Clarence... a brighter place

DEVELOPMENT APPLICATION

PDPLANPMTD-2023/038723

PROPOSAL: 16 Lot Subdivision plus balance, including new Roadway, Footway and Public Open Space

LOCATION: 312A Tranmere Road, Tranmere

RELEVANT PLANNING SCHEME: Tasmanian Planning Scheme - Clarence

ADVERTISING EXPIRY DATE: 22 April 2024

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 22 April 2024. In addition to legislative requirements, plans and documents can also be viewed at www.ccc.tas.gov.au during these times.

Any person may make representations about the application to the Chief Executive Officer, by writing to PO Box 96, Rosny Park, 7018 or by electronic mail to clarence@ccc.tas.gov.au. Representations must be received by Council on or before 22 April 2024.

To enable Council to contact you if necessary, would you please also include a day time contact number in any correspondence you may forward.

Any personal information submitted is covered by Council's privacy policy, available at www.ccc.tas.gov.au or at the Council offices.

Clarence City Council

Clarence... a brighter place

APPLICATION FOR DEVELOPMENT / USE OR SUBDIVISION

*The personal information on this form is required by Council for the development of land under the Land Use Planning and Approvals Act 1993. We will only use your personal information for this and other related purposes. If this information is not provided, we may not be able to deal with this matter. You may access and/or amend your personal information at any time. How we use this information is explained in our **Privacy Policy**, which is available at www.ccc.tas.gov.au or at Council offices.*

Proposal: Subdivision resulting in 17 lots and a balance, road, footway and public open space

Location:

Address 312A Tranmere Rd (a.k.a Tranquil Place)

Suburb/Town Tranmere *Postcode* 7018

Current Owners/s:

Applicant:

Personal Information Removed

Tax Invoice for application fees to be in the name of:
(if different from applicant)

Estimated cost of development $NA

Is the property on the Tasmanian Heritage Register? Yes ☐ No ☑

(if yes, we recommend you discuss your proposal with Heritage Tasmania prior to lodgement as exemptions may apply which may save you time on your proposal)

If you had pre-application discussions with a Council Officer, please give their name: Amanda Beyer

Current Use of Site: vacant

Does the proposal involve land administered or owned by the Crown or Council? Yes ☐ No ☑

Declaration:

- *I have read the Certificate of Title and Schedule of Easements for the land and am satisfied that this application is not prevented by any restrictions, easements or covenants.*
- *I authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation. I agree to arrange for the permission of the copyright owner of any part of this application to be obtained. I have arranged permission for Council's representatives to enter the land to assess this application*
- *I declare that, in accordance with Section 52 of the Land Use Planning and Approvals Act 1993, that I have notified the owner of the intention to make this application. Where the subject property is owned or controlled by Council or the Crown, their signed consent is attached. Where the application is submitted under Section 43A, the owner's consent is attached.*
- *I declare that the information in this declaration is true and correct.*

Acknowledgement:

- *I acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process; for display purposes during public consultation; and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.*

Applicant's Signature:

Neil Shephard & Assoc on behalf CM, PL, JM & GA Luckman

Signature ..... *Date* 14/9/23

PLEASE REFER TO THE DEVELOPMENT/USE AND SUBDIVISION CHECKLIST ON THE FOLLOWING PAGES TO DETERMINE WHAT DOCUMENTATION MUST BE SUBMITTED WITH YOUR APPLICATION.

Clarence City Council

DEVELOPMENT/USE OR SUBDIVISION CHECKLIST

Clarence... a brighter place

Documentation required:

1. **MANDATORY DOCUMENTATION**

This information is required for the application to be valid. An application lodged without these items is unable to proceed.

- ❑ Details of the location of the proposed use or development.
- ❑ A copy of the current Certificate of Title, Sealed Plan, Plan or Diagram and Schedule of Easements and other restrictions for each parcel of land on which the use or development is proposed.
- ❑ Full description of the proposed use or development.
- ❑ Description of the proposed operation.
  May include where appropriate: staff/student/customer numbers; operating hours; truck movements; and loading/unloading requirements; waste generation and disposal; equipment used; pollution, including noise, fumes, smoke or vibration and mitigation/management measures.
- ❑ Declaration the owner has been notified if the applicant is not the owner.
- ❑ Crown or Council consent (if publically-owned land).
- ❑ Any reports, plans or other information required by the relevant zone or code.
- ❑ Fees prescribed by the Council.

  Application fees (please phone 03 6217 9550 to determine what fees apply). An invoice will be emailed upon lodgement.

2. **ADDITIONAL DOCUMENTATION**

In addition to the mandatory information required above, Council may, to enable it to consider an application, request further information it considers necessary to ensure that the proposed use or development will comply with any relevant standards and purpose statements in the zone, codes or specific area plan, applicable to the use or development.

- ❑ **Site analysis plan and site plan**, including where relevant:
  - *Existing and proposed use(s) on site.*
  - *Boundaries and dimensions of the site.*
  - *Topography, including contours showing AHD levels and major site features.*
  - *Natural drainage lines, watercourses and wetlands on or adjacent to the site.*
  - *Soil type.*
  - *Vegetation types and distribution, and trees and vegetation to be removed.*
  - *Location and capacity of any existing services or easements on/to the site.*
  - *Existing pedestrian and vehicle access to the site.*
  - *Location of existing and proposed buildings on the site.*
  - *Location of existing adjoining properties, adjacent buildings and their uses.*
  - *Any natural hazards that may affect use or development on the site.*
  - *Proposed roads, driveways, car parking areas and footpaths within the site.*
  - *Any proposed open space, communal space, or facilities on the site.*
  - *Main utility service connection points and easements.*
  - *Proposed subdivision lot boundaries.*

- ❑ Where it is proposed to erect buildings, **detailed plan**s with dimensions at a scale of 1:100 or 1:200 showing:
  - *Internal layout of each building on the site.*
  - *Private open space for each dwelling.*
  - *External storage spaces.*
  - *Car parking space location and layout.*
  - *Major elevations of every building to be erected.*
  - *Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites.*
  - *Relationship of the elevations to natural ground level, showing any proposed cut or fill.*
  - *Materials and colours to be used on rooves and external walls.*
- ❑ Where it is proposed to erect buildings, a plan of the proposed **landscaping** showing:
  - *Planting concepts.*
  - *Paving materials and drainage treatments and lighting for vehicle areas and footpaths.*
  - *Plantings proposed for screening from adjacent sites or public places.*
- ❑ Any additional reports, plans or other information required by the relevant zone or code.

This list is not comprehensive for all possible situations. If you require further information about what may be required as part of your application documentation, please contact Council's Planning Officers on (03) 6217 9550 who will be pleased to assist.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
183275	201
EDITION	DATE OF ISSUE
1	05-Jul-2022

SEARCH DATE : 28-Aug-2023
SEARCH TIME : 01.42 PM

DESCRIPTION OF LAND

City of CLARENCE
Lot 201 on Sealed Plan 183275
Derivation : Part of 115 Acres Gtd. to James Young
Prior CT 181972/201

SCHEDULE 1

C949694 & D126626 TRANSFER to CAROLYN MARGARET LUCKMAN, PAUL LAMONT LUCKMAN, JANICE MARY LUCKMAN and GREGORY ALAN LUCKMAN as tenants in common in equal shares

SCHEDULE 2

C30241 Land is limited in depth to 15 metres, excludes minerals and is subject to reservations relating to drains sewers and waterways in favour of the Crown
SP183275 FENCING PROVISION in Schedule of Easements
SP167884, SP173769, SP174376, SP176222, SP178685, SP179560, SP180503 & SP181972 FENCING PROVISION in Schedule of Easements
C94425 FENCING PROVISION in Transfer

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER: C.M, P.L, J.M, & G.A LUCKMAN

FOLIO REFERENCE: C.T. 181972 - 201

GRANTEE: PART OF 115 ACRES GRANTED TO JAMES YOUNG

PLAN OF SURVEY

BY SURVEYOR: T.W. COX of LEARY,COX & CRIPPS SURVEYORS Unit G04 40 Molle Street, HOBART TAS 7000 P 03 6118 2030 E admin@lccsurvey.com

LOCATION: CITY OF CLARENCE

SCALE 1: 4000 LENGTHS IN METRES

REGISTERED NUMBER

SP183275

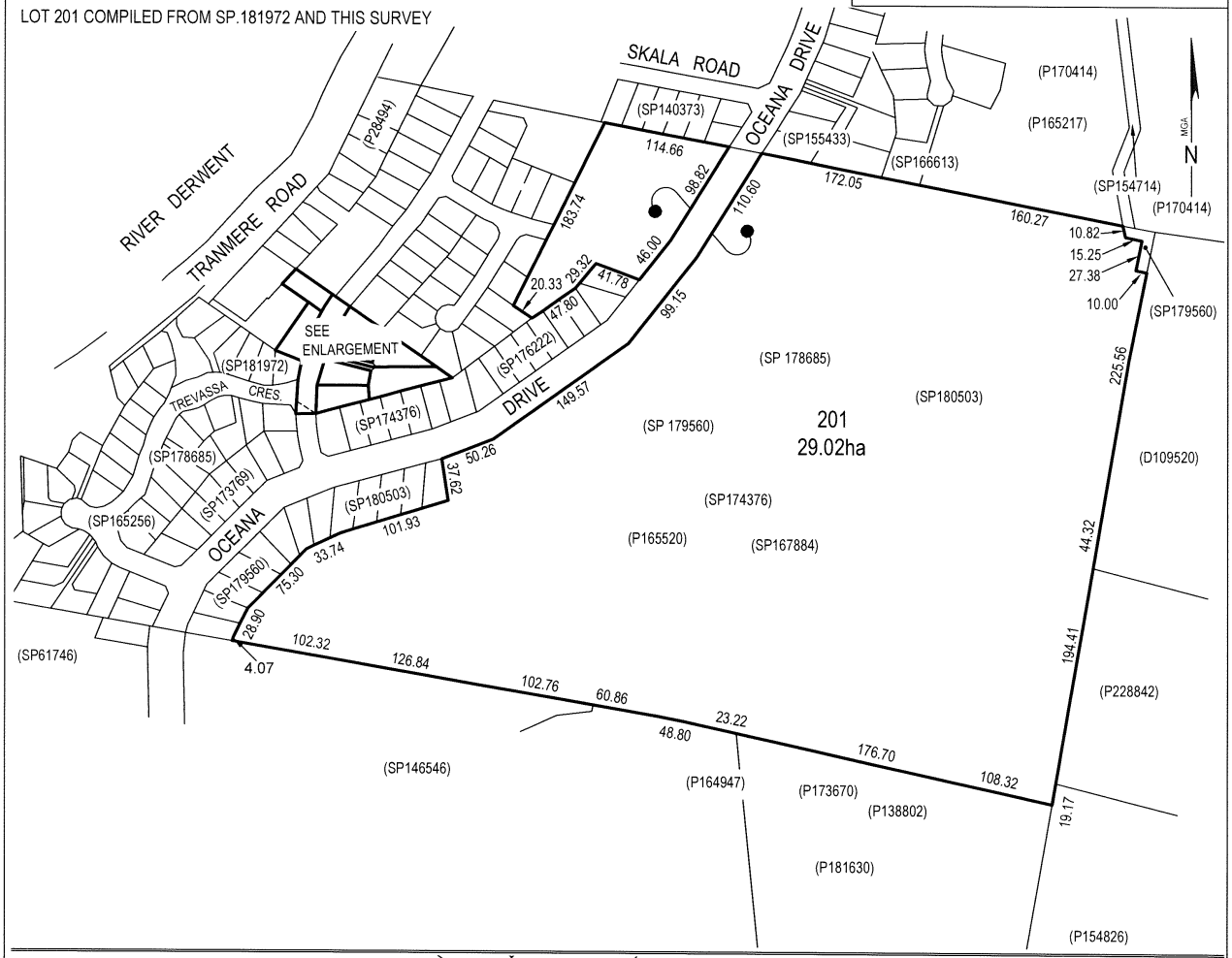
APPROVED / EFFECTIVE FROM - 5 JUL 2022

Recorder of Titles

PRIORITY FINAL PLAN

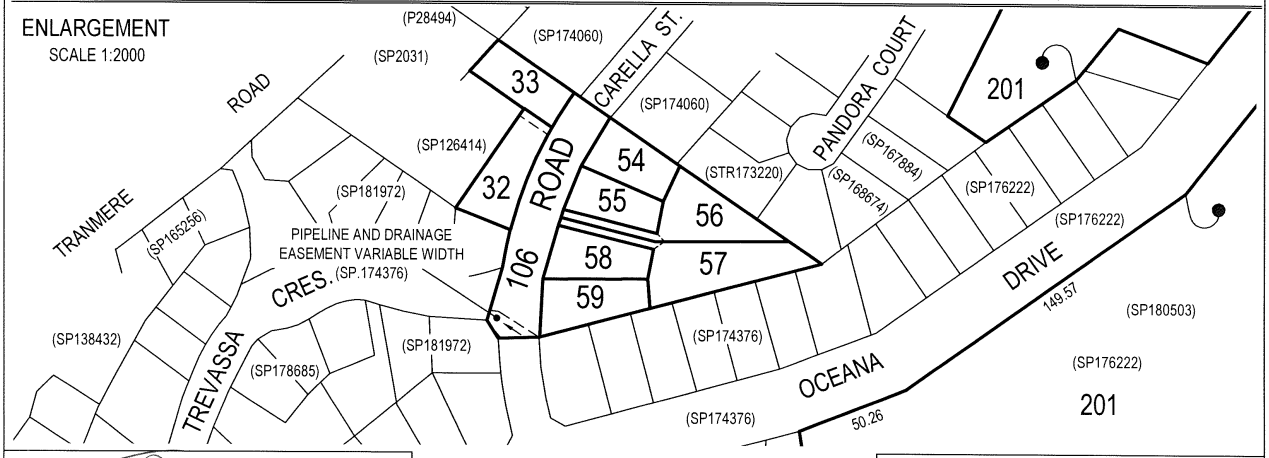
LOT 201 COMPILED FROM SP.181972 AND THIS SURVEY

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



ENLARGEMENT

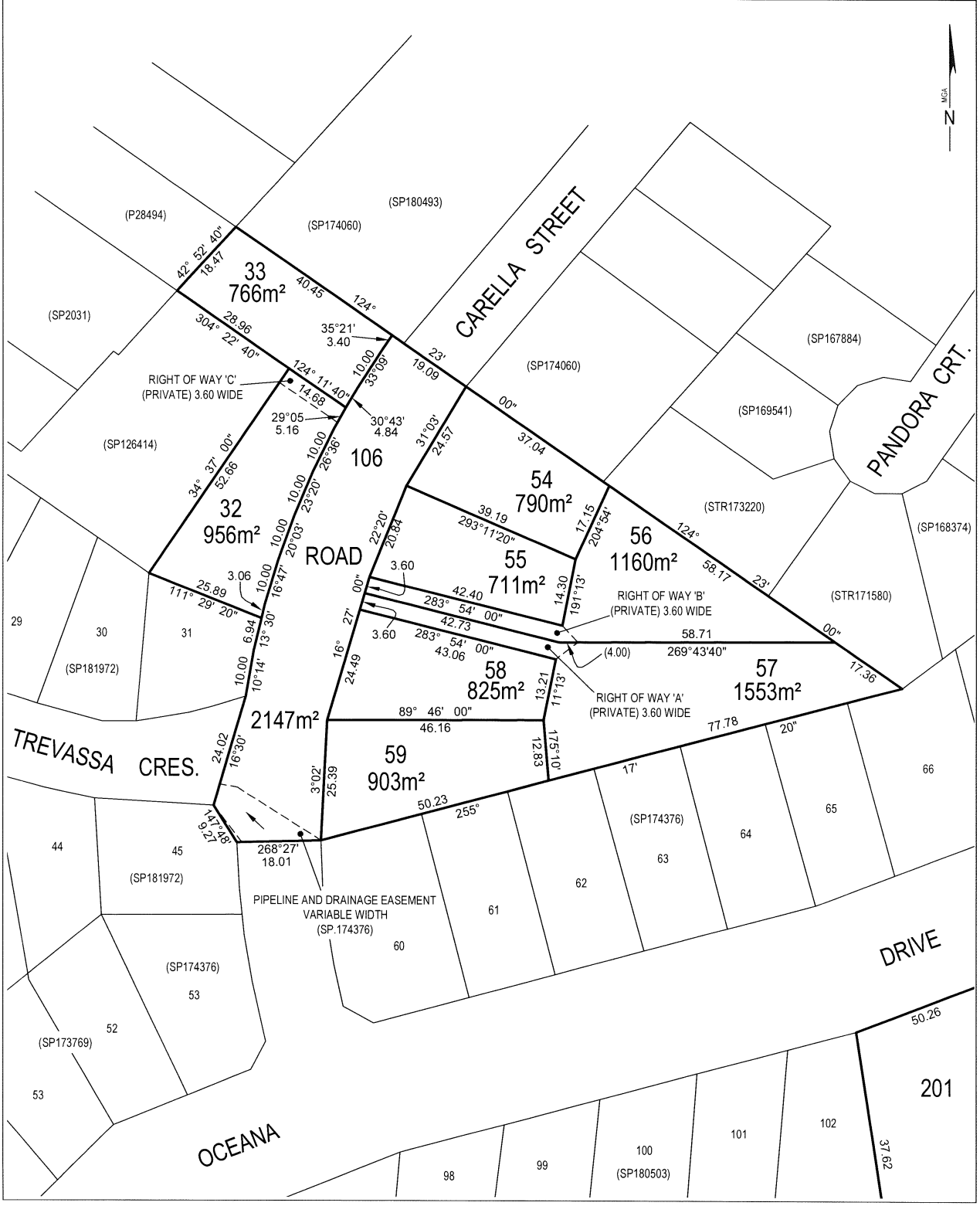
SCALE 1:2000



Registered Land Surveyor — Date 20/5/2022

Council Delegate Clare Shea — Date 15.06.2022

PLAN OF SURVEY ANNEXURE SHEET SHEET 1 OF 1 SHEETS	OWNER: C.M, P.L, J.M, & G.A LUCKMAN FOLIO REFERENCE: C.T. 181972 - 201 SCALE 1: 750 LENGTH IN METRES	Registered Number SP 183275
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate — 15.06.2022 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor — 20/5/2022 Date	APPROVED EFFECTIVE FROM - 5 JUL 2022 Recorder of Titles



SCHEDULE OF EASEMENTS	Registered Number
NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.	SP183275

EASEMENTS AND PROFITS

Each lot on the plan is together with:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
(2) any easements or profits a prendre described hereunder.
Each lot on the plan is subject to:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
(2) any easements or profits a prendre described hereunder.
The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

Lot 32 is subject to a right of carriageway (appurtenant to lot 1 on Sealed Plan 126414) over the land marked RIGHT OF WAY "C" (PRIVATE) 3.60 WIDE passing through that lot on the plan

Lot 56 is together with a right of carriageway over the land marked RIGHT OF WAY "A" (PRIVATE) 3.60 WIDE on the plan

Lot 56 is subject to a right of carriageway (appurtenant to lot 57) over the land marked RIGHT OF WAY "B" (PRIVATE) 3.60 WIDE passing through that lot on the plan

Lot 57 is together with a right of carriageway over the land marked RIGHT OF WAY "B" (PRIVATE) 3.60 WIDE on the plan

Lot 57 is subject to a right of carriageway (appurtenant to lot 56) over the land marked RIGHT OF WAY "A" (PRIVATE) 3.60 WIDE passing through that lot on the plan

Lot 106 is subject to a right of drainage in gross (in favour of Clarence City Council) over the land marked PIPELINE & DRAINAGE EASEMENT VARIABLE WIDTH passing through that lot on the plan

Lot 106 is subject to a pipeline and services easement in gross as defined herein (in favour of "TasWater") over the land marked PIPELINE AND DRAINAGE EASEMENT VARIABLE WIDTH ("the Easement Land") passing through that lot on the plan

(USE ANNEXURE PAGES FOR CONTINUATION)

SUBDIVIDER: P L LUCKMAN & OTHERS FOLIO REF: 181972-201 SOLICITOR & REFERENCE: TFR LAWYERS (AK)	PLAN SEALED BY: CLARENCE CITY COUNCIL DATE: 15 June 2022 SD-2009-29 REF NO. ..... Council Delegate Clare Shea
NOTE: The Council Delegate must sign the Certificate for the purposes of identification.	

ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 2 OF 4 PAGES	Registered Number SP183275
SUBDIVIDER: P L LUCKMAN & OTHERS FOLIO REFERENCE: 181972-201	

FENCING PROVISION

In respect to the lots on the plan the vendor (Paul Lamont Luckman, Janice Mary Luckman, Gregory Alan Luckman and Carolyn Margaret Luckman) shall not be required to fence

COVENANTS

The owners of lots 32, 33 & 54-59 on the plan covenant with Paul Lamont Luckman, Janice Mary Luckman, Gregory Alan Luckman and Carolyn Margaret Luckman and the owners for the time being of every other lot on the plan to the intent that the burden of this covenant may run with and bind the covenantors lot and every part thereof and that the benefit thereof may be annexed to and devolve with each and every part of every other lot on the plan to observe the following stipulations-

1. Not to carry on the whole or any part or any process of any business upon such lot subject to the exception that the whole of any dwelling erected on such lot may be let by the owner
2. Not without the consent of Clarence City Council to cut down, lop or destroy on such lot any tree, shrub or growth of a like character providing always that this covenant shall not apply to cutting down, topping, lopping, destruction or renewal of any tree, shrub or growth of a like character for the purpose of obtaining access to such lot for building thereon, installation of services or by reasons of considerable safety
3. Not to further subdivide such lot (provided the stipulation shall not apply to a boundary adjustment)

INTERPRETATION

"TasWater" means Tasmanian Water & Sewerage Corporation Pty Ltd (ACN 162 220 653) its successors and assigns

"Pipeline and Services Easement" means-

FIRSTLY, the full and free right and liberty for TasWater and its employees, contractors, agents and all other persons duly authorised by it, at all times to:

(1) enter and remain upon the Easement Land with or without machinery, vehicles, plant and equipment;

(2) investigate, take soil, rock and other samples, survey, open and break up and excavate the Easement Land for any purpose or activity that TasWater is authorised to do or undertake;

P L Luckman:..... J M Luckman:..... G A Luckman:..... C M Luckman:.....

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 3 OF 4 PAGES	Registered Number SP 183275
SUBDIVIDER: P L LUCKMAN & OTHERS FOLIO REFERENCE: 181972-201	

(3) install, retain, operate, modify, relocate, maintain, inspect, cleanse, repair, remove and replace the Infrastructure;

(4) run and pass sewage, water and electricity through and along the Infrastructure;

(5) do all works reasonably required in connection with such activities or as may be authorised or required by any law:

(a) without doing unnecessary damage to the Easement Land; and

(b) leaving the Easement Land in a clean and tidy condition;

(6) if the Easement Land is not directly accessible from a highway, then for the purpose of undertaking any of the preceding activities TasWater may with or without employees, contractors, agents and any other persons authorised by it, and with or without machinery, vehicles, plant and equipment enter the Lot from the highway at any vehicle entry and cross the Lot to the Easement Land; and

(7) use the Easement Land as a right of carriageway for the purpose of undertaking any of the preceding purposes on other land, TasWater reinstating any damage that it causes in doing so to any boundary fence of the Lot

SECONDLY, the benefit of a covenant in gross for TasWater with the registered proprietor of the Easement Land and their successors and assigns not to erect any building, or place any structures, objects, vegetation, or remove any thing that supports, protects or covers any Infrastructure on or in the Easement Land, without the prior written consent of TasWater to the intent that the burden of the covenant may run with and bind the servient land and every part thereof and that the benefit thereof may be annexed to the easement herein described

"Infrastructure" means infrastructure owned or for which TasWater is responsible and includes but is not limited to:

(a) sewer pipes and water pipes and associated valves;

(b) telemetry and monitoring devices;

(c) inspection and access pits;

(d) electricity assets and other conducting media (excluding telemetry and monitoring devices);

(e) markers or signs indicating the location of the Easement Land or any other Infrastructure or any warnings or restrictions with respect to the Easement Land or any other Infrastructure;

(f) anything reasonably required to support, protect or cover any other Infrastructure;

(g) any other infrastructure whether of a similar nature or not to the preceding which is reasonably required for the piping of sewage or water, or the running of electricity, through the Easement Land or monitoring or managing that activity; and

(h) where the context permits, any part of the Infrastructure.

P L Luckman: ..... J M Luckman: ..... G A Luckman: ..... C M Luckman: .....

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 4 OF 4 PAGES	Registered Number SP183275
SUBDIVIDER: P L LUCKMAN & OTHERS FOLIO REFERENCE: 181972-201	

Signed by PAUL LAMONT LUCKMAN)
in the presence of-)
Witness *signature:* .....)
Print Full Name: D. Cummins
Postal Address: 119 Macquarie Street
HOBART TAS 7001

Signed by JANICE MARY LUCKMAN)
in the presence of-)
Witness *signature:* .....)
Print Full Name: D. Cummins
Postal Address: 119 Macquarie Street
HOBART TAS 7001

Signed by GREGORY ALAN LUCKMAN)
in the presence of-)
Witness *signature:* .....)
Print Full Name: D. Cummins
Postal Address: 119 Macquarie Street
HOBART TAS 7001

Signed by CAROLYN MARGARET LUCKMAN)
in the presence of-)
Witness *signature:* .....)
Print Full Name: D. Cummins
Postal Address: 119 Macquarie Street
HOBART TAS 7001

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

Goodsell, Martyn

From: Tim Cox <tim@lccsurvey.com>
Sent: Wednesday, 22 June 2022 4:12 PM
To: Goodsell, Martyn
Subject: Re: SP183275 - your ref: 11662
Attachments: 11662 Amendments TC 22-6.pdf

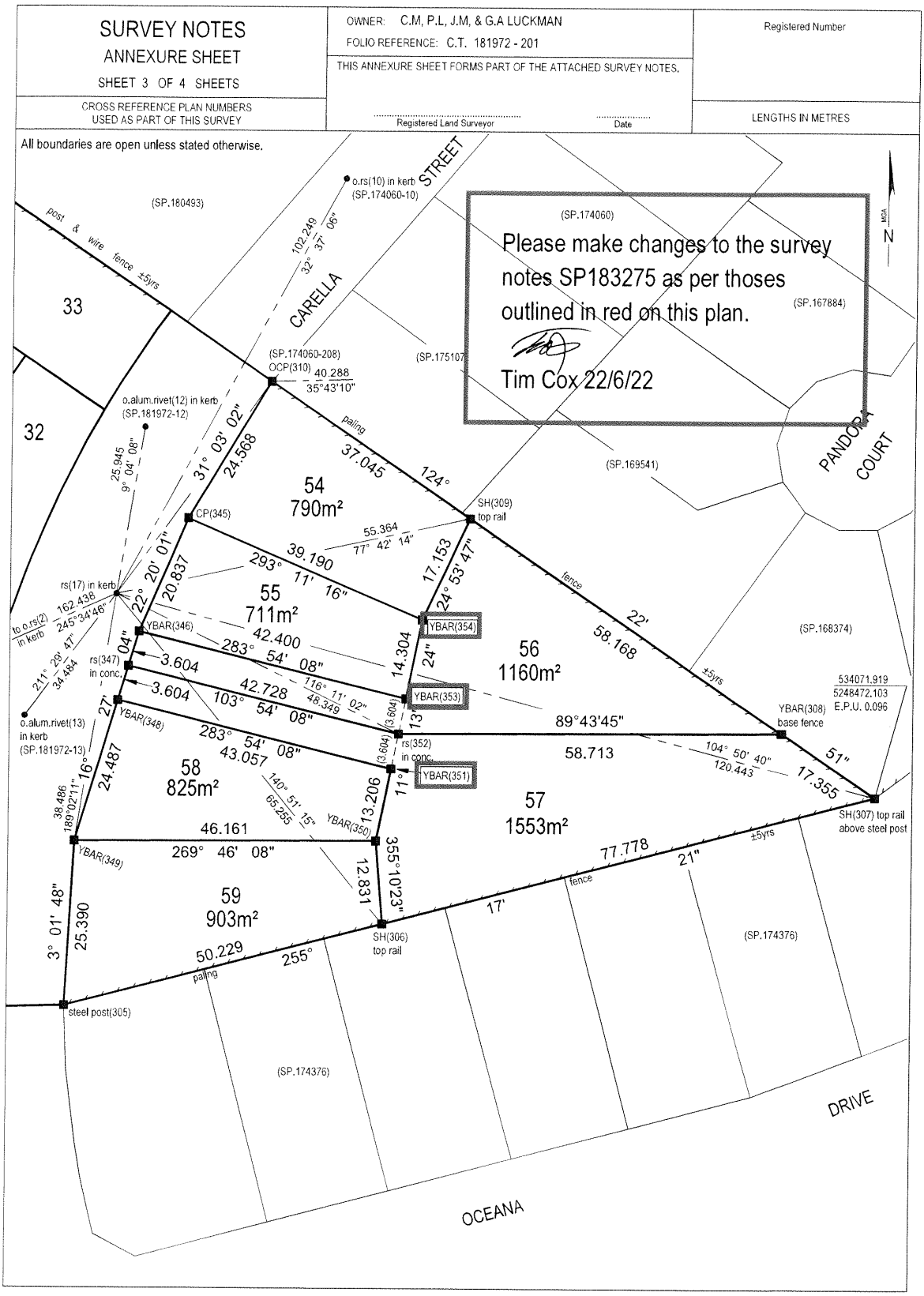
Hi Martyn,

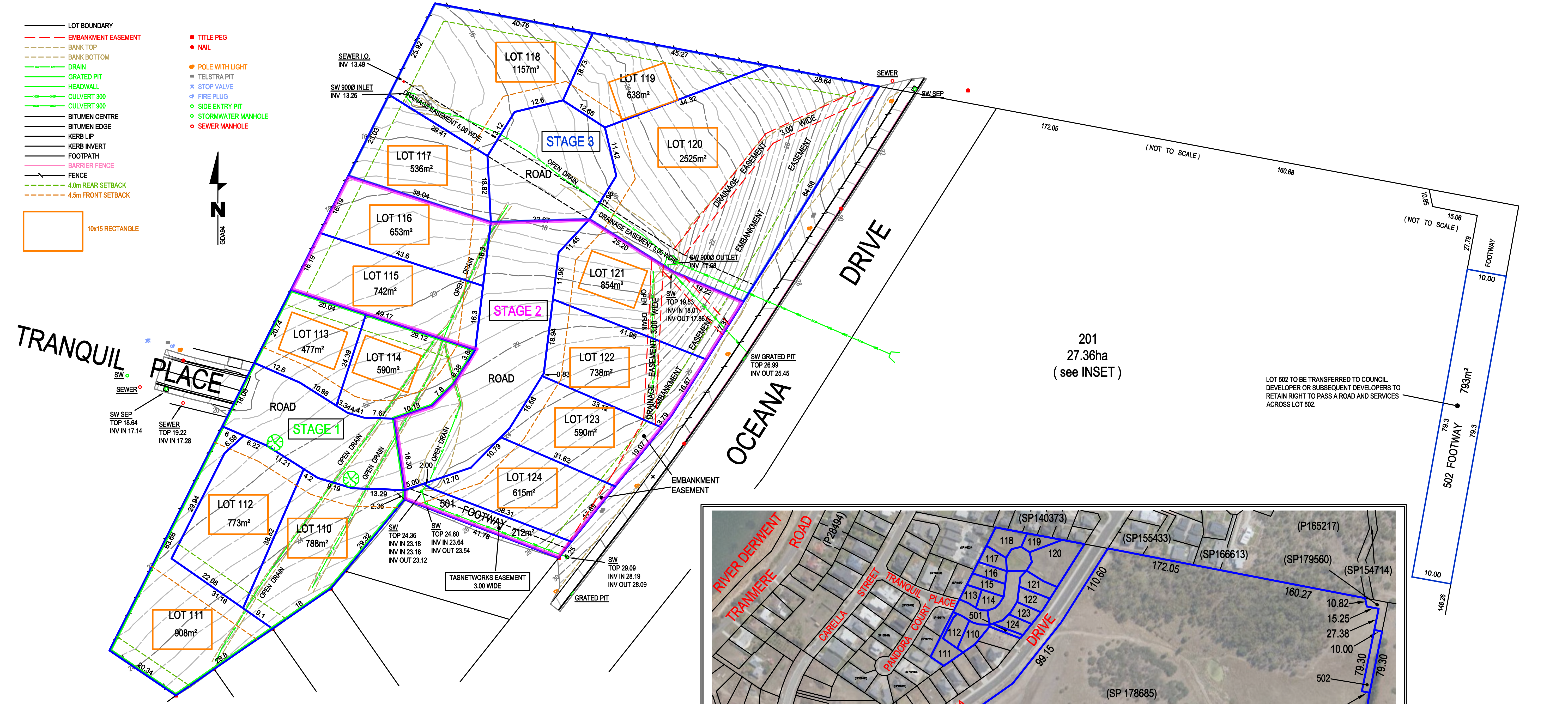
Changes attached, please confirm once accepted

Kind Regards,

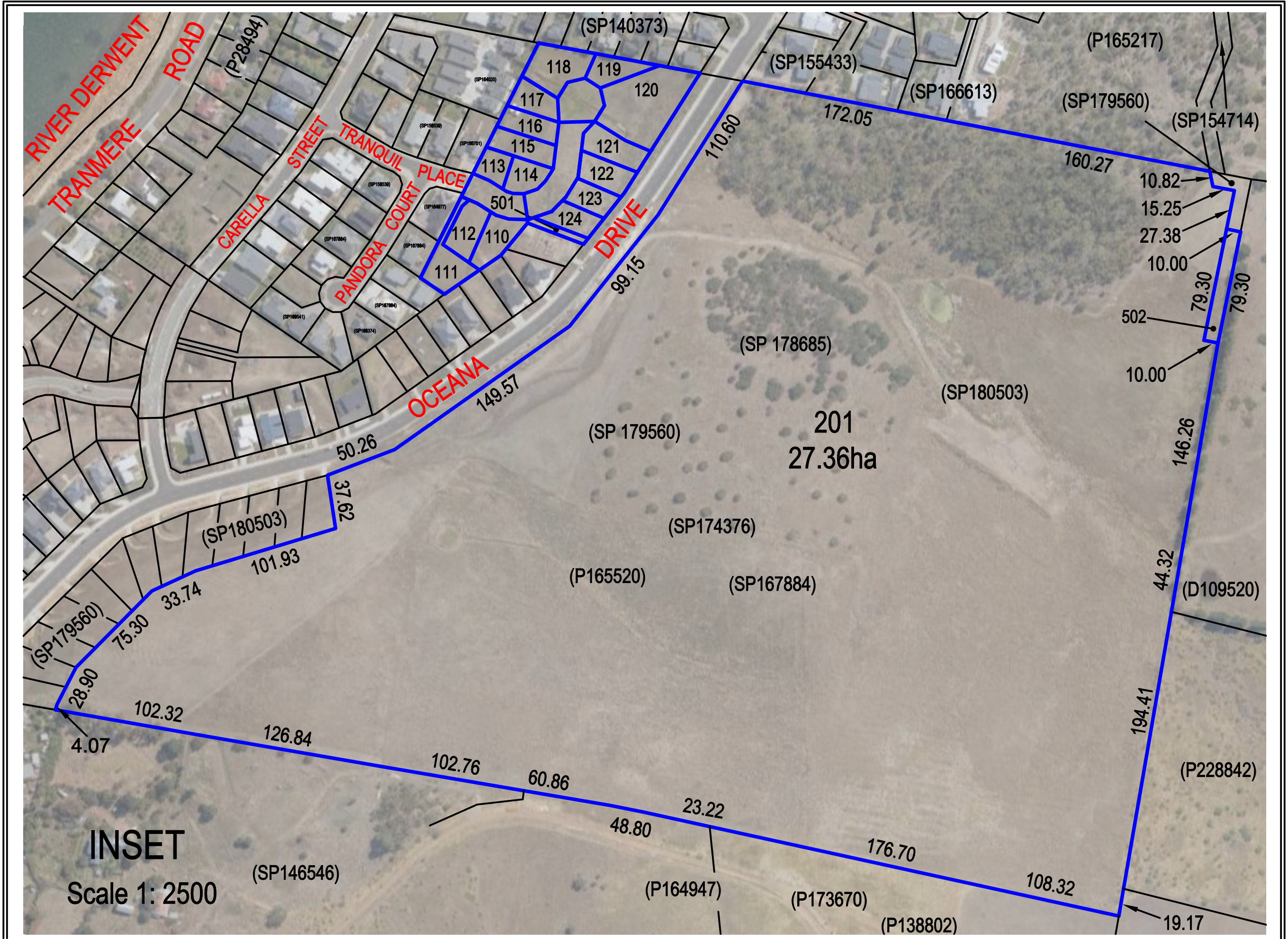
Tim Cox
B.Geom (UTAS)
Registered Land Surveyor
tim@lccsurvey.com

Unit G04 40 Molle Street
HOBART TAS 7000
PH 6118 2030
MOB 0408 400 854





LOT BOUNDARY
EMBANKMENT EASEMENT
BANK TOP
BANK BOTTOM
DRAIN
GRATED PIT
HEADWALL
CULVERT 300
CULVERT 900
BITUMEN CENTRE
BITUMEN EDGE
KERB LIP
KERB INVERT
FOOTPATH
BARRIER FENCE
FENCE
4.0m REAR SETBACK
4.5m FRONT SETBACK
10x15 RECTANGLE
TITLE PEG
NAIL
POLE WITH LIGHT
TELSTRA PIT
STOP VALVE
FIRE PLUG
SIDE ENTRY PIT
STORMWATER MANHOLE
SEWER MANHOLE
N
GDA94
TRANQUIL PLACE
OCEANA DRIVE
ROAD
STAGE 1
STAGE 2
STAGE 3
LOT 118 1157m²
LOT 119 638m²
LOT 120 2525m²
LOT 117 536m²
LOT 116 653m²
LOT 115 742m²
LOT 121 854m²
LOT 113 477m²
LOT 114 590m²
LOT 122 738m²
LOT 123 590m²
LOT 124 615m²
LOT 112 773m²
LOT 110 788m²
LOT 111 908m²
501 FOOTWAY 212m²
SEWER I.O. INV 13.49
SW 900Ø INLET INV 13.26
DRAINAGE EASEMENT 5.00 WDIE
OPEN DRAIN
SW 900Ø OUTLET INV 17.68
SW TOP 19.53 INV IN 18.01 INV OUT 17.86
DRAINAGE EASEMENT 3.00 WIDE
EMBANKMENT EASEMENT
SW GRATED PIT TOP 26.99 INV OUT 25.45
SEWER
SW SEP
SW SEP TOP 18.64 INV IN 17.14
SEWER TOP 19.22 INV IN 17.28
SW TOP 24.36 INV IN 23.18 INV IN 23.16 INV OUT 23.12
SW TOP 24.60 INV IN 23.64 INV OUT 23.54
TASNETWORKS EASEMENT 3.00 WIDE
SW TOP 29.09 INV IN 28.19 INV OUT 28.09
GRATED PIT
172.05
(NOT TO SCALE)
160.68
10.85
15.06
27.79
FOOTWAY
10.00
201
27.36ha
(see INSET)
LOT 502 TO BE TRANSFERRED TO COUNCIL. DEVELOPER OR SUBSEQUENT DEVELOPERS TO RETAIN RIGHT TO PASS A ROAD AND SERVICES ACROSS LOT 502.
793m²
79.3
502 FOOTWAY
146.26



RIVER DERWENT
TRANMERE ROAD
CARELLA STREET
TRANQUIL PLACE
PANDORA COURT
OCEANA DRIVE
(P28494)
(SP140373)
(SP155433)
(SP166613)
(P165217)
(SP179560)
(SP154714)
(SP 178685)
(SP180503)
(SP 179560)
(SP174376)
(P165520)
(SP167884)
(D109520)
(P228842)
(SP146546)
(P164947)
(P173670)
(P138802)
201
27.36ha
INSET
Scale 1: 2500

STAGING

STAGE 1 - LOTS 110 to 114 (5 blocks)

STAGE 2 - LOTS 115, 116 & 121 to 124 (6 blocks) & 501 (footway)

STAGE 3 - LOTS 117 to 120 (4 blocks) & 502 (Open Space)

IMPORTANT NOTE:

This plan was prepared as a proposed subdivision to accompany a subdivision application to the Clarence City Council and should not be used for any other purpose.
The dimensions. areas and total number of lots shown hereon are subject to field survey and also to the requirements of Council and any other authority which may have requirements under any relevant legislation. In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land.
This note is an integral part of this plan.

