

MINUTES

COUNCIL MEETING

Tuesday 28 March 2023
6:00 pm

City Hall
57 Little Malop Street, Geelong 3220

LIVE STREAMED ON THE CITY'S WEBSITE:

www.geelongaustralia.com.au/meetings

COUNCIL:

Cr T Sullivan (Bellarine Ward) - Mayor
Cr A Aitken (Windermere Ward) - Deputy Mayor
Cr P Murrihy (Brownbill Ward)
Cr S Asher (Bellarine Ward)
Cr J Mason (Bellarine Ward)
Cr E Kontelj (Brownbill Ward)
Cr M Cadwell (Brownbill Ward)
Cr B Harwood (Kardinia Ward)
Cr B Moloney (Kardinia Ward)
Cr R Nelson (Kardinia Ward)
Cr K Grzybek (Windermere Ward)

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2.2. Amendment C339ggee Flood Zones and Overlays - Further Review of Lara Overlay Maps and Submissions

Source: City Planning & Economy
Director: Gareth Smith

Cr K Grzybek declared a Conflict of Interest in Amendment C339ggee Flood Zones and Overlays – Further Review of Lara Overlay Maps and Submissions in that Cr Grzybek has several properties directly affected by this item and left the meeting at 7.53pm.

Purpose

1. To further consider submissions to Amendment C339ggee and seek Council support to refer all submissions to an independent Panel.

Background

2. The amendment implements flood studies for the Lower Barwon/ Moorabool rivers (Dec 2018), Lara (March 2020) and part of the Bellarine Peninsula coast (Dec 2015).
3. The exhibited amendment affects 7,744 properties and revises planning scheme flood overlay and zone mapping. It was publicly exhibited in July 2021 resulting in 561 submissions of which 535 objected, with most from the Lara Flood Study area.
4. On 14 December 2021, Council considered a report that summarised submissions and responded to key themes. Council resolved to refer submissions to an independent Panel, except those relating to the Lara Flood Study to allow further review.
5. As a result, the *Review of Complex Submissions – Lara, Avalon and Fyansford (July 2022)* was prepared with input from City engineers and planners, the Corangamite Catchment Management Authority (CCMA) and flood experts at Water Technology.
6. The review recommended 2,203 properties be removed from the overlays in new housing estates in Lara which developed since flood mapping was undertaken. Council considered the review at its 27 September 2022 meeting, acknowledged the work undertaken but deferred a decision to allow officers to review the original criteria and determine any reasonable opportunities for further removal of properties.

Key Matters

7. Council officers and consultants reviewed the criteria and consider it reasonable to remove properties that are only marginally affected by the Special Building Overlay (SBO) at Lara being those affected by 50 square metres or less of SBO mapping.
8. This approach maintains the integrity of the flood mapping and a level of control of development on these marginally affected properties (using building regulations) but without a planning overlay. The results are shown in the maps of the removed properties in Attachments 1 and 2 while Attachment 3 is a technical memo by Water Technology describing and commenting on the approach.

9. Council is requested to endorse this approach which removes a further 755 properties from the proposed SBO at Lara (around 20 per cent of the SBO properties) in addition to the 2,203 properties previously recommended in the July 2022 review. This resolves a further 45 submissions in addition to the 73 submissions resolved in the earlier review.
10. The amendment will lapse in July 2023 and submissions now need to be referred to an independent Panel and the Minister requested to allow extra time for the amendment.

ORIGINAL RECOMMENDATION

Cr Mason moved, Cr Cadwell seconded -

That Council, having further considered submissions to Amendment C339ggee Flood Zones and Overlays relating to the Lara Flood Study, resolves to:

- 1. Request the Minister for Planning to appoint an Independent Panel under Part 5 of the *Planning and Environment Act 1987* to consider the Lara Flood Study submissions along with all other submissions to Amendment C339ggee which Council resolved on 14 December 2021 to refer to the Panel;**
- 2. Submit to the Panel its response to the submissions as outlined in this report and the Council minutes of 22 September 2022 and 14 December 2021 including the removal of properties from the amendment;**
- 3. Request the Minister for Planning provide an additional 12 months to process this amendment to avoid the amendment lapsing under section 30(1)(a) of the *Planning and Environment Act 1987*; and**
- 4. Note that the City will conduct an information session for the Lara submitters prior to the Panel hearing. The session will include an overview of the amendment and overlay and how to participate effectively in the Panel hearing process.**

Lost

The Mayor adjourned the meeting at 8.27pm

The Mayor resumed the meeting at 8.57pm.

RESOLUTION – Item 2.2

Cr Mason moved, Cr Harwood seconded -

That Council, having further considered submissions to Amendment C339ggee Flood Zones and Overlays, resolves to abandon the part of the Amendment which relates to the Lara Flood Study properties and refer remaining submissions to an independent Panel.

Carried

Financial Sustainability

11. Application of the overlays will not have any significant financial implications to Council with the exception of the usual costs associated with the planning scheme amendment process including Panel hearing fees and the cost of engaging an expert witness.

Community Engagement

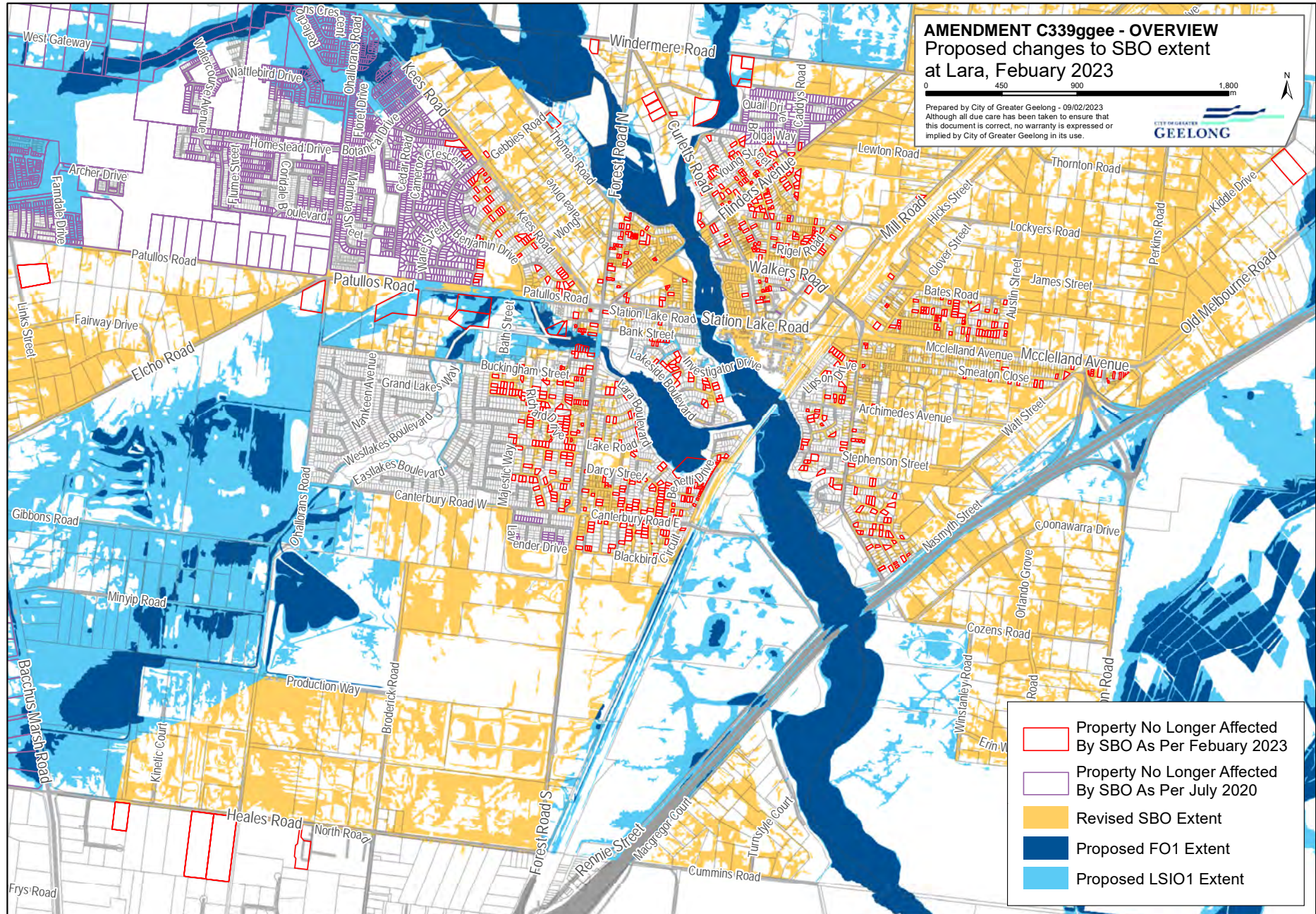
12. Community engagement occurred previously as part of the Lara Flood Study, including community open house sessions and publishing of extensive information on the City's website.
13. Further opportunity for community input has occurred as part of the public exhibition of the planning scheme amendment including email notifications, C339 web page updates and one-on-one sessions with Lara landowners in the lead up to the 27 September 2022 Council meeting.
14. In the event that Council resolves to refer the submissions to an independent Panel, the submitters will be able to further present their case at a Panel hearing.
15. The amendment will also need to come back to a public Council meeting to consider the Panel's recommendations and adopt the amendment before it is submitted to the Minister for Planning for final approval.

Social Equity and Sustainability

16. Flood overlays such as the Special Building Overlay proposed at Lara are applied in numerous other towns and suburbs in Greater Geelong including parts of Barwon Heads, Ocean Grove, Portarlington, Moolap, Corio, Newtown, Highton, Belmont and Wandana Heights.

Relevant Law/Policy/Legal Implications

17. The reports to Council of 14 December 2021 and 27 September 2022 outline how the amendment and application of flood planning controls is consistent with the Victorian Floodplain Management Strategy 2016 and numerous state and local planning policies.
18. There is a legal implication with the delays in consideration of submissions to the amendment. Section 30(1) of the *Planning and Environment Act 1987* states "an amendment or part of an amendment lapses:
 - (a) at the end of two years after the date of publication of the notice in the Government Gazette under section 19(3) unless—
 - (i) the planning authority adopts it within that period; or
 - (ii) the Minister allows a longer period for the adoption of the amendment; or
 - (b) at the end of any period which the Minister allows unless the planning authority adopts it within that period; or
 - (c) when the planning authority notifies the Minister in writing that it has abandoned the amendment or part; or
 - (d) when the Minister refuses to approve it under this Act".



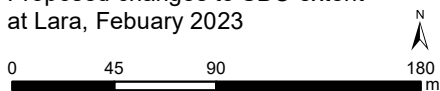
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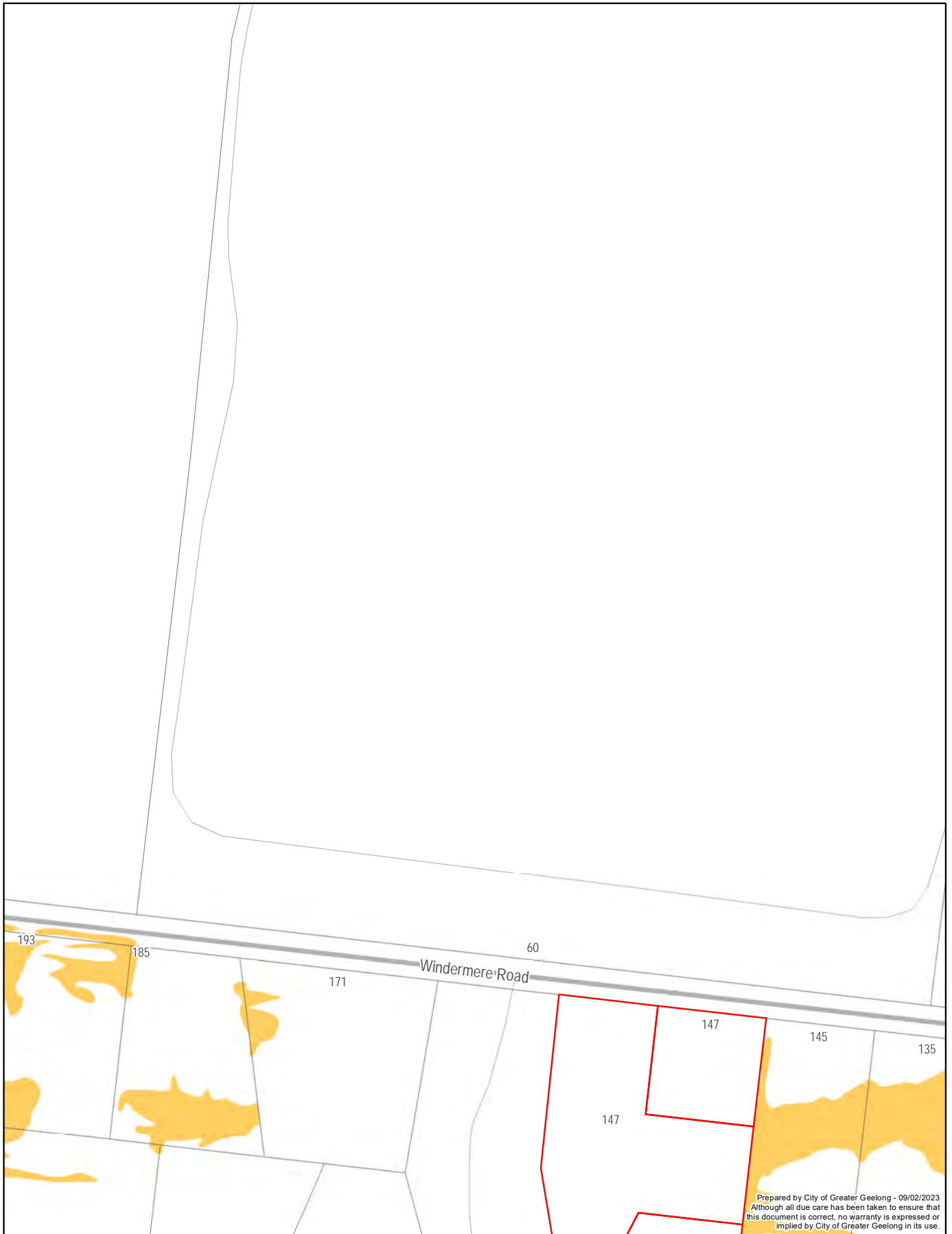
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AMENDMENT C339ggee
 Proposed changes to SBO extent
 at Lara, February 2023



