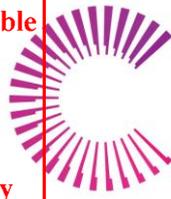


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**Context  
Engineering**

**Industrial Development**

**618 Clayton Road**

**Clayton South**

**Stormwater Management  
Plan**



**Prepared For TROON GROUP**

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Context Engineering

ABN 56 650 431 637



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This Document Has Been Approved by The Following Appropriately Qualified and Experienced Professional Civil Engineer:

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**Report Number: R001 - C\_23011**

Issue	Date	Issue Details	Author	Checked	Approved
A	14 April 2023	Preliminary Issue	EG	NR	NR
B	19 July 2023	Final Issue	EG	NR	NR
C	6 November 2023	RFI Response	EG	NR	NR



## Executive Summary

Context Engineering has been commissioned by Troon Group to compile this Stormwater Management Plan for the proposed development of the site located at 618 Clayton Road, Clayton South.

The proposed site involves the creation of an industrial development consisting of nine (9) new warehouses over a historical landfill. These buildings will be connected via large hardstand areas and a centrally located private road with access to Clayton Road. Each warehouse will also be serviced via adjacent office buildings and carparking spaces.

A summary of the investigation and outcomes presented in this report are as follows:

- Lawful Point of Discharge (Section 4) – Existing catchment C1 and developed catchment D1 lawful point of discharge to existing gully pit in Clayton Road to the north-west of the site. Existing catchment C2 and C3 discharge to Fraser Road and Deals Road, causing frequent, severe stormwater ponding. Developed catchment D2 to discharge to existing council-owned stormwater infrastructure to the south of the site.
- Stormwater Hydrology (Section 5) – Increase in unmitigated flows from existing to developed case.
- Detention Design (Section 6) – Proposed detention requirement for D1 and D2 is 1740m<sup>3</sup> and 1100m<sup>3</sup> respectively. Detention sized to ensure that flows match capacity of outlet pipe.
- Stormwater Quality Management (Section 7) – Stormwater to be treated by proprietary Filterra devices.

It is recommended that the proposed Development Application be approved.

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# 1. Introduction

Context Engineering has been commissioned by Troon Group to compile this Stormwater Management Plan to support the development application for the proposed industrial warehouses over the following parcels of land:

<b>Property Address:</b>	<b>618 Clayton Road, Clayton South</b>
<b>Property Description:</b>	<b>Lot 1 on TP424544</b>
<b>Client:</b>	<b>Troon Group</b>
<b>Council:</b>	<b>City of Kingston</b>
<b>Site Area:</b>	<b>10.355ha</b>

<i>Project Number:</i>	<i>C_23011</i>
<i>This Report:</i>	<i>Stormwater Management Plan</i>
<i>Additional Reports:</i>	<i>Engineering Services Report</i>

The proposed site involves the creation of an industrial development consisting of nine (9) new warehouses over a historical landfill. These buildings will be connected via large hardstand areas and a centrally located private road with access to Clayton Road. Each warehouse will also be serviced via adjacent office buildings and carparking spaces.

This report describes the stormwater management issues associated with the proposed development and includes discussion on the following key items:

- Lawful Point of Discharge;
- Stormwater Quantity; and
- Stormwater Quality.

This report demonstrates that the proposed development can be suitably serviced with all stormwater management services described and supports the type and scale of development that is proposed.

## 1.1 Objectives

The analysis in this report provides details of existing engineering conditions and proposed design to demonstrate the outcomes of the relevant City of Kingston Council policies.

The objectives of investigations undertaken for this report is as below:

- Identify the lawful point of discharge for the development;
- Confirm detention management requirements for the development; and
- Confirm the stormwater quality management requirements for the development.

Based on the outcomes of the above investigations, this report provides stormwater management recommendations suitable to demonstrate compliance with City of Kingston requirements.

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## 2. Site Characteristics

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### 2.1 Location

The proposed development is situated on a single existing allotment at 618 Clayton Road, Clayton South, described as Lot 1 on TP424544. The property is within the City of Kingston and is classified as Industrial 1 Zone (IN1Z) under the Planning Scheme zoning. The site is located in the suburb of Clayton South and is in close proximity to surrounding amenities, including several other industrial developments in the area. It is situated approximately 1.5km from the Dingley Bypass, which provides connectivity to the east and west. The allotment is currently bound by Clayton Road to the west, Fraser Road to the north, Deals Road to the east and existing industrial development to the south.

In accordance with the site survey, the area of the existing allotment in this proposal is 10.355 hectares.

Full details of the site topography and existing features are shown on the detailed survey in Appendix A. A general locality plan is presented in Figure 2-1 below.



Figure 2-1: Site Location (Source: Nearmap)

### 2.2 Land Usage

The site is currently developed as a historic landfill area, with the surface of the lot comprised of associated gas management infrastructure and otherwise vacant land. The Landfill Rehabilitation Plan, Clayton Road Landfill by Tonkin & Taylor Pty Ltd (dated Feb 2015) outlines that the site operated between 1975 and 1989 and was subsequently capped. There is no formal driveway connection to the lot, however site aerials indicate that vehicles currently access the lot from Fraser Road to the north.

### 2.3 Topography

Due to the size and usage of the lot, topographic levels vary significantly across the development area. Survey indicates that the lot grades from the high point of RL 47.4m in the southern portion of the site to existing drainage swales along the northern, eastern and western boundaries of the site. The maximum grade on the site is approximately 14.3% in the south-eastern corner of the lot fronting Deals Road.

Survey of the site also showed that there is a raised, elongated mound along the western boundary of the site. This has been assumed to be an earthen stockpile does not form part of the waste capping layer.



## 2.4 Upstream Catchment

Vicplan and Lidar (5m tiles accessed from ELVIS 6 March 2023) contours indicate that the properties and roads surrounding the site grade away from the development area, as shown in purple in Figure 2-2 below.

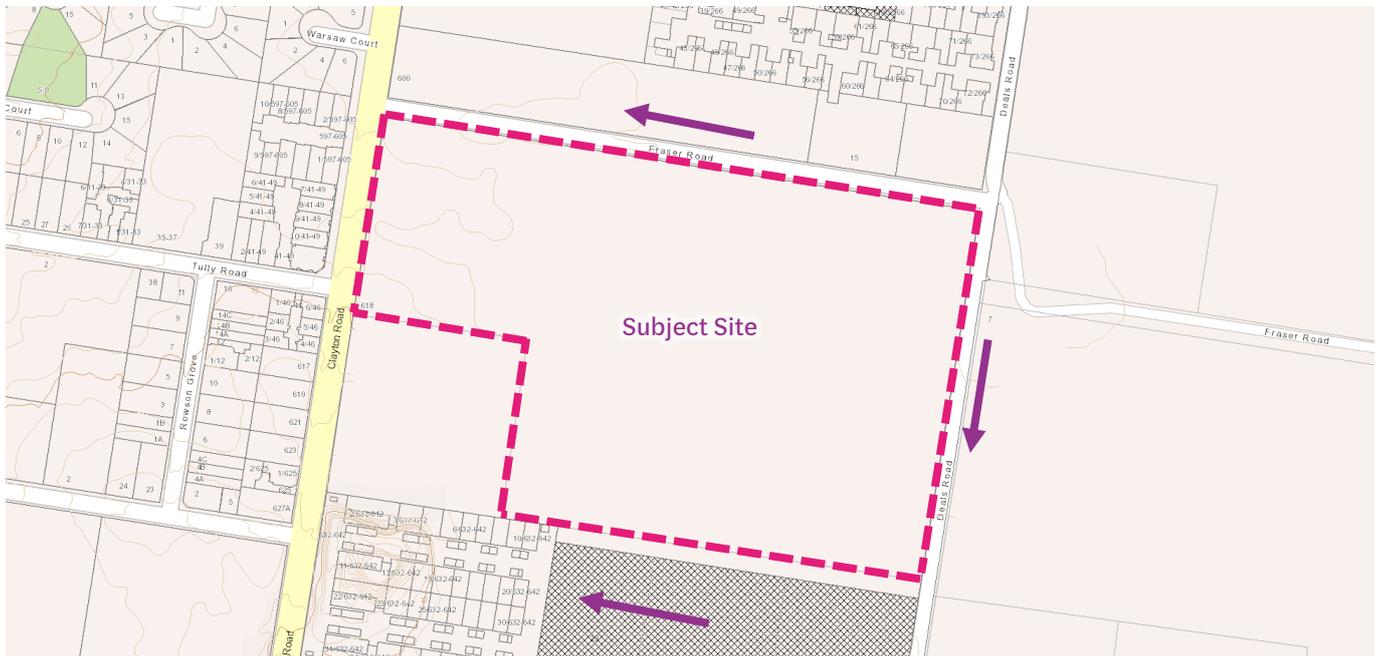


Figure 2-2 External Contour Analysis

As such, the site is not impacted by upstream catchments.

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## 2.5 Existing Stormwater

City of Kingston infrastructure mapping indicates that there are limited council-owned stormwater pipes surrounding the site. There is an existing 225mm connection to the north-west of the site which discharges to an existing 300mm pipe in Clayton Road. There is an additional 225mm connection to west of the site which discharges into the same network. This is shown by DBYD plans in Figure 2-3 below.



Figure 2-3 Existing Stormwater Infrastructure (Source: DBYD)

Investigations of the area also identified an existing stormwater network to the south, as shown in Figure 2-4 below.

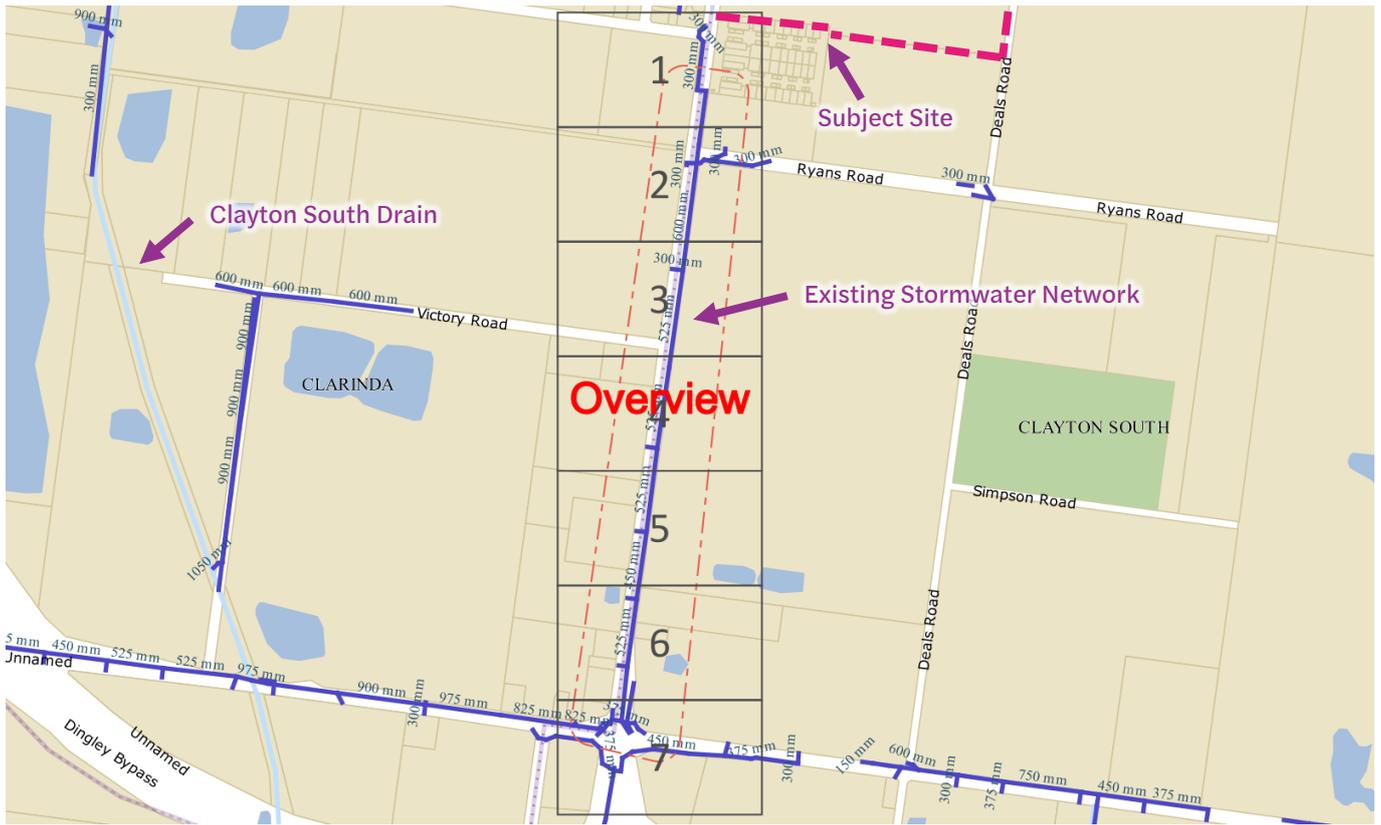


Figure 2-4 Existing Southern Stormwater Network (Source: DBYD)

The upstream infrastructure of this stormwater network begins at the existing road gully pit in Clayton Road adjacent to the subject site, as shown in Figure 2-5 below.



Figure 2-5 Existing Clayton Road Gully Inlet Pit

This network extends south along Clayton Road and ultimately discharges into the Clayton South Drain to the west of the site. This drain is shown in Figure 2-6 below.

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Figure 2-6 Clayton South Drain (Source: Google Street View 2019)

DBYD infrastructure indicates that the upstream pipe work connection into a 600mm pipe south of Ryans Road. However, DBYD mapping also shows that the capacity of this network is limited by a 450m pipe approximately 800m south of the site, as shown in Figure 2-7 below.



Figure 2-7 Existing 450mm Stormwater Pipe

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### 3. Proposed Development

The proposed site involves the creation of an industrial development consisting of nine (9) new warehouses over a historical landfill. These buildings will be connected via large hardstand areas and a centrally located private road with access to Clayton Road. Each warehouse will also be serviced via adjacent office buildings and carparking spaces.

Civil construction works will include earthworks to establish the warehouse building pads, internal pavement and the construction of one (1) new vehicle crossover to Clayton Road.

To service this development, new water, sewer and stormwater reticulation will be provided. Stormwater flow mitigation will be managed via on-site detention tanks and stormwater quality treatment will be managed via a proprietary system. The total impervious area of the site has been measured as approximately 94% of the development area.

The indicative layout of the proposed development is shown in Figure 3-1 below. Refer Appendix C for architectural plans.



Figure 3-1 Developed Layout Plan

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## 4. Lawful Point of Discharge

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### 4.1 Methodology and Data Sources

To determine the lawful points of discharge for the site, the existing catchment extents and flow direction for the site were identified. Catchment boundaries and associated discharge locations were estimated using the following data sources:

- **Landfill Rehabilitation Plan:** Clayton Road Landfill by Tonkin & Taylor Pty Ltd dated February 2015
- **Site Survey:** 23319-S1-D1 by Taylors dated 10 February 2023
- **Google Maps Street View:** Historical imagery from 2007 to 2022
- **Site Aerials:** Nearmaps historical imagery from 2009 to 2022
- **City of Kingston Infrastructure Mapping:** DBYD stormwater assets accessed 16 Feb 2023
- **Site Lidar:** 5m DEM File accessed 2 Feb 2023
- **Site Photos:** Site investigation conducted on 15 March 2023

### 4.2 Existing Catchment Summary Plan

The existing site was found to be split between three existing catchments, with each catchment directing flows to the adjacent roads surrounding the site. These catchment boundaries are shown in pink, with flow direction shown in purple in Figure 4-1 below.

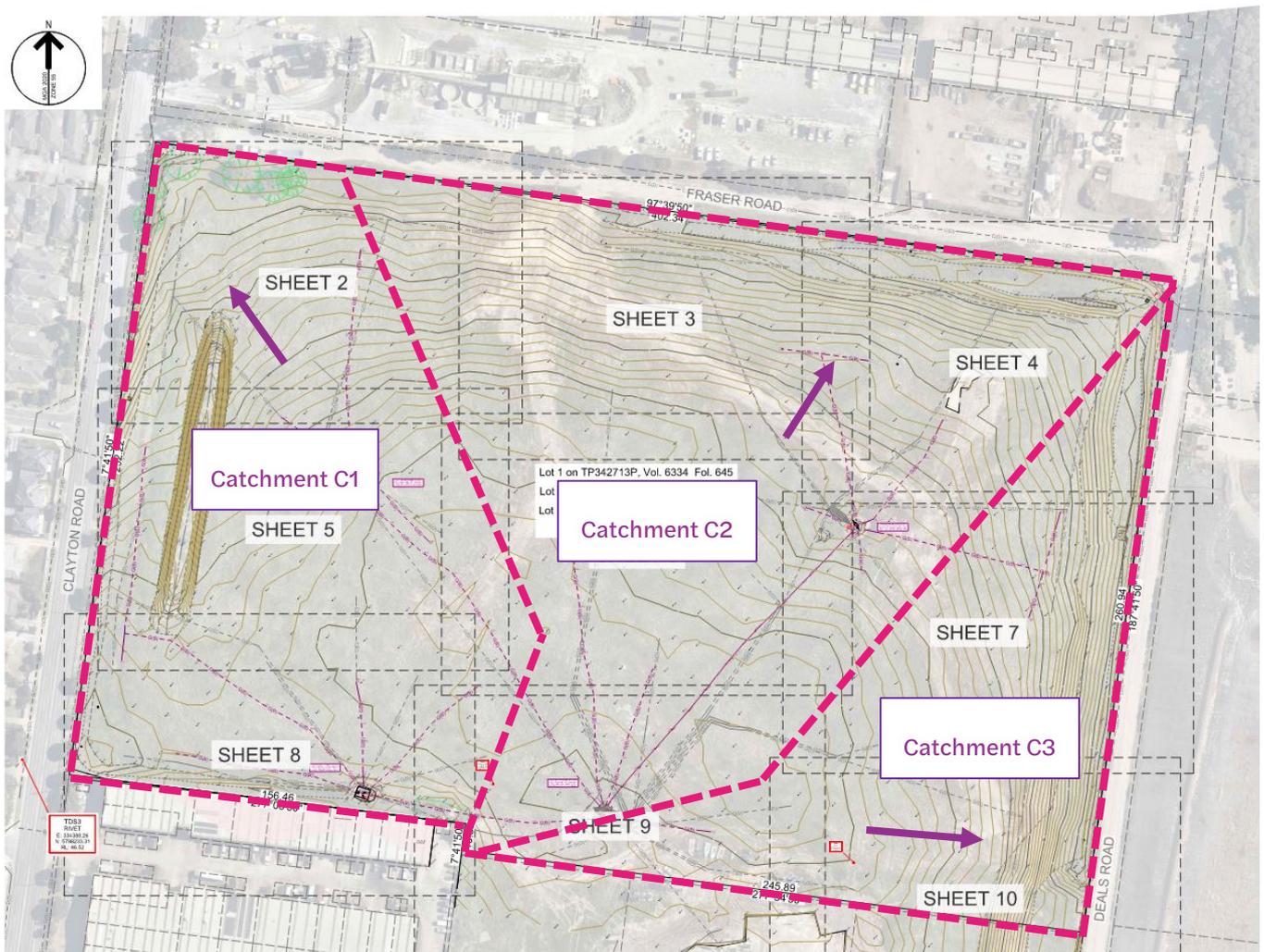


Figure 4-1 Existing Lawful Points of Discharge



The associated discharge locations for each of these catchments are as follow:

- **Catchment 1:** Discharges flow from north-western corner of the site to existing gully pit in Clayton Road
- **Catchment 2:** Discharges flow from the north-eastern corner of the site to Fraser Road
- **Catchment 3:** Discharges flow from the south-eastern corner of the site to Deals Road

These catchments and discharge locations were determined through investigations as described in Section 4.3 to Section 4.5 below.

### 4.3 Landfill Rehabilitation Plan

Appendix B of the Landfill Rehabilitation Plan, Clayton Road Landfill by Tonkin & Taylor Pty Ltd (dated Feb 2015) includes the original cap design by Golder in 1988. Section 6 of this report identifies that the intended discharge locations for the site are located in the north-west, north-east and south-east corners of the site. These drains are noted to be sized for a 1 in 5 storm event, with further evaluation of the drainage design recommended by an appropriately qualified civil engineer. However, further documentation around this has not been sighted.

### 4.4 Site Survey

Survey of the site indicates that the site grades from a high point in the south-central portion of the site towards adjacent roads to the north, west and east. The lot develops a steep gradient along these respective boundaries, with approximate location of surface drains shown in purple in Figure 4-2 below.

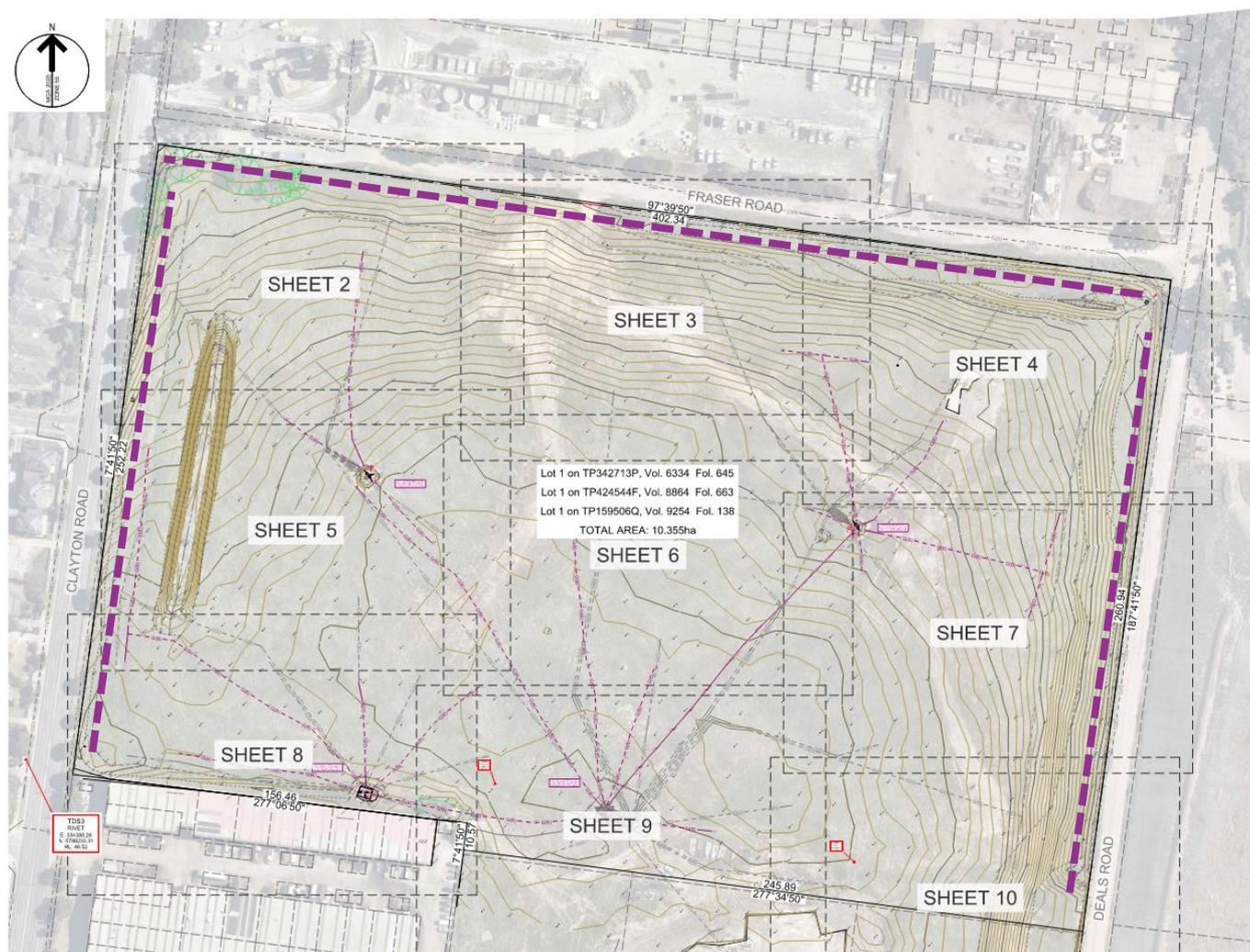


Figure 4-2 Site Survey Surface Drains

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It is noted that in some areas, there is no outer bund of the surface drain, indicating that flows are directed to adjacent roads, as shown in Figure 4-3 below.

