Henry Lawson Drive Upgrade Stage 1A

Preliminary Site Investigation

Transport for New South Wales

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Executive summary

Aurecon Australasia Pty Ltd (Aurecon) was engaged by Transport for New South Wales (Transport) to prepare this Preliminary Site Investigation (PSI) to support the environmental and planning requirements for the Henry Lawson Drive Stage 1A Upgrade works. A total of 1.3 kilometres (km) of Henry Lawson Drive will be upgraded between Tower Road and Keys Parade and an additional 480 m along Milperra Road to the Newbridge Road Georges River Bridge tie in (the site).

The proposal spans approximately 1.3 km of Henry Lawson Drive from Tower Road to Keys Parade in Milperra, 22 km south-west of the Sydney central business district (CBD). The investigation area also encompasses an additional 480 m along Milperra Road and the Newbridge Road Georges River bridge tie in, south of the Bankstown Airport.

This Preliminary Site Investigation (PSI) has been prepared to assess the existing risk and potential land contamination impacts within and near the proposal footprint. It will support a Review of Environmental Factors (REF) being prepared by Transport under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and an Environmental Impact Statement (EIS) being prepared under Division 4.1 of the EP&A Act.

The REF has been prepared for the majority of the proposal area, where Transport can approve works under the State Environmental Planning Policy (Infrastructure) 2008 (referred to as the 'REF proposal'). However, as part of the proposal is located within areas mapped as coastal wetlands under the State Environmental Planning Policy (Coastal Management) 2018, this part of the proposal is deemed designated development and is subject to an EIS. The work within mapped coastal wetlands is referred to as the 'EIS proposal'.

The objectives of the PSI are to:

- Identify the potential for past or present activities to have impacted the subsurface at the site and the immediate surroundings to identify Areas of Potential Environmental Concern (APECs)
- Develop a preliminary Conceptual Site Model (CSM) to provide a preliminary, qualitative assessment of the potential risks to human health and the environment at identified APECs (if any) assuming an ongoing land use as a road corridor and considering nearby land uses
- Identify relevant management and mitigation measures to address potential risks to human health and the environment including a recommendation for any additional investigation/s that may be required
- Fulfil one requirement to address the Secretary's Environmental Assessment Requirements (SEARs) in relation to assessing the potential risks from potential soil and groundwater impacts

Based on the desktop information reviewed, available previous reports and information obtained, the conclusions are summarised in Table ES-1 which includes the relevance to the REF Proposal and/or the EIS Proposal.

Table ES-1 Conclusions for the REF proposal and EIS proposal areas

Conclusion	Relevant to REF Proposal (Y/N)	Relevant to EIS Proposal (Y/N)
Site Physical Setting and History		
Henry Lawson Drive and Milperra Road were constructed sometime between 1951 and 1961 and have remained road corridors since. The identified coastal wetlands appear not to be disturbed over time. The Bankstown Airport, located the north east of the proposal alignment, was constructed during WW2 and has remained an airport since that time. The surrounding land use has been increasingly developed with a mixture of low density residential and light industrial/commercial. The Georges River is located directly east of the proposal area.	Y	Y
The proposal area lies in a flat floodplain area for the nearby Georges River and is underlain with poorly drained and low permeability soils. Several drainage channels carrying runoff underneath Henry Lawson Drive were identified during the site inspection to drain directly toward the Georges River.	Y	Y

Conclusion	Relevant to REF Proposal (Y/N)	Relevant to EIS Proposal (Y/N)
During previous environmental investigations 20 soil samples were selected for laboratory analysis from one borehole and six test pits along Henry Lawson Drive and Milperra Road. Preliminarily screening of the analytical results against relevant criteria in the *National Environment Protection Measure (NEPM), amended 2013* and *PFAS National Environmental Management Plan (PFAS NEMP) i*ndicates concentrations were below human health screening criteria.	Y	N
Areas of Potential Environmental Concern (APEC)		
A former landfill abuts the proposal area to the south where the Flower Power Garden Centre is now located. Previous investigations indicated elevated COPC concentrations in soil and groundwater as well as elevated methane and LFG concentrations (Geologix, 2012). In 2012, Council required a RAP be prepared and implemented to render the site suitable for the intended land use as the Flower Power. Council also required a SAS and SAR be prepared to verify that the remediation and validation works were completed in accordance with the applicable guidelines and legislation. Aurecon could not locate documentation on the extent of remediation or any validation works conducted after 2012. However, the Flower Power has since been constructed so it is reasonable to assume that remediation and validation was completed.	Y	N
An operational petrol station is located along the commercial shopping strip at the intersection of Milperra Road and Henry Lawson Drive.	Y	EIS Area 1 only
Bankstown Airport is located to the north east of the proposal alignment and historical practices could have impacted the soil, groundwater and surface water across the site. The airport is currently listed as a potential Per and Poly-Fluoroalkyl Substances (PFAS) source area by the NW Environment Protection Authority. Additionally, the Bankstown Airport is also listed on the Defence unexploded ordinance (UXO) database and unexploded ammunition and other associated risks may be present within the airport and surrounding areas.	Y	EIS Area 1 only
Onsite fill materials observed during Aurecon's site inspection were noted to contain evidence of car oils and fuels from spills and car accidents along the road shoulder.	Y	Y
A portion of the proposal area is in an area of high risk for encountering acid sulphate soils. These areas are in the south west near Auld Avenue, and the north west portion of the REF proposal and in EIS proposal Area 1. The risk of encountering ASS/PASS in these areas is from soils from 2-4m are disturbed.	Y	EIS Area 1 only
Conceptual Site Model (Source – Pathway Receptor Linkages)		
The Chemicals of Potential Concern (COPCs) associated with the APECs identified above include: Total Petroleum Hydrocarbons (TPH), benzene, toluene, ethylbenzene, total xylenes, naphthalene (BTEXN), polycyclic aromatic hydrocarbons (PAHs), heavy metals, polychlorinated biphenyls (PCBs), organochlorine and organophosphorus pesticides (OCPs/OPPs), PFAS, asbestos and ASS/PASS. Note that not all of these COPCs are related to all of the APECs identified above.	Y	Y ASS/PASS in EIS Area 1 only
If COPCs are present, the potential pathways by which they could be mobilised to a receptor include migration from soil through storm, surface or ground water. If impacted soil is disturbed, a human receptor could be directly exposed through dermal contact, inhalation or ingestion.	Y	Y
Under the current site conditions as a road corridor, it is highly unlikely that a human receptor could be exposed to impacted soil or water, if present. During future construction activities, it is possible for workers to have incidental exposure to impacted soil or water if it is present. If impacted soil is mobilised to off-site areas, it is possible that off-site human receptors could be incidentally exposed. There are likely a range of potential ecological receptors in and around the Georges River and potentially in the coastal wetland areas. Surface water and groundwater are also potential receptors of impacted soil or water, if it is present	Y	Y

Conclusion	Relevant to REF Proposal (Y/N)	Relevant to EIS Proposal (Y/N)
Risk Assessment		
It is understood that approximately 184m^3 of spoil material will be produced for the REF proposal. Additional spoil will be produced for installation of the bridge piles for the new bridge duplication over Milperra Drain. However, the pile design details have not yet been finalised and therefore, the volume of spoil produced during their installation is unknown at this time. Groundwater will also likely be encountered during installation of the piles.	Y	N
There is still a risk that impacts from the former landfill at 479 Henry Lawson Drive may still be present at measurable concentrations within or near the proposal area. Impacts from the former landfill could include encountering wastes, COPCs in soil and groundwater, LFG and landfill which could become exposed and mobilised into the environment during construction. Contaminated groundwater may still be present and migrating toward Georges River.	Y	N
It is understood that approximately 0.9m^3 of spoil material will be produced by the EIS proposal	N	Y
The risk of encountering COPCs in soil at concentrations above the Tier I screening values in the REF proposal area is considered low to moderate. Given the small volumes of soil waste anticipated to be produced, any impacted soil can be managed through standard excavation and off-site disposal methods.	Y	N
The risk of encountering COPCs in groundwater at concentrations above the Tier I screening values in the EIS proposal area is considered low. Groundwater management measures have been identified in the separate report, Groundwater Impact Assessment (Aurecon 2021).	Y	Y
Bankstown Airport is listed in the Department of Defence (DoD) UXO database indicating there is a potential for UXO to be in the REF proposal area. Given the development between the Airport and proposal area since WW2, it is unlikely that UXO is present. However, it cannot be completely discounted. Correspondence from the DoD indicates there is a very low likelihood of UXO being encountered and if there are any small ad-hoc disposals are unlikely to be High Explosive in nature. UXOs are not considered to be an issue for the EIS proposal areas.	Y	N
There is a high probability of encountering ASS/PASS in certain areas of the REF and in EIS proposal area 1. However, it is unlikely that soils between 2 and 4m will be disturbed during the proposed construction activities. If ASS/PASS are disturbed, there are standard practices that can be employed to manage the ASS/PASS	Y	EIS Area 1 only

The following environmental management measures are recommended for the overall proposal. Note that these recommendations are applicable to both the REF and EIS proposal areas (unless otherwise noted):

- As part of the detailed design phase of the proposal, a Detailed Site Investigation (DSI) should be undertaken near the APECs showing a moderate risk of COPCs at concentrations above the Tier I screening values The scope of the DSI should be detailed in a Sampling Analysis and Quality Plan (SAQP) which should include collection of soil, groundwater and landfill gas samples near moderate risk APECS. The scope of the DSI should be in accordance with the NEPM 2013 and analytical results compared to the applicable Tier I screening values in Schedule B2 of the NEPM 2013.
- Analytical results from any spoil requiring off-site disposal should be compared to the concentrations in the *NSW EPA Waste Classification Guidelines Parts 1 to 4* and *Addendum 1*. If natural soil is disturbed, it may meet the definition of Excavated Natural Material and the analytical data should be compared to the concentrations and requirements in the ENM Resource Recovery Order and Exemption under the Protection of Environmental Operations (Waste) Act 2000.

- A Construction and Environmental Management Plan (CEMP) should be prepared prior to construction commencing. The risk of potentially impacted soil migrating from site during construction, including dust generation and runoff can be minimised by utilising standard practices such as dust suppression, and erosion and sedimentation control. Other controls should include proper use of work health and safety (WH&S) equipment and monitoring of works where asbestos or other contamination is identified. The CEMP should also include an Unexpected Finds Protocol (UFP).
- If soils between 2 and 4 m are disturbed (within the REF proposal and all EIS proposal areas), an Acid Sulfate Soils Management Plan (ASSMP) should be included in the CEMP. The ASSMP should be informed by the results of the Detailed Site Investigation that would include the identification of presence and extent of ASS/PASS, particularly around the proposed bridge duplication works over Milperra Drain near Auld Avenue.
- Prior to any ground disturbance at investigation locations directly west of Bankstown Airport property boundary, investigation planning will incorporate an appropriate risk assessment to determine the likelihood of the presence of any UXOs and detail any additional management measures if required

Contents

Appendices

Tables

1 Introduction

Transport for New South Wales (Transport) is proposing to upgrade Henry Lawson Drive between Keys Parade, Milperra, to Tower Road, Bankstown (known as the Henry Lawson Drive Upgrade Stage 1A) (the overall proposal). The proposal consists of upgrading a 1.3 kilometre (km) length of Henry Lawson Drive including intersection upgrades and an additional 480 m along Milperra Road to the Newbridge Road Georges River Bridge tie in (the site).

This Preliminary Site Investigation (PSI) has been prepared to assess the existing risk and potential land contamination impacts within the proposal footprint. It will support a Review of Environmental Factors (REF) being prepared by Transport under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and an Environmental Impact Statement (EIS) being prepared under Division 4.1 of the EP&A Act.

The REF has been prepared for the majority of the proposal are, where Transport can approve works under the State Environmental Planning Policy (Infrastructure) 2008 (referred to as the 'REF proposal'). However, as part of the proposal is located within areas mapped as coastal wetlands under the State Environmental Planning Policy (Coastal Management) 2018, part of the proposal is subject to an EIS. The work within mapped coastal wetlands is referred to as the 'EIS proposal'.

This PSI has been prepared to satisfy requirements in the Secretary's Environmental Assessment Requirements (SEARs) number 1438. Due to the proximity to coastal wetlands, potential ground borne contamination sources identified were investigated through desktop searches and a site inspection to evaluate potential impacts to downstream and sensitive environments during construction of the road upgrades. Where potential environmental impacts have been identified, suitable mitigation and management measures were also outlined.

An overview of the site layout and the REF and EIS proposal areas is presented in Figure 1-1.

1.1 Proposal background

The proposal forms the first stage of the progressive upgrade to 7.5 km of Henry Lawson Drive between the intersections of Hume Highway, Villawood, and the M5 South Western Motorway, Milperra.

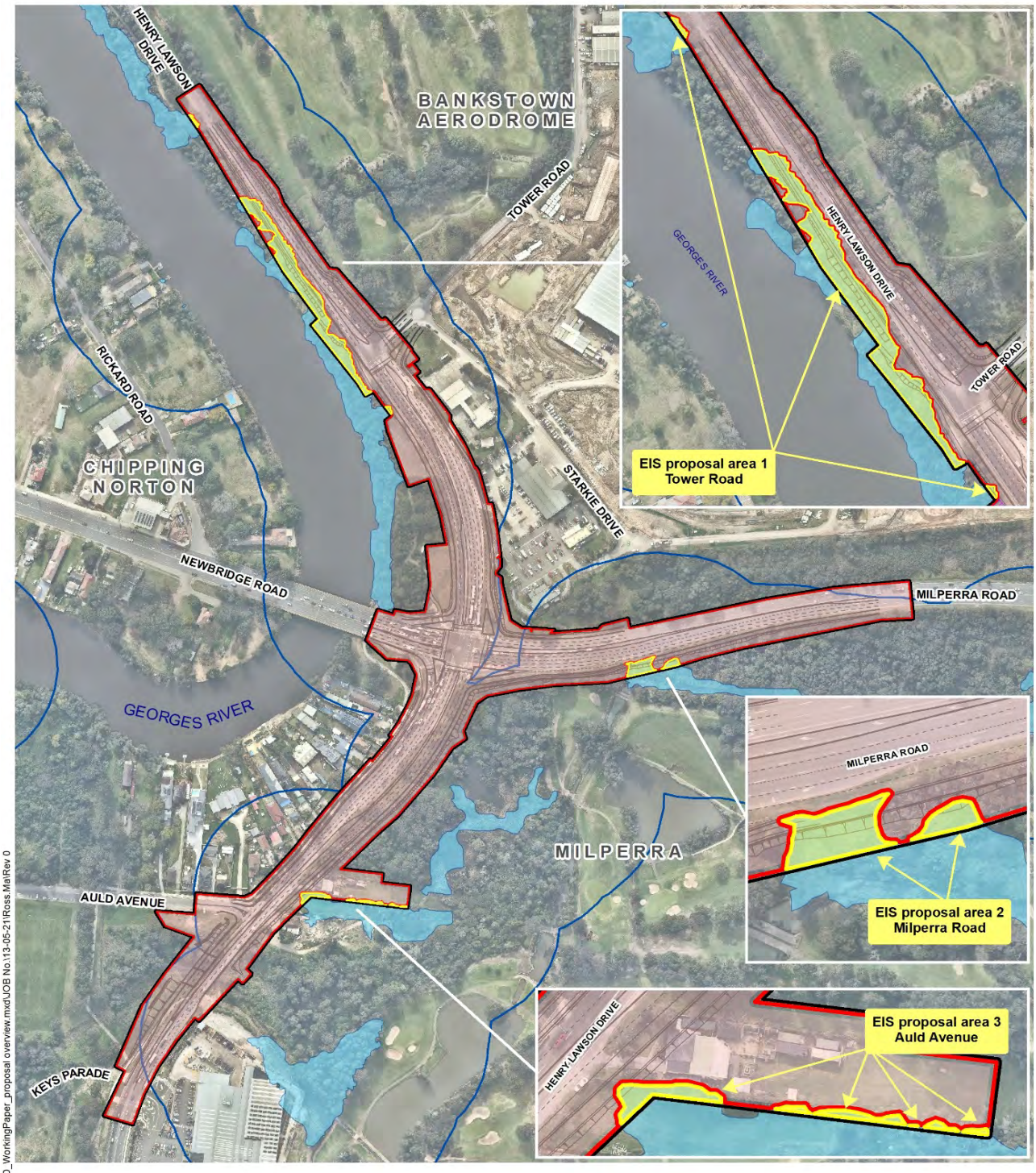
The upgrade would help ease existing traffic issues and increase traffic capacity at key intersections to help meet growing demand, with residential, commercial and industrial development in the surrounding area expected to increase in the coming years. The upgrade would be delivered in three stages.

Subject to approval, construction of the Stage 1A proposal may commence in early 2023 and would take about two years to complete. Other stages of upgrading Henry Lawson Drive would be developed and assessed separately in the future.

1.2 Proposal location and setting

The overall proposal is located around 20 km south west of the Sydney central business district (CBD) in the City of Canterbury-Bankstown local government area. The proposal is mainly along Henry Lawson Drive and includes intersection upgrades at Tower Road, Newbridge/Milperra Road and Auld Avenue.

Henry Lawson Drive is a key connection for traffic moving between the Hume Highway, Milperra Road/ Newbridge Road and the M5 Motorway. It is also used for local travel trips between residences and services. In terms of heavy vehicle access, Henry Lawson Drive is designated as a B-Double access route that connects surrounding large industrial areas of Milperra, Revesby, Chipping Norton and Moorebank.



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Source: Aurecon, TfNSW, Spatial Services, Nearmap

1:5,250

0 50 100m

Projection: GDA 1994 MGA Zone 56

Henry Lawson Drive Stage 1A

FIGURE 1-1: Proposal overview

The overall proposal is located to the east of the Georges River and surrounding recreational areas. There are a number of coastal wetlands within and surrounding the proposal associated with the Georges River.

Located to the south west of the overall proposal, is a residential area with detached housing and sporting fields and passive recreation areas. To the south east, is the Bankstown Golf Course and urban bushland areas. North of Milperra Road, land use comprises retail and commercial development that backs onto the Bankstown Airport, which is currently being redeveloped, all of which access Henry Lawson Drive via Tower Road. North of Tower Road is the Georges River Golf Course.

1.3 Proposal overview

1.3.1 Key features of the REF proposal

Key features of the REF proposal include:

- Widening Henry Lawson Drive from two to four lanes
- Upgrading the signalised intersection of Henry Lawson Drive and Tower Road including:
  - An additional right turn lane from Tower Road onto Henry Lawson Drive
  - A new channelised short left-turn lane from Henry Lawson Drive (southbound) onto Tower Road
  - An additional right turn lane from Henry Lawson Drive (northbound) onto Tower Road
  - Retaining the pedestrian crossing across Henry Lawson Drive on the southern side of the intersection
- Upgrading the signalised intersection of Henry Lawson Drive and Milperra Road /Newbridge Road including:
  - An additional right turn lane on the Milperra Road and Newbridge Road approaches to Henry Lawson Drive
  - An additional through lane on the Henry Lawson Drive southbound approach
  - The removal of the bus only lane on Milperra Road to provide an additional right turn lane on the Henry Lawson Drive northbound approach
- Removing the dedicated left turn slip lane into the ALDI and fast-food area with access being retained via a standard property driveway
- Retaining the existing bus stop on Milperra Road (eastbound) and moving the westbound bus stop 20 metres to the west
- Altering access to Auld Avenue to a “left in/left out” only configuration
- Installing a new Henry Lawson Drive road bridge (over Milperra Drain) to the south of Auld Avenue (referred to as the Auld Avenue bridge) to carry northbound traffic and retaining the existing bridge for southbound traffic
- Constructing new footpaths on the eastern side of Henry Lawson Drive to connect Tower Road to the existing bus stop on the eastbound lanes of Milperra Road and a new footpath on the southern side between Henry Lawson Drive to the bus stop on the westbound lanes of Milperra Road
- Widening the shared user pathway between Flower Power (Keys Parade) and Newbridge Road to three metres and reconstructing footpaths along the western side of Henry Lawson Drive, where required
- Adjusting existing drainage, including lengthening culverts, installing new drainage infrastructure and water quality controls
- Relocating utilities (including electrical, gas, water and telecommunications)
- Final roadworks including pavement, kerb and gutters, signs, lighting and line marking

- Ancillary work for the project including, but not limited to road furniture, tie-in works, landscaping, earthworks and the like
- Temporary ancillary compounds, stockpile sites and associated facilities.

1.3.2 Key features of the EIS proposal

Key features of the EIS proposal are identified below for each EIS Proposal Area.

EIS proposal area 1 – Henry Lawson Drive opposite Tower Road

The key features of EIS proposal area 1 are:

- Widening of Henry Lawson Drive northbound lanes
- Installing of fill embankments along the edge of the new carriageway to meet existing ground levels
- Extending existing stormwater culvert and installing outlet scour protection measures
- Installing additional stormwater drainage infrastructure and water quality treatments
- Installing a vegetated swales along the toe of the new fill embankment
- Adjusting the existing shared path to suit the new re-alignment and to connect it back to the existing path
- Installing road furniture, including road safety barriers

EIS proposal area 2 – Milperra Road opposite Bankstown Airport

The key features of the EIS proposal area 2 are:

- Installing a new bus stop relocated from its existing position on Milperra Road
- Installing a section of a new footpath to the bus stop (connecting to the remainder of the new path to Henry Lawson Drive – REF proposal)
- Installing fill embankments along the edge of the new carriageway to meet existing ground levels
- Extending existing stormwater culvert and installing outlet scour protection measures
- Installing additional stormwater drainage infrastructure connecting to the outlet of the extended culvert
- Installing road furniture, including road safety barriers

EIS proposal area 3 – Henry Lawson Drive opposite Auld Avenue

The key features of the EIS proposal area 3 are:

- Removing of existing ancillary structures
- Installing temporary fencing, flagging of exclusion boundaries & temporary erosion and sediment controls for use as an ancillary facility and construction area
- Installing fill embankments along the edge of the new carriageway to meet existing ground levels
- Stabilising the ground surface following the completion of construction to minimise erosion

1.4 Objectives

The objectives of the PSI desktop review and site inspection for the overall proposal were to:

- Identify the potential for past or present activities to have impacted the subsurface at the site and the immediate surroundings to identify Areas of Potential Environmental Concern (APECs)

- Develop a preliminary Conceptual Site Model (CSM) to provide a preliminary, qualitative assessment of the potential risks to human health and the environment at identified APECS (if any) for the REF proposal and EIS proposal
- Identify relevant management and mitigation measures to address potential risks to human health and the environment including a recommendation for any additional investigation/s that may be required

1.5 Scope of works

This report has been prepared to support the REF and EIS for the proposal and has been prepared in accordance with the SEARs for the EIS proposal.

A CSM for the REF proposal area is included in Section 4.2 which provides a summary of the potential risks to human health and the environment based on the information included in this report.

A CSM for the EIS proposal area is included in Section 4.3 which provides a summary of the potential risks to human health and the environment based on the information included in this report.

The following scope of works was completed to prepare the PSI for both the REF and EIS proposal areas:

- Collation and review of available desk study information relevant to the site and immediate surrounds
- Review of previous reports and/or related documents, including council records
- Review of past and current activities on neighbouring properties and other potential on-site/offsite sources of contamination
- Review of available historical aerials from the 1930s to 2010s. One aerial photograph from each decade was reviewed
- Review of NSW EPA databases, the Contaminated Land Record and *Protection of the Environmental Operations Act 1997* (NSW) (POEO Act) licences for the site and Parramatta Council LGA
- Review of geology, soil, topography and registered groundwater bore maps
- Review of acid sulfate soil (ASS) and salinity risk maps
- Review of NSW EPA priority Per and Poly-Fluoroalkyl Substances (PFAS) investigation risk sites within 5 km of the proposal extents/sites
- Review Department of Defence Unexploded Ordinance Mapping Database
- Review previous Dial Before You Dig records
- Other searches of the NSW Government SEED website as required to assess the potential for subsurface contamination to be present in the study area
- Preparation of this PSI report outlining the findings of the desktop study in accordance with Schedule B2 of the National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) and the NSW EPA Contaminated Land Guidelines – Consultants Reporting on Contaminated Land (2020)

1.5.1 Secretary's Environmental Assessment Requirements

As sections of the overall proposal intersect with areas mapped as Coastal Wetlands, an EIS has been prepared to assess the EIS proposal under Division 4.1 of the EP&A Act. For this EIS, SEARs have been issued by the Department of Planning, Industry and Environment, which describe assessment requirements. The requirements relevant to the Contamination assessment is presented in Table 1-1.

Table 1-1 Secretary's Environmental Assessment Requirements references

Reference	Requirement	Where addressed
Contamination and soil quality	An investigation to identify the extent and type of any contaminated materials or acid sulfate soils that may be encountered during construction of the proposal, and associated impacts, including those from uncontrolled historic filling	Section 2.4.4, Section 3 and Section 4
	Downstream impacts of contaminated soils on aquatic ecology.	Section 2.4.5 and Section 4. Further downstream impacts are addressed in the Groundwater Impact Assessment and the Biodiversity Assessment prepared for the proposal.

1.6 Guidance documents

The PSI report was prepared in accordance with the following guidance documents:

- National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedules B1 and B2
- NSW EPA Contaminated Land Guidelines – Consultants Reporting on Contaminated Land 2020
- NSW EPA 2017, Guidelines for the NSW Site Auditor Scheme (3rd edition)
- NSW EPA 2014, Waste Classification Guidelines 2014 and addendum 2016
- *Contaminated Land Management Act 1997* (NSW) (CLM Act)
- *Environmentally Hazardous Chemicals Act 1985* (NSW) (EHC Act)
- *Protection of the Environment Operations Act 1997* (NSW) (POEO Act)
- *Contaminated Land Management Amendment Act 2008* (NSW) No 111
- *Waste Avoidance and Resource Recovery Act 2001* (NSW)
- Protection of the Environment Operations (Waste) Regulation 2014 (NSW)
- Protection of the Environment (Operations) Excavated Natural Material Exemption 2014 (NSW)
- Department of the Environment and Energy 2016, Draft Commonwealth Environmental Management Guidance on Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA)
- Department of Health 2017, Health Based Guidance Values for PFAS for Use in Site Investigations in Australia
- Heads of EPAs Australian and New Zealand 2020, PFAS National Environmental Management Plan Version 2.0 (NEMP 2.0)
- Other relevant Guidelines made or endorsed by the NSW EPA as applicable

2 Site information

2.1 Site identification

The overall proposal spans approximately 1.3 km of Henry Lawson Drive from Tower Road to Keys Parade in Milperra, and an additional 480 m along Milperra Road and the Newbridge Road Georges River bridge tie in, 22 km south-west of the Sydney CBD. The location of the REF and EIS proposal areas are shown on Figure 1-1. This PSI has considered an area of at least 500m radius around the REF and EIS proposal areas to inform planning and design decisions for the assets and identify the potential for subsurface impacts to be present. Some database searches extend to 10km radius from the overall proposal area.

2.1.1 Current land use and site infrastructure

The site is currently used as a transport corridor consisting of a two-lane roadway with additional turning lanes at the major intersections of Milperra Road/Newbridge Road and at Tower Road. Additional traffic lanes expand the road to four lanes total between Tower Road and the intersection with Milperra/Newbridge roads and extend south to just north of Auld Avenue. Overhead traffic lights and signage structures are present at the main intersection and leading up to it in each direction. A dual lane bridge spans Milperra Drain between Auld Avenue and Keys Parade. A shared walking and bicycle path runs along the banks of the Georges River.

2.2 Site features

Summary of site features in the REF and EIS proposal areas are presented in Table 2-1 and a photographic log is included in Appendix B.

Table 2-1 Site features

Aspect	Details
Adjacent properties	**REF proposal area** **North East**– Bankstown Airport lies to the north east of the major Milperra Road/Henry Lawson Drive intersection. The Georges River Golf Course also borders the site north of Tower Road. **North West** – The Georges River lies west of the proposal alignment. Recreational land along the river borders Henry Lawson Drive to the north west and residential properties are present on the western bank of the Georges River. **South East** – The Bankstown Golf Course is situated to the south east of the proposal. The residential suburb of Milperra lies further to the south and consists of residential housing and minor commercial and retail businesses. **South West** – A small residential area exists along the south west portion of Henry Lawson Drive between Newbridge Road and Auld Avenue with recreational areas at the lower south western extent of the proposal.
	EIS Proposal Area 1 **North East**– Henry Lawson Drive is directly to the northeast of the site followed by Georges River Golf Course, recreational pathways and a small commercial business area **South East** – Henry Lawson Drive is directly to the southeast followed by Bankstown Airport and a small area of commercial businesses bordering the major intersection of Milperra Road/Henry Lawson Drive. **West** – The Georges River lies to the west of the EIS Proposal Area 1. Recreational walkways and bike paths also border this area to the west.
	EIS Proposal Area 2 **North** – The major arterial road of Milperra Road immediately borders the site to the north followed by the Bankstown Airport and a small commercial pocket. **South/East/West** – The Bankstown Golf Course is situated to the south, east and west of this area with the major Henry Lawson Drive and Milperra Road intersection also located to the west of the site.

Aspect	Details
	EIS Proposal Area 3 **North** – Residential dwellings lie in EIS Proposal Area 3 with bushland directly north of the EIS Proposal Area 3 boundary extending to Henry Lawson Drive. Residential dwellings exist further north west. **East** – Bushland is directly east of EIS Proposal Area 3 with the Bankstown Golf Course beyond that. **South** – A residential dwelling lies immediately south of the site with the Golf Course grounds and large commercial complex further south. **West** – Henry Lawson Drive is situated directly west of the site with residential dwellings and recreational areas also to the west.
Nearby sensitive land uses	Surrounding the overall proposal, sensitive receivers include residences and public recreational golf courses.
Local water bodies	The overall proposal is located on the eastern floodplain of the Georges River at a point where it meanders. Newbridge Road crosses over the river at this meandering point, where the river bends and flows in a westerly direction away from the proposal and then meanders south. A small tributary of the Georges River extends underneath Henry Lawson Drive between Auld Avenue and Keys Parade. Several small ponds are located within the Bankstown Golf Course (south east of the proposal alignment) and the Georges River Golf Course (north east of the proposal alignment. As per Figure 1, coastal wetlands are located along the Georges River and east of the proposal (near the Bankstown Golf Course and opposite the Auld Ave intersection

2.3 Site inspection

Aurecon undertook a site inspection on 28 September 2020 to observe general site conditions and identify any potential sources of contamination that may be present across the overall proposal. A photographic log of the site inspection is included as Appendix B. At the time of inspection, the following observations were made:

- Due to the urban development over time, the overall slope in the area was relatively flat and slightly falling west towards Georges River (refer Photograph 19)
- There was a significant amount of general rubbish, plastic, rubber, cardboard, wrappers, pieces of glass, metal, metals poles and old/damaged car parts (rusty exhaust pipe, car tyres and seats) across the site and adjacent to main roads (refer Photograph 22)
- There were multiple areas of cleared non-vegetated gravelly land along Henry Lawson Drive and Milperra Road, which were potentially used for informal parking, temporary stopping, storage and dumping of old/damaged car parts. These areas could be minor potential sources of contamination due to the leaking of car fluid (fuel, oil, lubricant and coolant). Surface covering consisted of mostly angular to subangular rocks and gravels **(**refer Photograph 6, 16, 36 and 38). Some of these small areas located south along Henry Lawson Drive, could be potential sources of contamination due to signs of chemical staining (refer Photograph 39 and 40).
- A storm water culvert was noted on the Georges River embankment at the northern side of the study area. This was flowing east to west from the Georges River Golf Course, under Henry Lawson Drive and into Georges River (refer Photograph 21).
- A small unnamed creek is running underneath Henry Lawson Drive from Gordon Park Reserve towards Bankstown Golf Club (refer Photograph 7)
- There are numerous drainage lines observed across the site:
  - A large artificial culvert and drainage line is located north of the Milperra Road intersection, which was flowing under Henry Lawson Drive west towards Georges River (refer Photograph 21). Another drainage line is running north east to south west adjacent to Henry Lawson Drive and the Georges River Golf Course. At the time of inspection, surface water ponding was observed (refer Photograph 27).
  - There is a large culvert and artificial drainage line in the east, which is flowing from the Bankstown Airport towards Milperra Road and Bankstown Golf Course (refer Photograph 37)

  - There is a large drainage line with stormwater drains in the south, which is running north to south along Henry Lawson Drive (refer Photograph 1)
- Topsoil consists of mostly vegetated land (grass covering) with patches or bare earth, variable soil types, silty clay and clayey silt with gravels (refer Photographs 2, 3, 14, 23 and 41)
- Aurecon noted evidence of fill across the site, angular to sub angular rocks, pebbles and gravels were observed on the ground surface and within the soil (refer Photographs 6, 8, 13, 16, and 40)
- There were numerous retaining walls, embankments and mounds throughout the proposal area as well as drainage lines and main roads. There were obvious mounds along both Henry Lawson Drive and Milperra Road to elevate the infrastructure from the surrounding topography and vegetation (refer Photographs 1, 12, 19, 22 and 24).
- There were numerous buildings, facilities and infrastructure on site associated with residential and commercial businesses. General services and amenities were observed which included water, power, communication and gas.
- There was a small stockpile of potential fill with angular to sub angular rocks and gravels observed in a cleared area to the south adjacent to Henry Lawson Drive (refer Photograph 40)
- Potential asbestos containing material (ACM) fragments were not observed across the study area

2.4 Physical environment

2.4.1 Topography

Topography at the site and surrounding suburbs is presented in Figure 2, Appendix A.

The site sits within a natural low point in the region, funnelling down into the Georges River. The site itself is roughly 0 to 4 m AHD in elevation and is relatively flat and consistent across the study area.

Generally, elevation increases to the south and north east of the proposal alignment, with higher elevated suburbs above the river valley. A more gradual increase in elevation is seen to the west of site following Cabramatta and Maxwells Creeks.

2.4.2 Geology

Sydney 1:250 000 Geological Map

The Sydney 1:250 000 Geological Sheet shows the site is underlain by an alluvium, gravel, sand, silt and clay (Qa). Sandstone (Rwp) and shale with some sandstone beds (Rw1) are also mapped east of the study area and west over the Georges River.

Penrith Quaternary Geology Map

The Penrith 1:100 000 Quaternary Geology map shows the site is underlain by a number of undifferentiated lithologies. The following units were noted in proximity to the proposal alignment:

- Quartz sand, silty sand, silt and clay (Qha)
- Clayey quartzose sand and clay (Ta)
- Dark grey to black claystone-siltstone and fine sandstone-siltstone laminate from the Wianamatta Group (Rwa)
- Medium grained sand, clay, silt (Qpn)

Coastal Quaternary Geology Dataset

The Sydney Area 1:100 000 Coastal Quaternary Geological Map shows the site is largely underlain by Cenozoic undifferentiated alluvium. These are illustrated in Figure 6, Appendix A. The following units were noted in across the proposal alignment:

- Cenozoic undifferentiated alluvium deposits (TQa)
- Holocene levee deposits of fluvial sand, silt and clay (Qhal)
- Holocene backswamp deposits of organic mud, peat, silt and clay (Qhas)
- Holocene floodplain deposits of silt, fluvial sand and clay (Qhap)

Two other notable deposits were reported in the surrounding region:

- A modern fill deposit or Quaternary aged deposits (Qmxf)
- The Wianamatta Group consisting of sandstone, siltstone and shale exhibiting common bioturbation patterns (Twi)

NSW Seamless Geology Dataset

The NSW Seamless Geology dataset is mapped in Figure 5, Appendix A. This dataset is the product of the NSW Seamless Geology Project, undertaken to compile the best available geological data for the state, organised into a series of layers representing the stratigraphic relationships of rock units through time. A summary of the relevant maps codes within Figure 5, Appendix A is provided in Table 2-2 below.

Table 2-2 Geology map codes

Period	Unit ID	Name	Description
Quaternary deposits	QH_af	Alluvial floodplain deposits	Silt, very fine- to medium-grained lithic to quartz-rich sand, clay.
	CZ_a	Alluvium	Unconsolidated alluvial clay, silt, sand, and gravel deposits.
	Q_acw	Alluvial channel deposits - subaqueous	Fluvially deposited sand, gravel, silt, clay.
	Q_al	Alluvial levee/overbank deposits	Fluvially deposited fine- to medium-grained lithic to quartz-rich sand, silt, clay.

The site is underlain with Holocene aged alluvial sedimentary deposits, largely consisting of a mix of silts, sands and clays from floodplain and swamp environments. Alluvial floodplain deposits (QH_af) of quartz rich sands and clays dominate the southern portion of the proposal alignment. Unconsolidated alluvial clays, silts, sands and gravels (CZ_a) are dominant in the northern portion of the proposal alignment and join with alluvial levee and overbank deposits along the Georges River to the north west of the site. The Georges River itself on the western boundary of the site consists of alluvial channel deposits (Q_acw) of sand, gravel, silts and clays, which are also expected to be intersected on the site. No structural features (dykes or veins) are mapped at the site.

2.4.3 Soil landscapes

The site is within the Soil Landscapes of the Penrith 1:100,000 Sheet (1984).

The site is underlain with yellow podzolic soils along the western boundary of the study area. Soils are characterised as poorly drained coarse loamy sands ranging from very dark greyish brown to a greyish yellow brown colour to medium clays appearing yellowish brown with a grey mottling.

Soils around the Bankstown Airport and surrounds are currently not assessed.

Soil landscapes across the alignment are presented in Figure 4, Appendix A.

2.4.4 Acid sulphate soils

The ASS risks and boundaries are shown in Figure 3 – Appendix A which are based on the Acid Sulphate Soils Risk Maps (DLWC, 1998).

The risk profiles for ASS in the REF proposal area are provided in Table 2-3 and for the EIS proposal area included in Table 2-4.

Table 2-3 ASS risk mapping – REF proposal area

ASS risk profile	Proposal areas impacted
High risk 2-4 m	Northern portion and minor southern portion of Henry Lawson Drive
High risk below 4 m	Majority of the central portion of Henry Lawson Drive and the western portion of Milperra Road
High risk sediments	Not identified to impact on the REF proposal area
Low risk 2-4 m	Eastern and central portions of Milperra Road and some areas within the southern portion of Henry Lawson Drive
Disturbed terrain	Southern and some minor northern portions of Henry Lawson Drive

Table 2-4 ASS risk mapping – EIS proposal area

ASS risk profile	Proposal areas impacted
High risk 2-4 m	EIS Proposal Area 1
High risk below 4 m	EIS Proposal Area 3
High risk sediments	Not identified to impact on the EIS proposal areas
Low risk 2-4 m	EIS Proposal Area 2 and 3
Disturbed terrain	Not identified to impact on the EIS proposal areas

2.4.5 Hydrology and hydrogeology

The western portion of the overall proposal where the road is parallel to the Georges River falls within the Parramatta/Georges River hydrogeological landscape. The northern, eastern and southern portions of the study area further from the river are reported as within the Moorebank hydrogeological landscape.

The Parramatta/Georges River landscape are characterised by low lying Quaternary and Tertiary alluvial floodplains of the Georges River and areas of reclaimed land surrounding the river. This landscape is heavily influenced by acid sulfate soils and has generally a higher than average salinity, primarily due to cyclic flows with estuarine and acid sulphate influences. Flow is generally unconfined through the alluvial soils into the Georges River; hence groundwater flow direction is expected mostly to the west. Surface water runoff is also expected in this direction towards the river, due to the flat nature of the sites and increasing elevation away from the river.

The Moorebank hydrogeological landscape present in the north, east and south of the proposal alignment is characterised by moderate salinity shale layers that cyclically flush salts into the lower lying Parramatta/Georges River hydrogeological landscape. The Moorebank landscape is distinguished by its terminal-like ponding of the river with minimal acid sulphate influences.

This hydrogeological landscape (HGL) is distinguished from other areas within the Sydney Metropolitan CMA by its very flat, broad and low lying alluvial plain and slowed flow/ponding within the bend in the Georges River around the Chipping Norton Lake area. The bend in the river has allowed Tertiary Alluvium to form the very flat lying landscape. The Moorebank HGL is distinct from the Parramatta/Georges River HGL because of this terminal-like ponding of the river, and that it is not heavily influenced by acid sulfate soils which produce a different salinity signature

Static groundwater levels within the study area and along the alignment are generally expected to be shallow, between 0 to 8 m bgl depending on seasonable fluctuations and catchment flows.

Groundwater borehole information available through the NSW Water data set (2020) was reviewed for all bores within 500 m of the site and is summarised in Table 2-5. These records are all within the boundary of the Bankstown Airport and are outside the study area. Due to this proximity, conditions at the site are anticipated to remain similar and groundwater conditions can be inferred from this information.

Table 2-5 Groundwater borehole information

ID	Distance	Purpose and status	Standing water level (m bgl)	Strata
GW110200	30 m east	Exploration. Unknown Status	5.0	0 – 0.3 m: Loose Fill 0.3 – 0.8 m: Brown silty Sand 0.8 – 3.5 m: Yellow brown silty Clay 3.5 – 5.5 m: Red brown sandy Clay 5.5 – 8.0 m: Red brown Sand and Clay
GW112547	30 m east	Exploration. Functional	4.8	0 – 0.3 m: Brown sand Fill 0.3 – 1.4 m: Firm brown clayey Sand 1.4 – 2.2 m: Brown grey to red Clay 2.2 – 4.0 m: Brown grey clayey Sand 4.0 – 8.0 m: High plasticity brown grey Clay
GW112549	30 m east	Exploration. Functional	4.6	0 – 0.2 m: Concrete 0.2 – 0.9 m: Brown grey Fill 0.9 – 3.5 m: Brown to grey to red clayey Sand 3.5 – 6.5 m: Brown to grey sandy Clay
GW112548	30 m east	Exploration. Functional	4.6	0 – 0.2 m: Concrete 0.2 – 0.3 m: Fill 0.3 – 0.7 m: Silty Sand 0.7 – 1.2 m: Sandy Clay 1.2 – 2.2 m: Brown Clay 2.2 – 2.6 m: Sandy Clay 2.6 – 3.2 m: Red fine Sand 3.2 – 3.6 m: Sandy Clay 3.6 – 6.2 m: Stiff to hard Clay 6.2 – 7.0 m: Brown to grey sandy Clay
GW023146	315 m north west	Private Water Supply. Unknown Status	3.6	N/A

3 Site history

The following sections provide a summary of the history for both the REF and EIS proposal areas. The review of aerial photography shows both the REF and EIS proposal areas.

3.1 Register of contaminated sites

Under Section 60 of the CLM Act, a person whose activities has contaminated land, or a landowner whose land has been contaminated, is required to notify the EPA when they become aware of the contamination and if certain conditions are met.

If people have not been exposed to or are unlikely to be exposed to contaminants, if concentrations in groundwater or surface water are unlikely to remain at elevated concentrations, or if threshold criteria is not available for the contaminant in question, then reporting may not be required.

A search of the NSW EPA public register (notified sites and the contaminated land record) of contaminated sites was undertaken by Aurecon on 26 September 2020. The results identified four records of notified sites within 1 km of the site as shown in Table 3-1. These sites and their relationship with the REF area and the EIS proposal areas are shown on Figure 7.

Table 3-1 Sites notified to the EPA within 1 km of the site

Address	Site name	Contamination activity	Management class	Distance from site
479 Henry Lawson Drive	Former Landfill	Landfill	Regulation under CLM Act not required	Abutting the southernmost proposal area to the east
264 Milperra Road	Caltex Service Station	Service Station	Regulation under CLM Act not required	Approximately 600 m east
373 Horsley Road	United Group Rail Pty Limited	Landfill	Regulation under CLM Act not required	Approximately 850 m east
698 Henry Lawson Drive	BP Truck Stop Service Station (formerly 7-Eleven Service Station)	Service Station	Regulation under CLM Act not required	Abutting the central north east portion of the proposal area

Both the former landfill (now the Flower Power Garden Centre) and 7-Eleven service station may present a moderate risk to the REF proposal given its proximity. Refer to Section 4 for further details on potential contaminants of concern which may be associated with these two sites. The Caltex service station and United Group Rail Pty Limited sites are not considered to pose a risk to the proposal. This is because construction is not likely to interact with the groundwater table near to these locations (distance >500 m from proposal).

Impacts to groundwater are considered in detail in the Groundwater impact assessment prepared for the overall proposal.

3.2 Licensed activities under the Protection of the Environmental Operations Act 1997

Aurecon conducted a search on 26 September 2020 for licenced onsite and nearby offsite activities under the POEO Act. No licences were found for the overall proposal area, however several licenses were found in the surrounding areas as shown in Table 3-2.

Table 3-2 Protection of the Environmental Operations Act 1997 license in the area surrounding the proposal alignment

Address	Name	Licence	Status	Issued date	Distance from site
43 Ashford Ave, Milperra	Sims Group Australia Holdings Ltd	2207	Issued	21 March 2000	850 m south east
Auld Ave, Milperra	Riverland Estate Pty Ltd	5066	Revoked	2 February 2000	Exact location unknown, inferred to be abutting the proposal area to the west
268 Milperra Road, Milperra	Goyen Controls Co Pty Ltd	511	Surrendered	14 June 2000	500 m east
61 Ashford Ave, Milperra	Capral Ltd	11551	Surrendered	10 January 2002	850 m south east
9/66 Ashford Ave, Milperra	Aplen Pty Ltd	5050	Surrendered	23 March 2000	750 m south east
33-37 Riverside Road, Chipping Norton	Bennedict Recycling Pty Ltd	12794	Issued	18 December 2007	500 m west
14 Alfred Road, Chipping Norton	Normalair-Garrett Manufacturing Pty Ltd	6340	Surrendered	3 April 2000	850 m west

The Riverland Estate was listed for composting activities and later revoked. Given the nature of these activities it is unlikely the impact to the proposal area would be significant.

3.3 Potential PFAS source areas

There are two PFAS sites subject to the NSW EPA investigation program within 10 km of the overall proposal are detailed in Table 3-3.

Bankstown Airport which lies 80 m east of the proposal area is currently under investigation by the NSW EPA following the detection for PFAS in groundwater, surface water and soils. The source of PFAS contamination is likely from the historical use of aqueous film forming foam (AFFF) for firefighting purposes. Given the persistence of PFAS in the environment, soils and groundwater within the REF proposal area and EIS proposal area 1 may be PFAS impacted. Records indicated an additional site, the Holsworthy Barracks is within 5 km of the overall proposal area, however, given the distance, it is unlikely to contribute to onsite PFAS impacts.

Table 3-3 PFAS investigation program sites within 10 km

Name	Address	Distance from proposal area
Bankstown Airport	3 Avro Street	80 m west
Holsworthy Barracks	Alec Campbell Drive	4.6 km south west

3.4 Department of Defence unexploded ordnance

Unexploded Ordnance (UXO) refers to ammunition which has been fired but has not functioned as designed. This ammunition poses a risk as it may easily pose an explosion or fire risk when disturbed. The Department of Defence maintains a record of sites confirmed as or suspected of being contaminated with UXO. This information is publicly available through their UXO risk mapping application (http://www.defence.gov.au/UXO/Where/Default.asp). A search conducted on 26 September 2020 revealed one record of UXO area within 3 km of the proposal area. Table 3-4 presents the summary of information.

Table 3-4 Unexploded ordnance record information within 3 km of the proposal alignment

UXO name	ID	Description	UXO category	Location from site
Bankstown Airport	138	This site was a major WWII Airfield. Small quantities of ammunition up to 20 mm have been found onsite. The UXO area highlighted includes Georges River Golf Course and the truck stop area at the Milperra Road and Henry Lawson Drive intersection (refer Figure 7 in Appendix A).	Other	Abutting the proposal area to the east.

Potential contaminants associated with UXO include heavy metals and perchlorate which may impact the soil and groundwater within the region and along the REF proposal area. Aurecon notes that the area between the Airport has been developed with low density residential and light commercial development. This suggests that the potential risks from UXO have been mitigated in the REF proposal area. Additionally, significant soil disturbance including the widening of Henry Lawson Drive has occurred since WW2.

Aurecon contacted the Department of Defence on 17 March 2021 to further inquire on the potential to encounter UXO in the proposal alignment and the categorisation of the Bankstown Airport as “Other”. The response from DoD is included below:

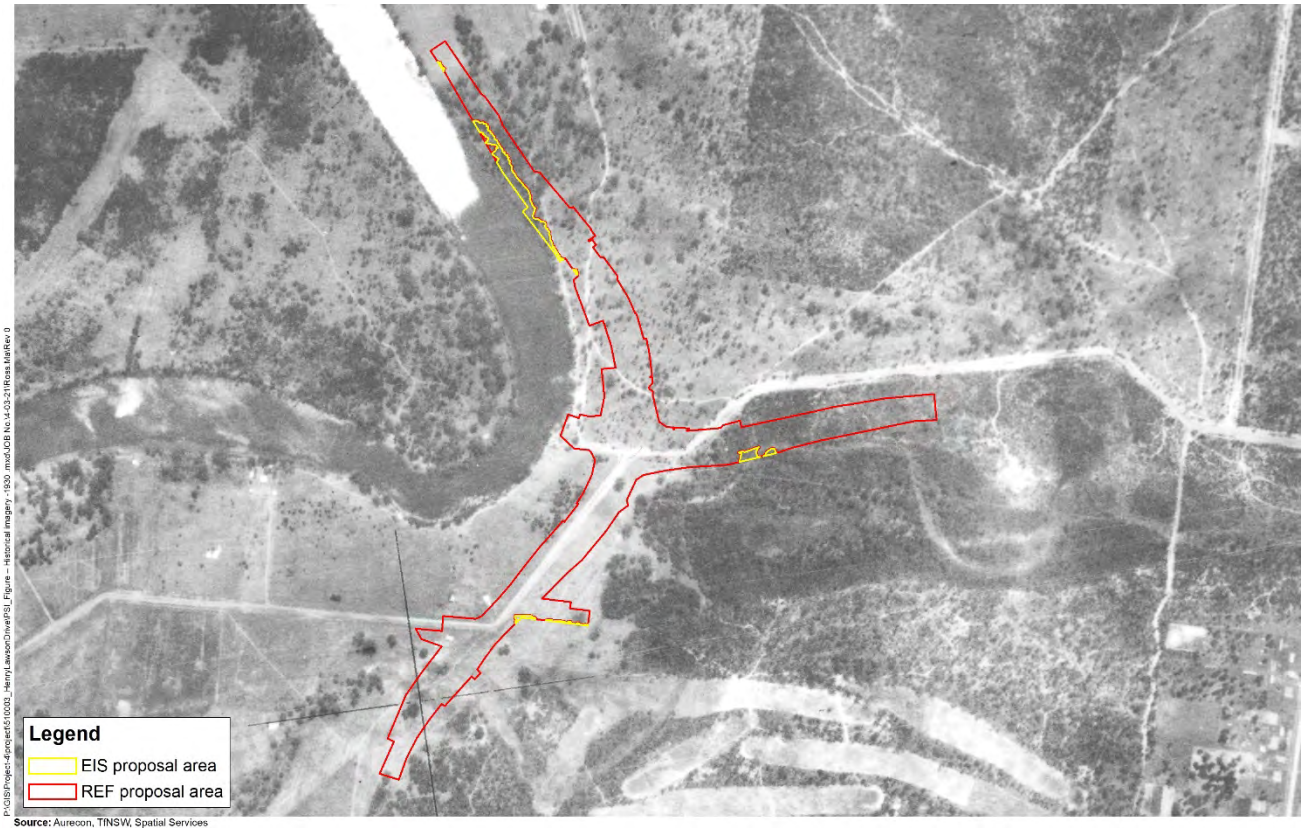
> *The reason that Defence categorises the site as ‘Other’ is that, whilst the location was used for military purposes during WWII, Defence has no specific records or other evidence that would lead to a higher categorisation and the requirement for positive mitigation measures. In 1981 a small quantity of small arms ammunition (not normally classed as UXO) was discovered during the construction of one of the hangers and was assessed as being the result of an ad-hoc disposal in WWII and not indicative of the potential for UXO.*

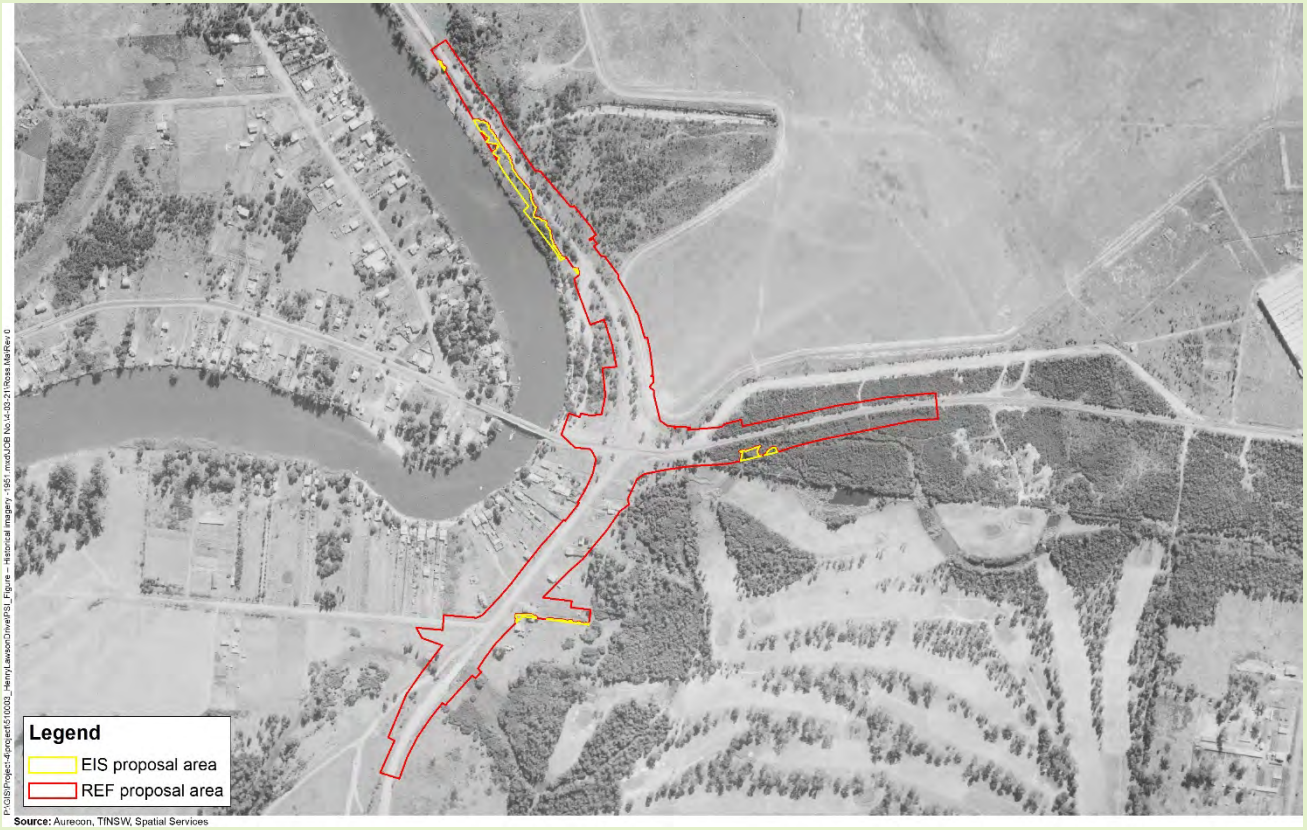
Defence would recommend that construction activities can progress without the need for UXO remediation. It may however, be worth considering an unexpected finds protocol in the site management plans. given the very low likelihood of UXO and the fact that any small ad-hoc disposals are unlikely to be High Explosive in nature, a full remediation may be unnecessary.

3.5 Historical aerial imagery

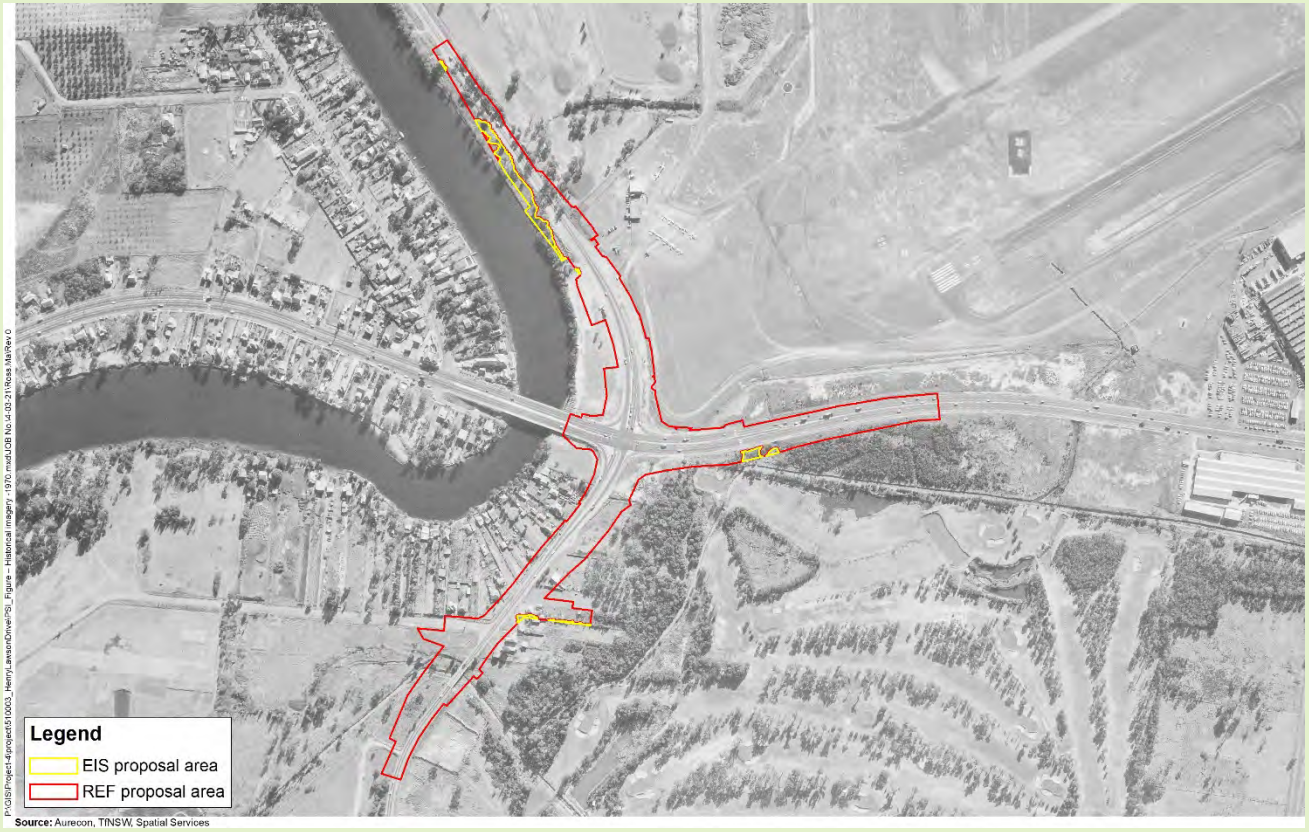
A review of available historical aerial photographs of the site (1931 to present) was undertaken to assess past land use along the proposal alignment. Images were obtained using present day and historical imagery from the Spatial Services Collaboration Portal from the NSW Department of Customer Service. Interpretation of historical land uses made as part of this review are presented in Table 3-5**.**

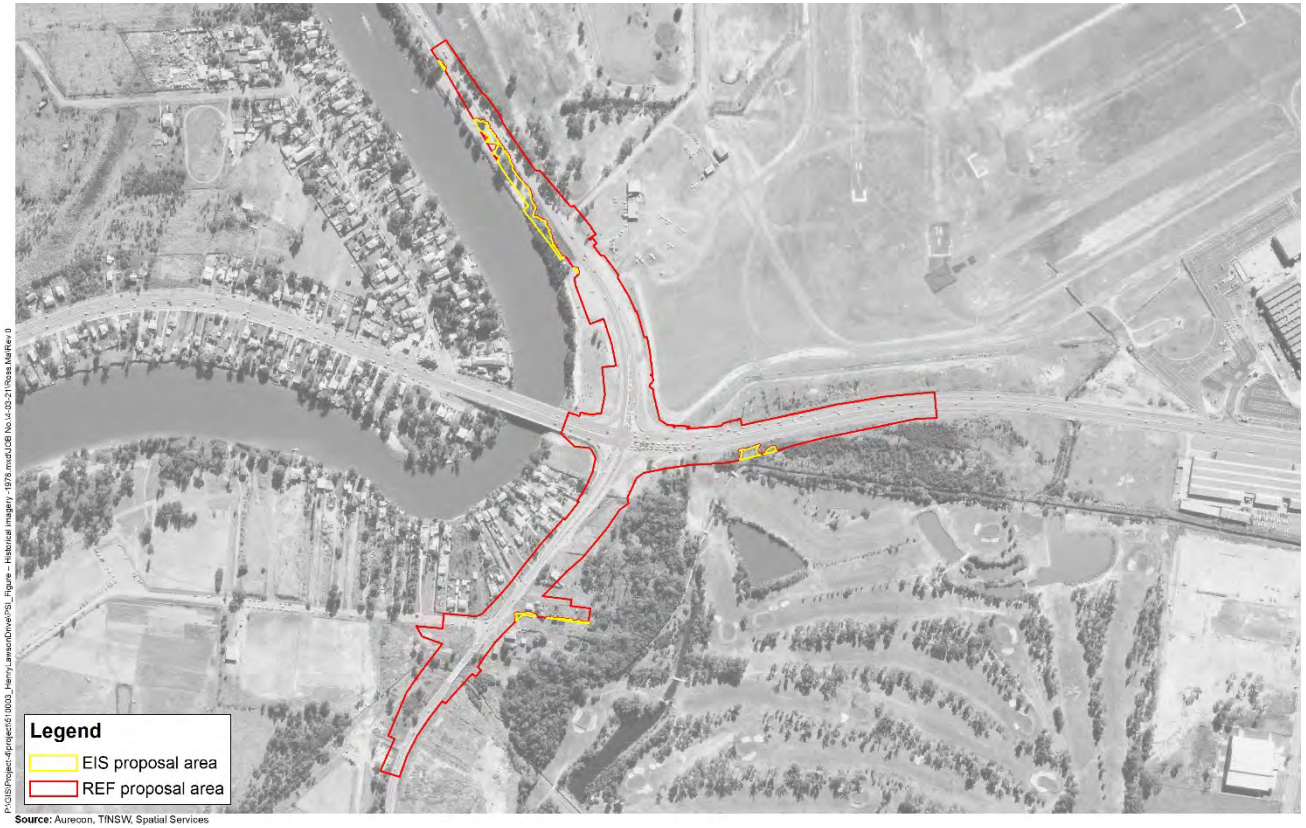
Table 3-5 Summary of historical aerial photography

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 **Source:** Aurecon, TfNSW, Spatial Services	1930	Proposal area is primarily unsealed roads and vegetation along the riverbank.	Surrounds are largely vacant land and forestry. An undeveloped road network exists on both sides of the river. The beginnings of a golf course appear as linear stretches of vegetation are cleared.

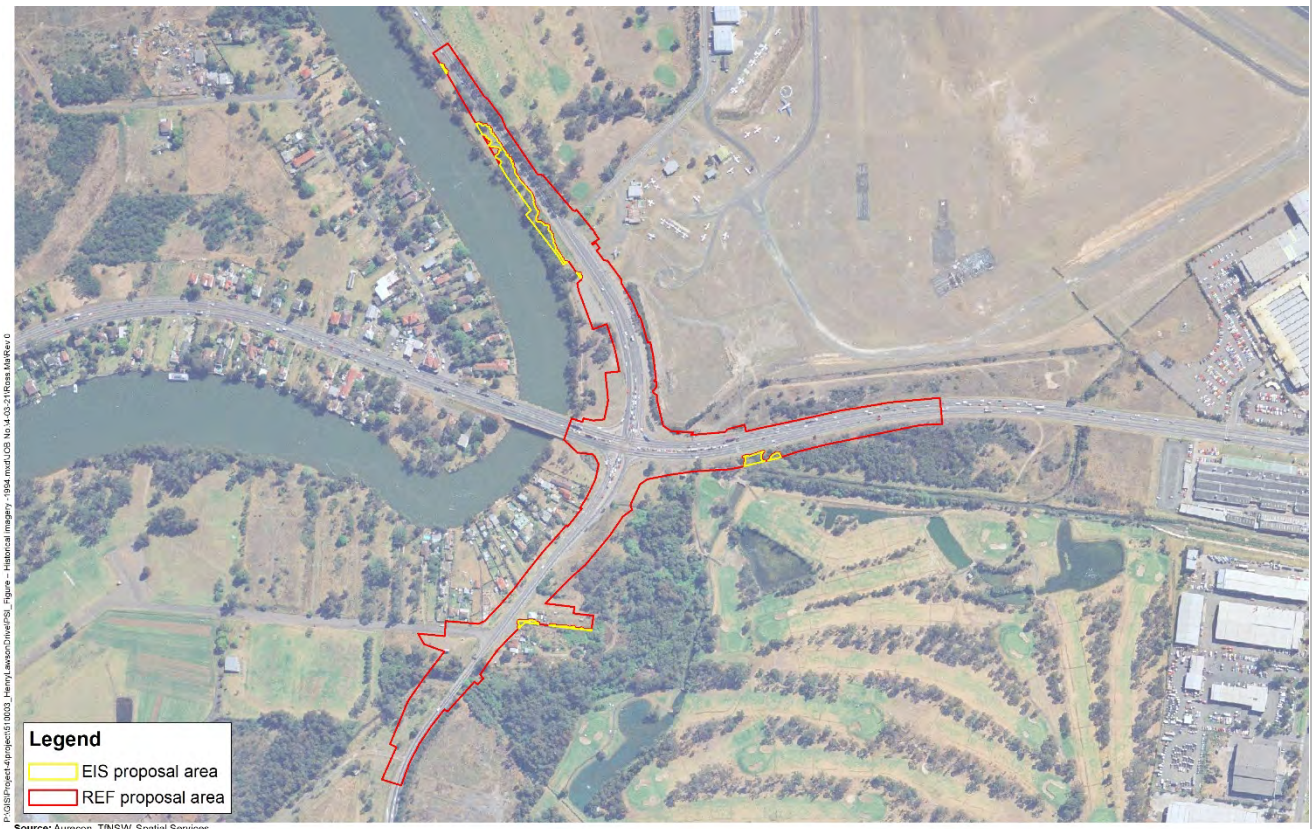
Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 **Source:** Aurecon, TINSW, Spatial Services	1951	Proposal area contains primarily unsealed road with associated nature strip area. Construction works on several small buildings, located at the intersection of current day Milperra Road and Henry Lawson Drive.	Surrounds are a mixture of vacant land, low density building areas and a golf course. An undeveloped road network exists on both sides of the river which is connected via a single lane bridge.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 P:\GIS\Project-4\project\510003_HenryLawsonDrive\PSI_Figure – Historical imagery - 1961.mxd\JOB No.14-03-21\Ross.Mai\Rev 0 **Source:** Aurecon, TfNSW, Spatial Services	1961	Roads appear to have now been sealed. Clearing of trees along riverbank area. No other significant changes since 1951.	Further residential development along both sides of the riverbank. Tip of aircraft runway can be identified in the former vacant region to the east of proposal area. Multiple water ponds are now visible through the golf course area. A formal open drain aligned west-east has been installed along the northern boundary of the golf course. It also appears drainage from the runway is being directed south beneath Milperra Road to the open drain near the golf course. Recreational ovals and perhaps a horse racing or training track is visible to the west of the proposal area.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
	1970	Both Henry Lawson Drive and Milperra Road have been widened (including the bridge). A small number of residential homes on the south east of Henry Lawson Drive have been impacted by the road widening and no longer exist.	Northeast corner has been developed into what appears to be the start of a light industrial and commercial site.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 P:\GIS\Project-4\project\510003_HenryLawsonDrive\PSI_Figure – Historical imagery - 1978.mxd\JDB No\4-03-21\Ross.Mel\Rev 0 **Source:** Aurecon, TfNSW, Spatial Services	1978	No significant changes since 1970.	Tower Road has been established. Continual residential development of areas both sides of the river. Clearing of trees at the Bankston Golf Club leading to the construction of a number of formal water ponds. Two buildings have been constructed to presumably support the Bankstown airport.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 **Source:** Aurecon, TfNSW, Spatial Services	1986	No significant changes since 1978.	Construction of several buildings south east of the proposal area. Runway area appears to have been diminished into a smaller area, and additional airport buildings and hangars constructed. Clearing of trees to establish another lake at the Bankstown Golf Club. Further addition of a building at the airport, likely to be an aircraft hanger as numerous small aircraft are visible in the aerial photograph.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 P:\GIS\Project-4\project\510003_HenryLawsonDrive\PSI_Figure – Historical imagery -1994.mxd LDS: No.4-03-21\Ross.Mak\Rev 0 **Source:** Aurecon, TfNSW, Spatial Services	1994	No significant changes since 1986.	Sealing of airport runways at Bankstown Airport, further additional airport buildings and hangars. Golf course development of greens and water management systems. Sports ovals further developed and maintained to the west of Auld Avenue.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 **Source:** Aurecon, TINSW, Spatial Services	2002	Northeast corner has been developed into what appears to be a light industrial and commercial site.	Truckstop area has now been developed into several buildings and large complex. Aircraft parking and hangar facilities continue to expand on the airport site. Loss of some residential homes on the west bank of the Georges River.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 **Source:** Aurecon, TINSW, Nearmap	2015	Regrowth of vegetation along the south east of Henry Lawson Drive and south of Milperra Road has occurred. No significant changes since 2002	Further loss of residential housing along the west bank of the Georges River. Roadway and surface excavations surrounding the hangar buildings at Bankstown Airport.

