0 |
| LACHLAN 9087.50 | 1,124 | 1,129 | 1,129 | 0.5 | 0.0 |
| LACHLAN 9176.50 | 1,124 | 1,129 | 1,129 | 0.5 | 0.0 |
| LACHLAN 9265.50 | 1,123 | 1,129 | 1,129 | 0.5 | 0.0 |
| LACHLAN 9354.50 | 1,123 | 1,128 | 1,129 | 0.5 | 0.0 |
| LACHLAN 9443.50 | 1,123 | 1,128 | 1,129 | 0.5 | 0.0 |
| LACHLAN 9532.80 | 922 | 924 | 924 | 0.2 | 0.0 |
| LACHLAN 9622.40 | 922 | 924 | 924 | 0.2 | 0.0 |
| LACHLAN 9712.00 | 921 | 923 | 923 | 0.2 | 0.0 |
| LACHLAN 9801.60 | 921 | 923 | 923 | 0.2 | 0.0 |
| LACHLAN 9891.20 | 920 | 922 | 922 | 0.2 | 0.0 |
| LACHLAN 9956.00 | 919 | 922 | 922 | 0.2 | 0.0 |
| LACHLAN 10011.88 | 919 | 921 | 921 | 0.2 | 0.0 |
| LACHLAN 10103.63 | 918 | 920 | 920 | 0.2 | 0.0 |
| LACHLAN 10195.38 | 917 | 919 | 919 | 0.2 | 0.0 |
| LACHLAN 10287.13 | 916 | 918 | 918 | 0.2 | 0.0 |
| LACHLAN 10378.88 | 915 | 917 | 917 | 0.2 | 0.0 |
| LACHLAN 10470.63 | 914 | 916 | 916 | 0.2 | 0.0 |
| LACHLAN 10562.38 | 913 | 915 | 915 | 0.2 | 0.0 |
| LACHLAN 10654.13 | 912 | 914 | 914 | 0.2 | 0.0 |
| LACHLAN 10743.00 | 1,272 | 1,271 | 1,272 | -0.1 | 0.1 |
| LACHLAN 10793.00 | 1,272 | 1,271 | 1,272 | -0.1 | 0.1 |
| LACHLAN 10836.00 | 1,226 | 1,226 | 1,227 | 0.0 | 0.0 |
| LACHLAN 10966.50 | 1,226 | 1,226 | 1,226 | 0.0 | 0.0 |
| LACHLAN 11108.25 | 1,226 | 1,225 | 1,226 | 0.0 | 0.0 |
| LACHLAN 11202.75 | 1,226 | 1,225 | 1,226 | 0.0 | 0.1 |
| LACHLAN 11264.00 | 1,226 | 1,225 | 1,226 | 0.0 | 0.1 |
| LACHLAN 11289.00 | 1,226 | 1,225 | 1,226 | 0.0 | 0.1 |
| LACHLAN 11350.00 | 1,225 | 1,225 | 1,226 | 0.0 | 0.1 |
| LACHLAN 11465.00 | 1,238 | 1,237 | 1,238 | 0.0 | 0.1 |
| LACHLAN 11667.50 | 1,283 | 1,282 | 1,283 | -0.1 | 0.1 |
| LACHLAN 12333.50 | 1,722 | 1,721 | 1,722 | 0.0 | 0.1 |
| LACHLAN 13233.50 | 1,722 | 1,721 | 1,722 | 0.0 | 0.1 |
| LACHLAN 13977.00 | 3,374 | 3,373 | 3,374 | 0.0 | 0.0 |
| LACHLAN 15324.50 | 3,371 | 3,371 | 3,372 | 0.0 | 0.0 |
| LAKEF -1387.50 | 1,461 | 1,461 | 1,461 | 0.0 | 0.0 |
| LAKEF -1362.50 | 1,461 | 1,461 | 1,461 | 0.0 | 0.0 |
| LAKEF -1337.50 | 1,461 | 1,461 | 1,461 | 0.0 | 0.0 |
| LAKEF -1312.50 | 1,461 | 1,461 | 1,461 | 0.0 | 0.0 |
| LAKEF -1287.50 | 1,461 | 1,461 | 1,461 | 0.0 | 0.0 |
| LAKEF -1250.00 | 1,461 | 1,461 | 1,461 | 0.0 | 0.0 |
| LAKEF -1212.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LAKEF -1187.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -1162.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -1137.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -1112.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -1087.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -1062.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -1037.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -1012.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -987.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -962.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -937.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -912.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -887.50 | 1,460 | 1,460 | 1,460 | 0.0 | 0.0 |
| LAKEF -862.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -837.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -812.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -787.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -762.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -737.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -712.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -687.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -662.50 | 1,459 | 1,459 | 1,459 | 0.0 | 0.0 |
| LAKEF -637.50 | 1,458 | 1,458 | 1,458 | 0.0 | 0.0 |
| LAKEF -612.50 | 1,458 | 1,458 | 1,458 | 0.0 | 0.0 |
| LAKEF -587.50 | 1,458 | 1,458 | 1,458 | 0.0 | 0.0 |
| LAKEF -562.50 | 1,458 | 1,458 | 1,458 | 0.0 | 0.0 |
| LAKEF -537.50 | 1,458 | 1,458 | 1,458 | 0.0 | 0.0 |
| LAKEF -512.50 | 1,458 | 1,458 | 1,458 | 0.0 | 0.0 |
| LAKEF -487.50 | 1,458 | 1,458 | 1,458 | 0.0 | 0.0 |
| LAKEF -462.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -437.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -412.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -387.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -362.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -337.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -312.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -287.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -262.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -237.50 | 1,457 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -212.50 | 1,456 | 1,457 | 1,457 | 0.0 | 0.0 |
| LAKEF -187.50 | 1,456 | 1,456 | 1,457 | 0.0 | 0.0 |
| LAKEF -162.50 | 1,456 | 1,456 | 1,457 | 0.0 | 0.0 |
| LAKEF -137.50 | 1,456 | 1,456 | 1,456 | 0.0 | 0.0 |
| LAKEF -112.50 | 1,456 | 1,456 | 1,456 | 0.0 | 0.0 |
| LAKEF -87.50 | 1,456 | 1,456 | 1,456 | 0.0 | 0.0 |
| LAKEF -62.50 | 1,456 | 1,456 | 1,456 | 0.0 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LAKEF -37.50 | 1,456 | 1,456 | 1,456 | 0.0 | 0.0 |
| LAKEF -12.50 | 1,456 | 1,456 | 1,456 | 0.0 | 0.0 |
| LAKEF 12.28 | 2,283 | 2,283 | 2,283 | 0.0 | 0.0 |
| LAKEF 36.85 | 2,283 | 2,283 | 2,283 | 0.0 | 0.0 |
| LAKEF 61.41 | 2,283 | 2,283 | 2,283 | 0.0 | 0.0 |
| LAKEF 85.97 | 2,282 | 2,282 | 2,283 | 0.0 | 0.0 |
| LAKEF 110.54 | 2,282 | 2,282 | 2,282 | 0.0 | 0.0 |
| LAKEF 135.10 | 2,282 | 2,282 | 2,282 | 0.0 | 0.0 |
| LAKEF 159.66 | 2,282 | 2,282 | 2,282 | 0.0 | 0.0 |
| LAKEF 184.23 | 2,282 | 2,282 | 2,282 | 0.0 | 0.0 |
| LAKEF 208.79 | 2,281 | 2,281 | 2,282 | 0.0 | 0.0 |
| LAKEF 233.35 | 2,281 | 2,281 | 2,281 | 0.0 | 0.0 |
| LAKEF 257.92 | 2,281 | 2,281 | 2,281 | 0.0 | 0.0 |
| LAKEF 282.48 | 2,281 | 2,281 | 2,281 | 0.0 | 0.0 |
| LAKEF 307.05 | 2,281 | 2,281 | 2,281 | 0.0 | 0.0 |
| LAKEF 331.61 | 2,280 | 2,281 | 2,281 | 0.0 | 0.0 |
| LAKEF 356.17 | 2,280 | 2,280 | 2,280 | 0.0 | 0.0 |
| LAKEF 380.74 | 2,280 | 2,280 | 2,280 | 0.0 | 0.0 |
| LAKEF 405.30 | 2,280 | 2,280 | 2,280 | 0.0 | 0.0 |
| LAKEF 429.86 | 2,280 | 2,280 | 2,280 | 0.0 | 0.0 |
| LAKEF 454.43 | 2,279 | 2,280 | 2,280 | 0.0 | 0.0 |
| LAKEF 478.99 | 2,279 | 2,279 | 2,279 | 0.0 | 0.0 |
| LAKEF 503.55 | 2,279 | 2,279 | 2,279 | 0.0 | 0.0 |
| LAKEF 528.12 | 2,279 | 2,279 | 2,279 | 0.0 | 0.0 |
| LAKEF 552.68 | 2,279 | 2,279 | 2,279 | 0.0 | 0.0 |
| LAKEF 577.25 | 2,278 | 2,279 | 2,279 | 0.0 | 0.0 |
| LAKEF 601.81 | 2,278 | 2,278 | 2,278 | 0.0 | 0.0 |
| LAKEF 626.37 | 2,278 | 2,278 | 2,278 | 0.0 | 0.0 |
| LAKEF 650.94 | 2,278 | 2,278 | 2,278 | 0.0 | 0.0 |
| LAKEF 675.50 | 2,278 | 2,278 | 2,278 | 0.0 | 0.0 |
| LAKEF 700.06 | 2,277 | 2,278 | 2,278 | 0.0 | 0.0 |
| LAKEF 724.63 | 2,277 | 2,277 | 2,278 | 0.0 | 0.0 |
| LAKEF 749.19 | 2,277 | 2,277 | 2,277 | 0.0 | 0.0 |
| LAKEF 773.75 | 2,277 | 2,277 | 2,277 | 0.0 | 0.0 |
| LAKEF 798.32 | 2,277 | 2,277 | 2,277 | 0.0 | 0.0 |
| LAKEF 822.88 | 2,277 | 2,277 | 2,277 | 0.0 | 0.0 |
| LAKEF 847.45 | 2,276 | 2,276 | 2,277 | 0.0 | 0.0 |
| LAKEF 872.01 | 2,276 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 896.57 | 2,276 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 921.14 | 2,276 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 945.70 | 2,276 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 970.26 | 2,276 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 994.83 | 2,276 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 1019.39 | 2,275 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 1043.95 | 2,275 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 1068.52 | 2,275 | 2,276 | 2,276 | 0.0 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LAKEF 1093.08 | 2,275 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 1117.65 | 2,275 | 2,276 | 2,276 | 0.0 | 0.0 |
| LAKEF 1142.21 | 2,275 | 2,275 | 2,276 | 0.0 | 0.0 |
| LAKEF 1166.77 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1191.34 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1215.90 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1240.46 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1265.03 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1289.59 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1314.15 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1338.72 | 2,275 | 2,275 | 2,275 | 0.0 | 0.0 |
| LAKEF 1363.33 | 2,337 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1387.99 | 2,337 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1412.65 | 2,337 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1437.31 | 2,337 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1461.97 | 2,337 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1486.63 | 2,337 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1511.28 | 2,336 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1535.94 | 2,336 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1560.60 | 2,336 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1585.26 | 2,336 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1609.92 | 2,336 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1634.58 | 2,336 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1659.24 | 2,336 | 2,337 | 2,337 | 0.0 | 0.0 |
