



**CODE COMPLIANCE REPORT
EROSION HAZARD ASSESSMENT**

CW20023

PROPOSED DEVELOPMENT AT
**46 Kraft Road
Pallara**

PREPARED FOR
Yu Fen Li

July 2022

Civil Works Engineers

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**BCC DS
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APPLICATION REF
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CODE COMPLIANCE REPORT EROSION HAZARD ASSESSMENT

CW20023

PROPOSED DEVELOPMENT AT

46 Kraft Road

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Yu Fen Li

REVISION / CHECKING



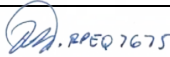
Rev No.	Date	Issued By	Signed	Reviewed By	Signed
0	20/11/20	S. Park		J. McDonald	
1	29/06/22	S. Park		J. McDonald	
Authorised By:		R. Andrade		Dated:	29/06/22

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1. Introduction

This report has been prepared to address the Brisbane City Council (BCC) code compliance requirements, and assess potential for soil erosion and sediment pollution, for the proposed development at 46 Kraft Road, Pallara. The applicable BCC codes/forms addressed in this report are:

- Stormwater Code;
- Infrastructure Design Code;
- Filling and Excavation Code; and
- Erosion Hazard Assessment.

This development will be assessed against the development provisions of the Brisbane City Plan 2014. This report is to be read in conjunction with the survey and subdivision plan prepared by AJS Surveys.

2. Code Compliance Requirements

The tables in the following appendices detail the performance criteria and acceptable solutions as required by BCC. Generally acceptable solutions have been provided for the applicable criteria. Where acceptable solutions were unable to be achieved, alternative solutions have been provided, accompanied by descriptive comments and/or justification.

3. Erosion Hazard Assessment

An Erosion Hazard Assessment is required for any Development Application that will result in soil disturbance, or any Operational Works or Compliance Assessment Application for filling and excavation. This assessment determines the potential risk of soil erosion and sediment pollution as a result of the development.

The assessment checklist confirms that the site is a 'medium risk' site and therefore, a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) will be engaged to prepare an ESC Program and Plan and supporting documentation.

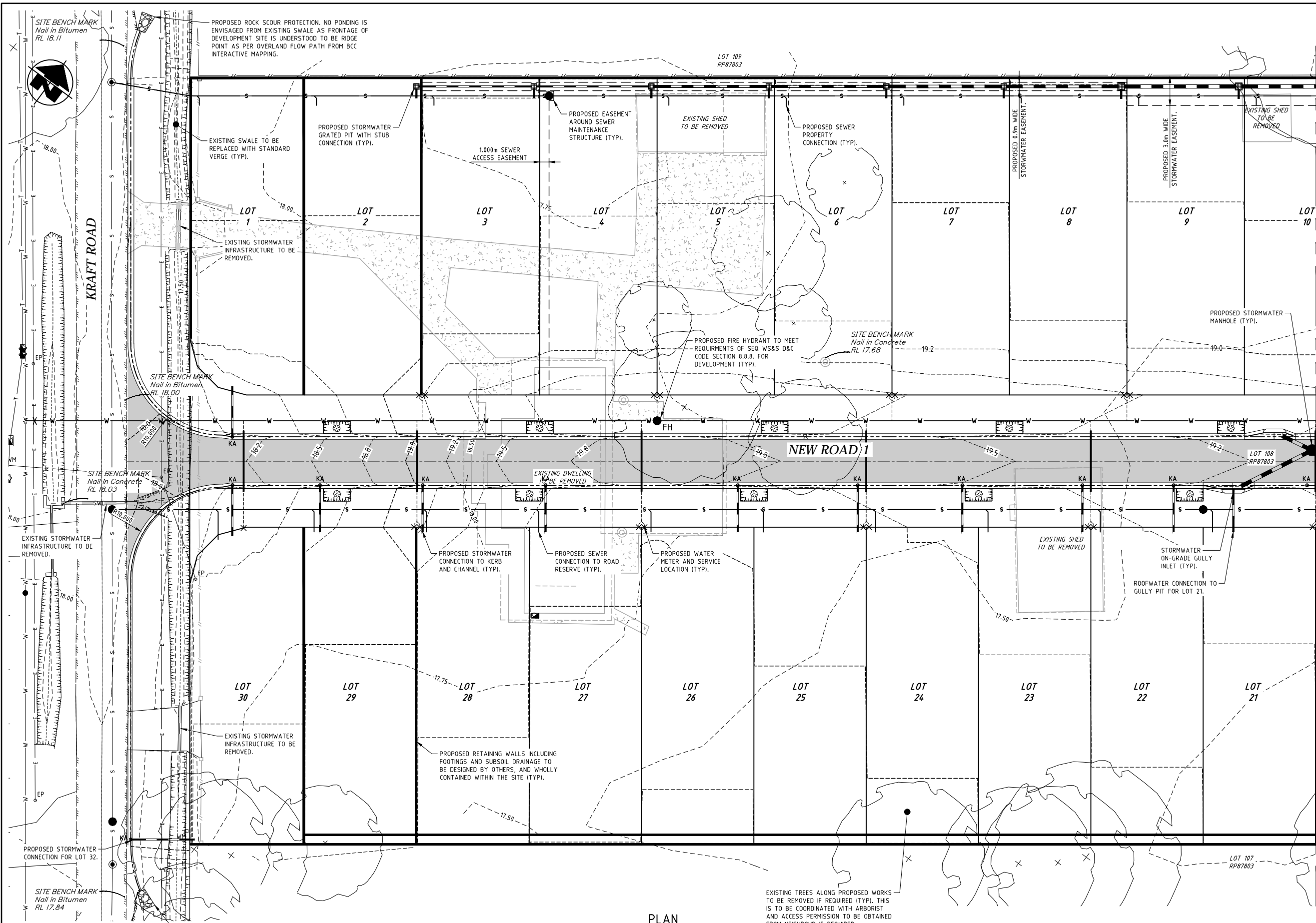
4. Conclusion

This report addresses the applicable Brisbane City Council code compliance requirements for the project and confirms that the development can be adequately serviced by existing and proposed infrastructure, and that the development can be generally undertaken in accordance with the relevant engineering codes.

The findings of the Erosion Hazard Assessment have determined that the site is a 'medium risk' for soil erosion and sediment run-off during construction.

Final arrangement and site infrastructure requirements are to be confirmed during the detailed design phase.

APPENDIX A – Concept Engineering Plans



DO NOT SCALE.
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ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	21.10.20
B	AMENDMENT ISSUE - TREES	19.03.21
C	PRELIMINARY ISSUE REVISED	25.01.22
D	PRELIMINARY ISSUE REVISED	08.06.22

LEGEND

- 3.50--- EXISTING SURFACE CONTOURS
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- W EXISTING WATER MAIN
- WM EXISTING WATER METER
- EXISTING FIRE HYDRANT
- S EXISTING SEWER
- E EXISTING OVERHEAD ELECTRICAL
- EP EXISTING ELECTRICITY POLE
- EXISTING CONCRETE TO BE REMOVED
- EXISTING BITUMEN TO BE RETAINED
- PROPOSED CONCRETE/PAVEMENT
- EXISTING TELECOMMUNICATIONS PIT

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**46 KRAFT ROAD
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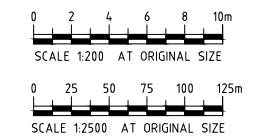
TITLE
**CONCEPT SERVICES
SKETCH
(SHEET 1 OF 2)**

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Designed	Drawn	Date
SP	SP	21.10.20
Approved	Scale	
SP	AS SHOWN	
REAL PROPERTY DESCRIPTION		Rev.
LOT No. 108	PLAN No. RP 87803	D

PLAN
SCALE 1:200



PRELIMINARY
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EARTHWORKS AND RETAINING WALLS NOTE
EARTHWORKS AND RETAINING WALLS ARE REQUIRED TO FACILITATE PROPOSED DEVELOPMENT. REFER TO CW20023-SK10 TO SK12 FOR CONCEPT EARTHWORKS SKETCHES AND SECTIONS.

EXISTING SERVICES NOTE
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SEWER AND WATER RETICULATION NOTE
SEWER AND WATER RETICULATION TO BE IN ACCORDANCE WITH GRAVITY SEWERAGE/WATER SUPPLY CODE OF AUSTRALIA SEQ EDITION, AND SEQ SEWERAGE/WATER STANDARD DRAWINGS. SERVICES TO BE IN CORRECT SERVICES CORRIDOR IN ACCORDANCE WITH BRISBANE CITY COUNCIL STANDARD DESIGN DRAWINGS, AND CLEAR FROM EXISTING SERVICES.

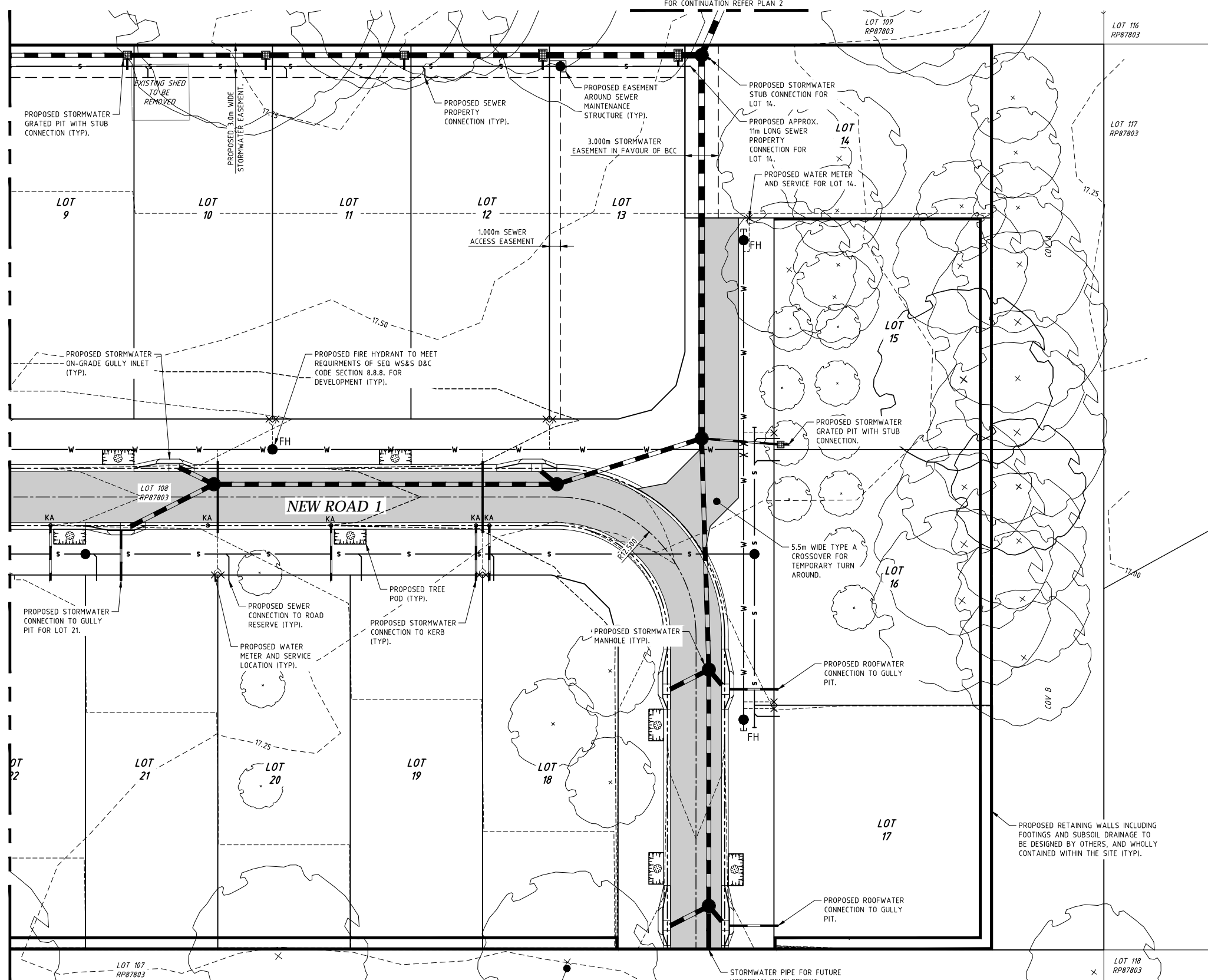
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EXISTING TREES ALONG PROPOSED WORKS TO BE REMOVED IF REQUIRED (TYP). THIS IS TO BE COORDINATED WITH ARBORIST AND ACCESS PERMISSION TO BE OBTAINED FROM NEIGHBOUR IF REQUIRED.

PROPOSED ROCK SCOUR PROTECTION. NO PONDING IS ENVISAGED FROM EXISTING SWALE AS FRONTAGE OF DEVELOPMENT SITE IS UNDERSTOOD TO BE RIDGE POINT AS PER OVERLAND FLOW PATH FROM BCC INTERACTIVE MAPPING.

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FOR CONTINUATION REFER TO DRAWING CW2023-SK02



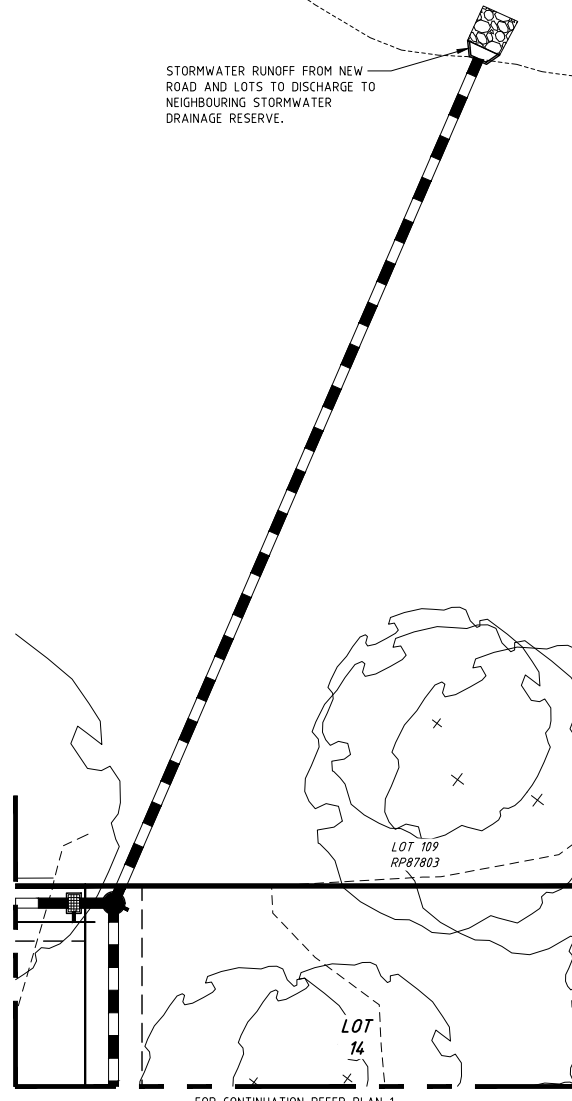
PLAN 1
SCALE 1:200

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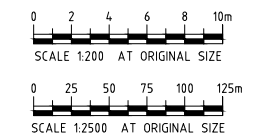
LOCALITY PLAN
SCALE 1:2500

STORMWATER RUNOFF FROM NEW ROAD AND LOTS TO DISCHARGE TO NEIGHBOURING STORMWATER DRAINAGE RESERVE.



PLAN 2
SCALE 1:200

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REAL PROPERTY DESCRIPTION	
LOT No.	108
PLAN No.	RP 87803

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A	PRELIMINARY ISSUE	21.10.20
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TITLE
CONCEPT SERVICES SKETCH (SHEET 2 OF 2)

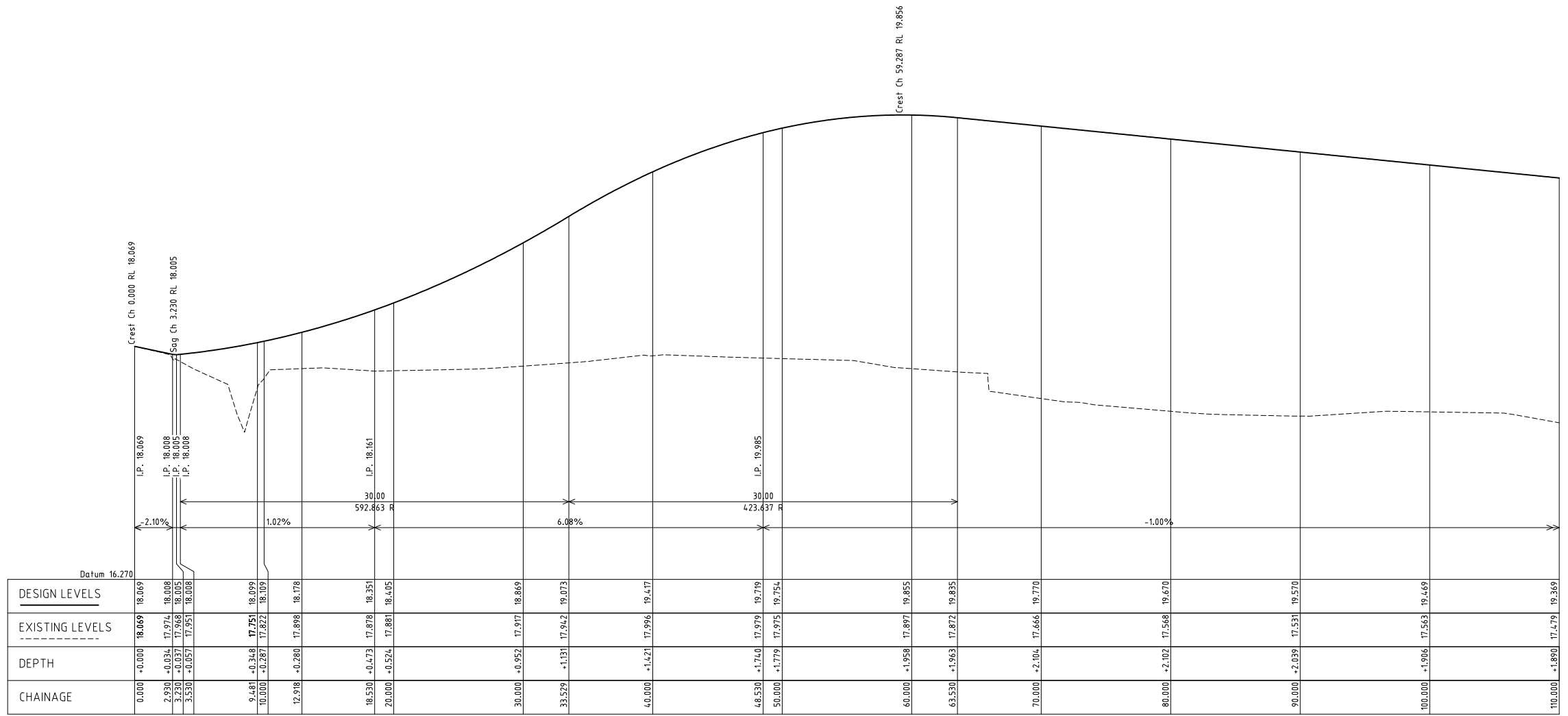
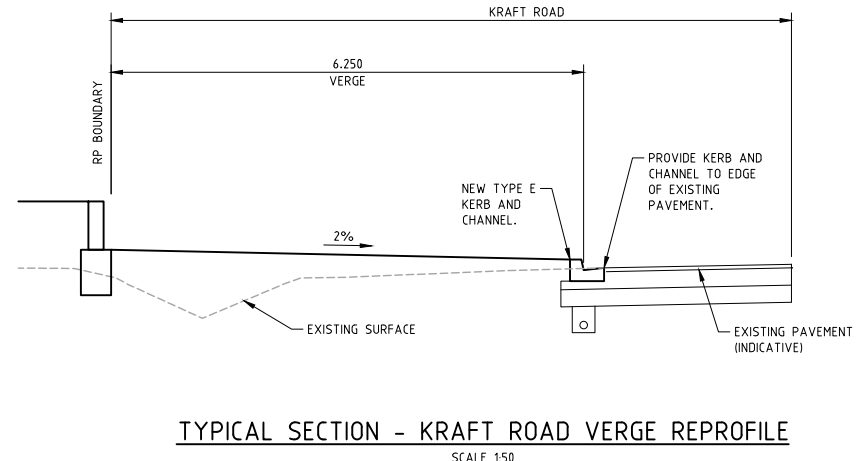
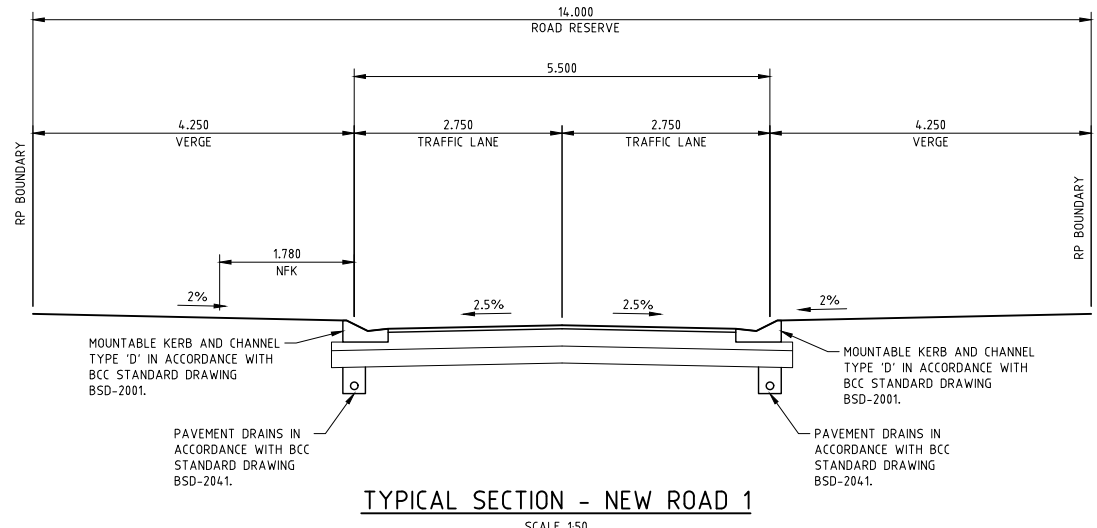
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Drawing No.	CW20023-SK02				Rev.	D

