

March 16, 2023

WORKS COMMITTEE MEETING

TO BE HELD

MONDAY, MARCH 20, 2023

SUPPLEMENTARY AGENDA NO. 1

JAY NANKIVELL
GENERAL MANAGER

FURTHER BUSINESS

1. BROKEN HILL CITY COUNCIL REPORT NO. 56/23 - DATED MARCH 16, 2023 - CRYSTAL STREET LONDON PLANE TREE PLANTING REQUEST (D23/14601) 3

WORKS COMMITTEE

March 16, 2023

ITEM 1**BROKEN HILL CITY COUNCIL REPORT NO. 56/23****SUBJECT: CRYSTAL STREET LONDON PLANE TREE PLANTING REQUEST**
D23/14601**Recommendation**

1. That Broken Hill City Council Report No. 56/23 dated March 16, 2023, be received.
2. That Council note that Council Staff recommend the planting proposal of London Plane trees (*Platanus xacerifolia*) in the nature strip of Crystal Street from Iodide Street to Oxide Street.
3. The London Plane trees (*Platanus xacerifolia*) are to be planted 2.5 metres from any infrastructure, including services, buildings and kerb and gutters, and 5 metres from each other tree being planted.
4. That the number of trees and exact location of plantings to be determined on site by Council's Arborist, in conjunction with Parks and Open Spaces Coordinator and Fabtec Advanced steel Fabrication owner and Director.

Executive Summary:

In April 2022, the owner and Director of Fabtec Advanced Steel Fabrication, approached Council with the proposal to plant approximately 20 or more London Plane trees (*Platanus xacerifolia*). The proposal involves the new street trees - to be owned and managed over the long-term by Council – with the plan of creating an avenue and help create a green canopy reduce the overall urban temperature within Iodide Street.

The proposal is complicated by the presence of a significant water main pipeline, located approximately 500mm below ground, that transports water from the Stephen's Creek Reservoir to the main water plant located in Mica Street, Broken Hill. This infrastructure is owned and managed by Essential Water who have expressed concerns about the potential for asset damage by new trees and the constraints to pipeline management requirements over time. Due to this concern Council approached Arboriculture company Homewood Consultancy Pty Ltd and their Senior Consulting Arborist, a level five (5) arborist, to provide technical advice and recommendation on planting London plane trees in this location. The Senior Consulting Arborist recommended to not plant this type of tree in this location if a 2m clearance from the water service and kerb and gutter could not be maintained.

Council also obtained information and advice from the Technical Officer - Arboriculture, with the City of Adelaide Council on their maintenance practices and issues they have with London Plane trees and their infrastructure. While needing regular maintenance to remove from some service location boxes, these are primarily Telstra boxes and are non-structural roots and just require minor maintenance practices to be undertaken. The City of Adelaide still allow London Plane trees as a preferred species within their Local Government Area (LGA).

Considering all information provided from internal and external stakeholders and keeping within Council's Tree Management Plan and Policy, it is recommended that London Plane trees (*Platanus xacerifolia*) can be planted on the verge adjacent to Fabtec Advanced Steel Fabrication between the water main location and the building (as highlighted on the attached proposal). All trees are to be planted 2.5 metres from any infrastructure, including services, buildings and kerb and gutters, and 5 metres from each other tree being planted. The number of trees and exact location of planting to be determined on site by Council's Arborist, in conjunction with Parks and Open Spaces Coordinator and Fabtec owner and Director.

Report:

In April 2022, the owner, and Director of Fabtec Advanced Steel Fabrication, approached Council with the proposal to plant approximately 20 or more London Plane trees (*Platanus xacerifolia*). The proposal involves the new street trees - to be owned and managed over the long-term by Council – with the plan of creating an avenue and help create a green canopy reduce the overall urban temperature within Iodide Street.

Council agreed to investigate the proposal further to ensure the tree species suggested were suitable for the proposed location and were in line with Council's Tree Management Plan and Policy.

A service location was requested on the Dial Before You Dig (DBYD) website with the appropriate technical plans obtained for the site. Upon water services being highlighted within the planting facility Council met with Essential Water to discuss the planting type and the location of these services. The representatives of Essential Water were not in favour of London Plane trees being planted within the vicinity of their underground asset as they have had previous issues with the invasive root system of London Planes. A hydrovac truck was then hired to remove soil to locate the exact location and depth of the water main, this highlighted the pipe to be 2.5m from the kerb and gutter and 5m from the property boundary at a depth of 0.5m.



Due to the location of the pipe and the type of tree to be planted, Essential Water stated that they do not want the trees to be planted as it is considered high risk to cause damage and an increase in maintenance requirements to their pipe and infrastructure.



The owner and Director of Fabtec was informed of this information but requested further advice be obtained from an arborist as he still believed the trees would be suitable to be planted in this location and provided examples of Adelaide City and the London Plane trees planted on their verges as instances where the tree and services interacted with each other.

Council approached Homewood Consultancy Pty Ltd to provide an independent arborist report and recommendation on the suitability for planting the London Plane trees. The Senior Consulting Arborist, a level five (5) arborist with Homewood Consultancy Pty Ltd, completed a desktop review of the site and was provided information from Council's Parks and Open Spaces team including, Dial Before You Dig report, aerial photos, onsite photos and Council's Tree Management Plan and Policy. The Senior Consulting Arborist recommended to not plant this type of tree in this location if a 2m clearance from the water service to the kerb and gutter and/or building could not be maintained and also provided alternative trees that are available to be planted

Additional to this information, Council also requested information from the City of Adelaide regarding their maintenance requirements with root encroachment into services or lifting infrastructure within their LGA from London Plane trees. Feedback was provided by Technical Officer – Arboriculture, who stated that while there is maintenance required for root encroachment into service location boxes, that it was smaller, feeder roots, that are non-structural and can be removed easily. Alternative preventative reactive maintenance measures were provided to Council in how to deal with plantings close to infrastructure and services, including root directors and/or using slurry mix concrete to protect services and repairing lifted infrastructure with thinner pavers or flexible pavement such as bitumen, asphalt or rubber based solutions. Further young plantings have also been witnessed and are still a preferred species in other Local Government Areas within NSW and the use of flexible pavement around the base of the tree as a preferred solution.

Considering all information provided from internal and external stakeholders and ensuring Council operates within Council's Tree Management Plan and Policy, it is recommended that London Plane trees (*Platanus xacerifolia*) can be planted on the verge adjacent to Fabtec Advanced Steel Fabrication between the water main location and the building (as highlighted on the attached proposal). All trees are to be planted 2.5 metres from any infrastructure, including services, buildings and kerb and gutters, and 5 metres from each other tree being planted. The number of trees and exact location of planting to be determined on site by Council's Arborist, in conjunction with Parks and Open Spaces Coordinator and Fabtec owner and Director.