| LAKEF 1683.90 | 2,336 | 2,336 | 2,337 | 0.0 | 0.0 |
| LAKEF 1708.56 | 2,336 | 2,336 | 2,337 | 0.0 | 0.0 |
| LAKEF 1733.22 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1757.88 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1782.53 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1807.19 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1831.85 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1856.51 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1881.17 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1905.83 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1930.49 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1955.15 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 1979.81 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2004.47 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2029.13 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2053.78 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2078.44 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2103.10 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2127.76 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2152.42 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2177.08 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2201.74 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LAKEF 2226.40 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2251.06 | 2,336 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2275.72 | 2,335 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2300.38 | 2,335 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2325.03 | 2,335 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2349.69 | 2,335 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2374.35 | 2,335 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2399.01 | 2,335 | 2,336 | 2,336 | 0.0 | 0.0 |
| LAKEF 2423.67 | 2,335 | 2,335 | 2,336 | 0.0 | 0.0 |
| LAKEF 2448.24 | 1,085 | 1,085 | 1,085 | 0.0 | 0.0 |
| LAKEF 2472.71 | 1,084 | 1,085 | 1,085 | 0.0 | 0.0 |
| LAKEF 2497.18 | 1,084 | 1,085 | 1,085 | 0.0 | 0.0 |
| LAKEF 2521.65 | 1,084 | 1,085 | 1,085 | 0.0 | 0.0 |
| LAKEF 2546.12 | 1,084 | 1,084 | 1,085 | 0.0 | 0.0 |
| LAKEF 2570.59 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2595.06 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2619.53 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2644.00 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2668.47 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2692.94 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2717.41 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2741.88 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2766.35 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2790.82 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2815.29 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2839.76 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2860.50 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2872.00 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2883.50 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 2990.50 | 1,084 | 1,084 | 1,084 | 0.0 | 0.0 |
| LAKEF 3164.50 | 38 | 38 | 38 | 0.0 | 0.0 |
| LAKEF 3242.50 | 38 | 38 | 38 | 0.0 | 0.0 |
| LAKEF 3309.50 | 38 | 38 | 38 | 0.0 | 0.0 |
| LAKEF 3471.50 | 1,110 | 1,110 | 1,110 | 0.0 | 0.0 |
| LAKEF 3636.50 | 1,261 | 1,261 | 1,261 | 0.0 | 0.0 |
| LAKEF 3706.50 | 126 | 126 | 126 | 0.0 | 0.0 |
| LAKEF 3716.50 | 126 | 126 | 126 | 0.0 | 0.0 |
| LAKEF 3795.00 | 1,261 | 1,261 | 1,261 | 0.0 | 0.0 |
| LAKEF 3963.50 | 1,524 | 1,524 | 1,525 | 0.0 | 0.0 |
| LAKEF 4163.00 | 1,524 | 1,524 | 1,525 | 0.0 | 0.0 |
| LAKEF 4275.00 | 1,524 | 1,524 | 1,524 | 0.0 | 0.0 |
| LAKEF 4318.50 | 1,389 | 1,389 | 1,389 | 0.0 | 0.0 |
| LAKEF 4360.50 | 1,389 | 1,389 | 1,389 | 0.0 | 0.0 |
| LAKEF 4380.50 | 1,389 | 1,389 | 1,389 | 0.0 | 0.0 |
| LAKEF 4476.00 | 1,389 | 1,389 | 1,389 | 0.0 | 0.0 |
| LAKEF 4567.00 | 84 | 84 | 84 | 0.0 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| LAKEF 4581.50 | 84 | 84 | 84 | 0.0 | 0.0 |
| LAKEF 4601.50 | 84 | 84 | 84 | 0.0 | 0.0 |
| LAKEF 4782.00 | 1,386 | 1,383 | 1,384 | -0.2 | 0.1 |
| LAKEF 4997.00 | 2,099 | 2,098 | 2,094 | 0.0 | -0.2 |
| LAKEF 5050.00 | 2,107 | 2,100 | 2,080 | -0.3 | -0.9 |
| LAKEF 5420.50 | 2,094 | 2,094 | 2,092 | 0.0 | -0.1 |
| LAKEF 6336.50 | 1,653 | 1,653 | 1,653 | 0.0 | 0.0 |
| LAKEF 7278.00 | 1,653 | 1,653 | 1,653 | 0.0 | 0.0 |
| LAKEF 7680.00 | 1,653 | 1,653 | 1,653 | 0.0 | 0.0 |
| LAKEF 7738.00 | 1,653 | 1,653 | 1,653 | 0.0 | 0.0 |
| LAKEF 8164.00 | 1,653 | 1,653 | 1,653 | 0.0 | 0.0 |
| OXFD 59.50 | 135 | 135 | 135 | 0.0 | 0.0 |
| OXFD 204.00 | 135 | 135 | 135 | 0.0 | 0.0 |
| OXFD 374.00 | 135 | 135 | 135 | 0.0 | 0.0 |
| OXFD 392.33 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 417.00 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 441.67 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 465.82 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 489.45 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 513.09 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 536.73 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 560.36 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 584.00 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 607.64 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 631.27 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 654.91 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 678.55 | 141 | 141 | 141 | 0.0 | -0.1 |
| OXFD 702.18 | 141 | 141 | 141 | 0.0 | 0.0 |
| OXFD 767.00 | 141 | 141 | 141 | 0.0 | 0.0 |
| BATH 40.00 | -100 | -100 | -100 | 0.0 | 0.0 |
| BATH 190.00 | -100 | -100 | -100 | 0.0 | 0.0 |
| BATH 335.00 | -100 | -100 | -100 | 0.0 | 0.0 |
| BATH 470.00 | 264 | 264 | 264 | 0.0 | 0.0 |
| COLLEGE1 125.00 | 188 | 190 | 190 | 1.5 | 0.0 |
| SOUTH 25.00 | 481 | 481 | 481 | 0.0 | 0.0 |
| SOUTH 1825.00 | 1,541 | 1,541 | 1,541 | 0.0 | 0.0 |
| SOUTH 3765.00 | 1,529 | 1,529 | 1,529 | 0.0 | 0.0 |
| SOUTH 5125.00 | 1,518 | 1,518 | 1,518 | 0.0 | 0.0 |
| SOUTH 7560.00 | 1,507 | 1,507 | 1,507 | 0.0 | 0.0 |
| SOUTH 9994.73 | 1,538 | 1,539 | 1,539 | 0.0 | 0.0 |
| SOUTH 11854.73 | 1,864 | 1,864 | 1,863 | 0.0 | -0.1 |
| RLR05 50.06 | 75 | 76 | 76 | 1.0 | 0.0 |
| RLR05 295.06 | 7 | 7 | 7 | -0.1 | 0.0 |
| RLR05 520.00 | 5 | 5 | 5 | -0.2 | 0.0 |
| RLR04 -225.00 | 162 | 163 | 163 | 0.6 | 0.0 |
| RLR04 -100.00 | 15 | 15 | 15 | -0.1 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| RLR04 20.00 | 14 | 14 | 14 | -0.1 | 0.0 |
| RLR03 20.00 | 148 | 149 | 149 | 0.7 | 0.0 |
| RLR02 -475.00 | 167 | 168 | 168 | 0.4 | 0.0 |
| RLR02 -225.00 | 13 | 13 | 13 | 0.0 | 0.0 |
| RLR02 20.00 | 12 | 12 | 12 | 0.0 | 0.0 |
| RLR01 20.00 | 156 | 156 | 156 | 0.4 | 0.0 |
| RLF01 20.00 | 361 | 361 | 361 | 0.0 | 0.0 |
| RLF02 20.00 | 7 | 7 | 7 | -0.3 | 0.0 |
| RLF03 20.00 | 737 | 737 | 737 | 0.0 | 0.0 |
| CAMP 10.00 | 1,135 | 1,135 | 1,135 | 0.0 | 0.0 |
| FOOT 20.00 | 581 | 581 | 581 | 0.0 | 0.0 |
| COLLEGE2 50.00 | 159 | 149 | 149 | -6.2 | 0.0 |
| COLLEGE2 300.00 | 159 | 149 | 149 | -6.2 | 0.0 |
| COLLEGE2 380.00 | N/A | 149 | 149 | N/A | 0.0 |
| COLLEGE2 440.00 | 159 | 149 | 149 | -6.2 | 0.0 |
| BATES 20.00 | 1,304 | 1,303 | 1,304 | 0.0 | 0.0 |
| RLF04 20.00 | 186 | 186 | 186 | 0.0 | 0.0 |
| BUN3 1500.00 | 337 | 337 | 336 | 0.1 | -0.3 |
| BUN2 1500.00 | 35 | 35 | 35 | 0.7 | -0.4 |
| USLACH 1230.00 | 5,337 | 5,337 | 5,337 | 0.0 | 0.0 |
| USLACH 3465.00 | 5,266 | 5,266 | 5,266 | 0.0 | 0.0 |
| USLACH 6390.00 | 4,682 | 4,682 | 4,682 | 0.0 | 0.0 |
| USLACH 9730.00 | 4,656 | 4,656 | 4,656 | 0.0 | 0.0 |
| USLACH 12740.00 | 3,473 | 3,473 | 3,473 | 0.0 | 0.0 |
| USLACH 15615.00 | 2,905 | 2,905 | 2,905 | 0.0 | 0.0 |
| USLACH 18030.00 | 2,853 | 2,853 | 2,853 | 0.0 | 0.0 |
| USLACH 19630.00 | 2,360 | 2,359 | 2,359 | 0.0 | 0.0 |
| USLACH 20585.00 | 1,506 | 1,505 | 1,505 | 0.0 | 0.0 |
| USBUND 235.00 | 417 | 417 | 417 | 0.0 | 0.0 |
| USBUND 1385.00 | 417 | 417 | 417 | 0.0 | 0.0 |
| USBUND 3595.00 | 417 | 417 | 417 | 0.0 | 0.0 |
| USBUND 6135.00 | 1,038 | 1,038 | 1,038 | 0.0 | 0.0 |
| USBUND 8755.00 | 1,036 | 1,036 | 1,036 | 0.0 | 0.0 |
| USBUND 12210.00 | 1,070 | 1,070 | 1,070 | 0.0 | 0.0 |
| USBUND 15040.00 | 1,547 | 1,547 | 1,547 | 0.0 | 0.0 |
| STHCROSS -1575.00 | 582 | 582 | 582 | 0.0 | 0.0 |
| STHCROSS 1410.00 | 586 | 586 | 586 | 0.0 | 0.0 |
| STHCROSS 3990.00 | 971 | 971 | 971 | 0.0 | 0.0 |
| STHCROSS 6480.00 | 710 | 710 | 710 | 0.0 | 0.0 |
| STHCROSS 8715.00 | 705 | 705 | 705 | 0.0 | 0.0 |
| STHCROSS 9885.00 | 694 | 694 | 694 | 0.0 | 0.0 |
| STHRUN 2970.00 | 834 | 834 | 834 | 0.0 | 0.0 |
| STHRUN 7065.00 | 791 | 791 | 791 | 0.0 | 0.0 |
| STHRUN 8860.00 | 789 | 789 | 789 | 0.0 | 0.0 |
| USBUNDW 170.00 | 65 | 65 | 65 | 0.0 | 0.0 |
| STHXW 20.00 | 49 | 49 | 49 | 0.0 | 0.0 |