While all reasonable effort has been made to locate all visible above ground services, there may be other services which were not located during the field survey.
The title boundaries as shown on this plan were not marked at the time of the survey and have been determined by existing title dimensions and occupation (where available) only and not by field survey, and as a result are considered approximate only. This plan should not be used for building to boundary. or to prescribed set-backs, without further survey.
Prior to any demolition, excavation, final design or construction on this site, a full site inspection should be completed by the relevant engineers.
All survey data is 3D. The level (z-value) of any specific feature can be interrogated with a suitable CAD package. Spot heights of all features, including pipe inverts, are included in the model space but are not displayed on the PDF. Spot heights are organised into appropriate layers, and can be displayed as required.
At the time of this survey, C.T.176222/101 was owned by CAROLYN MARGARET, LUCKMAN,PAUL LAMONT, LUCKMAN, JANICE MARY LUCKMAN, GREGORY ALAN LUCKMAN

Date of Survey : MAY 2020

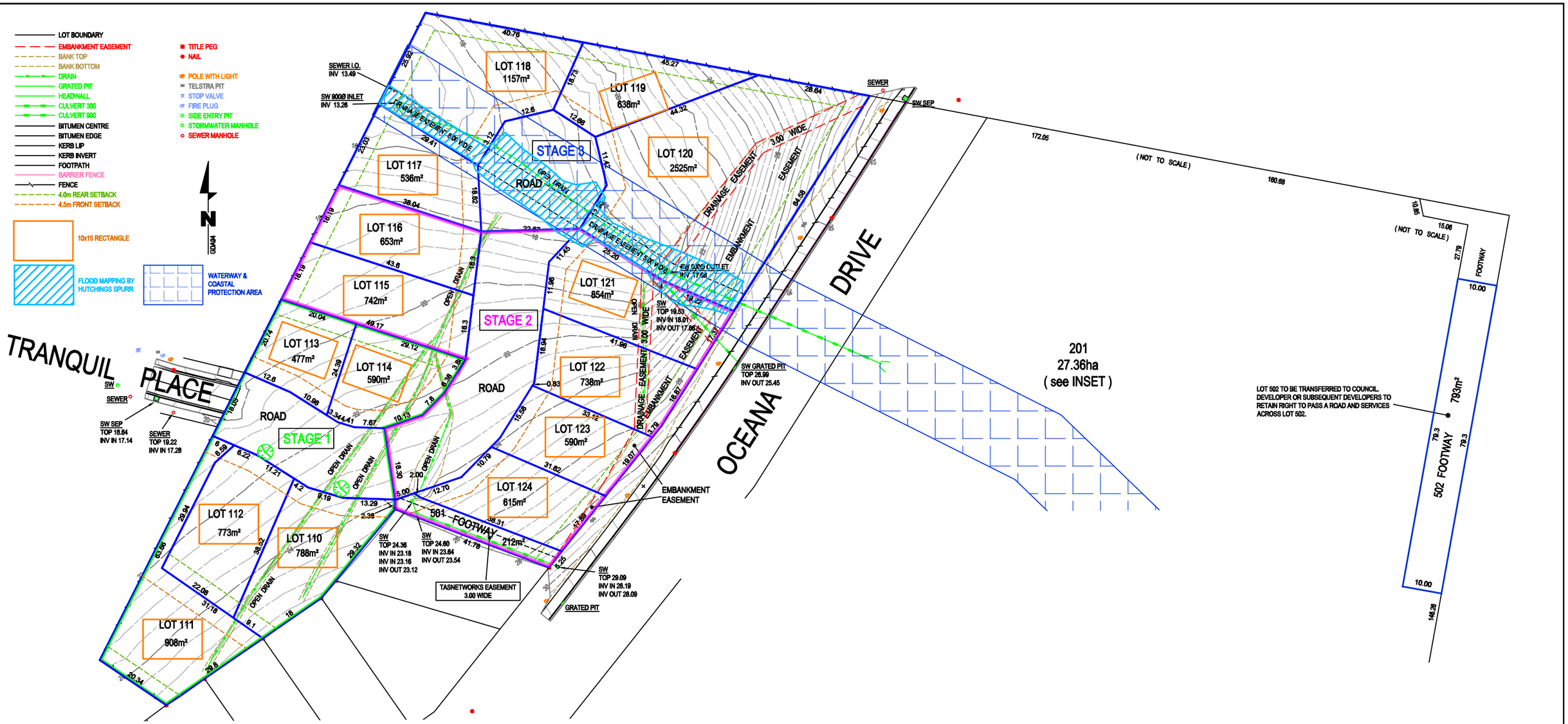
AMENDMENTS

No.	Revision/Issue	Date
H	HUTCHINGS SPURR FLOOD MAPPING ADDED LOTS 121 & 122 ADJUSTED	15-12-2023
I	LOTS COMBINED AND ADJUSTED WALKWAY ADJUSTED TO 5m WIDE	15-01-2024
J	MINOR CHANGES	28-02-2024
K	[illegible]	20-3-2024

LEARY&COX LAND & ENGINEERING SURVEYORS

Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address	312A TRANMERE RD TRANMERE TAS 7018
Drawing Title	PROPOSED SUBDIVISION
Client	G LUCKMAN C.T. 183275 - 201
SCALE	1:500 at A1
Contour Interval	0.50 m
Date	23-03-2023
SHEET	1 of 5
DRAWN	KS, LO
CHK'D	TC
FILE REF:	9403
Geocivil Ref	940301
AutoCAD Ref	940310 Rev D
DATUM Horz:	GDA 94
DATUM Vert:	AHD



STAGING

STAGE 1 - LOTS 110 to 114 (5 blocks)
STAGE 2 - LOTS 115, 116 & 121 to 124 (6 blocks) & 501 (footway)
STAGE 3 - LOTS 117 to 120 (4 blocks) & 502 (Open Space)

IMPORTANT NOTE:

This plan was prepared as a proposed subdivision to accompany a subdivision application to the Clarence City Council and should not be used for any other purpose. The dimensions. areas and total number of lots shown hereon are subject to field survey and also to the requirements of Council and any other authority which may have requirements under any relevant legislation. In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land. This note is an integral part of this plan.

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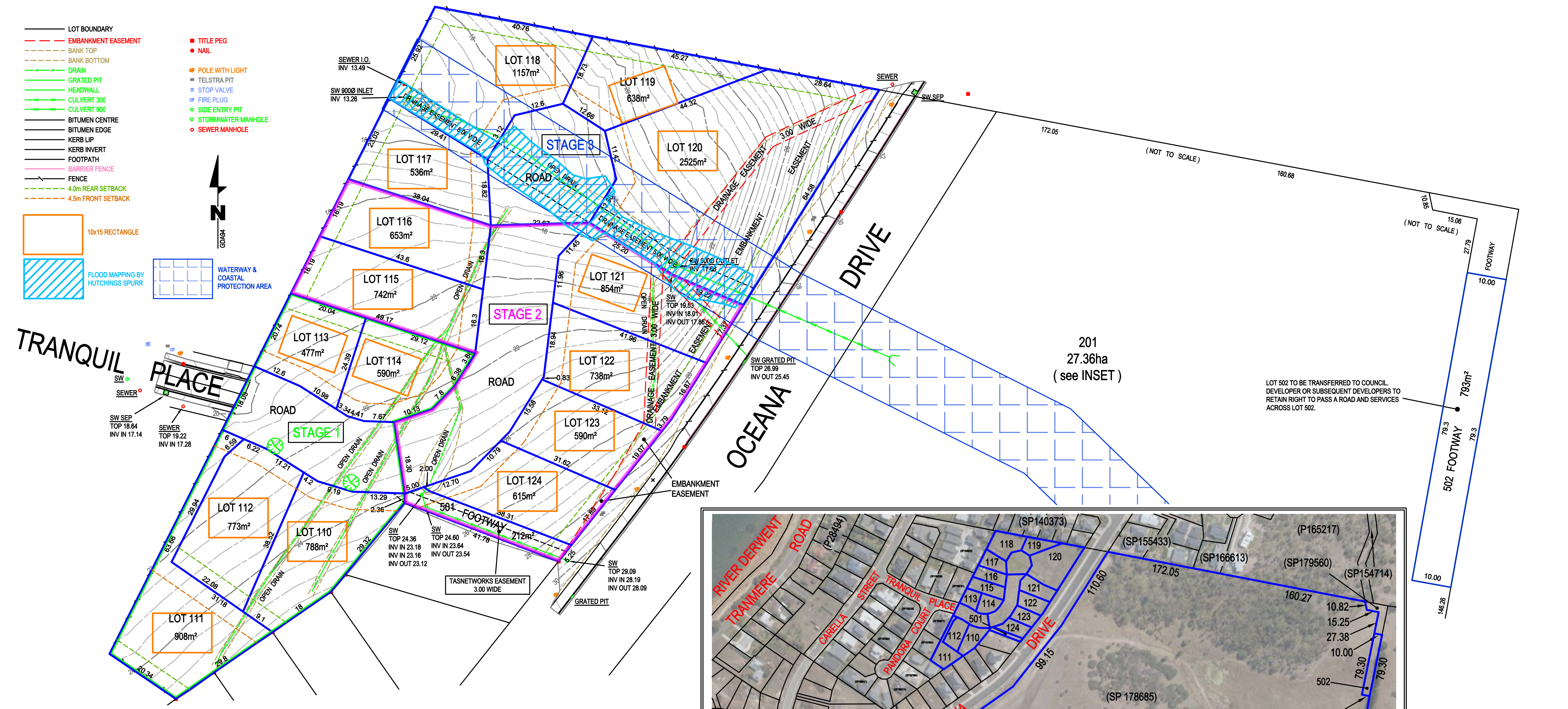
At the time of this survey, C.T.176222/101 was owned by CAROLYN MARGARET, LUCKMAN,PAUL LAMONT, LUCKMAN, JANICE MARY LUCKMAN, GREGORY ALAN LUCKMAN

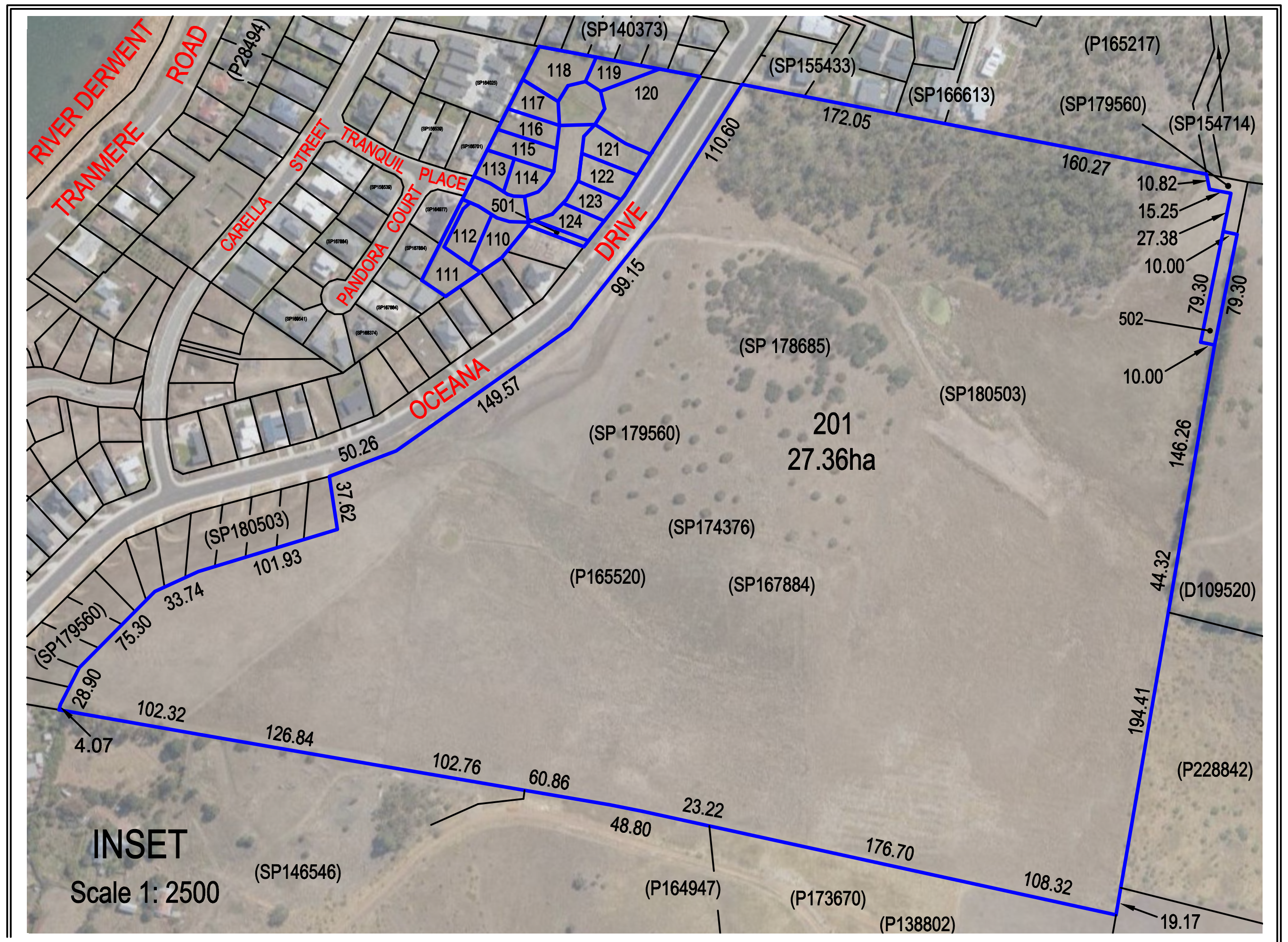
Date of Survey : MAY 2020

AMENDMENTS		
No.	Revision/Issue	Date
H	HUTCHINGS SPURR FLOOD MAPPING ADDED LOTS 121 & 122 ADJUSTED	15-12-2023
I	LOTS COMBINED AND ADJUSTED WALKWAY ADJUSTED TO 5m WIDE	15-01-2024
J	MINOR CHANGES	28-02-2024
K	Date for Lodgement	20-3-2024

LEARY&COX LAND & ENGINEERING SURVEYORS
Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address	312A TRANMERE RD TRANMERE TAS 7018
Drawing Title	PROPOSED SUBDIVISION
Client	G LUCKMAN C.T. 183275 - 201
SCALE	1:500 at A1
Contour Interval	0.50 m
Date	23-03-2023
SHEET	2 of 5
DRAWN	KS, LO
CHK'D	TC
FILE REF:	9403
Geocivil Ref	940301
AutoCAD Ref	940310 Rev D
DATUM Horz:	GDA 94
DATUM Vert:	AHD


LOT BOUNDARY
EMBANKMENT EASEMENT
BANK TOP
BANK BOTTOM
DRAIN
GRATED PIT
HEADWALL
CULVERT 300
CULVERT 900
BITUMEN CENTRE
BITUMEN EDGE
KERB LIP
KERB INVERT
FOOTPATH
BARRIER FENCE
FENCE
4.0m REAR SETBACK
4.5m FRONT SETBACK
TITLE PEG
NAIL
POLE WITH LIGHT
TELSTRA PIT
STOP VALVE
FIRE PLUG
SIDE ENTRY PIT
STORMWATER MANHOLE
SEWER MANHOLE
10x15 RECTANGLE
FLOOD MAPPING BY HUTCHINGS SPURR
WATERWAY & COASTAL PROTECTION AREA
N
GDA94
TRANQUIL PLACE
OCEANA DRIVE
LOT 118 1157m²
LOT 119 638m²
LOT 120 2525m²
LOT 117 536m²
LOT 116 653m²
LOT 115 742m²
LOT 121 854m²
LOT 113 477m²
LOT 114 590m²
LOT 122 738m²
LOT 123 590m²
LOT 124 615m²
LOT 112 773m²
LOT 110 788m²
LOT 111 908m²
501 FOOTWAY 212m²
STAGE 1
STAGE 2
STAGE 3
ROAD
OPEN DRAIN
DRAINAGE EASEMENT 5.00 WIDE
DRAINAGE EASEMENT 3.00 WIDE
EMBANKMENT EASEMENT
OPEN DRAIN 3.00 WIDE
SEWER I.O. INV 13.49
SW 900Ø INLET INV 13.26
SW 900Ø OUTLET INV 17.68
SW TOP 19.53 INV IN 18.01 INV OUT 17.86
SW GRATED PIT TOP 26.99 INV OUT 25.45
SW SEP TOP 18.64 INV IN 17.14
SEWER TOP 19.22 INV IN 17.28
SW TOP 24.36 INV IN 23.18 INV IN 23.16 INV OUT 23.12
SW TOP 24.60 INV IN 23.64 INV OUT 23.54
SW TOP 29.09 INV IN 28.19 INV OUT 28.09
GRATED PIT
TASNETWORKS EASEMENT 3.00 WIDE
SEWER
SW SEP
172.05
(NOT TO SCALE)
160.68
10.85
15.06
27.79
FOOTWAY
10.00
201
27.36ha
(see INSET)
LOT 502 TO BE TRANSFERRED TO COUNCIL. DEVELOPER OR SUBSEQUENT DEVELOPERS TO RETAIN RIGHT TO PASS A ROAD AND SERVICES ACROSS LOT 502.
793m²
502 FOOTWAY
79.3
146.26