Community Engagement:

Council has communicated directly with the owner and Director of Fabtec Advanced Steel Fabrication on requirements and outcomes of the investigation into this tree planting request.

Council directly liaised with Essential Water during the Dial Before You Dig (DBYD) Technical advice was sought from an independent Arborist, Senior Consulting Arborist from Homewood Consulting Pty Ltd in relation to whether the tree species were a suitable species for the location and services adjacent. Information was provided by the Technical Officer - Arboriculture, with City of Adelaide Council on their maintenance practices related to London Plane trees.

Strategic Direction:

Key Direction:	1	Our Community
Objective:	1.5	Our built environment supports our quality of life
Strategy:	1.5.3	Ensure service levels and asset conditions are commensurate with community expectations

Relevant Legislation:

Local Government Act 1993

Broken Hill City Council Tree Management Plan

Broken Hill City Council Tree Management Policy

Environment Protection and Biodiversity Conservation Act 1999

Biodiversity Conservation Act 2016 No 63

Biodiversity Conservation Regulation 2017

WHS Act 2017

NSW Work Health and Safety Act 2011

Financial Implications:

Financial Implications will include the cost of London Plane trees (*Platanus xacerifolia*) at an approximate cost of \$130 (excluding GST) each and the labour of the Parks and Open Spaces team. The cost of labour would be determined upon agreement of amount of trees and locations to be planted.

Attachments

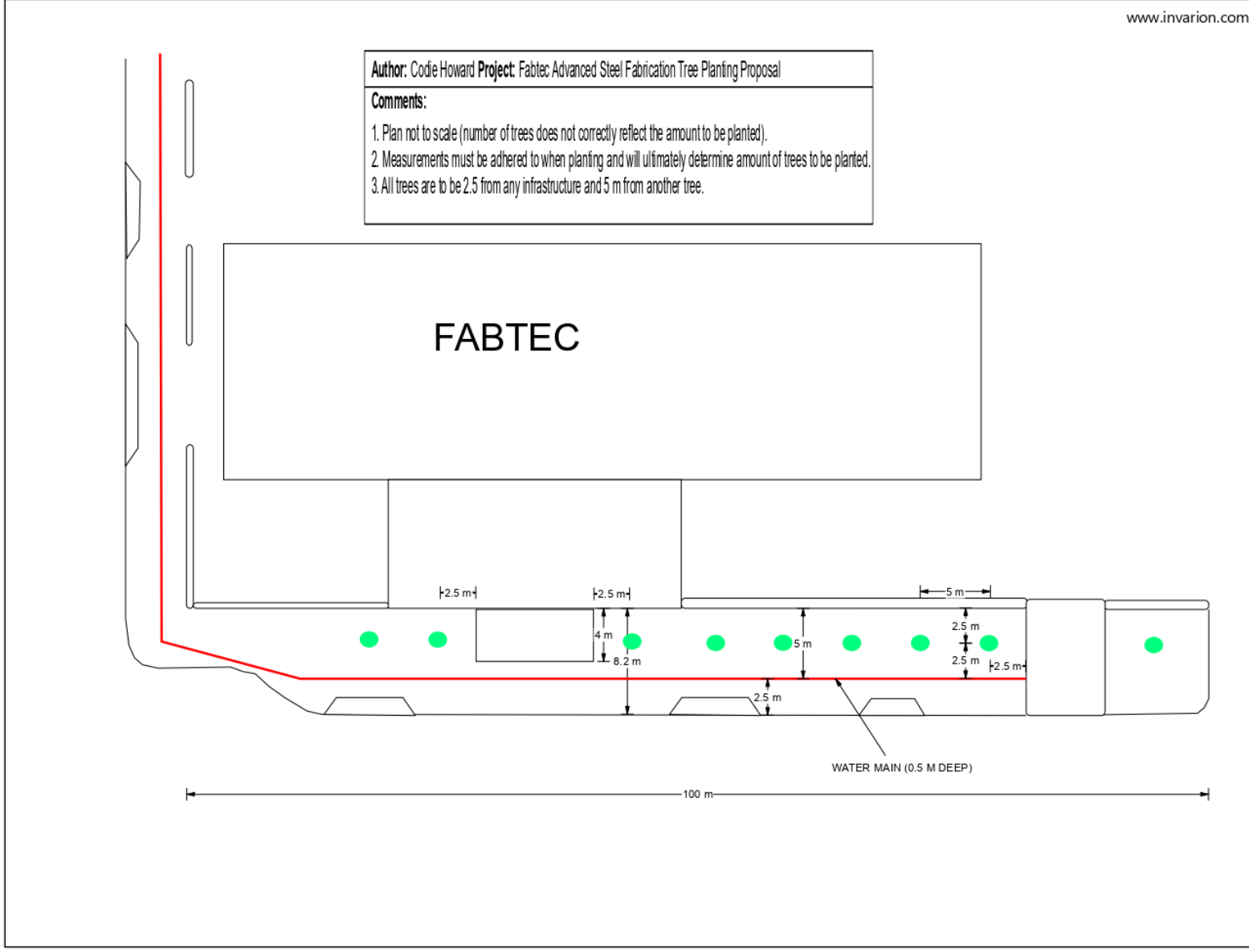
1. [↓](#) Fabtec Advanced Steel Fabrication - Tree Planting Proposal
2. [↓](#) Dial Before You Dig Report
3. [↓](#) Homewood Consulting Pty Ltd Report

CODIE HOWARD

CHIEF ASSETS AND PROJECTS OFFICER

JAY NANKIVELL

GENERAL MANAGER





Job No 33795318

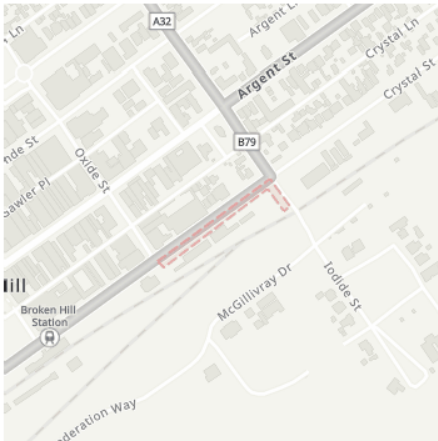
Phone: 1100
www.byda.com.au

Caller Details

Contact: Jordan Vella **Caller Id:** 3004243 **Phone:** 0428 921 673
Company: Broken Hill City Council
Address: 1 Warnock Street **Email:** Jordan.vella@brokenhill.nsw.gov.au
 Broken Hill NSW 2880

Dig Site and Enquiry Details

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



User Reference: FABTECH
Working on Behalf of: Other Broken Hill City Council
Enquiry Date: 13/03/2023 **Start Date:** 16/03/2023 **End Date:** 26/05/2023
Address: 407 Crystal Street
 Broken Hill NSW 2880
Job Purpose: Excavation **Onsite Activities:** Mechanical Excavation
Location of Workplace: Road Reserve **Location in Road:** Footpath, Nature Strip

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

Notes/Description of Works:
 Re-examination of site for potential tree planting.