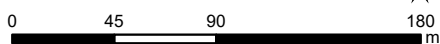
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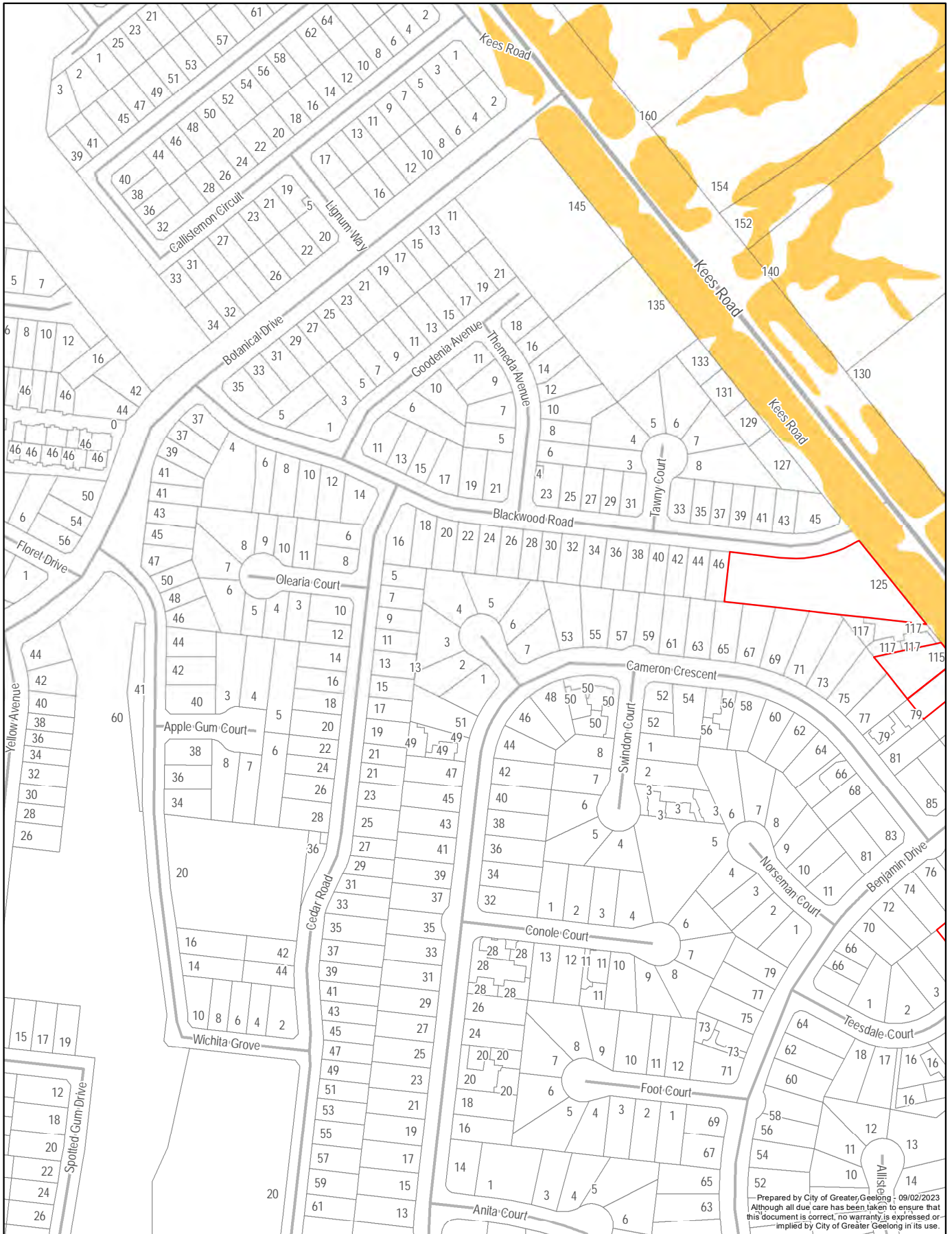
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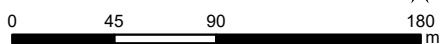