RIVER DERWENT
TRANMERE ROAD
CARELLA STREET
TRANQUIL PLACE
PANDORA COURT
OCEANA DRIVE
(P28494)
(SP140373)
(SP155433)
(SP166613)
(P165217)
(SP179560)
(SP154714)
(SP 178685)
(SP180503)
(SP 179560)
201
27.36ha
(SP174376)
(P165520)
(SP167884)
(D109520)
(P228842)
(SP146546)
(P164947)
(P173670)
(P138802)
172.05
160.27
110.60
99.15
149.57
50.26
37.62
101.93
33.74
75.30
28.90
4.07
102.32
126.84
102.76
60.86
48.80
23.22
176.70
108.32
19.17
194.41
44.32
146.26
79.30
10.82
15.25
27.38
10.00
502
INSET
Scale 1: 2500

STAGING

STAGE 1 - LOTS 110 to 114 (5 blocks)
STAGE 2 - LOTS 115, 116 & 121 to 124 (6 blocks) & 501 (footway)
STAGE 3 - LOTS 117 to 120 (4 blocks) & 502 (Open Space)

IMPORTANT NOTE:

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Date of Survey : MAY 2020

AMENDMENTS

No.	Revision/Issue	Date
H	HUTCHINGS SPURR FLOOD MAPPING ADDED LOTS 121 & 122 ADJUSTED	15-12-2023
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LEARY&COX LAND & ENGINEERING SURVEYORS

Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

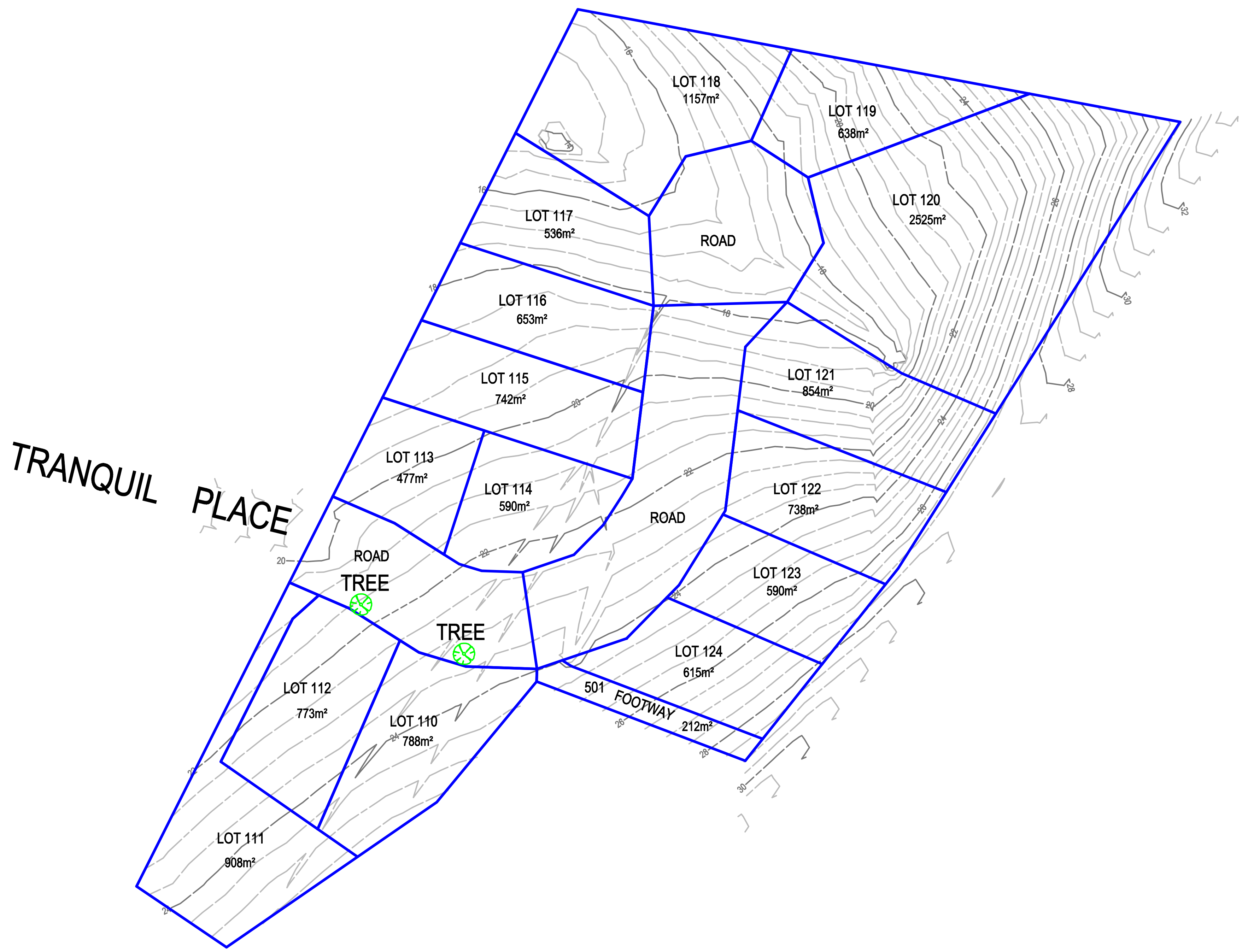
Project Name and Address
312A TRANMERE RD
TRANMERE
TAS 7018

Drawing Title
PROPOSED SUBDIVISION

Client
G LUCKMAN
C.T. 183275 - 201

SCALE
0 5 10 15 20
1:500 at A1

Contour Interval 0.50 m		*FILE REF:* 9403	
Date 23-03-2023			
SHEET	3 of 5	*Geocivil Ref* / *AutoCAD Ref*	940301 / 940310 Rev D
DRAWN	KS, LO	*DATUM* *Horz:*	GDA 94
CHK'D	TC	*Vert:*	AHD



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LEARY & COX
LAND & ENGINEERING SURVEYORS

Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

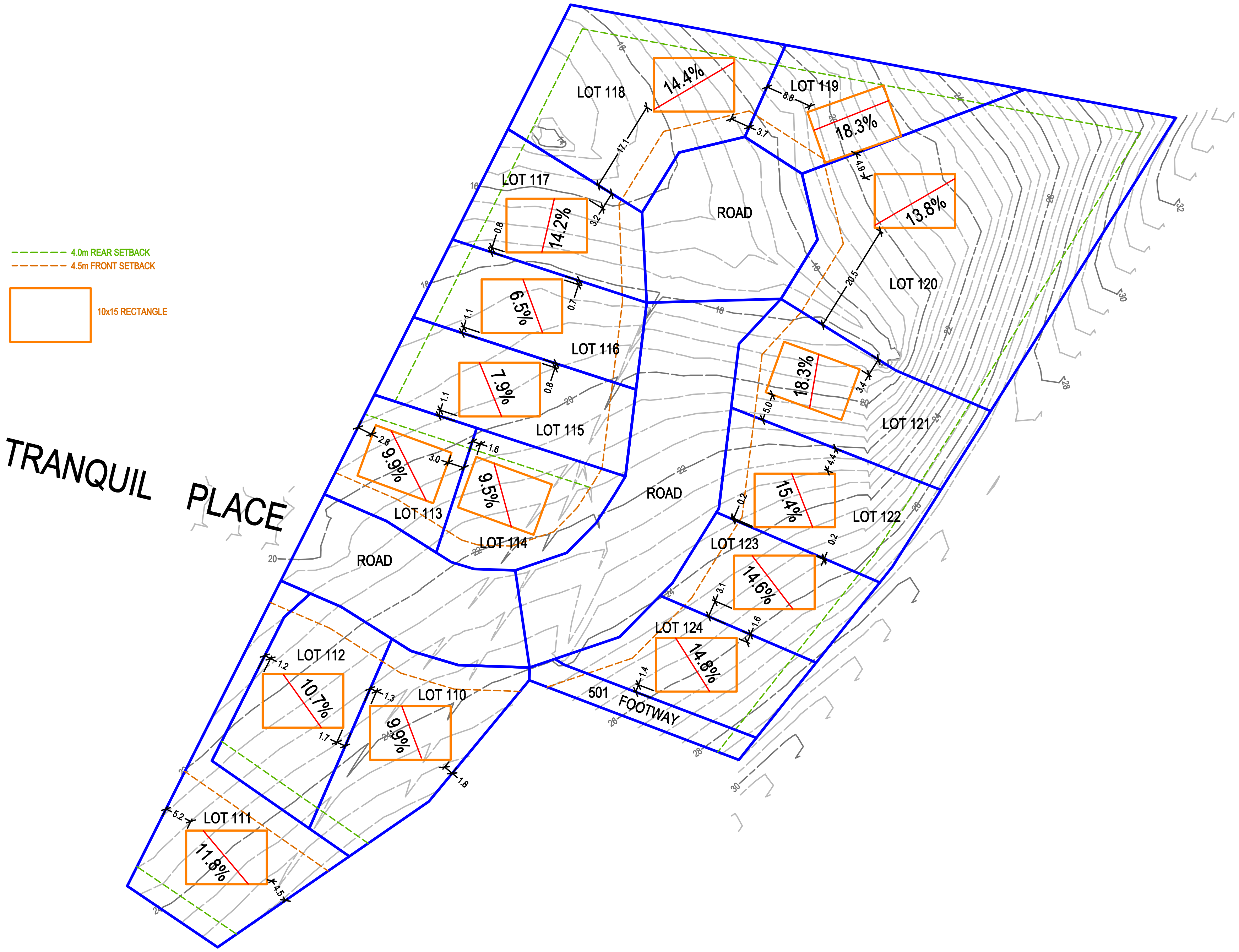
Project Name and Address
312A TRANMERE RD
TRANMERE
TAS 7018

Drawing Title
PROPOSED SUBDIVISION
LANDSCAPE PLAN

Client
G LUCKMAN
C.T. 183275 - 201

SCALE
0 5 10 15 20
1:500 at A1

Contour Interval 0.50 m		*FILE REF:* 9403	
Date 23-03-2023			
SHEET	4 of 5	*Geocivil Ref*	940301
		AutoCAD Ref	940310 Rev D
DRAWN	KS, LO	*DATUM Horz:*	GDA 94
CHK'D	TC	*Vert:*	AHD



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P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
312A TRANMERE RD
TRANMERE
TAS 7018

Drawing Title
PROPOSED SUBDIVISION
RECTANGLE SLOPE AND OFFSETS

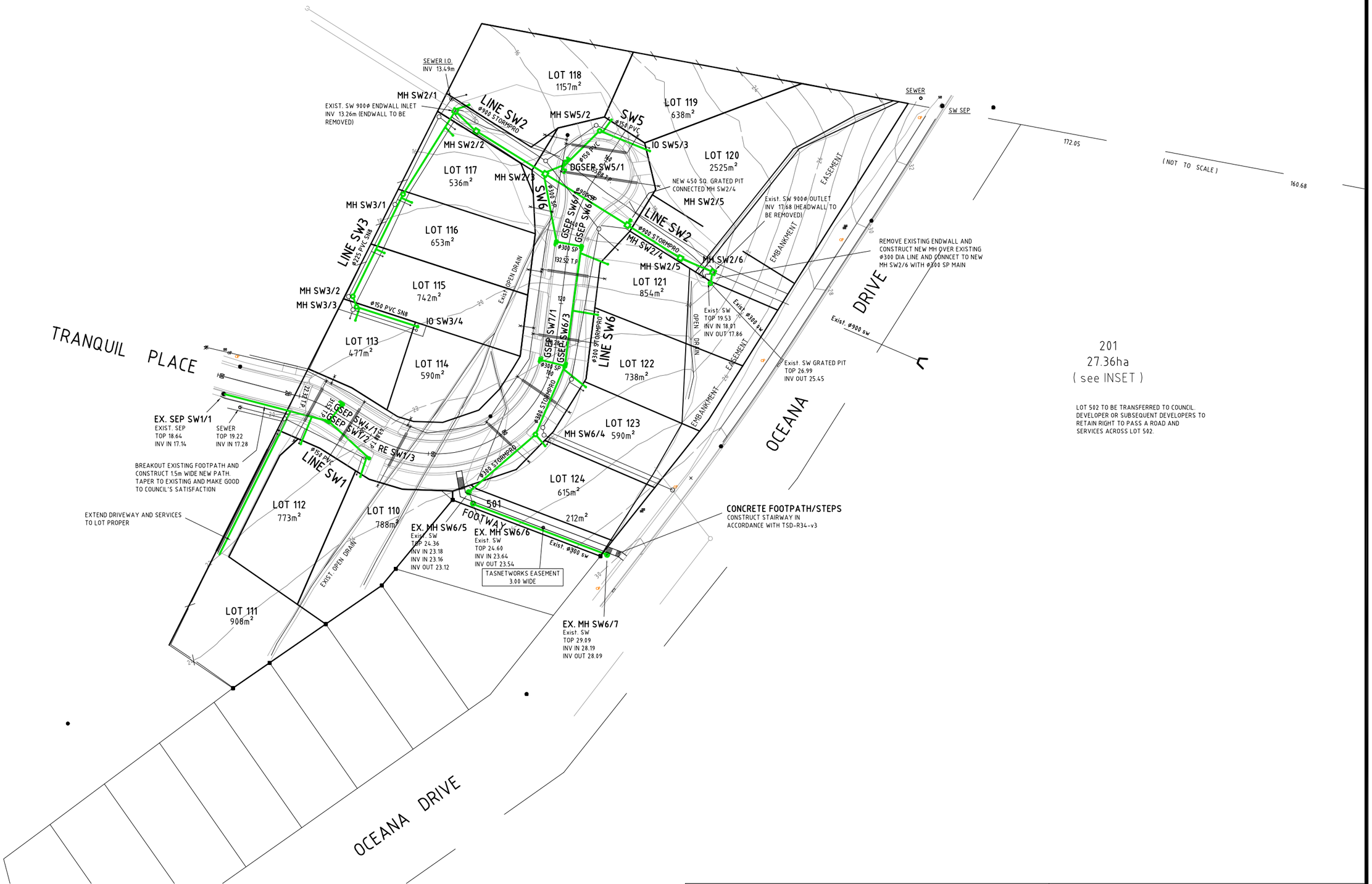
Client
G LUCKMAN
C.T. 183275 - 201

SCALE
0 5 10 15 20
1:500 at A1

"THIS DOCUMENT IS, AND SHALL REMAIN, THE PROPERTY OF LEARY & COX, LAND & ENGINEERING SURVEYORS. 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 THE DOCUMENT IN ANY WAY IS PROHIBITED."

Contour Interval 0.50 m
Date 23-03-2023
SHEET 5 of 5
DRAWN KS, LO
CHK'D TC

FILE REF: 9403
Geocivil Ref 940301
AutoCAD Ref 940310 Rev D
DATUM *Horz:* GDA 94 *Vert:* AHD



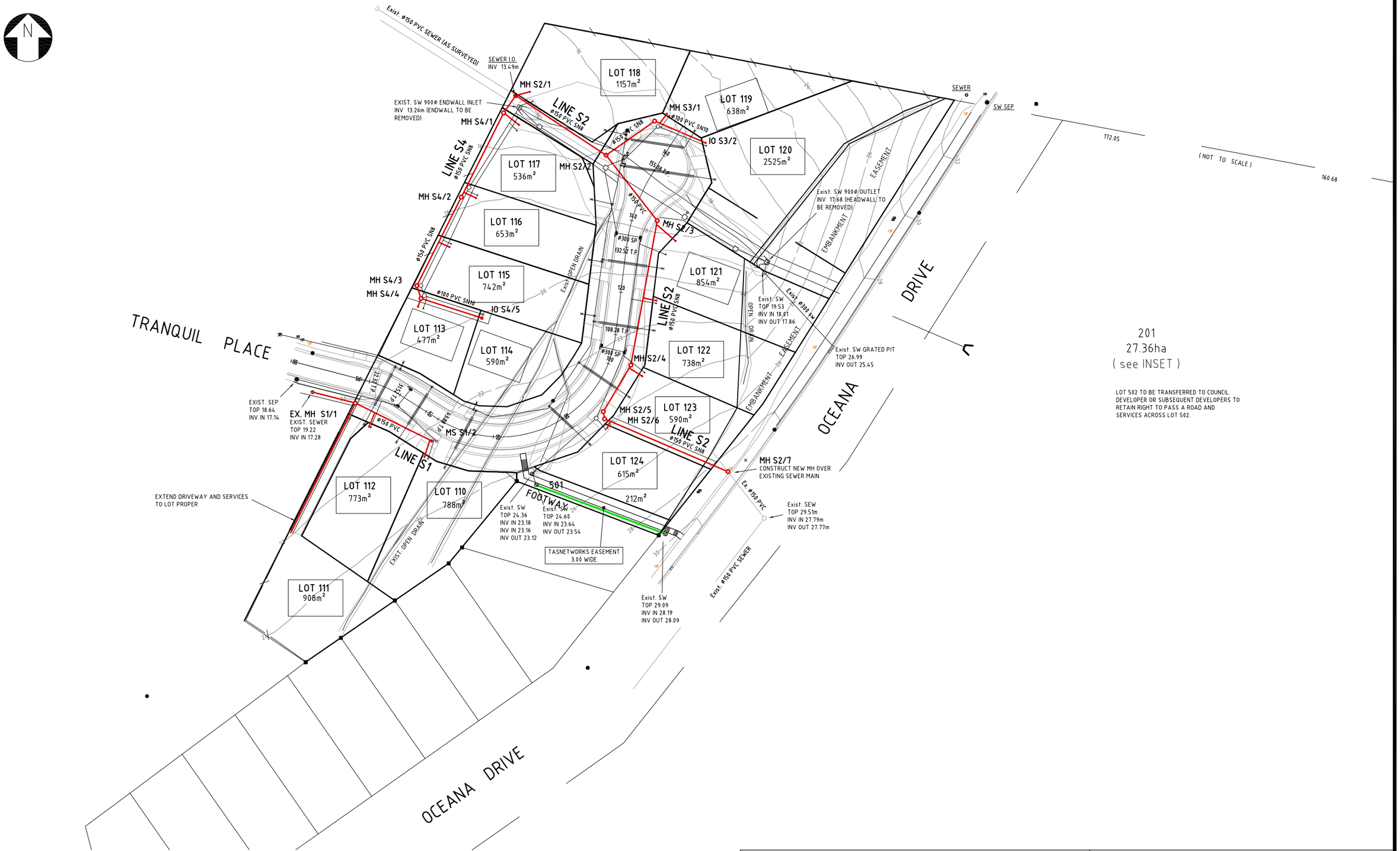
CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347
^ STRUCTURAL ^ CIVIL ^ MUNICIPAL ^ MECHANICAL ^ MARINE ^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
COVER SHEET

