

Attachment 1 to Item 11.1.3

Note: This attachment was amended on 23 January 2015 following a request to exclude confidential information. As the Town of Port Hedland was a third party in this process and was never advised that part of the information provided was not to be released, the Town of Port Hedland will not accept any responsibility for any damaged caused by the release of this information.



INFRASTRUCTURE CAPACITY
REPORT

**PART OF RESERVE 8214,
PORT HEDLAND**

Porter



INFRASTRUCTURE CAPACITY
REPORT

**PART OF RESERVE 8214,
PORT HEDLAND**

Report Prepared For:

Town of Port Hedland

Report Prepared By:

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Job No: 14-06-086

Date: 14/01/2015

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1.0 INTRODUCTION

Porter Consulting Engineers (PCE) was commissioned by the Town of Port Hedland to investigate the capacity of the existing services infrastructure available to the proposed Scheme Amendment and eventual development of a portion of Reserve 8214 Port Hedland, Turf Club, (the Site).

The Town of Port Hedland intend to rezone the Site from 'Parks and Recreation' to 'Mixed Business'. The site is part of the Spinifex Hill Commercial / Community Precinct as outlined within the Town of Port Hedland Town Planning Scheme No 5.

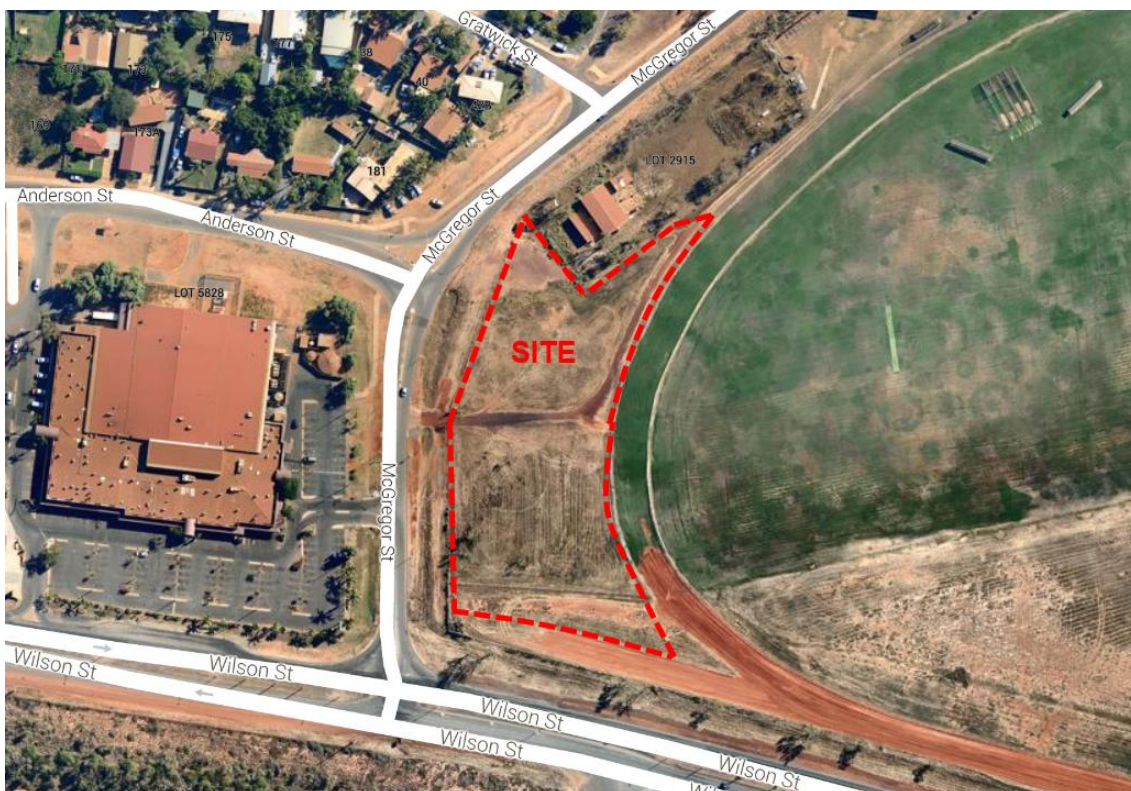
A copy of the current Town of Port Hedland Scheme, Airey Point Port Hedland Locality, is located within **Appendix A**.

2.0 EXISTING SITE

The Site is located within the local authority of the Town of Port Hedland and is bounded by McGregor Street to the north and west, Town of Port Hedland Racecourse to the east and Wilson Street to the south. The site is approximately 1 hectare.

There is the Port Hedland Boulevard Shopping Centre directly west of the site on the western side of McGregor Street.

Currently the site is vacant land, as shown below.



3.0 SITE INFRASTRUCTURE

3.1 Drainage & Earthworks

The Site is generally flat with an average relative level of 4m above sea level. Stormwater currently falls towards McGregor Street. A spoon drain runs south along the eastern side of McGregor Street and conveys stormwater south to Wilson Street. Wilson Street has an existing swale drain along the north side which conveys stormwater east. Wilson Street swale drain connects to Pretty Pool and eventually into the Indian Ocean.

Drainage from the Site will need to be managed through a combination of the overland flow path and a stormwater pit and pipe system. The Town of Port Hedland has no specific requirements for stormwater. However, the Town commissioned GHD Pty Ltd to complete a South Hedland flood study which the Town is still to endorse. This flood study refers to the following two conditions:

- 1 year ARI events should be retained on site through pit and pipe or storage basin if required.
- Storm events above the 1 year up to the 1 in 100 year ARI events should be conveyed via overland flow towards the Local Authority stormwater drainage system.

It is recommended that the site is earthworked to ensure overland flows are directed towards the McGregor Street swale drain and Wilson Street swale drain. Drainage design of the proposed development should include an assessment of the McGregor Street and Wilson Street swale drains to ensure that they are adequate to handle the additional flows generated from the proposed development. Otherwise, if considered inadequate the drains capacity will need to be upgraded to convey the new stormwater flows.

Cardno WA Pty Ltd was commissioned by Landcorp to undertake a Coastal Vulnerability Study of the Town of Port Hedland Region, in 2011. Results of this study showed that the East Port Hedland area (including Reserve 8214, Port Hedland) will be flooded during the 500 year storm event to a level of 5.76m AHD. This would equate to approximately 1.75m above the natural surface level.

Water Corporation has set a requirement for the site to be filled to a level of 6.4m AHD. Water Corporation has made their decision based on a selection of reference reports. Water Corporation correspondence is located within **Appendix B**.