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ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	21.10.20



ROAD 01 LONG SECTION
SCALE - 1:200 HORIZONTAL 1:20 VERTICAL

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TITLE
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SECTIONS
SHEET 1 OF 2**

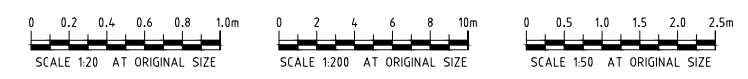


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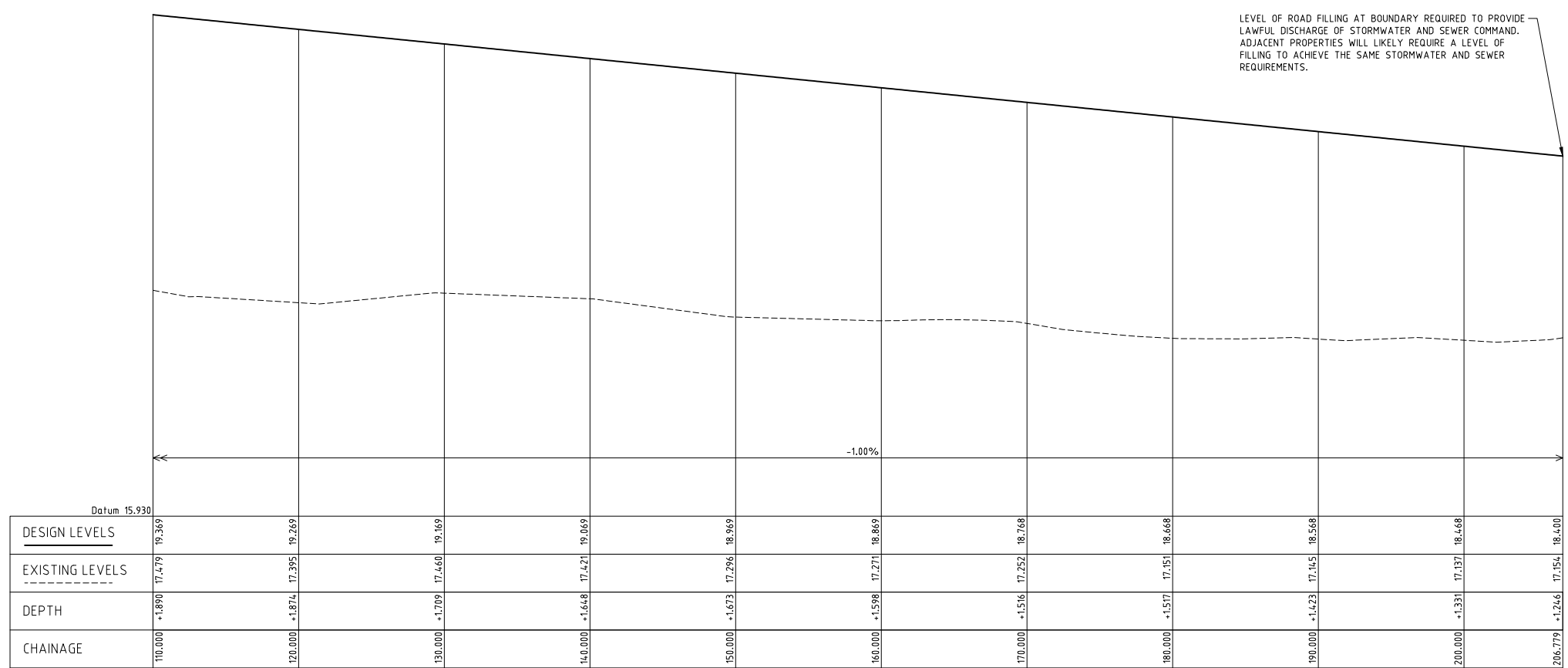
LOT No.	108
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ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	21.10.20



ROAD 01 LONG SECTION CONTINUED
SCALE - 1:200 HORIZONTAL 1:20 VERTICAL

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Drawing No.	CW20023-SK04				Rev.	A



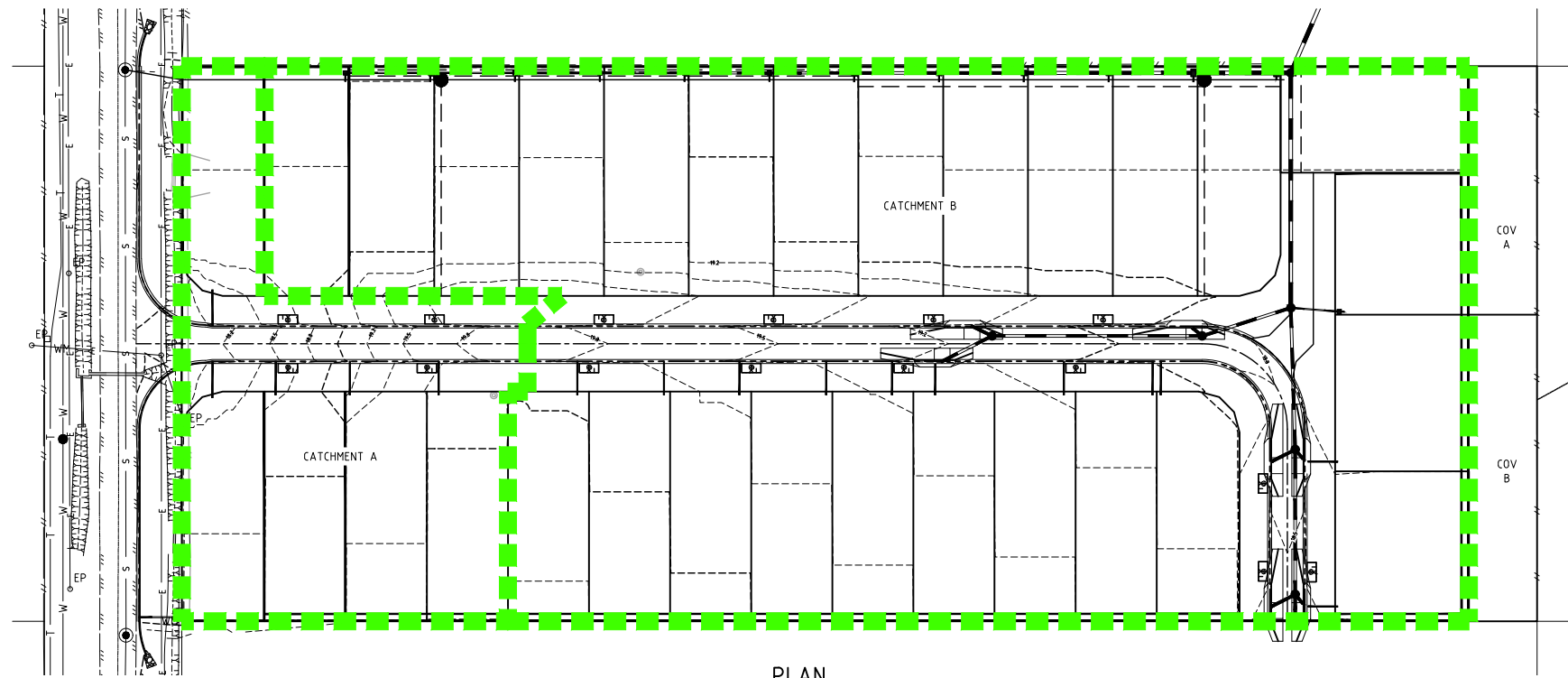
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SCALE 1:2500

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ORIGINAL DRAWING SIZE - A1

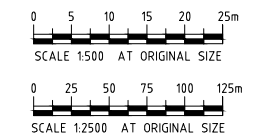
ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	27.06.22

LEGEND

■ CATCHMENT BOUNDARY



PLAN
SCALE 1:500



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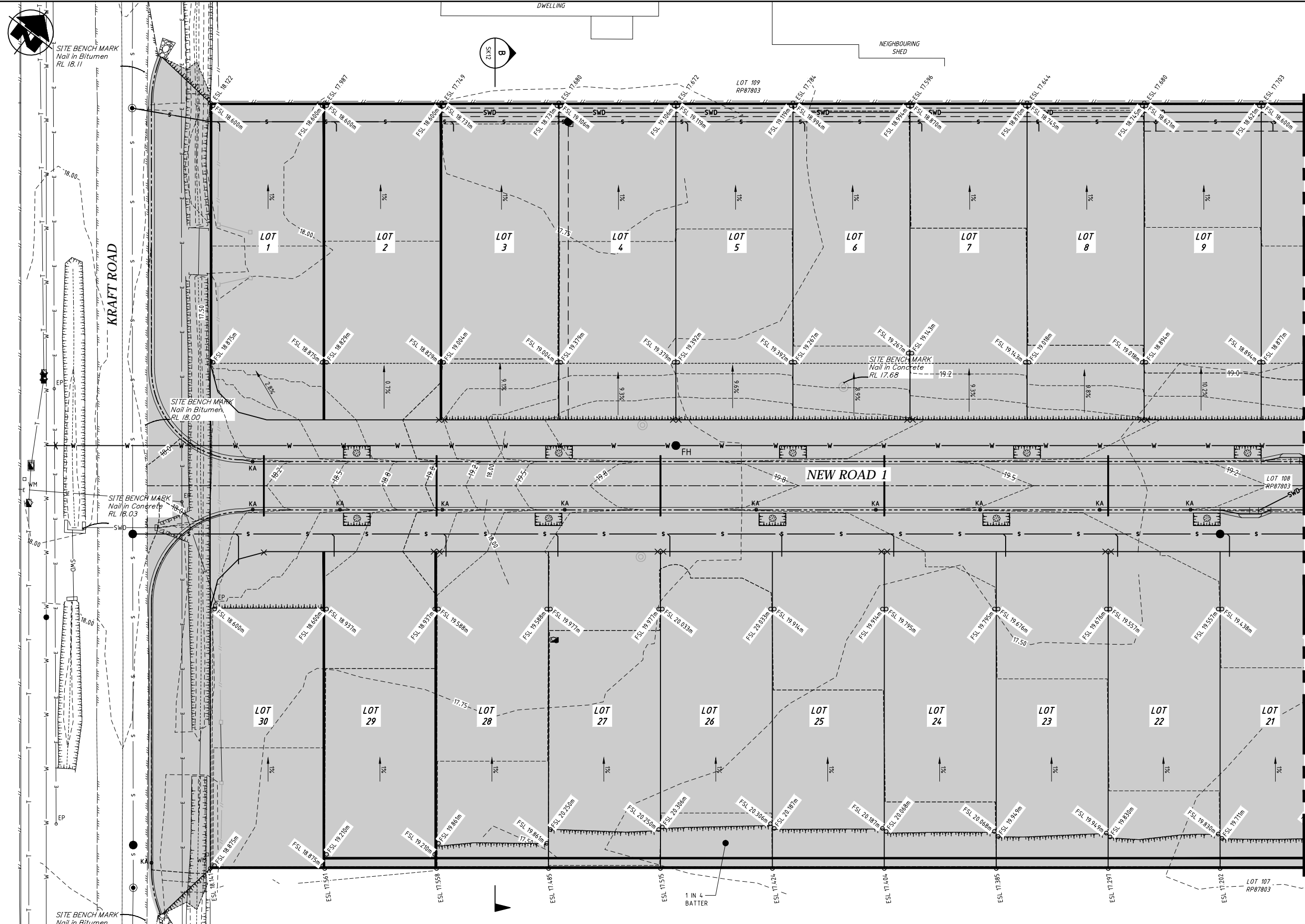
TITLE
CONCEPT STORMWATER
CATCHMENT PLAN



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Drawing No. CW20023-SK05	Rev. A	



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ISSUE	AMENDMENT	DATE
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B	PRELIMINARY ISSUE REVISED	08.06.22

LEGEND

- 3.50--- EXISTING SURFACE CONTOURS
- 3.50--- PROPOSED SURFACE CONTOURS
- SWD--- EXISTING STORMWATER
- SWD--- PROPOSED STORMWATER
- W--- EXISTING WATER MAIN
- W--- PROPOSED WATER MAIN
- S--- EXISTING SEWER
- S--- PROPOSED SEWER
- E--- EXISTING UNDERGROUND ELECTRICAL
- EP EXISTING ELECTRICITY POLE
- T--- EXISTING TELECOMMUNICATIONS LINE
- █ EXISTING TELECOMMUNICATIONS PIT
- █ PROPOSED RETAINING WALL
- █ PROPOSED TOP OF BATTER
- █ PROPOSED TOE OF BATTER
- █ AREA OF FILL
- FSL 63.277 FINISHED SURFACE LEVEL
- ESL 63.277 EXISTING SURFACE LEVEL

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**CONCEPT EARTHWORKS
PLAN
(SHEET 1 OF 2)**

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PLAN
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LOCALITY PLAN
SCALE 1:2500

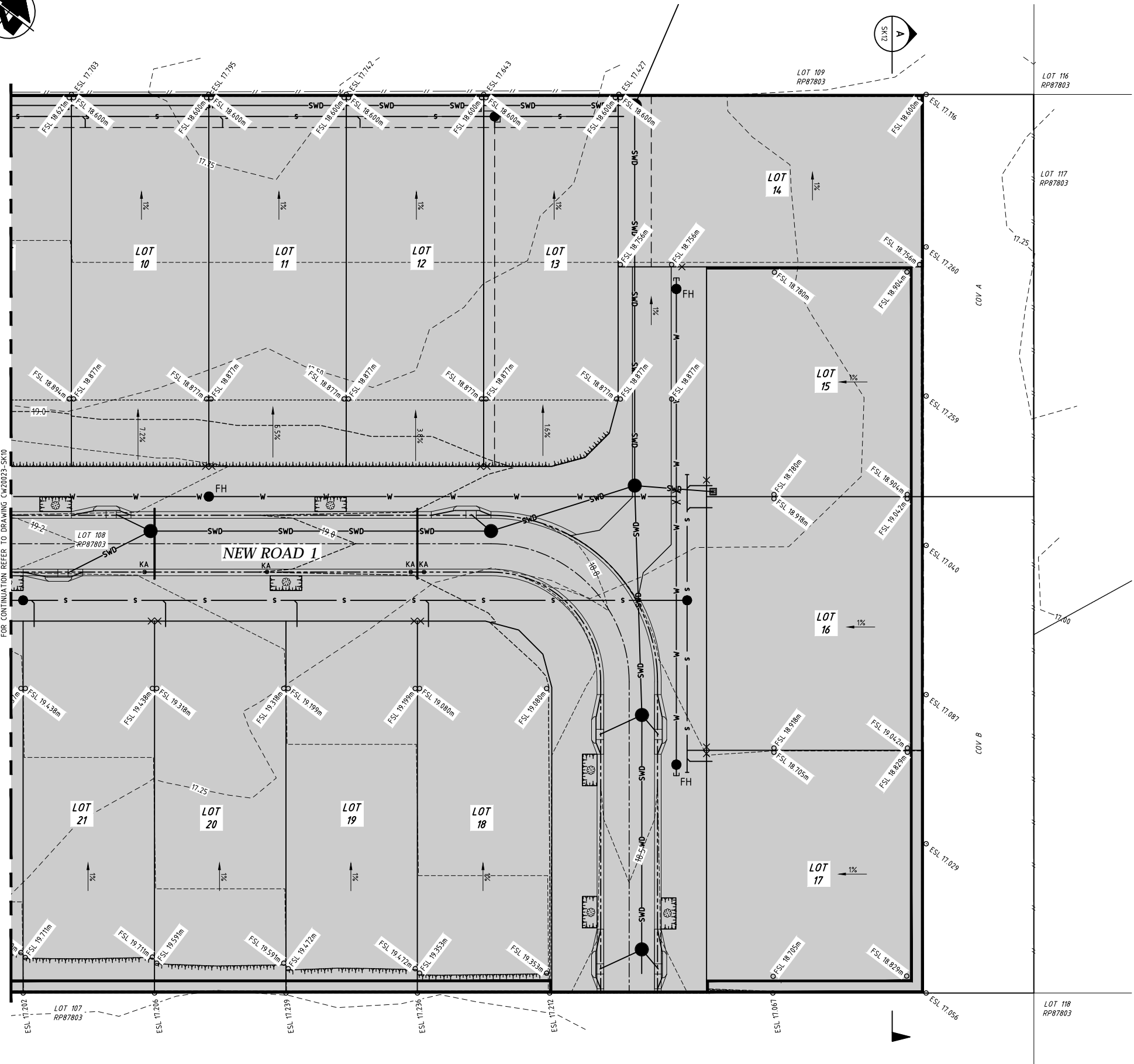
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- █ AREA OF FILL
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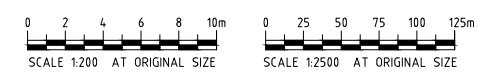
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TITLE
CONCEPT EARTHWORKS
PLAN
(SHEET 2 OF 2)






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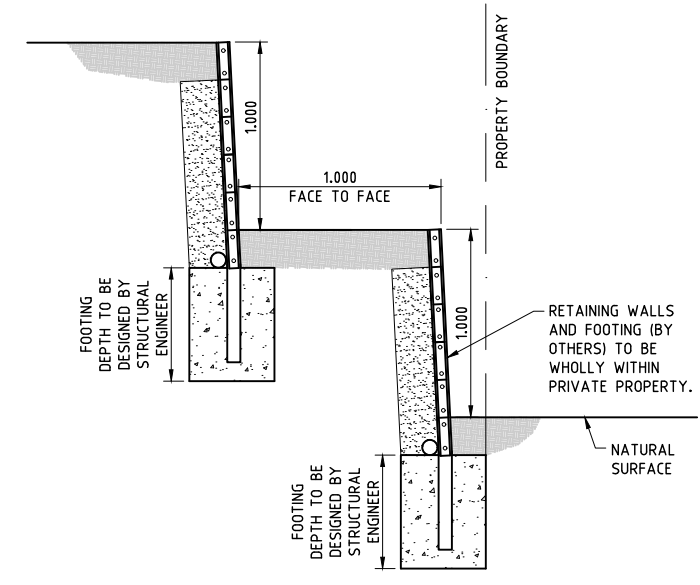
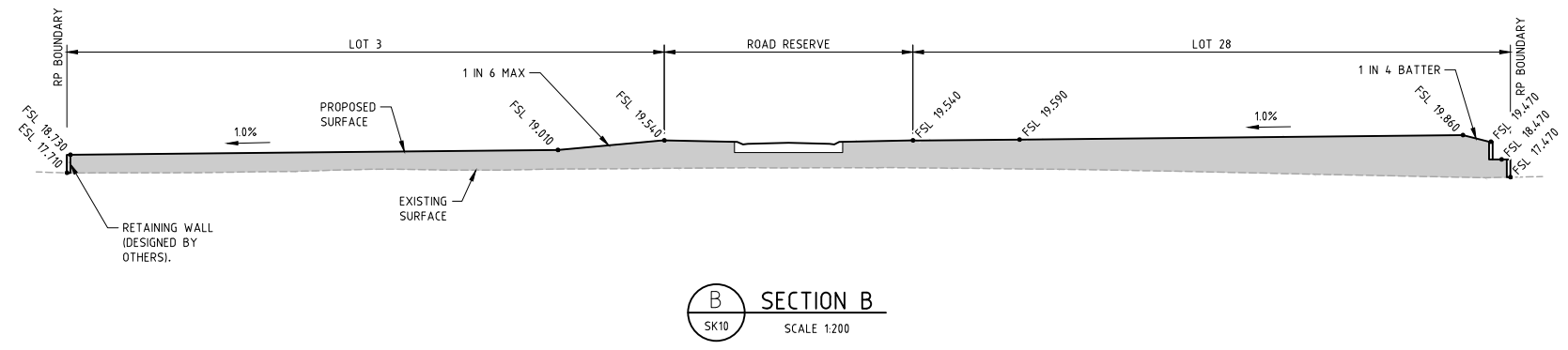
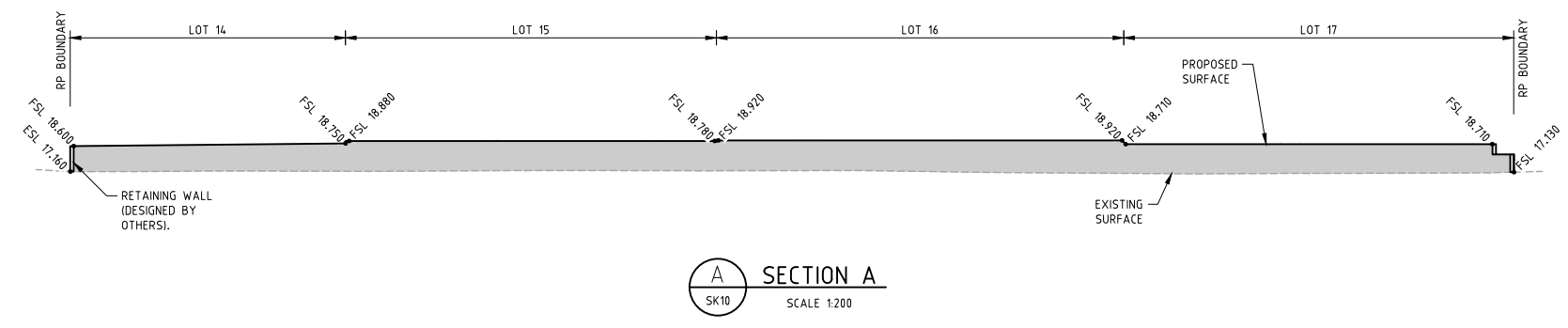
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Approved	[Signature]			Scale	AS SHOWN	
Drawing No.	CW20023-SK11				Rev.	C