SCALE	1:500 (A1)	DRAWING No.	REVISION
DRAWN	B. STANFORD	DATE FEB '23	21281/101 A
APPROVED		No. OF SHEETS	



CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

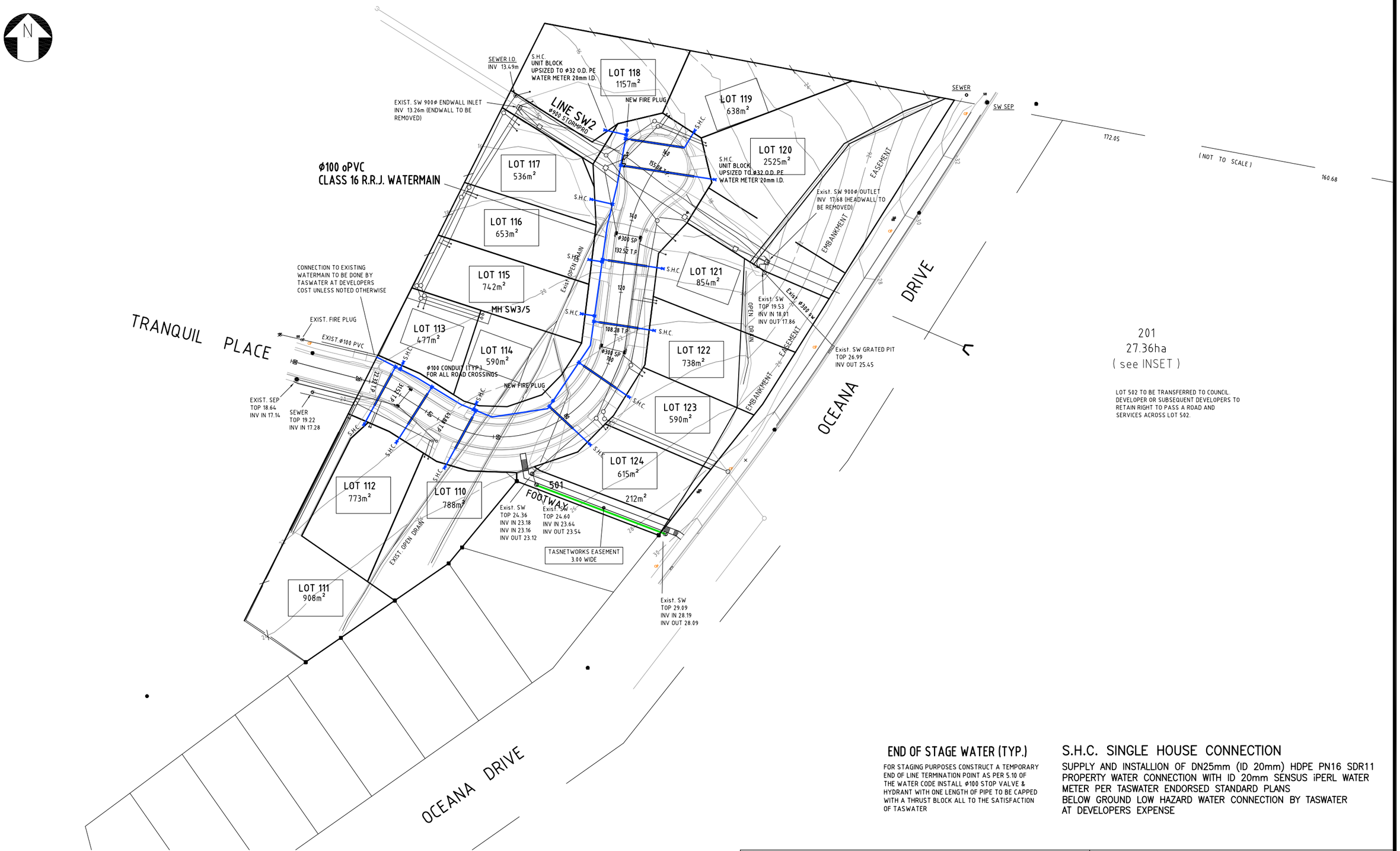
No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		
B	REVISED AS PER RFI	15.03.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347
^ STRUCTURAL
^ CIVIL
^ MUNICIPAL
^ MECHANICAL
^ MARINE
^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
SEWER RETICULATION PLAN

SCALE 1:500 (A1)
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/102 REVISION B
No. OF SHEETS



END OF STAGE WATER (TYP.)

FOR STAGING PURPOSES CONSTRUCT A TEMPORARY END OF LINE TERMINATION POINT AS PER S.10 OF THE WATER CODE INSTALL ø100 STOP VALVE & HYDRANT WITH ONE LENGTH OF PIPE TO BE CAPPED WITH A THRUST BLOCK ALL TO THE SATISFACTION OF TASWATER

S.H.C. SINGLE HOUSE CONNECTION

SUPPLY AND INSTALLION OF DN25mm (ID 20mm) HDPE PN16 SDR11 PROPERTY WATER CONNECTION WITH ID 20mm SENSUS iPERL WATER METER PER TASWATER ENDORSED STANDARD PLANS BELOW GROUND LOW HAZARD WATER CONNECTION BY TASWATER AT DEVELOPERS EXPENSE

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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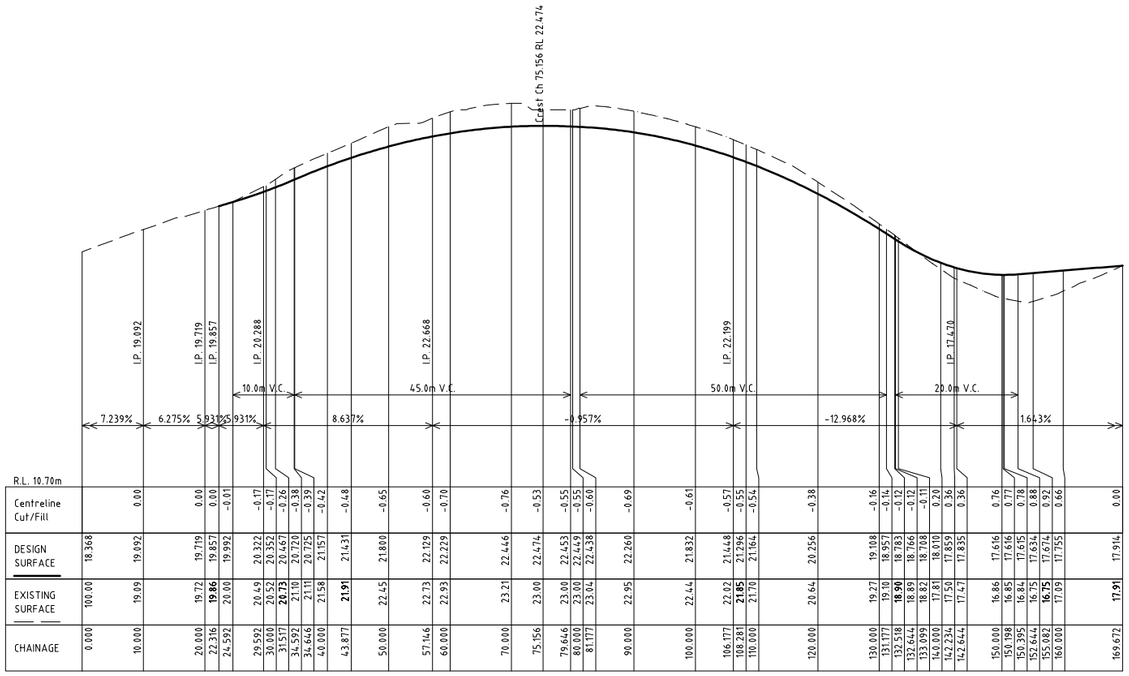
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347
^ STRUCTURAL
^ CIVIL
^ MUNICIPAL
^ MECHANICAL
^ MARINE
^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
WATER RETICULATION PLAN

SCALE 1:500 (A1)
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/103 REVISION A
No. 4 OF SHEETS



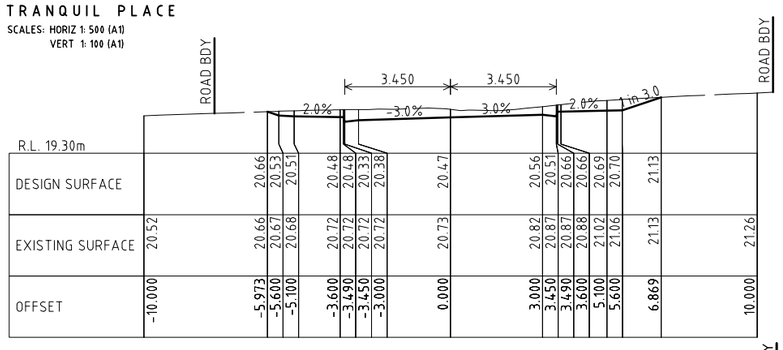
R.L. 10.70m

CHAINAGE	0.000	10.000	20.000	22.316	24.592	29.592	30.000	31.517	34.592	34.646	40.000	43.877	50.000	57.146	60.000	70.000	75.356	79.646	80.000	81.177	90.000	100.000	106.177	108.281	110.000	120.000	130.000	131.177	132.518	132.644	133.099	140.000	142.234	142.644	150.000	150.198	150.395	152.644	155.082	160.000	169.672
Centreline Cut/Fill		0.00		0.00		-0.01	-0.17	-0.17	-0.26	-0.38	-0.39	-0.42	-0.48	-0.65	-0.60	-0.70	-0.76	-0.53	-0.55	-0.55	-0.60	-0.69	-0.61	-0.57	-0.55	-0.54	-0.38	-0.16	-0.14	-0.12	-0.12	-0.11	0.20	0.36	0.76	0.77	0.78	0.88	0.92	0.66	0.00
DESIGN SURFACE	18.368	19.092		19.719	19.857	19.992	20.322	20.467	20.352	20.720	20.725	21.157	21.431	21.800	22.129	22.229	22.446	22.474	22.453	22.449	22.438	22.260	21.832	21.448	21.296	21.164	20.256	19.108	18.957	18.783	18.766	18.708	18.010	17.859	17.835	17.616	17.616	17.615	17.634	17.674	17.755	17.914
EXISTING SURFACE	100.00	19.09	19.72	**19.86**	20.00		20.49	**20.73**	20.52	21.10	20.720	21.11	21.58	**21.91**	22.45	22.73	23.21	23.00	23.00	22.99	23.04	22.95	22.44	22.02	**21.85**	21.70	20.64	19.27	**18.90**	19.10	18.89	18.82	17.81	17.50	17.47	16.86	16.85	16.84	16.75	**16.75**	17.09	17.91
CHAINAGE	0.000	10.000	20.000	22.316	24.592	29.592	30.000	31.517	34.592	34.646	40.000	43.877	50.000	57.146	60.000	70.000	75.356	79.646	80.000	81.177	90.000	100.000	106.177	108.281	110.000	120.000	130.000	131.177	132.518	132.644	133.099	140.000	142.234	142.644	150.000	150.198	150.395	152.644	155.082	160.000	169.672

LONGITUDINAL SECTION

TRANQUIL PLACE

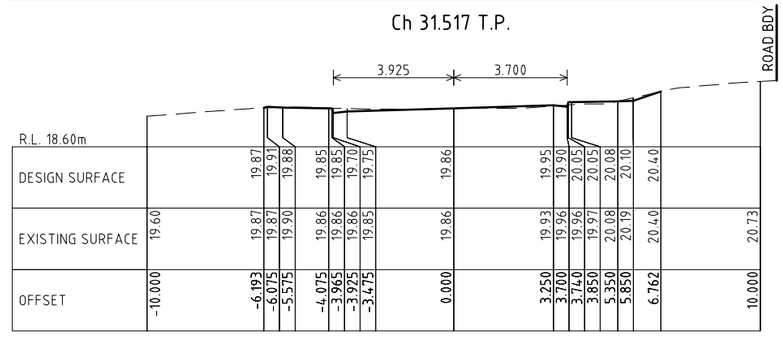
SCALES: HORIZ 1: 500 (A1)
VERT 1: 100 (A1)



R.L. 19.30m

OFFSET	-10.000	-5.973	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	6.869	10.000
EXISTING SURFACE	20.52	20.66	20.67	20.68	20.72	20.72	20.72	20.72	20.73	20.82	20.87	20.87	20.88	21.02	21.06	21.13	21.26
DESIGN SURFACE		20.66	20.53	20.51	20.48	20.48	20.33	20.38	20.47	20.56	20.51	20.66	20.66	20.69	20.70	21.13	

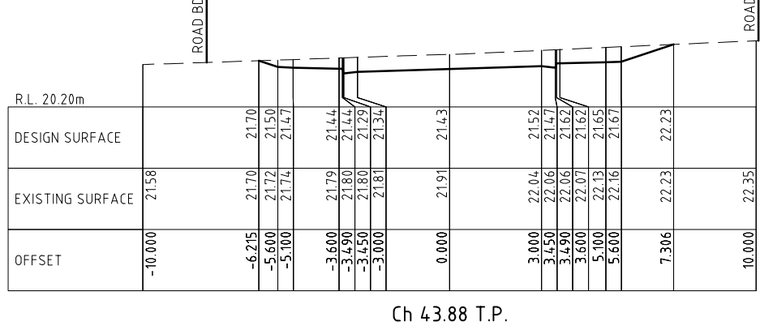
Ch 31.517 T.P.



R.L. 18.60m

OFFSET	-10.000	-6.193	-6.075	-5.575	-4.075	-3.965	-3.925	-3.475	0.000	3.250	3.700	3.740	3.850	5.350	5.850	6.762	10.000
EXISTING SURFACE	19.60	19.87	19.87	19.90	19.86	19.86	19.86	19.85	19.86	19.93	19.96	19.96	19.97	20.08	20.19	20.40	20.73
DESIGN SURFACE		19.87	19.91	19.88	19.85	19.85	19.70	19.75	19.86	19.95	19.90	20.05	20.05	20.08	20.10	20.40	

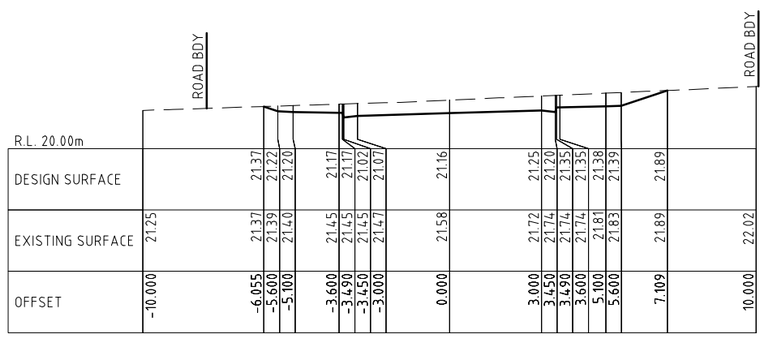
Ch 22.316 T.P.



R.L. 20.20m

OFFSET	-10.000	-6.215	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	7.306	10.000
EXISTING SURFACE	21.58	21.70	21.72	21.74	21.79	21.80	21.80	21.81	21.91	22.04	22.06	22.06	22.07	22.13	22.16	22.23	22.35
DESIGN SURFACE		21.70	21.50	21.47	21.44	21.44	21.29	21.34	21.43	21.52	21.47	21.62	21.62	21.65	21.67	22.23	

Ch 43.88 T.P.



R.L. 20.00m

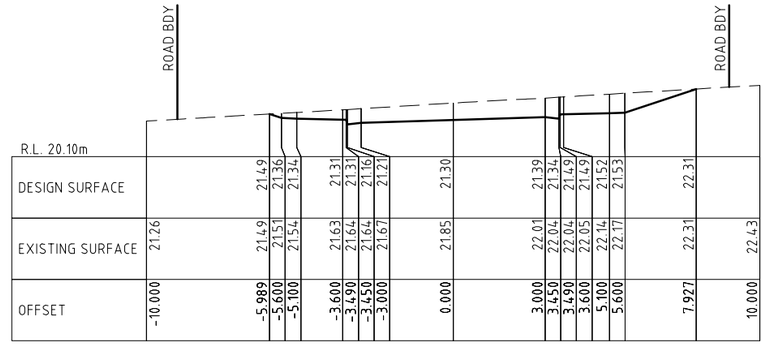
OFFSET	-10.000	-6.055	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	7.109	10.000
EXISTING SURFACE	21.25	21.37	21.39	21.40	21.45	21.45	21.45	21.47	21.58	21.72	21.74	21.35	21.74	21.81	21.83	21.89	22.02
DESIGN SURFACE		21.37	21.22	21.20	21.17	21.17	21.02	21.07	21.16	21.25	21.20	21.35	21.35	21.38	21.39	21.89	

Ch 40.000

CROSS SECTIONS

TRANQUIL COSTS

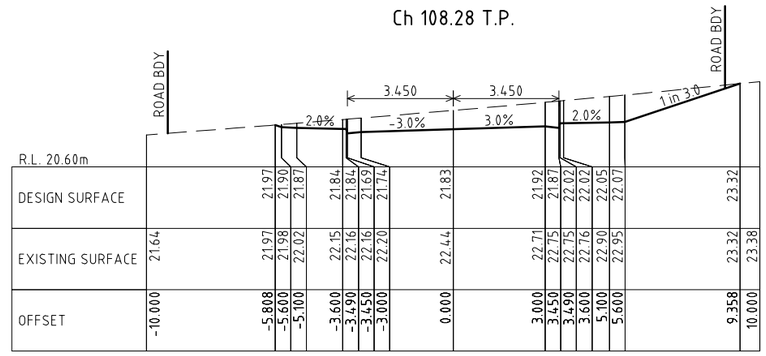
SCALES: 1: 100 (A1)



R.L. 20.10m

OFFSET	-10.000	-5.989	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	7.927	10.000
EXISTING SURFACE	21.26	21.49	21.51	21.54	21.63	21.64	21.64	21.67	21.85	22.01	22.04	22.04	22.05	22.14	22.17	22.31	22.43
DESIGN SURFACE		21.49	21.36	21.34	21.31	21.31	21.16	21.21	21.30	21.39	21.34	21.49	21.49	21.52	21.53	22.31	

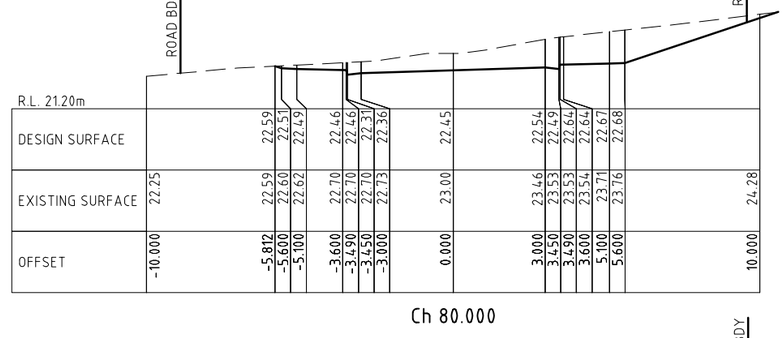
Ch 108.28 T.P.