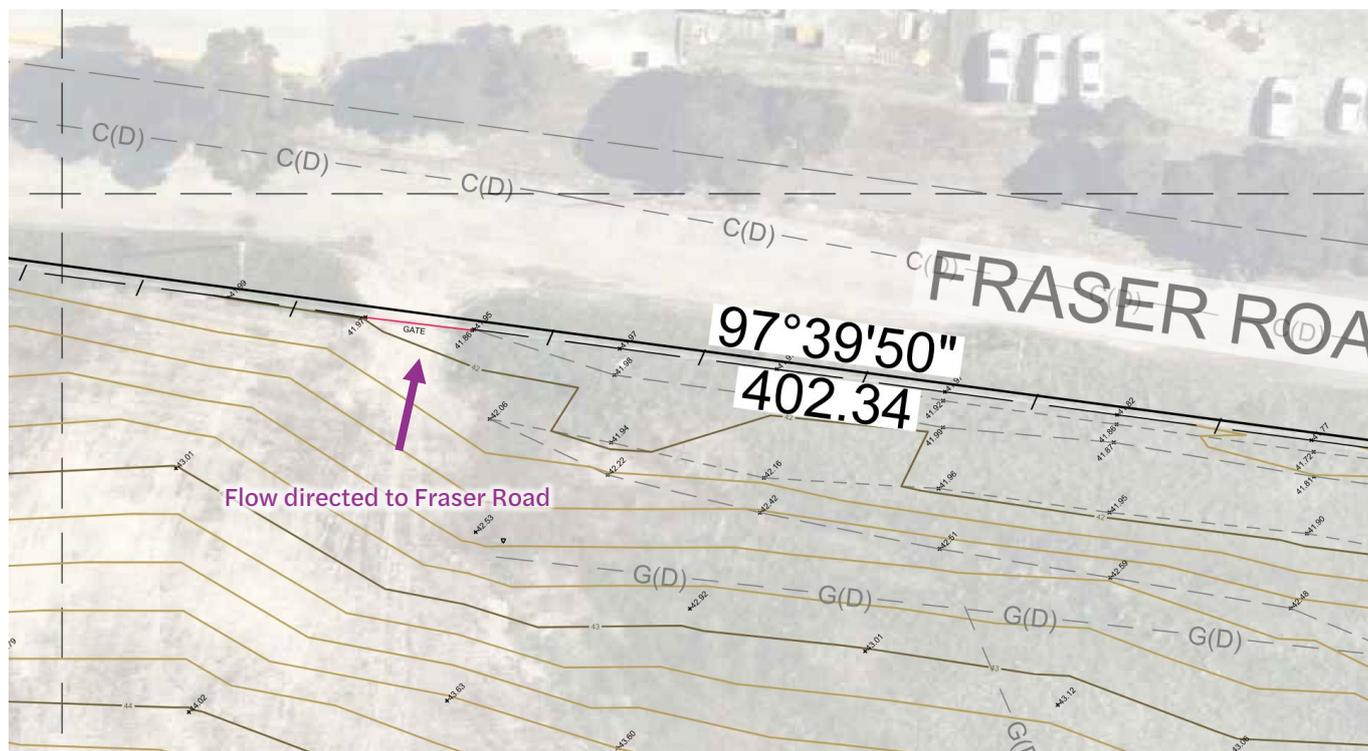


Figure 4-3 Northern Boundary Surface Drain

### 4.5 Google Maps Street View and Site Aerials

Investigation of site photos and aerials of the site over a 10 year period from 2009 – 2019 indicates severe, consistent stormwater ponding along Fraser Road and Deals Road, particularly in locations where there is no outer bund as mentioned in Section 4.4 above.

The following images show the extent and severity of the stormwater ponding over this time period.



Figure 4-4 Fraser Road Stormwater Ponding 2009 (Source: Google Street View 2009)

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Figure 4-5 Fraser Road Stormwater Ponding 2015 (Source: Google Street View 2015)

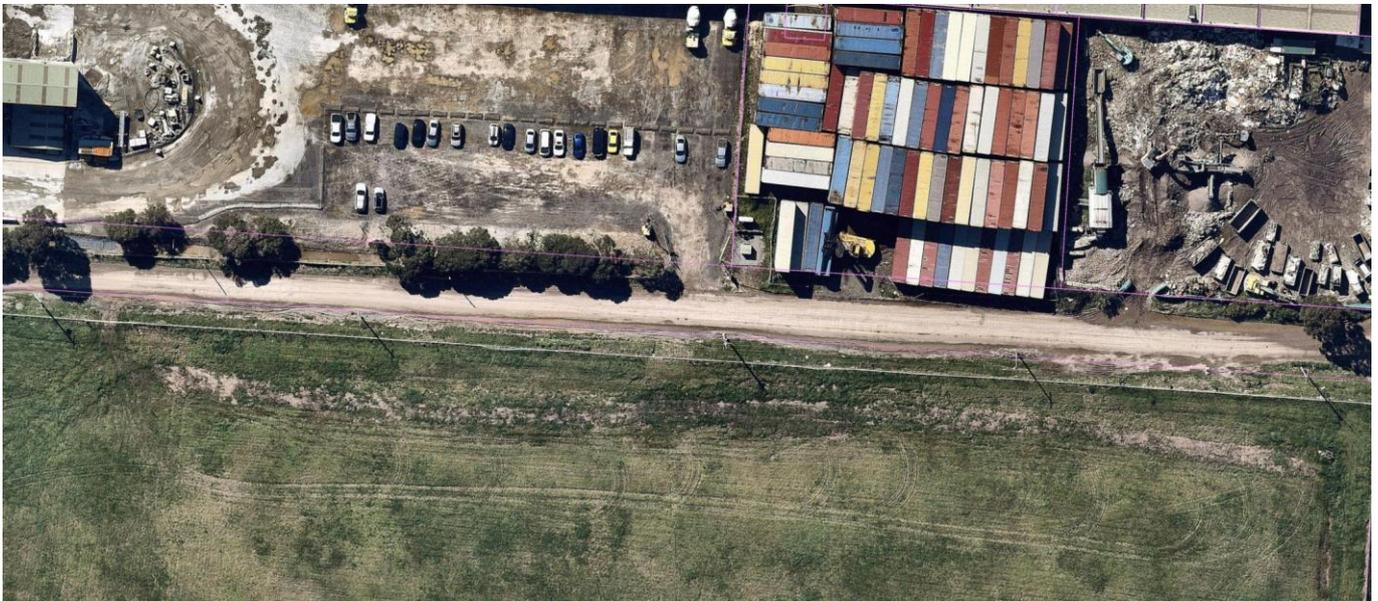


Figure 4-6 Fraser Road Stormwater Ponding 2019 (Source: Nearmap 2019)



Figure 4-7 Deals Road and Fraser Road Intersection Stormwater Ponding (Source: Google Street View 2009)

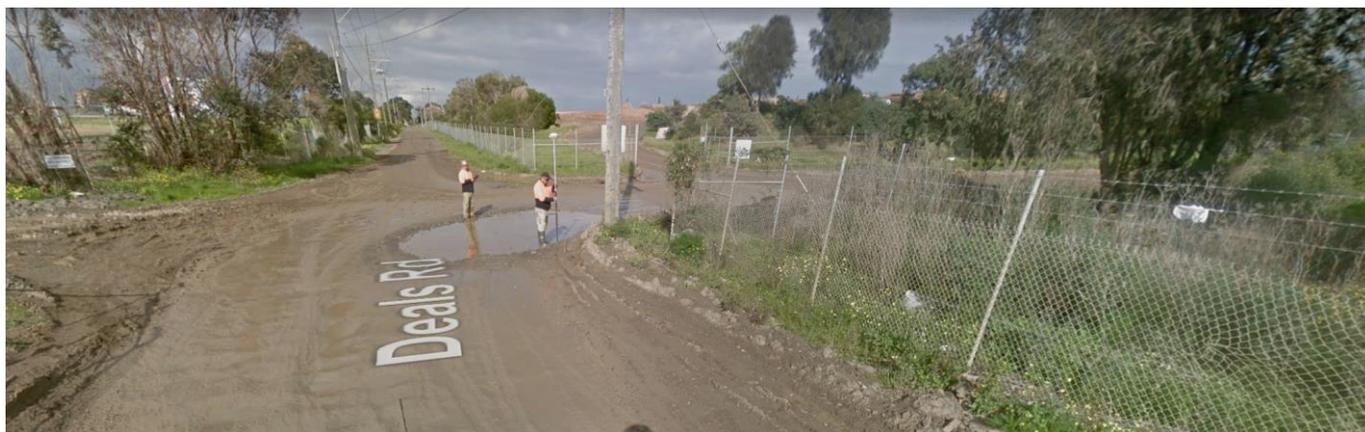


Figure 4-8 Deals Road and Fraser Road Intersection Stormwater Ponding (Source: Google Street View 2014)

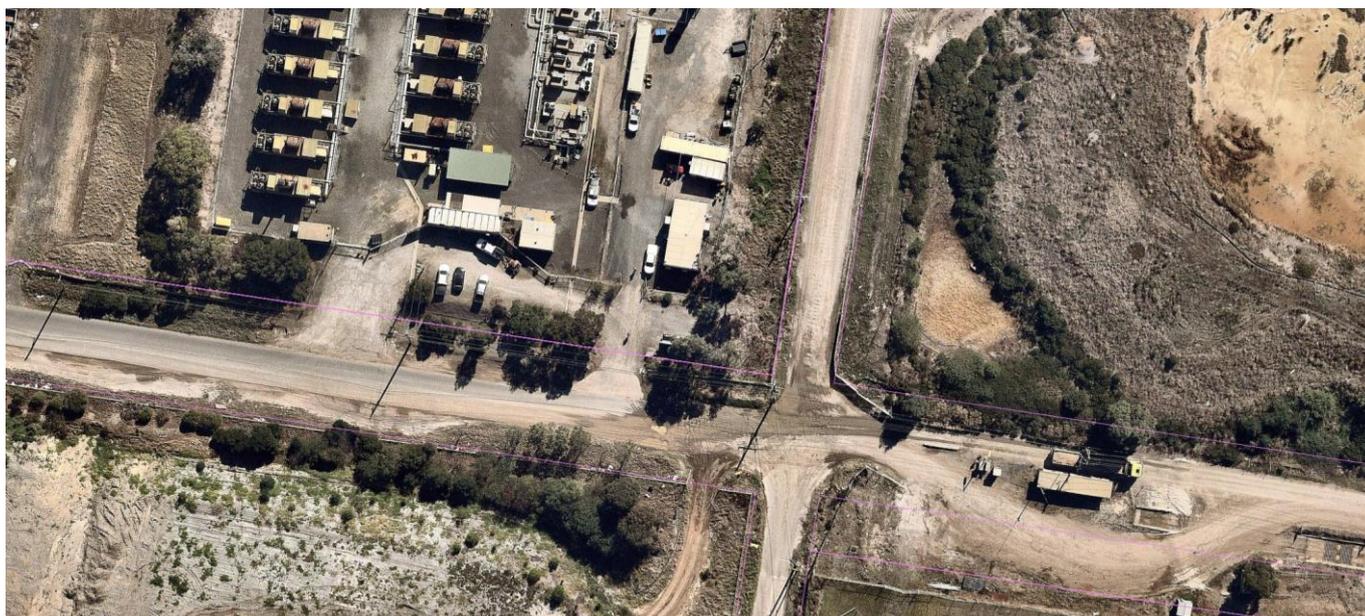


Figure 4-9 Deals Road and Fraser Road Intersection Stormwater Ponding (Source: Nearmap 2019)

The existing inlet pit on Clayton Road is also visible from historical Google Street View imagery, as shown Figure 4-10. It has been reasonably assumed that this is the lawful point of discharge for existing catchment C1.



Figure 4-10 Clayton Road Existing Gully Inlet Pit (Source: Google Street View 2015)



### 4.6 Developed Catchment and Discharge Location

In the developed case, site flows will be consolidated into two catchments as shown in Figure 4-11, with discharge locations to the existing northern and southern stormwater infrastructure. Stormwater quantity will be managed via a proposed detention tank for each catchment and stormwater quality treatment will be included via proprietary Filterra systems.

The proposed stormwater discharge arrangement is a significant improvement from the current configuration, as summarised below:

- Consolidates site flows to two discharge locations;
- Reduces site runoff (and associated ponding) on Fraser and Deals Road; and
- Includes upgrading the existing council-owned infrastructure in Clayton Road.

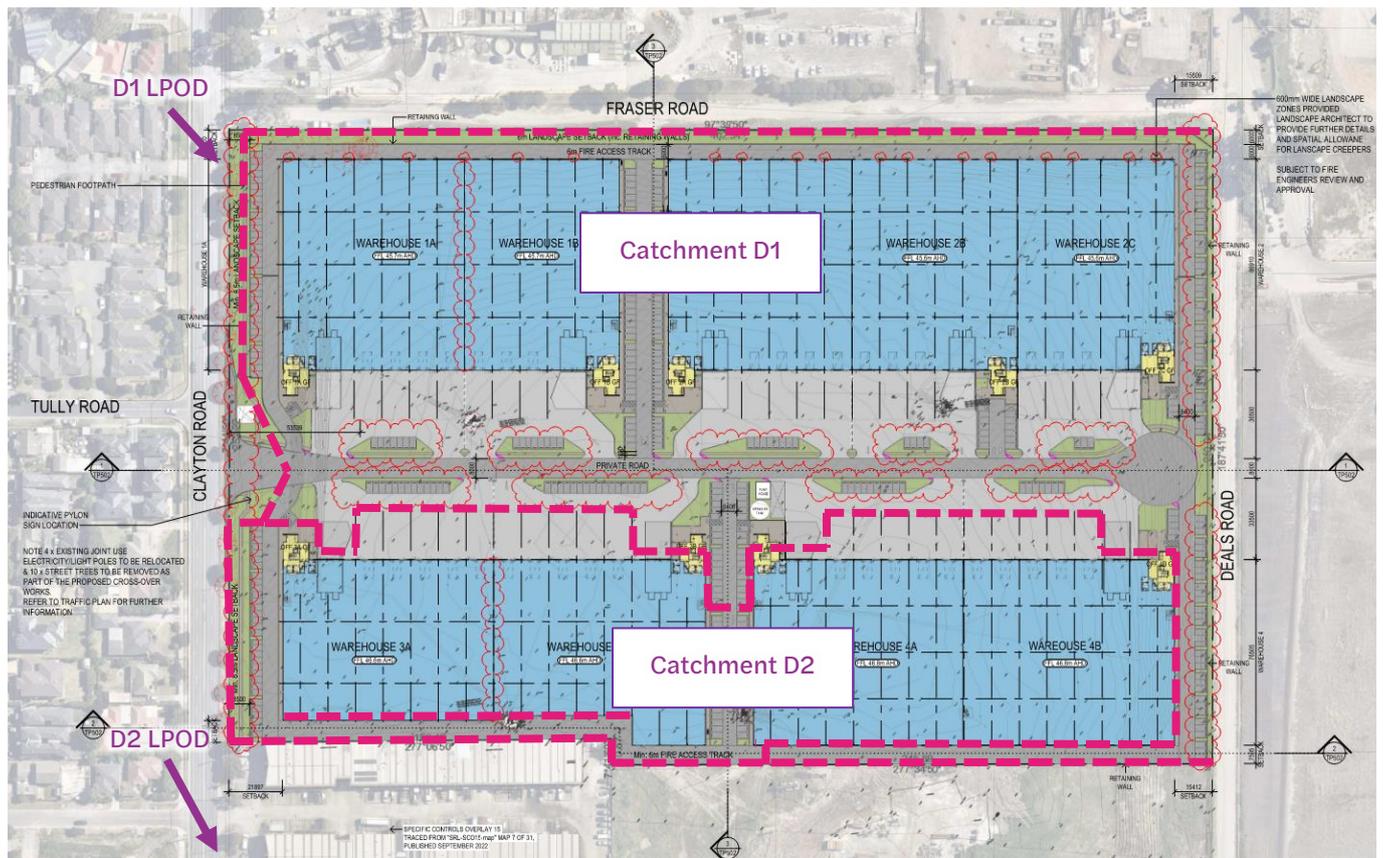


Figure 4-11 Developed Catchment Plan

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## 5. Stormwater Hydrology

### 5.1 Introduction

This section of the report addresses peak stormwater discharge resulting from the site and identifies whether attenuation measures are necessary to ensure “no-worsening” of the peak flows from the site.

#### Methodology

Civil Design Requirements for Developers Part A: Integrated Stormwater Management by City of Kingston (September 2018) outlines that detention systems must be used where appropriate to reduce ‘permissible site discharge’. For industrial sites, the permissible site discharge is required to be calculated on:

- 1 in 10-year ARI storm event using a ‘Coefficient of Runoff’ based on the lower of; existing site imperviousness (where  $C < 0.7$ ) or  $C = 0.7$  (maximum allowable upper limit due to a lack of capacity in the existing council drainage system).
- Industrial development shall store the difference between the ‘permissible site discharge rate’ rate (based on 1 in 10-year ARI) and the discharge rate for the proposed development based on a 1 in 10-year ARI storm event.

For the purposes of this development, the following methodology was adopted to determine the permissible site discharge.

1. Evaluate site flows based on existing imperviousness;
2. Evaluate site flows using a  $C_{10}$  value of 0.7;
3. Size tank to match the lower of the permissible site flows; and
4. Adjust tank sizing to match capacity of the outlet pipe.

The Rational Method has been utilised to estimate the peak flow of event hydrographs for both the existing and developed case scenarios.

The results of the Rational Method calculations are used in the following sections to:

- i. Evaluate the impact of the proposed development on the surrounding infrastructure, and;
- ii. Quantify the discharge of stormwater from the site and surrounding catchments for the proposed future development.

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#### Catchments

In the existing case, the site is divided between three catchments, as summarised in Table 5-1 below.

Table 5-1 Existing Catchment Areas

Catchment	Area
C1	3.46 ha
C2	4.57 ha
C3	2.32 ha

#### Time of Concentration

The time concentration for each existing catchment was determined using methods in accordance with the Queensland Urban Drainage Manual QUDM (2017). QUDM is a standard document which contains best practise guidelines for urban drainage management and was considered appropriate in this application. The time of concentration for Catchment C1 calculation is summarised in Table 5-2 below.



Table 5-2 Pre-Developed Time of Concentration

Catchment	Flow Component	Length	Roughness (Horton's "n")	Average Slope (%) / Fall (m)	Travel Time (min)	Tc (min)
Catchment C1	Sheet Flow	100	0.035	1.5 %	16	19
	Channel Flow	200		3m	3	

Using this methodology, the time of concentration for C2 and C3 were calculated as 20 minutes and 17 minutes respectively.

### C<sub>10</sub>

The C<sub>10</sub> value for the existing site imperviousness of 0% was conservatively adopted as 0.2.

## 5.2 Permissible Site Discharge

This section describes the permissible site discharge for the site in accordance with the guidelines in Developers Part A: Integrated Stormwater Management by City of Kingston.

### Catchment 1

The permissible site discharge for catchment C1 was calculated using the Rational Method as detailed in Table 5-3 below.

Table 5-3 Permissible Site Discharge (Imperviousness/ Infiltration)

	Q <sub>10</sub> (m <sup>3</sup> /s)
Catchment C1 Permissible Site Discharge, C <sub>10</sub> = 0.2	0.104
Catchment C1 Permissible Site Discharge, C <sub>10</sub> = 0.7	0.363

As such, the lower flow rate of 0.104m<sup>3</sup>/s was adopted as the permissible site discharge.

### Catchment 2

Formal correspondence from City of Kingston Council (issued 14 September 2023) specified the maximum allowable discharge to the southern location to be 0.03m<sup>3</sup>/s. Accordingly, this was adopted as the maximum permissible discharge for the catchment.

## 5.3 Developed Site Discharge

### Catchments

In the developed case, the site consists of two catchments, as summarised in Table 5-4 below, with the remainder of the site bypassing quality and quantity treatment.

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Table 5-4 Developed Catchment Areas

Catchment	Area
D1	6.100 ha
D2	3.502 ha

### C<sub>10</sub> Value

The developed C<sub>10</sub> value for the site was adopted as 0.9, in accordance with Section 6.1 of the Civil Design Requirements for Developers Part A: Integrated Stormwater Management by City of Kingston (September 2018).

### Time of Concentration

The time of concentration for the developed catchments is comprised of sheet flow to inlets as well as piped flow. The time of concentration for each catchment is summarised below, using a 5-minute inlet time.

Table 5-5 Developed Time of Concentration

Catchment	Time of Concentration
D1	14 min
D2	11 min

### Catchment 1 Flow Summary

The proposed development will alter the time of concentration ( $t_c$ ), area, C<sub>10</sub> value and the discharge volume for Catchment 1 (discharging to the existing gully inlet pit on Clayton Road) and increase the flow discharging from the site in all storm events. Therefore, it will be necessary to provide the development with an on-site detention system for developed catchment D1.

### Catchment 2 Flow Summary

Developed catchment D2 is proposed to discharge to the existing stormwater infrastructure to the south of the site. In the existing case, site flows do not discharge to this existing infrastructure, however this is an improved outcome as it will consolidate C2 and C3 flows and reduce the severe stormwater ponding on Fraser and Deals Road. To ensure that the existing infrastructure is not exceeded, the development conservatively included detention storage for Catchment 2.

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## 5.4 Maximum Mitigated Flow Rates

To achieve “no-worsening” of the peak flows from the site, the maximum mitigated flow rate for each catchment in the 1 in 10 year storm event is specified in Table 5-6 below.

Table 5-6 Maximum Mitigated Flow Rate (1 in 10 year storm event)

Catchment	Maximum Flow Rate (1 in 10 year storm event)
D1	0.104 m <sup>3</sup> /s
D2	0.03m <sup>3</sup> /s



## 6. Detention Design

DRAINS hydrologic software has been utilised to undertake the assessment of permissible site discharge and developed stormwater discharge for the purposes of the on-site detention specification process. DRAINS version 2020.061 has been utilised in this assessment.

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### 6.1 Modifiable Inputs

The DRAINS software package has several inputs that can be used to manipulate the hydraulic behaviour of the model. The values adopted in this model are all default values, and are presented in Table 6-1 below:

Table 6-1 - DRAINS Modifiable Inputs

Input	Modelled Value
Antecedent Moisture Condition	3
Paved Depression Storage (mm)	1
Supplementary Depression Storage (mm)	1
Grassed (Pervious) Depression Storage (mm)	5
Soil Type	3

Depression Storage values of 1mm for paved/supplementary and 5mm for grassed (pervious) areas were adopted in this model as recommended in the DRAINS user manual.

An Antecedent Moisture Condition (AMC) of 3.0 has been adopted as a default value for this site.

A soil type classification type of 3 is representative of soil with slow infiltration rates (may have layers that impede downward movement of water). This value is the default (conservative) value adopted by DRAINS and is considered to represent the existing site conditions well.

### 6.2 DRAINS Calibration

Table 6-2 below provides a summary of the process of calibration of the DRAINS model against Rational Method calculations.

The results indicate that the DRAINS model is programmed with a satisfactory level of accuracy for the purposes of this exercise.

Table 6-2 - DRAINS Calibration – Catchment D1 (Developed)

ARI	5	10	20	50	100
Rational Method	0.797	0.992	1.153	1.647	1.923
DRAINS (m <sup>3</sup> /s)	0.991	1.170	1.380	1.690	1.950
Change	+24%	+18%	+20%	+3%	+1%



### 6.3 D1 Detention Design Parameters

A process of iteration using a combination of detention system height, storage and outlet pipework arrangement have been used to determine the optimal design for the detention system.

Table 6-3 below provides the final dimensions of the proposed D1 detention system incorporated into the design model.

Table 6-3 – Catchment D1 Detention Design Parameters

Feature	Modelled Value
Base Area	1000m <sup>2</sup>
Peak Water Depth (Q <sub>10</sub> )	1.74m
Peak Discharge	0.092m <sup>3</sup> /s (< 0.104m <sup>3</sup> /s)
Outlet Pipe Size / Level	175mm orifice with 300mm outlet pipe
Weir Size / Level	1m @ 1.7m high
Total Detention Volume	1740m <sup>3</sup>

### 6.4 D2 Detention Design Parameters

Table 6-3 below provides the final dimensions of the proposed D1 detention system incorporated into the design model.

Table 6-4 – Catchment D2 Detention Design Parameters

Feature	Modelled Value
Base Area	1100m <sup>2</sup>
Peak Water Depth (Q <sub>10</sub> )	1.0m
Peak Discharge	0.029m <sup>3</sup> /s (< 0.03m <sup>3</sup> /s)
Outlet Pipe Size / Level	120mm orifice with 300mm outlet pipe
Weir Size / Level	1m high
Total Detention Volume	1100m <sup>3</sup>

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### 6.5 Detention System Layout

The D1 detention tank will be located in the north-western corner of the site underneath the western carpark and will discharge into the existing gully pit in Clayton Road adjacent to the site. City of Kingston Infrastructure mapping indicates that the existing northern infrastructure is limited by the capacity of the 225mm connection to the gully inlet pit in Clayton Road. In the developed case, this infrastructure is proposed to be upgraded to a 300mm pipe. As such, the D1 detention tank outlet was conservatively specified as 300mm at 1% grade.

The D2 detention tank will be located in a below ground tank in the south-western corner of the site that will discharge into the proposed stormwater infrastructure in Clayton Road. This will also require extension of the existing 300mm pipe to the south.

Preliminary layouts of the proposed detention system are shown in Preliminary Engineering Drawings in Appendix B.



## 7. Stormwater Quality Management

### 7.1 Introduction

This section of the report aims to identify the requirements for stormwater quality management resulting from the proposed development and identify suitable stormwater treatment devices to comply with relevant requirements of the City of Kingston Planning Scheme.