Filling of the site is required as per the Coastal Vulnerability Study (Cardno 2011) and the requirements of the Water Corporation. The final fill levels and Finished Floor Levels will need to be determined at detailed design stage. It is likely that the site will need to be filled by 2.4m in accordance with Water Corporation requirements.

3.2 Roads

The Site has one adjacent local road, McGregor Street, with direct connection to the greater road network. In the vicinity of the proposed development, McGregor Street has the following properties:

- Is a single carriageway, in both direction and linemarked;
- Approximately 10m wide asphalt seal;
- Approximate 40m wide road reserve;
- Semi mountable kerbing on both sides; and
- Street Lighting along the eastern side.

McGregor Street has significant volumes of heavy vehicles that enter from Wilson Street. Therefore, access to the Site would likely be only available at two locations being:

- Midway between the Port Hedland Boulevard Shopping Centre access off McGregor Street and Anderson Street; and
- Northern most point of the development site onto McGregor Street (furtherest point north from Anderson Street).

It is recommended that a Traffic Impact Assessment is completed for the proposed development, once the development elements are known.

3.3 Water

There currently existing the following water infrastructure within the vicinity of the proposed development:

- 250mm diameter Asbestos Cement (AC) reticulation main along the south side of McGregor Street.
- 200mm diameter AC reticulation main along the north side of McGregor Street.
- Decommissioned 375mm diameter AC distribution main along the south side of Wilson Street.

The Water Corporation North West asset team cannot confirm the current water capacity for the site at present. Water Corporation requires a detailed review of the service before confirming any capacities and cannot confirm when this review can occur.

Considering the size of the water infrastructure adjacent to the site, it is likely that there would be sufficient capacity and water mains would not need to be upgraded to service the site as part of the development. There is no advice that there are existing water supply issues and the development Site is included within Water Corporation future planning. Therefore, it is assumed no upgrades are required for the development. However, this can only be known for certain following the Water Corporation capacity review.

Water Corporation correspondence is located within **Appendix B** and water services shown in

Appendix D.

3.4 Sewer

There currently existing the following sewer infrastructure in the vicinity of the site:

- 200mm diameter, Unplasticised Polyvinyl Chloride (PVC-U), pressure main runs through the southern portion of the site. This pressure main run from the existing SPS 10 Anderson Pumps Station on the southern side of McGregor Street. The pressure main extends east to the Town of Port Hedland Waste Treatment Evaporation Ponds.
- 2 x 80mm diameter PVC-U pressure mains that run along the southern side of McGregor Street.
- 150mm diameter PVC-U local gravity reticulation mains that runs along the northern side of McGregor Street. This sewer main runs through to the Anderson Pump Station. Possible site sewer connection point exists at an existing pit on the northern side of McGregor Street. This connection point would require a downstream invert level of 2.86m and is approximately 50m from the site.
- 225mm diameter, PVC-U, local gravity reticulation mains that runs along the southern side of McGregor Street. This sewer main runs through to the Anderson Pump Station. Possible site sewer connection point exists at an existing pit on the southern side of McGregor Street. This connection point would require a downstream invert level of 0.9m and is approximately 75m from site.
- Anderson Street Wastewater Pump Station PS10 is located on the southern side of Anderson Street.

Water Corporation has provided sewer planning for the ‘East Port Hedland’ development area, which includes the Site. This sewer planning shows gravity reticulation mains running from the eastern side of Reserve 8214 Port Hedland to the western side, discharging into the pump station at Anderson Street. This planning implies that Water Corporation expect the site to connect to the Anderson Street Pump Station. Water Corporation future planning shows the Anderson Street Pump Station been upgraded. This future planning is not part of the Water Corporation Capital Works programme. Therefore, the upgrade of Anderson Street Pump Station is unlikely to occur within the next 5 years. It is unlikely that the upgrade of the Anderson Street Pump Station will be required due to the proposed development of the Site.

Water Corporation correspondence is located within **Appendix B** and sewer services shown in **Appendix D**.

3.5 Power

Horizon Power is the current service authority which provides power within Port Hedland. Horizon Power has the following infrastructure in the area:

- High Voltage (HV) underground power lines on the western side of McGregor Street.
- Low Voltage (LV) underground power lines on the eastern side of McGregor Street.

Horizon Power has been contacted regarding this development. Horizon Power has confirmed that the sites feeders / circuits in the vicinity have not reached critical values with no overloading identified as yet. Horizon Power has estimated typical power requirements of the proposed development at 200KV_a. It is not expect that significant infrastructure upgrades will be required.

Horizon Power correspondence is located within **Appendix C** and power services shown in **Appendix D**.

3.6 Telecommunication

There is existing Telstra infrastructure to the north of the site which service existing residential properties.

The closest telecommunication exchange to the Site is located at 2 Condon Street, Port Hedland. As this exchange is relatively close, and there is existing infrastructure in the vicinity, it is expected that telecommunication service providers will be able to service the proposed development.