R.L. 20.60m

OFFSET	-10.000	-5.808	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	9.358	10.000
EXISTING SURFACE	21.64	21.97	21.98	22.02	22.15	22.16	22.16	22.20	22.44	22.71	22.75	22.75	22.76	22.90	22.95	23.32	23.38
DESIGN SURFACE		21.97	21.90	21.87	21.84	21.84	21.69	21.74	21.83	21.92	21.87	22.02	22.02	22.05	22.07	23.32	

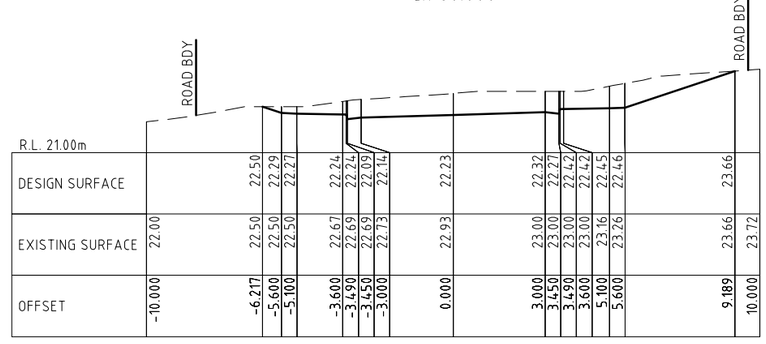
Ch 100.000



R.L. 21.20m

OFFSET	-10.000	-5.812	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	10.000
EXISTING SURFACE	22.25	22.59	22.60	22.62	22.70	22.70	22.70	22.73	23.00	23.46	23.53	23.53	23.54	23.71	23.76	24.28
DESIGN SURFACE		22.59	22.51	22.49	22.46	22.46	22.31	22.36	22.45	22.54	22.49	22.64	22.64	22.67	22.68	

Ch 80.000



R.L. 21.00m

OFFSET	-10.000	-6.217	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	9.189	10.000
EXISTING SURFACE	22.00	22.50	22.50	22.50	22.67	22.69	22.69	22.73	22.93	23.00	23.00	23.00	23.00	23.16	23.26	23.66	23.72
DESIGN SURFACE		22.50	22.29	22.27	22.24	22.24	22.09	22.14	22.23	22.32	22.27	22.42	22.42	22.45	22.46	23.66	

Ch 60.000

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

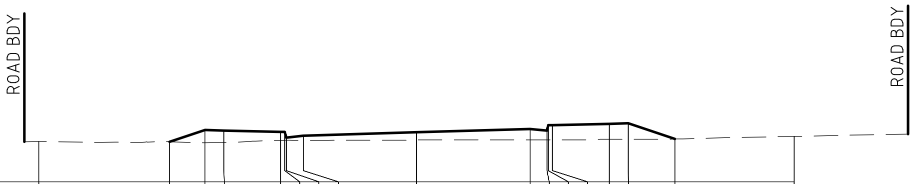
No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347

^ STRUCTURAL
^ CIVIL
^ MUNICIPAL
^ MECHANICAL
^ MARINE
^ ELECTRICAL

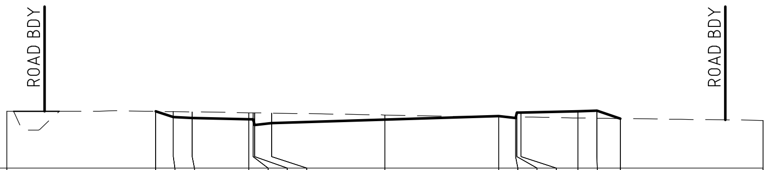
312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
TRANQUIL PLACE LONG & CROSS SECTIONS

SCALE	AS SHOWN	DRAWING No.	REVISION
DRAWN	B. STANFORD	21281/104	A
DATE	FEB '24		
APPROVED		No. OF SHEETS	



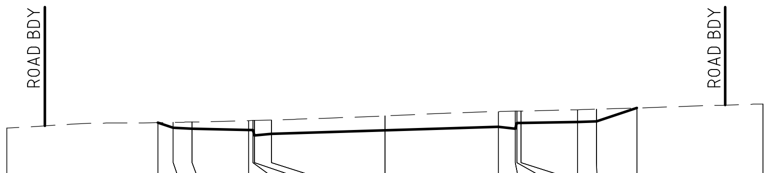
DESIGN SURFACE		17.76	18.08	18.05	18.02	18.02	17.87	17.92	18.01	18.10	18.05	18.20	18.20	18.23	18.25	17.83	
EXISTING SURFACE	17.77	17.76	17.73	17.74	17.79	17.80	17.80	17.79	17.81	17.81	17.81	17.81	17.81	17.82	17.82	17.83	17.90
OFFSET	-10.000	-6.540	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	6.838	10.000

Ch 140.000



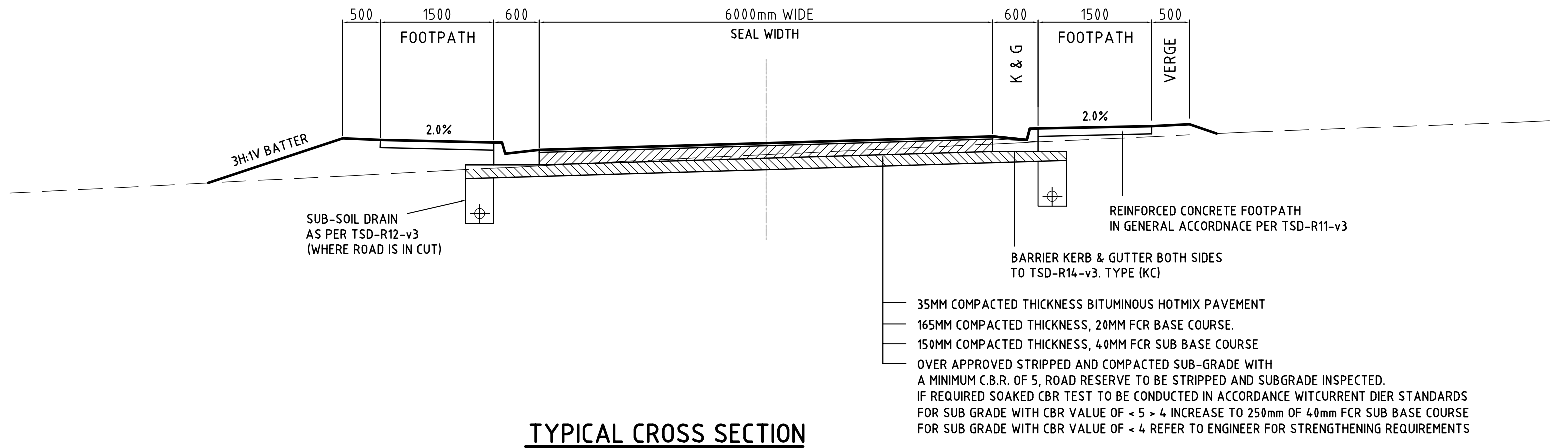
DESIGN SURFACE		19.00	18.85	18.82	18.79	18.79	18.64	18.69	18.78	18.87	18.82	18.97	18.97	19.00	19.02	18.81	
EXISTING SURFACE	19.00	19.00	19.00	18.99	18.96	18.96	18.96	18.96	18.90	18.86	18.85	18.85	18.85	18.83	18.82	18.81	18.76
OFFSET	-10.000	-6.063	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	6.225	10.000

Ch 132.52 T.P.



DESIGN SURFACE		20.46	20.32	20.30	20.27	20.27	20.12	20.17	20.26	20.35	20.30	20.45	20.45	20.48	20.49	20.85	
EXISTING SURFACE	20.31	20.46	20.47	20.47	20.51	20.51	20.52	20.53	20.64	20.75	20.76	20.76	20.76	20.80	20.81	20.85	20.95
OFFSET	-10.000	-6.011	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	6.664	10.000

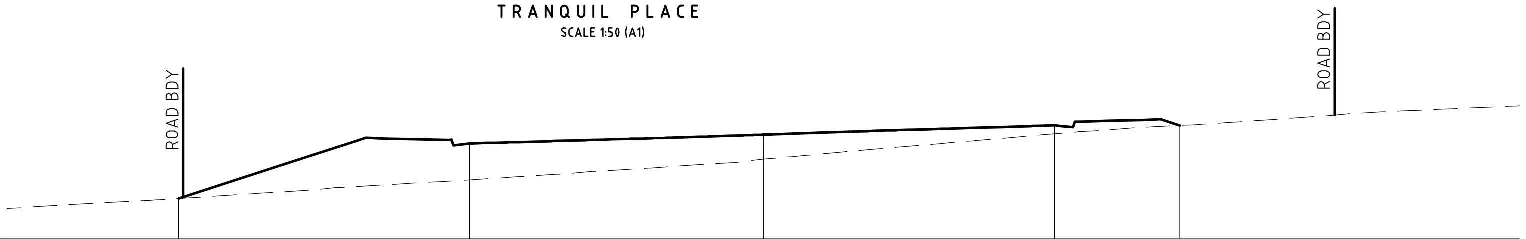
Ch 120.000



TYPICAL CROSS SECTION

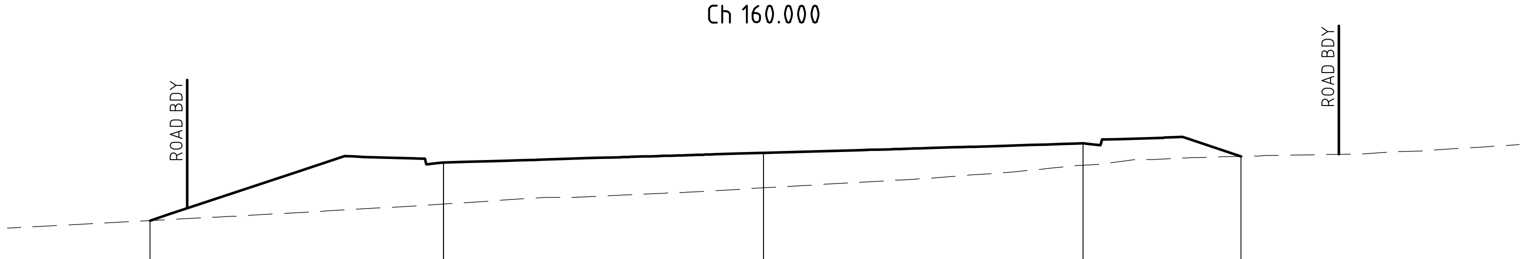
TRANQUIL PLACE

SCALE 1:50 (A1)



DESIGN SURFACE	16.05	17.50	17.75	17.99	17.98
EXISTING SURFACE	16.05	16.54	17.74	17.76	17.98
OFFSET	-15.470	-7.761	0.000	7.700	11.026

Ch 160.000



DESIGN SURFACE	15.89	17.42	17.67	17.93	17.58
EXISTING SURFACE	15.89	16.32	16.75	17.35	17.58
OFFSET	-16.233	-8.463	0.000	0.000	12.635

Ch 155.082 T.P.

CROSS SECTIONS

TRANQUIL PLACE

SCALES: 1: 100 (A1)

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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CONSULTING ENGINEERS
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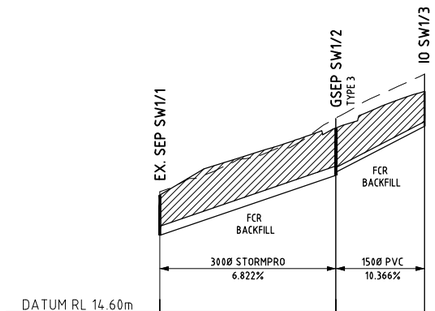
312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
TRANQUIL PLACE CROSS SECTIONS 2

SCALE AS SHOWN
DRAWN B. STANFORD DATE FEB '23
APPROVED

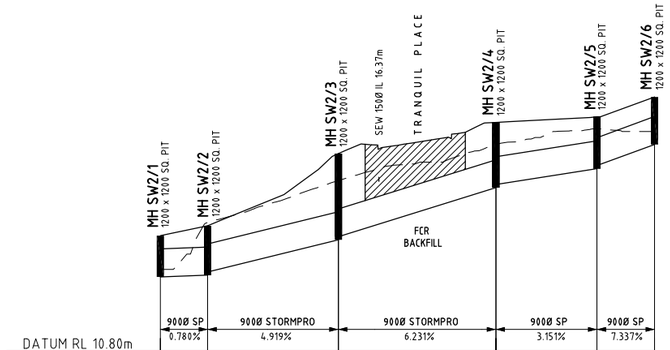
DRAWING No. 21281/105 REVISION A
No. OF SHEETS



DATUM RL 14.60m						
DEPTH TO INVERT	1.32		1.54	1.44		1.14
INVERT LEVEL	17.14		19.10	19.20		20.70
FINISHED SURFACE	18.46		20.64			21.84
CHAINAGE	0.00		28.73	28.73		43.20
		28.73			14.47	

Line SW1

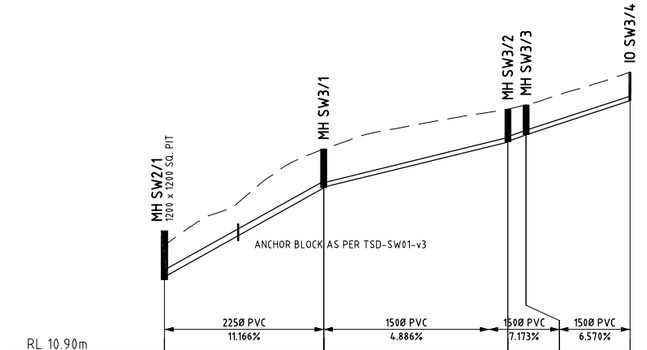
SCALES HOR 1:500 VER 1:100



DATUM RL 10.80m										
DEPTH TO INVERT	1.34	1.61	1.51		2.81	2.71		2.13	2.03	1.70	1.59	0.91
INVERT LEVEL	13.26	13.32	13.42		14.47	14.57		16.17	16.27	16.79	16.89	17.58
FINISHED SURFACE	14.60	14.93			17.28			18.30		18.48		18.49
CHAINAGE	0.00	7.69			29.04			54.72		71.19		88.59
		7.69		21.34			25.68		16.47		9.40	

Line SW2

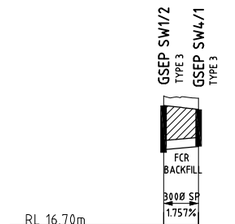
SCALES HOR 1:500 VER 1:100



RL 10.90m								
DEPTH TO INVERT	0.64		1.27	1.25		1.08	1.05	0.98	0.93
INVERT LEVEL	13.36		16.26	16.29		17.75	17.78	17.99	19.10
FINISHED SURFACE	14.87		17.53			18.83		18.97	20.04
CHAINAGE	0.00		25.97	25.97		56.00		58.97	75.91
		25.97			30.03		2.97	16.94	

Line SW3

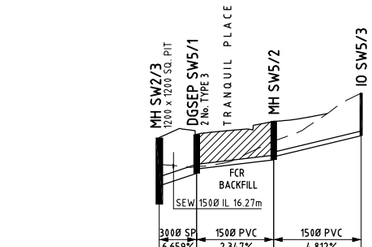
SCALES HOR 1:500 VER 1:100



RL 16.70m			
DEPTH TO INVERT	1.44		1.22
INVERT LEVEL	19.20		19.38
FINISHED SURFACE	20.64		20.52
CHAINAGE	0.00		5.69
		5.69	

Line SW4

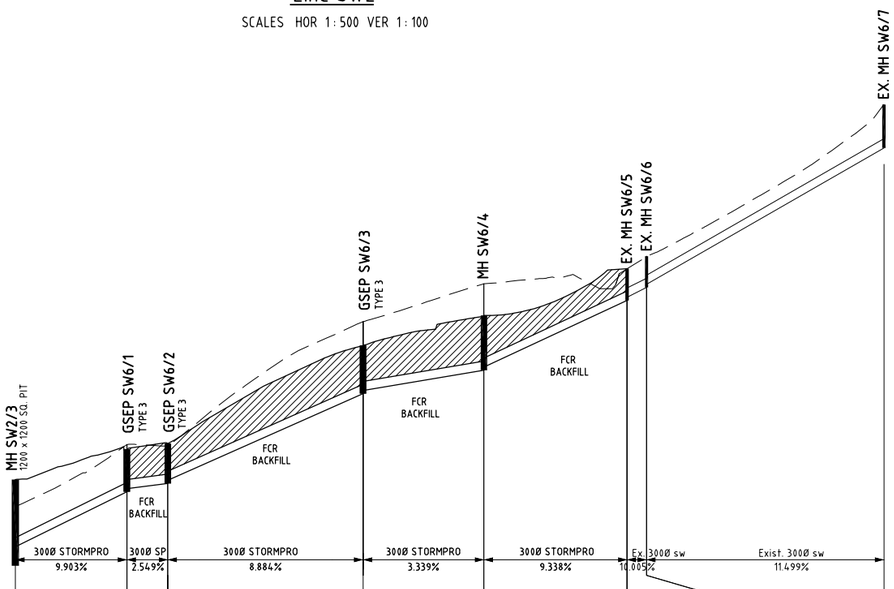
SCALES HOR 1:500 VER 1:100



DATUM RL 10.80m						
DEPTH TO INVERT	1.58	1.27	1.12		1.26	1.16	1.39
INVERT LEVEL	15.70	16.11	16.26		16.55	16.65	17.34
FINISHED SURFACE	17.28	17.38			17.81		18.73
CHAINAGE	0.00	6.08			55.88		70.16
		6.08		12.57		14.28	

Line SW5

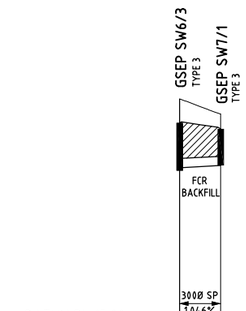
SCALES HOR 1:500 VER 1:100



DATUM RL 13.20m														
DEPTH TO INVERT	2.20		1.39	1.29	1.30	1.20		1.56	1.46	1.78	1.68	1.03	0.93	1.01	0.91	1.42
INVERT LEVEL	15.08		16.88	16.98	17.15	17.25		20.08	20.18	20.84	20.94	23.12	23.22	23.54	23.64	28.09
FINISHED SURFACE	17.28		18.27	18.45				21.64		22.62		24.15		24.55		29.51
CHAINAGE	0.00		18.18	24.85				56.70		76.41		99.75		102.95		141.65
		18.18		6.67		31.86			19.70		23.34		3.20		38.70	

Line SW6

SCALES HOR 1:500 VER 1:100



DATUM RL 15.00m			
DEPTH TO INVERT	1.56		1.20
INVERT LEVEL	20.08		20.25
FINISHED SURFACE	21.64		21.45
CHAINAGE	0.00		6.69
		6.69	