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	21.10.20
B	PRELIMINARY ISSUE REVISED	08.06.22
C	PRELIMINARY ISSUE REVISED	29.06.22

LEGEND

	AREA OF FILL
	FINISHED SURFACE LEVEL
	EXISTING SURFACE LEVEL



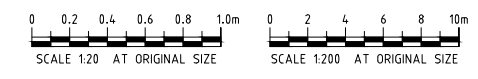
CONCRETE SLEEPER RETAINING WALL DETAIL
SCALE 1:20

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PRELIMINARY
NOT FOR CONSTRUCTION



REAL PROPERTY DESCRIPTION

LOT No.	108
PLAN No.	RP 87803

ASSOCIATED CONSULTANT

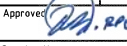
PROJECT
**46 KRAFT ROAD
PALLARA**

CLIENT
YU FEN LI

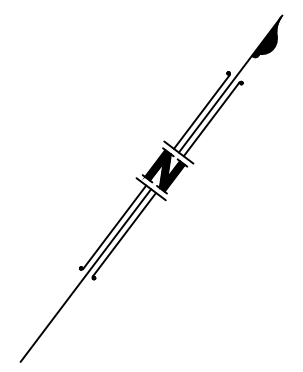
TITLE
**CONCEPT EARTHWORKS
SECTIONS AND DETAILS**

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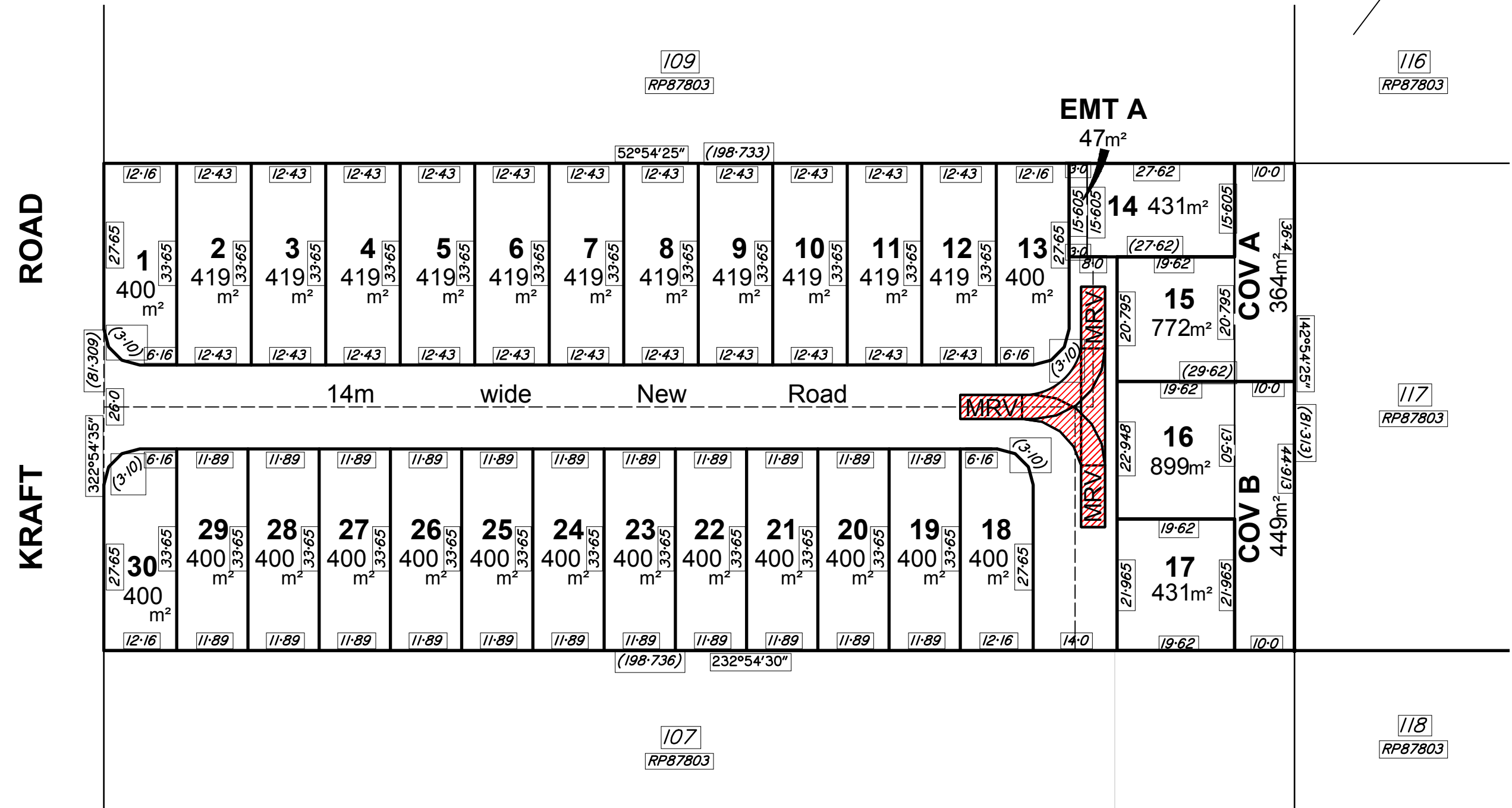
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Designed	DM	Drawn	DM	Date	21.10.20
Approved		Scale	AS SHOWN		
Drawing No.	CW20023-SK12			Rev.	B

APPENDIX B – Subdivision Plan



Statistics Table	
Lots	30
Total Area of Subdivision	1.616ha
Area range	400m ² - 899m ²
Area average	438m ²
Length of New Road	230.8m



! This plan has been prepared as a proposed subdivision and should not be used for any other purpose. The dimensions, areas and total number of lots shown hereon are subject to field survey and are also to the requirements of council and any other authority which may have requirements under any relevant legislation. Certificate of Title for this site has not been obtained. Therefore, no reliance should be placed on the information on this plan for any financial dealings involving the land.

NOTE:
 MRV - Medium Rigid Vehicle
 Based on BCC Standard Drawing
 Turning Template BSD-3004

REVISIONS		ASSOCIATED CONSULTANTS:		SURVEYOR JRM	DATE 13/10/2020	LEVEL DATUM: NA	CLIENT: DAWN CONSTRUCTIONS	SITE: Proposed Lots 1-30, EMT A and COV A and B Cancelling Lot 108 on RP87803 46 Kraft Road, Pallara	SCALE 1:750 (A3)
				DRAWN JRM	CHECKED AJS				PLAN REF: T0319-P3

APPENDIX C – Stormwater Code

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>Section A—If for a material change of use, reconfiguring a lot, operational work or building work</p> <p>Note—Compliance with the performance outcomes and acceptable outcomes in this section should be demonstrated by the submission of a site-based stormwater management plan for high risk development only.</p>				
<p>PO1 Development provides a stormwater management system which achieves the integrated management of stormwater to:</p> <ul style="list-style-type: none"> (a) minimise flooding; (b) protect environmental values of receiving waters; (c) maximise the use of water sensitive urban design; (d) minimise safety risk to all persons; (e) maximise the use of natural waterway corridors and natural channel design principles. <p>Editor’s note—The stormwater management system to be developed to address PO1 is not intended to require management of stormwater quality.</p>	<p>AO1 Development provides a stormwater management system designed in compliance with the Infrastructure design planning scheme policy.</p>	<p>A</p>	<p>Stormwater runoff from the proposed Catchment B is to discharge to the neighbouring stormwater drainage reserve, and runoff from Catchment A is to discharge to the kerb and channel along the new road and ultimately to the existing swale in the verge along Kraft Road.</p> <p>Design and construction will generally be in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.</p>	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
PO2 Development ensures that the stormwater management system and site work does not adversely impact flooding or drainage characteristics of premises which are up slope, down slope or adjacent to the site.	AO2.1 Development does not result in an increase in flood level or flood hazard on up slope, down slope or adjacent premises.	N/A	As per the BCC Interactive Mapping information, the site is not flood affected.	
	AO2.2 Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy .	A	Design and construction will comply with the BCC Infrastructure design planning scheme policy, and QUDM where applicable. Final design of the stormwater system will be undertaken at the detailed design phase.	
PO3 Development ensures that the stormwater management system does not direct stormwater run-off through existing or proposed lots and property where it is likely to adversely affect the safety of, or cause nuisance to properties.	AO3.1 Development ensures that the location of the stormwater drainage system is contained within a road reserve, drainage reserve, public pathway, park or waterway corridor.	A	An allowance will be made for roof water and impervious surface area to be collected and discharged to the lawful point of discharge.	
	AO3.2 Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy .	A	Design and construction will be in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	AO3.3 Development obtains a lawful point of discharge in compliance with the standards in the Infrastructure design planning scheme policy .	A	Lawful point of discharge for Catchment B is the neighbouring stormwater drainage reserve, and for Catchment A is the kerb and channel along the new road and ultimately the existing swale in the verge along Kraft Road.	
	AO3.4 Where on private land, all underground stormwater infrastructure is secured by a drainage easement.	A	Proposed stormwater infrastructure is secured by a drainage easement.	
PO4 Development provides a stormwater management system which has sufficient capacity to safely convey run-off taking into account increased run-off from impervious surfaces and flooding in local catchments.	AO4.1 Development provides a stormwater conveyance system which is designed to safely convey flows in compliance with the standards in the Infrastructure design planning scheme policy .	A	Proposed design provides a stormwater conveyance system to safely convey flows in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	
	AO4.2 Development provides sufficient area to convey run-off which will comply with the standards in the Infrastructure design planning scheme policy .	A	The development site has sufficient area to accommodate the stormwater conveyance system.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
PO5 Development designs stormwater channels, creek modification works, bridges, culverts and major drains to protect and enhance the value of the waterway corridor or drainage path for fauna movement.	AO5 Development ensures the design of stormwater channels, creek modifications or other infrastructure, permits terrestrial and aquatic fauna movement.	A	Majority of the stormwater runoff from the development is to discharge to the stormwater drainage reserve.	
PO6 Development ensures that location and design of stormwater detention and water quality treatment: (a) minimises risk to people and property; (b) provides for safe access and maintenance; (c) minimises ecological impacts to creeks and waterways.	AO6.1 Development locates stormwater detention and water quality treatment: (a) outside of a waterway corridor; (b) offline to any catchment not contained within the development.	A/S	Stormwater detention is not required as per BCC Infrastructure design planning scheme policy sections 7.5.2.3.a and 7.5.2.3.c. A tree pod arrangement is proposed to treat the stormwater runoff from the development in lieu of providing a bio-retention basin due to site constraints. Refer to Site-based Management Plan.	
	AO6.2 Development providing for stormwater detention and water quality treatment devices are designed in compliance with	A/S	Stormwater detention is not required as per BCC Infrastructure design planning scheme policy sections 7.5.2.3.a and 7.5.2.3.c.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	the standards in the Infrastructure design planning scheme policy .		A tree pod arrangement is proposed to treat the stormwater runoff from the development in lieu of providing a bio-retention basin due to site constraints. Refer to Site-based Management Plan.	
PO7 Development is designed, including any car parking areas and channel works to: (a) reduce property damage; (b) provide safe access to the site during the defined flood event .	A07.1 Development (including any ancillary structures and car parking areas) is located above minimum flood immunity levels in Table 9.4.9.3.B , Table 9.4.9.3.C , Table 9.4.9.3.D , Table 9.4.9.3.E and Table 9.4.9.3.F . Note—Compliance with this acceptable outcome can be demonstrated by the submission of a hydraulic and hydrology report identifying flood levels and development design levels (as part of a site-based stormwater management plan).	N/A	As per the BCC Interactive Mapping information, the site is not flood affected.	
	A07.2 Development including the road network provides a stormwater management	A	Design and construction will be in accordance with the BCC Infrastructure	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	system that provides safe pedestrian and vehicle access in accordance with the standards in the Infrastructure design planning scheme policy .		design planning scheme policy, and QUDM where applicable. No pedestrian or vehicle access will be affected due to the design of the stormwater management system.	
PO8 Development designs stormwater channels, creek modification works and the drainage network to protect and enhance the environmental values of the waterway corridor or drainage path.	AO8.1 Development ensures natural waterway corridors and drainage paths are retained.	N/A	No such works are proposed.	
	AO8.2 Development provides the required hydraulic conveyance of the drainage channel and floodway, while maximising its potential to maximise environmental benefits and minimise scour. Editor's note—Guidance on natural channel design principles can be found in the Council's publication Natural channel design guidelines .	N/A	No such works are proposed.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	AO8.3 Development provides stormwater outlets into waterways, creeks, wetlands and overland flow paths with energy dissipation to minimise scour in compliance with the standards in the Infrastructure design planning scheme policy .	A	Majority of the stormwater runoff from the development is to discharge to the neighbouring stormwater drainage reserve.	
	AO8.4 Development ensures that the design of modifications to the existing design of new stormwater channels, creeks and major drains is in compliance with the standards in the Infrastructure design planning scheme policy .	A	Majority of the stormwater runoff from the development is to discharge to the neighbouring stormwater drainage reserve.	
PO9 Development is designed to manage run-off and peak flows by minimising large areas of impervious material and maximising opportunities for capture and re-use.	AO9 No acceptable outcome is prescribed.	A	Stormwater will be captured and controlled via an internal stormwater drainage network in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
<p>PO10 Development ensures that there is sufficient site area to accommodate an effective stormwater management system.</p> <p>Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.</p>	<p>AO10 No acceptable outcome is prescribed.</p>	A	There is sufficient area to provide the proposed stormwater system.	
<p>PO11 Development provides for the orderly development of stormwater infrastructure within a catchment, having regard to the: (a) existing capacity of stormwater infrastructure within and external to the site, and any planned stormwater infrastructure upgrades;</p>	<p>AO11.1 Development with up-slope external catchment areas provides a drainage connection sized for ultimate catchment conditions that is directed to a lawful point of discharge.</p>	N/A	Development is located upstream of surrounding properties, and downstream of road reserve. As such, no upstream connections are required.	
	<p>AO11.2 Development ensures that existing stormwater infrastructure that is undersized is upgraded in compliance with the Priority infrastructure plan and the</p>	A	An initial investigation has been performed and it is understood that the lawful point of discharge for Catchment B is the neighbouring stormwater drainage reserve, and for Catchment A is	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
(b) safe management of stormwater discharge from existing and future up-slope development; (c) implication for adjacent and down-slope development.	standards in the Infrastructure design planning scheme policy .		<p>the kerb and channel along the new road and ultimately the existing swale in the verge along Kraft Road. Further investigation to confirm the capacity of the infrastructure will be performed should Council deem necessary.</p> <p>It should be noted that the proposed development is not expected to cause a noticeable, let alone adverse, impact to the existing stormwater system or neighbouring properties. Refer to Site-based Stormwater Management Plan.</p>	
PO12 Development provides stormwater infrastructure which: (a) remains fit for purpose for the life of the development and maintains full functionality in the design flood event;	AO12.1 The stormwater management system is designed in compliance with the Infrastructure design planning scheme policy .	A	Design and construction will be in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
(b) can be safely accessed and maintained cost effectively; (c) ensures no structural damage to existing stormwater infrastructure.	AO12.2 Development provides a clear area with a minimum of 2m radius from the centre of an existing manhole cover and with a minimum height clearance of 2.5m.	N/A	There is no existing or proposed Council owned stormwater manhole on private land.	
PO13 Development ensures that all reasonable and practicable measures are taken to manage the impacts of erosion, turbidity and sedimentation, both within and external to the development site from construction activities, including vegetation clearing, earthworks, civil construction, installation of services, rehabilitation, revegetation and landscaping to protect: (a) the environmental values and water quality objectives of waters; (b) waterway hydrology; (c) the maintenance and serviceability of stormwater infrastructure.	AO13 No acceptable outcome is prescribed.	A	The design will incorporate measures to mitigate the impacts of erosion and sedimentation arising from construction activities. Erosion and sediment control strategies will be developed during detailed design if required.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
Note—The Infrastructure design planning scheme policy outlines the appropriate measures to be taken into account to achieve the performance outcome.				
PO14 Development ensures that: (a) unnecessary disturbance to soil, waterways or drainage channels is avoided; (b) all soil surfaces remain effectively stabilised against erosion in the short and long term.	AO14 No acceptable outcome is prescribed.	A	The design will incorporate measures to mitigate the impacts of erosion and sedimentation arising from construction activities. Erosion and sediment control strategies will be developed during detailed design if required.	
PO15 Development does not increase: (a) the concentration of total suspended solids or other contaminants in stormwater flows during site construction; (b) run-off which causes erosion either on site or off site.	AO15 No acceptable outcome is prescribed.	A	The design will incorporate measures to mitigate the impacts of erosion and sedimentation arising from construction activities. Erosion and sediment control strategies will be developed during detailed design if required.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>Section B—Additional criteria which apply to high-risk development, being one or more of the following:</p> <p>(a) a material change of use for an urban purpose which involves greater than 2,500m² of land that:</p> <p>(i) will result in an impervious area greater than 25% of the net developable area; or</p> <p>(ii) will result in 6 or more dwellings.</p> <p>(b) reconfiguring a lot for an urban purpose that involves greater than 2,500m² of land and will result in 6 or more lots;</p> <p>(c) operational work for an urban purpose which involves disturbing greater than 2,500m² of land.</p>				
<p>PO16</p> <p>Development ensures that the entry and transport of contaminants into stormwater is avoided or minimised to protect receiving water environmental values. Note—Prescribed water contaminants are defined in the Environmental Protection Act 1994.</p> <p>Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.</p>	<p>AO16</p> <p>Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy.</p>	A/S	<p>Stormwater detention is not required as per BCC Infrastructure design planning scheme policy sections 7.5.2.3.a and 7.5.2.3.c.</p> <p>A tree pod arrangement is proposed to treat the stormwater runoff from the development in lieu of providing a bio-retention basin due to site constraints. Refer to Site-based Management Plan.</p>	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
<p>PO17 Development ensures that: (a) the discharge of wastewater to a waterway or external to the site is avoided; or (b) if the discharge cannot practicably be avoided, the development minimises wastewater discharge through re-use, recycling, recovery and treatment.</p> <p>Note—The preparation of a wastewater management plan can assist in demonstrating achievement of this performance outcome. Editor’s note— This code does not deal with sewerage which is the subject of the Wastewater code.</p>	<p>AO17 No acceptable outcome is prescribed.</p>	A	Development is able to discharge wastewater to a dedicated sanitary drainage system (sewer main).	

APPENDIX D – Infrastructure Design Code

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO1 Development provides roads, pavement, edging and landscaping which: (a) are designed and constructed in accordance with the road hierarchy; (b) provide for safe travel for pedestrians, cyclists and vehicles; (c) provide access to properties for all modes; (d) provide utilities; (e) provide high levels of aesthetics and amenity, improved liveability and future growth; (f) provide for the amelioration of noise and other pollution; (g) provide a high-quality streetscape; (h) provide a low-maintenance asset with a minimal whole-of-life cost. Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance</p>	<p>AO1 Development provides roads and associated pavement, edging and landscaping which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.</p>	A	Proposed road works to provide roads and associated pavement, edging and landscaping in accordance with BCC Infrastructure design planning scheme policy.	