### 7.2 Water Quality Objectives

In accordance with Victoria's Best Practise Environmental Management (BPEMG) targets, the development must demonstrate the following minimum reduction in mean annual loads from the unmitigated development:

Table 7-1 - Water Quality Objectives

Pollutant	Minimum Reduction in Mean Load (%)
Total Suspended Solids	80
Total Phosphorus	45
Total Nitrogen	45
Gross Pollutants	90

### 7.3 Catchment Areas and Source Nodes

The catchment areas used for the water quality assessment are limited to the subject site. The subject site has been separated into pollutant source nodes for MUSIC modelling using the "split catchment" approach as follows:

Table 7-2 – Catchment Areas and Imperviousness

Catchment Type	D1A Area (ha)	D1B Area (ha)	D2 Area (ha)	Bypass (ha)	Imperviousness
Roof	1.402	2.069	2.997	0.000	100
Hardstand	0.034	0.071	0.024	0.000	100
Driveway	0.762	1.606	0.414	0.288	100
Landscape	0.011	1.450	0.067	0.465	0

### 7.4 MUSIC Modelling Guidelines and Parameters

The MUSIC modelling of the site was confirmed via 2<sup>nd</sup> and 3<sup>rd</sup> party verification and products using the following guidelines and parameters:

- MUSIC Version 6.3.0
- Rainfall Station: 750-850mm, Koo Wee Rup, 1991-1980, 6 minute
- Melbourne MUSIC Guidelines (Melbourne Water 2016) utilising modified % impervious area, rainfall threshold, soil properties and pollutant concentration
- No drainage routing between nodes

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### 7.5 Proposed Treatment Devices

The proposed stormwater quality treatment system has been designed using a proprietary Ocean Protect products. This system will be integrated into the proposed stormwater configuration as specified in the detailed design stage.

The Ocean Protect Filterra is biofiltration system that operates similarly to a traditional bioretention, which traps and absorbs pollutants from stormwater runoff such as total suspended solids, hydrocarbons, nutrients, metals and other common pollutants. The system consists of mulch and proprietary filter treatment media that is suitable for urban developments in industrial areas.

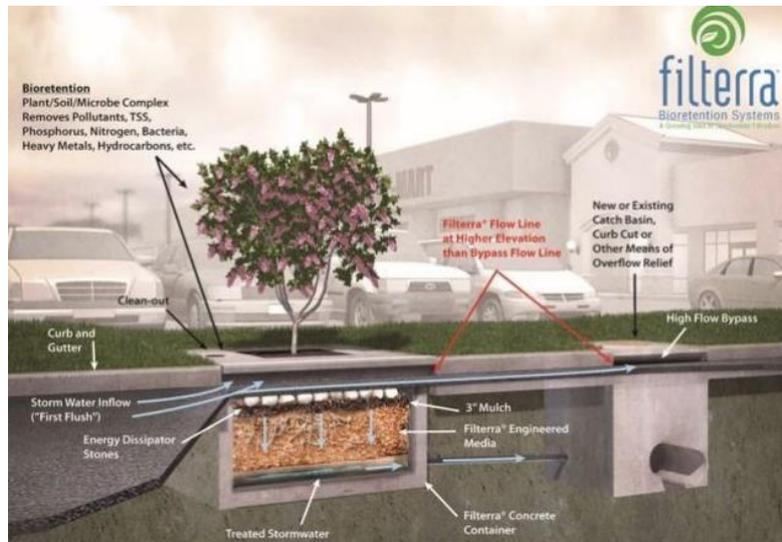


Figure 7-1 Ocean Protect StormFilter

Compliance has been demonstrated via 2<sup>nd</sup> and 3<sup>rd</sup> party independent verification.

Quality treatment for the site will include multiple Filterra systems for the site to service each catchment, with the total requirement for the site is presented below.

Device Type	Required Installation
Filterra Bioscape System	Approx 290m <sup>2</sup> (total)

Detailed plans and certification of compliance with the relevant stormwater quality objectives will be provided to Council with the Operational Works application.

### 7.6 MUSIC Modelling Diagram

A diagrammatic layout of the MUSIC model interface used to model the proposed development with the Ocean Protect devices incorporated is presented in Figure 7-2 below:

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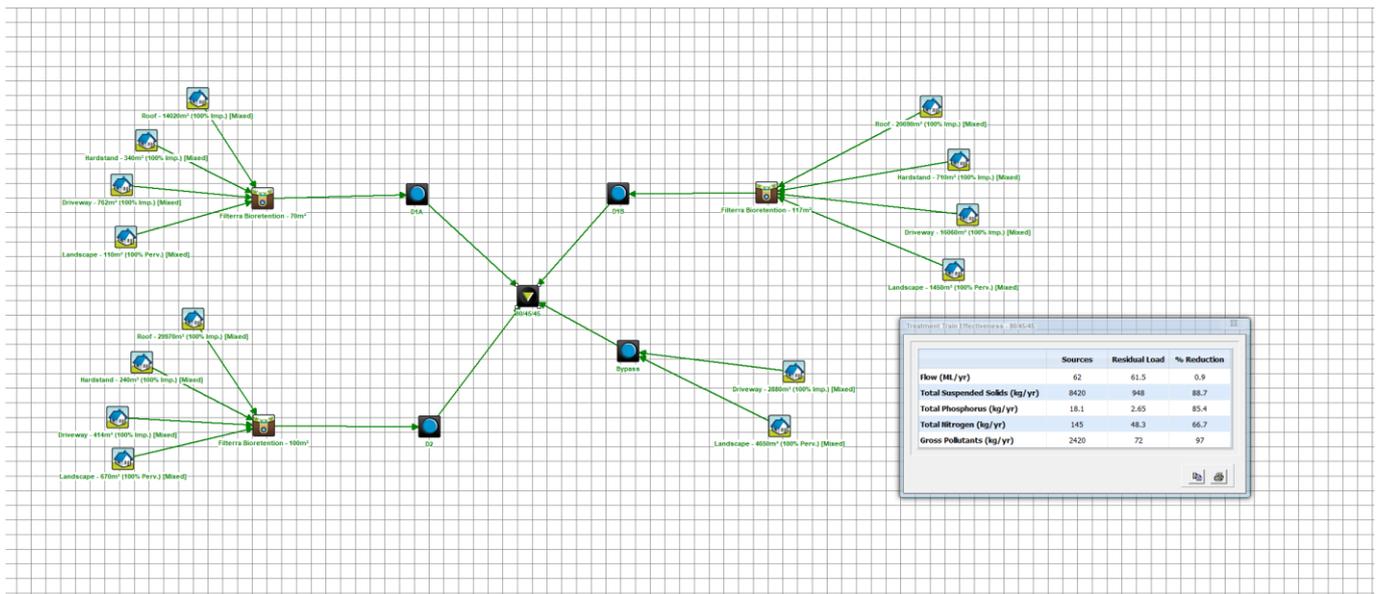


Figure 7-2 MUSIC Modelling Layout and Results

### 7.7 MUSIC Modelling Stormwater Quality Improvement

MUSIC was used to model the treatment train effectiveness in terms of the percentage of pollutants being removed from the system using the proposed treatment device.

The results of the MUSIC modelling compared to the stated Water Quality Objectives (WQO's) are presented below.

Figure 7-3 MUSIC Modelling Stormwater Quality Improvement

Pollutant	Minimum Reduction in Mean Load	MUSIC Results (Combined system)
Total Suspended Solids	80%	88.7%
Total Phosphorus	45%	85.4%
Total Nitrogen	45%	66.7%
Gross Pollutants	90 %	97.0%

The results indicate that the proposed proprietary Ocean Protect system is sufficient in achieving the water quality objectives and exceeds the minimum required pollutant reduction targets.

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## 8. Conclusion

Context Engineering has been commissioned by Troon Group to compile this Stormwater Management Plan for the proposed development of the site located at 618 Clayton Road, Clayton South.

The proposed site involves the creation of an industrial development consisting of nine (9) new warehouses over a historical landfill. These buildings will be connected via large hardstand areas and a centrally located private road with access to Clayton Road. Each warehouse will also be serviced via adjacent office buildings and carparking spaces.

A summary of the investigation and outcomes presented in this report are as follows:

- Lawful Point of Discharge (Section 4) – Existing catchment C1 and developed catchment D1 lawful point of discharge to existing gully pit in Clayton Road to the north-west of the site. Existing catchment C2 and C3 discharge to Fraser Road and Deals Road, causing frequent, severe stormwater ponding. Developed catchment D2 to discharge to existing council-owned stormwater infrastructure to the south of the site.
- Stormwater Hydrology (Section 5) – Increase in unmitigated flows from existing to developed case.
- Detention Design (Section 6) – Proposed detention requirement for D1 and D2 is 1740m<sup>3</sup> and 1100m<sup>3</sup> respectively. Detention sized to ensure that flows match capacity of outlet pipe.
- Stormwater Quality Management (Section 7) – Stormwater to be treated by proprietary Filterra devices.

## 9. Recommendations

It is recommended that the proposed Development Application be approved.

## 10. Disclaimer

This report has been prepared on behalf of and for the exclusive use of Troon Group and is subject to and issued in accordance with the agreement between Context Engineering.

Our investigation and analysis has been specifically catered for the particular requirements Troon Group and may not be applicable beyond this scope. For this reason, any other third parties are not authorised to utilise this report without further input and advice from Context Engineering.

Context Engineering accepts no liability or responsibility whatsoever for the report in respect of any use of or reliance upon this report by any third party.

The investigation and analysis have relied on information provided by others. We accept no responsibility for the accuracy of material supplied by others. The accuracy of the investigation, analysis and report are dependent upon the accuracy of this information.

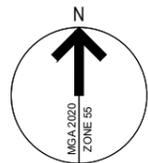
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PLAN**

618 Clayton Road, Clayton South  
STORMWATER MANAGEMENT PLAN

## Appendix A Site Survey

TROON GROUP

**ADVERTISED  
PLAN**



SEE SHEET 11 FOR SURVEY REPORT, NOTES AND LEGEND

**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**  
The locations of existing utility services are approximate only and their exact position should be proven on site. No guarantee is given that all existing utility services are shown. Locate all utility services before commencement of works.  
**DIAL 1100 BEFORE YOU DIG**  
[www.1100.com.au](http://www.1100.com.au)

**LICENSED SURVEYOR CERTIFICATION:**  
This plan has been prepared from a survey completed on the 03/02/2023. The survey was carried out under my direction and supervision in accordance with the Surveying Act 2004. This plan is accurate and correctly represents the adopted boundaries and achieves the survey accuracy required by Regulation 7(1) of the Surveying (Cadastral Surveys) Regulations 2015.  
Digitally Signed:

# ADVERTISED PLAN

**CLIENT:**  
TROON GROUP   
**PROJECT:**  
618 CLAYTON ROAD  
CLAYTON SOUTH VIC 3169

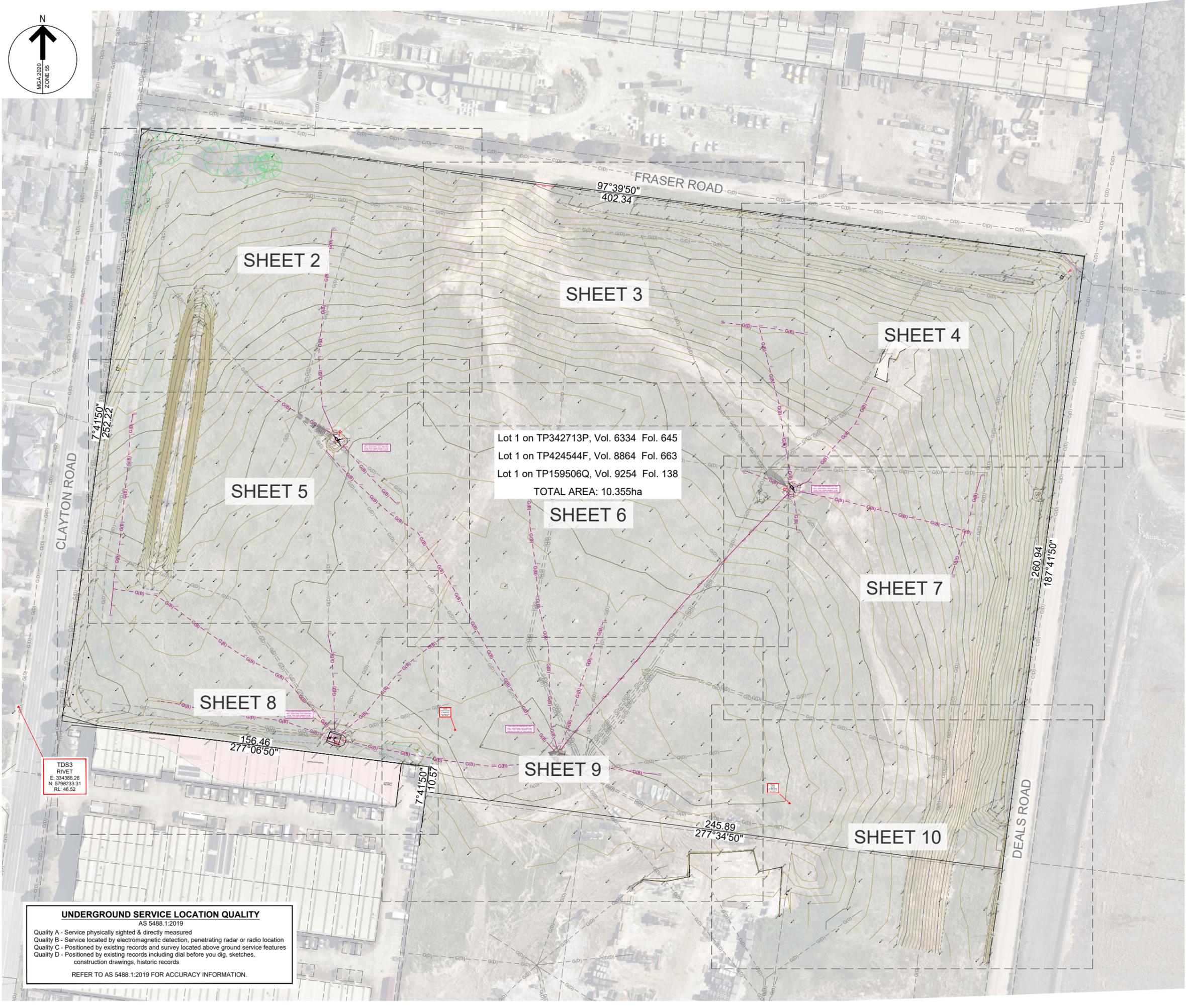
**DRAWING:**  
PLAN OF TITLE RE-ESTABLISHMENT,  
FEATURE, LEVEL AND SERVICES SURVEY

Proj. Ref:	23319/S1	Approved by:	SST
Sheet:	1 of 11	Approval Date:	10/02/2023



**DRAWING NUMBER:** 23319-S1-D1 **VERSION:** 01

**TAYLORS**  
Urban Development | Infrastructure  
8/270 Ferntree Gully Road, Notting Hill VIC 3168  
Phone: (03) 9501 2800 | [www.taylorstds.com.au](http://www.taylorstds.com.au)



**UNDERGROUND SERVICE LOCATION QUALITY**  
AS 5488.1:2019  
Quality A - Service physically sighted & directly measured  
Quality B - Service located by electromagnetic detection, penetrating radar or radio location  
Quality C - Positioned by existing records and survey located above ground service features  
Quality D - Positioned by existing records including dial before you dig, sketches, construction drawings, historic records  
REFER TO AS 5488.1:2019 FOR ACCURACY INFORMATION.

618 Clayton Road, Clayton South  
STORMWATER MANAGEMENT PLAN

# Appendix B Preliminary Engineering Drawings

TROON GROUP

**ADVERTISED  
PLAN**

**Legend**

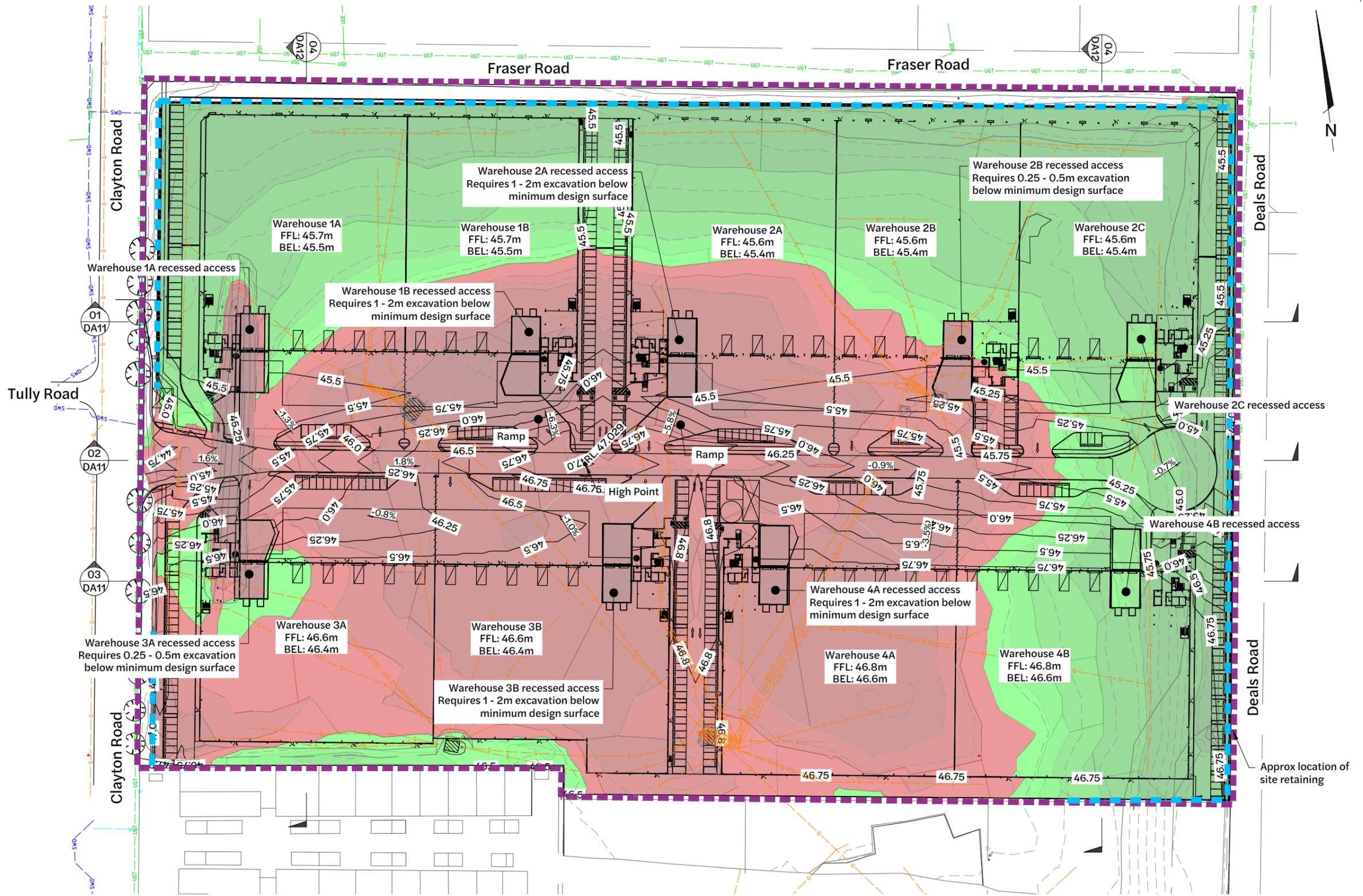
- Property Boundary
- 0.25 Design Contour
- 0.5 Existing Surface Contour
- Existing Stormwater Drainage
- Existing Sewerage Reticulation
- Existing Water Reticulation
- Existing Gas
- Existing Overhead Electrical
- Approx Retaining Wall Location

Bulk Earthworks Legend	
Cut	Fill
> 15.0m	> 15.0m
10.0 to 15.0m	10.0 to 15.0m
5.0 to 10.0m	5.0 to 10.0m
2.0 to 5.0m	2.0 to 5.0m
1.0 to 2.0m	1.0 to 2.0m
0.5 to 1.0m	0.5 to 1.0m
0.25 to 0.5m	0.25 to 0.5m
0.0 to 0.25m	0.0 to 0.25m

Earthworks Schedule (Stripped Surface to Bulk Earthworks)	
Type	Volume (m <sup>3</sup> )
Cut	-33,000 (approx)
Fill	84,000 (approx)
<b>Total Balance</b>	<b>51,000 (approx)*</b>

\*100mm strip and 200mm pavement and structural slab depth. Recessed areas 1.3m below design surface.



ADVERTISED  
PLAN

**Bulk Earthwork Layout Plan**  
1:750 Scale

**ENERGY SERVICE PROVIDERS**

Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.hyda.com.au](http://www.hyda.com.au)

**TELECOMMUNICATIONS SERVICE PROVIDERS**

Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.hyda.com.au](http://www.hyda.com.au)

Revision	Date	Issue Details	Drawn	Designed	QR Code	Status
1	05.03.23	Issued for Approval	EG	EG		<b>Issued for Approval</b> Not for Construction
2	29.05.23	Issued for Information	EG	EG		
3	19.07.23	Issued for Approval	EG	EG		
4	06.11.23	Futher Information Request Response	CG	EG		

Scale
1:750 15 0 15 30m A1 1:1500 A3

**Tron Group**

**618 Clayton Road  
Clayton South**

**Context Engineering**

Disclaimer  
All dimensions to be checked on site by contractor prior to construction. Use written dimensions only, do not scale.

**Bulk Earthworks  
Layout Plan**

Project No.	Drawing No.	Revision
C_23011	DA10	4

FILE: Z:\WORK\VIC\_23011 - 618 CLAYTON ROAD CLAYTON VIC MODEL\AUTOCAD\DA DRAWINGS\C\_23011\_DAO\_BULK\_EARTHWORKS\_LAYOUT\_PLAN.DWG LAST SAVED BY: CONTE

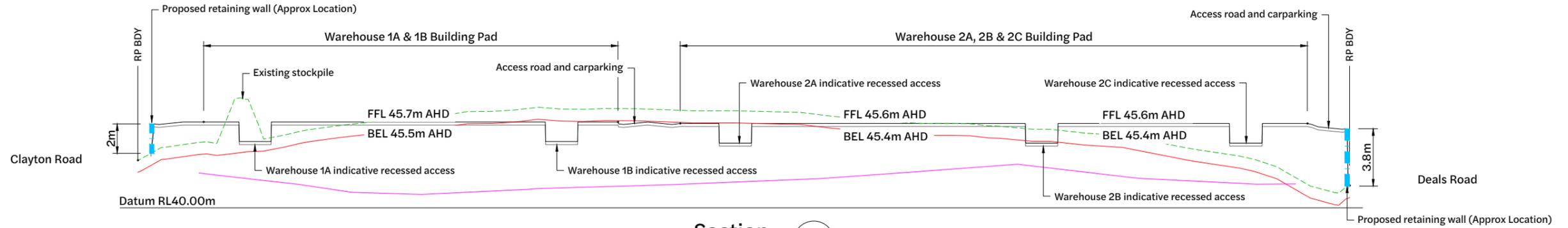
**Legend**

- Existing Surface
- Minimum Design Surface - 0.8m Below Assumed Surface\*
- Minimum Capping Layer- 2.5m above depth to waste encountered\*\*
- Design Surface
- Bulk Earthworks Surface
- █ Proposed Retaining Wall (Approx Location)

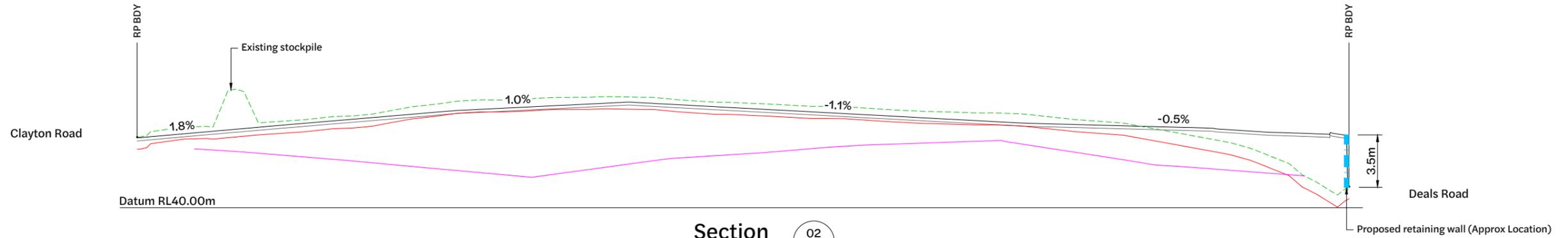
\* Assumed surface does not include existing stockpile

\*\* Refer Clayton Road Landfill - Cap Soil Assessment by Resolve Environmental for depth of waste.

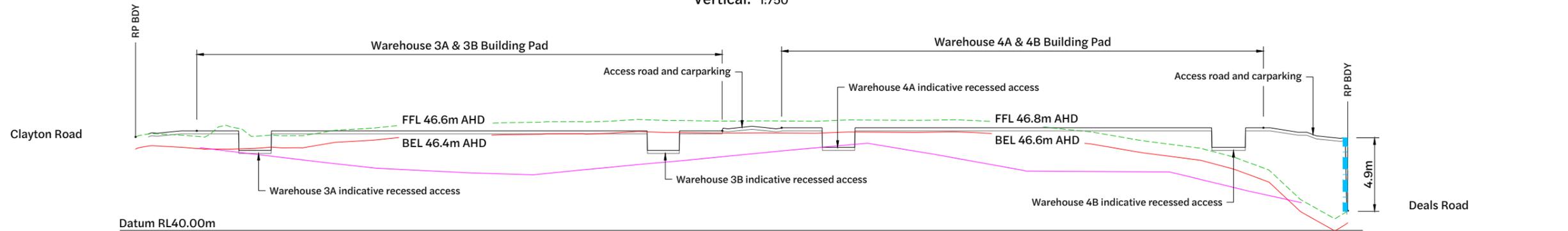
# ADVERTISED PLAN



**Section 01**  
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 Vertical: 1:750



**Section 02**  
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 Vertical: 1:750

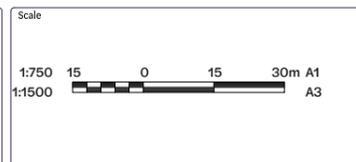


**Section 03**  
 Horizontal: 1:750  
 Vertical: 1:750

**Note:**  
 Typical sections have been drawn with 5x vertical exaggeration to assist with visualizing site levels and grades.