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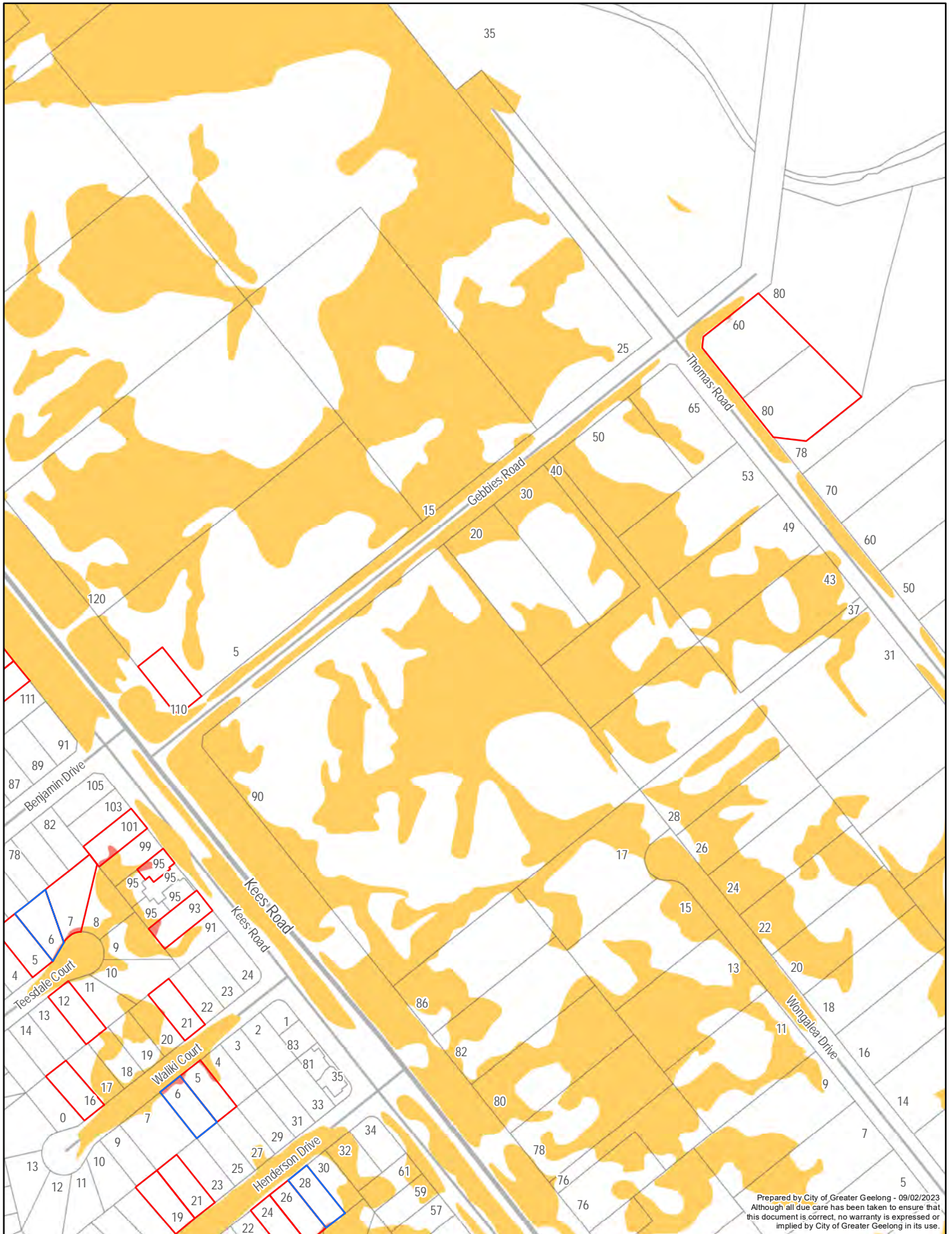
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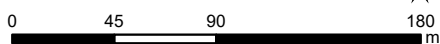
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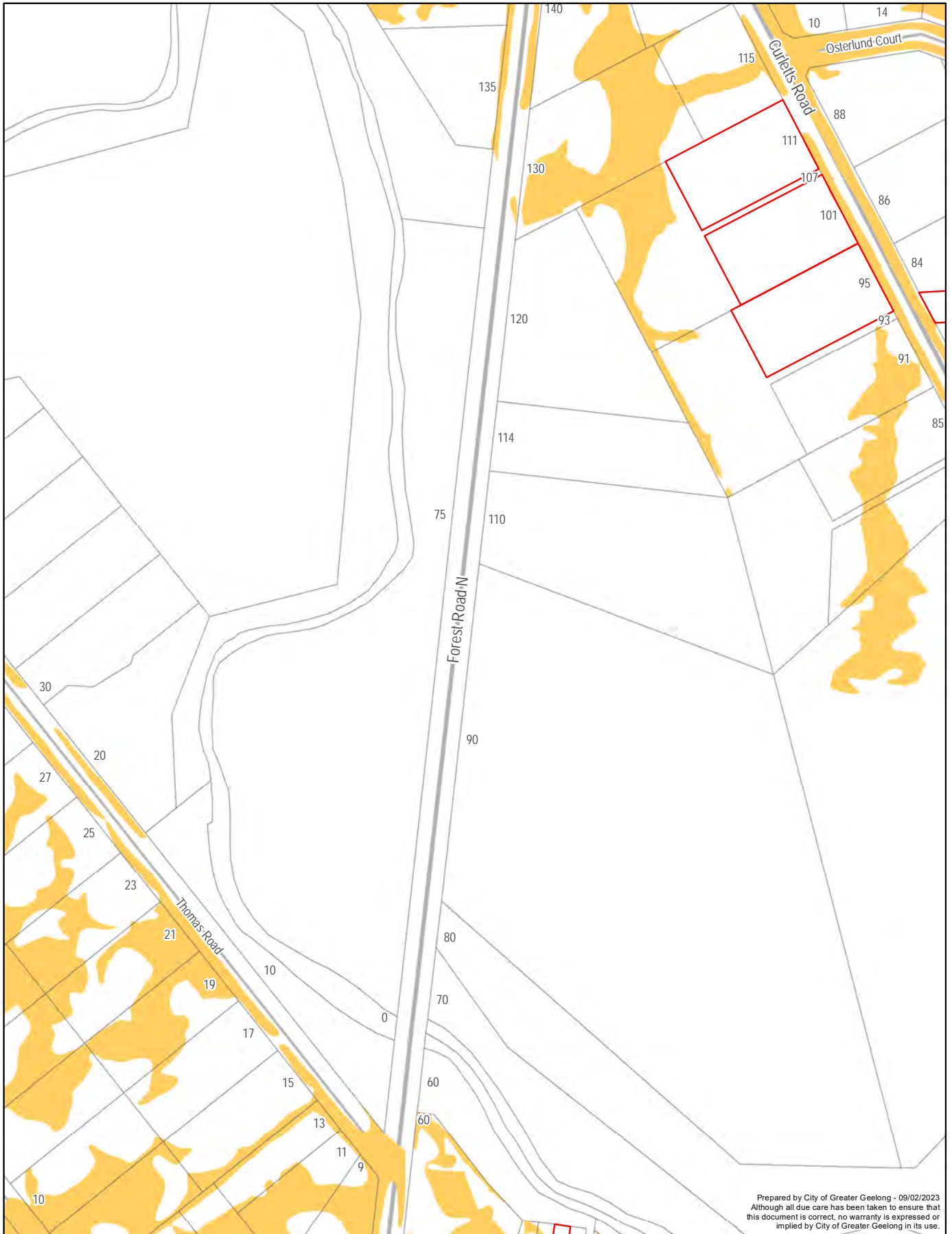
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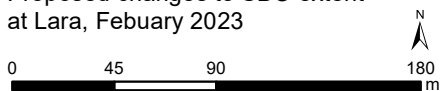
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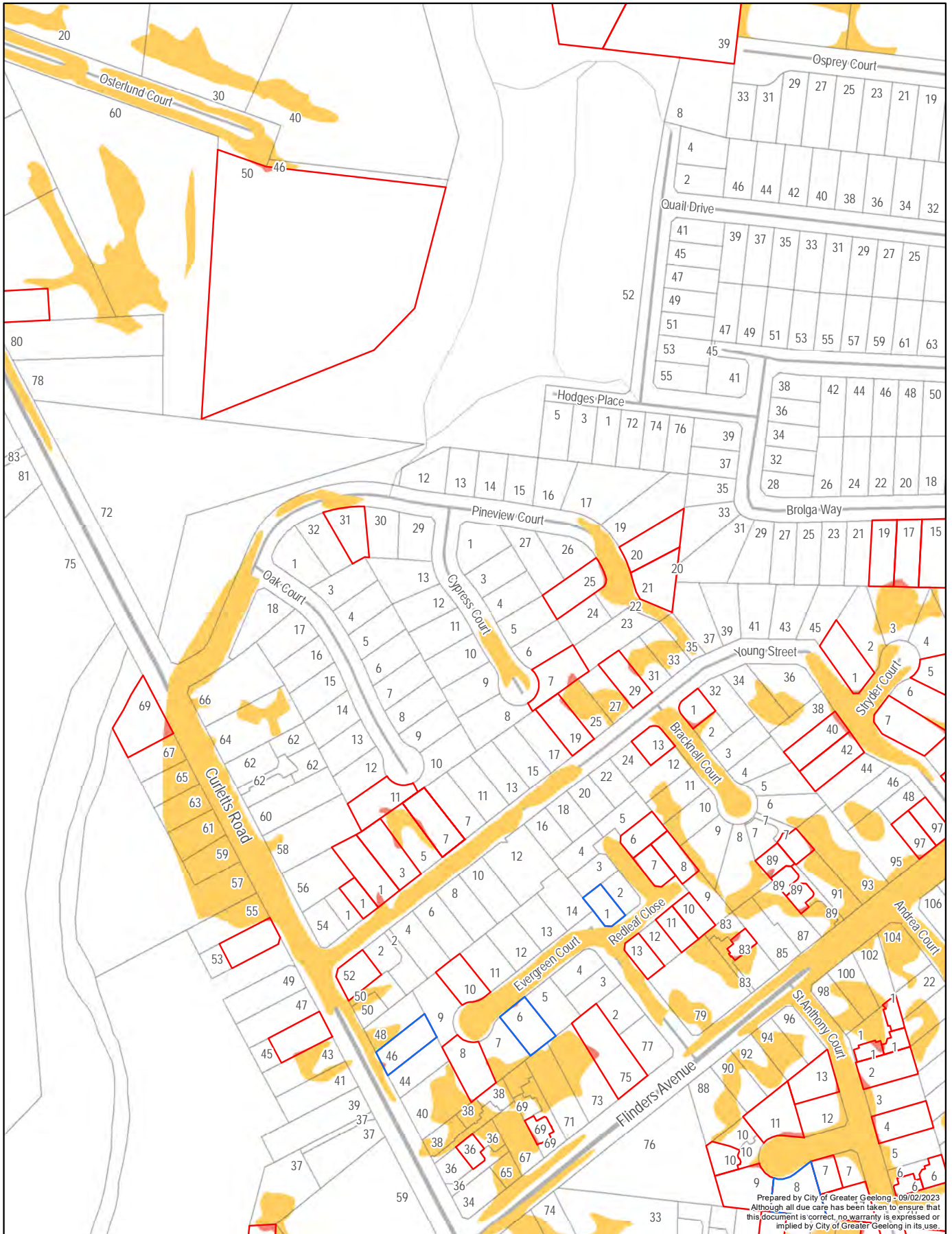
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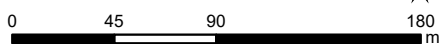
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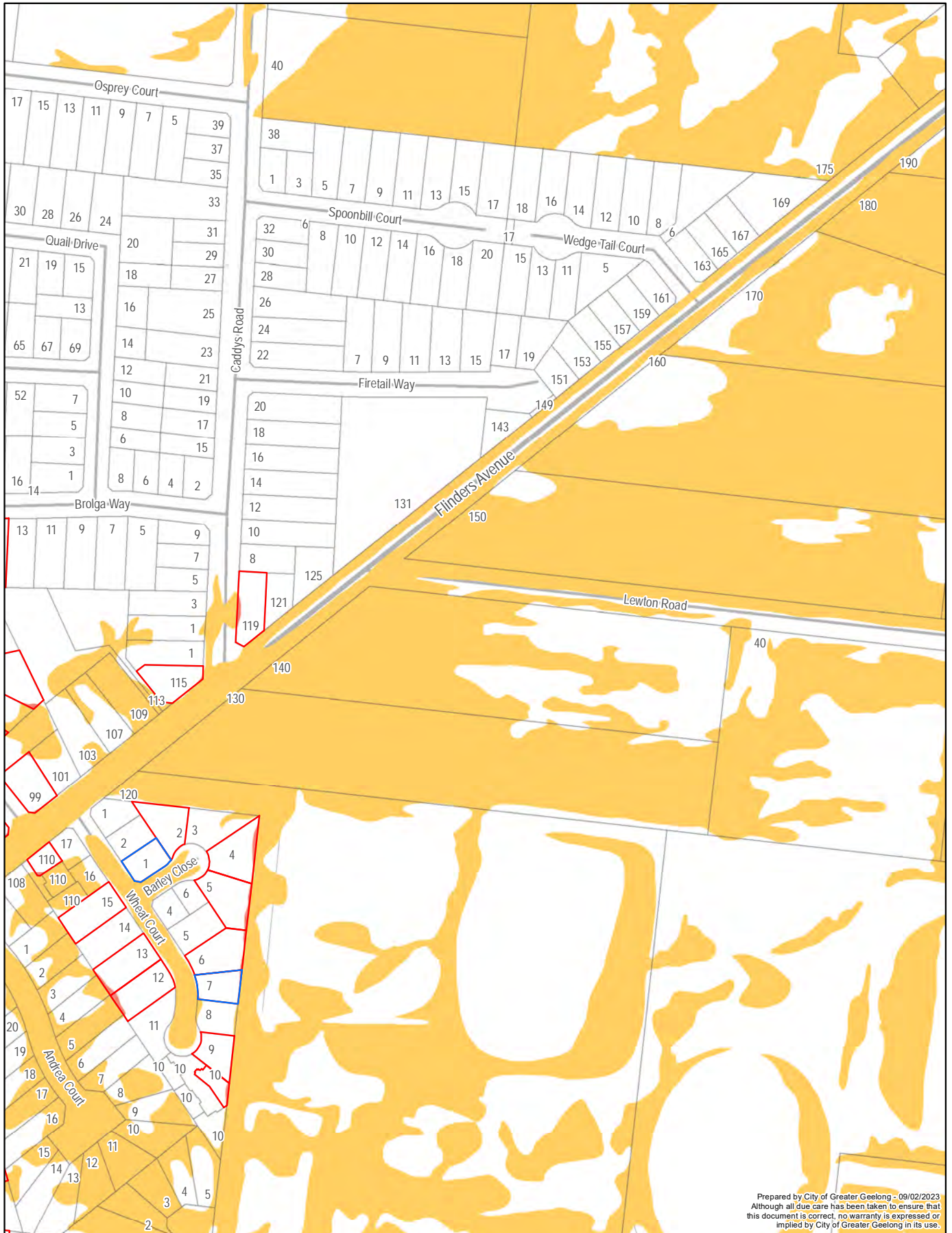
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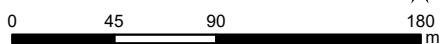
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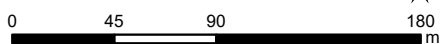
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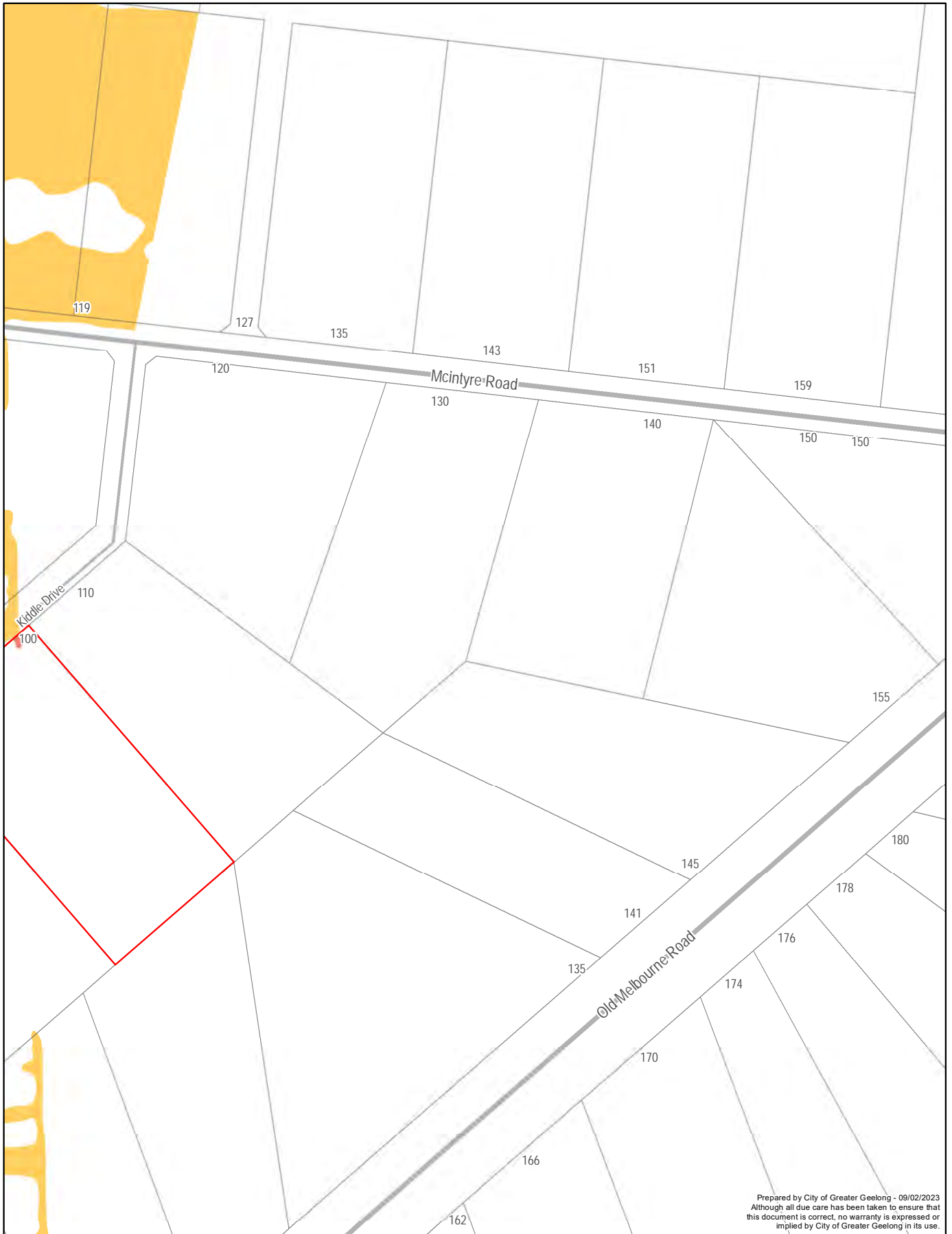
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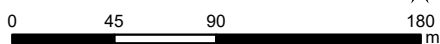
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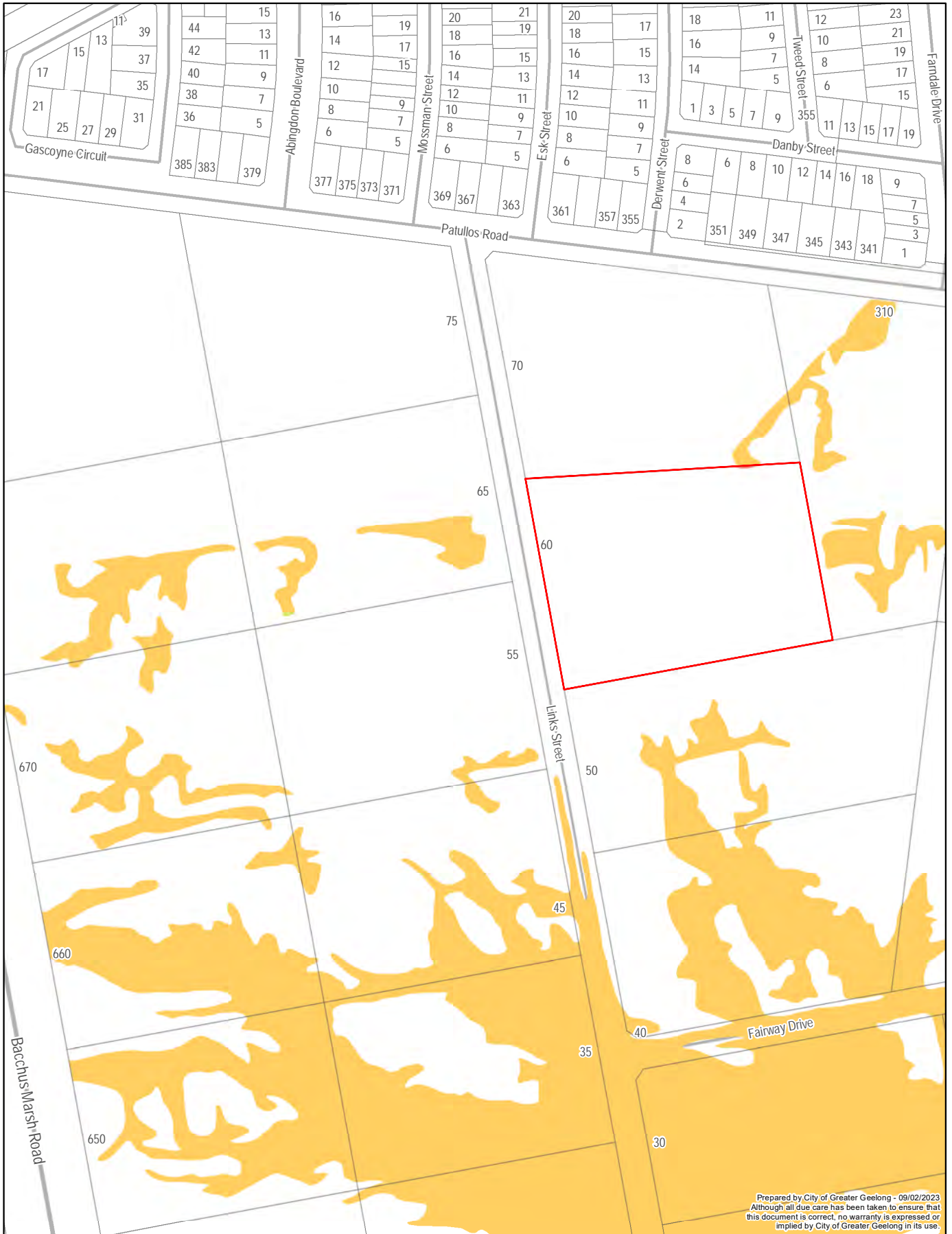
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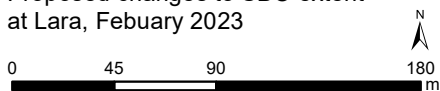