Project: 46 Kraft Road, Pallara

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
with the Infrastructure design planning scheme policy .				
PO2 Development provides road pavement surfaces which: (a) are well designed and constructed; (b) durable enough to carry the wheel loads of the intended types and numbers of travelling and parked vehicles; (c) ensures the safe passage of vehicles, pedestrians and cyclists, the discharge of stormwater run-off and the preservation of all-weather access; (d) allows for reasonable travel comfort.	AO2 Development provides road pavement surfaces which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy .	A	Proposed road works to provide road pavement surfaces in accordance with BCC Infrastructure design planning scheme policy.	
PO3 Development provides a pavement edge which is designed and constructed to: (a) control vehicle movements by delineating the carriageway for all users;	AO3 Development provides pavement edges which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy .	A	Proposed road works to provide pavement edges in accordance with BCC Infrastructure design planning scheme policy.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
(b) provide for people with disabilities by allowing safe passage of wheelchairs and other mobility aids.				
PO4 Development provides verges which are designed and constructed to: (a) provide safe access for pedestrians clear of obstructions and access areas for vehicles onto properties; (b) provide a sufficient area for public utility services; (c) be maintainable by the Council.	AO4 Development provides verges which are designed and constructed in compliance with the road corridor design and streetscape locality advice standards in the Infrastructure design planning scheme policy .	A	Proposed verges to provide verges generally in accordance with BCC Infrastructure design planning scheme policy and match in with the surrounding neighbourhood streetscape.	
PO5 Development provides a lane or laneway identified in a neighbourhood plan which: (a) allows equitable access for all modes; (b) is safe and secure; (c) has 24-hour access; (d) is a low-speed shared zone environment; (e) has a high-quality streetscape.	AO5 Development provides a lane or laneway identified in a neighbourhood plan which is embellished in compliance with the streetscape locality advice standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO6 Development of an existing premises provides at the frontage to the site, if not already provided, the following infrastructure to an appropriate urban standard:</p> <p>(a) an effective, high-quality paved roadway;</p> <p>(b) an effective, high-quality roadway kerb and channel;</p> <p>(c) safe, high-quality vehicle crossings over channels and verges;</p> <p>(d) safe, accessible, high-quality verges compatible and integrated with the surrounding environment;</p> <p>(e) safe vehicle access to the site that enables ingress and egress in a forward gear;</p> <p>(f) provision of and required alterations to public utilities;</p> <p>(g) effective drainage;</p> <p>(h) appropriate conduits to facilitate the provision of required street-lighting systems and traffic signals.</p>	<p>AO6 Development of an existing premises provides at the frontage of the site, if not already existing, the following infrastructure to the standard that would have applied if the development involved new premises as stated in the road corridor design standards in the Infrastructure design planning scheme policy:</p> <p>(a) concrete kerb and channel;</p> <p>(b) forming and grading to verges;</p> <p>(c) crossings over channels and verges;</p> <p>(d) a constructed bikeway;</p> <p>(e) a constructed verge or reconstruction of any damaged verge;</p> <p>(f) construction of the carriageway;</p> <p>(g) payment of costs for required alterations to public utility mains, services or installations;</p> <p>(h) construction of and required alterations to public utility mains, services or installations;</p> <p>(i) drainage works;</p>	A	Proposed verges to provide required infrastructure at the frontage of the site in accordance with BCC Infrastructure design planning scheme policy and match in with the surrounding neighbourhood streetscape.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO7 Development provides both cycle and walking routes which: (a) are located, designed and constructed to their network classification (where applicable); (b) provide safe and attractive travel routes for pedestrians and cyclists for commuter and recreational purposes; (c) provide safe and comfortable access to properties for pedestrians and cyclists; (d) incorporate water sensitive urban design into stormwater drainage; (e) provide for utilities; (f) provide for a high level of aesthetics and amenity, improved liveability and future growth; (g) are a low-maintenance asset with a minimal whole-of-life cost; (h) minimise the clearing of significant native vegetation.</p>	<p>(j) installation of electrical conduits. AO7 Development provides cycle and walking routes which are located, designed and constructed in compliance with the road corridor design and off-road pathway design standards in the Infrastructure design planning scheme policy.</p>	A	Proposed road works to provide verges in accordance with BCC Infrastructure design planning scheme policy and match in with the surrounding neighbourhood streetscape.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy .				
PO8 Development provides refuse and recycling collection, separation and storage facilities that are located and managed so that adverse impacts on building occupants, neighbouring properties and the public realm are minimised.	A08.1 Development provides refuse and recycling collection and storage facilities in accordance with the Refuse planning scheme policy .	A	Proposed Council kerbside collection service will suffice.	
	A08.2 Development ensures that refuse and recycling collection and storage location and design do not have any adverse impact including odour, noise or visual impacts on the amenity of land uses within or adjoining the development. Note—Refer to the Refuse planning scheme policy for further guidance.	A	Proposed Council kerbside collection service will suffice.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
PO9 Development ensures that: (a) land used for an urban purpose is serviced adequately with regard to water supply and waste disposal; (b) the water supply meets the stated standard of service for the intended use and fire-fighting purposes.	AO9.1 Development ensures that the reticulated water and sewerage distribution system for all services is in place before the first use is commenced.	A	Existing water and sewerage infrastructure service the site. It is proposed to extend the existing water and sewer infrastructure.	
	AO9.2 Development provides the lot with reticulated water supply and sewerage to a standard acceptable to the distributor–retailer.	A	Existing water and sewerage infrastructure service the site. It is proposed to extend the existing water and sewer infrastructure.	
PO10 Development provides public utilities and street lighting which are the best current or alternative technology and facilitate accessibility, easy maintenance, minimal whole-of-life costs, and minimal adverse environmental impacts.	AO10.1 Development provides public utilities and street lighting which are located and aligned to: (a) avoid significant native vegetation and areas identified within the Biodiversity areas overlay map ; (b) minimise earthworks; (c) avoid crossing waterways, waterway corridors and wetlands or if a crossing is unavoidable, tunnel-boring techniques are used to minimise disturbance, and a disturbed area is reinstated and restored on completion of the work.	A	Existing public utilities and street lighting infrastructure will need to be extended. Final requirements and details are to be confirmed with an electrical consultant during the detailed design phase.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	Note—Guidance on the restoration of habitat is included in the Biodiversity areas planning scheme policy .			
	AO10.2 Development provides compatible public utility services and street-lighting services which are co-located in common trenching for underground services.	A	Existing public utilities and street lighting infrastructure will need to be extended. Final requirements and details are to be confirmed with an electrical consultant during the detailed design phase.	
	AO10.3 Development provides public utilities and street lighting which are designed and constructed in compliance with the public utilities standards in the Infrastructure design planning scheme policy .	A	Existing public utilities and street lighting infrastructure will need to be extended. Final requirements and details are to be confirmed with an electrical consultant during the detailed design phase.	
PO11 Development ensures that land used for urban purposes is serviced adequately with telecommunications and energy supply.	AO11 Development provides land with the following services to the standards of the approved supplier: (a) electricity; (b) telecommunications services; (c) gas service where practicable.	A	The site currently has access to electricity and telecommunication services.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO12 Development ensures that major public projects promote the provision of affordable, high-bandwidth telecommunications services throughout the city.</p>	<p>AO12 Development provides conduits which are provided in all major Council and government works projects to enable the future provision of fibre optic cabling, if: (a) the additional expense is unlikely to be prohibitive; or (b) further major work is unlikely or disruption would be a major concern, such as where there is a limited capacity road; or (c) there is a clear gap in the telecommunications network; or (d) there is a clear gap in the bandwidth available to the area. Editor's note—An accurate, digital 'as built' three-dimensional location plan is to be supplied for all infrastructure provided in a road.</p>	N/A	<p>Proposed development is not a major public project and therefore, not applicable.</p> <p>Furthermore, NBN infrastructure exists within the road reserve fronting the site.</p>	
<p>PO13 Development provides public art identified in a neighbourhood plan or park concept plan which:</p>	<p>AO13 Development provides public art identified in a neighbourhood plan or park concept plan which is sited and designed in compliance with the public</p>	N/A	<p>Due to the size and nature of the development, no such works are proposed.</p>	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
(a) is provided commensurate with the status and scale of the proposed development; (b) is sited and designed: (i) as an integrated part of the project design; (ii) as conceptually relevant to the context of the location; (iii) to reflect and respond to the cultural values of the community; (iv) to promote local character in a planned and informed manner.	art standards in the Infrastructure design planning scheme policy .			
PO14 Development provides signage of buildings and spaces which promote legibility to help users find their way.	AO14 Development provides public signage: (a) at public transport interchanges and stops, key destinations, public spaces, pedestrian linkages and at entries to centre developments; (b) which details the location of the key destinations, public spaces and pedestrian linkages in the vicinity, the services available within the development and where they are located.	N/A	Due to the size and nature of the development, no such works are proposed.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	Editor's note—Signage is to be in accordance with Local Law Number 1 (Control of Advertisements Local Law) .			
PO15 Development that provides community facilities which form part of the development is functional, safe, low maintenance, and fit for purpose.	AO15 Development that provides community facilities which form part of the development is designed in compliance with the community facilities standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	
PO16 Development provides public toilets which: (a) are required as part of a community facility or park; (b) are located, designed and constructed to be: (i) safe; (ii) durable; (iii) resistant to vandalism; (iv) able to service expected demand; (v) fit for purpose.	AO16 Development that provides public toilets is designed and constructed in compliance with the public toilets standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO17 Development provides bridges, tunnels, elevated structures and water access structures that are designed and constructed using proven methods, materials and technology to provide for:</p> <ul style="list-style-type: none"> (a) safe movement of intended users; (b) an attractive appearance appropriate to the general surroundings and any adjacent structures; (c) functionality and easy maintenance; (d) minimal whole-of-life cost; (e) longevity; (f) current and future services. <p>Note—All bridges and elevated and associated elements must be designed and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.</p>	<p>AO17 Development that provides bridges, tunnels, elevated structures and water access structures is designed and constructed in compliance with the standards in the Infrastructure design planning scheme policy.</p>	N/A	Due to the size and nature of the development, no such works are proposed.	
<p>PO18 Development provides culverts which are designed and constructed using</p>	<p>AO18 Development that provides culverts is designed and constructed in compliance with the structures standards in the</p>	N/A	Due to the size and nature of the development, no such works are proposed.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>proven methods, materials and technology to provide for:</p> <ul style="list-style-type: none"> (a) safety; (b) an attractive appearance appropriate to the general surroundings; (c) functionality and easy maintenance; (d) minimal whole-of-life cost; (e) longevity; (f) future widening; (g) current and future services; (h) minimal adverse impacts, such as increase in water levels or flow velocities, and significant change of flood patterns. <p>Note—All culverts and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.</p>	<p>Infrastructure design planning scheme policy.</p>			
<p>PO19 Development provides batters, retaining walls, and seawalls and river</p>	<p>AO19 Development that provides batters, retaining walls, seawalls and river walls is</p>	A	Proposed batters and retaining walls to generally comply with the structures standards in the	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
walls which are designed and constructed using proven methods, materials and technology to provide for: (a) safety; (b) an attractive appearance appropriate to the surrounding area; (c) easy maintenance; (d) minimal whole-of-life cost; (e) longevity; (f) minimal water seepage. Note—All retaining walls and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.	designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy .		Infrastructure design planning scheme policy.	
If for development with a gross floor area greater than 1,000m²				
PO20 Development ensures that construction is managed so that use of public spaces and movement on pedestrian, cyclist and other traffic routes is not unreasonably disrupted and existing landscaping is adequately protected from short- and long-term impacts.	AO20 Development ensures that during construction: (a) the ongoing use of adjoining and surrounding parks and public spaces, such as malls and outdoor dining, is not compromised;	N/A	Subdivision only, therefore not applicable.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>Note—The preparation of a construction management plan can assist in demonstrating achievement of this performance outcome.</p> <p>Note—The Transport, access, parking and servicing planning scheme policy provides advice on the management of vehicle parking and deliveries during construction.</p>	<p>(b) adjoining and surrounding landscaping is protected from damage;</p> <p>(c) safe, legible, efficient and sufficient pedestrian, cyclist and vehicular accessibility and connectivity to the wider network are maintained.</p>			
<p>PO21</p> <p>Development ensures that construction and demolition activities are guided by measures that prevent or minimise adverse impacts including sleep disturbance at a sensitive use, due to noise and dust, including dust from construction vehicles entering and leaving the site.</p> <p>Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in</p>	<p>AO21.1</p> <p>Development ensures that demolition and construction:</p> <p>(a) only occur between 6:30am and 6:30pm Monday to Saturday, excluding public holidays;</p> <p>(b) do not occur over periods greater than 6 months.</p>	N/A	Subdivision only, therefore not applicable.	
	<p>AO21.2</p> <p>Development including construction and demolition does not release dust emissions beyond the boundary of the site.</p>	N/A	Subdivision only, therefore not applicable.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
demonstrating achievement of this performance outcome.	AO21.3 Development construction and demolition does not involve asbestos-containing materials.	N/A	Subdivision only, therefore not applicable.	
PO22 Development ensures that: (a) construction and demolition do not result in damage to surrounding property as a result of vibration; (b) vibration levels achieve the vibration criteria in Table 9.4.4.3.B , Table 9.4.4.3.C , Table 9.4.4.3.D and Table 9.4.4.3.E . Note—A vibration impact assessment report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.	AO22 Development ensures that the nature and scale of construction and demolition do not generate noticeable levels of vibration.	N/A	Subdivision only, therefore not applicable.	

APPENDIX E – Filling and Excavation Code

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO1 Development for filling or excavation minimises visual impacts from retaining walls and earthworks.</p>	<p>AO1 Development ensures that the total height of any cut and fill, whether or not retained, does not exceed: (a) 2.5m in a zone in the Industry zones category; (b) 1m in all other zones, or if adjoining a sensitive zone.</p>	A/S	<p>Earthworks will be generally in accordance with BCC Infrastructure design planning scheme policy.</p> <p>Proposed heights of earthworks are required due to the existing topography and to facilitate stormwater drainage system for the development.</p>	
<p>PO2 Development of a retaining wall proposed as a result of filling or excavation: (a) is designed and constructed to be fit for purpose; (b) does not impact adversely on significant vegetation; (c) is capable of easy maintenance.</p> <p>Editor's note—A retaining wall also needs to comply with the Building Regulation and embankment gradients will need to comply with the Building Regulation.</p>	<p>AO2.1 Development of a retaining structure, including footings, surface drainage and subsoil drainage: (a) is wholly contained within the site; (b) if the total height to be retained is greater than 1m, then: (i) the retaining wall at the property boundary is no greater than 1m above the ground level; (ii) all further terracing from the 1m high boundary retaining wall is 1 vertical unit:1 horizontal unit; (iii) the distance between each successive retaining wall (back of lower wall to face of higher wall) is no less than 1m</p>	A	<p>Retaining structures will be generally in accordance with BCC Infrastructure design planning scheme policy.</p>	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
Note—Guidance on the protection of native vegetation is included in the Biodiversity areas planning scheme policy .	horizontally to incorporate planting areas.			
	AO2.2 Development of a retaining wall over 1m in height protects significant vegetation on the site and on adjoining land and is designed and constructed in accordance with the structures standards in the Infrastructure design planning scheme policy and certified by a Registered Professional Engineer Queensland .	A	Retaining walls will be generally in accordance with BCC Infrastructure design planning scheme policy.	
	AO2.3 Development provides a retaining wall finish that presents to adjoining land that is maintenance free if the setback is less than 750mm from the boundary.	A	Where retaining walls present to neighbouring properties, they will be constructed such that they have a maintenance free finish.	
	AO2.4 Development for filling only uses clean fill that does not include any construction rubble or debris.	A	All imported fill required will be clean and free of any construction rubble or debris.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
PO3 Development ensures that a rock anchor is designed and constructed to be fit for purpose.	AO3 Development ensures that a rock anchor: (a) is constructed in accordance with the standards in the Infrastructure design planning scheme policy ; (b) where it extends beyond the property boundary, is supported by a letter of consent from the adjoining land and building owners.	N/A	No such works are proposed.	
PO4 Development protects all services and public utilities.	AO4 Development protects services and public utilities and ensures that any alteration or relocation of services or public utilities meets the standard design specifications of the responsible service authorities.	A	Any alteration of existing services within the property will be completed by appropriately qualified personnel. Public utilities in the road reserve will be protected during construction.	
PO5 Development provides surface and sub-surface drainage to prevent water seepage, concentration of run-off or ponding of stormwater on adjacent land.	AO5 Development ensures all flows and subsoil drainage are directed to a lawful point of discharge of a surface water diversion drain, including to the top or toe of a retaining wall in accordance with the stormwater drainage section of the Infrastructure design planning scheme policy .	A	Proposed development is able to discharge stormwater runoff to the lawful point of discharge. Retaining walls including subsoil drainage and footing are to be designed by others.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO6 Development ensures that the design and construction of all open drainage works is undertaken in accordance with natural channel design principles, being the development of a stormwater conveyance system for major flows, by using a vegetated open channel or drain that approximates the features and functions of a natural waterway to enhance or improve riparian values of those stormwater conveyance systems.</p> <p>Editor's note—Guidance on natural channel design principles can be found in the Council's publication Natural channel design guidelines.</p>	<p>AO6 No acceptable outcome is prescribed.</p>	N/A	No such works are proposed.	
<p>PO7 Development for filling or excavation: (a) does not degrade water quality or adversely affect environmental values in receiving waters; (b) ensures site sediment and erosion control standards are best practice.</p>	<p>AO7.1 Development for filling or excavation provides water quality treatment that complies with the stormwater drainage section of the Infrastructure design planning scheme policy.</p>	A/S	A tree pod arrangement is proposed to treat the stormwater runoff from the development in lieu of providing a bio-retention basin due to site constraints. An erosion and sediment control strategy will be developed during detailed design, for implementation during construction if	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
			required. Refer to Site-based Stormwater Management Plan.	
	A07.2 Development provides erosion and sediment control standards that are in accordance with the stormwater drainage section of the Infrastructure design planning scheme policy .	A	An erosion and sediment control strategy will be developed during detailed design, for implementation during construction if required.	
PO8 Development for filling or excavation is conducted such that adverse impacts at a sensitive use due to noise and dust are prevented or minimised. Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.	A08.1 Development ensures that no dust emissions extend beyond the boundary of the site, including dust from construction vehicles entering and leaving the site.	A	Erosion and sediment control best practices will be undertaken to limit dust emissions.	
	A08.2 Development for filling or excavation activity only occurs between the hours of 6:30am and 6:30pm Monday to Saturday, excluding public holidays.	A	Filling or excavation (if required) will be limited to the identified work hours.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
<p>PO9 Development ensures that vibration generated by the filling or excavation operation does not exceed the vibration criteria in Table 9.4.3.3.D, Table 9.4.3.3.E, Table 9.4.3.3.F and Table 9.4.3.3.G.</p> <p>Note—A noise management report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.</p>	<p>AO9 Development involving filling or excavation does not cause a ground-borne vibration beyond the boundary of the site.</p>	A	Earthworks will be monitored during construction so as to not cause ground borne vibration beyond the site. The contractor's management plan is to address these requirements, if required.	
<p>PO10 Development ensures that heavy trucks hauling material to and from the site do not affect the amenity of established areas and limits environmental nuisance impact on adjacent land.</p>	<p>AO10 Development ensures that heavy trucks hauling material to and from the site: (a) occur for a maximum of 3 weeks; (b) use a major road to access the site; (c) only use a minor road for the shortest-most-direct route that has the least amount of environmental nuisance if there is no major road alternative.</p>	A	Where heavy vehicles attend site, the contractor's management plan is to address these requirements.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
PO11 Development for filling or excavation protects the environment and community health and wellbeing from exposure to contaminated land and contaminated material.	AO11 Development does not involve: (a) excavation on land previously occupied by a notifiable activity or on land listed on the Environmental Management Register or the Contaminated Land Register ; (b) filling with material containing a contaminant.	A	There is no evidence of previous notifiable activity having occurred on site as the site is residential in nature. Furthermore, it is not envisaged that the development will involve major cut.	
PO12 Development provides for: (a) landscaping for water conservation purposes; (b) water sensitive urban design measures which are employed within the landscape design to maximise stormwater use and to reduce any adverse impacts on the landscape; (c) stormwater harvesting to be maximised and any adverse impacts of stormwater minimised.	AO12.1 Development provides landscaping which is designed using the standards in the Landscape design guidelines for water conservation planning scheme policy .	A	Landscaping requirements will be confirmed at detailed design phase.	
	AO12.2 Development ensures that the design and requirements for irrigation are in compliance with the standards in the Landscape design guidelines for water conservation planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	<p>AO12.3 Development provides areas of pavement, turf and mulched garden beds which are drained.</p> <p>Note—This may be achieved through the provision and/or treatment of swales, spoon drains, field gullies, sub-surface drainage and stormwater connections.</p>	A	Landscaping requirements will be confirmed at detailed design phase.	

APPENDIX F – Erosion Hazard Assessment



Erosion Hazard Assessment - June 2014

Brisbane City Council (BCC), *Erosion Hazard Assessment* form must be read in conjunction with the *Erosion Hazard Assessment- Supporting Technical Notes* (June 2014 or later version) for explanatory terms and Certification information.

What is an Erosion Hazard Assessment?

Soil erosion and sediment from urban development, particularly during construction activities, is a significant source of sediment pollution in Brisbane's waterways. The Erosion Hazard Assessment determines whether the risk of soil erosion and sediment pollution to the environment is 'low', 'medium' or 'high'.

When is the EHA required?

An *Erosion Hazard Assessment* form must be completed and lodged with BCC for any Development Application (ie MCU or ROL) that will result in soil disturbance OR Operational Works or Compliance Assessment Application for 'Filling' or Excavation.

Failure to submit this form during lodgement of an application may result in assessment delays or refusal of the application.

Privacy Statement

The personal information collected on this form will be used by Brisbane City Council for the purposes of fulfilling your request and undertaking associated Council functions and services. Your personal information will not be disclosed to any third party without your consent, unless this is required or permitted by law.

Assessment Details

1 Please turn over and complete the erosion hazard assessment.

2 Based on the erosion hazard assessment overleaf, is the site:

A 'low' risk site

Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at <http://www.waterbydesign.com.au/factsheets>

A 'medium' risk site

If the development is approved, the applicant will need to engage a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy.

A 'high' risk site

If the development is approved, the applicant will need to engage a RPEQ and CPESC to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy. The plans and program will need to be certified by a CPESC.