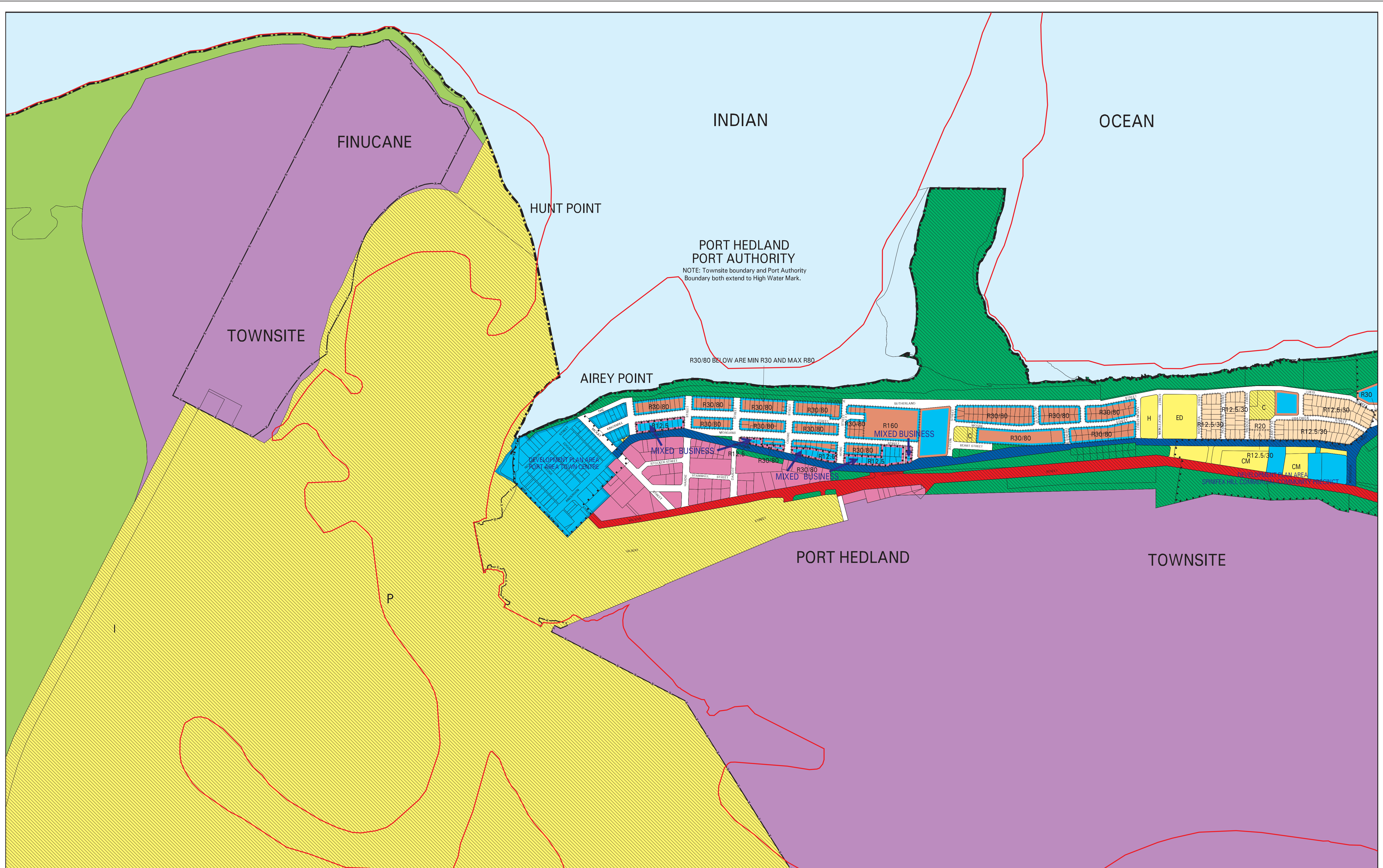
Telstra services are shown in **Appendix D**.

4.0 CONCLUSION

The following capacity information was identified as part of this Infrastructure Capacity Report:

- Water; Water Corporation is not is a position to provide service capacity at this time. However, considering the water infrastructure adjacent to the site, it is unlikely that the Water Corporation will require water services to be upgraded to the site as part of the development
- Sewer; Water Corporation is not in a position to provide service information at this time. Water Corporation future planning shows the site connecting to the Anderson Street Pump Station. Therefore, it is expected that there is capacity available.
- Drainage; Filling of the site is required as per the Coastal Vulnerability Study (Cardno 2011) and the requirements of the Water Corporation. The final fill levels and Finished Floor Levels will need to be determined at detailed design stage. It is likely that the site will need to be filled by 2.4m in accordance with Water Corporation requirements.
- Power; Horizon Power has been contacted regarding this development. Horizon Power has confirmed that the sites feeders / circuits in the vicinity have not reached critical values with no overloading identified as yet. Horizon Power has estimated typical power requirements of the proposed development at 200KV_a. It is not expect that significant infrastructure upgrades will be required.
- Telecommunications; are not anticipated to be an issue.

APPENDIX A
Town Planning Scheme




Produced by Mapping and GeoSpatial Data Branch,
Department of Planning.

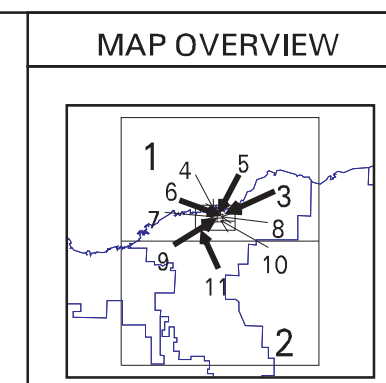
Whilst all care has been taken to accurately portray the current Scheme provisions, no responsibility shall be taken for any omissions or errors in this documentation.

Consultation with the respective Local Government should be made to view a legal version of the Scheme. Please advise the Department of Planning of any omissions or errors in the document.

Base Information Supplied by the Western Australian Land Information Authority, GL248-2007-2

town OF PORT HEDLAND
TOWN PLANNING SCHEME NO 5
 (DISTRICT SCHEME)


 SCALE 1:15000
 0 250 m



Authorised: Victor Chew
 Plot date: 29 Jan 2014
 G.Gazette: 31-August-2001

APPENDIX B
Water Corporation Correspondence

Stuart Murphy

From: Mark Willson <Mark.Willson@watercorporation.com.au>
Sent: Monday, 21 July 2014 2:49 PM
To: 'Stuart Murphy'
Subject: RE: please provide attachment

Stuart,

Please find the advice below. Will provide further details from the north west asset team when they are available.

Lot 550, 000 Hedditch Street , South Hedland – Proposed Rezoning of South Hedland Bowls and Tennis Club - High Level Report for Town of PH

The north west asset team cannot confirm the current capacity at present, and will advise when a review can be completed. The recent and current projects should provide sufficient capacity to serve the proposed rezoning.

Lot 000, 000 portion of Reserve 8214 – Proposed Rezoning of Port Hedland Turf Club, , Port Hedland - High Level Report for Town of PH

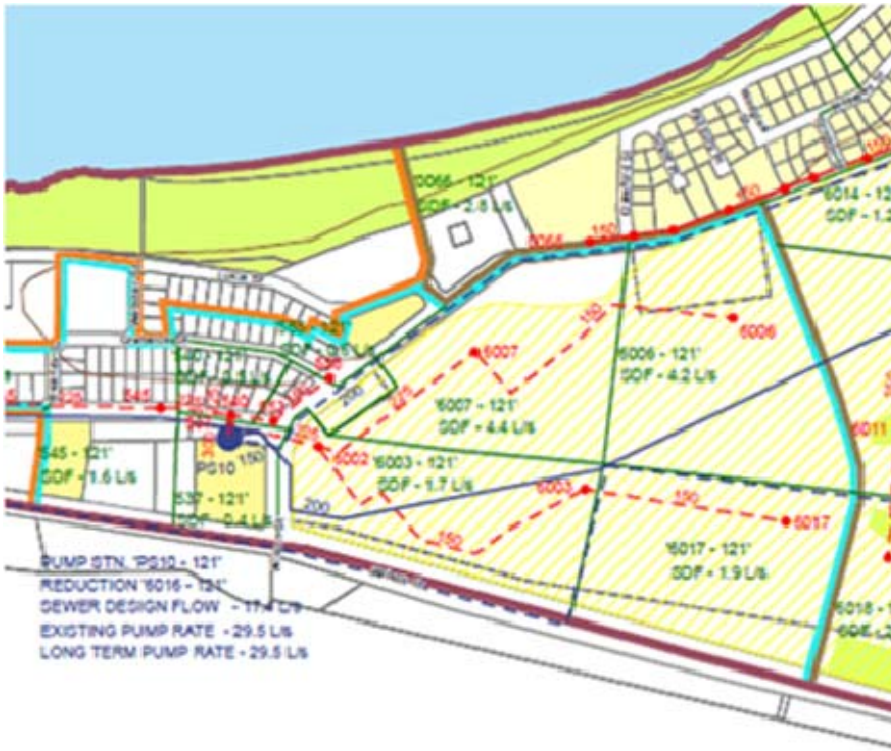
The north west asset team cannot confirm the current capacity at present, and will advise when a review can be completed.