Photograph	Year	Overall proposal area (REF and EIS)	Surrounding areas
 P:\GIS\Project\project\510003_Henry_LawsonDrive\PSI_Figure – Historical imagery - 2018.mxdJOB No.\4-03-21Ross.Mai\Rev 0 **Source:** Aurecon, TfNSW, Nearmap	2018	No significant changes since 2015.	A large complex is being constructed to the south of the southern extent of the proposal area.

3.6 Dial Before You Dig records

The search of Dial Before You Dig records was undertaken on 24 September 2020 to identify existing services located in and around surrounding the site. If subsurface contamination exists around the site, service trenches may act as preferential pathways for contaminant or vapour migration.

The following service providers were found to have assets in and/or around the site:

- Ausgrid
- BP Australia
- Endeavour Energy
- Jemena Gas West
- Liverpool City Council
- NBN Co
- Nextgen
- Optus and/or Uecomm
- Roads and Maritime Services
- Sydney Water
- TPG

Telstra did not provide detailed plans for the site and the location. The adjoining Telstra infrastructure has been identified in the area during subsequent site investigations and is not considered an unknown risk to the proposal. Full search results and responses are provided in Appendix C.

3.7 Previous environmental investigations

Previous investigations undertaken along the proposal alignment were reviewed to better assess the site conditions as part of the PSI. Two historical reports were reviewed; one from 2012 which detailed the CSM of the former landfill site and one from 2019 detailing the results of a geotechnical investigation completed by Transport. A brief summary of the scope and results of the investigations are included in the following sections.

3.7.1 Landfill Assessment – Geologix 2012

Aurecon located an environmental report from 2012 through an internet search. In 2012, Geologix was commissioned by Flower Power Pty Ltd to undertake a limited site investigation and to produce the *Site Conceptual Model – 479 Henry Lawson Drive Milperra, NSW* report dated March 2012 (Geologix 2012). The report summarised the review of site history information including historical investigations and the results of an investigation completed in 2011. Geologix undertook a relative extensive investigation that included:

- Systematic shallow surface soil sampling across landfill cap on a 50 m grid. All soil samples were analysed for a range of COPCs.
- Collection of five evenly spaced samples of landfill waste beneath the landfill cap
- Collection of four native soil samples beneath landfill waste at evenly spaced locations
- Installation of five groundwater wells at evenly spaced across landfill for collection of groundwater samples and analysis of range of COPC
- Surface methane gas emission survey on 25 m grid based transects
- Measurement of gas accumulation (CH4, CO2, H2S, O2) and explosive limits within the installed monitoring wells

The conclusions of the SCM report included:

- The property at 479 Henry Lawson Drive was approved for deposition of landfill waste between 1970 and 1973 and filling may have occurred before that
- The landfill was not closed per the current regulations and reportedly covered with 4 m of fill material
- Flower Power Pty Ltd has owned the property since 1980 which had some limited land uses including a wholesale garden from 1980-2009

- Geologix reported that shallow soil samples contained lead, PCBs and ACM at concentrations or weight percents above the Tier I screening values applicable at the time of the investigation
- The landfill waste was reported to contain household and commercial waste including paper plastic, timber, cloth, metal and mixed soil
- Soil samples from landfill waste showed elevated concentrations of heavy end TPH, PAHs and lead. Asbestos fibres were also detected in the soil samples
- Ammonia was detected at elevated concentrations in natural soil samples. No other COPCs were detected at concentrations above the Tier I screening values applicable at the time of the investigation
- A range of metals, ammonia, cyanide, surfactants and benzene were detected in groundwater samples at concentrations above the Tier I screening values applicable at the time of the investigation
- Methane gas was reported in surface measurements and was found to be accumulating below the landfill cap
- The primary potential risk identified was impacted groundwater discharging to Georges River and the accumulation of methane below the landfill cap

Geologix reported numerous data gaps based on their investigation which were mostly around the lateral and vertical delineation of the COPCs detected in the environmental media as described above. Geologix recommended a Stage 2 Investigation to address the data gaps.

Minutes from a Council meeting in 2012 were also located via an internet search The minutes indicated that a DA was lodged in 2010 and in 2012 Council was trying to determine if they had authority to establish the Conditions of Consent or if Department of Planning , Industry and the Environment (DPI, at that time) had to make the determination. Regardless of their authority, Council recommended that a RAP was prepared and implemented and a Site Audit Statement and Site Audit Report (SAS/SAR) be required to show the site was suitable for the proposed development.

Aurecon could not locate additional details regarding the on works after 2012. Given the Flower Power was constructed at the site, it is reasonable to assume that appropriate remediation was undertaken to render the property suitable for that land use.

3.7.2 Geotechnical Investigation – Transport 2019

A geotechnical investigation was commissioned by Transport in 2019; Strategic Geotechnical Factual Report dated 8 April 2019. As part of the geotechnical works, selected soil samples were analysed for environmental contaminants and properties. One borehole and six test pits were advanced as part of this previous investigation along the proposed proposal alignment. A total 75 soil samples were collected, however only 20 were selected for chemical analysis which included the following analytes:

- PFAS (12 analytes)
- Asbestos Identification
- Herbicides
- ASS
- Total Recoverable Hydrocarbons (TRH)
- Benzene, toluene, ethylbenzene, and xylene (BTEXN)
- Polycyclic Aromatic Hydrocarbons (PAH)
- Phenols
- Organochlorine and Organophosphorus Pesticides (OC/OPs)
- Polychlorinated Biphenyls (PCB)
- Heavy metals 8 (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc).

The results of these tests indicate the following:

- Asbestos was not identified over 0.1 g/kg (this was the limit of reporting in any soil sample). One sample reported identifiable asbestos at 0.1 g/kg, which the laboratory estimated to have a total concentration below the 0.1 g/kg LOR.
- No herbicides were detected above the limit of reporting in any soil samples
- Very low concentrations of PFOS were detected in five soil samples

- Very low concentrations of PFHxS was detected in three soil samples
- Metals including: Arsenic, Chromium, Copper, Lead, Nickel, and Zinc were consistently reported above the limit of reporting at low concentrations
- OC/OPs, Phenols, and BTEXN compounds were not detected above the limit of reporting in soil samples
- Two samples returned minor concentrations of PAH across the suite
- Minor concentrations of mid to long chained petroleum hydrocarbons were reported in two soil samples
- Three soil samples reported elevated net acidity concentrations as reported for the acid sulphate suite of analysis

Samples were preliminarily screened against relevant screening criteria within the *National Environment Protection Measure (NEPM), amended 2013* to determine relative risks associated with the encountered contaminant concentrations. PFAS concentrations detected in soil samples were also reviewed against the *PFAS National Environmental Management Plan (PFAS NEMP)* to determine relative risks associated with identified PFAS concentrations. The following points were noted during the preliminary screening;

- All reported PFOS detections were reported at levels below the conservative PFAS NEMP human health based criteria for residential soils
- All reported PFHxS detections were reported at levels below the conservative PFAS NEMP human health based criteria for residential soils
- Metals including; Arsenic, Chromium, Copper, Lead, Nickel and Zinc were reported at concentrations below the most conservative NEPM human health screening criteria (for a Residential A land use setting)
- PAHs reported above the LOR fell below the most conservative human health screening criteria in the NEPM (for a Residential A land use setting)
- Concentrations for mid and long chained Petroleum Hydrocarbons were all reported well below any relevant hydrocarbon human and ecological health risk screening criteria within the NEPM
- Three samples reported net acidity concentrations that could be indicative of the presence of ASS.

Based on the analytical results, no gross contamination is expected to be encountered across the overall proposal area, however the sampling density is not sufficient from which to draw meaningful conclusions.

4 Preliminary Site Conceptual Model

4.1 Overview

Generally, a CSM provides an assessment of the fate and transport of contaminants of potential concern (CoPCs) relative to site specific, subsurface conditions with regard to their potential risk to human health and the environment. The CSM takes into account site-specific factors including:

- Source(s) of contamination
- Identification of CoPCs associated with past (and present) activities undertaken on and off site
- Soil types, geology and hydrogeological conditions
- Vertical and lateral distribution of CoPCs including actual or potential receptors considering both current and future land use for both the site and adjacent properties, and any sensitive ecological receptors

The culmination of the CSM is the assessment of risk based on evaluating Source – Pathway – Receptor linkages:

- Contaminant (source) – A substance that has the potential to cause harm to environmental receptors
- Pathway – The mechanism by which a receptor is exposed to a source. This can include the transport of contamination via water (surface and groundwater), windborne dust, vapours, excavation, direct contact, ingestion and deposition
- Receptor – Humans, plants and animals which may be detrimentally affected by being exposed to a source

The source-pathway-receptor relationship shows the potential hazards based on the nature of the source, the degree of exposure of a receptor to a source and the sensitivity of the receptor. On this basis an assessment is made of the environmental liabilities associated with the risk. The potential environmental risks have been evaluated with respect to potential impacts on:

- Surface water bodies
- Groundwater
- Sensitive sites and ecosystems
- Current and future site users including future construction workers
- Current and future adjacent site users

Potential impacts on downstream ecosystems, such as groundwater dependent ecosystems and other sensitive ecosystems are discussed in the Groundwater Impact Assessment and the Biodiversity Assessment Report.

The following sections provide a CSM and evaluation of risks for each the REF proposal area and the EIS proposal area.

4.2 Preliminary CSM – REF Proposal Area

Based on the information obtained and reviewed during this PSI, the site specific source-pathway-receptor assessment for the REF proposal area are summarised in Table 4-1. The APECs identified in this report and summarised below are shown in Figure 7, Appendix A.

Table 4-1 Conceptual Site Model – REF Proposal Area

Activities of concern	Potential sources	Associated COPCs	Pathways	Potential receptors
Onsite filling	Presumed presence of fill materials imported during construction of the Henry Lawson Drive and associated infrastructure during the 1960s.	TPH/TRH, BTEXN, PAHs, VOCs, PCBs, OCP/OPPs, metals, PFAS, asbestos	■ Dermal contact ■ Incidental ingestion/ inhalation of soils and/or soil derived dust ■ Storm water runoff into the Georges River ■ Downstream flow in the Georges River and associated tributaries ■ Inhalation of vapours ■ Infiltration to groundwater.	■ Onsite construction workers ■ Offsite receivers in adjacent commercial or residential properties ■ Surface water, particularly the Georges River ■ Groundwater ■ Coastal wetland flora and fauna outside of the REF Area.
Airport operations	Bankstown Airport operations including the historic use of AFFF, UXO, aviation fuels and heavy metals.	TPH/TRH, BTEXN, PAHs, VOCs, metals, PFAS		
Offsite commercial land uses	Potential proximal presence of fill materials due to the construction of infrastructure and buildings around the site.	TPH/TRH, BTEXN, PAHs, VOCs, PCBs, OCP/OPPs, metals, PFAS, asbestos		
Excavations intercepting groundwater and waterlogged soils, ASS	Excavation and deep piles (particularly for the Auld Avenue Bridge) likely to encounter groundwater or waterlogged soils have the potential to intercept ASS. ASS are considered highly likely to occur at various probabilities onsite (refer Figure 3, Appendix A), and any ground disturbance during construction works could lead to acid sulphate soils if disturbed.	Acid Sulfate Soils/Potential Acid Sulfate Soils		
Former Landfill operations	Former landfill identified along the south east of the proposal alignment at 479 Henry Lawson Drive. The SCM Report (Geologix, 2012) indicated soil, groundwater, and landfill gas impacts at this property in 2012. During construction, should any ground disturbance activity be undertaken in the area could lead to volatile gas impacts and exposed wastes. Impacted groundwater may also have migrated from this property toward Georges River	TPH/TRH, BTEXN, PAHs, VOCs, PCBs, OCP/OPPs, metals, PFAS, asbestos Landfill gases (methane and carbon dioxide)		
Golf Course operations and maintenance	Maintenance and operations of the nearby golf courses has the potential to introduce herbicides, pesticides and excess nutrients to the soil profile. These are likely to infiltrate the groundwater due to frequent watering of the grasses and flushing of the soil profile.	Nutrients, OCPs/OPPs		
Current petrol station operations and infrastructure	The status of the BP Truck Stop service station (formerly a 7-eleven service station) and associated underground infrastructure on Henry Lawson Drive is unknown. Potential subsurface impacts could be encountered at or near this site. Further, the service station may be impacted by construction works requiring management.	TPH/TRH, BTEXN, PAHs, VOCs, OCP/OPPs, metals		

4.3 Preliminary CSM – EIS Proposal Area

Based on the information obtained and reviewed during this PSI, the site specific source-pathway-receptor assessment is summarised in Table 4-2. The APECs identified in this report and summarised below are shown in Figure 7, Appendix A.

Table 4-2 Conceptual Site Model – EIS Proposal Area

Activities of concern	Potential sources	Associated COPCs	Pathways	Potential receptors
Onsite filling	Presumed presence of fill materials imported during construction of the Henry Lawson Drive and associated infrastructure during the 1960s. Potential fill to private property on EIS proposal area 3.	TPH/TRH, BTEXN, PAHs, VOCs, PCBs, OCP/OPPs, metals, PFAS, asbestos	▪ Dermal contact ▪ Incidental ingestion/inhalation of soils and/or soil derived dust ▪ Surface water runoff into the Georges River ▪ Downstream flow in the Georges River and associated tributaries ▪ Inhalation of vapours ▪ Infiltration to groundwater.	▪ Onsite construction workers ▪ Offsite receivers in adjacent commercial or residential properties ▪ Surface water, particularly the Georges River ▪ Groundwater ▪ Coastal wetland flora and fauna.
Airport operations	Bankstown Airport operations including the historic use of AFFF, UXO, aviation fuels and heavy metals. If there is gross contamination near the boundary of the Airport, it could migrate to EIS Proposal Areas 1 and 2. However, would not extend to EIS proposal Area 3.	TPH/TRH, BTEXN, PAHs, VOCs, metals, PFAS		
Offsite commercial land uses	Potential proximal presence of fill materials due to the construction of infrastructure and buildings around the site. If there are impacts, they could extend to any of the three EIS proposal areas.	TPH/TRH, BTEXN, PAHs, VOCs, PCBs, OCP/OPPs, metals, PFAS, asbestos		
Excavations intercepting groundwater and waterlogged soils	Excavation at depths likely to encounter groundwater or waterlogged soils have the potential to intercept ASS. ASS are considered highly likely to occur at various probabilities onsite (refer Figure 3, Appendix A), and any ground disturbance during construction works could lead to acid sulphate soils if disturbed. This is potentially relevant to EIS proposal areas 1 and 2 where some excavation may be required to extend drainage structures.	TPH/TRH, BTEXN, PAHs, VOCs, metals, PFAS		
Current petrol station operations and infrastructure	The status of the BP Truck Stop service station (formerly a 7-eleven service station) and associated underground infrastructure on Henry Lawson Drive is unknown. Potential contamination could occur from this site. Further, the service station may be impacted by construction works requiring management. If gross contamination is present it is possible this could extend to EIS Proposal Area 1.	TPH/TRH, BTEXN, PAHs, VOCs, OCP/OPPs, metals		

4.4 Preliminary risk assessment

Qualitative risk is assessed by estimating the likelihood of each identified potential SPR linkage occurring and the foreseeable consequence of the exposure. Consequences are broadly defined by the definitions in Table 4-3.

Table 4-3 Consequence definitions

Classification	Human Health	Ground/Surface Water	Ecological	Built Environment
Severe	Irreversible damage to human health or death	Substantial pollution of sensitive water resources	Significant change to the number of one or more species or ecosystems.	Irreparable damage to buildings, structures or the environment.
Moderate	Non-permanent effects to humans	Substantial pollution of non-sensitive water resources or small-scale pollution	Change to population densities of non-sensitive species.	Damage to sensitive buildings, structures or the environment.
Mild	Slight short tern health effects to humans	Slight pollution to non-sensitive water resources	Some changes to population densities but with no negative effects on the function of the ecosystem	Easily repairable effects of damage to buildings or structures.
Negligible	No measurable health effects to humans	Insubstantial pollution to non-sensitive water resources	No significant changes to population densities in the environment or in any ecosystem	Very slight non-structural damage or cosmetic harm to buildings or structures.

Likelihood ratings are defined as:

- **Rare –** Has not occurred in the past 5 years OR may occur in exceptional circumstances, i.e. less than 10% chance of occurring in the next 24 months if the risk is not mitigated.
- **Unlikely –** May have occurred once in the last 5 years OR has a 10-30% chance of occurring in the future if the risk is not mitigated.
- **Possible –** Has happened during the past 5 years but not in every year OR has a 40-60% chance of occurring in the next 24 months if the risk is not mitigated.
- **Likely –** Has happened at least once in the past year and in each of the previous 5 years OR has a 60-90% chance of occurring in the next 24 months if the risk is not mitigated.
- **Almost Certain –** Has happened several times in the past year and in each of the previous 5 years OR has a > 90% chance of occurring in the next 24 months if the risk is not mitigated

After consideration of likelihood and consequence, the overall risk ratings are assessed in accordance with Table 4-4.

Table 4-4 Risk ratings

	Likelihood				
Consequence	**Rare**	**Unlikely**	**Possible**	**Likely**	**Almost Certain**
Severe	Low	Low to Moderate	Moderate to High	Very High	Very High
Moderate	Negligible to Low	Low	Moderate	Moderate to High	High
Mild	Negligible	Low	Low	Low to Moderate	Moderate
Negligible	Negligible	Negligible	Negligible to Low	Low	Low

Risk ratings are defined as:

- **Negligible** – The presence of the identified source does not give rise to the potential to cause significant harm.
- **Low** – It is possible that harm could arise to a designated receptor from an identified source though this is likely to be mild.
- **Moderate** – It is possible that harm could arise to a specific receptor, but it is unlikely that such harm would be significant.
- **High** – A designated receptor is likely to experience significant harm from an identified source without remedial action.
- **Very high** – There is a high probability that severe harm could arise to a designated receptor from an identified source without appropriate remedial action.

Aurecon has provided a risk ranking for each of the AECs described in Sections 4.2 and 4.3. The risk ranking table has been divided between the REF proposal area, Table 4-5 and the EIS proposal area in Table 4-6.

Table 4-5 Preliminary risk assessment – REF Proposal Area

Potential sources	Associated COPCs	Potential receptors	Assessment of potential impact	Likelihood	Consequence	Risk rating
Onsite filling	Heavy metals, TRH, BTEX, PAH, OC/OPs, PCBs, VOC, PFAS, asbestos	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	There may be CoPCs present within uncontrolled fill presumed to have been used historically. The results of the Geotechnical investigation conducted in 2019 (Section 3.7) indicated that there were no elevated CoPC concentrations in the soil samples collected. However, the soil samples were collected from only seven locations and the exact sampling locations are not known. Therefore, it is unlikely that the full lateral extent of the REF proposal area was investigated. It is possible that CoPCs at concentrations above the Tier I screening values may be present in fill material within the proposal area. Up to 148m^3 of waste may be generated during excavation activities. Based on the previous analytical results, soil may be General Solid Waste (GSW). Given the extent of upgrades it is possible that some areas may generate Restricted Solid Waste (RSW) category material) The designs of the bridge piles have not been determined yet so it is not possible to determine volumes of spoil that may be produced during pile construction.	Likely	Moderate	Low to Moderate
Airport operations	Heavy metals, TRH, BTEX, PAH, OC/OPs, PCBs, VOC, PFAS	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater	The use of the Airport as a Defence facility (around WW2) and then an operating airport could lead to a range of COPCs being present in the soil and groundwater. Identified contaminants within the soil profile have the potential for leaching to groundwater and impacting the underlying groundwater table, particularly due to regular flooding of the site and stormwater infrastructure from the Airport which could cause migration to the proposal area. Given the extensive development around the Airport, it is unlikely that significant impacts extend to off-site areas in soil. Low concentrations of COPCs may be detected in groundwater in the REF proposal area which are unlikely to encountered during the road upgrades	Unlikely	Negligible	Low

Potential sources	Associated COPCs	Potential receptors	Assessment of potential impact	Likelihood	Consequence	Risk rating
	UXO (explosive residues and inert industrial wastes)	Coastal Wetland Flora and Fauna	UXO finds pose a higher risk due to the potential for explosive residues and volatile compounds. UXO could lead to inert industrial wastes within the soil profile such as metal cannisters and other casings. There is a low likelihood of encountering these materials due to the development of the airport and widening of Henry Lawson Drive. Based on review of the available aerial photographs, significant soil disturbance has occurred in the area since WW2. However, impacts from these finds cannot be excluded from consideration due to the proximity to the proposal area. Correspondence from the DoD indicates there is a very low likelihood of UXO being encountered and if there are any small ad-hoc disposals are unlikely to be High Explosive in nature. A recommendation for Unexpected Finds Protocol is included in Section 5.	Unlikely	Severe	Low to Moderate
Offsite residential and commercial land uses	Heavy metals, TRH, BTEX, PAH. OCP and OPPs, PCB, Asbestos	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	Any off-site fill (outside of the overall proposal boundary) from surrounding site construction is present below hard stand and not accessible to potential human or environmental receptors. It is highly unlikely that off-site fill material would be disturbed during construction activities.	Unlikely	Negligible	Low

Potential sources	Associated COPCs	Potential receptors	Assessment of potential impact	Likelihood	Consequence	Risk rating
Excavations intercepting groundwater and waterlogged soils	ASS, Sulphuric Acid, hydrogenated metals, heavy metals	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	Excavation of soils within the Parramatta/Georges River hydrogeological landscape across the alignment could expose acid sulphate soils. These areas include south west, west and north west sections of the proposal alignment (refer to Figure 3). Preliminary laboratory data indicated the likely presence of ASS in samples from these areas. Once excavated, ASS, if left unmanaged, could cause harm to nearby waterways and coastal wetlands, flora and fauna in the area, and impact constructability of the road upgrade. Relatively small volumes of spoil will be produced from shallow excavations. Additionally, there are standard practices to manage ASS and PASS, particularly the small volumes anticipated to be produced during this proposal.	Likely	Moderate	Low to Moderate
Former Landfill operations	Heavy metals, PCBs, Nutrients, PAHs, TRH, Ammonia, BTEX, Landfill gases, Acids, and Inert landfill wastes	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	A former landfill is located at 479 Henry Lawson Drive as shown on Figure 7 in Appendix A. In 2012, elevated concentrations of several COPCs were detected in soil and groundwater including ammonia and ACM. Methane was detected in subsurface soil vapour and reportedly was accumulating (Geologix, 2012). In 2012, Council required a Remedial Action Plan (RAP) be prepared and implemented to render the site suitable for the intended land use as the Flower Power. Council also required a Site Audit Statement (SAS) and Site Audit Report (SAR) be prepared to verify that the remediation and validation works were completed in accordance with the applicable guidelines and legislation. Aurecon could not locate documentation on the extent of remediation or any validation works conducted after 2012. However, the Flower Power has since been constructed so it is reasonable to assume that remediation and validation was completed. There is still a risk that impacts from the former landfill may still be present at measurable concentrations within or near the proposal alignment. Impacts from the former landfill could include encountering wastes, COPCs in soil and groundwater, LFG and landfill which could become exposed and mobilised into the environment during construction. Contaminated groundwater may still be present and migrating toward Georges River.	Possible	Moderate	Moderate

Potential sources	Associated COPCs	Potential receptors	Assessment of potential impact	Likelihood	Consequence	Risk rating
Golf Course operations and maintenance	OCPs/OPPs and Nutrients	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	General upkeep and maintenance of the two golf courses in the area have the potential for pesticide, herbicide, and elevated nutrients from fertiliser use, to migrate offsite through surface runoffs, leach into groundwater and surface water. The presence of nutrients in the proposal area is not a risk to this proposal. Given the area is generally sealed, it is highly unlikely that OCPs/OPPS have migrated to soils in the proposal area.	Unlikely	Negligible	Low
Current BP Truck Stop service station operations and infrastructure	Heavy metals 8, TRH, BTEX, PAH, VOCs, and PFAS	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	The status of the BP Truck Stop service station's underground infrastructure is not currently known and there is a risk of underground storage tanks (USTs), which store petrol and other fuels, to have potentially leaked and impacted the surrounding soils and groundwater. These could pose a risk to construction workers and the wider environment should any spills or leaks be encountered during nearby construction works particularly to the north of the Milperra Road intersection. Further impacts to groundwater from UST leakage are unknown and may be encountered during piling works and deeper excavations. Preliminary soil analysis during the 2019 geotechnical investigation results indicate the presence of PFAS compounds and heavy metals in the soil profile in this area.	Possible	Moderate	Low to Moderate

Table 4-6 Preliminary risk assessment – EIS Proposal Area

Potential sources	Contaminant	Potential receptors	Assessment of Potential Impact	Likelihood	Consequence	Risk rating
Onsite filling	Heavy metals, TRH, BTEX, PAH, OC/OPs, PCBs, VOC, PFAS, asbestos	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	There may be intermittent CoPCs present within uncontrolled fill presumed to have been used historically in and adjacent to these areas. Only small volumes of spoil will be generated in EIS proposal area works (0.9m^3) which can be easily managed with standard construction practices.	Possible	Low	Low
Airport operations	Heavy metals, TRH, BTEX, PAH, OC/OPs, PCBs, VOC, PFAS	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	The use of the Airport as a Defence facility and then an operating airport could lead to a range of COPCs being present in the soil and groundwater. Identified contaminants within the soil profile have the potential for leaching to groundwater and impacting the underlying groundwater table, particularly due to regular flooding of the site and stormwater infrastructure from the Airport which could cause migration to the proposal area. Given the extensive development around the Airport, it is unlikely that significant impacts extend to off-site areas in soil. If gross contamination exists in groundwater, these could extend to EIS proposal Area 1 and Area 2 but are unlikely to be encountered during the proposed works.	Unlikely	Negligible	Low
	UXO (explosive residues and inert industrial wastes)		UXOs would not be a CoPC for the EIS proposal areas due to their distance from the Airport.	Unlikely	Negligible	Low

Potential sources	Contaminant	Potential receptors	Assessment of Potential Impact	Likelihood	Consequence	Risk rating
Offsite residential and commercial land uses	Heavy metals, TRH, BTEX, PAH. OCP and OPPs, PCB, Asbestos	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	Any off-site fill (outside of the overall proposal boundary) from surrounding site construction is present below hard stand and not accessible to potential human or environmental receptors. It is unlikely that off-site fill material would be disturbed during construction activities.	Unlikely	Negligible	Low
Excavations intercepting groundwater and waterlogged soils	ASS, Sulphuric Acid, hydrogenated metals, heavy metals	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	Excavation of soils within the Parramatta/Georges River hydrogeological landscape across the alignment are could expose acid sulphate soils. EIS proposal area 1 is in an area of high risk of encountering ASS. Once excavated, ASS, if left unmanaged, could cause harm to nearby waterways and coastal wetlands, flora and fauna in the area, and impact constructability of the road upgrade. Relatively small volumes of spoil will be produced from shallow excavations in EIS Proposal Area 1. Additionally, there are standard practices to manage ASS and PASS, particularly the small volumes anticipated to be produced during this proposal. EIS proposal areas 1 and 2 are in area of low risk of encountering ASS.	Probable (EIS Proposal Area 1)	Low	Low to Moderate
Former Landfill operations	Heavy metals, PCBs, Nutrients, PAHs, TRH, Ammonia, BTEX, Landfill gases, Acids, and Inert landfill wastes	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	A range of COPCs can be associated with former landfills. However, given the distance and direction of the landfill to all three EIS proposal areas, and the nature of proposed activities on the EIS proposal areas, there is negligible risk that they would be impacted by former landfill	Unlikely	Negligible	Low

Potential sources	Contaminant	Potential receptors	Assessment of Potential Impact	Likelihood	Consequence	Risk rating
Golf Course operations and maintenance	OCPs/OPPs and Nutrients	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	General upkeep and maintenance of the two golf courses in the area have the potential for pesticide, herbicide, and elevated nutrients from fertiliser use, to migrate offsite through surface runoffs and leaching into groundwater. It is possible that nutrients have migrated to EIS proposal areas 2 and 3 but if present, they do not pose a potential risk to the proposal as construction activities in these areas are unlikely to intersect the groundwater table.	Possible	Negligible	Low
Current BP Truck Stop service station operations and infrastructure	Heavy metals 8, TRH, BTEX, PAH, VOCs, and PFAS	**Human** Future construction workers **Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna **Downstream Environmental** Surface water Groundwater Coastal Wetland Flora and Fauna	The status of the BP Truck Stop service station's underground infrastructure is not currently known and there is a risk of underground storage tanks (USTs), which store petrol and other fuels, to have potentially leaked and impacted the surrounding soils and groundwater. If gross impacts are present below the service station it is possible they could migrate to EIS proposal area 1. Due to location of the service station, the potential risk to EIS proposal areas 2 and 3 is negligible.	Possible	Low	Low

5 Conclusions and recommendations

The proposal spans approximately 1.3 km of Henry Lawson Drive from Tower Road, Bankstown Aerodrome to Keys Parade in Milperra, 22 km south-west of the Sydney CBD. The investigation area also encompasses an additional 480 m along Milperra Road and the Newbridge Road Georges River bridge tie in, south of the Bankstown Airport.

This Preliminary Site Investigation (PSI) has been prepared to assess the existing risk and potential land contamination impacts within and near the proposal footprint. It will support a REF being prepared by Transport under Division 5.1 of the EP&A Act and an EIS being prepared under Division 4.1 of the EP&A Act.

The REF has been prepared for the majority of the proposal area, where Transport can approve works under the State Environmental Planning Policy (Infrastructure) 2008 (referred to as the 'REF proposal'). However, as part of the proposal is located within areas mapped as coastal wetlands under the State Environmental Planning Policy (Coastal Management) 2018, this part of the proposal is deemed designated development and is subject to an EIS. The work within mapped coastal wetlands is referred to as the 'EIS proposal'.

5.1 Conclusions

Based on the desktop information reviewed, available previous reports and information obtained, the conclusions are summarised in Table 5-1, which include the relevance to the REF Proposal and/or the EIS Proposal.

Table 5-1 Conclusions for the REF proposal and EIS proposal areas

Conclusion	Relevant to REF Proposal (Y/N)	Relevant to EIS Proposal (Y/N)
Site Physical Setting and History		
Henry Lawson Drive and Milperra Road were constructed sometime between 1951 and 1961 and have remained road corridors since. The identified coastal wetlands appear not to be disturbed over time. The Bankstown Airport, located the north east of the proposal alignment, was constructed during WW2 and has remained an airport since that time. The surrounding land use has been increasingly developed with a mixture of low density residential and light industrial/commercial. The Georges River is located directly east of the proposal area.	Y	Y
The proposal area lies in a flat floodplain area for the nearby Georges River and is underlain with poorly drained and low permeability soils. Several drainage channels carrying runoff underneath Henry Lawson Drive were identified during the site inspection to drain directly toward the Georges River	Y	Y
During previous environmental investigations 20 soil samples were selected for laboratory analysis from one borehole and six test pits along Henry Lawson Drive and Milperra Road. Preliminarily screening of the analytical results against relevant criteria in the *National Environment Protection Measure (NEPM), amended 2013* and *PFAS National Environmental Management Plan (PFAS NEMP) i*ndicates concentrations were below human health screening criteria.	Y	N
Areas of Potential Environmental Concern (APEC)		
A former landfill abuts the proposal area to the south where the Flower Power Garden Centre is now located. Previous investigations indicated elevated COPC concentrations in soil and groundwater as well as elevated methane and LFG concentrations (Geologix, 2012). In 2012, Council required a RAP be prepared and implemented to render the site suitable for the intended land use as the Flower Power. Council also required a SAS and SAR be prepared to verify that the remediation and validation works were completed in accordance with the applicable guidelines and legislation.	Y	N

Conclusion	Relevant to REF Proposal (Y/N)	Relevant to EIS Proposal (Y/N)
Aurecon could not locate documentation on the extent of remediation or any validation works conducted after 2012. However, the Flower Power has since been constructed so it is reasonable to assume that remediation and validation was completed.		
An operational petrol station is located along the commercial shopping strip at the intersection of Milperra Road and Henry Lawson Drive.	Y	EIS Area 1 only
Bankstown Airport is located to the north east of the proposal alignment and historical practices could have impacted the soil, groundwater and surface water across the site. The Airport is currently listed as a potential Per and Poly-Fluoroalkyl Substances (PFAS) source area by the NW Environment Protection Authority. Additionally, the Bankstown Airport is also listed on the Defence unexploded ordinance (UXO) database and unexploded ammunition and other associated risks may be present within the airport and surrounding areas.	Y	EIS Area 1 only
Onsite fill materials observed during Aurecon's site inspection were noted to contain evidence of car oils and fuels from spills and car accidents along the road shoulder.	Y	Y
A portion of the proposal area is in an area of high risk for encountering acid sulphate soils. These areas are in the south west near Auld Avenue, and the north west portion of the REF proposal and in EIS proposal Area 1. The risk of encountering ASS/PASS in these areas is from soils from 2-4m are disturbed.	Y	EIS Area 1 only
Conceptual Site Model (Source – Pathway Receptor Linkages)		
The Chemicals of Potential Concern (COPCs) associated with the APECs identified above include: Total Petroleum Hydrocarbons (TPH), benzene, toluene, ethylbenzene, total xylenes, naphthalene (BTEXN), polycyclic aromatic hydrocarbons (PAHs), heavy metals, polychlorinated biphenyls (PCBs), organochlorine and organophosphorus pesticides (OCPs/OPPs), PFAS, asbestos and ASS/PASS. Note that not all of these COPCs are related to all of the APECs identified above.	Y	Y ASS/PASS in EIS Area 1 only
If COPCs are present, the potential pathways by which they could be mobilised to a receptor include migration from soil through storm, surface or ground water. If impacted soil is disturbed, a human receptor could be directly exposed through dermal contact, inhalation or ingestion.	Y	Y
Under the current site conditions as a road corridor, it is highly unlikely that a human receptor could be exposed to impacted soil or water, if present. During future construction activities, it is possible for workers to have incidental exposure to impacted soil or water if it is present. If impacted soil is mobilised to off-site areas, it is possible that off-site human receptors could be incidentally exposed. There are likely a range of potential ecological receptors in and around the Georges River and potentially in the coastal wetland areas. Surface water and groundwater are also potential receptors of impacted soil or water, if it is present	Y	Y
Risk Assessment		
It is understood that approximately 184m^3 of spoil material will be produced for the REF proposal. Additional spoil will be produced for installation of the bridge piles for the new bridge duplication over Milperra Drain. However, the pile design details have not yet been finalised and therefore, the volume of spoil produced during their installation is unknown at this time. Groundwater will also likely be encountered during installation of the piles.	Y	N
There is still a risk that impacts from the former landfill at 479 Henry Lawson Drive may still be present at measurable concentrations within or near the proposal alignment. Impacts from the former landfill could include encountering wastes, COPCs in soil and groundwater, LFG and landfill which could become exposed and mobilised into the environment during construction. Contaminated groundwater may still be present and migrating toward Georges River.	Y	N
It is understood that approximately 0.9m^3 of spoil material will be produced by the EIS proposal	N	Y

Conclusion	Relevant to REF Proposal (Y/N)	Relevant to EIS Proposal (Y/N)
The risk of encountering COPCs in soil at concentrations above the Tier I screening values in the REF proposal area is considered low to moderate. Given the small volumes of soil waste anticipated to be produced, any impacted soil can be managed through standard excavation and off-site disposal methods.	Y	N
The risk of encountering COPCs in groundwater at concentrations above the Tier I screening values in the EIS proposal area is considered low. Groundwater management measures have been identified in the separate report, Groundwater Impact Assessment (Aurecon 2021).	Y	Y
Bankstown Airport is listed in the Department of Defence UXO database indicating there is a potential for UXO to be in the REF proposal area. Given the development between the Airport and proposal area since WW2, it is unlikely that UXO is present. Correspondence from the DoD indicates there is a very low likelihood of UXO being encountered and if there are any small ad-hoc disposals are unlikely to be High Explosive in nature. However, it cannot be completely discounted. UXOs are not considered to be an issue for the EIS proposal areas.	Y	N
There is a high probability of encountering ASS/PASS in certain areas of the REF and in EIS proposal area 1. However, it is unlikely that soils between 2 and 4m will be disturbed during the proposed construction activities. If ASS/PASS are disturbed, there are standard practices that can be employed to manage the ASS/PASS	Y	EIS Area 1 only

5.2 Recommendations

The following environmental management measures are recommended for the overall proposal. Note that these recommendations are applicable to both the REF and EIS proposal areas (unless otherwise noted):

- As part of the detailed design phase of the proposal, a Detailed Site Investigation should be undertaken near the APECs showing a moderate risk of COPCs at concentrations above the Tier I screening values The scope of the DSI should be detailed in a Sampling Analysis and Quality Plan (SAQP) which should include collection of soil, groundwater and landfill gas samples near moderate risk APECS. The scope of the DSI should be in accordance with the NEPM 2013 and analytical results compared to the applicable Tier I screening values in Schedule B2 of the NEPM 2013.
- Analytical results from any spoil requiring off-site disposal should be compared to the concentrations in the *NSW EPA Waste Classification Guidelines Parts 1 to 4* and *Addendum 1*. If natural soil is disturbed, it may meet the definition of Excavated Natural Material and the analytical data should be compared to the concentrations and requirements in the ENM Resource Recovery Order and Exemption under the Protection of Environmental Operations (Waste) Act 2000.
- A Construction and Environmental Management Plan (CEMP) should be prepared prior to construction commencing. The risk of potentially impacted soil migrating from site during construction, including dust generation and runoff can be minimised by utilising standard practices such as dust suppression, and erosion and sedimentation control. Other controls should include proper use of work health and safety (WH&S) equipment and monitoring of works where asbestos or other contamination is identified. The CEMP should also include a Unexpected Finds Protocol (UFP).
- If soils between 2 and 4 m are disturbed (within the REF proposal and all EIS proposal areas), an Acid Sulfate Soils Management Plan (ASSMP) should be included in the CEMP. The ASSMP should be informed by the results of the Detailed Site Investigation that would include the identification of presence and extent of ASS/PASS, particularly around the proposed bridge duplication works over Milperra Drain near Auld Avenue.
- Prior to any ground disturbance at investigation locations directly west of Bankstown Airport property boundary, investigation planning will incorporate an appropriate risk assessment to determine the likelihood of the presence of any UXOs and detail any additional management measures if required

6 References

Aurecon Australasia (2021). Henry Lawson Drive Stage 1A: Groundwater Impact Assessment. 8 March 2021.

Geologix (2012). *Site Conceptual Model: 479 Henry Lawson Drive, Milperra, NSW* – Flower Power Pty Ltd March 2012.

National Environmental Protection Council (1999a) National Environmental Protection (Assessment of Site Contamination) Measure (as amended 2013) Schedule B1: Guideline on Investigation Levels for Soil and Groundwater, National Environmental Protection Council, April 2013, Canberra.

National Environmental Protection Council (1999c). National Environmental Protection (Assessment of Site Contamination) Measure (as amended 2013) Schedule B2 Appendix C: Assessment of Data Quality, National Environmental Protection Council, April 2013, Canberra.

NSW Environment Protection Authority (2007). Guidelines for the Assessment and Management of Groundwater Contamination, March 2007.

NSW Environment Protection Authority (2017). Guidelines for the NSW Site Auditor Scheme (3rd edition), October 2017.

NSW Environment Protection Authority (2020). Consultants reporting on contaminated land: Contaminated land guidelines, April 2020

NSW Office of Environment and Heritage (2011). Guidelines for Consultants Reporting on Contaminated Sites.

NSW Spatial Services (2019). SIX Maps Viewer [**https://maps.six.nsw.gov.au/**]

NSW Spatial Services (2020). Historical Imagery Viewer [**https://portal.spatial.nsw.gov.au/portal/apps/webappviewer/index.html?id=483caac110ed49e4877ce5a4a62971c6**]

Transport for New South Wales (2019). City of Canterbury-Bankstown MR508 Henry Lawson Drive Upgrade Stage 1A and Stage 1B Strategic Geotechnical Factual Report, 8 April 2019.

7 Limitations

This report has been prepared for Transport. This report has not been prepared for use by parties other than the Client, and the Client's respective consulting advisers and construction contractors.

This report has been written with the express intent to inform planning and design upgrades at the site. Subsurface conditions relevant to future construction works should be assessed by contractors who can make their own interpretation of the factual data provided, perform any additional tests as necessary for their own purposes and determine the suitability of particular techniques and equipment for the conditions.

In preparing the report, Aurecon has relied upon data, surveys, analyses, designs, plans and other information provided by the client and other individuals and organisations, most of which are referred to in the report (the data). Except as otherwise stated in the report, Aurecon has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report (conclusions) are based in whole or in part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Aurecon will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Aurecon.

In accordance with the scope of services, Aurecon has relied upon the data and has not conducted any environmental field monitoring or testing in the preparation of the report. The conclusions are based upon the data and are therefore merely indicative of the environmental condition of the site at the time of preparing the report, including the presence or otherwise of contaminants or emissions.

Within the limitations imposed by the scope of services, the assessment of the site and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

Appendix A
Figures

P:\GIS\Project-4\project\510003_HenryLawsonDrive\PSI_Figure 2 – Site Topography.mxd\JOB No.\4-03-21\Ross.Mal\Rev 0

Source: Aurecon, TfNSW, Spatial Services, Nearmap

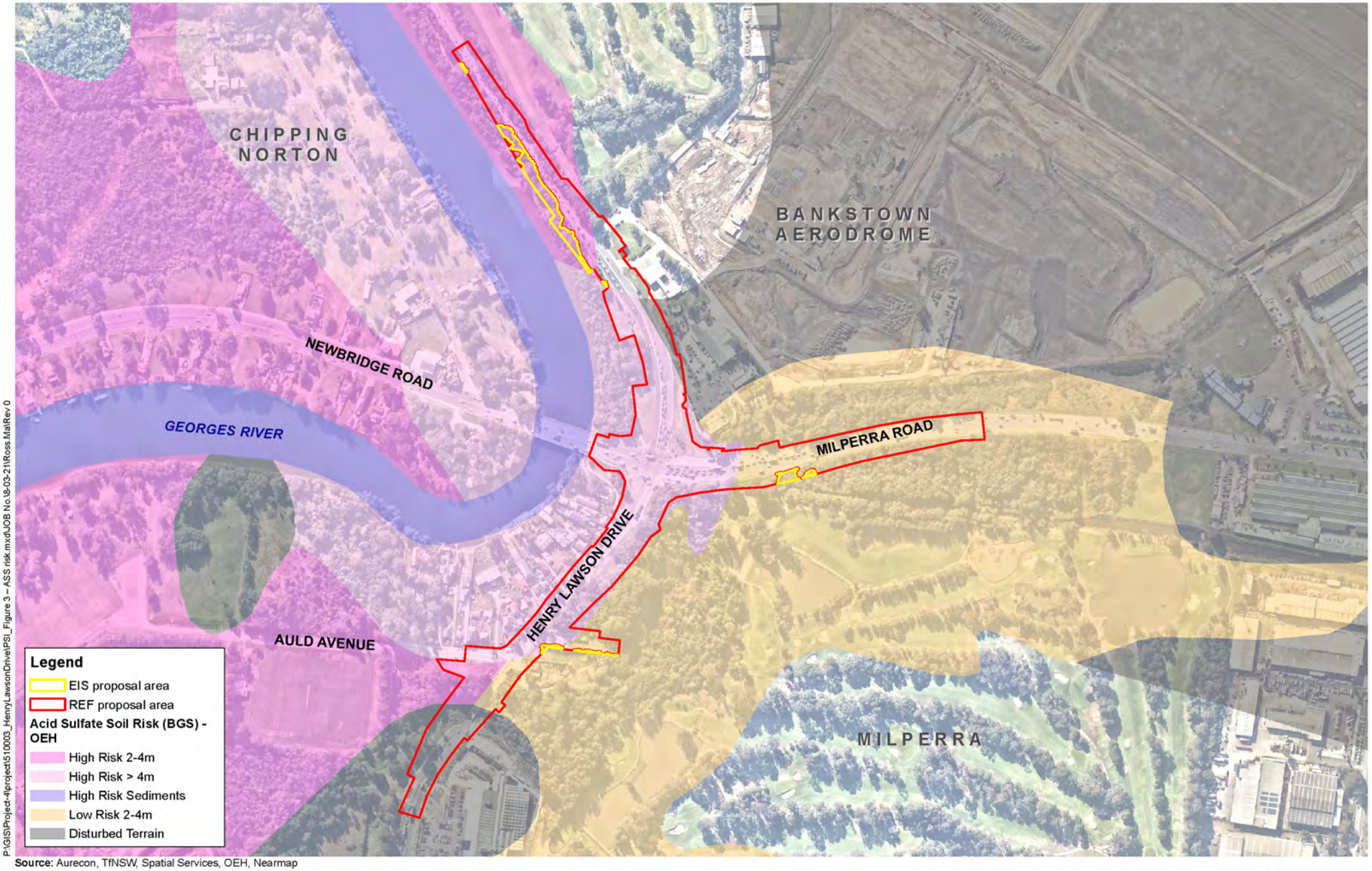
1:28,000

0 500 1,000 m

Projection: GDA 1994 MGA Zone 56

Henry Lawson Drive Stage 1A **PSI**

FIGURE 2: Topography



P:\GIS\Project-4\project\510003_HenryLawsonDrive\PSI_Figure 3 – ASS risk.mxd\JOB No.\8-03-21\Ross.Mal\Rev 0

Source: Aurecon, TfNSW, Spatial Services, OEH, Nearmap

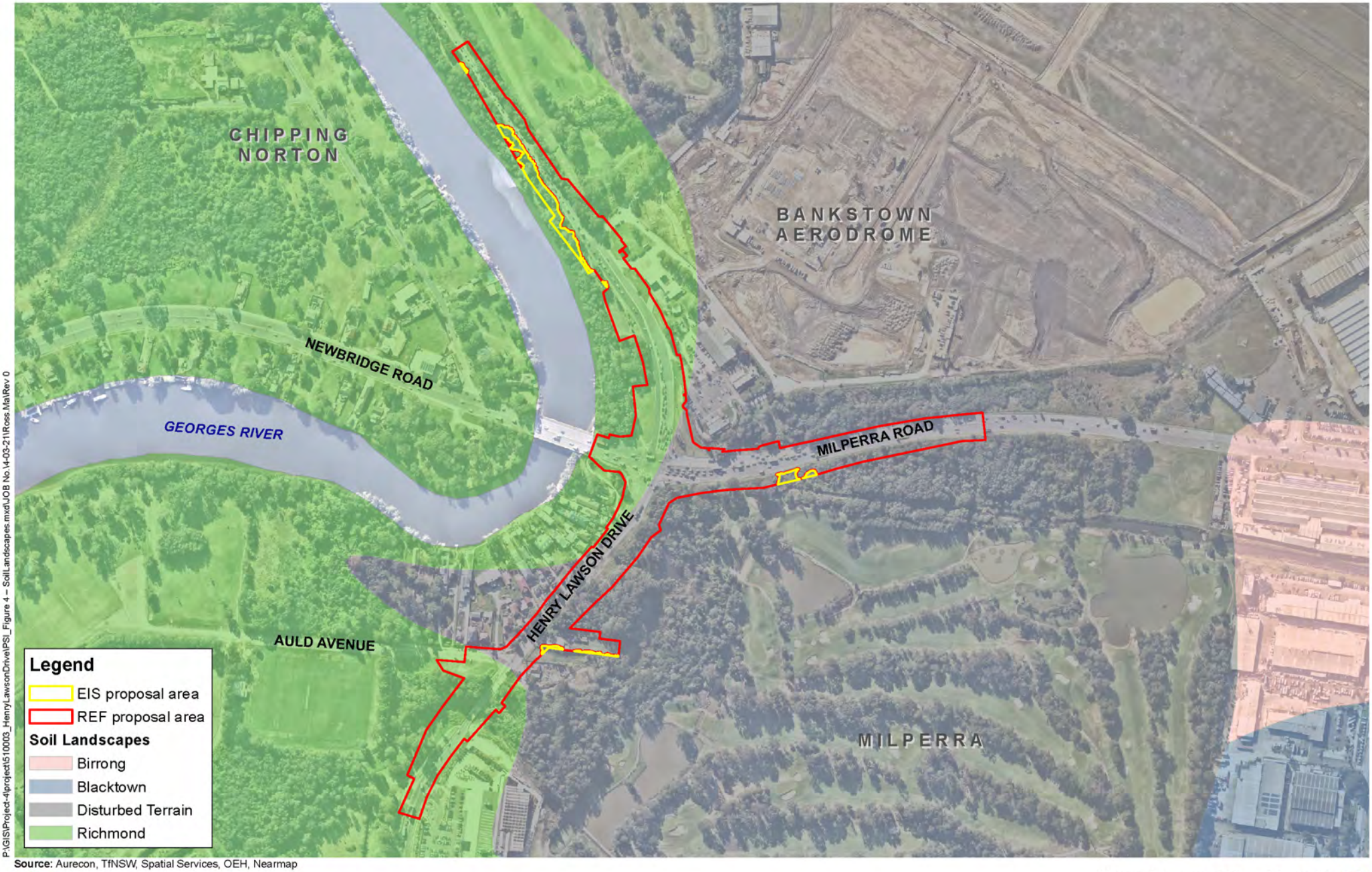
1:6,500

0 100 200 m

Projection: GDA 1994 MGA Zone 56

Henry Lawson Drive Stage 1A **PSI**

FIGURE 3: Acid Sulphate Soil Risks



P:\GIS\Project-4\project\510003_HenryLawsonDrive\PSI_Figure 4 – SoilLandscapes.mxd\JOB No.\4-03-21\Ross.Mai\Rev 0

Source: Aurecon, TfNSW, Spatial Services, OEH, Nearmap

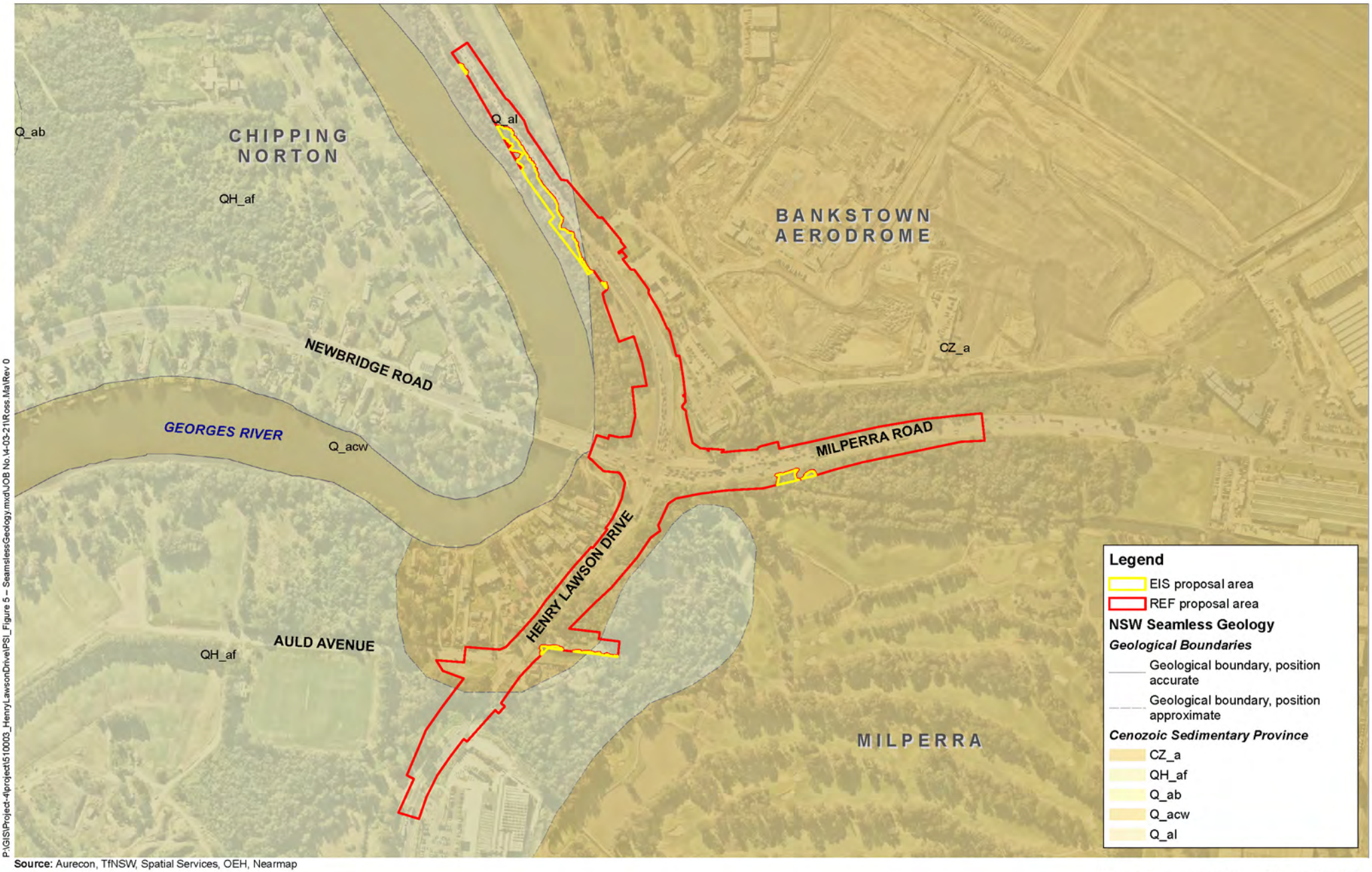
1:6,500

0 100 200 m

Projection: GDA 1994 MGA Zone 56

Henry Lawson Drive Stage 1A **PSI**

FIGURE 4: Soil Landscapes



P:\GIS\Project-4\project\610003_HenryLawsonDrive\PSI_Figure 5 – SeamslessGeology.mxd\JOB No.\4-03-21\Ross.Mail\Rev 0

Source: Aurecon, TfNSW, Spatial Services, OEH, Nearmap

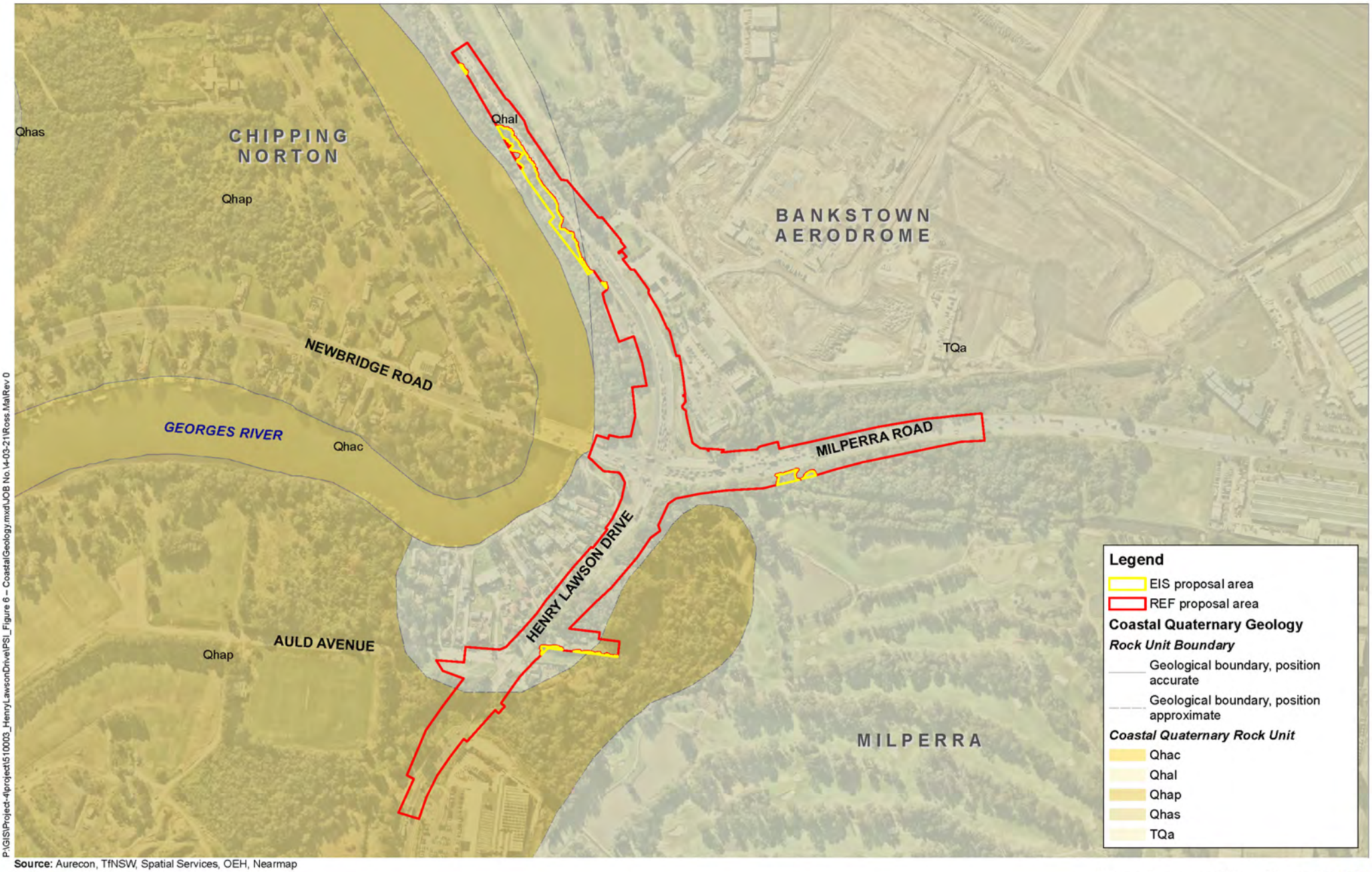
1:6,500

0 100 200 m

Projection: GDA 1994 MGA Zone 56

Henry Lawson Drive Stage 1A **PSI**

FIGURE 5: NSW Seamless Geology



P:\GIS\Project-4\project\510003_HenryLawsonDrive\PSI_Figure 6 – CoastalGeology.mxd\JOB No.\4-03-211\Ross.Mal\Rev 0

Source: Aurecon, TfNSW, Spatial Services, OEH, Nearmap

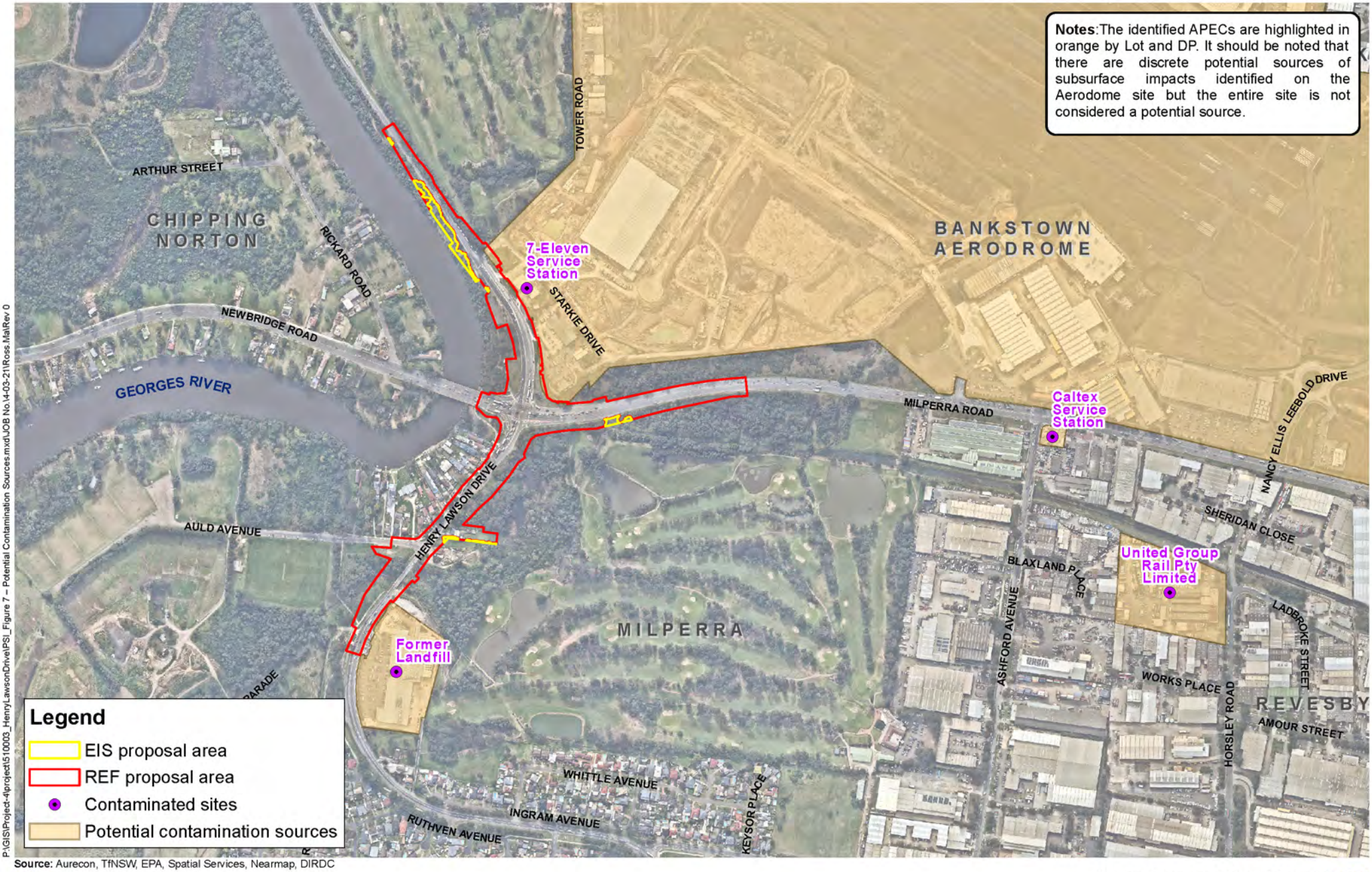
1:6,500

0 100 200 m

Projection: GDA 1994 MGA Zone 56

Henry Lawson Drive Stage 1A **PSI**

FIGURE 6: Coastal Quaternary Geology



Source: Aurecon, TfNSW, EPA, Spatial Services, Nearmap, DIRDC

1:9,500

0 100 200m

Projection: GDA 1994 MGA Zone 56

Henry Lawson Drive Stage 1A **PSI**

FIGURE 7: Potential Contamination Sources

Appendix B
Site Inspection Photographic Log

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 1	**Date** 28/10/2020

Description

South of Raleigh Road, there is a large drainage line running along Henry Lawson Drive on the western side.

Photo No. 2	**Date** 28/10/2020

Description

Surface conditions near the southern boundary of the study area (south of Keys Parade). Vegetated land (grass covering) with patches of bare earth and some angular to sub angular rocks and gravels.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 3	**Date** 28/10/2020

Description

South of Keys Parade, there is a corridor of bare earth traversing along the large drainage line to the south.

Photo No. 4	**Date** 28/10/2020

Description

The large drainage line diverted near Raleigh Road towards Milperra Golf Driving Range.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 5	**Date** 28/10/2020

Description

At Keys Parade: The site is highly urbanised with numerous artificial drains and gutters along Henry Lawson Drive. Some of these drains lead into the large drainage ditch to the south.

Photo No. 6	**Date** 28/10/2020

Description

At Keys Parade: There is an entry and exit gate adjacent to Henry Lawson Drive, which lead into a large area potentially used for parking, storage and/or maintenance. Surface conditions consisted of cleared non vegetated land with angular to sub angular rocks and gravels.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 7	**Date** 28/10/2020

Description

South of Auld Aveune: An unknown creek is flowing south west to north east under Henry Lawson Drive.

Photo No. 8	**Date** 28/10/2020

Description

North of the FlowerPower site: There is an area near the southern boundary of the site which showed signs of uncontrolled fill and previous development. Large amounts of angular to sub angular rocks and gravels were present on the surface adjacent to Henry Lawson Drive.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 9	**Date** 28/10/2020

Description

Western side Henry Lawson Drive (between Auld Avenue and Newbridge Road): Patches and diverts of bare earth were present

Photo No. 10	**Date** 28/10/2020

Description

Henry Lawson Drive, south of Newbridge Road: Majority of the site is highly urbanised and developed with an artificial rain gutter and numerous drains running along both sides of Henry Lawson Drive in the south.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 11	**Date** 28/10/2020

Description

There is an area near the intersection of Henry Lawson Drive and Milperra Road, which is used for as a stopping area. On the date of the site inspection, a car wreckage is parked there. This could have potential for wrecked cars to leak fuel, lubricant and coolant into the surrounding environment

Photo No. 12	**Date** 28/10/2020

Description

There is a large mound running along Newbridge Road, providing an embankment for the Georges River bridge.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 13	**Date** 28/10/2020

Description

There is a large area of bare earth adjacent to the bridge and Milperra Road.

Photo No. 14	**Date** 28/10/2020

Description

Surface conditions north of Newbridge Road, coverage consisted of vegetated land (grass covering) with patches of bare earth and angular to sub angular rocks and gravels

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 15	**Date** 28/10/2020

Description

There is a fenced gate running along the Georges River to prevent public access to the steep bank drop-off to the river channel

Photo No. 16	**Date** 28/10/2020

Description

A gated hardstand areas is located opposite the BP Truckstop and is a former car parking site for activities on the Georges River. Surface conditions consisted of non-vegetated land with angular to sub angular rocks and gravels. There is also general rubbish and old and/or damaged car parts dumped in the area.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 17	**Date** 28/10/2020

Description

Old or damaged car parts were observed dumped in the gated hardstand area adjacent to Henry Lawson Drive opposite the BP Tuckstop. The material consisted of a rusty exhaust pipe, metal poles, a tyre and car seat.

Photo No. 18	**Date** 28/10/2020

Description

An old building with rusty infrastructure is present in the north, adjacent to Georges River. Potential Hazardous Building Material (HBM) due to the age of the building.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 19	**Date** 28/10/2020

Description

There is a moderate mound running along Henry Lawson Drive in the north. This helped elevate the road from the surrounding topography and vegetation. Due to this mound, there is a slight to moderate gradient falling from Henry Lawson Drive towards Georges River.

Photo No. 20	**Date** 14/09/2020

Description

Georges River flows along majority of the north west and western boundary of the study area.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 21	**Date** 28/10/2020

Description

To the north of Tower Road: there is a large artificial culvert and drainage line running east to west from Georges River Golf Coarse, under Henry Lawson Drive and into Georges River.

Photo No. 22	**Date** 28/10/2020

Description

To the north of Tower Road, there is a significant amount of general rubbish and some dumped old car parts adjacent to Henry Lawson Drive.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 23	**Date** 28/10/2020

Description

Surface conditions near the far north western boundary of the site. Coverage consisted of vegetated land (grass covering) with patches of bare earth and general rubbish. There were some rocks and gravels observed on the surface

Photo No. 24	**Date** 28/10/2020

Description

North of Tower Road. There is a slight to moderate gradient falling from Henry Lawson Drive towards a drainage line along the Georges River Golf Course.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 25	**Date** 28/10/2020

Description

There is a lot of broken glass adjacent to Henry Lawson Drive near the northern boundary of the site. This could potentially be from vehicle accidents and wreckage, which could cause contamination from leaking of car fluids (fuel, lubricant and coolant).

Photo No. 26	**Date** 28/10/2020

Description

Significant amounts of general rubbish were observed along Henry Lawson Drive, adjacent to the Georges River Golf Course.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 27	**Date** 28/10/2020

Description

There is an artificial drainage line running north west to south east along Henry Lawson Drive, which diverted from the Georges River Golf Course.

Photo No. 28	**Date** 28/10/2020

Description

Majority of the site is highly urbanised and developed with an artificial rain gutter and numerous drains running along both sides of Henry Lawson Drive to the north.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 29	**Date** 28/10/2020

Description

There is an area adjacent to the BP Truckstop, which is used by vehicles for stopping, parking and/or maintenance. Tracks of bare earth from heavy vehicles

Photo No. 30	**Date** 28/10/2020

Description

There is a large mound present at the intersection of Henry Lawson Drive and Milperra Road. This mound is used to elevate the adjacent business park from the surrounding infrastructure, topography and vegetation.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 31	**Date** 28/10/2020

Description

Small to moderate patches of sand were observed along the base of the mound.

Photo No. 32	**Date** 28/10/2020

Description

There were two large artificial drains with accompanying infrastructure adjacent to the mound and business park, located at the intersection of Henry Lawson Drive and Milperra Road.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 33	**Date** 28/10/2020

Description

A small drainage ditch is traversing along the intersection of Henry Lawson Drive and Milperra Road.

Photo No. 34	**Date** 28/10/2020

Description

Old areas of asphalt is present on the ground surface adjacent to the large mound, retail area and Milperra Road. It has been overgrown by grass.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 35	**Date** 28/10/2020

Description

Retaining walls were used to elevate the large mound and business park

Photo No. 36	**Date** 28/10/2020

Description

There is a cleared area adjacent to Milperra Road, which is used for parking, stopping and dumping of old or damage car parts and general rubbish. Surface conditions consisted of non-vegetated land with angular to sub angular rocks and gravels.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 37	**Date** 28/10/2020

Description

A large artificial culvert and drainage line is present in the eastern boundary of the site, which is flowing from the Bankstown Aerodrome towards Milperra Road and Bankstown Golf Club. As majority of the site is highly urbanised and developed, there is also an artificial rain gutter and numerous drains running along both sides of Milperra Road.