Your Responsibilities and Duty of Care

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

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.

** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
 # Asset owners highlighted with a hash # require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
222219180	APA NSW West	1800 085 628	NOTIFIED
222219181	Australian Rail Track Corporation NSW	(08) 8217 4435	NOTIFIED
222219179	Essential Energy	13 23 91	NOTIFIED
222219178	NBN Co NswAct	1800 687 626	NOTIFIED
222219177	Telstra NSW North	1800 653 935	NOTIFIED

END OF UTILITIES LIST

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week



APA Group
PO Box 6014 Halifax Street
South Australia 5000



For your immediate information THERE IS A GAS DISTRIBUTION PIPELINE AND/OR ASSOCIATED INFRASTRUCTURE in the area of your works.

13/03/2023

Company: Broken Hill City Council
Jordan Vella
1 Warnock Street
Broken Hill
NSW 2880

Jordan.vella@brokenhill.nsw.gov.au

Dear Jordan Vella

Sequence Number: 222219180
Worksite Address: 407 Crystal Street
Broken Hill
NSW 2880

You are hereby notified that the attached Duty of Care requirements apply to any activity in the vicinity of Gas Assets operated by APA, please ensure you read and comply with all the relevant requirements.

Should you have any questions with regards to the attached information please contact our Dial Before You Dig officer - 1800 085 628.

**Caution - Damage to gas assets could result in possible explosion and fire with the risk of personal injury.
For Gas Emergencies please call 1800 GAS LEAK (1800 427 532).**

Please find enclosed the following information:

- APA's Duty of Care, If you are unclear of your obligations under these requirements please contact the APA Representative listed above immediately
- An overview map with your requested area highlighted to assist in identifying the location of APA's Gas Assets
- A map(s) showing APA's Gas Assets in the requested area, this information is valid for 30 days from the date of this response, **please check this represents the area you requested**, if it does not, please contact the APA Representative listed above immediately

Please Note: For some DBYD enquiries, you might receive 2 responses from the APA Group. Please read both responses carefully as they will relate to different assets. It is your responsibility to action all requirements set out in APA Group responses.

Please take some time to review the entire response document and check the information supplied and please let us have any feedback by sending an email to DBYDNetworksAPA@apa.com.au or contacting us direct on 1800 085 628.

Yours Faithfully,

Dial Before You Dig Officer
APA Group
Email: DBYDNetworksAPA@apa.com.au

Mapping information is provided as AS5488-2013 Quality Level D
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Duty of Care - Working Around Gas Assets

General Conditions

- This location enquiry is valid for 30 days from the date of this response
- Expired locations, i.e., over 30 days from the date of this response, require a new Dial Before You Dig request to validate location information
- The location information supplied in this document shall be used as a guide only. APA Group shall not be liable or responsible for the accuracy of any such information supplied pursuant to this request
- It is the responsibility of the excavator to expose all Gas Assets, including Gas Service pipes (see below), **by hand**. Gas Asset depths may vary according to ground conditions
- Gas Service (inlet service) connecting Gas Assets in the street to the gas meter on the property are typically **not** marked on the map
- Generally, a map of the inlet service connection installation may be found inside the gas meter box
- The use of Non Destructive Digging (hydro-excavation) is permitted only if the following are adhered to:
 - a) maximum water pressure of 1000psi
 - b) impacting the gas asset must be prevented at all times
 - c) vertical movements in the vicinity of the gas asset such as pushing the pressure wand nozzle or vacuum tube into the soil to break it up is prohibited
 - d) the use of root cutting heads/turbo nozzles is prohibited at all times
 - e) a minimum distance of 100mm shall be maintained between the end of the pressure wand nozzle and the gas asset. Aiming directly at the gas asset shall be avoided at all times
 - f) a dead man trigger or similar, shall be installed on the wand
 - g) once a gas asset has been exposed via hydro-excavation methods, a visual check must be undertaken to ensure no damage has occurred to the pipe or its coating
- This information has been generated by an automated system based on the area highlighted in your DBYD request and has not been independently verified. **It is your responsibility** to ensure that the information supplied in this response matches the dig site you defined when submitting your Dial Before You Dig enquiry. If the information does not match the dig site or you have any question, please contact APA immediately using the details listed on the first page and / or please resubmit your enquiry



- If you still require an on-site visit from an APA representative for location or site watch support, this can be provided. A minimum of 5 business days are required to arrange attendance by an APA Group representative.
- **The following rates are applicable to APA on-site representation for supervision or location:**

Item	Rate
Site Watch - Normal Hours	\$143.42 (hr)
Site Watch - After Hours	\$175.06 (hr)
Electronic Locate – Normal Hours	\$143.42 (hr)
Electronic Locate – After Hours	\$175.06 (hr)
Cancellation	2 hrs (where less than 1 business day notice is provided)
Mains Proving	As quoted by APA

Notes:

- All prices are exclusive of GST
 - All partial hours will be charged at a full hour rate for the first hour, 1hr minimum charge.
 - Cancellations must be received 1 business day prior to the booked supervision otherwise a 2hr charge will be incurred
 - Contact us for State specific hours of business.
- For **Gas Emergencies** please call 1800 GAS LEAK (1800 427 532).

APA CHANGE NOTIFICATION

The map below may have different symbols to those you are familiar with.

APA recently upgraded the asset mapping software utilised for Dial Before You Dig requests.