Wastewater

The area is required to be filled to 6.4m in order to be served by gravity, as per the current planning. The height has been determined from advice provided in flood studies. An alternative may be to serve with a private pump station, and should the area flood the pump station is able to switches off and to avoid pumping flood water into the corporations system.

There is a PM running through part of the proposed site which will require consideration and protection or relocation.

Note: This attachment was amended on 23 January 2015 following a request to exclude confidential information. As the Town of Port Hedland was a third party in this process and was never advised that part of the information provided was not to be released, the Town of Port Hedland will not accept any responsibility for any damaged caused by the release of this information.



Regards

Mark

Mark Willson
 Development Planner
 Development Services
Water Corporation

T: (08) 9923 4910 | **F:** (08) 9923 4966
www.watercorporation.com.au



From: Stuart Murphy [mailto:stuart@portereng.com.au]
Sent: Thursday, 10 July 2014 11:39 AM
To: Mark Willson
Subject: RE: please provide attachment

Mark,

Thanks for talking to me about Lot 550 Heditch and the Turf Club.

Just to make sure you are 100% on what I'm doing (P.S would like a box to right this in on your online form). The Town of Port Hedland are rezoning both sites as shown to Mixed Business as described under their Town Planning Scheme. My investigations are very high level to identify earthworks issues, sewer capacity issues and water supply issues with the sites.

Give me a call anytime.

Regards

APPENDIX C
Horizon Power Correspondence

Stuart Murphy

From: Noel Moyo <noel.moyo@horizonpower.com.au>
Sent: Thursday, 10 July 2014 6:32 PM
To: Stuart Murphy
Subject: Re: Lot 550 Hedditch Street, South Hedland & Reserve 8214, Port Hedland

Stuart,

Are you able to provide indicative load requirements - if I use the 200KVA/ha will not provide good indication. Using this will mean both sites' loading requirements would be 200KVA(or 278A, 3 phase)

Suffices for me to say that for both sites feeders/circuits in the vicinity have not reached alarming values(no overloading) - happy to discuss

Regards,

Noel Moyo

Network Asset Manager - East Pilbara
Horizon Power, 18 Anderson Street , Port Hedland WA , WA, 6721, Australia, Australia

phone: (08) 9173 8205 | **mobile:** 0409 680 759 | **fax:** (08) 9173 2339 | **email:** noel.moyo@horizonpower.com.au

From: "Stuart Murphy" <stuart@portereng.com.au>
To: "Noel Moyo" <noel.moyo@horizonpower.com.au>,
Date: 07/07/2014 10:43 AM
Subject: Lot 550 Hedditch Street, South Hedland & Reserve 8214, Port Hedland

Hi Noel,

The Town of Port Hedland is looking at two more developments and asked Porters to investigate the capacity of the existing services.

- Site 1 - Lot 550 Hedditch Street, South Hedland – 8,293m² Mixed Business
- Site 2 - Reserve 8214, Port Hedland – 11,000m² Mixed Business

Can you please let me know how the existing infrastructure is coping in these areas. Anything you can do at a desktop level would be very much appreciated. Again we only know that the sites are proposed to change land use to Mixed Business.

Regards

Stuart Murphy Civil/Traffic Engineer	
Porter Consulting Engineers 58 Kishorn Road Mt Pleasant WA 6153 PO Box 1036 Canning Bridge WA 6153 T: (08) 9315 9955 M: 0430 328 760	
website vCard map email	

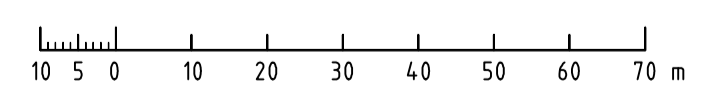
[attachment "Reserve 8214 Port Hedland Turf Club.pdf" deleted by Noel Moyo/BEN/Horizon_Power] [attachment "Lot 550 Hedditch St-Layout2-ISO A3.pdf" deleted by Noel Moyo/BEN/Horizon_Power]

APPENDIX D
Services



LEGEND

	EXISTING GROUND CONTOUR
	EXISTING SEWER PIPE
	EXISTING SEWER PRESSURE MAIN PIPE
	EXISTING TELSTRA CABLE
	EXISTING WATER MAIN
	EXISTING POWER LINE
	EXISTING POWER LINE
	EXISTING HIGH VOLTAGE POWER LINE