**Table A2 Modelled Peak Discharges for all Scenarios (continued)**

| MIKE11 Cross Section | Modelled Peak Discharge ($m^3/s$) | | | Change in Peak Discharge (%) | |
|---|---|---|---|---|---|
| | Base Case[1] | Updated Base Case[2] | Proposed Rezoning[3] | Updated Base Case | Proposed Rezoning |
| STHXCAMPW 20.00 | 854 | 854 | 854 | 0.0 | 0.0 |
| STHXCAMPW 1250.00 | 848 | 848 | 848 | 0.0 | 0.0 |
| USBUND2W 170.00 | 55 | 55 | 55 | 0.0 | 0.0 |
| BUNCUL 30.00 | 1,067 | 1,067 | 1,067 | 0.0 | 0.0 |
| USBUNDL1 100.00 | 0 | 0 | 0 | - | - |
| USBUNDL2 100.00 | 786 | 786 | 786 | 0.0 | 0.0 |
| USBUNDL5 250.00 | 493 | 493 | 493 | 0.0 | 0.0 |
| OBN_L1 -360.00 | -131 | -133 | -133 | 1.9 | -0.1 |
| OBN_L1 0.00 | -42 | -43 | -43 | 1.3 | -0.2 |
| USLACHL1 1500.00 | 579 | 579 | 579 | 0.0 | 0.0 |
| LACH_OBNW 25.00 | 487 | 481 | 481 | -1.1 | -0.1 |
| RLR06 20.00 | 40 | 41 | 41 | 2.4 | 0.0 |
| RLR07 100.00 | 231 | 231 | 231 | -0.2 | 0.0 |
| RLR07 220.00 | 231 | 231 | 231 | -0.2 | 0.0 |
| RLR07 320.00 | 231 | 231 | 231 | -0.2 | 0.0 |
| USLACHL2 1000.00 | 68 | 68 | 68 | 0.1 | 0.0 |
| BRANC3 150.00 | -440 | -440 | -440 | 0.0 | 0.0 |
| USLACHL3 400.00 | 395 | 395 | 395 | 0.0 | 0.0 |
| USLACHL4 300.00 | 566 | 566 | 566 | 0.0 | 0.0 |
| LAKEFL1 225.00 | 1,653 | 1,653 | 1,653 | 0.0 | 0.0 |
| COLLEGE3 50.00 | 89 | 91 | 91 | 2.2 | 0.0 |
| COLLEGE3 175.00 | 89 | 91 | 91 | 2.2 | 0.0 |
| OXFD1 20.00 | -6 | -6 | -6 | 0.4 | -0.3 |
| FITZ1 20.00 | 13 | 13 | 13 | -0.1 | 0.2 |
| FITZ1 65.00 | 13 | 13 | 13 | -0.2 | 0.2 |
| RLR08 125.00 | 70 | 71 | 71 | 1.1 | 0.0 |
| RLR08 270.00 | 70 | 71 | 71 | 1.1 | 0.0 |
| FITZL1 -25.00 | 48 | 47 | 48 | -0.7 | 1.0 |
| **Maximum** | | | | **2.8** | **1.0** |
| **Minimum** | | | | **-6.2** | **-0.9** |

[1] Includes proposed rezoning for Three Areas (SKM 2013)

[2] Includes an additional cross section "COLLEGE2 410" and minor adjustments "COLLEGE2"

[3] Proposed rezoning for Reymond St area

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31 July 2015

Office of Water
9 Spring Street
PO Box 291
Forbes NSW 2871

***Subject:*** **Planning Proposal – Change to the minimum lot size for R5 – Large Lot Residential Land**

Dear Sir/Madam,

Council is undertaking a planning proposal to reduce the minimum lot size of land located within the R5 Zone on the southern side of Forbes. Council seek to reduce the minimum lot size from the current 4000m2 to 1500m2, with the potential for approximately 42 new lots.

On the request of the Department of Planning, Council has commissioned Jacobs SKM to undertake flood modelling for the Site area. The modelling undertaken indicates that there will be a negligible impact from the Planning Proposal.

Council have received the Gateway Determination from the Department of Planning, and as part of the Determination, Council is required to seek advice from your Department on the proposal.

Attached to this letter is the following for your consideration:

- Planning Proposal – Change to the Minimum Lot Size for R5 Large Lot Residential Land for Reymond Street, Young Street, Stokes Street, and College Road, Forbes, August 2015.
- Flood Assessment for Change to Minimum Lot Size for R5 Large Lot Residential Land, July 2015.
- Department of Planning Gateway Determination, April 2015.

Council request that you provide comment within 14 days of the date of this letter. Should Council not receive a comment in writing in this time Council will assume the Department have no comments on the above Planning Proposal.

Should you have any enquiries regarding this matter, please contact ***Melissa Ross,*** Council's Town Planner on ***02 6850 2344***

Yours faithfully

P Bennett

Paul Bennett
**Director**
**ENVIRONMENTAL SERVICES & PLANNING**

Department of Primary Industries
Water

Contact Tim Baker
Phone 02 6841 7403
Mobile 0428 162 097
Fax 02 6884 0096
Email Tim.Baker@dpi.nsw.gov.au

Our ref ER23680 / OUT15/21121

Paul Bennett
Forbes Shire Council
PO Box 333
FORBES NSW 2871

**Attention: Melissa Ross**

Dear Melissa

**Planning Proposal PP2015_FORBE_001_00 – Change to the minimum lot size for R5 – Large Lot Residential Land on the southern side of Forbes**

I refer to your letter dated 31st July 2015 providing DPI Water (formerly NSW Office of Water) an opportunity to comment on a planning proposal to change the Minimum Lot Size (MLS) of R5 Zoned land on the southern side of Forbes from 4000m$^2$ to 1500m$^2$. DPI Water has reviewed the documentation and the following comments are provided.

- DPI Water understands the proposal is to reduce the MLS for 23 existing lots from 4000m$^2$ to 1500m$^2$. This is predicted to result in additional 42-46 new lots, hence almost tripling the number of lots within the area.
- The planning proposal indicates the intention to reticulate water and sewer services to all new lots. This is strongly supported by DPI Water and reticulation to existing lots is recommended to minimise future landuse conflicts and impacts to water resources.
- Consideration is recommended of the appropriateness of a 1500m$^2$ MLS for R5 Zoned Land. A key objective of R5 Zoned land is to provide residential housing in a rural setting. The ability to achieve this objective with 1500m$^2$ needs considering and whether an alternate zoning such as R2 is more appropriate. This is further reinforced in the Forbes Growth Management Strategy which defines Rural Residential Land as a minimum of 4000m$^2$.
- As the site is within the Low Hazard Flood Fringe and the Low Hazard Flood Storage, the potential flood impacts of 46 building platforms have been assessed in the planning proposal using a MIKE11 hydraulic model. It is recognised this modelling has not included impacts from fencing or additional impacts from other infrastructure such as sheds and their building platforms. It is recommended further consideration be given to impacts from this additional infrastructure and consult the Office of Environment and Heritage in this regard.

Should you have any further queries in relation to this submission please do not hesitate to contact Tim Baker on (02) 6841 7403.

Yours sincerely

**Mitchell Isaacs**
**Manager Strategic Stakeholder Liaison**
**12 August 2015**

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31 July 2015

Office of Water
9 Spring Street
PO Box 291
Forbes NSW 2871

***Subject:*** **Planning Proposal – Change to the minimum lot size for R5 – Large Lot Residential Land**

Dear Mitchell,

Thank you for your comments on the above Planning Proposal. Council notes that the NSW Office of Water has suggested that council consider the following:

1. The zoning of the land as R2 rather than R5 given the reduction to the minimum lot size.
2. The impact of Sheds and Fencing on the flood modelling in the Low hazard Flood Storage and Low Hazard Flood Fringe flood categories.

Council have considered the Office of Water Comments and can provide the following information.

1. *Consideration is recommended of the appropriateness of a 1500m2 MLS for R5 Zoned Land. A key objective of R5 Zoned land is to provide residential housing in a rural setting. The ability to achieve this objective with 1500m2 needs considering and whether an alternate zoning such as R2 is more appropriate. This is further reinforced in the Forbes Growth Management Strategy which defines Rural Residential Land as a minimum of4000m2*

**Response**:
The Planning Proposal does not include the change to the land zoning, and therefore it is not appropriate to change the existing zone as part of this Planning Proposal.

Notwithstanding this, Council can provide the following response in regards to the appropriateness of the change to the minimum lot size. Forbes Local Environmental Plan 2013 does not include zoning for R2 within the Land Zone Mapping. Additionally, land zoned R5 within the Forbes Shire range from existing minimum lot sizes of 1500m$^2$ to 2 hectares for reticulated sewer and 10 hectares for non-reticulated sewer land.

The change to the minimum lot size in the above mentioned planning proposal will provide for a transitional area for the minimum lot size form the R1 zone, with a minimum lot size of 550m$^2$ to the north and the larger 2 hectare R5 land to the south. The change to the minimum lot size will also provide a consistent minimum lot size for all lots fronting Reymond Street, as presently lots between College Road and Church Street are zoned R5 and are a minimum lot size of 1500m$^2$.

2. *As the site is within the Low Hazard Flood Fringe and the Low Hazard Flood Storage, the potential flood impacts of 46 building platforms have been assessed in the planning proposal using a MIKE11 hydraulic model. It is recognised this modelling has not included impacts from fencing or additional impacts from other infrastructure such as sheds and their building platforms. It is recommended further consideration be given to impacts from this additional infrastructure and consult the Office of Environment and Heritage in this regard.*

Council's Flood Consultant has provided a response to the above statement, addressing the impact of sheds and fences within the subject area. The response has been included within the flood assessment report for the purposes of public consultation. The itemised response is provided below.

Impacts from fencing: The Forbes Shire Development Control Plan 2013 V2 (DCP) has in place development controls that restrict fencing in areas affected by flood. Specific controls require that fencing must not result in the undesirable obstruction of free flow of floodwaters. Hence, obstruction to flooding due to fencing in the proposed residential areas is expected to be minimal.

