
From: Jo Blackwell <Jo.Blackwell@brighton.tas.gov.au>
Sent: Friday, 24 November 2023 9:42 AM
To:
Subject: AM-BRI-RZ-2023-004 - Burrows Avenue SAP - 19 Burrows Avenue Permit
Attachments: DOC-44572-6717824074-42929-6374320984.pdf

Follow Up Flag: DOC/23/138500
Flag Status: Completed

Categories: Vishaka

Hi Louise

Thank you for your email confirming receipt of permit for 15 Burrows Avenue Subdivision. Please see attached permit for 19 Burrows Avenue. Please let me know if you require anything else.

Regards

Jo

JO BLACKWELL
SENIOR PLANNER

PLEASE NOTE THAT I DON'T WORK THURSDAYS



Brighton
going places



Click here to view the

2050
VISION

1 Tivoli Road, Old Beach TAS 7017
Tel: (03) 6268 7028
www.brighton.tas.gov.au

We acknowledge the traditional owners who once walked this country, the Mumirimina people, the original custodians of the skies, land and water of kutalayna (Jordan River). We forward our respect to the palawa/pakana (Tasmanian Aboriginal) community as the traditional and original owners of lutruwita (Tasmania).

CONFIDENTIALITY NOTICE AND DISCLAIMER:

Information in this transmission is intended only for the person(s) to whom it is addressed and may contain privileged and/or confidential information. If you are not the intended recipient, any disclosure, copying or dissemination of the information is unauthorised and you should delete/destroy all copies and notify the sender. No liability is accepted for any unauthorised use of the information contained in this transmission.

This disclaimer has been automatically added.



Officer: Helen Hanson
Direct ☎ (03) 62687041

Date: 28th July 2022
Our Ref.: SA2022/010

Rogerson & Birch Surveyors
Unit 1, 2 Kennedy Drive
CAMBRIDGE TAS 7170

Dear Sir/Madam,

Application For Planning Permit (SA 2022 / 00010)
15 Burrows Avenue, Brighton

Please find enclosed a planning permit and endorsed documents for your application.

Please read your permit carefully as there may be conditions that modify the application or to provide further details prior to the commencement of works or issue of a building permit.

Building works, which include excavation or vegetation removal, may not commence until you have complied with any conditions of this permit or without all other necessary approvals, under the *Building Act 2016*.

You may appeal to the Resource Management and Planning Appeal Tribunal (the Tribunal) against the conditions of this permit within 14 days after the day on which notice of this decision is served, in accordance with Section 61 of the *Land Use Planning and Approvals Act 1993*.

Appeals are required to be in writing and lodged with a fee to the Resource Management and Planning Appeal Tribunal. For further information about lodging an appeal please refer to the Appeal Tribunal's website www.rmpat.tas.gov.au or contact the Registrar of the Appeal Tribunal by phone on (03) 6165 6794 or by mail at GPO Box 2036, Hobart 7001.

If you have any queries regarding this permit or any approvals you may require, please contact the Council on (03) 6268 7041, between 8:15 a.m. and 4:45 p.m. Monday to Friday or by email at development@brighton.tas.gov.au quoting the above permit number.

Yours faithfully,

Brian White
Acting Senior Planner

Encl: Planning permit



PLANNING PERMIT (SA2022/010)

In accordance with Division 2 of Part 4 section 57 of the *Land Use Planning and Approvals Act 1993*, the Brighton Council (Planning Authority) grants a permit for a discretionary application –

To: Rogerson & Birch Surveyors

Of: Unit 1, 2 Kennedy Drive
CAMBRIDGE TAS 7170

For land described as:

15 Burrows Avenue, Brighton (Certificate of Title Volume 130608 Folio 12)

Crown Land Road Reserve (shown as "Fraser Street" on Folio Plan)

THIS PERMIT ALLOWS FOR:

The land to be developed by Subdivision (12 lots plus balance) and ancillary site works in accordance with the information and particulars set out in the development application and the endorsed drawings.

THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT:

General

- (1) The subdivision layout or development must be carried out substantially in accordance with the application for planning approval, the endorsed drawings and with the conditions of this permit and must not be altered or extended without the further written approval of Council.
- (2) Prior to Council sealing the final plan of survey for any stage the developer must provide certification from a suitably qualified person that all works required by the approved Bushfire Hazard Management Plan has been complied with.

Staged development

- (3) The subdivision must only be carried out in stages in accordance with the endorsed documents or a staged development plan submitted to and approved by Council's Manager Development Services.

Transfer of reserves

- (4) All roads or footways must be shown as "Road" or "Footway" on the Final Plan of Survey and transferred to the Council by Memorandum of Transfer submitted with the Final Plan of Survey.

Public Open Space

- (5) In accordance with the provisions of Section 117 of the Local Government (Building and Miscellaneous Provisions) Act 1993, payment of a cash contribution for Public Open Space must be made to the Council prior to sealing the Final Plan of Survey.

The cash contribution amount is to be equal to 5% of the value of the land being subdivided [i.e., Lots 10 to 18 and 20 to 22] in the plan of subdivision at the date of lodgement of the Final Plan of Survey.

The value is to be determined by a Land Valuer within the meaning of the Land Valuers Act 2001 at the developers' expense.

- (6) The cash-in-lieu of public open space must be in the form of a direct payment made before the sealing of the final plan of survey or, alternatively, in the form of a Bond or Bank guarantee to cover payment within ninety (90) days after demand, made after the final plan of survey has taken effect.

Easements

- (7) Easements must be created over all drains, pipelines, wayleaves, and services in accordance with the requirements of the Council's Municipal Engineer. The cost of locating and creating the easements shall be at the subdivider's full cost.

Covenants

- (8) Covenants or other similar restrictive controls that conflict with any provisions or seek to prohibit any use provided within the planning scheme must not be included or otherwise imposed on the titles to the lots created by this permit, either by transfer, inclusion of such covenants in a Schedule of Easements or registration of any instrument creating such covenants with the Recorder of Titles, unless such covenants or controls are expressly authorised by the terms of this permit or the consent in writing of the Council's Senior Planner.

Final plan

- (9) A final approved plan of survey and schedule of easements as necessary, together with two (2) copies, must be submitted to Council for sealing for each stage. The final approved plan of survey must be substantially the same as the endorsed plan of subdivision and must be prepared in accordance with the requirements of the Recorder of Titles.
- (10) Prior to Council sealing the final plan of survey for each stage, security for an amount clearly in excess of the value of all outstanding works and maintenance required by this permit must be lodged with the Brighton Council. The security must be in accordance with section 86(3) of the Local Government (Building & Miscellaneous Provisions) Council 1993. The amount of the security shall be determined by the Council's Municipal Engineer in accordance with Council Policy 6.3 following approval of any engineering design drawings and shall not to be less than \$5,000.
- (11) All conditions of this permit, including either the completion of all works and maintenance or payment of security in accordance with this permit, must be satisfied

before the Council seals the final plan of survey for each stage. It is the subdivider's responsibility to notify Council in writing that the conditions of the permit have been satisfied.

- (12) The subdivider must pay any Titles Office lodgment fees direct to the Recorder of Titles.

Landscaping

- (13) The road reserves and public open space must be landscaped by trees or plants in accordance with a detailed landscape plan prepared by a landscape architect or other person approved by Council and submitted to Council for approval with the engineering drawings. The landscape plan must show the areas to be landscaped, the form of landscaping, and the species of plants and estimates of the cost of the works.

Advice: The landscape plan submitted with the application is considered to be a concept plan and may require alterations prior to consideration for approval.

- (14) Unless approved otherwise by Council's Manager Development Services, street trees must be a minimum of 2 metres in height at the time of planting.

Engineering

- (15) The subdivision must be carried out and constructed in accordance with the:

- a. *Tasmanian Subdivision Guidelines*
- b. *Tasmanian Municipal Standard – Specifications*
- c. *Tasmanian Municipal Standard – Drawings*

as published by the Local Government Association of Tasmania and to the satisfaction of Council's Municipal Engineer.

- (16) Engineering design drawings, to the satisfaction of the Council's Municipal Engineer, must be submitted to and approved by Council before any works associated with development of the land commence.

Advice: The engineering drawings submitted with the application are considered to be concept plans and may require alterations prior to consideration for approval.

- (17) Engineering design drawings are to be prepared by a qualified and experienced civil engineer, or other person approved by Council's Municipal Engineer, in accordance with the Tasmanian Subdivision Guidelines October 2013, and must show –
- a) all existing and proposed services required by this permit;
 - b) all existing and proposed roadwork required by this permit;
 - c) measures to be taken to provide sight distance in accordance with the relevant standards of the planning scheme;
 - d) measures to be taken to limit or control erosion and sedimentation;
 - e) any other work required by this permit.
- (18) Approved engineering design drawings will remain valid for a period of 2 years from the date of approval of the engineering drawings.
- (19) The developer shall appoint a qualified and experienced Supervising Engineer (or company registered to provide civil engineering consultancy services) who will be required to certify completion of subdivision construction works. The

appointed Supervising Engineer shall be the primary contact person on matters concerning the subdivision.

Services

- (20) The Subdivider must pay the cost of any alterations and/or reinstatement to existing services, Council infrastructure or private property incurred as a result of the proposed subdivision works. Any work required is to be specified or undertaken by the authority concerned.
- (21) Any existing services shared between lots are to be separated to the satisfaction of Council's Municipal Engineer.
- (22) Property services must be contained wholly within each lots served or an easement to the satisfaction of the Council's Municipal Engineer or responsible authority.

Roadworks

- (23) Roadworks and drainage must be constructed in accordance with the standard drawings and specifications prepared by the IPWE Aust. (Tasmania Division) and to the requirements of Council's Municipal Engineer or as otherwise required by this permit.
- (24) Temporary turning heads are to be provided at the termination of roads for each stage. Unless approved otherwise by Council's Municipal Engineer, turning heads are to be surfaced with hot mix asphalt.
- (25) New roads must, unless approved otherwise by Council's Municipal Engineer, include:
 - a. New Road (Fraser Street)
 - i. 6.9m min. carriageway width;
 - ii. Kerb and channel;
 - iii. 1.5m min. width concrete footpath on western side;
 - iv. Underground stormwater drainage; and
 - v. Turning head to accommodate a Medium Rigid service vehicle.
 - b. Burrows Avenue (across the entire frontage of the subdivision)
 - i. Road widening where required to achieve a 6.9m min. carriageway width;
 - ii. Kerb and channel;
 - iii. Indented parking bays;
 - iv. 1.5m min. width concrete footpath; and
 - v. Underground stormwater drainage.
- (26) All carriageway surface courses must be constructed with a 10 mm nominal size hot mix asphalt with a minimum compacted depth of 35 mm, or 40mm where bus traffic is expected, in accordance with standard drawings and specifications prepared by the IPWE Aust. (Tasmania Division) and the requirements of Council's General Manager.

- (27) A reinforced concrete vehicle access must be provided from the road carriageway to each Lot.
- (28) Vehicle accesses must be located and constructed generally in accordance with the standards shown on standard drawings TSD-R09 Urban Roads Driveways and TSD-RF01 Guide to Intersection and Domestic Access Sight Distance Requirements prepared by the IPWE Aust. (Tasmania Division) and the satisfaction of Council's Municipal Engineer.
- (29) Kerb ramps must be provided to accommodate the needs of people with disabilities in accordance with standard drawings prepared by the IPWE Aust. (Tasmania Division) and to the requirements of Council's Municipal Engineer.

Stormwater

- (30) The developer is to provide a stormwater drainage system designed to comply with all of the following:

- a) be able to accommodate a storm with a 2% AEP when the land serviced by the system is fully developed;
- b) stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure

Advice: The stormwater system downstream of the development has limited capacity and cannot currently accommodate any increase in flows.

Alternatively,

The developer may make a financial contribution to Council for upgrading downstream stormwater infrastructure. The value of the contribution is to be agreed by Council's Municipal Engineer and is to be based on the cost of providing detention as proposed in the *Stormwater Management Memo, 15 Burrows Avenue Brighton*, dated 2/6/22 prepared by AD Design & Consulting. The contribution must be paid prior to sealing the final plan of survey for any stage.

- (31) The development must incorporate an overland flow path to accommodate a storm with a 1% AEP.
- (32) The developer is to provide a piped stormwater property connection to each lot capable of servicing the entirety of each lot by gravity in accordance with Council standards and to the satisfaction of Council's Municipal Engineer.
- (33) The subdivision is to include a stormwater treatment system to achieve the quality targets in the State Stormwater Strategy 2010 for each stage and be in accordance with:
 - a) the Water Sensitive Urban Design Procedures for Stormwater Management in Southern Tasmania;
 - b) *Stormwater Management Memo, 15 Burrows Avenue Brighton*, dated 2/6/22 prepared by AD Design & Consulting; and
 - c) to the satisfaction of the Council's Municipal Engineer.

Alternatively;

The developer may make a financial contribution to Brighton Council for the provision of stormwater treatment in accordance with *Council Policy 6.1 Stormwater Quality Control Contributions*.

Advice: A copy of *Council Policy 6.1 Stormwater Quality Control Contributions* is available from the Brighton Council Website <https://www.brighton.tas.gov.au/council/policies/>

General Manager's consent is required for connection to the public stormwater system in accordance with the Urban Drainage Act. Providing the planning permit conditions are met General Managers Consent will be granted.

Sewer & Water

- (34) Each lot must be connected to a reticulated potable water supply.
- (35) Each lot must be connected to a reticulated sewerage system.

Tas Water

- (36) The development must meet all required Conditions of approval specified by Tas Water Submission to Planning Authority Notice TWDA 2022/00400-BTN, dated 25/05/2022.

Telecommunications and electrical reticulation

- (37) Electrical and telecommunications services must be provided underground to each lot in accordance with the requirements of the responsible authority and to the satisfaction of Council's Municipal Engineer.
- (38) Advice: As with any subdivision of this magnitude, consideration should be given to the electrical infrastructure works that will be required to ensure a supply of electricity can be provided to each lot. To understand what these requirements may entail, it is recommended that you contact TasNetworks' Early Engagement team at early.engagement@tasnetworks.com.au at your earliest convenience.
- (39) Prior to the work being carried out a drawing of the electrical reticulation and street lighting, and telecommunications reticulation in accordance with the appropriate authority's requirements and relevant Australian Standards must be submitted to and endorsed by the Council's Municipal Engineer.
- (40) Prior to sealing the final plan of survey, the developer must submit to Council:
 - a) A "Provisioning of Telecommunications Infrastructure – Confirmation of final payment" or "Certificate of Practical Completion of Developer's Activities" from NBN Co.
 - b) Written advice from TasNetworks confirming that all conditions of the Agreement between the Owner and authority have been complied with and that future lot owners will not be liable for network extension or upgrade costs, other than individual property connections (basic connection) at the time each lot is further developed.

Water quality

- (41) A soil and water management plan (here referred to as a 'SWMP') prepared in accordance with the guidelines Soil and Water Management on Building and Construction Sites, by the Derwent Estuary Programme and NRM South, must be approved by Council's Municipal Engineer before development of the land commences.
- (42) Temporary run-off, erosion and sediment controls must be installed in accordance with the approved SWMP and must be maintained at full operational capacity to the satisfaction of Council's Municipal Engineer until the land is effectively rehabilitated and stabilised after completion of the development.
- (43) The topsoil on any areas required to be disturbed must be stripped and stockpiled in an approved location shown on the detailed soil and water management plan for reuse in the rehabilitation of the site. Topsoil must not be removed from the site until the completion of all works unless approved otherwise by the Council's Municipal Engineer.
- (44) All disturbed surfaces on the land, except those set aside for roadways, footways, and driveways, must be covered with top soil and, where appropriate, re-vegetated and stabilised to the satisfaction of the Council's Municipal Engineer.

Construction Amenity

- (45) The road frontage of the development site including road, kerb and channel, footpath, and nature strip, must be:
 - a) Surveyed prior to construction, photographed, documented and any damage or defects be noted in a dilapidation report to be provided to Council's Asset Services Department prior to construction.
 - b) Be protected from damage, heavy equipment impact, surface scratching or scraping and be cleaned on completion.In the event a dilapidation report is not provided to Council prior to commencement, any damage on completion will be deemed a result of construction activity requiring replacement prior to approval.
- (46) The development must only be carried out between the following hours unless otherwise approved by the Council's General Manager
 - Monday to Friday 7:00 AM to 6:00 PM
 - Saturday 8:00 AM to 6:00 PM
 - Sunday and State-wide public holidays 10:00 AM to 6:00 PM
- (47) All subdivision works associated with the development of the land must be carried out in such a manner so as not to unreasonably cause injury to, or unreasonably prejudice or affect the amenity, function, and safety of any adjoining or adjacent land, and of any person therein or in the vicinity thereof, by reason of -
 - a) emission from activities or equipment related to the use or development, including noise and vibration, which can be detected by a person at the boundary with another property; and/or
 - b) transport of materials, goods, or commodities to or from the land; and/or

c) appearance of any building, works or materials.

- (48) Any accumulation of vegetation, building debris or other unwanted material must be disposed of by removal from the land in an approved manner. No burning of such materials on-site will be permitted unless approved in writing by the Council's General Manager.
- (49) Public roadways or footpaths must not be used for the storage of any construction materials or wastes, for the loading/unloading of any vehicle or equipment; or for the carrying out of any work, process or tasks associated with the subdivision during the construction period.

Maintenance and Defects Liability Period

- (50) The subdivision must be placed onto a twelve (12) month maintenance and defects liability period in accordance with Council Policy following the completion of the works in accordance with the approved engineering plans and permit conditions.
- (51) Prior to placing the subdivision onto the maintenance and defects liability period the Supervising Engineer must provide certification that the works comply with the Council's Standard Drawings, specification, and the approved plans.

THE FOLLOWING ADVICE APPLIES TO THIS PERMIT:

- A. This permit does not imply that any other approval required under any other legislation or by-law has been granted.
- B. This permit does not take effect until all other approvals required for the use or development to which the permit relates have been granted.
- C. The owner is advised that an engineering plan assessment and inspection fee of 1% of the value of the approved engineering works (minimum of \$300.00), or as otherwise specified in Council's Schedule of Fees, must be paid to Council prior to the approval of engineering plans.

Dated 26/07/2022



Brian White
Acting Senior Planner

Submission to Planning Authority Notice

Council Planning Permit No.	SA 2022/10	Council notice date	22/03/2022
TasWater details			
TasWater Reference No.	TWDA 2022/00400-BTN	Date of response	25/05/2022
TasWater Contact	Elio Ross	Phone No.	0467 874 330
Response issued to			
Council name	BRIGHTON COUNCIL		
Contact details	development@brighton.tas.gov.au		
Development details			
Address	15 BURROWS ST, BRIGHTON	Property ID (PID)	5022815
Description of development	Subdivision Lots 10 to 21 (13 lots)- Staged		
Schedule of drawings/documents			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
Rodger & Birch Surveyors	HUNTI03 14111-01 Proposed Subdivision & Staging Plan	--	01/03/2022
Henry Design & Consulting	Project: H21067 Sheets: C04, C05, C06	B	April 2022
Conditions			
<p>Pursuant to the <i>Water and Sewerage Industry Act 2008 (TAS)</i> Section 56P(1) TasWater imposes the following conditions on the permit for this application:</p> <p>CONNECTIONS, METERING & BACKFLOW</p> <ol style="list-style-type: none"> 1. A suitably sized water supply with metered connections and sewerage system and connections to each lot of the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit. 2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost. 3. Prior to commencing construction of the subdivision/use of the development, any water connection utilised for construction/the development must have a backflow prevention device and water meter installed, to the satisfaction of TasWater. <p>ASSET CREATION & INFRASTRUCTURE WORKS</p> <ol style="list-style-type: none"> 4. Plans submitted with the application for Certificate(s) for Certifiable Work (Building and/or Plumbing) / Engineering Design Approval must, to the satisfaction of TasWater show, all existing, redundant and/or proposed property services and mains. 5. Prior to applying for a Permit to Construct/the issue of a Certificate for Certifiable Work (Building and/or Plumbing) to construct new infrastructure the developer must obtain from TasWater Engineering Design Approval for new TasWater infrastructure. The application for Engineering Design Approval must include engineering design plans prepared by a suitably qualified person showing the hydraulic servicing requirements for water and sewerage to TasWater's satisfaction. 6. Prior to works commencing, a Permit to Construct must be applied for and issued by TasWater. All 			

infrastructure works must be inspected by TasWater and be to TasWater's satisfaction.

7. In addition to any other conditions in this permit, all works must be constructed under the supervision of a suitably qualified person in accordance with TasWater's requirements.
8. Prior to the issue of a Consent to Register a Legal Document all additions, extensions, alterations or upgrades to TasWater's water and sewerage infrastructure required to service the development, are to be completed generally as shown on, and in accordance with, the plans listed in the schedule of drawings and are to be constructed at the expense of the developer to the satisfaction of TasWater, with live connections performed by TasWater.
9. After testing/disinfection, to TasWater's requirements, of newly created works, the developer must apply to TasWater for connection of these works to existing TasWater infrastructure, at the developer's cost.
10. At practical completion of the water and sewerage works and prior to TasWater issuing a Consent to a Register Legal Document, the developer must obtain a Certificate of Practical Completion from TasWater for the works that will be transferred to TasWater. To obtain a Certificate of Practical Completion:
 - a. Written confirmation from the supervising suitably qualified person certifying that the works have been constructed in accordance with the TasWater approved plans and specifications and that the appropriate level of workmanship has been achieved.
 - b. A request for a joint on-site inspection with TasWater's authorised representative must be made.
 - c. Security for the twelve (12) month defects liability period to the value of 10% of the works must be lodged with TasWater. This security must be in the form of a bank guarantee.
 - d. Work As Constructed drawings and documentation must be prepared by a suitably qualified person to TasWater's satisfaction and forwarded to TasWater.

Upon TasWater issuing a Certificate of Practical Completion, the newly constructed infrastructure is deemed to have transferred to TasWater.

11. After the Certificate of Practical Completion has been issued, a 12-month defects liability period applies to this infrastructure. During this period all defects must be rectified at the developer's cost and to the satisfaction of TasWater. A further 12-month defects liability period may be applied to defects after rectification. TasWater may, at its discretion, undertake rectification of any defects at the developer's cost. Upon completion, of the defects liability period the developer must request TasWater to issue a "Certificate of Final Acceptance". TasWater will release any security held for the defect's liability period.
12. The developer must take all precautions to protect existing TasWater infrastructure. Any damage caused to existing TasWater infrastructure during the construction period must be promptly reported to TasWater and repaired by TasWater at the developer's cost.
13. Ground levels over the TasWater assets and/or easements must not be altered without the written approval of TasWater.
14. A construction management plan must be submitted with the application for TasWater Engineering Design Approval. The construction management plan must detail how the new TasWater infrastructure will be constructed while maintaining current levels of services provided by TasWater to the community. The construction plan must also include a risk assessment and contingency plans covering major risks to TasWater during any works. The construction plan must be to the satisfaction of TasWater prior to TasWater's Engineering Design Approval being issued.

FINAL PLANS, EASEMENTS & ENDORSEMENTS

15. Prior to the Sealing of the Final Plan of Survey, a Consent to Register a Legal Document must be obtained from TasWater as evidence of compliance with these conditions when application for sealing is made.
Advice: Council will refer the Final Plan of Survey to TasWater requesting Consent to Register a Legal Document be issued directly to them on behalf of the applicant.
16. Pipeline easements to TasWater's satisfaction, must be created over any existing or proposed TasWater infrastructure and be in accordance with TasWater's standard pipeline easement conditions and requirements.
17. Prior to the issue of a Consent to Register a Legal Document from TasWater, the applicant must submit a copy of the completed Transfer for the provision of a Pipeline and Services Easement(s) to cover existing/proposed TasWater infrastructure as required by condition 16. All costs and expenses related to the transfer of easement(s)/lots to TasWater are to be paid by the developer.
18. Prior to the issue of a TasWater Consent to Register a Legal Document, the applicant must submit a .dwg file, prepared by a suitably qualified person to TasWater's satisfaction, showing:
 - a. the exact location of the existing water/sewerage infrastructure,
 - b. the easement protecting that infrastructure.

The developer must locate the existing TasWater infrastructure and clearly show it on the .dwg file. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost.

DEVELOPMENT ASSESSMENT FEES

19. The applicant or landowner as the case may be, must pay a development assessment fee of \$699.36, and a Consent to Register a Legal Document fee of \$154.42 to TasWater, as approved by the Economic Regulator and the fees will be indexed, until the date paid to TasWater.
The payment is required within 30 days of the issue of an invoice by TasWater.
20. In the event Council approves a staging plan, a Consent to Register a Legal Document fee for each stage, must be paid commensurate with the number of Equivalent Tenements in each stage, as approved by Council.

Advice

General

For information on TasWater development standards, please visit <https://www.taswater.com.au/building-and-development/technical-standards>

For application forms please visit <https://www.taswater.com.au/building-and-development/development-application-form>

Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

- (a) A permit is required to work within TasWater's easements or in the vicinity of its infrastructure.
Further information can be obtained from TasWater
- (b) TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit www.taswater.com.au/Development/Service-location for a list of companies
- (c) TasWater will locate residential water stop taps free of charge
- (d) Sewer drainage plans or Inspection Openings (IO) for residential properties are available from your local council.

Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

TasWater Contact Details

Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au

Development Standards for Subdivision

8.6.1 General Residential

A1- a) All lots greater than 450m². Av Gradient 1:9. Complies except Lot 10.

A2- Complies for each Lot except Lots 18, 19 & 20, Min 12m frontage.

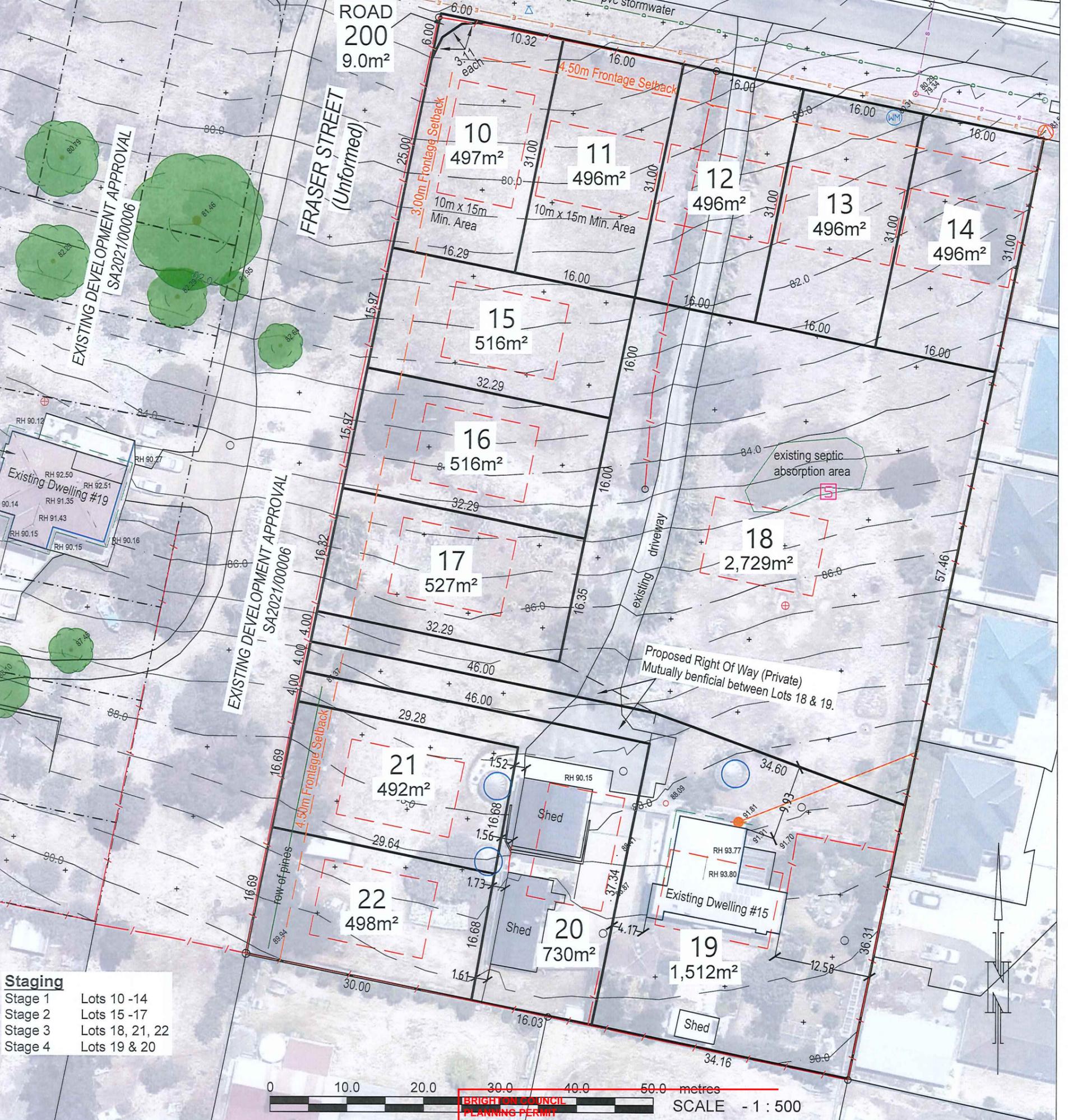
P2- Lots 18, 19 & 20 are internal Lots, with minimum 4.0m width legal access.

Lots 18 and 19 have proposed mutually beneficial Right of Ways (Private) to allow for possible future development. Lots 18, 19 & 20 will satisfy P2.

A3- Complies. Fraser Street Road to be formed as part of Existing Development Approval SA2021/00006.

A4- Complies. No New road in subdivision, disregarding small Road Lot 200.

LOCATION PLAN



This plan has been prepared only for the purpose of obtaining preliminary subdivisional approval from the local authority and is subject to that approval.
All measurements and areas are subject to the final survey.
Base image by TASMAR (www.tasmap.tas.gov.au), © State of Tasmania
Base data from the LIST (www.thelist.tas.gov.au), © State of Tasmania

OWNER: JOHN & JANE BOYCHER
TITLE REFERENCE: SE 222/010
DATE PERMIT ISSUED: 26/7/2022
LOCATION: 15 BURROWS AVENUE, BRIGHTON

Proposed Subdivision
Date: 20-04-2022
Reference: HUNTI03 14111-01
Scale: 1:500 (A3)
Municipality: BRIGHTON



15 Burrows Avenue, Brighton Residential Subdivision Development

Traffic Impact Assessment Report



Prepared for
Huntingfield Developments Pty Ltd

Date
May 2022

Prepared by
Joanne Fisher

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: 



Table of Contents

1.	Introduction	1
1.1	Client Details.....	1
1.2	Project Details	1
2.	Scope of Consultancy	2
3.	Location of the Development	3
4.	Existing Situation	4
4.1	Site Details.....	4
4.2	Road Width.....	5
4.3	Traffic Volumes.....	5
4.4	Posted Speed Limits	5
4.5	Accident History	6
4.6	Proposed Development.....	6
5.	Assessment of Trip Generation.....	7
5.1	Existing Trip Generation	7
5.2	Existing Land Use Trip Generation	8
5.3	Proposed Trip Generation	8
5.4	Environmental Capacity	10
5.5	Tasmanian Planning Scheme – Brighton	11
6.	Assessment of Parking	14
6.1	Existing Situation	14
6.2	Proposed Parking Requirements.....	14
6.3	Dimensions and Manoeuvring	15
6.4	Impact of the Development on On-Street Parking.....	15
7.	Assessment of Access.....	16
7.1	Existing Situation Access Width.....	16
7.2	Australian Standard Requirement.....	16
7.3	Access Provision	18
8.	Assessment of Sight Distance	19
8.1	State Planning Scheme Requirements	19
8.2	New Proposed Road	23
9.	Sustainable Transport	25
9.1	Buses.....	25
9.2	Bicycles / Electric Bicycles / Electric Scooters	26
9.3	Pedestrian Linkages.....	26
10.	Service Vehicles.....	27
10.1	Tasmanian Planning Scheme - Brighton.....	27

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010 Date Permit issued: 26/7/2022

Authorised Officer:



11. Conclusion and Recommendation 28

Appendix A Development Plans with Autotrack Paths

© Howarth Fisher and Associates

This document is and shall remain the property of Howarth Fisher and Associates. The document may only be used for the purposes for which it was commissioned in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form is prohibited.

	Name	Signature	Date
Authorised by:	Joanne Fisher		May 12 th 2022

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: 



1. Introduction

1.1 Client Details

This document has been prepared for the following:

Client Name: Huntingfield Developments Pty Ltd

Client Contact: Peter Henry
pHenry@netspace.net.au
0400 196 061

Address: c/o HENRY DESIGN & CONSULTING
UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE TAS 7170

1.2 Project Details

The report is undertaken for the site at 15 Burrows Avenue, Brighton.

A copy of the proposed development plans can be found at **Appendix A**.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



2. Scope of Consultancy

The scope of consultancy involves the following:

- Obtain background information and plans, including traffic volumes and accident history.
- Undertake a site visit.
- Assess sight distance and compliance with the AS/NZS:2890.1 and the Brighton Interim Planning Scheme, 2015.
- Assess other road and intersection parameters which may impact on safety.
- Assess access provision to each lot in line with the requirements of the Brighton Interim Planning Scheme, 2015 and Australian Standards.
- Undertake survey to assess trip generation and assess the trip generation rates from the proposed development.
- Assess parking requirements based on the requirements of the Brighton Interim Planning Scheme, 2015.
- Assess against performance criteria of the scheme.
- Assess parking layout against the requirements of the AS/NZS 2890.1 including the requirement for the assessable parking against the Building Code of Australia/National Construction Code and bicycle parking requirements.
- Assess access to the site for refuse collection service vehicles (run autotrack).
- Assess grade issues.
- Assess access via sustainable transport and linked and multipurpose trips.
- Assess parking layout.
- Assess environmental capacity.
- Assess servicing requirements against AS/NZS 2890.1 and run autotrack to assess service vehicle access and egress from and to the road network.
- Document findings in a report and plans.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



3. Location of the Development

Figure 1 shows the location of the proposed development site in the context of the surrounding street network.

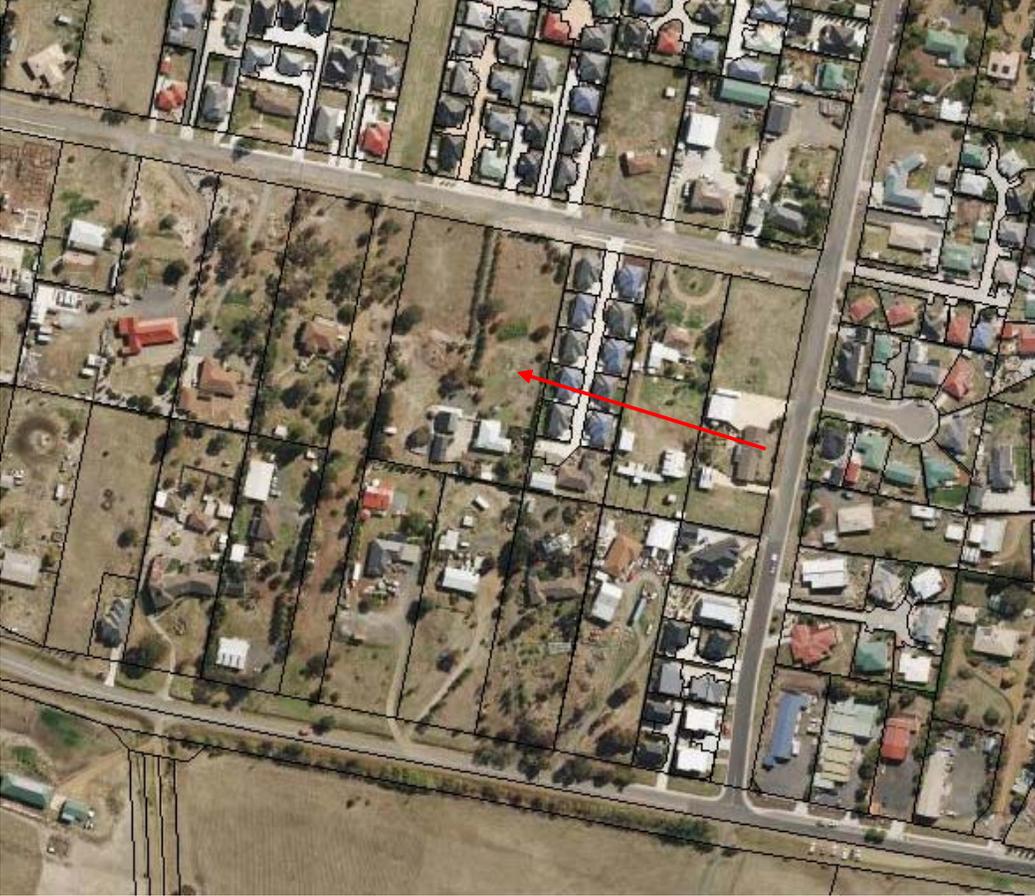


Figure 1: Location (source: Google Maps)

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022
 Authorised Officer: *B.R.*



4. Existing Situation

4.1 Site Details

The proposed development is located at 15 Burrows Avenue, Brighton. Burrows Avenue is a local road under the control of the Brighton Council. As a local access road, its main function is to provide access to the residential properties located along its length. The proposed development site at 15 Burrows Avenue, is accessed via an existing unsealed driveway.



Photograph 1: Showing the existing access to 15 Burrows Avenue.

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*



4.2 Road Width

Burrows Avenue is 6.4-metres wide measured in the vicinity of the proposed development site.



Photograph 2: Road width within the vicinity of 15 Burrows Avenue.

4.3 Traffic Volumes

Based on standard traffic engineering principles, peak hour traffic volumes represent 10% of Annual Average Daily Traffic (AADT) flows. Therefore, based on Howarth Fisher and Associates survey data of fifteen (15) vehicles counted in a morning peak hour survey, there would be an anticipated traffic volume of one hundred and fifty (150) vehicles per day.

4.4 Posted Speed Limits

The speed limit along Burrows Avenue, Brighton, within the vicinity of the proposed development site, is 50km/hr, the standard urban default speed limit.

**BRIGHTON COUNCIL
PLANNING PERMIT**
This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:

4.5 Accident History

In line with standard traffic engineering practice the accident history for the past five (5) years has been obtained from the Department of State Growth. There has been one (1) minor light vehicle accident in the vicinity of 15 Burrows Avenue at the intersection of Burrows Avenue and Brooke Street at 2.08pm on the 6th October 2018. No other accidents have been recorded in the last five (5) years and there have been no accidents in the immediate vicinity of the sites access driveway.

4.6 Proposed Development

The proposed development consists of twelve (12) new lots surrounding an existing dwelling. The total dwellings on site development site will be thirteen (13). The layout nor the parking layout for the proposed dwellings has not been established at this stage. It has been advised that there will be one standard proposed dwelling on each lot.



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010
Data Permit issued: 26/7/2023

Authorised Officer: *B.R.*

Figure 2: Proposed subdivision. Source – Rogerson & Birch Surveyors 23-02-



5. Assessment of Trip Generation

5.1 Existing Trip Generation

To obtain an indication of the trip rates currently to the existing site at 15 Burrows Avenue, Brighton, Howarth Fisher and Associates undertook a morning peak hour traffic count on the 8th November 2021 between 8am-9am along Burrows Avenue in the vicinity of the proposed development site. There were a total of fifteen (15) vehicle trips counted. In line with the standard traffic engineering practice, the peak hour flows typically reflect 10% of the AADT. Therefore, there would typically be one hundred and fifty (150) vehicles per day along this section of Burrows Avenue. These were representative of typical traffic flows, given they were during school term.

The survey results are tabulated below:

Table 1: Morning peak hour traffic count for the period between 8:00am to 9:00am on the 8th November 2021.

Time	Period	Traffic count	Traffic Count into the site 15 Burrows Avenue
8am – 9am	<i>Morning peak hour period</i>	11 vehicles heading East along Burrows Avenue 4 vehicles heading West along Burrows Avenue	0

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010 Date Permit issued: 26/7/2022

Authorised Officer: [Signature]



5.2 Existing Land Use Trip Generation

Table 2: Trip Generation for the existing low density residential dwelling: Source NSW, Transport Roads and Maritime Services, Guide to Traffic Generating Development TDT 2013/04a

Current Land use	Trip Generation Rates	Total Requirement
	<i>Low Density Residential Dwellings</i>	
Existing residence	<i>Daily Vehicle Trips – 7.4 per dwelling</i>	7.4 trips per day
	<i>Weekday Evening Peak Hour Vehicle Trips 0.78 per dwelling</i>	0.78 trips during the peak hour
Current TOTAL		8 trips per day 1 trip during the peak hour

5.3 Proposed Trip Generation

It should be noted that an approval has been granted (subject to conditions) for the development application of 19 Burrows Avenue, Brighton. The subdivision (subject to an earlier application) at 19 Burrows Avenue, Brighton involved the development of 9 lots which in turn will generate 61 trips per day and 7 trips during the peak period. This needs to be factored into the analysis for completeness.

For the purpose of comparison, an assessment of trip generation has been made against the NSW, RTA, Transport Roads and Maritime Services guide, which is the national recognised reference document. The updated NSW, Transport Roads, and Maritime Services, 'Guide to Traffic Generating Developments', TDT 2013/04a, provides guidance on trip generation to the low-density residential dwellings. The evening peak hour trips were found to be 0.78 per dwelling in regional areas. Based on these trip generation rates the proposed development is likely to generate nine (9) trips during the peak hour.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



Table 3: Trip Generation increase for low density residential dwelling: Source NSW, Transport Roads and Maritime Services, Guide to Traffic Generating Development, TDT 2013/04a.

Land Use	Trip Generation Rates	Total Requirement
	<i>Low Density Residential Dwellings</i>	
(13) Residential Dwellings	Daily Vehicle Trips – 7.4 per dwelling	96.2 trips per day
	Weekday Evening Peak Hour Vehicle Trips 0.78 per dwelling	10.14 trips during the peak hour
		7.4 trips per day
Existing Trips associated with existing dwelling		0.74 trip during the peak hour
TOTAL		89 trips per day 9 trips during the peak hour
Trip generation associated with the development at 19 Burrows Avenue		61 trips per day 7 trips during the peak hour
TOTAL		150 trips per day 16 trips during the peak hour

Based on the use of the Transport Roads and Maritime Services, NSW ‘Guide to Traffic Generating Developments’, which is based on 2013 data and not reflective of the local conditions, the development will generate a maximum of nine (9) additional trips during the peak hour period. It should be noted that the guide is not the most accurate method for determining trip generation rates. The data obtained through Howarth Fisher and Associates traffic count survey is more reliable and reflective of the typical traffic flow along Burrows Avenue.

The proposed subdivision includes a new road that will be used to access eight (8) of the thirteen (13) proposed dwellings. The remaining five (5) dwellings will be accessed from Burrows Avenue. Based on the rate of 0.78 trips per dwelling the proposed development is assessed to increase the traffic generation from fifteen (15) to twenty-four (24) trips during the peak hour.

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer:



5.4 Environmental Capacity

On most streets within a residential precinct, the actual flow is below the traffic or physical capacity of the street. Therefore, it is desirable to plan the layout of a residential street network in such a way that the amount of traffic does not exceed a desired maximum. The maximum value which is always considerably less than the traffic capacity of the street may be termed the environmental capacity of the street. Table 4.6 (from Transport Roads and Maritime Services, NSW 'Guide to Traffic Generating Developments) overleaf relates to streets with direct access to residential properties.

Burrows Avenue can be defined as a local road which can accommodate up to 200 vehicles per hour as an environmental goal. Clearly there is enough spare environmental capacity to accommodate the additional trips per day along Burrows Avenue.

Table 4.6 Environmental capacity performance standards on residential streets

Table with 4 columns: Road class, Road type, Maximum Speed (km/hr), and Maximum peak hour volume (veh/hr). Rows include Local (Access way, Street) and Collector (Street) with their respective speed and volume limits.

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

Based on the increased flows on the local road, (associated with both the subdivision associated with 15 and 19 Burrows Avenue), the peak hourly traffic volume would be approximately 24 per hour. This will not pose an issue from an environmental capacity perspective (this is based on worst case scenarios of using the 'NSW Transport Roads and Maritime Services Guide to Traffic Generating Developments' trip rate data). Furthermore, each Lot/Site will not generate more than 20% or 40 vehicles movements (as per the acceptable solution of the Tasmanian Planning Scheme - Brighton, Table C3.1 Acceptable increase in average daily traffic to and from the site). However, in its entirety the subdivision would result in an increase of more than 20%.

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010 Date Permit issued: 26/7/2022

Authorised Officer: [Signature]



5.5 Tasmanian Planning Scheme – Brighton

5.5.1 Traffic generation at vehicle crossing, level crossing or new junction.

The proposed subdivision has been assessed in line with the Tasmanian Planning Scheme – Brighton requirements as outlined in section C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction.

Objective

To minimise any adverse effects on the safety and efficiency of the road or rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction.

Given the forecast increase in trip generation arising from the proposed subdivision is estimated to be greater than 40 trips per day, an assessment has been made against the performance criteria below:

Table C3.1 Acceptable increase in average annual daily traffic to and from the site (total of ingress and egress)

Location of vehicular traffic	Amount of acceptable increase in annual average daily traffic to and from the site (total of ingress and egress)	
	Vehicles up to 5.5m long	Vehicles longer than 5.5m long
Vehicle crossing on major roads and private level crossings	10% or 10 vehicle movements per day, whichever is the greater	10%
Vehicle crossings on other roads	20% or 40 vehicle movements per day, whichever is the greater	20% or 5 vehicle movements per day, whichever is the greater

Figure 3: Extract from Tasmanian Planning Scheme – Brighton, Table C3.1 Acceptable increase in average daily traffic to and from

C3.5.1 A1.5

Vehicular traffic must be able to enter and leave a major road in a forward direction.

The proposed subdivision meets the acceptable solution C3.5.1 A1.5

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the
Scheme used for planning approval as notified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



Notwithstanding the above, if the subdivision site in its entirety was accessed there would be more than ninety-six (96) trips per day. This would still be within the environmental capacity of the road, but it would not meet the acceptable solution for the Tasmanian Planning Scheme – Brighton C3.5.1 A1.4(a) and therefore it is necessary to address the performance criteria as outlined below.

Performance Criteria

C3.5.1 P1

Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:

a) *any increase in traffic caused by the use;*

The land use is for local residential use. The increase of nine (9) trips per peak hour is minimal and does not compromise the environmental capacity of the road. These are predominantly light vehicle movements which will be familiar residential users of the surrounding road network.

b) *the nature of the traffic generated by use;*

The nature of the traffic increase will be generated from the proposed local residential land use. These will be familiar users of the and typically be light vehicles.

c) *the nature of the road;*

The nature of the road is a local street and the existing traffic volumes are low and even with the proposed increase flows remains within the environmental capacity of the road. The function of a local access street is provide access to the land uses located along its length.

d) *the speed limit and traffic flow of the road;*

The speed limit for a local street is 50km/hr, the urban default speed limit. This is conducive with low, safe vehicular traffic flows long local residential streets.

e) *any alternative access to the road;*

There is no alternative access to the road given the layout of the proposed subdivision.

f) *the need for the use;*

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the period given the layout of the proposed subdivision.

Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



The use is for local residential use. Provision has been made for a new road to be constructed and a turning head has been provided at the end of the proposed road which enables all vehicles to access and egress in a forward direction.

g) any traffic impact assessment; and

Howarth Fisher and Associates has carried out a traffic impact assessment and the proposed increase in flows is within the environmental capacity of the road.

h) any advice received from the rail or road authority.

Not applicable.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



6. Assessment of Parking

6.1 Existing Situation

There is existing onsite parking for the residential dwelling at 15 Burrows Avenue, Brighton.

6.2 Proposed Parking Requirements

No parking spaces have been determined yet. It is anticipated that two (2) car parking spaces will be required per residential dwelling in accordance with the requirements of dwelling with two (2) or more bedrooms. Given there will be thirteen (13) dwellings on the site, there is a requirement for 26 residential parking spaces to be supplied to meet the acceptable solution as a worst-case scenario.

Table 4: Parking requirements for 15 Burrows Avenue. Source: Tasmanian Planning Scheme - Brighton

Land Use	Parking Rates	Total Requirement
(13) 2 or more bedroomed dwellings	2 spaces per dwelling.	Residential – 26
TOTAL		Residential – 26

The detail of the parking spaces has not yet been indicated on the plans in detail. However, there is enough room on each lot for adequate parking provision to be made.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



6.3 Dimensions and Manoeuvring

The minimum parking bay dimensions would be 5.4-metres x 2.4-metres wide with aisles of 5.8metres to comply with AS/NZS 2890.1 for residential parking provision. Given the lot size there is adequate provision to provide two (2) spaces per lot.

6.4 Impact of the Development on On-Street Parking

Given all the parking can be accommodated on site, there will be minimal impact on on-street parking along the frontage road.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



7. Assessment of Access

7.1 Existing Situation Access Width

The existing access to 15 Burrows Avenue is via an unsealed access driveway which includes an entrance cross sectional width of 6-metres which narrows to 3.7-metres for the access to property.



Photograph 3: Showing access into 15 Burrows Avenue.

7.2 Australian Standard Requirement

7.2.1 Classification of Off-Street Car Parking Facility

In line with Australian Standard AS2890.1 Off-street car parking facilities the class of the proposed parking facility is determined from the table 1.1 overleaf:

SHIRAZI CONSULTING
 PLANNING PERMIT
 AS2890.1 Off-street car parking facilities
 permit issued for planning approval as identified by
 Permit Number: 31222/10
 Date Permit issued: 26/7/2022
 Authorised Officer: *B.R.*



TABLE 1.1
CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

From Table 1.1, the type of the proposed parking facility is a user class 1A residential parking.

Category of Access Driveway

In line with AS2890.1, to determine access driveway widths and restrictions on their location along frontage road table 3.1 categorizes driveways according to –

- a) the class of parking facility as shown in table 1.1;
- b) the frontage road type, either arterial (including sub-arterial) or local (including collector);and
- c) the number of parking spaces served by the access driveway.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022
 Authorised Officer:



TABLE 3.1
SELECTION OF ACCESS FACILITY CATEGORY

Class of parking facility (see Table 1.1)	Frontage road type	Access facility category				
		Number of parking spaces (Note 1)				
		<25	25 to 100	101 to 300	301 to 600	>600
1,1A	Arterial	1	2	3	4	5
	Local	1	1	2	3	4
2	Arterial	2	2	3	4	5
	Local	1	2	3	4	4
3,3A	Arterial	2	3	4	4	5
	Local	1	2	3	4	4

NOTES:

- 1 When a car park has multiple access points, each access should be designed for the number of parking spaces effectively served by that access.
- 2 This Table does not imply that certain types of development are necessarily suitable for location on any particular frontage road type. In particular, access to arterial roads should be limited as far as practicable, and in some circumstances it may be preferable to allow left-turn-only movements into and out of the access driveway.

From Table 3.1 above it can be shown that the proposed driveway is user class 1A residential parking facility. In line with the requirements of the Tasmanian Planning Scheme – Brighton, the access driveway is a user class 1A access, (notably a user class 1 facility accessing a local road with servicing less than twenty-five (25) bays), which requires a width of between 3-5.5 metres combined. The current and the proposed development access width, location and gradient are compliant with the requirements of the AS/NZS 2890.1:2004: Off street parking. Each dwelling will provide a cross over width and access. The access therefore complies with the acceptable solution of the Tasmanian Planning Scheme – Brighton and will be in line with the Tasmanian Municipal Standards specified and will be minimum of 3-metres wide.

7.3 Access Provision

Each access has been designed to provide a new reinforced concrete driveway in accordance with the Tasmanian Standard Drawing tsd-r09-v3 & tsd-r16-v3 and will be a minimum of 3.6 – metres wide.

7.4 Municipal Standard Specification

The road will be constructed in line with the Municipal Standard Specifications.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued in accordance with the Municipal Standard Specifications.

Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



8. Assessment of Sight Distance

8.1 State Planning Scheme Requirements

The Brighton Interim Planning Scheme, 2015,

C2.6.2 Design and layout of parking areas

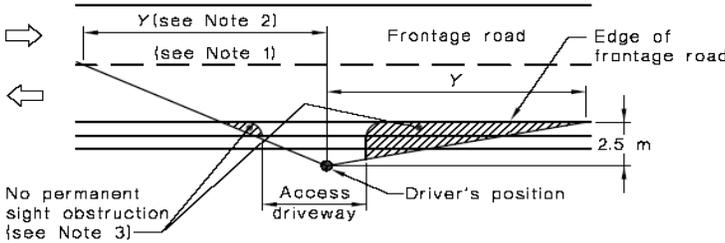
Objective:	
That parking areas are designed and laid out to provide convenient, safe and efficient parking.	
Acceptable Solutions	Performance Criteria
A1.1	P1
Parking, access ways, manoeuvring and circulation spaces must either:	All parking, access ways, manoeuvring and circulation spaces must be designed and readily identifiable to provide convenient safe and efficient parking, having regard to:
(a) comply with the following:	(a) the characteristics of the site;
(i) have a gradient in accordance with <i>Australian Standard AS 2890 - Parking facilities, Parts 1-6</i> ;	(b) the proposed slope, dimensions and layout;
(ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces;	(c) useability in all weather conditions;
(iii) have an access width not less than the requirements in Table C2.2;	(d) vehicle and pedestrian traffic safety;
(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;	(e) the nature and use of the development;
(v) have a combined access and manoeuvring width adjacent to parking spaces not less than the	(f) the expected number and type of vehicles;
car parking spaces;	(g) the likely use of the parking areas by persons with a disability;
(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and	(h) the nature of traffic in the surrounding area;
(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or	(i) the proposed means of parking delineation; and
(b) comply with <i>Australian Standard AS 2890- Parking facilities, Parts 1-6</i> .	(j) the provisions of <i>Australian Standard AS 2890.1:2004 - Parking facilities, Part 1: Off-street car parking</i> and <i>AS 2890.2 -2002 Parking facilities, Part 2: Offstreet commercial vehicle facilities</i> .

In line with the requirements of the State Planning Scheme the access sight distance has been designed to comply with AS2890.1: Off street parking 2004.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2 nd and 3 rd columns
100	139	160	
110	153	190	

Figure 4: Sight Distance requirements from accesses based on the requirements of AS/NZS2890.1: Off Street parking 2004.

The sight distance at the access out of the site are shown in the photographs below:



Photographs 4 & 5: Sight distances at Lot 10 in both eastern and western directions are greater than 69-metres.

**BRIGHTON COUNCIL
PLANNING PERMIT**
 This document is a site and access plan
 permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022
 Authorised Officer: *B.R.*



Photographs 6 & 7: Sight distances at Lot 11 in both eastern and western directions are greater than 69-metres.



Photograph 8 & 9: Sight distances at Lot 12 in both eastern and western directions are greater than 69-metres.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*



Photograph 10 & 11: Sight distances at Lot 13 in both eastern and western directions are greater than 69-metres.



Photograph 12 & 13: Sight distances at Lot 14 in both eastern and western directions are greater than 69-metres.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



8.2 New Proposed Road

The new subdivision proposed Lots 15,16,17,18,19,20,21,22 will be accessed by the new proposed road. The majority of the lots will include a 69-metre sight distance towards Burrows Avenue (Lot 15 and Lot 16 are the only lots which do not contain a sight distance of greater than 69-metres towards Burrows Avenue).

Given the geometry of the road and the proximity of the vehicular cross overs to the intersection of the existing Burrows Avenue or the hammerhead turn, there is no opportunity to provide the 69-metre sight distance from the Lot 15 and Lot 16. Given the road is only 135-metres long, with an intersection at one end and a hammerhead turn at the other, it is not envisaged that vehicular speeds will be high and significantly less than 50 km/hr (urban default speed limit).

The AS/NZS2890.1 requires there to be a 30-metres sight distance at a domestic property access requirement subject to a 40km/hr posted speed limit. With the exception of Lot 21¹ and Lot 22 which are in proximity to the hammerhead turn, (and therefore sight distance to the south is not feasible due to the road geometry), all other sight distance is compliant with AS/NZS 2890.1.

Given the low vehicle speeds past the driveways of lots 17,18,19,20,21,22 it is not anticipated that vehicular speeds will be high enough to be an issue (given vehicles will be either accelerating or decelerating at the end of the road).

The new proposed road will be located as shown below in photograph 14.

¹ There is scope to achieve the 30metre sight distance from lot 21

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer: 



Photograph 14: Location of the proposed road which will service Lots 15,16,17,18,19,20,21,22

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*

9. Sustainable Transport

9.1 Buses

The nearest bus stop is located less than 250-metres away on Burrows Avenue as shown below.



Photograph 15: Bus stop on Burrows Avenue, Brighton

The following link provides details of the timetable of services to the Burrows Avenue bus stop.

[Brighton, Bridgewater, Claremont, Glenorchy, Moonah, New Town, North Hobart, Hobart - Metro Tasmania Metro Tasmania](#)

In summary, on Monday through Friday, there are three (3) morning 30-minute express services (X21) starting at 6:46am, all with wheelchair access, reducing to an hourly service (521) at 8:51am until 5:46pm. There is an hourly service on Saturdays from 8:46am up until 6:40pm with wheelchair access on the service between 12:46pm and 3:46pm. There are no services to Burrows Avenue on Sundays and public holidays.



Figure 5: Bus stops on Burrows Avenue, Brighton

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



9.2 Bicycles / Electric Bicycles / Electric Scooters

The site is in a residential area, approximately 1.1 kilometres away from Brighton town centre. The 6.4-metres wide road in the vicinity of the site will assist in providing a safe bicycle environment given the low speed and low traffic volumes. The proximity of the residential development to the town centre facilitates sustainable access to and from the site.

9.3 Pedestrian Linkages

There is a network of pedestrian footpaths in the vicinity of the 15 Burrows Avenue development. The existing footpath is located on the northern side of the road and is ~1.5 metres wide.



Photograph 16: Footpath on Burrows Avenue, Brighton

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



10. Service Vehicles

It is proposed that refuse collection will be undertaken on the street. It is proposed that residential bins will be emptied via the Council’s refuse collection centre. The Autotrack path for an 8.8-metre medium rigid vehicle (standard refuse collection vehicle) entering the site, turning, and exiting the site in a forward direction has been undertaken by Howarth Fisher and Associates and can be found in Appendix B of this report.

10.1 Tasmanian Planning Scheme - Brighton

In line with the provision of the Tasmanian Planning Scheme – Brighton. The site has been designed to cater for an 8.8-metre service vehicle. The new road has a hammerhead turn which is designed to enable an 8.8-metre refuse vehicle to enter and exit in a forward direction.

Autotrack has been used to demonstrate the swept paths of the various vehicle types, notably a B85 vehicle and an 8.8-metre Medium Rigid Vehicle throughout the subdivision and within the site, (refer to Appendix B).

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: 



11. Conclusion and Recommendation

The proposed development has been assessed in relation to the following:

Trip Generation

The trip generation associated with the proposed development will result in an increase of 89 trips daily and approximately 9 trips during the peak hour. The traffic volumes have been counted along Burrows Avenue, and based on these findings, along with the proposed development traffic associated with both the proposed subdivisions at 15 and 19 Burrows Avenue, the environmental capacity of the road would not be reached.

Parking

Given the development plans for the residential dwellings have not been provided, a worst case scenario for thirteen (13), two (2) or more bedroom units were adopted for addressing the parking requirements. Therefore, the development site will be required to contain twenty-six (26) parking spaces to comply with the parking requirements of the Tasmanian Planning Scheme – Brighton. Given all the parking will be accommodated on site, there will be no impact on on-street parking on the frontage road.

Access

Each access has been designed in accordance with the Tasmanian Municipal Standards specification and includes a minimum width of 3-metres. This is compliant with the Acceptable Solution of the Tasmanian Planning Scheme – Brighton.

Sight Distance

The sight distance from Burrows Avenue, the new proposed access, road complies with the requirement of the acceptable solution of the State Planning Scheme.

Given the layout of the new road, those lots located near to the intersection or the turning head have a deficient sight distance and therefore the performance criteria has been assessed. Given sight distance is partly a function of speed and given that speed at the start and the end of the road will be low, it is not envisaged that these lots will pose a safety issue in terms of sight distance.

Sustainable Transport

Buses/Coaches

The residents of 15 Burrows Avenue will be able to benefit from the regular bus service which operates between Burrows Avenue and Glenorchy. The bus stop is located 250-metres away

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010

Authorised Officer:



from the site and provides hourly bus services (521) between 8:50am and 5:46pm and half hourly bus services express (X21) between 6:46am to 8:50am.

Bicycle

Burrows Avenue is a 6.4 metre wide road which is subject to the default urban speed limit of 50km/hr which provides a safe bicycle environment enabling residents to potentially benefit access local services and land uses via bicycle. It is envisaged the new road will also be subject to the same speed restriction.

Pedestrians

There is a strong pedestrian network within the vicinity of the development site. The pedestrian walkways are on the Northern side of Burrows Avenue and include a cross sectional width of 1.5-metres.

Service Vehicles

In line with the provision of the Tasmania Planning Scheme – Brighton. The site has been designed to cater for an 8.8-metre service vehicle. The Autotrack paths of the 8.8-metre service vehicle can be found in Appendix B. B85 turning paths have been included on the Autotracks to ensure that the residential driveways are accessible.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



Appendix A

DEVELOPMENT PLANS

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



Appendix B

AUTOTRACK PATHS

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



Howarth Fisher & Associates Pty Ltd

www.howarthfisher.com

HUNTINGFIELD DEVELOPMENT

15 BURROW AVENUE, BRIGHTON
PROPOSED SUBDIVISION

TRAFFIC DRAWINGS

DRAWING No.	DRAWING NAME	REVISION No.
C1	COVER PAGE	1
P1	AUTOTRACK PATHS	1
P2	AUTOTRACK PATHS	1
P3	AUTOTRACK PATHS	1

**Traffic
Civil
Structural
Industrial
Engineering**

**ISSUED FOR
FOR APPROVAL**
PRINT DATE: May 11, 2022 - 11:12am



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by

Permit Number: SA9999/010
Date Permit issued: 29/7/2022

HOWARTH FISHER & ASSOCIATES
 Authorised Officer: *AC*
 STRUCTURAL, CIVIL, TRAFFIC ENGINEERS
 AND PROJECT MANAGERS.
 13 WILLOWDENE AVENUE, SANDY BAY - 7005
 PH +61 (0)3 6225 0619
 FAX +61 (0)3 6225 0618
 EMAIL: info@howarthfisher.com

PRELIMINARY - NOT FOR CONSTRUCTION

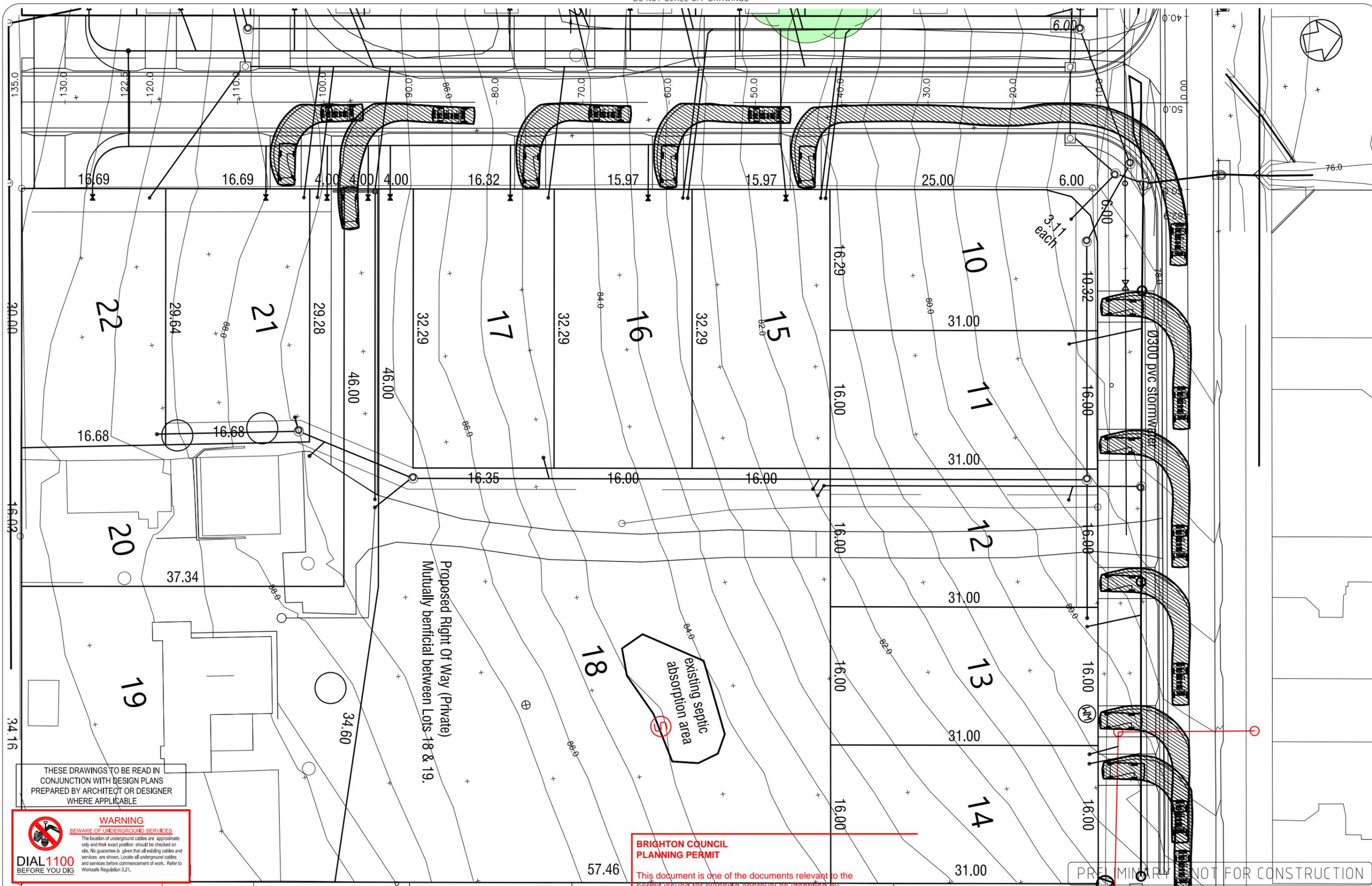
THIS DRAWING & THE DESIGN SHOWN HEREIN IS THE PROPERTY OF HOWARTH FISHER & ASSOCIATES AND SHALL NOT BE COPIED NOR REPRODUCED IN PART OR IN WHOLE IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HOWARTH FISHER & ASSOCIATES AND SHALL BE USED ONLY BY THE CLIENT OF HOWARTH FISHER & ASSOCIATES FOR THE PROJECT FOR WHICH IT WAS PROVIDED.

NO.	DESCRIPTION	BY	APPROVED	DATE
1	FOR DEVELOPMENT APPLICATION	GN	JF	11/05/2022
	ISSUE	BY	APPROVED	DATE

HUNTINGFIELD DEVELOPMENT
 15 BURROW AVENUE, BRIGHTON
 PROPOSED SUBDIVISION

COVER PAGE

APPROVED BY:-	DATE:
	11/05/22
SCALES	NTS
DRAWN	GN
DESIGN	JF
PROJECT NO.	DOCUMENT IDENTIFICATION
21J629	-D-
	DRAWING NO.
	1



THESE DRAWINGS TO BE READ IN CONJUNCTION WITH DESIGN PLANS PREPARED BY ARCHITECT OR DESIGNER WHERE APPLICABLE

Proposed Right Of Way (Private)
Mutually beneficial between Lots 18 & 19.

existing septic absorption area
(S)

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100
BEFORE YOU DIG

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA8000/010 Date Permit issued: 20/12/22

HOWARTH FISHER & ASSOCIATES
Authorised Officer: A.C. BR 51
STRUCTURAL, CIVIL, TRAFFIC ENGINEERS AND PROJECT MANAGERS.
13 WILLOWDENE AVENUE, SANDY BAY - 7005
PH +61 (0)3 6225 0619
FAX +61 (0)3 6225 0618
EMAIL: info@howarthfisher.com

HUNTINGFIELD DEVELOPMENT
15 BURROW AVENUE, BRIGHTON
PROPOSED SUBDIVISION
AUTOTRACKS

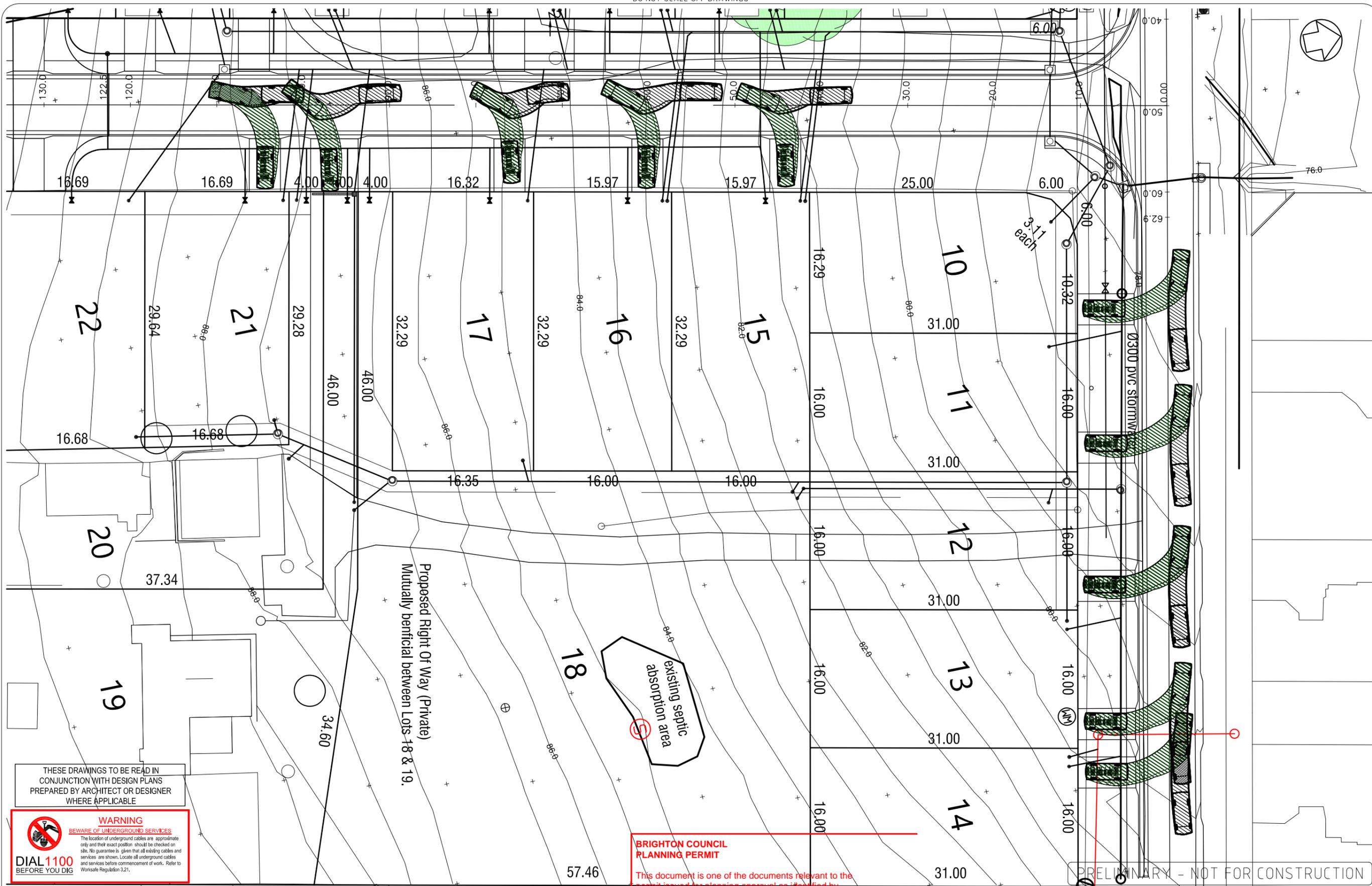
PRELIMINARY NOT FOR CONSTRUCTION

THIS DRAWING & THE DESIGN SHOWN HEREIN IS THE PROPERTY OF HOWARTH FISHER & ASSOCIATES AND SHALL NOT BE COPIED NOR REPRODUCED IN PART OR IN WHOLE IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HOWARTH FISHER & ASSOCIATES FOR THE PROJECT FOR WHICH IT WAS PROVIDED.

NO.	DESCRIPTION	BY	DATE
1	FOR DEVELOPMENT APPLICATION	GN	11/05/2022
	ISSUE	JF	APPROVED

APPROVED BY:-	DATE:
SCALES 1:400 @ A3	11/05/22
DRAWN GN	ISSUE:
DESIGN JF	1
PROJECT NO. 21J629	DOCUMENT IDENTIFICATION -D-
	DRAWING NO. P1

May 11, 2022 - 11:13am - C:\Users\jym\OneDrive\Howarth Fisher\Project Data - Documents\21J629 - Huntingfield Developments Pty Ltd - 15 Burrowe Road\DWG\COMPLETED ANALYSIS\15221629.PLT.DWG.1.10522.dwg



THESE DRAWINGS TO BE READ IN CONJUNCTION WITH DESIGN PLANS PREPARED BY ARCHITECT OR DESIGNER WHERE APPLICABLE

WARNING
BEWARE OF UNDERGROUND SERVICES
 The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100
 BEFORE YOU DIG

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: 20/12022
 Date Permit issued: 20/12/22

HOWARTH FISHER & ASSOCIATES
 Authorised Officer: A.C. [Signature]
 STRUCTURAL, CIVIL, TRAFFIC ENGINEERS AND PROJECT MANAGERS.
 13 WILLOWDENE AVENUE, SANDY BAY - 7005
 PH +61 (0)3 6225 0619
 FAX +61 (0)3 6225 0618
 EMAIL: info@howarthfisher.com

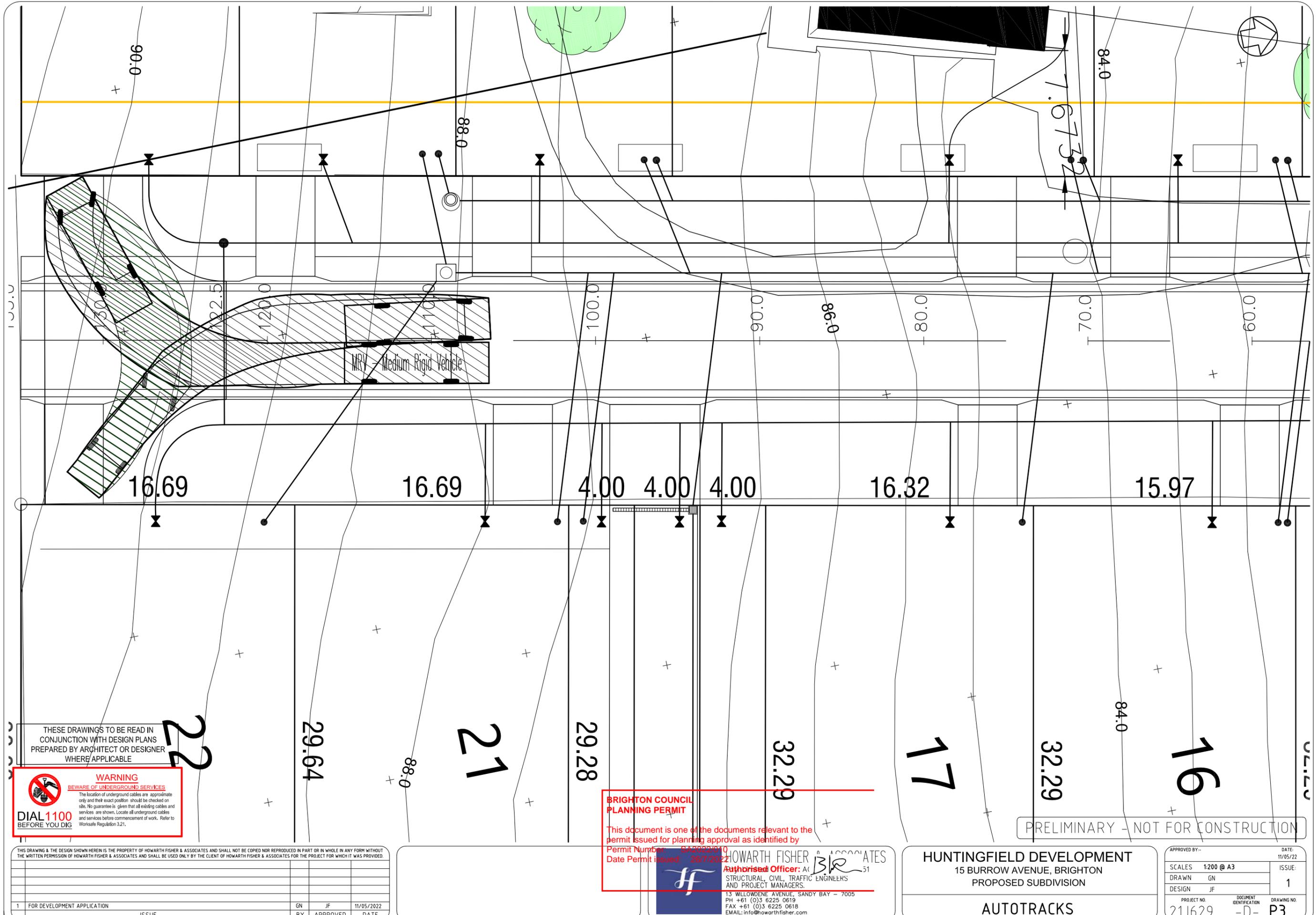
HUNTINGFIELD DEVELOPMENT
 15 BURROW AVENUE, BRIGHTON
 PROPOSED SUBDIVISION

AUTOTRACKS

PRELIMINARY - NOT FOR CONSTRUCTION

THIS DRAWING & THE DESIGN SHOWN HEREIN IS THE PROPERTY OF HOWARTH FISHER & ASSOCIATES AND SHALL NOT BE COPIED NOR REPRODUCED IN PART OR IN WHOLE IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HOWARTH FISHER & ASSOCIATES AND SHALL BE USED ONLY BY THE CLIENT OF HOWARTH FISHER & ASSOCIATES FOR THE PROJECT FOR WHICH IT WAS PROVIDED.			
1	FOR DEVELOPMENT APPLICATION	GN	JF
	ISSUE	BY	APPROVED
			DATE
			11/05/2022

APPROVED BY:-	DATE:
	11/05/22
SCALES 1:400 @ A3	ISSUE:
DRAWN GN	1
DESIGN JF	
PROJECT NO. 21J629	DOCUMENT IDENTIFICATION -D-
	DRAWING NO. P2



THESE DRAWINGS TO BE READ IN CONJUNCTION WITH DESIGN PLANS PREPARED BY ARCHITECT OR DESIGNER WHERE APPLICABLE

WARNING
BEWARE OF UNDERGROUND SERVICES
 The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100
 BEFORE YOU DIG

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: 20/12022
 Date Permit issued: 20/12/22

HOWARTH FISHER & ASSOCIATES
 Authorised Officer: A.C. [Signature]
 STRUCTURAL, CIVIL, TRAFFIC ENGINEERS AND PROJECT MANAGERS.
 13 WILLOWDENE AVENUE, SANDY BAY - 7005
 PH +61 (0)3 6225 0619
 FAX +61 (0)3 6225 0618
 EMAIL: info@howarthfisher.com

PRELIMINARY - NOT FOR CONSTRUCTION

THIS DRAWING & THE DESIGN SHOWN HEREIN IS THE PROPERTY OF HOWARTH FISHER & ASSOCIATES AND SHALL NOT BE COPIED NOR REPRODUCED IN PART OR IN WHOLE IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HOWARTH FISHER & ASSOCIATES FOR THE PROJECT FOR WHICH IT WAS PROVIDED.

NO.	DESCRIPTION	BY	APPROVED	DATE
1	FOR DEVELOPMENT APPLICATION	GN	JF	11/05/2022
	ISSUE			

HUNTINGFIELD DEVELOPMENT
 15 BURROW AVENUE, BRIGHTON
 PROPOSED SUBDIVISION

AUTOTRACKS

APPROVED BY:-	DATE:
SCALES 1:200 @ A3	11/05/22
DRAWN GN	ISSUE:
DESIGN JF	1
PROJECT NO. 21J629	DOCUMENT IDENTIFICATION -D-
	DRAWING NO. P3

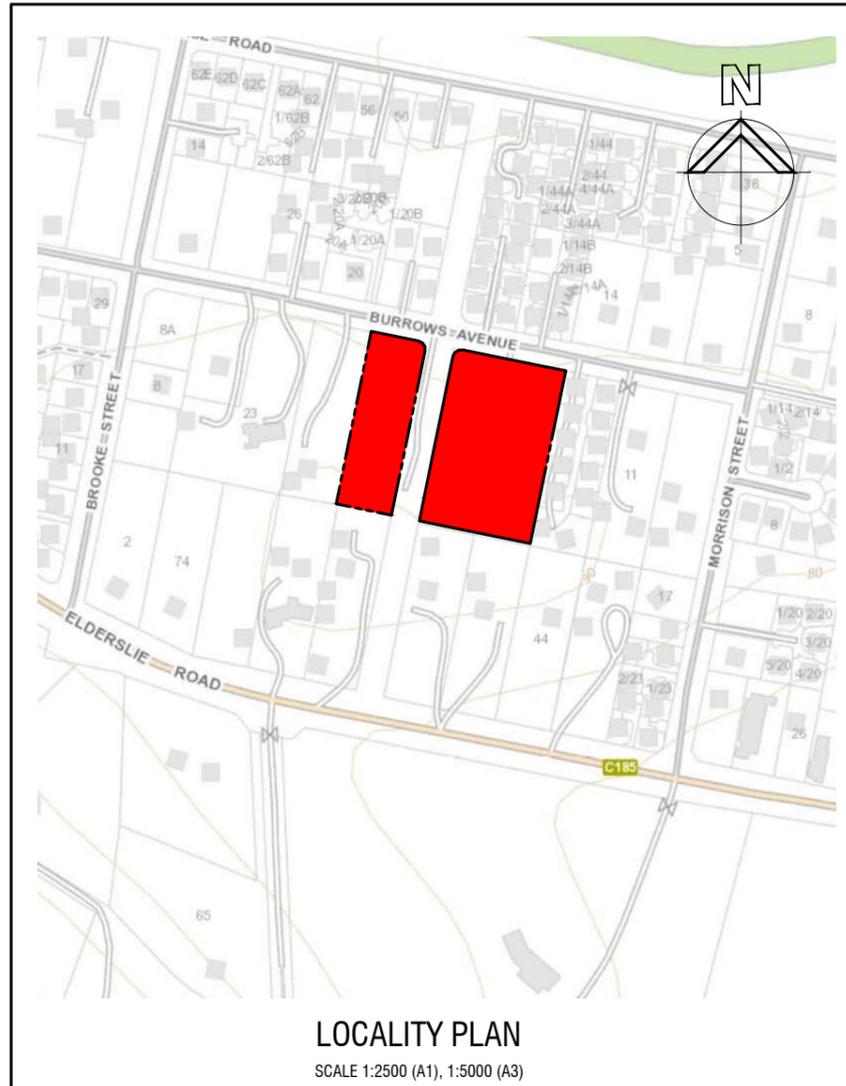
May 11, 2022 - 11:14am - C:\Users\jym\OneDrive\Project Data - Documents\21J629 - Peter Henry - Huntingfield Developments Pty Ltd - 15 Burrowe Road\DWG\COMPLETED ANALYSIS\15221629.PLT.DWG.1.10522.dwg

PROPOSED SUBDIVISION

15 & 19 BURROWS AVE, BRIGHTON

FOR HUNTINGFIELD DEVELOPMENTS PTY LTD

DRAWING No.	DRAWING TITLE
H21067-C01	LOCALITY PLAN & DRAWING INDEX
H21067-C02	ROAD & STORMWATER PLAN - SHEET 1 OF 2
H21067-C03	ROAD & STORMWATER PLAN - SHEET 1 OF 2
H21067-C04	SEWER & WATER SUPPLY PLAN - SHEET 1 OF 3
H21067-C05	SEWER & WATER SUPPLY PLAN - SHEET 2 OF 3
H21067-C06	SEWER & WATER SUPPLY PLAN - SHEET 3 OF 3
H21067-L01	ROAD 1 LONGITUDINAL SECTION
H21067-X01	ROAD 1 CROSS SECTIONS
H21067-V01	LANDSCAPE PLAN



NOTES

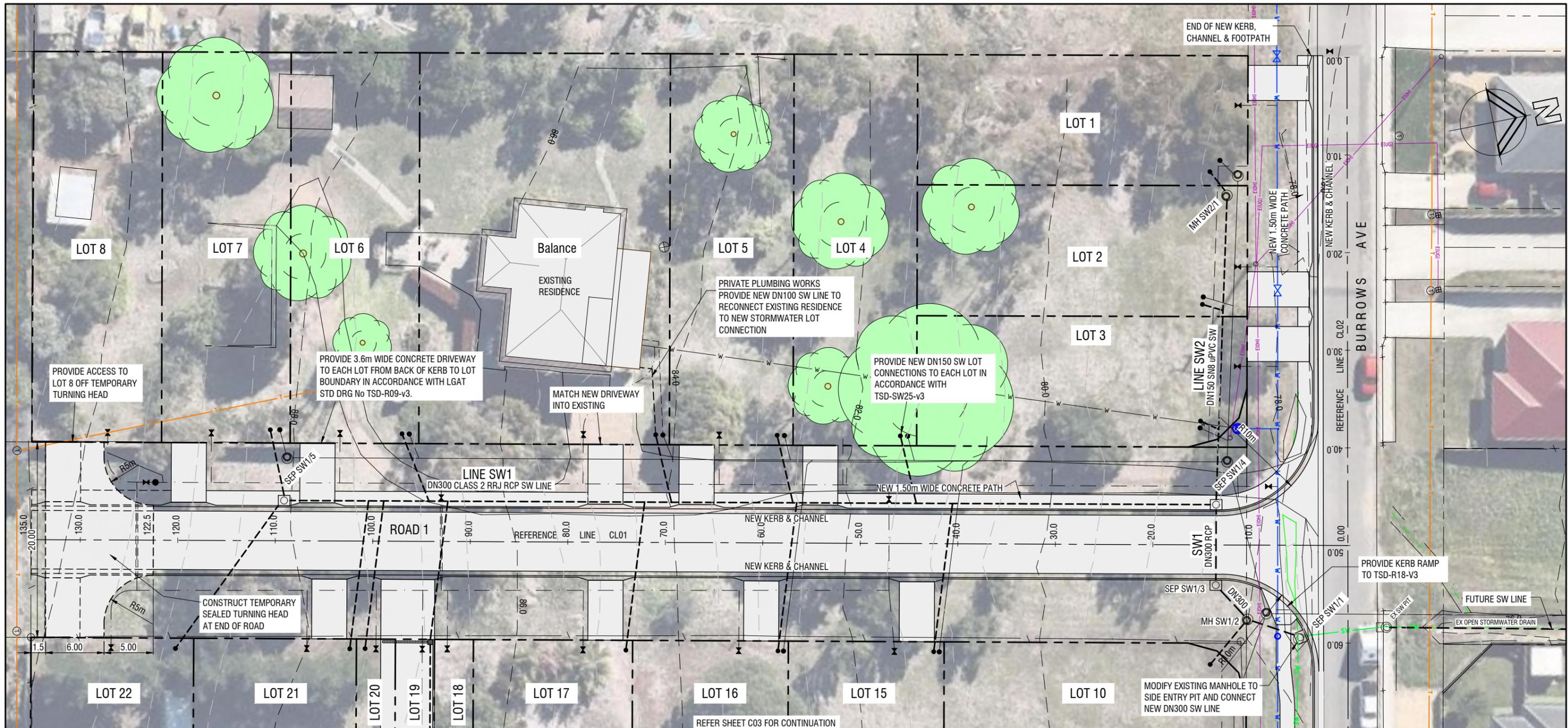
- GENERAL**
- G1 ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL REQUIREMENTS AND CURRENT LGAT STANDARD DRAWINGS DATED 03/12/2020.
 - G2 THE CONTRACTOR SHALL LIAISE WITH ALL RELEVANT AUTHORITIES TO LOCATE ALL EXISTING SERVICES WITHIN THE CONTRACT AREA PRIOR TO THE COMMENCEMENT OF WORK. EXISTING SERVICE LOCATIONS SHOWN ON THIS DRAWING ARE ASSUMED FROM SURFACE FEATURES AND INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES, NO GUARANTEE IS GIVEN THAT THE INFORMATION IS CORRECT OR COMPLETE.
 - G3 THE CONTRACTOR IS RESPONSIBLE FOR UNDERTAKING ALL MEASURES NECESSARY TO PROTECT AND MAINTAIN EXISTING SERVICES AT ALL TIMES.
 - G4 SOIL AND WATER MANAGEMENT IS TO COMPLY WITH BEST PRACTICE TO PREVENT ANY TRANSFER OF SOIL MATERIAL OUTSIDE OF THE AREA SPECIFICALLY AND NECESSARILY DISTURBED FOR CONSTRUCTION OF THE SUBDIVISION.
 - G5 SOIL MATERIAL IS NOT TO BE TRACKED ONTO EXISTING ROADS AND FOOTPATHS.
 - G6 ALL OPENINGS TO EXISTING STORMWATER LINES ARE TO REMAIN SEALED UNTIL IT IS NECESSARY TO CONNECT NEW WORK. OPENINGS WHICH HAVE TO BE LEFT OPEN ARE TO BE PROTECTED FROM INFILTRATION IN ACCORDANCE WITH "GUIDELINES FOR SEDIMENT CONTROL - TSD-SW28-v3".
 - G7 NO SEDIMENT IS TO BE ALLOWED TO WASH ONTO ADJACENT PROPERTY - PREVENTION METHODS AS REQUIRED BY THE SUPERINTENDENT ON SITE.
 - G8 THE CONTRACTOR SHALL ESTABLISH ALL LEVELS FROM THE REFERENCE MARKS SHOWN ON THIS DRAWING OR AS PROVIDED BY THE PROJECT SURVEYOR.
 - G9 ALL SERVICES WITHIN THE ROAD RESERVATION ARE TO BE LOCATED IN ACCORDANCE WITH STANDARD DRAWING TSD-G02-v3.
 - G10 EASEMENTS ARE TO BE PROVIDED OVER ALL LINES WITHIN LOTS. PIPES RUNNING PARALLEL TO PROPERTY BOUNDARY WILL TYPICALLY BE 2.0m WIDE OVER SINGLE PIPES AND 3.0m WIDE OVER DUAL PIPES, UNLESS SHOWN OTHERWISE ON THE PLANS. FOR VARIABLE WIDTH EASEMENTS MAINTAIN MIN. 1.0m CLEARANCE FROM PIPE CENTRELINE TO EASEMENT BOUNDARY. THE CONTRACTOR IS TO ENSURE ALL PIPELINES AND ASSOCIATED STRUCTURES ARE CONTAINED WHOLLY WITHIN THE EASEMENT.
- DRIVEWAY AND STORMWATER DRAINAGE**
- R1 ALL NEW WORKS SHALL TRANSITION SMOOTHLY TO EXISTING WORKS.
 - R2 STORMWATER LINES WITHIN PROPERTIES ARE OFFSET 1.0m FROM THE BOUNDARY LINE TO THE PIPE CENTRELINE, UNLESS NOTED OTHERWISE.
 - R3 PROVIDE DN150 STORMWATER LOT CONNECTIONS AS INDICATED ON THE PLAN. CONNECTIONS TO BE INSTALLED IN ACCORDANCE WITH TSD-SW25-v3, TSD-SW26-v3 & TSD-SW27-v3.
 - R4 PROVIDE NEW REINFORCED CONCRETE DRIVEWAYS IN ACCORDANCE WITH TSD-R09-v3 & TSD-R16-v3.
 - R5 PIPE INSTALLATION IS TO BE IN ACCORDANCE WITH TSD-G01-v3.
 - R6 ALL TRENCHES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED PAVEMENT LEVEL IN ACCORDANCE WITH TSD-G01-v3.
- TASWATER NOTES**
- T1 ALL WORKS ARE TO BE IN ACCORDANCE WITH WATER SUPPLY CODE OF AUSTRALIA WSA 03 -2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND GRAVITY SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1 MRWA EDITION V2.0 AND TASWATER'S SUPPLEMENTS TO THESE CODES.
 - T2 ALL LIVE CONNECTIONS MUST BE PERFORMED BY TASWATER APPROVED CONTRACTOR AT DEVELOPER'S COST.
 - T3 ALL 150 DIA SEWER PIPES TO BE UPVC CLASS SN8 UPVC.
ALL 100 DIA SEWER PIPES TO BE UPVC CLASS SN10 UPVC.
 - T4 INSTALL NEW SEWER DN100 LOT CONNECTIONS IN ACCORDANCE WITH MRWA-S-302. PROVIDE INSPECTION OPENINGS RAISED TO SURFACE AND PROTECTED WITH A POLY COVER TO TASWATER APPROVAL.
 - T5 SINGLE WATER SERVICE LOT CONNECTIONS TO BE 25 DIA PE100 PN16 PIPE.
 - T6 ALL PIPES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED SURFACE LEVEL.
 - T7 ALL WORKS MUST BE TESTED AND INSPECTED BY TASWATER PRIOR TO BACKFILLING TRENCHES.