3 Site Information and Certification

Application number (if known)

Site address

46 Kraft Road, Pallara

Postcode 4110

I certify that:

- I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.
- I am a person with suitable qualifications and/or experience in erosion and sediment control.
- The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.
- The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.
- I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by *Print name*

Steve Park

Certifier's signature

 **CIVILWORKS**
ENGINEERS
Property Development Solutions

P (07) 3195 8180
E info@civilworks.com.au
W www.civilworks.com.au

Date

4 / 11 / 2020

Table 1: Low Risk Test

		Yes	No
1.1	is the area of land disturbance > 1000 m ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.2	does any land disturbance occur in a BCC mapped waterway corridor	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.4	does any land disturbance occur below 5 m AHD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.5	does development involve endorsement of a staging plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.6	is there an upstream catchment passing through the site > 1 hectare	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Have you answered 'yes' to any of the questions in Table 1?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

If 'No' then site is low risk with respect to erosion and sediment control

If 'Yes' then proceed to Table 2

Table 2: Medium Risk Test

		Yes	No
2.1	is the area of land disturbance > 1 hectare	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If 'No' then site is medium risk with respect to erosion and sediment control

If 'Yes' then proceed to Table 3

Table 3: High Risk Test

3.1	is there an upstream catchment passing through the site > 1 hectare	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.2	does any land disturbance occurs in a BCC mapped waterway corridor	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%	<input type="checkbox"/>	<input checked="" type="checkbox"/>

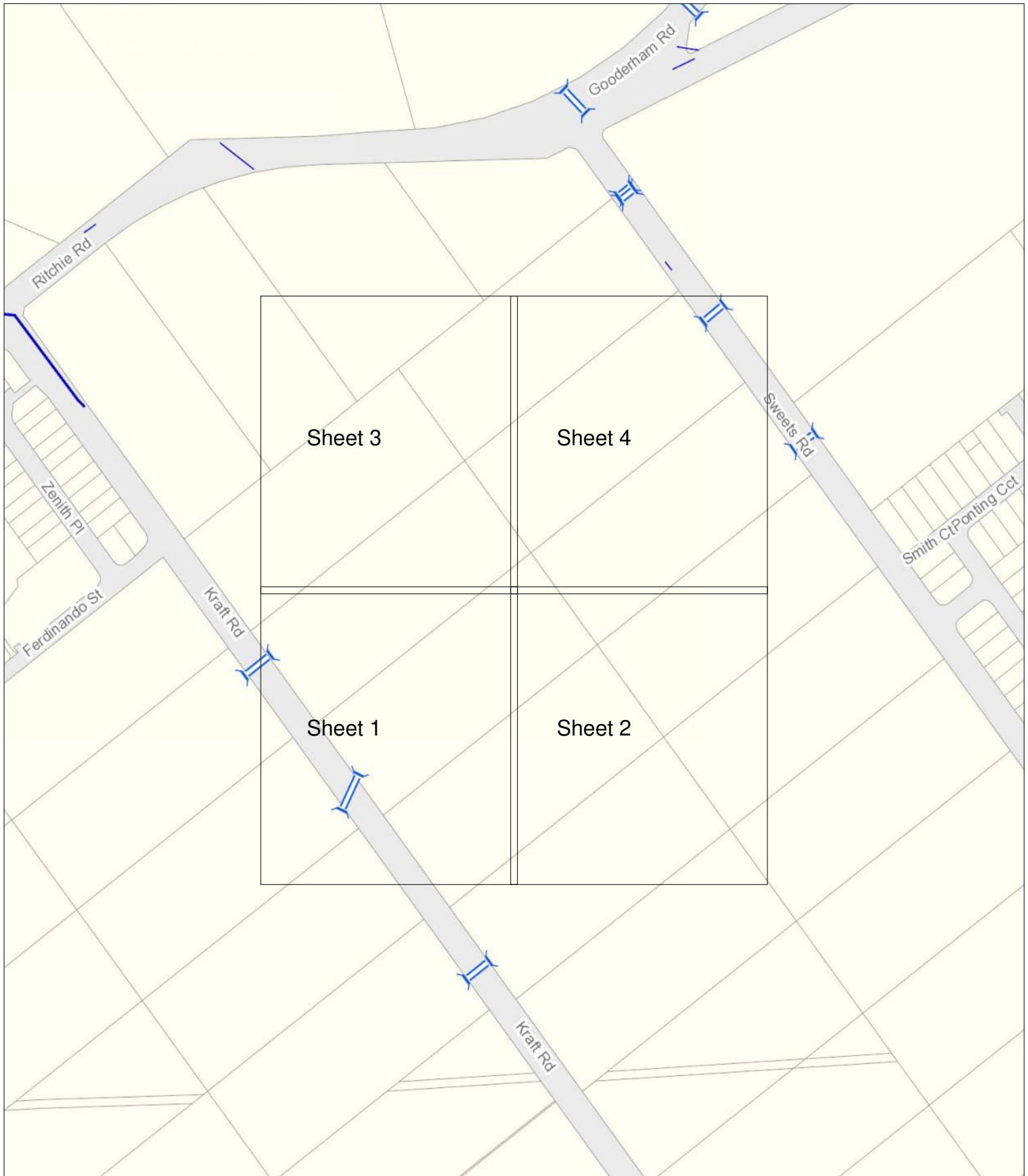
Have you answered 'yes' to any of the questions in Table 3?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

If 'No' then site is medium risk with respect to erosion and sediment control

If 'Yes' then site is high risk with respect to erosion and sediment control

APPENDIX G – Dial Before You Dig



Map Sheet Overview

Sequence Number: 101539476

Disclaimer:

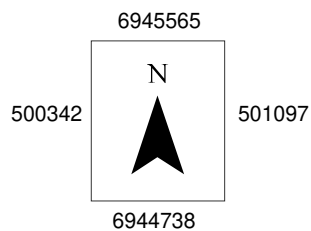
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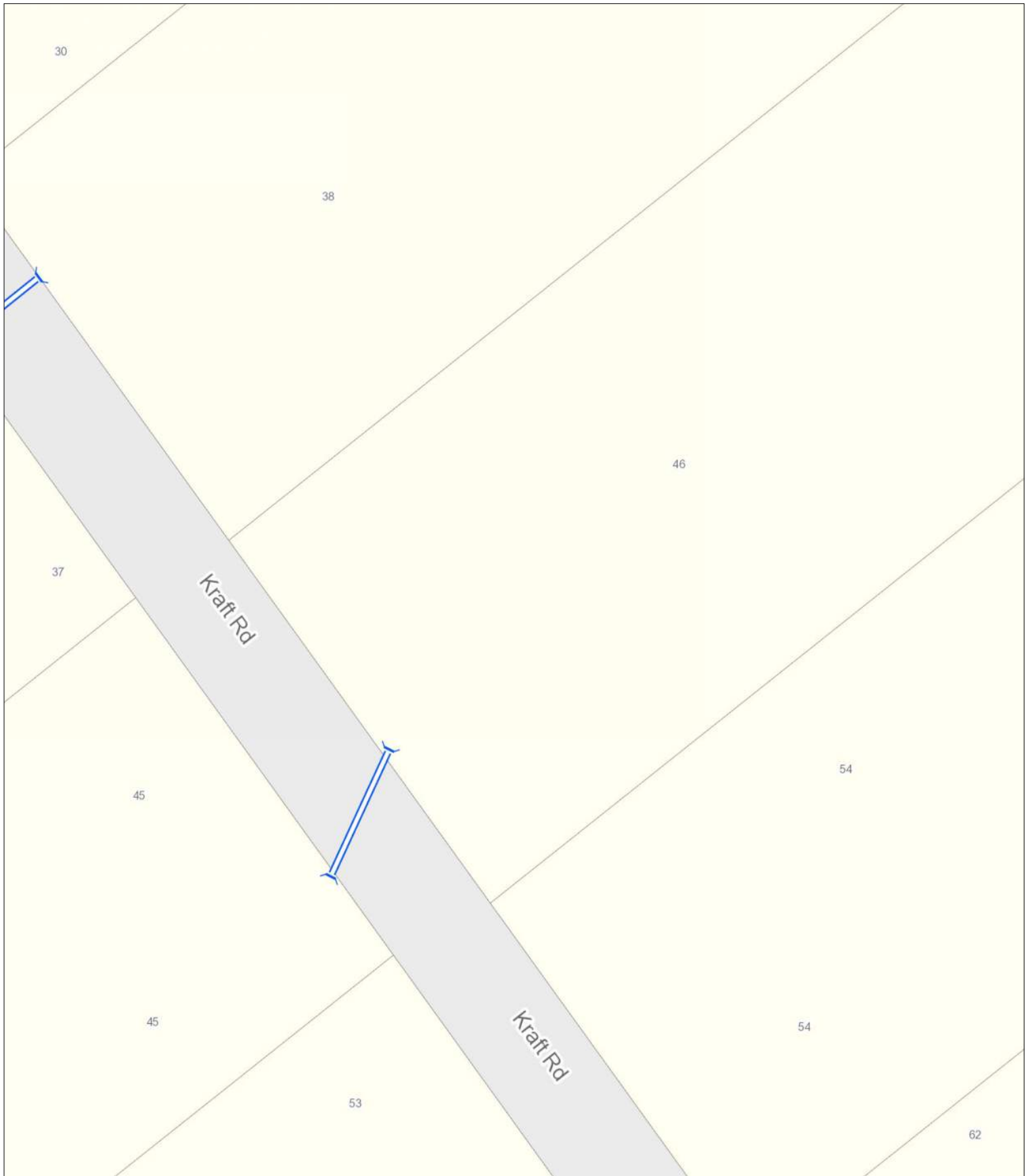
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BCC Stormwater and Cable Networks

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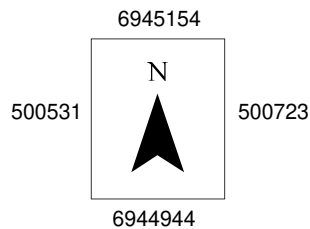
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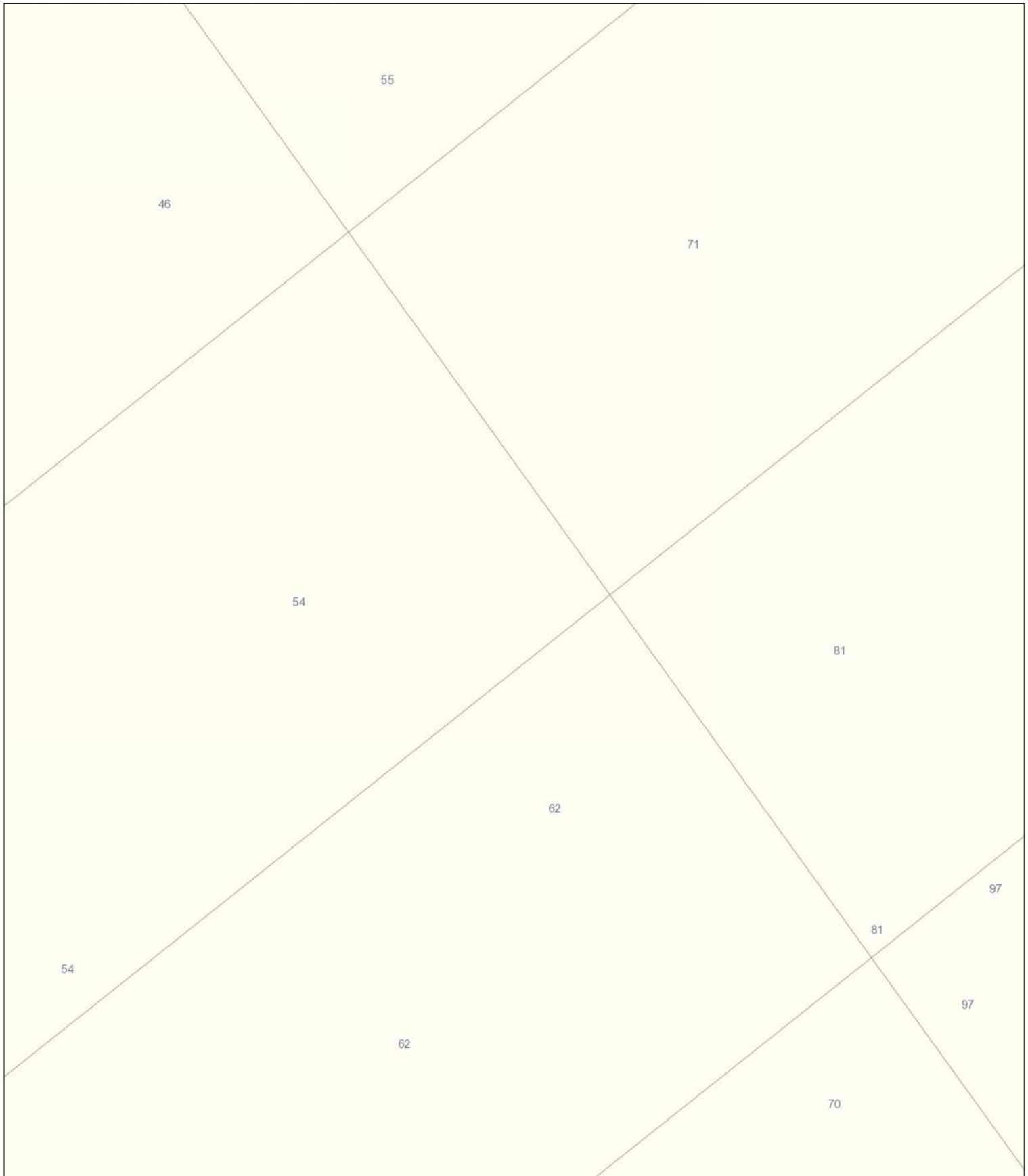
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Sheet 1



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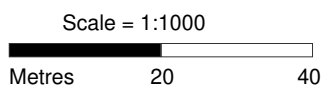
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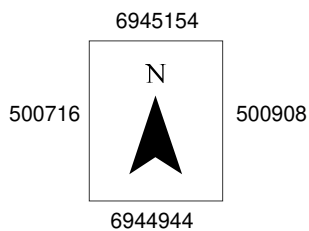
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Location:

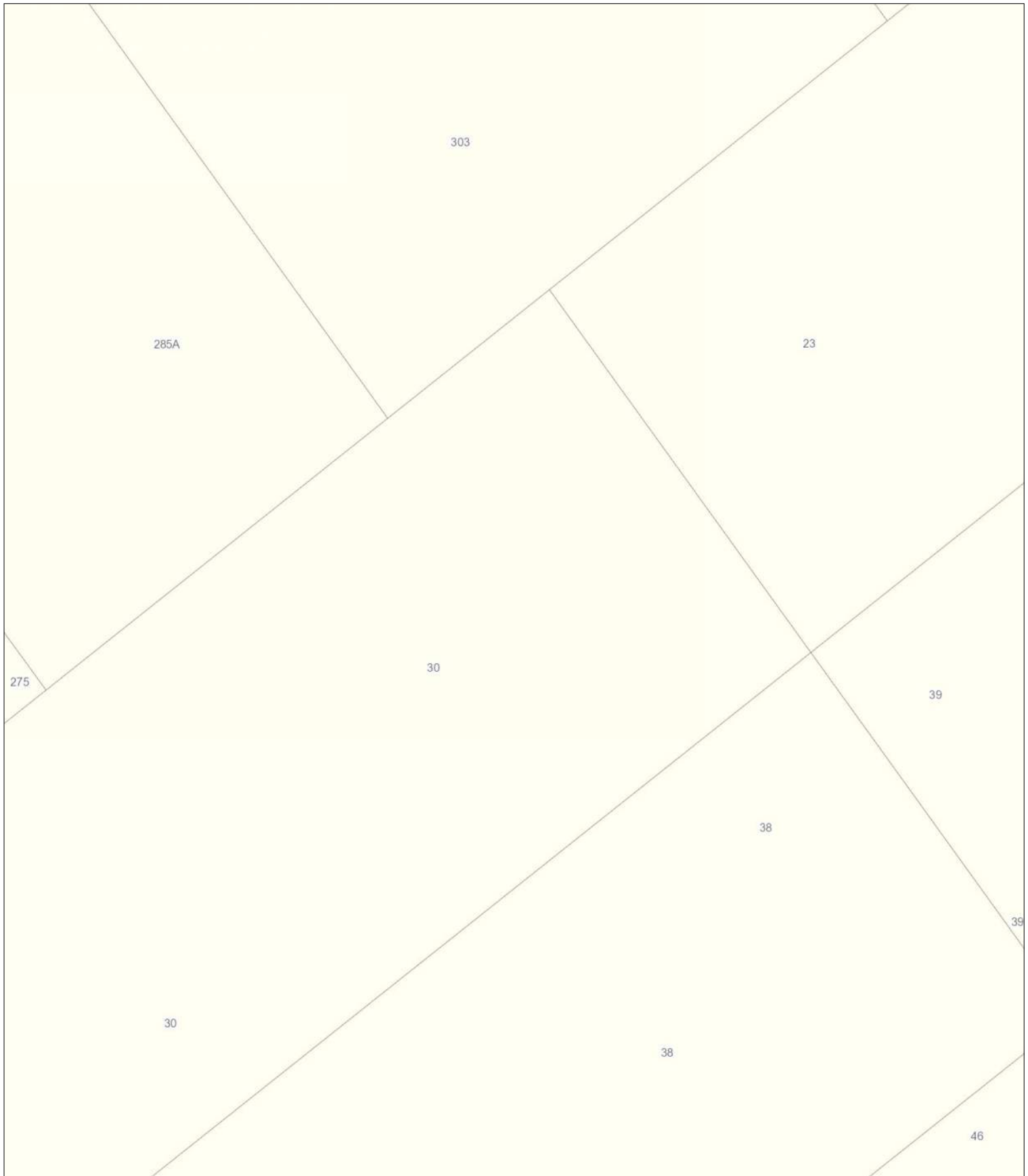


Sheet 2



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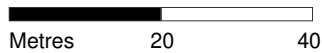
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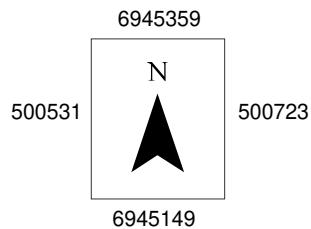
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Scale = 1:1000



Location:

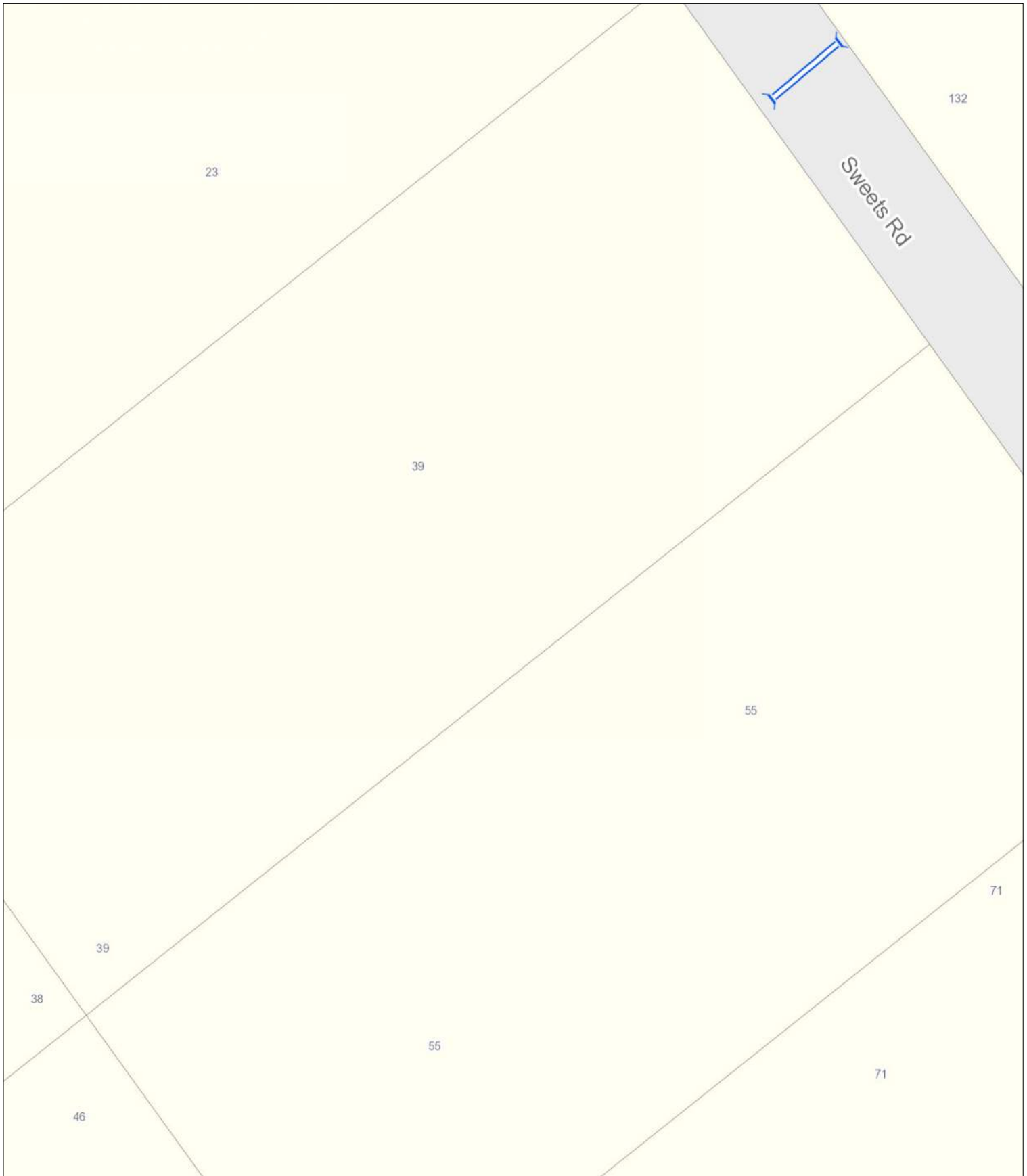


Date: Sep 07, 2020

Sheet 3



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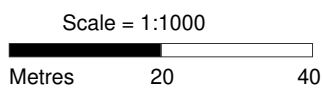
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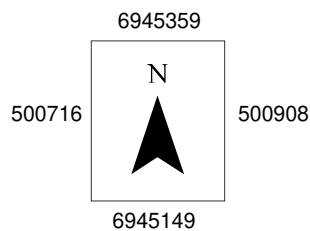
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Location:



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Sheet 4










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Legend

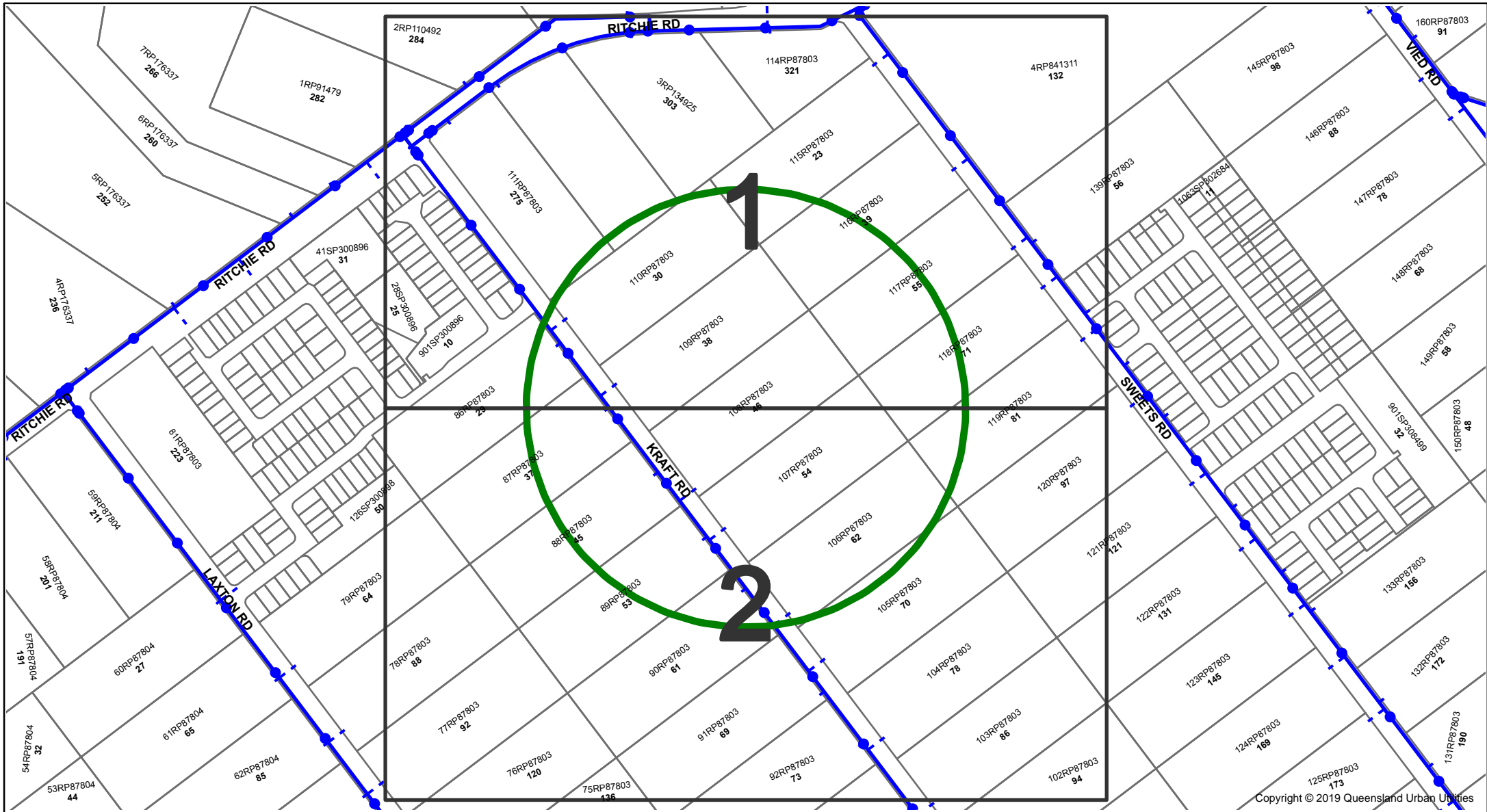
Stormwater Network

-  Stormwater Drain
-  Stormwater Gully / Roofwater Connection
-  Stormwater Maintenance Hole
-  Stormwater Roofwater Pit
-  Stormwater Gully Pit
-  Stormwater Field Inlet
-  Stormwater Quality Improvement Device
-  Stormwater Culvert



BCC Cable Network

-  Traffic System Cable
-  Traffic Signal Ducting
-  Traffic Light Conduit
-  Fibre Optic Cable Location
-  Flood Telemetry Conduit
-  Parking Sensor Ducting
-  Fibre Optic Pit Location

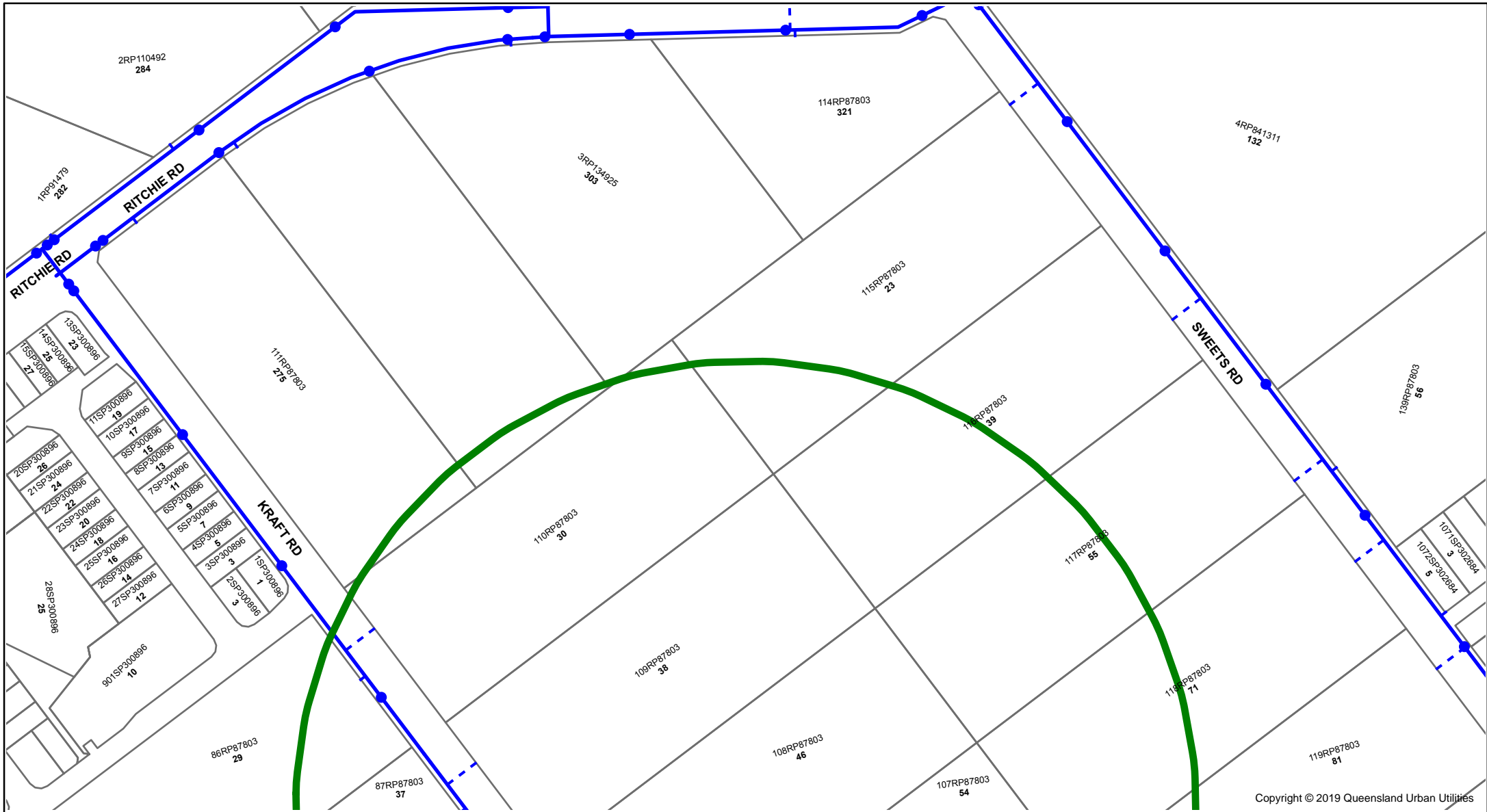
Queensland Urban Utilities - Water & Sewer Infrastructure




Copyright © 2019 Queensland Urban Utilities

 <p>DBYD - Queensland Urban Utilities Water & Sewer Infrastructure</p> <p>DBYD Reference No: 101539481</p> <p><small>Date DBYD Ref Received: 7/09/2020 4:07:00 PM Date DBYD Job to Commence: 8/09/2020 12:00:00 AM Date DBYD Map Produced: 7/09/2020 This Map is valid for 30 days</small></p> <p><small>Produced By: Queensland Urban Utilities</small></p> 	<p>Sewer</p> <ul style="list-style-type: none"> ● Infrastructure ◆ Major Infrastructure — Network Pipelines — Recycled Water Pipelines Network Structures 	<p>Water</p> <ul style="list-style-type: none"> ● Infrastructure ◆ Major Infrastructure — Network Pipelines - - - Water Service (Indicative only) Network Structures 	<p style="text-align: center;">N ↑ Map Scale 1:5125</p>	<p><small>The plans are indicative and approximate only and provided without warranties of any kind, express or implied including in relation to accuracy, completeness, correctness, currency or fitness for purpose.</small></p> <p><small>QUU takes no responsibility and accepts no liability for any loss, damage, costs or liability that may be incurred by any person acting in reliance on the information provided on the plans.</small></p> <p><small>This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.</small></p> <p><small>Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2018]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2018]</small></p> <p><small>For further information, please call Queensland Urban Utilities on 13 26 57 (7am-7pm weekdays). Faults and emergencies 13 23 64 (24/7). www.urbanutilities.com.au ABN 86 673 835 011</small></p>
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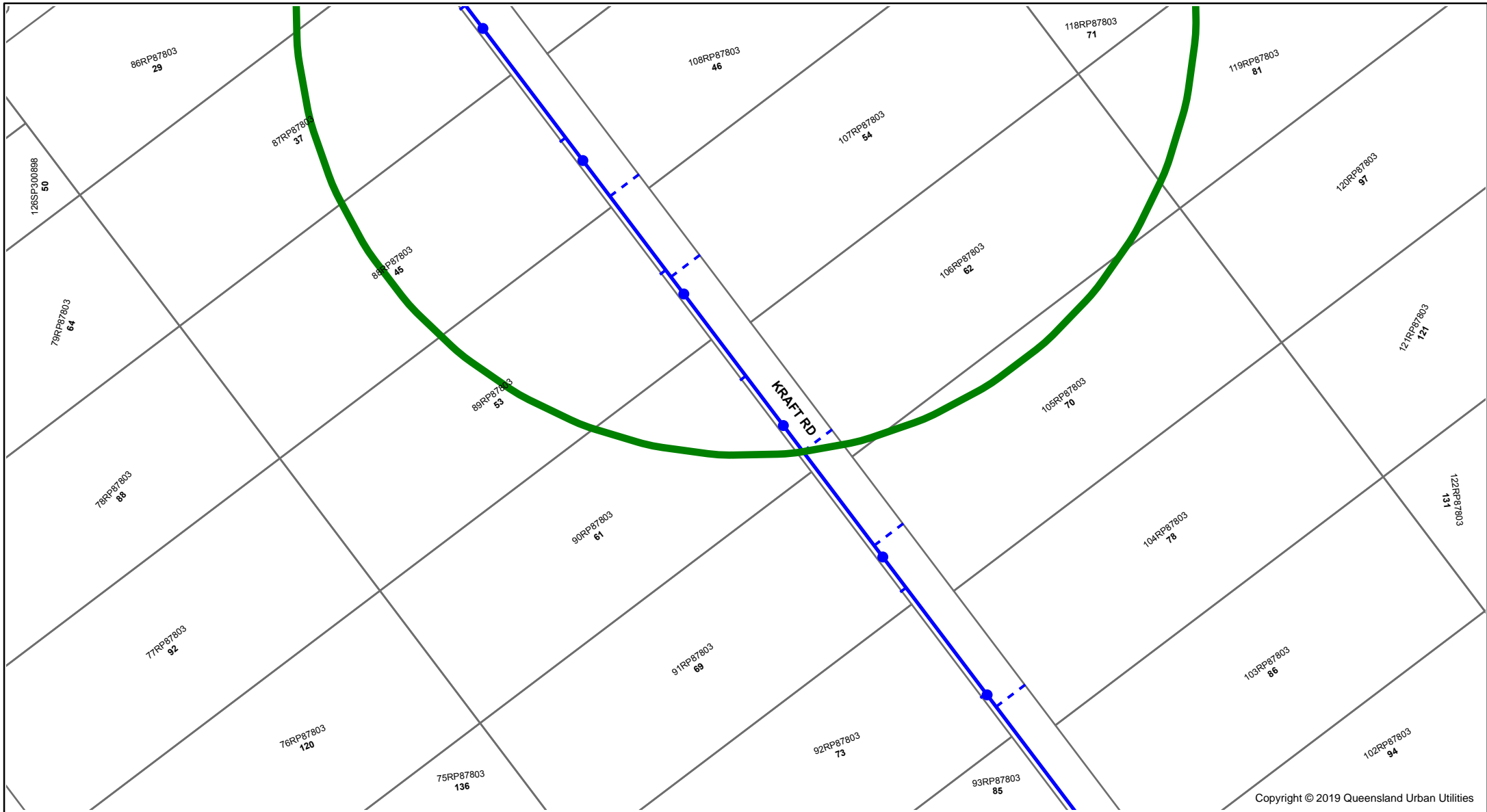
Queensland Urban Utilities - Water & Sewer Infrastructure






Copyright © 2019 Queensland Urban Utilities

	<p>DBYD - Queensland Urban Utilities Water & Sewer Infrastructure</p> <p>DBYD Reference No: 101539481</p> <p><small>Date DBYD Ref Received: 7/09/2020 4:07:00 PM Date DBYD Job to Commence: 8/09/2020 12:00:00 AM Date DBYD Map Produced: 7/09/2020</small></p> <p><small>Produced By: Queensland Urban Utilities</small></p>	<table border="0"> <tr> <td>Sewer</td> <td>Water</td> </tr> <tr> <td>● Infrastructure</td> <td>● Infrastructure</td> </tr> <tr> <td>◆ Major Infrastructure</td> <td>◆ Major Infrastructure</td> </tr> <tr> <td>— Network Pipelines</td> <td>— Network Pipelines</td> </tr> <tr> <td>— Recycled Water Pipelines</td> <td>- - - Water Service (Indicative only)</td> </tr> <tr> <td>▭ Network Structures</td> <td>▭ Network Structures</td> </tr> </table>	Sewer	Water	● Infrastructure	● Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure	— Network Pipelines	— Network Pipelines	— Recycled Water Pipelines	- - - Water Service (Indicative only)	▭ Network Structures	▭ Network Structures	<p>N</p> <p>Map Scale</p> <p>1:2500</p>	<p>The plans are indicative and approximate only and provided without warranties of any kind, express or implied including in relation to accuracy, completeness, correctness, currency or fitness for purpose.</p> <p>QUU takes no responsibility and accepts no liability for any loss, damage, costs or liability that may be incurred by any person acting in reliance on the information provided on the plans.</p> <p>This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.</p> <p>Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2018]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2018]</p> <p>For further information, please call Queensland Urban Utilities on 13 26 57 (7am-7pm weekdays). Faults and emergencies 13 23 64 (24/7). www.urbanutilities.com.au ABN 86 673 835 011</p>
Sewer	Water															
● Infrastructure	● Infrastructure															
◆ Major Infrastructure	◆ Major Infrastructure															
— Network Pipelines	— Network Pipelines															
— Recycled Water Pipelines	- - - Water Service (Indicative only)															
▭ Network Structures	▭ Network Structures															

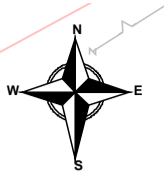
Queensland Urban Utilities - Water & Sewer Infrastructure



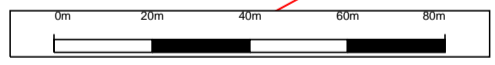
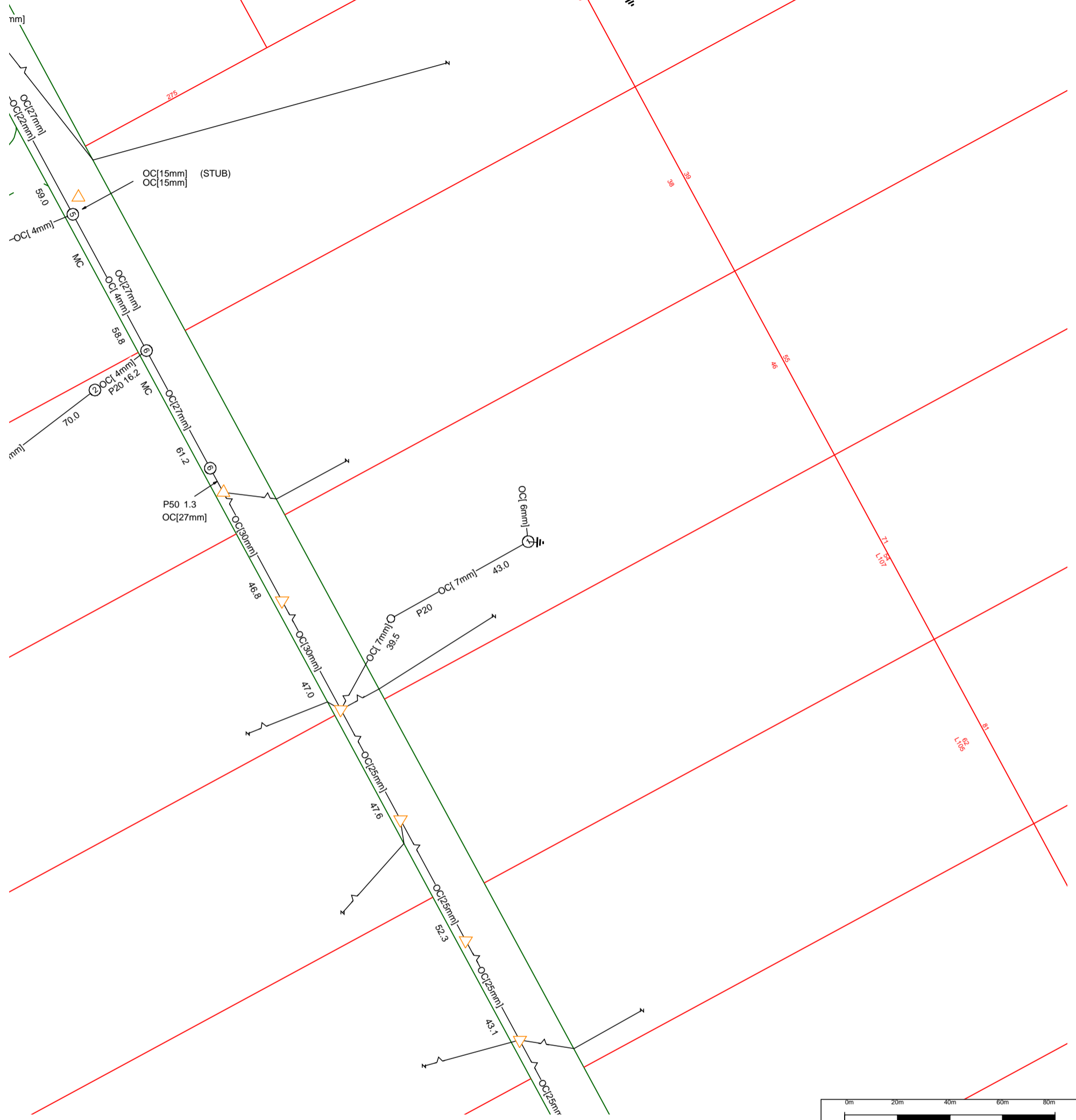
Copyright © 2019 Queensland Urban Utilities

	<p>DBYD - Queensland Urban Utilities Water & Sewer Infrastructure</p> <p>DBYD Reference No: 101539481</p> <p><small>Date DBYD Ref Received: 7/09/2020 4:07:00 PM Date DBYD Job to Commence: 8/09/2020 12:00:00 AM Date DBYD Map Produced: 7/09/2020 This Map is valid for 30 days</small></p> <p><small>Produced By: Queensland Urban Utilities</small></p> 	<table border="0"> <tr> <td>Sewer</td> <td>Water</td> </tr> <tr> <td>● Infrastructure</td> <td>● Infrastructure</td> </tr> <tr> <td>◆ Major Infrastructure</td> <td>◆ Major Infrastructure</td> </tr> <tr> <td>— Network Pipelines</td> <td>— Network Pipelines</td> </tr> <tr> <td>— Recycled Water Pipelines</td> <td>- - Water Service (Indicative only)</td> </tr> <tr> <td>▭ Network Structures</td> <td>▭ Network Structures</td> </tr> </table>	Sewer	Water	● Infrastructure	● Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure	— Network Pipelines	— Network Pipelines	— Recycled Water Pipelines	- - Water Service (Indicative only)	▭ Network Structures	▭ Network Structures	<p>N</p>  <p>Map Scale 1:2500</p>	<p><small>The plans are indicative and approximate only and provided without warranties of any kind, express or implied including in relation to accuracy, completeness, correctness, currency or fitness for purpose.</small></p> <p><small>QUU takes no responsibility and accepts no liability for any loss, damage, costs or liability that may be incurred by any person acting in reliance on the information provided on the plans.</small></p> <p><small>This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.</small></p> <p><small>Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2018]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2018]</small></p> <p><small>For further information, please call Queensland Urban Utilities on 13 26 57 (7am-7pm weekdays). Faults and emergencies 13 23 64 (24/7). www.urbanutilities.com.au ABN 86 673 835 011</small></p>
Sewer	Water															
● Infrastructure	● Infrastructure															
◆ Major Infrastructure	◆ Major Infrastructure															
— Network Pipelines	— Network Pipelines															
— Recycled Water Pipelines	- - Water Service (Indicative only)															
▭ Network Structures	▭ Network Structures															