Photo No. 38	**Date** 28/10/2020

Description

Multiple cleared non-vegetated areas were present along Henry Lawson Drive, which were used for stopping and parking. South of Milperra Road on the eastern side of Henry Lawson Drive, there is a large patch of dumped asphalt and potential chemical staining observed from leaks.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No. 39	**Date** 28/10/2020

Description

Potential chemical staining from vehicles adjacent to Henry Lawson Drive.

Photo No. 40	**Date** 28/10/2020

Description

There were signs of uncontrolled fill near the south eastern boundary of the site. South of Milperra Road on the eastern side of Henry Lawson Drive A small patch of dumped asphalt and a stockpile of material with angular to subangular rocks and gravels were present. There are also obvious patches of chemical staining adjacent to the stockpile and asphalt, which could contaminate the surrounding environment.

aurecon	Photographic Log	
Client Name	**Site Location**	**Project ID**
Transport for NSW (TfNSW)	Henry Lawson Drive	510102

Photo No.	**Date**	
41	**28/10/2020**	
Description Surface conditions in the south eastern portion of the site, north of Auld Avenue. Coverage consisted of vegetated land (grass and leaf covering) with patches of bare earth and rock and gravels.		

Appendix C
Dial Before You Dig Search Results

Job No 20310876

Phone: 1100
www.1100.com.au

Caller Details

Contact:	Mr Raghav Rana	**Caller Id:**	2235321	**Phone:**	0401448946
Company:	Aurecon	**Mobile:**	Not Supplied	**Fax:**	Not Supplied
Address:	552 Boronia Road Wantirna VIC 3152	**Email:**	raghav.rana@aurecongroup.com		

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

User Reference: 510003
Working on Behalf of: Other

Enquiry Date:	Start Date:	End Date:
24/09/2020	25/09/2020	30/09/2020

Address:
Henry Lawson Drive
Milperra NSW 2214

Job Purpose:	Onsite Activity:
Design	Planning & Design
Location of Workplace:	**Location in Road:**
Road Reserve	CarriageWay,Footpath,Nature Strip

- Check the location of the dig site is correct. If not submit a new enquiry.
- If the scope of works change, or plan validity dates expire, resubmit your enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:
Road upgrade

Your Responsibilities and Duty of Care

- The lodgement of an enquiry does not authorise the project to commence. You must obtain all necessary information from any and all likely impacted asset owners prior to excavation.
- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at **www.1100.com.au**
- **For more information on safe excavation practices, visit www.1100.com.au**

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days.
Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
102165063	Ausgrid	0249510899	NOTIFIED
102165068	BP Australia Pty Ltd, Remediation Management NSW	0392683025	NOTIFIED
102165062	Endeavour Energy	0298534161	NOTIFIED
102165066	Jemena Gas West	1300880906	NOTIFIED
102165058	Liverpool City Council	1300362170	NOTIFIED
102165069	NBN Co, NswAct	1800626329	NOTIFIED
102165060	Nextgen, NCC - NSW	1800032532	NOTIFIED
102165065	Optus and/or Uecomm, Nsw	1800505777	NOTIFIED
102165059	Roads and Maritime Services	0288370285	NOTIFIED
102165067	Sydney Water	132092	NOTIFIED
102165064	Telstra NSW, Central	1800653935	NOTIFIED
102165061	TPG Telecom (NSW)	1800786306	NOTIFIED

END OF UTILITIES LIST

Response Cover Letter

Liverpool City Council

Locked Bag 7064

Liverpool BC NSW 1871

www.liverpool.nsw.gov.au

Date: 24/09/2020

To:
Mr Raghav Rana
Aurecon
552 Boronia Road
Wantirna VIC 3152

According to our records your enquiry with the following details impacts our infrastructure. Please review other documents included with this response for additional details:

Sequence No: 102165058

Job No: 20310876

Location: Henry Lawson Drive
Milperra NSW 2214

If you require further information, please contact the Liverpool City Council's Customer Centre on 1300 362 170 or lcc@liverpool.nsw.gov.au

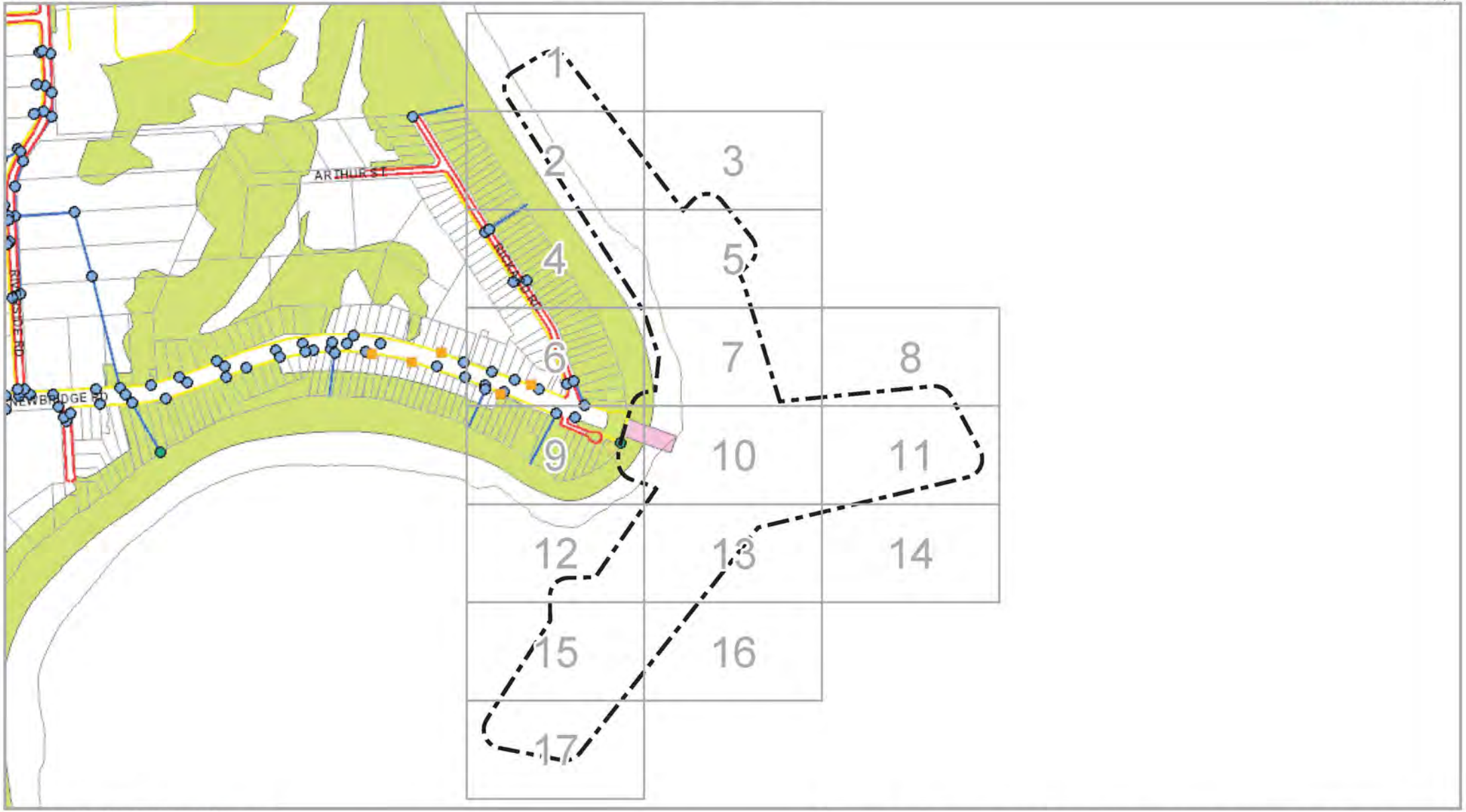
Important Notice: This enquiry response, including any associated documentation, has been assessed and compiled from the information detailed within the DBYD enquiry outlined above. Please ensure that the DBYD enquiry details and this response accurately reflect your proposed works.

This response is intended for use only by the addressee. If you have received the enquiry response in error, please let us know by telephone and delete all copies; you are advised that copying, distributing, disclosing or otherwise acting in reliance on the response is expressly prohibited.

LIVERPOOL CITY COUNCIL

Sequence No: 102165058
Job No: 20310876
Location: Henry Lawson Drive, Milperra, NSW 2214

DIAL BEFORE YOU DIG www.1100.com.au
The Essential First Step.



Legend | Scale: 1:8200 | Overview

N

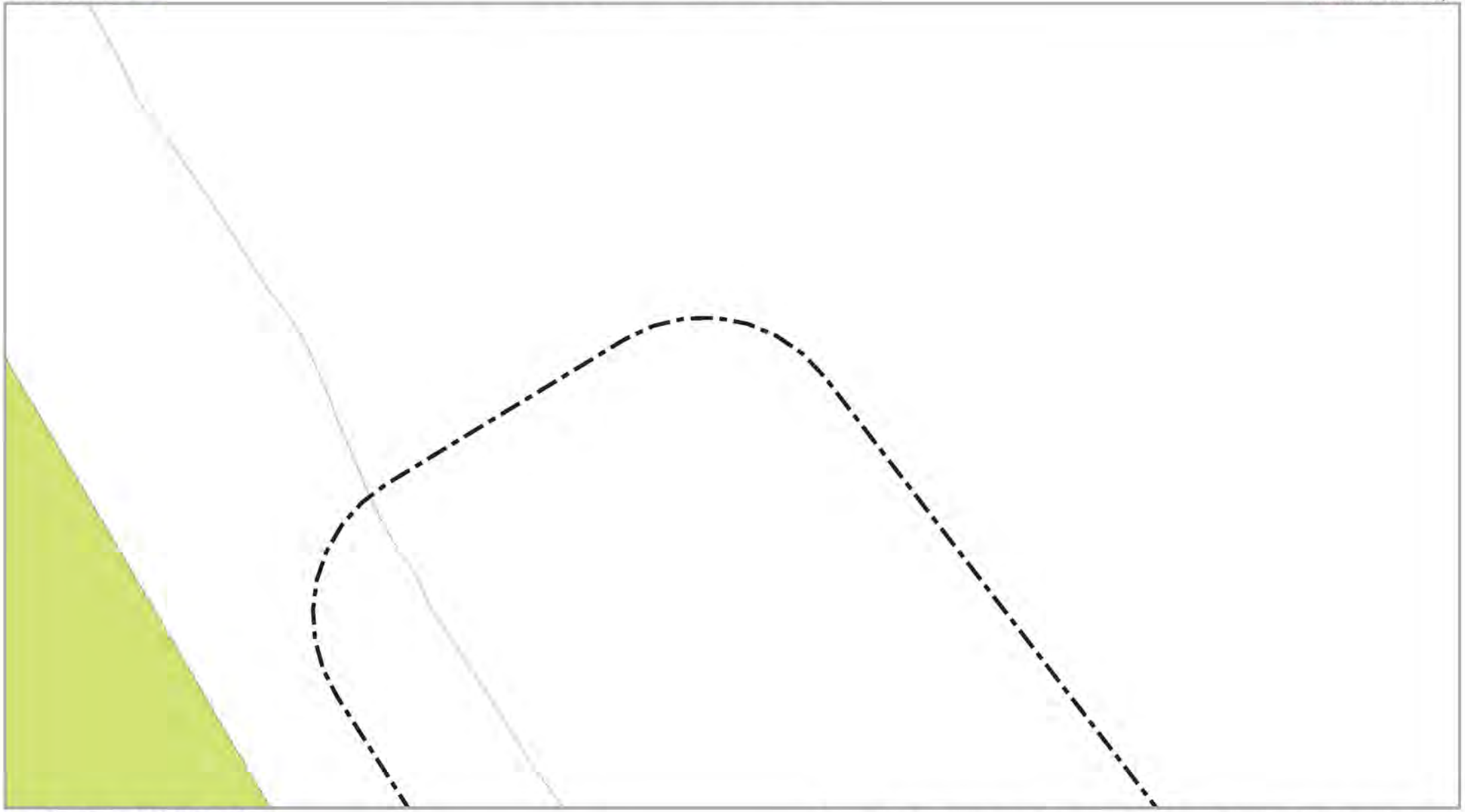
- Bus Stops
- Pits
- Headwalls
- Kerb andGutter
- Footpaths and Cycleways
- Pipes
- Cadastre
- Bridges
- Environmentally Sensitive Land

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Liverpool City Council or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

LIVERPOOL CITY COUNCIL

Sequence No: 102165058
Job No: 20310876
Location: Henry Lawson Drive, Milperra, NSW 2214

DIAL BEFORE YOU DIG www.1100.com.au
The Essential First Step.



Legend | Scale: 1:1000 | Tile No: 1

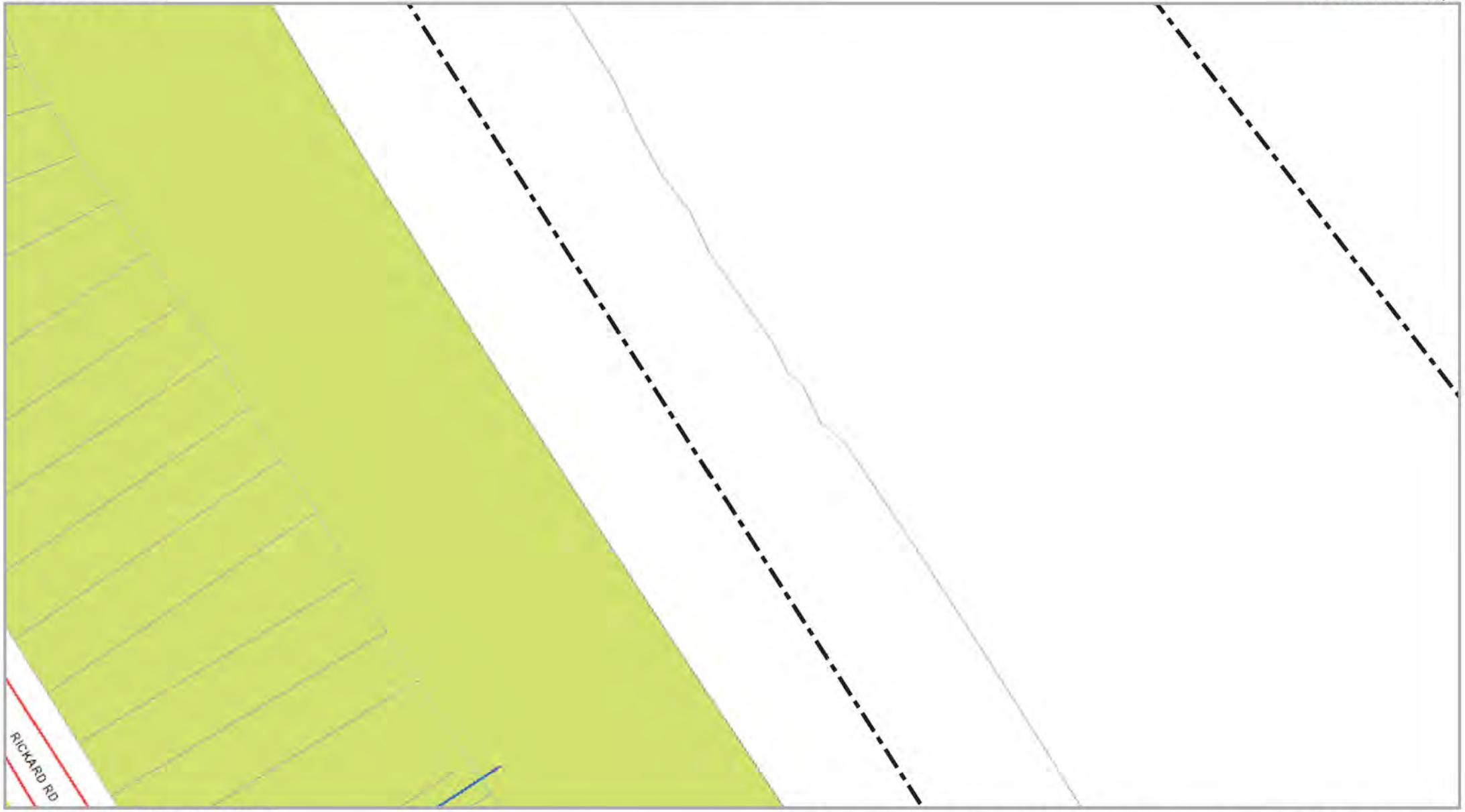
N

- Bus Stops
- Pits
- Headwalls
- Kerb andGutter
- Footpaths and Cycleways
- Pipes
- Cadastre
- Bridges
- Environmentally Sensitive Land

LIVERPOOL CITY COUNCIL

Sequence No: 102165058
Job No: 20310876
Location: Henry Lawson Drive, Milperra, NSW 2214

DIAL BEFORE YOU DIG www.1100.com.au
The Essential First Step.



Legend | Scale: 1:1000 | Tile No: 2

N

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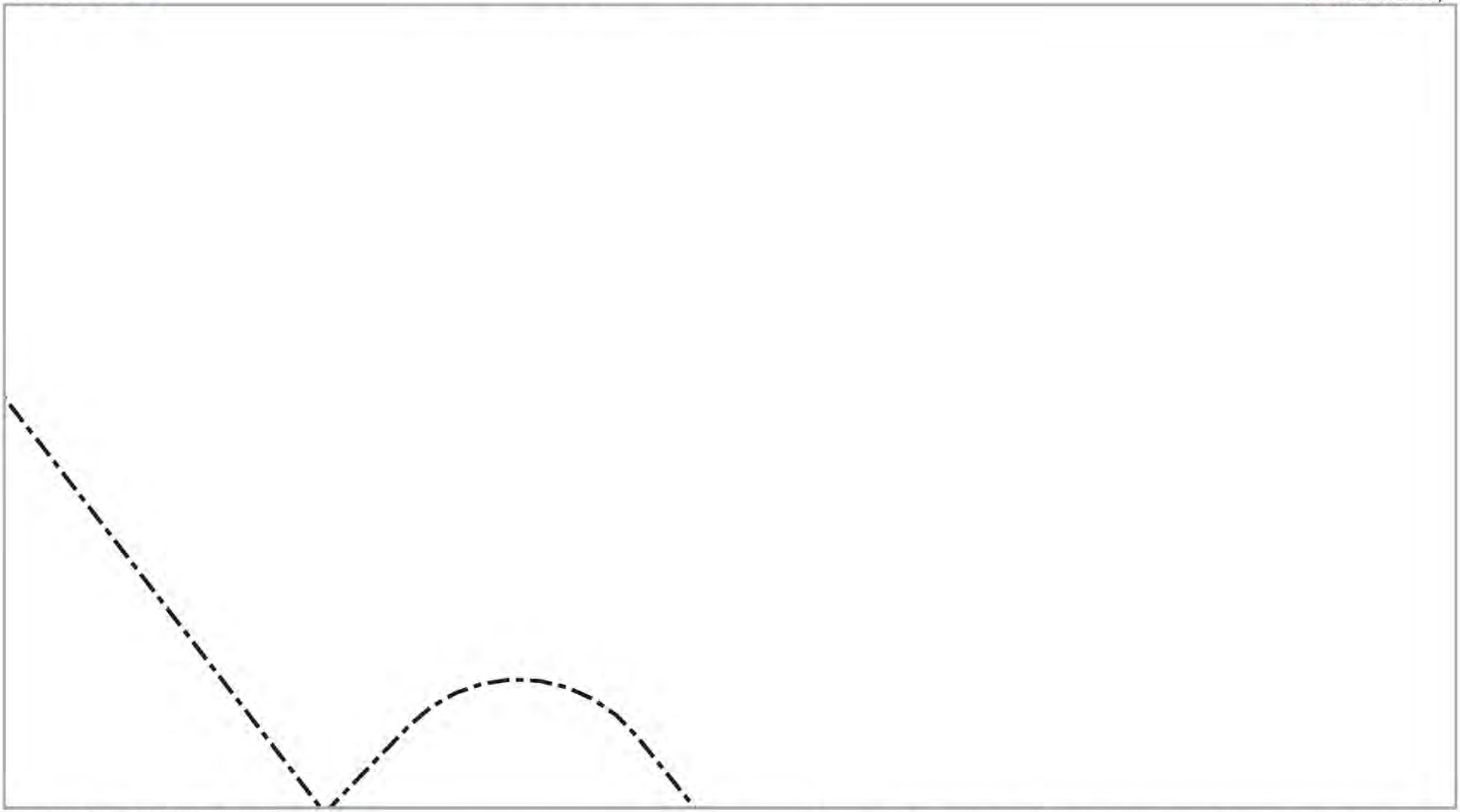

Legend | Scale: 1:1000 | Tile No: 3

N

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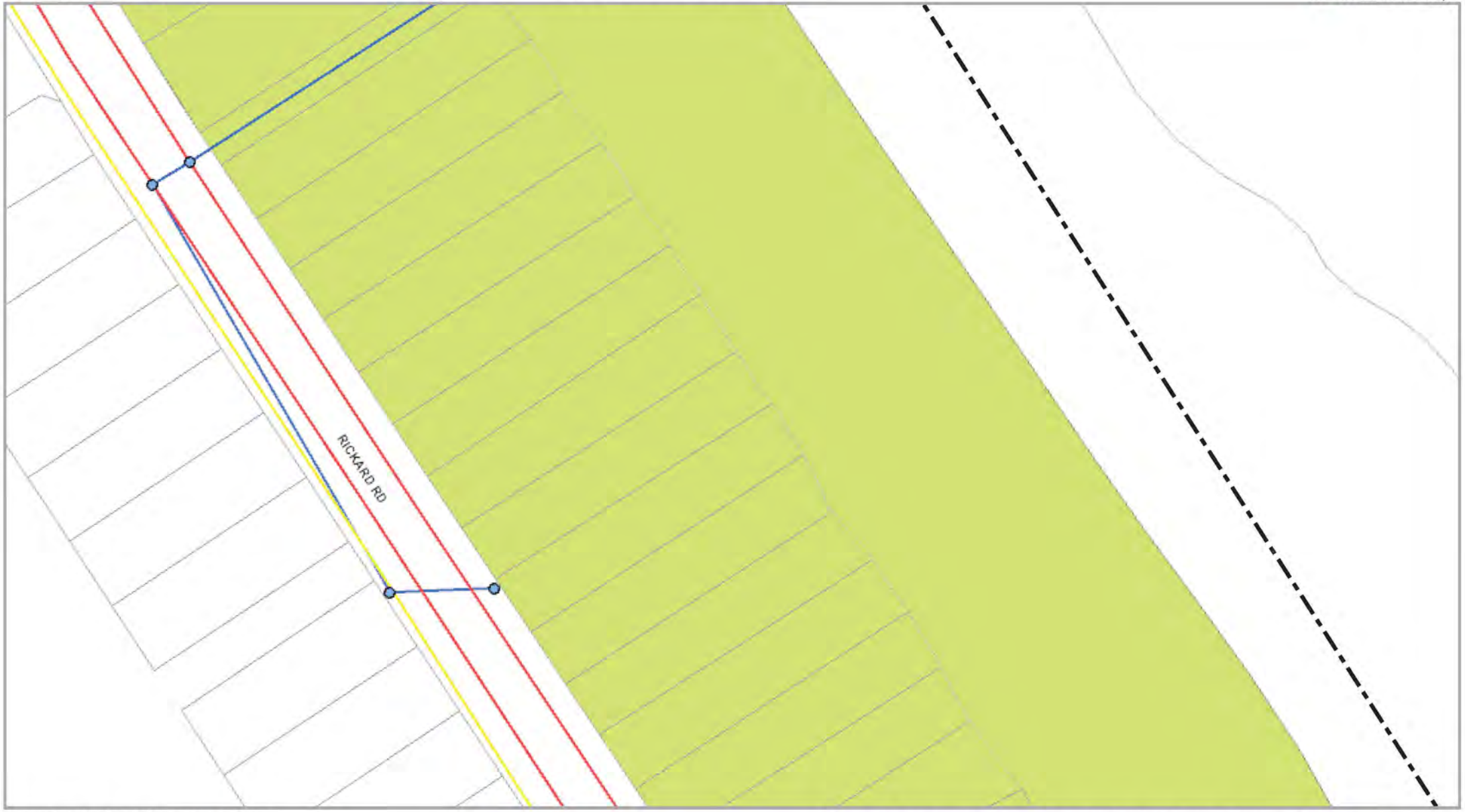

Legend | Scale: 1:1000 | Tile No: 4

N

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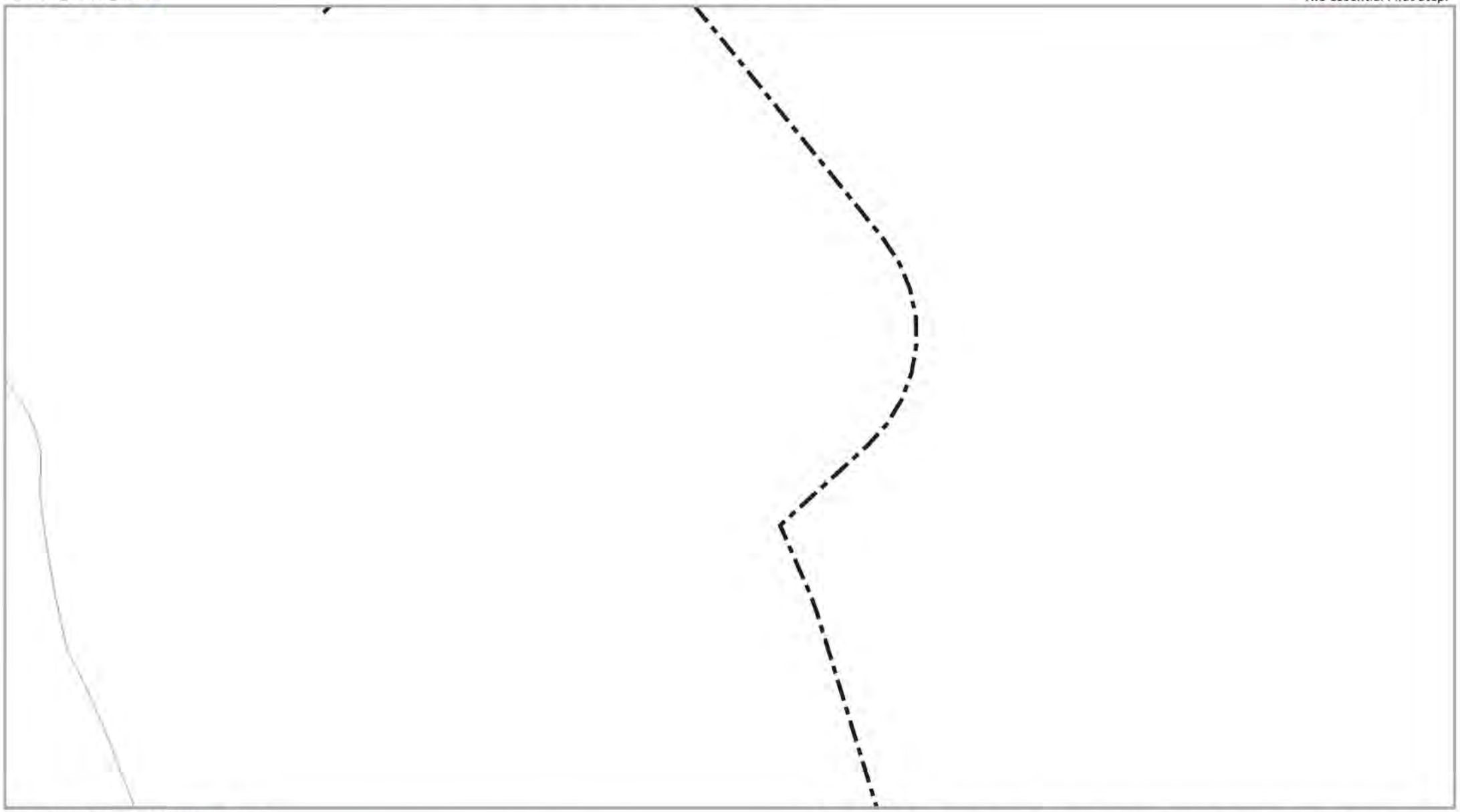

Legend | Scale: 1:1000 | Tile No: 5

N

- Bus Stops
- Pits
- Headwalls
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- Footpaths and Cycleways
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LIVERPOOL CITY COUNCIL

Sequence No: 102165058
Job No: 20310876
Location: Henry Lawson Drive, Milperra, NSW 2214

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Legend | Scale: 1:1000 | Tile No: 6

N

- Bus Stops
- Pits
- Headwalls
- Kerb andGutter
- Footpaths and Cycleways
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LIVERPOOL CITY COUNCIL

Sequence No: 102165058
Job No: 20310876
Location: Henry Lawson Drive, Milperra, NSW 2214

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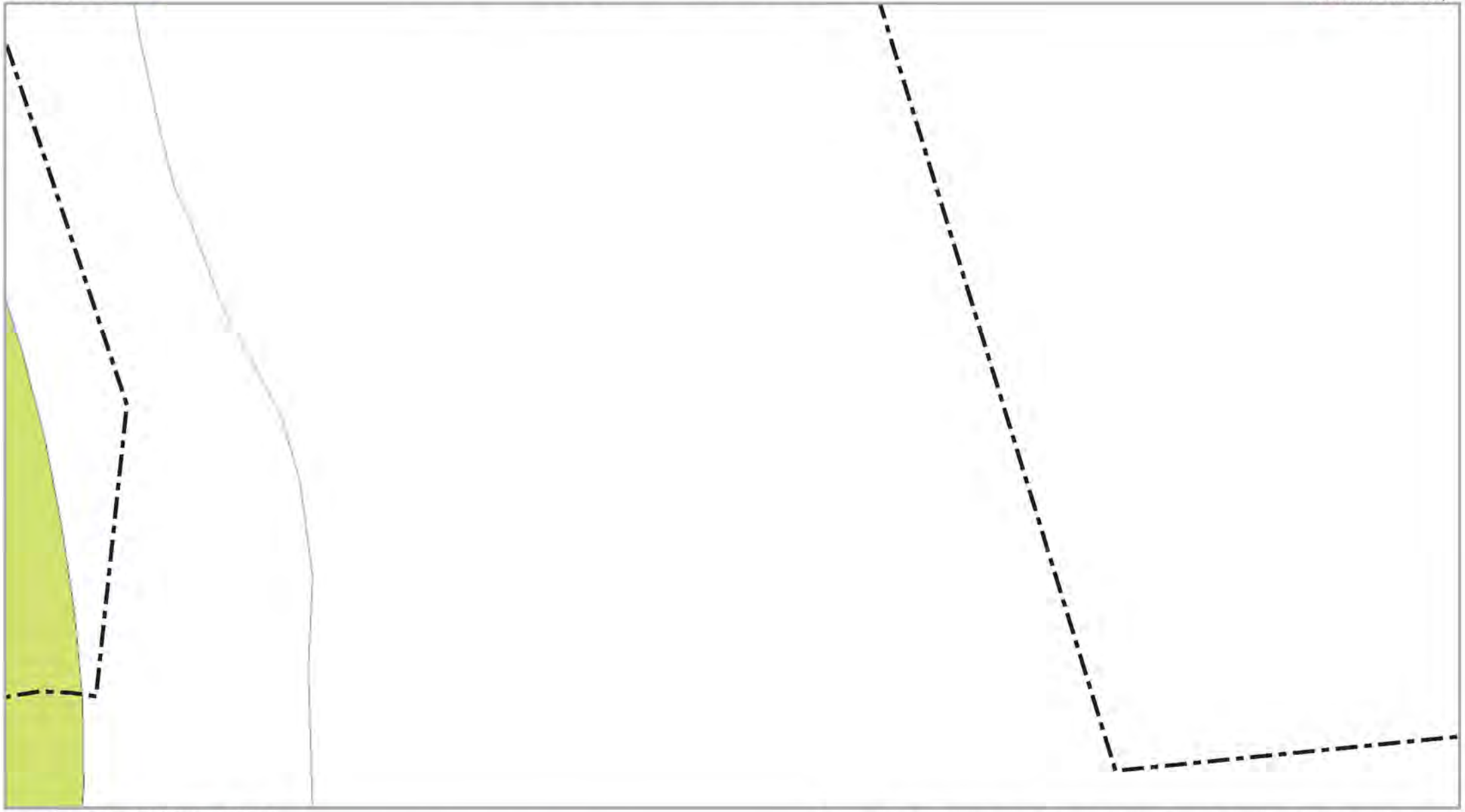

Legend | Scale: 1:1000 | Tile No: 7

N

- Bus Stops
- Pits
- Headwalls
- Kerb andGutter
- Footpaths and Cycleways
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LIVERPOOL CITY COUNCIL

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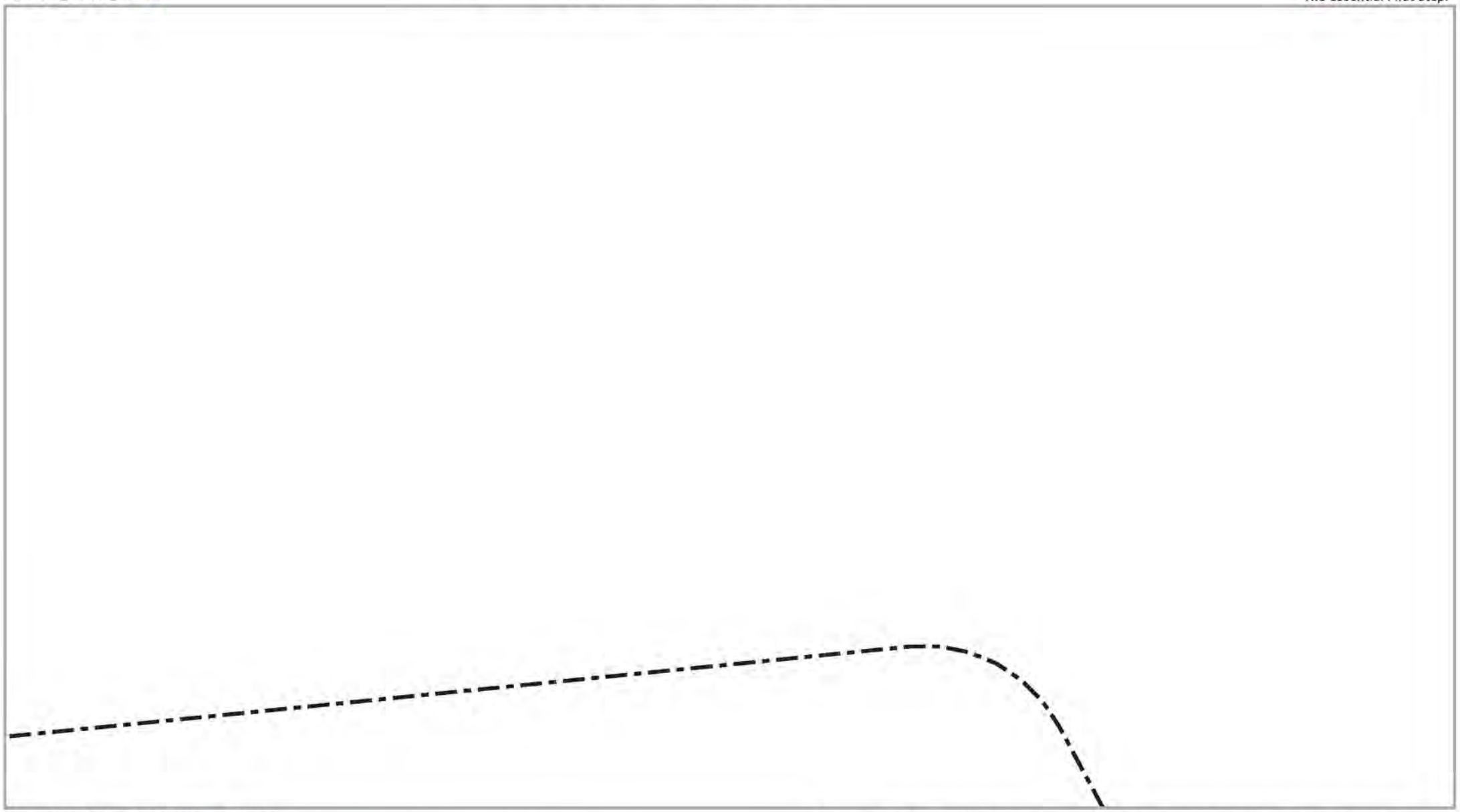

Legend | Scale: 1:1000 | Tile No: 8

N

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LIVERPOOL CITY COUNCIL

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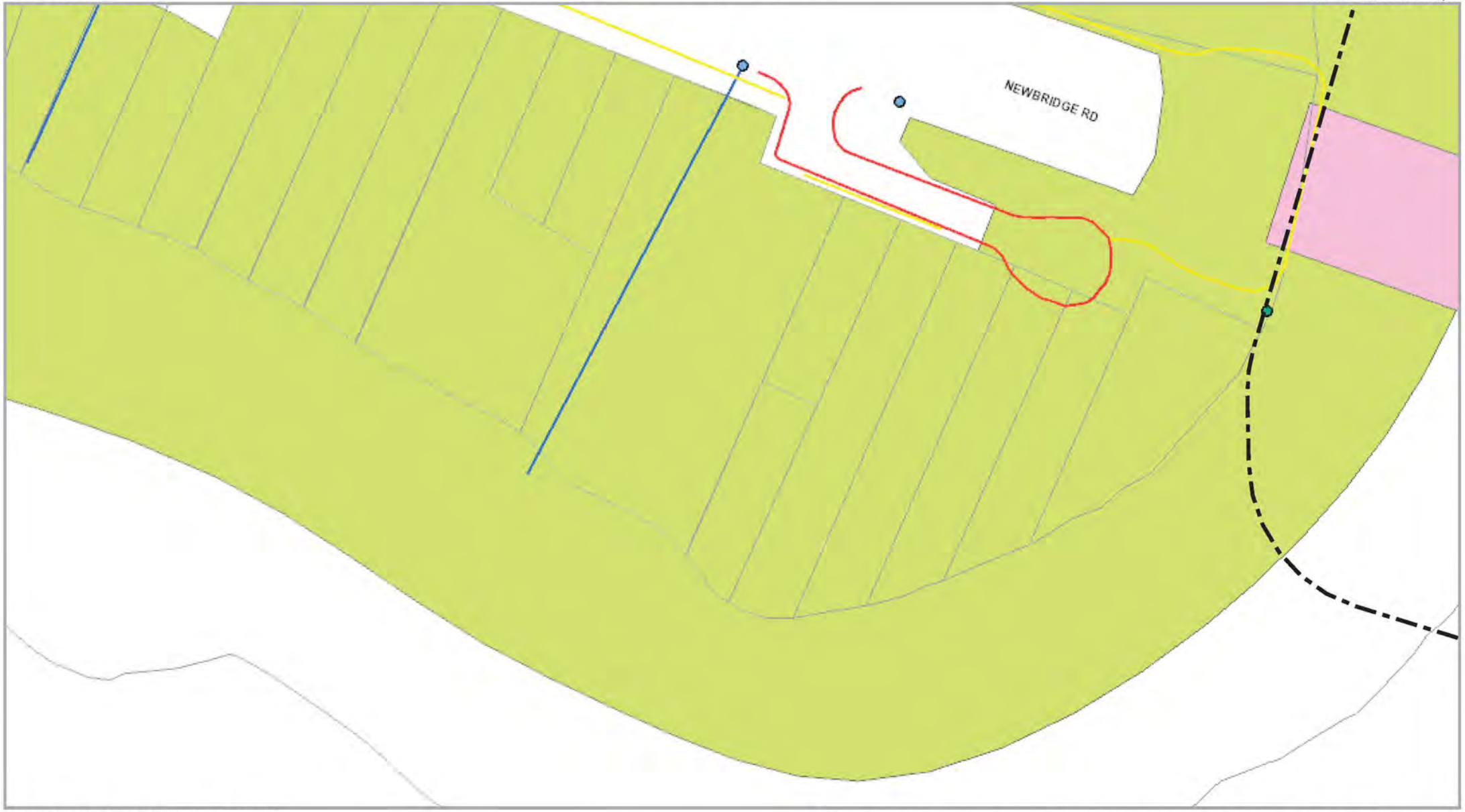

Legend | Scale: 1:1000 | Tile No: 9

N

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LIVERPOOL CITY COUNCIL

Sequence No: 102165058
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Location: Henry Lawson Drive, Milperra, NSW 2214

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Legend | Scale: 1:1000 | Tile No: 10

N

- Bus Stops
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- Headwalls
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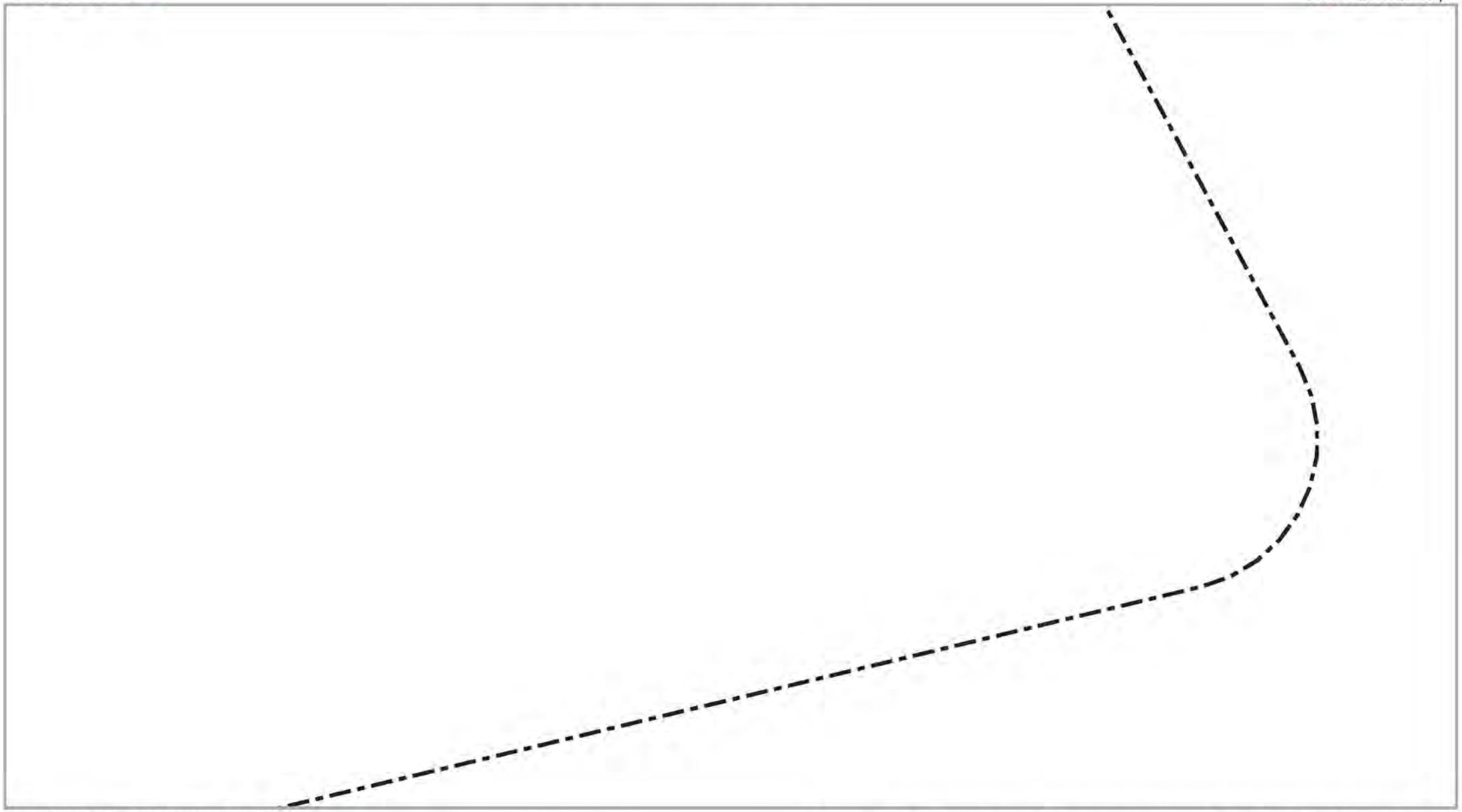

Legend | Scale: 1:1000 | Tile No: 11

N

- Bus Stops
- Pits
- Headwalls
- Kerb andGutter
- Footpaths and Cycleways
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LIVERPOOL CITY COUNCIL

Sequence No: 102165058
Job No: 20310876
Location: Henry Lawson Drive, Milperra, NSW 2214

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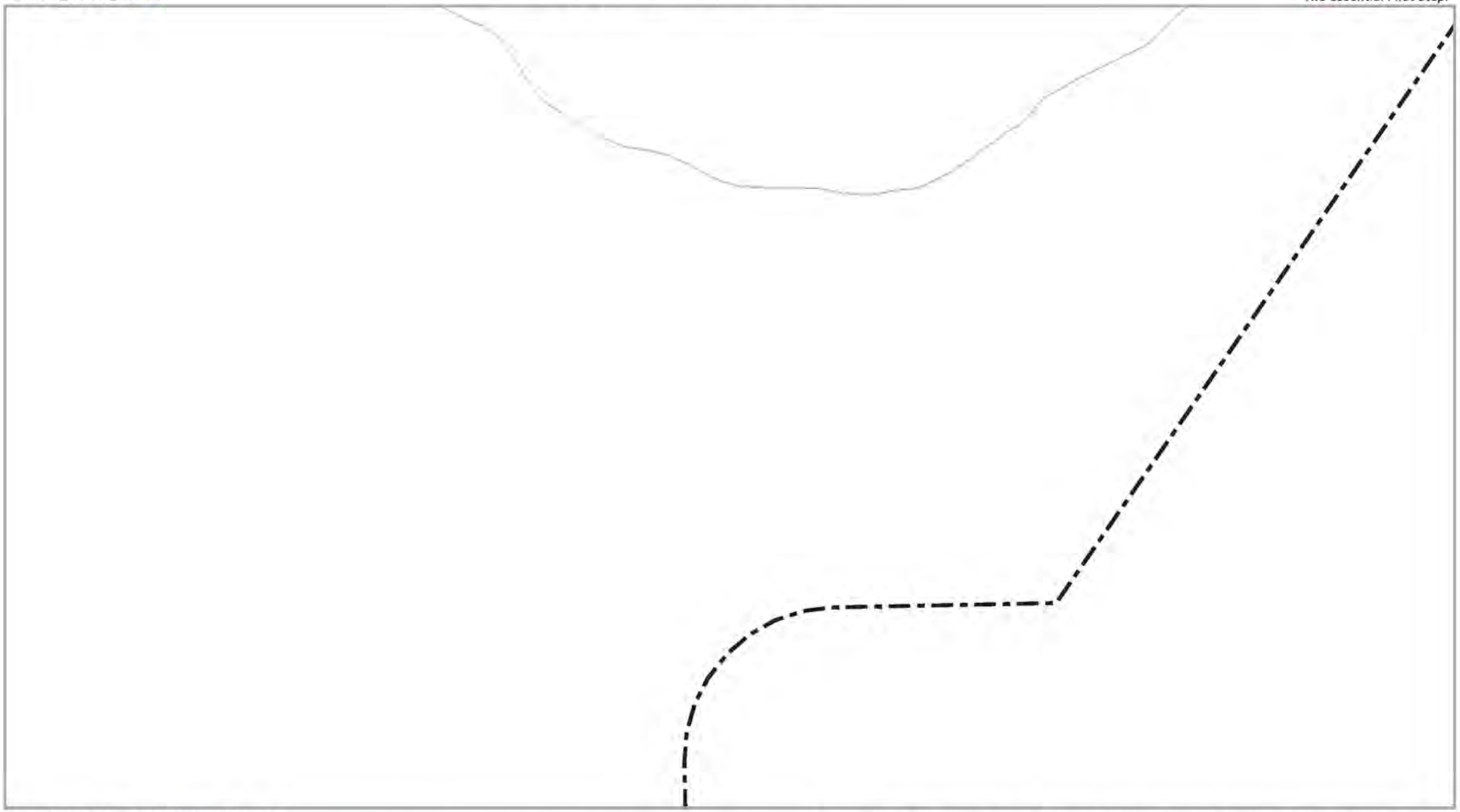

Legend | Scale: 1:1000 | Tile No: 12

N

- Bus Stops
- Pits
- Headwalls
- Kerb andGutter
- Footpaths and Cycleways
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Sequence No: 102165058
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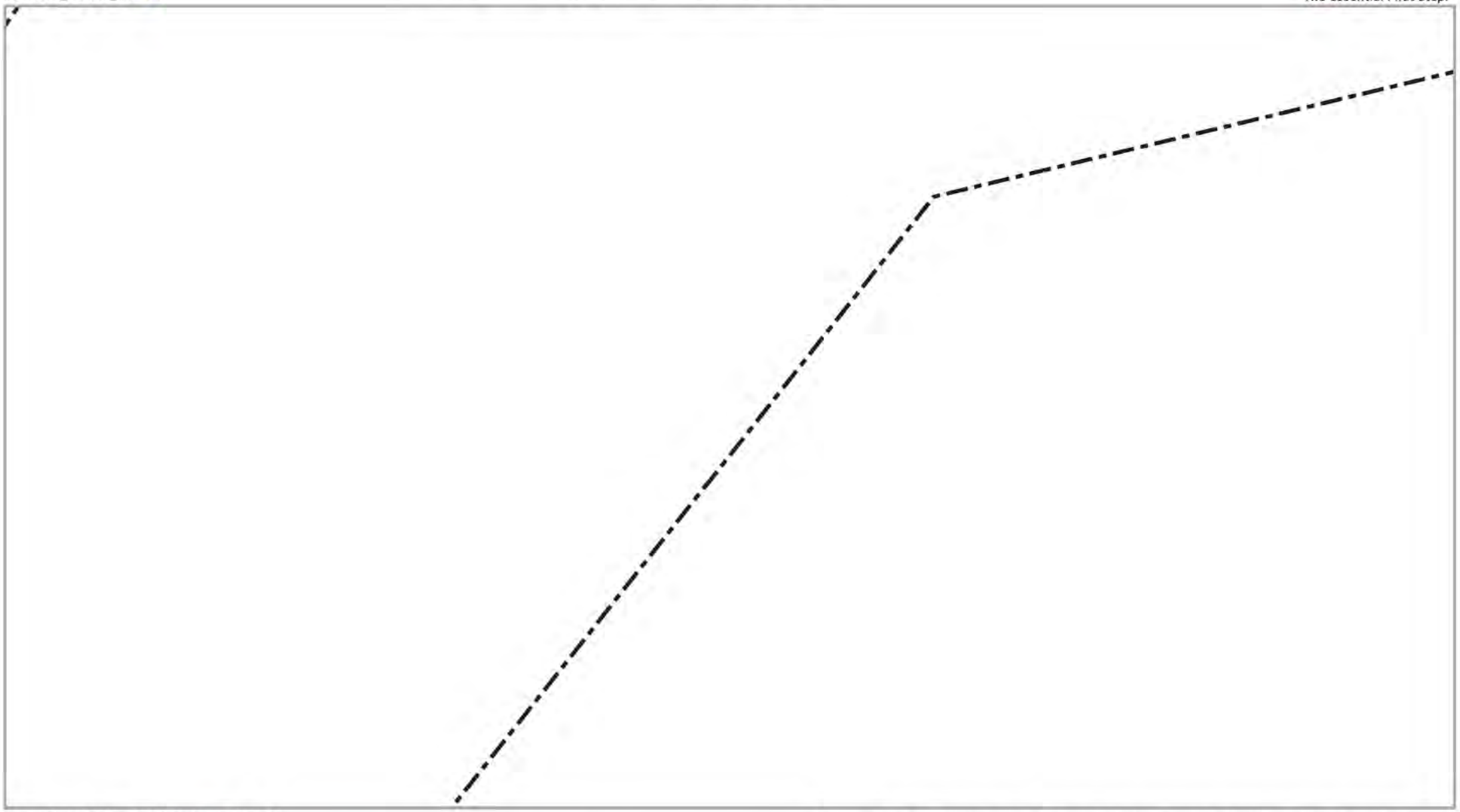

Legend | Scale: 1:1000 | Tile No: 13

N

- Bus Stops
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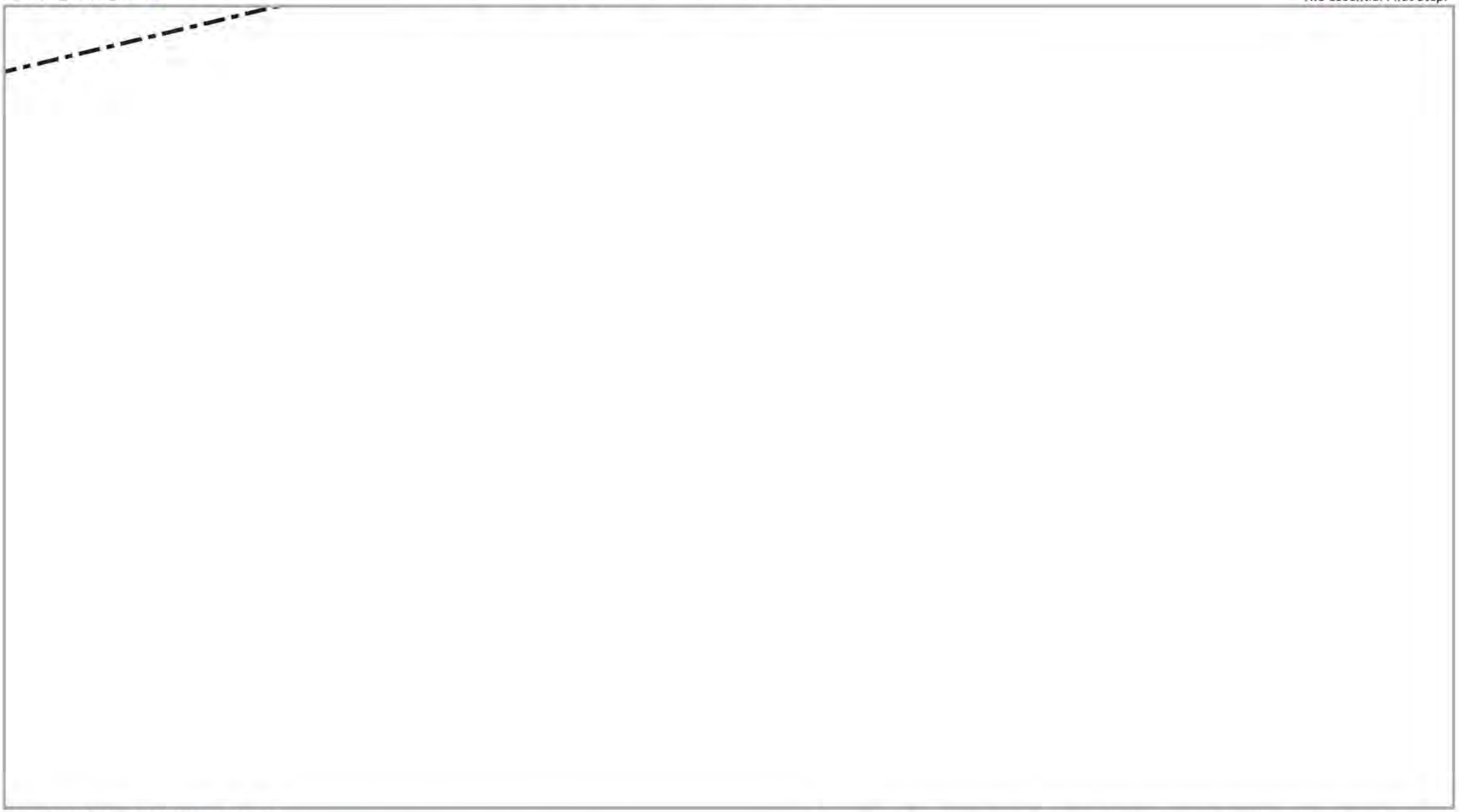

Legend | Scale: 1:1000 | Tile No: 14

N

- Bus Stops
- Pits
- Headwalls
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- Footpaths and Cycleways
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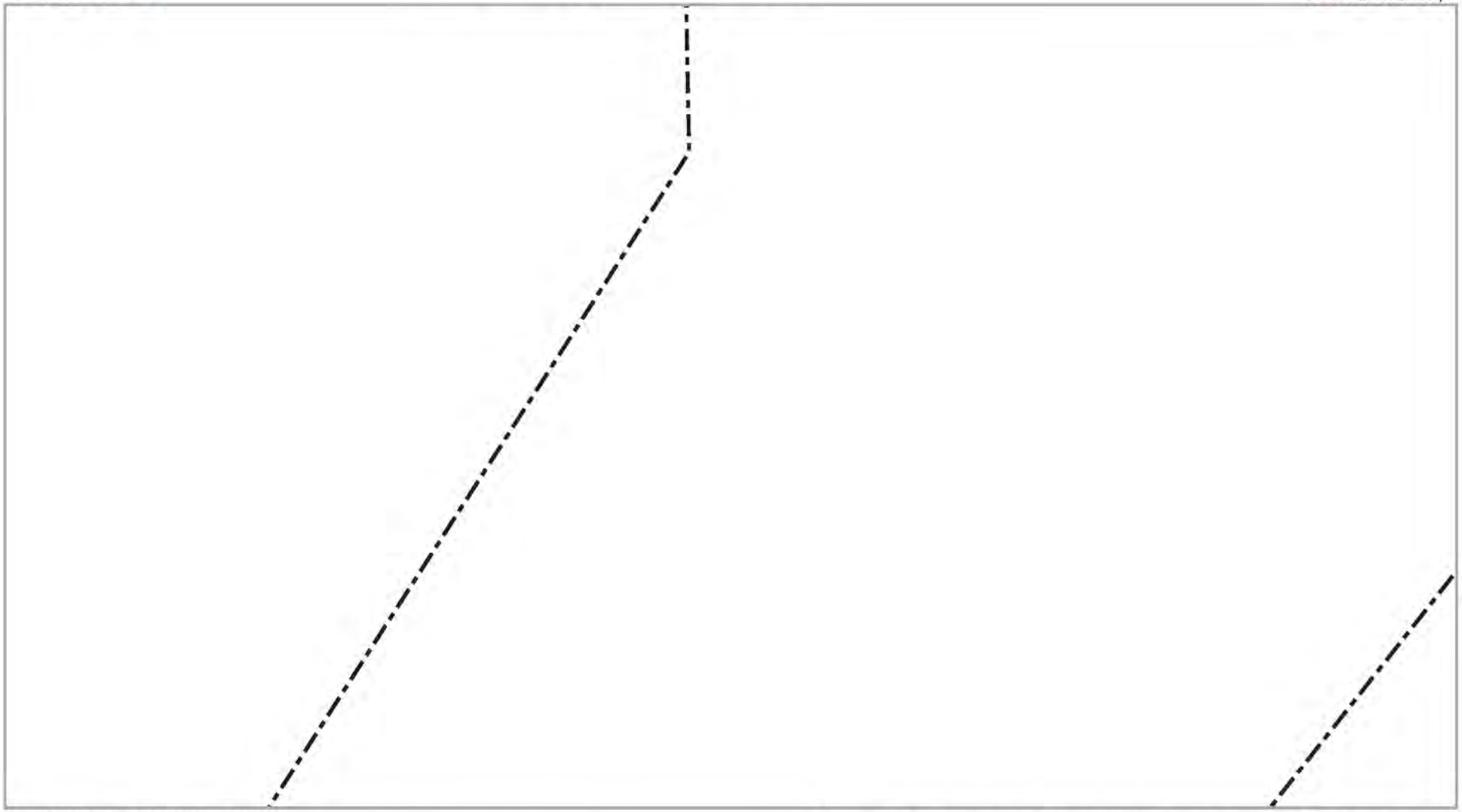

Legend | Scale: 1:1000 | Tile No: 15

N

- Bus Stops
- Pits
- Headwalls
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- Footpaths and Cycleways
- Pipes
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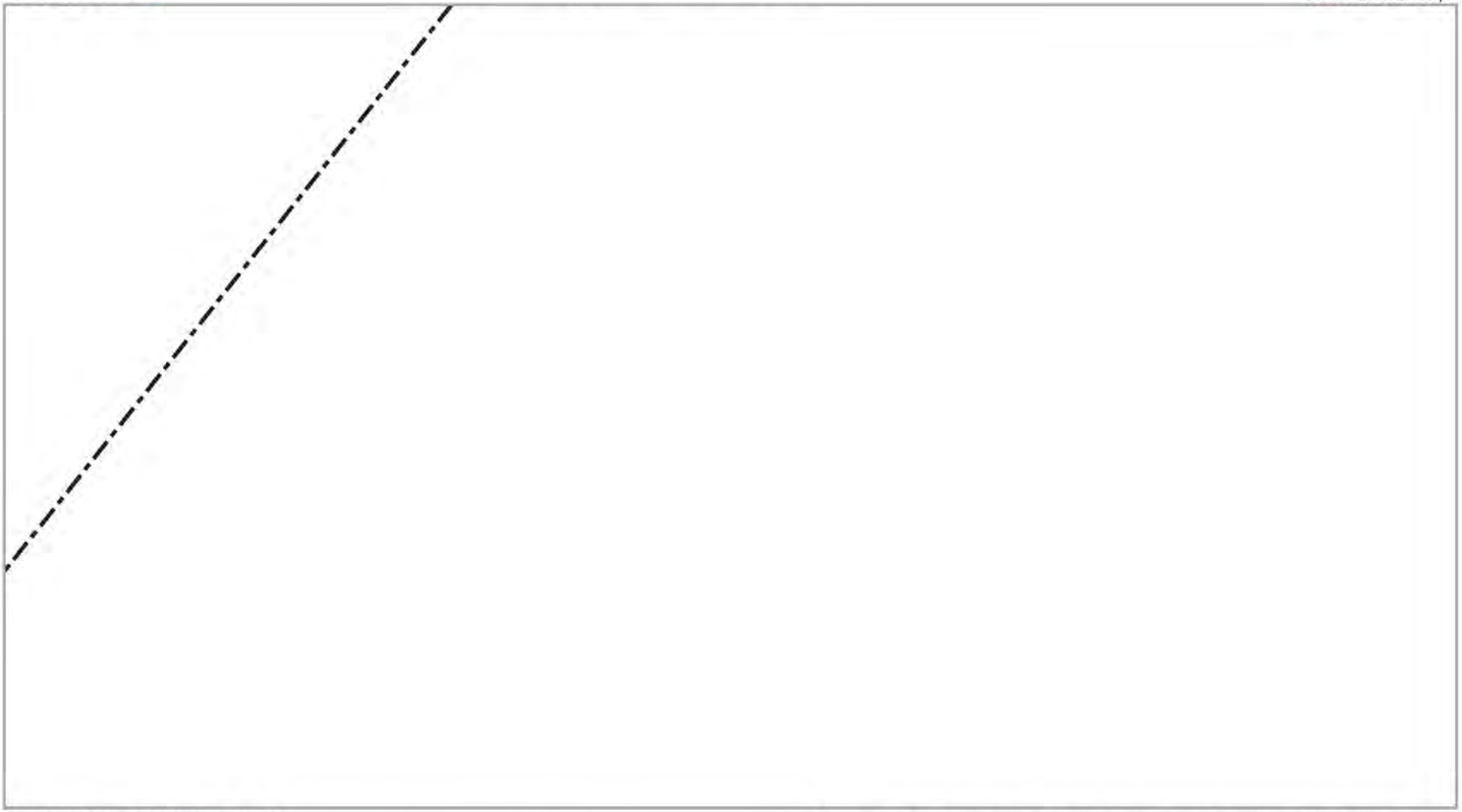

Legend | Scale: 1:1000 | Tile No: 16

N

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- Headwalls
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- Footpaths and Cycleways
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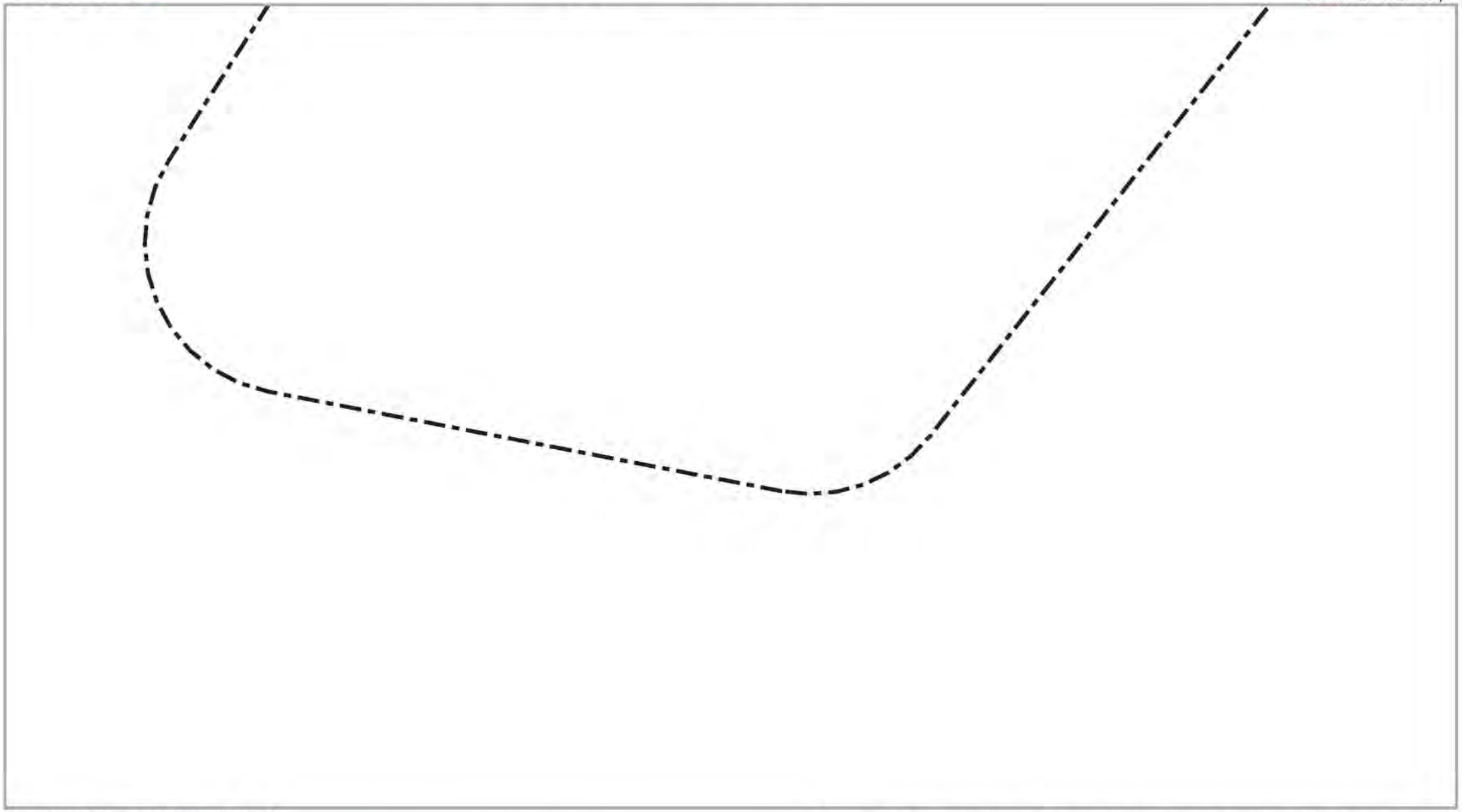