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010
Date Permit issued: 26/7/2022

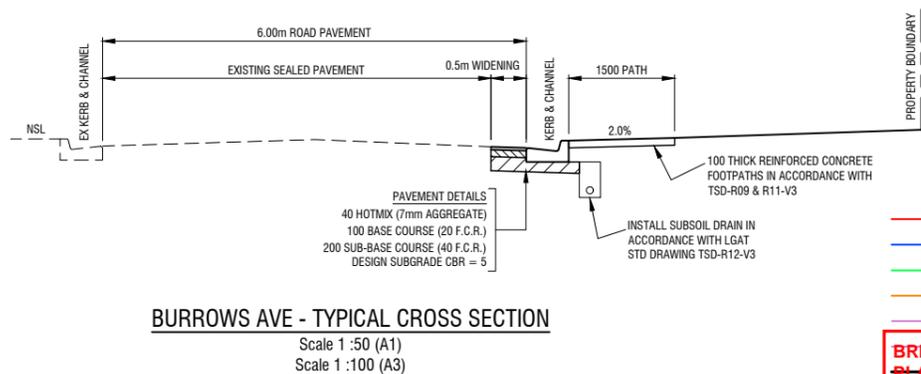
DESIGNED PAH	DRAWN PAH	Authorised Officer: <i>B/R</i> Huntingfield Developments Pty Ltd	DRAWING TITLE PROPOSED SUBDIVISION 15 & 19 BURROWS AVENUE, BRIGHTON	DRG NO. H21067-C01	REV B
CHECKED	APPROVED	PROJECT 15 & 19 BURROWS AVENUE, BRIGHTON	LOCALITY PLAN & DRAWING INDEX	SHEET OF	A1
SCALE: AS SHOWN		DATE: OCT 2021	CAD FILE No: H21067-01		

No.	Revision	Date	COPYRIGHT: "This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited."	Henry design and consulting ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenry@netspace.net.au M: 0400 196 061
A	DA ISSUE	OCT 2021		
B	DA ISSUE FOR 15 BURROWS AVE	APRIL 2022		



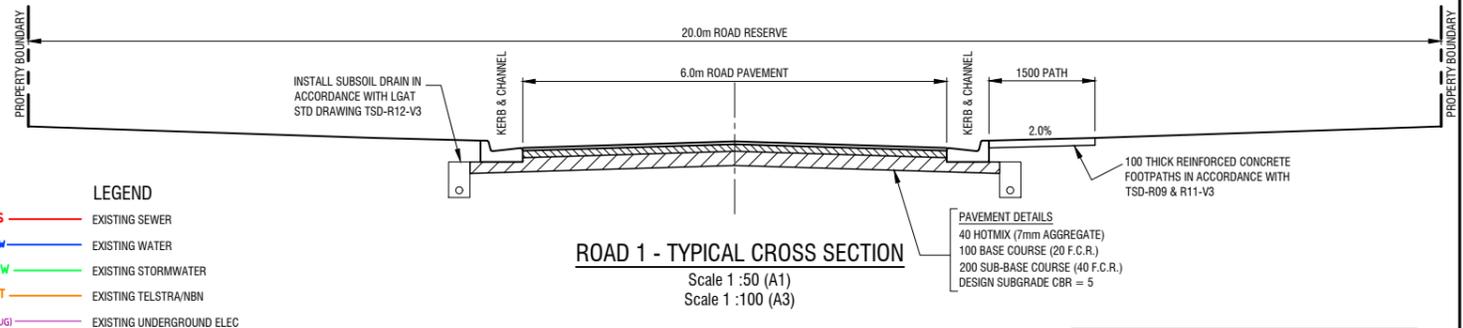
PRIVATE PLUMBING NOTES

- ALL PLUMBING WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS3500 - PLUMBING AND DRAINAGE CODE, THE NATIONAL CONSTRUCTION CODE (NCC) VOLUME 3 AND TO COUNCIL REQUIREMENTS.
- THE FINAL LOCATION OF ALL SEWER, STORMWATER & WATER LINES ARE TO BE CONFIRMED ON-SITE.
- UNLESS SHOWN OTHERWISE THE FOLLOWING MINIMUM GRADES ARE TO BE ADOPTED:
SEWER
 DN100 - 1:60 (1.65%)
STORMWATER
 DN100 - 1:100 (1.00%)
 DN150 - 1:100 (1.00%)
- ALL PIPE TRENCHES IN TRAFFICABLE AREAS ARE TO BE BACKFILLED TO UNDERSIDE OF BASECOURSE LAYER WITH COMPACTED FCR.
- ALL INSPECTION OPENINGS IN PAVED AREAS TO BE FITTED WITH BOLTED CAP AT FINISHED SLAB LEVEL.
- ALL SANITARY SEWER AND STORMWATER PIPE TO BE DWV CLASS S16 SCJ UPVC.



BURROWS AVE - TYPICAL CROSS SECTION

Scale 1 :50 (A1)
Scale 1 :100 (A3)



ROAD 1 - TYPICAL CROSS SECTION

Scale 1 :50 (A1)
Scale 1 :100 (A3)

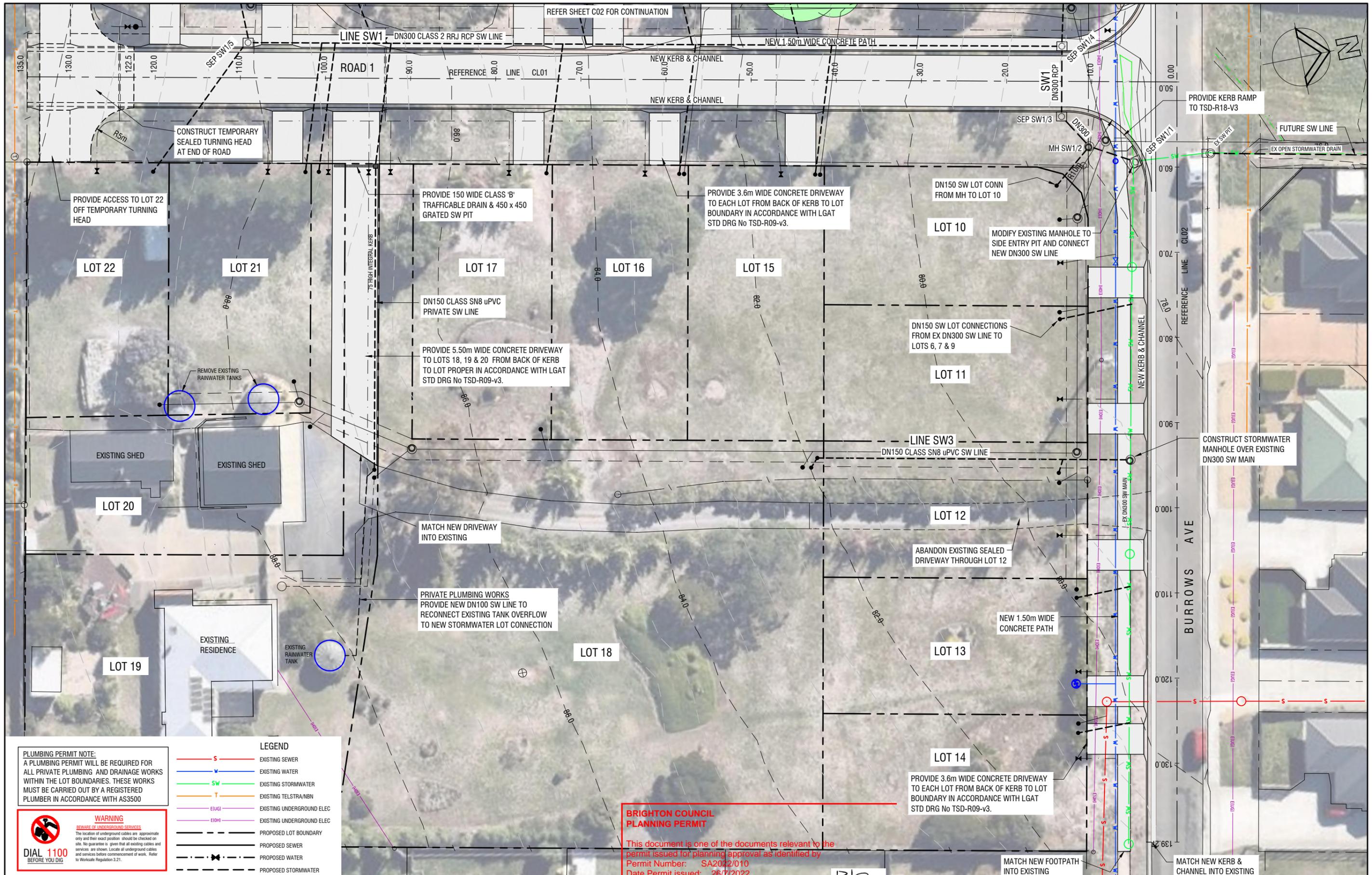
- LEGEND**
- S - EXISTING SEWER
 - W - EXISTING WATER
 - SW - EXISTING STORMWATER
 - T - EXISTING TELSTRANBN
 - EUGI - EXISTING UNDERGROUND ELEC

BRIGHTON COUNCIL PLANNING PERMIT
 This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: **SP2022010**
 Date Permit issued: **26/7/2022**



PLUMBING PERMIT NOTE:
 A PLUMBING PERMIT WILL BE REQUIRED FOR ALL PRIVATE PLUMBING AND DRAINAGE WORKS WITHIN THE LOT BOUNDARIES. THESE WORKS MUST BE CARRIED OUT BY A REGISTERED PLUMBER IN ACCORDANCE WITH AS3500

No.	Revision	Date	COPYRIGHT: "This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited."			 ABN 91115 998 724 ACN 115 998 724 Unit 17/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061			DESIGNED: PAH CHECKED: PAH SCALE: 1:200 (A1), 1:400 (A3)	DRAWN: <i>Authorised Officer: BJR</i> PROJECT: 15 & 19 BURROWS AVENUE, BRIGHTON DATE: OCT 2021 CAD FILE No: H21067-01	DRAWING TITLE: PROPOSED SUBDIVISION 15 & 19 BURROWS AVENUE, BRIGHTON ROAD & STORMWATER PLAN - SHEET 1 OF 2	DRG NO.: H21067-C02 SHEET OF:	REV: B A1
-----	----------	------	--	--	--	--	--	--	--	--	--	---	---------------------



PLUMBING PERMIT NOTE:
A PLUMBING PERMIT WILL BE REQUIRED FOR ALL PRIVATE PLUMBING AND DRAINAGE WORKS WITHIN THE LOT BOUNDARIES. THESE WORKS MUST BE CARRIED OUT BY A REGISTERED PLUMBER IN ACCORDANCE WITH AS3500

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100
BEFORE YOU DIG

LEGEND	
	EXISTING SEWER
	EXISTING WATER
	EXISTING STORMWATER
	EXISTING TEL/STRA/NBN
	EXISTING UNDERGROUND ELEC
	EXISTING UNDERGROUND ELEC
	PROPOSED LOT BOUNDARY
	PROPOSED SEWER
	PROPOSED WATER
	PROPOSED STORMWATER

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010
Date Permit issued: 26/7/2022

BR
Authorised Officer:

Huntingfield Developments Pty Ltd
15 & 19 BURROWS AVENUE, BRIGHTON

No.	Revision	Date
A	DA ISSUE	OCT 2021
B	DA ISSUE FOR 15 BURROWS AVE	APRIL 2022

COPYRIGHT:
This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.

Henry design and consulting
ABN 91115 998 724
ACN 115 998 724
Unit 17/2 Kennedy Drive
Cambridge 7170 TAS
E: phenny@netspace.net.au | M: 0400 196 061

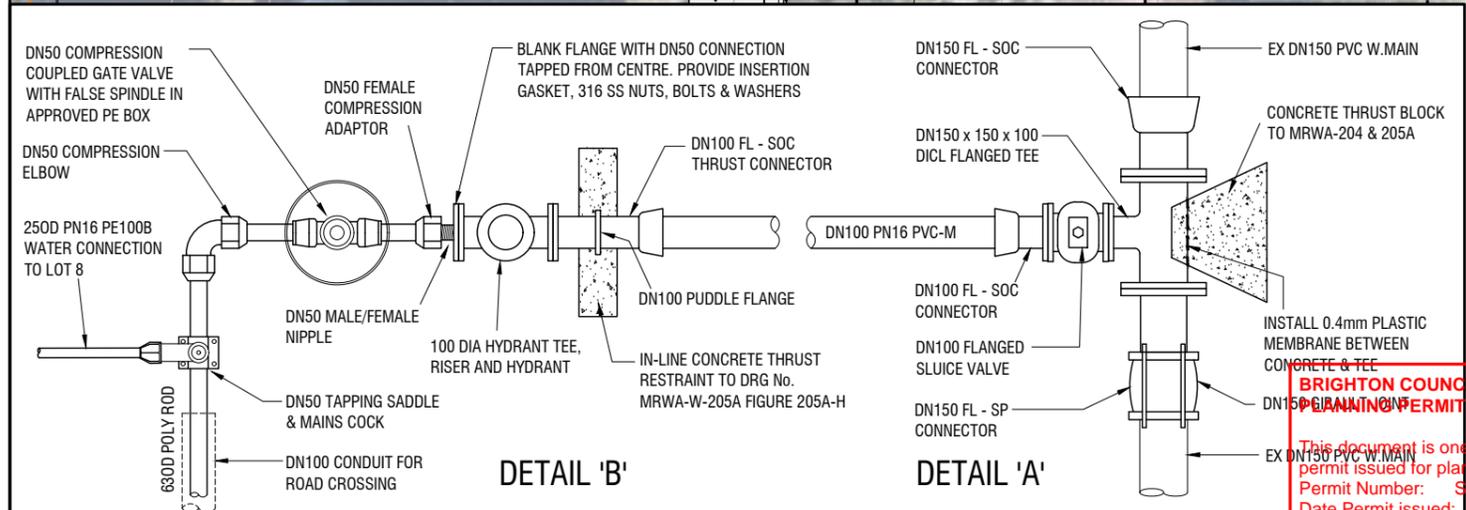
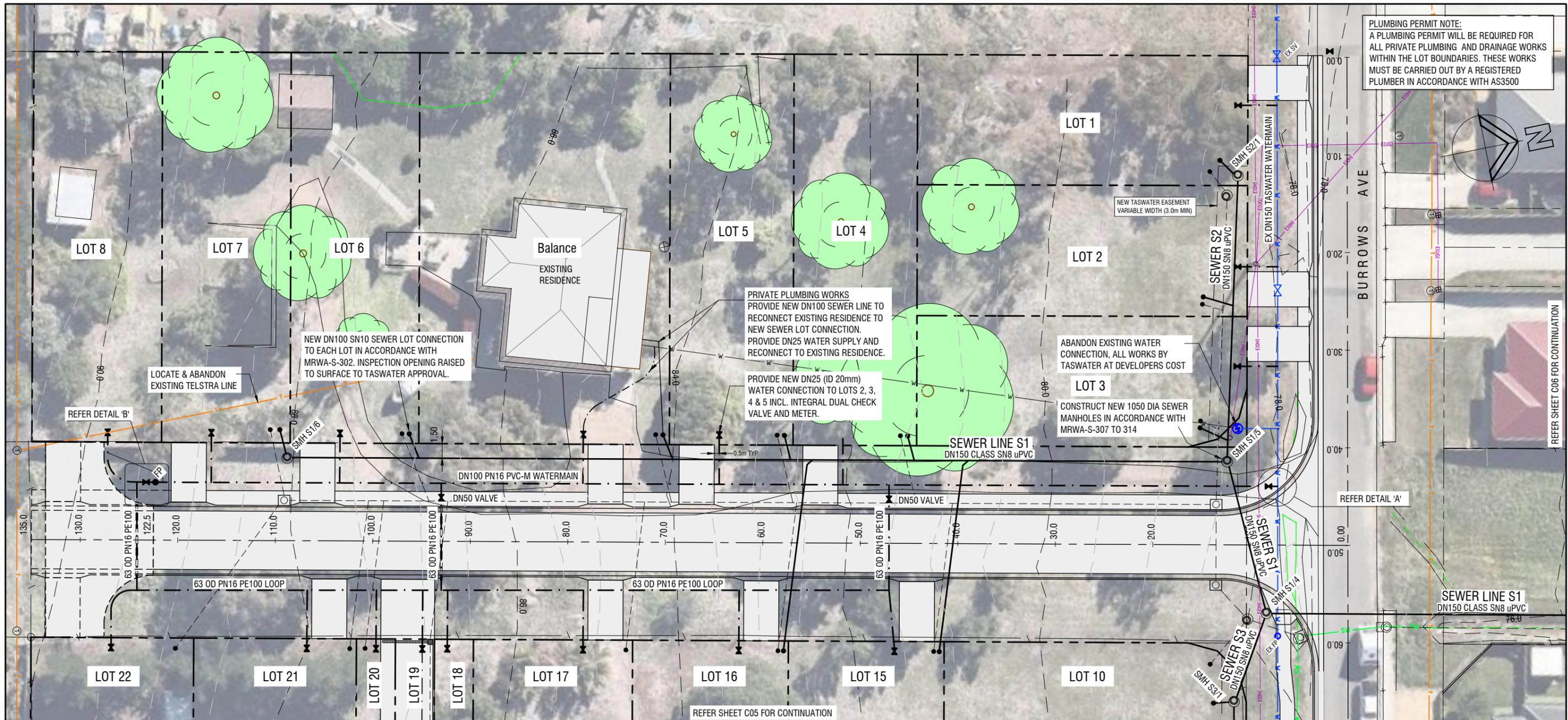
SCALE: 1:200 (A1), 1:400 (A3)

DESIGNED	DRAWN	PROJECT
PAH	PAH	
CHECKED	APPROVED	
		DATE: OCT 2021

CAD FILE No: H21067-01

DRAWING TITLE
PROPOSED SUBDIVISION
15 & 19 BURROWS AVENUE, BRIGHTON
ROAD & STORMWATER PLAN - SHEET 2 OF 2

DRG NO.	REV
H21067-C03	B
SHEET OF	A1



TASWATER NOTES:

- ALL LIVE CONNECTIONS MUST BE PERFORMED BY TASWATER AT DEVELOPERS COST.
- ALL WORKS MUST BE TESTED AND INSPECTED BY TASWATER PRIOR TO BACKFILLING.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH WATER SUPPLY CODE OF AUSTRALIA WSA 03-2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND GRAVITY SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1 MRWA EDITION V2.0 AND TASWATER'S SUPPLEMENTS TO THESE CODES. THE CONTRACTOR SHALL PROTECT ALL TASWATER ASSETS AND ANY DAMAGE TO TASWATER ASSETS MUST BE PROMPTLY REPORTED TO TASWATER. ANY REPAIRS ARE TO BE CARRIED OUT BY TASWATER AT CONTRACTORS COST.
- ALL 150 DIA SEWER PIPES TO BE UPVC CLASS SN8. ALL 100 DIA SEWER PIPES TO BE UPVC CLASS SN10.
- INSTALL NEW DN100 SEWER LOT CONNECTIONS IN ACCORDANCE WITH MRWA-S-302. PROVIDE INSPECTION OPENINGS RAISED TO SURFACE AND PROTECTED WITH A POLY COVER TO TASWATER APPROVAL.
- ALL PIPES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED SURFACE LEVEL.
- THE MAXIMUM ALLOWABLE ANGULAR DEFLECTION AT THE RRJ uPVC WATERMAIN PIPE JOINT IS 1 DEG. THIS IS APPROX. EQUIV. TO A 100mm OFFSET FOR A 6m PIPE. NOTE THAT THIS ANGULAR DEFLECTION IS ONLY AVAILABLE WHEN PIPES ARE JOINTED TO THE WITNESS MARKS.
- DETECTOR TAPE IS TO BE INSTALLED OVER ALL NON METALLIC WATERMANS.
- ALL 150 DIA WATERMANS TO BE MIN DN100 UPVC CLASS SN4. ALL 100 DIA WATERMANS TO BE 25 OD PE100 PN16 PIPE. ALL WORKS BY TASWATER AT DEVELOPERS COST.

LEGEND

- S - EXISTING SEWER
- W - EXISTING WATER
- SW - EXISTING STORMWATER
- T - EXISTING TELSTRA/RNBN
- E(U)G - EXISTING UNDERGROUND ELEC
- E(O)H - EXISTING UNDERGROUND ELEC
- - - - - PROPOSED LOT BOUNDARY
- - - - - PROPOSED SEWER
- - - - - PROPOSED WATER
- - - - - PROPOSED STORMWATER

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100 BEFORE YOU DIG

MINIMUM SEWER PIPE COVER REQUIREMENTS
(REFER MRWA-S-201 TABLE 201-C)

LOCATION	MINIMUM COVER
• PRIVATE PROPERTY AND PUBLIC LAND NOT SUBJECT TO VEHICULAR LOADING	600mm - NEW DEVELOPMENTS 450mm - EXISTING DEVELOPMENTS
• PRIVATE RESIDENTIAL PROPERTY SUBJECT TO VEHICULAR LOADING	750mm
• FOOTWAY, NATURE STRIPS AND SEALED ROAD PAVEMENTS SUBJECT TO VEHICULAR LOADING	900mm

MINIMUM WATER PIPE COVER REQUIREMENTS

LOCATION	MINIMUM COVER
• NON ROADWAYS - GENERAL - INDUSTRIAL COMMERCIAL	450mm 600mm
• SEALED ROADS	600mm
• EMBANKMENTS	750mm

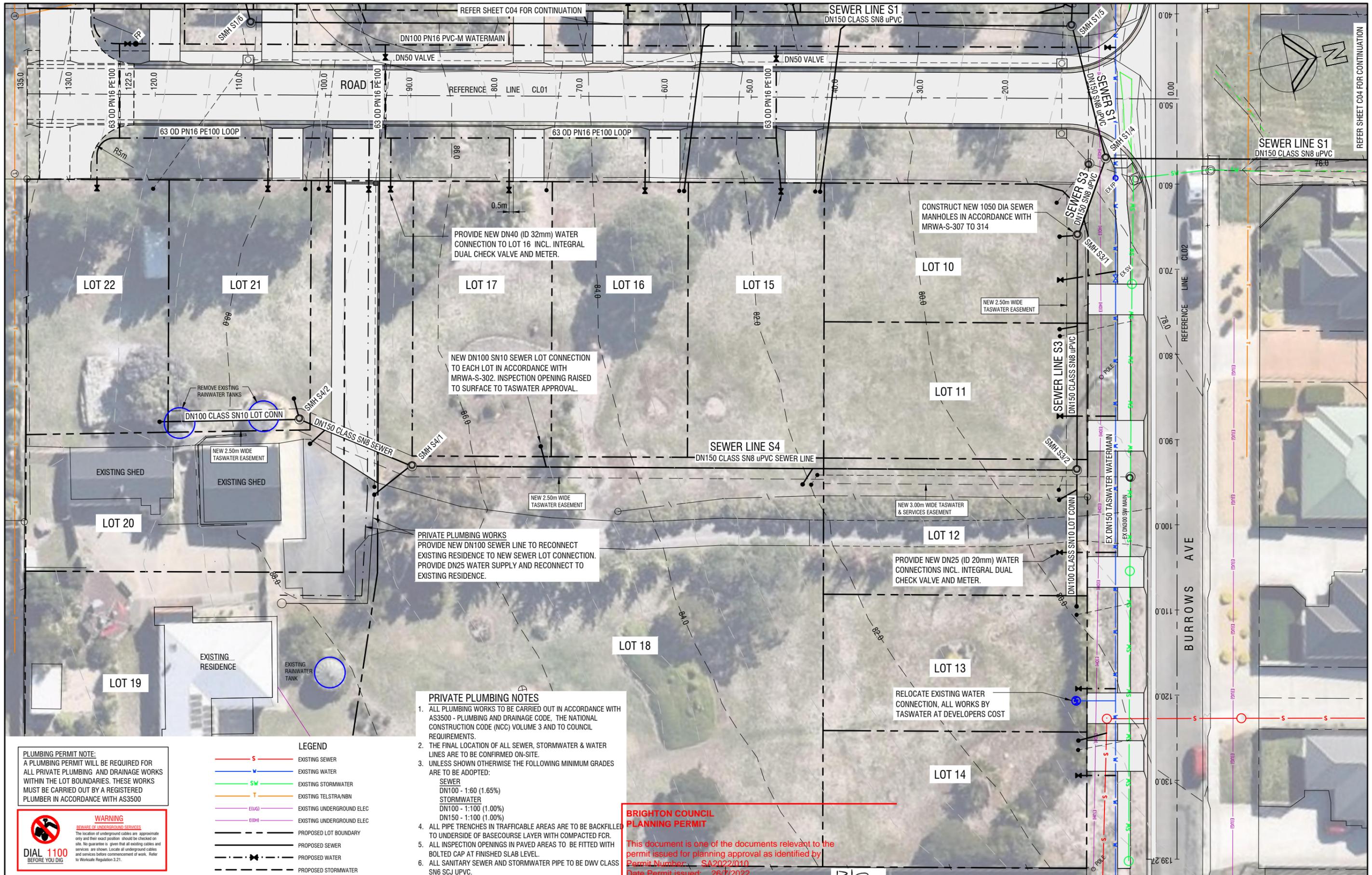
No.	Revision	Date	COPYRIGHT: "This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited."	Henry design and consulting ABN 91115 998 724 ACN 115 998 724 Unit 17 2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061	DESIGNED: PAH CHECKED: PAH	DRAWN: BJR APPROVED: BJR	PROJECT: Huntingfield Developments Pty Ltd 15 & 19 BURROWS AVENUE, BRIGHTON	DRAWING TITLE: PROPOSED SUBDIVISION 15 & 19 BURROWS AVENUE, BRIGHTON SEWER & WATER SUPPLY PLAN - SHEET 1 OF 3	DRG NO.: H21067-C04	REV: B
A	DA ISSUE	OCT 2021								
B	DA ISSUE FOR 15 BURROWS AVE	APRIL 2022								

SCALE: 1:200 (A1), 1:400 (A3)

DATE: OCT 2021

CAD FILE No: H21067-01

Page 44 of 71



PRIVATE PLUMBING NOTES

- ALL PLUMBING WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS3500 - PLUMBING AND DRAINAGE CODE, THE NATIONAL CONSTRUCTION CODE (NCC) VOLUME 3 AND TO COUNCIL REQUIREMENTS.
- THE FINAL LOCATION OF ALL SEWER, STORMWATER & WATER LINES ARE TO BE CONFIRMED ON-SITE.
- UNLESS SHOWN OTHERWISE THE FOLLOWING MINIMUM GRADES ARE TO BE ADOPTED:
 SEWER
 DN100 - 1:60 (1.65%)
 STORMWATER
 DN100 - 1:100 (1.00%)
 DN150 - 1:100 (1.00%)
- ALL PIPE TRENCHES IN TRAFFICABLE AREAS ARE TO BE BACKFILLED TO UNDERSIDE OF BASECOURSE LAYER WITH COMPACTED FCR.
- ALL INSPECTION OPENINGS IN PAVED AREAS TO BE FITTED WITH BOLTED CAP AT FINISHED SLAB LEVEL.
- ALL SANITARY SEWER AND STORMWATER PIPE TO BE DWV CLASS S_N6 SCJ UPVC.

PLUMBING PERMIT NOTE:
 A PLUMBING PERMIT WILL BE REQUIRED FOR ALL PRIVATE PLUMBING AND DRAINAGE WORKS WITHIN THE LOT BOUNDARIES. THESE WORKS MUST BE CARRIED OUT BY A REGISTERED PLUMBER IN ACCORDANCE WITH AS3500

WARNING
 BEFORE OF UNDERGROUND SERVICES
 The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

LEGEND

	EXISTING SEWER
	EXISTING WATER
	EXISTING STORMWATER
	EXISTING TEL/STRA/NBN
	EXISTING UNDERGROUND ELEC
	EXISTING UNDERGROUND ELEC
	PROPOSED LOT BOUNDARY
	PROPOSED SEWER
	PROPOSED WATER
	PROPOSED STORMWATER

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010
 Date Permit issued: 26/1/2022

No.	Revision	Date	COPYRIGHT: "This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited."	Henry design and consulting ABN 91 115 998 724 ACN 115 998 724 Unit 17/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061	DESIGNED PAH	DRAWN PAH	Authorised Officer: BKR Huntingfield Developments Pty Ltd	DRAWING TITLE PROPOSED SUBDIVISION 15 & 19 BURROWS AVENUE, BRIGHTON	DRG NO. H21067-C05	REV B
A	DA ISSUE	OCT 2021			CHECKED	APPROVED	PROJECT 15 & 19 BURROWS AVENUE, BRIGHTON			
B	DA ISSUE FOR 15 BURROWS AVE	APRIL 2022			SCALE: 1:200 (A1), 1:400 (A3)	DATE: OCT 2021	CAD FILE No: H21067-01	SEWER & WATER SUPPLY PLAN - SHEET 2 OF 3	SHEET OF	A1



TASWATER NOTES:

1. ALL LIVE CONNECTIONS MUST BE PERFORMED BY TASWATER AT DEVELOPERS COST.
2. ALL WORKS MUST BE TESTED AND INSPECTED BY TASWATER PRIOR TO BACKFILLING.
3. ALL WORKS ARE TO BE IN ACCORDANCE WITH WATER SUPPLY CODE OF AUSTRALIA WSA 03 -2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND GRAVITY SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1 MRWA EDITION V2.0 AND TASWATER'S SUPPLEMENTS TO THESE CODES. THE CONTRACTOR SHALL PROTECT ALL TASWATER ASSETS AND ANY DAMAGE TO TASWATER ASSETS MUST BE PROMPTLY REPORTED TO TASWATER. ANY REPAIRS ARE TO BE CARRIED OUT BY TASWATER AT CONTRACTORS COST.
4. ALL 150 DIA SEWER PIPES TO BE UPVC CLASS SN8. ALL 100 DIA SEWER PIPES TO BE UPVC CLASS SN10.
5. INSTALL NEW DN100 SEWER LOT CONNECTIONS IN ACCORDANCE WITH MRWA-S-302. PROVIDE INSPECTION OPENINGS RAISED TO SURFACE AND PROTECTED WITH A POLY COVER TO TASWATER APPROVAL.
6. ALL PIPES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED SURFACE LEVEL.
7. THE MAXIMUM ALLOWABLE ANGULAR DEFLECTION AT THE RRJ UPVC WATERMAIN PIPE JOINT IS 1 DEGREE. THIS IS APPROX. EQUIV. TO A 100mm OFFSET FOR A 6m PIPE. NOTE THAT THIS ANGULAR DEFLECTION IS ONLY AVAILABLE WHEN PIPES ARE JOINTED TO THE WITNESS MARKS.
8. DETECTOR TAPE IS TO BE INSTALLED OVER ALL NON METALLIC WATERMANS.
9. CONDUITS FOR POLY ROAD CROSSINGS TO BE MIN DN100 UPVC CLASS SN4.
10. SINGLE WATER SERVICE LOT CONNECTIONS TO BE 25 OD PE100 PN16 PIPE. ALL WORKS BY TASWATER AT DEVELOPERS COST.
11. THE CONTRACTOR IS TO ARRANGE FOR AN "AS BUILT" SURVEY OF THE AS INSTALLED WATER AND SEWER INFRASTRUCTURE TO BE UNDERTAKEN BY A REGISTERED SURVEYOR IN ACCORDANCE WITH TASWATER REQUIREMENTS.

LEGEND

	EXISTING SEWER
	EXISTING WATER
	EXISTING STORMWATER
	EXISTING TELSTRA/NBN
	EXISTING UNDERGROUND ELEC
	EXISTING UNDERGROUND ELEC
	PROPOSED LOT BOUNDARY
	PROPOSED SEWER
	PROPOSED WATER
	PROPOSED STORMWATER

MINIMUM SEWER PIPE COVER REQUIREMENTS
(REFER MRWA-S-201 TABLE 201-C)

LOCATION	MINIMUM COVER
• PRIVATE PROPERTY AND PUBLIC LAND NOT SUBJECT TO VEHICULAR LOADING	600mm - NEW DEVELOPMENTS 450mm - EXISTING DEVELOPMENTS
• PRIVATE RESIDENTIAL PROPERTY SUBJECT TO VEHICULAR LOADING	750mm
• FOOTWAY, NATURE STRIPS AND SEALED ROAD PAVEMENTS SUBJECT TO VEHICULAR LOADING	900mm

MINIMUM WATER PIPE COVER REQUIREMENTS

LOCATION	MINIMUM COVER
• NON ROADWAYS - GENERAL - INDUSTRIAL COMMERCIAL	450mm 600mm
• SEALED ROADS	600mm
• EMBANKMENTS	750mm

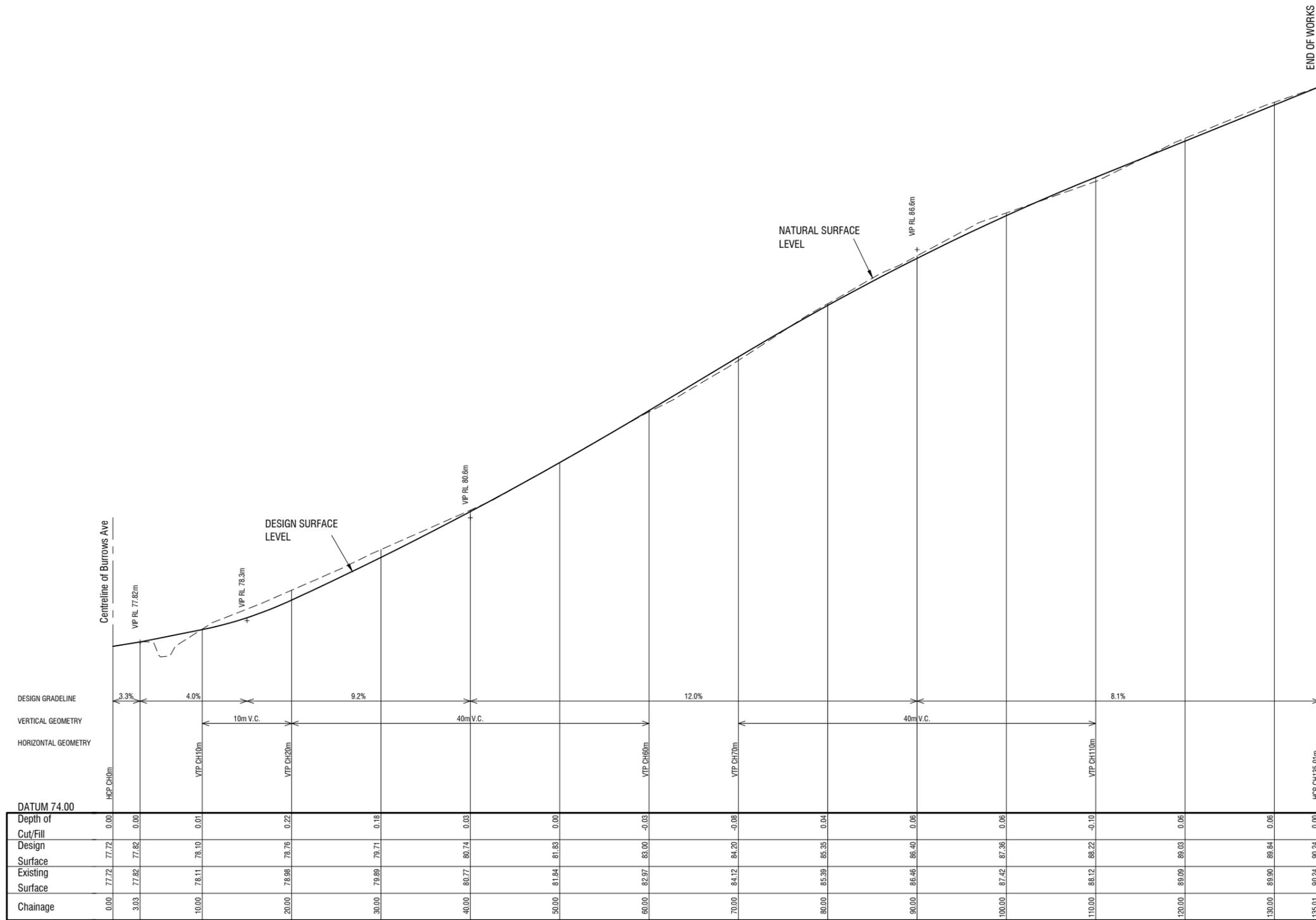
**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010
Date Permit issued: 26/7/2022

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100
BEFORE YOU DIG

No.	Revision	Date	<p>COPYRIGHT: *This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*</p> <p>Henry design and consulting ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061</p>	<p>DESIGNED: PAH CHECKED: PAH</p>	<p>DRAWN: <i>BR</i> APPROVED: PAH</p>	<p>Authorised Officer: Huntingfield Developments Pty Ltd</p>	<p>DRAWING TITLE PROPOSED SUBDIVISION 15 & 19 BURROWS AVENUE, BRIGHTON</p>	<p>DRG NO. H21067-C06</p>	<p>REV B</p>
A	DA ISSUE	OCT 2021		<p>SCALE: 1:200 (A1), 1:400 (A3)</p>	<p>DATE: OCT 2021</p>	<p>CAD FILE No: H21067-01</p>	<p>SEWER & WATER SERVICES PLAN - SHEET 3 OF 3</p>	<p>SHEET OF 3</p>	<p>REV A1</p>



LONGITUDINAL SECTION - CL01
BRIGHTON COUNCIL
PLANNING PERMIT
 Horizontal scale 1:250
 Vertical scale 1:50

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010 Date Permit issued: 26/7/2022

DESIGNED: PAH
 DRAWN: PAH
 AUTHORIZED OFFICER: *BR*
 HUNTINGFIELD DEVELOPMENTS PTY LTD

CHECKED: APPROVED
 PROJECT: 15 & 19 BURROWS AVENUE, BRIGHTON
 SCALE: AS SHOWN
 DATE: OCT 2021
 CAD FILE No: H21067-01

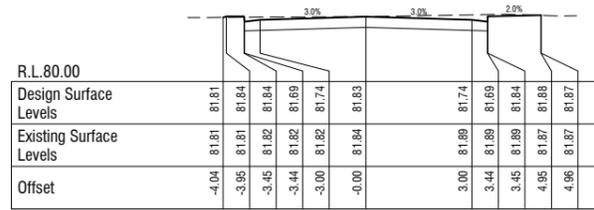
DRAWING TITLE
PROPOSED SUBDIVISION
15 & 19 BURROWS AVENUE, BRIGHTON
ROAD 1 LONGITUDINAL SECTIONS

DRG NO.
H21067-L01
 SHEET OF
 REV
B
A1

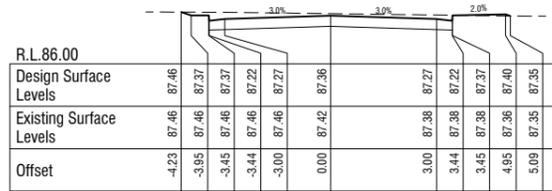
No.	Revision	Date
A	DA ISSUE	OCT 2021
B	DA ISSUE FOR 15 BURROWS AVE	APRIL 2022

COPYRIGHT:
 This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.

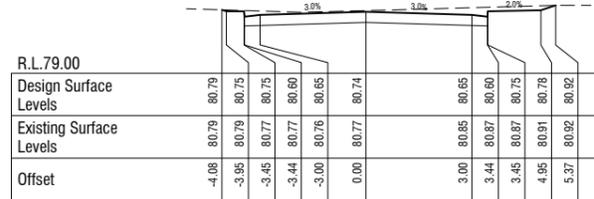
Henry design and consulting
 ABN 91115 998 724
 ACN 115 998 724
 Unit 1/2 Kennedy Drive
 Cambridge 7170 TAS
 E: phenny@netspace.net.au | M: 0400 196 061



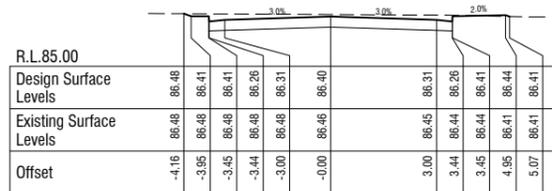
CH 50.00



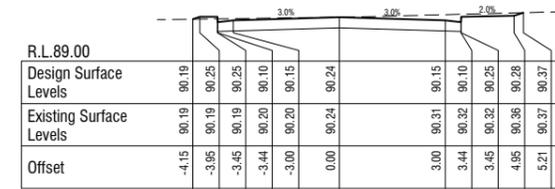
CH 100.00



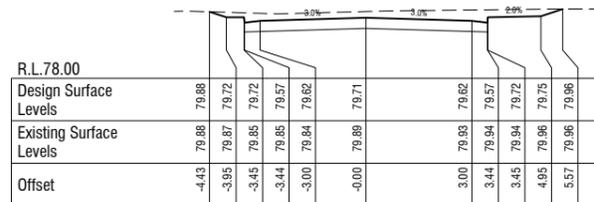
CH 40.00



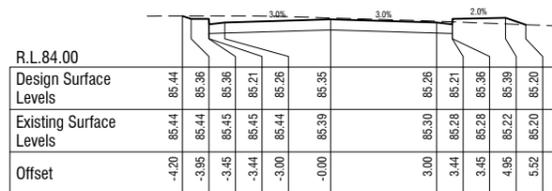
CH 90.00



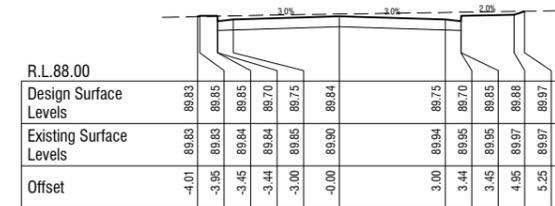
CH 135.01



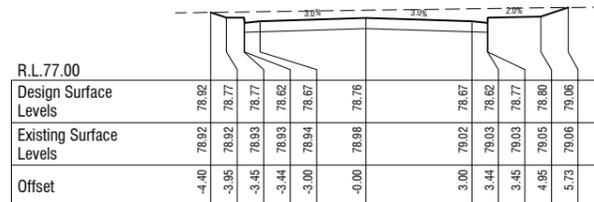
CH 30.00



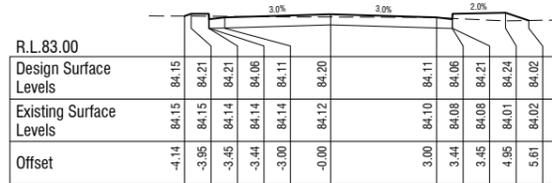
CH 80.00



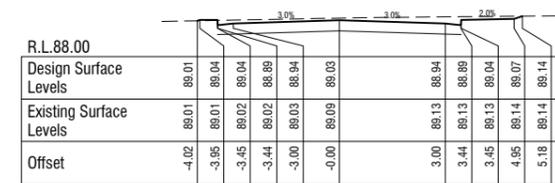
CH 130.00



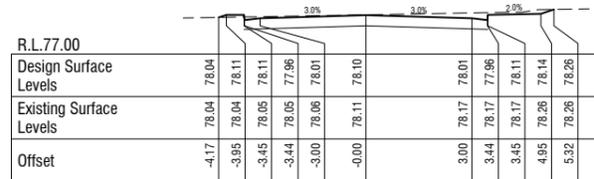
CH 20.00



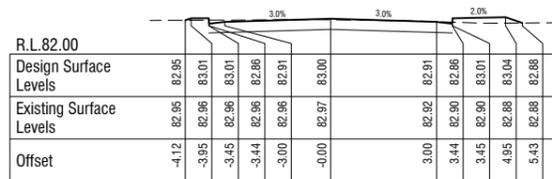
CH 70.00



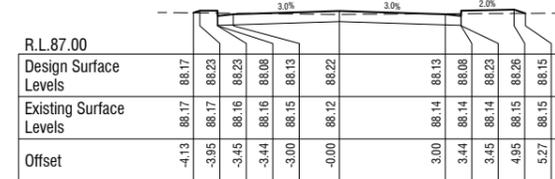
CH 120.00



CH 10.00



CH 60.00



CH 110.00

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010 Date Permit issued: 26/7/2022

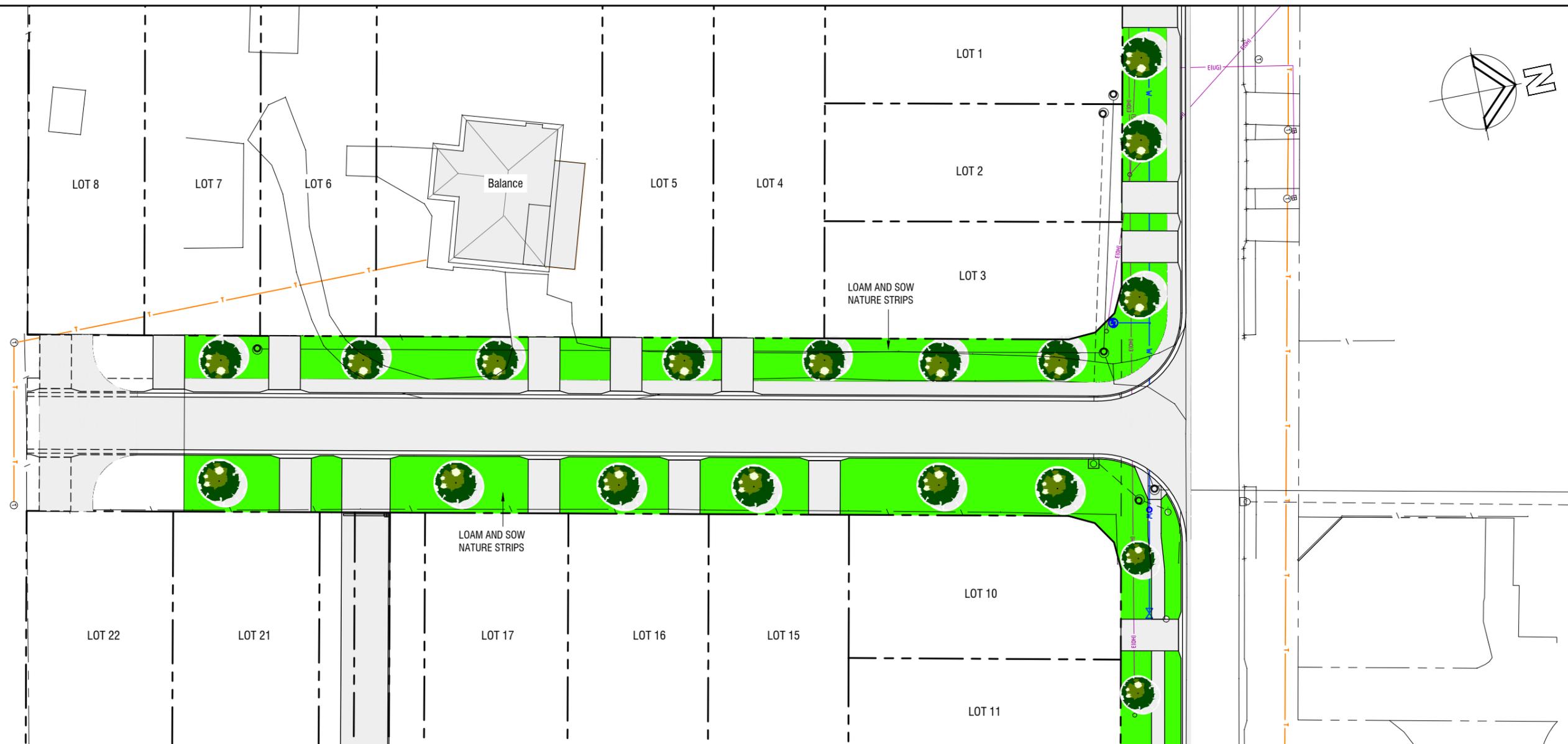
DESIGNED	DRAWN	Authorised Officer: <i>BJR</i>
PAH	PAH	Huntingfield Developments Pty Ltd
CHECKED	APPROVED	PROJECT
		15 & 19 BURROWS AVENUE, BRIGHTON
SCALE: AS SHOWN	DATE: OCT 2021	CAD FILE No: H21067-01

No.	Revision	Date
A	DA ISSUE	OCT 2021
B	DA ISSUE FOR 15 BURROWS AVE	APRIL 2022

COPYRIGHT:
This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.