Cable Plan



MC 2.0
OC[22mm]
OC[27mm]



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

Sequence Number: 101539477

Please read Duty of Care prior to any excavating

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 07/09/2020 16:16:19

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

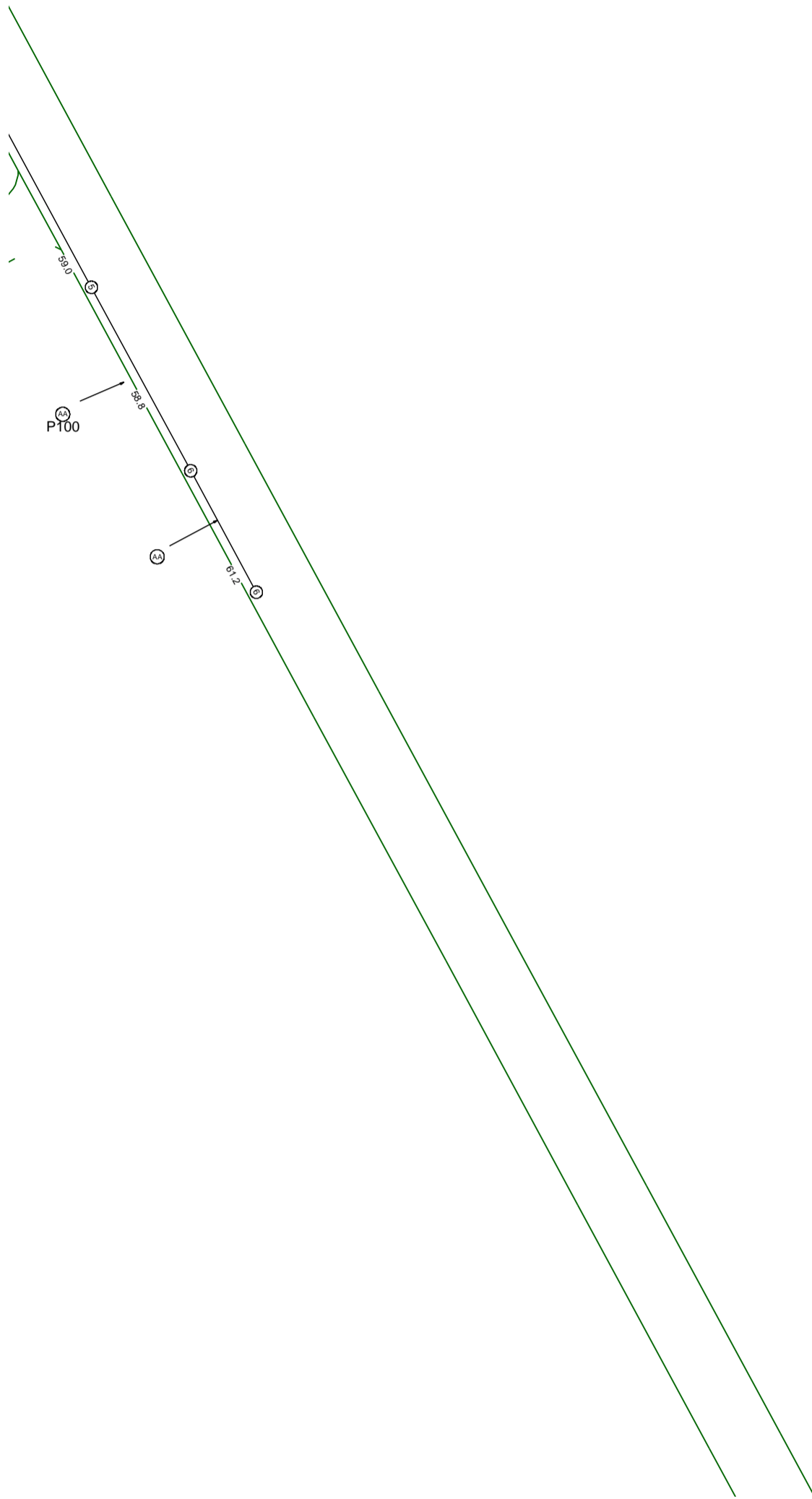
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mains Cable Plan



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 07/09/2020 16:16:20

Sequence Number: 101539477

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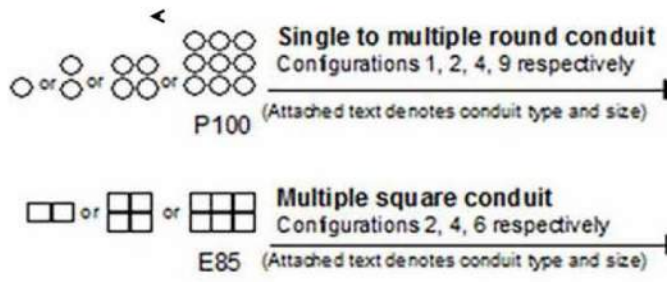
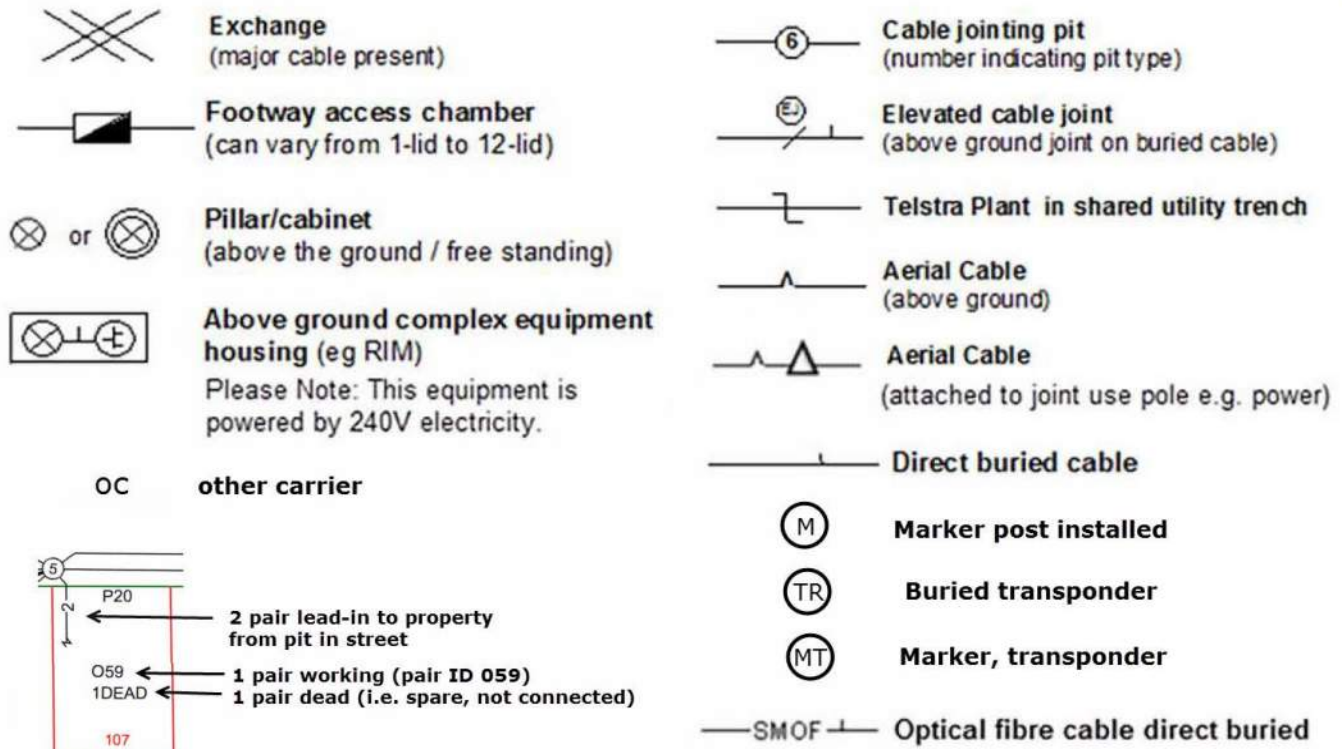
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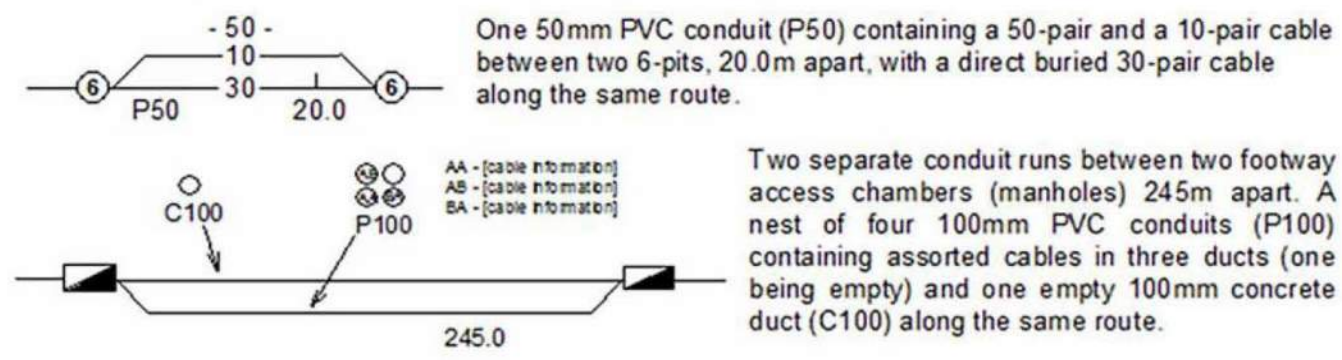
For more info contact a Telstra Accredited Locator or Telstra Plan Services 1800 653 935



Some examples of conduit type and size:
A - Asbestos cement, P - PVC / plastic, C - Concrete, GI - Galvanised iron, E - Earthenware.
Conduit sizes *nominally* range from 20mm to 100mm.

P50	50mm PVC conduit
P100	100mm PVC conduit
A100	100mm asbestos cement conduit
E 85	85mm square earthenware conduit


Some examples of how to read Telstra plans:



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. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. **FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK.** A plant location service 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. The exact position of Telstra assets can only be validated by physically exposing it. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.








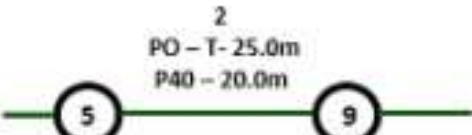






Indicative Plans

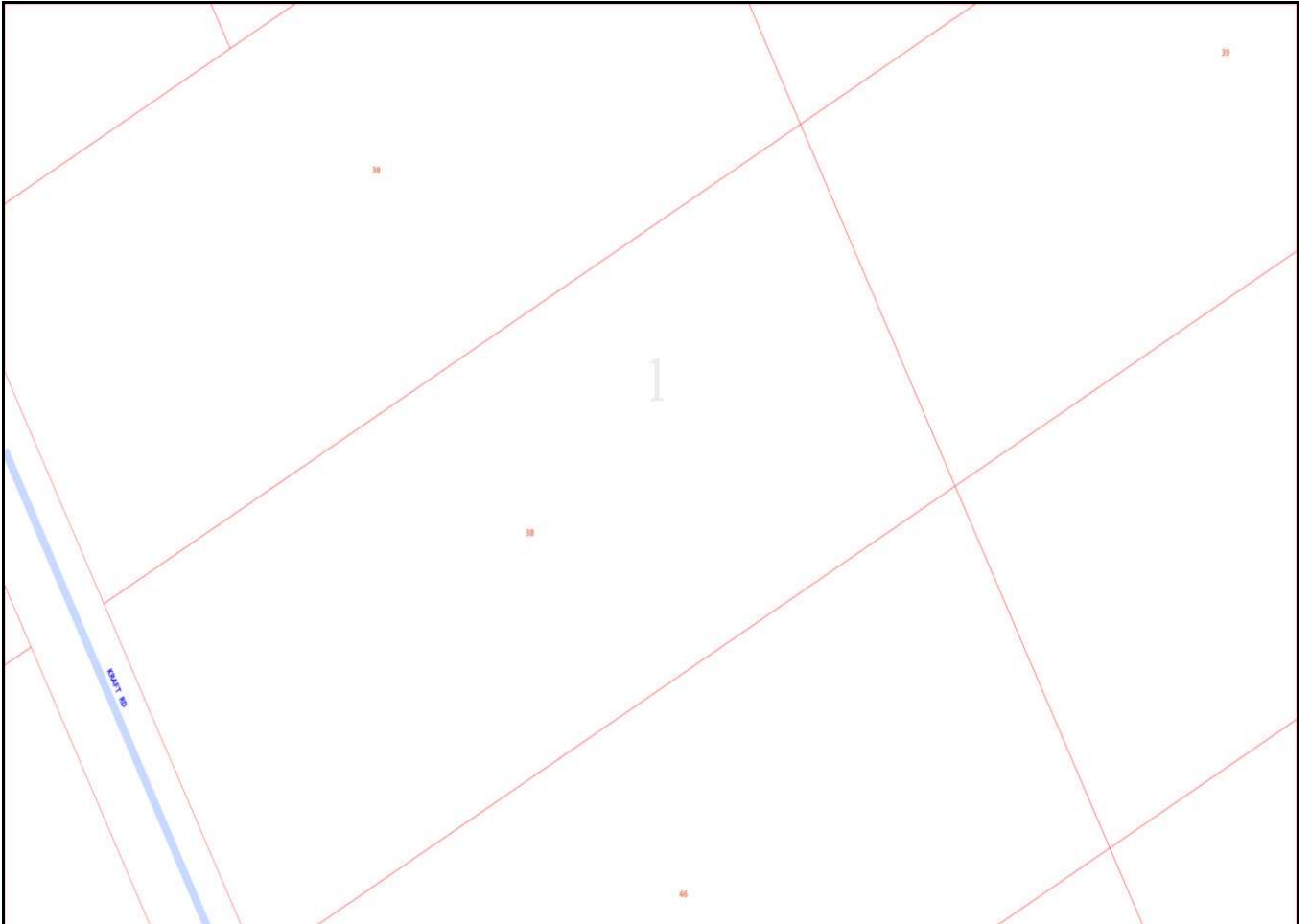
Issue Date:	07/09/2020	 The logo features a red circle with a black border and a diagonal slash. Inside the circle is a black silhouette of a person digging. To the right of the circle, the text 'DIAL BEFORE YOU DIG' is written in bold, black, uppercase letters. Below this text, the website address 'www.1100.com.au' is written in a smaller, black, lowercase font.
Location:	46 Kraft Road , Pallara , QLD , 4110	

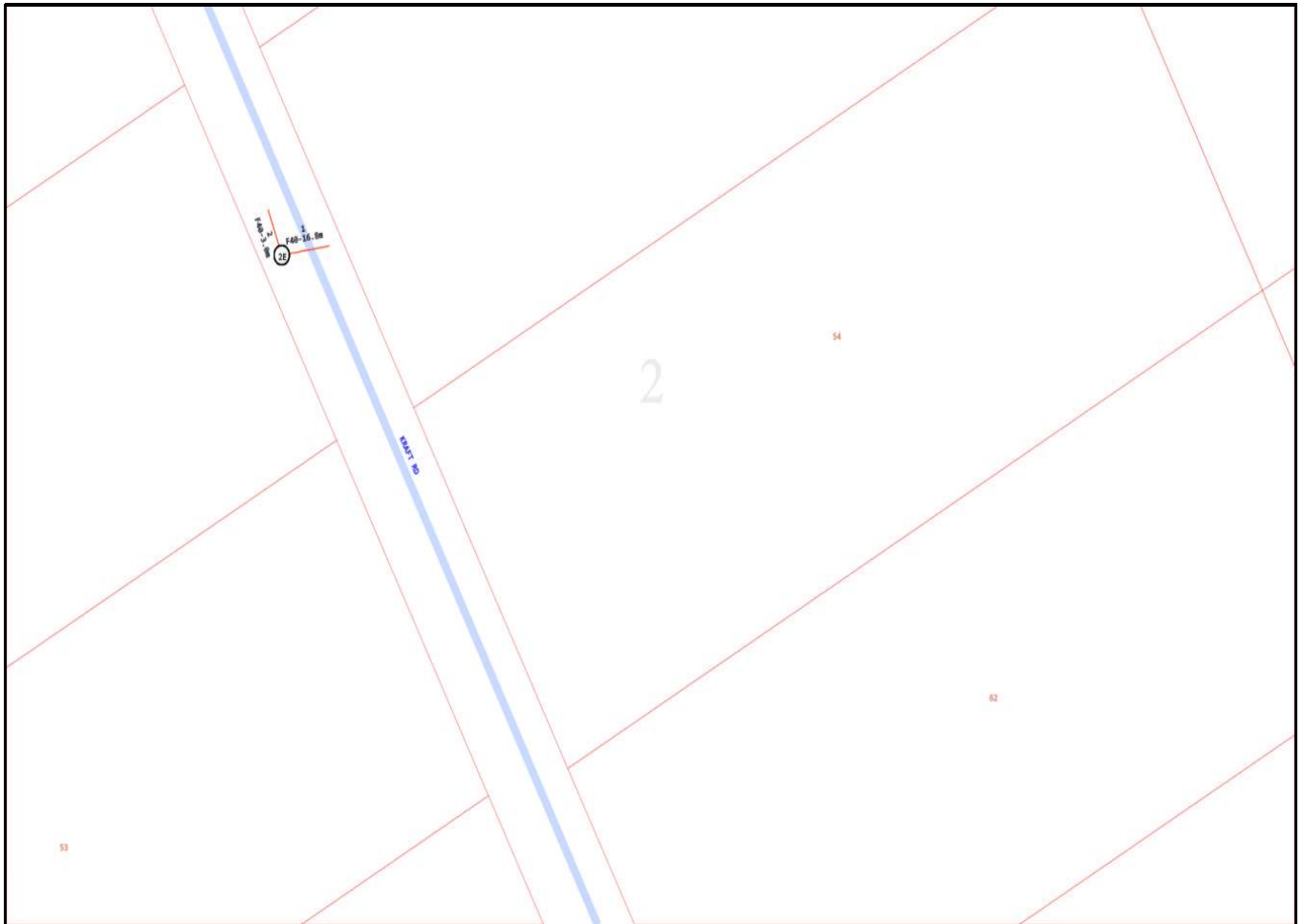




LEGEND

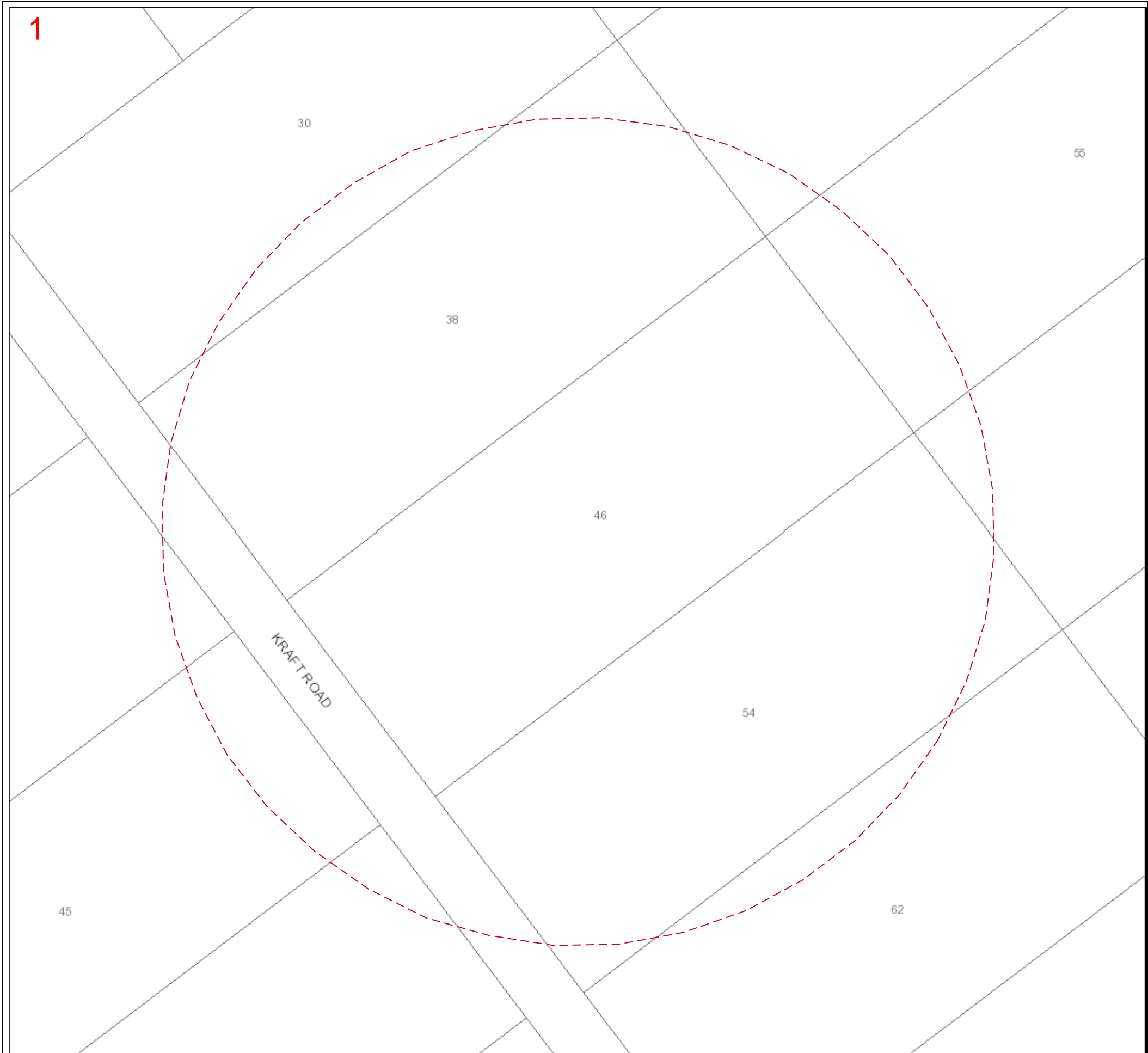
	Parcel and the location
	Pit with size "5"
	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
	2 Direct buried cables between pits of sizes, "5" and "9" are 10.0m apart.
	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
	Road and the street name "Broadway ST"
<p data-bbox="363 1865 443 1899">Scale</p>	<p data-bbox="683 1821 1139 1854">0 20 40 60 Meters</p> <p data-bbox="1098 1865 1187 1899">1:2000</p> <p data-bbox="1027 1899 1257 1933">1 cm equals 20 m</p> 