Line SW7

SCALES HOR 1:500 VER 1:100

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO TASWATER	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
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^ MECHANICAL
^ MARINE
^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
STORMWATER LONG SECTIONS

SCALE AS SHOWN
DRAWN B. STANFORD DATE FEB '23
APPROVED

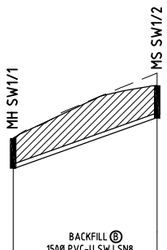
DRAWING No. 21281/106 REVISION A
No. OF SHEETS

BACKFILL MATERIALS

BACKFILL MATERIAL (A) = AS PER TABLE 201-B, STD. DRG. MRWA-W-201
BACKFILL MATERIAL (B) = AS PER TABLE 201-A, STD. DRG. MRWA-W-201

EMBEDMENT MATERIALS

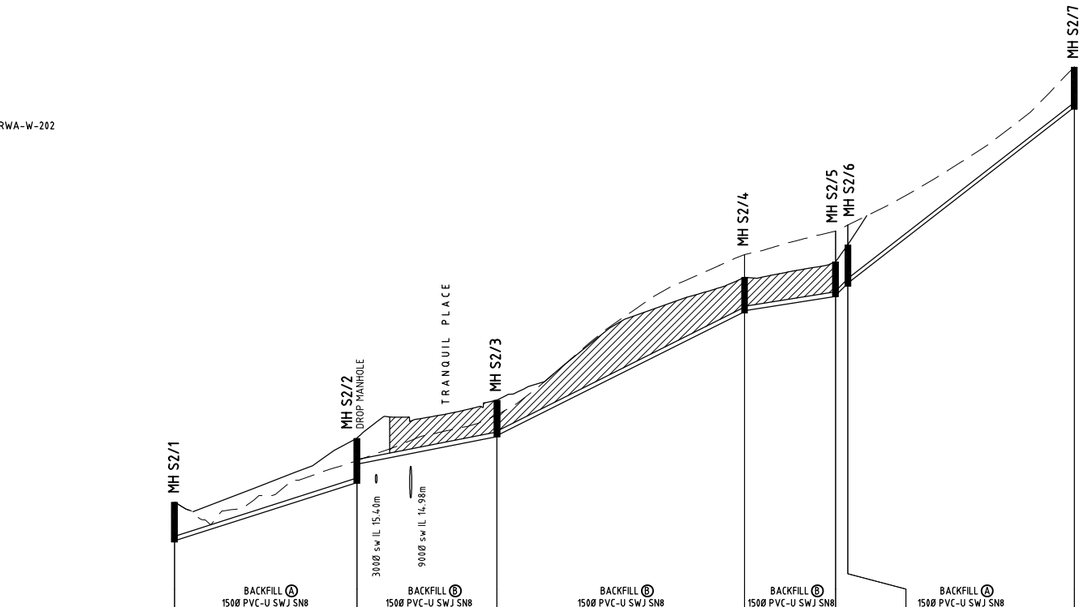
EMBEDMENT MATERIAL (C) = 7mm FCR AS PER TABLE 202-B. STD. DRG. MRWA-W-202
EMBEDMENT MATERIAL (I) = 20mm CEMENT TREATED CLASS 3 FCR. AS PER TABLE 202-B. STD. DRG. MRWA-W-202



DATUM RL 15.20m			
DEPTH TO INVERT	1.000		1.050
INVERT LEVEL	19.214		20.886
FINISHED SURFACE	20.214		21.936
CHAINAGE	0.000		23.480
		23.480	

Line S1

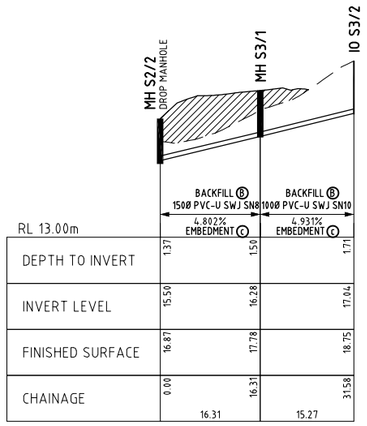
SCALES HOR 1:500 VER 1:100



DATUM RL -6.0m																				
DEPTH TO INVERT	1.293	1.263		1.449	0.849		1.190	1.160		1.122	1.092		1.130	1.100		1.258	1.250		1.311
INVERT LEVEL	13.490	13.520		15.420	16.020		16.920	16.950		20.990	21.020		21.490	21.520		21.916	21.924		27.664
FINISHED SURFACE	14.783			16.87			18.110			22.112			22.620			23.174			28.975
CHAINAGE	0.00			29.76			52.60			92.98			107.81			109.83			146.76
		29.755			22.841			40.379			14.838			2.018			36.932		

Line S2

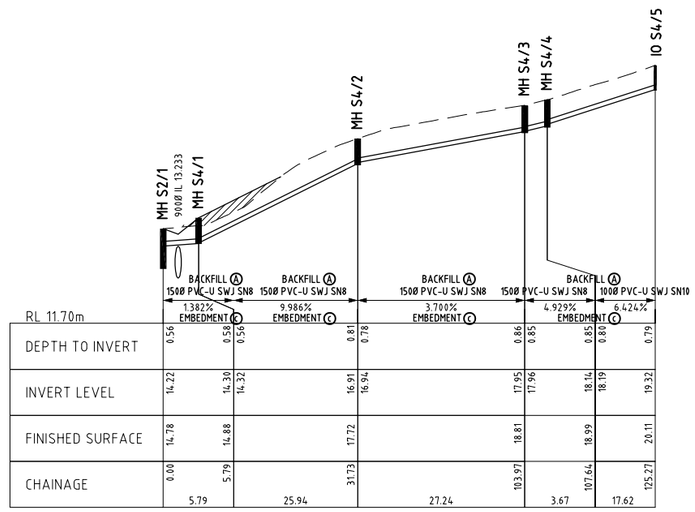
SCALES HOR 1:500 VER 1:100



RL 13.00m						
DEPTH TO INVERT	1.37		1.50			1.71
INVERT LEVEL	15.50		16.28			17.04
FINISHED SURFACE	16.87		17.78			18.75
CHAINAGE	0.00		16.31			31.58
		16.31			15.27	

Line S3

SCALES HOR 1:500 VER 1:100



RL 11.70m										
DEPTH TO INVERT	0.56	0.56	0.56	0.81	0.78	0.86	0.85	0.85	0.80	0.79
INVERT LEVEL	14.22	14.30	14.32	16.91	16.94	17.95	17.96	18.14	18.19	19.32
FINISHED SURFACE	14.78	14.88		17.72		18.81		18.99		20.11
CHAINAGE	0.00	5.79		31.73		103.97		107.64		125.27
	5.79		25.94		27.24		3.67		17.62	

Line S4

SCALES HOR 1:500 VER 1:100

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

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* MECHANICAL
* MARINE
* ELECTRICAL

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO TASWATER	19.02.2024		

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
SEWER LONG SECTIONS

SCALE AS SHOWN
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/107 REVISION A
No. OF SHEETS

FOR THE PLACEMENT OF FILL:-

- STRIP TOPSOIL TO EXTENT SHOWN AND STOCKPILE
- PLACE FILL SOURCED FROM EXCAVATION AND BOXING OUT FOR ROADWORKS AND COMPACT IN 150mm LAYERS TO THE APPROVAL OF THE SUPERINTENDENT

REPLACE TOPSOIL FROM STOCKPILE TO MINIMUM 150 THICK EVENLY GRADED OUT TO THE REQUIRED LEVELS. RESEED WITH GRASS AND FERTILISE

SWALE works based on stormwater report
312A Tranmere Estate Flood Hazard and
Stormwater Report - Anna Wilson 18/12/2023

Recommendations:

- 5m wide by 400mm deep grassed swale within a drainage easement.
- 4m wide x 500mm deep hinged section of fence at 358 Carella Street.
- 4 small plaques be attached to the concrete turnouts to identify the flood risk to residents for the future and discourage any private construction blocking the flow path.

INSTALL A HINGED SECTION OF FENCING AT 358 CARELLA ST. 4m LONG x 0.5m HIGH FOR 1% AEP FLOWS

EXIST. SW 900ø ENDWALL INLET INV 13.26 (ENDWALL TO BE REMOVED)

LOT 118
1157m²

LOT 119
638m²

LOT 120
2525m²

LOT 117
536m²

LOT 116
653m²

LOT 115
742m²

LOT 113
477m²

LOT 114

LOT 121
854m²

LOT 122

DRAINAGE EASEMENT 5.00 WIDE

DRAINAGE EASEMENT 5.0m WIDE

NEW ø900 SP

155.08 T.P

140

ø300 SP
132.52 T.P

120

108.28 T.P

Exist. OPEN DRAIN

OPEN DRAIN

OPEN DRAIN EASEMENT

EMBANKMENT

Exist. SW 900ø OUTLET INV 17.68 (HEADWALL TO BE REMOVED)

Exist. SW
TOP 19.53
INV IN 18.01
INV OUT 17.86

Exist. SW GRATED PIT

DRIVE

EXISTING OPEN DRAINS TO BE FILLED IN WITH SUITABLY COMPACTED MATERIAL

C 109 · B 109 · A 109 · B 02

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347

^ STRUCTURAL
^ CIVIL
^ MUNICIPAL
^ MECHANICAL
^ MARINE
^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
STORMWATER SWALE PLAN

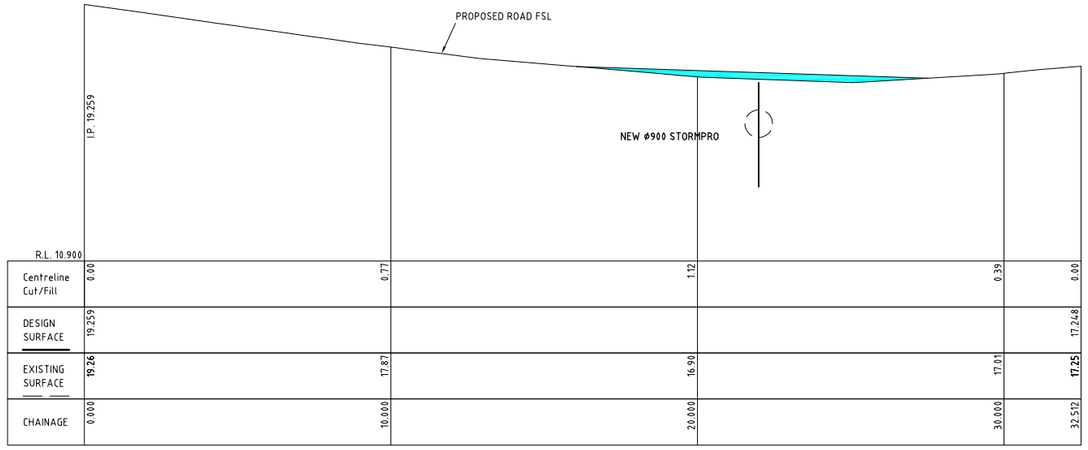
SCALE 1:500 (A1)
DRAWN B. STANFORD | DATE FEB '23
APPROVED

DRAWING No. 21281/108 REVISION A
No. OF SHEETS

SWALE works based on stormwater report
312A Tranmere Estate Flood Hazard and
Stormwater Report - Anna Wilson 18/12/2023

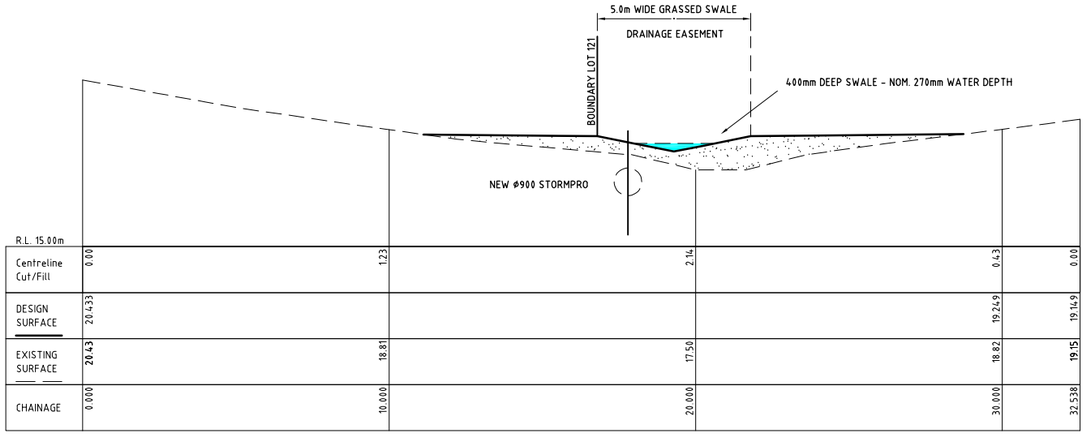
Recommendations:

- 5m wide by 400mm deep grassed swale within a drainage easement.
- 4m wide x 500mm deep hinged section of fence at 358 Carella Street.
- 4 small plaques be attached to the concrete turnouts to identify the flood risk to residents for the future and discourage any private construction blocking the flow path.



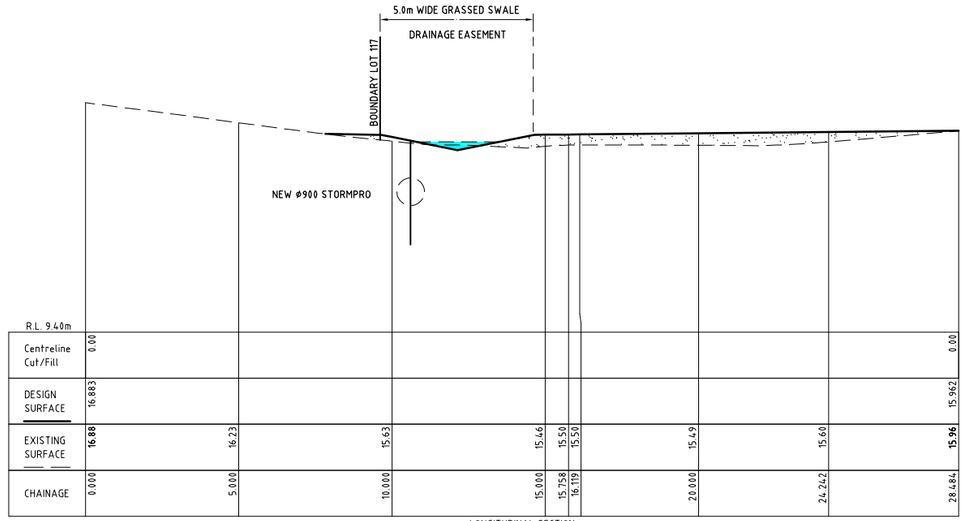
LONGITUDINAL SECTION
B Ch 0.000 to Ch 32.512
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

B
ROAD



LONGITUDINAL SECTION
A Ch 0.000 to Ch 32.538
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

A
UPSTREAM



LONGITUDINAL SECTION
C Ch 0.000 to Ch 28.484
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

C
DOWNSTREAM

FOR THE PLACEMENT OF FILL:-

- STRIP TOPSOIL TO EXTENT SHOWN AND STOCKPILE
- PLACE FILL SOURCED FROM EXCAVATION AND BOXING OUT FOR ROADWORKS AND COMPACT IN 150mm LAYERS TO THE APPROVAL OF THE SUPERINTENDENT
- REPLACE TOPSOIL FROM STOCKPILE TO MINIMUM 150 THICK EVENLY GRADED OUT TO THE REQUIRED LEVELS. RESEED WITH GRASS AND FERTILISE

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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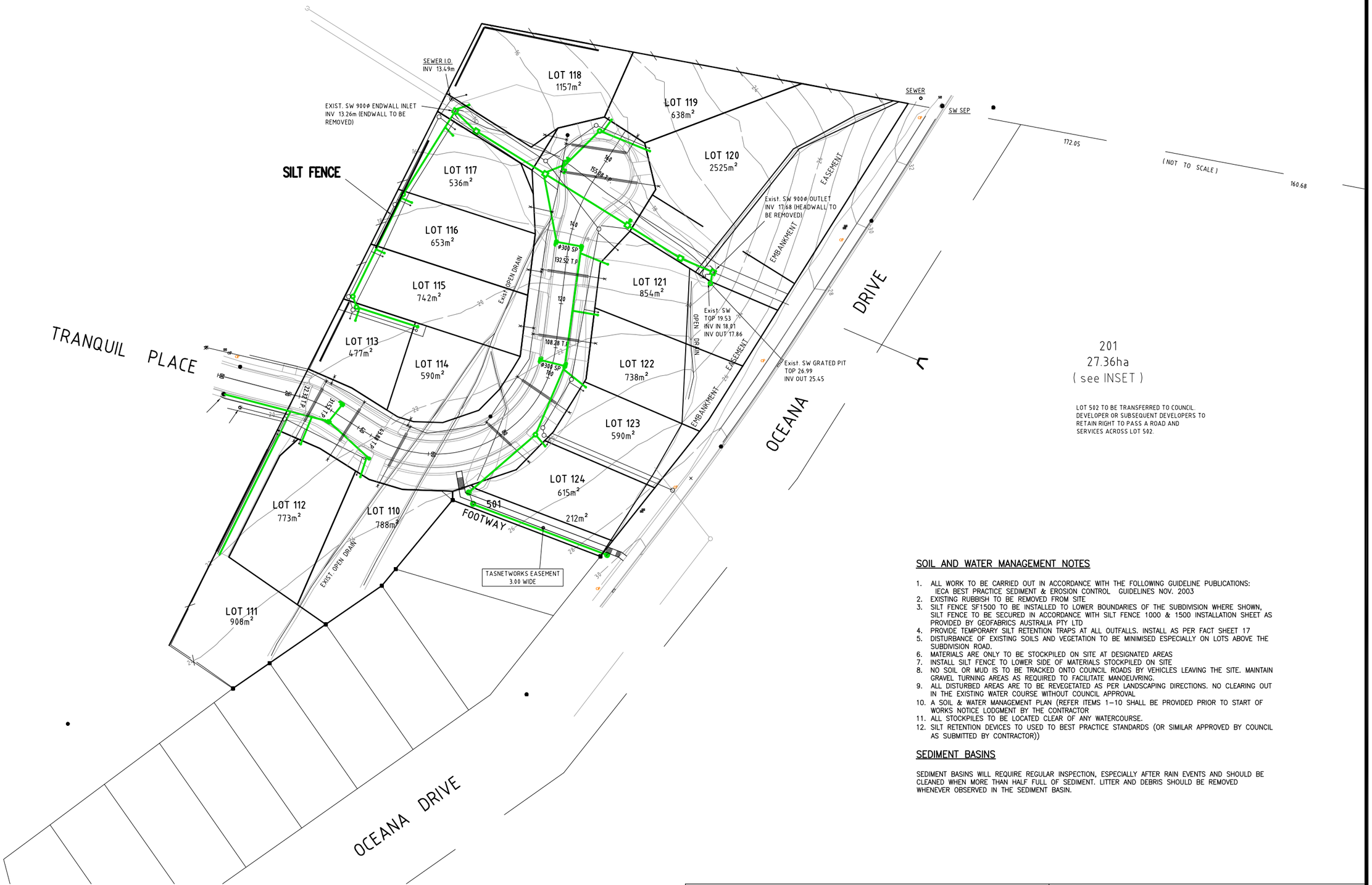
PHONE (03) 6223 5020 FAX (03) 6223 5347
^ STRUCTURAL ^ CIVIL ^ MUNICIPAL ^ MECHANICAL ^ MARINE ^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
STORMWATER SWALE CROSS SECTIONS

SCALE 1:500 (A1)
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/109 REVISION A
No. OF SHEETS



LOT 502 TO BE TRANSFERRED TO COUNCIL. DEVELOPER OR SUBSEQUENT DEVELOPERS TO RETAIN RIGHT TO PASS A ROAD AND SERVICES ACROSS LOT 502.