Impacts of additional infrastructure: It is expected that additional structures (eg. sheds) do not need to be protected against 1% AEP event and hence these structures are unlikely to be constructed on building pads. In addition, the structures are unlikely to be flood proofed or water tight and hence floodwaters will enter the structures resulting in no loss of floodplain storage. Although the building pad for each new lot is expected to be 500 square metres (25m x 20m), considering the projected width of each building pad perpendicular to the MIKE11 cross section, the size of the building pad represented in the MIKE11 model was 800 square metres (32m x 25m) which is 300 square metres more than the actual size of the building pad for each new lot. This demonstrates that the flood impact assessment is conservative and additional infrastructures constructed on building pads would have no impacts on flood behaviour.

Council trusts that the above information satisfies the concerns raised by the Office of Water.

Should you have any enquiries regarding this matter, please contact ***Melissa Ross,*** Council's Town Planner on ***02 6850 2344***

Yours faithfully

P. Bennett

Paul Bennett
**Director**
**ENVIRONMENTAL SERVICES & PLANNING**

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31 July 2015

Office of Environment and Heritage
PO Box 1020,
Dubbo NSW 2830

***Subject:*** **Planning Proposal – Change to the minimum lot size for R5 – Large Lot Residential Land**

Dear Sir/Madam,

Council is undertaking a planning proposal to reduce the minimum lot size of land located within the R5 Zone on the southern side of Forbes. Council seek to reduce the minimum lot size from the current 4000m2 to 1500m2, with the potential for approximately 42 new lots.

On the request of the Department of Planning, Council has commissioned Jacobs SKM to undertake flood modelling for the Site area. The modelling undertaken indicates that there will be a negligible impact from the Planning Proposal.

Council have received the Gateway Determination from the Department of Planning, and as part of the Determination, Council is required to seek advice from your Department on the proposal.

Attached to this letter is the following for your consideration:

- Planning Proposal – Change to the Minimum Lot Size for R5 Large Lot Residential Land for Reymond Street, Young Street, Stokes Street, and College Road, Forbes, August 2015.
- Flood Assessment for Change to Minimum Lot Size for R5 Large Lot Residential Land, July 2015.
- Department of Planning Gateway Determination, April 2015.

Council request that you provide comment within 14 days of the date of this letter. Should Council not receive a comment in writing in this time Council will assume the Department have no comments on the above Planning Proposal.

Should you have any enquiries regarding this matter, please contact ***Melissa Ross,*** Council's Town Planner on ***02 6850 2344***

Yours faithfully

P. Bennett

Paul Bennett
**Director**
**ENVIRONMENTAL SERVICES & PLANNING**

## Melissa Ross

**Subject:** FW: Reymond Street Flood Assessment - Construction of Sheds on Flood Waters

**From:** Hossain, Akhter [mailto:Akhter.Hossain@jacobs.com]
**Sent:** Tuesday, 18 August 2015 7:42 PM
**To:** Melissa Ross
**Cc:** Paul Bennett
**Subject:** RE: Reymond Street Flood Assessment - Construction of Sheds on Flood Waters

Hi Melissa,

Our responses to DPI- Water's comments on the flood impact assessment are provided below:

- Impacts of fencing - there are special requirements in Forbes DCP 2013 (V2) for fencing to ensure fencing will not result in the undesirable obstruction of free flow of floodwaters. Hence, obstruction to flooding due to fencing in the proposed residential areas is expected to be minimal.
- Impacts of additional infrastructures – It is expected that additional structures (eg. sheds) do not need to be protected against 1% AEP event and hence these structures are unlikely to be constructed on building pads. In addition, the structures are unlikely to be flood proofed and hence floodwaters will enter the structures resulting in no loss of floodplain storage. Although the building pad for each new lot is expected to be 500 square metres (25m x 20m), considering the projected width of each building pad perpendicular to the MIKE11 cross section, the size of the building pad represented in the MIKE11 model was 800 square metres (32m x 25m) which is 300 square metres more than the actual size of the building pad for each new lot. This demonstrates that the flood impact assessment is conservative and additional infrastructures constructed on building pads would have no impacts on flood behaviour.

Please contact me if you have queries on the above.

Regards

Akhter Hossain, CPEng MIEAust
Jacobs Group (Australia) Pty Ltd
Executive Water Engineer
ANZ Infrastructure & Environment
T +61 2 9928 2256 I +61 419 027 050 mobile I +61 2 9928 2224 fax
Akhter.Hossain@jacobs.com

100 Christie Street, St Leonards, NSW Australia 2065
www.jacobs.com
*In December 2013 SKM merged with Jacobs Group (Australia) Pty Ltd*

**From:** Melissa Ross [mailto:melissa.ross@forbes.nsw.gov.au]
**Sent:** Tuesday, 18 August 2015 4:45 PM
**To:** Hossain, Akhter
**Cc:** Paul Bennett
**Subject:** Reymond Street Flood Assessment - Construction of Sheds on Flood Waters

Hi Akhter,

Following on from our phone discussion, Council have received comment from DPI – Office of Water on the flood assessment for Reymond Street change to the minimum lot size. Attached is the letter from the OOW, point 4 specifically refers to the impact of sheds and fences in the LHFF and LHRS flood zones.

Council's DCP Chapter 4 – Flooding, regulates the fences that are constructed in flood areas and ensures that all fencing does not impact the flow of flood water, therefore I feel that the point raised by DPI regarding fencing is redundant and am comfortable in addressing that.

Council's DCP Chapter 8 – Large Lot Residential, also regulates the size of sheds on lots 1500m2 and below to be 125m2 or less. Non-habitable areas are not required to be above the 100year flood event. Can you please confirm that the potential for sheds to be constructed on each now lot will not have significant impact on the storage and flow of flood waters in the study area?

Thanks,
Melissa

**Melissa Ross** | **Town Planner** | **Environmental Services & Planning**
Forbes Shire Council | 2 Court Street | PO Box 333 Forbes NSW 2871
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Visit Forbes Shire Council website

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NSW GOVERNMENT | Office of Environment & Heritage

Your reference:
Our reference: DOC15/315322
Contact: Michelle Howarth 02 6883 5339
Date: 25 August 2015

Melissa Ross
Town Planner
Forbes Shire Council
PO Box 333
Forbes NSW 2871

Dear Melissa

**RE Change to the minimum lot size for R5 – Large Lot Residential Land**

I refer to your letter dated 31 July 2015 requesting comment from the Office of Environment and Heritage (OEH) on the above planning proposal and flood assessment.

OEH notes that flood modelling undertaken for the site area indicates that there will be a negligible impact. While it is the responsibility of Council to satisfy itself that all impacts have been adequately assessed, OEH continues to recommend that cumulative impacts of successive development on the floodplain and flood behaviour modifications be investigated strategically and these impacts should be quantified. We recommend that the council progresses the Flood Risk Management Study and Plan for Forbes. Council has already been allocated funding for this study through the NSW Floodplain Risk Management Grants Programme (jointly funded by Ministry of Police and Emergency Services and the Commonwealth Government) which is administered by OEH. This study would include two-dimensional modelling, latest survey information and updated hydrology reviews, and would therefore provide an insight into flood behaviour, and hydraulic and hazard categorisation of the floodplain.

Should you require further information regarding issues that are the responsibility of the OEH please contact Michelle Howarth, Conservation Planning Officer on (02) 6883 5339.

´ours sincerely,

**SONYA ARDILL**
**Senior Team Leader Planning, North West Region**
**Regional Operations**

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03 September 2015

NSW Government
Office of Environment and Heritage
PO Box 2111
Dubbo NSW 2830

***Subject:*** **Planning Proposal – Change to the minimum lot size for R5 – Large Lot Residential Land**

Dear Sonya,

Thank you for your comments on the above Planning Proposal.

Council notes that the Office of Environment and Heritage has requested that Council progress the Flood Risk Management Study and Plan. Council are in the process of working with the Office of Environment and Heritage to develop the brief for the Risk Management Study. Council acknowledge the generous funding that Council has received from the NSW Government, and are very keen to work with the NSW Government to ensure that that Flood Risk Management Study is finalised for the Forbes Local Government area.

Should you have any enquiries regarding this matter, please contact ***Melissa Ross,*** Council's Town Planner on ***02 6850 2344***

Yours faithfully

P. Bennett

Paul Bennett
**Director**
**ENVIRONMENTAL SERVICES & PLANNING**

# PLANNING PROPOSAL

## Change in the minimum lot size for R5 – Large Lot Residential Land

*Reymond Street, Young Street, Stokes Street and College Road, Forbes*

*August 2015*

**Prepared by:**
Forbes Shire Council
Department Environmental Services
and Planning
**Contact:**
Melissa Ross
Town Planner
Phone: 02 68502344
Email: Melissa.ross@forbes.nsw.gov.au

FORBES SHIRE COUNCIL

# CONTENTS

# SUMMARY

This planning proposal seeks to amend the minimum lot size in the R5 – Large Lot Residential Zone from 4000m$^2$ to 1500m$^2$ within the subject area.

The proposed change is considered consistent with the existing objectives of the R5 zone, the relevant State Environmental Planning Policies, and Section 117 Ministerial Directions.

The subject area is located approximately 2.5 kilometres from the Forbes Town Centre, within the R5 – Large Lot Residential Zone and is approximately 18.5 hectares in size. The subject area is adjacent to the R1- General Residential Zone and is located on the southern edge of the Forbes Town Urban Residential area.

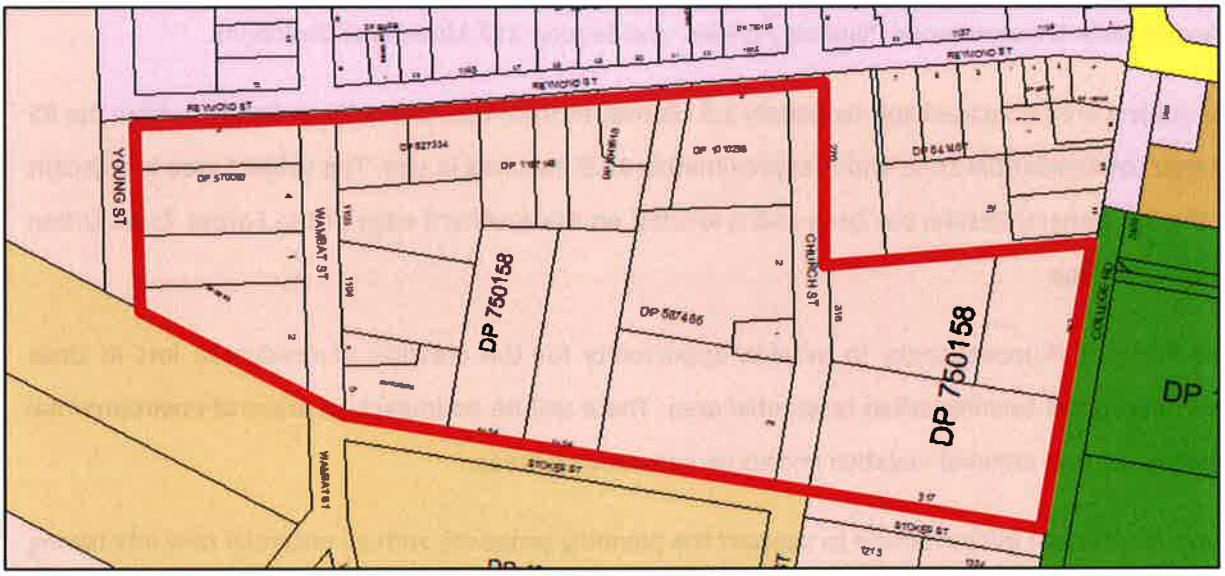
This Planning Proposal seeks to provide opportunity for the creation of residential lots in close proximity to the existing urban residential area. There will be no impact on areas of environmental significance, and minimal negative impact on surrounding areas.