Revision	Date	Issue Details	Drawn	Designed	QR Code
1	29.05.23	Issued for Approval	EG	EG	
2	19.07.23	Issued for Approval	EG	EG	
3	06.11.23	Further Information Request Response	CG	EG	

**Issued for Approval**  
 Not for Construction



**Troon Group**

**618 Clayton Road Clayton South**



<b>Bulk Earthworks Sections (Sheet 1 of 2)</b>		
Project No.	Drawing No.	Revision
C_23011	DA11	3

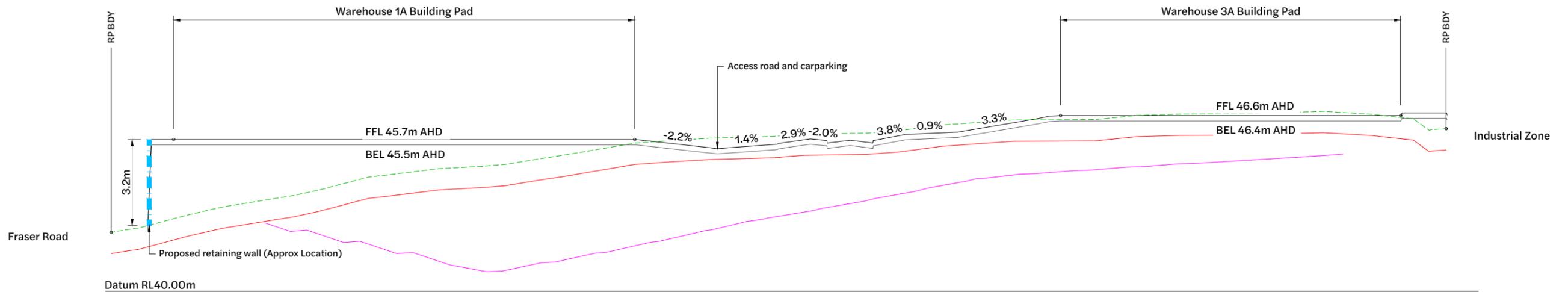
**Legend**

- Existing Surface
- Minimum Design Surface - 0.8m Below Assumed Surface\*
- Minimum Capping Layer- 2.5m above depth to waste encountered\*\*
- Design Surface
- Bulk Earthworks Surface
- █ Proposed Retaining Wall (Approx Location)

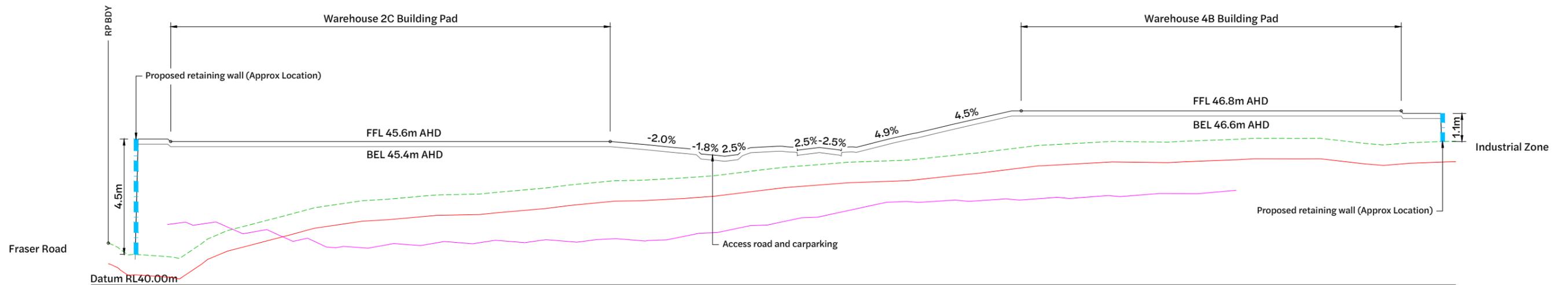
\* Assumed surface does not include existing stockpile

\*\* Refer Clayton Road Landfill - Cap Soil Assessment by Resolve Environmental for depth of waste.

# ADVERTISED PLAN



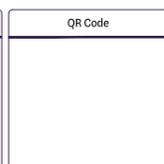
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Vertical: 1:400  
DA10



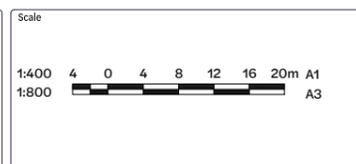
**Section 05**  
Horizontal: 1:400  
Vertical: 1:400  
DA10

**Note:**  
Typical sections have been drawn with 5x vertical exaggeration to assist with visualizing site levels and grades.

Revision	Date	Issue Details	Drawn	Designed
1	29.05.23	Issued for Approval	EG	EG
2	19.07.23	Issued for Approval	EG	EG
3	06.11.23	Further Information Request Response	CG	EG



**Issued for Approval**  
Not for Construction



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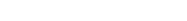
Project  
**618 Clayton Road  
Clayton South**

Disclaimer  
All dimensions to be checked on site by contractor prior to construction. Use written dimensions only, do not scale.



<b>Bulk Earthworks Sections (Sheet 2 of 2)</b>		
Project No. <b>C_23011</b>	Drawing No. <b>DA12</b>	Revision <b>3</b>

**Legend**

-  Property Boundary
-  Existing Stormwater Drainage
-  Existing Sewerage Reticulation
-  Existing Water Reticulation
-  Existing Gas
-  Existing Overhead Electrical
-  Proposed Stormwater
-  Proposed Stormwater Inlet

Catchment D1 Legal Point of Discharge  
Existing 225m connection in Clayton Road to existing gully pit to be removed and replaced with 300mm pipe  
Approx SL: 42.05m

Proposed Detention Tank  
SL: 45.5m  
Inlet IL: 41.760m  
Outlet IL: 41.600m  
Min storage volume: 1740m<sup>3</sup>

Indicative D1A Filterra Location  
Treatment Area: 70m<sup>2</sup>

Major flows exceeding capacity of piped infrastructure to be directed to Clayton Road

Indicative D2 Filterra Location  
Treatment Area: 100m<sup>2</sup>

Proposed detention tank  
SL: 46.6m  
Slab depth: 0.2m  
Inlet IL: 44.425m  
Outlet IL: 44.400m  
Min storage volume: 1100m<sup>3</sup>

Proposed 300mm outlet pipe in Clayton Road  
Length: 15m  
Grade: 0.5%  
USIL: 44.425m  
DSIL: 44.35m

Proposed 300mm stormwater pipe in Clayton Road  
Length: 115m  
Grade: 0.5%  
USIL: 44.35m  
DSIL: 43.775m

Catchment D2 Legal Point of Discharge  
Existing 300m pipe in Clayton Road

Assumed SL (Lidar): 44.6m  
Assumed Cover: 0.6m  
Approx Connection IL: 43.7m

Fraser Road

Clayton Road

Deals Road

Indicative D1B Filterra Locations  
Treatment Area: 123m<sup>2</sup>

Major flows exceeding capacity of piped infrastructure to be directed to Deal Road

**ADVERTISED PLAN**

**Stormwater Drainage Layout Plan**  
1:1000 Scale

**ENERGY SERVICE PROVIDERS**



Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

**TELECOMMUNICATIONS SERVICE PROVIDERS**



Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

Revision	Date	Issue Details	Drawn	Designed	QR Code	Status
1	11.04.23	Issued for Information	EG	EG		Issued for Approval Not for Construction
2	19.07.23	Issued for Approval	EG	EG		
3	06.11.23	Further Information Request Response	CG	EG		

Scale

1:1000 10 0 10 20 30 40 50m A1

1:2000 A3

Client

**Troon Group**

Project

**618 Clayton Road  
Clayton South**

Disclaimer  
All dimensions to be checked on site by contractor prior to construction. Use written dimensions only, do not scale.

Drawing Title

**Stormwater  
Drainage Layout Plan**

Project No. **C\_23011**

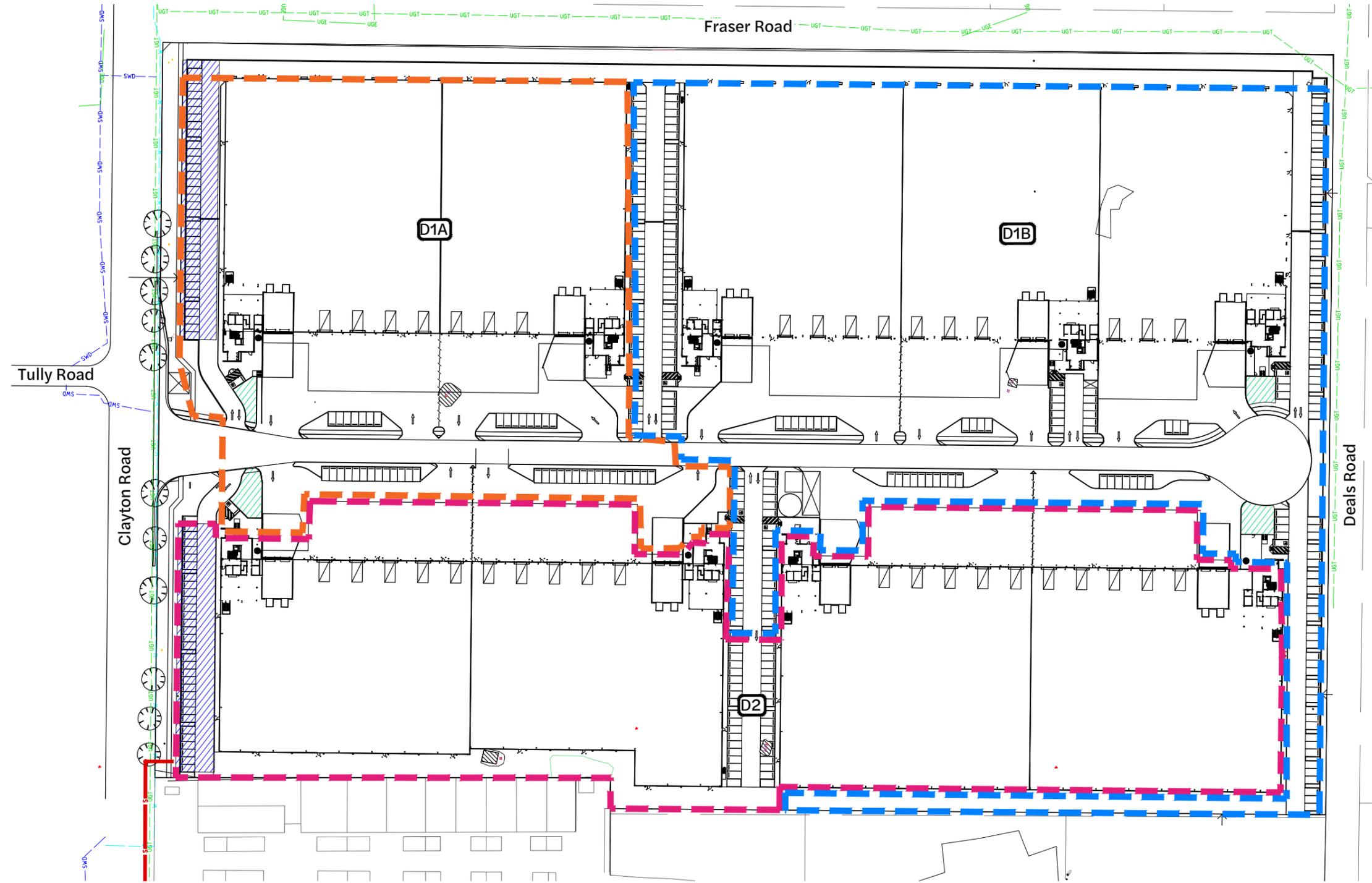
Drawing No. **DA40**

Revision **3**

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**Legend**

-  Property Boundary
-  Existing Stormwater Drainage
-  Existing Water Reticulation
-  Existing Gas
-  Existing Underground Electrical
-  Catchment D1A Boundary
-  Catchment D1B Boundary
-  Catchment D2 Boundary

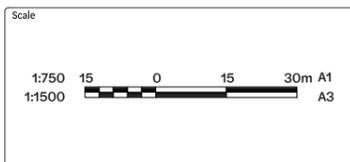


**ADVERTISED  
PLAN**

**Developed Catchment Plan**  
1:750 Scale

Revision	Date	Issue Details	Drawn	Designed	QR Code
1	28.03.23	Issued for Approval	CG	EG	
2	30.06.23	Issued for Approval	EG	EG	
3	06.11.23	Further Information Request Response	CG	EG	

**Issued for Approval**  
Not for Construction



Client  
**Troon Group**

Project  
**618 Clayton Road  
Clayton South**



Drawing Title		
<b>Developed Catchment Plan</b>		
Project No. <b>C_23011</b>	Drawing No. <b>DA42</b>	Revision <b>3</b>

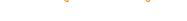
**ENERGY SERVICE PROVIDERS**

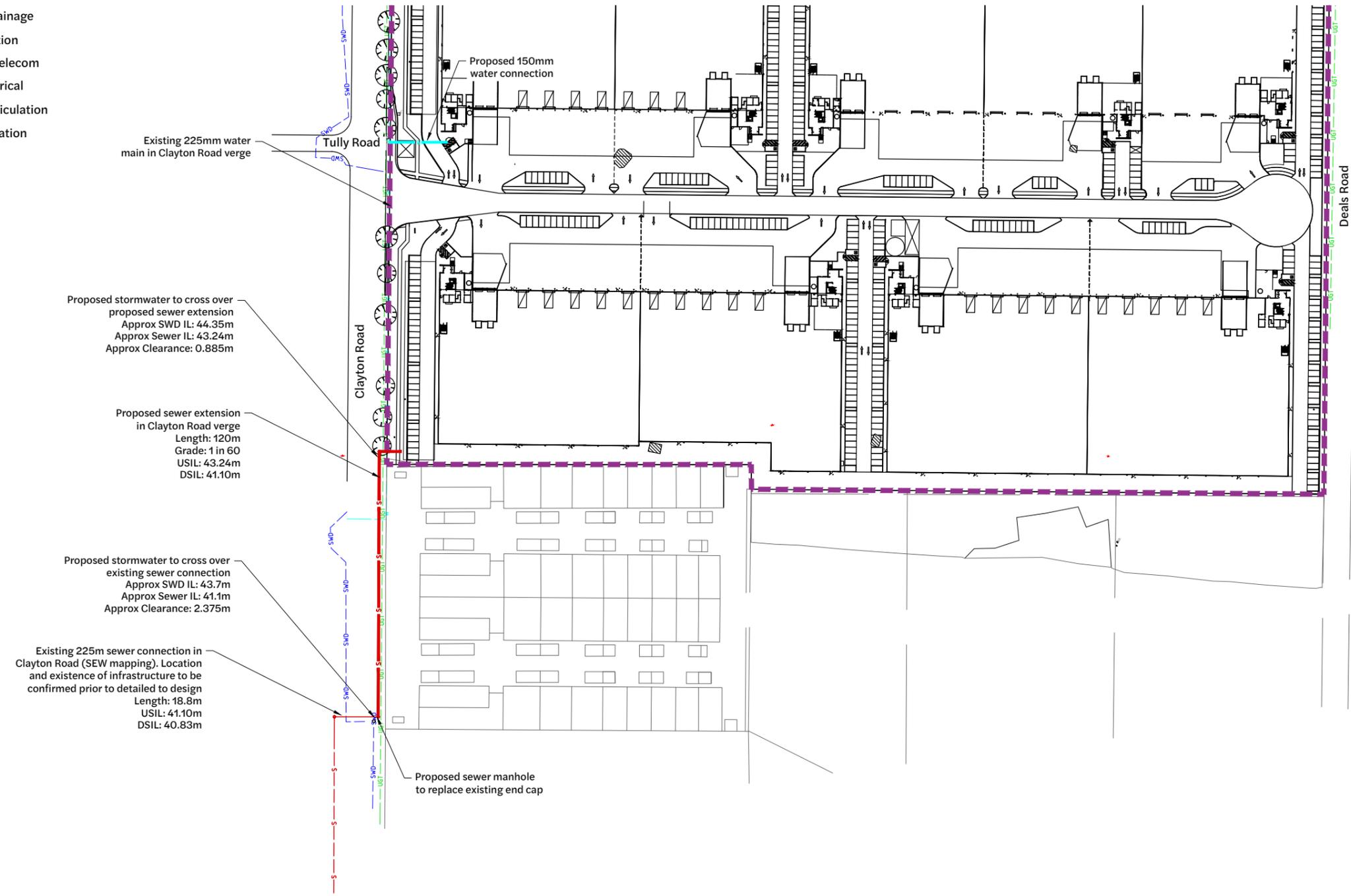
Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

**TELECOMMUNICATIONS SERVICE PROVIDERS**

Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

**Legend**

-  Property Boundary
-  Existing Sewerage Reticulation
-  Existing Stormwater Drainage
-  Existing Water Reticulation
-  Existing Underground Telecom
-  Existing Overhead Electrical
-  Proposed Sewerage Reticulation
-  Proposed Water Reticulation



**Sewer & Water Layout Plan**  
1:1000 Scale

**ADVERTISED PLAN**

**ENERGY SERVICE PROVIDERS**



Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

**TELECOMMUNICATIONS SERVICE PROVIDERS**

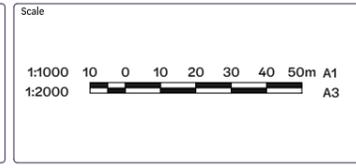


Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

Revision	Date	Issue Details	Drawn	Designed	QR Code	Status
1	12.04.23	Issued for Information	EG	EG		Issued for Approval Not for Construction
2	30.06.23	Issued for Approval	EG	EG		
3	06.11.23	Further Information Request Response	CG	EG		

Scale
1:1000 1:2000

**Issued for Approval**  
Not for Construction



Client  
**Troon Group**

Project  
**618 Clayton Road Clayton South**

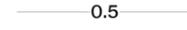
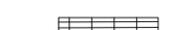
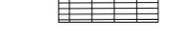
Disclaimer  
All dimensions to be checked on site by contractor prior to construction. Use written dimensions only, do not scale.



Drawing Title		
<b>Sewer &amp; Water Layout Plan</b>		
Project No. <b>C_23011</b>	Drawing No. <b>DA50</b>	Revision <b>3</b>

FILE: Z:\WORK\C\_23011 - 618 CLAYTON ROAD CLAYTON VIC\_MODEL\AUTOCAD\DWG\DWG\C\_23011\_DWG\_SEWER & WATER LAYOUT PLAN.DWG LAST SAVED BY:CCO

**Legend**

-  Property Boundary
-  0.5 Existing Surface Contour
-  Existing Stormwater Drainage
-  Existing Sewerage Reticulation
-  Existing Water Reticulation
-  Existing Gas
-  Existing Overhead Electrical
-  Proposed Sediment Fence (or As Directed by Site Superintendent)
-  Temporary Exit Washdown Device - Refer Detail
-  Proposed Area of Disturbance
-  Inlet Protection

**ADVERTISED  
PLAN**



**Erosion and Sediment Control Layout Plan**  
1:1000 Scale

**ENERGY SERVICE PROVIDERS**



Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

**TELECOMMUNICATIONS SERVICE PROVIDERS**



Note: Service locations are approximate only from provider plans. Locations are to be confirmed prior to the start of construction. Refer **Before You Dig** service location plans - available at [www.byda.com.au](http://www.byda.com.au)

Revision	Date	Issue Details	Drawn	Designed	QR Code	Status
1	19.07.23	Issued for Approval	EG	EG		Issued for Approval Not for Construction
2	06.11.23	Futher Information Request Response	CG	EG		

Scale

1:1000 10 0 10 20 30 40 50m A1  
1:2000



Client

**Troon Group**

Project

**618 Clayton Road  
Clayton South**

Disclaimer  
All dimensions to be checked on site by contractor prior to construction. Use written dimensions only, do not scale.



Drawing Title

**Erosion and Sediment Control Layout Plan**

Project No. <b>C_23011</b>	Drawing No. <b>DA80</b>	Revision <b>2</b>
-------------------------------	----------------------------	----------------------

FILE: Z:\ARCHIVE\C\_23011 - 618 CLAYTON ROAD\CLAYTON\_E\_MODEL\AUTOCAD\DWG\DWG\C\_23011\_DWG\_EROSION AND SEDIMENT CONTROL LAYOUT PLAN.DWG LAST SAVED BY: CONTE

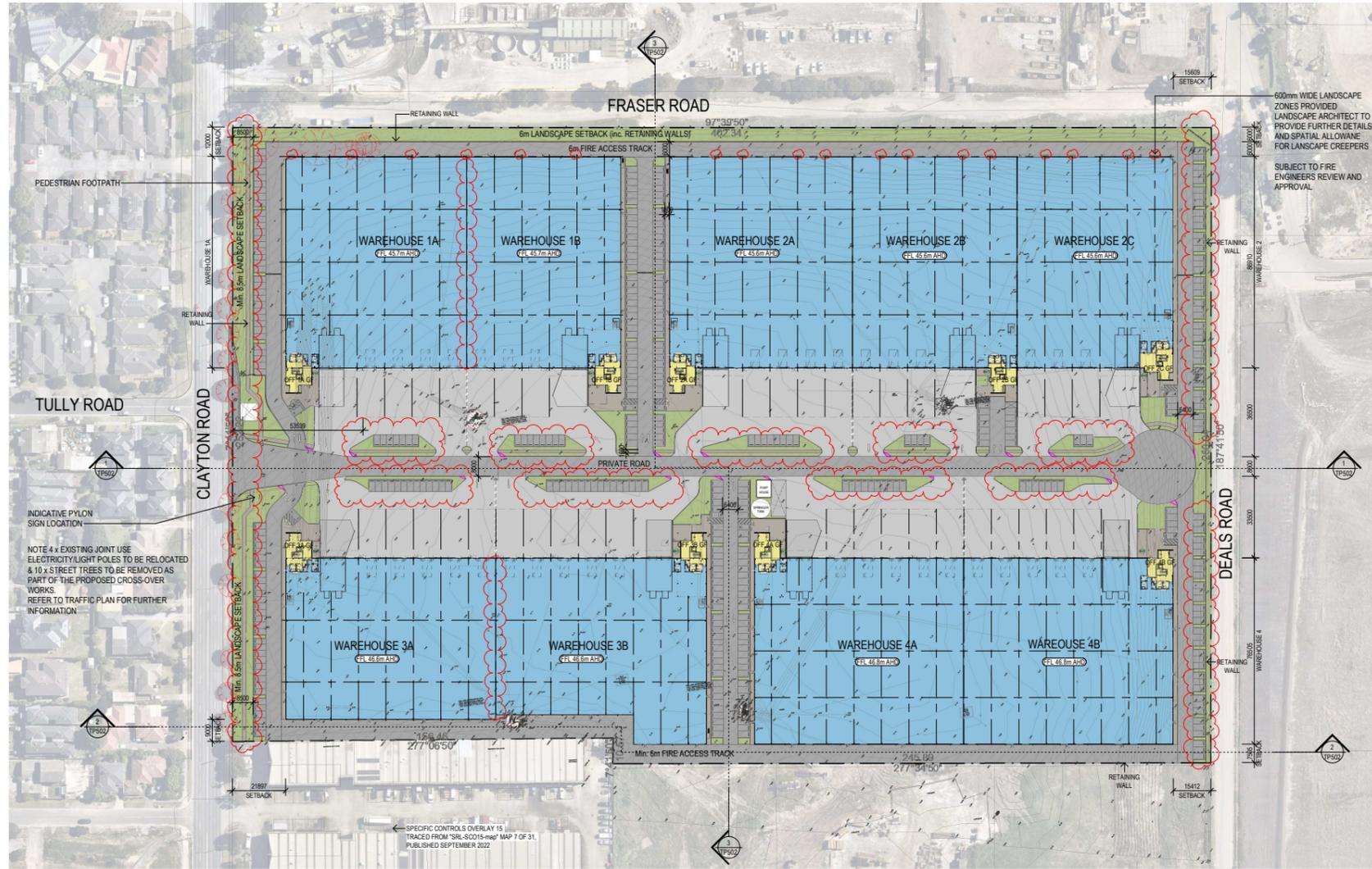
618 Clayton Road, Clayton South

STORMWATER MANAGEMENT PLAN

## Appendix C Architectural Plans

TROON GROUP

**ADVERTISED  
PLAN**



SITE CONCEPT PLAN  
SCALE: 1: 1000

# ADVERTISED PLAN

### LEGEND

- INDICATES EXTENT OF HEAVY DUTY HARDSTAND TO CIVIL ENGINEERS DETAILS
- INDICATES EXTENT OF LIGHT DUTY PAVEMENT TO CIVIL ENGINEERS DETAILS
- CONCRETE PAVING WITH EXPOSED AGGREGATE FINISH OR SIMILAR
- AREA OF GRASS / LANDSCAPING. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPE LAYOUT AND DETAILS
- SPECIFIC CONTROLS OVERLAY IS TRACED FROM "SRL-SC015-map" MAP 7 OF 31, PUBLISHED SEPTEMBER 2022
- INDICATES LOCATION OF GAS PIT
- TREE TO BE REMOVED