SCALE 1:1000

PROJECT: **PORT HEDLAND TURF CLUB
PORT HEDLAND**

15-7-2014	ISSUED FOR INFORMATION	MEG
No.	DATE	REVISION

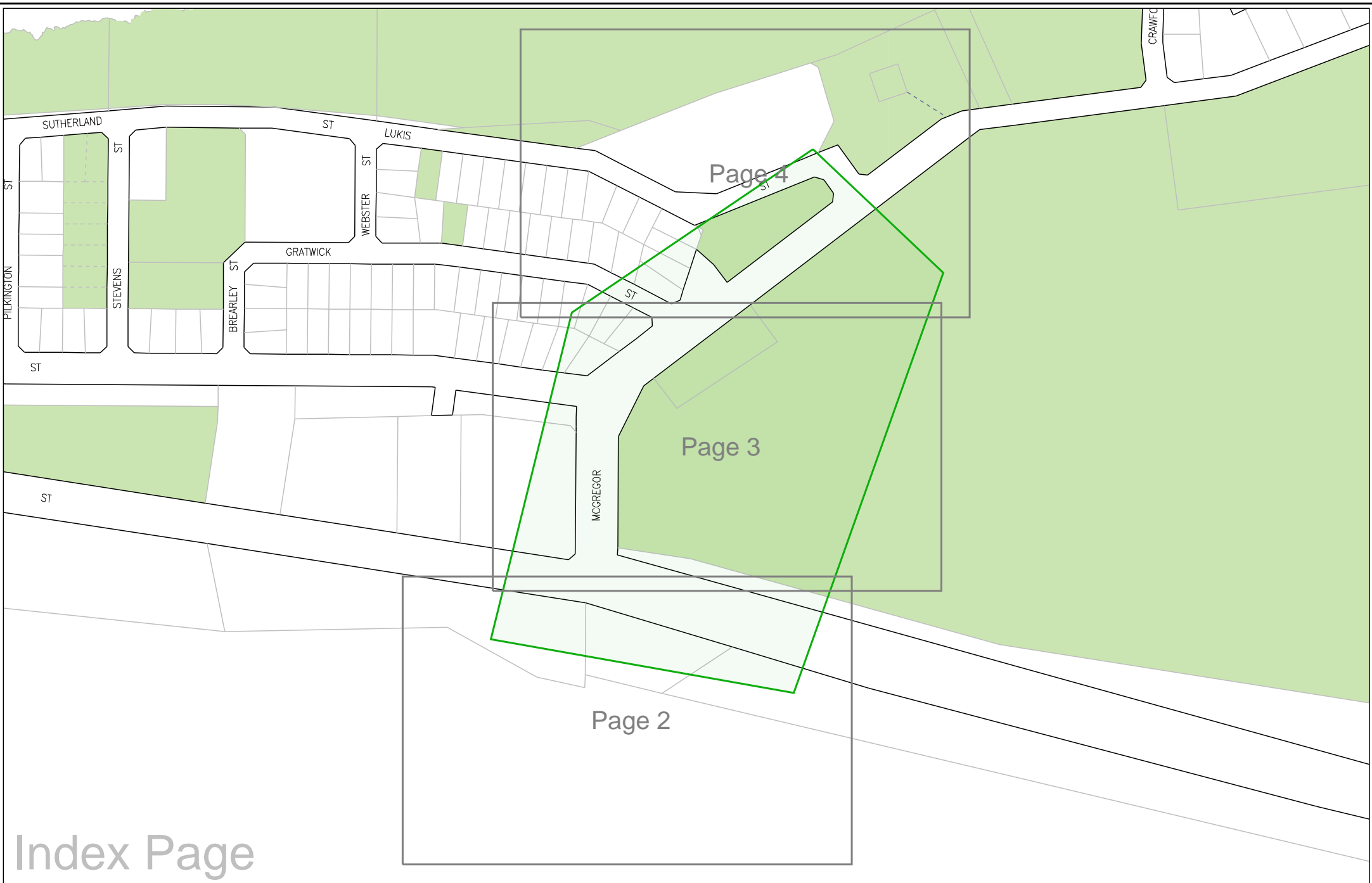
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125860 Pty Ltd ACN 620 897 348 is a trustee for The Consulting Engineering Unit Trust trading as Porter Consulting Engineers 488 78 626 796 385

CLIENT: **TOWN OF PORT HEDLAND**

DRAWING: **EXISTING SERVICES PLAN**
 STATUS: **FOR INFORMATION**

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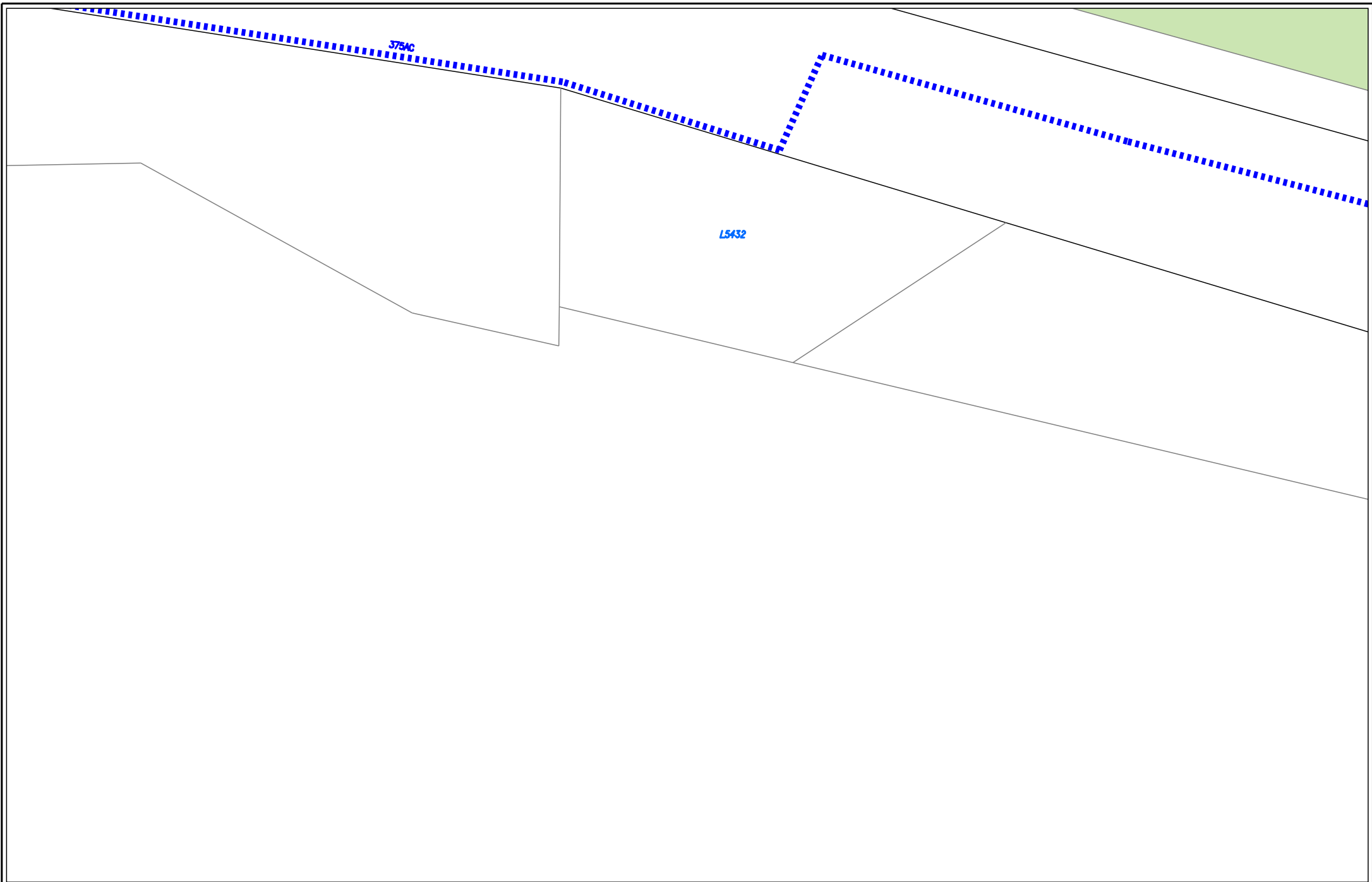