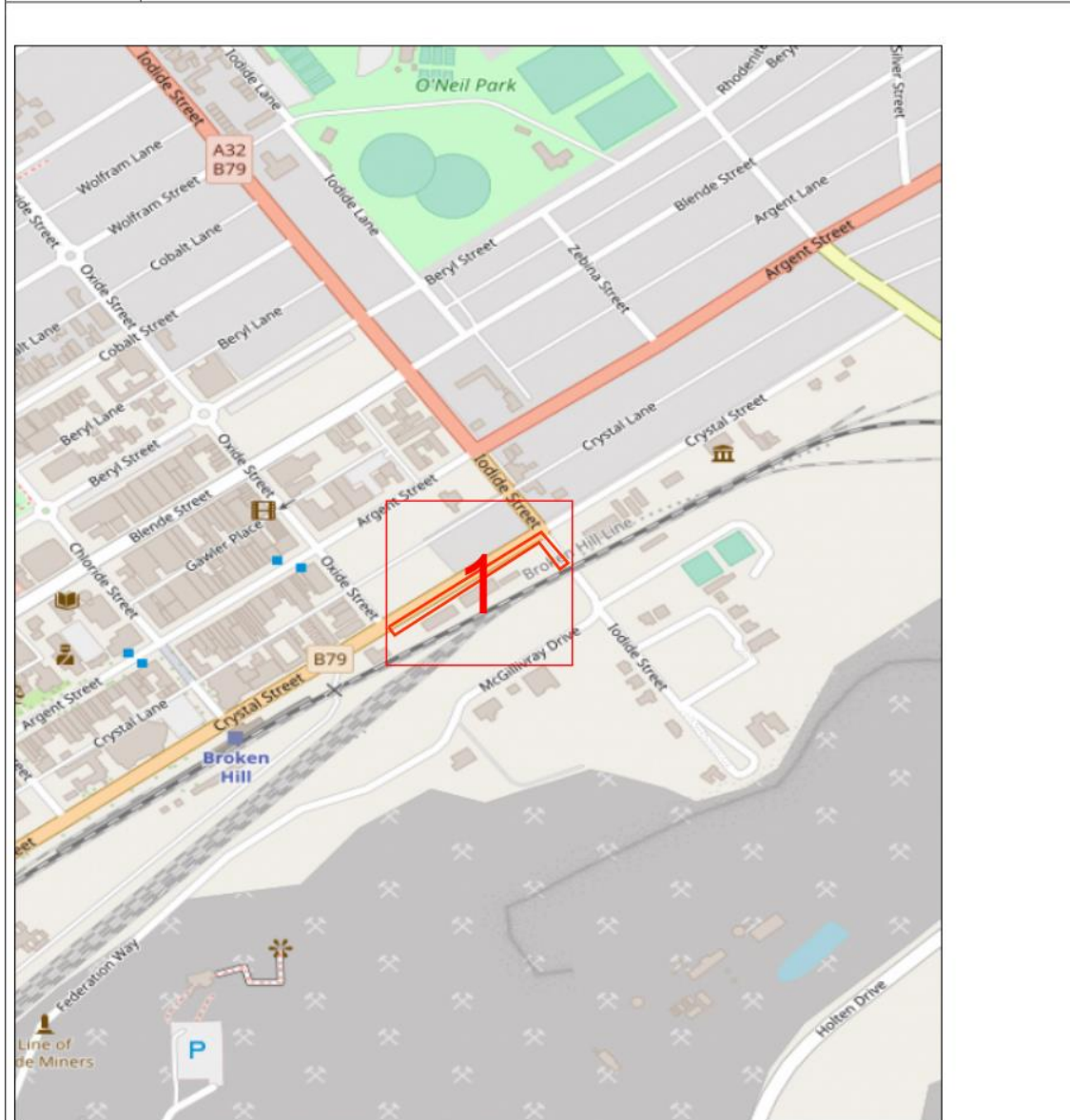
To avoid confusion, please carefully review the legend along with the map.

Please direct any questions to DBYDNetworksAPA@apa.com.au

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Site Address	407 Crystal Street Broken Hill 2880	Sequence No	222219180
Name	Jordan Vella		
Email	Jordan.vella@brokenhill.nsw.gov.au		



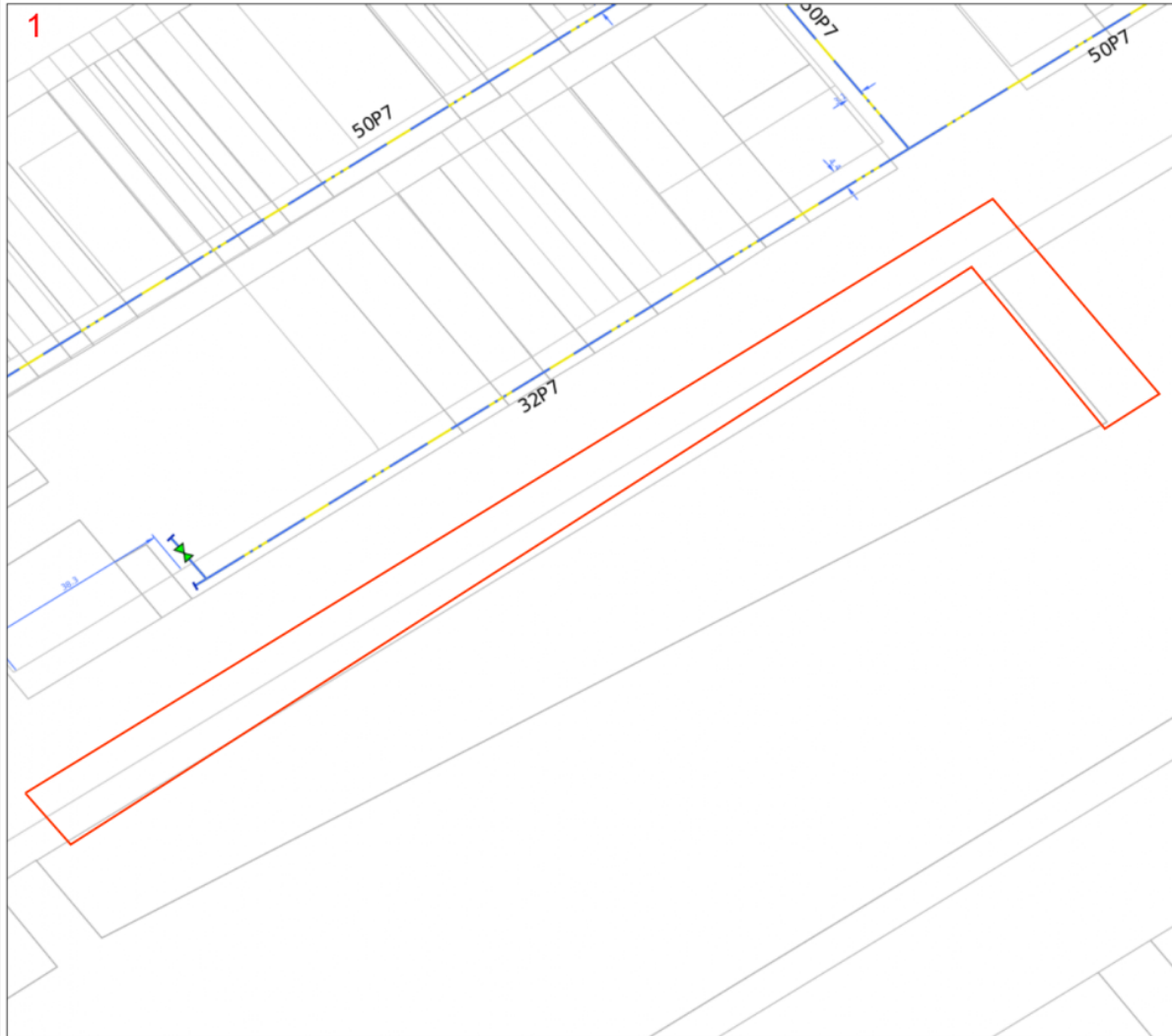
Scale 1: 6000		Enquiry Area	Map Key Area
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APA Group does not guarantee the accuracy or completeness of the map and does not make any warranty about the data. APA Group is not under any liability to the user for any loss or damage (including consequential loss or damage) which the user may suffer resulting from the use of this map.