### NOTES

- ALL NEW CROSSOVERS IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENTS
- ALL PARKING SPACES IN ACCORDANCE WITH VICTORIAN PLANNING SCHEME
- ALL DISABLED PARKING SPACES IN ACCORDANCE WITH AUSTRALIAN STANDARD AS2890 (5.4m x 2.4m)
- SITE STORMWATER DRAINAGE IN ACCORDANCE WITH LOCAL AUTHORITY & COUNCIL REQUIREMENTS
- ALL RELATIVE LEVELS ARE SHOWN TO A H.D. (Australian Height Datum)
- AREAS CALCULATED HAVE BEEN TAKEN TO OUTSIDE FACE OF WALL GIRT TO WAREHOUSE AREAS AND OUTSIDE FACE OF EXTERNAL WALL TO ALL OTHER OFFICE AREAS.
- LEVELS SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO FURTHER CIVIL ENGINEER DETAILED DESIGN. LEVELS MAY VARY +/- 300mm
- ALL EXTERNAL LIGHTING TO BE ENERGY EFFICIENT, WITH SUITABLE BATTERIES, INSTALLED AS PER AS11584 AND LOCATED SO THAT NO DIRECT LIGHT IS EMITTED OUTSIDE THE SITE.
- SURVEY OVERLAIN ON PLAN IS PROVIDED BY TAYLORS, DOCUMENT NAME "23219 - PS (V1)"

### DEVELOPMENT ANALYSIS

	AREA	PERCENTAGE
SITE AREA	103,536m <sup>2</sup>	
SITE COVERAGE	65,529m <sup>2</sup>	63%
PERMEABILITY	7,603m <sup>2</sup>	7.4%

PLEASE NOTE OVERALL AREAS ARE BASED ON THE EXISTING SURVEY PROVIDED BY TAYLORS, DOCUMENT NAME "23219 - PS (V1)"

### DEVELOPMENT ANALYSIS

BUILDING	GLA	NFA
WAREHOUSE 1		WAREHOUSE 1
TENANCY 1A	6,430 m <sup>2</sup>	5372 m <sup>2</sup>
WAREHOUSE 1A	135 m <sup>2</sup>	129 m <sup>2</sup>
OFFICE	325 m <sup>2</sup>	299 m <sup>2</sup>
OFFICE	6,891 m <sup>2</sup>	5800 m <sup>2</sup>
TENANCY 1B		TENANCY 1B
WAREHOUSE	5,487 m <sup>2</sup>	4595 m <sup>2</sup>
OFFICE	135 m <sup>2</sup>	129 m <sup>2</sup>
OFFICE	325 m <sup>2</sup>	299 m <sup>2</sup>
TOTAL WAREHOUSE 1 AREA	12,639 m <sup>2</sup>	10,923 m <sup>2</sup>
WAREHOUSE 2		WAREHOUSE 2
TENANCY 2A		TENANCY 2A
WAREHOUSE	6,505 m <sup>2</sup>	5436 m <sup>2</sup>
OFFICE	135 m <sup>2</sup>	129 m <sup>2</sup>
OFFICE	325 m <sup>2</sup>	299 m <sup>2</sup>
OFFICE	6,966 m <sup>2</sup>	5864 m <sup>2</sup>
TENANCY 2B		TENANCY 2B
WAREHOUSE	5,867 m <sup>2</sup>	4963 m <sup>2</sup>
OFFICE	126 m <sup>2</sup>	120 m <sup>2</sup>
OFFICE	335 m <sup>2</sup>	308 m <sup>2</sup>
OFFICE	6,328 m <sup>2</sup>	5391 m <sup>2</sup>
TENANCY 2C		TENANCY 2C
WAREHOUSE	5,487 m <sup>2</sup>	4585 m <sup>2</sup>
OFFICE	152 m <sup>2</sup>	146 m <sup>2</sup>
OFFICE	306 m <sup>2</sup>	279 m <sup>2</sup>
OFFICE	5,945 m <sup>2</sup>	5010 m <sup>2</sup>
TOTAL WAREHOUSE 2 AREA	19,239 m <sup>2</sup>	16,265 m <sup>2</sup>
WAREHOUSE 3		WAREHOUSE 3
TENANCY 3A		TENANCY 3A
WAREHOUSE	5,688 m <sup>2</sup>	4588 m <sup>2</sup>
OFFICE	135 m <sup>2</sup>	129 m <sup>2</sup>
OFFICE	325 m <sup>2</sup>	299 m <sup>2</sup>
OFFICE	6,148 m <sup>2</sup>	4887 m <sup>2</sup>
TENANCY 3B		TENANCY 3B
WAREHOUSE	5,918 m <sup>2</sup>	4688 m <sup>2</sup>
OFFICE	135 m <sup>2</sup>	129 m <sup>2</sup>
OFFICE	325 m <sup>2</sup>	299 m <sup>2</sup>
OFFICE	6,379 m <sup>2</sup>	5116 m <sup>2</sup>
TOTAL WAREHOUSE 3 AREA	12,528 m <sup>2</sup>	10,003 m <sup>2</sup>
WAREHOUSE 4		WAREHOUSE 4
TENANCY 4A		TENANCY 4A
WAREHOUSE	6,547 m <sup>2</sup>	5305 m <sup>2</sup>
OFFICE	135 m <sup>2</sup>	129 m <sup>2</sup>
OFFICE	325 m <sup>2</sup>	299 m <sup>2</sup>
OFFICE	7,007 m <sup>2</sup>	5733 m <sup>2</sup>
TENANCY 4B		TENANCY 4B
WAREHOUSE	6,507 m <sup>2</sup>	5339 m <sup>2</sup>
OFFICE	133 m <sup>2</sup>	127 m <sup>2</sup>
OFFICE	328 m <sup>2</sup>	313 m <sup>2</sup>
OFFICE	6,968 m <sup>2</sup>	5779 m <sup>2</sup>
TOTAL WAREHOUSE 4 AREA	13,975 m <sup>2</sup>	11,512 m <sup>2</sup>
TOTAL AREA	58,581 m <sup>2</sup>	48,603 m <sup>2</sup>

PARKING	NO.
WAREHOUSE 1	
1A RATE (PER 100m <sup>2</sup> )	0.60
CAR BAYS	41
ACCESSIBLE	1
1B RATE (PER 100m <sup>2</sup> )	0.82
CAR BAYS	48
ACCESSIBLE	1
WH1 TOTAL	91
WAREHOUSE 2	
2A RATE (PER 100m <sup>2</sup> )	0.76
CAR BAYS	48
ACCESSIBLE	1
2B & 2C RATE (PER 100m <sup>2</sup> )	0.51
CAR BAYS	60
ACCESSIBLE	2
WH2 TOTAL	111
WAREHOUSE 3	
3A RATE (PER 100m <sup>2</sup> )	0.75
CAR BAYS	45
ACCESSIBLE	1
3B RATE (PER 100m <sup>2</sup> )	0.86
CAR BAYS	53
ACCESSIBLE	1
WH3 TOTAL	100
WAREHOUSE 4	
4A RATE (PER 100m <sup>2</sup> )	0.72
CAR BAYS	47
ACCESSIBLE	1
4B RATE (PER 100m <sup>2</sup> )	0.68
CAR BAYS	44
ACCESSIBLE	1
WH4 TOTAL	93
CAR PARK TOTAL	395

No.	DATE	REVISION	BY	CHK
P2	05.05.2023	PRELIMINARY ISSUE	JB	GA
P3	07.06.23	PRELIMINARY ISSUE	JB	BM
A	07.08.2023	COUNCIL SUBMISSION	JB	BM
P4	20.10.2023	PRELIMINARY ISSUE	SP	BM
PS	27.10.2023	PRELIMINARY ISSUE	SP	BM

All areas indicated are indicative for design and planning purposes only and should not be used for any contractual reasons without verification by a licensed surveyor or further design development being completed.

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6 Gorton Street Prahran VIC 3181 | e: info@watsonyoung.com.au | w: watsonyoung.com.au  
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PROJECT:  
PROPOSED INDUSTRIAL DEVELOPMENT  
618 CLAYTON ROAD, CLAYTON STH VIC

TITLE:  
ESTATE MASTER PLAN



CLIENT: **TROON GROUP**

DATE: JANUARY, 2022  
DRAWN BY: JB  
SCALE: 1:1000 @ B1  
SCALE:

JOB NO:  
21326  
DRAWING NO:  
TP002  
REVISION:  
P5

**watson young**

618 Clayton Road, Clayton South

STORMWATER MANAGEMENT PLAN

## Appendix D DBYD and Council Mapping

TROON GROUP

**ADVERTISED  
PLAN**

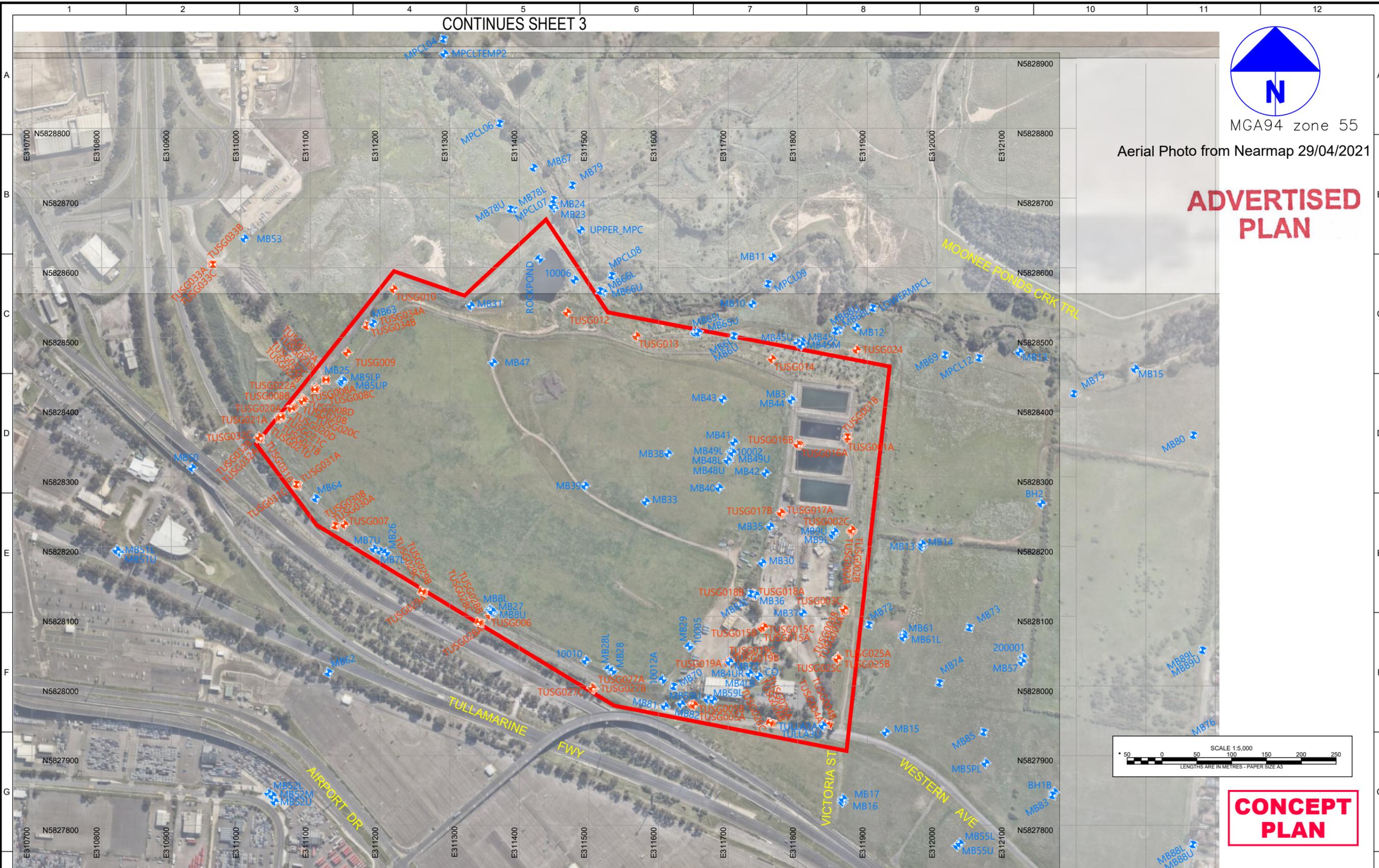
CONTINUES SHEET 3



MGA94 zone 55

Aerial Photo from Nearmap 29/04/2021

**ADVERTISED PLAN**



**CONCEPT PLAN**

CONTINUES SHEET 2

REV	DATE	DRAWN	REV'D	APP'D	CONCEPT PLAN	REVISION
C1	20.07.21	F.A.	S.R.	B.G.	CONCEPT PLAN	

DRAWING NUMBER	REFERENCE DRAWING TITLE



**Tullamarine Landfill Site  
Westmeadows VIC**

Level 4, 441 St.Kilda  
Road, Melbourne VIC  
3004 Australia

PROJECT TULLAMARINE LANDFILL SITE GAS WELLS INFRASTRUCTURE			
DRAWN F.ABATE	DRAWING CHECK LOLDRIDGE	REVIEWED L.OLDRIDGE	APPROVED B.GRIFFIN
DESIGNED S.RAPOLE	DESIGN REVIEW S.RAPOLE	DATE 20.07.21	DATE XXXXXX

TITLE SITE INFRASTRUCTURE GROUND WATER GAS WELLS MGA SHEET 1	
SCALE AS SHOWN	DRAWING NO TULL-GW-COORD1
REV C1	

DATE: 4/11/2021 12:39:56 PM LOGIN NAME: FRANK  
LOCATION: I:\Cleanaway\_DBYD\_Tullamarine\TULLA-Coord-2021\CCCT.dwg





LFG Monitoring Bore Locations

Table with columns: Point No., MGA94 Zone 55 (Easting, Northing), AHD (Top Of Casing, Ground Level). Lists monitoring bore locations from TUSG001A to TUSG034B.

Survey Datum: MGA94 Zone 55
Level Datum: AHD vide TULLAMARINE PM 18 R.L. = 112.790
Surveyor: Riley Brightmore
Date of Survey: 30/07/2020

Groundwater/Monitoring Well Locations

Table with columns: Well No., MGA94 Zone 55 (Easting, Northing), AHD (Lid cover level, Top of PVC casing level, Ground Level). Lists groundwater/monitoring well locations from 10002 to UPPER\_MPC.

Survey Datum: MGA94 Zone 55
Level Datum: AHD vide TULLAMARINE PM 18 R.L. = 112.790
Surveyor: Riley Brightmore
Date of Survey: 30/07/2020

ADVERTISED PLAN

DATE: 4/11/2021 12:38:37 PM LOGIN NAME: FRANK
LOCATION: \\C:\cleanaway\DB\YD\_Tullamarine\TULLA-GW-Coord-20210701.dwg

Revision table with columns: REV, DATE, DRAWN, REV'D, APP'D, CONCEPT PLAN, REVISION.

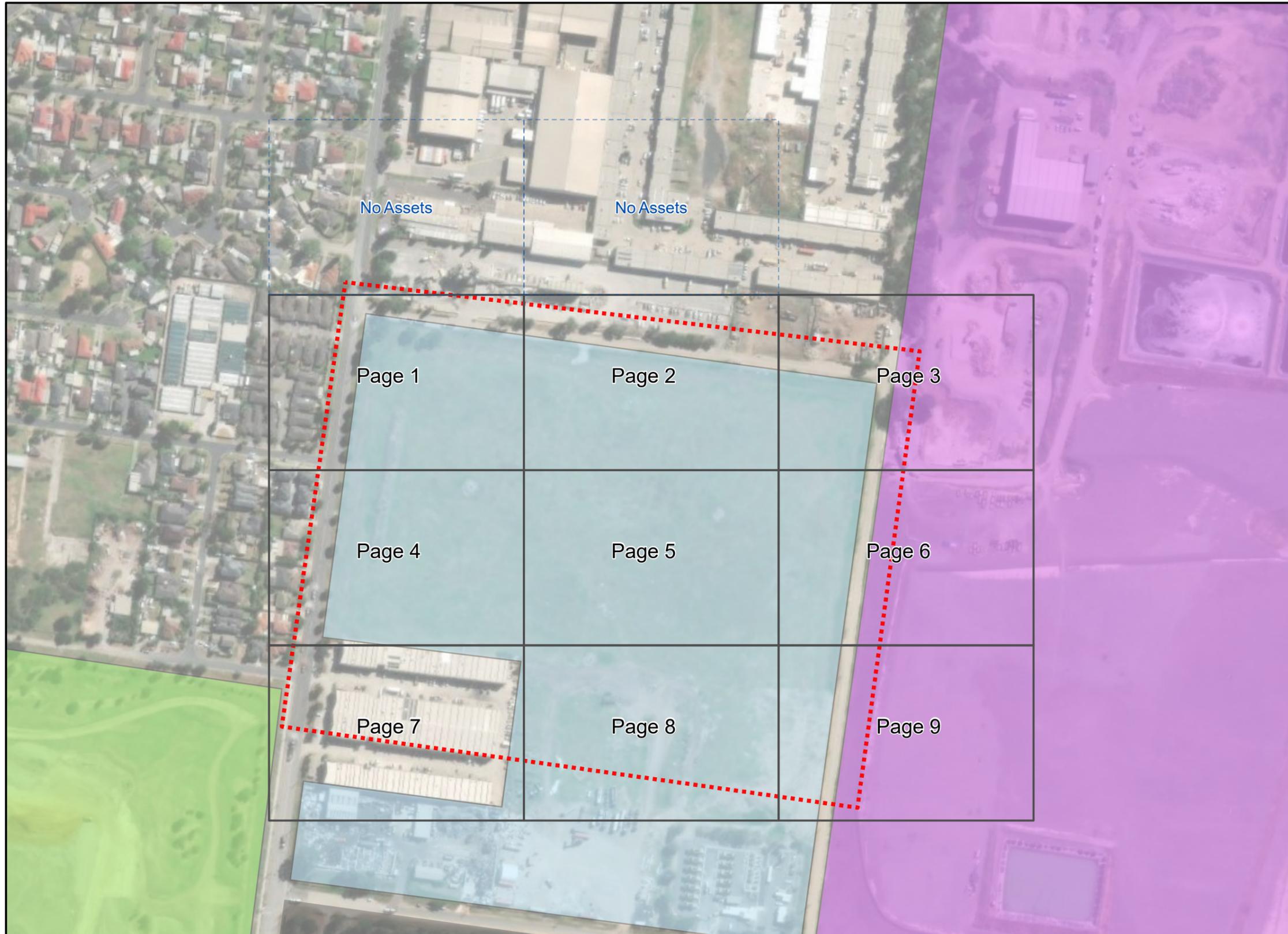
Table with columns: DRAWING NUMBER, REFERENCE DRAWING TITLE.

Tullamarine Landfill Site Westmeadows VIC
Level 4, 441 St.Kilda Road, Melbourne VIC 3004 Australia



Project information table: PROJECT (TULLAMARINE LANDFILL SITE GAS WELLS INFRASTRUCTURE), DRAWN (F.ABATE), CHECKED (L.OLDRIDGE), REVIEWED (L.OLDRIDGE), APPROVED (B.GRIFFIN), DATE (20.07.21), DATE (XXXXXX).

Title block table: TITLE (SITE INFRASTRUCTURE GROUND WATER GAS WELLS MGA COORDINATES - SHEET 4), SCALE (AS SHOWN), DRAWING NO (TULL-GW-COORD4), REV (C1).



### Legend

- BYDA Enquiry
- Detailed map page
- No dig site assets
- Site Boundary - Victory Road Landfill
- Site Boundary - Clayton Road Landfill
- Site Boundary - Clayton Road Regional Landfill
- Site Boundary - Fraser Road Landfill

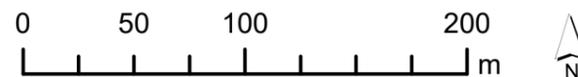
**ADVERTISED PLAN**

**Disclaimer:** The Plan is provided in response to a Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of Cleanaway infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.

In an emergency contact Cleanaway on 13 13 39

**Index Sheet**

Plans generated by SmarterWX™ Automate



Scale 1:4,500

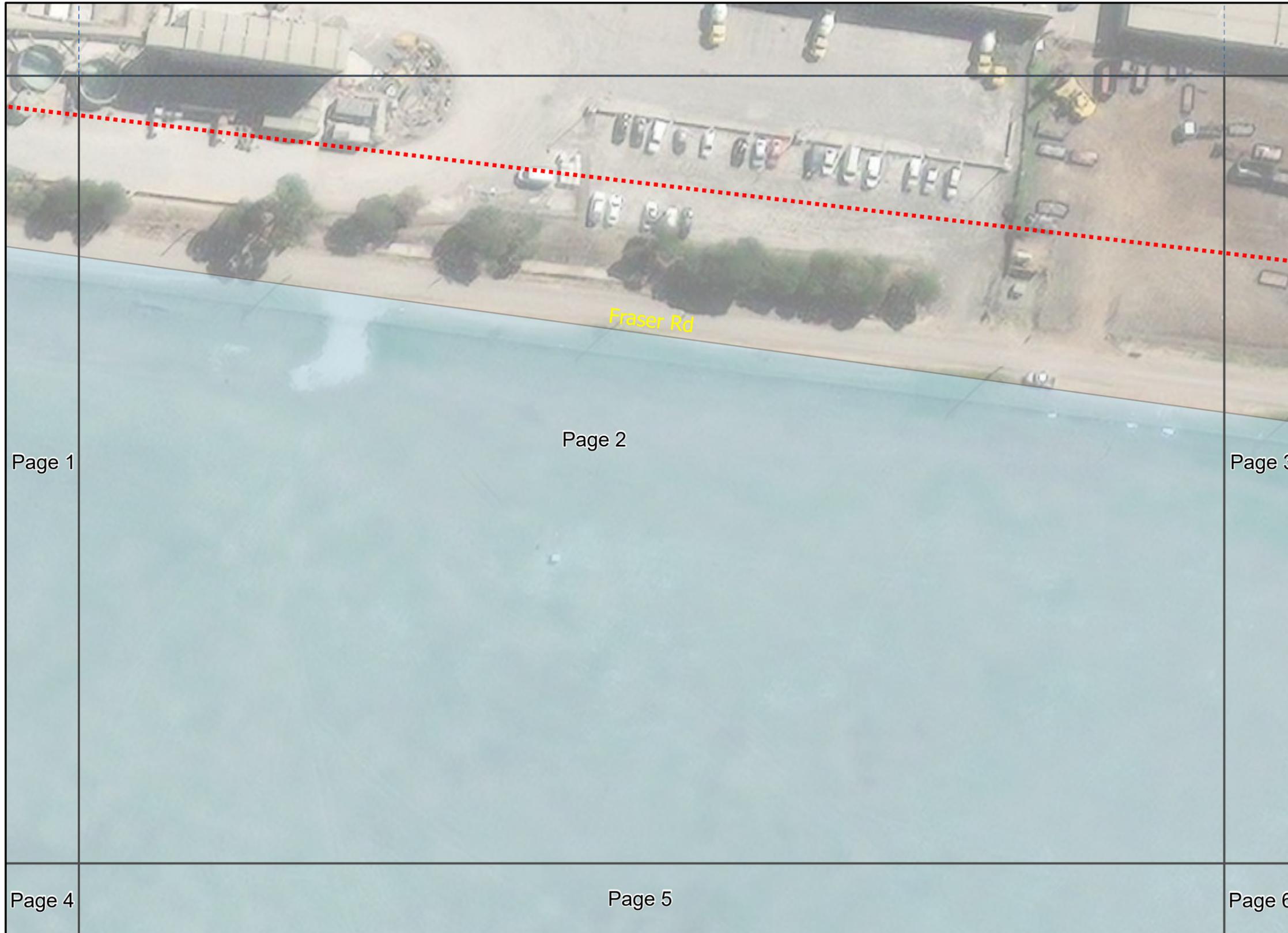


**Legend**

- BYDA Enquiry
- Site Boundary - Clayton Road Landfill

**ADVERTISED PLAN**

Disclaimer: The Plan is provided in response to a Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of Cleanaway infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.