Legend | Scale: 1:1000 | Tile No: 17

N

- Bus Stops
- Pits
- Headwalls
- Kerb andGutter
- Footpaths and Cycleways
- Pipes
- Cadastre
- Bridges
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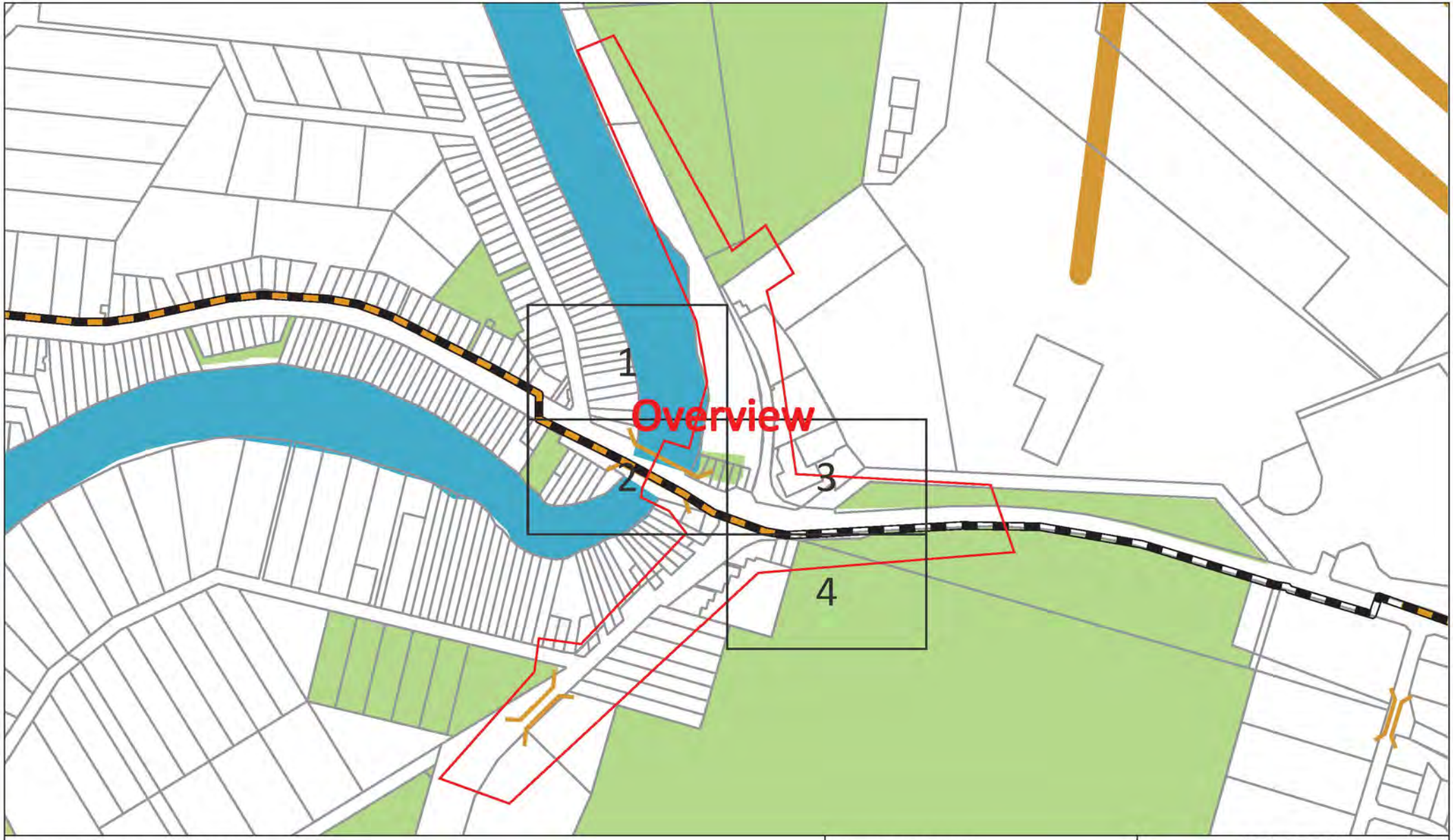


Sequence Number: 102165060

Date: 24/09/2020

nextgen GROUP

LEGEND

Digsite

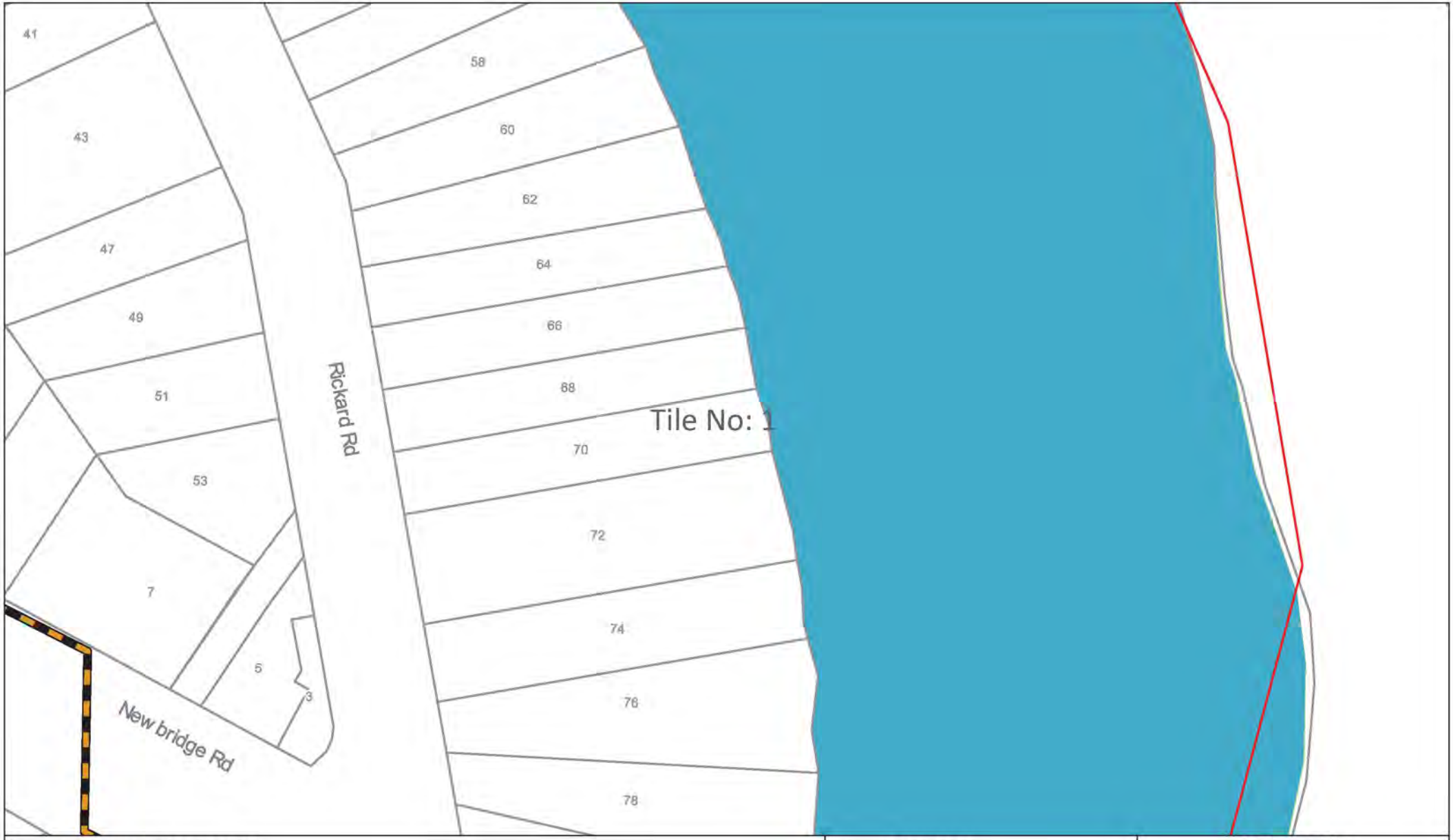
Area

Assets

Cable

3rd Party Duct

Marker Post



Sequence Number: 102165060

Date: 24/09/2020

DISCLAIMER: THIS DRAWING SHOULD NOT BE SCALED TO LOCATE CABLES. NO WARRANTY IS GIVEN THAT THE INFORMATION IS ACCURATE OR COMPLETE. IF YOU REQUIRE INFORMATION REGARDING LOCATING THE CABLE PLEASE CALL NEXTGEN. THIS DOCUMENT HAS BEEN PREPARED SOLELY FOR DIAL BEFORE YOU DIG USE. THIS PLAN CONTAINS COMMERCIALLY SENSITIVE INFORMATION AND IS TO BE TREATED ACCORDINGLY. NO SUCH INFORMATION IS TO BE PASSED ONTO OTHER PARTIES WITHOUT WRITTEN CONSENT FROM NEXTGEN PTY LTD.

nextgen GROUP

LEGEND

Digsite

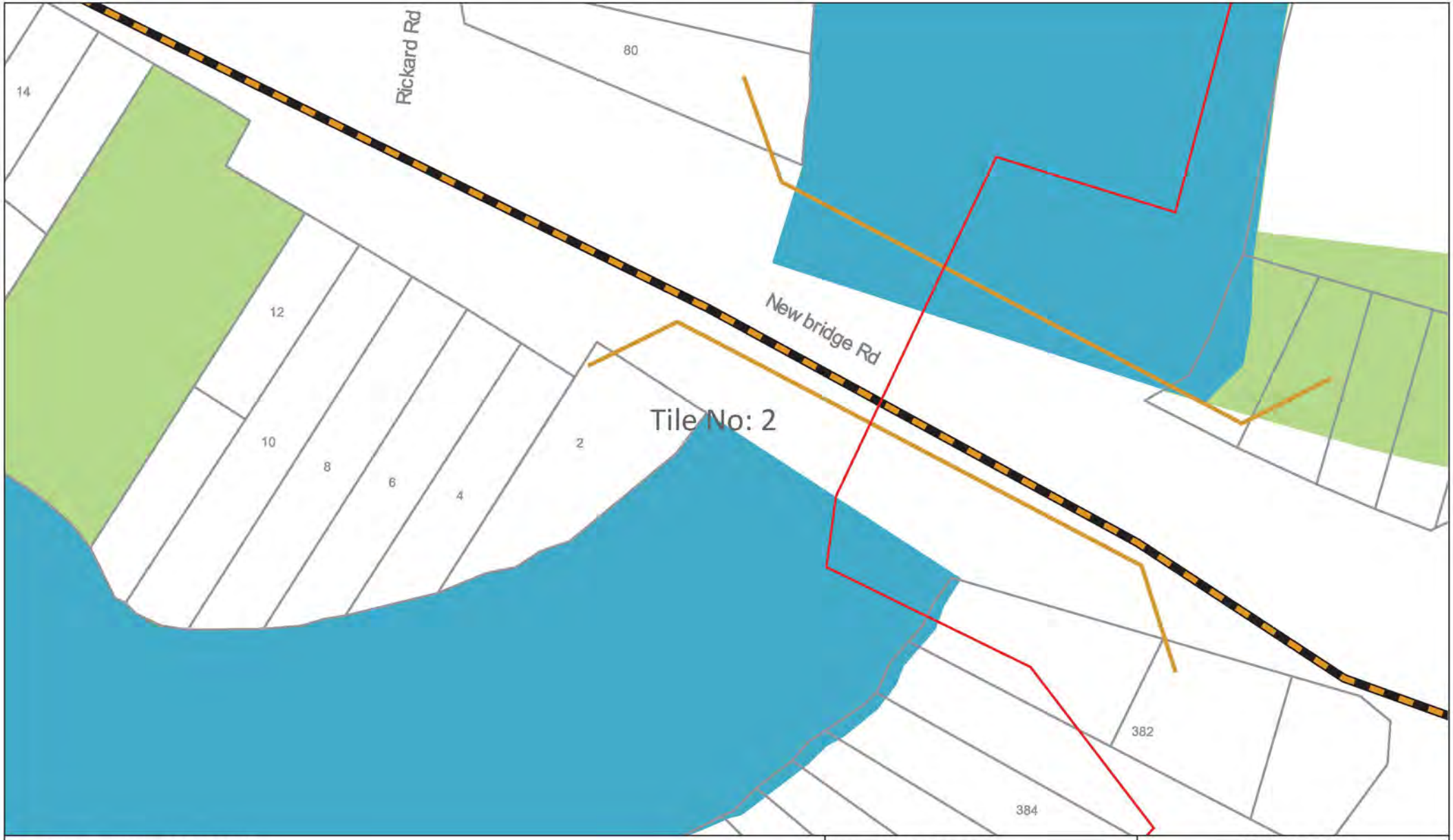
Area

Assets

Cable

3rd Party Duct

Marker Post



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nextgen GROUP

LEGEND

Digsite	Assets
Area	Cable
	3rd Party Duct
	Marker Post

Sequence Number: 102165060

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nextgen GROUP

LEGEND

Digsite

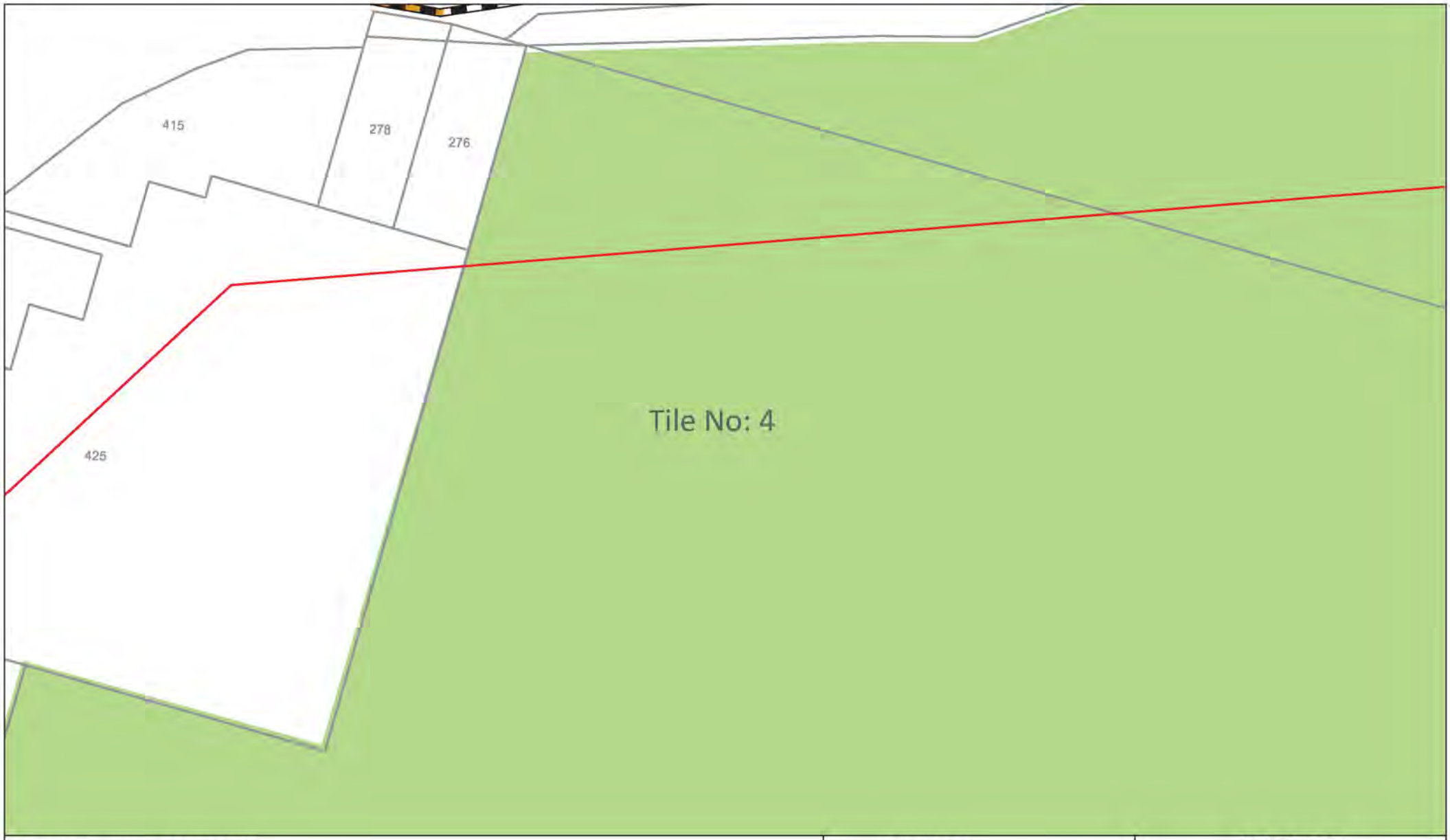
Area

Assets

Cable

3rd Party Duct

Marker Post



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nextgen GROUP

LEGEND

Digsite

Area

Assets

Cable

3rd Party Duct

Marker Post

Plant Location Details

24/09/2020

Mr Raghav Rana
Aurecon
552 Boronia Road
Wantirna VIC 3152
Phone: 0401448946
Fax: Not Supplied

Nextgen Networks Pty Ltd
Level 6, 333 Collins Street
Melbourne VIC 3000
T 1800 032 532
E Damage.Relocations@vocus.com.au

Dear Mr Raghav Rana

The following is a response to your Dial Before You Dig enquiry

Assets Affected: Nextgen Assets

Sequence No: 102165060
Location: Henry Lawson Drive, Milperra NSW 2214

IMPORTANT:

- Please read and understand all the information and disclaimers provided below
- Sketches and Plans provided by Nextgen Networks are circuit diagrams only and indicate the presence of telecommunications plant in the general vicinity of the geographical area shown; exact ground cover and alignments cannot be given with any certainty and cover may alter over time. Telecommunications plant seldom follow straight lines and careful on site investigation is essential to uncover and reveal its exact position
- The accuracy and/or completeness of the information in the plans can not be guaranteed often due to changes in the surrounding land subsequent to Nextgen's deployment and, accordingly the plans are intended to be indicative only

"DUTY OF CARE"
When working in the vicinity of telecommunications plant you have a legal "Duty of Care" that must be observed. The following points must be considered:

1. It is the responsibility of the owner and any consultant engaged by the owner, including an architect, consulting engineer, developer, and head contractor to design for minimal impact and protection of Nextgen Networks plant. Nextgen Networks will provide free plans and sketches showing the presence of its network to assist at this design stage.
2. It is the owner's (or constructor's) responsibility to:
   a) Request plans of Nextgen Networks plant for a particular location at a reasonable time before construction begins
   b) Visually locate Nextgen Networks plant by vacuum excavation (pot-holing) where construction activities may damage or interfere with Nextgen Networks plant (see "Essential Precautions and Approach Distances" section for more information)
   c) Contact Nextgen Networks Network (see below for details) if Nextgen Networks plant is wholly or partly located near planned construction activities

DAMAGE
ANY DAMAGE TO Nextgen Networks NETWORK MUST BE REPORTED TO 1800 032 532 IMMEDIATELY

- The owner is responsible for all plant damage when works commence prior to obtaining Nextgen Networks plans, or failure to follow agreed instructions
- Nextgen Networks reserves all rights to recover compensation for lose or damage to its cable network or other property including consequential losses

CONCERNING NEXTGEN NETWORK PLANS

- Phone 1100. Dial Before You Dig for free plans of Nextgen Networks plant locations. Please give at least 2 business days notice
- Nextgen Networks plans and information provided are valid for 30 days from the date of issue
- Nextgen Networks retains copyright in all plans and details provided in conjunction with your request. These plans and or details should be disposed of by shredding or any other secure disposal method after use
- Nextgen Networks plans or other details are provided for the use of the applicant, its servants, or agents, and shall not be used for any unauthorised purpose
- Please contact the Network Help Desk (see below for details) immediately should you locate Nextgen Networks assets not indicated on these plans
- Nextgen Networks, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Nextgen Networks against any claim or demand for any such loss or damage
- Please ensure Nextgen Networks plans and information provided remains on-site at all times throughout your construction phase

ESSENTIAL PRECAUTION AND APPROACH DISTANCE

NOTE: If the following clearances cannot be maintained, please contact the Nextgen Network Help Desk (see below for details) for advice on how best to resolve this situation

1. On receipt of plans and sketches and before commencing excavation work or similar activities near Nextgen Networks plant, carefully locate this plant first to avoid damage. Undertake prior exposure (vacuum excavation) such as potholing when intending to excavate or work closer to Nextgen Networks plant than the following approach distances:

- Where Nextgen Networks plant is in an area where road and footpaths are well defined by kerbs or other features a minimum clear distance of 600mm must be maintained from where it could be reasonably presumed that plant would reside
- In non established or unformed reserves and terrain, this approach distance must be at least 1.5 metres
- In country/rural areas which may have wider variations in reasonably presumed plant presence, the following minimum approach distances apply:
  d) Parallel to major plant: 10 metres (for optic fibre cable)
  e) Parallel to other plant: 5 metres

  Note: Even pot-holing needs to be undertaken with extreme care, common sense and employing techniques least likely to damage cables. For example - vacuum excavation.

- If construction work is parallel to Nextgen Networks plant, then careful pot-holing at least every 5m is required to establish the location of all plant, hence continuing nominal locations before work can commence

2. Maintain the following minimum clearance between construction activity and actual location of Nextgen Networks Plant.

Jackhammers/Pneumatic Breakers	*Not within 1.0m of actual locations*
Vibrating Plate or Wackers Packer Compactors	*Not within 0.5m of Nextgen Networks ducts 300mm compact clearance cover before compactor can be used across Nextgen Networks ducts, and 600mm clearance across Nextgen Networks cables in the solid*
Boring Equipment (in-line, horizontal and vertical)	*Not within 2.0m of actual location Constructor to check depth via vacuum excavation (pot-hole)*
Heavy Vehicle Traffic (over 3 tonnes)	*Not to be driven across Nextgen Networks ducts with less than 600mm cover. Not to be driven across Nextgen Networks fibre with less than 1.2m cover Constructor to vacuum excavate(pot-hole) and expose plant*
Mechanical Excavators, Boring and Tree Removal	*Not within 1.0m of actual location Constructor to vacuum excavate (pot-hole) and expose plant*

- All Nextgen Networks pits and manholes should be a minimum of 1.2m in from the back of kerb after the completion of your work
- All Nextgen Networks conduit should have the following minimum depth of cover after the completion of your work:

  Footway 450mm
  Roadway 450mm at drain invert and 600mm below the pavement subgrade level invert

- All Nextgen Networks fibre in the solid should have the following minimum depth of cover after the completion of your work:

  Footway 600mm
  Roadway 1200mm at drain invert and 1200mm below the pavement subgrade level invert

- For clearance distances relating to Nextgen Networks above ground infrastructure please contact the Network Help Desk (see below for details)

FURTHER ASSISTANCE

Over-the-phone assistance can be obtained by calling the Network Help Desk below.
Nextgen require 5 clear business days notice to conduct an on-site location. The initial on site location visit will not normally incur a charge, but at the discretion of Nextgen subsequent site visits may incur a charge to be applied at an hourly rate.
Where an on-site location is provided, the owner is responsible for all vacuum excavation work (pot-holing) to visually locate and expose Nextgen Networks plant.
If plant location plans or visual location of Nextgen Networks plant by vacuum excavation reveals that the location of Nextgen Networks plan is situated wholly or partly where the owner plans to work, then **Nextgen Networks** must be contacted through the **Network Help Desk** to discuss possible engineering solutions.
The contact number for the **Network Help Desk** is 1800 032 532.

NOTE:
If Nextgen Networks relocation or protection works are part of the agreed solution, then payment to Nextgen Networks for the cost of this work shall be the responsibility of the principal developer. The principal developer will be required to provide Nextgen Networks with the details of their proposed work showing how Nextgen Networks plant is to be accommodated and these details must be approved by the Nextgen National Operations Manager prior to the commencement of site works.

RURAL LANDOWNER - IMPORTANT INFORMATION

Where Nextgen Networks owned cable crosses agricultural land Nextgen Networks will provide a one off free-on-site electronic cable location. Please note that the exact location of cables can only be verified by visual proving by pot holing, which is not covered by this service. The Network Integrity HelpDesk Officer will provide assistance in determining whether a free-on-site location is required. Please ring the Nextgen Network Help Desk as listed above.

PRIVACY NOTE

Your information has been provided to Nextgen Networks by DBYD to enable Nextgen Networks to respond to your DBYD request. Nextgen Networks keeps your information in accordance with its privacy statement entitled 'Protecting Your Privacy' which can be obtained from Nextgen Networks either by calling 1800 032 532 or visiting our website www.nextgengroup.com.au

Warning: Nextgen Networks plans show only the presence of cables and plant. They only show their position relative to road boundaries, property fences etc, at the time of installation and Nextgen Networks does not warrant or hold out that such plans are accurate thereafter due to changes that may occur over time.
DO NOT ASSUME DEPTH OR ALIGNMENT of cables or plant as these vary significantly.
The customer has A DUTY OF CARE when excavating near Nextgen Networks cables and plant. Before using machine excavators NEXTGEN PLANT MUST FIRST BE PHYSICALLY EXPOSED BY VACUUM EXCAVATION (potholing) to identify its location.
Nextgen Networks will seek compensation for damages caused to its property and losses caused to Nextgen Networks and its customers.

EXPERIENCED PLANT LOCATORS (for your area)

On-site assistance should be sought from an Experienced Plant Locater if the telecommunications plant cannot be located within 2.5 metres of the locations indicated on the drawings provided. On-site advice should be obtained from a suitably qualified contractor highly skilled in locating Nextgen Networks plant. If there is any doubt whatsoever about the actual location of the telecommunications plant, the best method for locating the telecommunications plant or the correct interpretation of the drawings provided. In the case where Nextgen Networks plant is outside a recognised road reserve Nextgen Networks recommends that the **Network Help Desk** is contacted for assistance prior to engaging an Experienced Plant Locater.

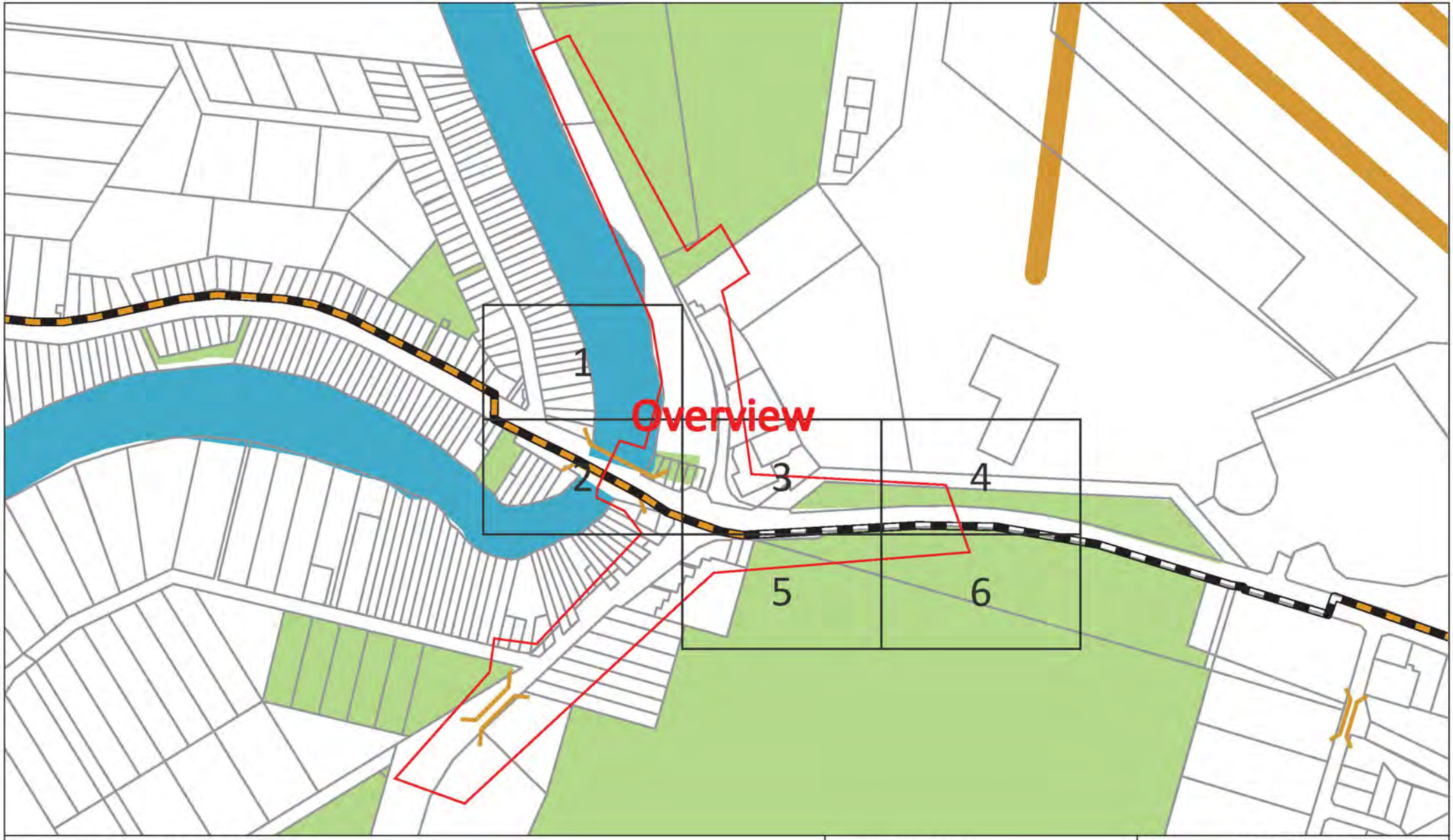
For the assistance of customers Nextgen Networks has established strict criteria to assess the skill of contractors that may be engaged by owners requiring Nextgen Networks plant locating services to perform any of the following activities if requested to do so by the owner:

- Review Nextgen Networks plans to assess the approximate location of Nextgen Networks plant
- Advise owners of the approximate location of Nextgen Networks plant according to the plans
- Advise the owners of the best method for locating Nextgen Networks plant
- Advise owners of the hazard of unqualified persons attempting to find the exact location of Nextgen Networks plant and working in the vicinity of Nextgen Networks plant without first locating its exact position
- Perform trial hole explorations by vacuum excavation (pot-holing) to expose Nextgen Networks plant with a high degree of skill, competence and efficiency and utilising all necessary safety equipment

Nextgen Networks does not accept any liability or responsibility for the performance of or advice given by any Plant Locater engaged by you but we will, if requested, recommend suitably qualified plant locators.

GENERAL DISCLAIMER

While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Nextgen or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.



Sequence Number: 102165060

Date: 24/09/2020

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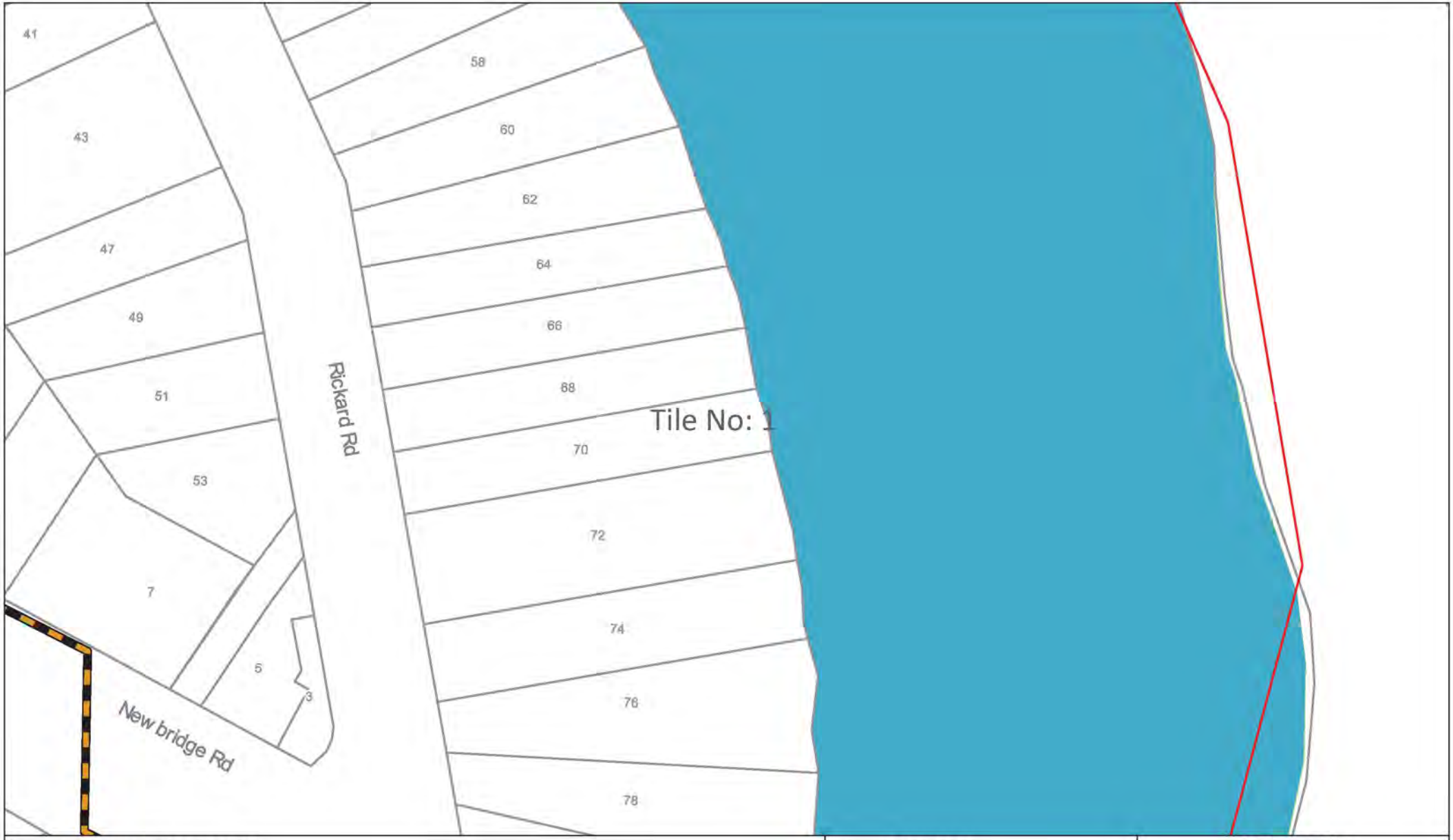
nextgen GROUP

LEGEND

Digsite	Assets
Area	Cable
	3rd Party Duct
	Marker Post



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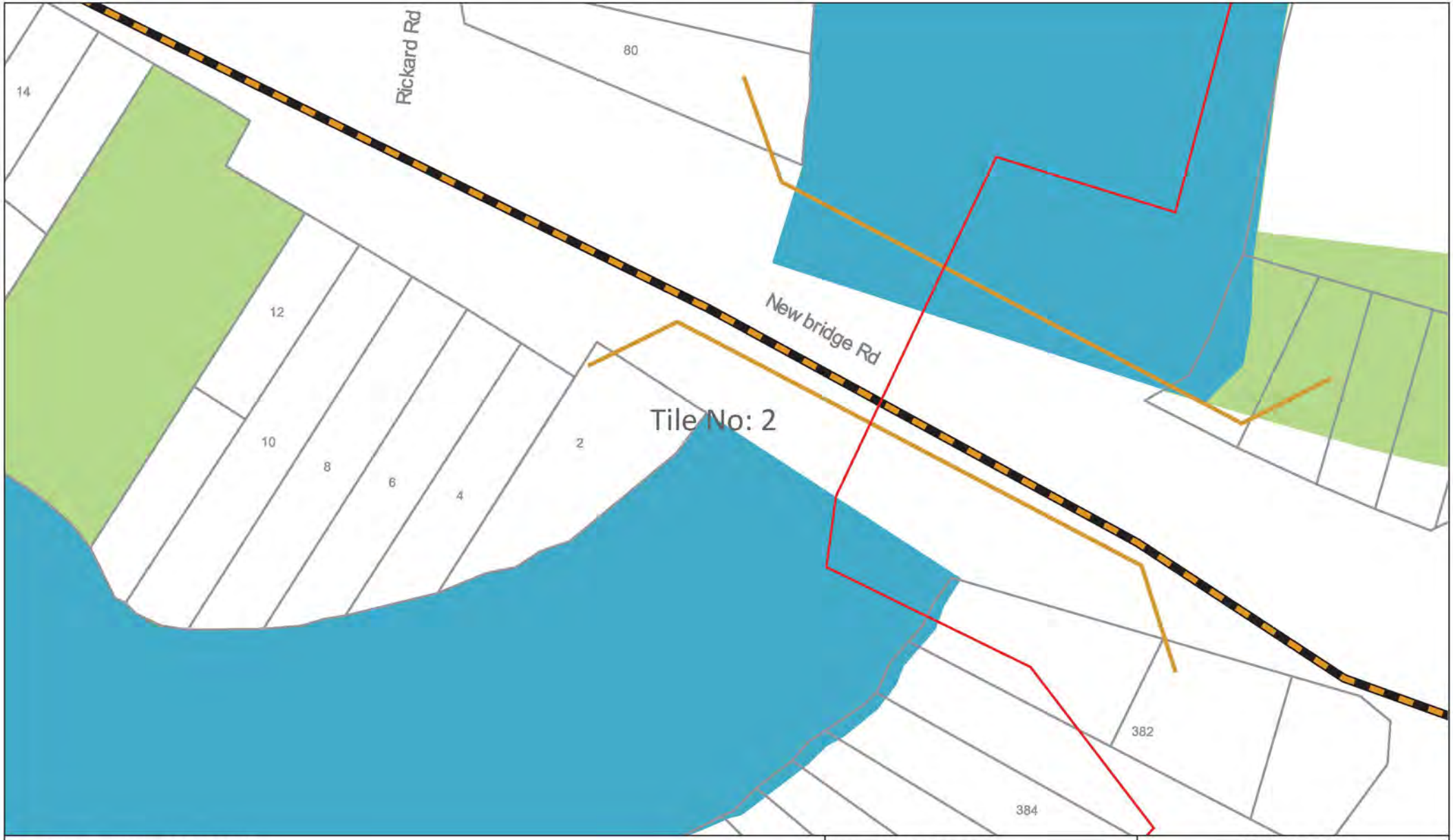

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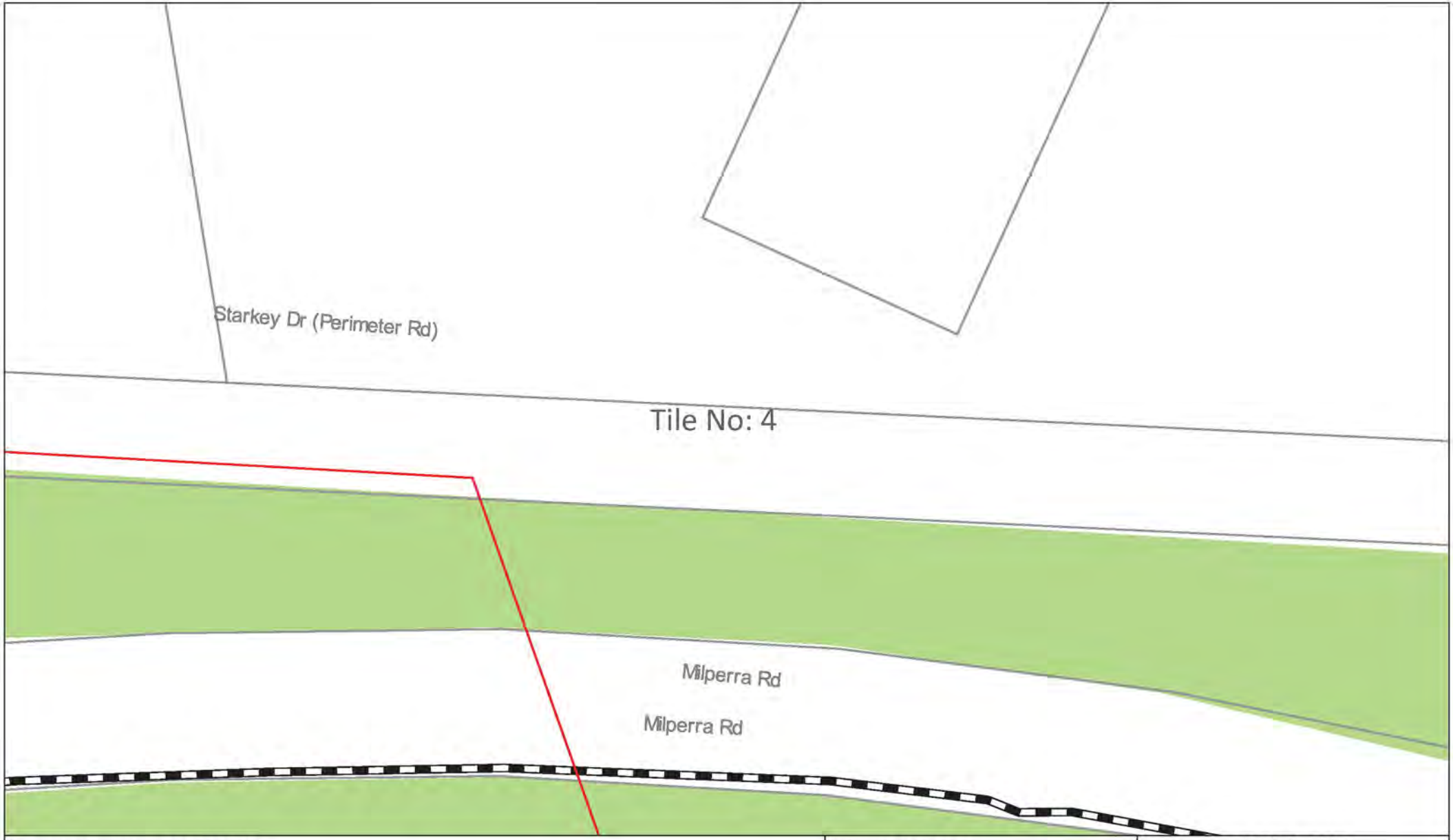

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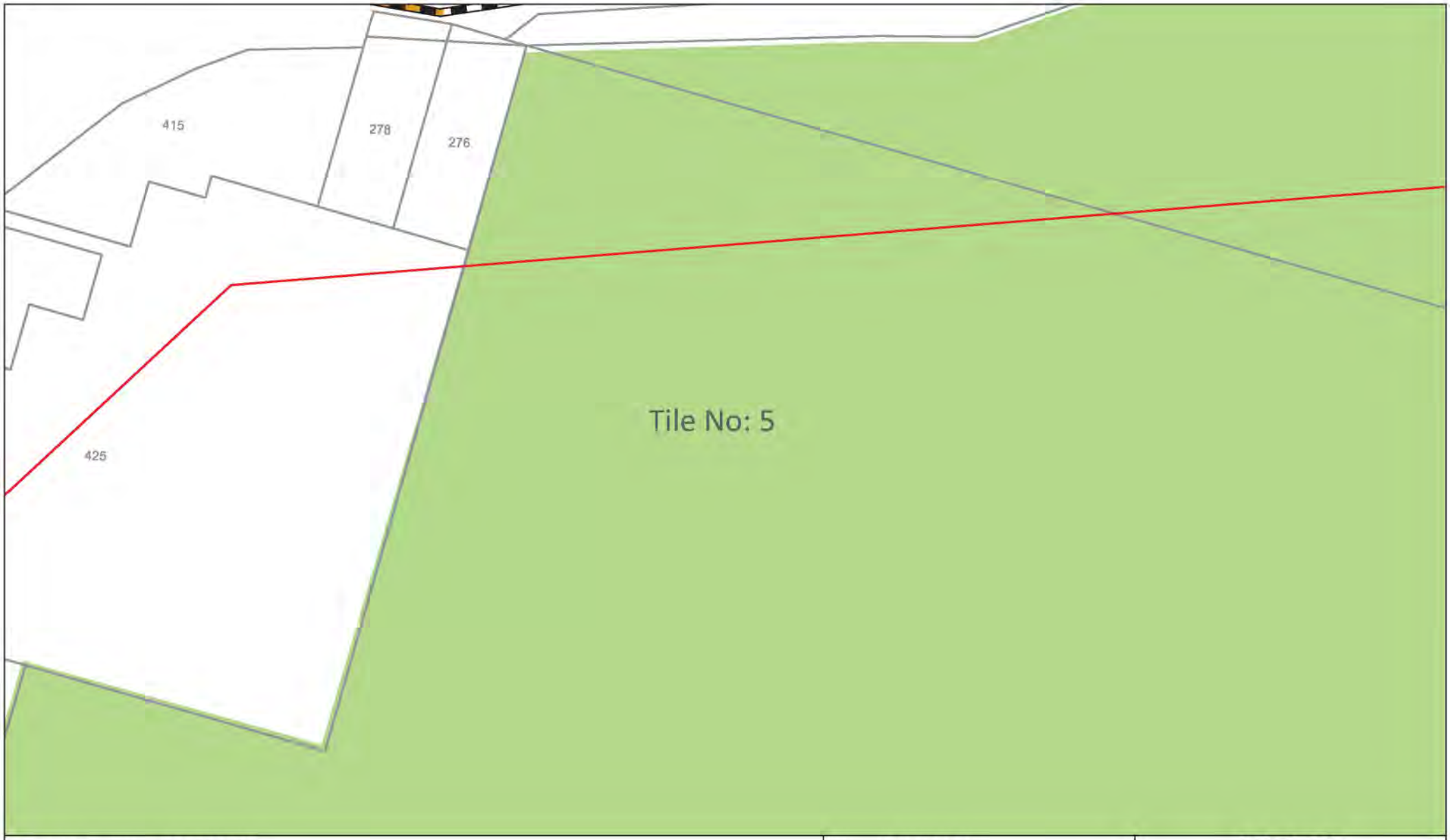

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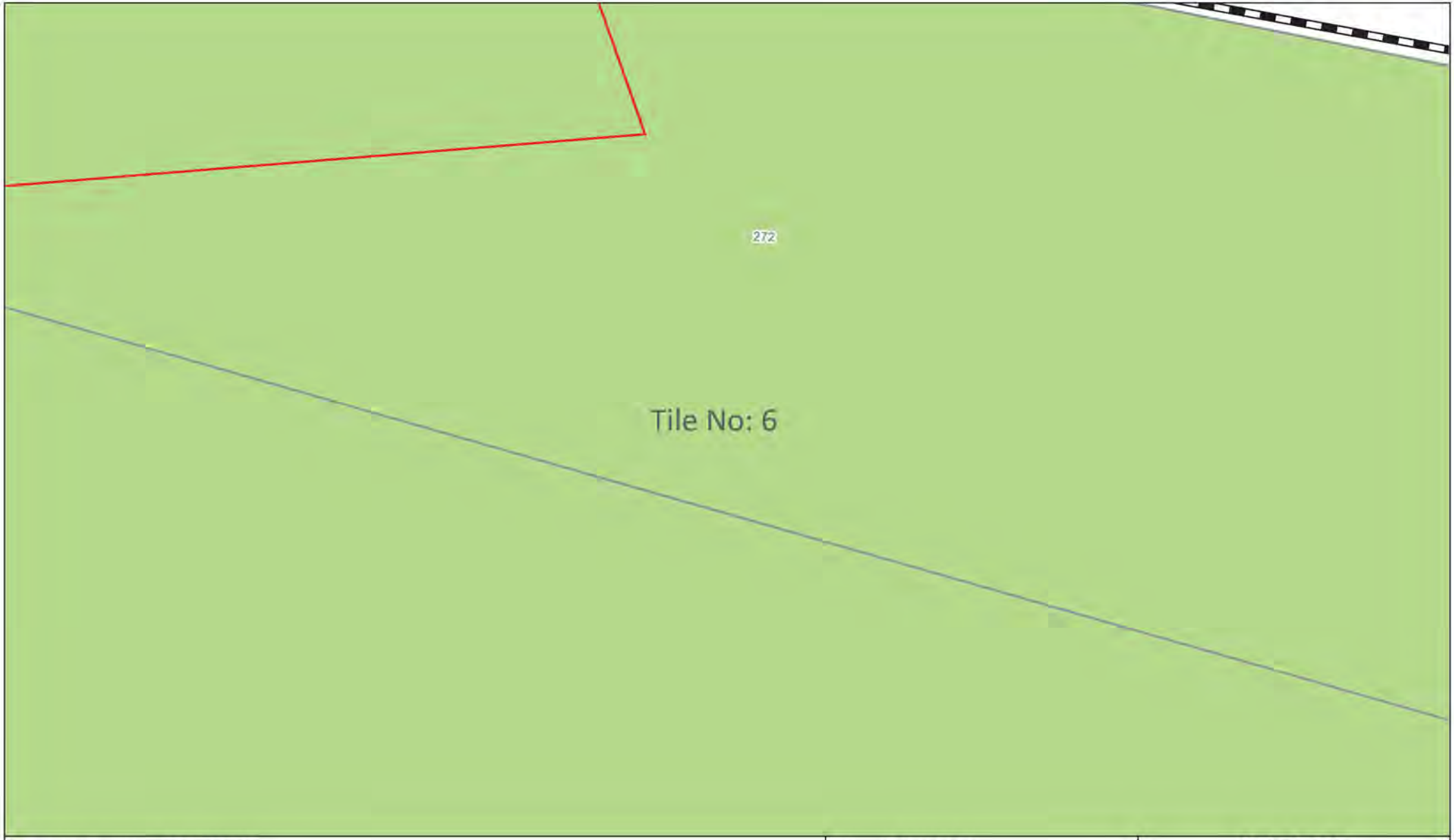

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Digsite

Area

Assets

Cable

3rd Party Duct

Marker Post

TPG Corporation Limited
ABN 46 093 058 069
PO Box 1844 Macquarie Centre
North Ryde NSW 2113
Phone: **1800 786 306** (24hrs)

Date: 24/09/2020

Enquirer Name: Mr Raghav Rana
Enquirer Address: 552 Boronia Road
Email: raghav.rana@aurecongroup.com
Phone: 0401448946

Dear Mr Raghav Rana

The following is our response on behalf of each of the TPG carriers (listed below) to your Dial Before You Dig enquiry – Sequence 102165061
It is provided to you on a confidential basis under the following conditions and must be shredded or securely disposed of after use.

Assets Affected:

Carriers (each a "TPG carrier") and assets affected:

NONE

Location: Henry Lawson Drive

According to our records, the underground assets in the vicinity of the location stated in your enquiry are **NOT AFFECTED**. Please read the below information and disclaimers in addition to the any attached plans provided prior to any construction activities.

IMPORTANT INFORMATION

- The information provided is valid for 30 days from the date of this response. If your work site area changes or your construction activity is beyond 30 days please contact Dial Before You Dig on 1100 or www.1100.com.au to re-submit a new enquiry.
- Due to the nature of underground assets and the age of some assets and records, our plans are indicative of the general location only and may not show all assets in the location. You should not solely rely on these plans when undertaking construction works. It is also inaccurate to assume depth or that underground network conduit and cables follow straight lines, and careful on-site investigations are essential to locate an asset's exact position prior to excavation. It is your responsibility to locate and confirm the exact location of our infrastructure using non-destructive techniques. We make no warranty or guarantee that our plans are complete, current or error free, and to the maximum extent permitted by law we exclude all liability to you, your employees, agents and contractors for any loss, damage or claim arising out of or in connection with using our plans.
- Please note that some of our conduits carry electrical cables and gas pipes. Please exercise extreme care when working within the vicinity of these conduit and take into account the minimum clearance distances under Duty Of Care below.
- You (and your employee and contractors) must not open, move, interfere, alter or relocate any of our assets without our prior approval.
- **Note** It is a criminal offence under the *Criminal Code Act 1995 (Cth)* to tamper or interfere with communication facilities owned by a carrier. Heavy penalties may apply for breach of this prohibition, and any damages suffered, or costs incurred by us as a result of such unauthorised works may be claimed against you.

DAMAGE

- You must report immediately any damage to our network on **1800 786 306** (24hrs). We will hold you liable and seek compensation for any loss or damage to our network, our property and our customers that is caused by or arises out of your activities.

DUTY OF CARE

You have a duty of care to carefully locate, validate and protect our assets when carrying out works near our infrastructure. For construction activities that may impact on or interfere with our network, you will need to call us on **1800 786 306** to discuss a suitable engineering solution, lead time and cost involved. The below precautions must be taken when working in the vicinity of our network:

- Contact us on **1800 786 306** to discuss and obtain relevant information and plans on our infrastructure in a particular location if the information provided in this response is insufficient.
- Physically locate and mark on-site our network infrastructure using non-destructive techniques i.e. pot holing or hand digging every 5 metres prior to commencing any construction activities. Assets located must be marked to AS5488 standard. **NO CONSTRUCTION WORK IS ALLOWED UNTIL THIS STEP IS COMPLETED**. You must use an approved telecommunications accredited locator, or we can provide a locator for you at your expense. If we provide you with a locator, and this locator attended the site and is proven to be grossly negligent in physically locating and marking our infrastructure, then to the extent any TPG carrier is liable for this locator's negligence, acts and omissions, the total liability aggregated for all TPG carriers is limited, at our option, to attend the site and re-mark the infrastructure or to pay for a third party to re-mark the infrastructure.
- If you require us to locate or monitor our infrastructure, please allow five business days' notice for us to respond.
- Ensure all information, including our network requirements and any associated plans provided by us are kept confidential and remain on-site throughout your construction works.

- Use suitably qualified and supervised professionals, particularly if you are working near assets that contain electricity cables or gas pipes.
- Ensure the below minimum clearance distances between the construction activities and the actual location of our assets are met. If you need clearance distances for our above ground assets, or if the below distances cannot be met, call **1800 786 306** to discuss.

  Minimum assets clearance distances.

  - 300mm when laying asset inline, horizontal or vertical.
  - 1000mm when operating vibrating equipment. Eg: vibrating plates. No vibrating equipment on top of asset.
  - 1000mm when operating mechanical excavators or jackhammers/pneumatic breakers.
  - 2000mm when performing directional bore in-line, horizontal and vertical.
  - No heavy vehicle over 3 tonnes to be driven over asset with less than 600mm of cover.
- Reinstate exposed TPG network infrastructure back to original state.

PRIVACY & CONFIDENTIALITY

- Privacy Notice – Your information has been provided to us by Dial Before You Dig to respond to your Dial Before You Dig enquiry. We will keep your personal information in accordance with TPG's privacy policy, see www.tpg.com.au/about/privacy.
- Confidentiality – The information we have provided to you is confidential and is to be used only for planning and designing purposes in connection with your Dial Before You Dig enquiry. Please dispose of the information by shredding or other secure disposal method after use. We retain all intellectual property rights (including copyrights) in all our documents and plans.

Overview Map

TPG Corporation Limited

If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

Endeavour Energy

DBYD Underground Search Report
Date: 24/09/2020

DBYD Sequence No: 102165062 **DBYD Job No:** 20310876

ENDEAVOUR ENERGY ASSETS NOT AFFECTED

To:	Mr Raghav Rana		Company:	Aurecon	
Address:	552 Boronia Road, Wantirna, VIC 3152				
Cust. ID:	2235321	Email:	raghav.rana@aurecongroup.com		
Phone:	0401448946	Mobile:	Not Supplied	Fax:	Not Supplied
Enquiry Location:	Henry Lawson Drive, Milperra, NSW 2214				

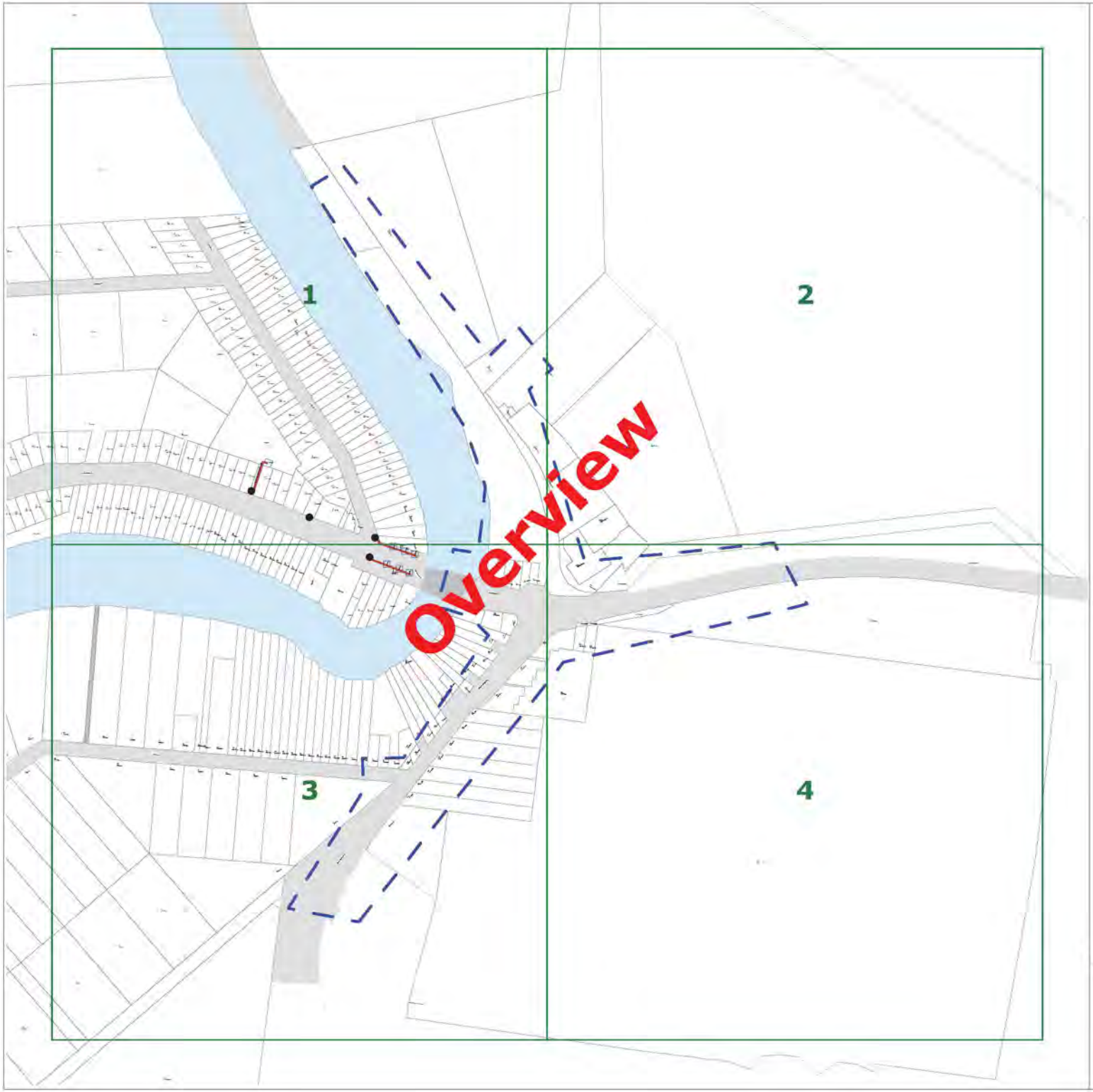
Our Search has shown that **NO UNDERGROUND ASSETS ARE PRESENT** on our plans within the nominated enquiry location. However all persons planning excavation shall read and understand the warnings below. This search is based on the graphical position of the excavation site as denoted in the DBYD customer confirmation sheet.

WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty **(20)** working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

SUPPLEMENTARY MATERIAL

Material	Purpose	Location
DBYD Cover Letter	Endeavour Energy DBYD response Cover Letter	Attached
DBYD Important Information & Disclaimer	Endeavour Energy disclaimer, responsibilities and information on understanding plans	Attached
DBYD Response Plans	Endeavour Energy DBYD plans	Attached
Work Cover NSW *"Work near underground assets: Guide"*	Guideline for anyone involved in construction work near underground assets	Contact Work Cover NSW for a copy
Work Cover NSW *"Excavation work: Code of practice"*	Practical guidance on managing health and safety risks associated with excavation	URL [Click Here]
Safe Work Australia *"Working in the vicinity of overhead and underground electric lines guidance material"*	Provides information on how to manage risks when working in the vicinity of overhead and underground electric lines at a workplace	URL [Click Here]
Endeavour Energy Safety Brochures & Guides	To raise awareness of dangers of working on or near Endeavour Energy's assets	URL [Click Here]



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- Depth of underground assets may vary significantly from information provided on plans as a result of changes to road, footpath or surface levels subsequent to installation.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

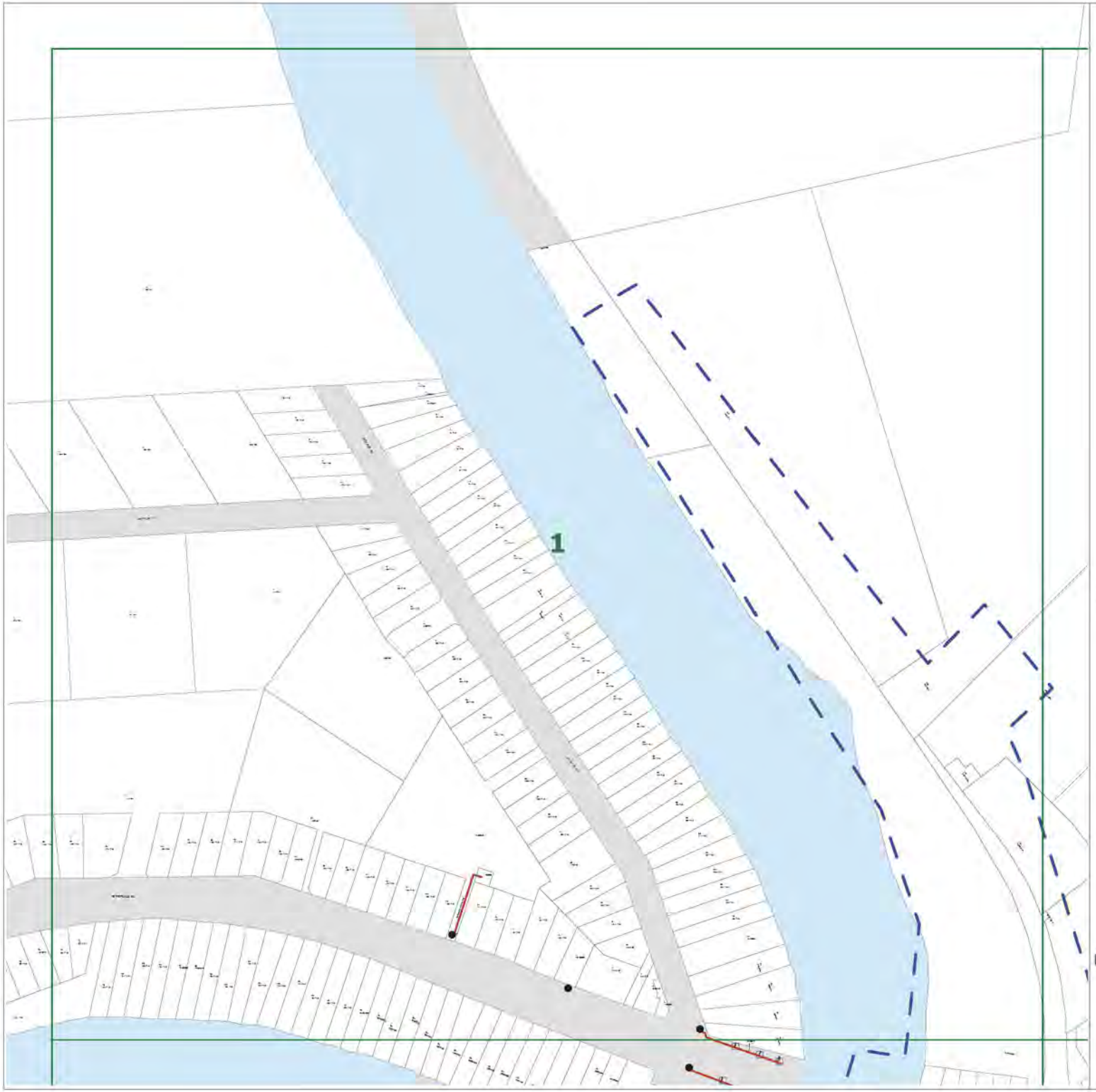
LEGEND

- or — Street light column
- Padmount substation
- or — Overground pillar (O.G.Box)
- Underground pit
- Duct run
- Cable run
- Typical duct section
- Asbestos warning

N

NOT TO SCALE

DBYD Sequence No.:	102165062
Issued Date:	24/09/2020



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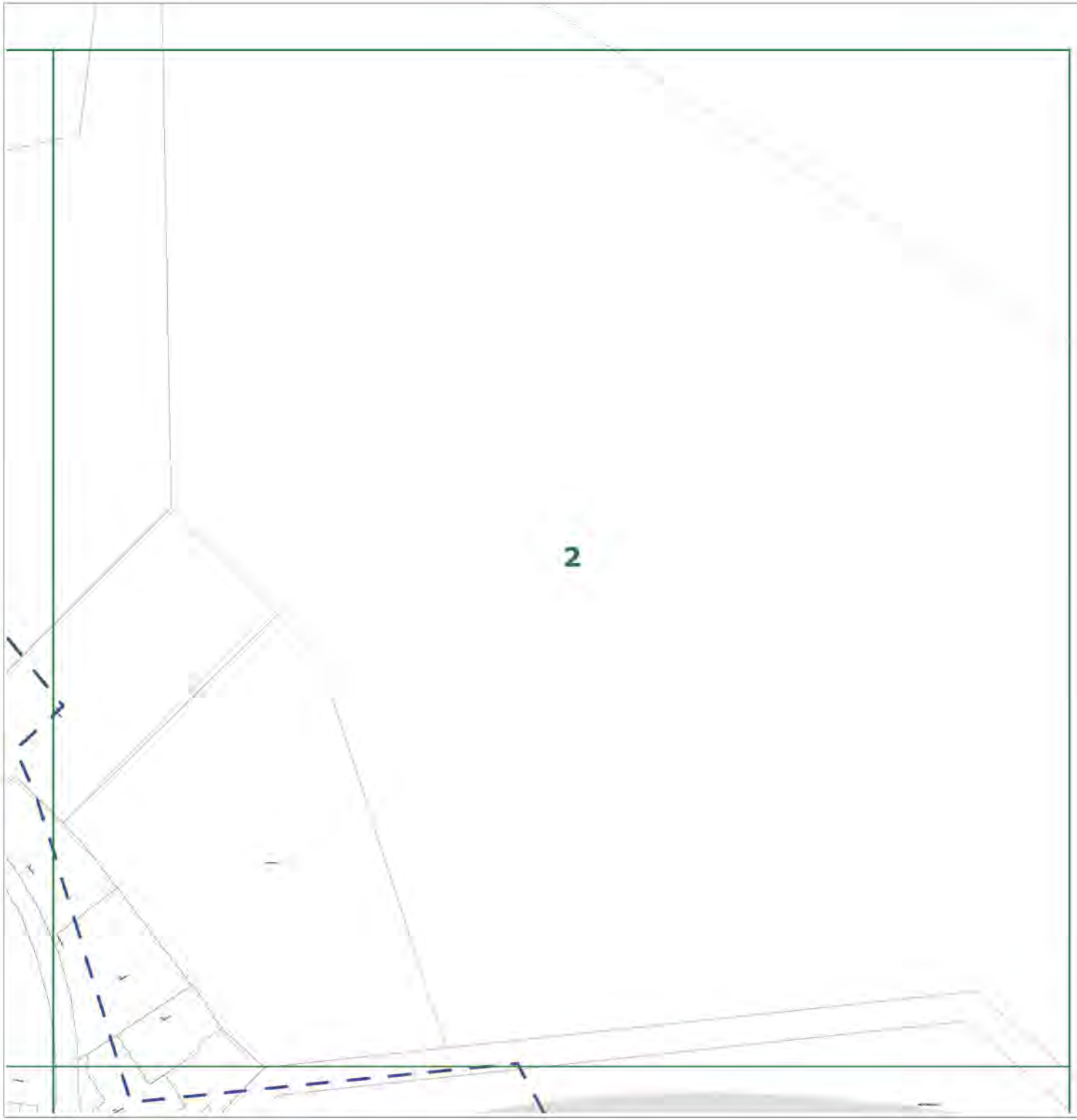

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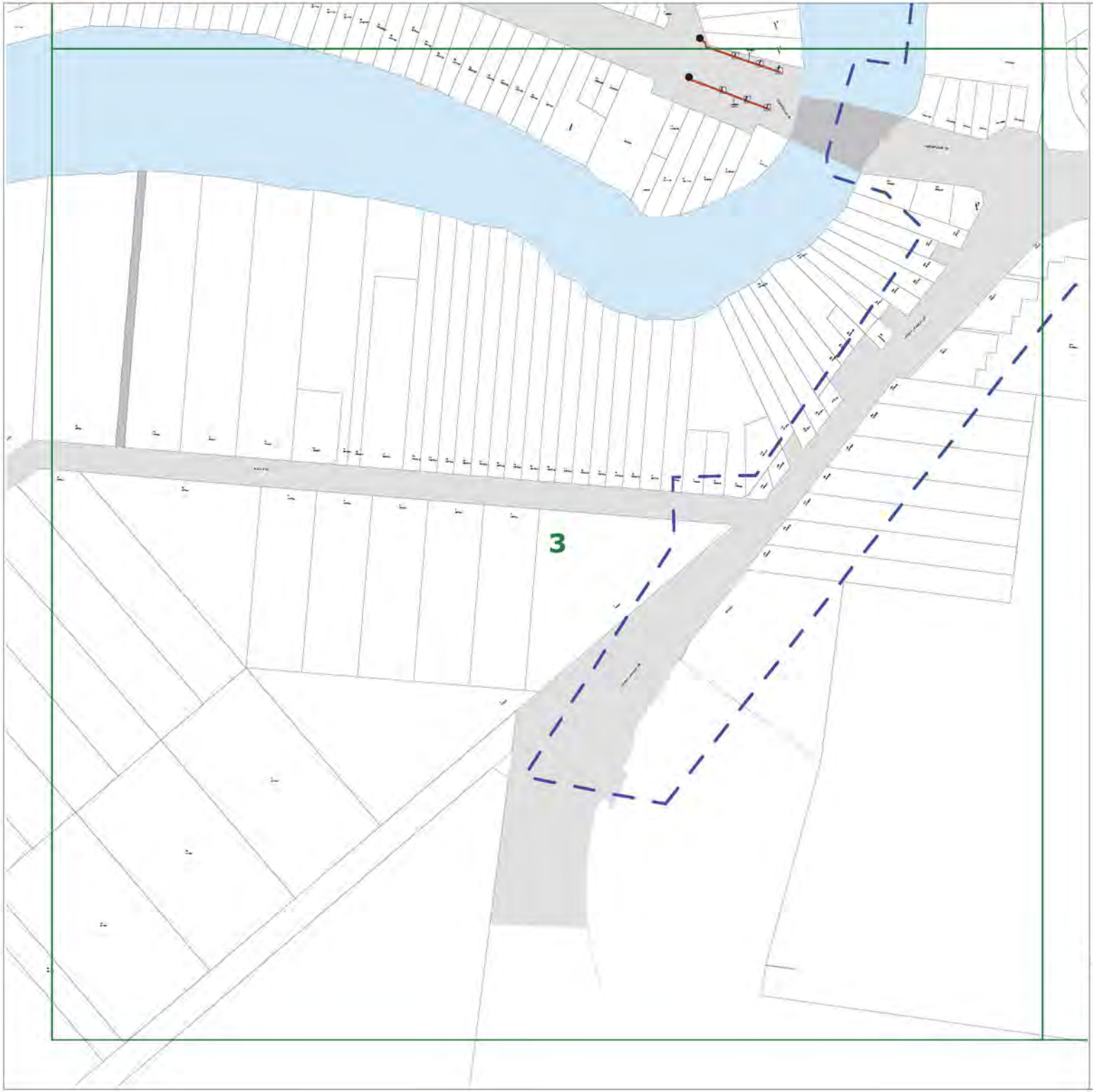