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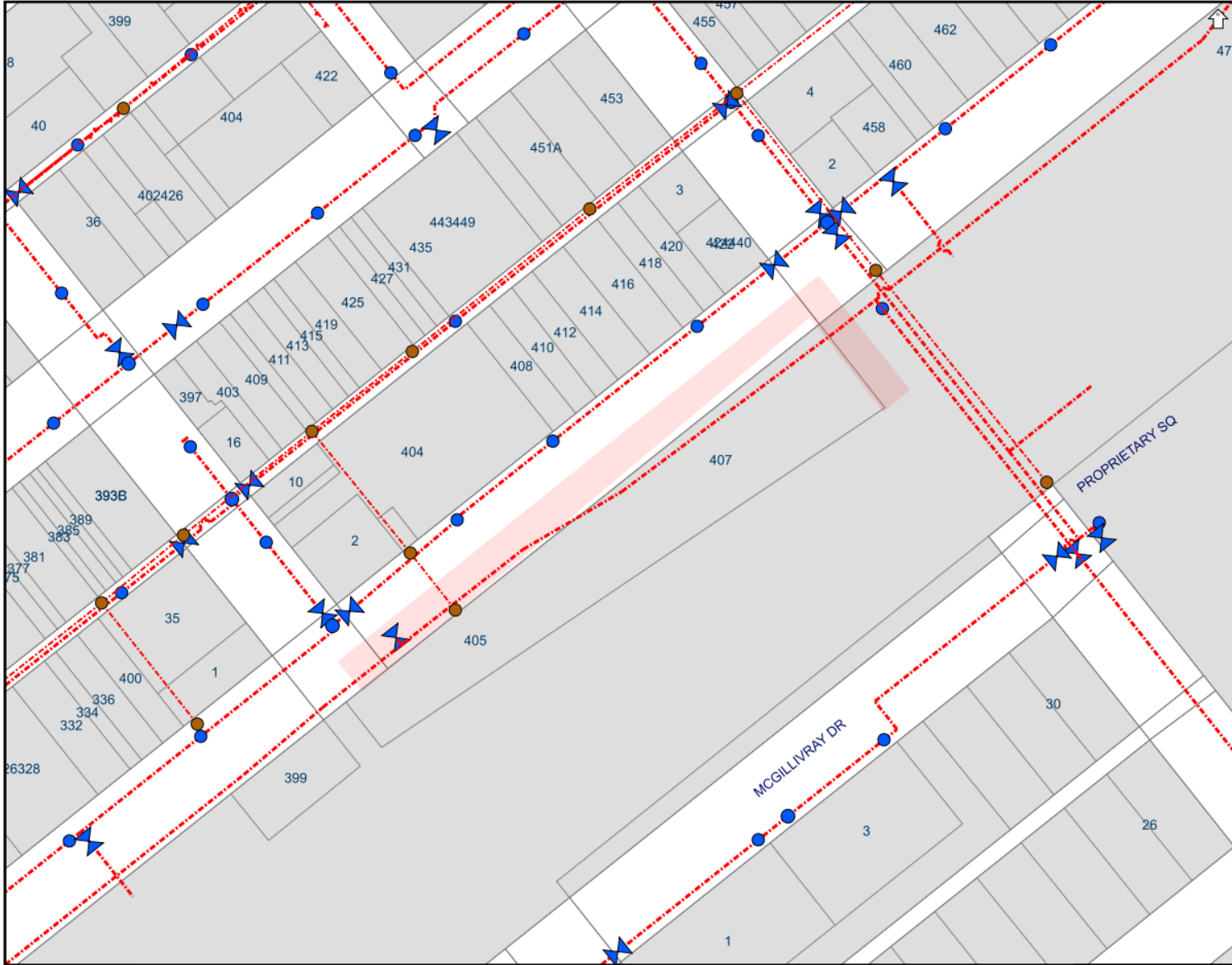
Site Address	407 Crystal Street Broken Hill 2880	Sequence No	222219180
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LEGEND		PIPE CODE / MATERIALS		OBJECTS or TERMS		Map Key
PIPE AND BOUNDARIES		C# (e.g. C2)	Cast Iron	VALVES		
LOW PRESSURES		CU	Copper	BURIED VALVES		
MEDIUM PRESSURES		N2	Nylon	REGULATORS		
HIGH PRESSURES		P# (e.g. P6)	Polyethylene (PE)	GAS SUPPLIED = YES		
TRANSMISSION PRESSURES		P6,P7,P9-P12	Medium Density PE	CP RECTIFIER UNIT		
PRIORITY MAIN (BEHIND PIPE)		P2,P4,P8	High Density PE	CP TEST POINT/ ANODE		
PROPOSED (COLOUR BY PRESSURE)		S# (e.g. S8)	Steel	SYPHON		
LPG (COLOUR BY PRESSURE)		W2	Wrought Galv. Iron	TRACE WIRE POINT		
ABANDONED		W3	Poly Coat Wrought Galv. Iron	PIPELINE MARKER		
IDLE		Pipe diameter in millimetres is shown before pipe code e.g. 40P6 = 40mm nominal diameter		NOT TIED IN	N.T.I.	
SLEEVE				DEPTH OF COVER	C	
CASING / SPLIT (BEHIND PIPE)				BACK / FRONT OF KERB	Bok Fok	
EASEMENT/ JURISDICTION						
EXAMPLES	40P6 in BOC2	40mm High Pressure Medium Density Polyethylene in an 80mm Cast Iron Casing				
	63S8	63mm Medium Pressure Steel				
Line / Polygon Request		This map is created in colour and shall be printed in colour				
Scale 1:700		0 0.008km				

APA Group does not guarantee the accuracy or completeness of the map and does not make any warranty about the data. APA Group is not under any liability to the user for any loss or damage (including consequential loss or damage) which the user may suffer resulting from the use of this map.