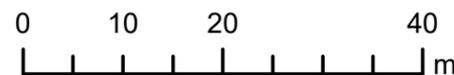


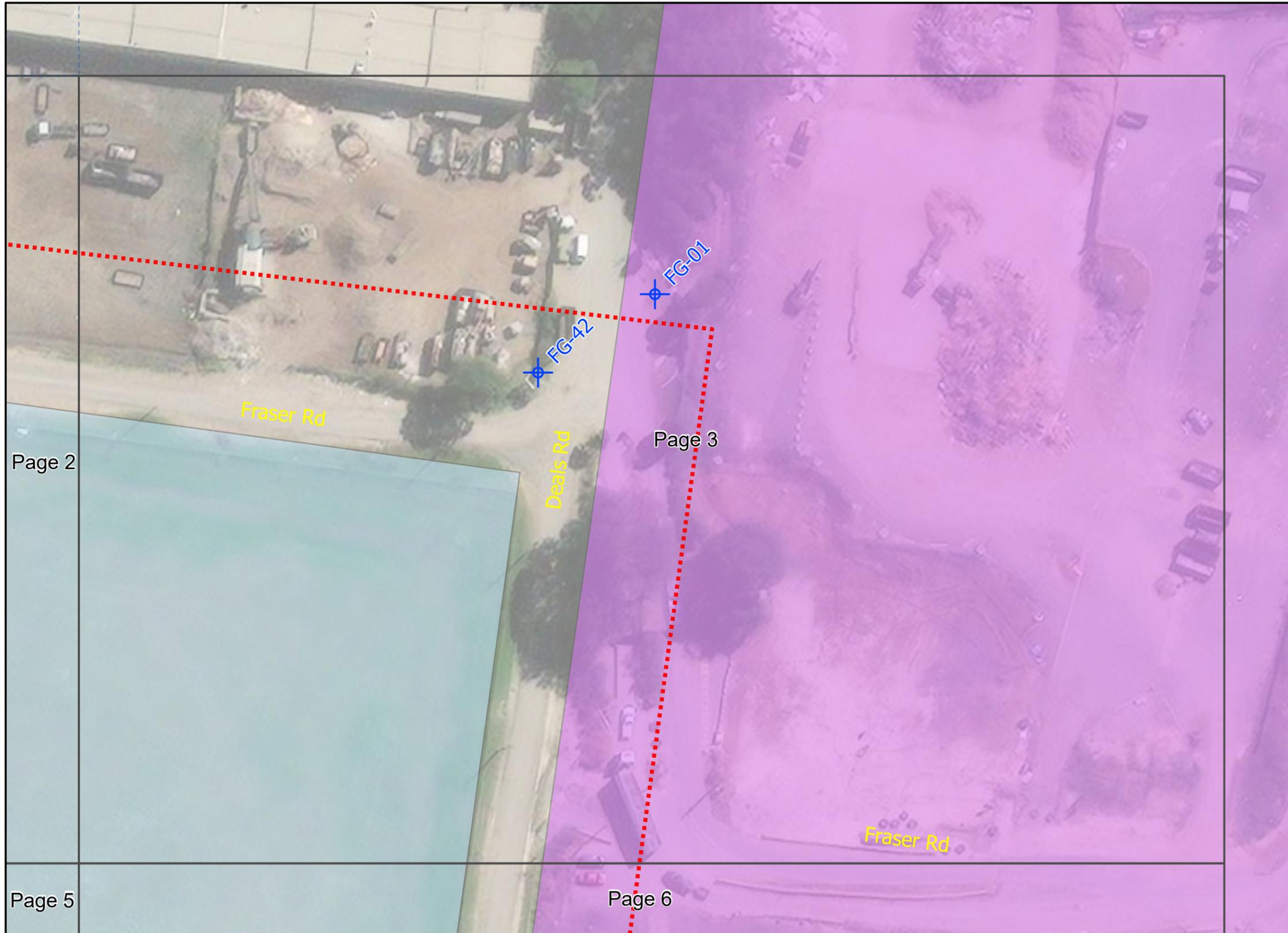
**Legend**

- BYDA Enquiry
- Site Boundary - Clayton Road Landfill

ADVERTISED PLAN

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**Legend**

- BYDA Enquiry
- Site Boundary - Clayton Road Landfill
- Site Boundary - Fraser Road Landfill

ADVERTISED PLAN

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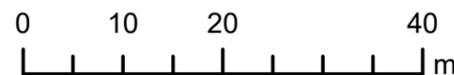


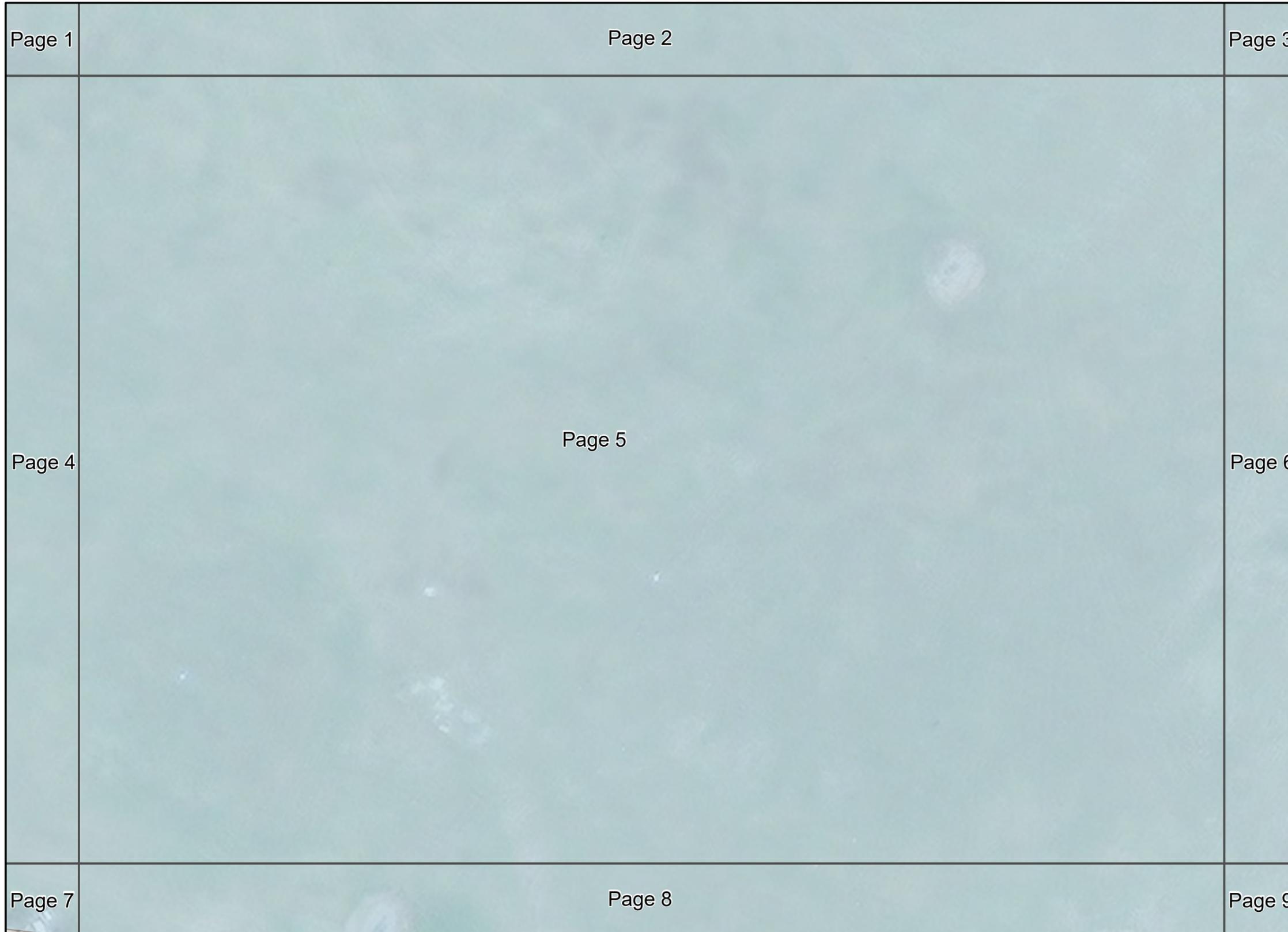
**Legend**

- BYDA Enquiry
- Site Boundary - Clayton Road Landfill

ADVERTISED PLAN

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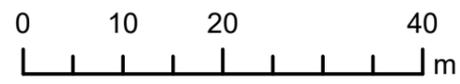


**Legend**

-  BYDA Enquiry
-  Site Boundary - Clayton Road Landfill

**ADVERTISED PLAN**

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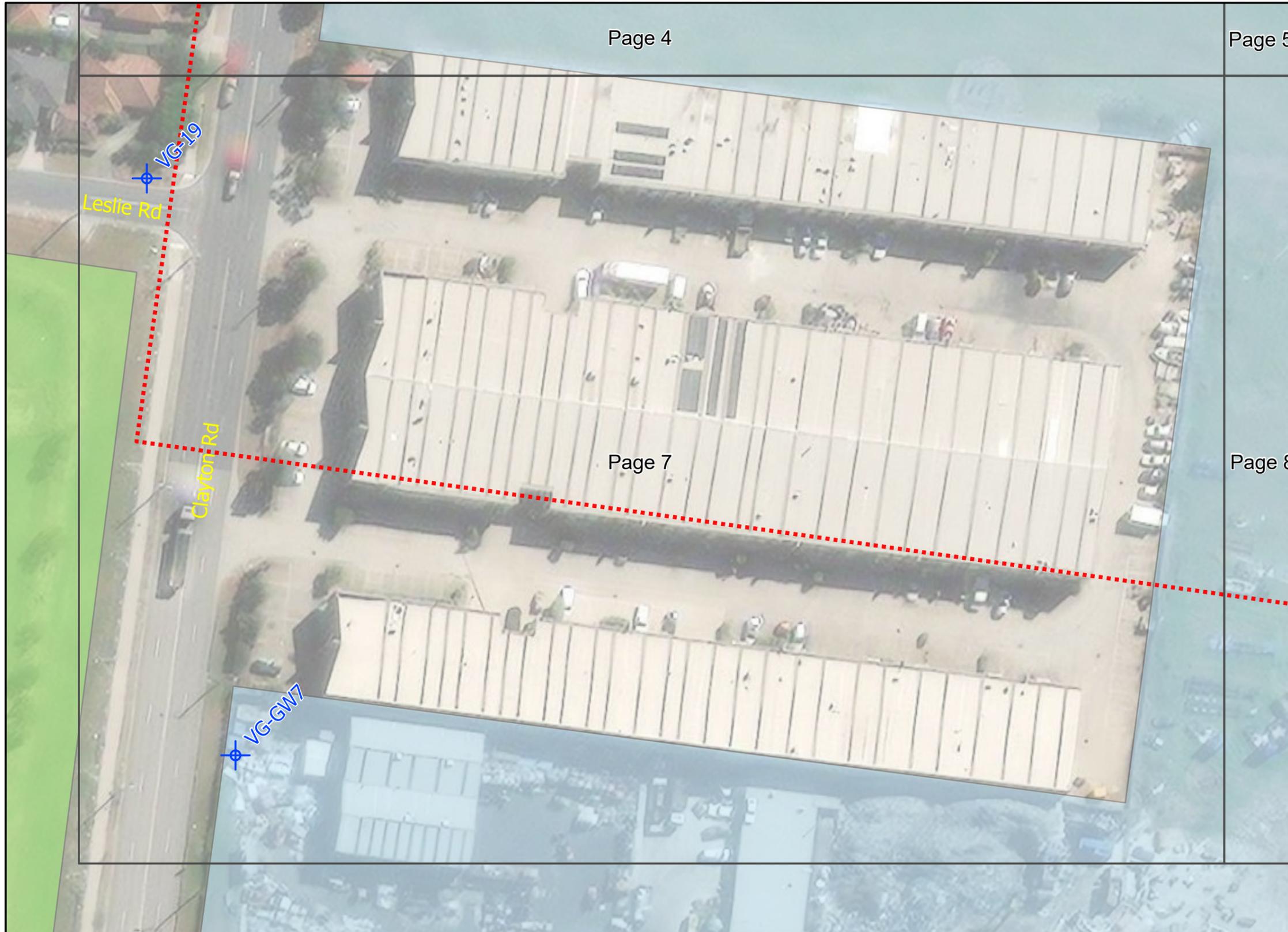
### Legend

- BYDA Enquiry
- Site Boundary - Clayton Road Landfill
- Site Boundary - Fraser Road Landfill

## ADVERTISED PLAN

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**Legend**

- BYDA Enquiry
- Site Boundary - Victory Road Landfill
- Site Boundary - Clayton Road Landfill

ADVERTISED PLAN

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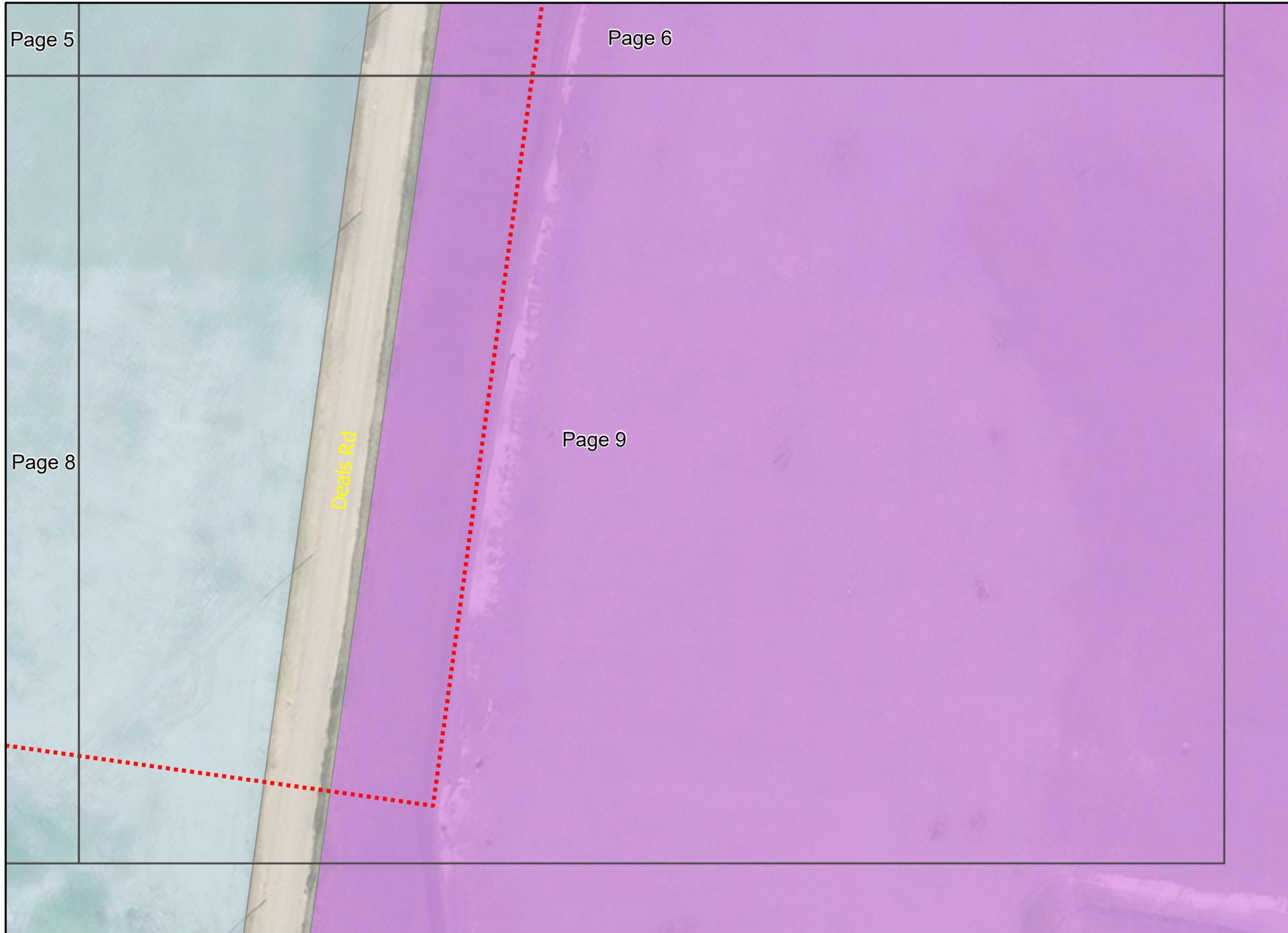


**Legend**

- BYDA Enquiry
- Site Boundary - Clayton Road Landfill

ADVERTISED PLAN

Disclaimer: The Plan is provided in response to a Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of Cleanaway infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.

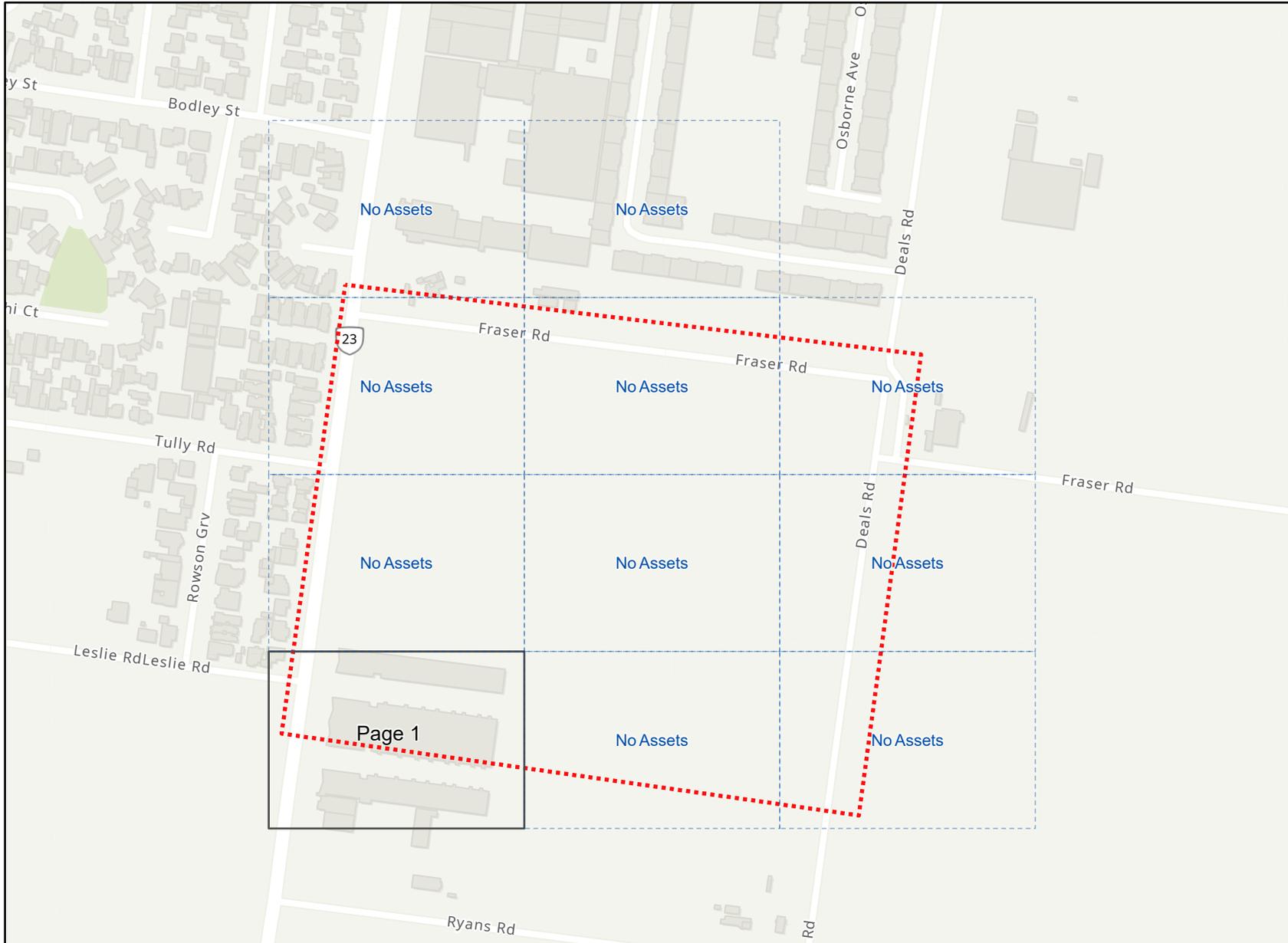


**Legend**

- BYDA Enquiry
- Site Boundary - Clayton Road Landfill
- Site Boundary - Fraser Road Landfill

**ADVERTISED PLAN**

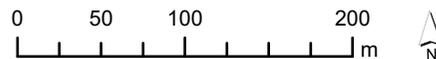
Disclaimer: The Plan is provided in response to a Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of Cleanaway infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.

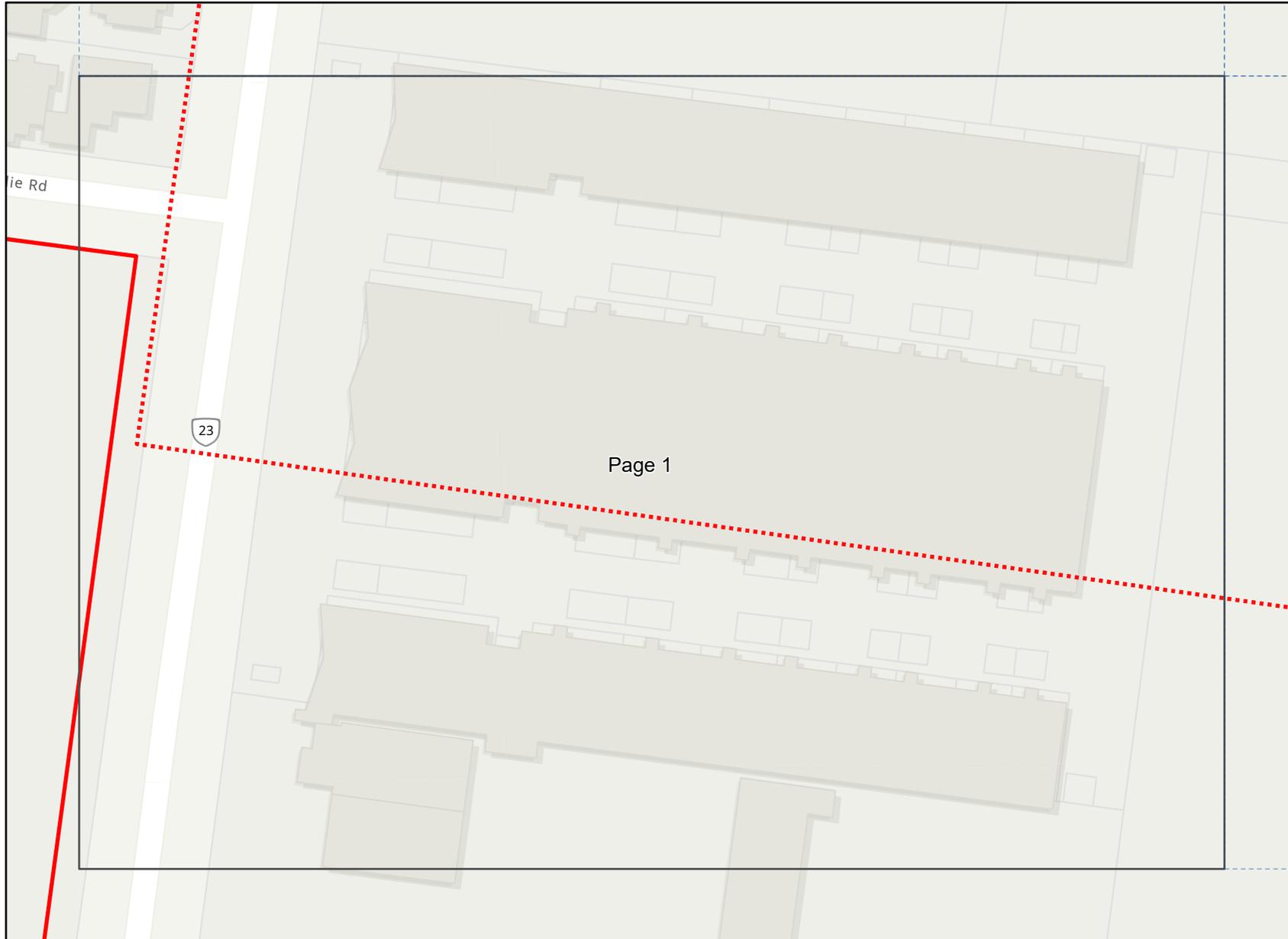


**Legend**

- BYDA Enquiry
- Detailed map page
- No dig site assets

**Disclaimer:** The Plan is provided in response to a Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of EDL Energy infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.