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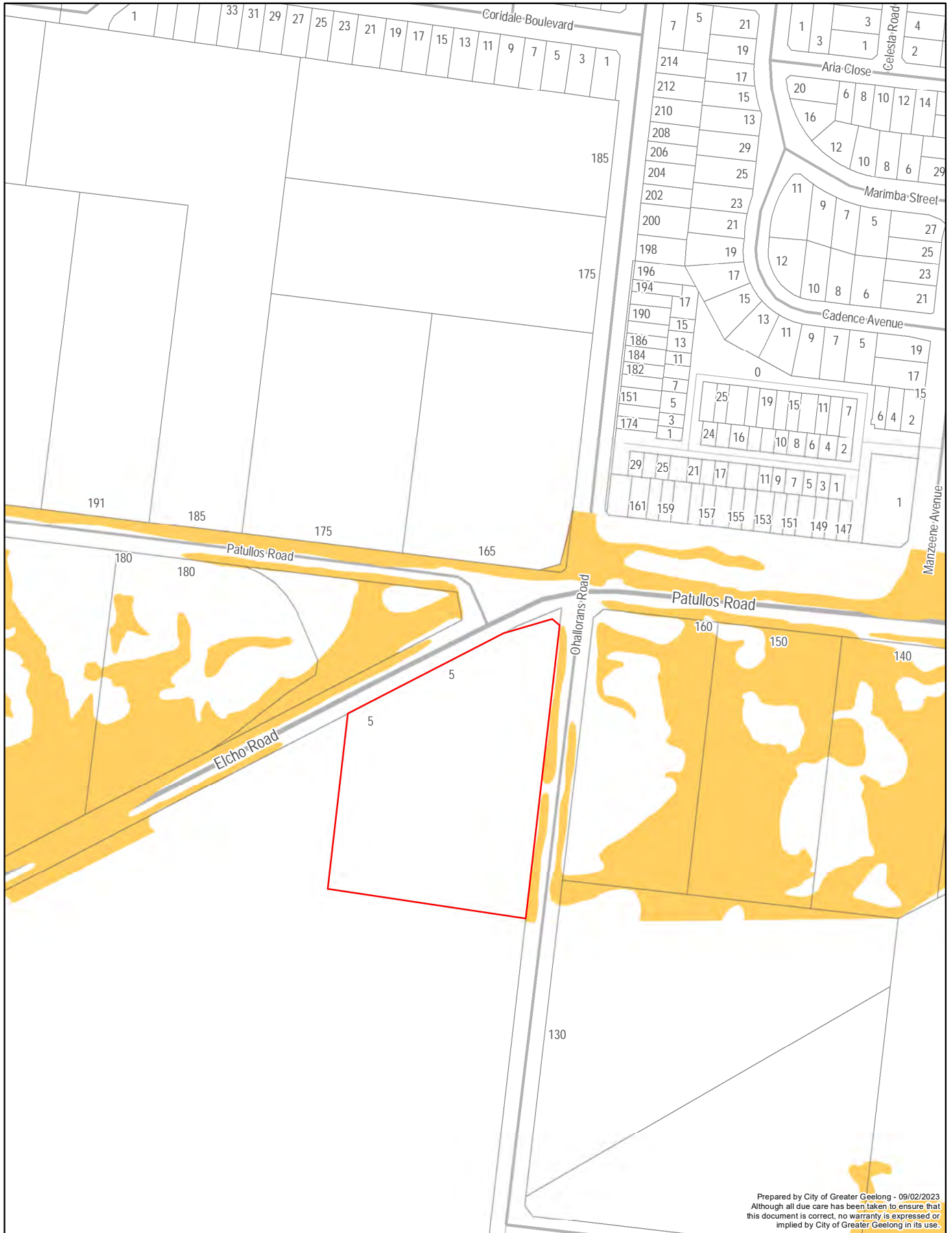


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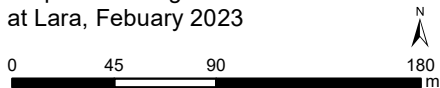
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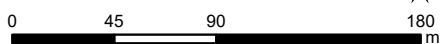
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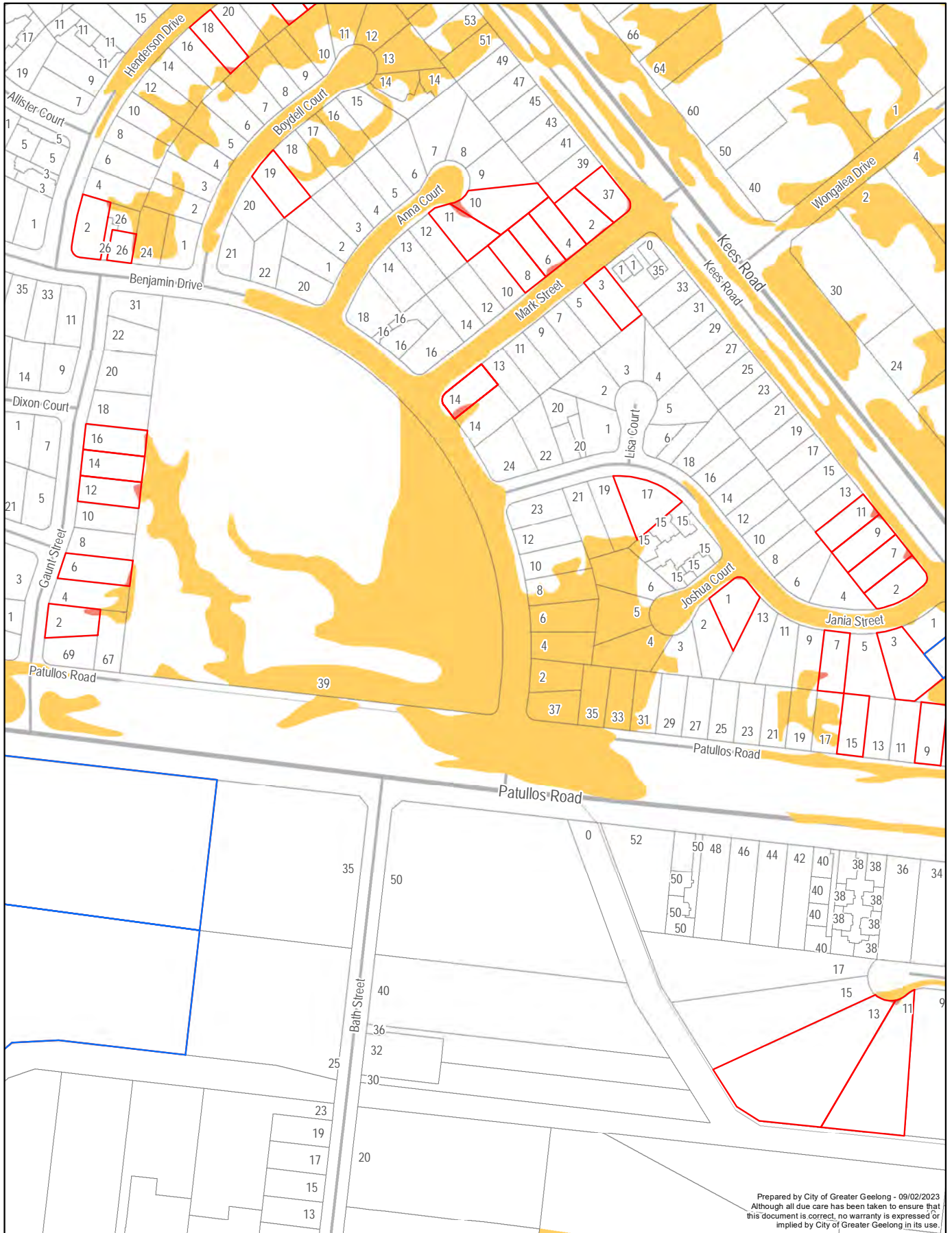
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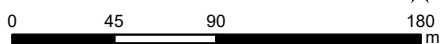


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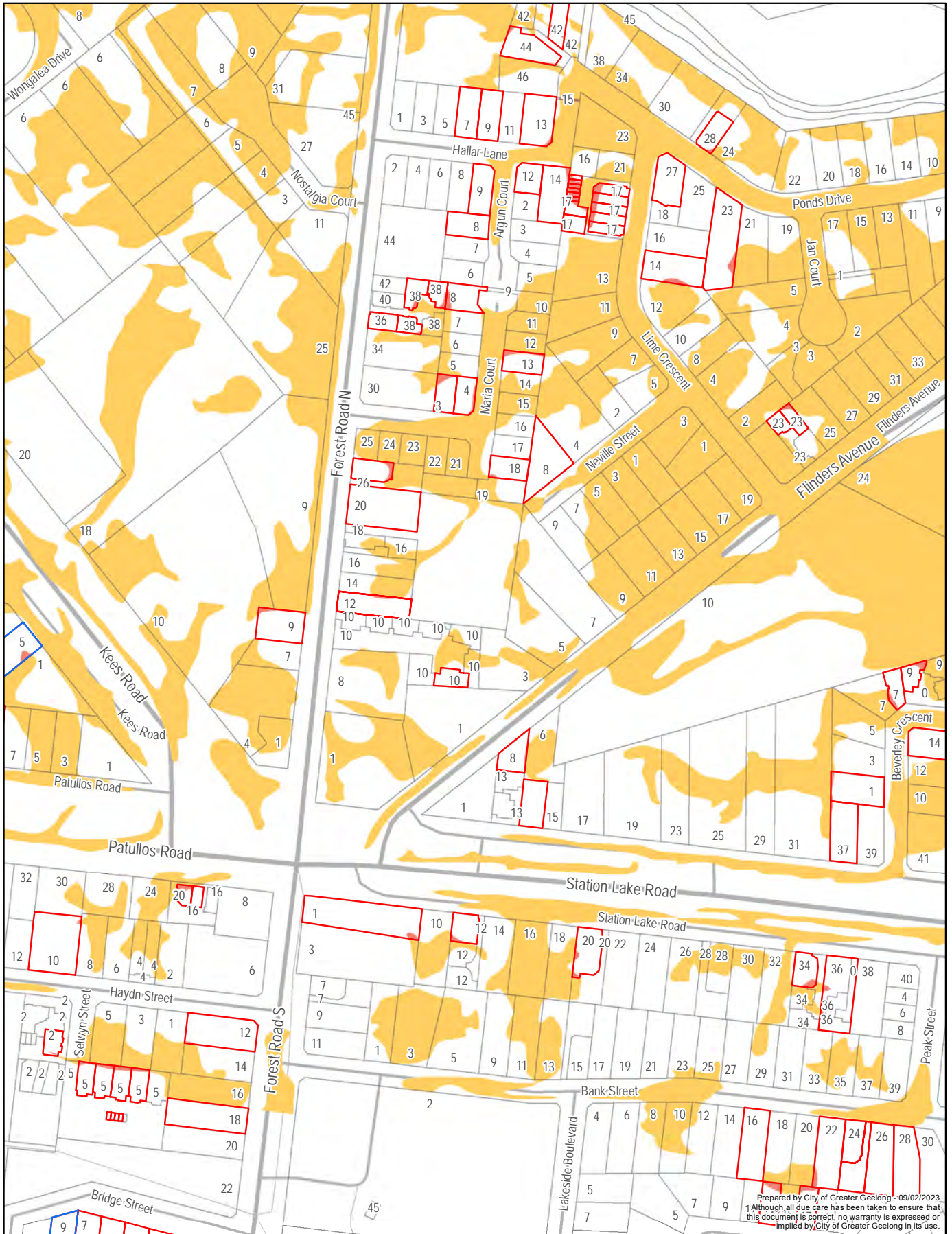


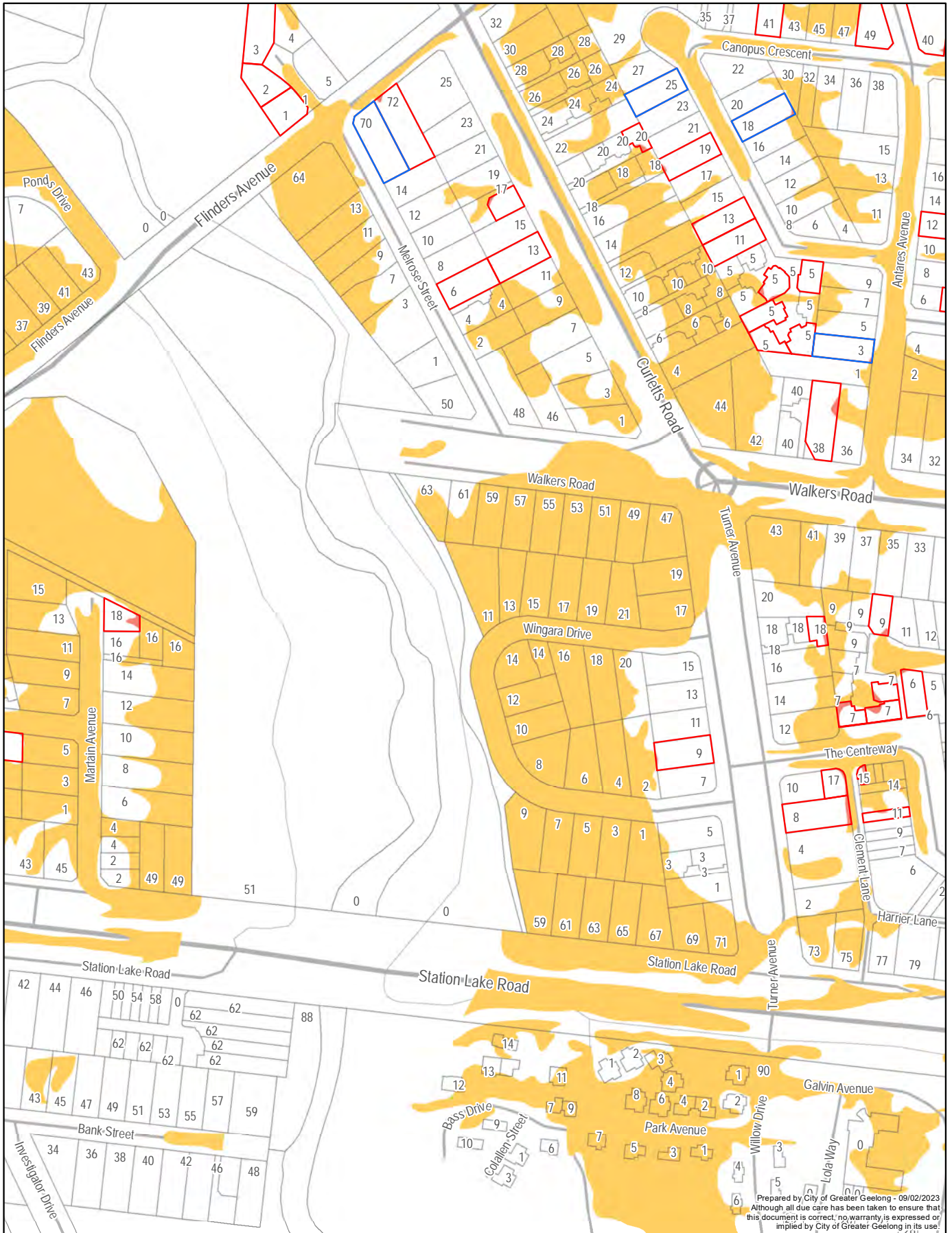
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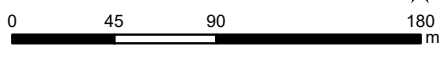