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Overhead wires not shown
LOOK UP & LIVE!
Water/Sewer infrastructure
ONLY shown

LEGEND

- - - Critical* asset
- Water Hydrant
- ▲ Water Valve
- ⊗ Water Isolation Valve
- ⊕ Water Service Connection
- Above Ground Water Device
- Above Ground Sewer Device
- Area of Interest

* Critical Assets: Contact
Essential Energy
on 13 23 91

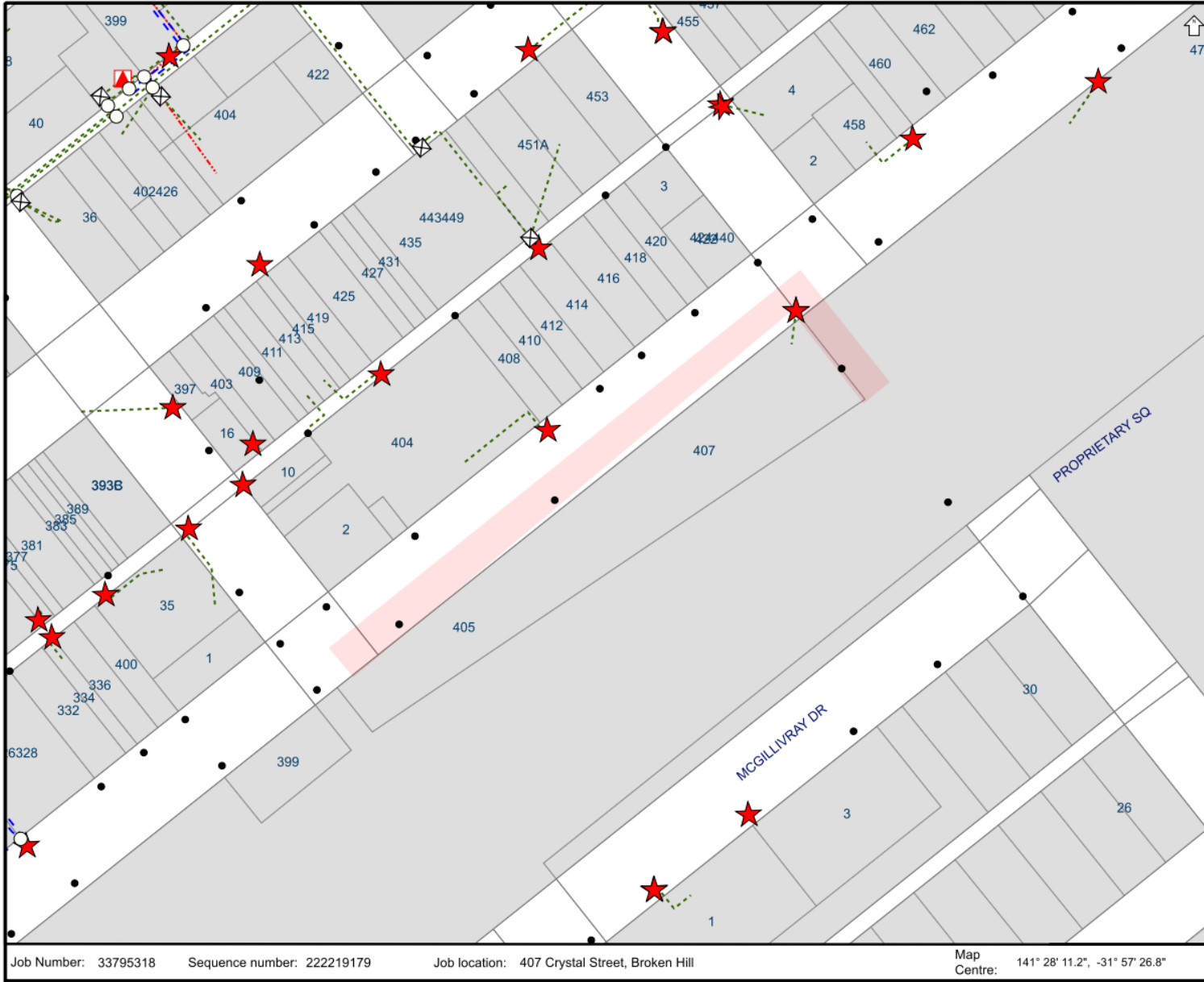
THE INFORMATION ON THIS
MAP MAY NOT BE
ACCURATE.
If details are
incorrect, please
notify
Essential Energy on
13 23 91
(or fax 1800 354 636)

ISSUE DATE: 13/03/2023
You must resubmit your
request if you have not
started work within 4 weeks
of the 'Issue Date' above

A4 SCALE 1:1857



Job Number: 33795318 Sequence number: 222219179 Job location: 407 Crystal Street, Broken Hill Map centre: 141° 28' 11.2", -31° 57' 26.8"



Overhead wires not shown
LOOK UP & LIVE!

LEGEND

- LV Underground Cable
- HV Underground Cable
- Underground Pipe
- ★ Underground Earth or Wires
- ▲ Ground Substation
- Pole
- ⊠ Cubicle
- Pit
- Area of Interest

Critical Assets
Contact Essential Energy on 13 23 91

- Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works
Area of proposed works

Proposed assets are shown as orange symbols

THE INFORMATION ON THIS MAP MAY NOT BE ACCURATE.
If details are incorrect, please notify Essential Energy on 13 23 91 (or fax 1800 354 636)

ISSUE DATE: 13/03/2023


You must resubmit your request if you have not started work within 4 weeks of the 'Issue Date' above

A4 SCALE: 1:1856

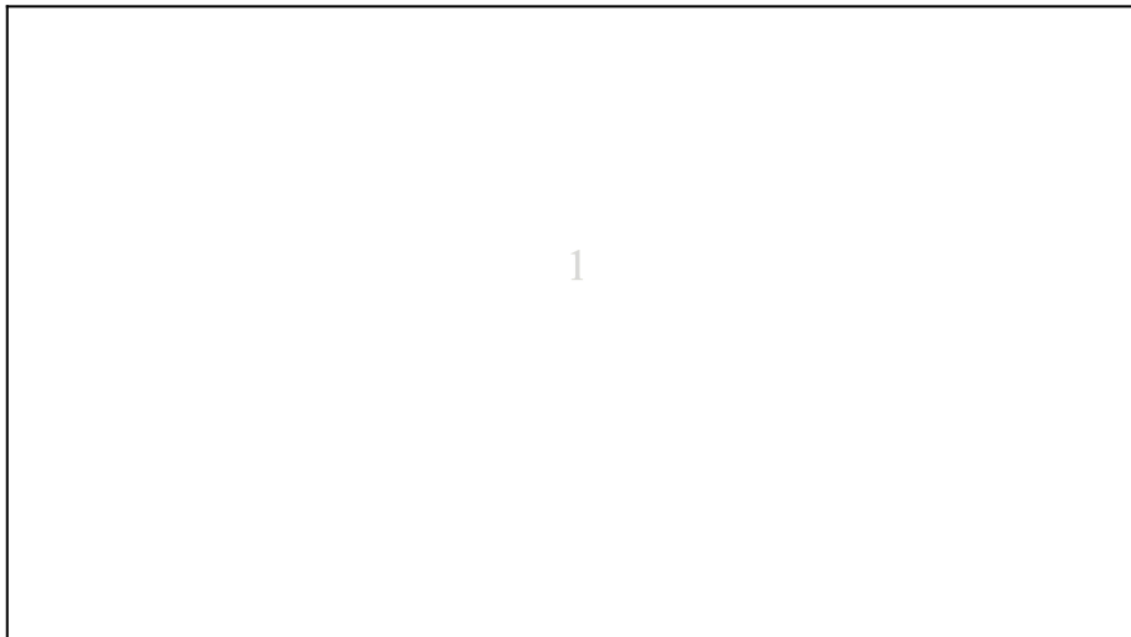
essential energy















Job Number: 33795318 Sequence number: 222219179 Job location: 407 Crystal Street, Broken Hill Map Centre: 141° 28' 11.2", -31° 57' 26.8"