There is sufficient infrastructure to support the planning proposal, with all potential new lots having the capacity to connect into Council's reticulated sewer, and all lots connected to Council's reticulated water.

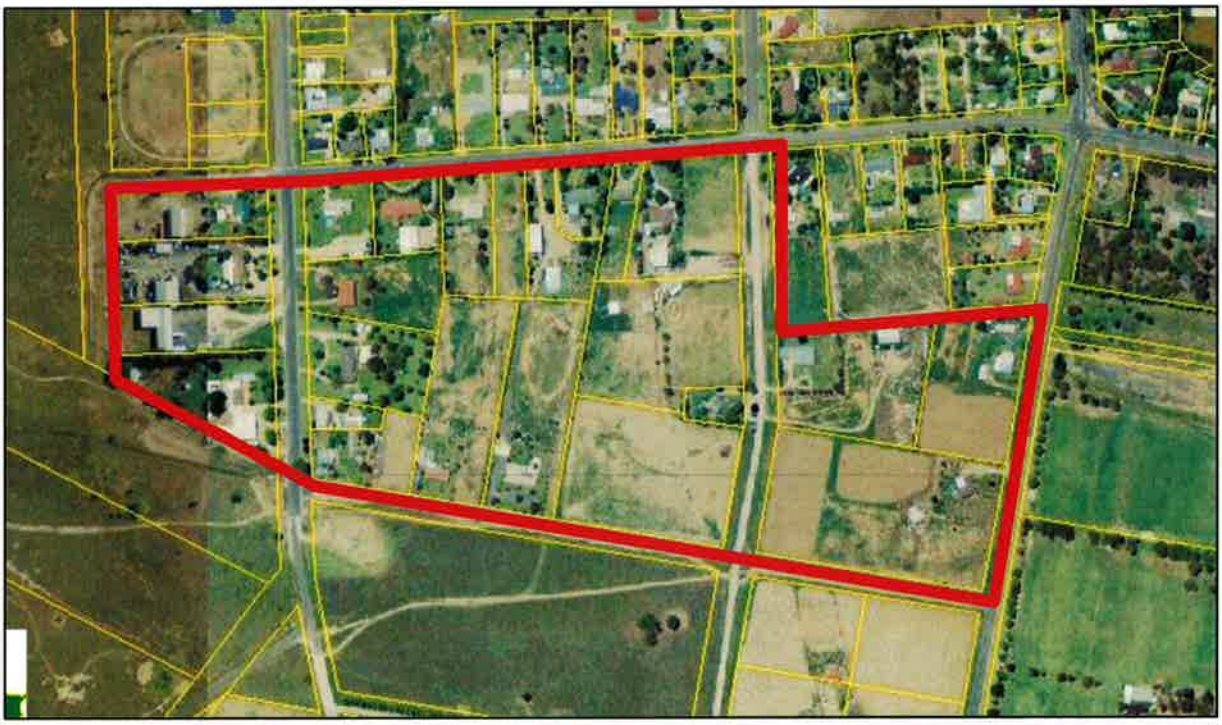
The Planning proposal has the potential to create 42 additional lots with minimal impact on the surrounding area and no proposed change to the zoning of the subject land.

# INTRODUCTION

This proposal seeks to amend the minimum lot size, for land within R5 Large Lot Residential zone, as identified in Maps 1 and 2 below.




**Map 1** – Subject Area – Current Zoning



**Map 2** – Subject Area – Aerial Image

The subject area is bordered by Reymond Street to the north, Stokes Street to the south, and Young Street to the west, and College Road to the east and comprises of the lots as listed in Table 1 below:

Table 1 – land Contained within the Subject Area

| Lot/DP | Size (m2) |
|---|---|
| 3/ DP570060 | 6004.94 |
| 4/DP570060 | 7756.08 |
| 1/ DP581318 | 5941.35 |
| 2/ DP581318 | 8097.8 |
| 6/ DP827334 | 4064.79 |
| 1193/ DP750158 | 6988.01 |
| 1194/ DP750158 | 8098.4 |
| 4/ DP628289 | 1477.37 |
| 5/ DP628289 | 5153.64 |
| 1/ DP1187148 | 4976.91 |
| 2/ DP1187148 | 3144.83 |
| 11/ DP1049518 | 5130.43 |
| 10/ DP1049518 | 2957.1 |
| 8/ DP1010238 | 2702.29 |
| 9/ DP1010238 | 9898.15 |
| 2/ DP587486 | 14567.24 |
| 1/ DP587486 | 1701.89 |
| 3/ DP587486 | 16646.87 |
| 1196/ DP750158 | 12214.99 |
| 1195/ DP750158 | 11831.39 |
| 316/ DP750158 | 13033.27 |
| 297/ DP750158 | 10319.25 |
| 317/ DP750158 | 23296.73 |
| **Total** | **186 003.72** |

The proposed change to the minimum lot size presents the potential to create an additional 46 new lots. The subject area currently includes 24 lots. A number of these lots are already developed to their full capacity, and do not present the opportunity for further development. Based on this assumption approximately 46 new lots have the potential to be created. However many of these lots would require the construction of public roads and therefore may not be viable. This would further reduce the total number of lots that may be created as a result of the change to the minimum lot size.

Please see master plan below, with possible lot yield illustrating the potential for additional 45-46 lots. This plan presents lots that are land locked, meaning that realistically there is a reduced capacity for all the lots to be realised.


**Map 3** – Subject Area – Proposed Masterplan

## SCOPE OF REPORT

This Planning Proposal has been prepared in accordance with the NSW Department of Planning's (DoP) advisory documents 'A Guide to Preparing Local Environmental Plans' and 'A Guide to Preparing Planning Proposals'. The latter document requires the Planning Proposal to be provided in five (5) parts, these being;

- Part 1 – A statement of the objectives or intended outcomes of the proposed LEP;
- Part 2 – An explanation of the provisions that are to be included in the proposed LEP;
- Part 3 – The justification for those objectives, outcomes, and provisions and the process for their implementation;
- Part 4 – discusses proposed mapping changes; and

- Part 5 – Details of the community consultation that is to be undertaken with the Planning proposal. Part 5 would be confirmed following a Gateway Determination of this Planning Proposal by the Department of Planning.

## PART 1 – OBJECTIVES OR INTENDED OUTCOMES

The Planning Proposal is to change the minimum lot size of the R5 – Large Lot Residential Zone for the subject area from 4000m$^2$ to 1500m$^2$ under Forbes Local Environmental Plan 2013.

The proposal involves the following intended outcomes:

*To reduce the minimum lot size in the R5 – Large Lot Residential (4000m$^2$) in the subject area to be consistent with the surrounding R5 - Large Lot Residential (1500m$^2$) lot size under the Forbes Local Environmental Plan 2013.*

To achieve the Intended Outcome the following objectives will be met:

- Describe the subject site, the locality in which it is situated, the current zoning and the reason for the need to reduce the minimum lot size and provide for additional residential development in the R5 – Large Lot Residential zone.
- To request an amendment to the Local Environmental Plan 2013 to permit additional residential development.
- To address the 'Gateway Assessment' criteria under Part 3 of the Environmental Protection and Assessment Act 1979.
- To provide justifications for the Local Environmental Plan 2013 amendment and demonstrate the net community benefits which follow.
- To demonstrate that the planning proposal is consistent with the broad strategic direction for the locality.

# PART 2 – EXPLANATION OF PROVISIONS

The principle planning instrument is the Forbes Local Environmental Plan 2013. The subject land is currently zoned R5 – Large Lot Residential with a minimum lot size of 4000m$^2$.

The intended outcome of the Planning Proposal will be achieved by amending the minimum lot size mapping, to reflect a consistent lot size across the R5 zoning for the study area, as detailed in Part 4 of this report.

The minimum lot size will be reduced from 4000m$^2$ to 1500m$^2$.

# PART 3 – JUSTIFICATION

## Section A – Need For The Planning Proposal

### 1. Is the planning proposal a result of any strategic study or report?

The land relevant to this proposal was the subject of a report to the Forbes Shire Council Ordinary Meeting dated 16 October 2014, titled Change of Zoning for Reymond Street under the Forbes Local Environmental Plan 2013. Report attached in Appendix 1.

The Council resolved at the October General meeting that "That Council change the LEP for large lot residential blocks of 1500m$^2$ to a minimum size in relation to the R5 zone bound by Wambat, Church, Reymond, and Stokes Streets."

### 2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The planning proposal is the appropriate means of achieving the intended outcomes and objectives, and is supported by relevant planning studies and planning policies.

## Section B – Relationship to the strategic planning framework

### 3. Is the planning proposal consistent with the objectives and actions of the applicable regional or subregional strategy?

There is no applicable Regional Strategy for the Forbes Shire Council area. However, the proposed change to the minimum lot size is considered consistent with the existing land use pattern on Reymond Street. The R5 Large Lot Residential Zone is not proposed to be changed; therefore the proposed reduction to the minimum lot size is considered to be consistent with the objectives of the Forbes Local Environmental Plan 2013.

### 4. Is the Planning proposal consistent with Council's local strategy or other local strategic plan?

### *Forbes Local Environmental Plan 2013*

The proposed change to the R5 – Large Lot Residential Zone is considered consistent with the Forbes Shire Growth Management Strategy. The area located on the southern side of Reymond Street is zoned R5 Large Lot Residential in accordance with the Forbes Local Environmental Plan 2013. This proposal is consistent with the existing zone as the proposal does not seek to change the zoning, only the minimum lot size. The proposed change will satisfy the objectives for the R5 Zone as described in Table 1 below and will not be inconsistent with the land use table for the R5 zone as detailed in the LEP 2013.