Henry design and consulting
ABN 91115 998 724
ACN 115 998 724
Unit 1/2 Kennedy Drive
Cambridge 7170 TAS
E: phenny@netspace.net.au | M: 0400 196 061

DRAWING TITLE		DRG NO.	REV
PROPOSED SUBDIVISION 15 & 19 BURROWS AVENUE, BRIGHTON		H21067-X01	B
ROAD 1 CROSS SECTIONS		SHEET OF	A1



TREE SPECIES NAME	QTY
 <i>Banksia Marginata - Silver Banksia</i> 	11 No

Tree to be set vertical

50mm hessian ties fixed in figure eight and stapled to stake

2 No 50 x 50 x 2400mm HWD stakes as specified.

75mm mulch as specified to form shallow dish drain at base of plant

DN100mm slotted polyethylene pipe filled with coarse aggregate to facilitate watering, wrapped around base of planting hole prior to backfilling.

Excavate planting hole 200mm deeper and 600mm wider than root ball. Backfill with improved site topsoil as specified. Finish flush with surrounding soil level.

Spade cut edge with min 30mm freeboard.

Slow release fertiliser

Break up walls and base of hole to 150mm

ADVANCED TREE PLANTING (75-100 Litre)

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010 Date Permit issued: 26/7/2022

No.	Revision	Date	COPYRIGHT: *This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*	 ABN 91115 998 724 ACN 115 998 724 Unit 17/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061	DESIGNED PAH	DRAWN PAH	Authorised Officer: <i>BR</i>	DRAWING TITLE	DRG NO.	REV
A	DA ISSUE	OCT 2021			Checked: _____	Approved: _____	PROJECT	15 & 19 BURROWS AVENUE, BRIGHTON	PROPOSED SUBDIVISION 15 & 19 BURROWS AVENUE, BRIGHTON	H21067-V01
B	DA ISSUE FOR 15 BURROWS AVE	APRIL 2022			SCALE: 1:200 (A1), 1:400 (A3)	DATE: OCT 2021	CAD FILE No: H21067-01	LANDSCAPE PLAN	SHEET OF	A1

DESIGN MEMO

TO: Huntingfield Developments
FROM: Michael Burgess
DATE: 2/6/22
PROJECT: 15 Burrows Ave Brighton
RE: Stormwater Management Memorandum

Huntingfield Developments have engaged AD Design & Consulting to advise on stormwater management requirements in response to Council's request for additional information (6/4/22) for a proposed subdivision at 15 Burrows Avenue, Brighton.

The following scope of work is presented in this memo:

- Stormwater quantity modelling and detention requirements.
- One-dimensional hydraulic modelling of the proposed Council stormwater mains and production of longitudinal sections.
- Stormwater quality modelling.

Key site details are tabulated in Table 1, and a site map is shown in Figure 1.

Table 1: Site details

Location	15 Burrows Avenue, Brighton
Municipality	Brighton Council
Planning Controls	Tasmanian Planning Scheme - Brighton
Property Area	1.00 ha

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



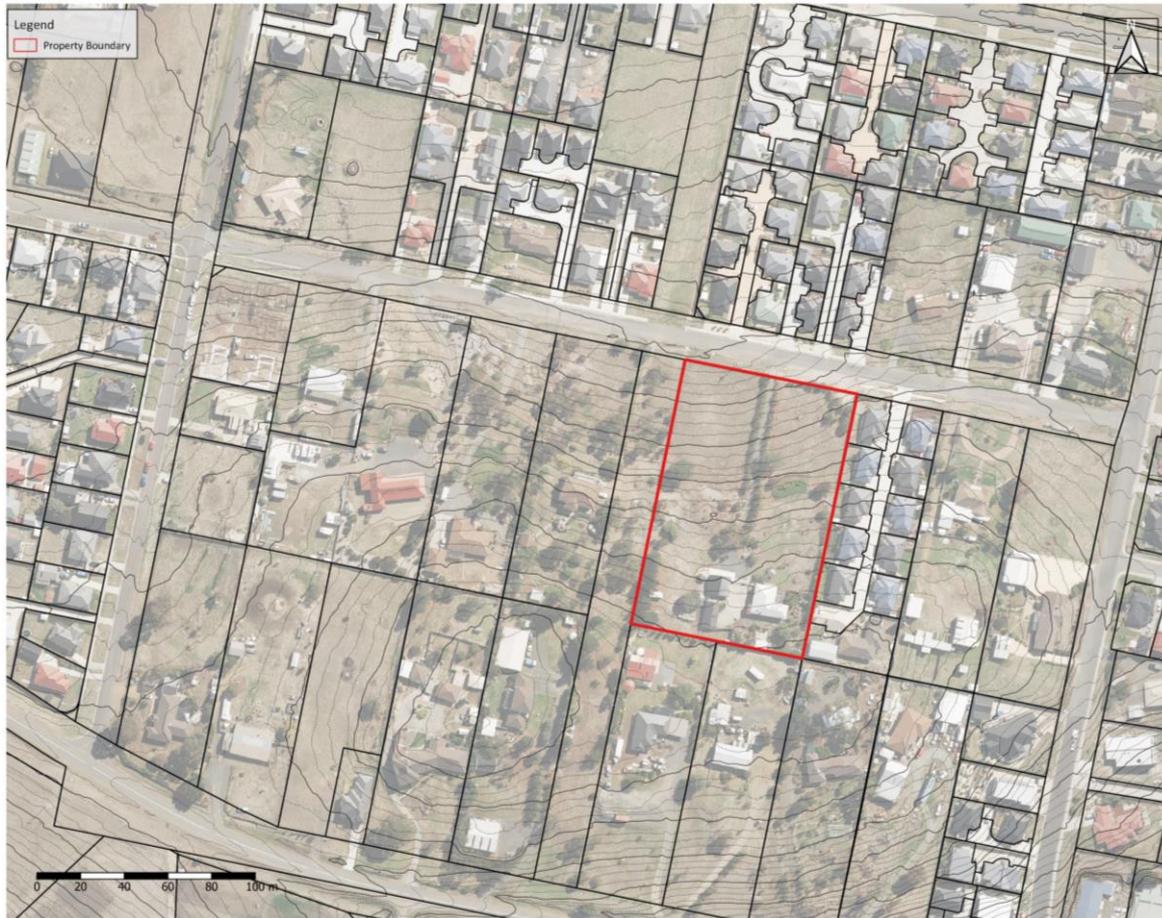


Figure 1: Development site

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by

Permit Number: SA2022/010

Date Permit issued: 26/7/2022

Authorised Officer:

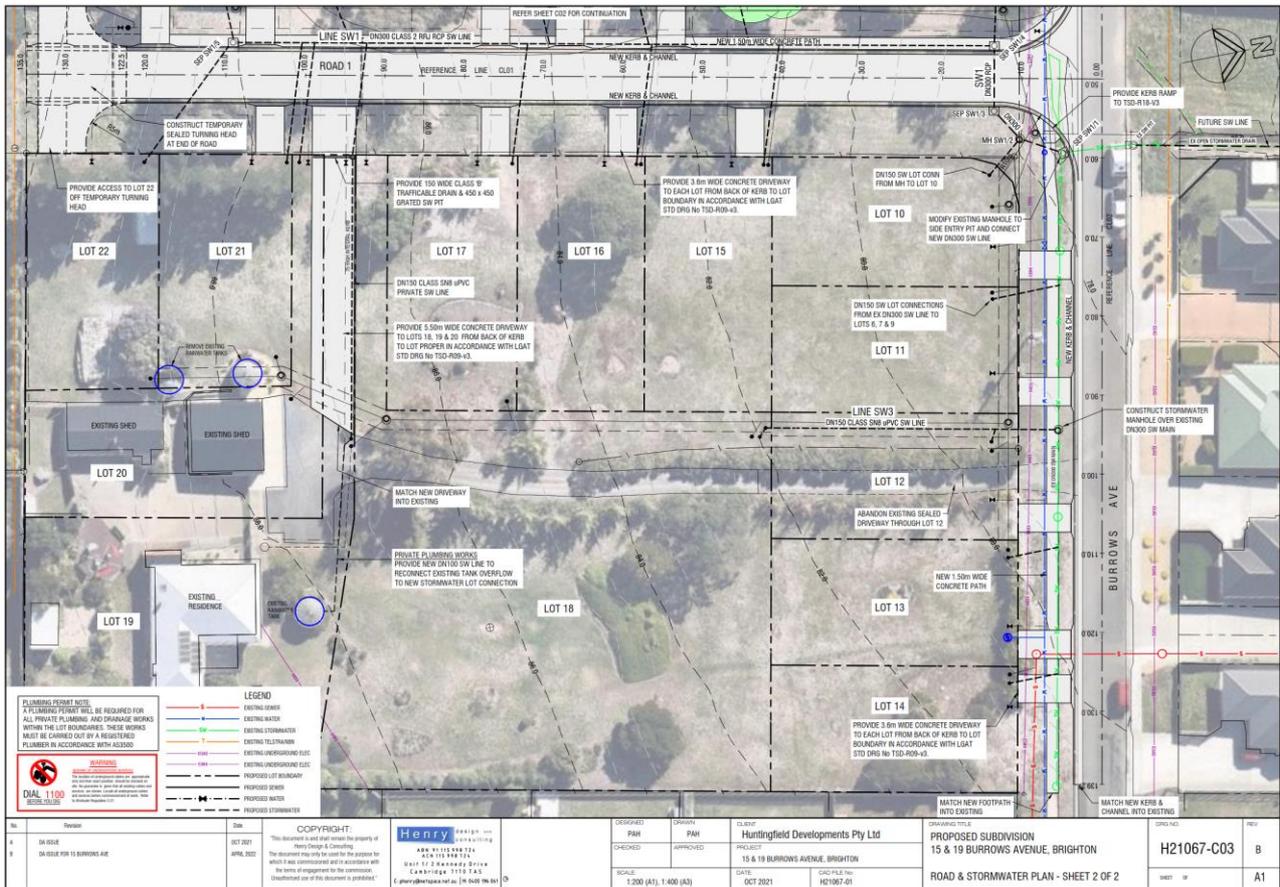


Figure 2: Henry Design & Consulting general arrangement plan (10/21)

1 Stormwater Hydrology

1.1 Methodology

This assessment has been undertaken in accordance with Australian Rainfall and Runoff 2019 (ARR) guidelines utilising the most recent temporal patterns and rainfall intensity, frequency, and duration (IFD) data published by the Bureau of Meteorology. Design rainfall events have been derived from this data and applied within a 12d Model simulation using the Laurenson hydrological method. Rainfall increase due to climate change has been considered in accordance with ARR guidelines.

The hydrological assessment was undertaken using a semi-distributed catchment approach endorsed by ARR as a suitable method of deriving critical duration design storm events. The analysis was conducted for a 5% AEP storm event, for a fully developed catchment.

Land use information, including surface roughness and infiltration capacity, were derived from an assessment of the aerial photography available from LIST map, a ~~site investigation and guidance from the ARR Data Hub.~~

Table 2 shows values used for surface roughness and initial and continuing losses.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*

Table 2: Losses and Manning’s Roughness values

Surface	Initial Loss (mm)	Continuous Loss (mm)	Manning’s Roughness Coefficient (n)
Pervious	10	2	0.045
Impervious	0	0	0.018

1.2 Catchment Representation

Sub-catchments have been delineated based on ELVIS LiDAR topographical data and cadastral parcels. The resulting sub-catchments are displayed in Figure 3, and sub-catchment details are shown in Table 3. The sub-catchment slopes have been calculated using GIS software.



Figure 3: Catchment map

1.3 Model Parameters

The modelling parameters are shown in Table 3

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*

Table 3: Catchment details

Catchment Name	Impervious Area (%)	Description	Area (ha)	Pervious Slope (%)	Impervious Slope (%)
1	55	General Residential	1.494	9	5
2	55	General Residential	0.341	5	5
3	55	General Residential	1.01	10	5
4	90	Road Reserve	0.131	10	10
5	90	Road reserve	0.119	10	10
6	55	General Residential	0.261	11	5
7	55	General Residential	0.102	12	3
8	55	General Residential	0.134	10	5
9	90	Road Reserve	0.25	8	8
10	90	Road Reserve	0.308	10	10
11	55	General Residential	0.364	4	5
12	55	General Residential	0.480	9	5
13	55	General Residential	0.501	9	5
14	55	General Residential	0.522	9	5

1.4 Results

The critical duration and mean peak flow at the outfall were calculated to be 15-minutes and 0.533 m³/s, respectively. The ensemble box plot results for the 5% AEP storm event at the stormwater main outfall are shown in Figure 4.

Table 4: Results summary

Storm Event	Flow Rate	Duration
5% AEP Storm Event	0.533 m ³ /s	15-minutes

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer:



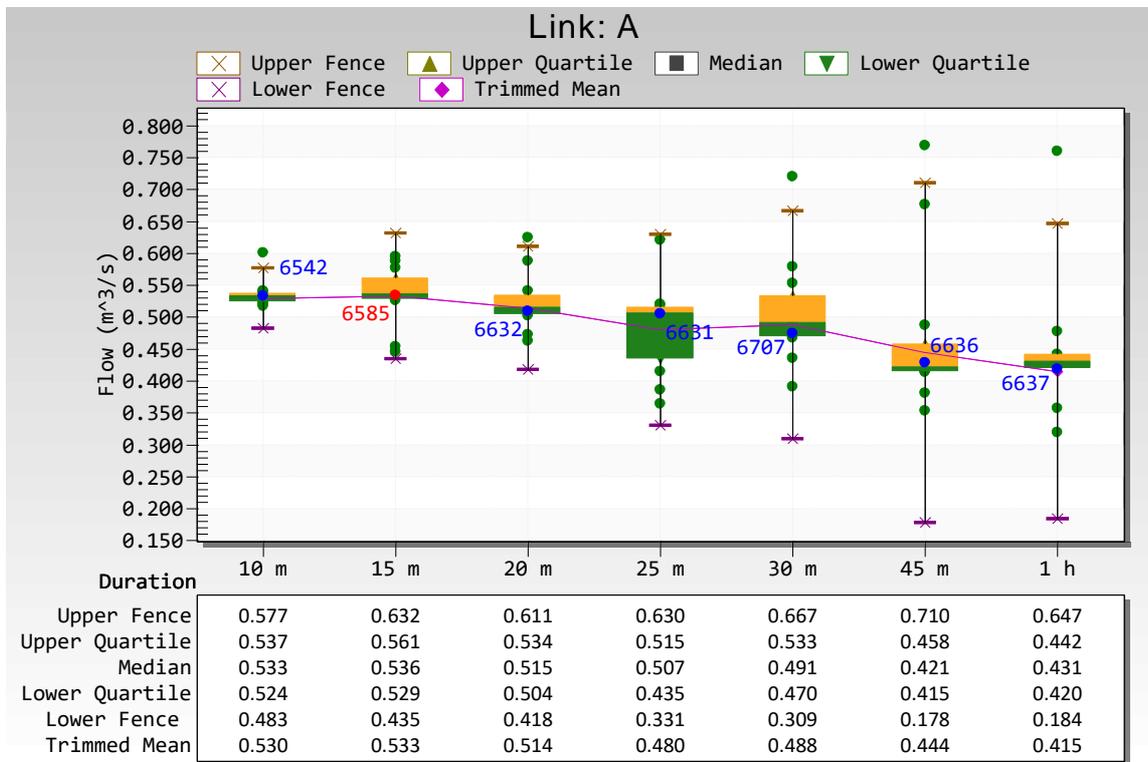


Figure 4: 5% AEP storm event outfall flow rate ensemble box plot

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer:

2 Stormwater Hydraulics

A hydraulic analysis was performed using 12d Model software which solves the one-dimensional St Venant equations. The resulting hydraulic grade line is shown on the longitudinal sections produced and is displayed in the attachments. The hydraulic analysis shows that the pipe configuration has the capacity to convey a 5% AEP storm event. This is in accordance with Planning Scheme requirements for minor stormwater systems.

It should be noted that no detention was considered as part of the hydraulic analysis. The hydraulic grade lines presented represent a worst-case developed scenario.

3 Stormwater Quantity

Determining Permissible Site Discharge

The Permissible Site Discharge (PSD) is based on the undeveloped scenario for the site. This ensures compliance with the Urban Drainage Act and Interim Planning Scheme requirements by limiting runoff to pre-developed levels. Table 5 outlines the model parameters used to determine PSD.

Table 5: PSD model parameters

Catchment Area	1.0 ha
Fraction Impervious	5%
Manning's number	0.045 pervious 0.013 impervious
Catchment slope	10% - pervious 5% - impervious
Losses	IL: 10 and CL: 2 pervious IL: 0 and CL: 0 impervious

The results of the hydrological analysis show that the critical storm duration for the site was a 45-min storm with a mean peak discharge of 85 L/s. Figure 5 shows the results of the analysis for 5% AEP ensemble storm event.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



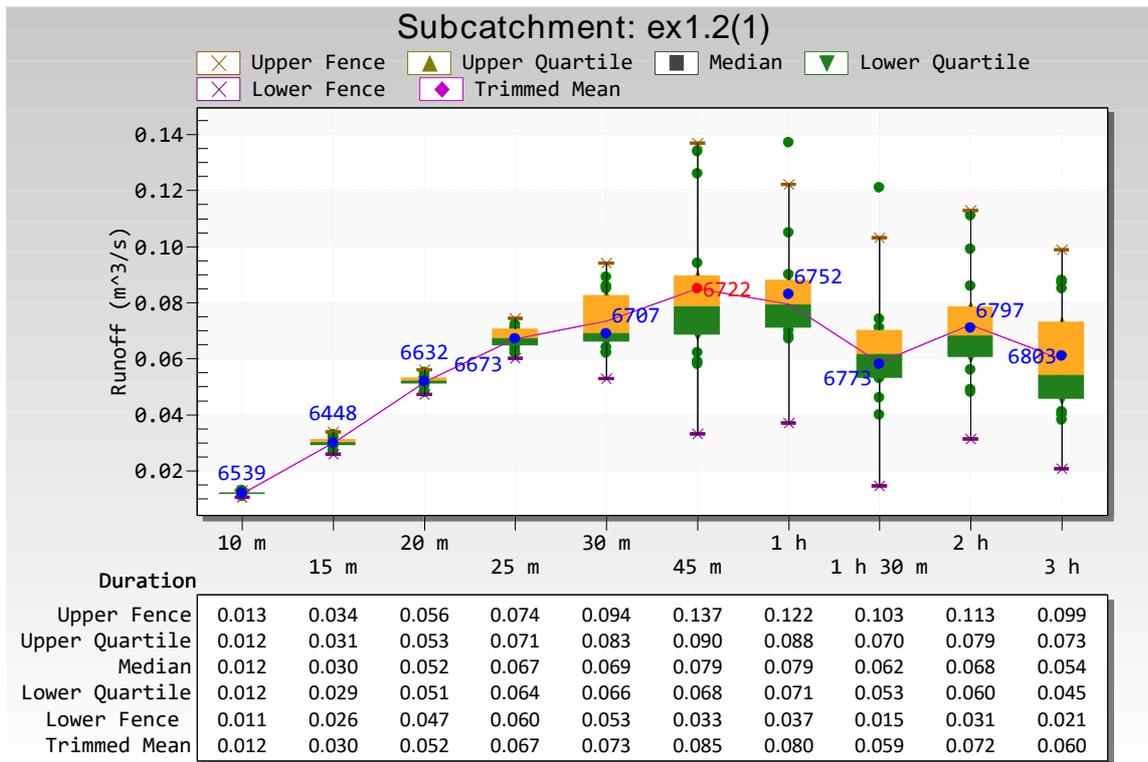


Figure 5: Pre-development runoff (PSD)

Developed Scenario Runoff

The proposed development will increase the site’s impervious area, which will increase stormwater runoff generated. The developed site runoff has been estimated using the parameters displayed in Table 6.

Table 6: Developed site model parameters

Catchment Area	1.0 ha
Fraction Impervious	55%
Manning’s number	0.045 pervious 0.013 impervious
Catchment slope	10% pervious 5% impervious
Losses	IL: 10 and CL: 2 pervious IL: 0 and CL: 0 impervious

The results of the hydrological analysis show that the critical storm duration for the proposed scenario is the 15-min storm, with a mean peak discharge of 124 L/s. To mitigate the impacts of an increase in stormwater runoff on downstream infrastructure, stormwater detention is proposed. Figure 5 shows the model results for a 5% AEP ensemble storm event.

BRIGHTON COUNCIL
PLANNING PERMITS

This document is one of the documents relevant to the
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*

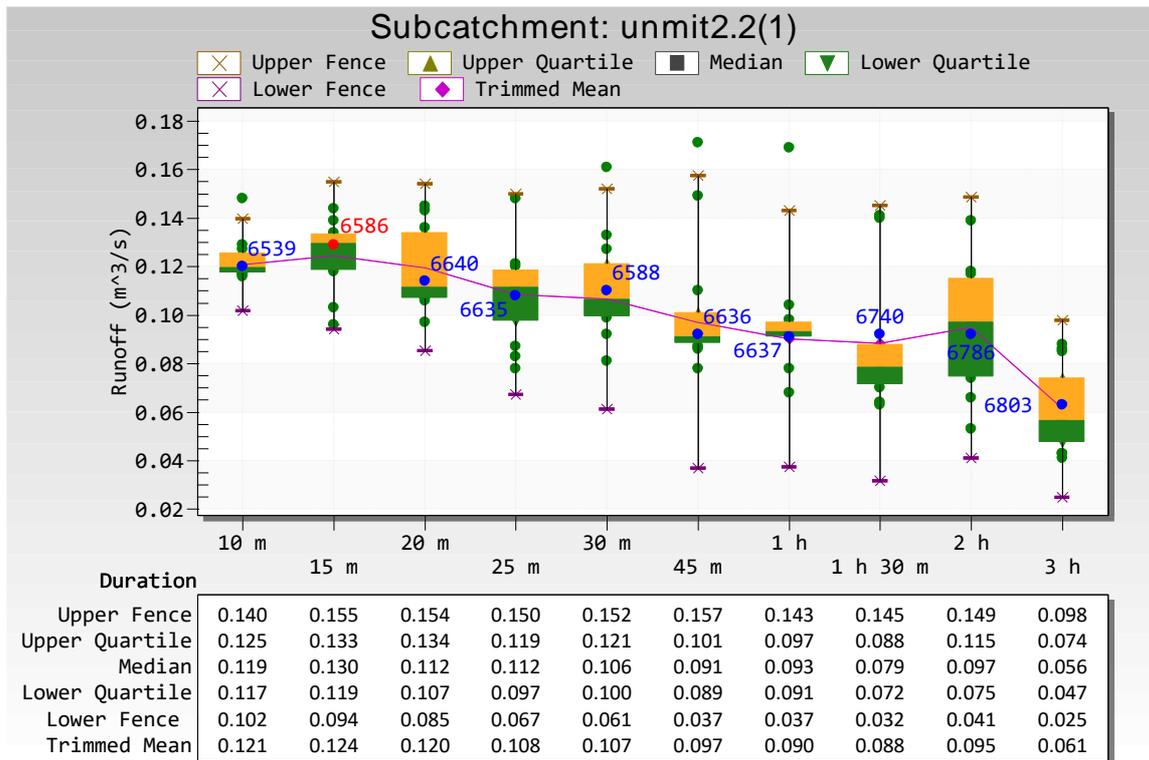


Figure 6: Developed scenario runoff (unmitigated)

Detention Basin Sizing

To mitigate runoff generated from the proposed development to pre-development levels, a hydraulic model was generated where all the development site runoff is directed into a detention structure and discharged through a control orifice. Key modelling parameters are shown below.

Table 7: Modelling parameters

Catchment Area	1.0 ha
Fraction Impervious	55%
Manning's Roughness Coefficient	0.045 pervious 0.013 impervious
Catchment Slope	10% pervious 5% impervious
Losses	IL: 10 and CL: 2 pervious IL: 0 and CL: 0 impervious

The modelling results are shown in Table 8.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer:

Table 8: Detention results

Basin Depth	1m
Total Detention Requirement	31m ³ (2.38m ³ required per lot)
Control	250mm control orifice at sump of tank
Mitigated Flow	80 L/s < PSD of 85 L/s

The detention volume will need to be split up over the 13 lots, as there are multiple connection points to public infrastructure. An underground tank collecting runoff from rooftops and impervious surfaces is proposed for each lot. A hydraulic model has been created to represent the system on a single lot. The parameters are described in Table 9.

Table 9: Lot detention results

Basin Depth	1m
Total Detention Requirement	2.38m ³ required per lot (31m ³ total)
Control	65mm control orifice at sump of tank
Mitigated Flow	6 L/s (78 L/s total < PSD of 85 L/s)
Suggested Infrastructure	Underground detention tank with control orifice at sump situated to collect runoff from rooftops and impervious surfaces.

The results of the modelling show that detention chambers can effectively control the increased runoff generated by the development to pre-development levels.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



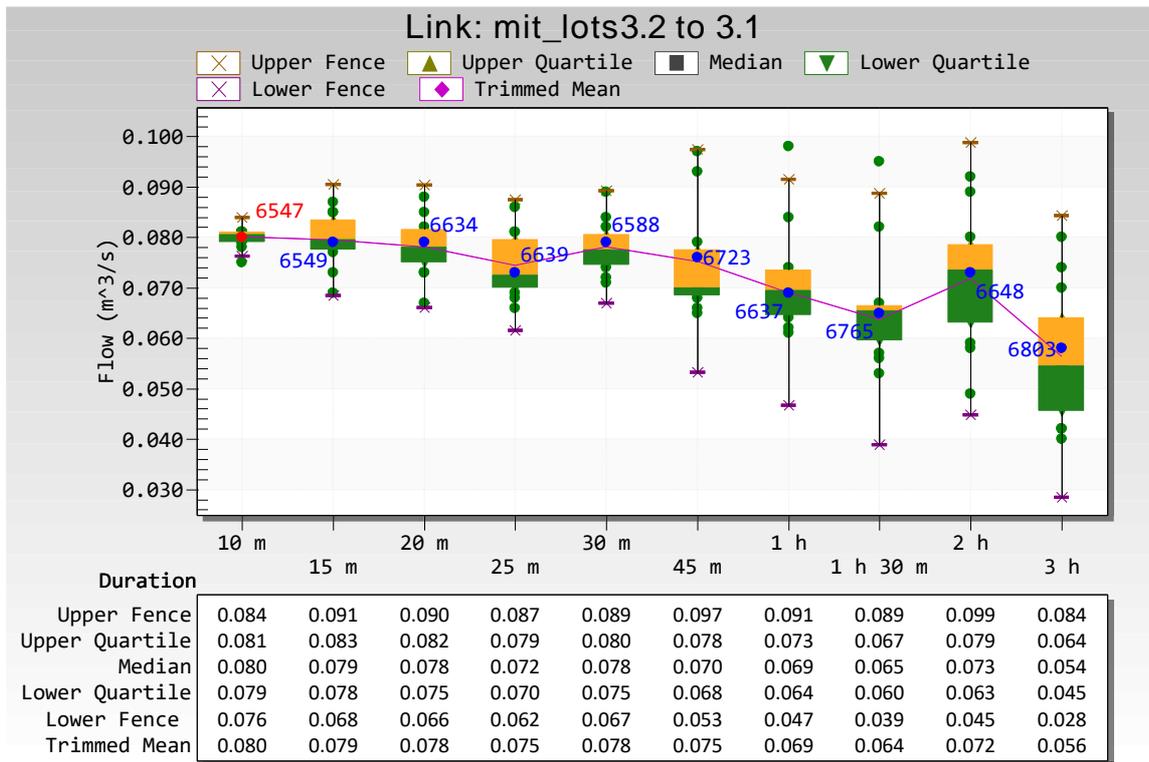


Figure 7: Mitigated flow rate ensemble box plot

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer:

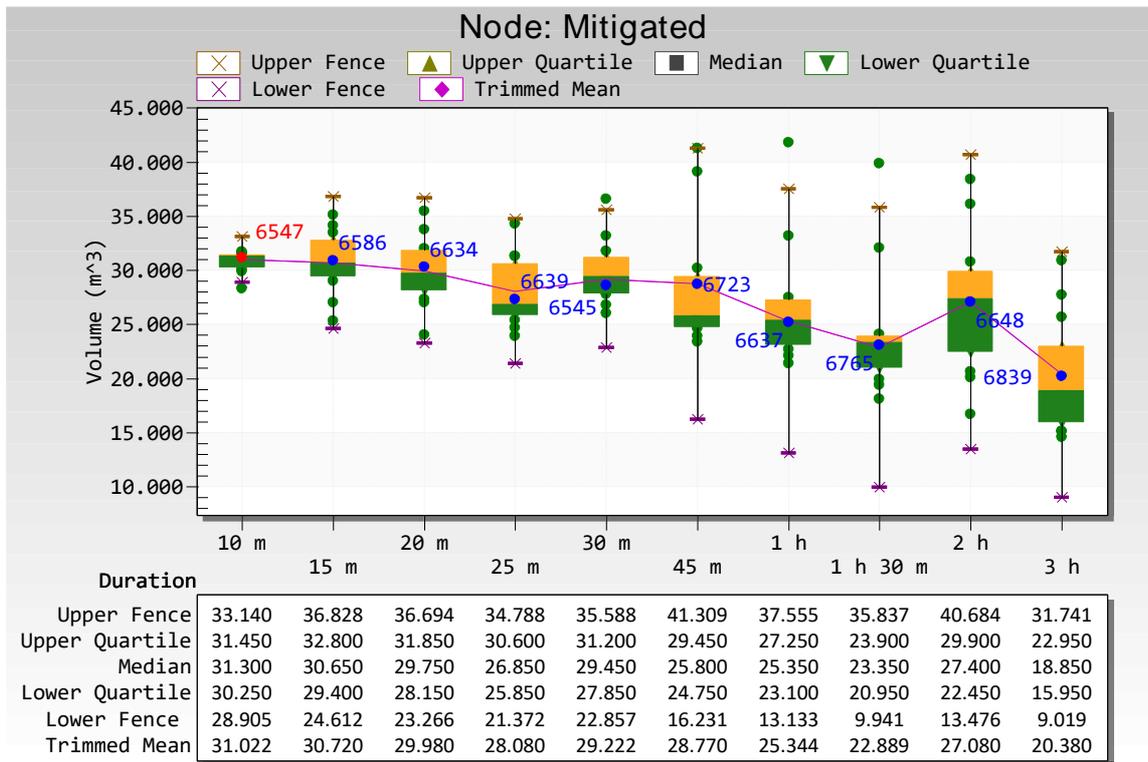


Figure 8: Required detention volume ensemble box plot

4 Stormwater Quality

Stormwater quality measures may be required in accordance with Council requirements. Pollutant reduction targets outlined in the State Stormwater Strategy 2010 will likely be required to be met.

If Council determines that Water Sensitive Urban Design (WSUD) quality treatment elements are required. Stormwater treatment will need to be designed and constructed to reduce pollutants to the required levels. WSUD stormwater quality treatment assets provide multiple benefits to the community, including reducing pollutants, attenuation of peak flows and increased visual and biodiversity amenities.

Conceptual stormwater quality management design has been undertaken using MUSIC software to estimate the viability of a WSUD treatment train.

4.1.1 Methodology

Water quality modelling has been undertaken in accordance with Derwent Estuary Program and Water by Design guidelines. MUSIC software has been used to estimate the reduction targets for the given development. The parameters used within MUSIC are tabulated below.

4.1.1.1 Model Parameters

Table 10: Rainfall data

Parameter	Value
<p>BRIGHTON COUNCIL PLANNING PERMIT</p> <p>This document is one of the documents relevant to the permit issued for planning approval as identified by</p> <p>Permit Number: SA2022/010</p> <p>Date Permit issued: 26/7/2022</p> <p>Authorised Officer: <i>B.R.</i></p>	

Rain station	Hobart
Time step (minutes)	6

Table 11: Rainfall parameters

Parameter	Value
Rainfall threshold (mm/day)	1
Soil storage capacity (mm)	120
Initial storage capacity (% of capacity)	25
Field capacity (mm)	50
Infiltration rapacity coefficient A	200
Infiltration capacity coefficient B	1
Initial depth (mm)	10
Daily recharge rate (%)	25.00
Daily base flow rate (%)	5.00
Daily deep seepage rate (%)	0

Table 12: Urban pollutant sources

Pollutant	Surface Type	Storm Flow		Base Flow	
		Mean (log mg/l)	SD (log mg/L)	Mean (log mg/l)	SD (log mg/L)
TSS	Roof	1.301	0.333	-	-
	Hardstand/ Road	2.431	0.333	-	-
	Ground	1.900	0.333	0.96	0.401
TP	Roof	-0.886	0.242	-	-
	Hardstand/ Road	-0.301	0.242	-	-
	Ground	-0.700	0.242	-0.731	0.360
TN	Roof	0.301	0.205	-	-
	Hardstand/ Road	0.342	0.205	-	-
	Ground	0.243	0.182	0.455	0.363

Table 13: Pollutant catchments

Pollutant Catchment	Pollutant Catchment (m ²)	Surface Type	Impervious Area (%)
General residential urban area	10,000	Urban residential	55

BRIGHTON COUNCIL
PLANNING PERMIT
 This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number SA2022/010 Date Permit issued: 26/7/2022
 Authorised Officer: 

4.1.2 Treatment Train

The proposed treatment train has been summarised in Table 14. The treatment train has been modelled within MUSIC and meets the reduction targets set out by State Legislation.

Table 14: Treatment node

Node	Quantity	Description
Bioretention	15m ² filter area	Stormwater treatment system suitable for removing heavy metals, suspended solids, and nutrients.

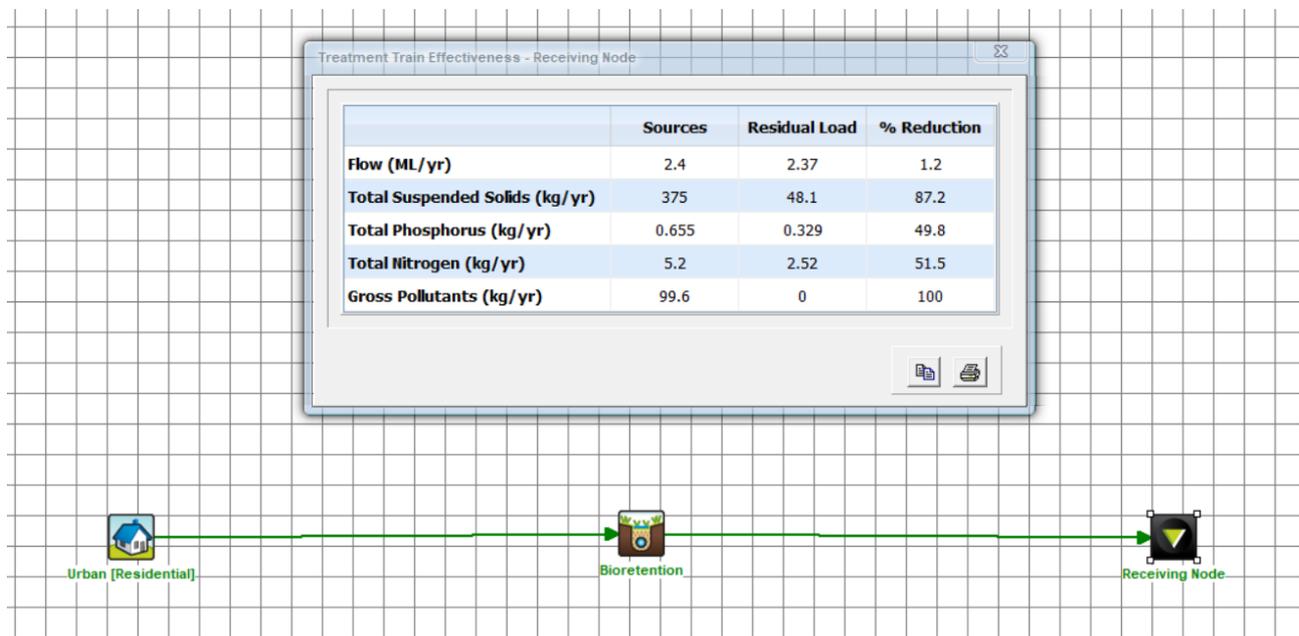


Figure 9: MUSIC model schematic

4.1.3 Results

The results of the pollution reduction are summarised in Table 15. It is shown that the proposed treatment train is effective at reducing pollutant levels.

Table 15: Results summary

Pollutant (kg/yr)	Source (kg/yr)	Residual Load (kg/yr)	Reduction (%)
Total Suspended Solids	375	48.1	87.2
Total Phosphorus	0.655	0.329	49.8
Total Nitrogen	5.2	2.52	51.5
Gross Pollutants	99.6	0	100

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*

5 Conclusion

A hydrologic and hydraulic analysis has been undertaken to determine a suitable drainage arrangement to convey flows generated in a 5% AEP storm event. Longitudinal sections have been produced and are shown in the attachments.

The results of the modelling show that 2.38m³ of detention volume per lot with a 65mm orifice plate at the sump of each tank can effectively control the increased runoff generated by the development to pre-development levels. The results show that the 5% AEP stormwater runoff is successfully attenuated to less than the calculated PSD. It is proposed that a cash contribution is granted to Council in lieu of providing stormwater detention.

Stormwater quality modelling has been conducted using MUSIC software. Modelling has shown that the implementation of a bioretention basin with a 15m² filter area is effective in treating stormwater to required levels in accordance with the State Stormwater Strategy 2010. It is proposed that a cash contribution is granted to Council in lieu of providing stormwater treatment elements in accordance with Council policy. This is due to the proposed layout consisting of several stormwater connection points, meaning that there is no opportunity for a centralised system.

Regards,



Michael Burgess

Civil Engineer

AD Design & Consulting

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



Attachments:

1. Council RFI Response Table
2. Stormwater Longitudinal Sections
3. ADDC Disclaimer

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by

Permit Number: SA2022/010

Date Permit issued: 26/7/2022

Authorised Officer:



RFI Response Table

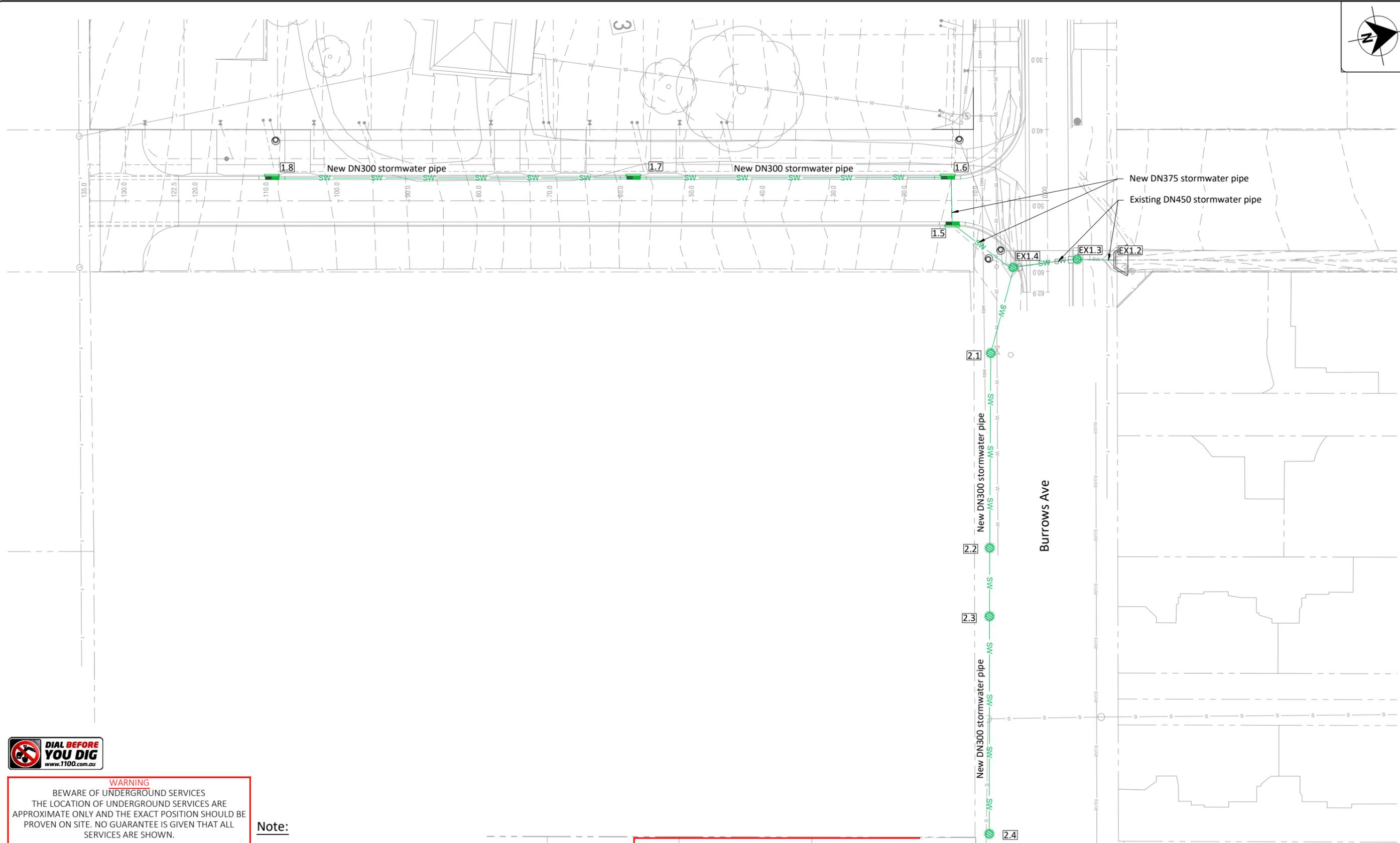
Request	Response
<p>The piped stormwater drainage system must be designed to comply with all the following:</p> <ul style="list-style-type: none"> a) Be able to accommodate a storm with a 5% AEP, when the land serviced by the system is fully developed; b) Stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure. <p>The development must consider overland flow path to accommodate a storm with a 1% AEP.</p> <p>Stormwater quality from the site must meet the following:</p> <ul style="list-style-type: none"> • Standard Stormwater Treatment Requirements specified in Table 3 Water Quality Treatment Targets in DEP AND LGAT TASMANIAN STORMWATER POLICY GUIDANCE AND STANDARDS FOR DEVELOPMENT 2021 V1. • Runoff from the developments must be 'visually free' of hydrocarbons prior to entering the public stormwater system. 	<p>An SMP has been prepared with the following information presented:</p> <ul style="list-style-type: none"> • The hydrology and hydraulic analysis undertaken for proposed public network capacity analysis in a 5% AEP storm event. • Stormwater detention requirements in accordance with Council requirements. • Stormwater treatment requirements in accordance with State Stormwater Strategy requirements. <p>It has been demonstrated that the proposed underground public stormwater network has the capacity to service the developed catchment in a minor storm event. The road reserve will be designed to convey a major stormwater event.</p> <p>Modelling has been performed to determine viable stormwater detention and treatment solutions.</p> <p><u>It is proposed that a cash contribution is made to the Council in lieu of providing stormwater detention and treatment onsite.</u></p>

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer:





WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

Note:
 - For civil works refer to Peter Henry drawings.

**BRIGHTON COUNCIL
 PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2022/010
 Date Permit issued: 26/7/2022

Authorised Officer: *B.R.*
 15 Burrows Ave, Brighton
 Stormwater



SUBJECT TO FINAL VERIFICATION AND APPROVAL

COPYRIGHT ©
 A person using AD DESIGN & CONSULTING (ADDC) drawings and other data accepts the risk of:
 1. Using the drawings and/or files in electronic form without requesting and checking them for accuracy against the original hard copy version;
 2. Using the drawings or other data for any purpose not agreed to in writing by ADDC.