Emergency Contacts

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



101539479 Map Sheet: 1

Papersize: A3 Scale: 1:1000

0 0.01km



Map Key:

1

Legend

Distribution Main

- Class 900 Transmission
- Class 600 Transmission
- Class 300 Transmission
- High Pressure Steel
- High Pressure PE Trunk
- High Pressure/ Class 500
- Medium Pressure PE/ Nylon ⁽¹⁾
- Medium Pressure (Allgas)
- Low Pressure
- LPG
- TLP
- Proposed/ Under Construction
- Idle Gas Pipe
- Abandoned Gas Pipe
- Sleeve

(1) Medium Pressure in AGN/ Nylon in Allgas

Gas Assets and Fittings

- Gate Station
- Regulator Station
- Block/ Emergency Valve
- Isolation Valve
- Test Point
- Syphon
- Anode
- Pipeline Marker
- Trace Wire Point
- Reducer
- Pipe Connector/ Tee
- Pipe Connector
- End Cap

Pipe Materials

- | | |
|----------|-------------------------------------|
| CI | Cast Iron |
| CU | Copper |
| GAL | Wrought Galvanised Iron |
| PGAL | Poly Coated Wrought Galvanised Iron |
| ST | Steel |
| NY/ NY11 | Nylon |
| PE | Polyethylene |
| MDPE | Medium Density Polyethylene |
| HDPE | High Density Polyethylene |
| DN | Nominal Diameter |
| OD | Outside Diameter |

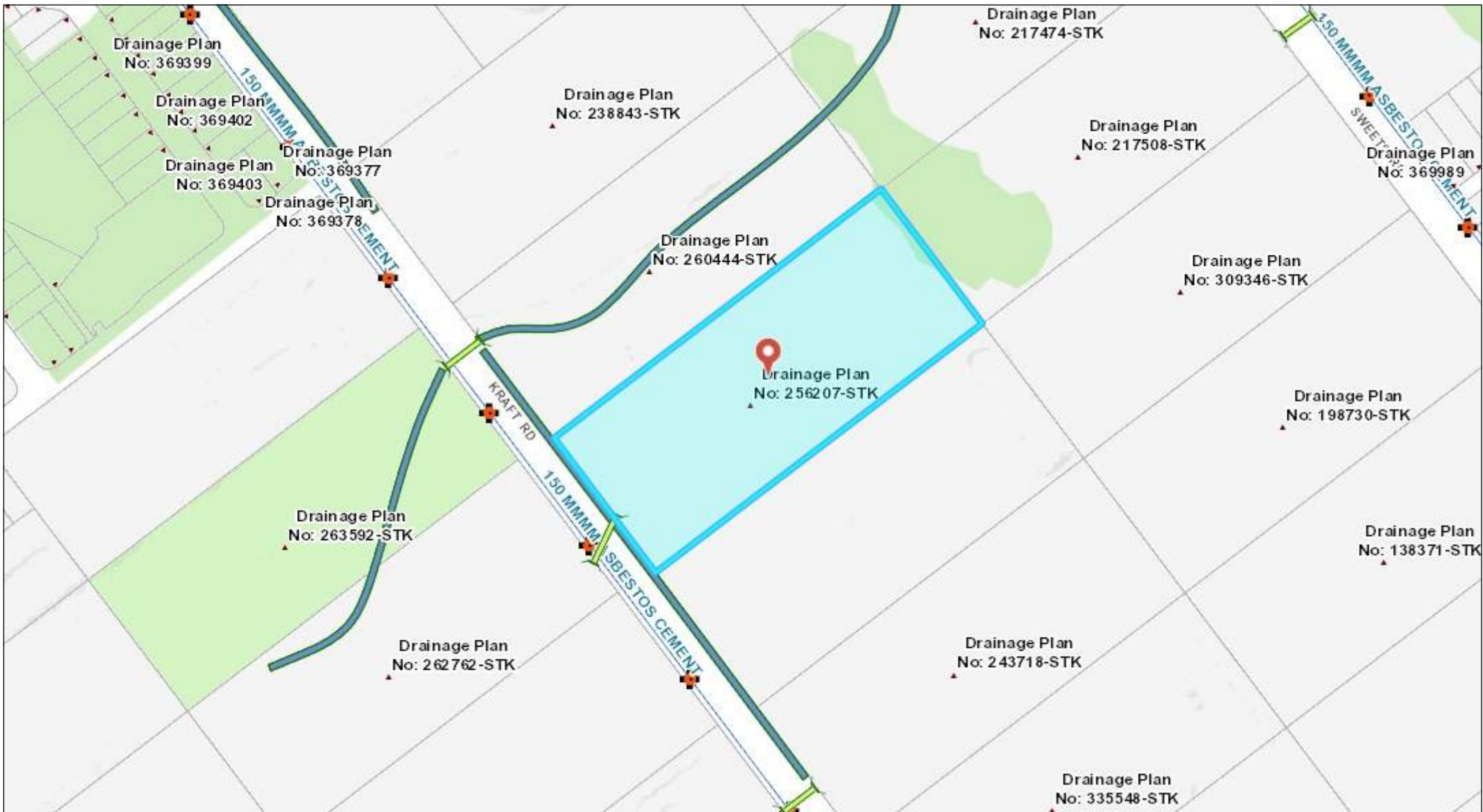
Examples: 40mm Polyethylene in an 80mm (Nominal Diameter) Cast Iron Sleeve
 63mm Polyethylene inserted in another pipe

Line/ Polygon Request

Data Source

Pipeline Data Copyright APA Group, Property Parcels Copyright QLD Government, UBD Imagery – Copyright Sensis, DBYD Dig Location provided by DBYD.

APPENDIX H – eBIMAP



In consideration of Council, and the copyright owners listed above, permitting the use of this data, you acknowledge and agree that Council, and the copyright owners, give no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage), relating to any use of this data.

Notes:

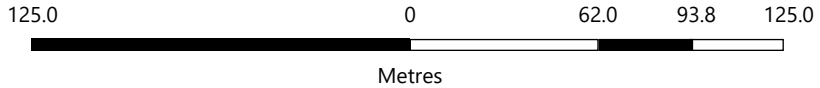
Map Title

© Brisbane City Council 2019 (unless stated below)
 Cadastre © 2019 Department of Natural Resources, Mines and Energy
 Nearmap Imagery © 2019 Nearmap Australia Pty Ltd
 StreetPro digital spatial data © 2019 Pitney Bowes Inc.
 2012 - 2017 Aerial Imagery © 2017 AAMHatch Pty Limited
 2009 Aerial Imagery © 2009 AAMHatch Pty Limited
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 2005 Aerial Imagery © 2005 QASCO
 Contours © 2009 AAMHatch



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Print Date:
 5/11/2020 - 12:44 PM
 Projection:
 Web Mercator Auxiliary Sphere



Scale: 1:2,500

Legend

Recycled Water Device

- FLOW METER
- FLOW METER - OFFLINE
- <all other values>
- CROSS
- TAPPING BAND
- WYE
- SCOUR OUTLET
- CHEMICAL INJECTION POINT
- ANCHOR BLOCK
- PIER

Recycled Network Structure Boundary

- PILLAR HYDRANT
- REFLUX
- PRESSURE SUSTAINING
- FLOW CONTROL
- AIR - OFFLINE
- ALTITUDE - OFFLINE
- <all other values>
- BUTTERFLY, OPEN

Recycled Water Service Valve

- SERVICE VALVE OPEN
- RESERVOIR - OFFLINE
- FILLING STATION
- PUMP STATION - OFFLINE
- BOOSTER PUMP
- LIFT PUMP - OFFLINE
- MODEL LINK
- SCOUR MAIN
- SCOUR MAIN - OFFLINE
- INLINE FLUSHING POINT

Sewer Fitting - All Other Fittings

- RODDING JOINT
- END CAP
- TEE
- CROSS

Sewer Manholes

- MANHOLE - OFFLINE
- SCOUR
- AIR - OFFLINE
- REFLUX - OFFLINE
- SEWER DOOR

<all other values>

- LEVEL SENSOR
- LEVEL SENSOR - OFFLINE
- BEND
- JOINT
- TAPPING
- TEE
- PIGGING POINT

Recycled Water Structures

- CONCRETE STOP
- PIPE BRIDGE

Recycled Water Hydrant

Recycled Water Flow Meter

- SCOUR
- PRESSURE REDUCING
- REFLUX - OFFLINE
- PRESSURE SUSTAINING - OFFLINE
- FLOW CONTROL - OFFLINE
- GATE, CLOSED
- BALL, CLOSED
- <all other values>

Recycled Water- Reservoirs

Recycled Water Network Structure

Recycled Water Pump Stations

Recycled Water Network Structure Boundary

- LIFT PUMP

Recycled Vertical Pressure Main

- RETIC MAIN
- RETIC MAIN - OFFLINE

Sewer Fitting - Main Fittings

- OUTLET
- <all other values>
- PROPERTY CONNECTION BOUNDARY
- BEND
- REDUCER
- INLET
- <all other values>

Sewer Control Valve - by Type

- VACCUM, AS CONSTRUCTED
- SCOUR - OFFLINE

Sewer System Valve - by Type

- GATE

- PRESSURE GAUGE
- PRESSURE GAUGE - OFFLINE

Recycled Water Fitting

- END CAP
- GIBAULT JOINT
- REDUCER
- RESERVOIR INLET
- SAMPLING STATION
- <all other values>
- HEAD WALL

Recycled Water Chamber

- INGROUND HYDRANT

Recycled Water Control Valve

- AIR
- ALTITUDE
- SCOUR - OFFLINE
- PRESSURE REDUCING - OFFLINE

Recycled Water System Valve

- GATE, OPEN
- BALL, OPEN
- SERVICE VALVE CLOSED
- RESERVOIR
- TREATMENT PLANT
- PUMP STATION

Recycled Water Pumps

- BOOSTER PUMP - OFFLINE

Recycled Water Pressure Main

- TRUNK MAIN
- TRUNK MAIN - OFFLINE
- END FLUSHING POINT
- VACUUM LIFT
- JOINT
- JUNCTION
- WYE
- GIBAULT JOINT
- OUTLET
- MANHOLE
- AIR
- REFLUX
- VACCUM - OFFLINE
- <all other values>
- BUTTERFLY

APPENDIX I – FloodWise Property Report



Brisbane City Council FloodWise Property Report

Report Reference

1604544355051

05/11/2020 12:45:55

Dedicated to a better Brisbane

THIS REPORT IS FOR BUILDING AND DEVELOPMENT PURPOSES ONLY

The FloodWise Property Report provides property or lot-based flood information for building and development requirements. This report provides information on estimated flood levels, habitable floor level requirements and more technical information on the four sources of flooding: river, creek / waterway, storm tide and overland flow. Refer to the Useful Definitions section for a glossary of terms.

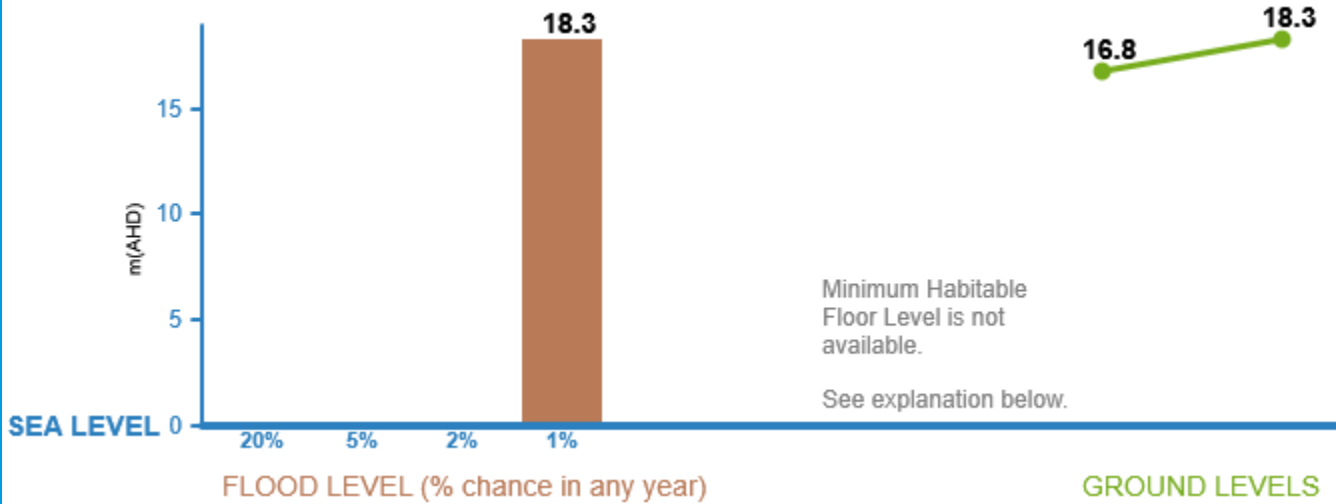
To find out more about how the contents of this report may affect building or development on this property, please visit www.brisbane.qld.gov.au/planning-building. For more general information about understanding your flood risk and how to prepare your property, family or business for potential flooding visit www.brisbane.qld.gov.au/beprepared

THIS IS A REPORT FOR:

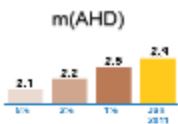
Rateable Address: 46 KRAFT RD, PALLARA QLD 4110

Lot Details: L.108 RP.87803

FLOOD LEVEL INFORMATION



EXPLANATION



m(AHD) - Metres Australia Height Datum. The level of 0.0m AHD is approximately mean sea level.

Flood Levels - The Flood level bar chart above shows the possible flooding level and percentage chance of that level being reached or exceeded in any year. If an orange bar shows, it is the calculated January 2011 flood level at this address or lot. Refer to 'Useful Definitions' for further information.

Minimum Habitable Floor Level - Applies to residential development only. Please refer to Council's planning scheme to learn how this may affect you. If a property is in an overland flow path, or a large allotment, a minimum habitable floor level cannot be provided. Refer flood and planning development flags below.

Ground Levels - The green line above shows this property's approximate lowest and highest ground levels based on latest available information (2019 airborne laser survey) to Council. If you are building, please confirm with a surveyor.

For further information and definitions please refer to the Useful Definitions page

FLOOD AND PLANNING DEVELOPMENT FLAGS

DEVELOPMENT
FLAG(S)

This property may also be affected by one or more flood or property development overlays or flags. These include: LARGE ALLOTMENT

Please review the technical summary over page and refer to Council's planning scheme for further information.



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TECHNICAL SUMMARY

This section of the FloodWise Property Report contains more detailed flood information for this property so surveyors, builders, certifiers, architects and engineers can plan and build in accordance with Council's planning scheme. For more information about building and development in Brisbane please visit www.brisbane.qld.gov.au/planning-building or talk to a Development Assessment Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

THIS IS A REPORT FOR:

Rateable Address: 46 KRAFT RD, PALLARA QLD 4110

Lot Details: L.108 RP.87803

PROPERTY INFORMATION (Summary)

The following table provides a summary of flood information for this property. More detailed flood level information is provided in the following sections of this report.

PROPERTY SUMMARY	LEVEL (mAHD)
Minimum Ground Level	16.8
Maximum Ground Level	18.3
Min Habitable Floor Level	Contact Council
Defined Flood Event Level	18.3
Defined Flood Event Level Source	CREEK/WATERWAY
Source of Highest Flooding	CREEK/WATERWAY
Flooding may also occur from	CREEK/WATERWAY

ESTIMATED PEAK FLOODING LEVELS

The table below displays the peak estimated flood levels by probability for this property. Estimated flood level data should be used in conjunction with applicable planning scheme requirements - Refer to Flood Planning Development Information.

Note that the overland flow flooding level maybe higher than the levels below from other sources.

DESCRIPTION	LEVEL (mAHD)	SOURCE
20% AEP	N/A*	
5% AEP	N/A*	
2% AEP	N/A*	
1% AEP	18.3	CREEK/WATERWAY

* Council does not hold flood levels for this probability event.

FLOOD PLANNING DEVELOPMENT INFORMATION

This section of the FloodWise Property Report contains information about Council's planning scheme overlays. Overlays identify areas within the planning scheme that reflect distinct themes that may include constrained land and/or areas sensitive to the effects of development.

FLOOD OVERLAY CODE

There are currently no River, Creek/Waterway, or Overland Flow Flood Planning Areas that apply to this property.

COASTAL HAZARD OVERLAY CODE

There are currently no Coastal Hazard Overlays that apply to this property.

PROPERTY DEVELOPMENT FLAGS

Large Allotment - This property is either a Large Allotment of over 1000 square metres or is located within a Large Allotment. Flood levels may vary significantly across allotments of this size. Further investigations may be warranted in determining the variation in flood levels and the minimum habitable floor level across the site. For more information or advice, it is recommended you engage a Registered Professional Engineer of Queensland.



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Useful Definitions

Australian Height Datum (AHD) - The reference level for defining ground levels in Australia. The level of 0.0m AHD is approximately mean sea level.

Annual Exceedance Probability (AEP) - The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.

Defined Flood Level (DFL) - The DFL for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m³/s.

Maximum and Minimum Ground Level - Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum Habitable Floor Level - The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family and rumpus rooms) must be constructed.

Council's Planning Scheme - The City Plan (planning scheme) has been prepared in accordance with the Sustainable Planning Act as a framework for managing development in a way that advances the purpose of the Act. In seeking to achieve this purpose, the planning scheme sets out the Council's intention for future development in the planning scheme area, over the next 20 years.

Residential Flood Level (RFL) - Residential flood level (RFL) for Brisbane River flooding equates to the flood level applicable to the extent of January 2011 floods as depicted by mapping on the Queensland Reconstruction Authority website or the Council's defined flood level (DFL) for the Brisbane River, whichever is higher.

Rateable Address - A Lot or Property may have more than one street address. The address shown on this report is the address used by Council for the Lot or property selected.

Property - A property will contain 1 or more lots. The *Multiple Lot Warning* is shown if you have selected a property that contains multiple lots.

Brisbane City Council's Online Flood Tools

Council provides a number of online flood tools:

- to guide planning and development
- to help residents and businesses understand their flood risk and prepare for flooding.

Planning and Development Online Flood Tools

Council's online flood tools for planning and development purposes include:

- FloodWise Property Report
- Flood Overlay Code

For more information on Council's planning scheme and online flood tools for planning and development:

- phone 07 3403 8888 to talk to a Development Assessment Customer Liaison Officer
- visit www.brisbane.qld.gov.au/planning-building
- visit a Regional Business Centre.

Helping residents and businesses be prepared for flooding

Council has a range of free tools and information to help residents and businesses understand potential flood risks and how to be prepared. This includes:

- Flood Awareness Map
- Flooding in Brisbane – A Guide for Residents
- Flooding in Brisbane – A Guide for Businesses
- Early Warning Alert Service. Visit www.brisbane.qld.gov.au/earlywarning to register for email, home phone or SMS severe weather alert updates.

Note: The Flood Awareness Map shows four levels of flood likelihood from high likelihood (flooding is very likely to occur) through to very low likelihood (very rare and extreme flood events).

For more information on Council's online flood tools for residents and business:

- Visit www.brisbane.qld.gov.au/beprepared
- Phone (07) 3403 8888.



Brisbane City Council FloodWise Property Report

Report Reference

1604544355051

05/11/2020 12:45:55

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Disclaimer

1. Defined Flood Levels and Residential Flood Levels, and the Minimum Habitable Floor Levels are determined from the best available information to Council at the date of issue. These flood levels, for a particular property, may change if more detailed information becomes available or changes are made in the method of calculating flood levels.
2. Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property report. Council disclaims any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.



Planning to build or renovate?

For information, guidelines, tools and resources to help you track, plan or apply for your development visit www.brisbane.qld.gov.au/planning-building

You can also find the Brisbane City Plan 2014 and Neighbourhood Plans as well as other information and training videos to help with your building and development plans.