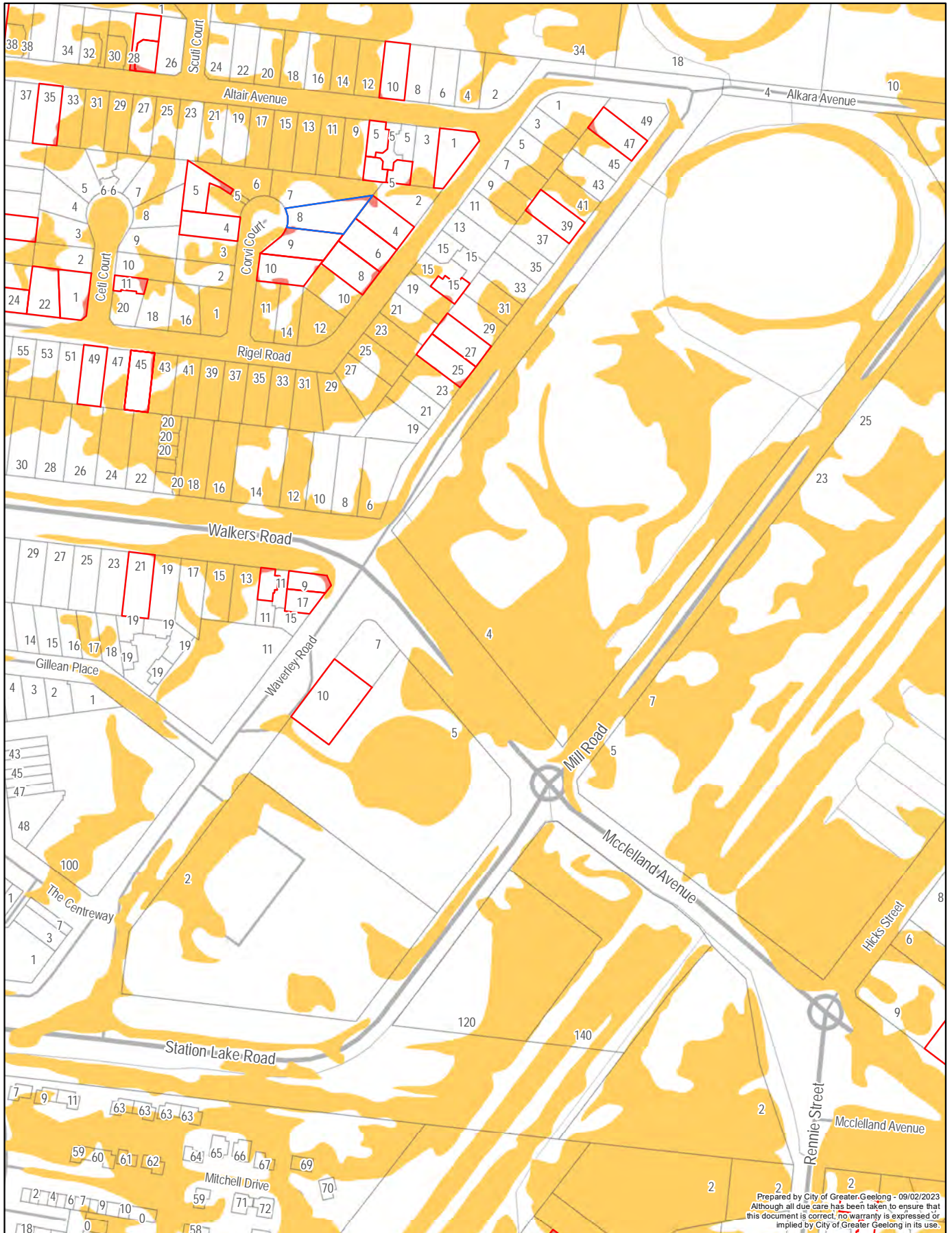
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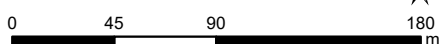


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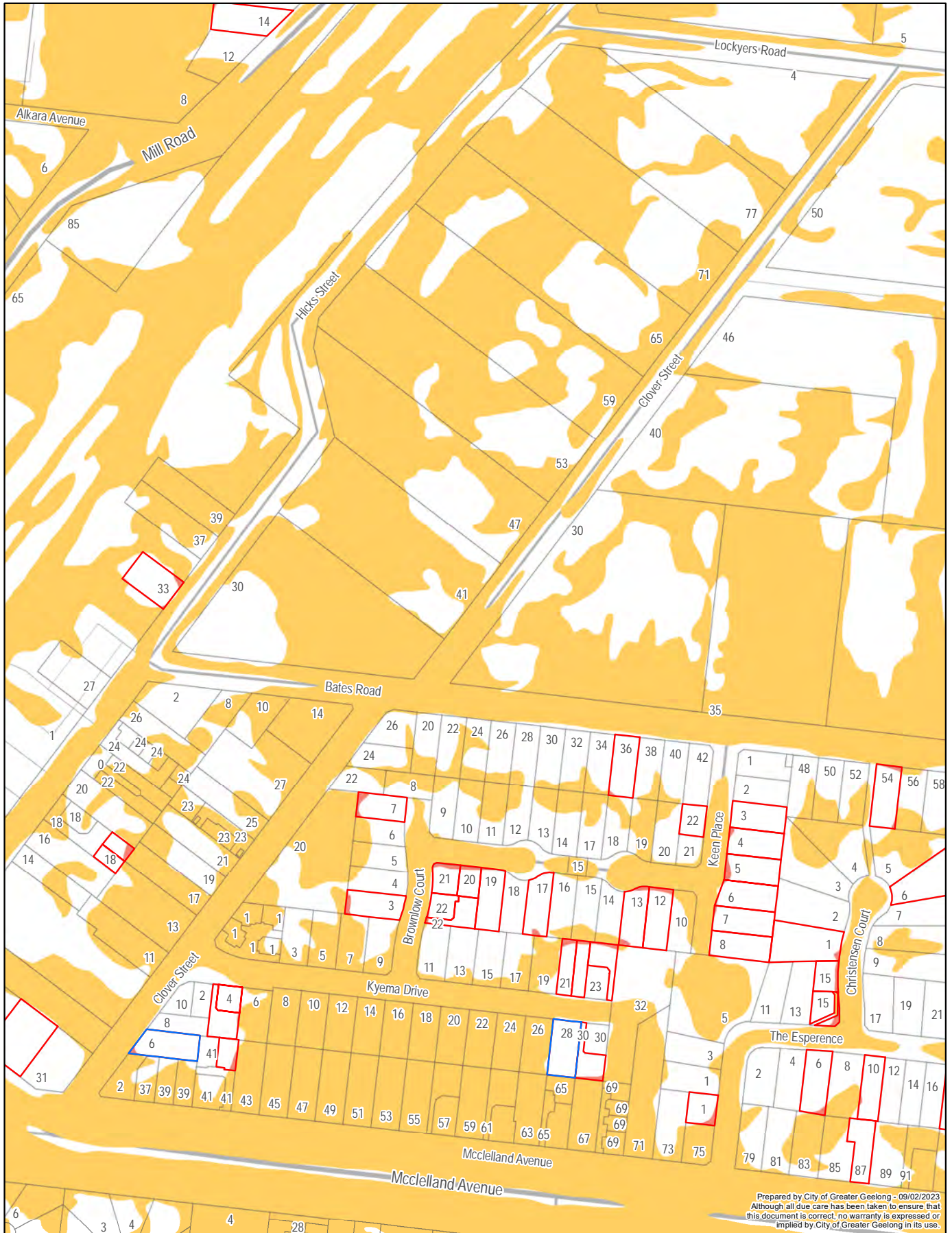


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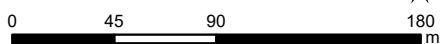


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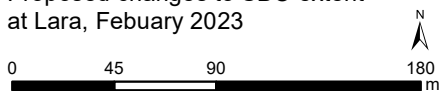
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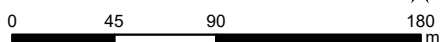
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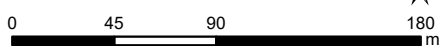


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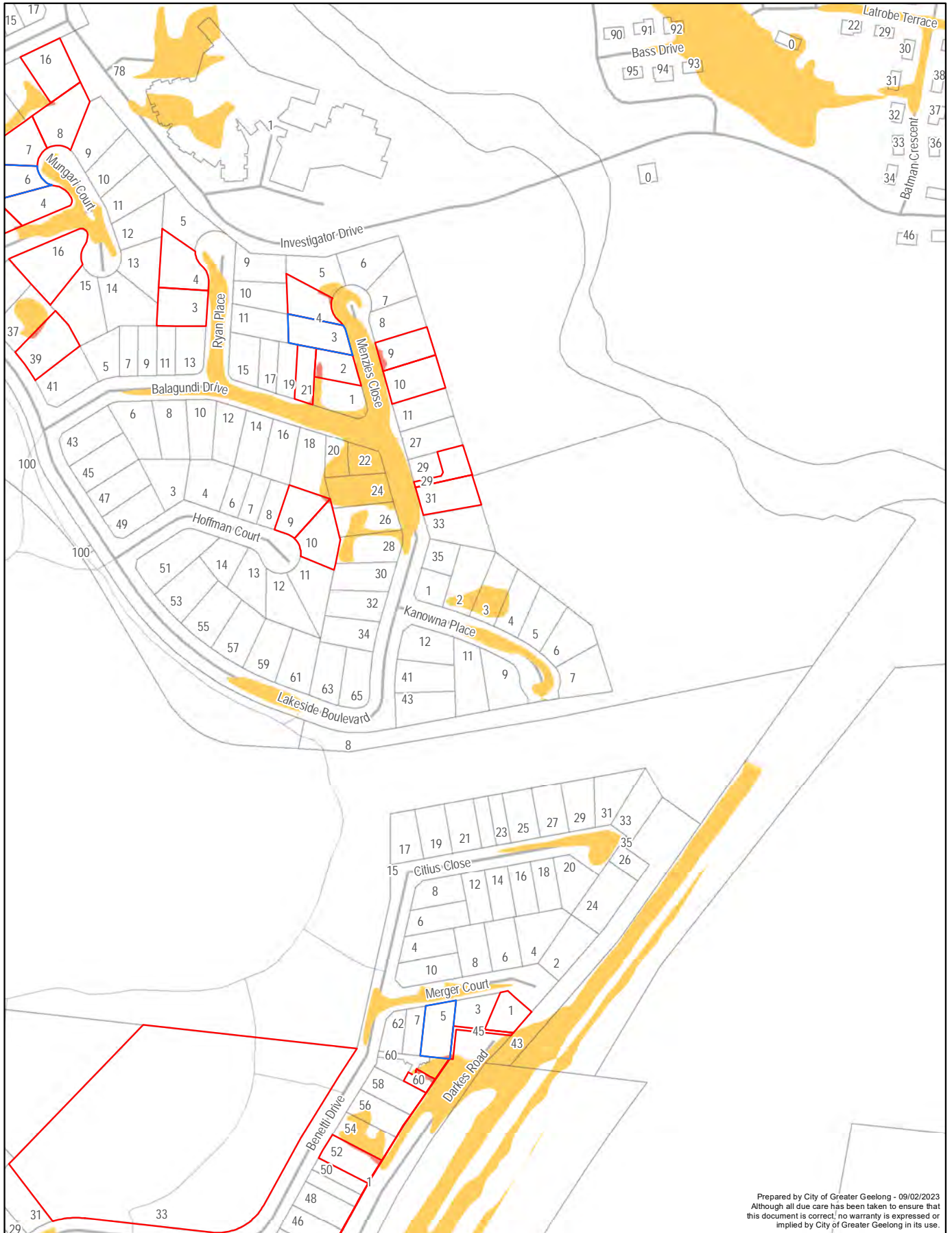