Rev No	Date	Revision Note	Drn	Ver.	App.
A	02/06/22	For Approval	BW	MB	

AD DESIGN + CONSULTING
 Engineering / Project Management / Property Development

Client
 Huntingfield Developments P/L

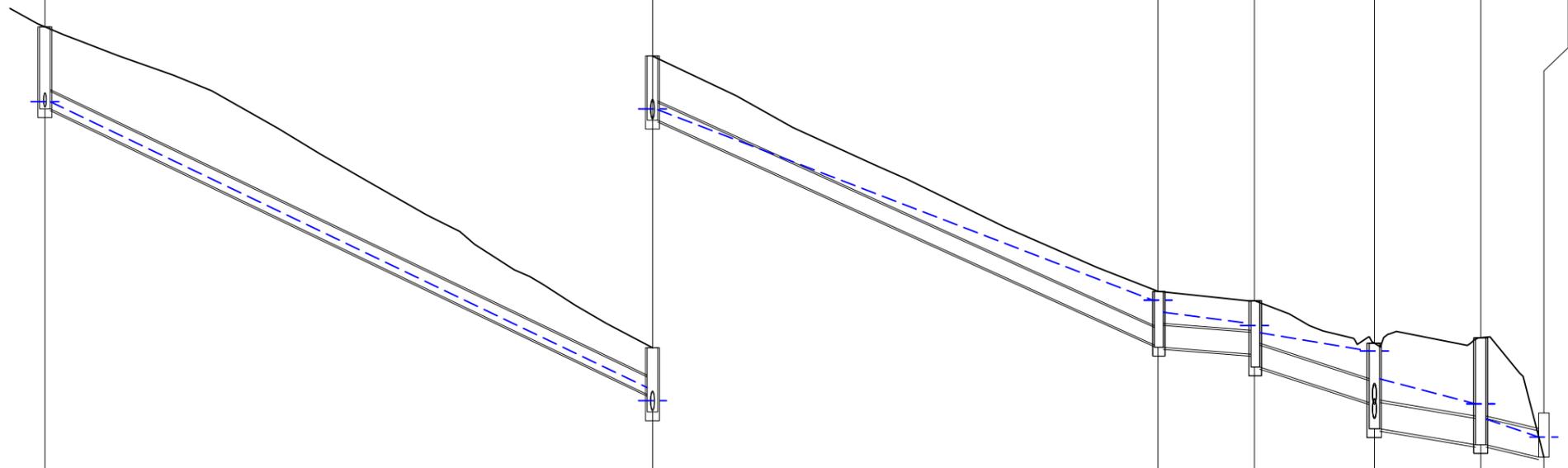
Drawn	Signed	Date
BW		02/06/22
Designed	Signed	Date
MB		02/06/22
Checked	Signed	Date
CC		02/06/22
Approved	Signed	Date

Drawing Title
 Drainage General Arrangement

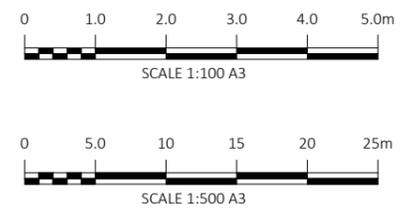
FOR APPROVAL NOT FOR CONSTRUCTION	
Project No. 22035	Sheet Size A3
Scale 1:500	Rev A
Drawing No. D-1-07-01	

PLOTTED: 6/2/2022 2:45:17 PM c:\1268\data\addc-s1\22035 - 15 burrows ave brighton_10223\02_eadd\drawings\da\1-07-01.dwg

STRUCTURE NAME	1.8	1.7	1.6	1.5	1.4	1.3	1.2
STRUCTURE DESCRIPTION	SIDE ENTRY PIT - TYPE 4 REFER TSD-SW10-V3	HEADWALL					



PIPE SIZE (mm)	300	300	375	375	450	450						
PIPE CLASS/MATERIAL	CL4 RCP											
PIPE GRADE (%)	9.56%	9.04%	1.56%	6.47%	3.32%	4.71%						
PIPE SLOPE (1 in X)	10.5	11.1	64.1	15.5	30.1	21.2						
PIPE FLOW (cumecs)	0.096	0.195	0.206	0.207	0.475	0.508						
CAPACITY RATIO (Q/Qcap)	0.320	0.670	0.940	0.460	0.910	0.820						
PIPE VELOCITY (m/s)	3.62	3.08	1.98	2.01	2.99	3.43						
NORMAL DEPTH (m)	0.12	0.18	0.30	0.18	0.34	0.31						
DATUM RL	75.000	70.000										
HGL ELEVATION	86.775 86.774	81.873 81.649	78.371 78.165	77.974 77.957	77.815	77.501 77.024	76.595 76.335	76.026				
DEPTH TO INVERT	1.406	0.801 1.101	0.921 0.961	0.918 1.138	1.017 1.467	1.834 1.834	0.758					
INVERT LEVEL OF DRAIN	86.651	81.756 81.456	77.603 77.563	77.446 77.226	76.618 76.168	75.895 75.895	75.682					
DESIGN (& EXISTING) SURFACE LEVEL	88.056	82.557	78.524	78.364	77.635	77.729	75.682					
CHAINAGE	-0.586	51.211	51.525	94.885	7.521	103.156	9.389	113.444	8.219	122.564	4.515	127.979



COPYRIGHT ©
A person using AD DESIGN + CONSULTING (ADDC) drawings and other data accepts the risk of:
1. using the drawings and/or files in electronic form without requesting and checking them for accuracy against the original hard copy version;
2. using the drawings or other data for any purpose not agreed to in writing by ADDC.

**BRIGHTON COUNCIL
PLANNING PERMIT**
This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer: *BK*
15 Burrows Ave, Brighton
Stormwater

Drawn	Signed	Date
BW		02/06/22
Designed	Signed	Date
MB		02/06/22
Checked	Signed	Date
CC		02/06/22
Approved	Signed	Date

SUBJECT TO FINAL VERIFICATION AND APPROVAL
Drawing Title
Drainage Longitudinal Section
Sheet 1

FOR APPROVAL NOT FOR CONSTRUCTION	
Project No. 22035	Sheet Size A3
Scale As Shown	Rev A
Drawing No. D-1-12-01	

Rev No	Date	Revision Note	Drn	Ver.	App.
A	02/06/22	For Approval	BW	MB	

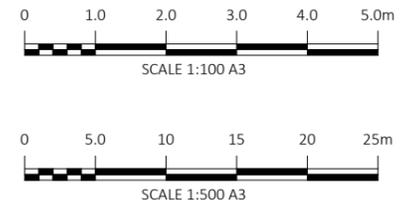
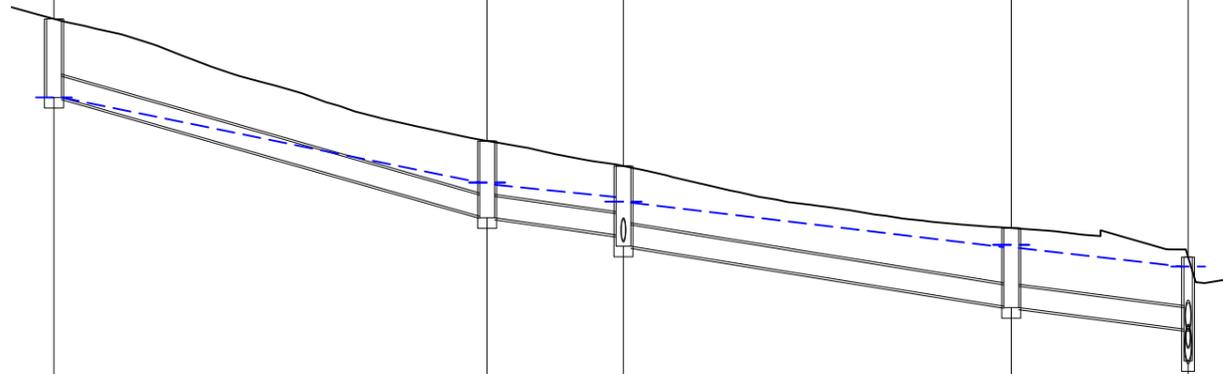
AD DESIGN + CONSULTING
Engineering / Project Management / Property Development

Client
Huntingfield Developments P/L

PLOTTED: 6/2/2022 2:45:17 PM c:\1206\data\addc-s1\22035 - 15 burrows ave brighton_10223\02_eadd\drawings\da-1-12-01.dwg

STRUCTURE NAME	2.4	2.3	2.2	2.1	1.4
STRUCTURE DESCRIPTION	1050mm DIA MANHOLE CLASS 'D' COVER REFER TSD-SW02-V3	SIDE ENTRY PIT - TYPE 4 REFER TSD-SW10-V3			
PIPE SIZE (mm)	300	300	300	300	
PIPE CLASS/MATERIAL	CL3 RCP	CL3 RCP	CL3 RCP	CL3 RCP	
PIPE GRADE (%)	5.68%	2.83%	3.21%	2.59%	
PIPE SLOPE (1 in X)	17.6	35.4	31.1	38.7	
PIPE FLOW (cumecs)	0.000	0.071	0.121	0.130	
CAPACITY RATIO (Q/Qcap)	0.000	0.440	0.700	0.840	
PIPE VELOCITY (m/s)	0.00	1.43	2.03	1.84	
NORMAL DEPTH (m)	0.00	0.14	0.18	0.21	
DATUM RL	69.000				
HGL ELEVATION	79.893	78.689 78.658	78.484 78.419 78.405	77.775 77.807 77.764	77.501 77.024
DEPTH TO INVERT	1.112	1.066 1.086	0.974 1.134	1.106 1.126	1.017 1.467
INVERT LEVEL OF DRAIN	79.893	78.212 78.192	77.949 77.789	76.941 76.921	76.618 76.168
DESIGN (& EXISTING) SURFACE LEVEL	81.005	79.278	78.923	78.046	77.635
CHAINAGE	0.000	29.613	40.309 40.596	67.759 26.400	80.281 11.697

LINE



This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2022/010 Date Permit issued: 26/7/2022

Authorised Officer: *BK*
15 Burrows Ave, Brighton
Stormwater

Drawn	Signed	Date
BW		02/06/22
Designed	Signed	Date
MB		02/06/22
Checked	Signed	Date
CC		02/06/22
Approved	Signed	Date

SUBJECT TO FINAL VERIFICATION AND APPROVAL
Drawing Title
Drainage Longitudinal Section
Sheet 2

FOR APPROVAL
NOT FOR CONSTRUCTION

Project No.	22035	Sheet Size	A3
Scale	As Shown	Rev	A
Drawing No.	D-1-12-02		

COPYRIGHT ©
A person using AD DESIGN + CONSULTING (ADDC) drawings and other data accepts the risk of:
1. Using the drawings and/or files in electronic form without reporting and checking them for accuracy against the original hard copy version;
2. Using the drawings or other data for any purpose not agreed to in writing by ADDC.

Rev No	Date	Revision Note	Drn	Ver.	App.
A	02/06/22	For Approval	BW	MB	

AD DESIGN + CONSULTING
Engineering / Project Management / Property Development

Client
Huntingfield Developments P/L

Disclaimer

Inherent Limitations

This report has been prepared by AD Design & Consulting Pty Ltd "ADDC" at the request of the Client named on the cover of this report (our Client or you) in our capacity as consulting engineers/advisors in accordance with the terms and limitations set out in our engagement contract/letter.

ADDC has indicated within this report the sources of the information provided. ADDC has relied upon the accuracy and completeness of this information, and it has not been independently verified. We give no warranty of completeness, accuracy, or reliability related to any information accessed by ADDC in preparing this report.

ADDC may, in its absolute discretion, but without being under any obligation to do so, update, amend or supplement this report.

Any prospective information/modelling/projections (together with the Prospective Information) included in this report are based on data, estimates and assumptions/methodologies supplied by you and external information, as agreed. ADDC does not make any statement as to whether the information will be achieved or whether the assumptions and data underlying any such Prospective Information is accurate, complete or reasonable. There will usually be differences between forecast or projected and actual results because events and circumstances frequently do not occur as expected or predicted, and those differences may be material.

Third-party reliance

This report was prepared solely for your use per our engagement contract and may not be distributed to any third party without our consent. ADDC does not accept responsibility to any third party or for any unintended use in connection with this report.

Sources of information

- Information from external websites, data from Councils or other authorities.
- Client provided information/documents.
- Discussions with client/stakeholders/authorities.

In accordance with our firm policy, we advise that neither the firm nor any member or employee of the firm undertakes responsibility arising in any way whatsoever to any person (other than the Entity) in respect of the data or of the report and associated commentary, including any errors or omissions therein, arising through negligence or otherwise however caused. No reliance should be placed on the report or associated commentary without having an audit or review conducted.

AD Design & Consulting Pty Ltd

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2022/010
Date Permit issued: 26/7/2022

Authorised Officer:



EMAIL

admin@addconsulting.com.au

OFFICE

Cat & Fiddle Centre
Level 2, 51 Murray Street
Hobart
TAS 7000

PHONE

(03) 6144 7652

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by

Permit Number: SA2022/010

Date Permit issued: 26/7/2022

Authorised Officer:





Officer: Helen Hanson
Direct ☎ (03) 62687041

Date: 11/01/2022
Our Ref.: SA2021/006

Brooks Lark & Carrick
Unit 1, 2 Kennedy Drive
CAMBRIDGE TAS 7170

Dear Sir/Madam,

Application For Planning Permit (SA 2021 / 00006)
19 Burrows Avenue, Brighton

Please find enclosed a planning permit and endorsed documents for your application.

Please read your permit carefully as there may be conditions that modify the application or to provide further details prior to the commencement of works or issue of a building permit.

Building works, which include excavation or vegetation removal, may not commence until you have complied with any conditions of this permit or without all other necessary approvals, under the *Building Act 2016*.

You may appeal to the Resource Management and Planning Appeal Tribunal (the Tribunal) against the conditions of this permit within 14 days after the day on which notice of this decision is served, in accordance with Section 61 of the *Land Use Planning and Approvals Act 1993*.

Appeals are required to be in writing and lodged with a fee to the Resource Management and Planning Appeal Tribunal. For further information about lodging an appeal please refer to the Appeal Tribunal's website www.rmpat.tas.gov.au or contact the Registrar of the Appeal Tribunal by phone on (03) 6165 6794 or by mail at GPO Box 2036, Hobart 7001.

If you have any queries regarding this permit or any approvals you may require, please contact the Council on (03) 6268 7041, between 8:15 a.m. and 4:45 p.m. Monday to Friday or by email at development@brighton.tas.gov.au quoting the above permit number.

Yours faithfully,

Jo Blackwell
Senior Planner

Encl: Planning permit



PLANNING PERMIT (SA2021/006)

In accordance with Division 2 of Part 4 section 57 of the *Land Use Planning and Approvals Act 1993*, the Brighton Council (Planning Authority) grants a permit for a discretionary application –

To: Brooks Lark & Carrick

Of: Unit 1, 2 Kennedy Drive
CAMBRIDGE TAS 7170

For land described as:

19 Burrows Avenue, Brighton (Certificate of Title Volume 130608 Folio 10)

Crown Land Road Reserve (shown as "Fraser Street" on Folio Plan)

THIS PERMIT ALLOWS FOR:

The land to be used as **Residential** and developed by **Subdivision (8 lots plus balance)** and ancillary site works in accordance with the information and particulars set out in the development application and the endorsed drawings.

THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT:

General

1. The subdivision layout or development must be carried out substantially in accordance with the application for planning approval, the endorsed drawings and with the conditions of this permit and must not be altered or extended without the further written approval of Council.

Staged development

2. The subdivision must only be carried out in stages in accordance with the endorsed documents or a staged development plan submitted to and approved by Council's Manager Development Services.

Transfer of reserves

3. All roads or footways must be shown as "Road" or "Footway" on the Final Plan of Survey and transferred to the Council by Memorandum of Transfer submitted with the Final Plan of Survey.

Public open space

4. In accordance with the provisions of Section 117 of the *Local Government (Building and Miscellaneous Provisions) Act 1993*, payment of a cash contribution for Public Open Space must be made to the Council prior to sealing the Final Plan of Survey.

The cash contribution amount is to be equal to 5% of the value of the land being subdivided [i.e., Lots 1, 2, 3, 4, 5, 6, 7 and 8] in the plan of subdivision at the date of lodgement of the Final Plan of Survey.

The value is to be determined by a Land Valuer within the meaning of the *Land Valuers Act 2001* at the developers' expense.

5. The cash-in-lieu of public open space must be in the form of a direct payment made before the sealing of the final plan of survey or, alternatively, in the form of a Bond or Bank guarantee to cover payment within ninety (90) days after demand, made after the final plan of survey has taken effect.

Easements

6. Easements must be created over all drains, pipelines, wayleaves, and services in accordance with the requirements of the Council's Municipal Engineer. The cost of locating and creating the easements shall be at the subdivider's full cost.

Covenants

7. Covenants or other similar restrictive controls that conflict with any provisions or seek to prohibit any use provided within the planning scheme must not be included or otherwise imposed on the titles to the lots created by this permit, either by transfer, inclusion of such covenants in a Schedule of Easements or registration of any instrument creating such covenants with the Recorder of Titles, unless such covenants or controls are expressly authorised by the terms of this permit or the consent in writing of the Council's Senior Planner.

Final plan

8. A final approved plan of survey and schedule of easements as necessary, together with two (2) copies, must be submitted to Council for sealing for each stage. The final approved plan of survey must be substantially the same as the endorsed plan of subdivision and must be prepared in accordance with the requirements of the Recorder of Titles.
9. Prior to Council sealing the final plan of survey for each stage, security for an amount clearly in excess of the value of all outstanding works and maintenance required by this permit must be lodged with the Brighton Council. The security must be in accordance with section 86(3) of the *Local Government (Building & Miscellaneous Provisions) Council 1993*. The amount of the security shall be determined by the Council's Municipal Engineer in accordance with Council Policy 6.3 following approval of any engineering design drawings and shall not to be less than \$5,000.
10. All conditions of this permit, including either the completion of all works and maintenance or payment of security in accordance with this permit, must be satisfied before the Council seals the final plan of survey for each stage. It is the subdivider's responsibility to notify Council in writing that the conditions of the permit have been satisfied.
11. The subdivider must pay any Titles Office lodgment fees direct to the Recorder of Titles.

Landscaping

12. The road reserve must be landscaped in accordance with landscape plan, DRG NO. H21067-v01, REV A, SHEET OF A1, dated October 2021.
13. Unless approved otherwise by Council's Manager Development Services, street trees must be a minimum of 2 metres in height at the time of planting.

Agreements

14. Agreements made pursuant to Part 5 of the *Land Use Planning and Approvals Act 1993* must be prepared by the applicant on a blank instrument form to the satisfaction of the Council and registered with the Recorder of Titles. The subdivider must meet all costs associated with the preparation and registration of the Part 5 Agreement.
15. An agreement pursuant to Part 5 of the *Land Use Planning and Approvals Act 1993* must be entered into prior to the sealing of the final plan of survey on all the lots in the plan of subdivision, including the balance, to require at least one mature canopy tree to be retained on each lot.

Engineering

16. The subdivision must be carried out and constructed in accordance with:

- a) The Tasmanian Subdivision Guidelines
- b) The Tasmanian Municipal Standard – Specifications
- c) The Tasmanian Municipal Standard – Drawings

as published by the Local Government Association of Tasmania and to the satisfaction of Council's Municipal Engineer.

17. Engineering design drawings, to the satisfaction of the Council's Municipal Engineer, must be submitted to and approved by Council before any works associated with development of the land commence.

Advice: The engineering drawings submitted with the application are considered to be concept plans and may require alterations prior to consideration for approval.

18. Engineering design drawings are to be prepared by a qualified and experienced civil engineer, or other person approved by Council's Municipal Engineer, in accordance with the Tasmanian Subdivision Guidelines October 2013, and must show:
 - a) all existing and proposed services required by this permit;
 - b) all existing and proposed roadwork required by this permit;
 - c) measures to be taken to provide sight distance in accordance with the relevant standards of the planning scheme;
 - d) measures to be taken to limit or control erosion and sedimentation;
 - e) any other work required by this permit.

19. Approved engineering design drawings will remain valid for a period of 2 years from the date of approval of the engineering drawings.
20. The developer shall appoint a qualified and experienced Supervising Engineer (or company registered to provide civil engineering consultancy services) who will be required to certify completion of subdivision construction works. The appointed Supervising Engineer shall be the primary contact person on matters concerning the subdivision.

Services

21. The Subdivider must pay the cost of any alterations and/or reinstatement to existing services, Council infrastructure or private property incurred as a result of the proposed subdivision works. Any work required is to be specified or undertaken by the authority concerned.
22. Any existing services shared between lots are to be separated to the satisfaction of Council's Municipal Engineer.
23. Property services must be contained wholly within each lot served or an easement to the satisfaction of the Council's Municipal Engineer or responsible authority.

Roadworks

24. Roadworks and drainage must be constructed in accordance with the standard drawings and specifications prepared by the IPWE Aust. (Tasmania Division) and to the requirements of Council's Municipal Engineer or as otherwise required by this permit.
25. Temporary turning heads with a minimum radius of 12.0 metres are to be provided at the termination of roads for each stage with the approved bushfire hazard management plan. Unless approved otherwise by Council's Municipal Engineer, turning heads are to be surfaced with hotmix asphalt within 12 months of the plan of survey being sealed for the relevant stage.
26. New roads must, unless approved otherwise by Council's Municipal Engineer, include:
 - a) New Road (Fraser Street):
 - i. 6.9m min. carriageway width;
 - ii. Kerb and channel;
 - iii. 1.5m min. width concrete footpath on western side;
 - iv. Underground stormwater drainage; and
 - v. Turning head to accommodate a Medium Rigid service vehicle.
 - b) Burrows Avenue (across the entire frontage of the subdivision):
 - i. Road widening where required to achieve a 6.9m min. carriageway width;
 - ii. Kerb and channel;
 - iii. Indented parking bays;
 - iv. 1.5m min. width concrete footpath; and
 - v. Underground stormwater drainage.

27. All carriageway surface courses must be constructed with a 10 mm nominal size hotmix asphalt with a minimum compacted depth of 35 mm, or 40mm where bus traffic is expected, in accordance with standard drawings and specifications prepared by the IPWE Aust. (Tasmania Division) and the requirements of Council's General Manager.
28. A reinforced concrete vehicle access must be provided from the road carriageway to each Lot.
29. Vehicle accesses must be located and constructed generally in accordance with the standards shown on standard drawings TSD-R09 Urban Roads Driveways and TSD-RF01 Guide to Intersection and Domestic Access Sight Distance Requirements prepared by the IPWE Aust. (Tasmania Division) and the satisfaction of Council's Municipal Engineer.
30. Kerb ramps must be provided to accommodate the needs of people with disabilities in accordance with standard drawings prepared by the IPWE Aust. (Tasmania Division) and to the requirements of Council's Municipal Engineer.

Stormwater

31. The developer is to provide a stormwater drainage system designed to comply with all of the following:
 - a) be able to accommodate a storm with an ARI of 20 years when the land serviced by the system is fully developed; and
 - b) stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure.

Alternatively, the developer may make a financial contribution to Council for upgrading downstream stormwater infrastructure. The value of the contribution is to be agreed by Council's Municipal Engineer and is to be based on the cost of providing detention as proposed in the Stormwater Management Memo, 19 Burrows Avenue, Brighton, dated 16/11/21, prepared by AD Design & Consulting. The contribution must be paid prior to sealing the final plan of survey for any stage.
32. The developer is to provide a major stormwater drainage system designed to accommodate a storm with an ARI of 100 years.
33. The developer is to provide a piped stormwater property connection to each lot capable of servicing the entirety of each lot by gravity in accordance with Council standards and to the satisfaction of Council's Municipal Engineer.
34. The subdivision is to include a stormwater treatment system to achieve the quality targets in the State Stormwater Strategy 2010 for each stage and be in accordance with:
 - a) the Water Sensitive Urban Design Procedures for Stormwater Management in Southern Tasmania;
 - b) Stormwater Management Memo, 19 Burrows Avenue, Brighton, dated 16/11/21, prepared by AD Design & Consulting; and
 - c) to the satisfaction of the Council's Municipal Engineer.

Alternatively, the developer may make a financial contribution to Brighton Council for the provision of stormwater treatment in accordance with Council Policy 6.1 Stormwater Quality Control Contributions.

Advice: A copy of Council Policy 6.1 Stormwater Quality Control Contributions is available from the Brighton Council Website <https://www.brighton.tas.gov.au/council/policies/>

Sewer & Water

35. Each lot must be connected to a reticulated potable water supply.
36. Each lot must be connected to a reticulated sewerage system.

TasWater

37. The development must meet all required Conditions of approval specified by Tas Water Submission to Planning Authority Notice, TWDA 2021/00351-BTN, dated 17/03/21.

Telecommunications and electrical reticulation

38. Electrical and telecommunications services must be provided to each lot in accordance with the requirements of the responsible authority and to the satisfaction of Council's Municipal Engineer.

Advice: As with any subdivision of this magnitude, consideration should be given to the electrical infrastructure works that will be required to ensure a supply of electricity can be provided to each lot. To understand what these requirements may entail, it is recommended that you contact TasNetworks' Early Engagement team at early.engagement@tasnetworks.com.au at your earliest convenience.

39. Prior to sealing the final plan of survey, the developer must submit to Council:
 - a) A "Provisioning of Telecommunications Infrastructure – Confirmation of final payment" or "Certificate of Practical Completion of Developer's Activities" from NBN Co.
 - b) Written advice from TasNetworks confirming that all conditions of the Agreement between the Owner and authority have been complied with and that future lot owners will not be liable for network extension or upgrade costs, other than individual property connections at the time each lot is further developed.

Water quality

40. A soil and water management plan (here referred to as a 'SWMP') prepared in accordance with the guidelines *Soil and Water Management on Building and Construction Sites*, by the Derwent Estuary Programme and NRM South, must be approved by Council's Municipal Engineer before development of the land commences.
41. Temporary run-off, erosion and sediment controls must be installed in accordance with the approved SWMP and must be maintained at full operational capacity to the satisfaction of Council's Municipal Engineer until the land is effectively rehabilitated and stabilised after completion of the development.
42. The topsoil on any areas required to be disturbed must be stripped and stockpiled in an approved location shown on the detailed soil and water management plan for reuse in the rehabilitation of

the site. Topsoil must not be removed from the site until the completion of all works unless approved otherwise by the Council's Municipal Engineer.

43. All disturbed surfaces on the land, except those set aside for roadways, footways and driveways, must be covered with top soil and, where appropriate, re-vegetated and stabilised to the satisfaction of the Council's Municipal Engineer.

Construction Amenity

44. The road frontage of the development site including road, kerb and channel, footpath and nature strip, must be:

- a) Surveyed prior to construction, photographed, documented and any damage or defects be noted in a dilapidation report to be provided to Council's Asset Services Department prior to construction.
- b) Be protected from damage, heavy equipment impact, surface scratching or scraping and be cleaned on completion.

In the event a dilapidation report is not provided to Council prior to commencement, any damage on completion will be deemed a result of construction activity requiring replacement prior to approval.

45. The development must only be carried out between the following hours unless otherwise approved by the Council's General Manager:

- Monday to Friday 7:00 AM to 6:00 PM
- Saturday 8:00 AM to 6:00 PM
- Sunday and State-wide public holidays 10:00 AM to 6:00 PM

46. All subdivision works associated with the development of the land must be carried out in such a manner so as not to unreasonably cause injury to, or unreasonably prejudice or affect the amenity, function, and safety of any adjoining or adjacent land, and of any person therein or in the vicinity thereof, by reason of:

- a) emission from activities or equipment related to the use or development, including noise and vibration, which can be detected by a person at the boundary with another property; and/or
- b) transport of materials, goods, or commodities to or from the land; and/or
- c) appearance of any building, works or materials.

47. Any accumulation of vegetation, building debris or other unwanted material must be disposed of by removal from the land in an approved manner. No burning of such materials on-site will be permitted unless approved in writing by the Council's General Manager.

48. Public roadways or footpaths must not be used for the storage of any construction materials or wastes, for the loading/unloading of any vehicle or equipment; or for the carrying out of any work, process or tasks associated with the subdivision during the construction period.

THE FOLLOWING ADVICE APPLIES TO THIS PERMIT:

- A. This permit does not imply that any other approval required under any other legislation or by-law has been granted.
- B. This permit does not take effect until all other approvals required for the use or development to which the permit relates have been granted.
- C. The owner is advised that an engineering plan assessment and inspection fee of 1% of the value of the approved engineering works (minimum of \$300.00), or as otherwise specified in Council's Schedule of Fees, must be paid to Council prior to the approval of engineering plans.
- D. The issue of this permit does not ensure compliance with the provisions of the Threatened Species Protection Act 1995 or the Environmental Protection and Biodiversity Protection Act 1999 (Commonwealth). The applicant may be liable to complaints in relation to any non-compliance with these Acts and may be required to apply to the Threatened Species Unit of the Department of Tourism, Arts, and the Environment or the Commonwealth Minister for a permit.
- E. The issue of this permit does not ensure compliance with the provisions of the Aboriginal Relics Act 1975. If any aboriginal sites or relics are discovered on the land, stop work, and immediately contact the Tasmanian Aboriginal Land Council and Aboriginal Heritage Unit of the Department of Tourism, Arts, and the Environment. Further work may not be permitted until a permit is issued in accordance with the Aboriginal Relics Act 1975.
- F. This planning approval shall lapse at the expiration of two (2) years from the date of the commencement of planning approval if the development for which the approval was given has not been substantially commenced. Where a planning approval for a development has lapsed, an application for renewal of a planning approval for that development shall be treated as a new application.

Dated 6 January 2022



David Allingham

Manager Development Services

Submission to Planning Authority Notice

Council Planning Permit No.	SA 2021 / 00006	Council notice date	4/03/2021
TasWater details			
TasWater Reference No.	TWDA 2021/00351-BTN	Date of response	17/03/2021
TasWater Contact	Phil Papps	Phone No.	0474 931 272
Response issued to			
Council name	BRIGHTON COUNCIL		
Contact details	development@brighton.tas.gov.au		
Development details			
Address	19 BURROWS AVE, BRIGHTON	Property ID (PID)	5022823
Description of development	Subdivision - 9 Lot		
Schedule of drawings/documents			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
Brooks Lark & Carrick	Plan of Subdivision / BAILK09 12403-01	--	24/02/2021
Conditions			
<p>Pursuant to the <i>Water and Sewerage Industry Act 2008 (TAS)</i> Section 56P(1) TasWater imposes the following conditions on the permit for this application:</p> <p>CONNECTIONS, METERING & BACKFLOW</p> <ol style="list-style-type: none"> 1. A suitably sized water supply with metered connections and sewerage system and connections to each lot of the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit. 2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost. 3. Prior to commencing construction of the subdivision/use of the development, any water connection utilised for construction/the development must have a backflow prevention device and water meter installed, to the satisfaction of TasWater. <p>ASSET CREATION & INFRASTRUCTURE WORKS</p> <ol style="list-style-type: none"> 4. Plans submitted with the application for Engineering Design Approval must, to the satisfaction of TasWater show, all existing, redundant and/or proposed property services and mains. 5. Prior to applying for a Permit to Construct new infrastructure the developer must obtain from TasWater Engineering Design Approval for new TasWater infrastructure. The application for Engineering Design Approval must include engineering design plans prepared by a suitably qualified person showing the hydraulic servicing requirements for water and sewerage to TasWater's satisfaction. 6. Prior to works commencing, a Permit to Construct must be applied for and issued by TasWater. All infrastructure works must be inspected by TasWater and be to TasWater's satisfaction. 7. In addition to any other conditions in this permit, all works must be constructed under the supervision of a suitably qualified person in accordance with TasWater's requirements. 8. Prior to the issue of a Consent to Register a Legal Document all additions, extensions, alterations or 			

upgrades to TasWater's water and sewerage infrastructure required to service the development, are to be constructed at the expense of the developer to the satisfaction of TasWater, with live connections performed by TasWater.

9. After testing/disinfection, to TasWater's requirements, of newly created works, the developer must apply to TasWater for connection of these works to existing TasWater infrastructure, at the developer's cost.
10. At practical completion of the water and sewerage works and prior to TasWater issuing a Consent to a Register Legal Document, the developer must obtain a Certificate of Practical Completion from TasWater for the works that will be transferred to TasWater. To obtain a Certificate of Practical Completion:
 - a. Written confirmation from the supervising suitably qualified person certifying that the works have been constructed in accordance with the TasWater approved plans and specifications and that the appropriate level of workmanship has been achieved;
 - b. A request for a joint on-site inspection with TasWater's authorised representative must be made;
 - c. Security for the twelve (12) month defects liability period to the value of 10% of the works must be lodged with TasWater. This security must be in the form of a bank guarantee;
 - d. Work As Constructed drawings and documentation must be prepared by a suitably qualified person to TasWater's satisfaction and forwarded to TasWater.
11. After the Certificate of Practical Completion has been issued, a 12 month defects liability period applies to this infrastructure. During this period all defects must be rectified at the developer's cost and to the satisfaction of TasWater. A further 12 month defects liability period may be applied to defects after rectification. TasWater may, at its discretion, undertake rectification of any defects at the developer's cost. Upon completion, of the defects liability period the developer must request TasWater to issue a "Certificate of Final Acceptance". The newly constructed infrastructure will be transferred to TasWater upon issue of this certificate and TasWater will release any security held for the defects liability period.
12. The developer must take all precautions to protect existing TasWater infrastructure. Any damage caused to existing TasWater infrastructure during the construction period must be promptly reported to TasWater and repaired by TasWater at the developer's cost.
13. Ground levels over the TasWater assets and/or easements must not be altered without the written approval of TasWater.
14. A construction management plan must be submitted with the application for TasWater Engineering Design Approval. The construction management plan must detail how the new TasWater infrastructure will be constructed while maintaining current levels of services provided by TasWater to the community. The construction plan must also include a risk assessment and contingency plans covering major risks to TasWater during any works. The construction plan must be to the satisfaction of TasWater prior to TasWater's Engineering Design Approval being issued.

FINAL PLANS, EASEMENTS & ENDORSEMENTS

15. Prior to the Sealing of the Final Plan of Survey, a Consent to Register a Legal Document must be obtained from TasWater as evidence of compliance with these conditions when application for sealing is made.
Advice: Council will refer the Final Plan of Survey to TasWater requesting Consent to Register a Legal Document be issued directly to them on behalf of the applicant.
16. Where applicable, Pipeline easements, to TasWater's satisfaction, must be created over any existing or proposed TasWater infrastructure and be in accordance with TasWater's standard pipeline

easement conditions.

DEVELOPMENT ASSESSMENT FEES

17. The applicant or landowner as the case may be, must pay a development assessment fee of \$351.28 and a Consent to Register a Legal Document fee of \$149.20 to TasWater, as approved by the Economic Regulator and the fee will be indexed, until the date paid to TasWater.

The payment is required within 30 days of the issue of an invoice by TasWater.

18. In the event Council approves a staging plan, a Consent to Register a Legal Document fee for each stage, must be paid commensurate with the number of Equivalent Tenements in each stage, as approved by Council.

Advice

General

For information on TasWater development standards, please visit <http://www.taswater.com.au/Development/Development-Standards>

For application forms please visit <http://www.taswater.com.au/Development/Forms>

Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

The location of this infrastructure as shown on the GIS is indicative only.

- (a) A permit is required to work within TasWater’s easements or in the vicinity of its infrastructure. Further information can be obtained from TasWater
- (b) TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit www.taswater.com.au/Development/Service-location for a list of companies
- (c) TasWater will locate residential water stop taps free of charge
- (d) Sewer drainage plans or Inspection Openings (IO) for residential properties are available from your local council.

Declaration

The drawings/documents and conditions stated above constitute TasWater’s Submission to Planning Authority Notice.

Authorised by



Jason Taylor
Development Assessment Manager

TasWater Contact Details

Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au

LAND & ENGINEERING SURVEYORS

DAVID B. MILLER (B. Surv.)
REGISTERED LAND SURVEYOR
(DIRECTOR)

BRIGHTON COUNCIL PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



"THE STRIDES BUILDING",
3-5 WILMOT ROAD,
HUONVILLE
TELEPHONE: (03) 6264 1722
(Thursdays)

SORELL
TELEPHONE: (03) 6265 2208

E-mail: admin@blcsurveyors.com.au

Our Reference: BAILK09/sf
24th February 2021

Brighton Council
1 Tivoli Road
OLD BEACH TAS 7017

Dear Sir/Madam

RE: Proposed Subdivision – 19 Burrows Avenue, Brighton for A.E. Terry.

Further to our client's instructions, please find enclosed:

1. A copy of the above named Proposed Subdivision.
2. A copy of the relevant title.
3. Council Development Application Form.
4. A copy of the Crown Land Development Application Request Form.

Your advice in relation to necessary Council fees is requested. We advise that on receipt of Council's invoice, we will forward same to our client for payment.

The following matters are relevant to the application.

The land is zoned General Residential under the Brighton Interim Planning Scheme and the intention is for lots 4 to 8 and the Balance lot to have access on to a new public road constructed within the Crown Road Reserve adjacent to and on the east of the site, It is also intended to provide new piped sewer and stormwater connections from the subdivision to the existing infrastructure in Racecourse Road through the Crown Reserved Road, see plan. Accordingly we have made an application to the Crown for landowner consent to the subdivision application.

We advise that this layout has previously been discussed with Council at a preliminary level with Council indicating general support for the concept. We understand Council will require additional detail in relation to servicing and road design however at this stage we wish to confirm Crown landowner consent before engaging a civil engineer.

Should you require any further information or have any queries, please do not hesitate to contact.

We now await your further advice.

Yours faithfully


for: David Miller.

**Brooks, Lark
and Carrick
SURVEYORS**

UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@blcsurveyors.com.au
WEB: www.rbsurveyors.com

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

D. Alf

This plan has been prepared only for the purpose of obtaining preliminary subdivisional approval from the local authority and is subject to that approval.

All measurements and areas are subject to the final survey.

Base image by TASMAR (www.tasmap.tas.gov.au), © State of Tasmania
Base data from the LIST (www.thelist.tas.gov.au), © State of Tasmania



LEGEND

- s—s—s— EXISTING SEWER MAIN
- s—s—s— PROPOSED SEWER MAIN
- sw—sw—sw— EXISTING STORMWATER MAIN
- sw—sw—sw— PROPOSED STORMWATER MAIN
- w—w—w— EXISTING WATER MAIN
- w—w—w— PROPOSED WATER MAIN

PROPOSED STAGING
STAGE 1 : LOTS 1 to 3
STAGE 2 : LOTS 4 to 8 & Balance

NOTE:
1. SERVICING & ROAD DETAILS SUBJECT TO APPROVED ENGINEERING DESIGN.

SHEET 1

E				
D				
C				
B				
A				
REV	AMENDMENTS	DRAWN	DATE	APPR.

OWNER: A.E. TERRY
TITLE REFERENCE: C.T.130608-10
LOCATION: 19 BURROWS AVENUE
BRIGHTON

Proposed Subdivision		
Date:	24-02-2021	Reference: BAILK09 12403-01
Scale:	1:500 (A3)	Municipality: BRIGHTON

**Brooks, Lark
and Carrick
SURVEYORS**

UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@blcsurveyors.com.au
WEB: www.rbsurveyors.com

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: P12021/006 Date Permit issued: 07/1/2022
Authorised Officer

RACIOCOURT ROAD
EX DN150 Sewer Main

This plan has been prepared only for the purpose of obtaining preliminary approval from the local authority and is subject to that approval.

All measurements and areas are subject to the final survey.

Base image by TASMAP (www.tasmap.tas.gov.au), © State of Tasmania
Base data from the LIST (www.thelist.tas.gov.au), © State of Tasmania

ROAD

Ex DN100 Water Main

LEGEND

- S—S—S— EXISTING SEWER MAIN
- S—S—S— PROPOSED SEWER MAIN
- SW—SW—SW— EXISTING STORMWATER MAIN
- SW—SW—SW— PROPOSED STORMWATER MAIN
- W—W—W— EXISTING WATER MAIN
- W—W—W— PROPOSED WATER MAIN

PROPOSED NEW SEWER & STORMWATER MAINS THROUGH CROWN LAND

NOTE:
1. SERVICING DETAILS SUBJECT TO APPROVED ENGINEERING DESIGN.

SHEET 2

BURROWS AVENUE

Ex DN150 Water Main

E				
D				
C				
B				
A				
REV	AMENDMENTS	DRAWN	DATE	APPR.

OWNER: THE CROWN
TITLE REFERENCE: UNGRANTED
LOCATION: 19 BURROWS AVENUE BRIGHTON

Proposed Subdivision

Date: 24-02-2021 Reference: BAILK09 12403-01
Scale: 1:500 (A3) Municipality: BRIGHTON

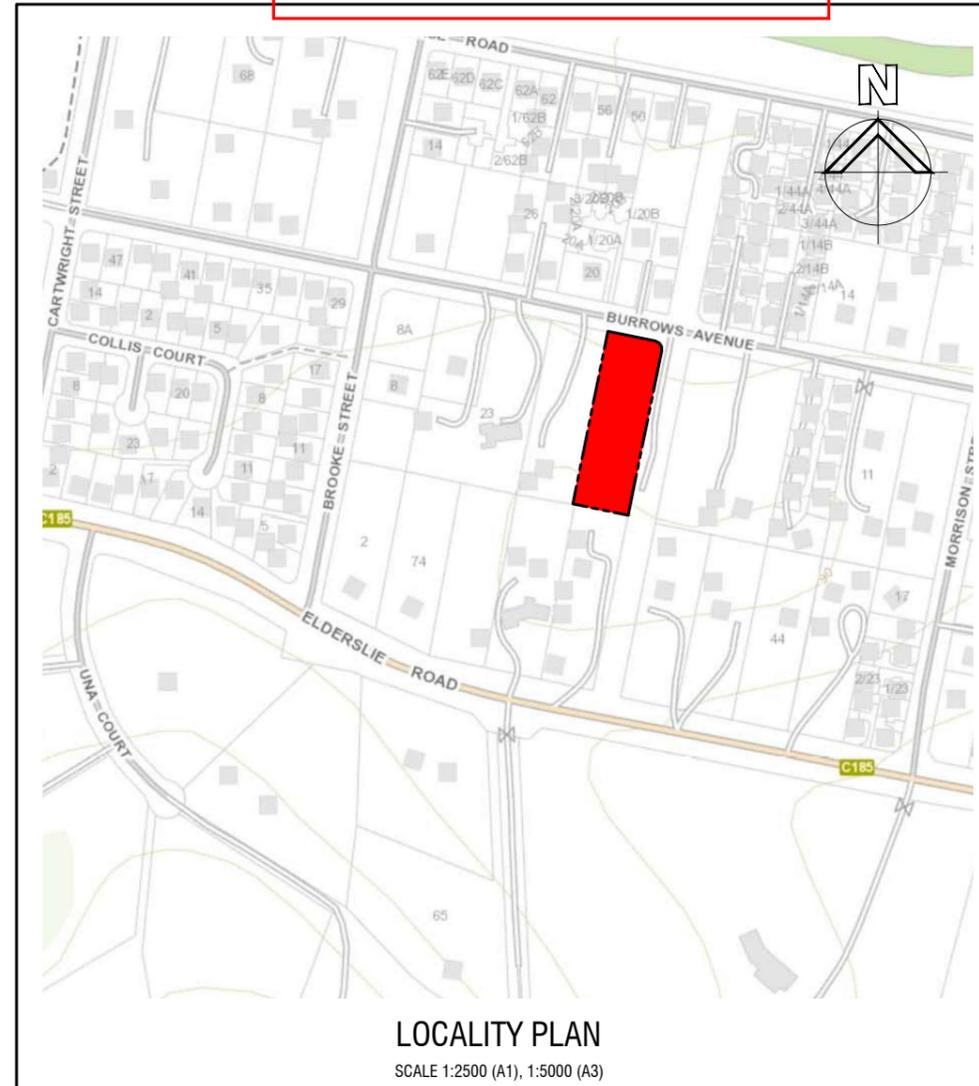
**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer



**PROPOSED SUBDIVISION
19 BURROWS AVE, BRIGHTON
FOR HUNTINGFIELD DEVELOPMENTS PTY LTD**

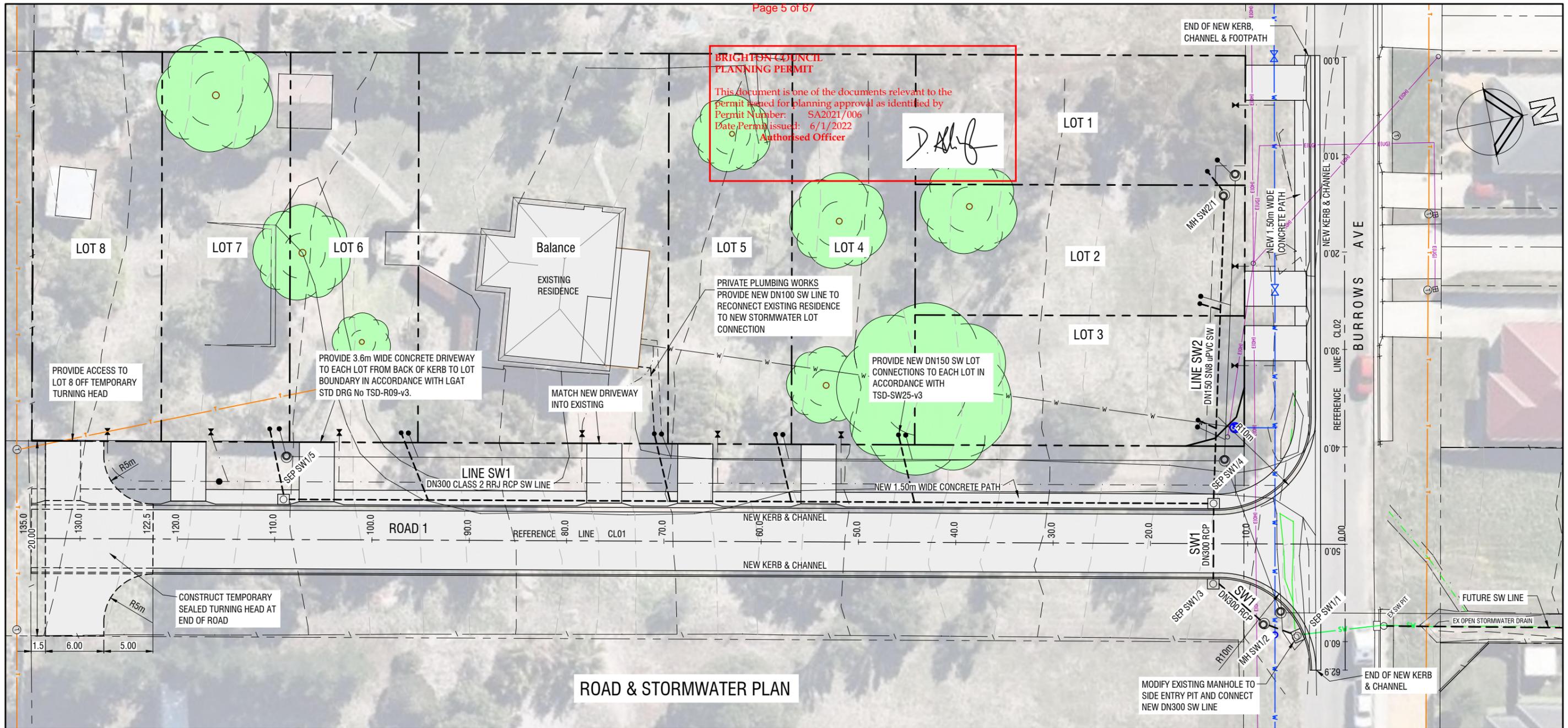
DRAWING No.	DRAWING TITLE
H21067-C01	LOCALITY PLAN & DRAWING INDEX
H21067-C02	ROAD & STORMWATER PLAN
H21067-C03	SEWER & WATER SUPPLY PLAN - SHEET 1 OF 2
H21067-C04	SEWER & WATER SUPPLY PLAN - SHEET 2 OF 2
H21067-L01	ROAD 1 LONGITUDINAL SECTION
H21067-X01	ROAD 1 CROSS SECTIONS
H21067-V01	LANDSCAPE PLAN



NOTES

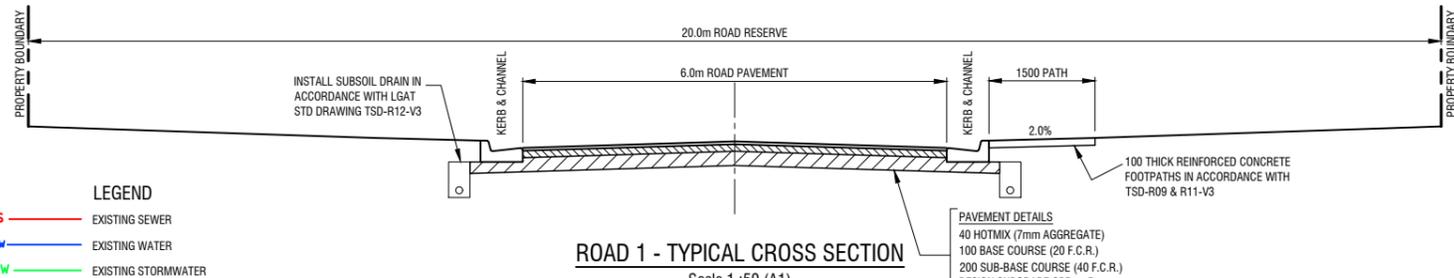
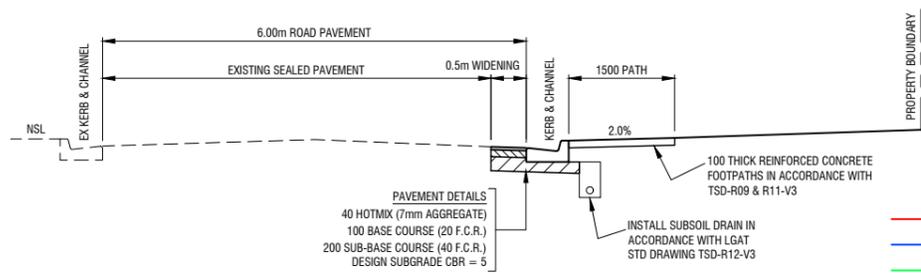
- GENERAL**
- G1 ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL REQUIREMENTS AND CURRENT LGAT STANDARD DRAWINGS DATED 03/12/2020.
 - G2 THE CONTRACTOR SHALL LIAISE WITH ALL RELEVANT AUTHORITIES TO LOCATE ALL EXISTING SERVICES WITHIN THE CONTRACT AREA PRIOR TO THE COMMENCEMENT OF WORK. EXISTING SERVICE LOCATIONS SHOWN ON THIS DRAWING ARE ASSUMED FROM SURFACE FEATURES AND INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES, NO GUARANTEE IS GIVEN THAT THE INFORMATION IS CORRECT OR COMPLETE.
 - G3 THE CONTRACTOR IS RESPONSIBLE FOR UNDERTAKING ALL MEASURES NECESSARY TO PROTECT AND MAINTAIN EXISTING SERVICES AT ALL TIMES.
 - G4 SOIL AND WATER MANAGEMENT IS TO COMPLY WITH BEST PRACTICE TO PREVENT ANY TRANSFER OF SOIL MATERIAL OUTSIDE OF THE AREA SPECIFICALLY AND NECESSARILY DISTURBED FOR CONSTRUCTION OF THE SUBDIVISION.
 - G5 SOIL MATERIAL IS NOT TO BE TRACKED ONTO EXISTING ROADS AND FOOTPATHS.
 - G6 ALL OPENINGS TO EXISTING STORMWATER LINES ARE TO REMAIN SEALED UNTIL IT IS NECESSARY TO CONNECT NEW WORK. OPENINGS WHICH HAVE TO BE LEFT OPEN ARE TO BE PROTECTED FROM INFILTRATION IN ACCORDANCE WITH "GUIDELINES FOR SEDIMENT CONTROL - TSD-SW28-v3".
 - G7 NO SEDIMENT IS TO BE ALLOWED TO WASH ONTO ADJACENT PROPERTY - PREVENTION METHODS AS REQUIRED BY THE SUPERINTENDENT ON SITE.
 - G8 THE CONTRACTOR SHALL ESTABLISH ALL LEVELS FROM THE REFERENCE MARKS SHOWN ON THIS DRAWING OR AS PROVIDED BY THE PROJECT SURVEYOR.
 - G9 ALL SERVICES WITHIN THE ROAD RESERVATION ARE TO BE LOCATED IN ACCORDANCE WITH STANDARD DRAWING TSD-G02-v3.
 - G10 EASEMENTS ARE TO BE PROVIDED OVER ALL LINES WITHIN LOTS. PIPES RUNNING PARALLEL TO PROPERTY BOUNDARY WILL TYPICALLY BE 2.0m WIDE OVER SINGLE PIPES AND 3.0m WIDE OVER DUAL PIPES, UNLESS SHOWN OTHERWISE ON THE PLANS. FOR VARIABLE WIDTH EASEMENTS MAINTAIN MIN. 1.0m CLEARANCE FROM PIPE CENTRELINE TO EASEMENT BOUNDARY. THE CONTRACTOR IS TO ENSURE ALL PIPELINES AND ASSOCIATED STRUCTURES ARE CONTAINED WHOLLY WITHIN THE EASEMENT.
- DRIVEWAY AND STORMWATER DRAINAGE**
- R1 ALL NEW WORKS SHALL TRANSITION SMOOTHLY TO EXISTING WORKS.
 - R2 STORMWATER LINES WITHIN PROPERTIES ARE OFFSET 1.0m FROM THE BOUNDARY LINE TO THE PIPE CENTRELINE, UNLESS NOTED OTHERWISE.
 - R3 PROVIDE DN150 STORMWATER LOT CONNECTIONS AS INDICATED ON THE PLAN. CONNECTIONS TO BE INSTALLED IN ACCORDANCE WITH TSD-SW25-v3, TSD-SW26-v3 & TSD-SW27-v3.
 - R4 PROVIDE NEW REINFORCED CONCRETE DRIVEWAYS IN ACCORDANCE WITH TSD-R09-v3 & TSD-R16-v3.
 - R5 PIPE INSTALLATION IS TO BE IN ACCORDANCE WITH TSD-G01-v3.
 - R6 ALL TRENCHES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED PAVEMENT LEVEL IN ACCORDANCE WITH TSD-G01-v3.
- TASWATER NOTES**
- T1 ALL WORKS ARE TO BE IN ACCORDANCE WITH WATER SUPPLY CODE OF AUSTRALIA WSA 03 -2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND GRAVITY SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1 MRWA EDITION V2.0 AND TASWATER'S SUPPLEMENTS TO THESE CODES.
 - T2 ALL LIVE CONNECTIONS MUST BE PERFORMED BY TASWATER APPROVED CONTRACTOR AT DEVELOPER'S COST.
 - T3 ALL 150 DIA SEWER PIPES TO BE UPVC CLASS SN8 UPVC.
 - T4 ALL 100 DIA SEWER PIPES TO BE UPVC CLASS SN10 UPVC.
 - T4 INSTALL NEW SEWER DN100 LOT CONNECTIONS IN ACCORDANCE WITH MRWA-S-302. PROVIDE INSPECTION OPENINGS RAISED TO SURFACE AND PROTECTED WITH A POLY COVER TO TASWATER APPROVAL.
 - T5 SINGLE WATER SERVICE LOT CONNECTIONS TO BE 25 DIA PE100 PN16 PIPE.
 - T6 ALL PIPES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED SURFACE LEVEL.
 - T7 ALL WORKS MUST BE TESTED AND INSPECTED BY TASWATER PRIOR TO BACKFILLING TRENCHES.