### Legend

-  BYDA Enquiry
-  LFG Pipeline - 225mm HDPE

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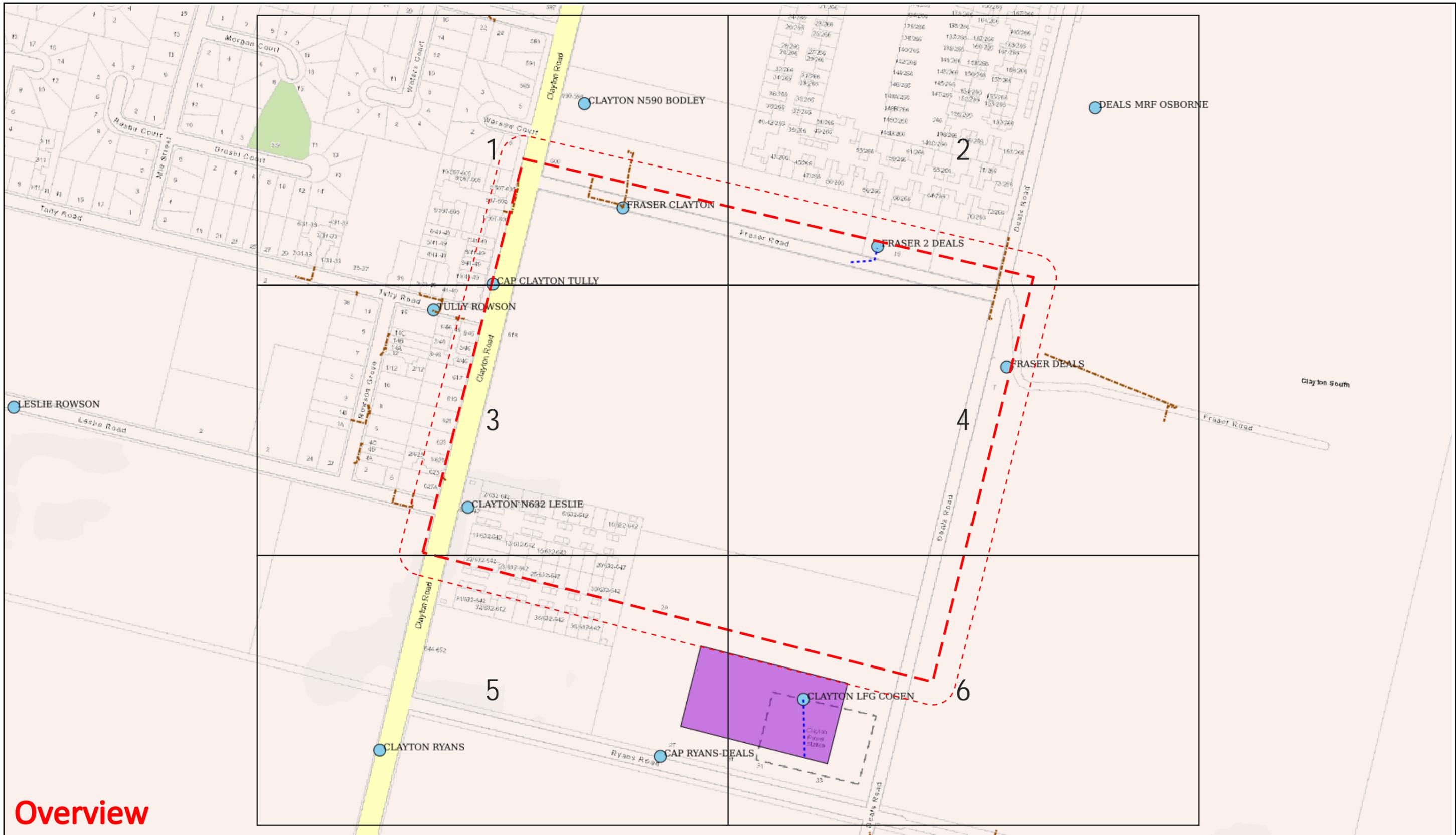
In an emergency contact EDL Energy on (07) 3275 5661

16/02/23 (valid for 30 days)

Plans generated by SmarterWX™ Automate



Scale 1:1,000



# Overview

## WARNING

Please be advised this is an extract of United Energy Distribution assets. This is a representative only and may not indicated 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. Please read all conditions & information on the attached information sheet. This extract is subject to those conditions. NOTE: The information contained on this plan is only valid for 28 days from the date of issue.

Scale: 1:3075



This plan must be printed in colour in order to protect the integrity of the information. Please note that the information contained in United Energy's GIS system is constantly being updated, and the information contained in these plans is subject to change. To the best of our knowledge this information is accurate at the date of issue, United Energy does not accept liability for any loss suffered as a result of reliance on the information. If you have any queries, please contact the Service Provider listed on the attached coversheet.

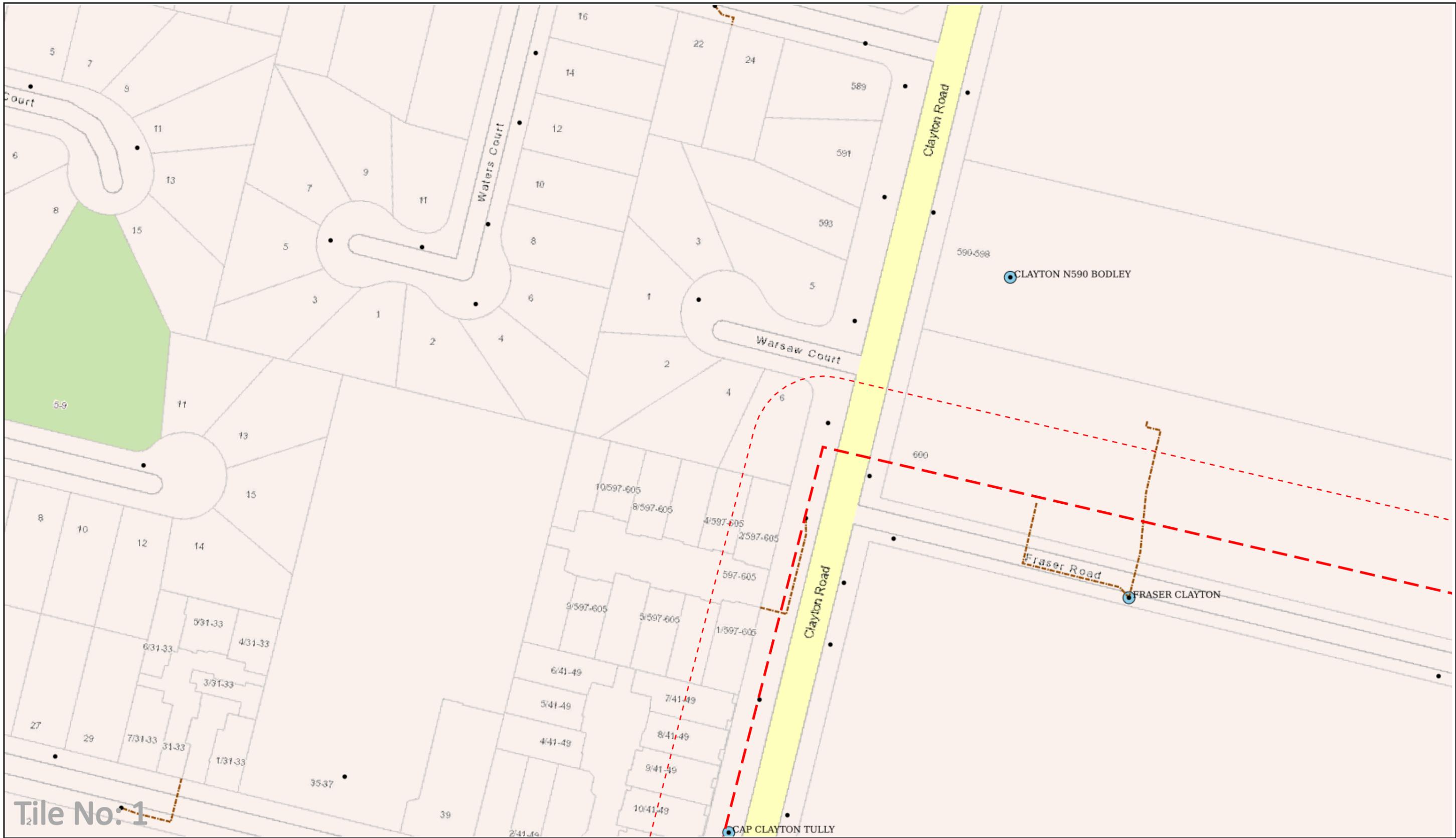
ISSUE DATE: 16 Feb 2023

DBYD Sequence Number: 221276954

### Legend

- DBYD Work Area
- Asset Search Area
- Zone Substation
- High Voltage Cable
- Low Voltage Cable
- Communication Cable
- Earth Cable
- SWER Substation
- Distribution Substation
- Pole

# ADVERTISED PLAN



**WARNING**

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Scale: 1:1000



This plan must be printed in colour in order to protect the integrity of the information. Please note that the information contained in United Energy's GIS system is constantly being updated, and the information contained in these plans is subject to change. To the best of our knowledge this information is accurate at the date of issue, United Energy does not accept liability for any loss suffered as a result of reliance on the information. If you have any queries, please contact the Service Provider listed on the attached coversheet.

ISSUE DATE: 16 Feb 2023

DBYD Sequence Number: 221276954

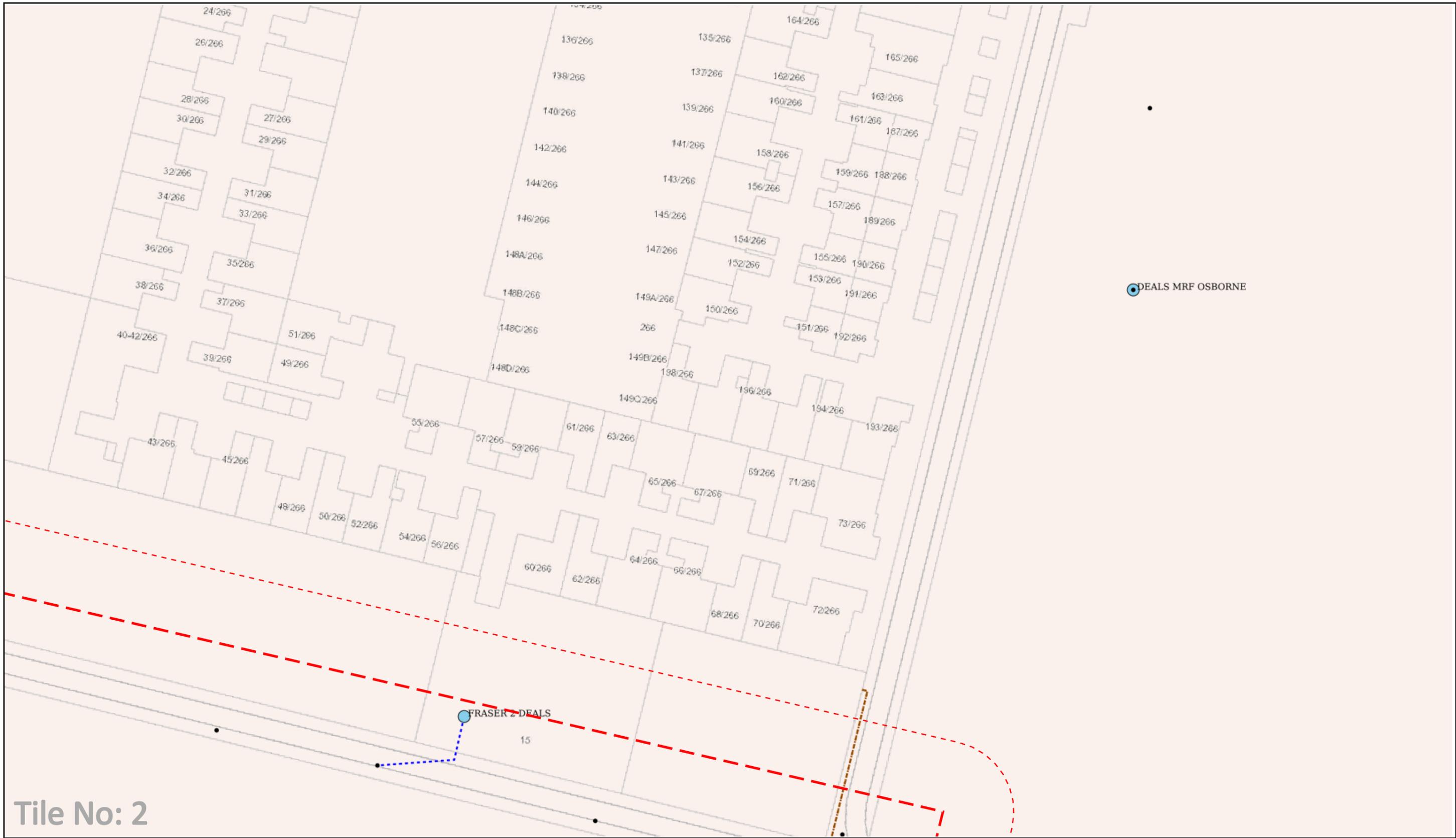
**Legend**

- DBYD Work Area
- Asset Search Area
- Zone Substation
- High Voltage Cable
- Low Voltage Cable
- Communication Cable
- Earth Cable
- SWER Substation
- Distribution Substation
- Pole

**ADVERTISED PLAN**



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Tile No: 2

**WARNING**

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Scale: 1:1000



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ISSUE DATE: 16 Feb 2023

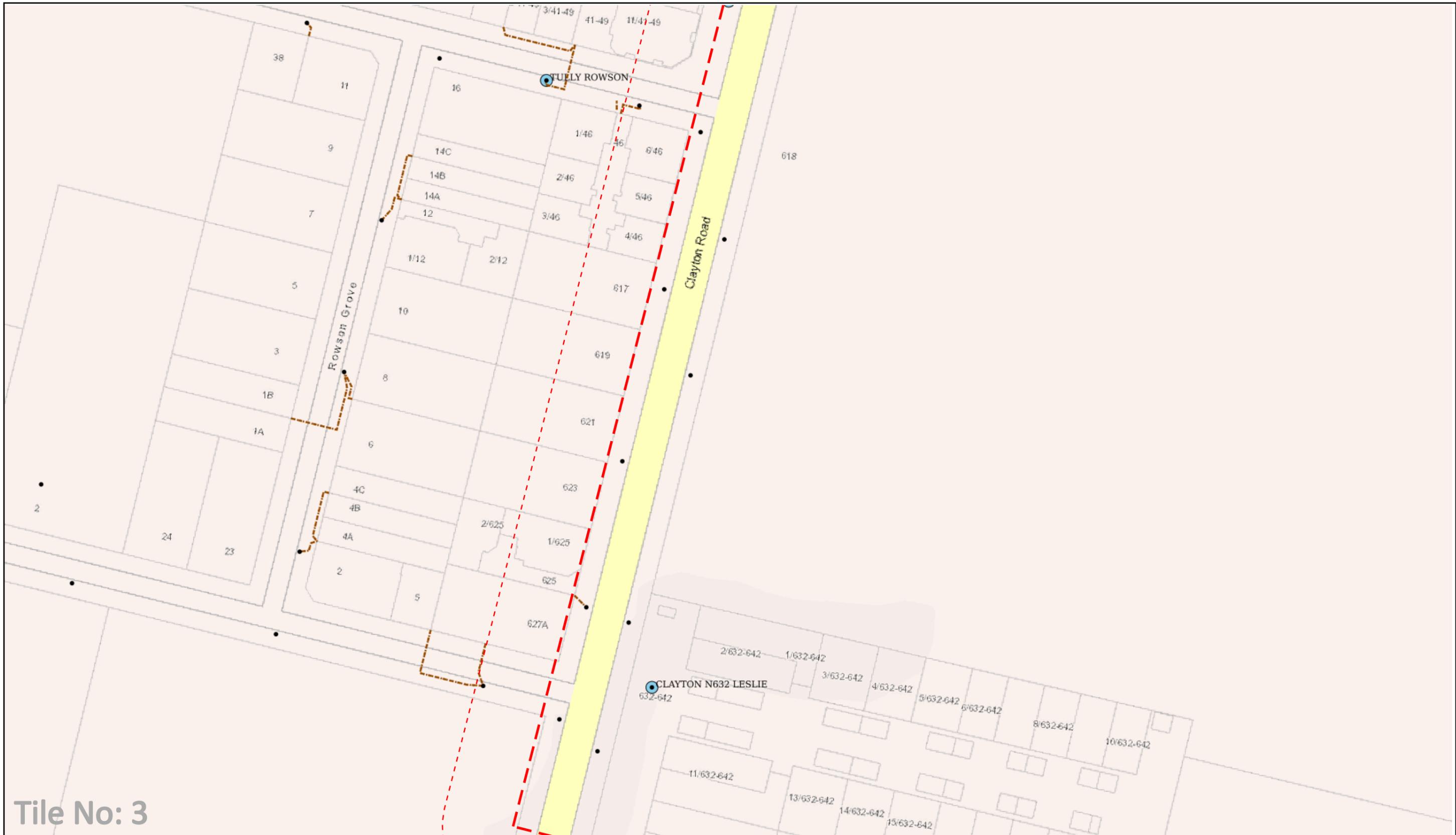
DBYD Sequence Number: 221276954

**Legend**

- DBYD Work Area
- Asset Search Area
- Zone Substation
- High Voltage Cable
- Low Voltage Cable
- Communication Cable
- Earth Cable
- SWER Substation
- Distribution Substation
- Pole

**united energy**  
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**ADVERTISED PLAN**



Tile No: 3

**WARNING**

Please be advised this is an extract of United Energy Distribution assets. This is a representative only and may not indicated 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. Please read all conditions & information on the attached information sheet. This extract is subject to those conditions. NOTE: The information contained on this plan is only valid for 28 days from the date of issue.

Scale: 1:1000



This plan must be printed in colour in order to protect the integrity of the information. Please note that the information contained in United Energy's GIS system is constantly being updated, and the information contained in these plans is subject to change. To the best of our knowledge this information is accurate at the date of issue, United Energy does not accept liability for any loss suffered as a result of reliance on the information. If you have any queries, please contact the Service Provider listed on the attached coversheet.

ISSUE DATE: 16 Feb 2023

DBYD Sequence Number: 221276954

**Legend**

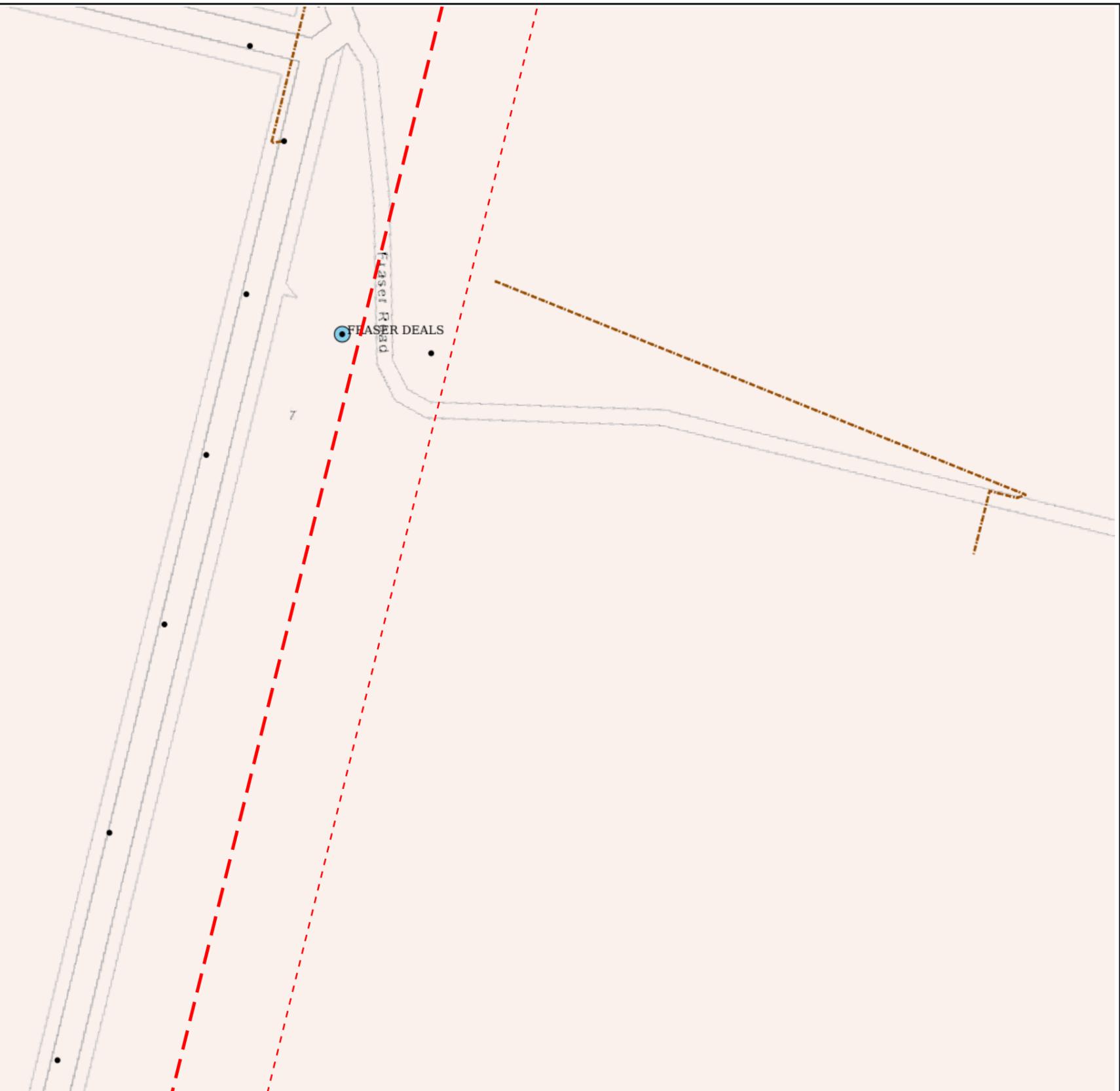
- DBYD Work Area
- Asset Search Area
- Zone Substation
- High Voltage Cable
- Low Voltage Cable
- Communication Cable
- Earth Cable
- SWER Substation
- Distribution Substation
- Pole

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Tile No: 4



**WARNING**

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 This extract is subject to those conditions.  
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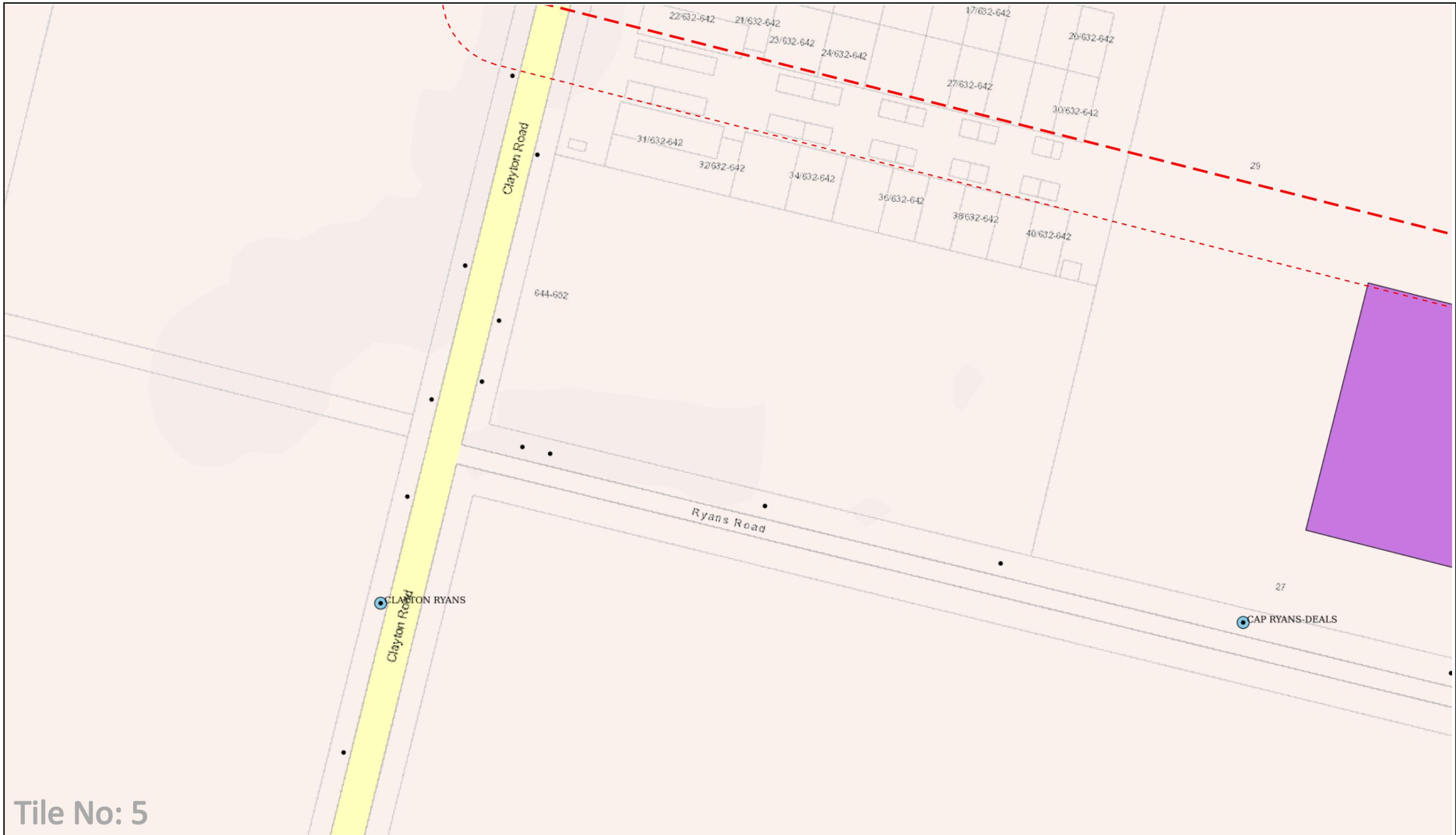
ISSUE DATE: 16 Feb 2023

DBYD Sequence Number: 221276954

**Legend**

-  DBYD Work Area
-  Asset Search Area
-  Zone Substation
-  High Voltage Cable
-  Low Voltage Cable
-  Communication Cable
-  Earth Cable
-  SWER Substation
-  Distribution Substation
-  Pole