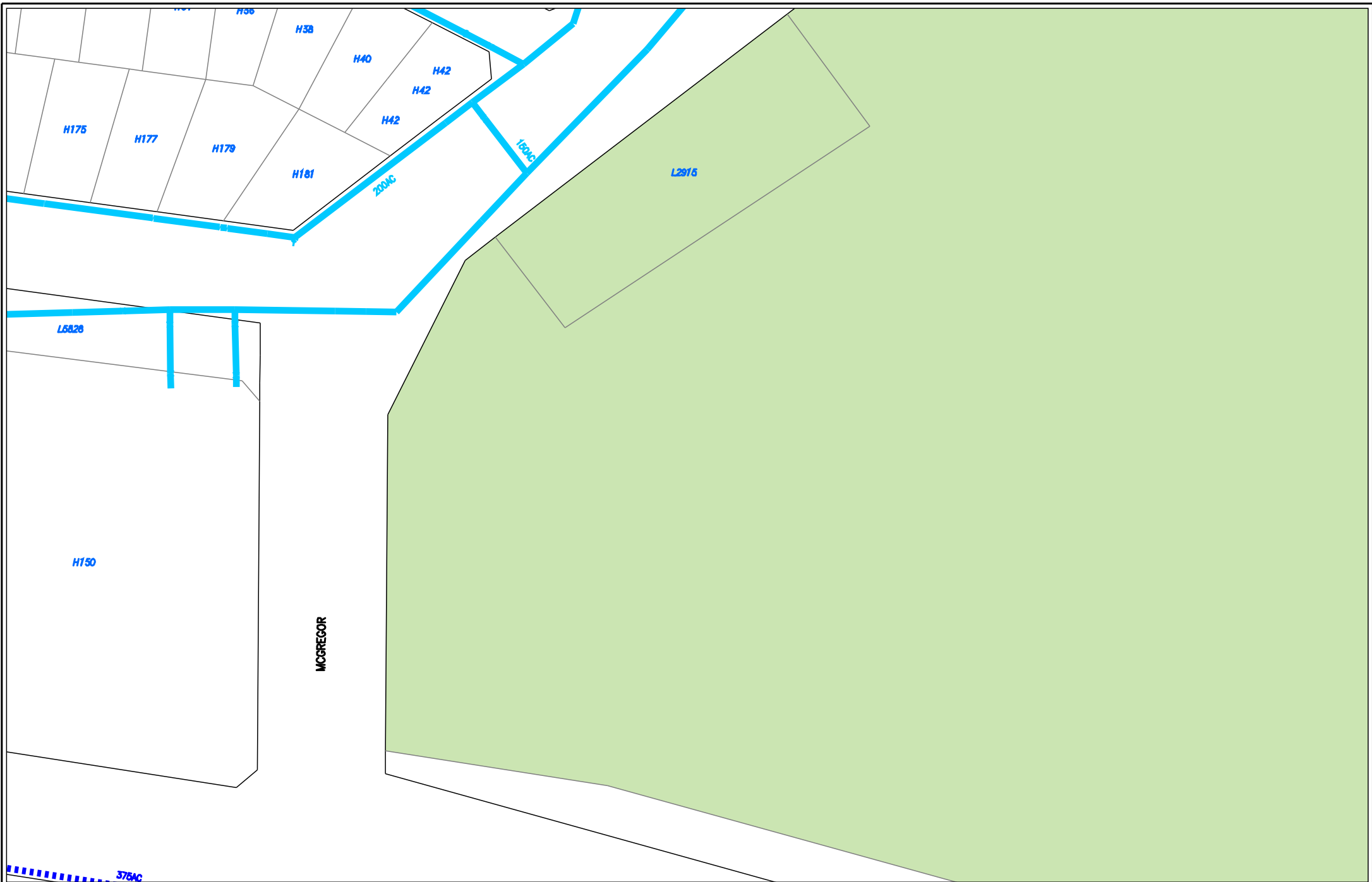
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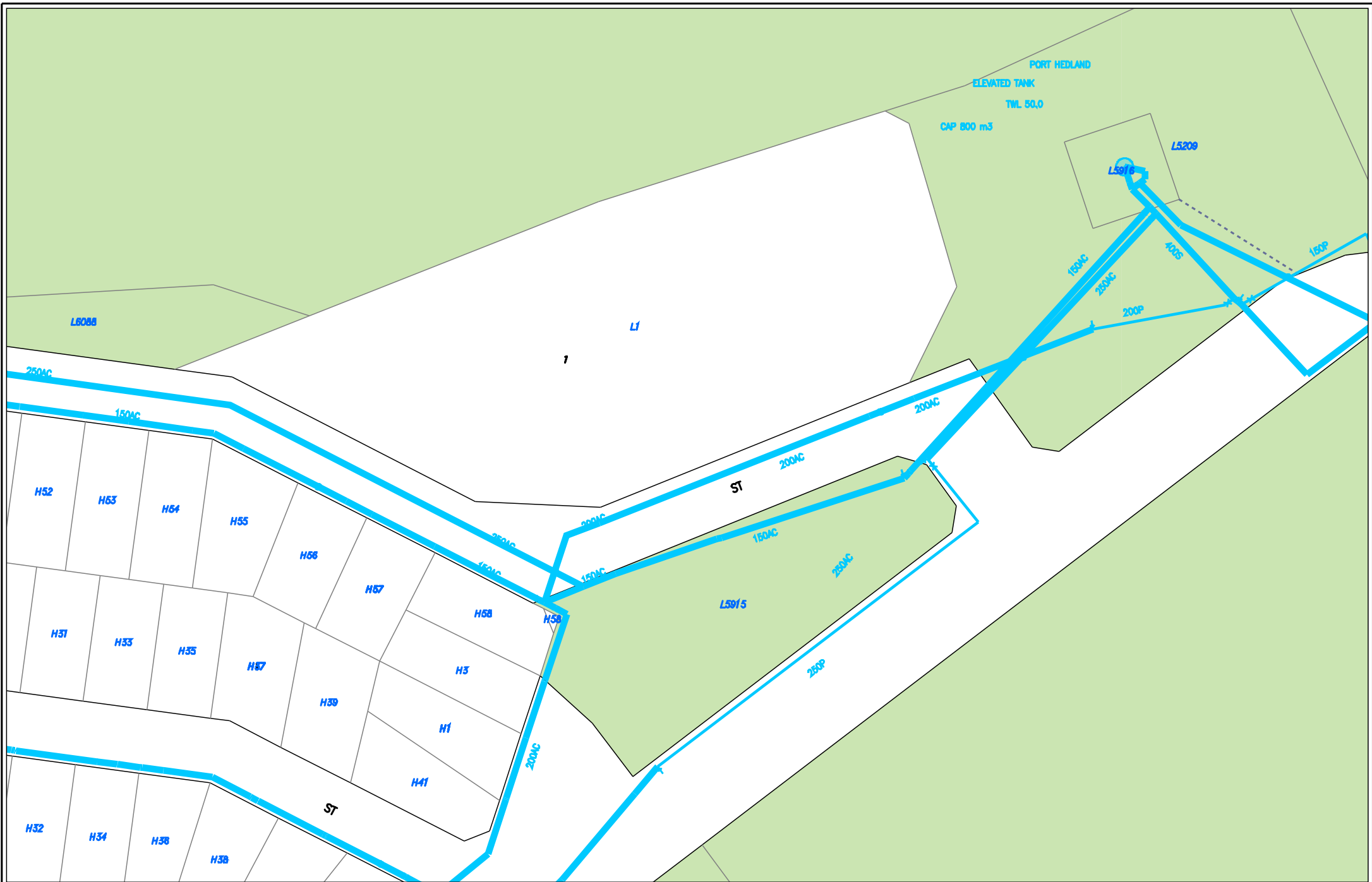