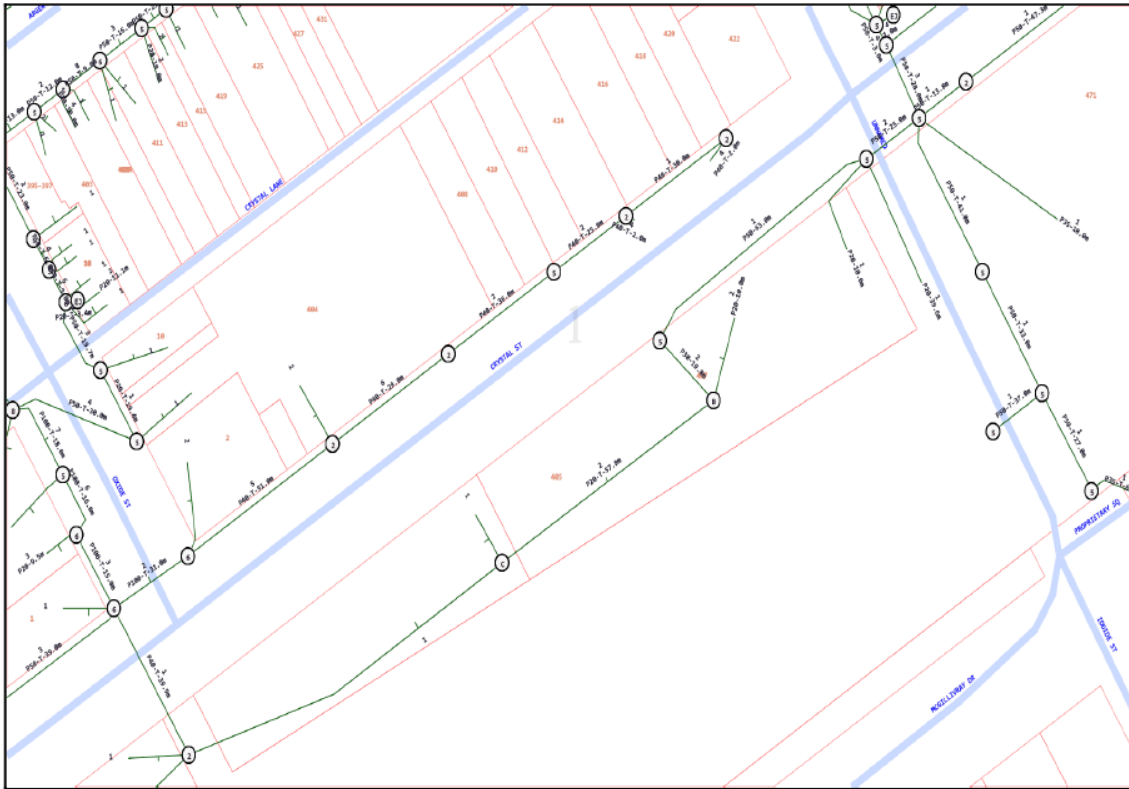
To: Jordan Vella
Phone: Not Supplied
Fax: Not Supplied
Email: Jordan.vella@brokenhill.nsw.gov.au

Dial before you dig Job #:	33795318	
Sequence #	222219178	
Issue Date:	13/03/2023	
Location:	407 Crystal Street , Broken Hill , NSW , 2880	

Indicative Plans



  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
<p>2 PO – T- 25.0m P40 – 20.0m</p> 	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.
<p>2 10.0m</p> 	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.
 BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m 



Emergency Contacts

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

Operational Form – Water Assets: Advice of Location

CEOF8365

Water: Location Field Report

COMMENCEMENT DATE:

WSNM No. (Water) _____ (Sewer) _____
 HIRAC No. i298820
Dates: _____ **Times:** _____
Received 13-03-23 11:47 am/pm **Plant Name: (Water)** 407cryst **(Sewer)** 407cryst
Started 13-03-23 12:30 am/pm **Crew Responsibility:** SS
Finish 13-03-23 13:00 am/pm **Project No.** W100817 **Fault Code** WMDL/SAL
Information requested by _____ **Contact Person:** _____
Address 407 crystall street **Between** iodide street/oxide street
Broken Hill Postcode 2880 **Telephone** _____
EE Pole No. _____ **Sequence No.** _____

Details of Assets

No Water at this Location No Sewer at this Location
 Pipe Location at Property Front Rear Side Front Rear Side
 Water main Water Service Connection Concrete Bitumen
 Sewer main Sewer Service Connection Vegetation Bare Ground
Customer to Pot Hole

Type of (Water Service) _____ Approx. Depth= _____ Position _____
 Type of Pipe (Water) 450mm dicl Approx. Depth = To be determined by potholing Position roadway/footpath
 Type of Pipe (Sewer) _____ Approx. Depth = _____ Position _____

Persons, companies or other entities receiving and acting on this information ('the enquirer') are advised:

- 1 The provision of this information does not relieve the enquirer of the responsibility of exercising due care during the course of any work undertaken in the vicinity of Essential Energy assets.
- 2 The onus remains with the enquirer to make any relevant communication to correctly interpret plans and information provided by Essential Energy, and to otherwise seek the assistance of qualified Essential Energy employees in and about the location of Essential Energy assets.
- 3 Information, plans and assistance provided by Essential Energy or its employees shall not prejudice Essential Energy's rights to compensation under the Water Management Act 2000 and/or law in respect of damage to or interference with its property.
- 4 If: (a) the enquirer does, or causes to be done, any work that interferes with, or damages, any property of Essential Energy, and; (b) there was reasonable cause to believe that the interference or damage would result from the doing of the work, the enquirer is liable to compensate Essential Energy for the interference or damage caused.