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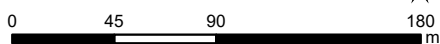
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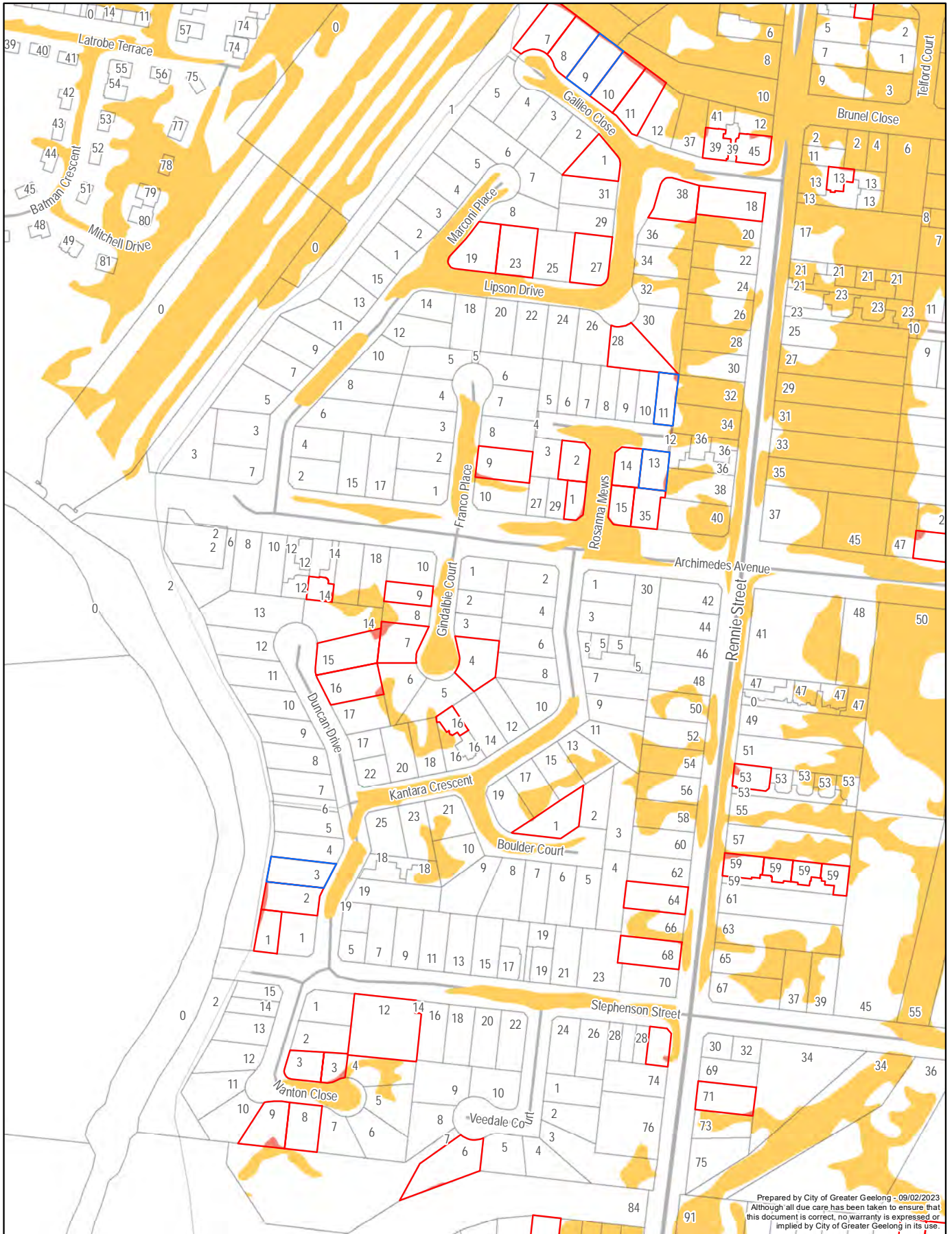
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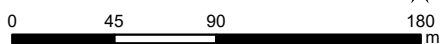
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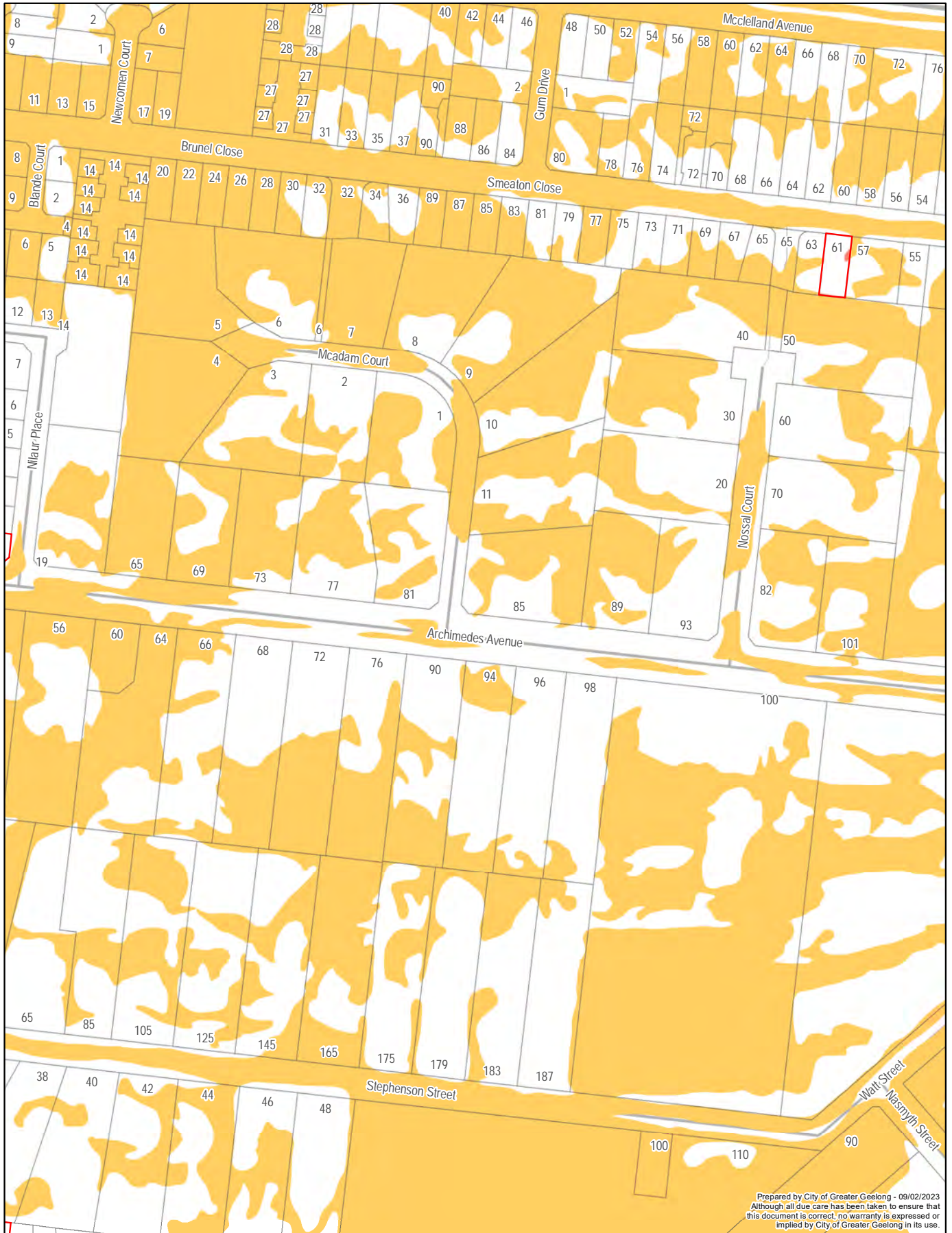
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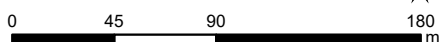
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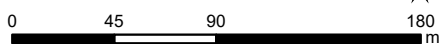
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- Proposed SBO Extent
- SBO To Be Removed