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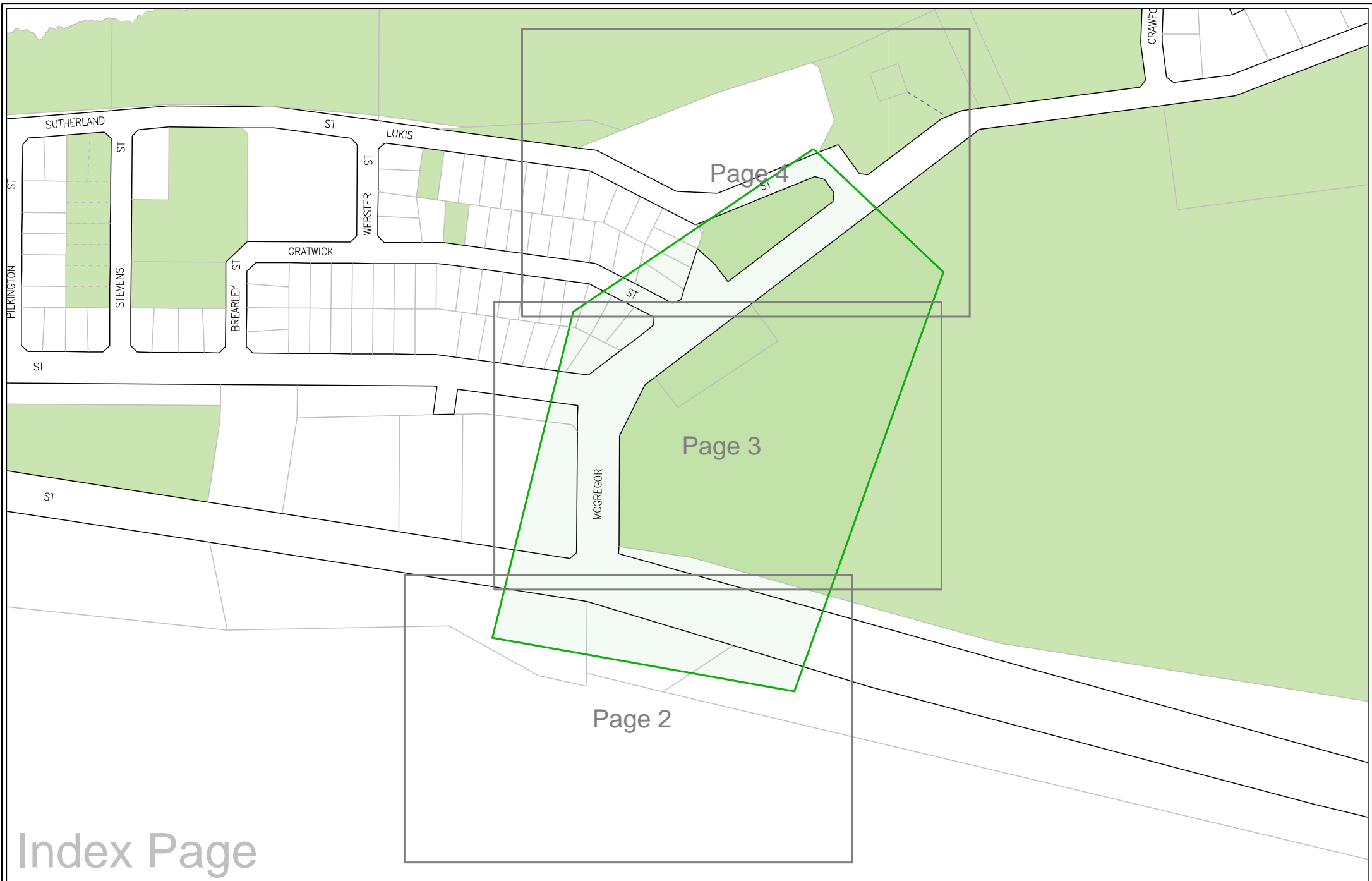