**Table 1 - R5 Objectives**

| **Objectives of R5 – Large Lot Residential zone:** | ***Comments*** |
|---|---|
| *To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.* | *Proposed reduction in lot size will not negatively impact the amenity and streetscape of Reymond Street. Presently the street scape reflects that of a medium to large lot residential area, with lots fronting Reymond Street ranging between 9000m$^2$ and 2500m$^2$ in area and lots fronting Stokes Street between 1.5 ha to 5000m$^2$.*<br><br>*The proposed decrease in lot size will not negatively affect the existing street scape as the streetscape currently presents as a typical medium to large lot urban streetscape.*<br><br>*There are no environmentally sensitive areas in the locality of the subject site.* |
| *To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.* | *The reduction in the minimum lot size will enable further residential development in an orderly manner.* |
| *To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.* | *The majority of the lots within the subject area are currently serviced by reticulated sewer and water. Any lots that are not currently serviced by reticulated sewer may connect into the Council main.* |
| *To minimise conflict between land uses within this zone and land uses within adjoining zones.* | *The R5 zone in the study area acts as a transitional buffer between the urban residential areas and the agricultural land that surrounds Forbes Township. The reduction in the minimum lot size will not increase any potential for conflict between land uses in the zone or surrounding zones.* |

### *Forbes Growth management Strategy*

The Forbes Growth Management Strategy (GMS) was drafted in 2009, and the information that is contained within the document is 6 years old. Forbes has experienced sustained growth in that period, and therefore some of the development patterns presented within the GMS are not wholly relevant to the growth that Forbes is currently experiencing.

The land that is identified as future areas of growth within the Shire is generally unimproved land, requiring a high level of development and cost to bring the land to a level to be developed for residential use. These areas also present land sizes that are between 4 hectares and 20 hectares and areas for long term growth in Greenfield sites.

The reduction to the minimum lot size in Reymond Street study area presents an opportunity to develop land in an urban area that requires minimum improvement to facilitate development. The Planning Proposal presents an opportunity for infill development and the creation of lots that do not encroach onto rural lands.

## 5. Is the Planning Proposal consistent with applicable State Environmental Planning Policies?

### SEPP (Rural Lands) 2008

The proposed reduction in the minimum lot size in the R5 Zone for the subject area will not have an impact on the rural lands within the Forbes Shire.

## 6. Is the Planning Proposal consistent with applicable Ministerial Directions (s.117 directions)?

### Ministerial Direction 1.5 Rural Lands

The Ministerial Direction 1.5 for Rural Lands applies for all Councils listed in Appendix 1 of the Rural Lands SEPP 2008. Forbes Shire Council is listed in the SEPP. Clause 3 within the Ministerial Direction for Rural Lands states that the Direction applies for all proposals that have the potential to impact an existing rural or environmental protection zone. The proposed change to the minimum lot size in the R5 – Large Lot Residential Zone does not have the potential to impact a rural or environmental protection zone. Therefore the Direction does not apply for this planning proposal.

### Ministerial Direction 3.1 Residential Zones

Ministerial Direction 3.1 Residential Zones applies to all proposals that affect land within a:

- an existing or proposed residential zone (including the alteration of any existing residential zone boundary),

- any other zone in which significant residential development is permitted or proposed to be permitted.

The proposed change to the minimum lot size is proposed within the R5 Zone and therefore the ministerial direction applies.

To be compliant with Direction 3.1 the proposal must be consistent with the following provisions:

*(1) A planning proposal must include provisions that encourage the provision of housing that will:*

*(a) broaden the choice of building types and locations available in the housing market, and*

*(b) make more efficient use of existing infrastructure and services, and*

*(c) reduce the consumption of land for housing and associated urban development on the urban fringe, and*

*(d) be of good design.*

*(2) A planning proposal must, in relation to land to which this direction applies:*

*(a) contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it), and*

*(b) not contain provisions which will reduce the permissible residential density of land.*

The proposed reduction in the minimum lot size will potentially facilitate the creation of additional residential lots in an existing residential area. The subject area is located on the border of the R5 – Large Lot Residential and R1 – General Residential zone. The reduction of the minimum lot size in that location will not be out of character for the locality.

The subject site has adequate infrastructure, and in most instances all lots have the potential to be connected to Council Sewer and are connected to Council Mains Water. Lots that are currently not connected have the capacity for connection into the Council Mains Sewer.

The Planning Proposal does not propose to change the zoning of the subject area; therefore the standards within the Forbes Development Control Plan for the R5 Large Lot Residential Zone remain applicable to the subject area. The clauses and standards within the DCP do not allow for additional lots to be created without connecting to Council's Reticulated Sewer. Therefore all future lots must be connected to Council Main Sewer, and as discussed above there is the capacity within Council's system to service the site area and any potential new lots created.

### Ministerial Direction 4.3 Flood Prone Land

Ministerial Direction 4.3 is applicable to all Planning Proposals that relate to development on flood prone land. The Subject area is classified as both low hazard flood fringe and low hazard flood storage, therefore the 4.3 Direction applies.

To be compliant with the 4.3 Direction the proposal must be consistent with the following provisions:

*(3) A planning proposal must include provisions that give effect to and are consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 (including the Guideline on Development Controls on Low Flood Risk Areas).*

Response: The existing flood planning controls within the R5 zone will remain unchanged. The Development Control Plan 2013 sets development controls relating to development in flood prone areas, the relevant DCP Chapters will still apply to all proposed development in the subject area.

*(4) A planning proposal must not rezone land within the flood planning areas from Special Use, Special Purpose, Recreation, Rural or Environmental Protection Zones to a Residential, Business, Industrial, Special Use or Special Purpose Zone.*

Response: The Planning Proposal does not relate to a change of zoning, therefore there will be no increase in the impact from flood on rural or environmental protection lands.

*(5) A planning proposal must not contain provisions that apply to the flood planning areas which:*

- *(a) permit development in floodway areas,*
- *(b) permit development that will result in significant flood impacts to other properties,*
- *(c) permit a significant increase in the development of that land,*
- *(d) are likely to result in a substantially increased requirement for government spending on flood mitigation measures, infrastructure or services, or*
- *(e) permit development to be carried out without development consent except for the purposes of agriculture (not including dams, drainage canals, levees, buildings or structures in floodways or high hazard areas), roads or exempt development.*

Response: The Planning Proposal is located within a low hazard flood fringe and low hazard flood storage area, and therefore will not facilitate development in a Floodway or allow for development o be carried out without development consent in a floodway. All development on site would be in accordance with the Forbes Development Control Plan Chapter 4: Flooding and Flood Affected Land, and the Forbes local Environmental Plan 2013.The Reporting provided By Jacobs has indicated that the development will not result in significant flood impacts to other properties, or land downstream.

The proposed change to the minimum lot size will not increase the requirement for government spending on flood mitigation measures. All development on site would be in accordance with the Forbes Development Control Plan Chapter 4: Flooding and Flood Affected Land. Any potential impact on stormwater or drainage as part of the development will be the responsibility of the developer to manage to Council's specifications.

*(6) A planning proposal must not impose flood related development controls above the residential flood planning level for residential development on land, unless a relevant planning authority provides adequate justification for those controls to the satisfaction of the Director-General (or an officer of the Department nominated by the Director-General).*

Response: No additional flood planning controls will be imposed to development in the area subject to this planning proposal.

*(7) For the purposes of a planning proposal, a relevant planning authority must not determine a flood planning level that is inconsistent with the Floodplain Development Manual 2005 (including the Guideline on Development Controls on Low Flood Risk Areas) unless a relevant planning authority provides adequate justification for the proposed departure from that Manual to the satisfaction of the Director-General (or an officer of the Department nominated by the Director-General).*

Response: The flood modelling that was undertaken by Jacobs uses flood planning levels that are adopted in the Forbes Development Control Plan. A consistent flood planning level is achieved over the site.

Forbes Shire Council has commissioned Jacobs to undertake flood modelling for the proposed reduction in lot size. The Report Provided by Jacobs provides the following conclusions. Full report is attached in Appendix **.

*"Forbes Shire Council (Council) intends to reduce the minimum lot size for the construction of a dwelling for an area in Forbes which is located in the Zone R5 Large Lot Residential zone as defined in the Forbes Local Environment Plan (LEP) 2013. The subject area is bounded by Reymond Street to the north, Wambat Street to the west and College Road to the east. The proposed rezoning includes 46 new lots for the area and each lot would have up to 500m$_2$ building platform. Approximately 50% of the new building platforms would be located within FRP with Low Hazard Flood Fringe and the remaining building platforms would be located within FRP with Low Hazard Flood Storage as defined in Forbes DCP 2013 (V2).*

*Hydraulic impacts due to the proposed change of minimum lot size for the area was assessed for the adopted flood event (ie. 1952 flood flow with 2000 topography) utilising the same MIKE11 hydraulic model which was used in the SKM 2013 study. One additional interpolated cross section "COLLEGE2 410" was included in the MIKE11 model for this flood impact assessment.*

*Indicative locations of building platforms for 46 proposed buildings were represented in the MIKE11 model. Each building platform, covering approximately 500m$_2$ area, was represented in the MIKE11 model as a solid obstruction. Obstruction to flow due to fencing was considered negligible as there are prescriptive controls in the Forbes DCP 2013 (V2) relating to fencing. It was assumed that no further infrastructure development would occur in the area which would impede flood flow.*

*Hydraulic impacts due to the proposed reduction of the minimum lot size for the construction of a dwelling for the area are considered negligible and are within the confidence limit (ie. +/-0.01m) of the computer model (SKM 2001)."*

Given the above, the proposed change to the minimum lot size in the subject area is considered to have minimal flood impact on surrounding properties, and flooding downstream.

## Section C – Environmental, Social and Economic Impact

### Is there likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

The proposed reduction in the minimum lot size will not impact any areas of environmental significance. The subject area does not contain any critical habitat, threatened species, populations, or ecological communities or habitats; therefore there will be no impact on areas of environmental significance as a result of the Planning Proposal.

### Are there any other likely environmental effects as a result of the Planning Proposal and how are they proposed to be managed?

The site area represents already highly disturbed land due to the residential nature of the site. The proposed reduction to the minimum lot size does not present any further significant environmental impact on the subject area.

### Has the Planning Proposal adequately addressed any social and economic effects?

The proposed reduction to the minimum lot size has the potential facilitate the creation of additional lots within the subject area. This will have a positive economic and social effect in allowing for more housing choice and providing stimulus for growth in an existing residential zone.