Essential Energy trading as Essential Water

For Essential Energy _____ **Title** Senior Leading Hand, Water & Sewer Operations
Signature _____ **Date** 13-03-23
Employee No. 15825 **Time Taken** 0.50

31 January 2014 – Issue 4
 Approved By: Acting Group Manager Water
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COMMERCIAL-IN-CONFIDENCE

UNCONTROLLED COPY IF PRINTED



Homewood Consulting Pty Ltd
Unit 10, 350 Settlement Road
Thomastown VIC 3074
admin@homewood.com.au
Tel: 1300 404 558

ABN: 39 531 880 706
ACN: 113 595 430

Jordan Vella
Broken Hill City Council
240 Blende Street
Broken Hill
NSW 2880
Homewood Ref: 4789

Friday, 20 January 2023

RE: Proposed street tree establishment at 407 Crystal Street, Broken Hill

Dear Jordan,

Thank you for the opportunity to provide Council with advice in relation to a proposal for establishment of up to 20 new street trees adjacent to a large commercial property (recently redeveloped by FABTEC).

Context

The proposal involves new street trees - to be owned and managed over the long-term by Council - being spaced over approximately 130m of nature strip; along property frontages to both Crystal Street (northern site frontage) and Iodide Street (eastern site frontage).

The respective nature strips are generally gravel-surfaced and approximately 6m-wide (estimated measurement from title boundary to road edge). The Crystal Street road edge has been formalised (kerb and channel) whilst the Iodide Street road edge remains an informal meeting of road asphalt and nature strip surface.

The proposal is complicated by the presence of a significant water main pipeline, located approximately 500mm below grade. This infrastructure is owned and managed by Essential Water (local water provider) who have expressed concerns about the potential for asset damage by new trees and the constraints to pipeline management requirements over time.

I have reviewed marked-up aerial and photographic imagery of the site (provided by Council), plus a *Critical Assets Site Plan* (scaled plan drawing) provided by Essential Energy.

There is a discrepancy between the pipeline alignments represented on aerial photographic imagery and the scaled plan drawing (see images on following page). Notably, the Essential Water drawing locates the pipeline predominantly beneath the subject site and beneath the Iodide Street road envelope. However, Council has provided photographs of excavations within the nature strip which clearly show the size, depth and alignment of the pipeline. Accordingly, the marked-up aerial imagery provided by Council is considered accurate for the purposes of this advice. The pipeline runs along the centre of the nature strip.

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Figure 1: Aerial imagery with delineation of existing pipeline - provided by Council



Figure 2: Scaled plan drawing provided by Essential Water



Figure 3: Exposed pipe



Figure 4: Delineated pipe alignment

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Considerations

The FABTEC landowner/businessowner has commendably offered to provide supplementary irrigation for the proposed new trees. It is unclear whether the offer extends to procurement of tree stock and undertaking tree planting/staking. However, the landowner/businessowner has a strong stated preference for uniform establishment of London Plane trees only (*Platanus xacerifolia*).

London Planes attain a large mature size (over 20m height and 20m spread may be expected in suitable growing conditions); although there is no available data by which to review the performance of this species in Broken Hill. London Planes are typically prevalent in cities with maximum temperatures which are somewhat lower than Broken Hill, but the provision of supplementary irrigation in this circumstance could potentially facilitate effective establishment and then support acceptable long-term landscape performance.

The volume of soil area within the nature strips would be sufficient to sustain the long-term growth of London Planes and medium- to long-term requirements for crown pruning to maintain branch separation from the FABTEC site buildings in the trees' maturity would not be expected to jeopardise tree longevity or greatly diminish landscape amenity.

However, London Planes have vigorous root systems corresponding to their fast growth-rate and typically develop substantial trunk mass to ultimately support large, broad-spreading crowns. If London Planes are planted directly over the top of the existing pipeline, or closely offset (within 2m either side), then the following critical issues would be expected:

- The substantial anticipated mass of the trunk collar (buttressed lower-trunk section - inclusive of major structural roots) would generate significant force onto the pipe, inevitably resulting in pipe damage during the trees' maturity.
- Structural roots surrounding the pipe would increase in girth over time, potentially causing pipe cracking where these abut.
- Pipeline maintenance will be unreasonably inhibited by presence of large structural roots, and, any requisite pipe works would likely necessitate major root damage, compromising tree viability.

If, hypothetically, London Planes were planted at a minimum offset distance of 2m from the pipe alignment, then this would locate them either <1m from the back of kerb or <1m from the title boundary, with the following anticipated consequences:

- In the case of the former, tree roots would be highly likely to cause cracking and/or lifting to the kerb and channel (and possibly road surface too) within the medium-term.
- In the case of the latter, roots would likely conflict with building foundations - potentially causing cracking. Plus, the requirements for routine crown pruning to maintain building clearance would diminish the trees' landscape amenity (over one third of natural crown shape to be removed) and also probably affect tree vitality and landscape performance.

Recommendations

Due to the constraints presented by the site, including the requirement to protect existing infrastructure plus adhere to Council's kerb-offset planting distance preferences, **London Plane is considered an inappropriate species selection in this instance.**

However, the site can accommodate a smaller, less-vigorous species planted equidistant between the pipeline and kerb (approx. 1.5m offset from each). If pursued, this will afford

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sufficient growing space to enable trees to attain their expected mature size without unreasonable conflict with assets and the built environment. An appropriate alternative species selection would serve to substantially reduce the likelihood of roots damaging the adjacent kerb or pipeline during their projected lifetimes.

There is little available data to ascertain a suite of species which are presently performing strongly in the Broken Hill landscape, however species which may be expected to perform strongly in Broken Hill will include those which have evolved to tolerate semi-arid or arid conditions, or high maximum temperatures. Some of these are listed below for consideration.

If the FABTEC landowner/businessowner is resolute in the pursuit of aesthetic attributes somewhat akin to London Planes (i.e. deciduous, exotic trees), then species below-listed for consideration may be expected to perform acceptably if afforded supplementary irrigation.

Species considered suitable for consideration at the subject site include, but are not limited to;

- *Bolusanthus speciosus* (Tree Wisteria)
 - exotic, fleeting period of leaf loss prior to spring flowering, currently performs strongly on Williams Street
- *Fraxinus velutina* (Velvet Ash/Arizona Ash)
 - exotic, winter deciduous, performs strongly in nearby Mildura
- *Ceratonia siliqua* (Carob)
 - exotic, evergreen, performs strongly in nearby Mildura
- *Triadica sebifera* (Chinese Tallow Tree)
 - exotic, winter deciduous, relatively smaller mature size than others in this list
- *Koelreuteria paniculata* (Golden Rain Tree)
 - exotic, winter deciduous
- *Geijera parviflora* (Wilga)
 - native, evergreen

As all parties work towards a suitable outcome for the subject streetscape, please note that I can be contacted on 1300 404 558 should you have any further queries regarding this matter.

Regards,



Senior Consulting Arborist
Homewood Consulting Pty Ltd



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