No.	Revision	Date	COPYRIGHT:	Henry design and consulting	CIVIL ENGINEERS CERTIFICATION	DESIGNED	DRAWN	CLIENT	DRAWING TITLE	DRG NO.	REV
A	DA ISSUE	OCT 2021	"This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited."	ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061	 TAS LICENCE No: CC2703F DATE: 26/10/2021 THIS CERTIFICATION ONLY VALID WHEN SIGNED	PAH	PAH	Huntingfield Developments Pty Ltd	PROPOSED SUBDIVISION 19 BURROWS AVENUE, BRIGHTON	H21067-C01	A
PROJECT: 19 BURROWS AVENUE, BRIGHTON DATE: OCT 2021 CAD FILE No: H21067-01 SCALE: AS SHOWN									LOCALITY PLAN & DRAWING INDEX	SHEET OF	A1



PRIVATE PLUMBING NOTES

- ALL PLUMBING WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS3500 - PLUMBING AND DRAINAGE CODE, THE NATIONAL CONSTRUCTION CODE (NCC) VOLUME 3 AND TO COUNCIL REQUIREMENTS.
- THE FINAL LOCATION OF ALL SEWER, STORMWATER & WATER LINES ARE TO BE CONFIRMED ON-SITE.
- UNLESS SHOWN OTHERWISE THE FOLLOWING MINIMUM GRADES ARE TO BE ADOPTED:
 SEWER
 DN100 - 1:60 (1.65%)
 STORMWATER
 DN100 - 1:100 (1.00%)
 DN150 - 1:100 (1.00%)
- ALL PIPE TRENCHES IN TRAFFICABLE AREAS ARE TO BE BACKFILLED TO UNDERSIDE OF BASECOURSE LAYER WITH COMPACTED FCR.
- ALL INSPECTION OPENINGS IN PAVED AREAS TO BE FITTED WITH BOLTED CAP AT FINISHED SLAB LEVEL.
- ALL SANITARY SEWER AND STORMWATER PIPE TO BE DWV CLASS S16 SCJ UPVC.

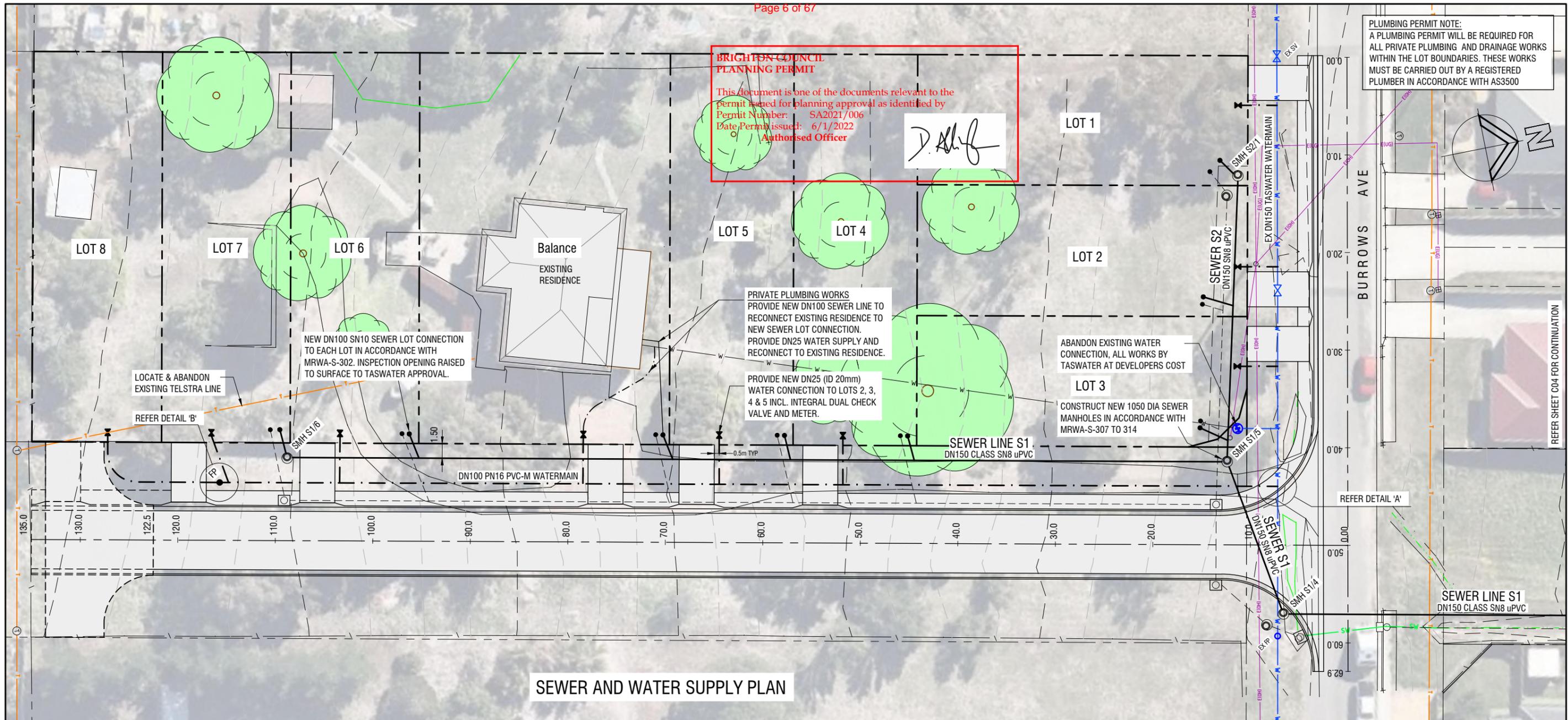


- LEGEND**
- S - EXISTING SEWER
 - W - EXISTING WATER
 - SW - EXISTING STORMWATER
 - T - EXISTING TELSTRANBN
 - EUGI - EXISTING UNDERGROUND ELEC
 - EUDH - EXISTING UNDERGROUND ELEC
 - - - - - PROPOSED LOT BOUNDARY
 - - - - - PROPOSED SEWER
 - - - - - PROPOSED WATER
 - - - - - PROPOSED STORMWATER



PLUMBING PERMIT NOTE:
 A PLUMBING PERMIT WILL BE REQUIRED FOR ALL PRIVATE PLUMBING AND DRAINAGE WORKS WITHIN THE LOT BOUNDARIES. THESE WORKS MUST BE CARRIED OUT BY A REGISTERED PLUMBER IN ACCORDANCE WITH AS3500

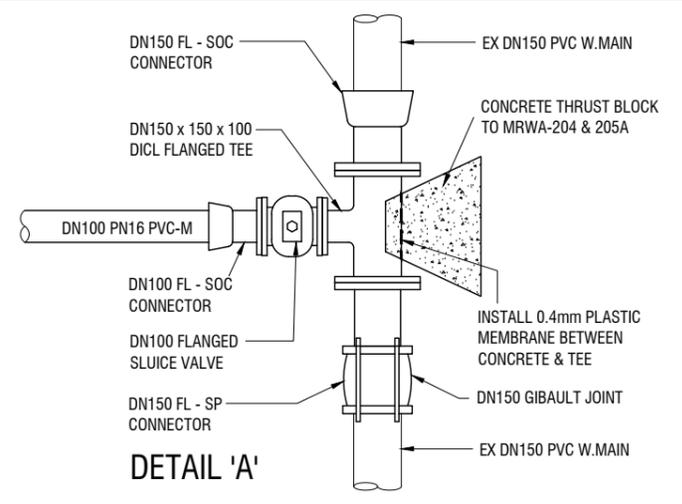
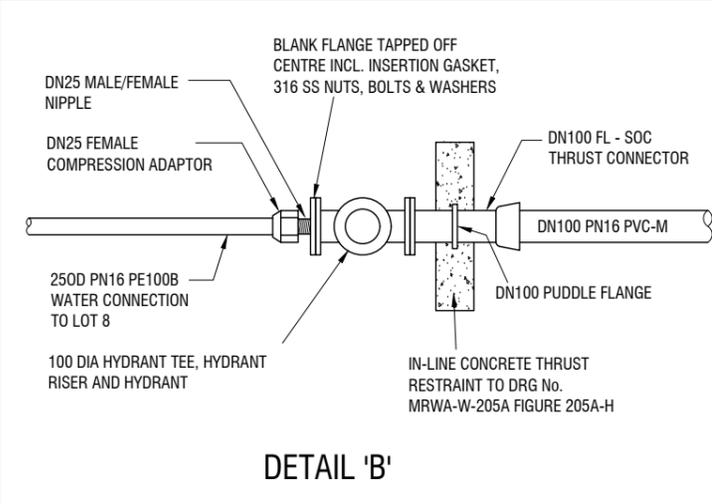
No.	Revision	Date	COPYRIGHT: *This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*	 ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061	CIVIL ENGINEERS CERTIFICATION TAS LICENCE No: CC2703F DATE: 26/10/2021 THIS CERTIFICATION ONLY VALID WHEN SIGNED	DESIGNED PAH	DRAWN PAH	CLIENT Huntingfield Developments Pty Ltd	DRAWING TITLE PROPOSED SUBDIVISION 19 BURROWS AVENUE, BRIGHTON ROAD & STORMWATER PLAN	DRG NO. H21067-C02	REV A
A	DA ISSUE	OCT 2021				CHECKED	APPROVED	PROJECT 19 BURROWS AVENUE, BRIGHTON		DATE: OCT 2021	CAD FILE No: H21067-01



PLUMBING PERMIT NOTE:
 A PLUMBING PERMIT WILL BE REQUIRED FOR ALL PRIVATE PLUMBING AND DRAINAGE WORKS WITHIN THE LOT BOUNDARIES. THESE WORKS MUST BE CARRIED OUT BY A REGISTERED PLUMBER IN ACCORDANCE WITH AS3500

BRIGHTON COUNCIL PLANNING PERMIT
 This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006 Date Permit issued: 6/1/2022
 Authorised Officer *D. Kelly*

SEWER AND WATER SUPPLY PLAN



- TASWATER NOTES:**
- ALL LIVE CONNECTIONS MUST BE PERFORMED BY TASWATER AT DEVELOPERS COST.
 - ALL WORKS MUST BE TESTED AND INSPECTED BY TASWATER PRIOR TO BACKFILLING.
 - ALL WORKS ARE TO BE IN ACCORDANCE WITH WATER SUPPLY CODE OF AUSTRALIA WSA 03-2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND GRAVITY SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1 MRWA EDITION V2.0 AND TASWATER'S SUPPLEMENTS TO THESE CODES. THE CONTRACTOR SHALL PROTECT ALL TASWATER ASSETS AND ANY DAMAGE TO TASWATER ASSETS MUST BE PROMPTLY REPORTED TO TASWATER. ANY REPAIRS ARE TO BE CARRIED OUT BY TASWATER AT CONTRACTORS COST.
 - ALL 150 DIA SEWER PIPES TO BE UPVC CLASS SN8. ALL 100 DIA SEWER PIPES TO BE UPVC CLASS SN10.
 - INSTALL NEW DN100 SEWER LOT CONNECTIONS IN ACCORDANCE WITH MRWA-S-302. PROVIDE INSPECTION OPENINGS RAISED TO SURFACE AND PROTECTED WITH A POLY COVER TO TASWATER APPROVAL.
 - ALL PIPES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED SURFACE LEVEL.
 - THE MAXIMUM ALLOWABLE ANGULAR DEFLECTION AT THE RRJ uPVC WATERMAIN PIPE JOINT IS 1 DEG. THIS IS APPROX. EQUIV. TO A 100mm OFFSET FOR A 6m PIPE. NOTE THAT THIS ANGULAR DEFLECTION IS ONLY AVAILABLE WHEN PIPES ARE JOINED TO THE WITNESS MARKS.
 - DETECTOR TAPE IS TO BE INSTALLED OVER ALL NON METALLIC WATERMAINS.
 - CONDUITS FOR POLY ROAD CROSSINGS TO BE MIN DN100 UPVC CLASS SN4.
 - SINGLE WATER SERVICE LOT CONNECTIONS TO BE 25 OD PE100 PN16 PIPE. ALL WORKS BY TASWATER AT DEVELOPERS COST.

LEGEND

- S - EXISTING SEWER
- W - EXISTING WATER
- SW - EXISTING STORMWATER
- T - EXISTING TELSTRA/ANBN
- E(U)G - EXISTING UNDERGROUND ELEC
- E(O)H - EXISTING UNDERGROUND ELEC
- - - - - PROPOSED LOT BOUNDARY
- - - - - PROPOSED SEWER
- - - - - PROPOSED WATER
- - - - - PROPOSED STORMWATER

WARNING
 BEWARE OF UNDERGROUND SERVICES
 The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100 BEFORE YOU DIG

MINIMUM SEWER PIPE COVER REQUIREMENTS
 (REFER MRWA-S-201 TABLE 201-C)

LOCATION	MINIMUM COVER
• PRIVATE PROPERTY AND PUBLIC LAND NOT SUBJECT TO VEHICULAR LOADING	600mm - NEW DEVELOPMENTS 450mm - EXISTING DEVELOPMENTS
• PRIVATE RESIDENTIAL PROPERTY SUBJECT TO VEHICULAR LOADING	750mm
• FOOTWAY, NATURE STRIPS AND SEALED ROAD PAVEMENTS SUBJECT TO VEHICULAR LOADING	900mm

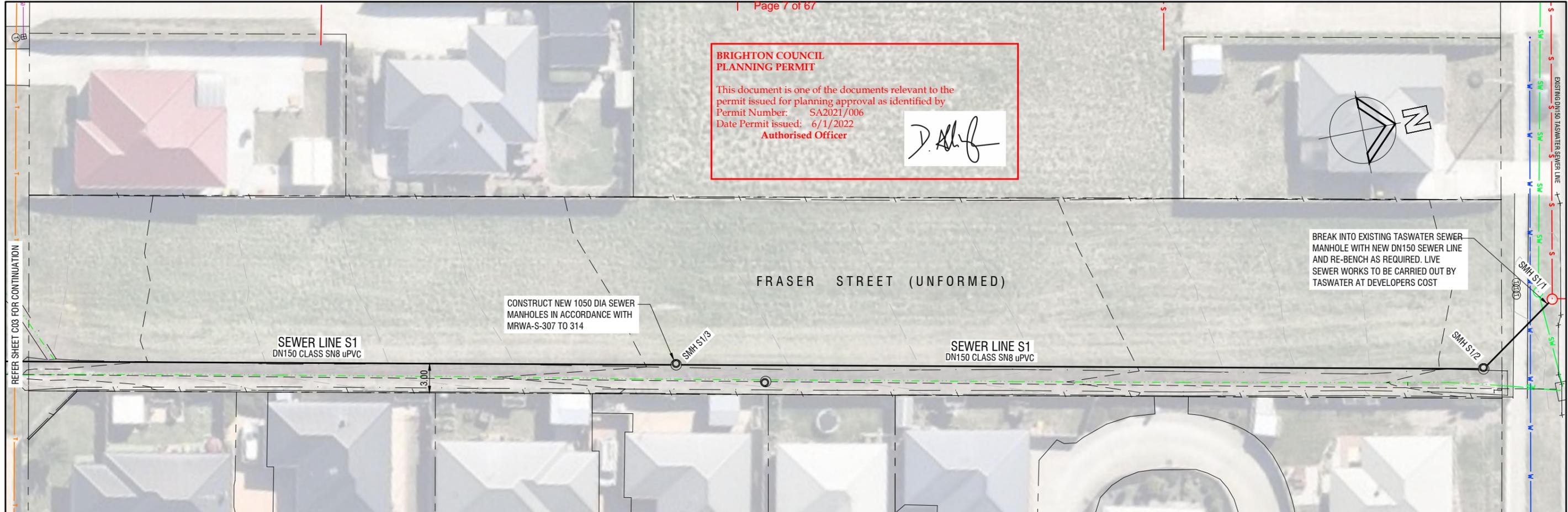
MINIMUM WATER PIPE COVER REQUIREMENTS

LOCATION	MINIMUM COVER
• NON ROADWAYS - GENERAL	450mm
• INDUSTRIAL COMMERCIAL	600mm
• SEALED ROADS	600mm
• EMBANKMENTS	750mm

No.	Revision	Date	<p>COPYRIGHT: *This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*</p>	<p>Henry design and consulting ABN 91115 998 724 ACN 115 998 724 Unit 17/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061</p>	<p>CIVIL ENGINEERS CERTIFICATION <i>P. Kelly</i> TAS LICENCE No: CC2703F DATE: 26/10/2021 THIS CERTIFICATION ONLY VALID WHEN SIGNED</p>	DESIGNED PAH	DRAWN PAH	CLIENT Huntingfield Developments Pty Ltd	DRAWING TITLE PROPOSED SUBDIVISION 19 BURROWS AVENUE, BRIGHTON SEWER & WATER SUPPLY PLAN	DRG NO. H21067-C03	REV A
A	DA ISSUE	OCT 2021				CHECKED	APPROVED	PROJECT 19 BURROWS AVENUE, BRIGHTON		SCALE: 1:200 (A1), 1:400 (A3)	DATE: OCT 2021

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer

TASWATER NOTES:

- ALL LIVE CONNECTIONS MUST BE PERFORMED BY TASWATER AT DEVELOPERS COST.
- ALL WORKS MUST BE TESTED AND INSPECTED BY TASWATER PRIOR TO BACKFILLING.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH WATER SUPPLY CODE OF AUSTRALIA WSA 03 -2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND GRAVITY SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1 MRWA EDITION V2.0 AND TASWATER'S SUPPLEMENTS TO THESE CODES. THE CONTRACTOR SHALL PROTECT ALL TASWATER ASSETS AND ANY DAMAGE TO TASWATER ASSETS MUST BE PROMPTLY REPORTED TO TASWATER. ANY REPAIRS ARE TO BE CARRIED OUT BY TASWATER AT CONTRACTORS COST.
- ALL 150 DIA SEWER PIPES TO BE UPVC CLASS SN8. ALL 100 DIA SEWER PIPES TO BE UPVC CLASS SN10.
- INSTALL NEW DN100 SEWER LOT CONNECTIONS IN ACCORDANCE WITH MRWA-S-302. PROVIDE INSPECTION OPENINGS RAISED TO SURFACE AND PROTECTED WITH A POLY COVER TO TASWATER APPROVAL.
- ALL PIPES IN TRAFFICABLE AREAS TO BE BACKFILLED WITH FCR TO FINISHED SURFACE LEVEL.
- THE MAXIMUM ALLOWABLE ANGULAR DEFLECTION AT THE RRJ UPVC WATERMAIN PIPE JOINT IS 1 DEGREE. THIS IS APPROX. EQUIV. TO A 100mm OFFSET FOR A 6m PIPE. NOTE THAT THIS ANGULAR DEFLECTION IS ONLY AVAILABLE WHEN PIPES ARE JOINTED TO THE WITNESS MARKS.
- DETECTOR TAPE IS TO BE INSTALLED OVER ALL NON METALLIC WATERMANS.
- CONDUITS FOR POLY ROAD CROSSINGS TO BE MIN DN100 UPVC CLASS SN4.
- SINGLE WATER SERVICE LOT CONNECTIONS TO BE 25 OD PE100 PN16 PIPE. ALL WORKS BY TASWATER AT DEVELOPERS COST.
- THE CONTRACTOR IS TO ARRANGE FOR AN "AS BUILT" SURVEY OF THE AS INSTALLED WATER AND SEWER INFRASTRUCTURE TO BE UNDERTAKEN BY A REGISTERED SURVEYOR IN ACCORDANCE WITH TASWATER REQUIREMENTS.

LEGEND

	EXISTING SEWER
	EXISTING WATER
	EXISTING STORMWATER
	EXISTING TELSTRA/NBN
	EXISTING UNDERGROUND ELEC
	EXISTING UNDERGROUND ELEC
	PROPOSED LOT BOUNDARY
	PROPOSED SEWER
	PROPOSED WATER
	PROPOSED STORMWATER

MINIMUM SEWER PIPE COVER REQUIREMENTS
(REFER MRWA-S-201 TABLE 201-C)

LOCATION	MINIMUM COVER
• PRIVATE PROPERTY AND PUBLIC LAND NOT SUBJECT TO VEHICULAR LOADING	600mm - NEW DEVELOPMENTS 450mm - EXISTING DEVELOPMENTS
• PRIVATE RESIDENTIAL PROPERTY SUBJECT TO VEHICULAR LOADING	750mm
• FOOTWAY, NATURE STRIPS AND SEALED ROAD PAVEMENTS SUBJECT TO VEHICULAR LOADING	900mm

MINIMUM WATER PIPE COVER REQUIREMENTS

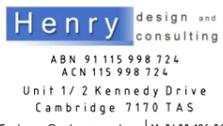
LOCATION	MINIMUM COVER
• NON ROADWAYS - GENERAL - INDUSTRIAL COMMERCIAL	450mm 600mm
• SEALED ROADS	600mm
• EMBANKMENTS	750mm



WARNING
BEWARE OF UNDERGROUND SERVICES

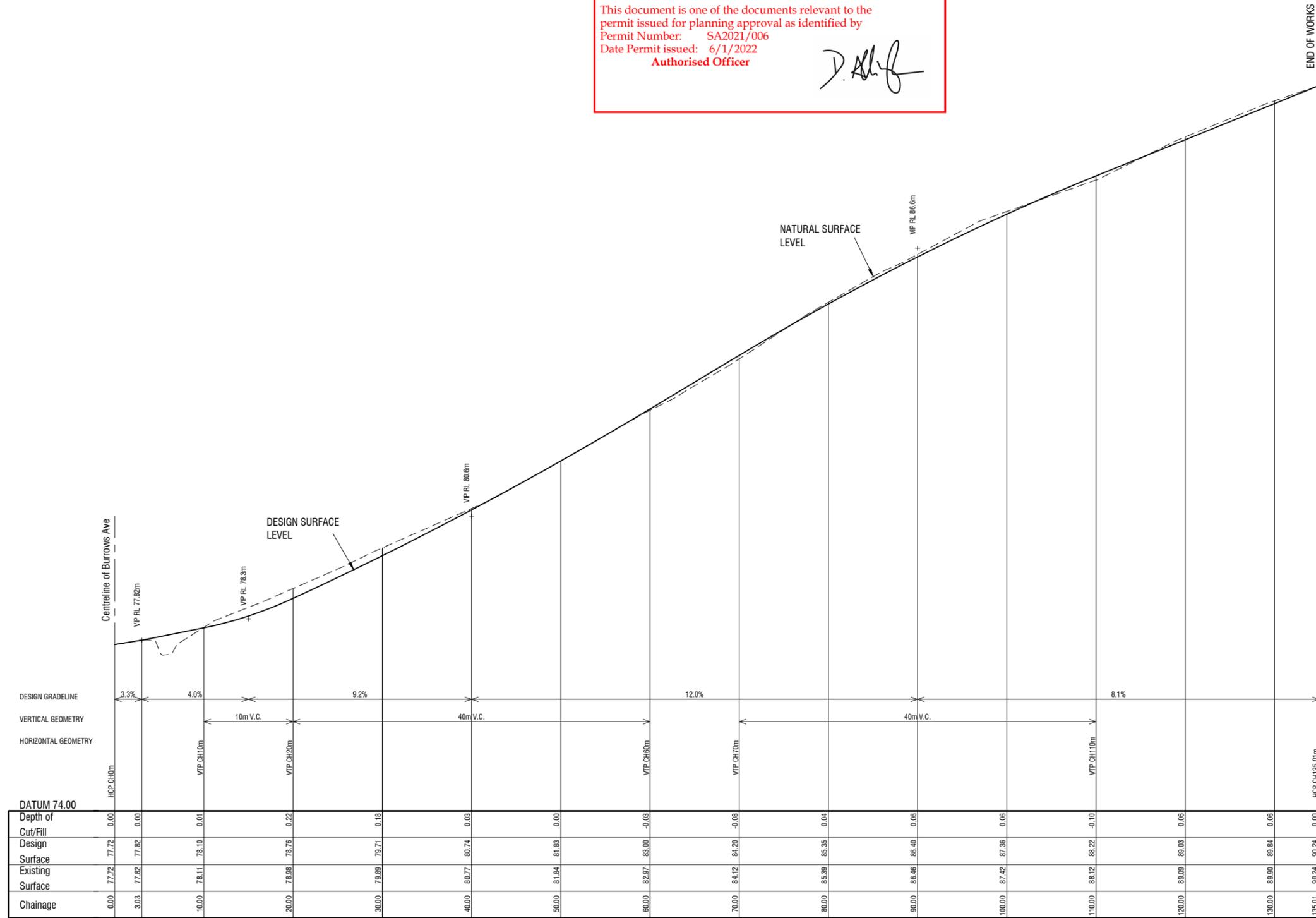
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

DIAL 1100
BEFORE YOU DIG

No.	Revision	Date	<p>COPYRIGHT: *This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*</p>	 <p>ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061</p>	<p>CIVIL ENGINEERS CERTIFICATION</p>  <p>TAS LICENCE No: CC2703F DATE: 26/10/2021 THIS CERTIFICATION ONLY VALID WHEN SIGNED</p>	<p>DESIGNED: PAH DRAWN: PAH CHECKED: APPROVED</p>	<p>CLIENT: Huntingfield Developments Pty Ltd PROJECT: 19 BURROWS AVENUE, BRIGHTON</p>	<p>DRAWING TITLE: PROPOSED SUBDIVISION 19 BURROWS AVENUE, BRIGHTON SEWER & WATER SERVICES PLAN - SHEET 2 OF 2</p>	DRG NO.	REV
A	DA ISSUE	OCT 2021				SCALE: 1:200 (A1), 1:400 (A3)	DATE: OCT 2021	CAD FILE No: H21067-01	H21067-C04	A
									SHEET OF	A1

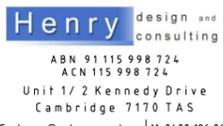
**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer

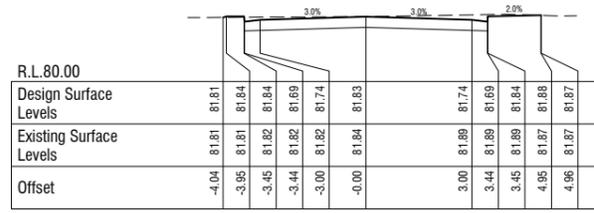
LONGITUDINAL SECTION - CL01

Horizontal scale 1:250
 Vertical scale 1:50

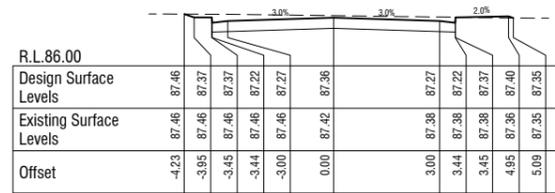
No.	Revision	Date	<p>COPYRIGHT: *This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*</p>	 <p>ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061</p>	<p>CIVIL ENGINEERS CERTIFICATION  TAS LICENCE No: CC2703F DATE: 26/10/2021 THIS CERTIFICATION ONLY VALID WHEN SIGNED</p>	DESIGNED PAH	DRAWN PAH	CLIENT Huntingfield Developments Pty Ltd	DRAWING TITLE PROPOSED SUBDIVISION 19 BURROWS AVENUE, BRIGHTON ROAD 1 LONGITUDINAL SECTIONS	DRG NO. H21067-L01	REV A
A	DA ISSUE	OCT 2021				CHECKED	APPROVED	PROJECT 19 BURROWS AVENUE, BRIGHTON		SCALE: AS SHOWN	DATE: OCT 2021

**BRIGHTON COUNCIL
PLANNING PERMIT**

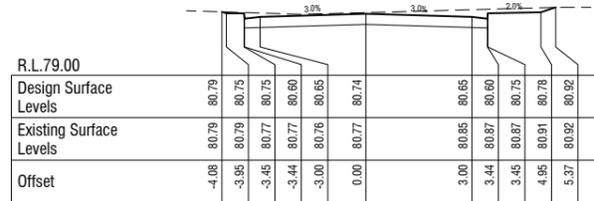
This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006 Date Permit issued: 6/1/2022
Authorised Officer

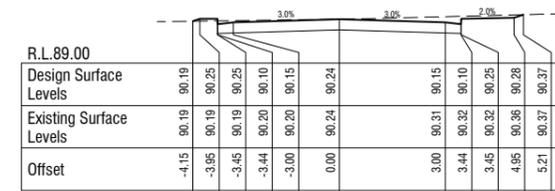
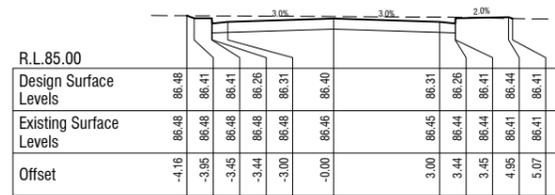
CH 50.00



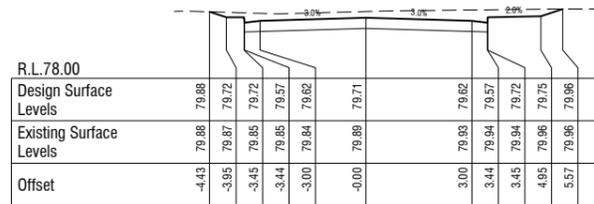
CH 100.00



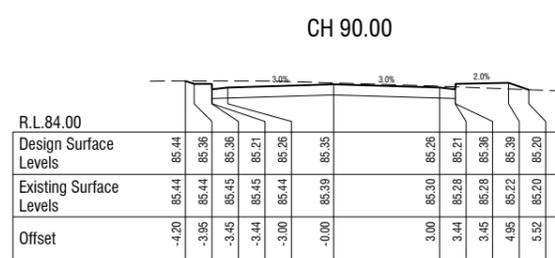
CH 40.00



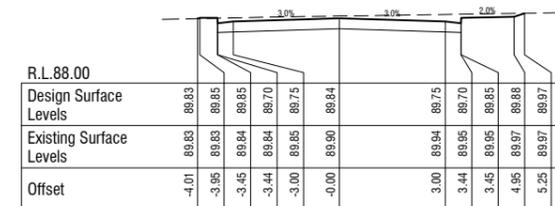
CH 135.01



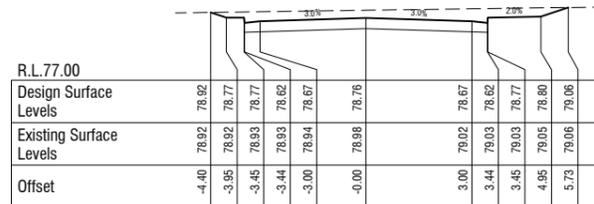
CH 30.00



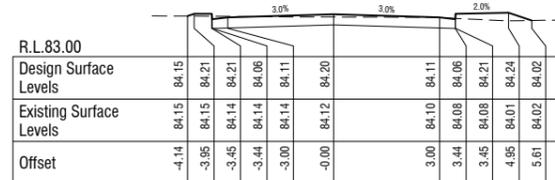
CH 80.00



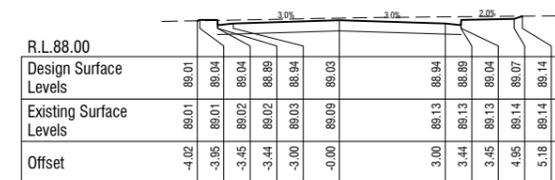
CH 130.00



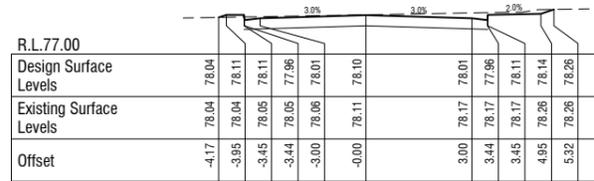
CH 20.00



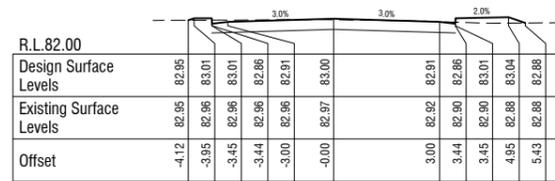
CH 70.00



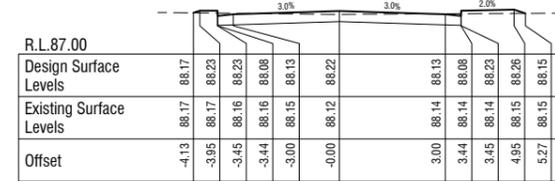
CH 120.00



CH 10.00

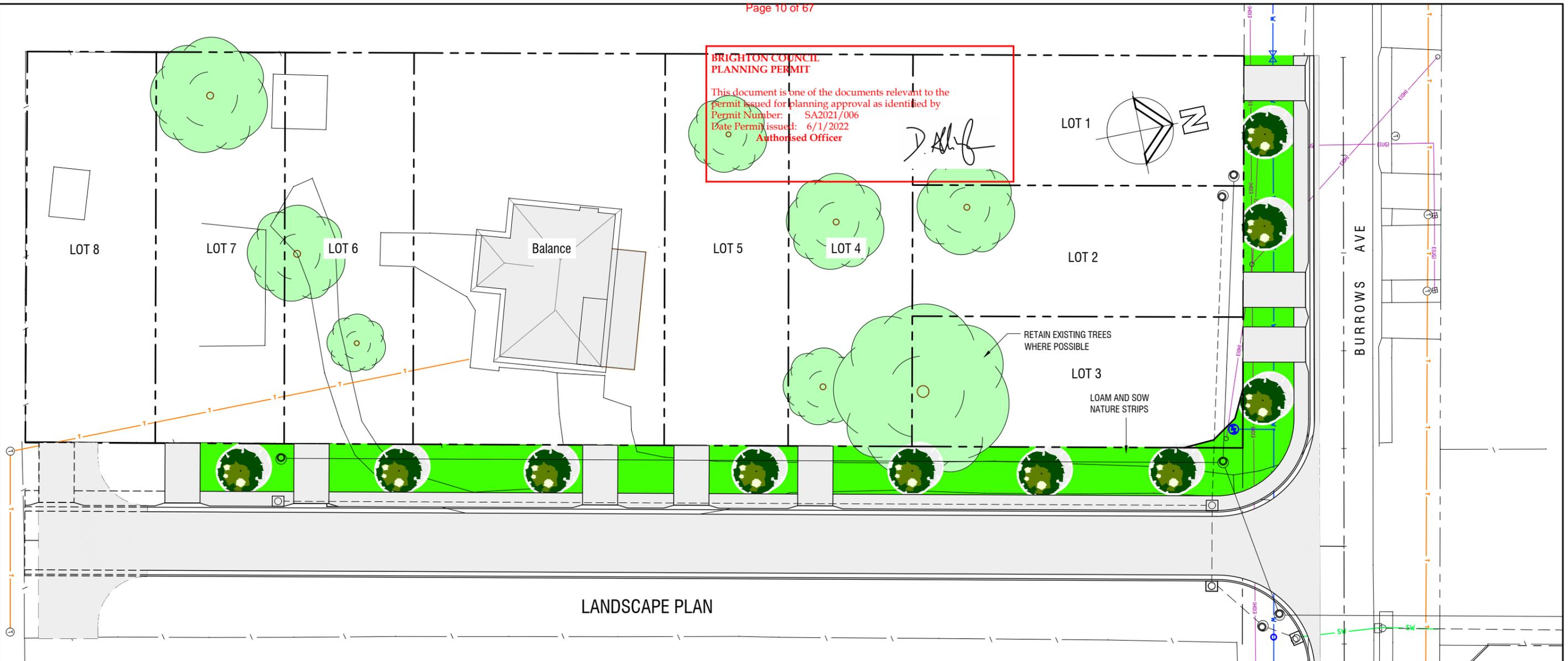


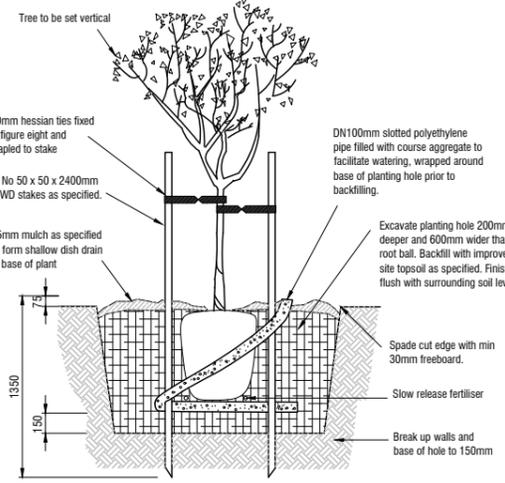
CH 60.00



CH 110.00

No.	Revision	Date	<p>COPYRIGHT: This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*</p>	 <p>ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061</p>	<p>CIVIL ENGINEERS CERTIFICATION</p>  <p>TAS LICENCE No: CC2703F DATE: 26/10/2021 THIS CERTIFICATION ONLY VALID WHEN SIGNED</p>	DESIGNED PAH	DRAWN PAH	CLIENT Huntingfield Developments Pty Ltd	DRAWING TITLE PROPOSED SUBDIVISION 19 BURROWS AVENUE, BRIGHTON ROAD 1 CROSS SECTIONS	DRG NO. H21067-X01	REV A
A	DA ISSUE	OCT 2021				CHECKED	APPROVED	PROJECT 19 BURROWS AVENUE, BRIGHTON		DATE: OCT 2021	CAD FILE No: H21067-01



TREE SPECIES NAME	QTY	
 <p><i>Banksia Marginata</i> – Silver Banksia</p> 	11 No	 <p>Tree to be set vertical</p> <p>50mm hessian ties fixed in figure eight and stapled to stake</p> <p>2 No 50 x 50 x 2400mm HWD stakes as specified.</p> <p>75mm mulch as specified to form shallow dish drain at base of plant</p> <p>DN100mm slotted polyethylene pipe filled with coarse aggregate to facilitate watering, wrapped around base of planting hole prior to backfilling.</p> <p>Excavate planting hole 200mm deeper and 600mm wider than root ball. Backfill with improved site topsoil as specified. Finish flush with surrounding soil level.</p> <p>Spade cut edge with min 30mm freeboard.</p> <p>Slow release fertiliser</p> <p>Break up walls and base of hole to 150mm</p> <p>1350</p> <p>150</p> <p>ADVANCED TREE PLANTING (75-100 Litre)</p>

No.	Revision	Date	<p>COPYRIGHT:</p> <p>*This document is and shall remain the property of Henry Design & Consulting. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.*</p>	 <p>Henry design and consulting ABN 91115 998 724 ACN 115 998 724 Unit 1/2 Kennedy Drive Cambridge 7170 TAS E: phenny@netspace.net.au M: 0400 196 061</p>	<p>CIVIL ENGINEERS CERTIFICATION</p>  <p>TAS LICENCE No: CC2703F DATE: 26/10/2021 THIS CERTIFICATION ONLY VALID WHEN SIGNED</p>	DESIGNED PAH	DRAWN PAH	CLIENT Huntingfield Developments Pty Ltd	DRAWING TITLE PROPOSED SUBDIVISION 19 BURROWS AVENUE, BRIGHTON	DRG NO. H21067-V01	REV A
A	DA ISSUE	OCT 2021				CHECKED	APPROVED	PROJECT 19 BURROWS AVENUE, BRIGHTON		SCALE: 1:200 (A1), 1:400 (A3)	DATE: OCT 2021



Structural and Civil Engineering

Traffic Engineering

Project Design and Management
Forensic Engineering and Structural Inspections
Research and Development Facilities

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Facilitator Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

Traffic Management Studies and Traffic Impact Assessment
Expert Witness Representation
Road Safety Audits

19 Burrows Avenue Brighton

Traffic Impact Assessment and Traffic Engineering Assessment Report



Prepared for
Huntingfield Development

Date
November 2021

Prepared by
Joanne Fisher



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

Table of Contents

1. Introduction	1
1.1 Client Details.....	1
1.2 Project Details	1
2. Scope of Consultancy	2
3. Location of the Development	3
4. Existing Situation	4
4.1 Site Details	4
4.2 Road Width.....	4
4.3 Traffic Volumes.....	5
4.4 Posted Speed Limits	5
4.5 Accident History	6
Proposed Development	7
5. Assessment of Trip Generation	8
5.1 Existing Trip Generation	8
5.2 Proposed Trip Generation	8
5.3 Existing Land Use Trip Generation	9
5.4 Proposed Trip Generation	9
5.5 Tasmanian Planning Scheme-Brighton.....	11
6. Assessment of Parking	15
6.1 Existing Situation	15
6.2 Proposed Parking Requirements.....	15
6.3 Dimensions and Manoeuvring.....	15
6.4 Impact of the Development on On-Street Parking.....	15
7. Assessment of Access	16
7.1 Australian Standard Requirement.....	16
7.2 Access Provision	17
8. Assessment of Sight Distance	18
8.1 State Planning Scheme Requirements	18
8.2 New Proposed Road	21
9. Sustainable Transport	22
9.1 Buses.....	22
9.2 Bicycles/Electric Bicycles/Electric Scooters	23
9.3 Pedestrian Linkages.....	23
10. Service Vehicles	24
10.1 Tasmanian Planning Scheme - Brighton.....	24
11. Conclusion and Recommendation	25



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

- Appendix A Development Plans
- Appendix B Autotrack Paths
- Appendix C Council consent
- Appendix D Crown Land Services consent

© Howarth Fisher and Associates

This document is and shall remain the property of Howarth Fisher and Associates. The document may only be used for the purposes for which it was commissioned in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form is prohibited.