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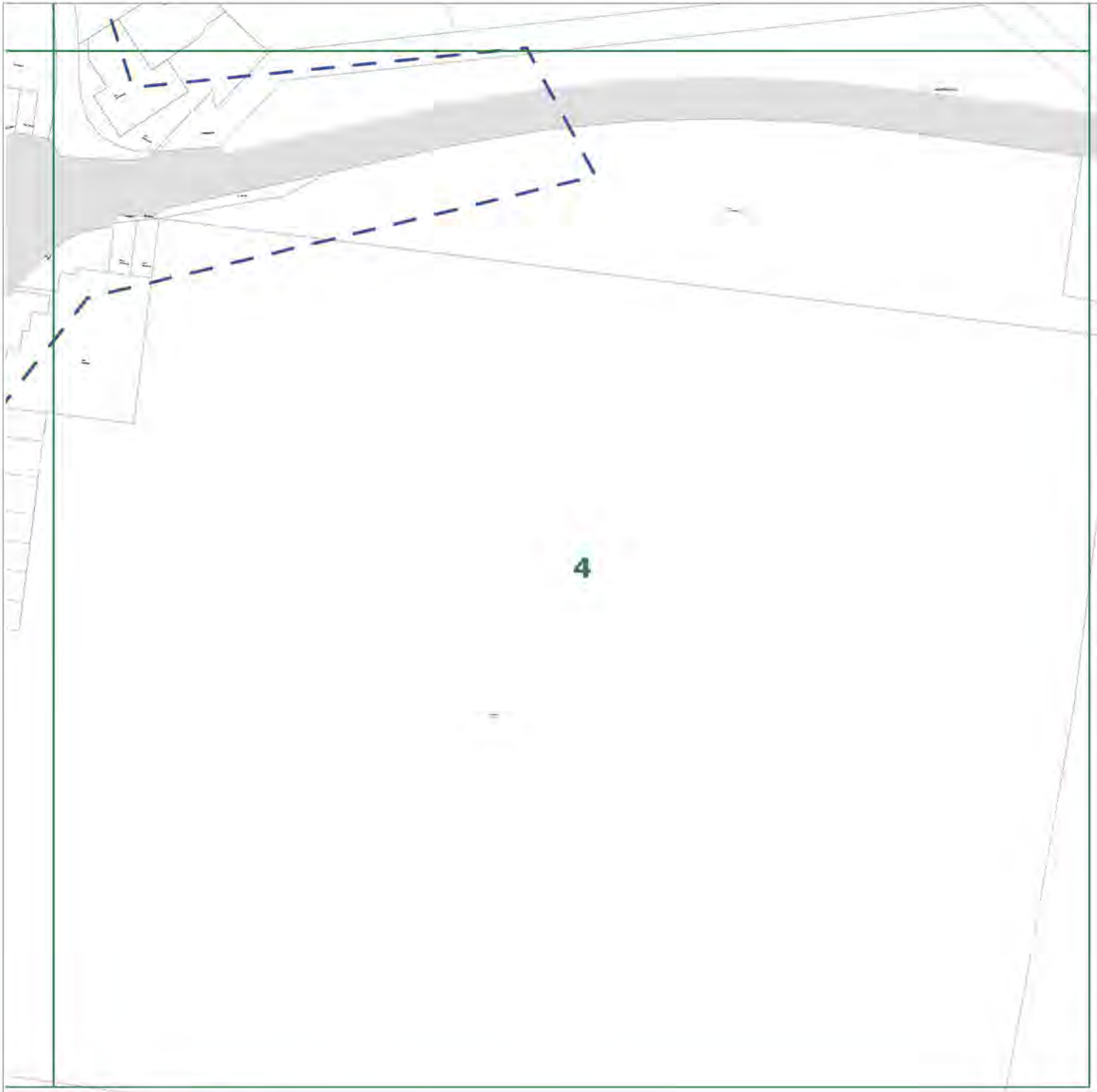

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WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty **(20)** working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

INFORMATION PROVIDED BY ENDEAVOUR ENERGY

- Any plans provided pursuant to this service are intended to show the approximate location of underground assets relative to road boundaries, property fences and other structures at the time of installation.
- Depth of underground assets may vary significantly from information provided on plans as a result of changes to road, footpath or surface levels subsequent to installation.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

LEGEND

- Street light column
- Padmount substation
- Overground pillar (O.G.Box)
- Underground pit
- Duct run
- Cable run
- Typical duct section
- Asbestos warning

N

NOT TO SCALE

DBYD Sequence No.:	102165062
Issued Date:	24/09/2020

Sequence Number: 102165065

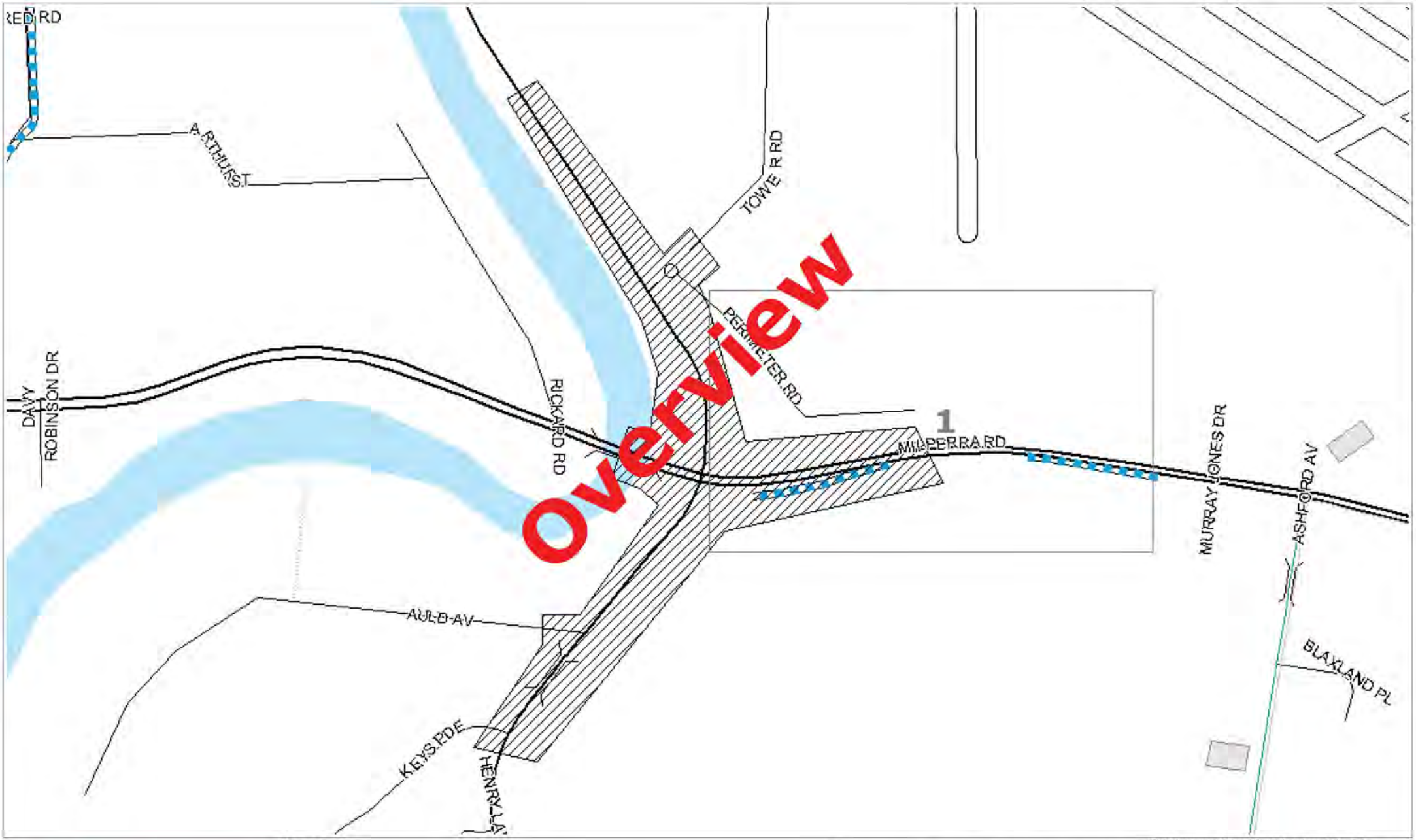
Date Generated: 24/09/2020

For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208

Sequence Number: 102165065

Date Generated: 24/09/2020

For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208



Uecomm

Cable Uecomm Underground

Scale: #INSERT MAP SCALE#

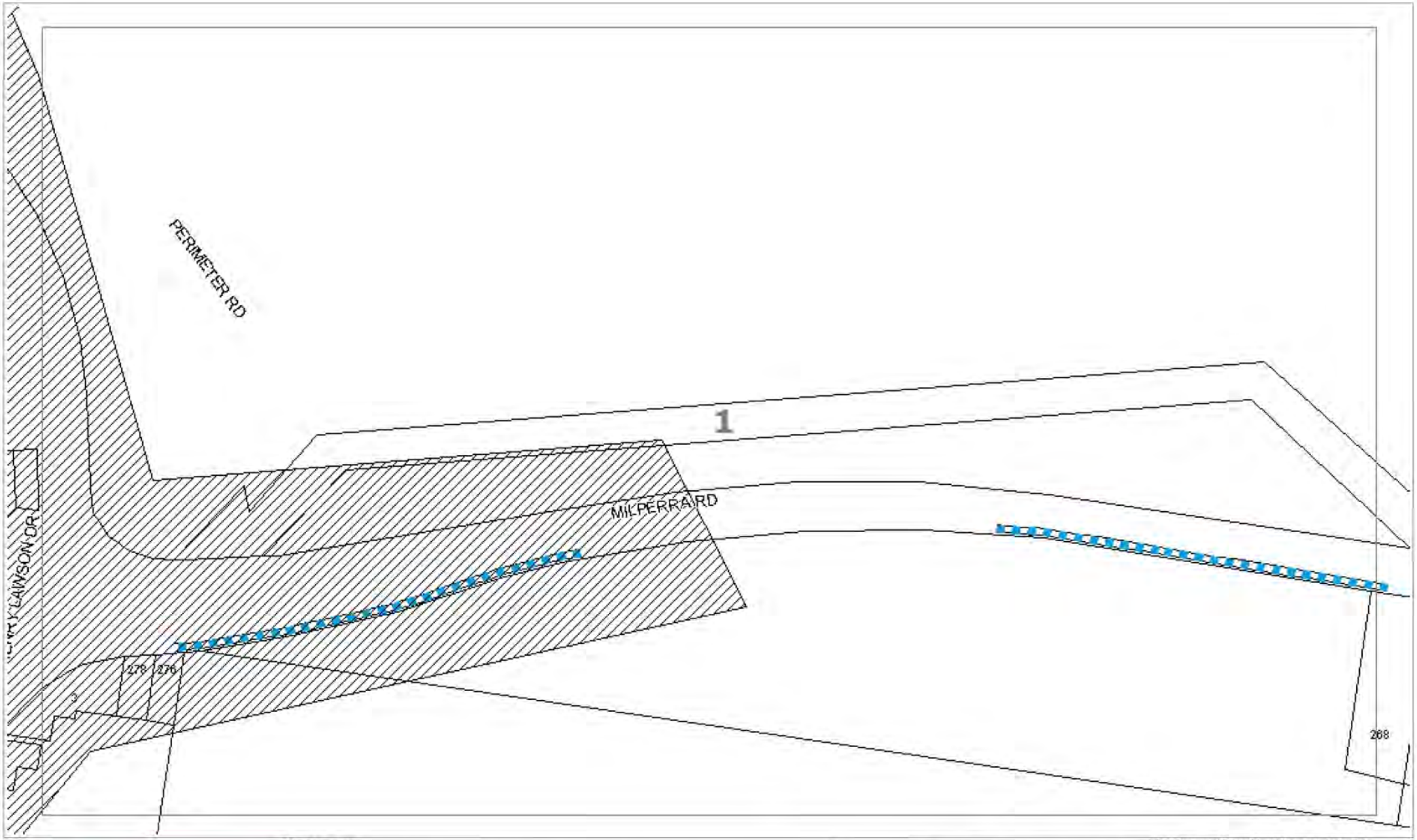
Printed On: 24/09/2020

Sequence Number: 102165065

Location: Henry Lawson Drive

Job Location: Line, Point, Area

Undergound Asset: Uecomm



Uecomm

Cable Uecomm Underground

Scale: #INSERT MAP SCALE#

Printed On: 24/09/2020

Sequence Number: 102165065

Location: Henry Lawson Drive

Job Location

Line

Point

Area

Undergound Asset

Uecomm

Dial Before You Dig (DBYD)
BP Nominated Infrastructure or Area Location Information

BP Australia Pty Ltd
717 Bourke Street
Docklands, VIC 3008

To:
Aurecon - Mr Raghav Rana
552 Boronia Road
Wantirna VIC 3152

Enquiry Details	
Utility ID	90146
Sequence Number	102165068
Enquiry Date	24/09/2020 14:15
Response	**AFFECTED**
Address	Henry Lawson Drive Milperra
Location in Road	CarriageWay,Footpath,Nature Strip
Activity	Planning & Design

Enquirer Details			
Customer ID	2235321		
Contact	Mr Raghav Rana		
Company	Aurecon		
Email	raghav.rana@aurecongroup.com		
Phone	0401448946	**Mobile**	Not Supplied

Enquirer Responsibilities

This asset location information must be read in conjunction with the DBYD Response Form provided to you (the enquirer) by Mipela GeoSolutions on behalf of BP Australia. *(F0-RM-003 Response Form.pdf)*

When working in the vicinity of an asset you have certain legal obligations with which you must comply. The purpose of these obligations is to ensure safe work.

In commencing work in the vicinity of an asset following receipt of this DBYD Response Form, you are deemed to have accepted the terms and conditions attached.

An example of the type of visible infrastructure that you may encounter is shown in the attached Photo A.


Photo A

bp

Date: 24/09/2020

Overview Map

Sequence No: 102165068

Henry Lawson Drive Milperra

BP Australia makes every effort that the information contained on this map is up to date and correct but accepts no responsibility for this information.

The information is provided as a guide only.

N W E S

0 0.1km

Imagery sourced from Open StreetMaps

LEGEND:

1 Detail Map

BP Area Location

DBYD Work Area

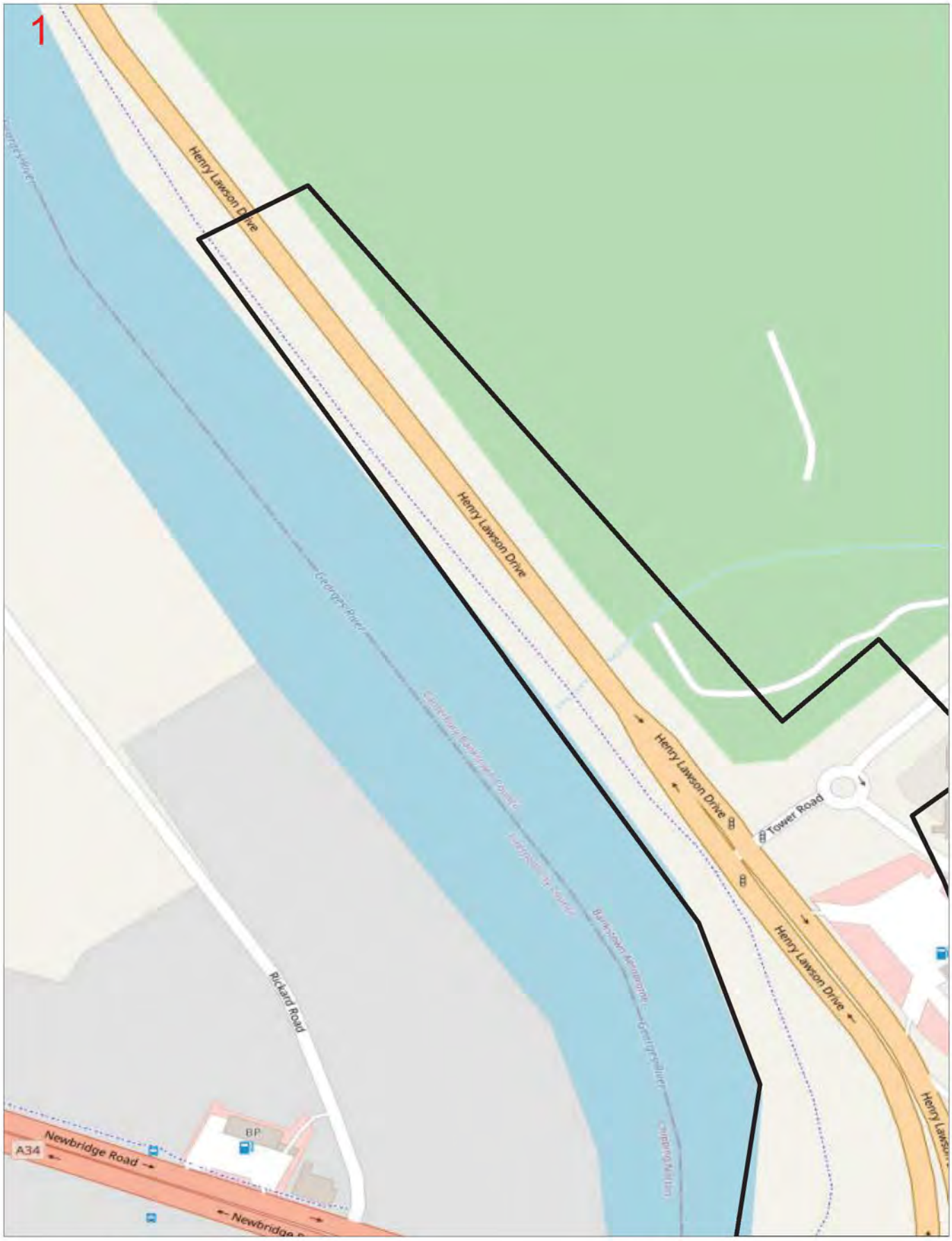
Powered by x-info dbyd

Date: 24/09/2020

Map 1

Sequence No: 102165068

Henry Lawson Drive Milperra



BP Australia makes every effort that the information contained on this map is up to date and correct but accepts no responsibility for this information.

The information is provided as a guide only.

N W E S

0 0.02km

Imagery sourced from Open StreetMaps

LEGEND:

- BP Area Location
- BP Infrastructure
- DBYD Work Area

Powered by x-info dbyd

bp

Date: 24/09/2020

Map 2

Sequence No: 102165068

Henry Lawson Drive Milperra

BP Australia makes every effort that the information contained on this map is up to date and correct but accepts no responsibility for this information.

The information is provided as a guide only.

N W E S

0 0.02km

Imagery sourced from Open StreetMaps

LEGEND:

- BP Area Location
- BP Infrastructure
- DBYD Work Area

Powered by x-info dbyd

OPTUS

DIAL BEFORE YOU DIG
www.1100.com.au

Optus Contract Management Team
Unit 9, 677 Springvale Road
Mulgrave, Victoria, 3178

Date: 24/09/2020
To: Mr Raghav Rana
Company:
Address: 552 Boronia Road
Wantirna, VIC 3152

ENQUIRY DETAILS
Location: Henry Lawson Drive, Milperra, NSW 2214
Sequence No.: 102165065
DBYD Reference: 20310876

In relation to your enquiry concerning the above location, Optus advises as follows:

Optus records indicate that there ARE underground Optus FIBRE OPTIC TELECOMMUNICATIONS ASSETS in the vicinity of the above location as per the attached drawing(s).

This reply is valid for a period of 30 days from the date above.

IMPORTANT INFORMATION

Asset location drawings provided by Optus are reference diagrams and are provided as a guide only. The completeness of the information in these drawings cannot be guaranteed. Exact ground cover and alignments cannot be provided with any certainty as these may have altered over time. Depths of telecommunications assets vary considerably as do alignments. It is essential to identify the location of any Optus assets in the vicinity prior to engaging in any works.

All Optus assets in the vicinity of any planned works will need to be electronically located to ascertain their general location. Depending on the scope of planned works in the vicinity, the assets may also need to be physically located.

You MUST engage the services of one of the Optus Asset Accredited Locators to carry out asset location (refer to list of Accredited Locators attached to this DYBD response).

Unless otherwise agreed with Optus, where an on-site asset location is required, the requestor is responsible for all costs associated with the locating service including (where required) physically exposing the Optus asset.

DUTY OF CARE

When working in the vicinity of telecommunications assets you have a legal "Duty of Care" and non-interference that must be observed.

It is your responsibility as the requesting party (as a landowner or any other party involved in the planned works) to design for minimal impact to any existing Optus asset. Optus can assist at the design stage through consultation.

It is also your, as the requesting party (or your representative's), responsibility to:

a) Obtain location drawings (through the Dial Before You Dig process) of any existing Optus assets at a reasonable time before any planned works begin;

b) Have an Optus Accredited Asset Locator identify the general location of the Optus asset and physically locate the asset where planned works may encroach on its alignment; and

c) Contact Optus for further advice where requested to do so by this letter.

DAMAGE TO ANY OPTUS ASSET MUST BE REPORTED TO 1800 500 253 IMMEDIATELY

You, your head contractor and any relevant subcontractor are all responsible for any Optus asset damage as a result of planned activities in the vicinity of Optus assets.

This applies where works commence prior to obtaining Optus drawings, where there is failure to follow instructions or during any construction activities.

Optus reserves the right to recover compensation for loss or damage to its assets including consequential loss. Also, you, your head contractor and any relevant subcontractor may also be liable for prosecution under the Criminal Code Act 1995 (Cth).

ASSET RELOCATIONS

You are not permitted by law to relocate, alter or interfere with any Optus asset under any circumstance. Any unauthorised interference with an Optus asset may lead to prosecution under the Criminal Code Act 1995 (Cth).

Enquiries relating to the relocation of Optus assets must be referred to the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

APPROACH DISTANCES

On receipt of Optus asset location drawings and prior to commencing any planned works near an Optus asset, engage an Optus Accredited Locator to undertake a general location of the Optus asset.

Physical location of the Optus asset by an Optus Accredited Locator will also be required where planned works are within the following approach distances of the general location of the Optus asset:

a) In built up metropolitan areas where road and footpaths are well defined by kerbs or other features a minimum clear distance of 1 meter must be maintained from the general location of the Optus asset.

b) In non-established or unformed metropolitan areas, a minimum clear distance of 3 meters must be maintained from the general location of the Optus asset.

c) In country or rural areas where wider variations may exist between the general and actual location of an Optus asset may exist, then a minimum clear distance of 5 meters must be maintained from the general location of the Optus asset.

If planned works are parallel to the Optus asset, then the Optus asset must be physically located by an Optus Accredited Locator at a minimum of 5 meter intervals along the length of the parallel works prior to work commencing.

Under no circumstances is crossing of any Optus asset permitted without physical location of the asset being carried out by an Optus Accredited Locator. Depending on the asset involved an Optus representative may be required onsite.

The minimum clearances to the physical location of Optus assets for the following specific types of works must be maintained at all times.

Note: Where the clearances in the following table cannot be maintained or where the type of work differs from those listed then advice must be sought from the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

Type of Works	Clearance to Physical Location of Optus Asset
Jackhammers / Pneumatic Breakers	Not within 1 meter.
Light duty Vibrating Plate or Wacker Packer type compactors (not heavy road construction vibrating rollers etc.)	500mm compact clearance cover before a light duty compactor can be used over any Optus conduit. No compaction permitted over Optus direct buried cable without prior approval from Optus.
Boring Equipment (in-line, horizontal and vertical)	Not within 5 meters parallel of the Optus asset location without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite. Not to cross the Optus asset without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite.

Type of Works	Clearance to Physical Location of Optus Asset
Heavy vehicle Traffic (over 3 tonnes)	Not to be driven across Optus conduits with less than 600mm of cover. Not to be driven across Optus direct buried cable with less than 1.2 meters of cover. Once off crossings permitted, multiple crossing (e.g. road construction or logging) will require Optus approval. Accredited Optus Asset Locator to physically expose the Optus asset to verify actual depth.
Mechanical Excavators, Farm Ploughing, Vertical Hole installation for water bore or fencing etc.	Not within 1 meter. Accredited Optus Asset Locator to physically expose the Optus asset to verify actual location.

ASSET CLEARANCES AFTER COMPLETION OF WORKS

All Optus pits and manholes must be a minimum of 1 meter from the back of any kerb, 3.5 meters of the road surface without a kerb or not within 15 meters of street intersection.

In urban areas Optus conduit must have the following minimum depth of cover:

- Footway 600mm;
- Roadway 1 meter at drain invert and at road centre crown.

In rural areas Optus conduit must have a minimum depth of cover of 1 meter and direct buried cable 1.2 meters.

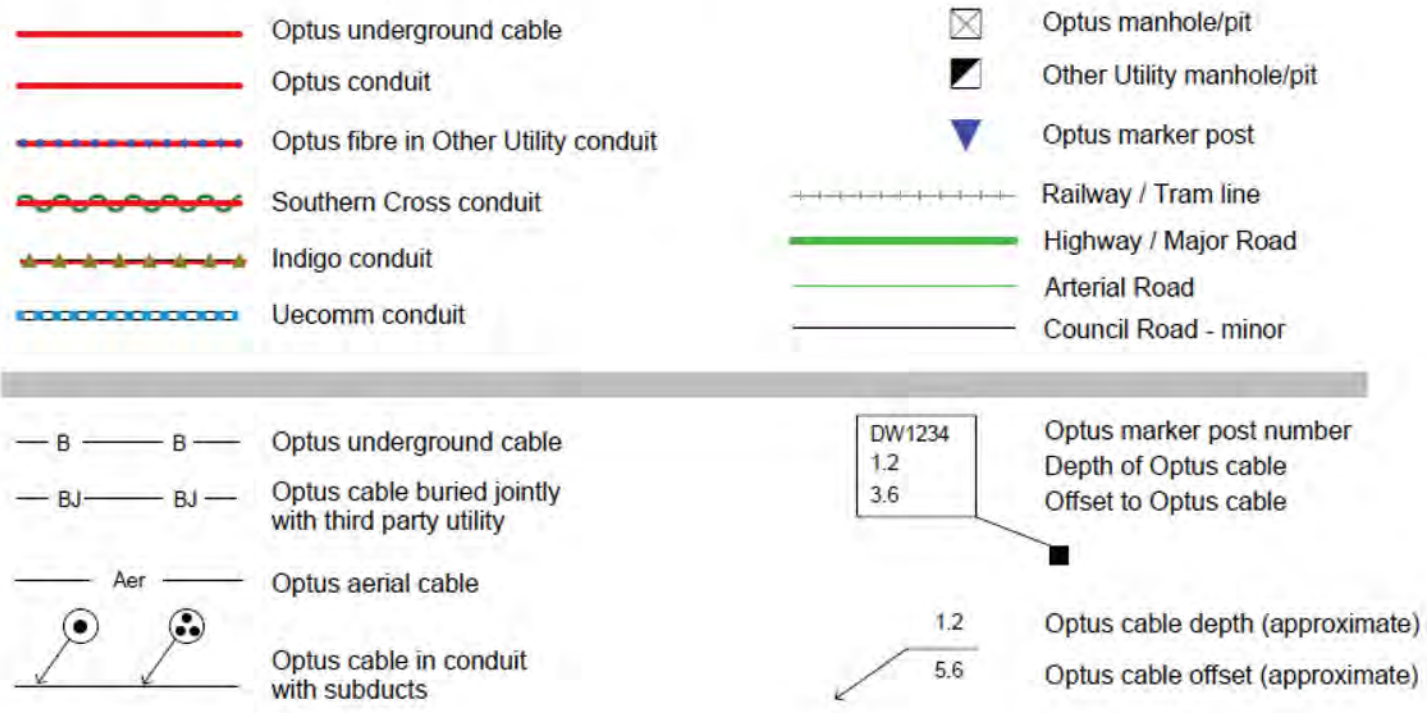
In cases where it is considered that the above clearances cannot be maintained at the completion of works, advice must be sought from the relevant Optus Damages and Relocations Team (refer "Further Assistance").

FURTHER ASSISTANCE

Further assistance on asset clearances, protection works or relocation requirements can be obtained by contacting the relevant Optus Damages and Relocations Team on the following email address:
NFODamages&RelocationsDropbox@optus.com.au

Further assistance relating to asset location drawings etc. can be obtained by contacting the Optus Network Operations Asset Analysis Team on 1800 505 777.

OPTUS ENGINEERING DRAWING SYMBOLS



OPTUS

Optus Accredited Asset Locators

Name	Company Name	Phone	Email	State	Region/Service Area
Alan Cordner	Alcom Fibre Services Pty Ltd	0400 300 337	alcomfibre@bigpond.com	NSW / ACT	Sydney
Brad McCorkindale	Bradmac Locating Services	0434 157 409	brad.mac@bigpond.com	NSW / ACT	All
Troy Redden	On Point Utility Locating	1300 6676 468	troy@onpointlocating.com.au	NSW	Sydney Only
Shane Buckley	Cable & Pipe Locations	0408 730 430	sabuckley@bigpond.com	NSW / QLD	Armidale, Casino, Coffs Harbour, Dorrigo, Glenn Innes, Grafton, Inverell, Kempsey, Lismore, Nambucca, Port Macquarie, Tamworth, Taree, Tenterfield, Yamba
Philip Pegler	Down Under Detection Services (DUDS)	0418 267 964	apegler@duds.net.au	NSW	All
Noreen Egan	SureSearch Underground Services	1300 884 520 0418 920 245	Noreen@suresearch.com.au	NSW / ACT / QLD	NSW, Sydney, Northern NSW, Canberra, QLD, South East QLD.
Leonard McGowan	Pipesure Australia	1300 411 811	len@pipesure.com.au	NSW	Sydney
Bruce Whittaker	Optical Fibre Technologies	0402 354 322	opticaltek1@aol.com	NSW	Sydney/Wollongong
Darryl Smith	Darryl Smith Electrical	02 6642 3731	office@dsmithelectrical.com.au	NSW	Grafton
George Koenig	Downunder Locations NSW Pty	0438 243 856	Downunderlocations@gmail.com	NSW	Tweed Heads, Gold Coast, Brisbane
Michael Grant	M&K Grant Bega Bobcats Pty Ltd	0427 260 423	zzbobcat@bigpond.net.au	NSW	Bega, Far South Coast
Antony Critcher	Geotrace Pty Ltd	0417 147 945	antony@geotrace.com.au	NSW	All Areas, Sydney, Wollongong, Newcastle, ACT

Anthony Lane	Hydro Digga	0447 774 000	locator@hydrodigga.com	NSW	All of NSW, ACT & South East Qld
Grant Pearson	Australian Utilities Management Pty Ltd	0427 833 222	aine@ausutilities.net.au	NSW	Sydney Metro
Nathan Ellis	Utility Locating Services	0404 087 555	nathan@utilitylocatingservices.com.au	NSW	Sydney
Rodney Pullen	Provac	0450 268 012	rod@provac.net.au	NSW /QLD	South East QLD, Northern NSW
Rodney Pullen	One Find Cables	0451 268 012	rod@provac.net.au	NSW /QLD	South East QLD, Northern NSW
Drew Misko	Australian Subsurface Pty Ltd	0427 879 600	admin@australiansubsurface.com	NSW / ACT	All of NSW/ACT
Scott O'Malley	Coastal Cable Locators Pty Ltd	0427 975 777	skomalley@bigpond.com	NSW	South Coast- Snowy Mountains- Southern Highlands
Liam Bolger	Brandon Construction Services	0438 044 008	liam.bolger@hotmail.com	NSW	Bathurst, Orange, Dubbo
Brett Pickup	All About Pipes	02 8763 4200	Brett.Pickup@allaboutpipes.com.au	NSW / VIC	All
Karen Joyce	Durkin Construction Pty Ltd	02 9712 0308	karen@durkinconstruction.com.au	NSW	Sydney
Timothy Laidler	Locate & Map	0431 191 669	tim@locateandmap.com.au	NSW	Sydney, Central Coast
Ken Brown	Riteway Traffic Control Pty Ltd	0419 212 969	kbrowne@ritewaytc.com.au	NSW	Central Coast, Hunter
Walter R Johansen	Steger & Associates	02 6296 4089	enquiries@steger.com.au	ACT / NSW	Canberra
Jean-Max Monty	Civilscan	0416 068 060	civilscan@bigpond.com	NSW	Sydney – Central Coast – Newcastle – Wollongong – Hunter Valley – Blue Mountains
Alan Hunter	Hunter Ground Search	02 4953 1244 0418 684 819	huntergroundsearch@bigpond.com	NSW	Newcastle, Central Coast, Hunter Valley, Mid North Coast, Liverpool Plains, Central West NSW
Gilbert J Cook	Datateks Communications Specialists	0408 693 660	datateks@datateks.com.au	NSW	Southern NSW

Damien Black	Mid North Coast Hydro Digging	0418 409 465	dblack1@bigpond.com	NSW	Newcastle –Foster –Taree -Wauchope -Port Macquarie -Kempsey -Coffs harbour
Neil Blenkinsop	Utility Mapping Pty Ltd	0427 318 681	nblenkinsop@utilitymapping.com.au	NSW	Sydney
Daniel Fox	Epoca Environmental Pty Ltd	02 4739 2465 0433 100 642	daniel@epocaenvironmental.com.au	NSW	All NSW, ACT
Rod Shaw	Cable Find	0478 887 073	rod@cablefind.com.au	NSW	Northern Rivers
Danny Carter	Online Pipe & Cable Locating	1300 665 384	danny@onlinepipe.com.au	NSW	Sydney, Newcastle, Canberra, Blue Mountains
Sam Romano	Locating Services	0403 065 510	sam.romano@locatingservices.com.au	NSW	NSW All
Scott Allison	Crux Surveying Australia	02 9540 9940	sydneyoffice@cruxsurveying.com.au	NSW	Sydney Metro & Surrounding Areas
Ian Brown	Peter Ellsmore & Associates	0439 423 708	ian.brown@ellsmore.com.au	NSW	Wollongong, Illawarra, South Coast, Southern Highlands, Macarthur & Sydney
Donna Wullaert	Commence Communications Pty Ltd	02 6226 3869 0428 595 620	admin@commencecomms.com.au	NSW	Canberra, Yass, Bungendore, Goulburn and Surrounding regional Areas
Stephen Fraser	Advanced Ground Locations	02 4930 3195 0412 497 488	steve_agl@hotmail.com	NSW	Newcastle, Hunter Valley, Central Coast, Taree & Surrounding Areas
Andrew Findlay	LiveLocates	0429 899 777	info@livelocates.com.au	NSW	South Coast/ACT, Snowy Mountains
Graeme Teege	Armidale Electrical	02 6772 3702	office@armidale-electrical.com.au	NSW	Armidale
Myles Green	Australian Locating Services	1300 761 545	myles@locating.com.au	NSW	Sydney
Brett Wallin	Utility Scan	0426 354 051	brett@utilityscan.net	NSW	Sydney CBD and Regional areas
Daniel Hudson	One Search Locators	1300 530 420	daniel@onesearchlocators.com.au	NSW	All NSW, ACT
Tim Galaz	Utec Solutions	02 9389 0040	office@utecsolutions.com.au	NSW/QLD /VIC	All areas, NSW, QLD, VIC

Gary Laneyrie	Laneyrie Electrical	0412 079 079 0413 048 048	bindy@laneyieelectrical.com.au	NSW	Illawarra, South Coast, Hunter Region
Reece Gainsford	East Coast Locating Services	0431 193 111	eastcoastlocating@hotmail.com	NSW	Sydney, Maitland, Newcastle, Hunter, Port Stephens, Central Coast
Allan Clarke	The Control Group Pty Ltd	0421 960 017	allan@thecontrolgroup.com.au	NSW	Northern NSW
Simon Cook	Douglas Partners	0431 507 667	simon.cook@douglaspartners.com.au	NSW	NSW All
Samual Boesen	Rubicof Cable & Pipe Locators	0403 285 352 0418 103 369	rubicof@optusnet.com.au	NSW	Cessnock
Craig Vallely	Aqua Freeze & Locate Pty Ltd	0458 774 440	service@aquafreeze.com.au	NSW	Sydney
Laurence Mead	Veris	0419 770 560	i.mead@veris.com.au	NSW	Sydney
Bobby Friesz	Vac Group Operations (T/A Earth Radar)	0447 837 267	Bobby.Friesz@vacgroup.com.au	NSW	Sydney
Chris Hall	D C Locators Pty Ltd	0419 679 741	dcloc@powerup.com.au	QLD	Brisbane, Ipswich
Jeff Trackson	J.R & L.M Trackson Pty Ltd	0417 600 978	jtrackson@tracavoid.com.au	QLD	All
Benji Lee	LADS	0478 915 237	benji@ladsqld.com.au	QLD	South East QLD
Andrew Watson	Lambert Locations Pty Ltd	07 5562 8400	admin@lambertlocations.com.au	QLD	South East QLD & Northern NSW
Ross Clarke	FNQ Cable Locators Pty Ltd	0428 775 655	onlineco@bigpond.net.au	QLD	Far North QLD, Cape York & Peninsula
Col Greville	Bsure Locators	0488 520 688	admin@bsurelocators.com.au	QLD	Wide Bay Burnett and Central Qld
Mikael White	All Asset Locations	0478 846 025	allassetlocations@gmail.com	QLD	Sunshine Coast
Andrew Cowan	VAC Group Operations (T/A Earth Radar)	0447 008 806	andrew.cowan@vacgroup.com.au	QLD	South East and Central QLD
Jimmy Wilkins	GeoRadar Australia	0425 677 227	jimmy@georadar.net.au	QLD	Emerald, Bundaberg
Beaumont Blake	PipeHawk CCTV	0435 558 533	accounts@pipehawkcctv.com.au	QLD	South East QLD & Northern NSW
Craig Waite	C Locate	0437 808 444	clocate@bigpond.com	QLD	South East QLD

QLD Operations	Utility Location Services	0499 775 095 07 3807 3552	qldops@utilitylocationservices.com.au	QLD	SouthEast QLD, Northern NSW
Andrew Watson	RPS AUS East	0408 839 723	andrew.watson@rpsgroup.com.au	QLD	Brisbane
Luke Steadman	Utility Mapping Pty Ltd	0472 867 197	lsteadman@utilitymapping.com.au	QLD	All
Robert Reed	All Asset Locations Pty Ltd	0478 846 025	allassetlocations@gmail.com	QLD	Sunshine Coast
Jenny Dziduch	1300 Locate Pty Ltd	1300 562 283	admin@1300locate.com.au	QLD	All Queensland, Northern NSW
Sam Hazel	Utility ID Underground Service Locators	0401 202 515	sam@utilityid.com.au	QLD	Southern QLD
Brendon Smith	Dynamic Hydro Excavations	1300 822 878	admin@dynamicexcavation.com.au	QLD	QLD, NSW, VIC
Marty Carlson	Surveywerx Pty Ltd	0488 842 110	mike@surveywerx.com	QLD	South East QLD
Adam Lloyd	Aussie HydroVac Services	07 3287 7818	adam.lloyd@aussiehydrovac.com.au	QLD	All
Gary Poppi	Ace Cable Locations	0431 517 837	garypoppi@bigpond.com	QLD	Wide Bay Burnett
Josh Taylor	Advanced Locations Victoria	0427 846 716	josh@advancedlocationsvic.com.au	VIC	All
Ben Minutoli	Geelong Cable Locations	1800 449 543	ben@geelongcablelocations.com.au	VIC	Melbourne, Geelong, Country Victoria
Mick McGoldrick	Cavan Constructions	0404 241 679	mick@locatecables.com	VIC	Western Victoria
David Kelleher	Construction Sciences	03 9553 7236	utilities@constructionsciences.net	VIC	Victoria
Stuart Miles	ELS Environmental Location Systems	03 8795 7461	accounts@radiodetection.com.au	VIC	Victoria
Darren Dean	Asset Survey Solutions	1300 035 796	darren.dean@assetsurvey.com.au	VIC	Victoria
Alex Jones	Utility Mapping Pty Ltd	0417 413 353	ajones@utilitymapping.com.au	VIC	
Adam Linford	Gippsland Pipe & Cable Locations	0409 386 817	gippspac@hotmail.com	VIC	Gippsland
Thomas Pitt	Access Utility Engineering (AUE)	03 9580 0440	info@accessue.com.au	VIC	Victoria
Bernie Acabal	Taylors Development Strategists	03 9501 2800 0419 758 794	b.acabal@taylorsds.com.au	VIC	Victoria

Philong Nguyen	Asset Detection Services Pty Ltd	0413 949 400	phi.nguyen@assetdetection.com.au	VIC	VIC, NSW, TAS All areas
Maurice Tobin	Drain Solutions	1300 546 348	info@drainsolutions.com.au	VIC	Melbourne Metro
Nathan Kelleher	Seeker Utility Engineering	0439 691 840	nathan.kelleher@seekerutility.com.au	VIC	Melbourne
Jeffrey Ramos	VAC Group Operations (T/A Earth Radar)	0436 635 011	Jeffrey.ramos@earthradar.com.au	VIC	All
Infrastructure Civil Services	Trenchless Pipelaying Contractors (TPC)	08 8376 5911	tpc@trenchlesspipelaying.com.au	SA	All
Sean Nemeth	Enerven Energy Infrustructure Pty Ltd	0488 167 772	sean.nemeth@enerven.com.au	SA	Adelaide
SADB	SADB Civil Construction & Trenchless	08 8168 7200	reception@sadb.com.au		
Galen Shanahan	Vac Group Operations (T/A Earth Radar)	0447 837 000	Galen.Shanahan@vacgroup.com.au	SA	All
Marilyn Dentice	Cable Locates & Consulting	08 9524 6600	accounts@cablelocates.com.au	WA	Metro & Country
Lisa Scofield	Abaxa	08 9256 0100	accounts@abaxa.com.au	WA	All
Derek McShane	Subterranean Service Locations	0420 862 426	Derek@sslwa.com.au	WA	Midwest/Gascoyne
Ben Upton	TerraVac Vacuum Excavation	0427 531 119	locations@terravac.com.au	WA	All
Dale Shearsmith	Subtera Subsurface Locating	1300 046 636	dale@subtera.com.au	WA	All
Liam Davies	Bunbury Telecom Service Pty Ltd	08 9726 0088	liam@btswa.com.au	WA	South West WA
Tammy Thorp	B.C.E Spatial	08 9364 6408	admin@bcespatial.com.au	WA	Perth Metro & Regional
Scott Anderton	Utility Mapping Pty Ltd	0438 630 146	sanderton@utilitymapping.com.au	WA	
Chris Lee	Pulse Locating	0437 289 861	enquiries@pulselocating.com.au	WA	Perth
Morgan O'Connor	Kier Contracting	1300 543 728	morgan@kier.com.au	WA	Perth Metro & Greater region, Regional WA
Nigel Nunn	CCS Group / Utility Locating Solutions	08 9385 5000	enquiry@ccswa.com.au	WA	Perth

Paul Stevenson	Geographe Underground Services	0427 523 811	paul.stevenson@geographeunderground.com.au	WA	All
Jeremy Brown	Spotters Asset Locations Pty Ltd	0459 130 677	jeremy@spottersassetlocations.com.au	WA	All
Reece Topham	Prime Locate	0400 888 406	reece@primelocate.com.au	WA	All
Jonathon Sylva	Advance Scanning Services	1300 738 118	bookings@advancescanning.com	WA	All
Tim Daws	Award Contracting	0411 878 895	info@awardcontracting.com.au	WA	City & Regional
Dave Turner	Anywair Pipe & Cable	0418 890 071	dave@anywair.com.au	NT	All NT, WA, QLD
Steve Gault	Northern Comms	0407 904 319	steve@northerncomms.net.au	NT	All
Wayne Parslow	Danisam	0417 089 865	danisam@westnet.com.au	NT	Darwin NT and Surrounds
Elizabeth Young	Archers Underground Services Locations (AUS Locations)	03 6245 1298	admin@auslocations.com.au auslocations@bigpond.com	TAS	All
Patrick Monaghn	Paneltec Group	0447 797 544	patrick@paneltec.com.au	TAS	All
Scott Richardson	AJ Water & Leak Detection	0457 710 680	admin@ajwater.com.au	TAS	All

To: Mr Raghav Rana

552 Boronia Road
Wantirna, VIC, 3152

Uecomm Pty Limited
ABN 56 079 083 195

Building 8, 658 Church St,
Richmond, VIC 3121
Ph: (03) 9221 4100
Fax: (03) 9221 4193
Ah: 1800 707 447

LOCATION OF UNDERGROUND FIBRE OPTIC CABLE INFORMATION SHEET

IMPORTANT: PLEASE READ ALL INFORMATION AND CONDITIONS BELOW AND THE NOTICE ON THE REVERSE SIDE OF THE PLAN/S.

"Dial Before You Dig" Sequence No 102165065	**Issue Date:** 24/09/2020
Customer ID 2235321	**Issue By:**

Location: **Henry Lawson Drive, Milperra, NSW 2214**
Map Ref: **270J3, 270J4, 270J7, 270J8, 270K4, 270K5, 270K6, 270K7, 270K8, 270L5, 270L6, 270M6**
Uecomm Asset Location No. **102165065**
Dial Before You Dig Job No. **20310876**

In relation to your enquiry at the above address, Uecomm advises as follows:

The records of Uecomm Limited disclose that there ARE underground FIBRE OPTIC / TELECOMMUNICATIONS cables in the vicinity of the above enquiry as per attached plan/s.

- The underground cables referred to in this advice are defined as the underground communications cables owned or controlled by Uecomm Pty Limited.
- The person/company responsible for submitting the inquiry should take care to ensure all plans listed above have been received. For any plan listed above but not received please contact **1800 707 447**.
- Any information provided is valid only for **30 days** from the date of issue set out above.
- If the work operations extends beyond this period, or if the designs are altered in any way, you are requested to resubmit your proposal for reassessment.
- Further assistance may be obtained if necessary by telephoning **1800 707 447**.

PLEASE READ ALL INFORMATION AND DISCLAIMERS BELOW:

1. Due to the nature of underground cables and the age of some cables and records, it is impossible to conclusively ascertain the location of all cables. The accuracy and/or completeness of the information cannot be guaranteed and, accordingly, they are intended to be indicative only and, as a result, Uecomm does not accept any responsibility for any inaccuracies of its plans. They should not be solely relied upon when undertaking underground works. It is also inaccurate to assume that fibre optic cables follow straight lines and careful on-site investigations are essential to locate its exact position.

2. The following minimum clearances must be maintained:
   - 300mm when laying asset's inline, horizontal or vertical.
   - 500mm when operating vibrating equipment, e.g., jackhammers or vibrating plates.
   - 1000mm when operating mechanical excavators.

3. Due to the inherent dangers associated with excavation in the vicinity of underground cables, precautions should be taken in the undertaking of any underground works, including (but not limited to) the following:
   - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the likely hood of damage to the cable, e.g., blades of hand equipment should be orientated parallel to the line of the cable rather than digging across the cable.
   - If any undisclosed underground cables are located, Uecomm Limited should be notified immediately.
   - All personnel must be properly briefed, particularly those associated with the use of earthmoving equipment, trenching, boring and pneumatic equipment.
   - All excavations must be undertaken in accordance with the relevant legislation and regulations.

4. **DAMAGE. ANY DAMAGE TO UECOMM'S NETWORK MUST BE REPORTED IMMEDIATELY TO 1800 707 447**.

5. Uecomm recommends using Uecomm approved location contractors to provide on-site location services for Uecomm plant. You can arrange Uecomm on-site visits by calling Uecomm on 1800 707 447 and Uecomm or its approved representative will attend your site to provide guidance to the location of the Uecomm assets (the *"Uecomm Asset Alignment"*). **Uecomm requires 3 clear business days notice to conduct an on-site location.** The initial on-site visit by Uecomm will not normally incur a charge, but at the discretion of Uecomm, subsequent site visits may incur a charge to be applied at an hourly rate.

6. Uecomm will hold the relevant party responsible for any damage to Uecomm plant and all expenses incurred by Uecomm as a result of asset damage.

7. Except to the extent that liability may not be capable of lawful exclusion, Uecomm Pty Limited and its servants and agents and the related bodies corporate of Uecomm Pty Limited and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any Plans attached hereto. Except as expressly provided to the contrary in this information sheet or the attached Plans, all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service and/or Uecomm Asset Analysis Service. If you require further information please contact Uecomm on **1800 707 447**.

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LOCATION OF UNDERGROUND FIBRE OPTIC CABLE INFORMATION SHEET

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Uecomm Asset Location No. **102165065**
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We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service and/or Uecomm Asset Analysis Service. If you require further information please contact Uecomm on **1800 707 447**.

Jemena Gas Network Protection

High Pressure - Assets Affected

This information is only valid for 28 days from the date of issue

In reply to your enquiry, there are **High Pressure Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below. **For an explanation of the map, please see the information below and the legend attachment.**

Excavation Guidelines

Prior to **any** excavations in this area, you ***must*** contact the High Pressure Response Coordinator to arrange a survey via:

http://mygasservices.jemena.com.au (High Pressure Works / High Pressure Standby)

Please note that a duty of care exists to ensure gas assets are not compromised or damaged. Jemena's expectation is the excavator operator holds a current Verification of Competency (VOC) or equivalent for the machine to be used near Jemena High Pressure Gas Assets.

Further standby enquiries can be directed to the High Pressure Coordinator -

E: infrastructureprotection@jemena.com.au or PH: 1300 665 380

Appointments will be coordinated with availability of a Jemena Representative to arrange a survey. For all works in the vicinity of High Pressure Gas Mains you must arrange for a Jemena Representative to attend and supervise all excavations. Charges may apply.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "***Work Near Underground Assets Guideline"*** *published in 2007 by the Work Cover Authority.*

A copy of this Guideline is available at: www.safework.nsw.gov.au

Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. Jemena advises that you may be required to carry out potholing by hand if required by a Jemena Representative to confirm the location of Jemena's main and installations. This must also be performed by you under the supervision of a Jemena Representative and be carried out in accordance with the Working Near Underground Assets Guideline published in 2007 by Work Cover Authority

In case of Emergency Phone 131 909 (24 hours)

Admin 1300 880 906

Jemena Gas Networks
Dial Before You Dig Map Legend

June 2020 Ver1

Network Mains

- Proposed New Main (coloured as per kPa)
- Proposed Isolate (coloured as per kPa)
- Unknown kPa
- 2kPa Low Pressure gas main
- 7kPa Low Pressure gas main
- 30kPa Medium pressure gas main
- 100kPa Medium Pressure gas main
- 210kPa Medium Pressure gas main
- 300kPa Medium Pressure gas main
- 400kPa Medium Pressure gas main
- 1050kPa High Pressure gas main
- 3500kPa High Pressure gas main
- 7000kPa High Pressure gas main
- >7000kPa Transmission pipeline
- Isolated Service - Former Med/High Pressure
- Isolated Steel Main -**Treat as High Pressure**

100 PVC — Conduit or Casing
Size & Material (see conduit material codes)

Critical Main -**Treat as High Pressure**
(Main coloured as per kPa)

EXPOSED — Exposed Main section

SHALLOW-SP — Shallow Main section: see Protection Code below, no code assume no protection

SP	Steel Plate	CE	Concrete Encased
PP	PE Plate	UNK	Unknown Type
CS	Concrete Slab		

Network Assets

- Siphon
- Network Valve
- High Pressure Automatic Line Break Valve (>1050kPa)
- Distribution Regulator Set (=<1050kPa)
- High Pressure Regulating Station (>1050kPa)

Annotations

Pipe and Conduit Material Codes

NY	Nylon	NB	Nominal Bore – Cast Iron
PE	Polyethylene	ST	Steel
P/PL	Plastic (undefined)	C/CO	Copper
PVC	Polyvinyl Chloride		

Pipe code combinations and dimension references

(6)NB 50MM NY	50mm Nylon main inserted into 6 inch (Nominal Bore) Cast Iron pipe
(50)MM 32MM NY	32mm Nylon main inserted into 50mm Steel pipe
~1.5	Distance (in metres) of main from Boundary Line (MBL)
MBK	Distance in Metres Back of Kerb
MKL	Distance in Metres from Kerb Line
MEBL	Distance in Metres from Eastern Boundary Line (North/South/West)
MCL	Distance in Metres from Centre Line of Road
MFL	Distance in Metres from Fence Line

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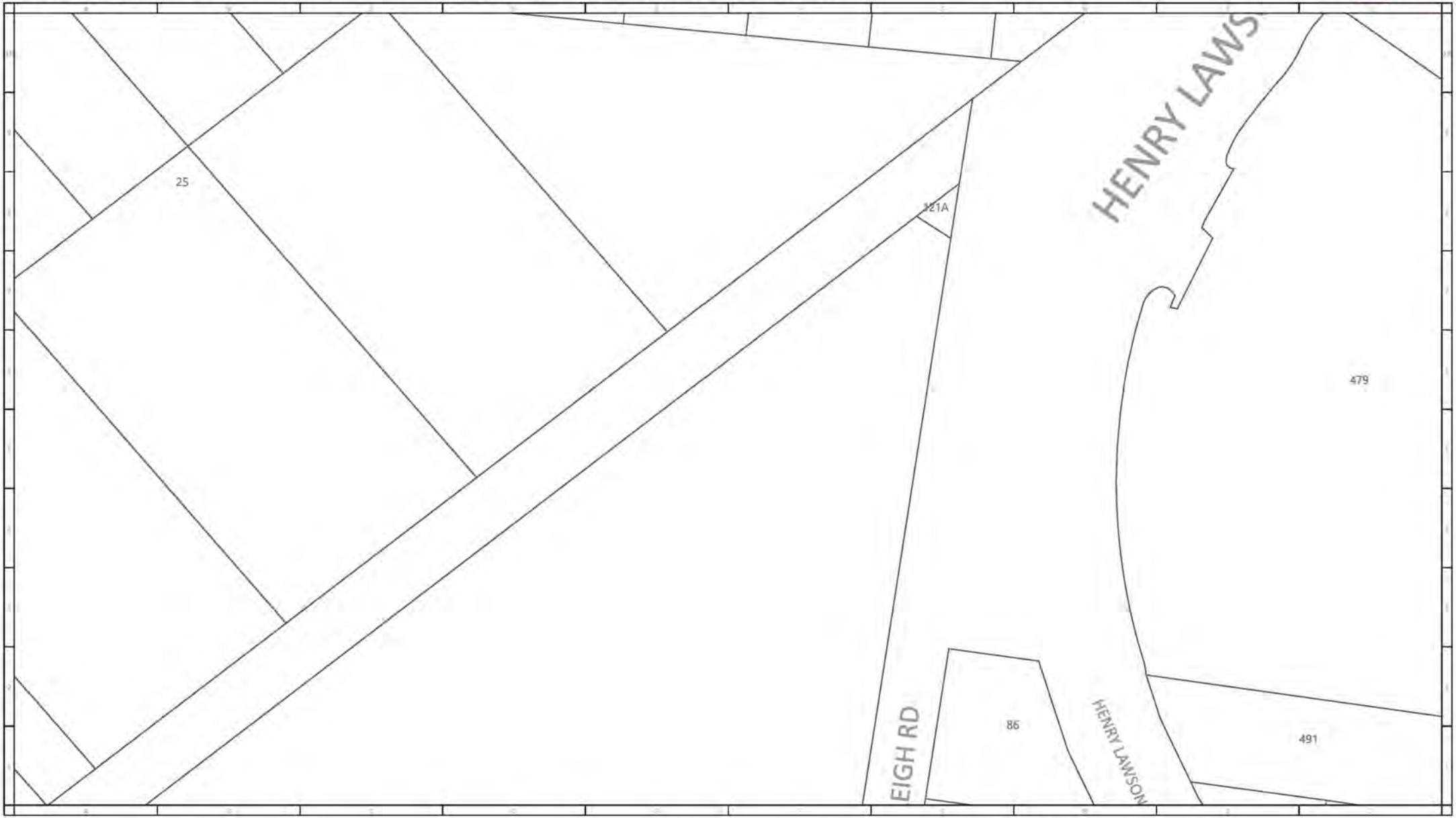
DBYD Location: Henry Lawson Drive Milperra NSW, 2214



Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

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Scale: 1:2000

Issue Date: 24/09/2020
DBYD Seq No: 102165066
DBYD Job No: 20310876

0m 10m 20m 30m 40m 50m 60m 70m 80m

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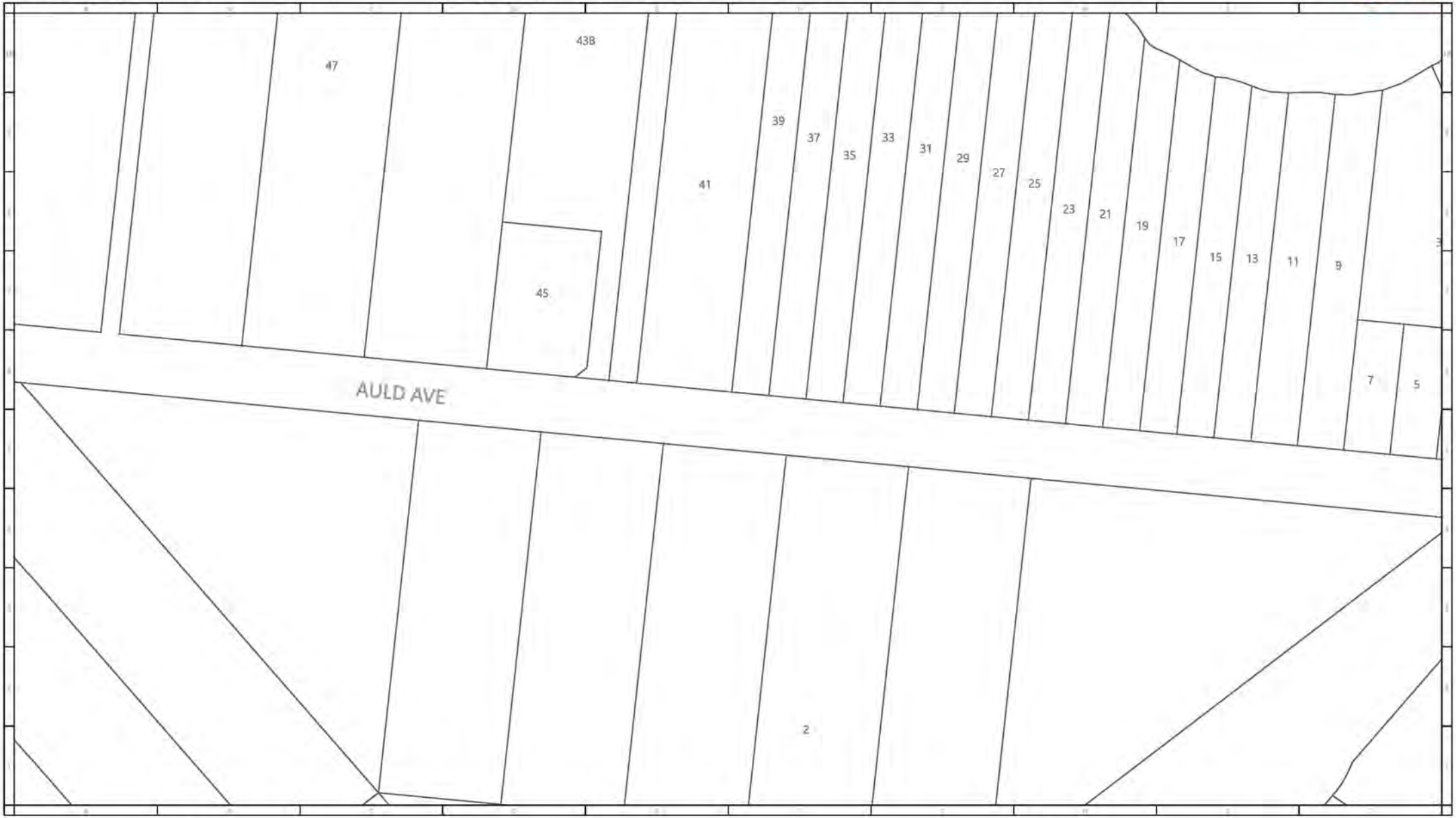

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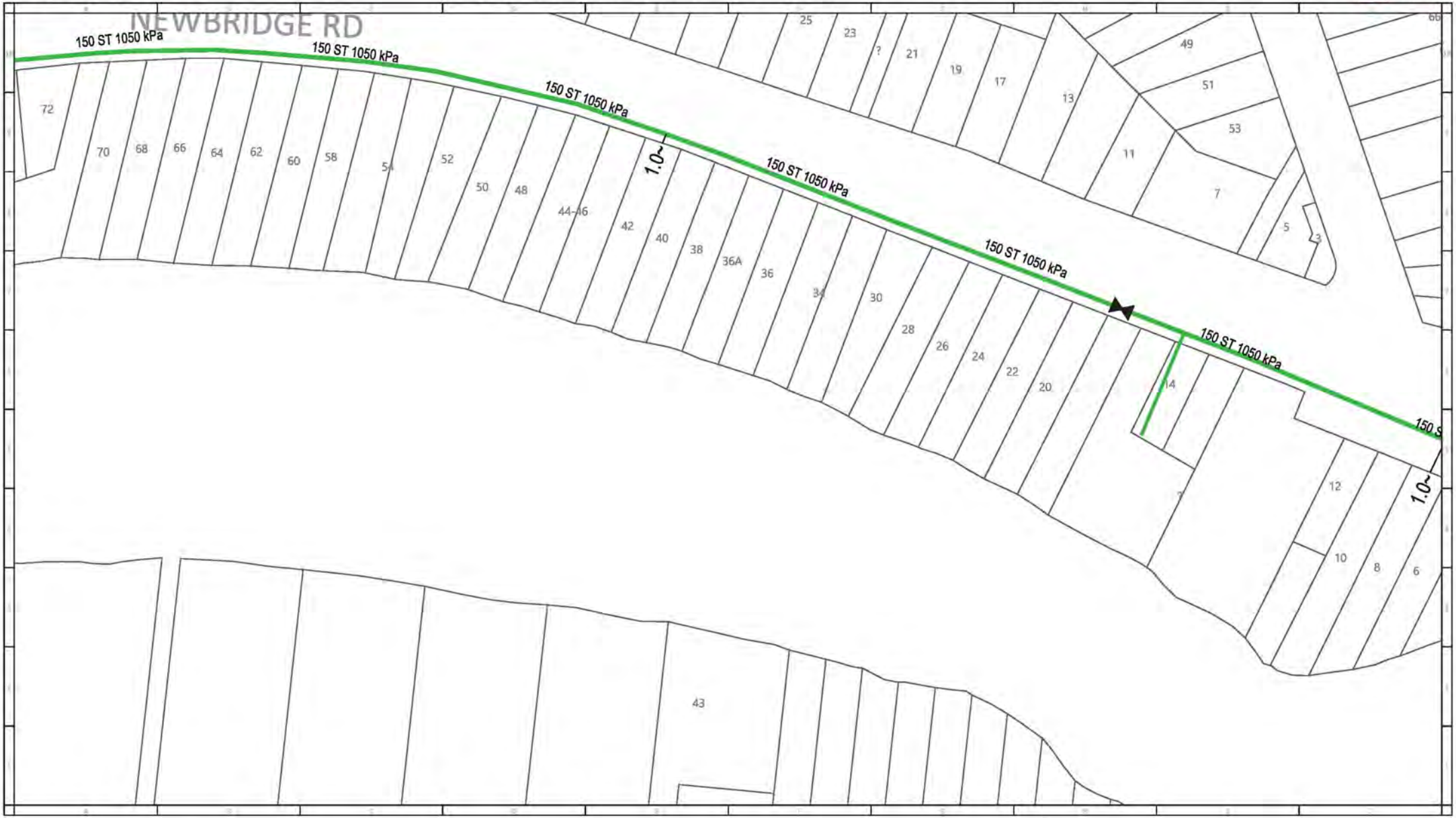

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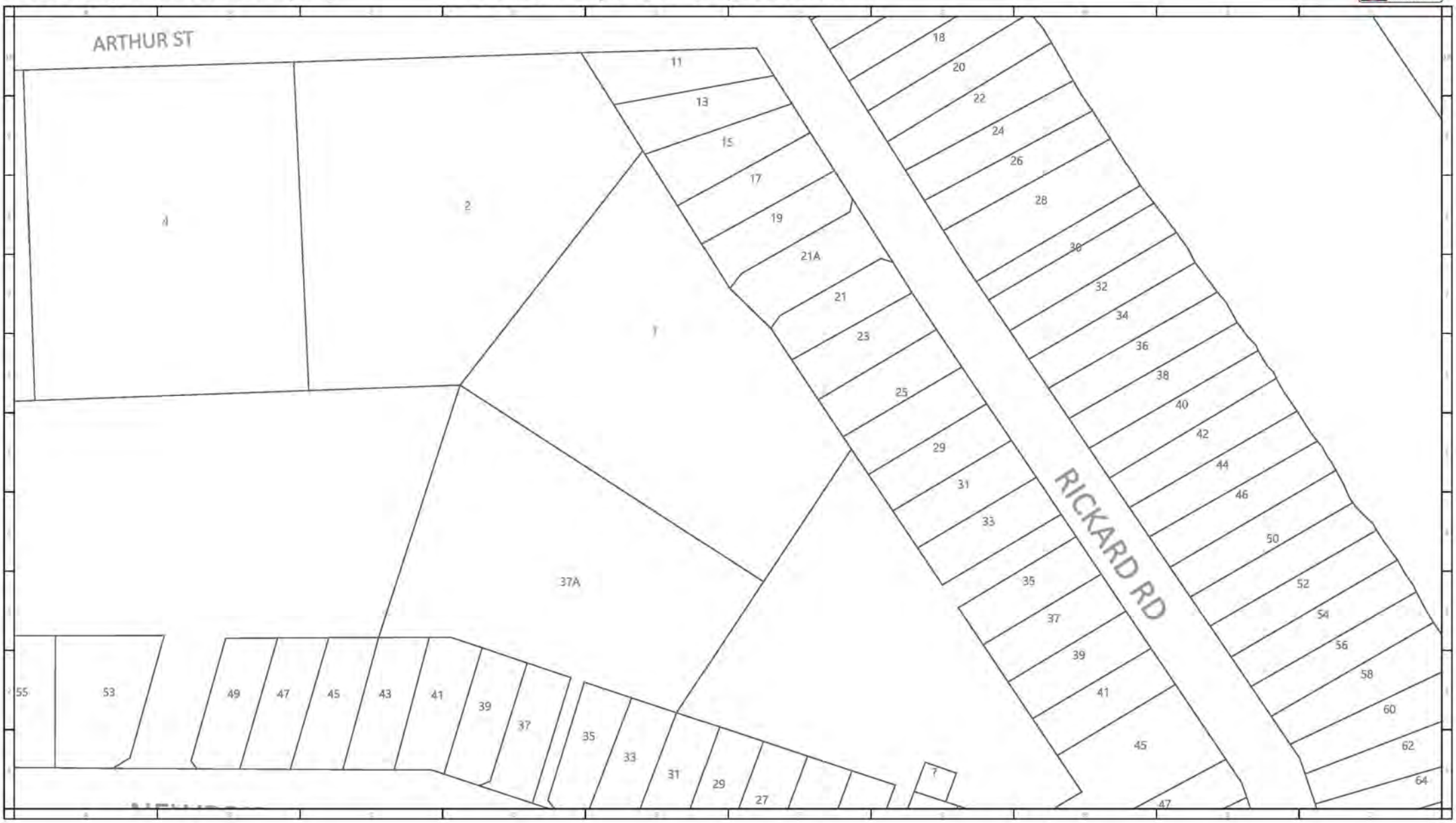