## Section D – State and Commonwealth interests

### Is there adequate public infrastructure for the Planning Proposal?

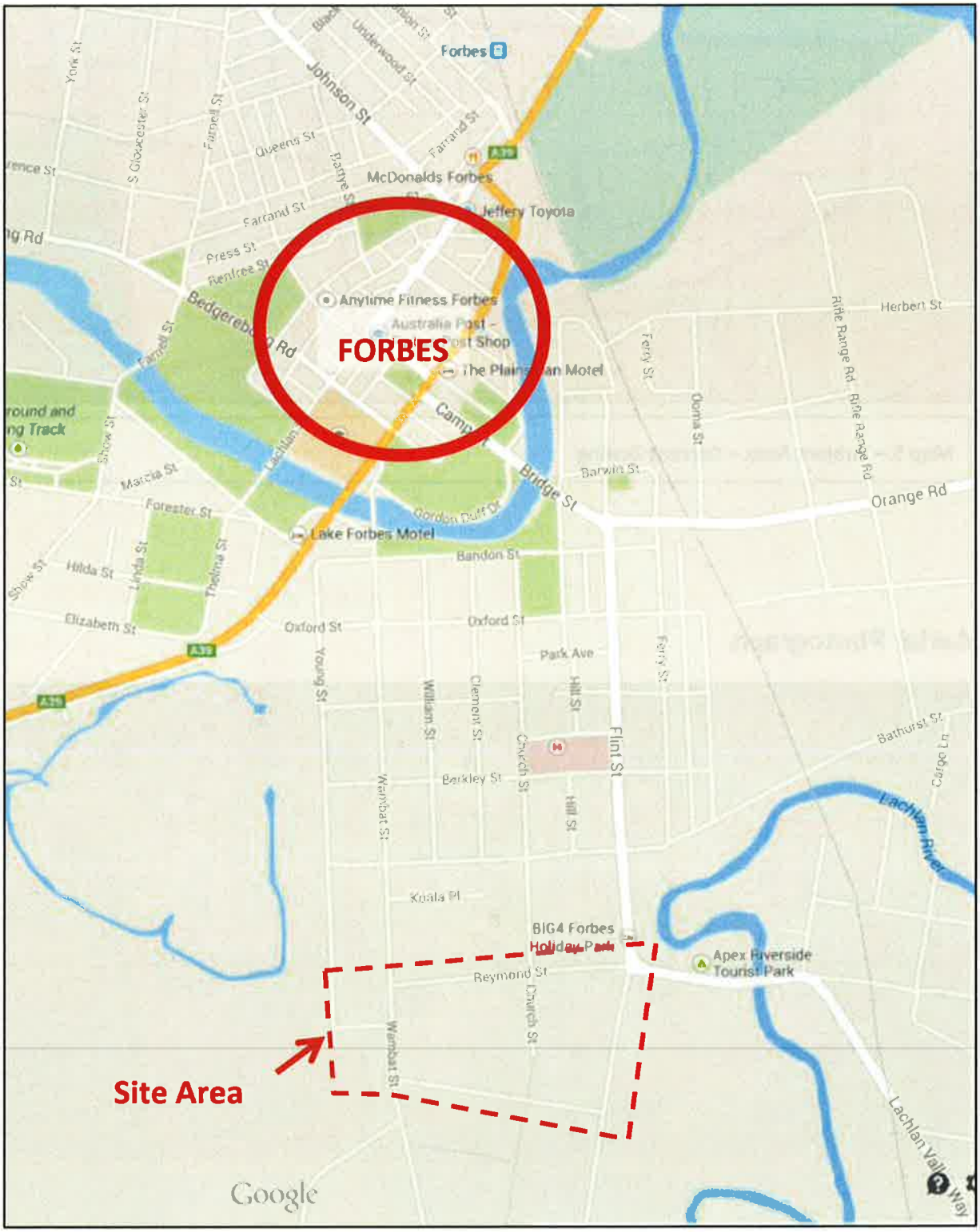
Adequate Council infrastructure is provided in the subject area. Council Sewer and Water are provided to all lots facing Reymond Street, Young Street, and College Road. Lots facing Stokes Street, are not currently connected to Council Sewer, however lots have the capacity to be connected when created.

### What are the views of State and Commonwealth Public Authorities consulted in accordance with the Gateway Determination?

The views of State and Commonwealth Public Authorities would be ascertained in accordance with the comments contained in the Gateway Determination.

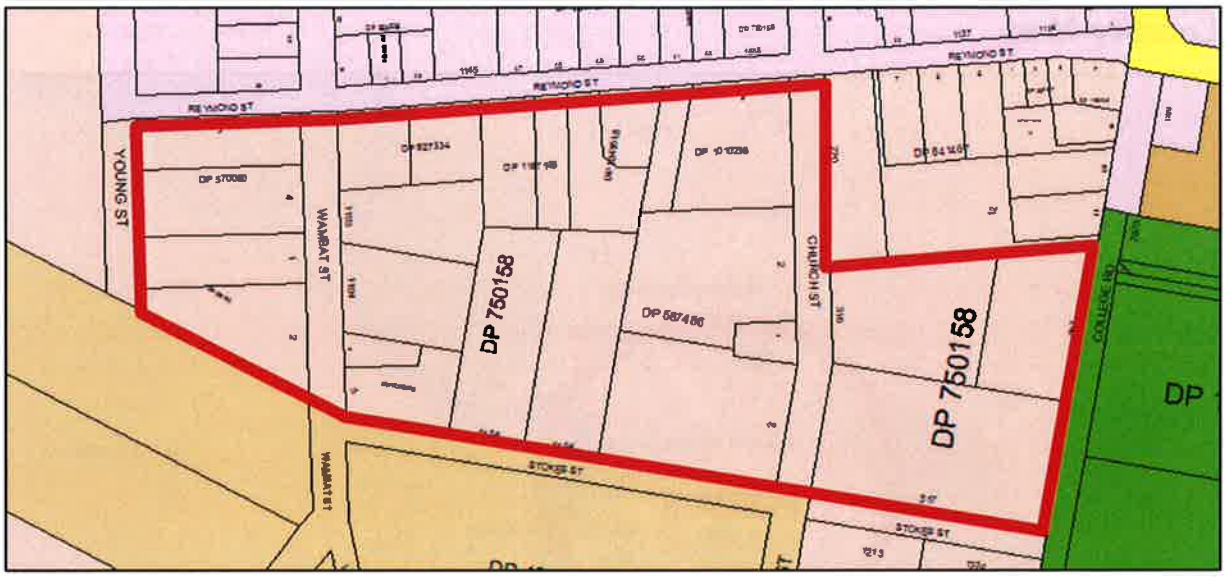
# PART 4 MAPPING

## Locality Map



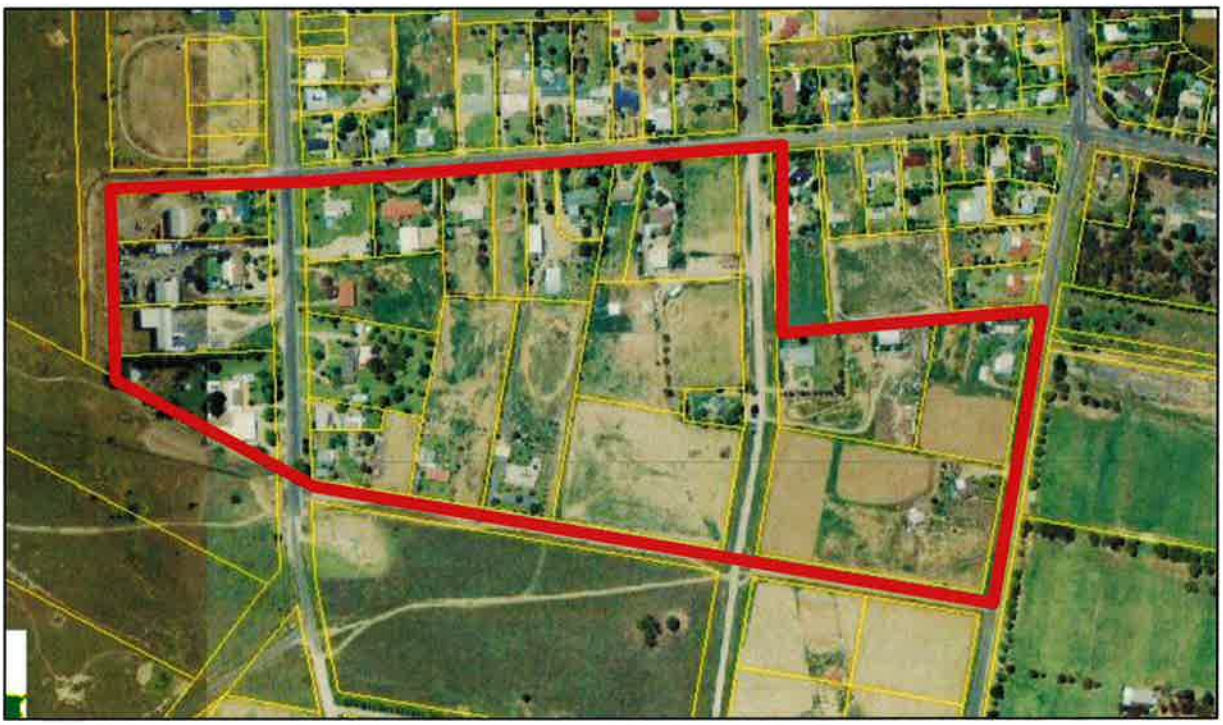

**Map 4 – Subject Area – Locality Map**

## Existing Zone




**Map 5 – Subject Area – Current Zoning**

## Aerial Photograph



**Map 6 – Subject Area – Aerial Image**

## Proposed and Existing Minimum Lot Size


**Map 7 – Existing Minimum Lot Size Map**


**Map 8 – Proposed Minimum Lot Size Map**

# PART 5 – COMMUNITY CONSULTATION

The proposal to reduce the minimum lot size to 1500m$^2$ is deemed to be 'low impact planning proposal'. This means that the Planning Proposal is:

- Generally consistent with the pattern of surrounding land use zones and or land uses;
- Is consistent with the strategic planning framework;
- Presents no issues with regards to infrastructure servicing;
- Is not a principle LEP; and
- Does not reclassify public land.

Therefore it is considered that this matter would require consultation for 14 days.

It is not considered that a greater period of notification is required, nor a public hearing should be held given that the matter accords generally with the existing objectives for the R5 Large Lot Residential Zone within Forbes Local Environmental Plan 2013.

# APPENDIX 1 – REPORT TO COUNCIL

At the Council meeting 18 September 2014 Council resolved to have a report on the change of zoning for R5 – Large Lot Residential zoning for the southern side of Reymond Street between Wambat Street and Church Street to R1 – General Residential. The report to Council is as follows:

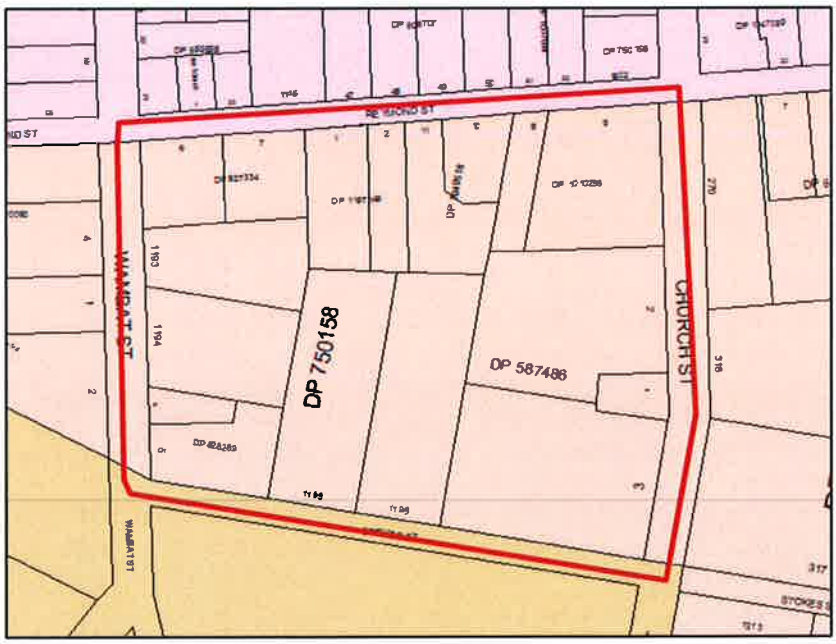
## Report to Council – 16 October 2014

### 1.0 Forbes Local Environmental Plan 2013

The southern side of Reymond Street between Wambat and Church Street is zoned *R5 – Large Lot Residential* under the Forbes Local Environmental Plan 2013 (LEP). Refer Map One below.