	Name	Signature	Date
Authorised by:	Joanne Fisher		November 18th 2021



BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

1. Introduction

1.1 Client Details

This document has been prepared for the following:

Client Name: Huntingfield
Developments Pty Ltd

Client Contact: P Henry
phenry@netspace.net.au
0400 196 061

Address: c/o HENRY DESIGN & CONSULTING
UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE TAS 7170

1.2 Project Details

The report is undertaken for the site at 19 Burrows Road, Brighton

A copy of the proposed subdivision development plans can be found at **Appendix A**.

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



2. Scope of Consultancy

The scope of consultancy involves the following:

- Obtain background information and plans, including traffic volumes, accident history.
- Undertake a site visit.
- Assess sight distance and compliance with the AS/NZS:2890.1 and the Tasmanian Planning Scheme - Brighton.
- Assess other road and intersection parameters which may impact on safety.
- Assess access provision to each lot in line with the requirements of the Tasmanian Planning Scheme - Brighton and AS/NZS:2890.1.
- Undertake surveys to assess trip generation and assess the trip generation rates from the proposed development.
- Assess parking requirements based on the requirements of the Tasmanian Planning Scheme - Brighton.
- Assess against the performance criteria of the scheme.
- Assess parking layout against the requirements of the AS/NZS 2890.1 including the requirement for the accessible parking against the Building Code of Australia/National Construction Code and bicycle parking requirement.
- Assess access to the site for refuse collection service vehicles (run Autotrack).
- Assess grade issues.
- Assess access via sustainable transport and linked and multipurpose trips.
- Assess parking layout
- Assess environmental capacity.
- Assess servicing requirements against AS/NZS 2890. 1 and run autotrack to assess service vehicle access and egress from and to the road network.
- Document findings in a report and plans

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the Permit issued for planning approval as identified by Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

3. Location of the Development

Figure 1 shows the location of the proposed development in the surrounding street network.



Figure 1: Location (source: Google Maps)

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

4. Existing Situation

4.1 Site Details

The proposed development is located at 19 Burrows Avenue, Brighton. Burrows Avenue is a local road under the control of Brighton Council. As a local access road its main function is to provide access to the residential properties located along its length. The proposed site at 19 Burrows Avenue, is accessed via an existing unsealed driveway.



Figure 2: Showing access Road to 19 Burrows Avenue, Brighton.

4.2 Road Width

Burrows Avenue is 6.4-metres wide measured in the vicinity of the site.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Photograph 1: Burrows Avenue width is 6.4 metres.

4.3 Traffic Volumes

Based on standard traffic engineering principles, peak hour traffic volumes represent 10% of Annual Average Daily Traffic (AADT) flows. Therefore, based on Howarth Fisher and Associates survey data¹ of fifteen (15) vehicles counted in a morning peak hour survey, there would be an anticipated traffic volume of one hundred and fifty (150) vehicles per day.

4.4 Posted Speed Limits

The speed limit along Burrows Avenue, Brighton in the vicinity of the proposed development site is 50km/hr, the standard urban default speed limit.

¹ Survey conducted by Howarth, Fisher and Associates on the 8th November 2021 between 8-9am.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

4.5 Accident History

In line with standard traffic engineering practice the accident history for the last five (5) years has been obtained from the Department of State Growth. There has been one (1) minor light vehicle accident in the vicinity of 19 Burrows Avenue at the intersection of Burrows Avenue and Brooke Street at 2.08pm on the 6th October 2018. No other accidents have been recorded in the last five (5) years and there have been no accidents in the immediate vicinity of the proposed driveway.

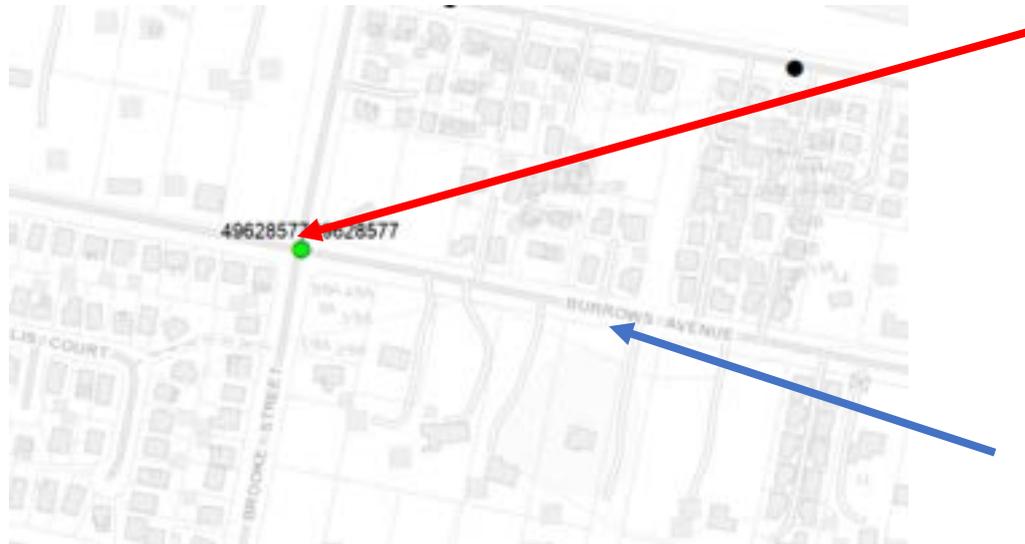


Figure 3: Accident site at intersection of Burrows Avenue and Brooke Road at red arrow, 19 Burrows Avenue at blue arrow.

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

5. Assessment of Trip Generation

5.1 Existing Trip Generation

To obtain an indication of the trip rates currently to the existing site at 19 Burrows Avenue, Howarth Fisher and Associates undertook a morning peak hour traffic count on the 8th November 2021 between 8am-9am along Burrows Avenue in the vicinity of the proposed development site. There was a total of fifteen (15) vehicle trips counted. In line with standard traffic engineering practice, the peak hour flows typically reflect 10% of the AADT. Therefore, there would typically be one hundred and fifty (150) vehicles per day along this section of Burrows Avenue. These were representative of typical traffic flows, given they were during school term. There was one trip recorded in the morning peak survey period associated with 19 Burrows Avenue.

The survey results are tabulated below:

Time	Period	Traffic count	Traffic Count into the site 19 Burrows Avenue
		<i>11 vehicles heading East along Burrows Avenue</i>	
8-9am	<i>Morning peak hour period</i>	<i>4 vehicles heading West along Burrows Avenue</i>	1

Table 1: Existing Trip Rates: Source Howarth Fisher and Associates Survey

5.2 Proposed Trip Generation

For purposes of comparison an assessment of trip generation has also been made against the NSW Transport Roads and Maritime Services guide, which is a nationally recognised reference document. The updated NSW, Transport Roads and Maritime Services, Guide to Traffic Generating Developments, TDT 2013/04a, provides guidance on trip generation to the low-density residential dwellings. The evening peak hour trips were found to be 0.78 per dwelling in regional areas. Based on these trip generation rates the proposed development is likely to generate five (5) trips during peak hour.

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the
development and planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

5.3 Existing Land Use Trip Generation

Current Land Use	Trip Generation Rates	Total Requirement
Existing residence	<i>Low Density Residential Dwellings</i> Daily Vehicle Trips – 7.4 per dwelling Weekday Evening Peak Hour Vehicle Trips 0.78 per dwelling	7.4 trips per day 0.78 trips during the peak hour
Current TOTAL		8 trips per day 1 trip during the peak hour

Table 2: Trip Generation for low density residential dwelling: Source NSW, Transport roads and Maritime Services, Guide to Traffic Generating Developments TDT 2013/04a

5.4 Proposed Trip Generation

Proposed Developed Land Use	Trip Generation Rates	Total Requirement
(9) Residential Dwellings	<i>Low Density Residential Dwellings</i> Daily Vehicle Trips – 7.4 per dwelling Weekday Evening Peak Hour Vehicle Trips 0.78 per dwelling	66.6 trips per day 7.02 trips during the peak hour
Proposed Development TOTAL		69 trips per day 8 trips during the peak hour
TOTAL Increase		61 trips per day 7 trips during the peak hour

Table 3: Additional Trip Generation for low density residential dwelling: Source NSW, Transport roads and Maritime Services, Guide to Traffic Generating Developments TDT 2013/04a

Based on the use of the Transport Roads and Maritime Services, NSW 'Guide to Traffic Generating Developments, which is based on 2013 data and not reflective of the local conditions, the development will generate a maximum of seven (7) additional trips during the peak hour period. It

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as mentioned by Permit Number: SA2021/006
Date Received: 1/11/2021
Authorised Officer

should be noted that the guide is not the most accurate method of determining trips generation rates and actual surveys, such as those obtained via Howarth Fisher & Associates Pty Ltd.

It should be noted that the Transport Roads and Maritime Services, NSW Guide to Traffic Generating Developments is based on 2013, Sydney and regional New South Wales data. The guide is deemed obsolete on the weblink. The actual residential survey of the area provides a more accurate reflection of trip rate data. However, as the Howarth Fisher and Associates traffic generation survey of the proposed site resulted in one (1) trip during the peak hour relating to 19 Burrows Avenue, the NSW, Transport Roads and Maritime Services Guide, has been utilised with a base rate of 0.78 trips per dwelling.

The proposed subdivision includes a new road that will be used to access six (6) of the nine (9) proposed dwellings. Three of the dwellings will access via Burrow Avenue. Based on the rate of 0.78 trips per dwelling the proposed development is assessed to increase the traffic generation from one (1) to six (8) trips during the peak hour.

5.4.1 Environmental Capacity

On most streets within a residential precinct, the actual flow is below the traffic or physical capacity of the street. Therefore, it is desirable to plan the layout of a residential street network in such a way that the amount of traffic does not exceed a desirable maximum. The maximum value which is always considerably less than the traffic capacity of the street may be termed the environmental capacity of the street. Table 4.6 (from Transport Roads and Maritime Services, NSW 'Guide to Traffic Generating Developments) overleaf relates to streets with direct access to residential properties.

Burrows Avenue can be defined as a local road which can accommodate up to 200 vehicles per hour as an environmental goal. Clearly there is enough spare environment capacity to accommodate the additional trips per day along Burrows Avenue.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal 300 maximum
Collector	Street	50	300 environmental goal 500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as outlined by Permit Number: SA2021/006
Class of Permit: 67
Authorised Officer

Additionally, basing the increased flows on the local road, the peak hourly traffic volume would be approximately twenty-two (22) vehicles per hour². A proposed in-lane flow of seven (7) trips during the peak hour periods does not pose an issue from a mental capacity perspective (this is based on worst case scenario of using the 'N.S.W. Transport Roads and Maritime Services Guide to Traffic Generating Developments' trip rate data). Furthermore, each Lot/Site will not generate more than 20% or 40 vehicles movements (as per the acceptable solution at Tasmanian Planning Scheme - Brighton, Table C3.1 *Acceptable increase in average daily traffic to and from the site*).

5.5 Tasmanian Planning Scheme-Brighton

5.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

The proposed subdivision has been assessed in line with the Tasmanian Planning Scheme – Brighton requirements as outlined in section C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

Objective

To minimise any adverse effects on the safety and efficiency of the road or rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction.

Acceptable Solutions

C3.5.1 A1.1

For a category 1 road or a limited access road, vehicular traffic to and from the site will not require:

- (a) a new junction;
- (b) a new vehicle crossing; or
- (c) a new level crossing.

Not applicable as the proposed subdivision is not on a category 1 road or a limited access road.

C3.5.1 A1.2

² Twenty -two (22) vehicles is calculated from the Fifteen (15) vehicles counted in the Howarth Fisher And Associates peak hour survey plus the seven (7) additional vehicles calculated in Table 3.

**BRIGHTON COUNCIL
PLANNING PERMIT**

For a road, excluding a category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing development has been issued by the road authority

This document is one of the documents relevant to the permit issued by planning approval for the kind of development described in the permit.
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

The proposed subdivision meets the acceptable solution C.3.5.1 – A1.2. Written Council consent has been obtained and can be found at **Appendix C** of this report. Written Crown Land Services consent has been obtained and can be found at **Appendix D** of this report.

C3.5.1 A1.3

For the rail network, written consent for a new private level crossing to serve the use and development has been issued by the rail authority.

Not applicable as the proposed subdivision

C3.5.1 A1.4

Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than:

- (a) *the amounts in Table C3.1; or*
- (b) *allowed by a licence issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road.*

Table C3.1 Acceptable increase in average annual daily traffic to and from the site (total of ingress and egress)

Location of vehicular traffic	Amount of acceptable increase in annual average daily traffic to and from the site (total of ingress and egress)	
	Vehicles up to 5.5m long	Vehicles longer than 5.5m long
Vehicle crossing on major roads and private level crossings	10% or 10 vehicle movements per day, whichever is the greater	10%
Vehicle crossings on other roads	20% or 40 vehicle movements per day, whichever is the greater	20% or 5 vehicle movements per day, whichever is the greater

Extract from Tasmanian Planning Scheme - Brighton, Table C3.1 Acceptable increase in average daily traffic to and from the site.

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as indicated by Permit Number: SA2021/006
Date of issue: 6/2/21
Authorised Officer

Basing the increased flows on the local road, the peak hourly traffic volume would be approximately twenty-two (22) vehicles per hour. Furthermore, each individual would generate more than 20% or 40 vehicles movements per day.

This proposed subdivision meets the acceptable solution for the Tasmanian Planning Scheme – Brighton C3.5.1 A1.4(a) and C3.5.1.A1.4(b).

C3.5.1 A1.5

Vehicular traffic must be able to enter and leave a major road in a forward direction.

The proposed subdivision meets the acceptable solution **C3.5.1 A1.5**.

Notwithstanding the above, if the subdivision site in its entirety was assessed there would be more than forty (40) trips per day. This would still be within the environmental capacity of the road, but it would not meet the acceptable solution for the Tasmanian Planning Scheme – Brighton C3.5.1 A1.4(a) and therefore it is necessary to address the performance criteria as outlined below.

Performance Criteria

C3.5.1 P1

Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:

(a) *any increase in traffic caused by the use;*

The land use is for local residential use. The increase of seven (7) trips per peak hour is minimal and does not compromise the environmental capacity of the street.

(b) *the nature of the traffic generated by the use;*

The nature of the traffic increase will be generated from local residential land use. These will be familiar users and typically be light vehicles

(c) *the nature of the road;*

The nature of the road is a local street and the existing traffic volumes are low and even with the increase flows it would be well within the environmental capacity of the road.

(d) *the speed limit and traffic flow of the road;*

The speed limit for a local street is 50km/hr, the urban default.

(e) *any alternative access to a road;*

There is no alternative access to the road given the layout of the proposed subdivision.



BRIGHTON COUNCIL
PLANNING PERMIT

(f) *the need for the use;*

This document is one of the documents relevant to the permit application for planning approval as identified by Permit Number: SA2021/006 Date Permit issued: 6/1/2022

The use is for local residential use. a turning head has been provided at the end of the new proposed vehicles to access and egress in a forward direction.

Provision has been made for a

constructed and includes all relevant

(g) *any traffic impact assessment; and*

Howarth, Fisher and Associate have carried out a traffic impact assessment has been carried out and the increase is within the environmental capacity of the road.

(h) *any advice received from the rail or road authority.*

Not applicable

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer

6. Assessment of Parking

6.1 Existing Situation

There is onsite parking associated with the existing residential property.

6.2 Proposed Parking Requirements

No spaces have been determined as yet. It is anticipated that two (2) car parking spaces will be provided per residential dwelling. Given there are no details of the dwellings available at this stage, a worst case scenario of nine (9) x 3-bedroomed dwellings have been assessed for the basis of the calculation tabulated below

Land Use	Parking Rates	Total Requirement
9 x 3 or more-bedroom units	2 spaces x 9 Lots	18 spaces
TOTAL		18 spaces

Table 6: Parking requirements for 19 Burrows Avenue. Source: *Tasmanian Planning Scheme - Brighton*

6.3 Dimensions and Manoeuvring

The minimum parking bay dimensions would be 5.4-metre x 2.4-metre wide with aisles to comply with AS/NZS 2890.1 for residential parking provision.

6.4 Impact of the Development on On-Street Parking

Given all parking can be accommodated on site, there will be no impact on on-street parking.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

7. Assessment of Access

7.1 Australian Standard Requirement

7.1.1 Classification of Off-Street Car Parking Facility

In line with AS/NZS:2890.1: Off-street car parking facilities the class of the proposed parking facility is determined from the table 1.1 below:

9

AS/NZS 2890.1:2004

TABLE 1.1
CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

From Table 1.1, the type of the proposed parking facility is a user class 1A for residential uses.

7.1.2 Category of Access Driveway

In line with AS/NZS 2890.1, to determine access driveway widths and restrictions on their location along frontage road table 3.1 categorizes driveways according to –

- a) the class of parking facility as shown in table 1.1;
- b) the frontage road type, either arterial (including sub-arterial) or local (including collector); and
- c) the number of parking spaces served by the access driveway.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by AS/NZS 2890.1:2004
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer: 

SELECTION OF ACCESS FACILITY CAT

Class of parking facility (see Table 1.1)	Frontage road type	Access facility category				
		Number of parking spaces (Note 1)				
		<25	25 to 100	101 to 300	301 to 600	>600
1,1A	Arterial	1	2	3	4	5
	Local	1	1	2	3	4
2	Arterial	2	2	3	4	5
	Local	1	2	3	4	4
3,3A	Arterial	2	3	4	4	5
	Local	1	2	3	4	4

NOTES:

- 1 When a car park has multiple access points, each access should be designed for the number of parking spaces effectively served by that access.
- 2 This Table does not imply that certain types of development are necessarily suitable for location on any particular frontage road type. In particular, access to arterial roads should be limited as far as practicable, and in some circumstances it may be preferable to allow left-turn-only movements into and out of the access driveway.

From Table 3.1 above it can be shown that the proposed driveway is of the user class 1 parking facility. In line with the requirements of the Tasmanian Planning Scheme - Brighton, the access driveway is a user class 1A access, (notably a user class 1 facility accessing a local road with servicing less than twenty-five (25) bays), which requires a width of between 3–5.5 metres combined. The current and the proposed development access width, location and gradient are compliant with the requirements of the AS/NZS 2890.1: 2004 Off street parking. Each dwelling will provide a crossover width and access. The access therefore complies with the acceptable solution of the Tasmanian Planning Scheme – Brighton and be in line with the Tasmanian Municipal Standards specified and will be a minimum of 3-metres wide.

The location of the access and egress points can be found on the Development plan at **Appendix A**.

7.2 Access Provision

Each access has been designed to provide a new reinforced concrete driveway in accordance with the Tasmanian Standard Drawing tsd-r09-v3 & tsd-r16-v3. and is a minimum of 3.6-metres wide.

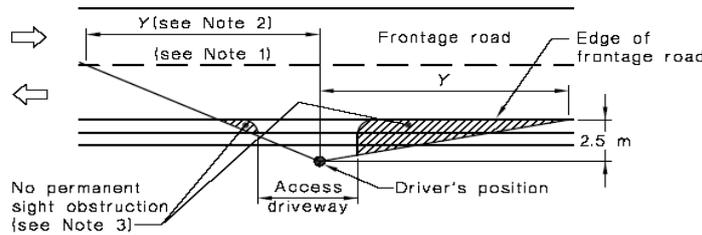
**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer

8. Assessment of Sight Distance

8.1 State Planning Scheme Requirements

The Tasmanian Planning Scheme - Brighton makes reference to the requirement for accesses to comply with the requirements of the AS/NZS 2890.1: Off Street parking 2004, as shown in the plan below:



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2 nd and 3 rd columns
100	139	160	
110	153	190	

Figure 5: Sight distance requirements from accesses based on the requirements of AS/NZS2890.1: Off Street parking 2004

Sight distance is a function of vehicle speed, the sight distance requirement of 69-metres as shown in the table above. The sight distances at lot 1, lot 2 and lot 3 are all greater than 69-metres as shown in the photographs overleaf.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Photographs 2 and 3: Sight Distance at Lot 1 in both western and eastern directions are greater than 69-metres.



Photographs 4 and 5: Sight Distance at Lot 2 in both western and eastern directions are greater than 69-metres.

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Photographs 6 and 7: Sight Distance at Lot 3 in both western and eastern directions are greater than 69-metres.

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

8.2 New Proposed Road

The new subdivision proposed lots 4, 5, 6, 7, 8 and the existing house issued by the new proposed road. The sight distance from these Lots and the existing house will not all have a 69-metre sight distance in both directions (lot 5 is the only lot which will have a sight distance of 69-metres).

Given the geometry of the road and the proximity of the vehicular crossovers to the intersection of the existing Burrows Avenue or the hammerhead turn, there is no opportunity to provide the 69-metre sight distance from the lot 8, lot 7, lot 6, the existing house, and lot 4. Given the road is only 135-metres long, with an intersection at one end and a hammerhead turn at the other, it is not envisaged that vehicular speeds will be high and significantly less than 50km/hr (urban default speed limit).

The AS/NZS 2890.1 requires there to be a 30-metres sight distance at a domestic property access requirement subject to a 40km/hr posted speed limit. With the exception of lot 8 and lot 7 which are in proximity to the hammerhead turn, (and therefore sight distance to the south is not feasible due to road geometry), all other sight distance is compliant with AS/NZS 8290.1.

Given the low vehicle speed past the driveways of lot 7 and 8 it is not anticipated that vehicular speeds will be high enough to be an issue (given vehicles will be either accelerating or decelerating at the end of the road).

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer

9. Sustainable Transport

9.1 Buses

The nearest bus service to the site is less than 150-metres away located on Burrows Avenue as shown below.



Photograph 8: Bus stops on Burrows Avenue, Brighton

The following link provides details of the timetable of services to the Burrows Avenue bus stop.
<https://www.metrotas.com.au/timetables/hobart/october-2020-brighton-bridgewater-claremont-glenorchy-moonah-new-town-north-hobart-hobart/>

In summary, on Monday through Friday, there are three (3) morning 30-minute express services (X21) starting at 6.46am, all with wheelchair access, reducing to an hourly service (521) at 8.51am until 5.46pm. There is an hourly service on a Saturdays from 8.46am up until 6.40pm with wheelchair access on the service between 12.46pm and 3.46pm. There are no services to Burrows Avenue on Sundays and Public holidays.



Figure 6: Bus stops on Burrows Avenue, Brighton

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the
residential development identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

9.2 Bicycles/Electric Bicycles/Electric Scooters

The site is in a residential area, approximately 1.1 kilometres away from the town centre. The 6.4-metres wide road in the vicinity of the site will assist in providing a safe bicycle environment, given the low speed and low traffic volumes. The proximity of the residential development to the town centre facilitates sustainable access to and from the site.

9.3 Pedestrian Linkages

There is a network of pedestrian footpaths in the vicinity of the 19 Burrows Avenue development. The existing footpath is located on the northern side of the road and is ~1.5m wide.



Photograph 9: Footpath on Burrows Avenue, Brighton

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



10. Service Vehicles

It is proposed that refuse collection will be undertaken on street. Residential bins will be emptied via the Council's refuse collection service. The Autotrack path for an 8.8-metre medium rigid vehicle (standard refuse collection vehicle) entering the site, turning and exiting the site in a forward direction has been undertaken by Howarth Fisher and Associates and can be found at **Appendix B** of this report.

10.1 Tasmanian Planning Scheme - Brighton

In line with the provision of the Tasmanian Planning Scheme – Brighton. The site has been designed to cater for an 8.8-metre service vehicle. The new road has a hammerhead turn which is designed to enable an 8.8-metre refuse vehicle to enter and exit in a forward direction.

Autotrack has been used to demonstrate the swept paths of the various vehicle types, notably a B85 vehicle and an 8.8 Medium Rigid Vehicle throughout the subdivision and within the site, (refer **Appendix B**).

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the
Permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



11. Conclusion and Recommendation

The proposed development has been assessed in relation to the fo

Trip Generation

It is anticipated that the proposed residential subdivision (in its entirety) will generate approximately sixty-one (61) trips per day. Each individual lot will generate approximately eight (8) trips per day. Given the proposed development in its entirety will generate more than forty (40) trips, the performance criteria have been addressed.

Howarth Fisher and Associates has undertaken a peak hour survey and has calculated the anticipated AADT flows. The AADT would be within the environmental capacity of a local access street, based on the existing plans and proposed increased trip generation.

Parking

The details of the parking layout have not been specified on the plans. However, following discussions with the proponent it is planned to provide two (2) car spaces per dwelling. This is compliant with the Acceptable Solution of the Tasmanian Planning Scheme - Brighton

Access

Each access has been designed in accordance with the Tasmanian Municipal Standards specifications and is a minimum 3-metres wide. This is in compliance with the Acceptable Solution of the Tasmanian Planning Scheme – Brighton.

Sight Distance

Sight distances have been checked along Burrows Avenue both at the road intersection and the driveway accesses. For the most part the sight distances meet the requirement of the AS/NZS 2890.1, frontage speed limit. However, lots 8 and 9 at the end of the road do not. Given vehicles will be either accelerating or decelerating in the vicinity of lots 8 and 9, it is not anticipated that safety will be compromised by the location of these access driveways.

Sustainable Transport

Buses/Coaches

The nearest bus service to the site is less than 150-metres away located on Burrows Avenue. In summary on Monday through Friday there are three (3) morning 30-minute express services (X21) starting at 6.46am, all with wheel chair access, reducing to an hourly service (521) at 8.51am until 5.46pm. There is an hourly service on a Saturdays from 8.46am up until 6.40pm with wheelchair

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approvals identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



access on the service between 12.46pm and 3.46pm. There are no services to Burrows Avenue on Sundays and Public holidays.

Bicycle

The site is in a residential area, approximately 1.1 kilometres away from Brighton town centre. Burrows Avenue is 6.4-metres wide, is subject to a 50km/hr default urban speed limit with low traffic volume. Thereby assisting in providing a safe bicycle environment of which the proposed residents could potentially benefit. The site is located in close proximity to the town centre making short distance bicycle trips an attractive option.

Pedestrians

There is a network of pedestrian footpaths in the vicinity of the 19 Burrows Avenue development. The existing footpath is located on the northern side of the road and is ~1.5m wide.

Service Vehicles

In line with the provision of the Tasmanian Planning Scheme – Brighton. The site has been designed to cater for an 8.8-metre service vehicle. The Autotrack paths of an 8.8-metre service vehicle can be found at **Appendix B** of this report. B85 turning path in and out of the driveways are also shown.



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

Appendix B

AUTOTRACK PATHS



Howarth Fisher & Associates Pty Ltd

www.howarthfisher.com

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer



HUNTINGFIELD DEVELOPMENT

19 BURROWS AVENUE

PROPOSED SUBDIVISION

TRAFFIC DRAWINGS

DRAWING No.	DRAWING NAME	REVISION No.
C1	COVER PAGE	1
P1	AUTOTRACK PATHS	1

**Traffic
Civil
Structural
Industrial
Engineering**

**ISSUED FOR
DA APPROVAL**
 PRINT DATE: Nov 16, 2021 - 3:04pm



PRELIMINARY - NOT FOR CONSTRUCTION

THIS DRAWING & THE DESIGN SHOWN HEREIN IS THE PROPERTY OF HOWARTH FISHER & ASSOCIATES AND SHALL NOT BE COPIED NOR REPRODUCED IN PART OR IN WHOLE IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HOWARTH FISHER & ASSOCIATES AND SHALL BE USED ONLY BY THE CLIENT OF HOWARTH FISHER & ASSOCIATES FOR THE PROJECT FOR WHICH IT WAS PROVIDED.

NO.	ISSUE	BY	APPROVED	DATE
1	ISSUED FOR DA APPROVAL	JF	LB	16NOV21



HOWARTH FISHER & ASSOCIATES
 Pty Limited ACN 119 043 051
 STRUCTURAL, CIVIL, TRAFFIC ENGINEERS
 AND PROJECT MANAGERS.
 13 WILLOWDENE AVENUE, SANDY BAY - 7005
 PH +61 (0)3 6225 0619
 FAX +61 (0)3 6225 0618
 EMAIL: info@howarthfisher.com

HUNTINGFIELD DEVELOPMENT
 19 BURROWS AVENUE
 PROPOSED SUBDIVISION

COVER PAGE

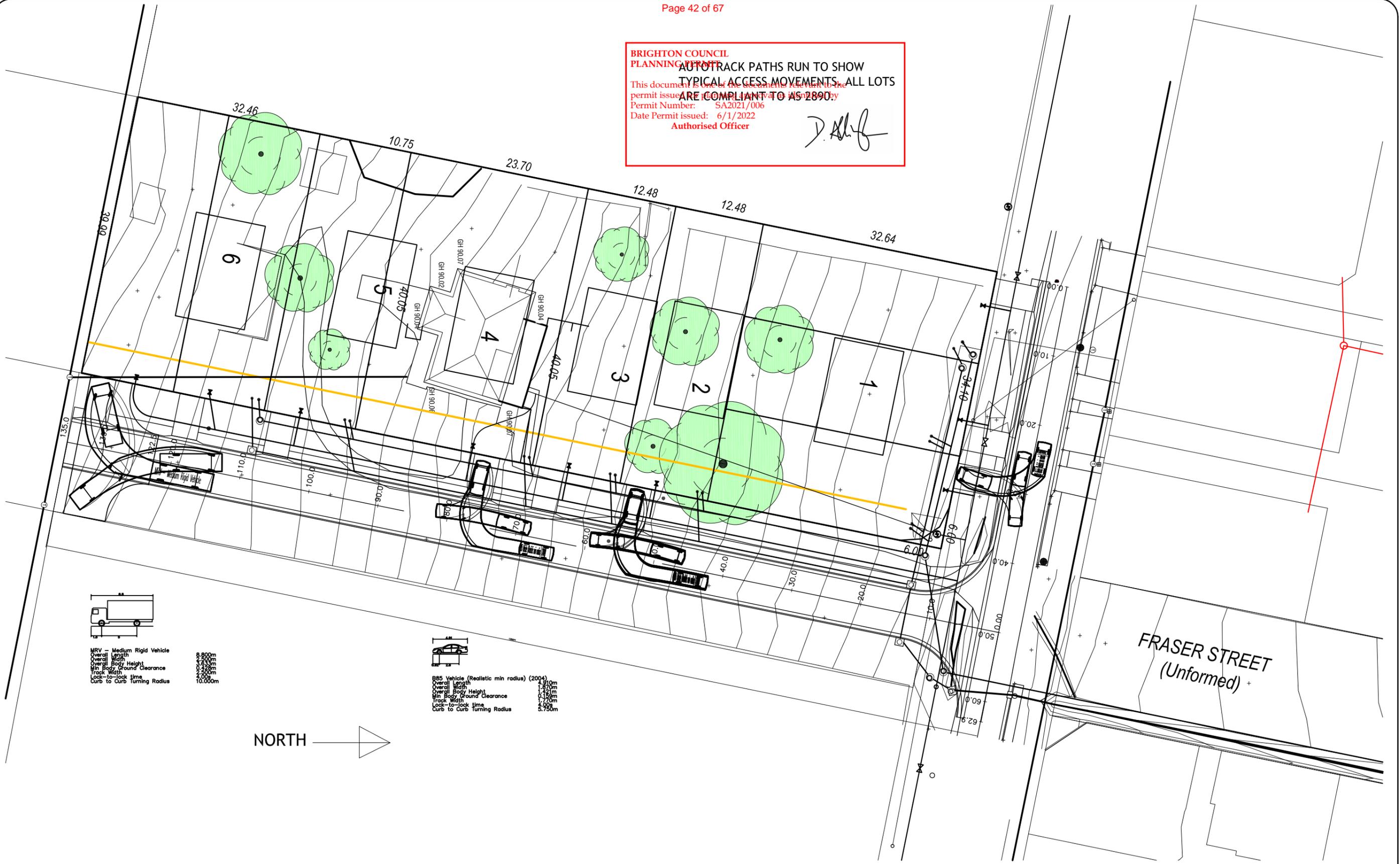
APPROVED BY:-	DATE	ISSUE:
	/ /	1
SCALES NTS		
DRAWN LB		
DESIGN JF		
PROJECT NO. 21J584	DOCUMENT IDENTIFICATION -D-	DRAWING NO. C1

Nov 16, 2021 3:04pm - C:\Users\jfisher\Desktop\Huntingfield Development\Project Data - Documents\21J584 - Huntingfield Development\Project Data - Documents\21J584 - Huntingfield Development\Traffic\Traffic Drawings\Traffic Drawings.dwg

**BRIGHTON COUNCIL
PLANNING PERMIT**

**AUTOTRACK PATHS RUN TO SHOW
TYPICAL ACCESS MOVEMENTS. ALL LOTS
ARE COMPLIANT TO AS 2890.**

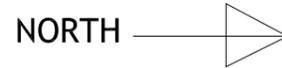
This document is one of the documents referred to in the permit issued to the Applicant by the Council.
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

MRV - Medium Rigid Vehicle
 Overall Length 8.800m
 Overall Width 2.500m
 Overall Body Height 3.800m
 Min Body Ground Clearance 0.425m
 Track Width 2.500m
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 10.000m



B85 Vehicle (Realistic min radius) (2004)
 Overall Length 4.310m
 Overall Width 1.875m
 Overall Body Height 1.421m
 Min Body Ground Clearance 0.150m
 Track Width 1.74m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.750m



ISSUED FOR DA APPROVAL

THIS DRAWING & THE DESIGN SHOWN HEREIN IS THE PROPERTY OF HOWARTH FISHER & ASSOCIATES AND SHALL NOT BE COPIED NOR REPRODUCED IN PART OR IN WHOLE IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HOWARTH FISHER & ASSOCIATES AND SHALL BE USED ONLY BY THE CLIENT OF HOWARTH FISHER & ASSOCIATES FOR THE PROJECT FOR WHICH IT WAS PROVIDED.

NO.	ISSUE	BY	APPROVED	DATE
1	ISSUED FOR DA APPROVAL	LB	JF	16NOV21
	ISSUE	BY	APPROVED	DATE



HOWARTH FISHER & ASSOCIATES
 Pty Limited ACN 119 043 051
 STRUCTURAL, CIVIL, TRAFFIC ENGINEERS
 AND PROJECT MANAGERS.
 13 WILLOWDENE AVENUE, SANDY BAY - 7005
 PH +61 (0)3 6225 0619
 FAX +61 (0)3 6225 0618
 EMAIL: info@howarthfisher.com

HUNTINGFIELD DEVELOPMENT
 19 BURROWS AVENUE
 PROPOSED SUBDIVISION

AUTOTRACKS PATHS

APPROVED BY:	DATE:
SCALES 1:500 @ A3	ISSUE:
DRAWN LB	1
DESIGN JF	
PROJECT NO. 21J584	DOCUMENT IDENTIFICATION -D- P1



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

Appendix C

COUNCIL CONSENT

Council Offices, Tivoli Road, OLD BEACH, Tas 7017
 Phone: (03) 6268 7000 Fax: (03) 6268 7013
 Email: development@brighton.tas.gov.au
 www.brighton.tas.gov.au
 ABN 12 503 460 42

**BRIGHTON COUNCIL
 PLANNING PERMIT**

This document is one of the documents relevant to the
 application for planning approval as identified by
 Planning Number: SA2021/006
 Date Permit issued: 6/1/2022
Authorised Officer



[Handwritten Signature]

For office use only:

Ref. No:	DA	File Ref:	
Ref. No:	BA	Property No:	

Application for Planning Approval – Development/Use or Subdivision

Use this form to apply for planning approval in accordance with section 57 and 58 of the Land Use Planning and Approvals Act 1993 (the Act).

Tick if there has been a pre-application meeting with a Council officer:

Yes: No:

Officer's name: Date:

Applicant, Owner & Contact Details:

Provide details of the Applicant and Owner of the land. (Please print)

Applicant/Agent

Name:	BROOKS LARK & CARRICK SURVEYORS		
Address:	1/2 KENNEDY DRIVE CAMBRIDGE PARK		
Email:	admin@obsurveyors.com	Postcode:	7170
		Phone No:	62485898

As applicant, do you consent to all correspondence being sent via email rather than post?

Yes No

Owner:

Name:	A.E. TERRY		
Address:	19 BURROWS AVENUE, BRIGHTON		
Email:	msanneterry@gmail.com	Postcode:	7030
		Phone No:	0439 004 980

Land Details:

Provide details of the land, including street address, title details and the existing use.

Address:	19 BURROWS AVENUE BRIGHTON	7030	Volume:	130608
			Folio:	10
Existing Use	RESIDENTIAL		Please use definitions in planning scheme	

Proposed Use and Development Details:

Provide details of the proposed use and of the proposed development and works.

Use	RESIDENTIAL SUBDIVISION	Please use definitions in planning scheme
Describe Development:	SUBDIVISION TO CREATE 8 ADDITIONAL LOTS	

Existing Floor Area: m² Proposed floor area: m²

Materials:	External walls:	<input type="text"/>	Colour:	<input type="text"/>
	Roof cladding:	<input type="text"/>	Colour:	<input type="text"/>
Car parking	Number existing:	<input type="text"/>	Proposed:	<input type="text"/>

Is vegetation proposed to be removed? Yes: No:

Is the property on the Tasmanian Heritage Register? Yes No

Is Signage proposed? Yes No

Estimated cost of development value: \$ N/A

**BRIGHTON COUNCIL
PLANNING PERMIT**

Declaration:

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006

I/we hereby apply for planning approval to carry out the use or development described in this application and the accompanying documents and declare that:-

Authorised Officer



- The information in this application is true and correct.
- In relation to this application, I/we agree to allow Council employees or consultants to enter the site in order to assess the application.
- I/we authorise Council to provide a copy of any documents relating to this application to any person for the purpose of assessment or public consultation and agree to arrange for the permission of the copyright owner of any part of this application to be obtained.
Council will only use the information provided to consider and determine the application for planning approval. Information provided may be made available for public inspection in accordance with section 57 of the Act.
- I/We declare that the Owner has been notified of the intention to make this application in accordance with section 52(1) of the *Land Use Planning and Approvals Act 1993*.
Applies where the applicant is not the Owner and the land is not Crown land or owned by a council, and is not land administered by the Crown or a council.

Signature:



The Applicant must sign and date this form.

Date:

24/2/2021

Refer to application checklist on reverse for additional information requirements.

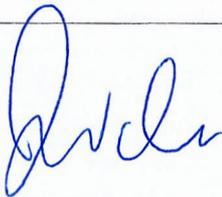
COUNCIL OR CROWN LAND

If the land that is the subject of this application is owned or administered by either the Crown or Brighton Council, the consent of the Minister of the Crown or the General Manager of the Council, whichever is applicable, must be included here. This consent should be completed and signed by either the Minister, the General Manager of Brighton Council, or their delegate (as specified in Subsections 52 (1D-1G) of the Land Use Planning and Approvals Act 1993).

Please note: *If the application involves Crown land you will also need to provide a letter of consent.*

I Jesse Walker, Team Leader CCS being responsible for the administration of land at Brighton declare that I have given permission for the making of this application for Subdivision

Signature:



The Minister, General Manager or other delegate responsible for the land must sign and date this form.

Date:

26/5/21

(This consent is for the making of the application only, and does not constitute landlord consent for the development to occur.)



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer

Appendix D

CROWN LAND SERVICES CONSENT



Department of Primary Industries,
Parks, Water and Environment

GPO Box 1751, Hobart
Ph 1300 TAS PARKS
www.parks.tas.gov.au

BRIGHTON COUNCIL
PLANNING PERMIT

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006
1300 827 727 Fax (03) 6223 8308

Authorised Officer




Enquiries: Amy Sanderson
Phone: 6165 4677
Email: amy.sanderson@parks.tas.gov.au
Our ref: 21/1097

25 May 2021

Attention: David Miller
Brooks Lark & Carrick Surveyors
1/2 Kennedy Drive
CAMBRIDGE PARK TAS 7170

Via email: david@blcsurveyors.com.au

Dear Mr Miller,

**LODGEMENT OF PLANNING APPLICATION
BROOKS LARK & CARRICK SURVEYORS OBO ANNE ELIZABETH TERRY
RESIDENTIAL SUBDIVISION
19 BURROWS AVENUE, BRIGHTON**

This letter, issued pursuant to section 52(1B) of the *Land Use Planning and Approvals Act 1993* (LUPAA) is to confirm that the Crown consents to the making of the enclosed Planning Permit Application, insofar as the proposed development relates to Crown land managed by the Department of Primary Industries, Parks, Water and Environment.

Crown consent is only given to the lodgement of this application. Any variation will require further consent from the Crown.

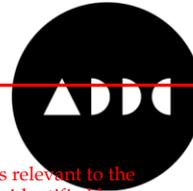
Please also note, it is Departmental policy that all fire buffer areas (Hazard Management Areas and Fuel Modified Areas) are maintained wholly within freehold title boundaries and not on neighbouring Crown or Reserved land. Additionally, it is not PWS' practice for the Crown to enter into agreements under Part 5 of the LUPAA in support of developments on private property.

This letter does not constitute, nor imply, any approval to undertake works, or that any other approvals required under the *Crown Lands Act 1976* have been granted. If planning approval is given for the proposed development, the applicant will be required to obtain separate and distinct consent from the Crown before commencing any works on Crown land.

If you need more information regarding the above, please contact the officer nominated at the head of this correspondence.

Yours sincerely,

Jesse Walker
Team Leader (Unit Manager, Policy & Projects)

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer

DESIGN MEMO

TO: Huntingfield Developments
FROM: Michael Burgess
DATE: 16/11/21
PROJECT: 19 Burrows Ave, Brighton
RE: Stormwater Management Memo

Huntingfield Developments have engaged AD Design & Consulting to advise on stormwater management requirements in response to Council's request for additional information (26/05/21) for a proposed subdivision at 19 Burrows Avenue, Brighton.

The following scope of work is presented in this memo:

- Stormwater quantity modelling and detention requirements.
- One-dimensional hydraulic modelling of the proposed Council stormwater mains and production of longitudinal sections.
- Stormwater quality modelling.

Key site details are tabulated in Table 1, and a site map is shown in Figure 1.

Table 1: Site details

Location	19 Burrows Avenue, Brighton
Municipality	Brighton Council
Planning Controls	Tasmanian Planning Scheme - Brighton
Property Area	0.7484 ha

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Figure 1: Development site

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006 Date Permit issued: 6/1/2022
Authorised Officer

D. Ashby

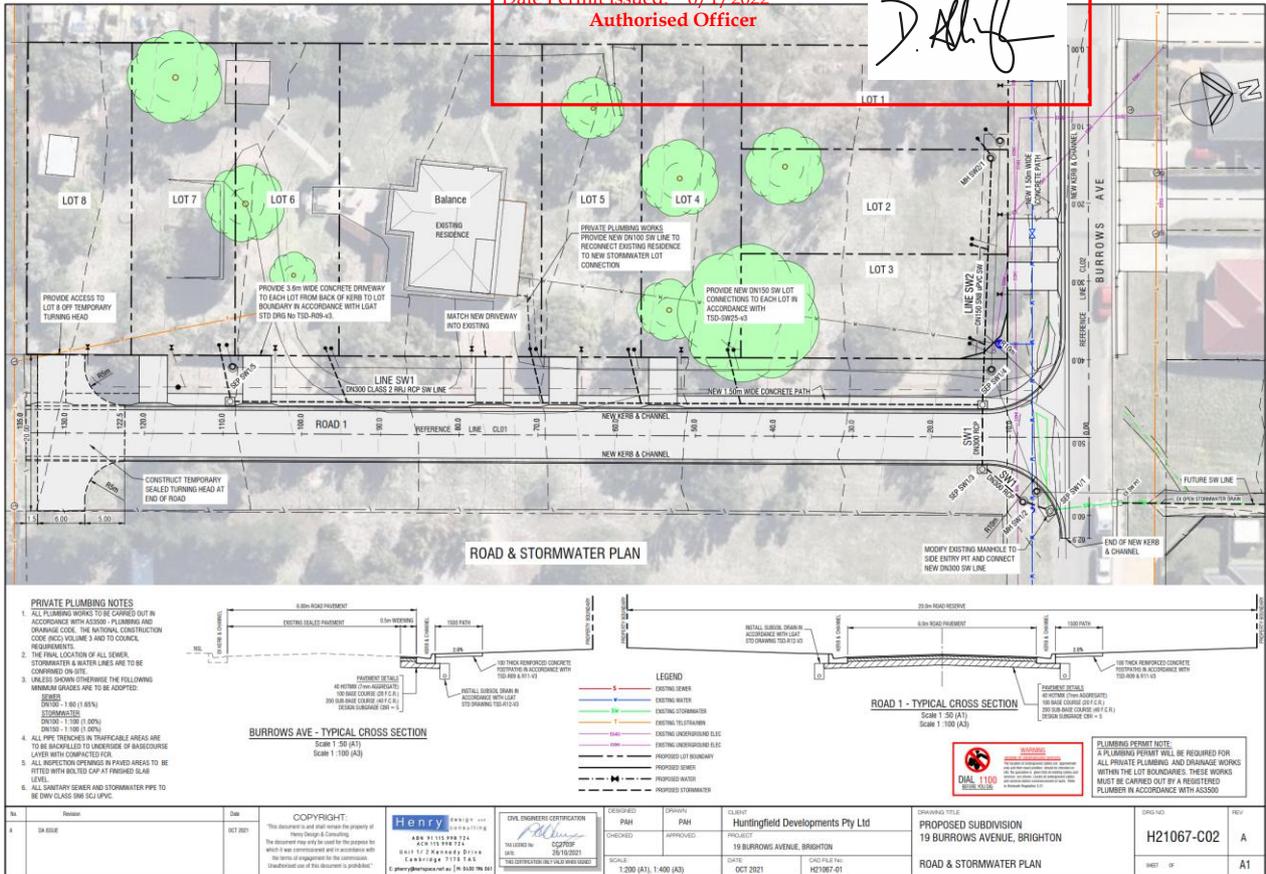


Figure 2: Henry Design & Consulting general arrangement plan (10/21)

1 Stormwater Hydrology

1.1 Methodology

This assessment has been undertaken in accordance with Australian Rainfall and Runoff 2019 (ARR) guidelines utilising the most recent temporal patterns and rainfall intensity, frequency, and duration (IFD) data published by the Bureau of Meteorology. Design rainfall events have been derived from this data and applied within a 12d Model simulation using the Laurenson hydrological method.