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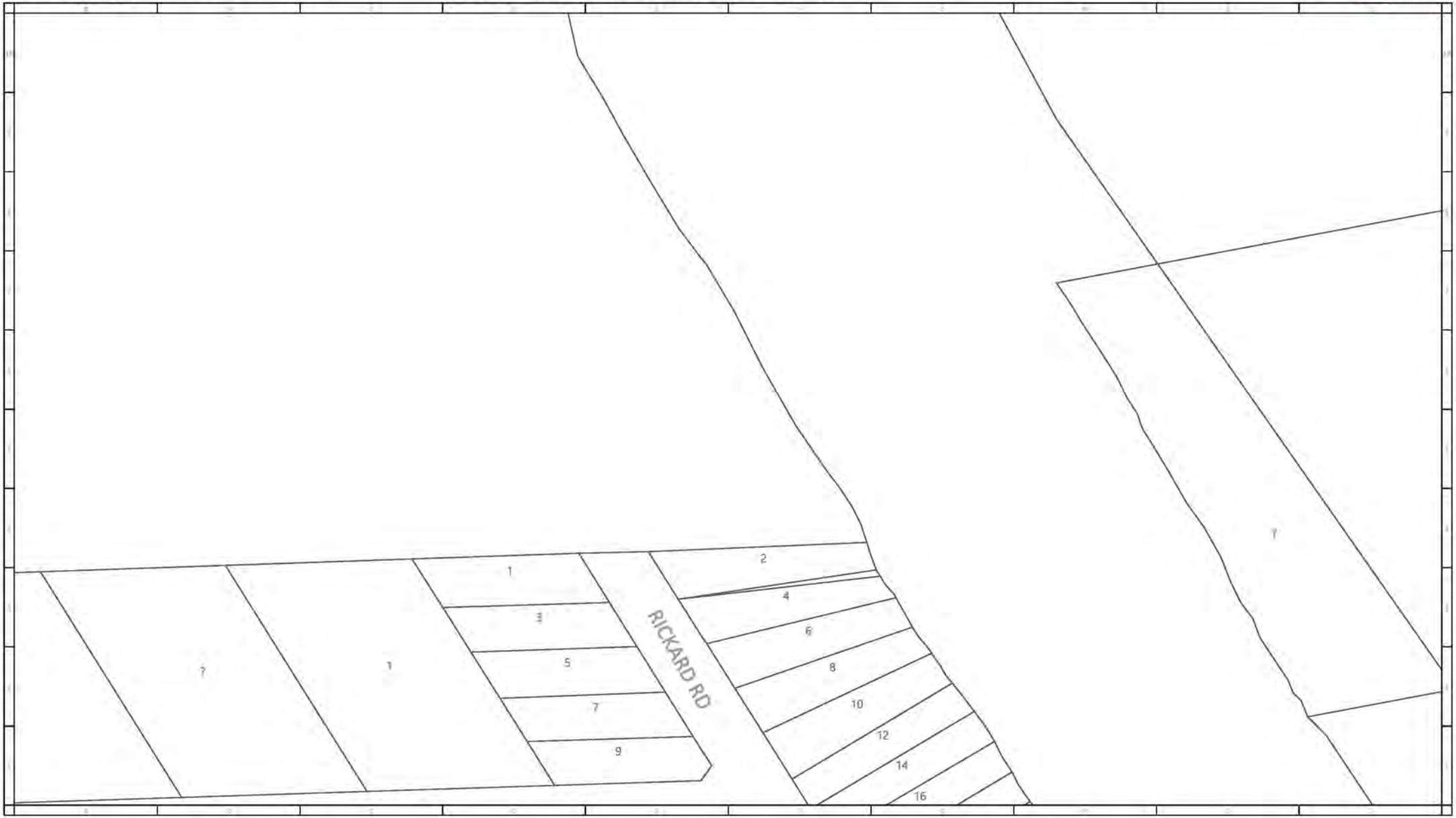

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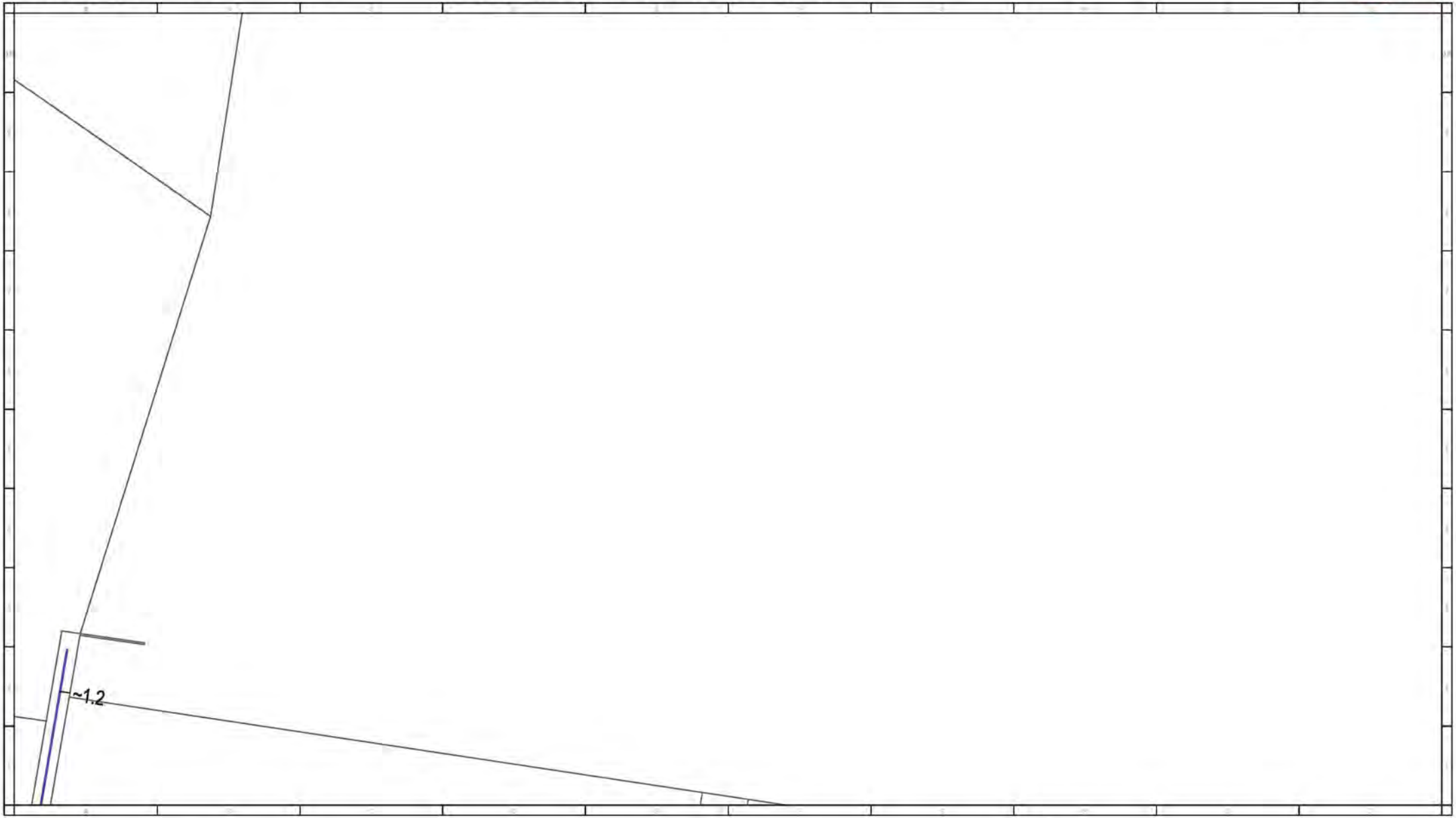

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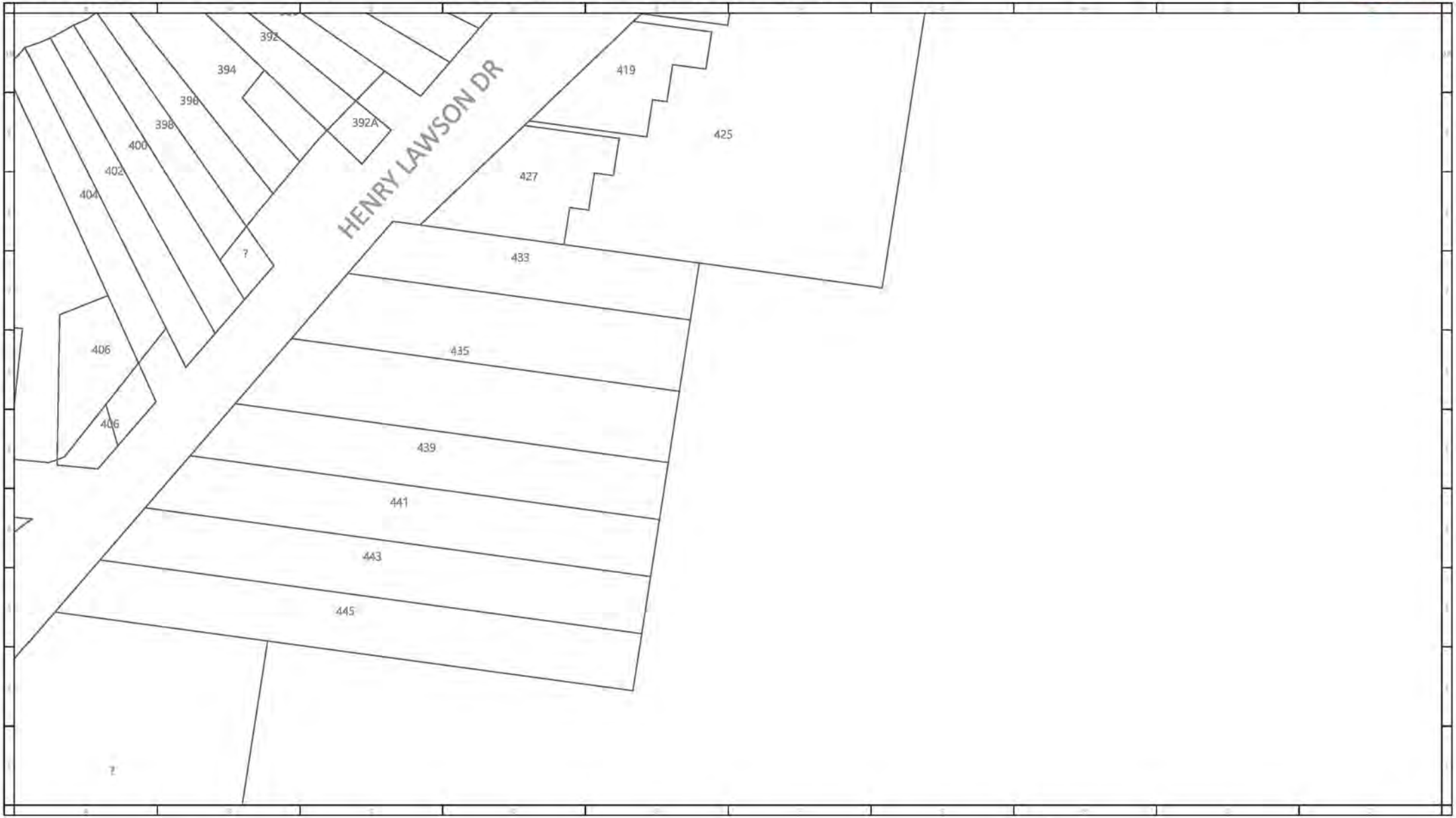

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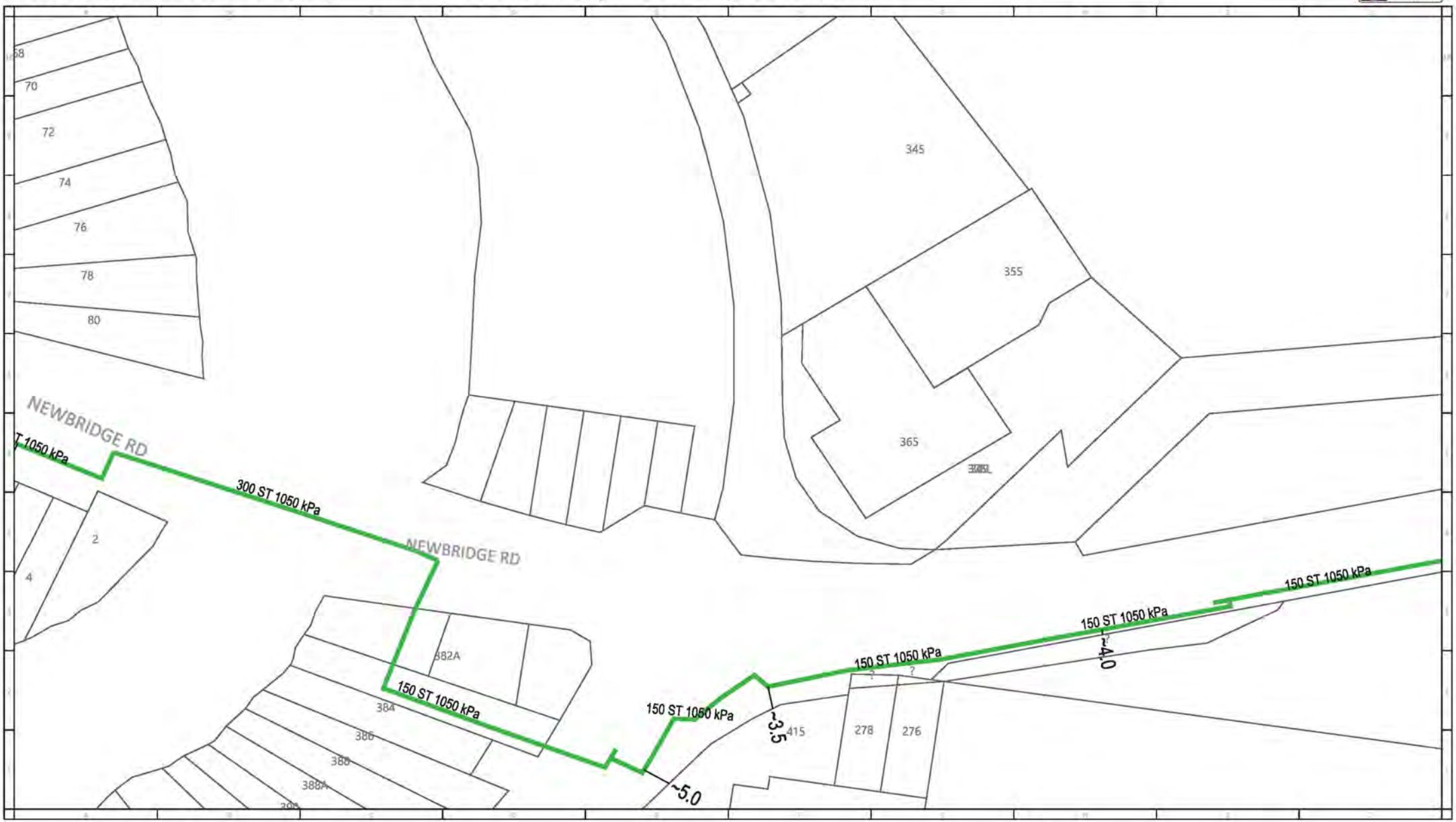

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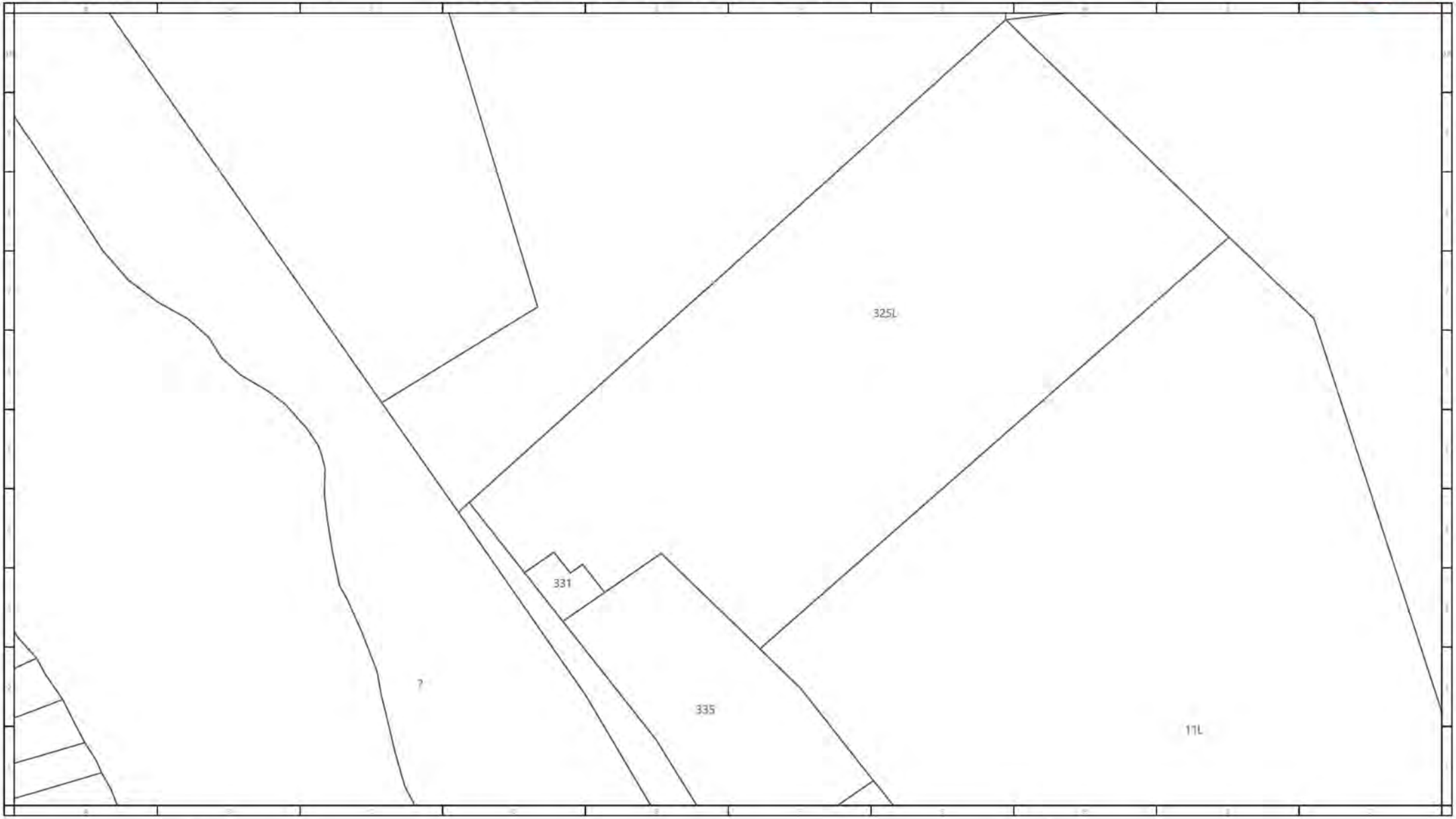

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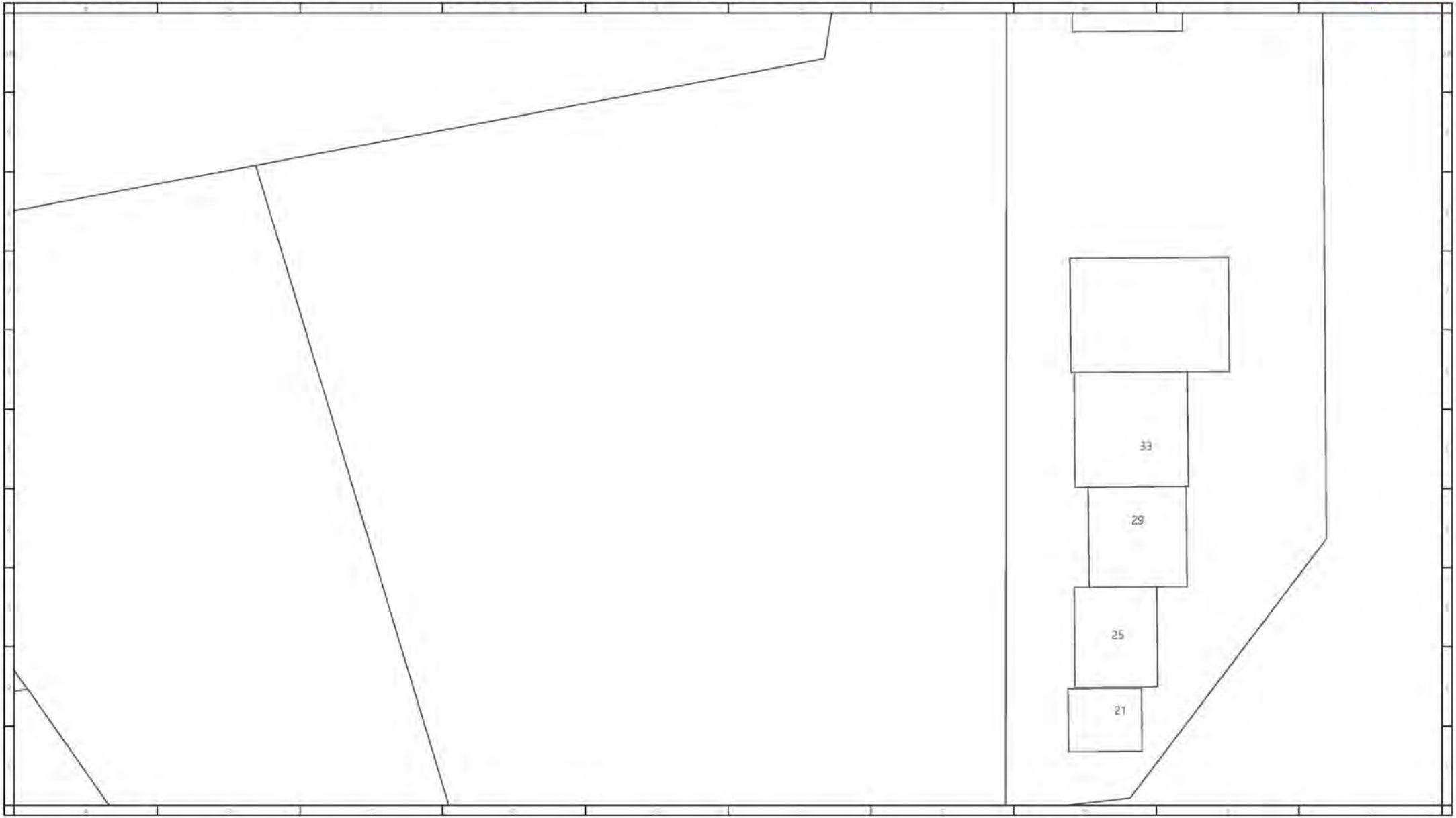

Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

N
W E
S

Issue Date: 24/09/2020
DBYD Seq No: 102165066
DBYD Job No: 20310876

0m 10m 20m 30m 40m 50m 60m 70m 80m

Scale: 1:2000

WARNING: This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagramatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.

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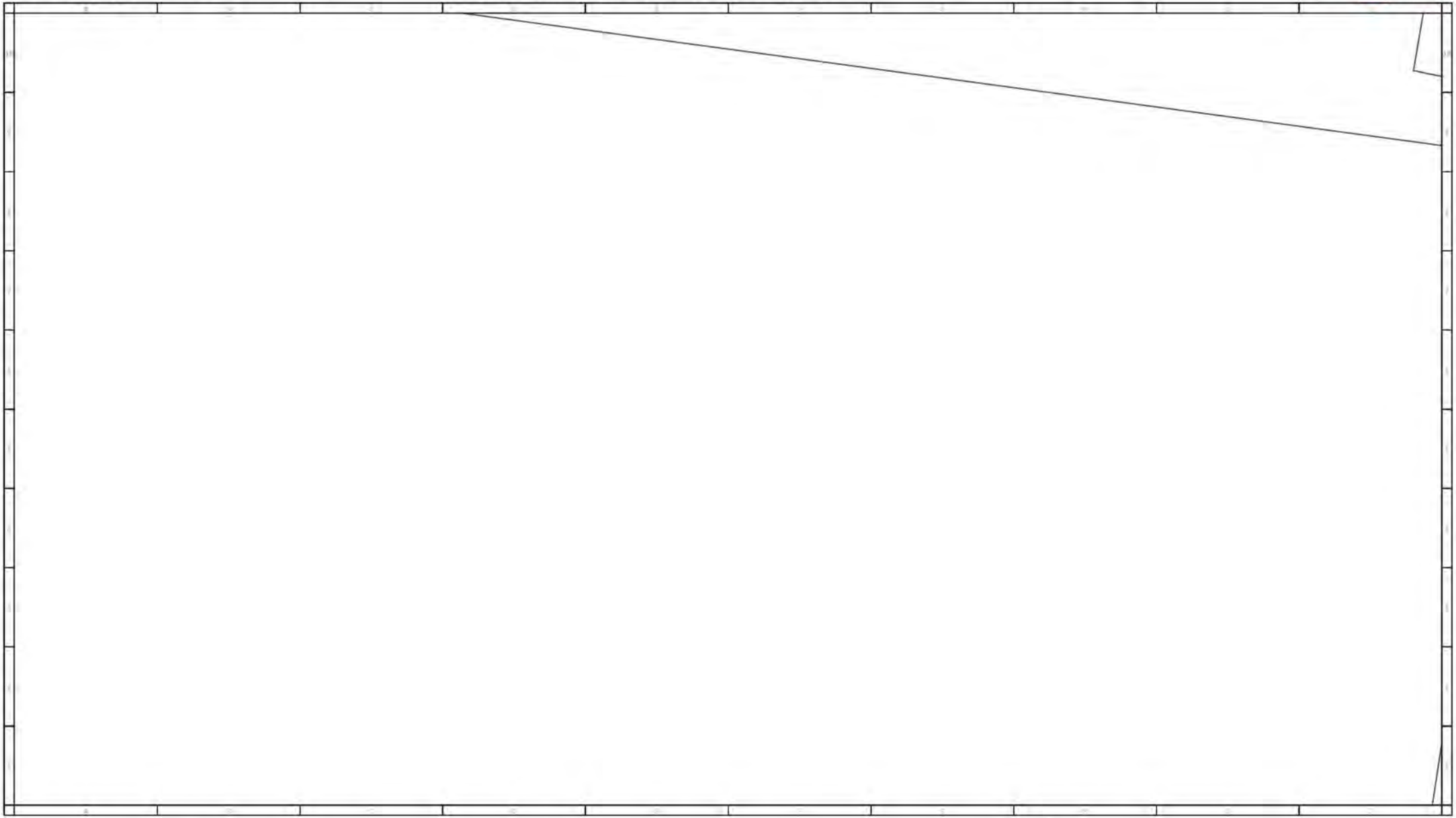

Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

N W E S

Scale: 1:2000

Issue Date: 24/09/2020
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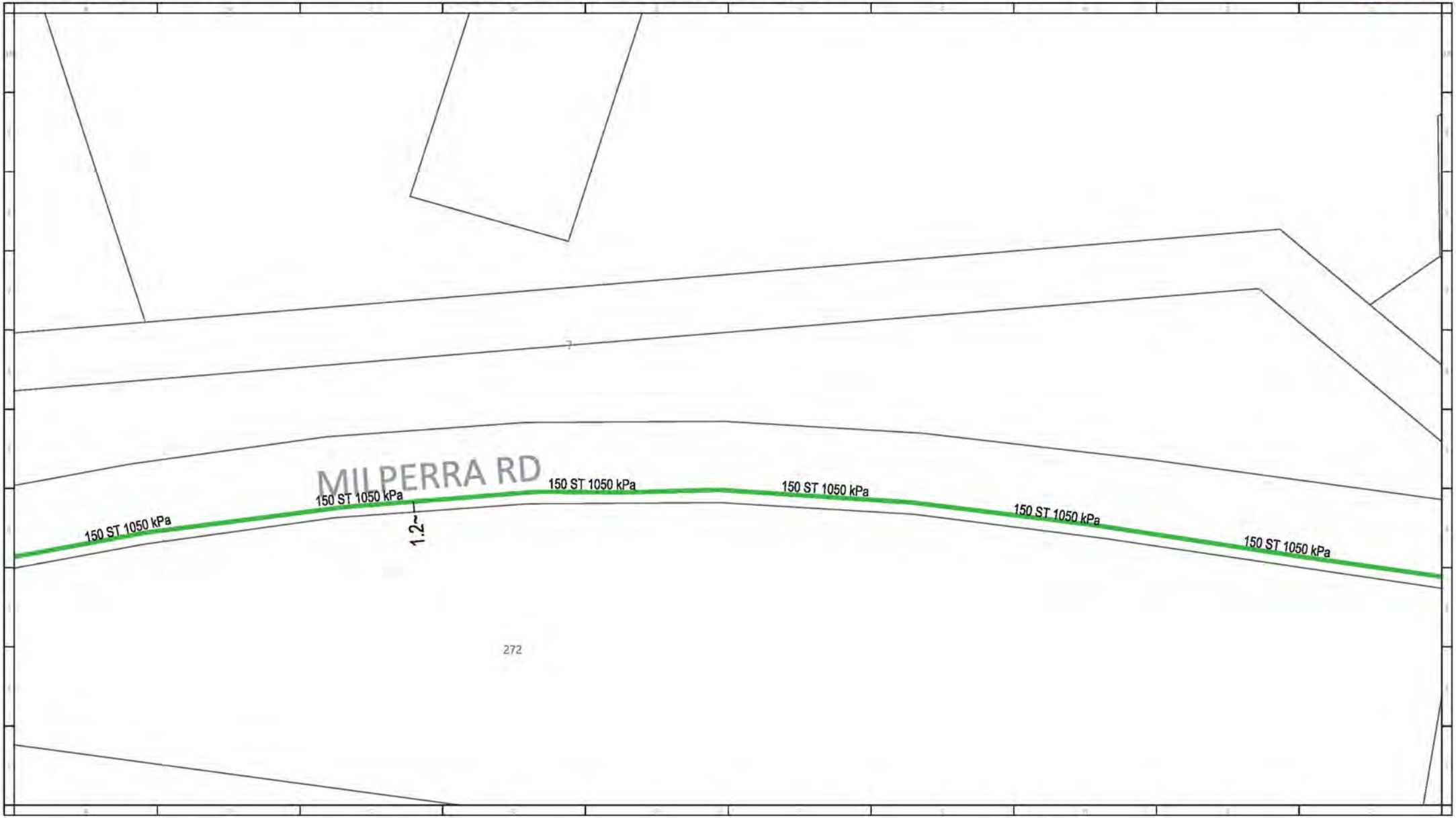

Jemena
ABN 87 003 004 322

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Issue Date: 24/09/2020
DBYD Seq No: 102165066
DBYD Job No: 20310876

Scale: 1:2000

0m 10m 20m 30m 40m 50m 60m 70m 80m

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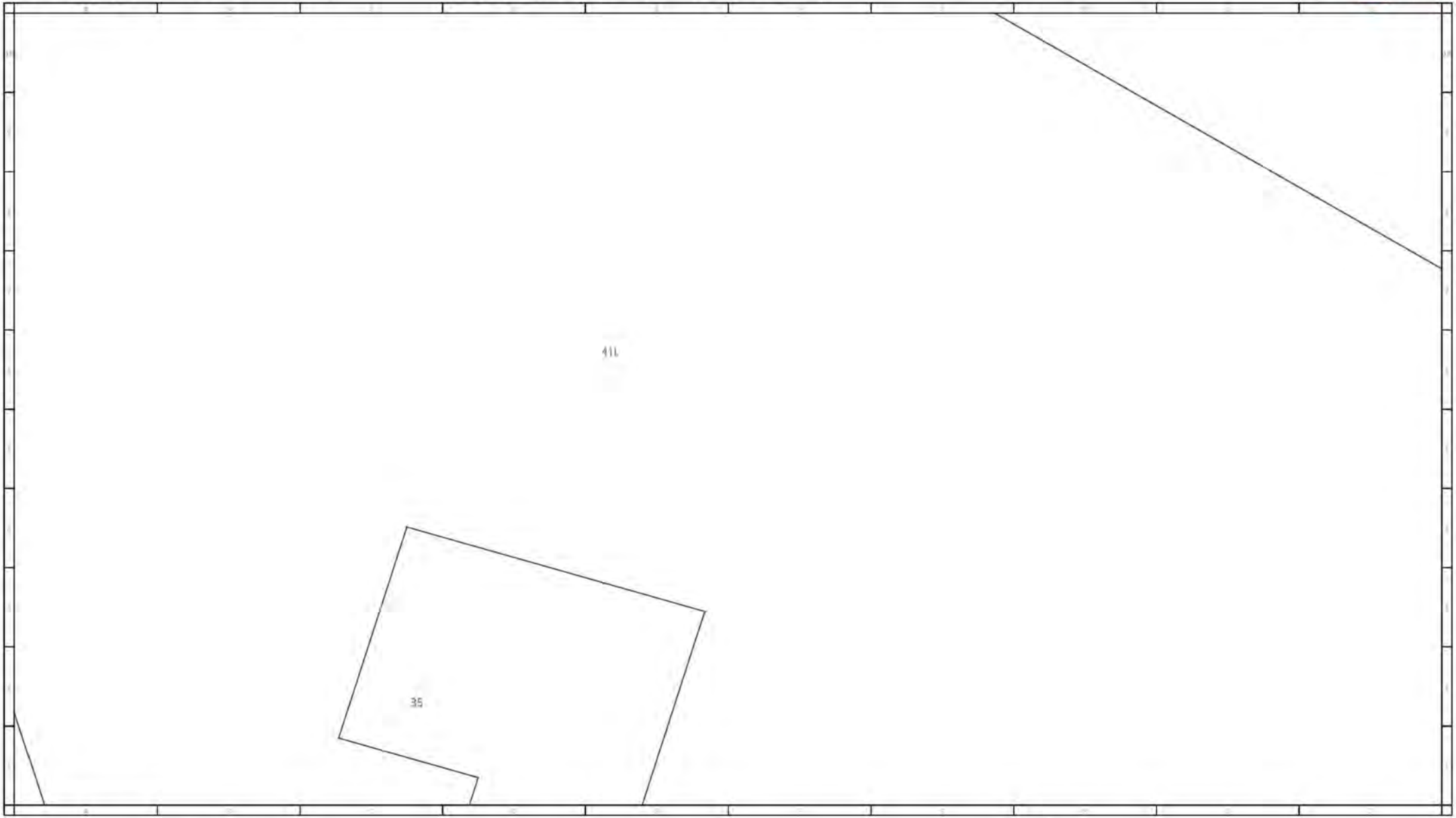

Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

N W E S

Issue Date: 24/09/2020
DBYD Seq No: 102165066
DBYD Job No: 20310876

0m 10m 20m 30m 40m 50m 60m 70m 80m

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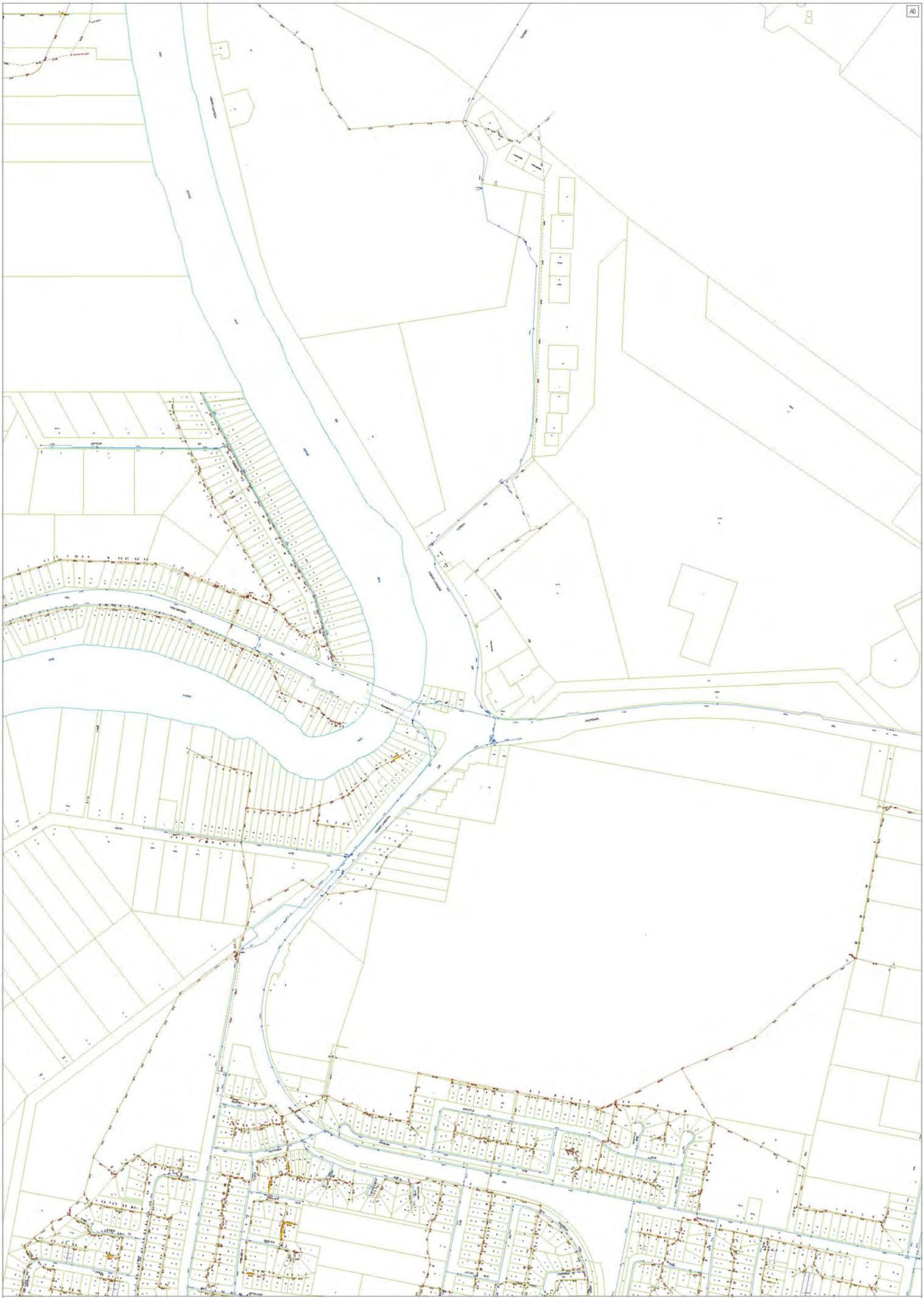

A0

DBYD Address:
Wal Henry Lawson Drive
Milperra NSW 2214

DBYD Job No: 20210876

DBYD Sequence No: 102165067

SYDNEY WATER CORPORATION

Scale: 1:2000

Date of Production: 24/08/2020

Plan 1 of 1

0m 30m 60m 90m 120m 150m

Indicative Plans

Issue Date:	24/09/2020
Location:	Henry Lawson Drive , Milperra , NSW , 2214

DIAL BEFORE YOU DIG www.1100.com.au

2	9	16
3	10	17
4	11	18
5	12	19
6	13	20
7	14	21

LEGEND

34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m

Level 11, 100 Arthur Street, North Sydney NSW 2060

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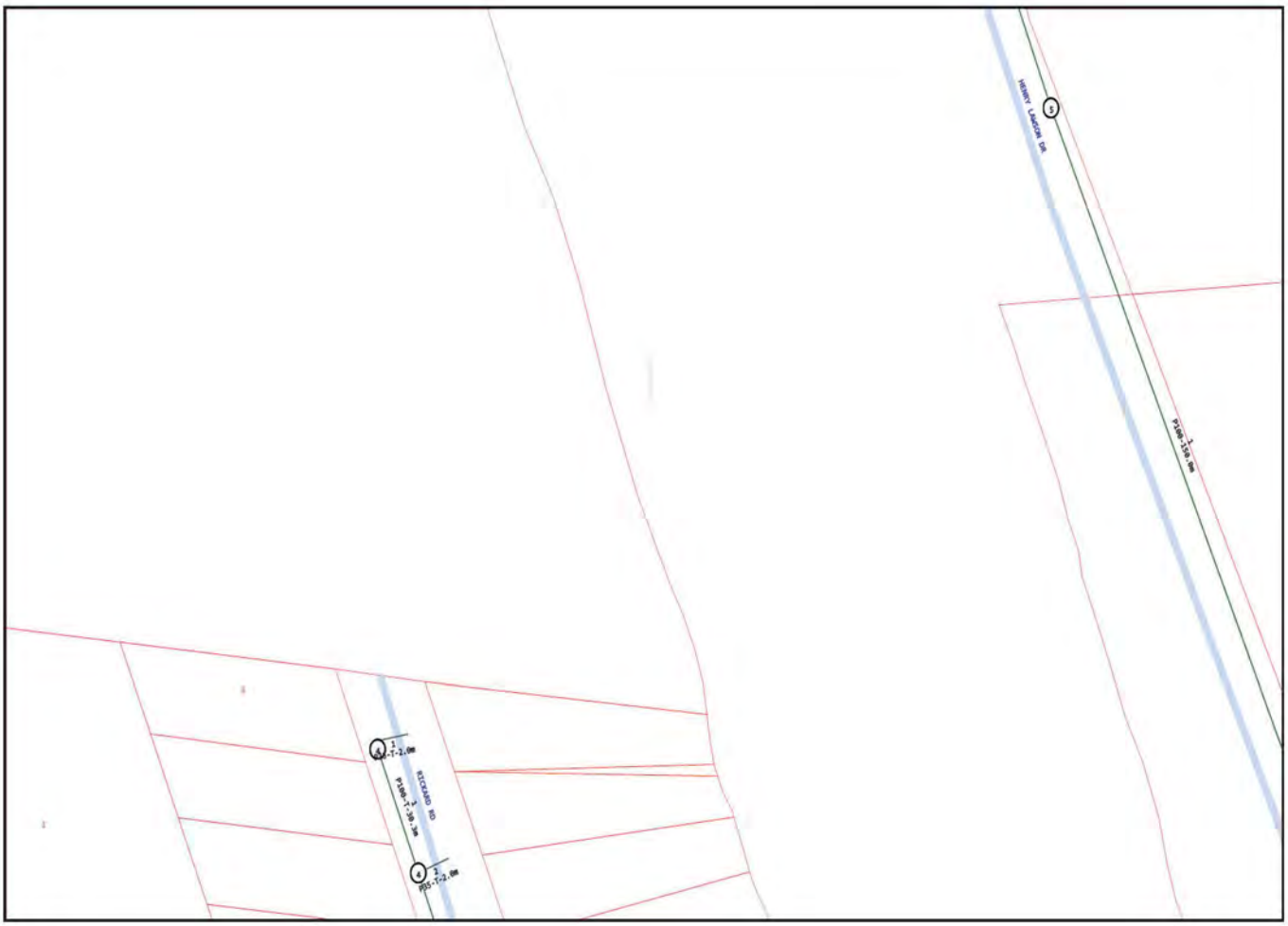

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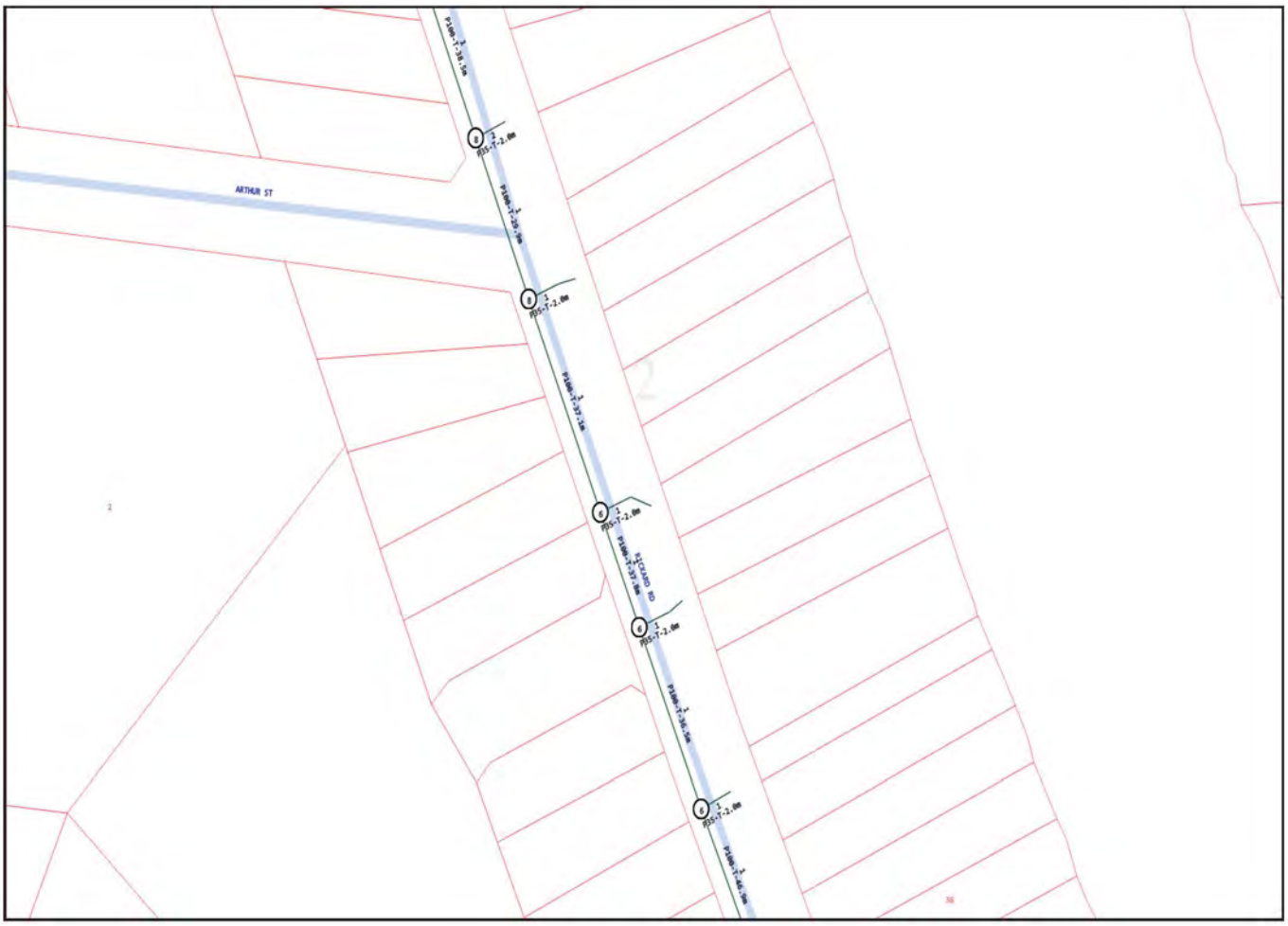

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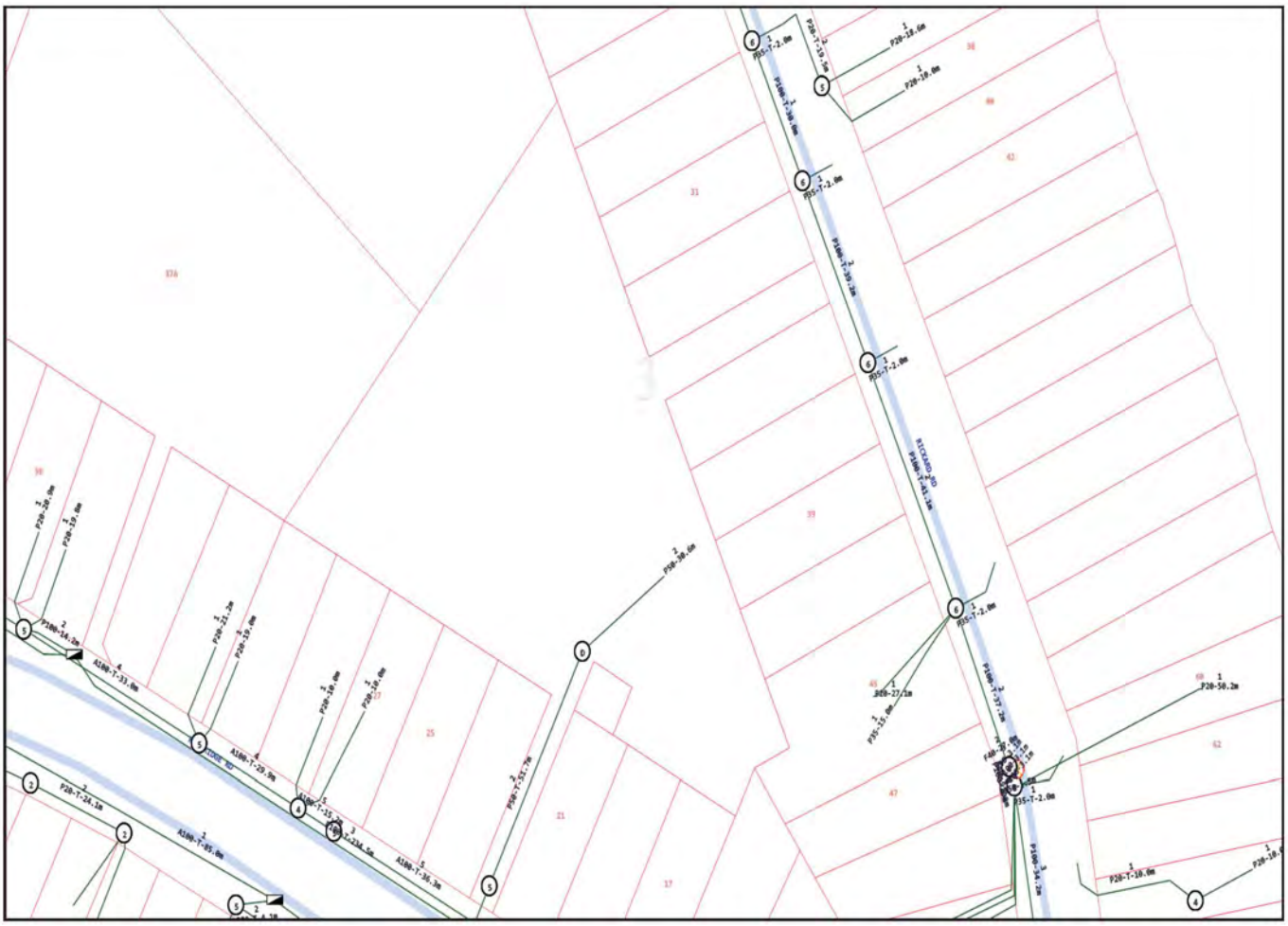

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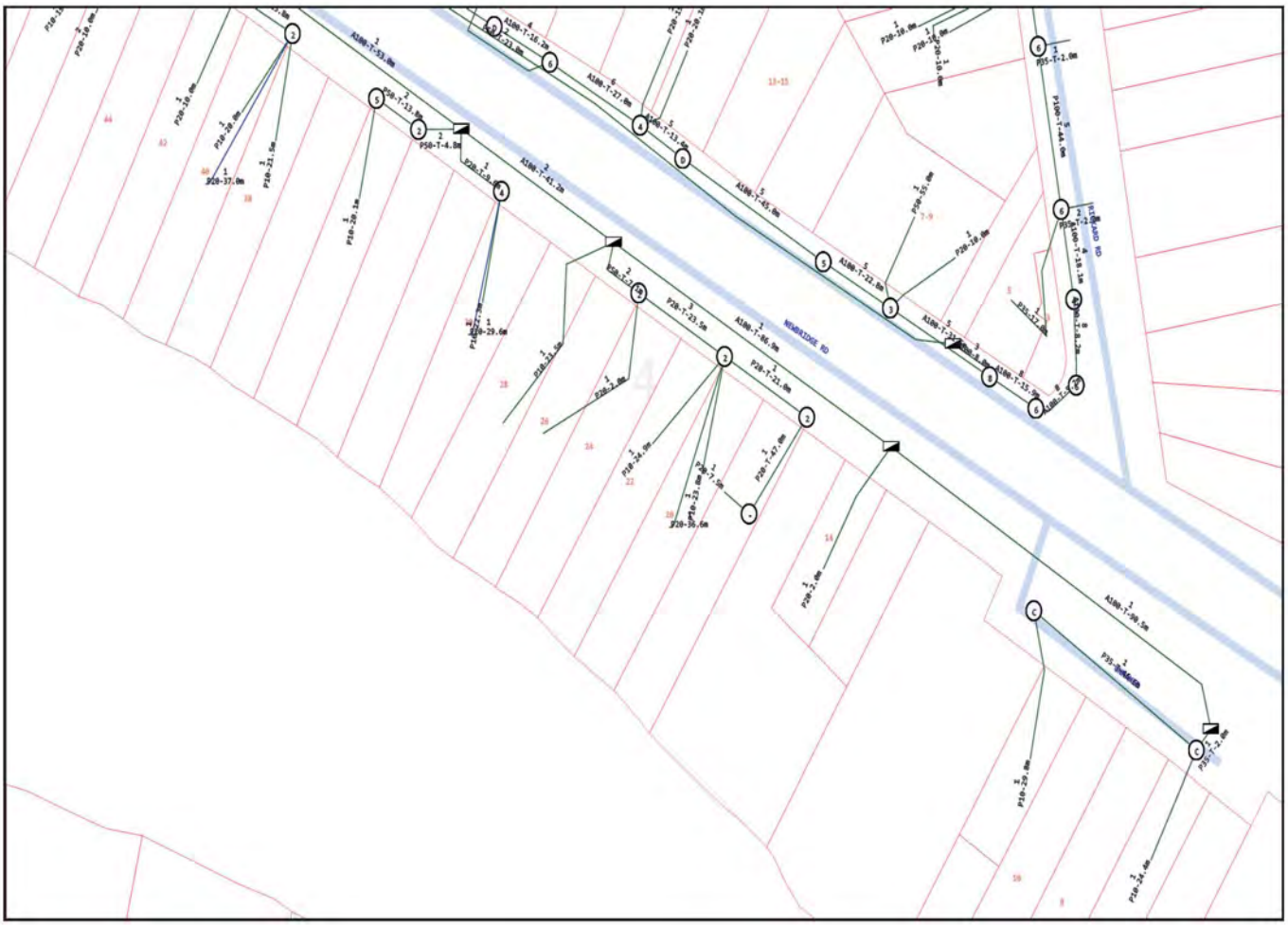

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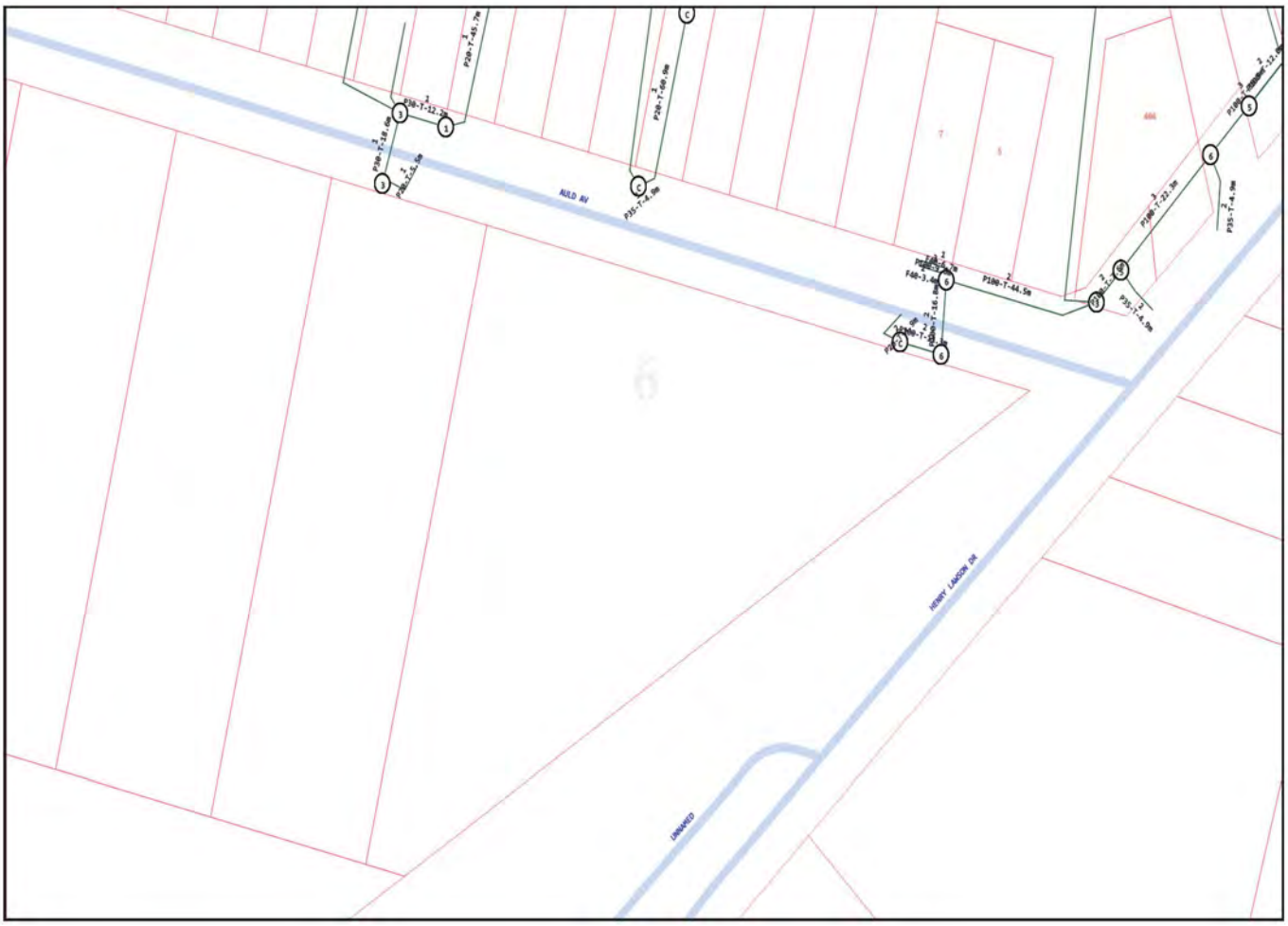

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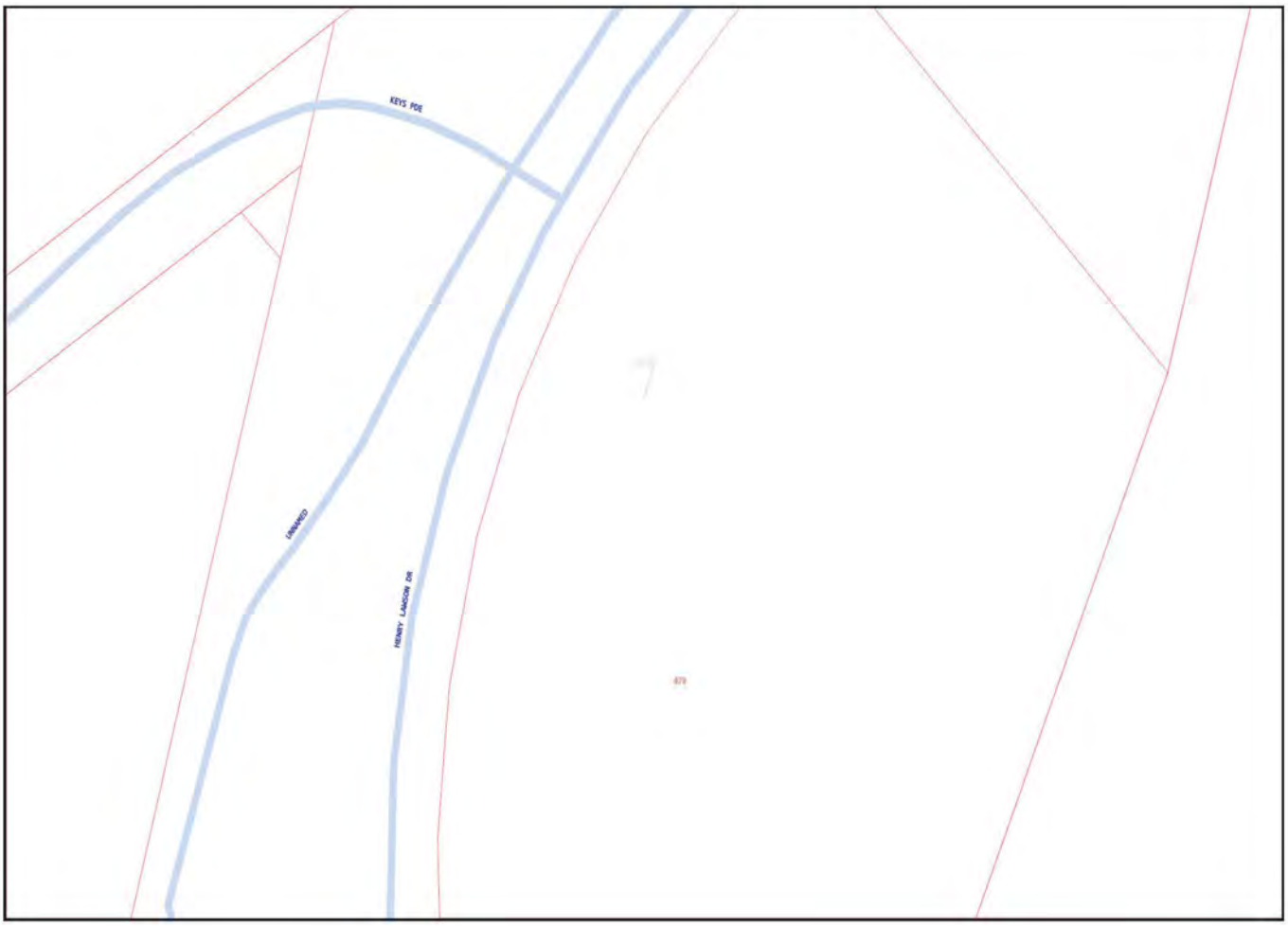

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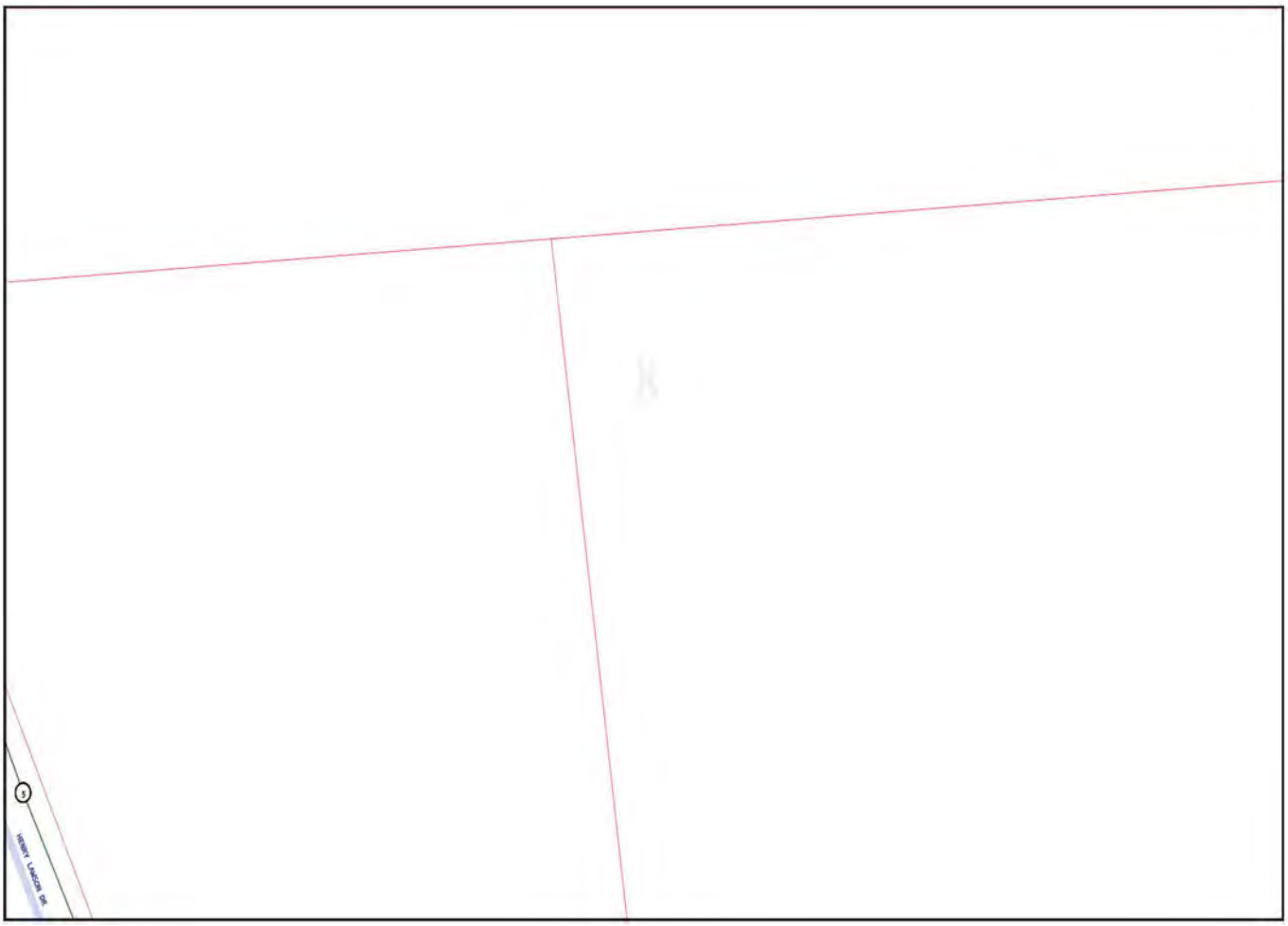

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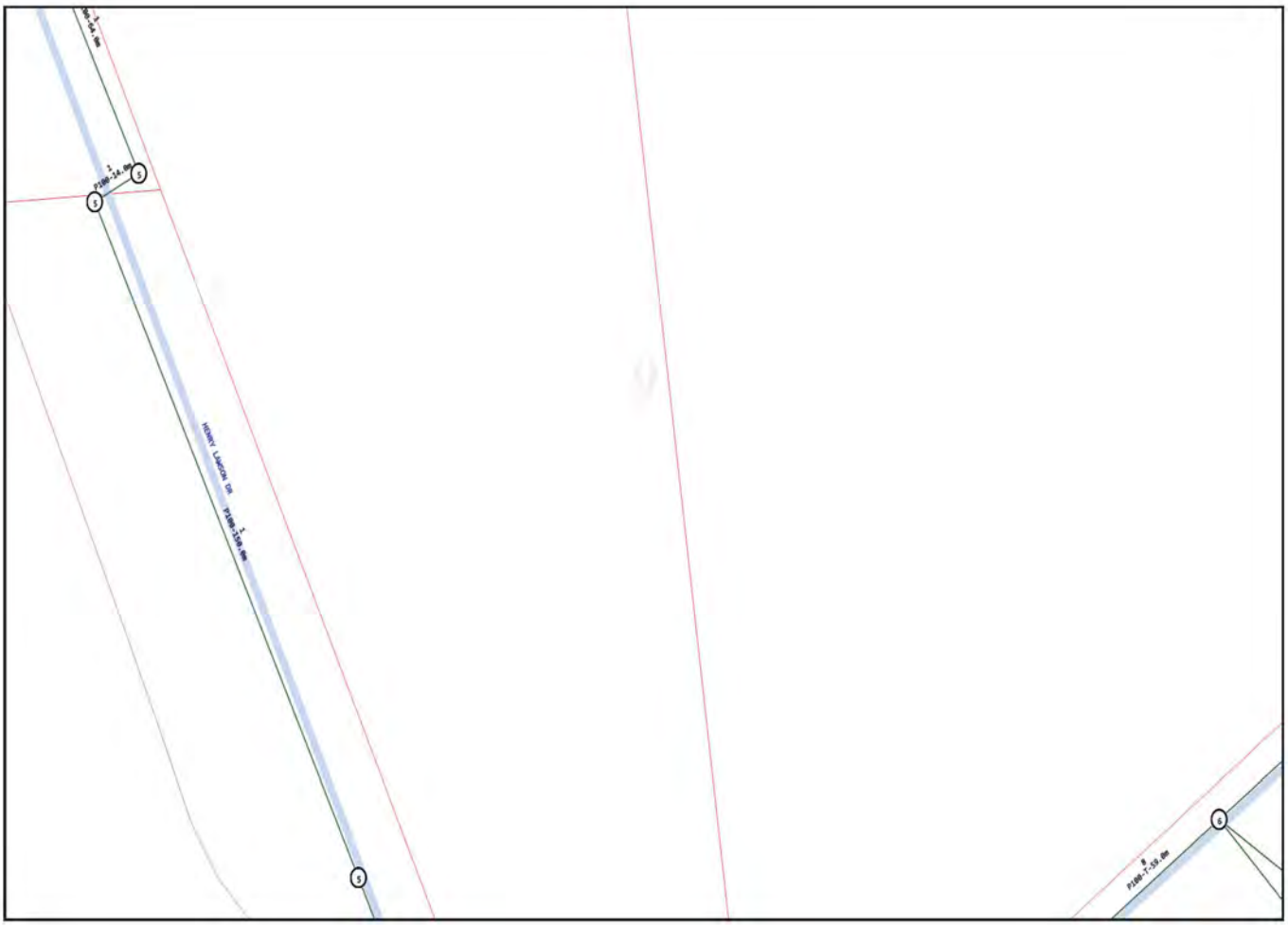