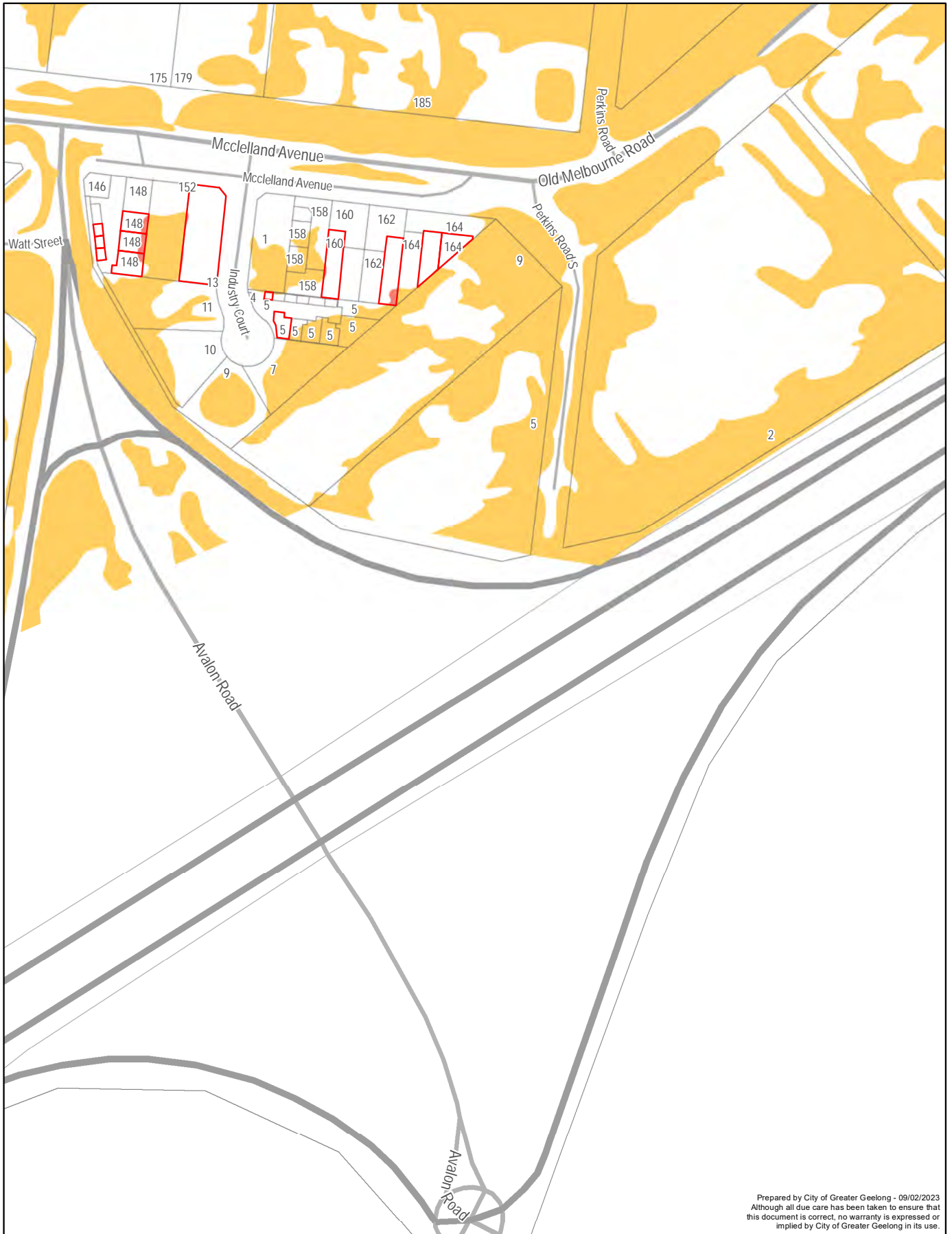
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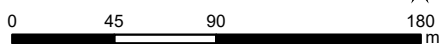
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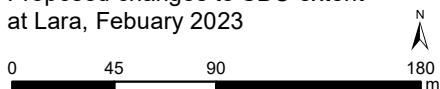
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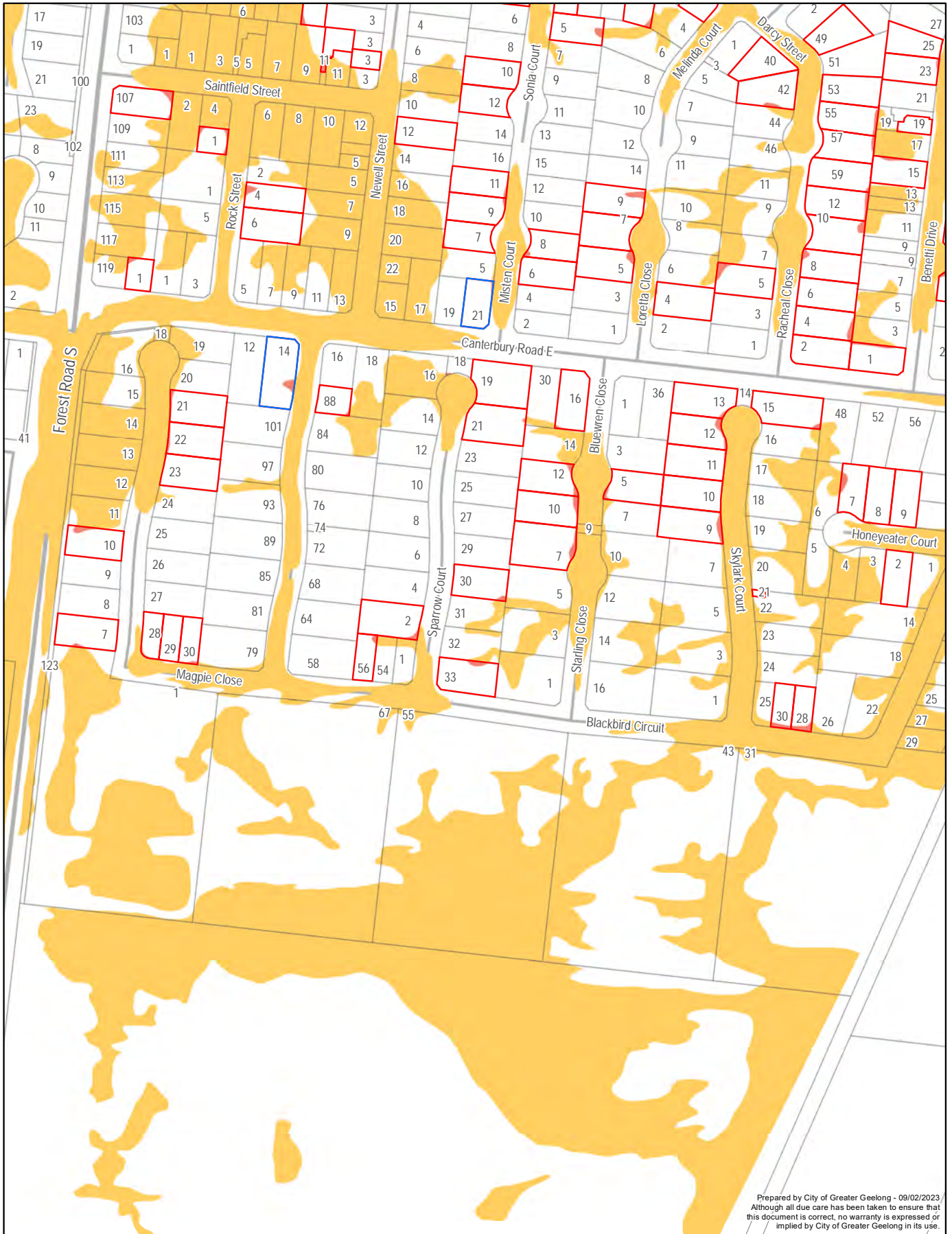
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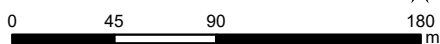
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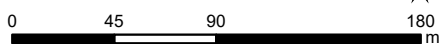
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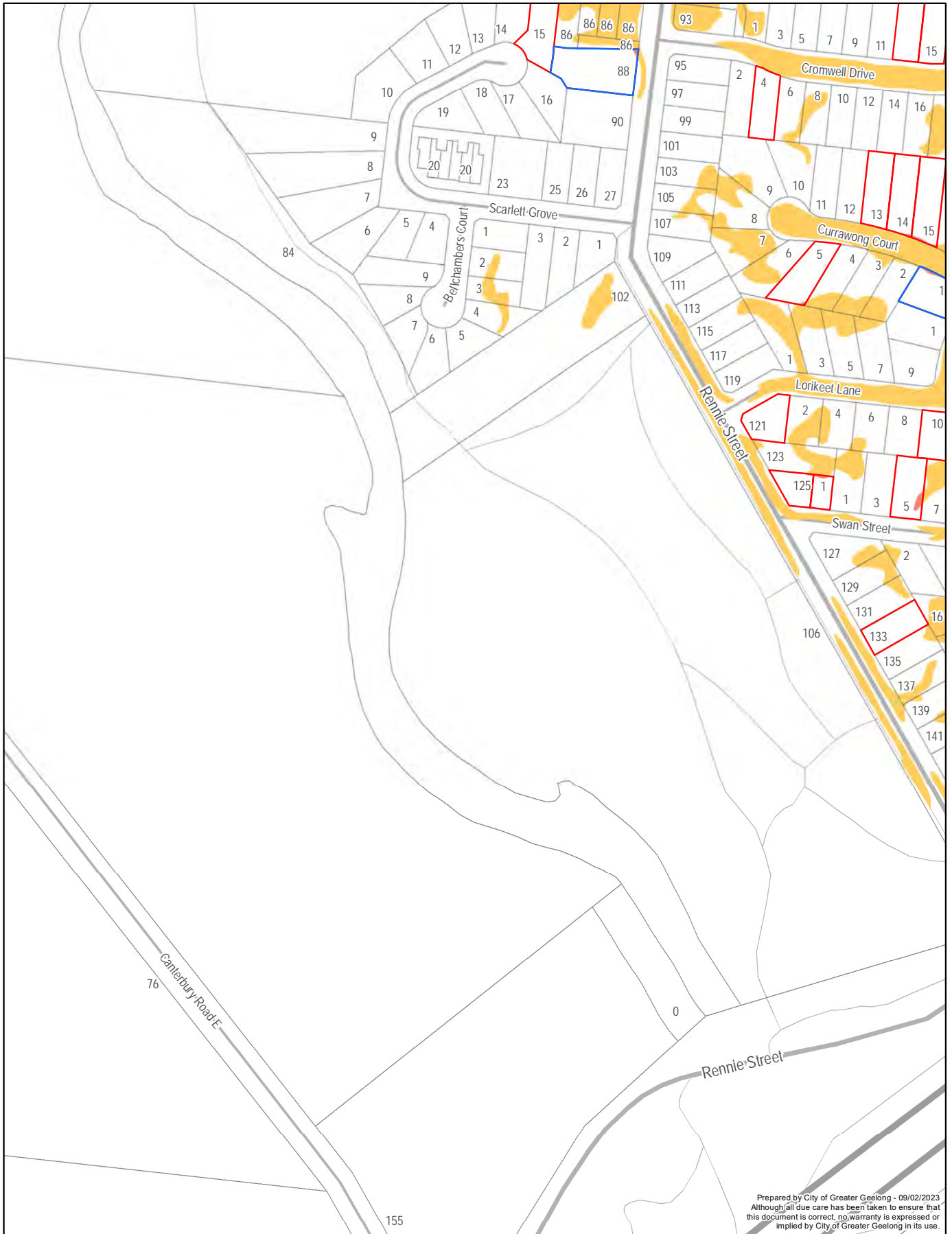
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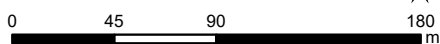
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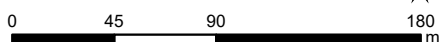
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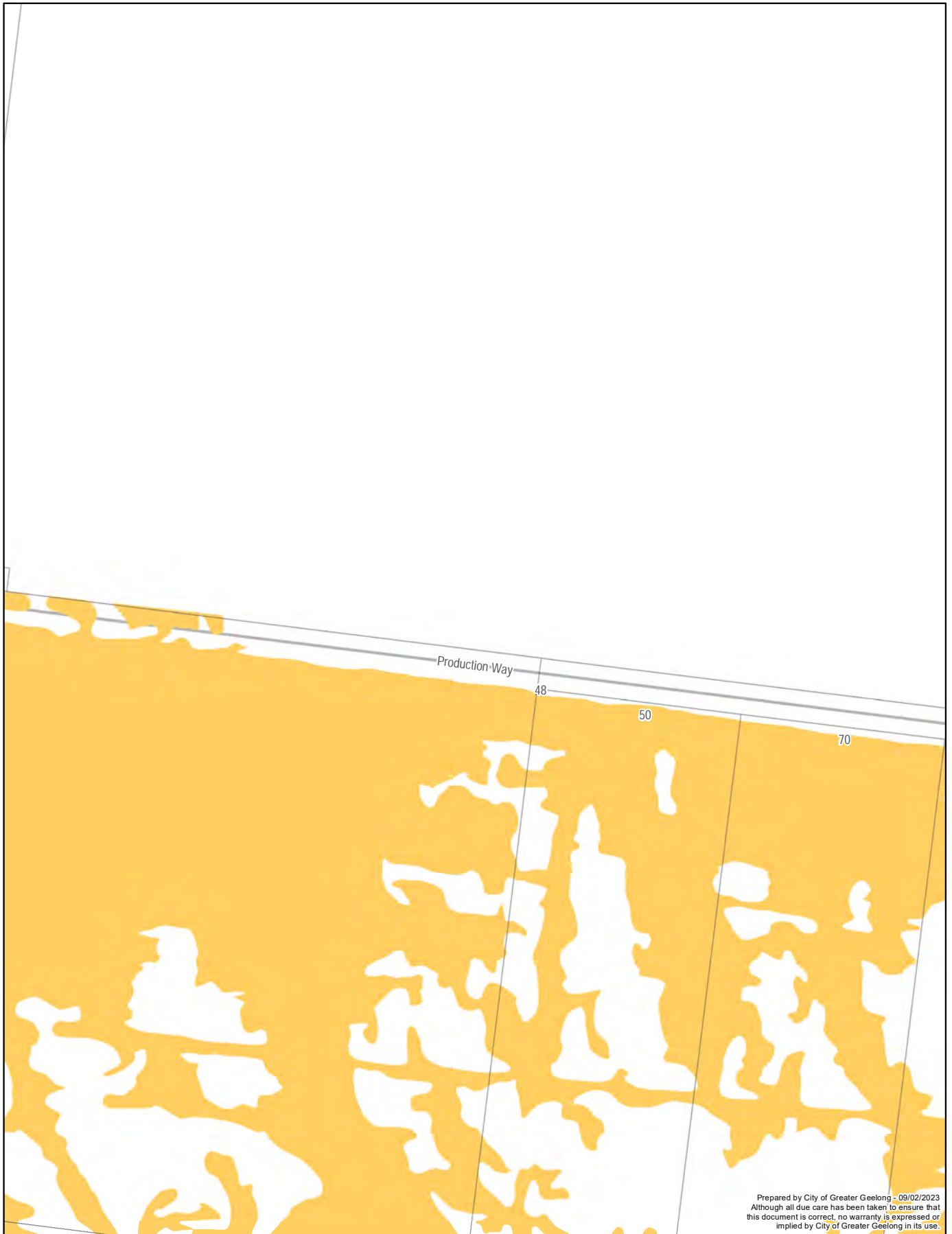
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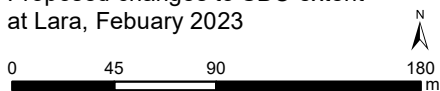
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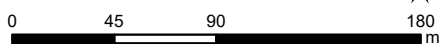
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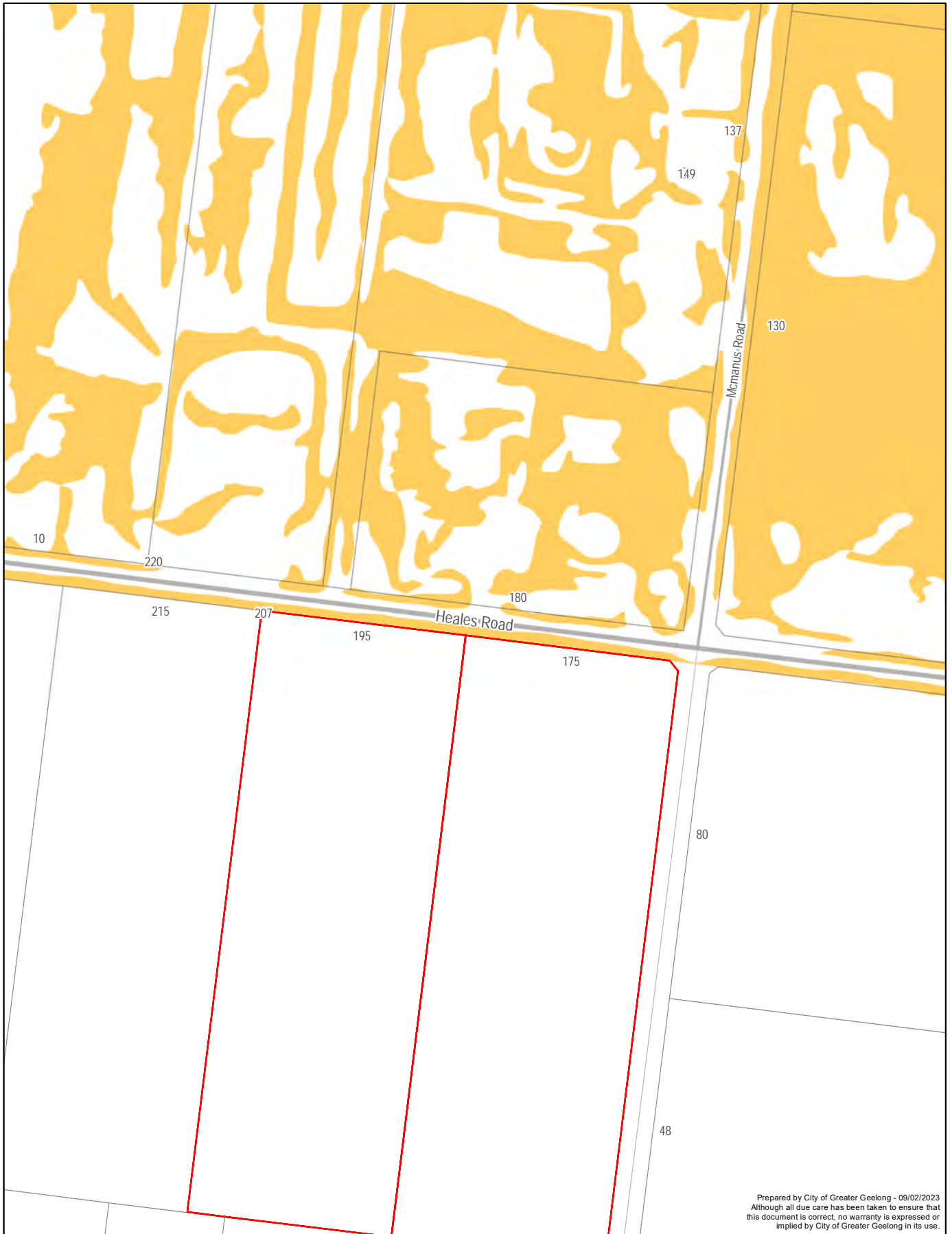
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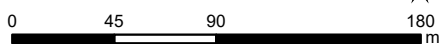
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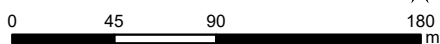


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MEMORANDUM

To [REDACTED]
From Water Technology
Date 8 February 2023
Subject Amendment C339 – Removal of Properties from Special Building Overlay
Our ref 23010116_M01V02.docx

1 BACKGROUND

Council officers are considering removal of approximately 755 properties which is around 20.75% of the properties that were previously identified within the SBO at Lara as part of Amendment C339ggee. The removal of these properties from the SBO extent is on the basis that the properties are only marginally affected by the SBO map extent, by 50 square metres or less. Water Technology are the original authors of the Lara Flood Study (upon which the mapping is derived) and provided advice to Council when a review of complex submissions to Amendment C339ggee was undertaken in 2022. The following document is provided as a technical advice document with input from engineers and planners in relation to removal of properties initially included in the proposed SBO as part Amendment C339ggee.

2 CURRENT PLANNING CONTROLS

Currently the City of Greater Geelong have a number of administered planning controls related to flooding. These include Zoning and Overlay controls have been based on both previous assessments and historic flood events within the Hovells Creek and Avalon catchment. The current controls which exist within the broader Lara area include:

- Floodway Overlay (FO)
- Land Subject to Inundation Overlay (LSIO)
- Special Building Overlay (SBO)
- Urban Floodway Zone (UFZ)

Each of the currently used planning controls seeks to regulate the use and development at a property scale respective to the nature of the identified flood risk. The focus of this document centres on the application and delineation of the SBO. The ‘purpose’ of the SBO controls as described in the City of Greater Geelong Planning Scheme is outlined below.

- To identify land in urban areas liable to inundation by overland flows from the urban drainage system as determined by, or in consultation with, the floodplain management authority.
- To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.
- To protect water quality in accordance with the provisions of relevant State Environment Protection Policies, particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria).



*Purpose: The Special Building Overlay (SBO) identifies land in **urban areas** liable to inundation by overland flows that exceed the capacity of the underground drainage system. The purpose of the SBO is to ensure that future developments allow the free passage of floodwaters, minimise flood damage, are compatible with flood hazard and local drainage conditions, and will not cause a significant rise in flood level or flow velocity.¹*

There is currently minimal SBO within the study area. The Grand Lakes estate is an example of a residential area with a design SBO, where a defined schedule was used to set finished ground levels and minimum finished floor level requirements to minimise potential flood risk. The proposed planning scheme amendment will result in a large increase in the number of properties with an SBO in and around Lara.

3 LARA FLOOD STUDY

The study brief prepared by City of Greater Geelong (the City) demonstrated a strong understanding of the area and its floodplain and drainage infrastructure. The objectives of this study are described below.

- To produce detailed flood mapping for a range of flood modelling scenarios within the study area.
- To undertake definitive flood investigations for the floodplain reaches within the study area; to pool all the available data and, through rigorous analysis determine robust flood levels, velocities, depths and extents.
- To build on the previous flood studies undertaken in 2001/02 by the partnership of Corangamite CMA, City of Greater Geelong and a consultant (Floodplain Management Strategy, April 2002) using baseline data and current technology to update flood data, value add for extra flood events, update of land use changes, update flood intelligence for the City of Greater Geelong Flood Emergency Plan, update flood data in the City of Greater Geelong Planning Scheme with a focus on the technical flood information to inform planning and building controls.

3.1 Hydraulic Model Build

The Lara urban area was modelled to produce flood mapping using TUFLOW software package. Parameters derived from the Hovells Creek riverine hydrology model were used as a starting point to inform the urban stormwater (rain-on-grid) model, the extent of which is shown in Figure 3-1. The TUFLOW rain-on-grid model at 3 metre grid resolution was used to represent these areas. Available pit and pipe information was incorporated into the model and data gaps in the underground drainage network were filled using engineering judgement (ensuring similar cover to other pipes/downstream gradient etc.).

Modelling was undertaken in line with Australian Rainfall and Runoff 2019. All 10 temporal patterns were simulated for the 1% AEP events for durations from 15-minute up to 6-hours to represent the critical durations across the urban area. Using post-processing tools, the methodology outlined below was used to produce a filtered set of result grids and flood extents. The application of rain on grid modelling results that have been filtered are common practice in flood modelling studies. The flood mapping of the Bridge St and Western Gully Main Drain Catchments is an example of the application of flood mapping to implement SBO.