The hydrological assessment was undertaken using a semi-distributed catchment approach endorsed by ARR as a suitable method of deriving critical duration design storm events. The analysis was conducted for a 5% AEP storm event, for fully developed catchment.

Land use information, including surface roughness and infiltration capacity, were derived from an assessment of the aerial photography available from LIST map, a site investigation and guidance from the ARR Data Hub.

Table 2 shows values used for surface roughness and initial and continuing losses.

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer



Table 2: Losses and Manning’s Roughness values

Surface	Initial Loss (mm)	Continuous Loss (mm)	Manning’s Roughness Coefficient (n)
Pervious	10	2	0.045
Impervious	0	0	0.018

1.2 Catchment Representation

Sub-catchments have been delineated based on ELVIS LiDAR topographical data and cadastral parcels. The resulting sub-catchments are displayed in Figure 3, and sub-catchment details are shown in Table 3. The sub-catchment slopes have been calculated using GIS software.

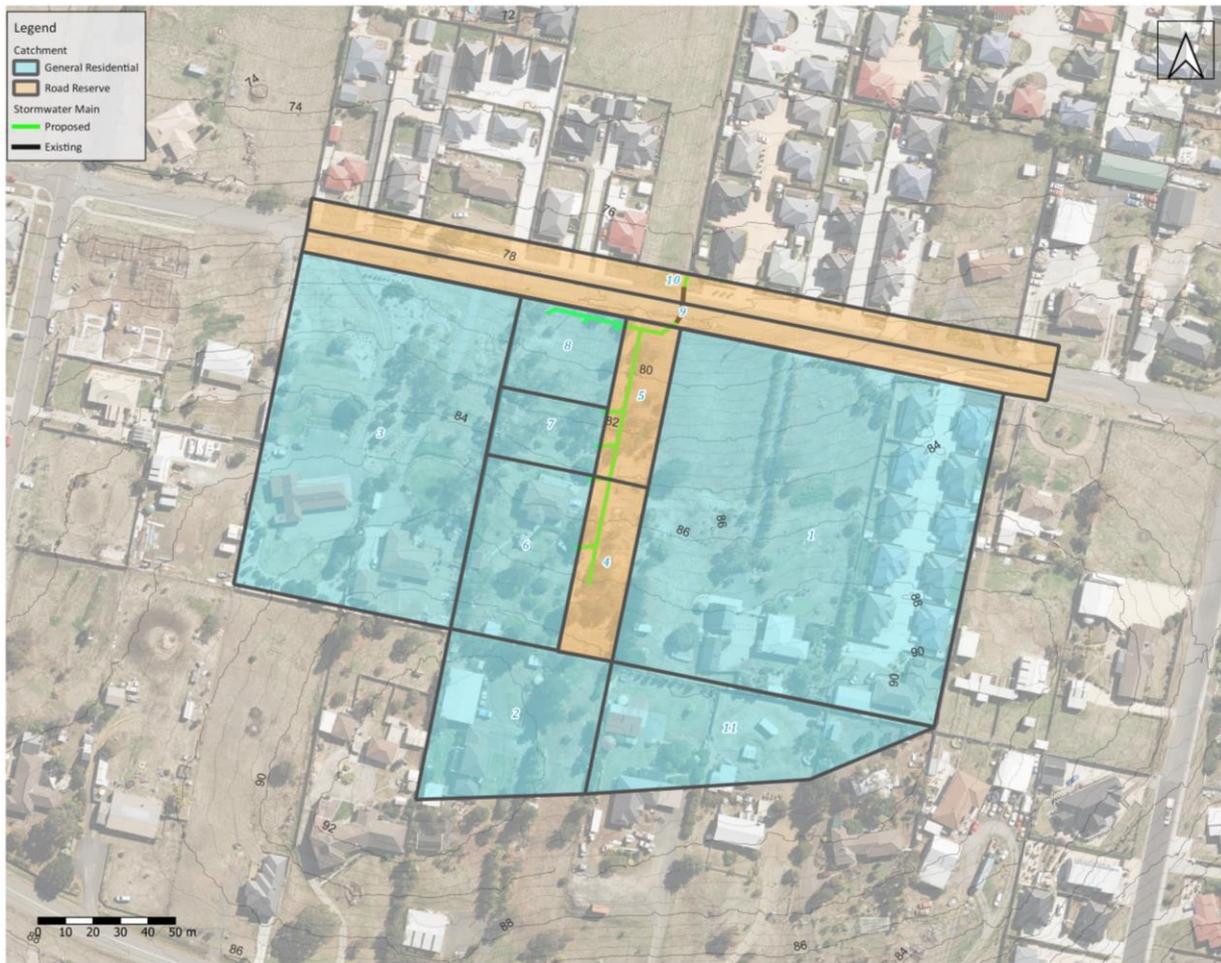


Figure 3: Catchment map

1.3 Model Parameters

The modelling parameters are shown in Table 3.

BRIGHTON COUNCIL
PLANNING PERMIT

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Table 3: Catchment details

Catchment Name	Impervious Area (%)	Description	Area (ha)	(%)	Impervious Slope (%)
1	55	General Residential	1.494	8.98	5
2	55	General Residential	0.341	5.22	5
3	55	General Residential	1.01	9.78	5
4	90	Road Reserve	0.131	9.89	9.89
5	90	Road reserve	0.119	10.42	10.42
6	55	General Residential	0.261	10.74	5
7	55	General Residential	0.102	12.46	3
8	55	General Residential	0.134	9.63	5
9	90	Road Reserve	0.25	8.07	8.07
10	90	Road Reserve	0.308	9.88	9.88
11	55	General Residential	0.364	4.22	5

1.4 Results

The critical duration and mean peak flow at the outfall were calculated to be 15-minutes and 0.519 m³/s, respectively. The ensemble box plot results for the 5% AEP storm event at the stormwater main outfall are shown in Figure 4.

Table 4: Results summary

Storm Event	Flow Rate	Duration
5% AEP Storm Event	0.519 m ³ /s	15-minutes

BRIGHTON COUNCIL
PLANNING PERMIT

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Link: 1.2 to 1.1

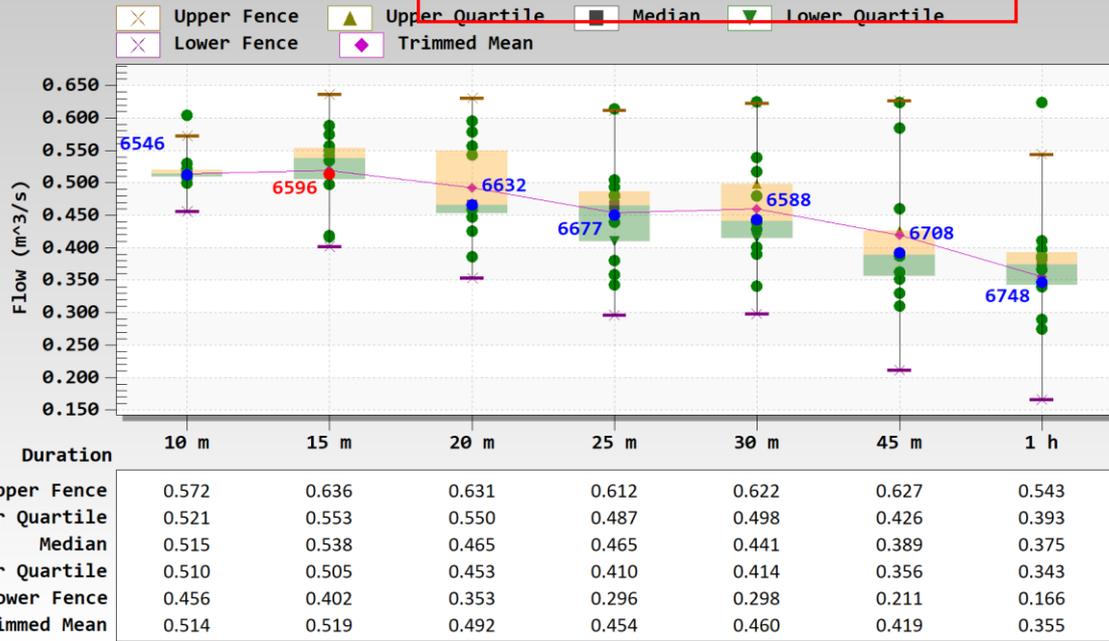


Figure 4: 5% AEP storm event outfall flow rate ensemble box plot

BRIGHTON COUNCIL
PLANNING PERMIT

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



2 Stormwater Hydraulics

A hydraulic analysis was performed using 12d Model software which solves the one-dimensional St Venant equations. The resulting hydraulic grade line is shown on the longitudinal sections produced and is displayed in the attachments. The hydraulic analysis shows that the pipe configuration has the capacity to convey a 5% AEP storm event. This is in accordance with Planning Scheme requirements for minor stormwater systems.

It should be noted that no detention was considered as part of the hydraulic analysis. The hydraulic grade lines presented represent a worst case developed scenario.

3 Stormwater Quantity

Determining Permissible Site Discharge

The Permissible Site Discharge (PSD) is based on the undeveloped scenario for the site. This ensures compliance with the Urban Drainage Act and Interim Planning Scheme requirements by limiting runoff to pre-developed levels. Table 5 outlines the model parameters used to determine PSD.

Table 5: PSD model parameters

Catchment Area	0.7484 ha
Fraction Impervious	3.3%
Manning's number	0.045 pervious 0.013 impervious
Catchment slope	10% - pervious 5% - impervious
Losses	IL: 10 and CL: 2 pervious IL: 0 and CL: 0 impervious

The results of the hydrological analysis show that the critical storm duration for the site was a 45-min storm with a mean peak discharge of 50 L/s. Figure 5 shows the results of the analysis for 5% AEP ensemble storm event.

BRIGHTON COUNCIL
PLANNING PERMIT

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006
Date Permit issued: 6/1/2024
Authorised Officer

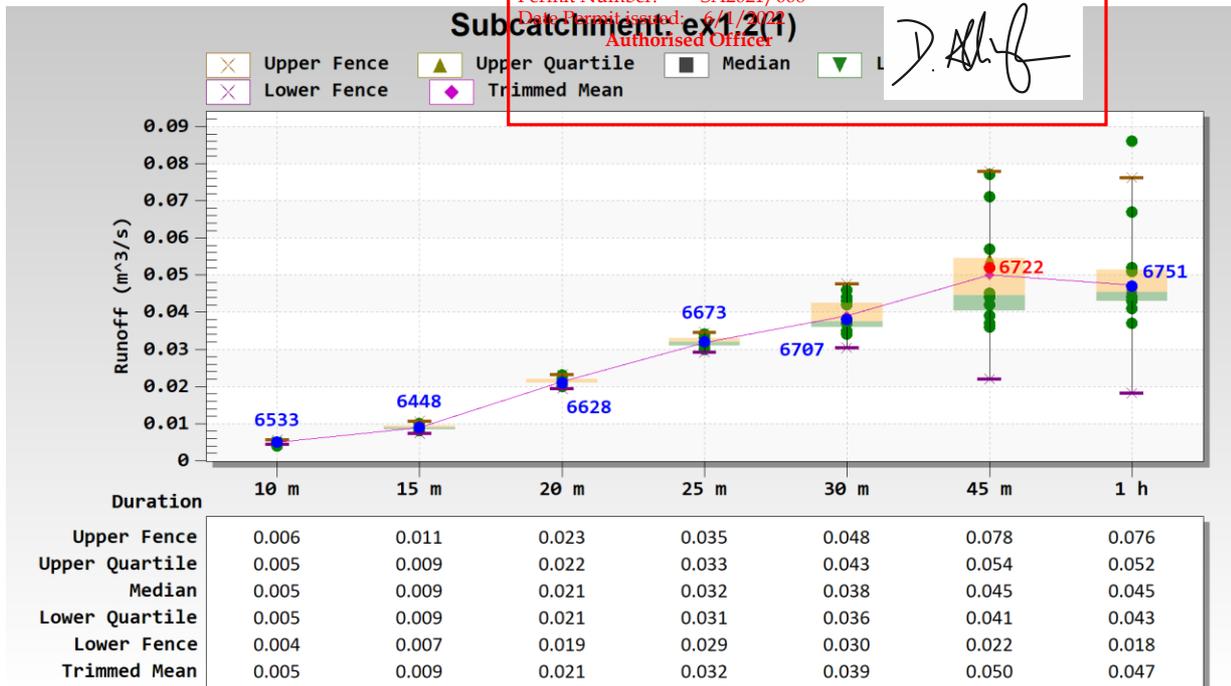


Figure 5: Pre-development runoff (PSD)

Developed Scenario Runoff

The proposed development will increase the site’s impervious area, which will increase stormwater runoff generated. The developed site runoff has been estimated using the parameters displayed in Table 6.

Table 6: Developed site model parameters

Catchment Area	0.7484 ha
Fraction Impervious	55%
Manning’s number	0.045 pervious 0.013 impervious
Catchment slope	10% pervious 5% impervious
Losses	IL: 10 and CL: 2 pervious IL: 0 and CL: 0 impervious

The results of the hydrological analysis show that the critical storm duration for the proposed scenario is the 15-min storm, with a mean peak discharge of 80 L/s. To mitigate the impacts of an increase in stormwater runoff on downstream infrastructure, stormwater detention is proposed. Figure 6 shows the model results for a 5% AEP ensemble storm event.

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006
Date Permit issued: 6/11/2022
Authorised Officer

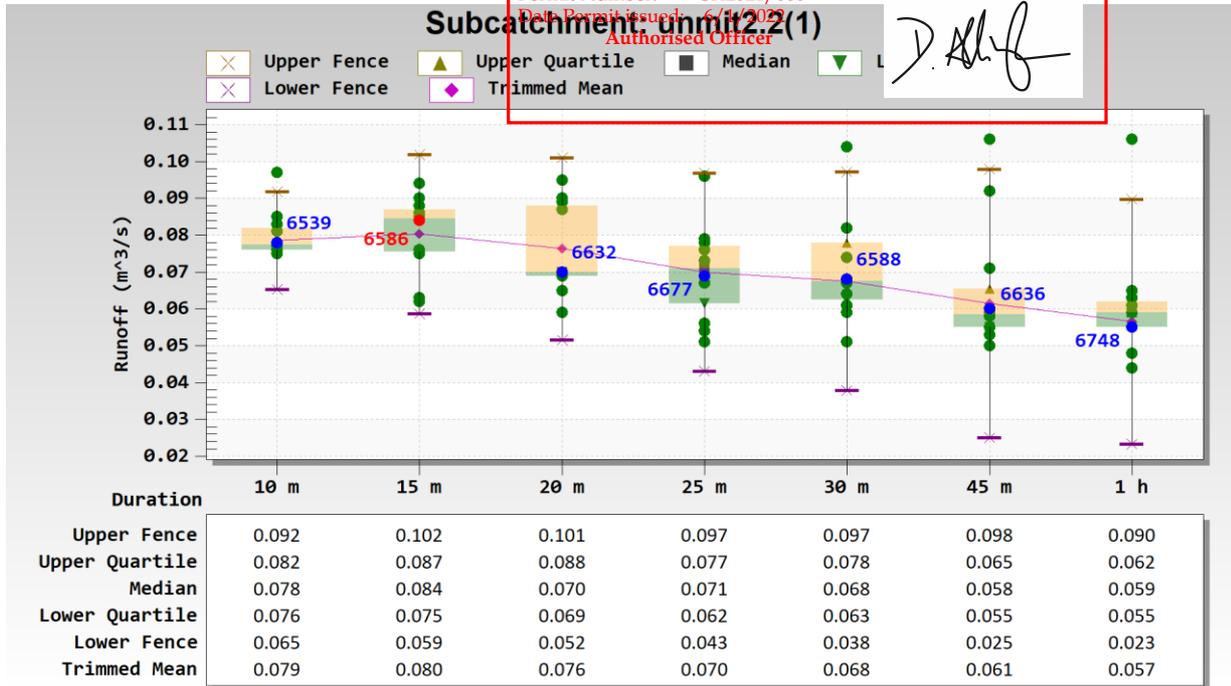



Figure 6: Developed scenario runoff (unmitigated)

Detention Basin Sizing

To mitigate runoff generated from the proposed development to pre-development levels, a hydraulic model was generated where all the development site runoff is directed into a detention structure and discharged through a control orifice. Key modelling parameters are shown below.

Table 7: Modelling parameters

Catchment areas	0.7484 ha
Fraction impervious	55%
Manning’s roughness coefficient	0.045 pervious 0.013 impervious
Catchment slope	10% pervious 5% impervious
Losses	IL: 10 and CL: 2 pervious IL: 0 and CL: 0 impervious

The modelling results for each scenario are tabulated below:

Table 8: Mitigation results

Basin depth	1.5m
-------------	------

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006
Date Permit issued: 16/11/2022
Authorised Officer



Total detention requirement	19m
Control	150mm control orifice
Mitigated flow	(49 L/s < PSD of 50L/s)
Suggested Infrastructure	SPELCHAMBER HS 75 (4 chambers long x 2 chambers wide)

The results of the modelling show that detention chambers with a 150mm orifice plate can effectively control the increased runoff generated by the development to pre-development levels. The results show that the 5% AEP stormwater runoff is successfully attenuated to less than the calculated PSD of 50 L/s.

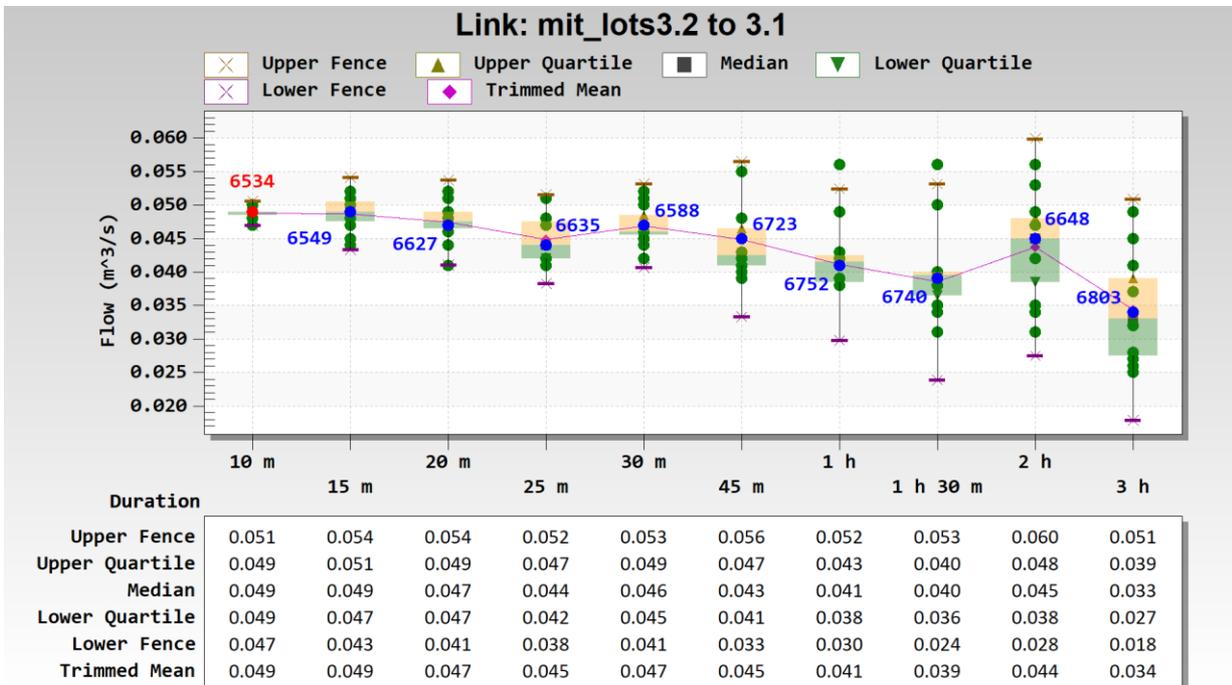


Figure 7: Mitigated flow rate ensemble box plot

AD DESIGN + CONSULTING

**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006
Date Permit Issued: 16/11/2022
Node: Mitigated
Authorised Officer

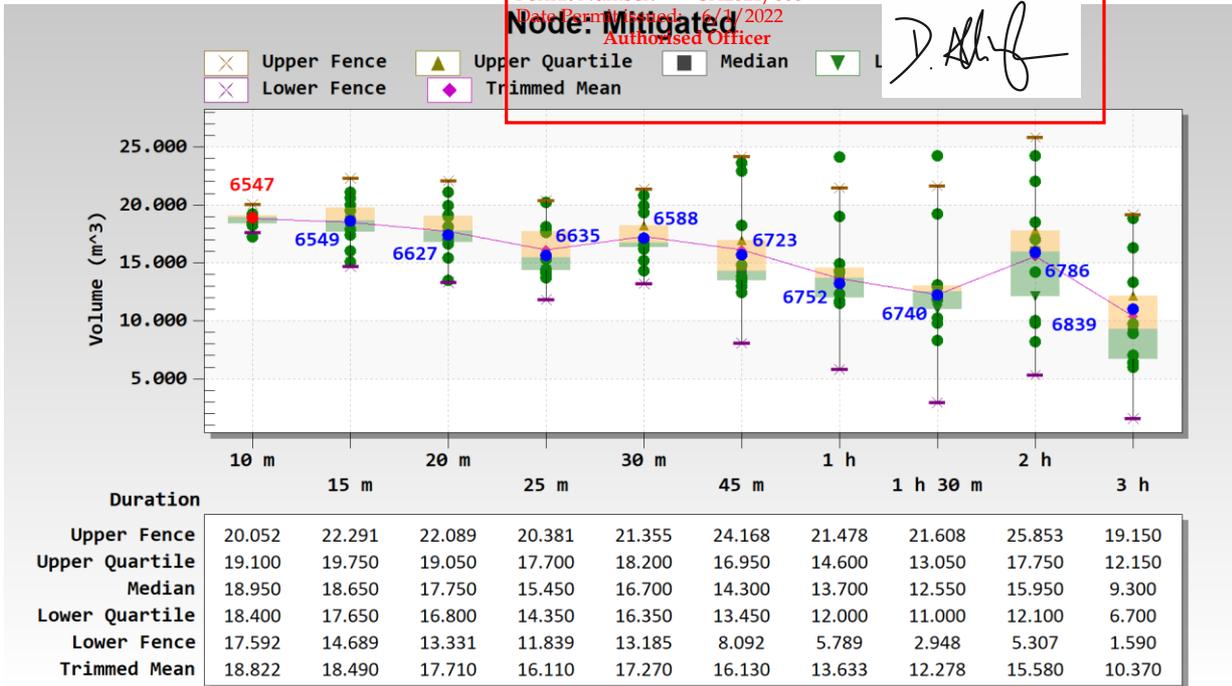



Figure 8: Required detention volume ensemble box plot

4 Stormwater Quality

Stormwater quality measures may be required in accordance with Council requirements. Pollutant reduction targets outlined in the State Stormwater Strategy 2010 will likely be required to be met.

If Council determines that Water Sensitive Urban Design (WSUD) quality treatment elements are required. Stormwater treatment will need to be designed and constructed to reduce pollutants to the required levels. WSUD stormwater quality treatment assets provide multiple benefits to the community, including reducing pollutants, attenuation of peak flows and increased visual and biodiversity amenities.

Conceptual stormwater quality management design has been undertaken using MUSIC software to estimate the viability of a WSUD treatment train.

4.1.1 Methodology

Water quality modelling has been undertaken in accordance with Derwent Estuary Program and Water by Design guidelines. MUSIC software has been used to estimate the reduction targets for the given development. The parameters used within MUSIC are tabulated below.

4.1.1.1 Model Parameters

Table 9: Rainfall data

Parameter	Value
Rain station	Hobart

BRIGHTON COUNCIL
PLANNING PERMIT

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Time step (minutes)

Table 10: Rainfall parameters

Parameter	Value
Rainfall threshold (mm/day)	1
Soil storage capacity (mm)	120
Initial storage capacity (% of capacity)	25
Field capacity (mm)	50
Infiltration rapacity coefficient A	200
Infiltration capacity coefficient B	1
Initial depth (mm)	10
Daily recharge rate (%)	25.00
Daily base flow rate (%)	5.00
Daily deep seepage rate (%)	0

Table 11: Urban pollutant sources

Pollutant	Surface Type	Storm Flow		Base Flow	
		Mean (log mg/l)	SD (log mg/L)	Mean (log mg/l)	SD (log mg/L)
TSS	Roof	1.301	0.333	-	-
	Hardstand/ Road	2.431	0.333	-	-
	Ground	1.900	0.333	0.96	0.401
TP	Roof	-0.886	0.242	-	-
	Hardstand/ Road	-0.301	0.242	-	-
	Ground	-0.700	0.242	-0.731	0.360
TN	Roof	0.301	0.205	-	-
	Hardstand/ Road	0.342	0.205	-	-
	Ground	0.243	0.182	0.455	0.363

Table 12: Pollutant catchments

Pollutant Catchment	Pollutant Catchment (m ²)	Surface Type	Impervious Area (%)
General residential urban area	6524	Urban residential	55

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Urban sealed road
Authorised Officer



Road reserve	960	Urban sealed road	90
--------------	-----	-------------------	----

4.1.2 Treatment Train

The proposed treatment train has been summarised in Table 13. The treatment train has been modelled within MUSIC and meets the reduction targets set out by State Legislation.

Table 13: Treatment node

Node	Quantity	Description
SPEL Hydrosystem SHS.1500/6	1	Stormwater treatment device suitable for removing heavy metals, suspended solids and nutrients.
SPEL Stormsacks	4	Filtration solution fitted to inlet pits targeting sediment and gross pollutants.

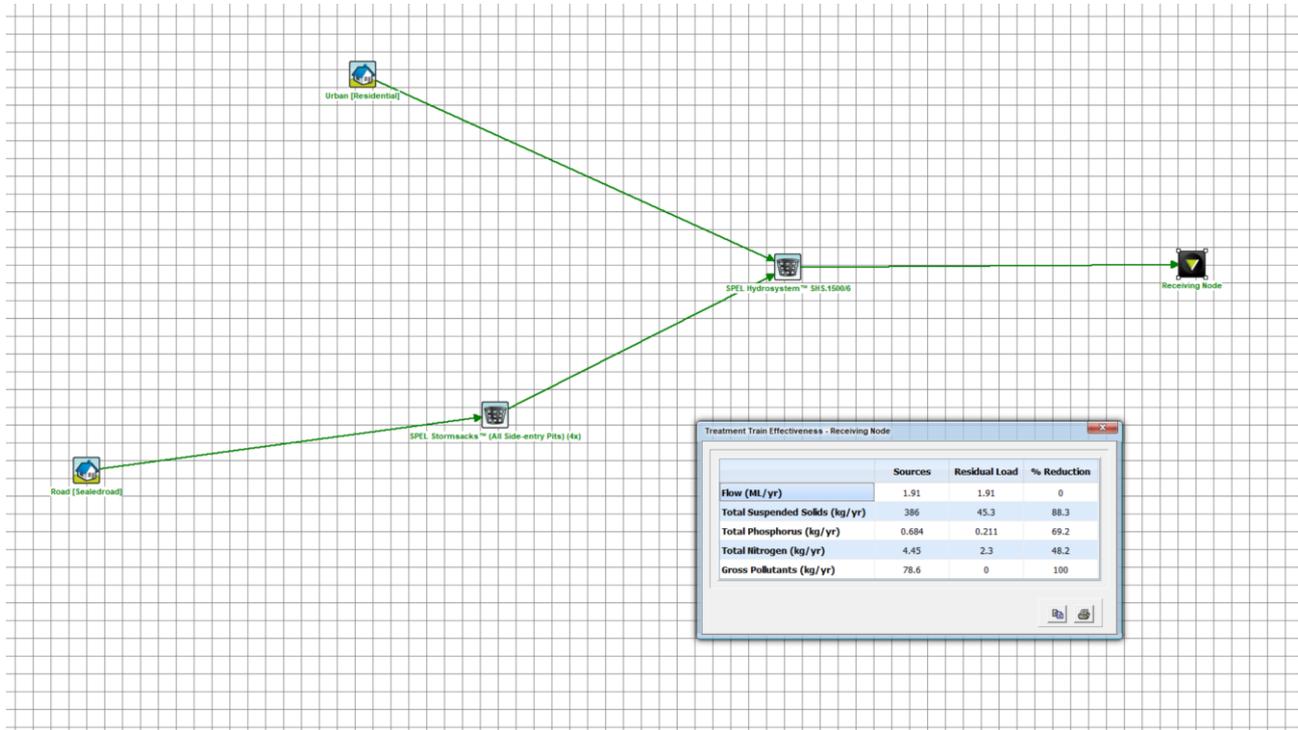


Figure 9: MUSIC model schematic

4.1.3 Results

The results of the pollution reduction are summarised in Table 14. It is shown that the proposed treatment train is effective at reducing pollutant levels to levels specified in the State Stormwater Strategy and Interim Planning Scheme.

Table 14: Results summary

Pollutant (kg/yr)	Source (kg/yr)	Residual Load (kg/yr)	Reduction (%)
Total Suspended Solids	1.91	1.91	0

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Total Phosphorus	386	45.3	88.3
Total Nitrogen	4.45	2.3	48.2
Gross Pollutants	78.6	0	100

**BRIGHTON COUNCIL
PLANNING PERMIT****AD DESIGN + CONSULTING**

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



5 Conclusion

A hydrologic and hydraulic analysis has been undertaken to determine a suitable drainage arrangement to convey flows generated in a 5% AEP storm event. Longitudinal sections have been produced and are shown in the attachments.

The results of the modelling show that multiple SPELCHAMBER HS 75 (4 chambers long x 2 chambers wide) with a 150mm orifice plate can effectively control the increased runoff generated by the development to pre-development levels. The results show that the 5% AEP stormwater runoff is successfully attenuated to less than the calculated PSD of 50 L/s. It is proposed that a cash contribution is granted to Council in lieu of providing stormwater detention.

Stormwater quality modelling has been conducted using MUSIC software. Modelling has shown that the implementation WSUD elements are effective in treating stormwater to required levels in accordance with the State Stormwater Strategy 2010. The following devices are proposed:

- 1 x SPEL Hydrosystem SHS.1500/6 receiving all runoff generated from the development
- 4 x SPEL Stormsacks installed within side entry pits

It is proposed that a cash contribution is granted to Council in lieu of providing stormwater treatment elements in accordance with Council policy.

Regards,



Michael Burgess

Civil Engineer

AD Design & Consulting

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
Permit Number: SA2021/006
Date Permit issued: 6/1/2022
Authorised Officer



Attachments:

1. Council RFI Response Table
2. Stormwater Longitudinal Sections
3. Stormwater Treatment and Detention Arrangement Sketch
4. ADDC Disclaimer

**BRIGHTON COUNCIL
PLANNING PERMIT**

AD DESIGN + CONSULTING

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer



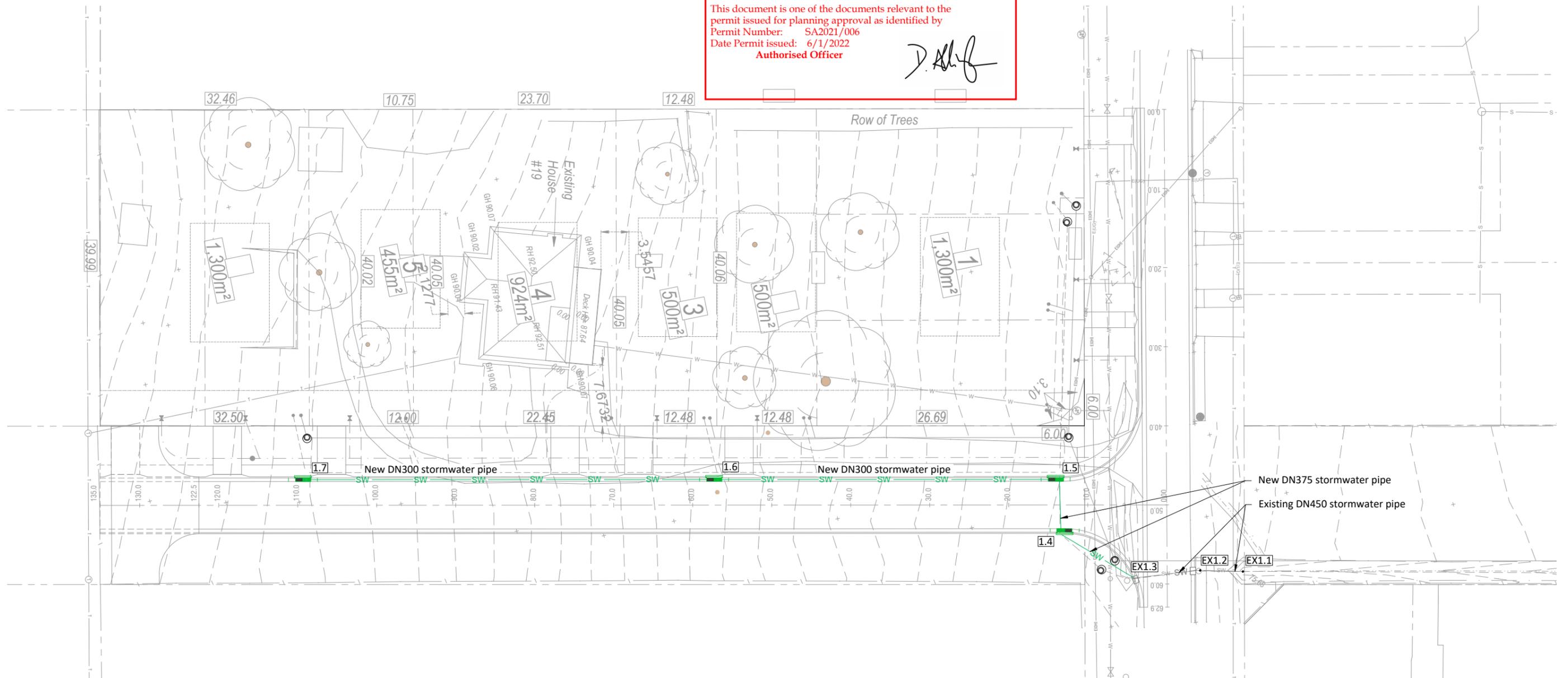
RFI Response Table

Request	Response
<p>Provide a Stormwater Management Plan prepared by a suitably qualified person addressing quantity and quality/treatment. Advice: Council will most likely impose conditions on a planning permit requiring stormwater from the proposed development to meet the quality targets and provide a minor piped system to cater for a 1 in 20-year ARI and a major system (overland flow) for a 1 in 100 year ARI. The existing stormwater system in Racecourse Road has limited capacity and may require upsizing to accommodate increased flow from the development. Any stormwater analysis is to consider the entire catchment capable of being serviced by the proposed infrastructure.</p>	<p>An SMP has been prepared detailing the following:</p> <ul style="list-style-type: none"> • The hydrology and hydraulic analysis undertaken for proposed public network capacity analysis in a 5% AEP storm event. • Stormwater detention requirements in accordance with Council requirements. • Stormwater treatment requirements in accordance with State Stormwater Strategy requirements. <p>It is has been demonstrated that the proposed underground public stormwater network has the capacity to service the entire developed catchment in a minor storm event. The road reserve will be designed to convey a major stormwater event.</p> <p>Modelling has been performed to determine viable stormwater detention and treatment solutions. However, It is proposed that a cash contribution is made to the Council in lieu of providing stormwater detention and treatment onsite.</p>



**BRIGHTON COUNCIL
PLANNING PERMIT**

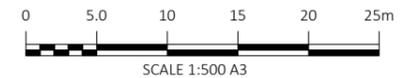
This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer



WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

Note:

- For civil works refer to Peter Henry drawings.



SUBJECT TO FINAL VERIFICATION AND APPROVAL

Rev No	Date	Revision Note	Drn	Ver.	App.
A	10/11/21	For approval			

AD DESIGN + CONSULTING
 Engineering / Project Management / Property Development

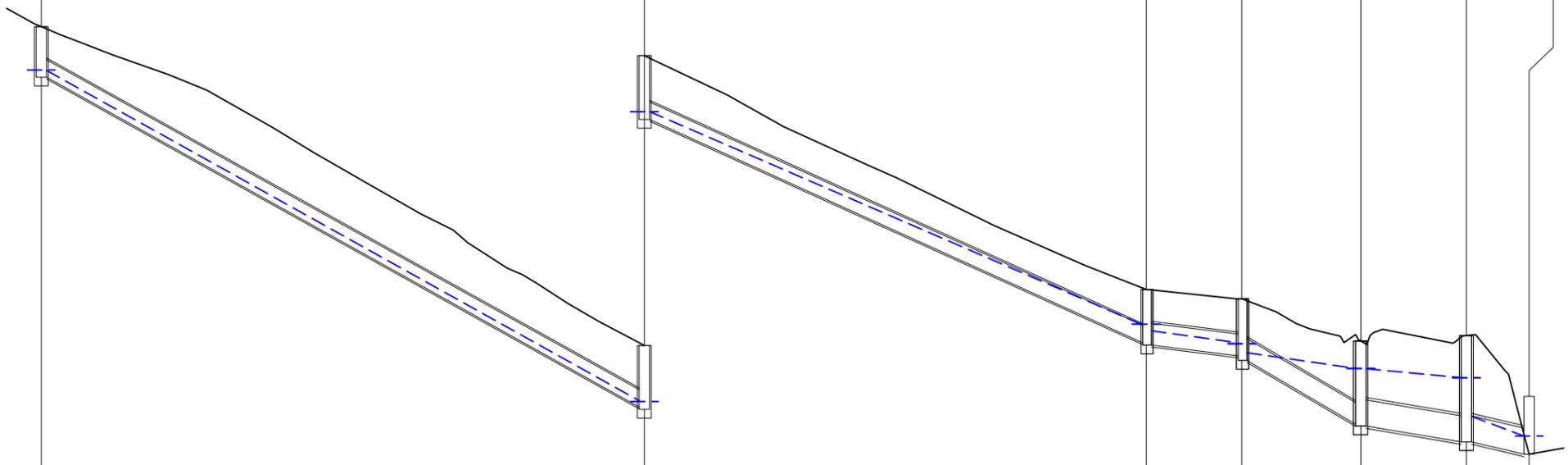
Client	Huntingfield Developments P/L
Project	19 Burrows Ave, Brighton Stormwater

Drawn	Signed	Date
HM		10/11/21
Designed	Signed	Date
MB		10/11/21
Checked	Signed	Date
cc		10/11/21
Approved	Signed	Date

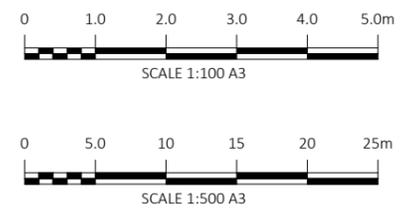
Drawing Title	Drainage General Arrangement
Project No.	21081
Scale	1:500
Sheet Size	A3
Drawing No.	D-1-07-01
Rev	A

FOR APPROVAL
 NOT FOR CONSTRUCTION

STRUCTURE NAME	1.7	1.6	1.5	1.4	1.3	1.2	1.1		
STRUCTURE DESCRIPTION	SIDE ENTRY PIT - TYPE 4 REFER TSD-SW10-V1	SIDE ENTRY PIT - TYPE 4 REFER TSD-SW10-V1	<div style="border: 1px solid red; padding: 5px;"> <p>BRIGHTON COUNCIL PLANNING PERMIT</p> <p>This document is one of the documents relevant to the permit issued for planning approval as identified by Permit Number: SA2021/006 Date Permit issued: 6/1/2022 Authorised Officer</p>  </div>		PIT - TYPE 4 W10-V1	SIDE ENTRY PIT - TYPE 4 REFER TSD-SW10-V1	EXISTING MH	EXISTING MH	EXISTING HEADWALL



PIPE SIZE (mm)	300	300	375	375	450	450		
PIPE CLASS/MATERIAL	CL4 RCP	CL4 RCP	CL4 RCP	CL4 RCP				
PIPE GRADE (%)	11.11%	9.04%	2.45%	11.73%	3.32%	4.71%		
PIPE SLOPE (1 in X)	9.0	11.1	40.8	8.5	30.1	21.2		
PIPE FLOW (cumecs)	0.098	0.122	0.156	0.156	0.197	0.513		
CAPACITY RATIO (Q/Qcap)	0.300	0.420	0.570	0.260	0.380	0.830		
PIPE VELOCITY (m/s)	3.73	2.45	1.89	1.65	1.24	3.57		
NORMAL DEPTH (m)	0.11	0.14	0.20	0.13	0.19	0.31		
DATUM RL	75.000	70.000						
HGL ELEVATION	87.309 87.302	81.605 81.591	77.925 77.811	77.608 77.588	77.162 77.157	77.002 76.335	75.995	
DEPTH TO INVERT	0.871	1.062 1.102	0.920 0.960	0.985 1.065	1.437 1.467	1.834 1.834	0.998 0.998	
INVERT LEVEL OF DRAIN	87.186	81.496 81.456	77.603 77.563	77.379 77.299	76.198 76.168	75.895 75.895	75.682 75.682	
DESIGN (& EXISTING) SURFACE LEVEL	88.056	82.557	78.524	78.364	77.635	77.729	75.682	
CHAINAGE	-0.586	51.211	51.525	42.610	94.885 7.506	103.141 9.387	113.428 8.221	122.549 4.516



COPYRIGHT ©
A person using AD DESIGN + CONSULTING (ADDC) drawings and other data accepts the risk of:
1. Using the drawings and/or files in electronic form without requesting and checking them for accuracy against the original hard copy version;
2. Using the drawings or other data for any purpose not agreed to in writing by ADDC.

Rev No	Date	Revision Note	Drn	Ver.	App.
A	10/11/21	For approval			

AD DESIGN + CONSULTING
Engineering / Project Management / Property Development

Client	Huntingfield Developments P/L
Project	19 Burrows Ave, Brighton Stormwater

Drawn	Signed	Date
HM		10/11/21
Designed	Signed	Date
MB		10/11/21
Checked	Signed	Date
cc		10/11/21
Approved	Signed	Date

Drawing Title	Drainage Longitudinal Section
Project No.	21081
Scale	As Shown
Drawing No.	D-1-12-01

FOR APPROVAL
NOT FOR CONSTRUCTION

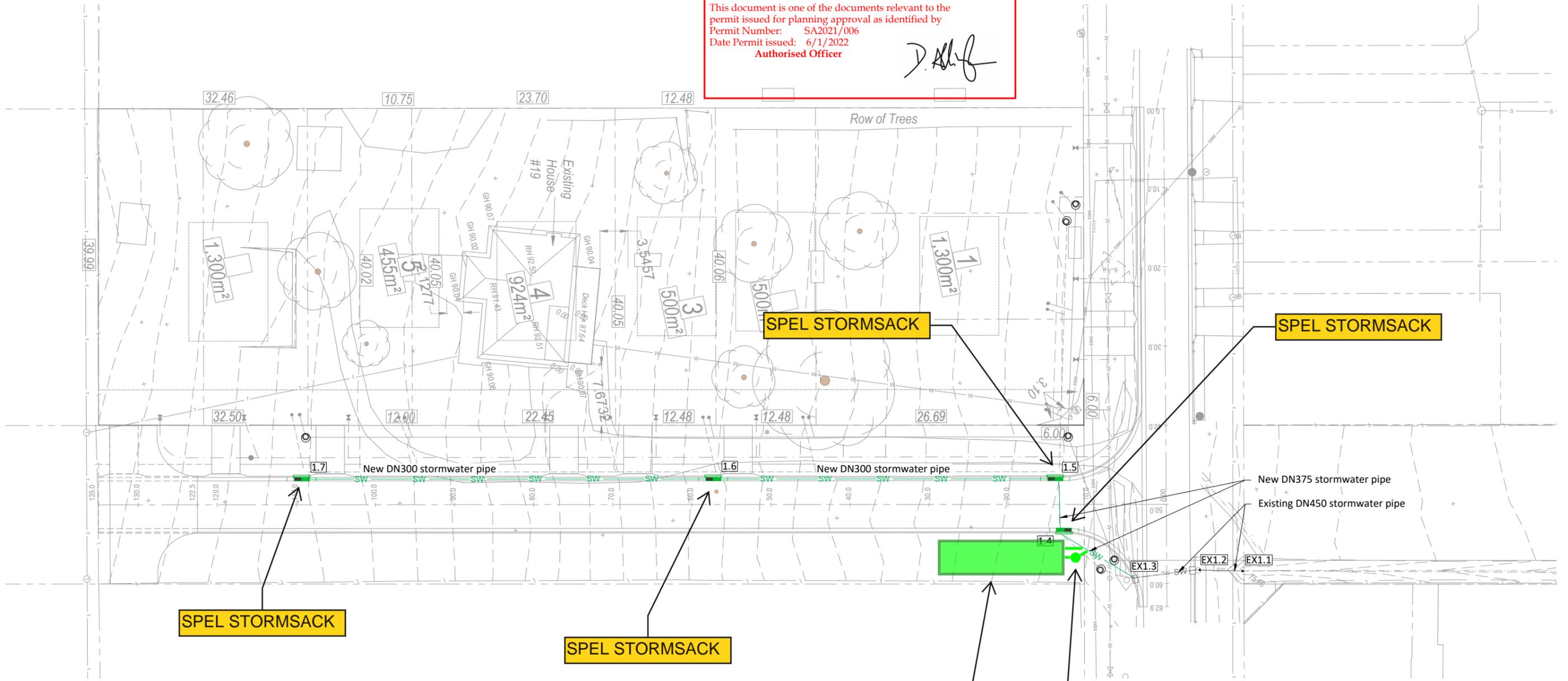
SUBJECT TO FINAL VERIFICATION AND APPROVAL

PLOTTED: 11/10/2021 3:07:46 PM c:\1265\data\addc-s1\21081-19 burrows ave, brighton_10175102_cadd\drawing\dat\1-12-01.dwg



**BRIGHTON COUNCIL
PLANNING PERMIT**

This document is one of the documents relevant to the permit issued for planning approval as identified by
 Permit Number: SA2021/006
 Date Permit issued: 6/1/2022
 Authorised Officer



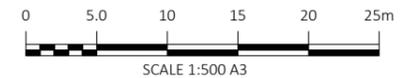
WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

Note:

- For civil works refer to Peter Henry drawings.

SPEL STORMCHAMBER HS75 20m³ with DN150 control orifice at sump of tank, with high flow outlet.

SPEL HYDROSYSTEM SHS.1500/6



SUBJECT TO FINAL VERIFICATION AND APPROVAL

Rev No	Date	Revision Note	Drn	Ver.	App.
A	10/11/21	For approval			

AD DESIGN + CONSULTING
 Engineering / Project Management / Property Development

Client	Huntingfield Developments P/L
Project	19 Burrows Ave, Brighton Stormwater

Drawn	HM	Signed		Date	10/11/21
Designed	MB	Signed		Date	10/11/21
Checked	cc	Signed		Date	10/11/21
Approved		Signed		Date	

Project No.	21081
Scale	1:500
Drawing No.	D-1-07-01
Sheet Size	A3
Rev	A

FOR APPROVAL
 NOT FOR CONSTRUCTION