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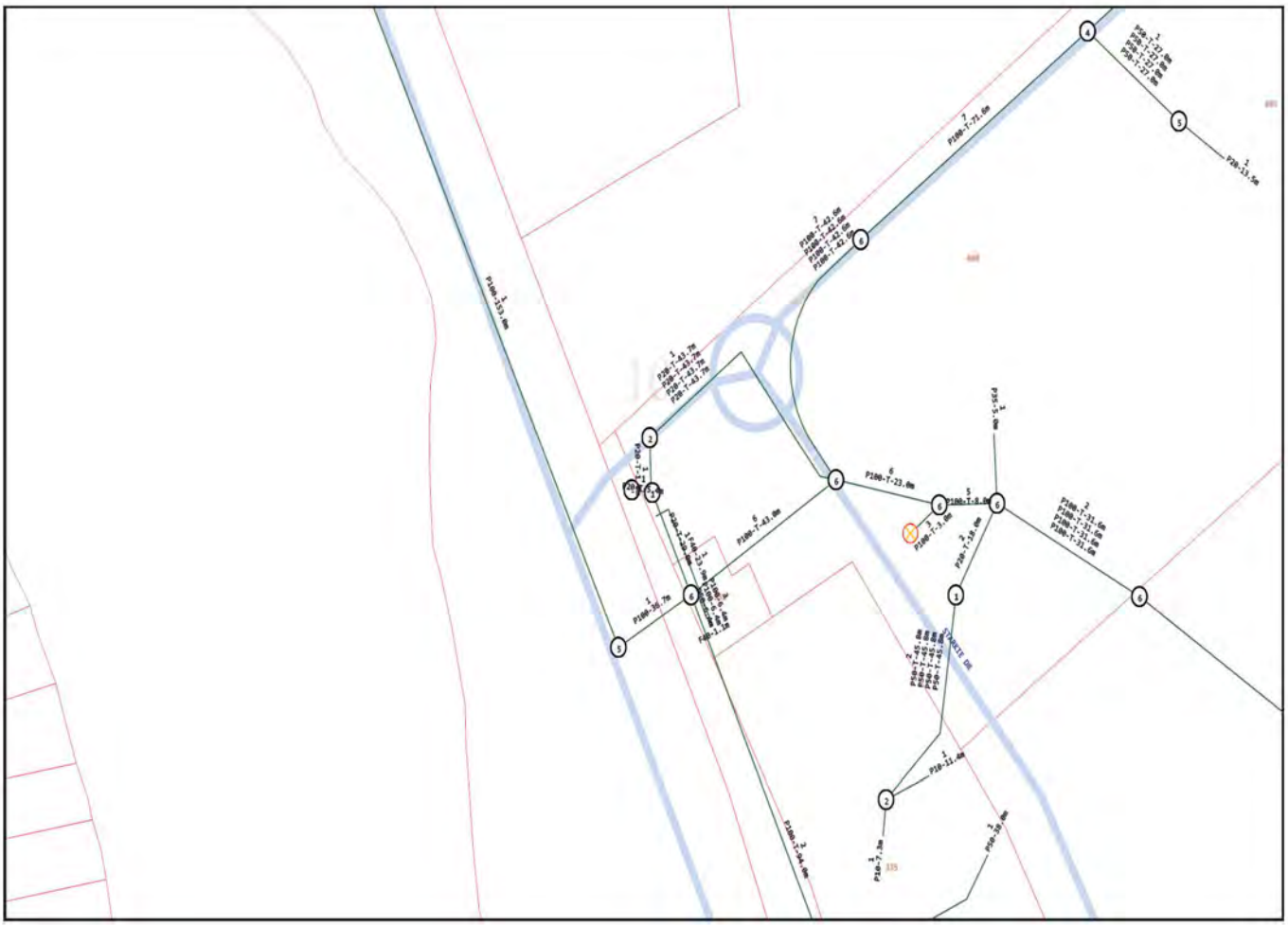

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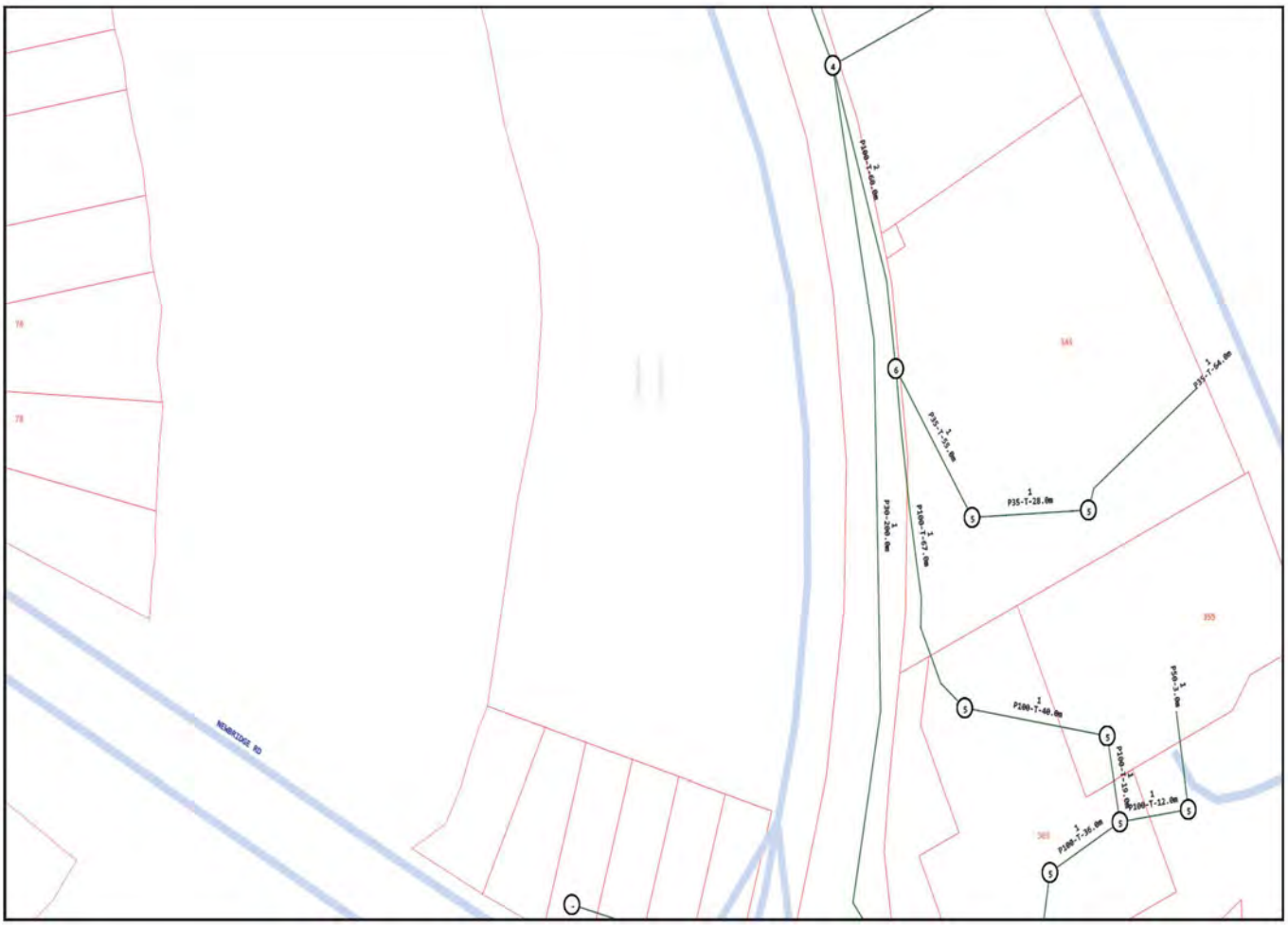

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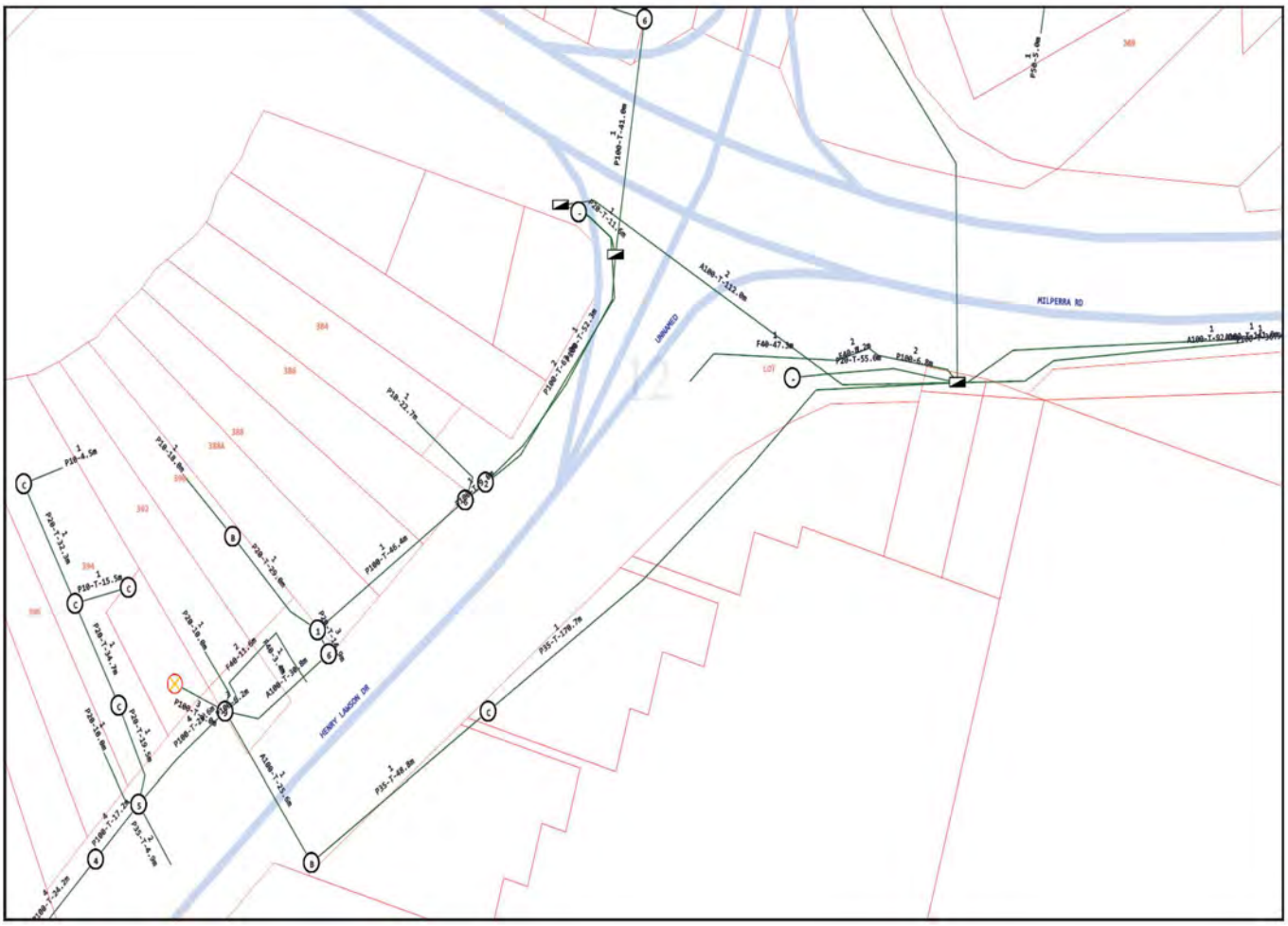

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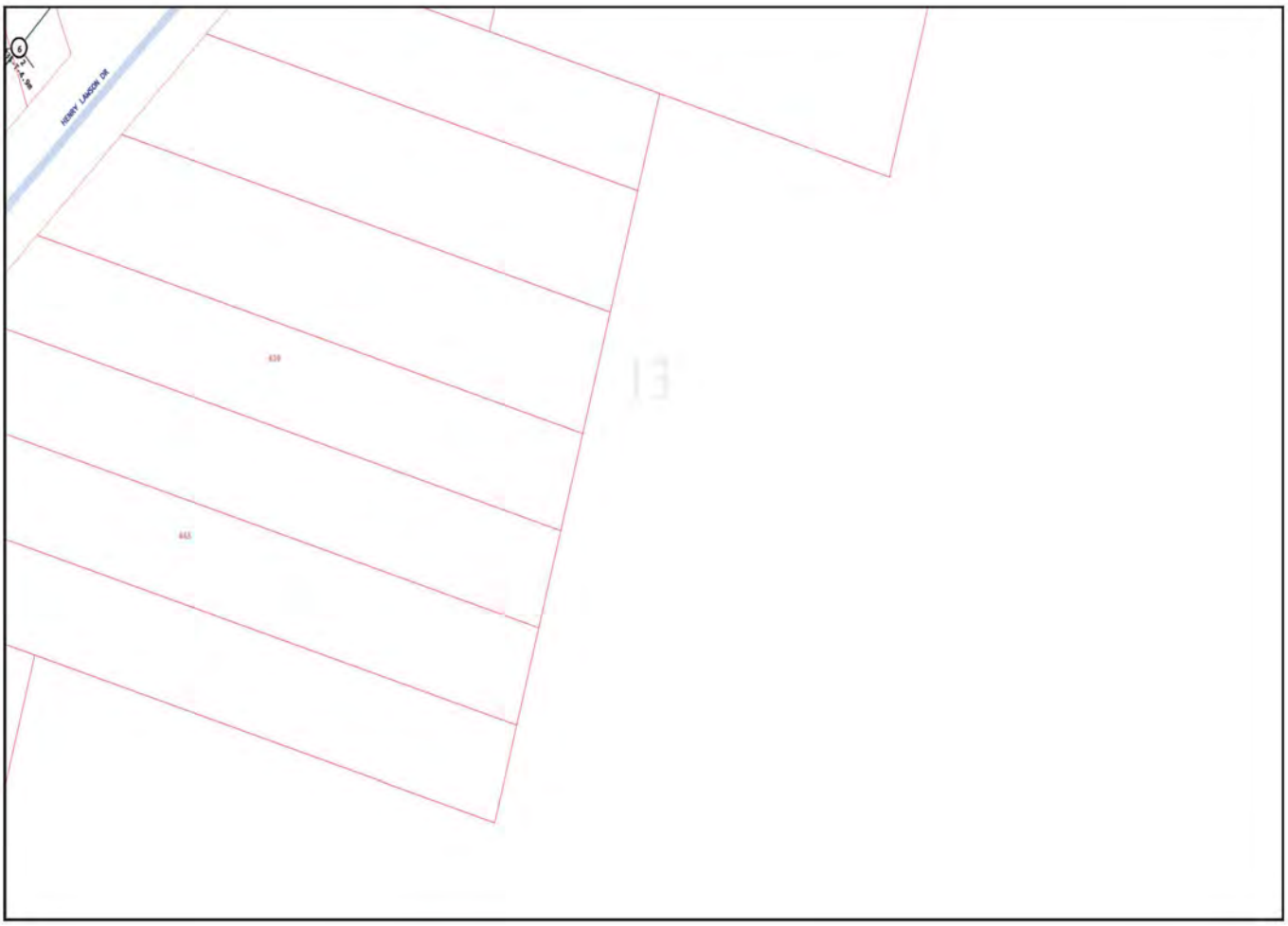

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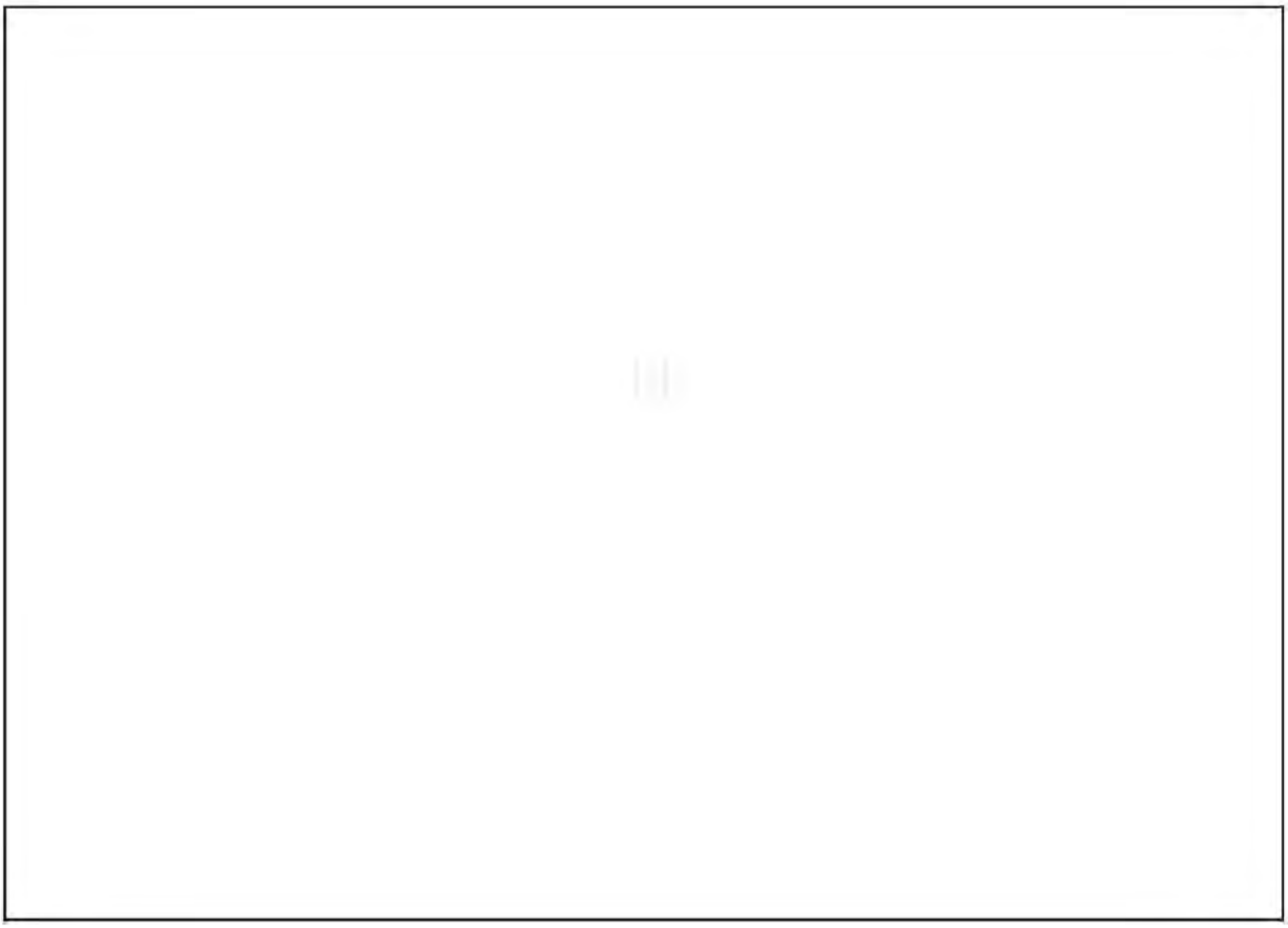

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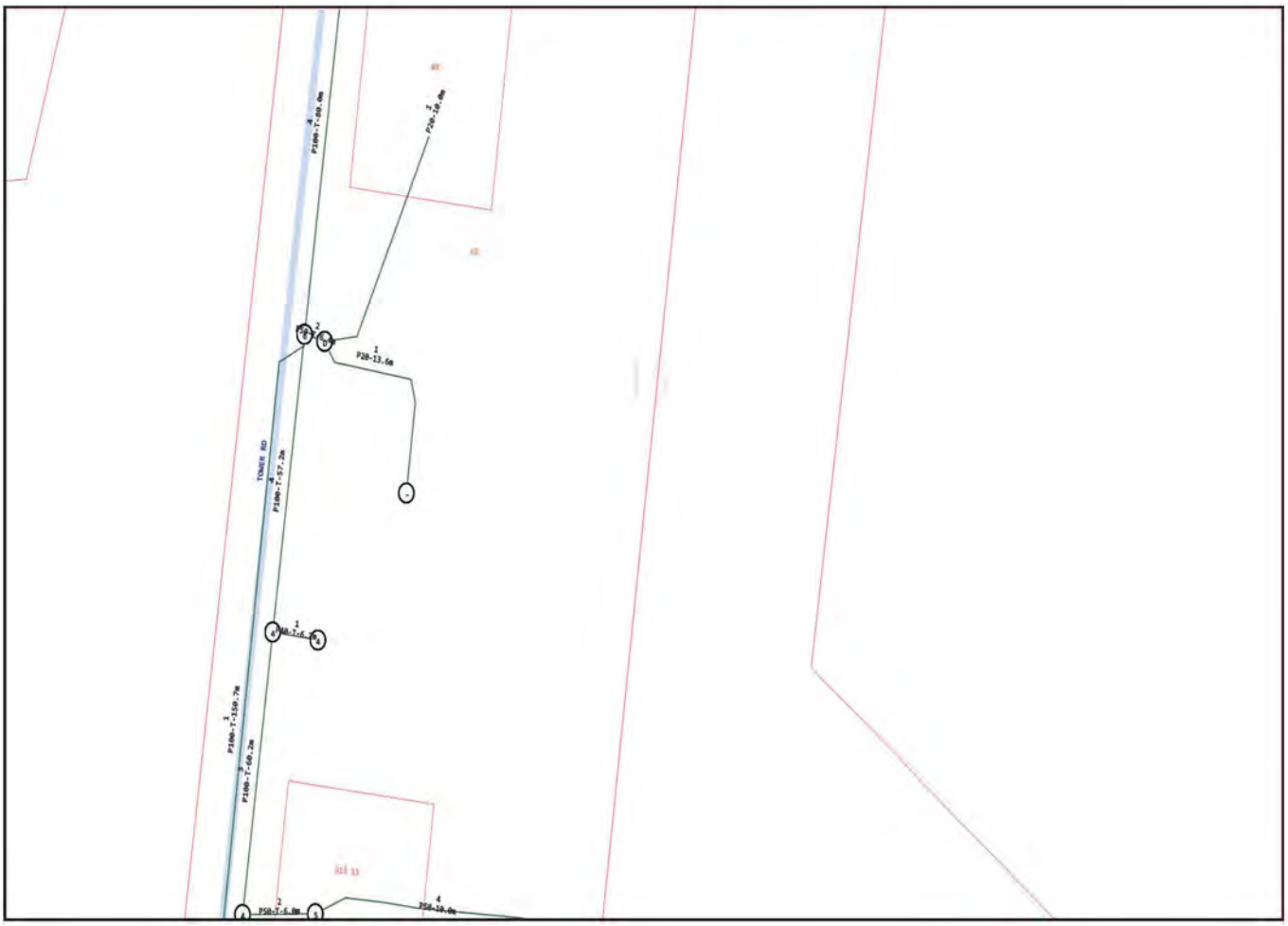

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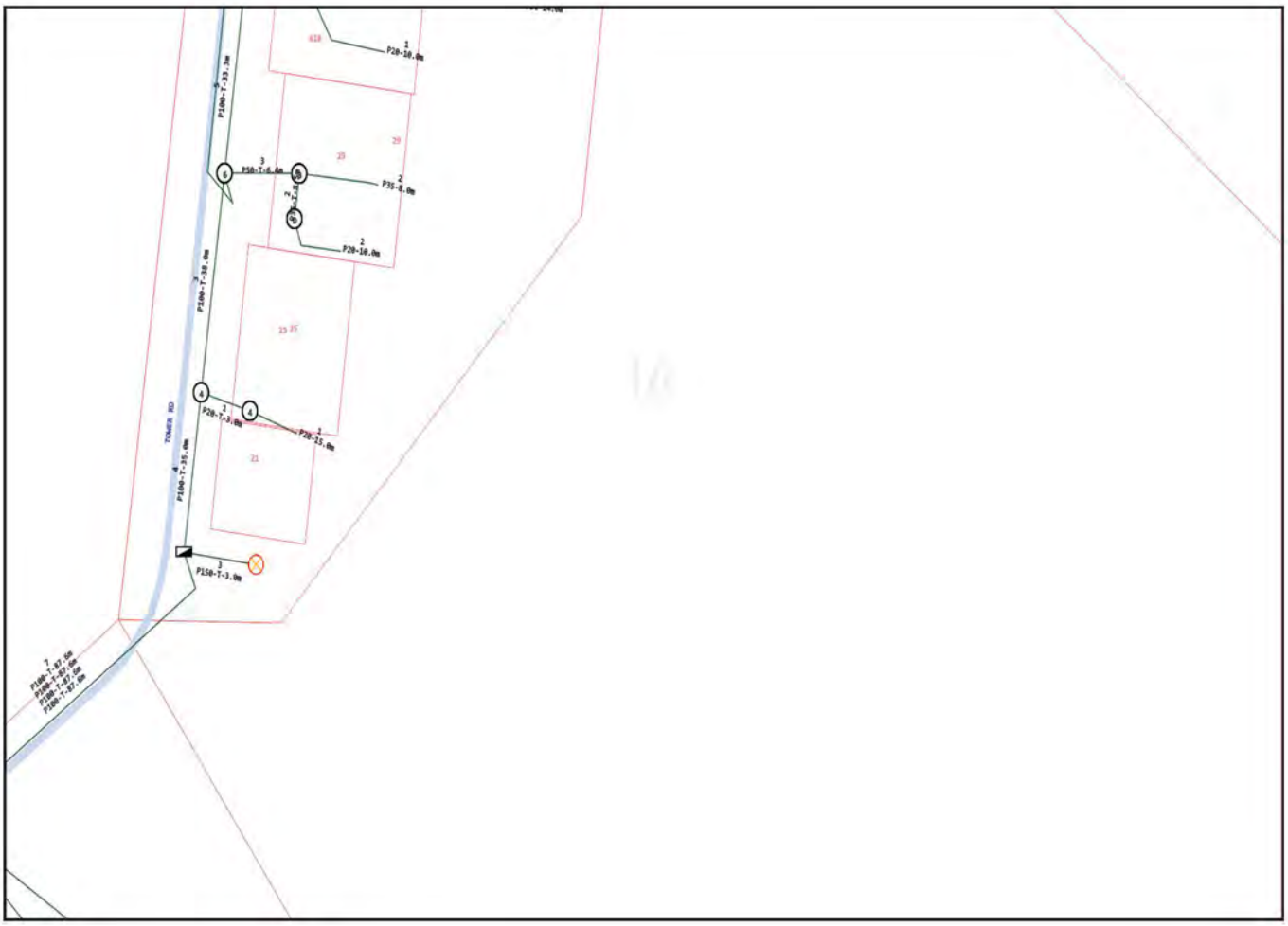

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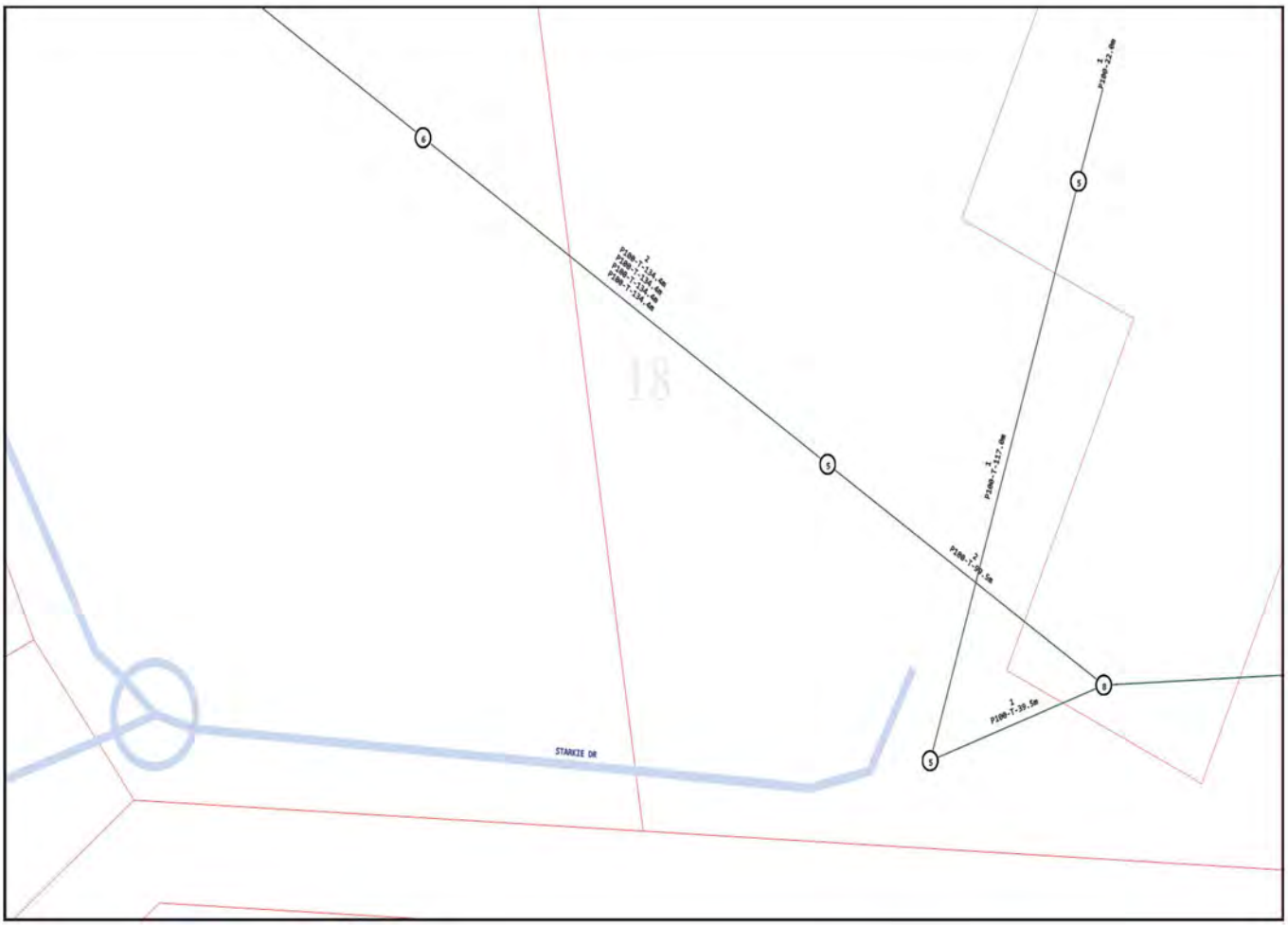

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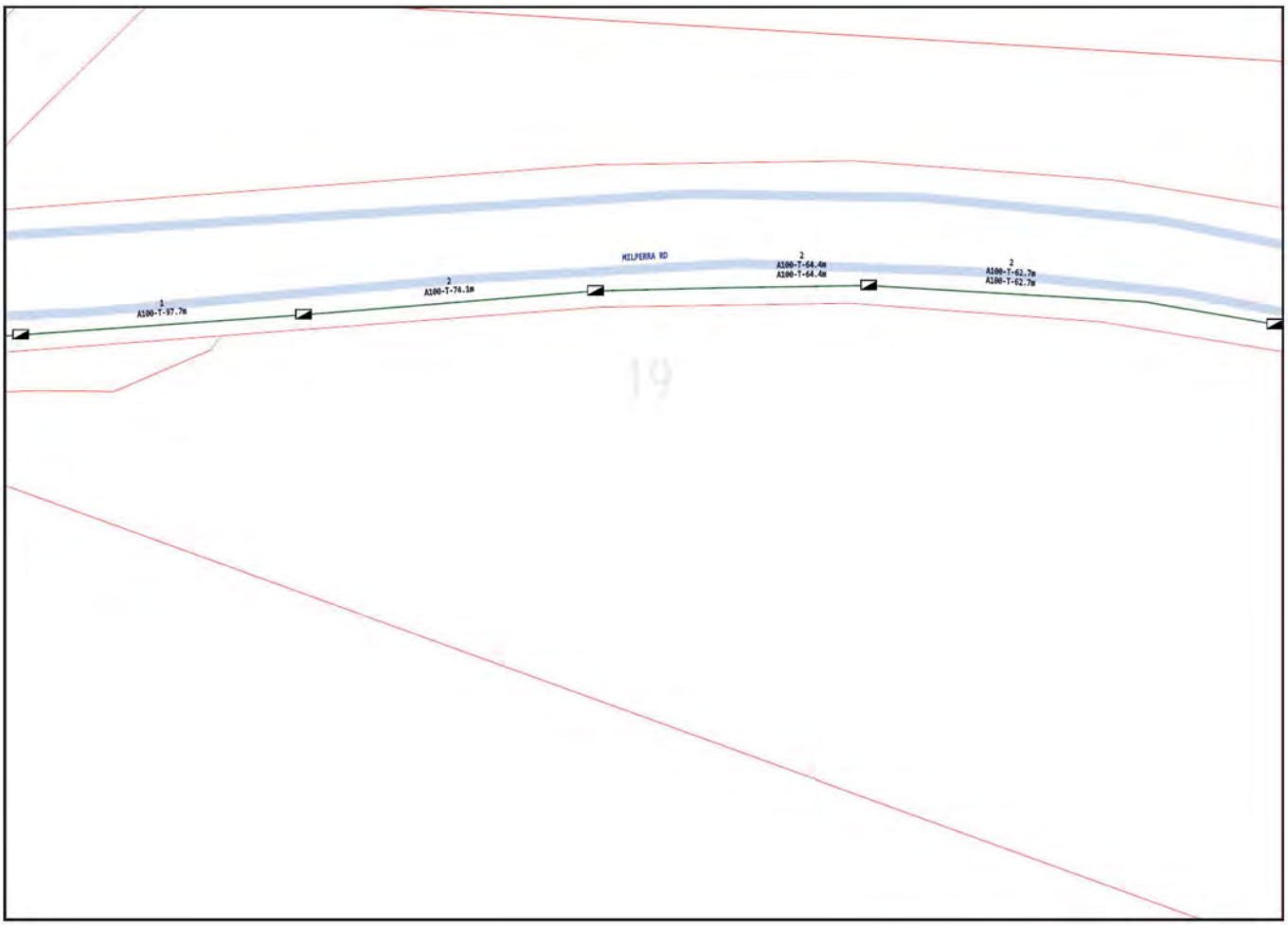

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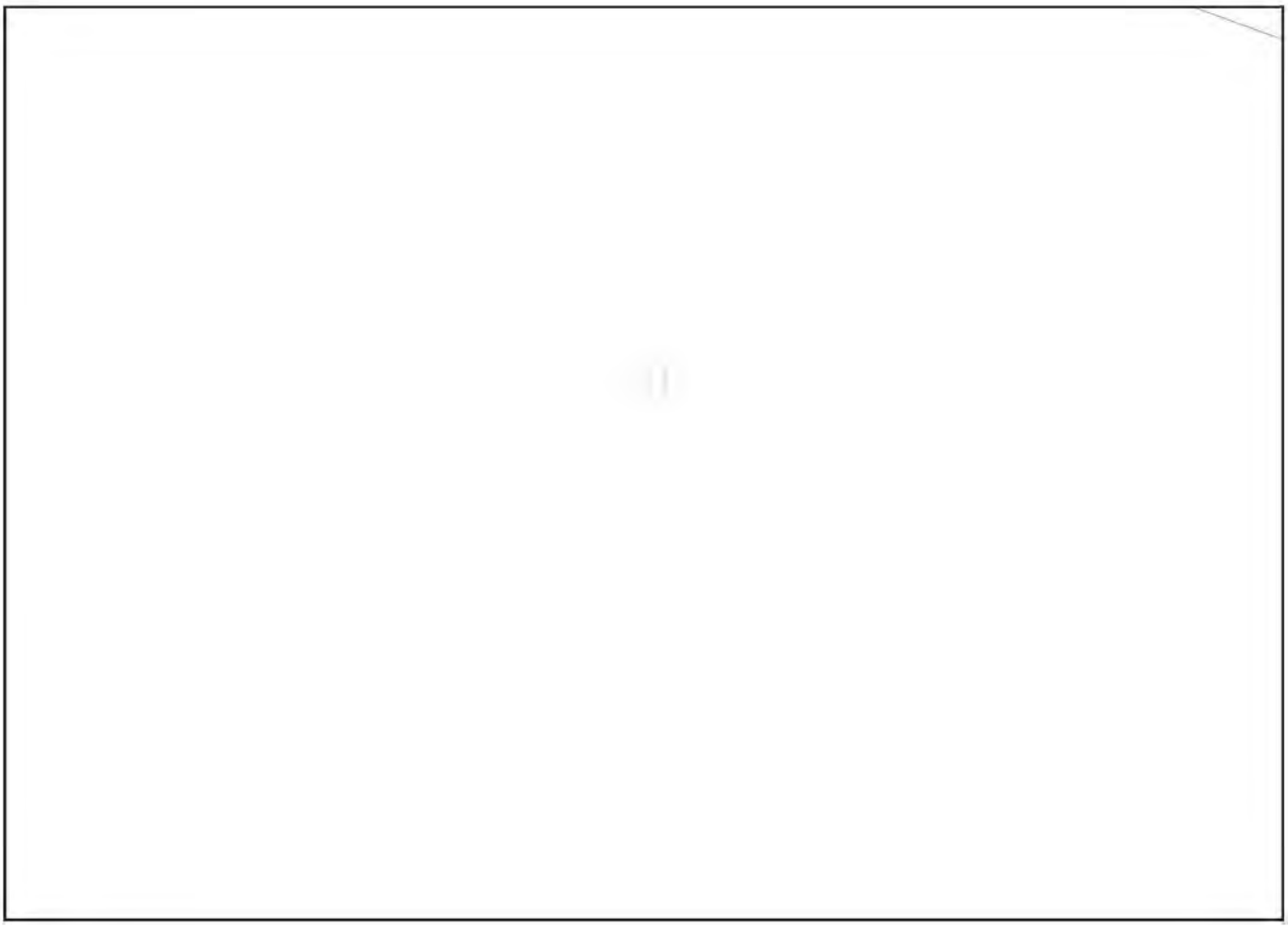

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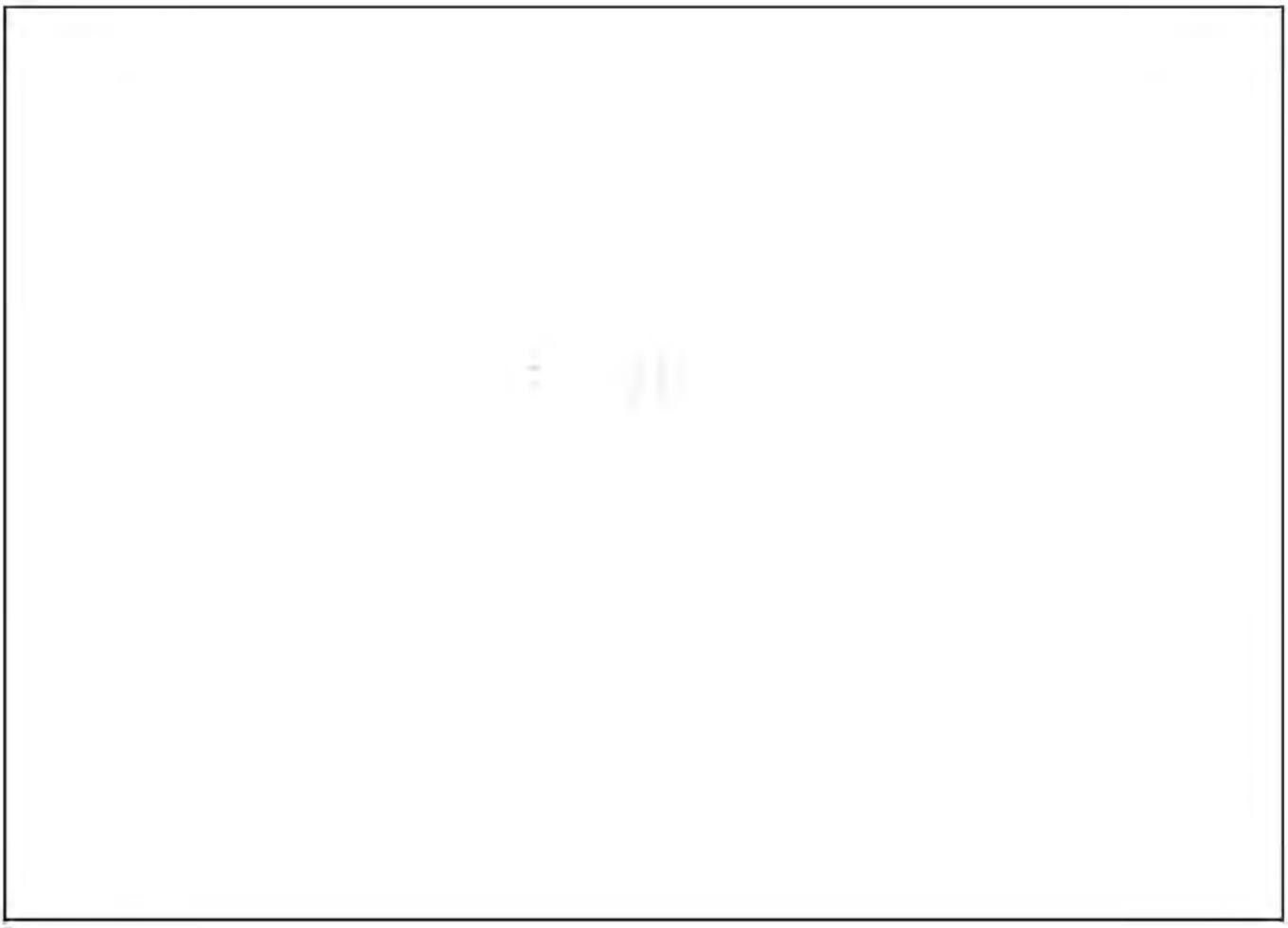

Emergency Contacts

You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

Indicative Plans

Issue Date:	24/09/2020
Location:	Henry Lawson Drive , Milperra , NSW , 2214

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2	9	16
3	10	17
4	11	18
5	12	19
6	13	20
7	14	21

LEGEND

34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m

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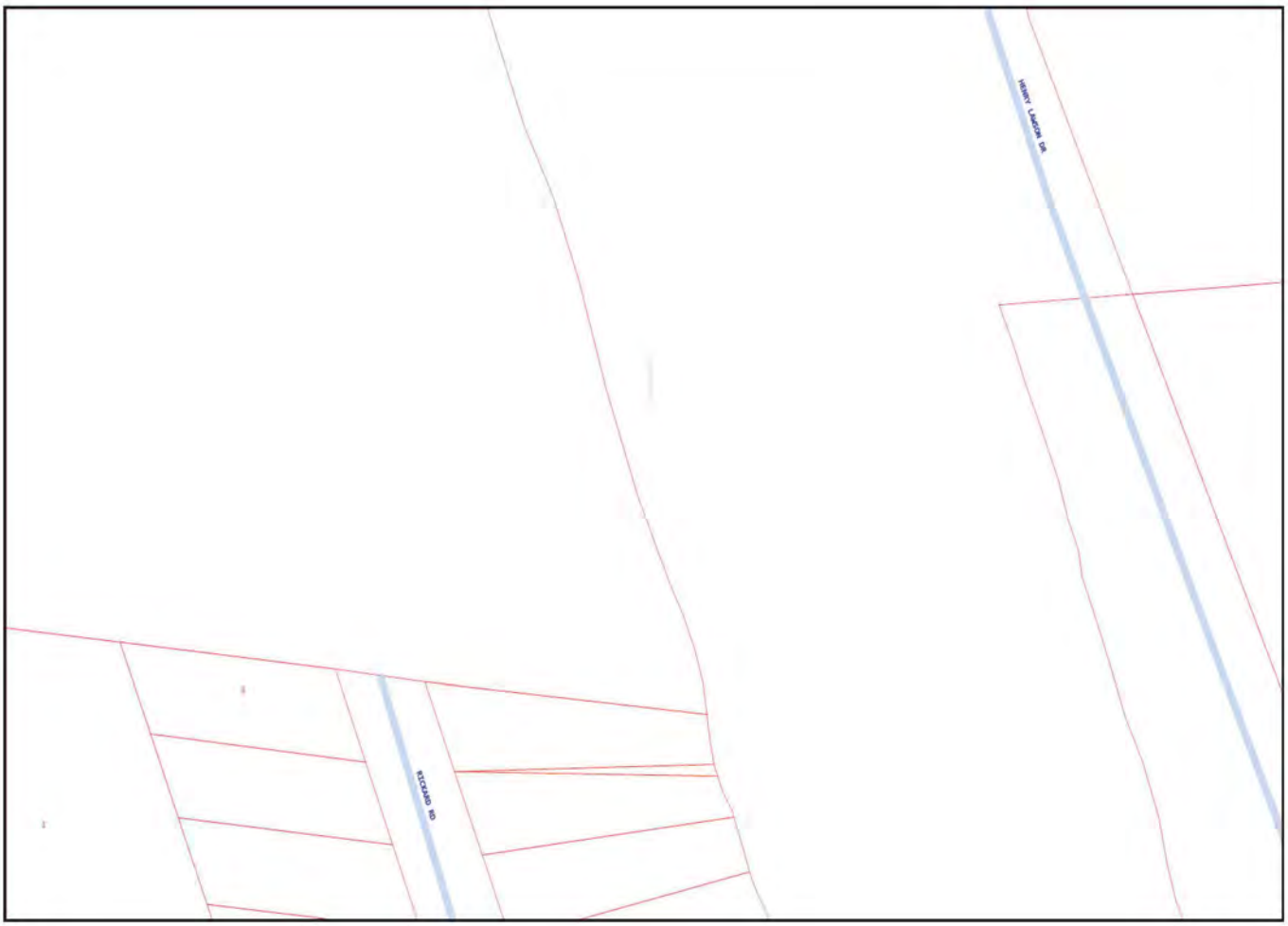

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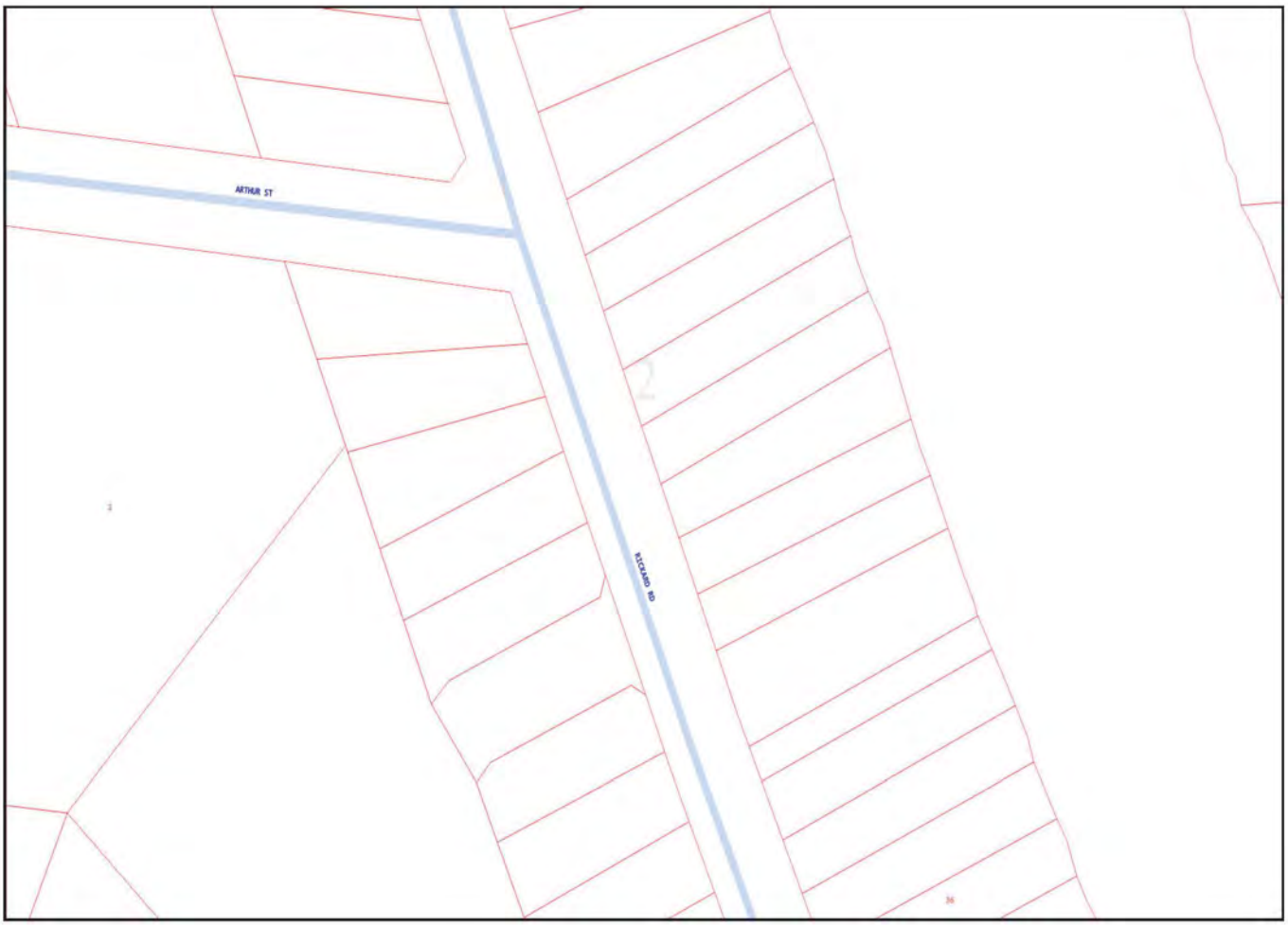

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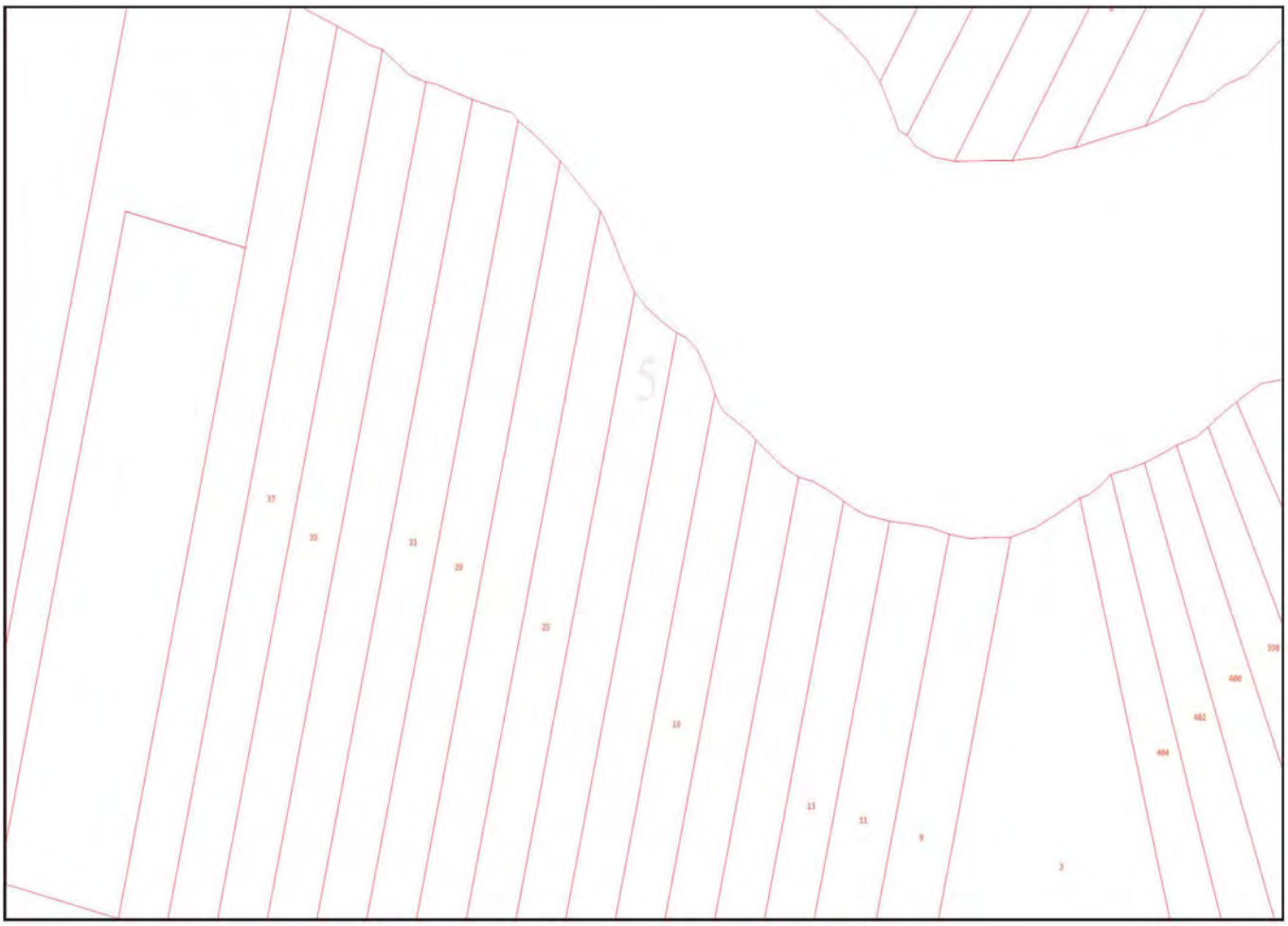

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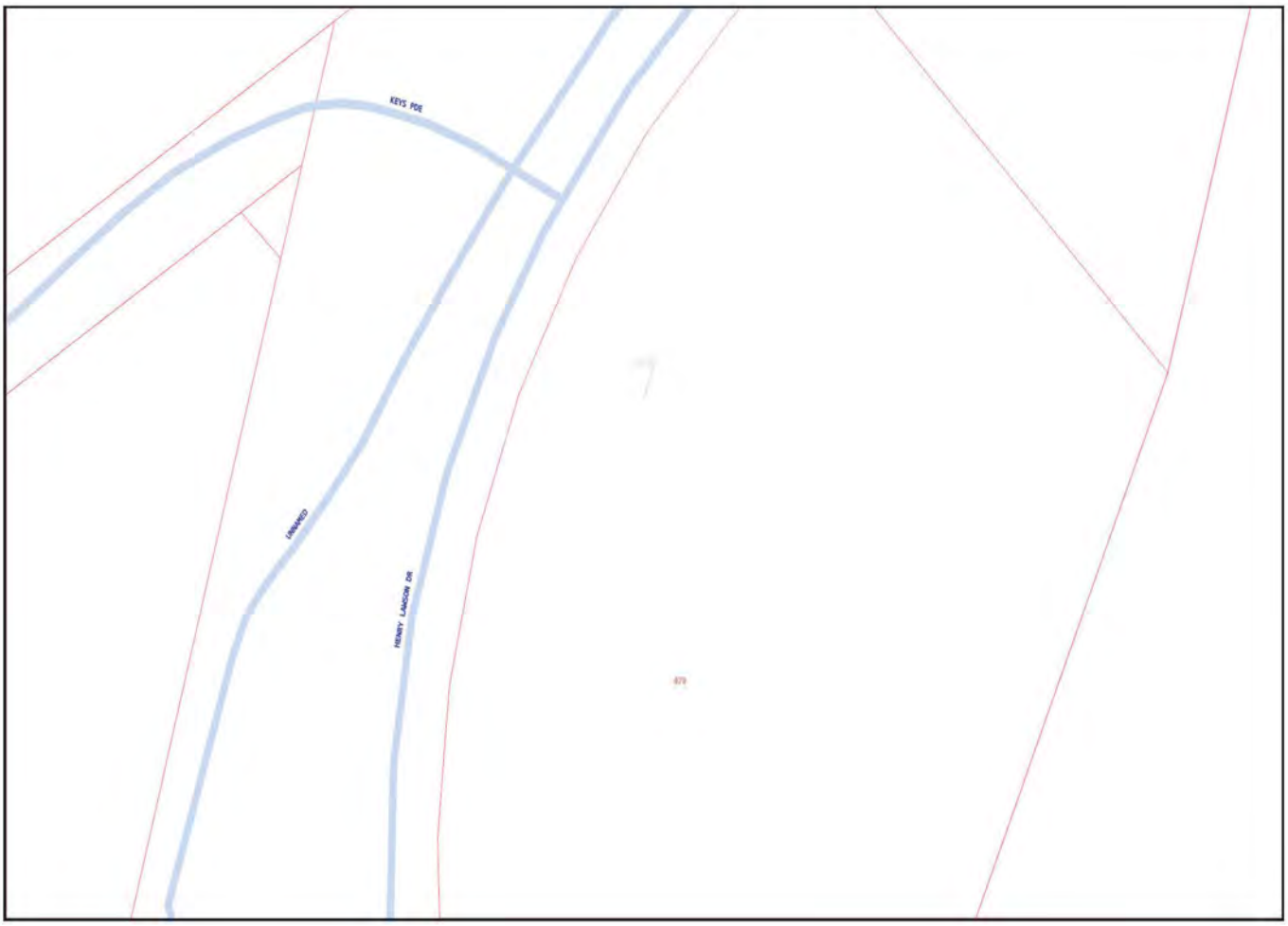

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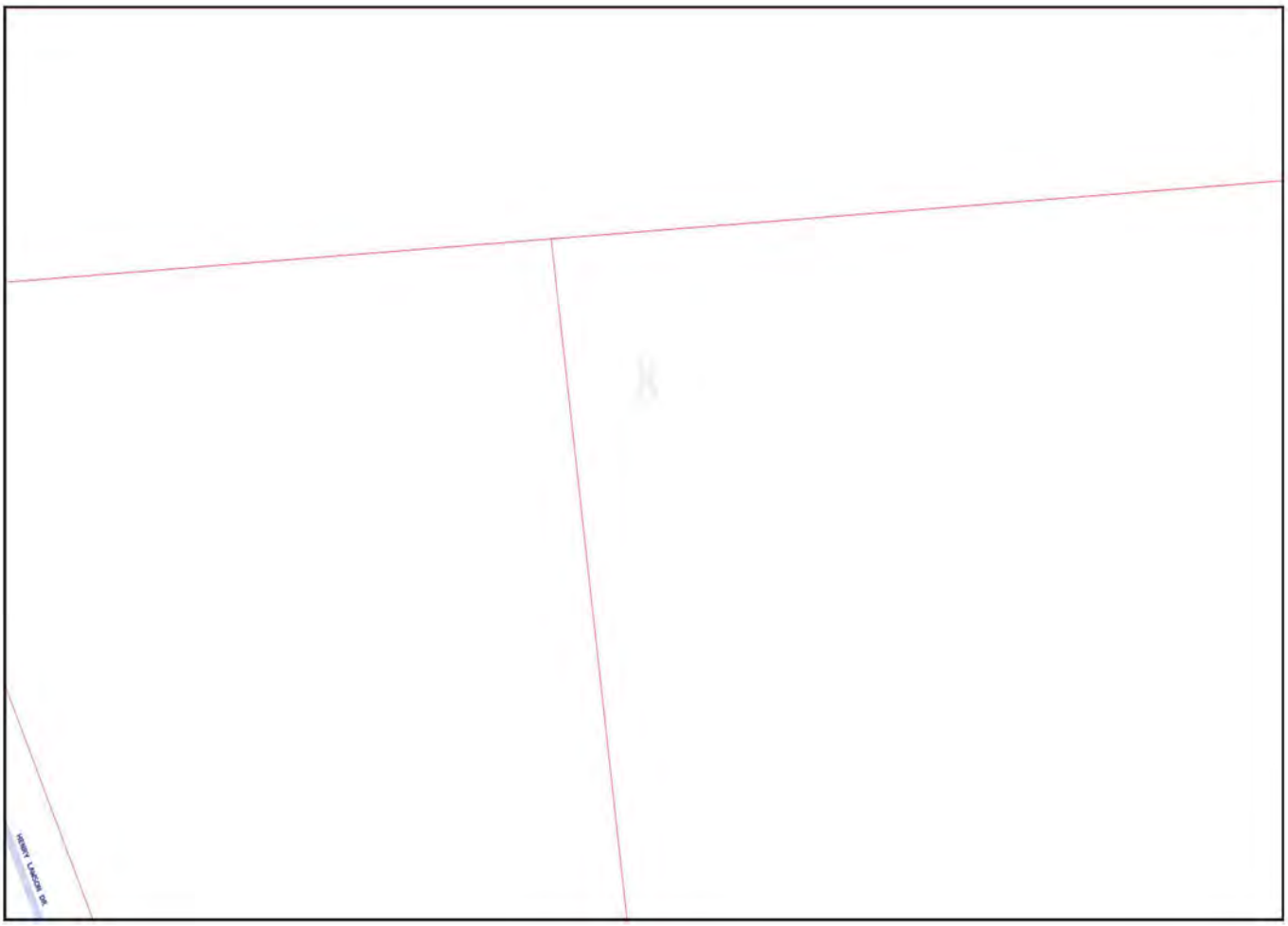

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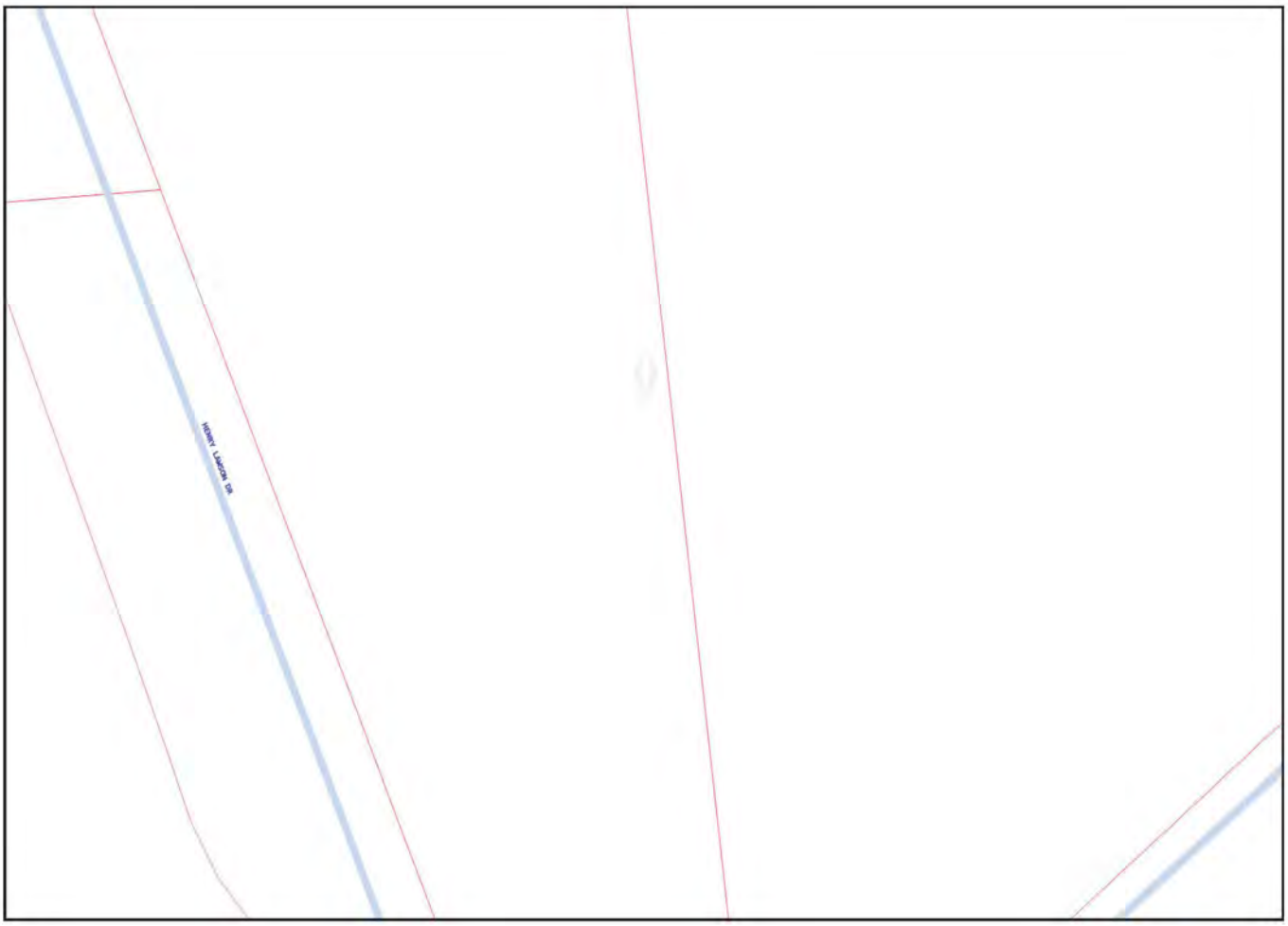

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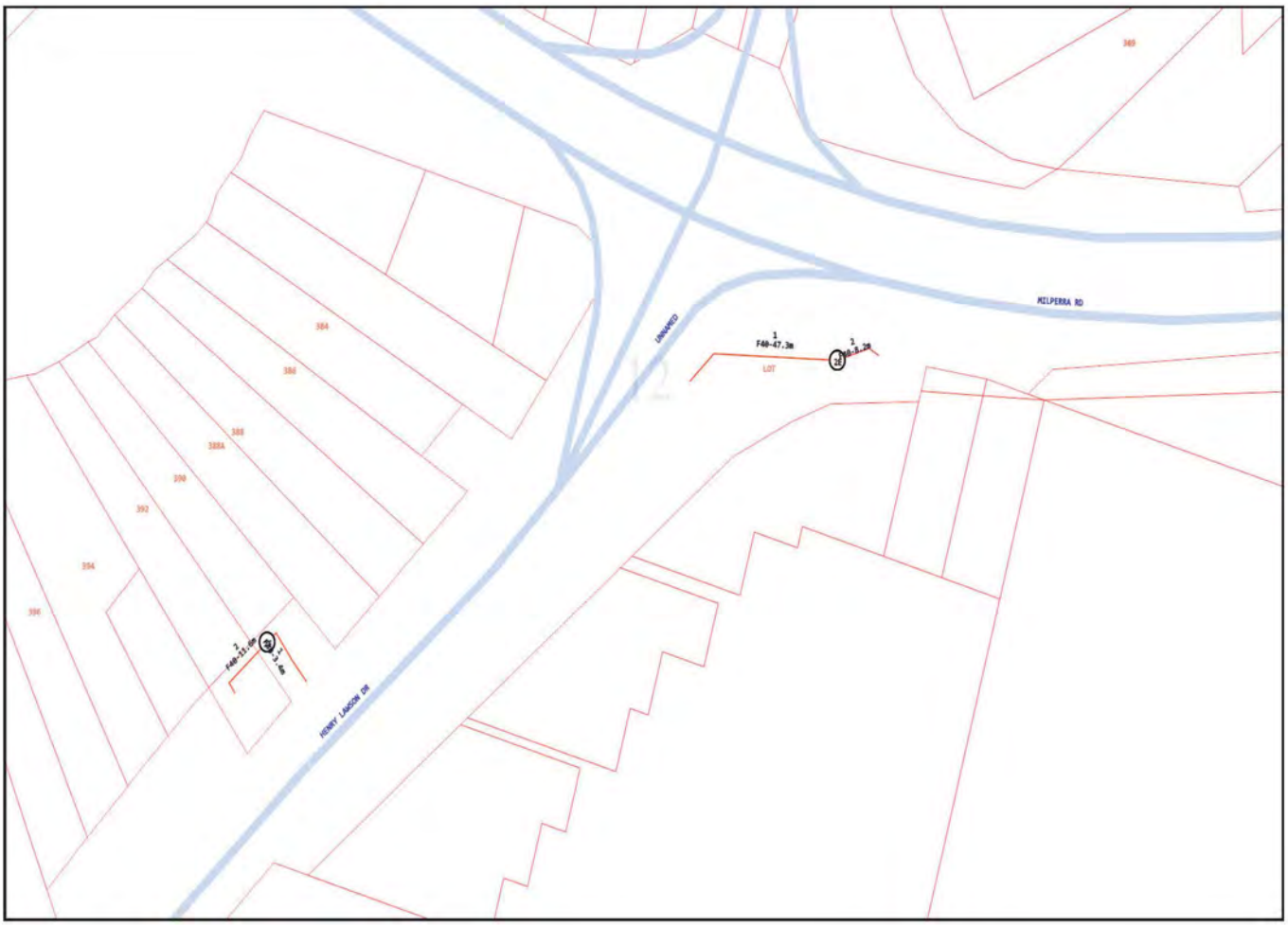

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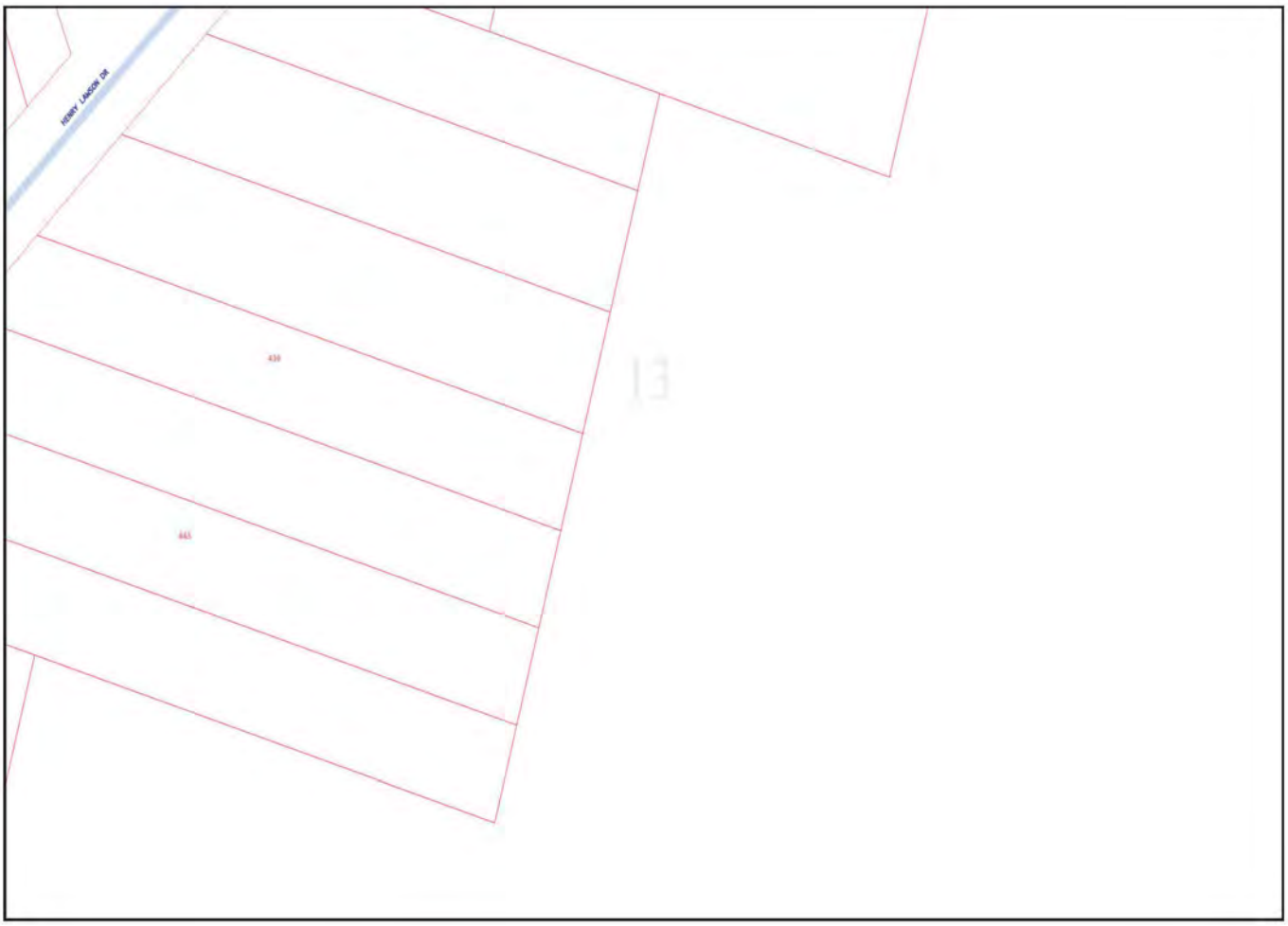