Key points and a visual representation of the modelling and filtering process is shown in Figure 3-2.

- Initial and continuing losses were applied via the material (land-use) layer of the hydraulic model. Values varied based on the current land use.
- 10 temporal pattern result grids analysed to produce a grid representing the median water level were developed for each of the durations.

¹ City of Greater Geelong Planning Website:

<https://www.geelongaustralia.com.au/sbo/article/item/8d4024c6c179322.aspx>



- Temporal pattern selection was based on the temporal pattern which gave the 'median' water level the greatest number of times across the urban model area for each 1% AEP duration event.
- Temporal patterns were selected for the remaining AEPs based on the 1% AEP methodology listed above.
- These grids were then be spliced together to generate a 'maximum' water surface grid across the catchment.
- Maximum grids were filtered to remove depths below 30 mm and 'puddles' less than 200 m² (this removed low depth 'flooding' that can occur when applying rainfall to the entire catchment).



Figure 3-1 Lara Urban Stormwater Model Extent

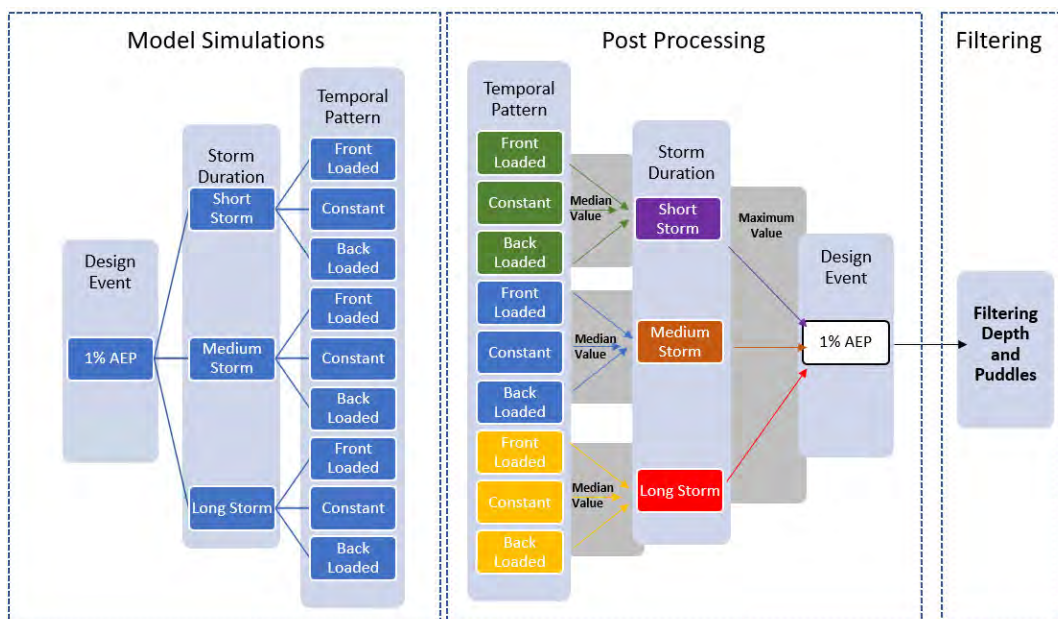


Figure 3-2 Rain-on-Grid Workflow to develop single set of maps per AEP



4 PLANNING SCHEME AMENDMENT C339

This amendment (C339) implements the Lower Barwon and Lower Moorabool Flood Investigation (Dec 2018), Lara Flood Study (March 2020) and part of the Bellarine Peninsula - Corio Bay Local Coastal Hazard Assessment (Dec 2015). The amendment includes rezoning of land in Lara to implement the Lara Flood Study outcomes, revises the mapping extent of the Floodway Overlay (FO), Land Subject to Inundation Overlay (LSIO and LSIO2) and the Special Building Overlay (SBO) in the areas of the respective studies and amends the Schedules to the FO and LSIO.

Application of the SBO and other flooding related overlays (LSIO & FO) aim to identify flooding and drainage issues and the potential impacts of new development are considered at an early stage in the development approvals process. The application of these overlays will also ensure that the flood risk is disclosed to potential purchasers of affected properties on any Planning Certificate issued by Council and through the provision of this information as part of the Section 32 Statement at the time of purchase.

On 14 December 2021, the City considered a report on the submissions to Amendment C339ggee and resolved to:

- Request the Minister for Planning to appoint an Independent Panel under Part 5 of the Planning and Environment Act 1987 to consider all submissions to Amendment C339ggee except those relating to the Lara Flood Study;
- Defer a decision on the Lara Flood Study submissions to allow Council officers to investigate and prepare a further report on the site specific and more complex submissions and report back to Council in early 2022;
- Refer all submissions except the Lara Flood Study submissions to the Panel;
- Submit to the Panel its response to the submissions (except the Lara Flood Study submissions) generally as outlined in this report.

Following this, in late 2022 the following work was undertaken.

- Council undertook community consultation with objectors wishing to have a face-to-face interview
- At a council meeting (September 27) it was acknowledged to further review the application of SBO criteria on properties in Lara.

5 REVIEW OF SBO APPLICATION

The application of SBO on properties was focused on the Urban area within the Lara Settlement Boundary and excluded areas of flood risk (inundation) not from a waterway. The modelling and filtering process was then used to identify the SBO areas.

The filtering process is able to remove small puddles and shallow depths which are considered a flood risk, however these are reviewed on a cell by cell (hydraulic model) basis and there are a number of examples where the remaining puddles cross slightly into an adjacent property. This leaves areas with only a minor portion of the SBO in their property. This can occur due to a number of reasons including:

- The 1% AEP flood extent from a flow path within a road reserve overtops slightly into a property.
- The 1% AEP flood extent at the edge of a puddle is typically on the lower end of depth threshold (30mm).

It should also be noted that a significant portion of the properties identified abutted an SBO within a road reserve. Given the roadways are generally used as part of the Major Drainage network, some properties may have small portions of the modelled flood extent which only slightly enter onto the property. Some LGAs and Melbourne Water will not only include all properties with any SBO, they may also include properties where



adjacent access/egress paths are covered by an SBO. It is understood that City of Greater Geelong do not intend to apply that method in this case.

There were also a considerable number of properties where the flood extent is along the edge of the boundary. Typically development and new buildings require a setback from the property boundary. As such, the application of an SBO to a property is not likely to trigger further investigation for new buildings/development as most works footprint would be outside the boundary setback.

Examples of this are shown below (Figure 3) in mapping provided by Council. Property 31 Pineview Court has a minor area of the SBO extending onto the property from the road reserve. This is almost indistinguishable with the cadastre polygon highlighted. It should also be noted that due to the hydraulic model resolution (3 metres) and the smoothing process to provide a more realistic look, that the pixelation of the mapped flood extent may push onto the property.

19 and 29 Young Street are examples where the edge of the mapped floods extent (SBO) enter on the adjacent property. The area encroached is close to property boundary where works/development would not typically be expected due to setback requirements and the depth of flooding/inundation in these areas would be expected to be close to the 30mm depth threshold.

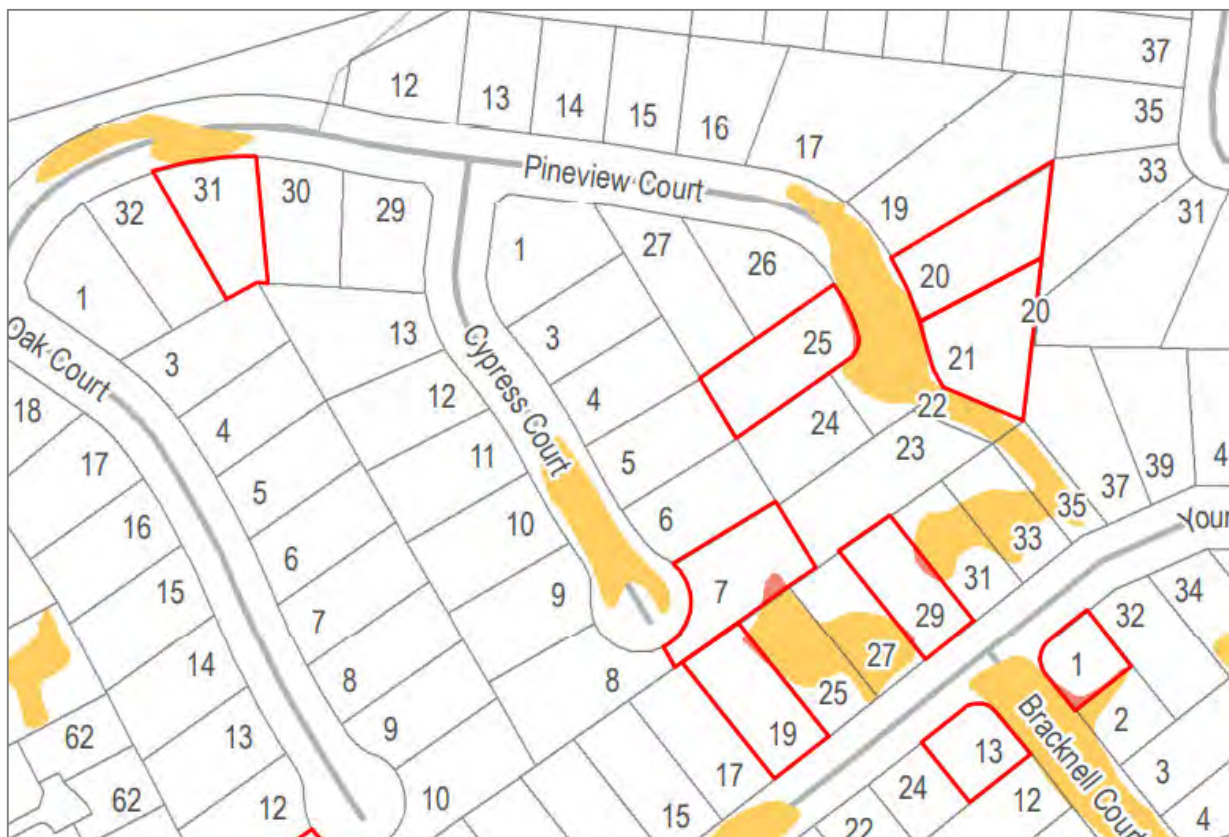


Figure 3 Examples of properties with small areas of SBO which encroach the property boundary

5.1 Options Identified

As part of the review process, Council in discussion with Water Technology assessed several options to further filter the current SBO to remove the SBO from properties that were only marginally impacted and where a flood risk is not considered significant.

- Removal of SBO based on area of SBO within single property (i.e. less than 25m², 50 m², 100m²)



- Assessing the percentage of area of SBO within size (i.e. SBO makes up less than 5%, 10% of total property size)
- Increasing the depth tolerance (i.e. remove depths less than 5cm)
- Increasing 'puddle size' (i.e. remove puddles less than 500m²)

Discussions with Council staff noted the limitations and constraints with each of these options as well as the limitations in reviewing each property on a case by case basis. The SBO and overall planning controls aim to act as a trigger to ensure that future development/works identify and recognise flood risk within the urban context. Each of the above four options were assessed and notes for each assessment are provided in Table 5-1.

Table 5-1 Options identified to remove properties without significant flood risk

Option	Limitations
Removal of SBO based on area of SBO within property	Defining area can be difficult, smaller slithers of SBO can be missed along property boundary depending on lot layout/configuration
Assessing the percentage of area of SBO within property	Large properties may end up with significant puddles (i.e > 200m ²) as the proportion of the lot inundated does not correlate to flood risk.
Increasing the depth tolerance	The depth tolerance adopted is often dependant on the overall topography of the area. Lara being relatively flat results in often wide but shallow paths. The 30mm cut-off depth appears to provide a suitable representation of overland flow paths as well as the potential for ponding areas. Increasing this to 50mm would potentially remove significant flow paths.
Increasing 'puddle size'	The 200m ² puddle size was accepted as a suitable area that which the puddle exceeds this size it becomes an significant flood risk size. Discussions during the Lara Flood Study and more recently identified the 200m ² puddle size would have a significant impact on a typical lot size (400-600m ²). Increasing the puddle size could potentially remove a significant low lying portion of a property.

5.2 Recommended Outcome

Following a review of each method, it appears that the removal of SBO based on area of SBO within a property is able to provide a consistent approach that removes the SBO which only slightly encroaches onto a property. There is not currently a consistent approach across the state and often LGAs undertake this process on a case by case basis. The proposed approach aims to provide a consistent method that ensures any works are triggered where there is sufficient flood risk and that efficiencies are met in not providing unnecessary referrals discussed earlier with properties that contain only SBO along boundaries.

25m² 50 m² and 100 m² thresholds were all assessed. The 50 m² threshold appeared to be the most suitable from a visual perspective and a practical application. If the area was increased to 100 m², there were a number of properties that appear to have a flood risk which should be identified under the SBO (encroaches further into the property where works/development may occur) which were removed. The 25 m² threshold was able to remove some properties, however still left a significant number of properties which had only a small incursion of the proposed SBO extent.

The 50m² threshold removed 755 (around 20%) properties that had minor coverage of SBO on the property and was identified as the recommended method to remove from the SBO.



6 SUMMARY

The SBO identifies land that may be subject to flooding when heavy rains cause the capacity of the underground drainage system to be exceeded and overflow. The SBO and other overlays currently apply to many properties across the municipality that have been informed by previous flood mapping projects. This amendment seeks to extend the coverage to additional areas that have been identified in the Lara flood study.

It is noted that there is not a standard approach across the state with LGAs and referral authorities (Melbourne Water and Catchment Management Authorities) adopting various methods including visual inspection on a case by case approach. Following a review of several methods discussed earlier, it appears that the removal of SBO based on area of SBO within a property is able to provide a consistent approach for removing SBO from properties where it does not pose an overall flood risk as outlined by the purpose of the SBO in planning scheme.

The method proposed to reduce the number of properties to have an SBO applied is based on a standard methodology to initially identify flood risk and then apply a consistent method to remove properties that have only a minor incursion of the identified SBO flood risk.

The removal of SBO based on an area of less than 50m² on a single property is still able to identify flood risk yet does not apply overburden of the overlay on properties where the flood risk is not present. Based on this application, 755 properties will no longer be affected. This reduces the number of properties from 3636 down to 2881, a reduction of 20.75%.