The Objectives of the R5 - Large Lot Residential zone are as follows:

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.



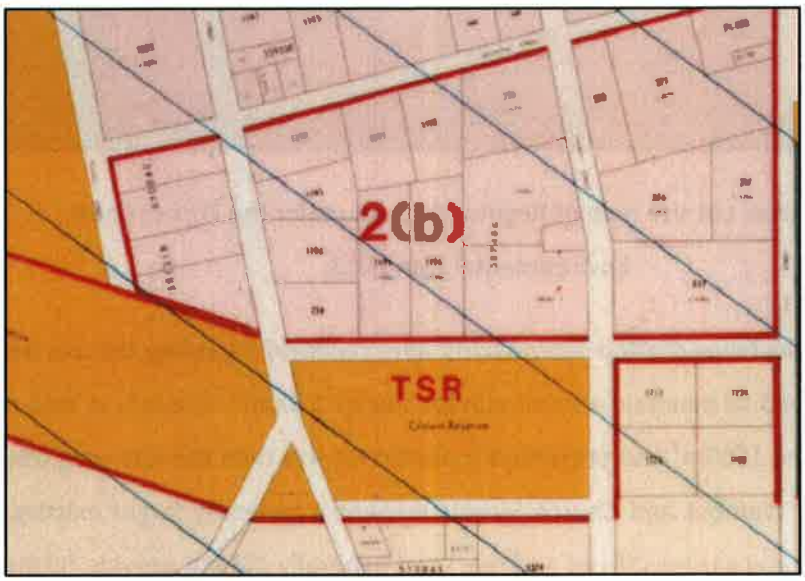

Map One: Zoning of Reymond Street under the Forbes Local Environmental Plan 2013.

## 2.0 Forbes Local Environmental Plan 1986

Under the Forbes Local Environmental Plan 1986 the Reymond street area was zoned *2b – Special Home Activities*. See Map Two below.

The objective of the 2b – Special Home Activities zone was:

- To allow the combined development of a dwelling-house and a light industry to be carried out on land suited to this type of development.




Map Two: Zoning of Reymond Street under the Forbes Local Environmental Plan 1986.

The reason for the change of zoning form 2b to R5 was that the 2b zoning was not a zone permitted under the Standard Instrument LEP. The appropriate transition from the 2b zoning to a zone permissible under the standard instrument LEP was either an industrial, or large lot residential zoning. Submissions during the 2013 LEP drafting process indicated that the preferred zoning was large lot residential.

## 3.0 R5 Minimum Lot Size

The R5 zone on Reymond Street presents two minimum lot sizes (refer Map 3):

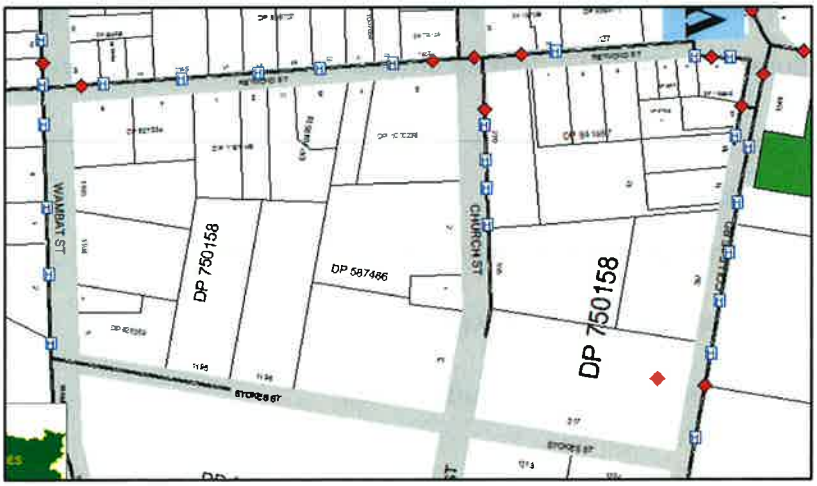
- 1500m$^2$ between Church Street and College Road; and
- 4000m$^2$ between Wambat Street and Church Street.


Map Three: Lot size map of Reymond Street under the Forbes Local Environmental Plan 2013.

When the 2013 LEP was being drafted submissions were received regarding the lots between Church Street and College Road to maintain a minimum lot size of 1500m$^2$. The lots in that area were at a size consistent with the 1500m$^2$ and presented a smaller lot size than the lots west towards Wambat Street. Lots between Wambat and Church Streets present a generally larger existing lot size, with established dwellings and gardens (front and rear) and generally did not provide further opportunity for subdivision.

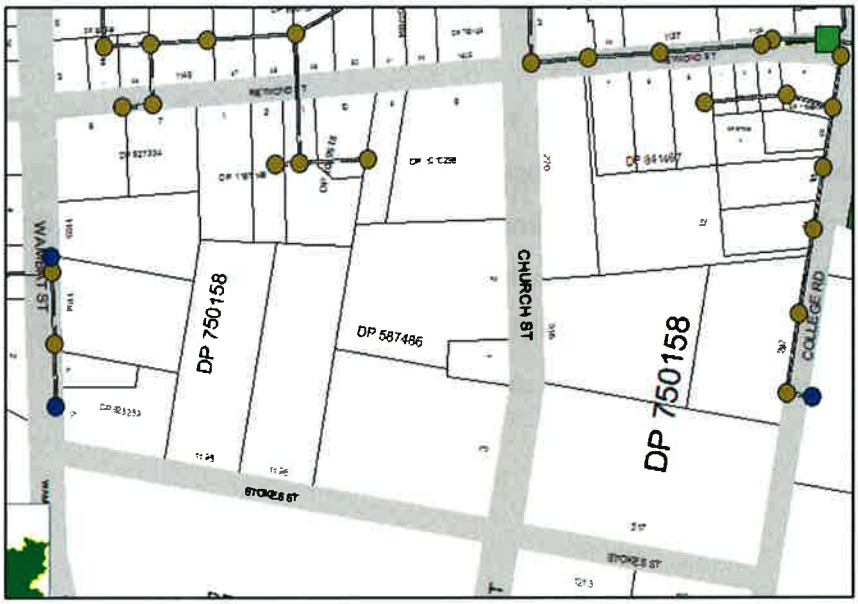
## 4.0 Reymond Street Infrastructure

**4.1 Water** – Reticulated water is available the length of Reymond Street, along Wambat Street and to Lot 1195 on Stokes Street. Reticulated water also runs the length of Church Street to Stokes Street intersection. Reticulated water runs the length of College Road. Please refer to Map Four.




Map Four: Water Services for Reymond Street.

**4.2 Sewer** – Council Sewer main currently services most lots along Reymond Street between Wambat Street and College Road. Presently Council Sewer is not available to lots fronting Stokes Street and lots fronting Church street south of Reymond Street. Please refer to Map Five below.




Map Five: Sewer Services for Reymond Street.

## 5.0 Streetscape of Reymond Street:

The Northern and Southern aspects of Reymond Street between Wambat and Church Street are characterized by established dwellings, set back from the street. The average building line is approximately 20 metres (northern and southern side of Reymond Street). This setback is consistent with Council's Policy with the Development Control Plan 2013 for the R5 zone and larger residential lots.

## 6.0 Reymond Street and the Wider Planning Context

Reymond Street has traditionally served as the buffer between the town residential zone and the larger rural residential lots between River Road and Red Bend. The R5 provides a transitional zoning away from the town centre. This is illustrated by the generally larger more established dwellings, on larger lots.

## 7.0 Recommendations

The rezoning of the Reymond Street land between Wambat Street and Church Street to R1 – General Residential is not considered appropriate. The Reymond Street Large Lot Residential area presents a streetscape typical of larger residential zoning and serves as a buffer between the town residential

blocks and rural land uses to the south. The existing lot layout and available services implies that the land is not appropriate for intensified development commonly associated with R1 – General Residential zoning.

It is recommended that Reymond Street remain R5 – Large Lot Residential zone, with the current 1500m$^2$ and 4000m$^2$ minimum lot size.

If the above is not deemed acceptable and the minimum lot size is to be amended, it is recommended that this be achieved by modifying the minimum lot size map in the LEP for the R5 zone, rather than changing the zone. The land in Reymond Street will still maintain the R5 large Lot residential zoning; however the lot size may be reduced. Given that the land between Church Street and College Road has a minimum lot size of 1500m$^2$ it would be appropriate to continue this lot size along Reymond Street and maintain the R5 zone.

# APPENDIX 2 – COUNCIL RESOLUTION 16 OCTOBER 2014

## CLAUSE 1 – ENVIRONMENTAL SERVICES REPORT:

**Clause 1.1 Development and Building**

**RECOMMENDATION**

**That Council note the $2,443,866.00 of Development Applications lodged for the September reporting period.**

**911 RESOLVED**

**That Council adopt the recommendation. *(Cr B Mattiske/Cr D Booth)***

## CLAUSE 2 – NOXIOUS WEEDS INSPECTOR'S REPORT:

**Clause 2.1 Noxious Weeds Inspector's Report**

**RECOMMENDATION:**

**That Council receive and note the Noxious Weeds Inspector's Report for the month ending 24 September 2014.**

**912 RESOLVED**

**That Council adopt the recommendation. *(Cr B Mattiske/Cr D Booth)***

## CLAUSE 3 - REGULATORY CONTROL:

**Clause 3.1 Ranger's Report**

**RECOMMENDATION:**

**That Council receive and note the Ranger's report for the month ending 23 September 2014.**

**913 RESOLVED**

**That Council adopt the recommendation. *(Cr B Mattiske/Cr D Booth)***

## CLAUSE 4 – REYMOND STREET:

**Clause 4.1 Forbes Local Environmental Plan 2013**

**RECOMMENDATION**

**That Council take no further action in relation to the R5 zone in Reymond Street.**

**914 RESOLVED**

**That Council change the LEP for large lot residential blocks of 1500m$^2$ to a minimum size in relation to the R5 zone bound by Wambat, Church, Reymond and Stokes Streets. *(Cr P Miller/Cr D Booth)***

# APPENDIX 3 – CHANGE TO MINIMUM LOT SIZE FLOOD ASSESSMENT REPORT

# APPENDIX 4 – MASTERPLAN FOR PROPOSED