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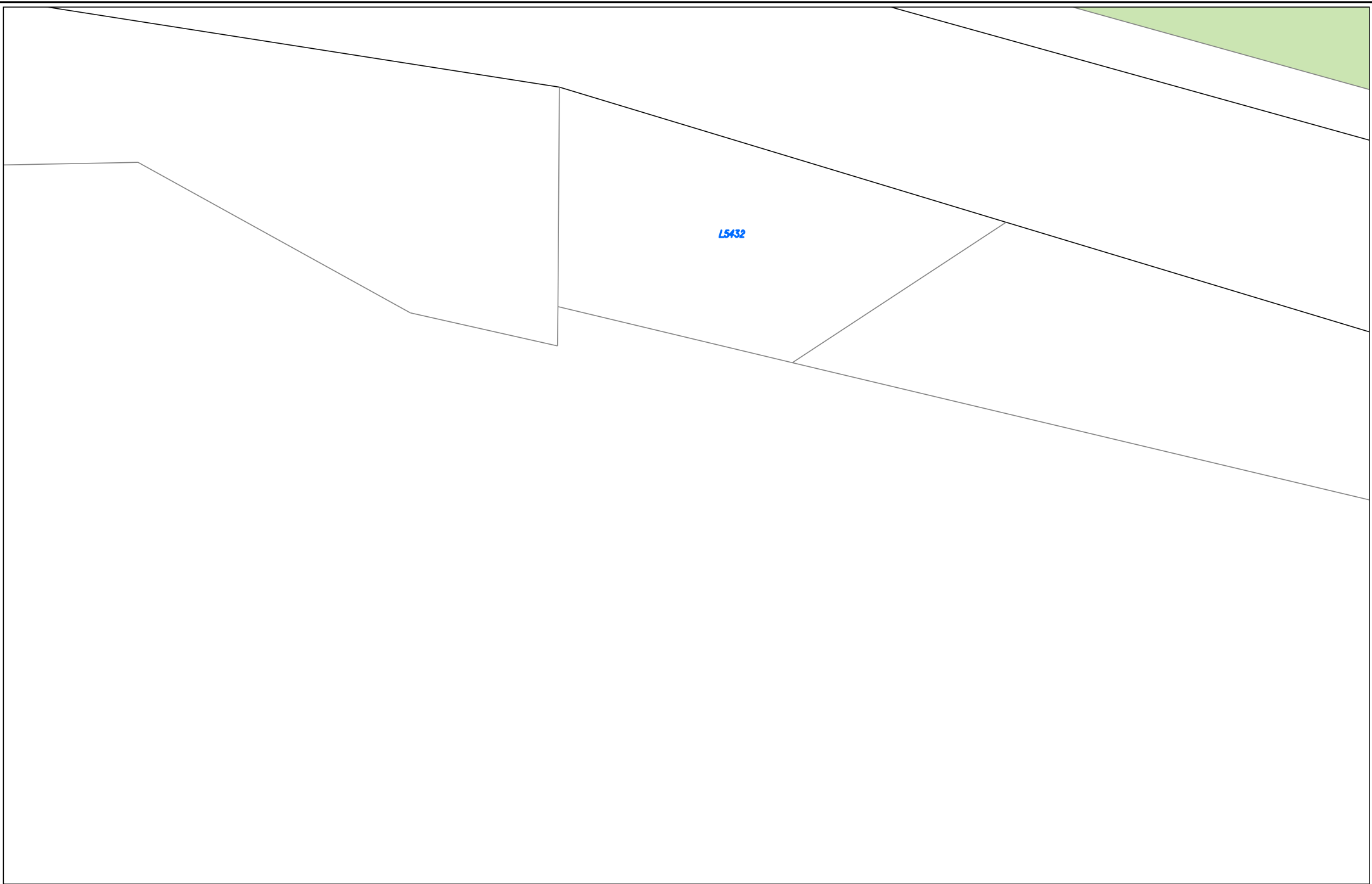


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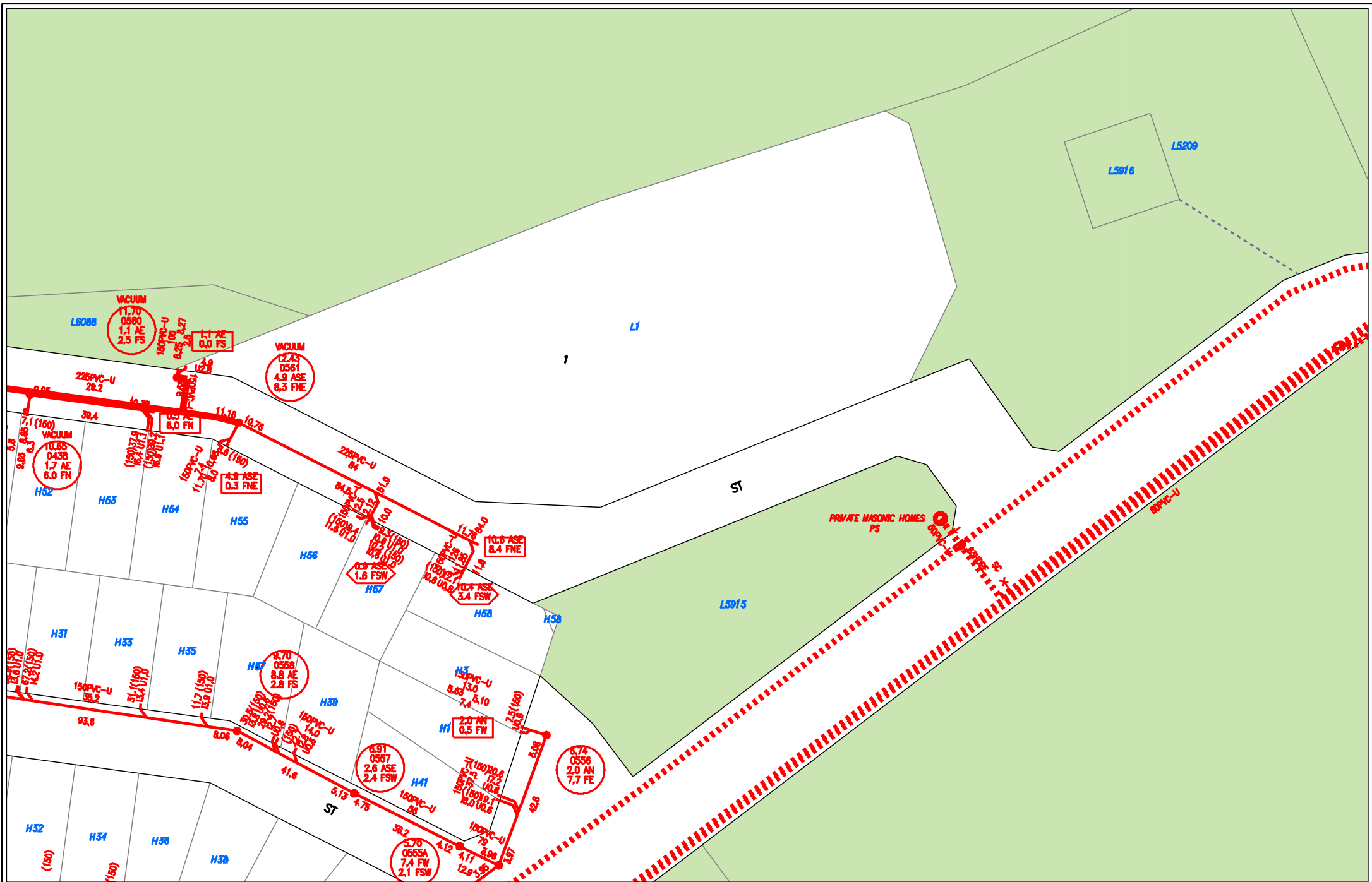
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