**ADVERTISED PLAN**



Tile No: 5

**WARNING**

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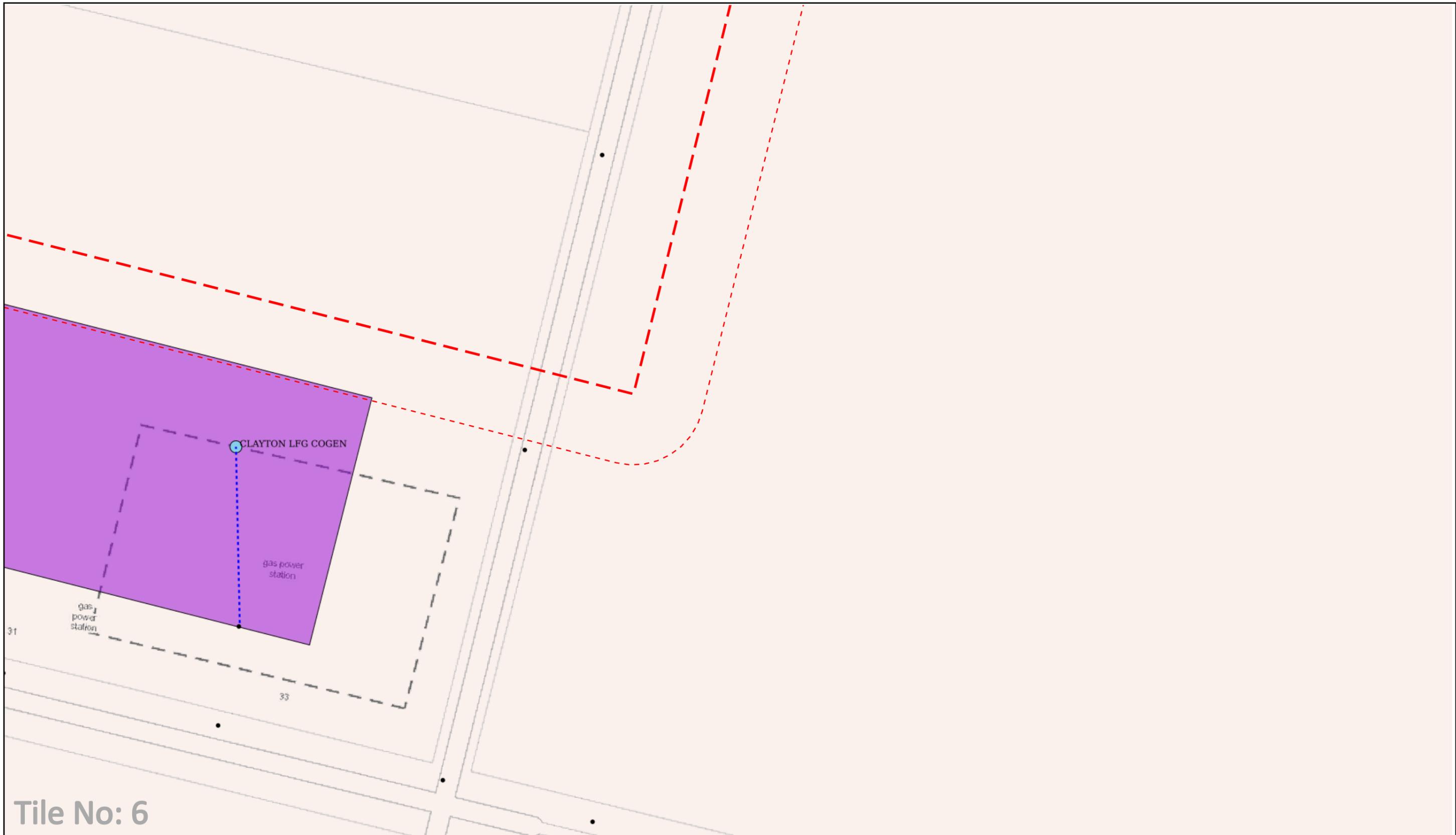
ISSUE DATE: 16 Feb 2023

DBYD Sequence Number: 221276954

**Legend**

- DBYD Work Area
- Asset Search Area
- Zone Substation
- ..... High Voltage Cable
- - - - - Low Voltage Cable
- ..... Communication Cable
- - - - - Earth Cable
- SWER Substation
- Distribution Substation
- Pole

**ADVERTISED PLAN**



Tile No: 6

**WARNING**

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Scale: 1:1000



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ISSUE DATE: 16 Feb 2023

DBYD Sequence Number: 221276954

**Legend**

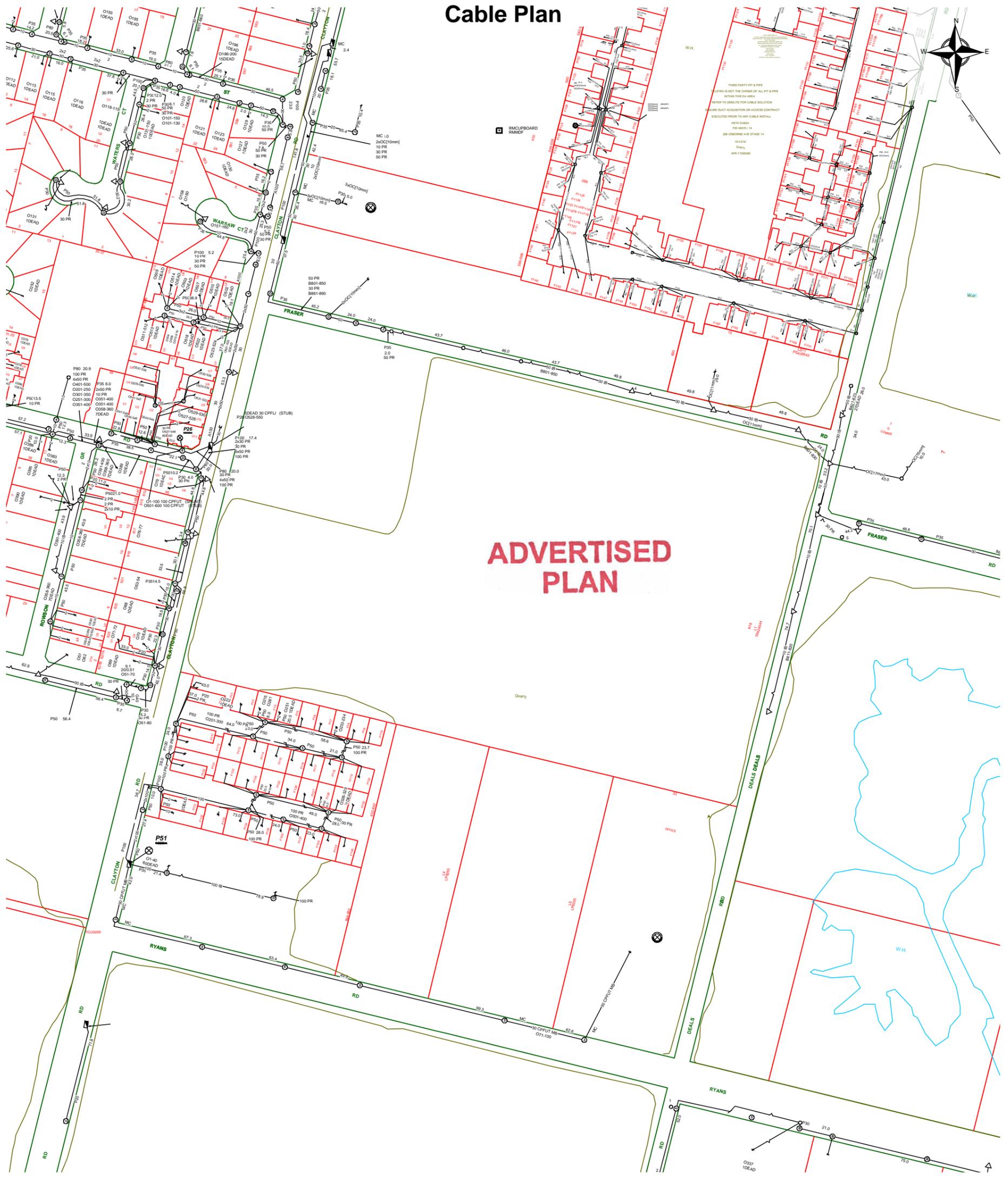
- DBYD Work Area
- Asset Search Area
- Zone Substation
- High Voltage Cable
- Low Voltage Cable
- Communication Cable
- Earth Cable
- SWER Substation
- Distribution Substation
- Pole

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**ADVERTISED PLAN**

# Cable Plan



Report Damage: <https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment>  
 Ph - 13 22 03  
 Email - Telstra.Plans@team.telstra.com  
 Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries

Sequence Number: 221276949

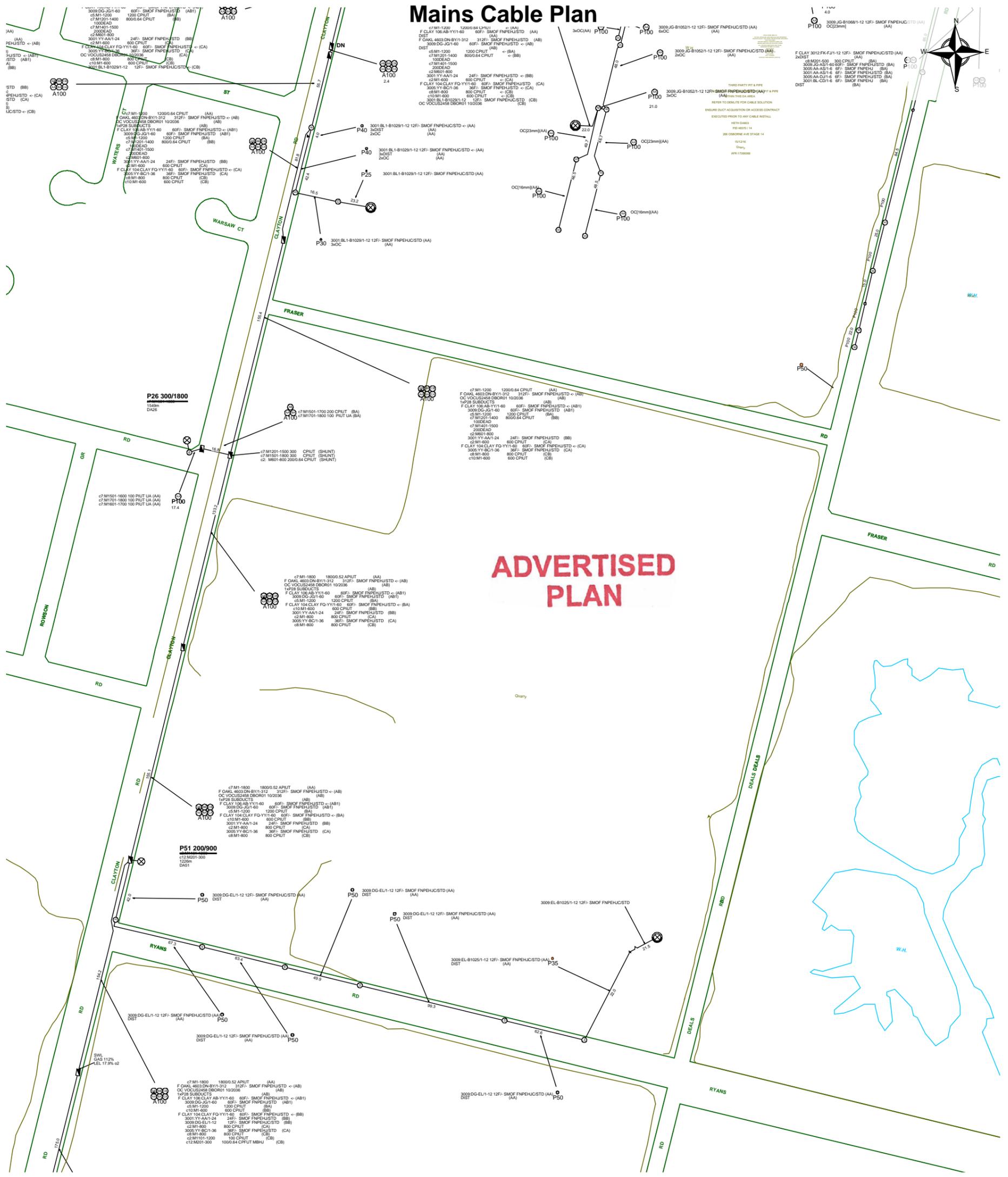
**CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.**

TELSTRA LIMITED A.C.N. 086 174 781  
 Generated On 16/02/2023 12:54:17

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

**WARNING**  
 Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.  
 See the Steps- Telstra Duty of Care that was provided in the email response.

# Mains Cable Plan



**ADVERTISED PLAN**



Report Damage: <https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment>  
 Ph - 13 22 03  
 Email - Telstra.Plans@team.telstra.com  
 Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries

Sequence Number: 221276949

**CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.**

TELSTRA LIMITED A.C.N. 086 174 781

Generated On 16/02/2023 12:54:20

**WARNING**  
 Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.  
 See the Steps- Telstra Duty of Care that was provided in the email response.

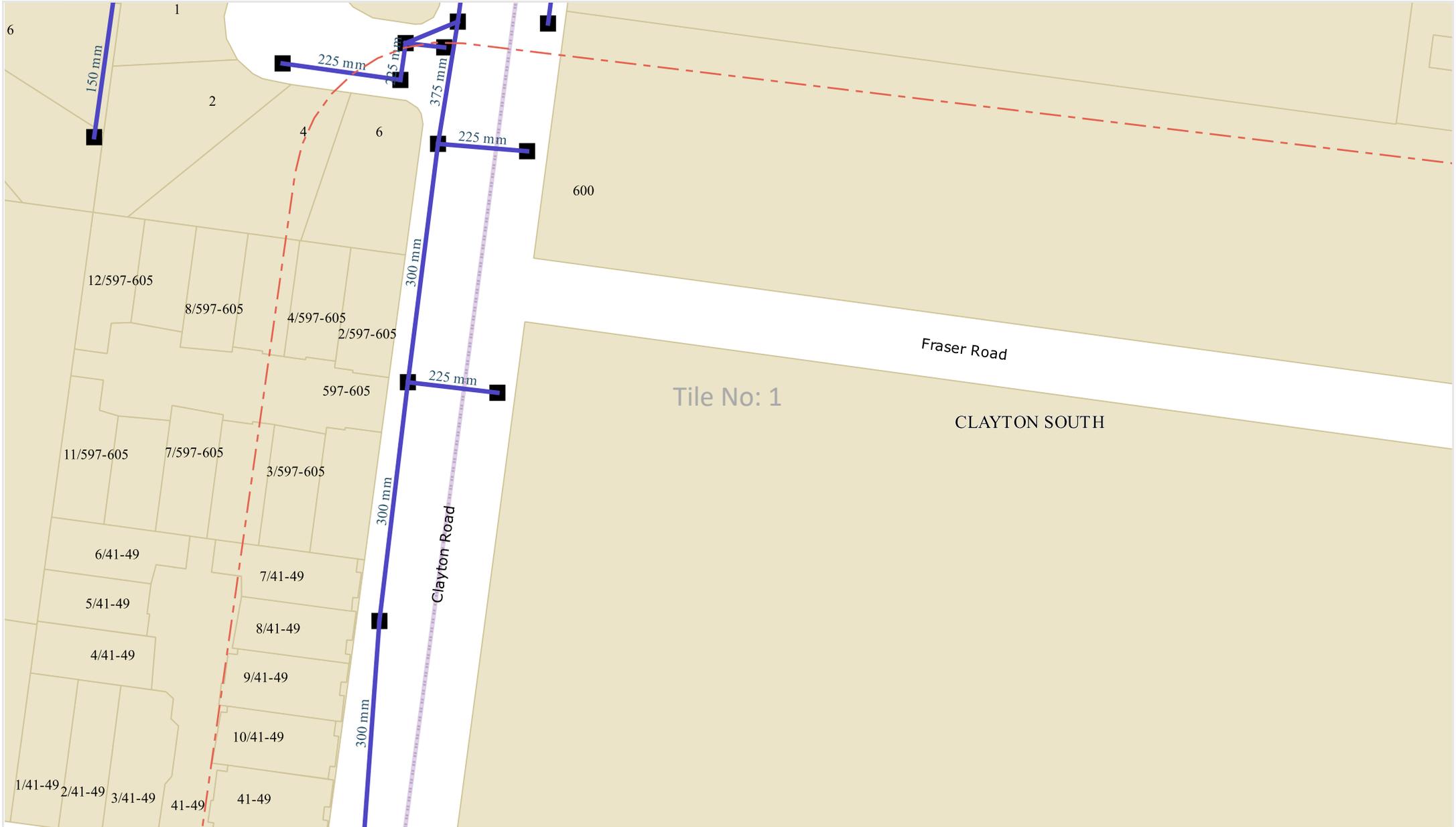


Legend | Scale: 1:3075



- |           |             |
|-----------|-------------|
| Pipes     | Watercourse |
| Pits      | Reserve     |
| Waterbody | Property    |
|           | Suburbs     |

**DISCLAIMER:** While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither City of Kingston 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.

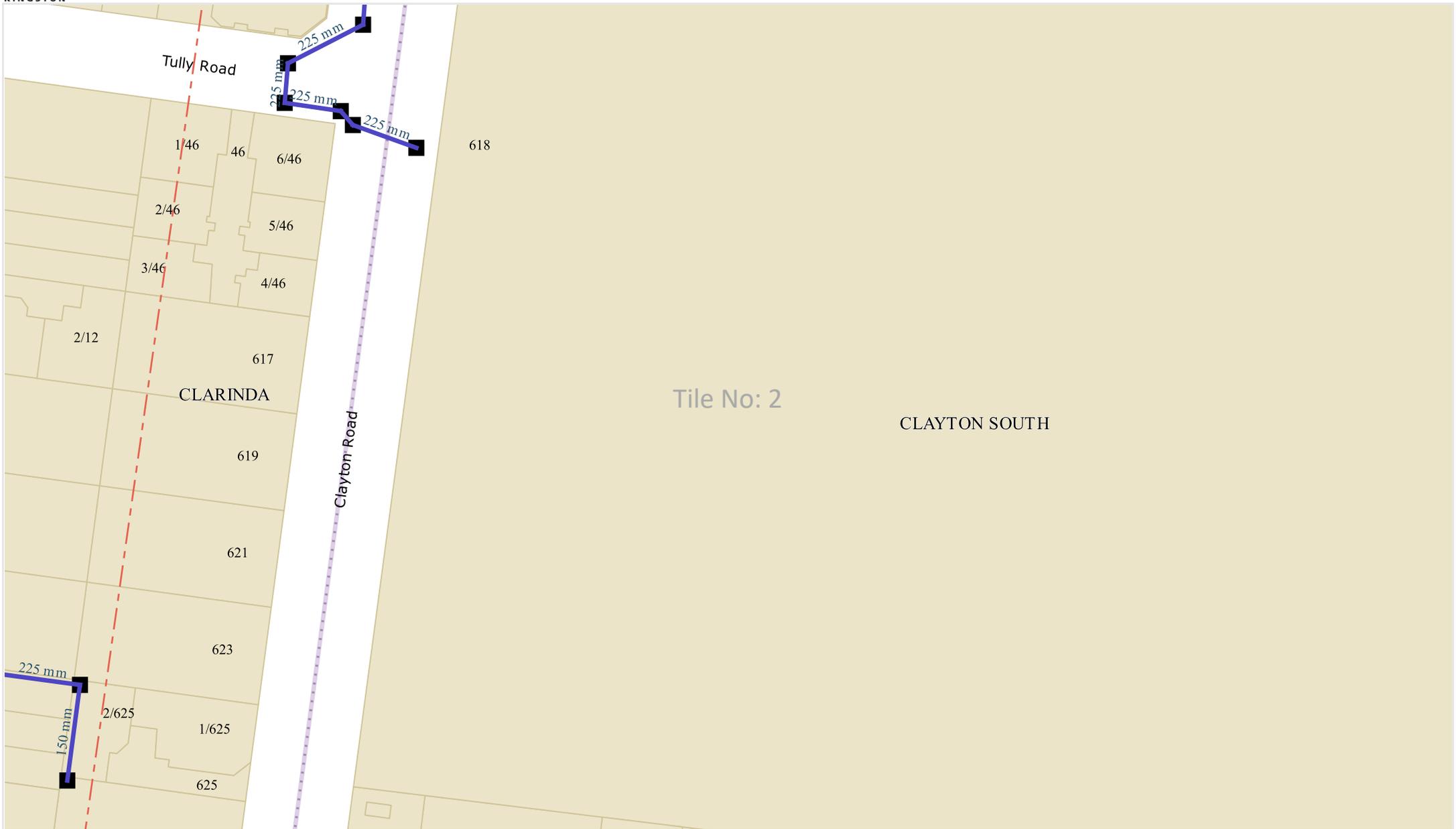


Legend | Scale: 1:1000

- Pipes
- Watercourse
- Pits
- Reserve
- Waterbody
- Property
- Suburbs



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Legend | Scale: 1:1000

- Pipes
- Watercourse
- Pits
- Reserve
- Waterbody
- Property
- Suburbs



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Legend | Scale: 1:1000



- Pipes
- Pits
- Waterbody
- Watercourse
- Reserve
- Property
- Suburbs

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618 Clayton Road, Clayton South

STORMWATER MANAGEMENT PLAN

## Appendix E Code Response Report

TROON GROUP

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**Context  
Engineering**

**Industrial Development  
618 Clayton Road  
Clayton Road**

**Provision Compliance  
Report**



Prepared For TROON GROUP

**ADVERTISED  
PLAN**

Context Engineering

ABN 56 650 431 637



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This Document Has Been Approved by The Following Appropriately Qualified and Experienced Professional Civil Engineer:

**Nicholas Rees**

BEng (Hons), MIEAust, CPEng, NER, Registered Professional Engineer of Queensland (RPEQ) No. 18700

# ADVERTISED PLAN

**Report Number: R003 - C\_23011**

Issue	Date	Issue Details	Author	Checked	Approved
A	26 June 2023	Preliminary Issue	EG	NR	NR



## 1.0 Executive Summary

Context Engineering has been commissioned by Troon Group to compile this Provision Compliance Report for the proposed development of the site located at 618 Clayton Road, Clayton South.

The proposed site involves the creation of an industrial development consisting of nine (9) new warehouses over a historical landfill. These buildings will be connected via large hardstand areas and a centrally located private road with access to Clayton Road. Each warehouse will also be serviced via adjacent office buildings and carparking spaces.

A summary of the investigation and outcomes presented in this report are as follows:

- Stormwater Management in Urban Developments Provision – Development complies with acceptable outcomes or presents performance solutions.

It is recommended that the proposed Development Application be approved.

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## 2.0 Stormwater Management in Urban Development

### 2.1 Clause 53.18 – 5 Stormwater Management Objectives for Building and Works

Performance Outcomes	Acceptable Outcomes	Does the proposal meet the acceptable outcomes?	Council Use
<p><b>Objective</b></p> <p>a) To encourage stormwater management that maximises the retention and reuse of stormwater.</p> <p>b) To encourage development that reduces the impact of stormwater on the drainage system and filters sediment and waste from stormwater prior to discharge from the site.</p> <p>c) To encourage stormwater management that contributed to cooling, local habitat improvements and provision of attractive an enjoyable spaces.</p> <p>d) To ensure that industrial and commercial chemical pollutants and other toxicants do not enter the stormwater system.</p>	<p><b>Standard W2</b></p> <p>The stormwater management system should be designed to:</p> <ul style="list-style-type: none"> <li>• Meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater- Best Practise Environmental Management Guidelines (Victorian Stormwater Committee, 1999).</li> <li>• Minimise the impact of chemical pollutants and other toxicants including, but not limited to, bunding and covering or roofing of storage, loading and work areas.</li> <li>• Contribute to cooling, improving local habitat and providing attractive and enjoyable outcomes.</li> </ul>	<p><input checked="" type="checkbox"/> <b>Complies</b></p> <p><input type="checkbox"/> <b>Performance Solution</b></p> <p><input type="checkbox"/> <b>Not Applicable</b></p> <p>Stormwater runoff from the site to be treated via proprietary Filtterra system.</p> <p>Refer Civil Engineering Report by Context Engineering for further details.</p>	<p style="text-align: center;"><b>ADVERTISED PLAN</b></p>

## 2.2 Clause 53.18 – 6 Site Management Objectives

Performance Outcomes	Acceptable Outcomes	Does the proposal meet the acceptable outcomes?	Council Use
<p><b>PO1</b></p> <p>a) To protect drainage infrastructure and receiving waters from sedimentation and contamination</p> <p>b) To protect the site and surrounding area from environmental degradation prior to and during construction of subdivision works</p>	<p><b>Standard W3</b></p> <p>An application should describe how the site will be managed prior to and during construction period and may set out requirements for managing:</p> <ul style="list-style-type: none"> <li>• Erosion and sediment.</li> <li>• Stormwater.</li> <li>• Litter, concrete and other construction wastes.</li> <li>• Chemical contamination.</li> </ul> <p><b>ADVERTISED PLAN</b></p>	<p><input checked="" type="checkbox"/> <b>Complies</b></p> <p><input type="checkbox"/> <b>Performance Solution</b></p> <p><input type="checkbox"/> <b>Not Applicable</b></p> <p>Erosion and sediment control during construction is detailed in the Engineering Services by Context Engineering.</p> <p>Refer drawing C_23065 DA80 Erosion and Sediment Control Layout Plan for further details.</p>	

### **3. Recommendations**

It is recommended that the proposed Development Application be approved.

### **4. Disclaimer**

This report has been prepared on behalf of and for the exclusive use of Troon Group and is subject to and issued in accordance with the agreement between Context Engineering.

Our investigation and analysis has been specifically catered for the particular requirements Troon Group and may not be applicable beyond this scope. For this reason, any other third parties are not authorised to utilise this report without further input and advice from Context Engineering.

Context Engineering accepts no liability or responsibility whatsoever for the report in respect of any use of or reliance upon this report by any third party.

The investigation and analysis have relied on information provided by others. We accept no responsibility for the accuracy of material supplied by others. The accuracy of the investigation, analysis and report are dependent upon the accuracy of this information

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