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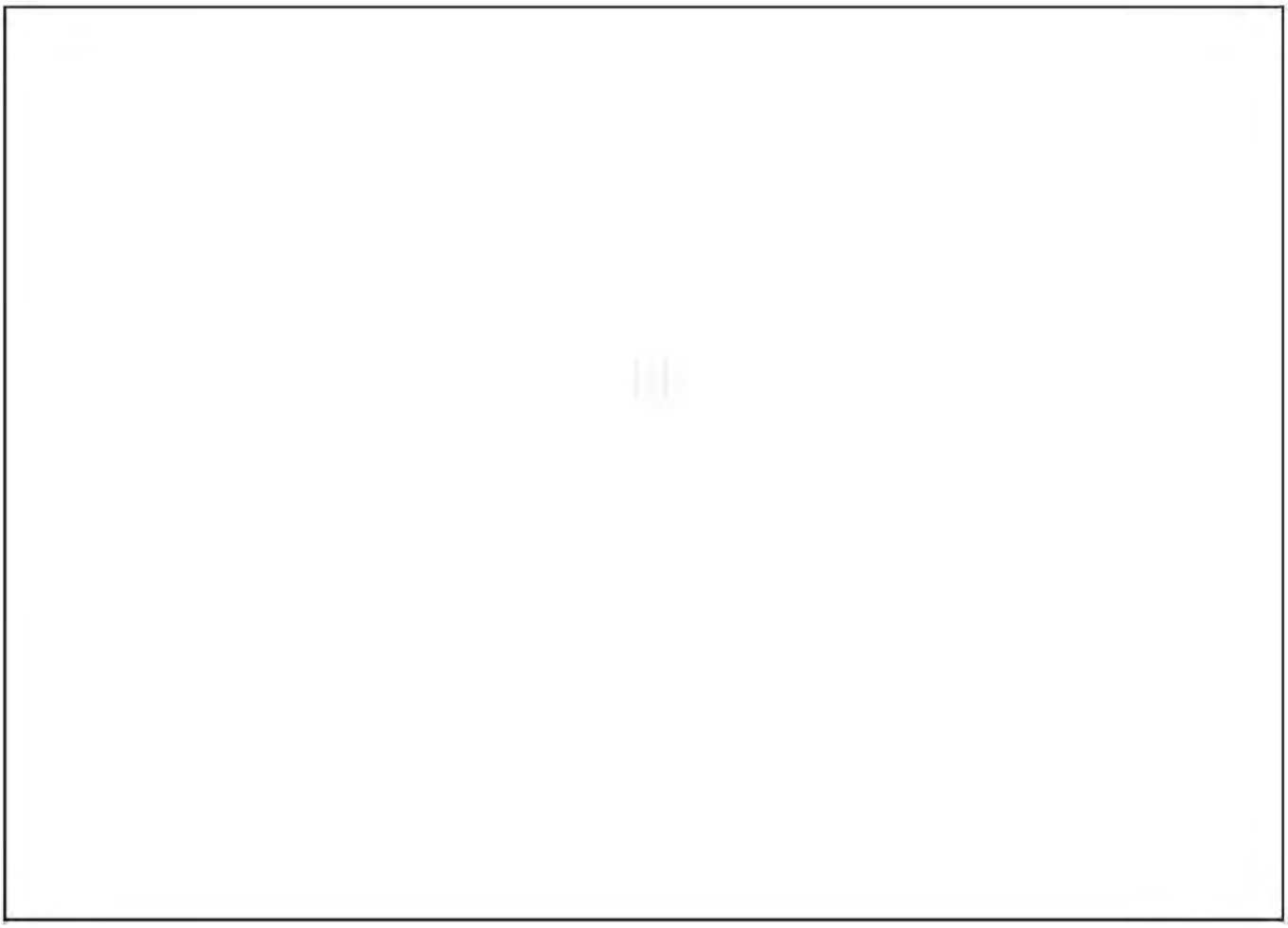

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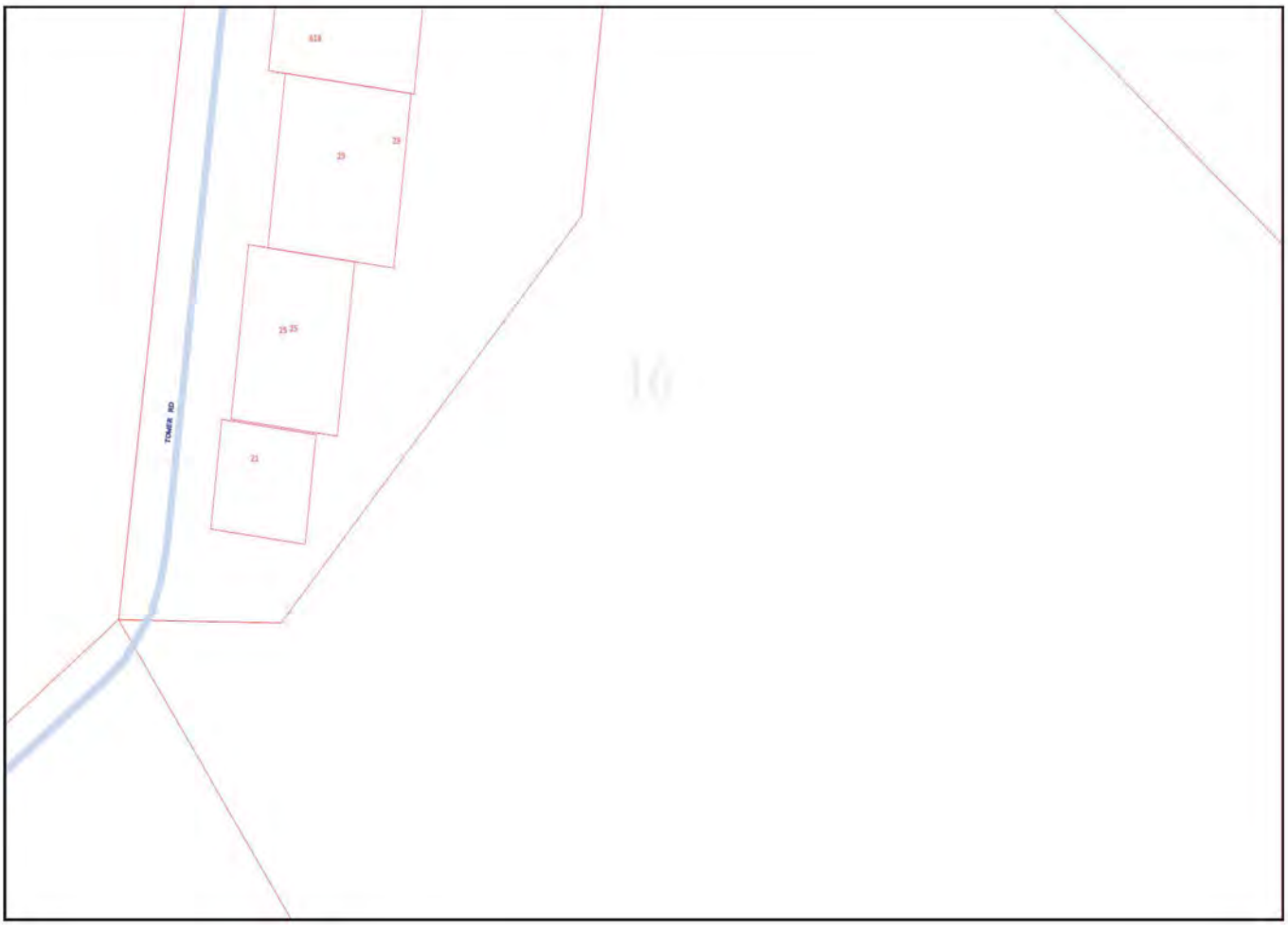

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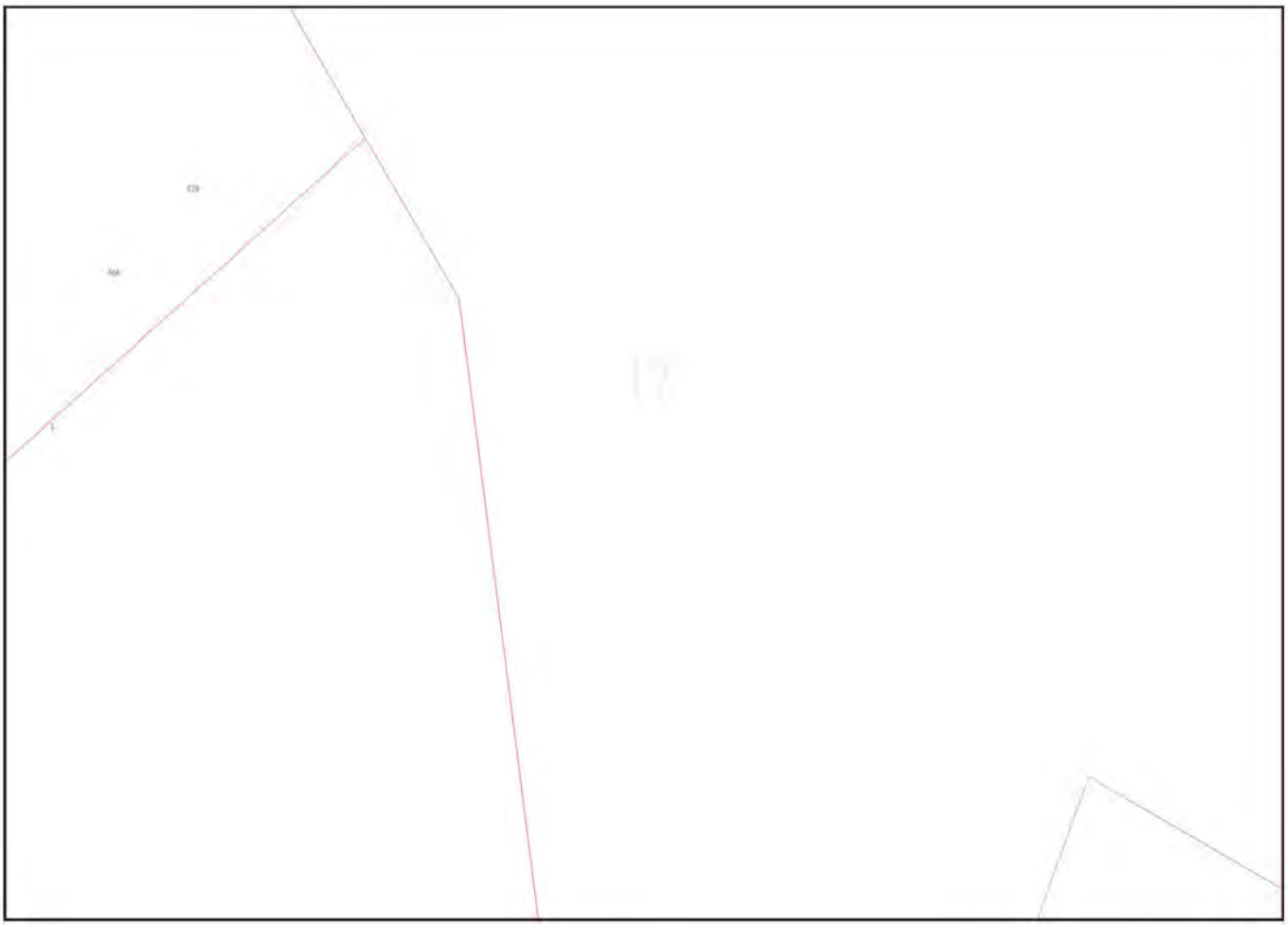
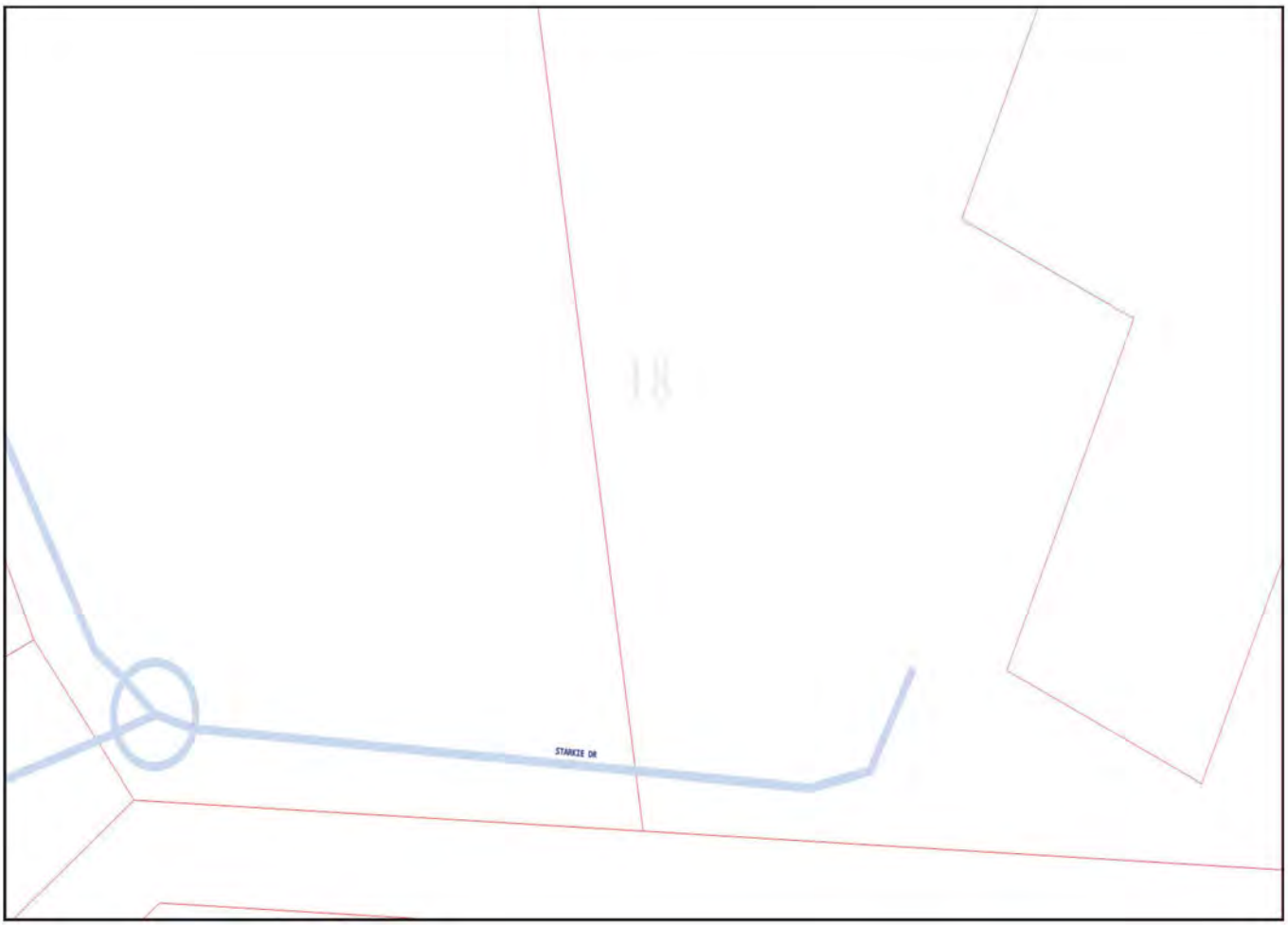


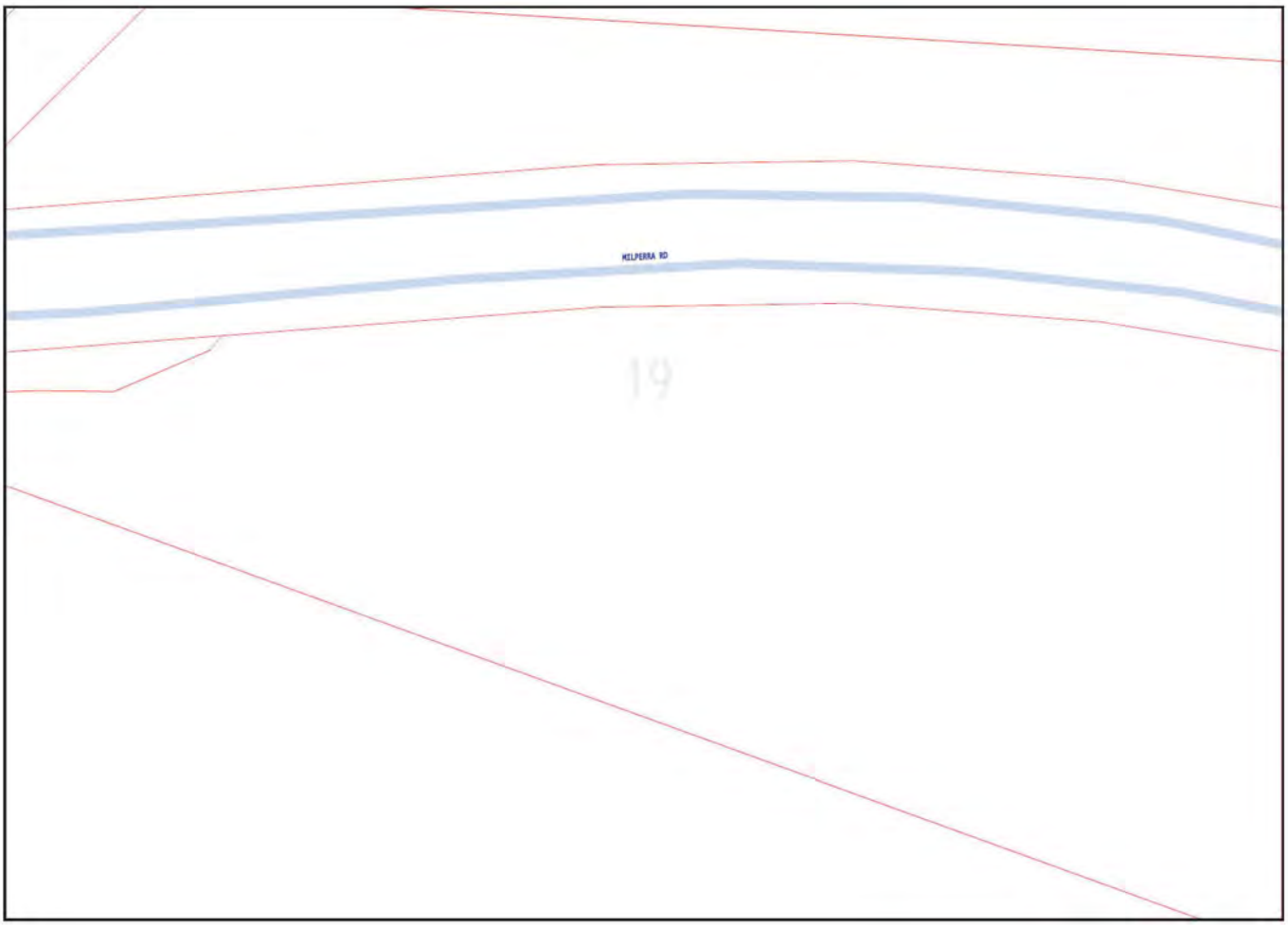
Level 11, 100 Arthur Street, North Sydney NSW 2060

Email info@nbn.com.au Web nbn.com.au



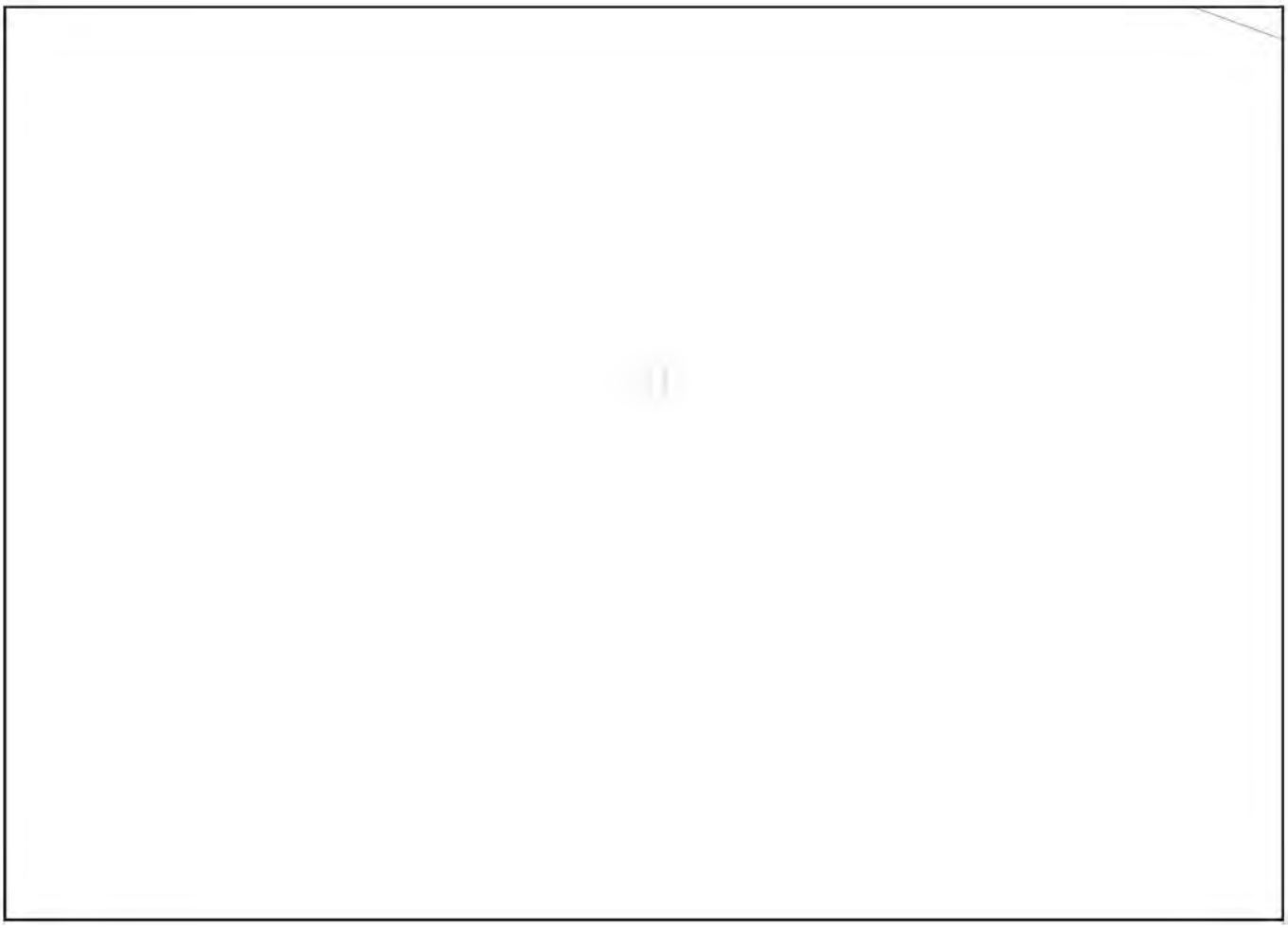
Level 11, 100 Arthur Street, North Sydney NSW 2060

Email info@nbn.com.au Web nbn.com.au



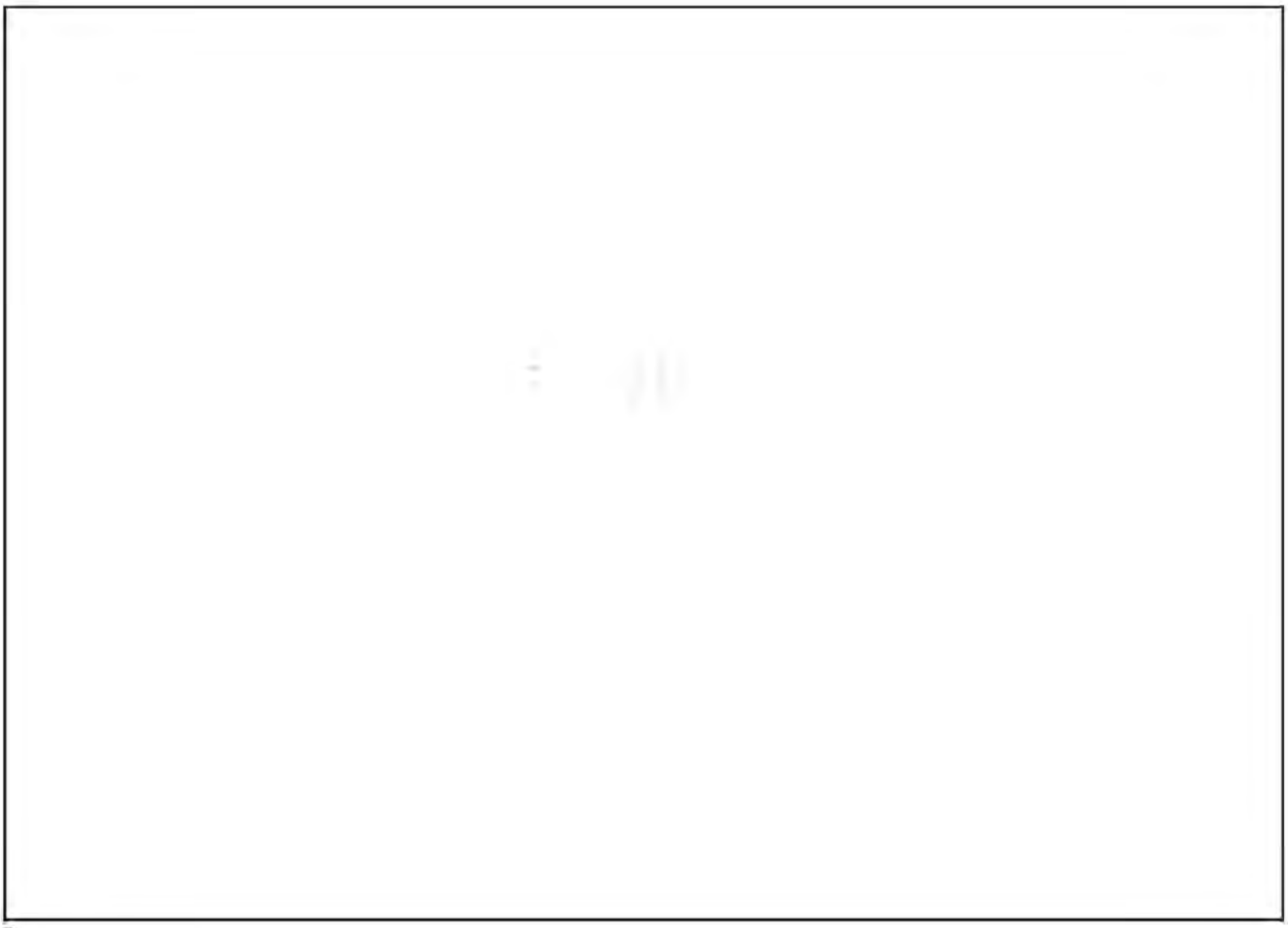
Level 11, 100 Arthur Street, North Sydney NSW 2060

Email info@nbn.com.au Web nbn.com.au



Level 11, 100 Arthur Street, North Sydney NSW 2060

Email info@nbn.com.au Web nbn.com.au



Emergency Contacts

You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

If further information is required, please contact:
Ausgrid DBYD
Phone: (02) 4951 0899
Fax: (02) 4951 0729

Emergency Phone Number 131388

Underground Cable Location Search Advice

-- Ausgrid Assets Affected –

To:	Mr Raghav Rana Aurecon 552 Boronia Road Wantirna VIC 3152		
		Phone No:	0401448946
		Issue Date:	24/09/2020

In response to your enquiry, Sequence No: 102165063 the records of Ausgrid disclose that there **are** Ausgrid underground cables in the defined search location and relevant Ausgrid plans have been provided.

This search is based on the geographical position of the dig site as denoted in the Dial Before You Dig caller confirmation sheet and an overview is provided:

Address:	Henry Lawson Drive Milperra NSW 2214
Job #:	20310876

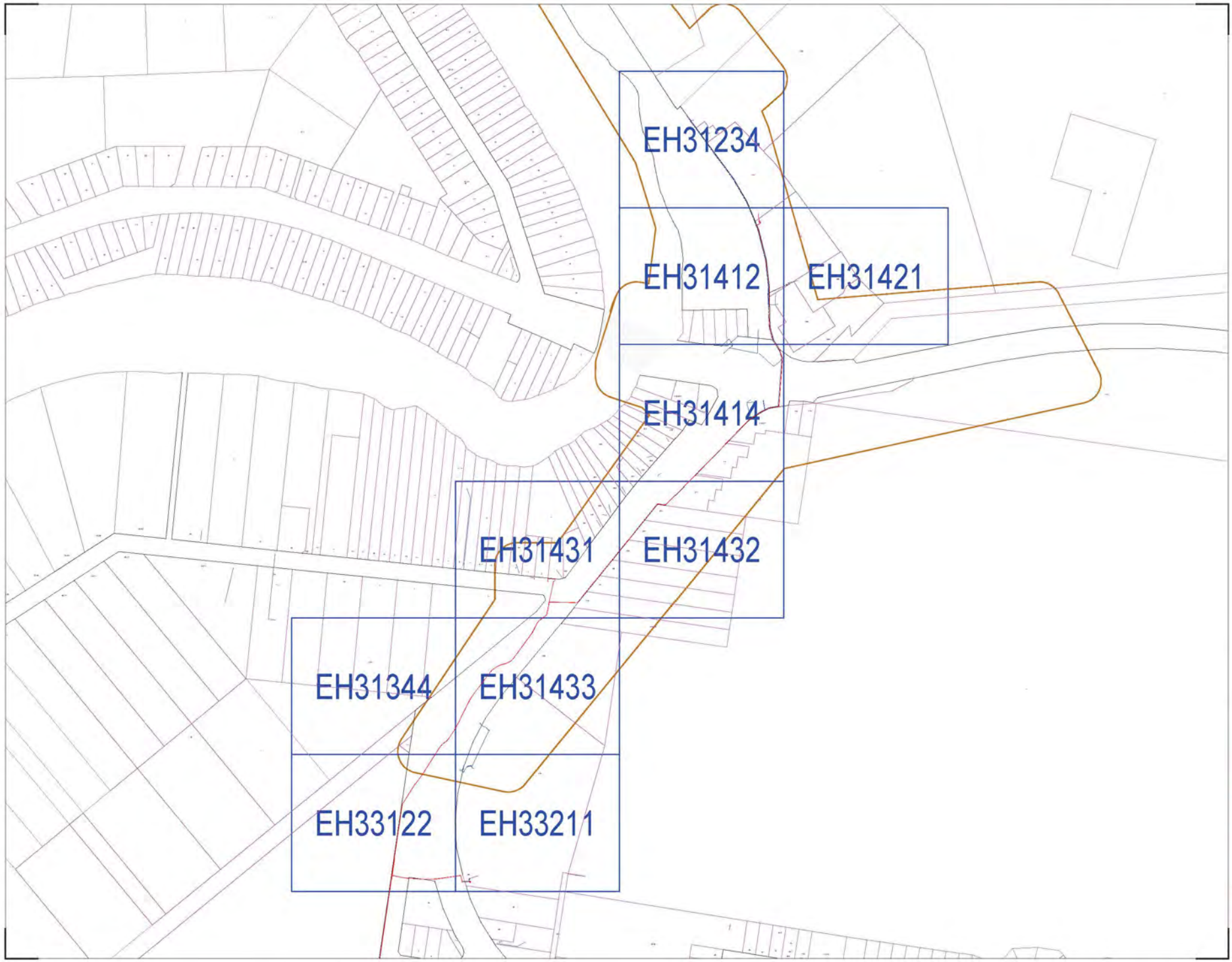
****Important****

- All information provided to you is **ONLY VALID FOR 30 DAYS** from the date of issue
- You must keep Ausgrid plans on site during excavation works. If the people actually performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret plans.
- If you require a full size print of A0 plans and don't have the resources to do so please contact our office on 49510899 to request a hard copy to be posted. **Please allow 3 working days for delivery.**
- Please note you will ONLY receive portions of your search area that contain Ausgrid Underground Assets

YOU MUST READ AND UNDERSTAND THE *SUPPLEMENTARY MATERIAL* CONTAINED IN THIS ADVICE BEFORE PROCEEDING WITH ANY WORKS.

Summary of Supplementary Information:

Material	Purpose	Location
Important Information.pdf	Details important information	Attached
Working near Ausgrid Cables.pdf	Summary of NS156	Attached
COMN0119 How to Read Ausgrid Plans.pdf	Details how to read Ausgrid plans	Attached
SafeWork NSW "*Work near underground assets: Guide*"	To assist you in deciding appropriate measures to eliminate or control risks when working near underground assets.	Web Link [Click Here]
Ausgrid's Network Standard NS156	For important information for work near or around underground cables	Web Link [Click Here]
Ausgrid's Network Standard NS199	This Network Standard applies to specific work on Ausgrid Low Voltage Underground Assets and associated Hazards	Web Link [Click Here]
Working in Confined Spaces	For important information when working in confined spaces	Web Link [Click Here]



WARNING

COVERGMLA0

Cover Sheet - 102165063

Page 1 of 1

24 Sep 2020

1:1423

85 metres

Ausgrid

EH312 - AA1

Ref: C6

EH312 - AC1

Ref: E7

EH312 - AD1

Ref: G8

EH312 - AE1

Ref: D7

EH312 - AF1

Ref: F8

EH312 - AI1

Ref: C6

EH312 - AJ1

Ref: E7

WARNING

EH312J4

MOCS

Page 1 of 1

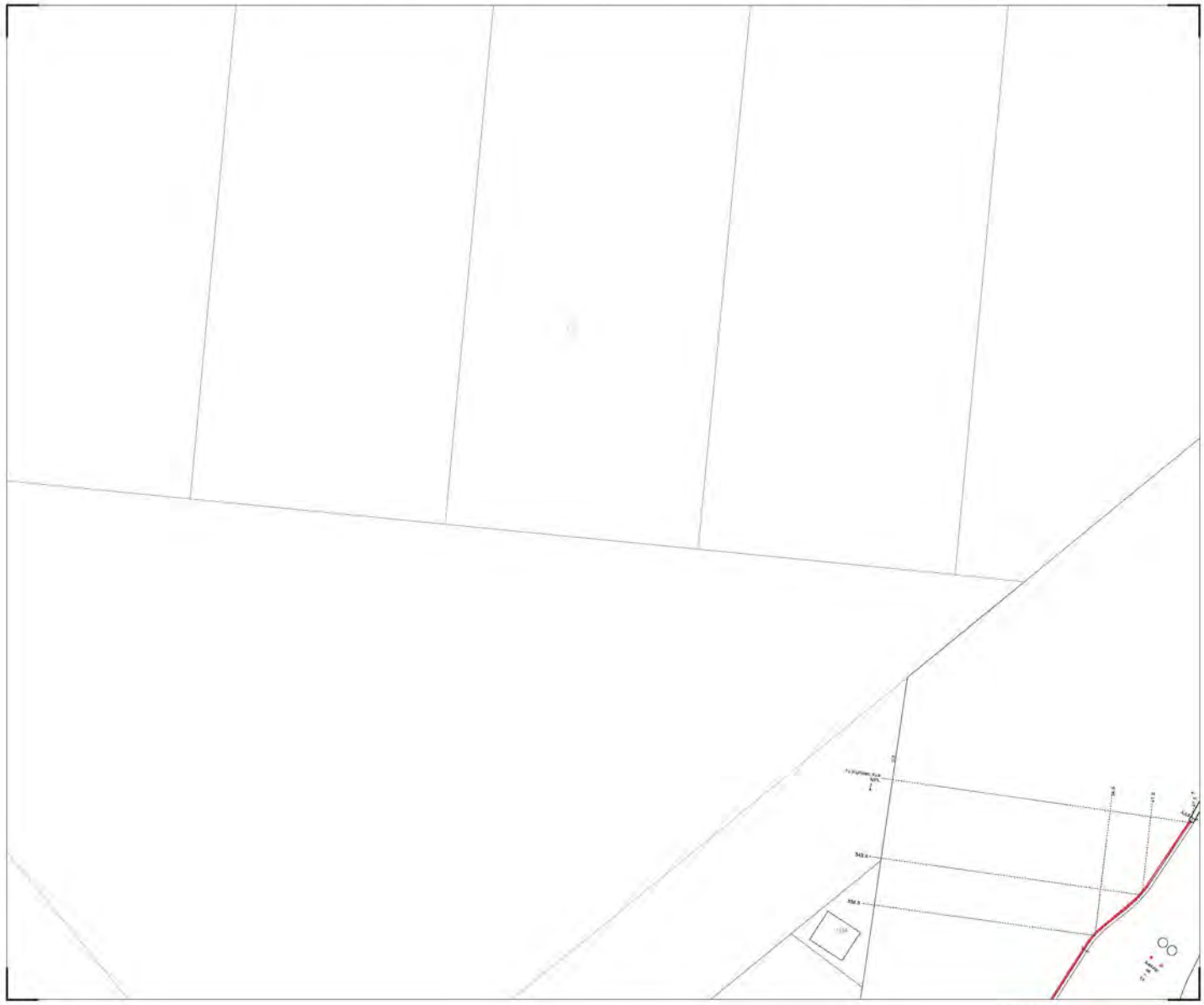
1:250

0 15 metres

Ausgrid

EH313 - AA1

Ref: F10



WARNING

EH3344

MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid

EH314 - AA1

Ref: A9

EH314 - AB1

Ref: B9

EH314 - BD1

Ref: C9

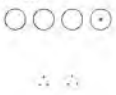
EH314 - BE1

Ref: E10

EH314 - CH1

Ref: D10

EH314 - CI1



Ref: D10

EH314 - CJ1

Ref: C9

EH314 - CN1

Ref: E10

EH314 - CO1

Ref: E10

WARNING

EH31412

MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid

EH314 - AI1

Ref: B10

EH314 - BH1

2x125 PVC

N/A

0.6-0.7

Ref: D9

EH314 - BL1

2x125 PVC

N/A

0.6-0.7

Ref: D9

EH314 - BN1

Ref: D10

EH314 - BO1

Ref: C10

EH314 - BP1

Ref: B10

EH314 - BQ1

2x125 PVC

N/A

0.5-0.6

Ref: B10

WARNING

EH31414

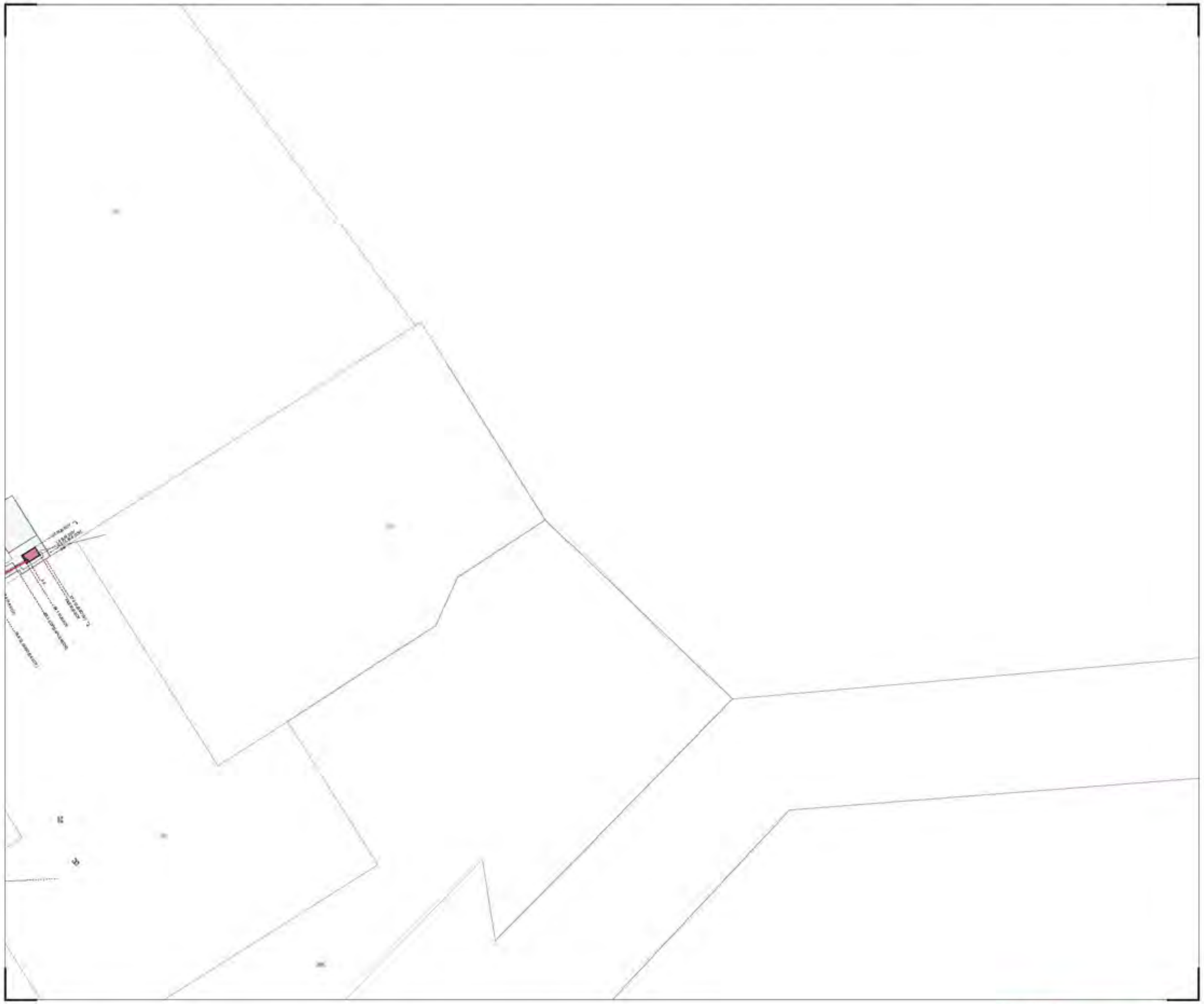
MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid



WARNING

EH31421

MOCS

Page 1 of 1

1:250

0 — 15 metres

Ausgrid

EH314 - AS1

4x125 PVC

NA

NR

Ref: F7

EH314 - AT1

1x125 PVC

NA

NR

Ref: F7

EH314 - AU1

Ref: F8

EH314 - AV1

2x125 PVC

NA

1.0-2.0

Ref: F8

EH314 - AW1

4x125 PVC

NR

0.7-1.0

Ref: F7

WARNING

EH3131

MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid

WARNING

EH31432

MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid

EH314 - BC1

Ref: E3

EH314 - CL1

Ref: F4

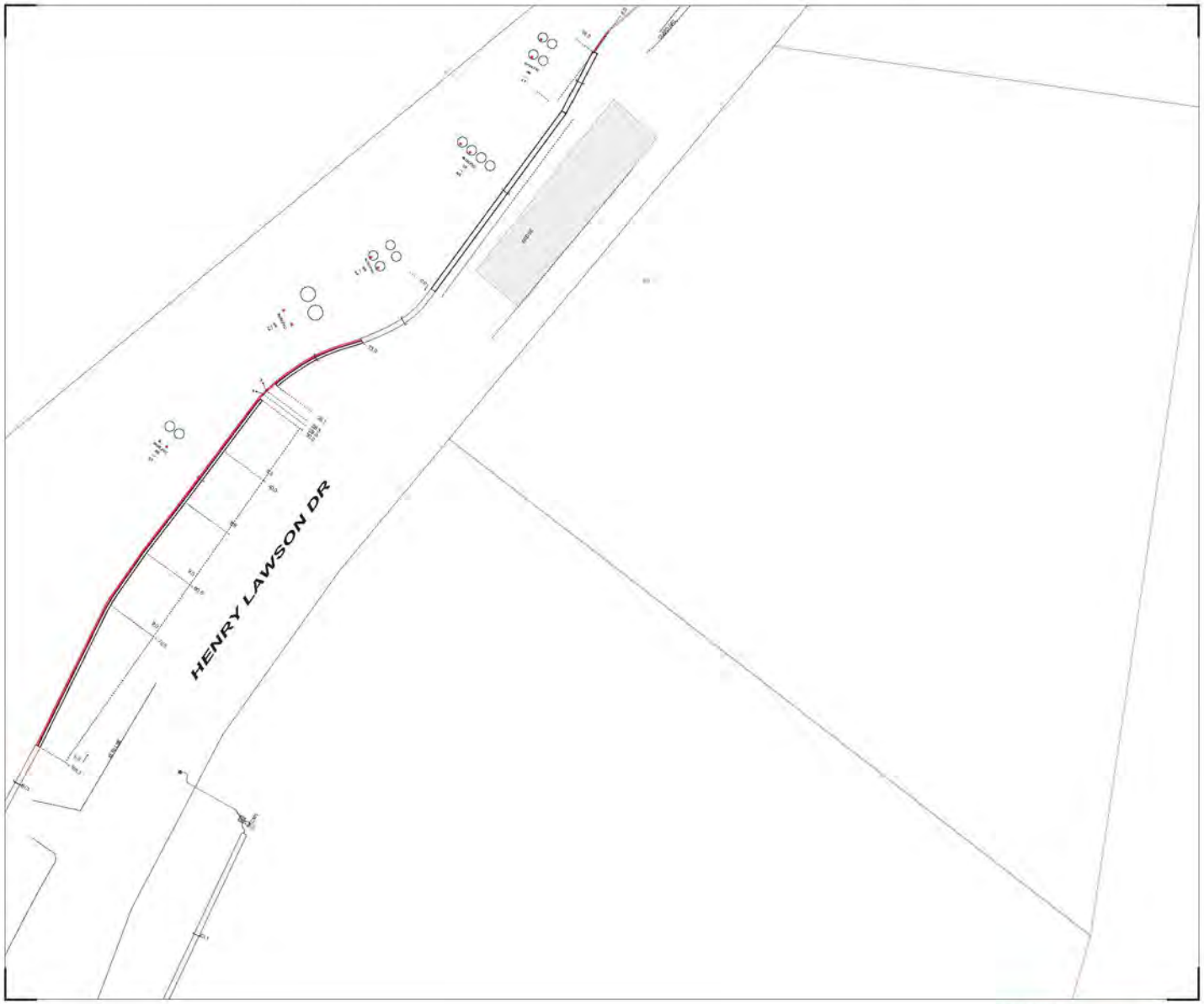
EH314 - CM1

2x50 PVC

NA

NA

Ref: F4



WARNING

EH3133

MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid

EH331 - AY1

Ref: E7

EH331 - AZ1

Ref: F7

EH331 - BB1

Ref: G7

EH331 - DY1

Ref: F10

EH331 - DZ1

Ref: F8

EH331 - EA1

Ref: F7

EH331 - EB1

1x125 PVC
GPS
0.4-0.5

Ref: F7

EH331 - EC1

1x125 PVC
GPS
0.4-0.5

Ref: F7

EH331 - ED1

1X125 PVC
GPS
0.4-0.5

Ref: F7

EH331 - EE1

Ref: E7

WARNING

EH3H22
MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid

EH332 - DJ1

1x100 PVC
GPS

87.14

Ref: F3

EH332 - DK1

2x150 PVC
GPS

87

Ref: A3

EH332 - DL1

2x50 PVC
GPS

0.7

Ref: A4

EH332 - DM1

2x50 PVC
NA

NA

Ref: A4

WARNING

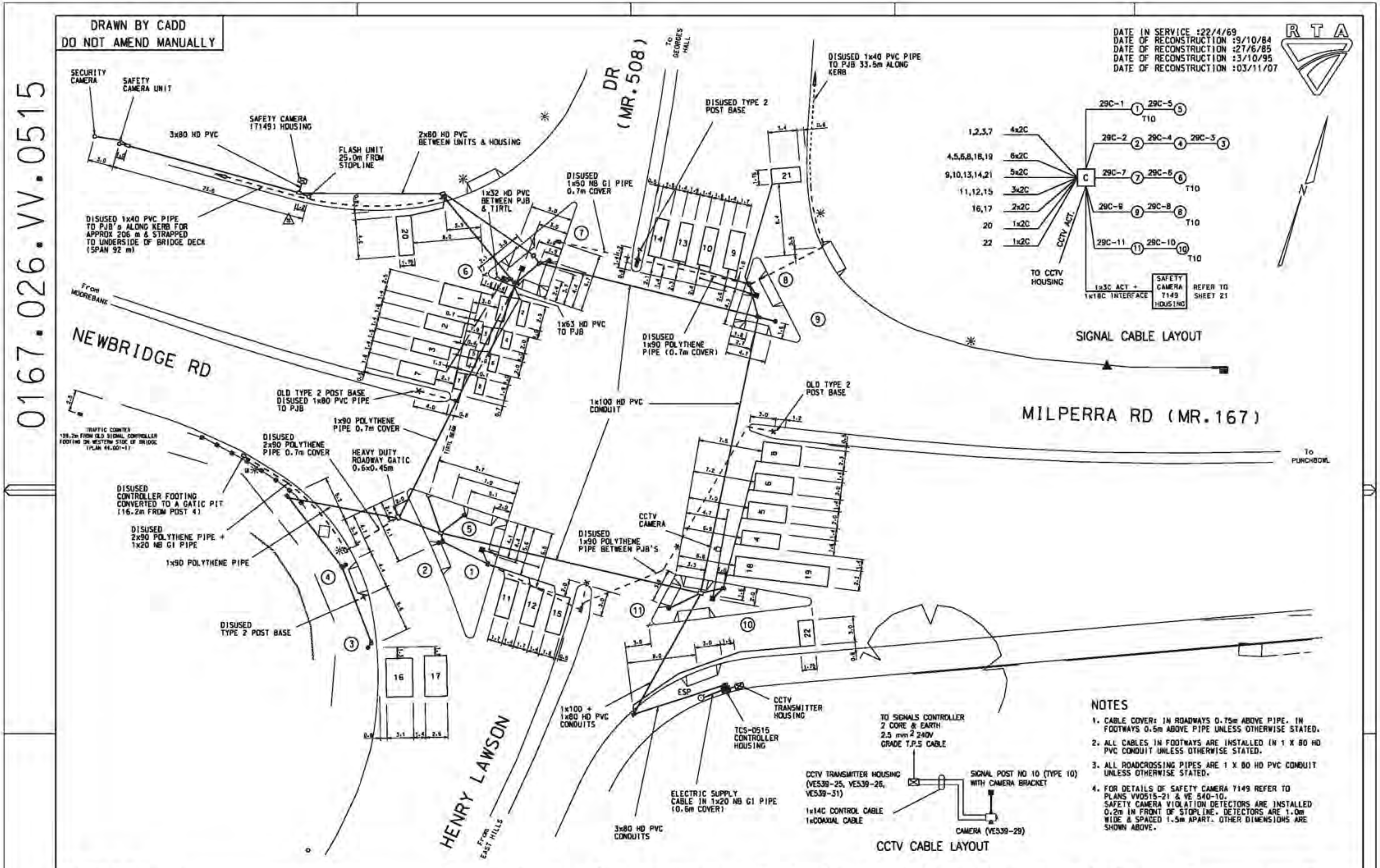
EH3211
MOCS

Page 1 of 1

1:250

0 15 metres

Ausgrid


0167.026.VV.0515
DRAWN BY CADD
DO NOT AMEND MANUALLY
DATE IN SERVICE :22/4/69
DATE OF RECONSTRUCTION :9/10/84
DATE OF RECONSTRUCTION :27/6/85
DATE OF RECONSTRUCTION :3/10/95
DATE OF RECONSTRUCTION :03/11/07
RTA
NEWBRIDGE RD
MILPERRA RD (MR.167)
DR (MR.508)
HENRY LAWSON
To GEORGES HALL
To PUNCHBOWL
From MOOREBANK
From EAST HILLS
SIGNAL CABLE LAYOUT
TO CCTV HOUSING
SAFETY CAMERA 7149 HOUSING
REFER TO SHEET 21
CCTV CABLE LAYOUT
TO SIGNALS CONTROLLER 2 CORE & EARTH 2.5 mm 2 240V GRADE T.P.S CABLE
CCTV TRANSMITTER HOUSING (VE539-25, VE539-26, VE539-31)
SIGNAL POST NO 10 (TYPE 10) WITH CAMERA BRACKET
1x14C CONTROL CABLE 1xCOAXIAL CABLE
CAMERA (VE539-29)
SECURITY CAMERA
SAFETY CAMERA UNIT
SAFETY CAMERA (7149) HOUSING
3x80 HD PVC
2x80 HD PVC BETWEEN UNITS & HOUSING
FLASH UNIT 25.0m FROM STOPLINE
DISUSED 1x40 PVC PIPE TO PJB's ALONG KERB FOR APPROX 206 m & STRAPPED TO UNDERSIDE OF BRIDGE DECK (SPAN 92 m)
1x32 HD PVC BETWEEN PJB & TIRTL
DISUSED 1x50 NB GI PIPE 0.7m COVER
DISUSED TYPE 2 POST BASE
DISUSED 1x40 PVC PIPE TO PJB 33.5m ALONG KERB
1x63 HD PVC TO PJB
DISUSED 1x90 POLYTHENE PIPE (0.7m COVER)
OLD TYPE 2 POST BASE DISUSED 1x80 PVC PIPE TO PJB
1x100 HD PVC CONDUIT
OLD TYPE 2 POST BASE
1x90 POLYTHENE PIPE 0.7m COVER
DISUSED 2x90 POLYTHENE PIPE 0.7m COVER
HEAVY DUTY ROADWAY GATIC 0.6x0.45m
DISUSED CONTROLLER FOOTING CONVERTED TO A GATIC PIT (16.2m FROM POST 4)
DISUSED 2x90 POLYTHENE PIPE + 1x20 NB GI PIPE
1x90 POLYTHENE PIPE
CCTV CAMERA
DISUSED 1x90 POLYTHENE PIPE BETWEEN PJB'S
DISUSED TYPE 2 POST BASE
1x100 + 1x80 HD PVC CONDUITS
CCTV TRANSMITTER HOUSING
TCS-0515 CONTROLLER HOUSING
ELECTRIC SUPPLY CABLE IN 1x20 NB GI PIPE (0.6m COVER)
3x80 HD PVC CONDUITS
ESP

NOTES

1. CABLE COVER: IN ROADWAYS 0.75m ABOVE PIPE. IN FOOTWAYS 0.5m ABOVE PIPE UNLESS OTHERWISE STATED.
2. ALL CABLES IN FOOTWAYS ARE INSTALLED IN 1 X 80 HD PVC CONDUIT UNLESS OTHERWISE STATED.
3. ALL ROADCROSSING PIPES ARE 1 X 80 HD PVC CONDUIT UNLESS OTHERWISE STATED.
4. FOR DETAILS OF SAFETY CAMERA 7149 REFER TO PLANS VV0515-21 & VE 540-10. SAFETY CAMERA VIOLATION DETECTORS ARE INSTALLED 0.2m IN FRONT OF STOPLINE. DETECTORS ARE 1.0m WIDE & SPACED 1.5m APART. OTHER DIMENSIONS ARE SHOWN ABOVE.

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABBS.	VD003-6
STOP VALVE	▲	STD POSIT	VD001-5
GAS VALVE	=	DET SCHED EXP	VD018-10
SEWER MANHOLE	●	PRES. DETECT	VC005-17
TELECOM PIT	◪	SSD DIS. SEO.	VD018-6
ELECT LIGHT POLE	◌	DESIGN LAYOUT	SHEET 18
POWER POLE	○	CABLE CHART	SHEET 20
STAY POLE	⊘		
TELEPHONE BOX	◫	SURVEYOR ID. VANDERBURG	
TELECOM PILLAR	◉	DATE 14.10.00	

U.B.D. Ref. Map 270 K6
I.S.G. Co-ords E: 298 700 N: 244 185

DESIGNED: L.CLAY.
CHECKED: M.MAHINTHAN.
RECOMMENDED

DESIGN APPROVAL
APPROVED
... SHAKAS.
POSITION TET. MANAGER
DATE 24-09-08
DESIGN PREPARED BY TRAFFIC ENG. TECHNOLOGY RTA OPERATIONS

RTA ACCEPTANCE
RECOMMENDED
POSITION
DATE
ACCEPTED
POSITION
DATE

Roads and Traffic Authority.N.S.W

BANKSTOWN COUNCIL AREA
TRAFFIC SIGNALS AT
(M.R.167) NEWBRIDGE ROAD. MILPERRA ROAD
AND (M.R.508) HENRY LAWSON DRIVE.
MILPERRA

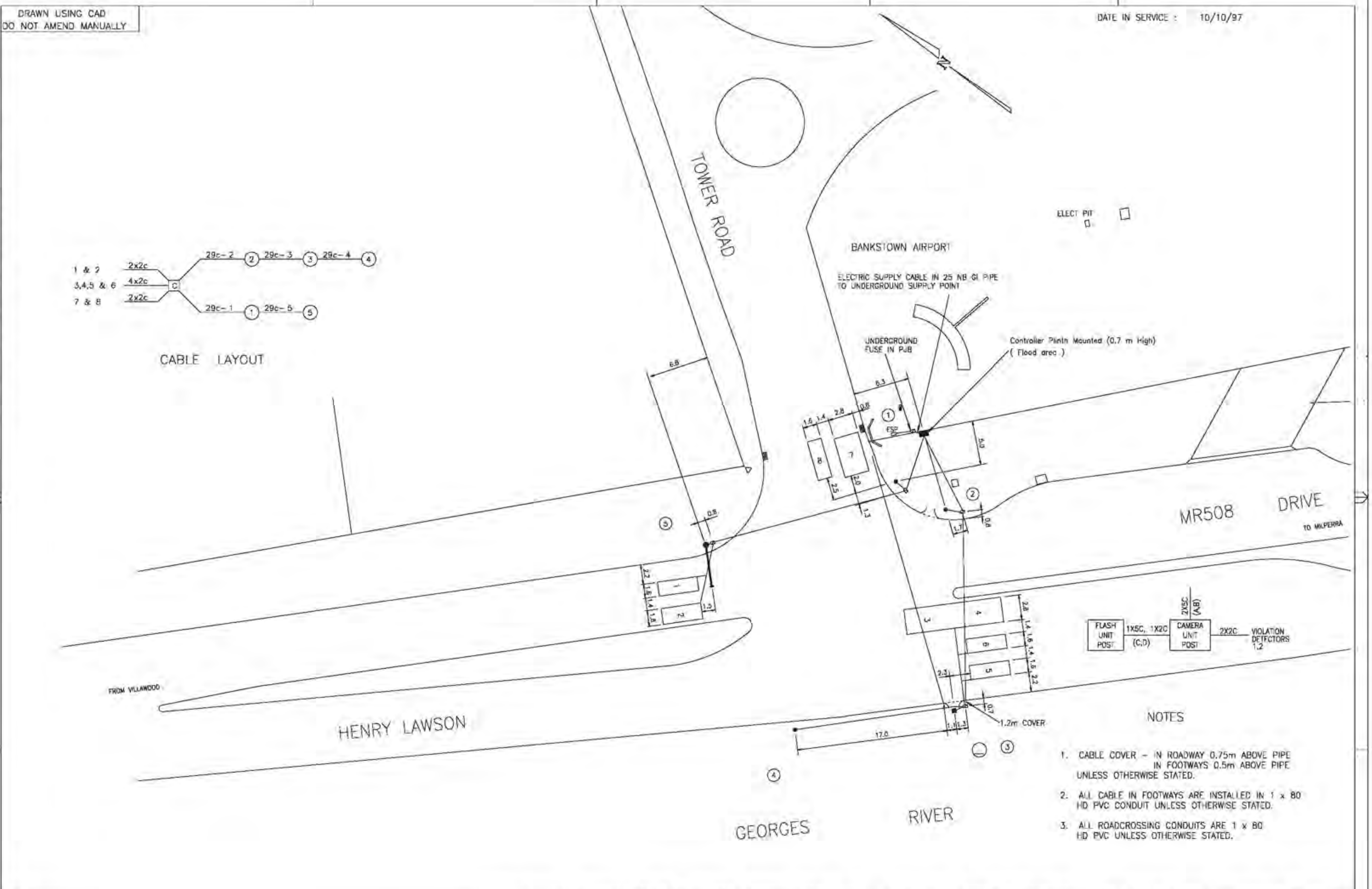
CABLE INSTALLATION — TCS No 0515

EXISTING ☒ PROPOSED ☐
CADD FILE: VV0515_19C_INS.dgn
SCALE 5 0 (1:200) 5 10
ISSUE C
FILE 26 TS 125
SUPERSEDES SHEET/ISSUE 16B
REGN. 0167.026.VV.0515
SHEET 19

0508.026.W.3377

DRAWN USING CAD
DO NOT AMEND MANUALLY

DATE IN SERVICE : 10/10/97



NOTES

1. CABLE COVER – IN ROADWAY 0.75m ABOVE PIPE
   IN FOOTWAYS 0.5m ABOVE PIPE
   UNLESS OTHERWISE STATED.
2. ALL CABLE IN FOOTWAYS ARE INSTALLED IN 1 x 80 HD PVC CONDUIT UNLESS OTHERWISE STATED.
3. ALL ROADCROSSING CONDUITS ARE 1 x 80 HD PVC UNLESS OTHERWISE STATED.

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABBS.	VD003-8
STOP VALVE	▲	STD. POST	VD001-5
GAS VALVE	‖	DET. SCHED. EXP.	VD018-10
SEWER MANHOLE	⊕	PTES. DETECT.	VC005-17
TELECOM PIT	◪	SSD DIS. SEQ.	VD018-8
ELECT LIGHT POLE	◁	DESIGN	SHEET 1
POWER POLE	○	CABLE CHART	SHEET 3
STAY POLE	⌀	SURVEYOR : RICHMOND & ROSS	
TELEPHONE BOX	⊓		
TELECOM PILLAR	●	DATE : JUNE 1996	

U.B.D. Ref. MAP 270 K5
I.S.G. CO-ORDS E: 298065 N: 1244462
DESIGNED LAWSON/MEYER
CHECKED TAM McCAFFERY
TAM McCAFFERY SITE CHECKED
LEN CLAY RECOMMENDED

APPROVED
R.C. BIRD
ELECT.DESIGN MANAGER
13.07.98 DATE

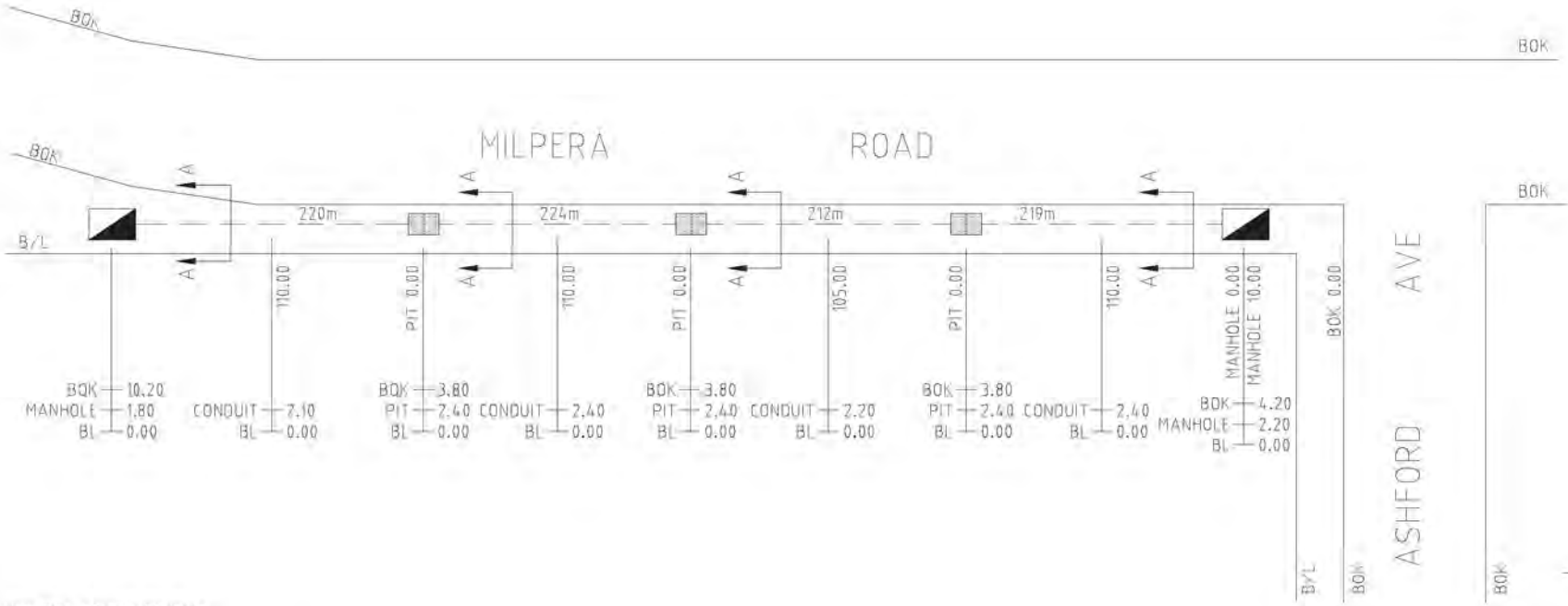
Roads and Traffic Authority, N.S.W

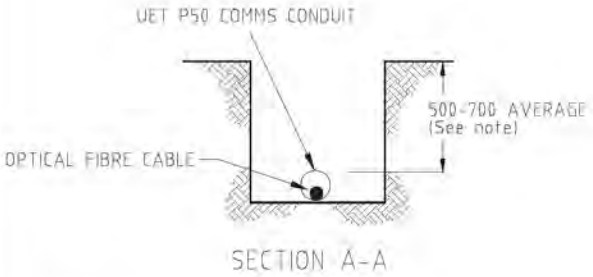
BANKSTOWN CITY COUNCIL
HENRY LAWSON DRIVE MR508
AND TOWER ROAD
MILPERRA

CABLE INSTALLATION TCS No 3377

DESIGN OFFICE PARRAMATTA – SYDNEY TECHNICAL SERVICES
CADD FILE: W3377_2A_INS.dgn
SCALE 5 0 (1:200) 5 10
ISSUE A
FILE 026TS356 SUPERSEDES SHEET/ISSUE –
REGN. 0508.026.W.3377
SHEET 2

A ORIGINAL ISSUE





SECTION A-A

Note:
Conduit depths quoted are approximate only and may change due to unforseen circumstances.
Excavate by hand until conduit depth is determined.

* DETAILED BY RITEBORE

LEGEND

- ELECTRICITY POLE
- FIBRE OPTIC CABLE
- CABLE CONDUIT
- UE P5 PIT
- UE P6 PIT
- B/L - BUILDING LINE
- BOK - BACK OF KERB
- FENCE LINE
- TELSTRA MANHOLE
- (T) - TELSTRA PIT

DRAWING NOT TO SCALE

REV	DESCRIPTION	DATE	DRN	CKD
A	CHAINAGES AND DWG No AMENDED.	15-11-00	TJK	GD
-	ISSUED FOR APPROVAL - UE,COMM	8-11-00	JP	TJK

Civil Contractor:
RITEBORE PTY. LTD.
ACN 079 783 903

Drawn: J.PINO 8/11/00
Design Checked:
Approved: R.Browne 15.11.00
Melways Ref.: 270 P6 (SYDNEY UBD)
Council:
Shire:

Bayside Drafting Australia Pty. Ltd.
ABN 56 065 161 891
Telephone: (03) 9781 4011
Fax: (03) 9781 1653
Email: bdvic@bayside grp.com.au

Uecomm™ MAKING THE CONNECTION
ACN 079 083 195

UNDERGROUND OPTICAL FIBRE CABLE RUN
SUPPLY FROM MANHOLE TO MANHOLE
CNR MILPERA RD & ASHFORD AVE.
MILPERRA - 2214

DRAWING NUMBER: QFN5/SYD/2040
REV.: A

A3

Document prepared by

Aurecon Australasia Pty Ltd
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aurecon

Bringing ideas to life