SOIL AND WATER MANAGEMENT NOTES

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING GUIDELINE PUBLICATIONS: IECA BEST PRACTICE SEDIMENT & EROSION CONTROL GUIDELINES NOV. 2003
2. EXISTING RUBBISH TO BE REMOVED FROM SITE
3. SILT FENCE SF1500 TO BE INSTALLED TO LOWER BOUNDARIES OF THE SUBDIVISION WHERE SHOWN, SILT FENCE TO BE SECURED IN ACCORDANCE WITH SILT FENCE 1000 & 1500 INSTALLATION SHEET AS PROVIDED BY GEOFABRICS AUSTRALIA PTY LTD
4. PROVIDE TEMPORARY SILT RETENTION TRAPS AT ALL OUTFALLS. INSTALL AS PER FACT SHEET 17
5. DISTURBANCE OF EXISTING SOILS AND VEGETATION TO BE MINIMISED ESPECIALLY ON LOTS ABOVE THE SUBDIVISION ROAD.
6. MATERIALS ARE ONLY TO BE STOCKPILED ON SITE AT DESIGNATED AREAS
7. INSTALL SILT FENCE TO LOWER SIDE OF MATERIALS STOCKPILED ON SITE
8. NO SOIL OR MUD IS TO BE TRACKED ONTO COUNCIL ROADS BY VEHICLES LEAVING THE SITE. MAINTAIN GRAVEL TURNING AREAS AS REQUIRED TO FACILITATE MANOEUVRING.
9. ALL DISTURBED AREAS ARE TO BE REVEGETATED AS PER LANDSCAPING DIRECTIONS. NO CLEARING OUT IN THE EXISTING WATER COURSE WITHOUT COUNCIL APPROVAL
10. A SOIL & WATER MANAGEMENT PLAN (REFER ITEMS 1–10 SHALL BE PROVIDED PRIOR TO START OF WORKS NOTICE LODGMENT BY THE CONTRACTOR
11. ALL STOCKPILES TO BE LOCATED CLEAR OF ANY WATERCOURSE.
12. SILT RETENTION DEVICES TO USED TO BEST PRACTICE STANDARDS (OR SIMILAR APPROVED BY COUNCIL AS SUBMITTED BY CONTRACTOR))

SEDIMENT BASINS

SEDIMENT BASINS WILL REQUIRE REGULAR INSPECTION, ESPECIALLY AFTER RAIN EVENTS AND SHOULD BE CLEANED WHEN MORE THAN HALF FULL OF SEDIMENT. LITTER AND DEBRIS SHOULD BE REMOVED WHENEVER OBSERVED IN THE SEDIMENT BASIN.

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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PHONE (03) 6223 5020 FAX (03) 6223 5347

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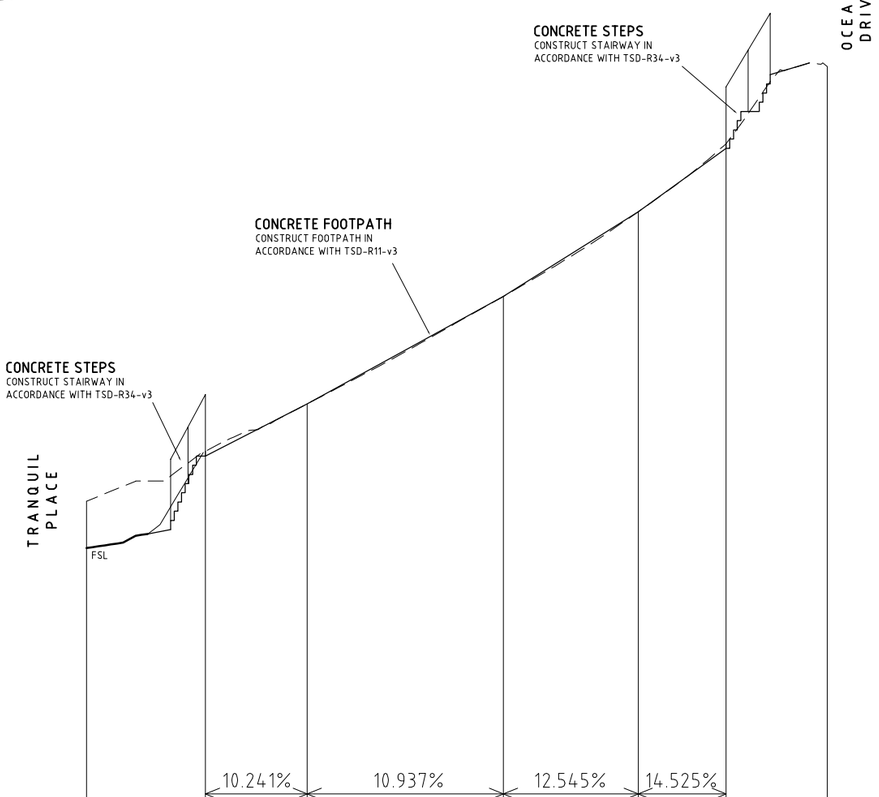
^ MECHANICAL
^ MARINE
^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
SOIL AND WATER MANAGEMENT PLAN

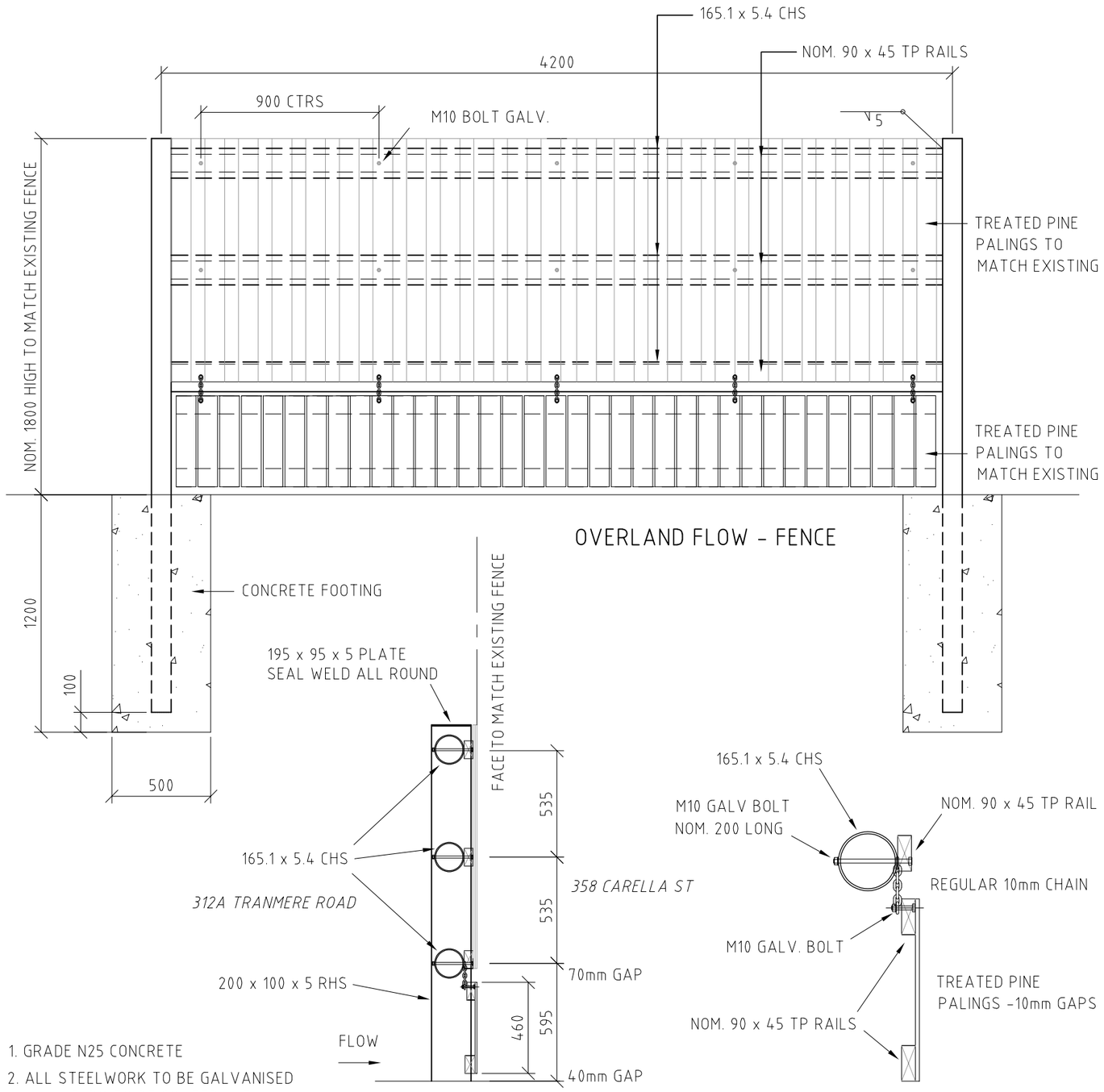
SCALE	1:500 (A1)	DRAWING No.	REVISION
DRAWN	B. STANFORD	DATE FEB '23	21281/110 A
APPROVED		No. OF SHEETS	



R.L. 16.40m							
Centreline Cut/Fill		0.08	0.00	0.00	0.00	-0.07	
DESIGN SURFACE	22.408	23.91	24.76	26.51	27.89	28.93	
EXISTING SURFACE	23.17	23.99	24.76	26.51	27.89	29.00	30.26
CHAINAGE	0.000	9.70	18.00	34.00	45.00	52.16	60.420

LONGITUDINAL SECTION
FP1 Ch 0.000 to Ch 60.420
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

FOOTWAY LONGSECTION



1. GRADE N25 CONCRETE
2. ALL STEELWORK TO BE GALVANISED ALL WELDS TO BE COATED WITH ZINC RICH PAINT
3. SUPPLY GALVAISED BOLTS WITH NUTS & WASHERS

SECTIONS

CLIENT: J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

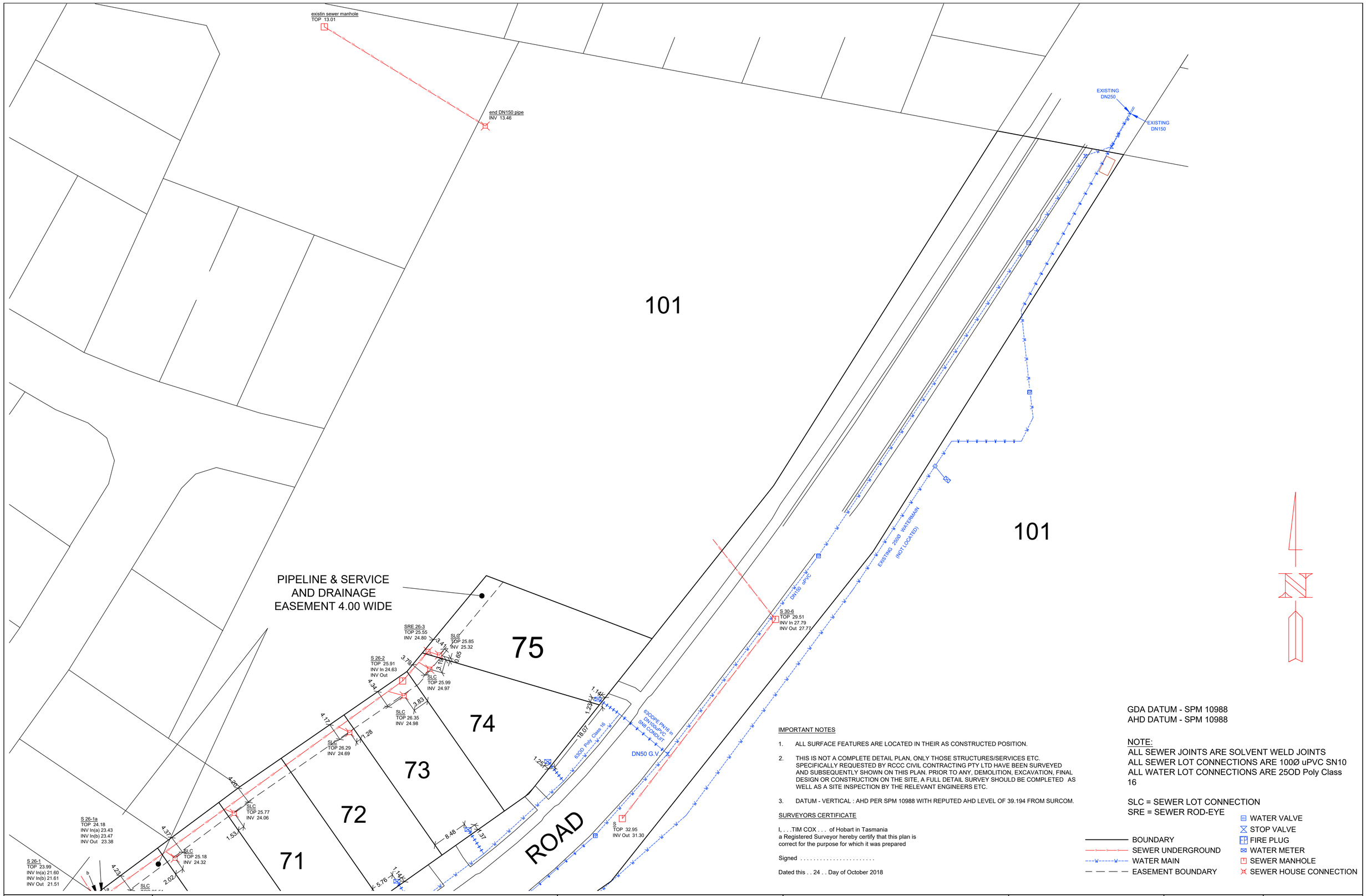
No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347
^ STRUCTURAL ^ CIVIL ^ MUNICIPAL ^ MECHANICAL ^ MARINE ^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
FOOTWAY STEPS/PATH & OVERLAND FLOW FENCE

SCALE 1:500 (A1)
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/111 REVISION A
No. OF SHEETS



GDA DATUM - SPM 10988
AHD DATUM - SPM 10988

NOTE:
ALL SEWER JOINTS ARE SOLVENT WELD JOINTS
ALL SEWER LOT CONNECTIONS ARE 100Ø uPVC SN10
ALL WATER LOT CONNECTIONS ARE 25OD Poly Class 16

SLC = SEWER LOT CONNECTION
SRE = SEWER ROD-EYE

IMPORTANT NOTES

1. ALL SURFACE FEATURES ARE LOCATED IN THEIR AS CONSTRUCTED POSITION.
2. THIS IS NOT A COMPLETE DETAIL PLAN, ONLY THOSE STRUCTURES/SERVICES ETC. SPECIFICALLY REQUESTED BY RCCC CIVIL CONTRACTING PTY LTD HAVE BEEN SURVEYED AND SUBSEQUENTLY SHOWN ON THIS PLAN. PRIOR TO ANY, DEMOLITION, EXCAVATION, FINAL DESIGN OR CONSTRUCTION ON THE SITE, A FULL DETAIL SURVEY SHOULD BE COMPLETED AS WELL AS A SITE INSPECTION BY THE RELEVANT ENGINEERS ETC.
3. DATUM - VERTICAL : AHD PER SPM 10988 WITH REPUTED AHD LEVEL OF 39.194 FROM SURCOM.

SURVEYORS CERTIFICATE

I, . . .TIM COX . . . of Hobart in Tasmania
a Registered Surveyor hereby certify that this plan is correct for the purpose for which it was prepared

Signed . . . . . .

Dated this . . 24 . . Day of October 2018

- BOUNDARY
- SEWER UNDERGROUND
- WATER MAIN
- EASEMENT BOUNDARY
- WATER VALVE
- STOP VALVE
- FIRE PLUG
- WATER METER
- SEWER MANHOLE
- SEWER HOUSE CONNECTION

AMENDMENTS

No.	Revision/Issue	Date

LEARY&COX LAND & ENGINEERING SURVEYORS
Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E
admin@learyandcox.com

Project Name and Address
312A TRANMERE RD
TRANMERE TAS 7018

Drawing Title
AS-CONSTRUCTED PLAN
SEWER & WATER

Client RCCC Civil Contracting Pty Ltd

SCALE 1:400 at A1
SHEET 2 OF 2

Contour Interval

Date 24 / 10 / 18

SHEET 1 of 1

DRAWN KS

CHK'D

FILE REF: 9403

Geocivil Ref 940309
AutoCAD Ref 940309

DATUM Horz: GDA94 (Grid)
Vert: AHD

Application for Planning Permission

UNDER THE

TASMANIAN PLANNING SCHEME – CLARENCE

SUBDIVISION RESULTING IN 15 ADDITIONAL LOTS, ROAD, FOOTWAY AND PUBLIC OPEN SPACE AND A BALANCE

312A Tranmere Road (a.k.a. Tranquil Place), Tranmere

Prepared for CM Luckman, PL Luckman, JM Luckman & GA Luckman
25 August 2023
Revised 22 Feb 2024

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1.0 INTRODUCTION

1.1 This is an application for a planning permit to subdivide and create 17 additional lots and a Balance from an existing title at 312A Tranmere Road, Tranmere. The land to be converted into residential lots constitutes the final stages of the Tranquil Place subdivision below Oceana Drive.

1.2 The area of the proposed subdivision is within the General Residential Zone under the *Tasmanian Planning Scheme – Clarence* (the **Tranquil Place parcel**). The Balance of the land, where no subdivision or works are proposed, is partly zoned General Residential and partly zoned Landscape Conservation (the **Balance**).

1.3 Council's discretion is required to be exercised in respect of:

- **Clause 8.6.1 - Lot design**:
  A2 - variation to minimum lot frontage for Lots 111; and
  A4 - orientation of lots.

- **Clause C7.7.1** A1 - Subdivision within a waterway and coastal protection area.

- **Clause C12.7.1** A1 - Subdivision within a flood-prone hazard area.

2.0 THE SITE

2.1 **Subject property**
The subject property is CT 183275/201 comprising 29.02ha (the **subject property**). The Tranquil Place parcel (the **site**) comprises 1.66ha. The Public Open Space Lot is 793m², whilst the proposed Footway Lot is 404m²

2.2 The site has 18.9m frontage to Tranquil Place (road eastern stub end) and 144.82m frontage to the western side of Oceana Drive. The Balance has an area of 27.36ha and 409.58m frontage to the eastern side of Oceana Drive. A location map is shown below with the Balance outlined in black, and the site outlined in red (Figure 1).

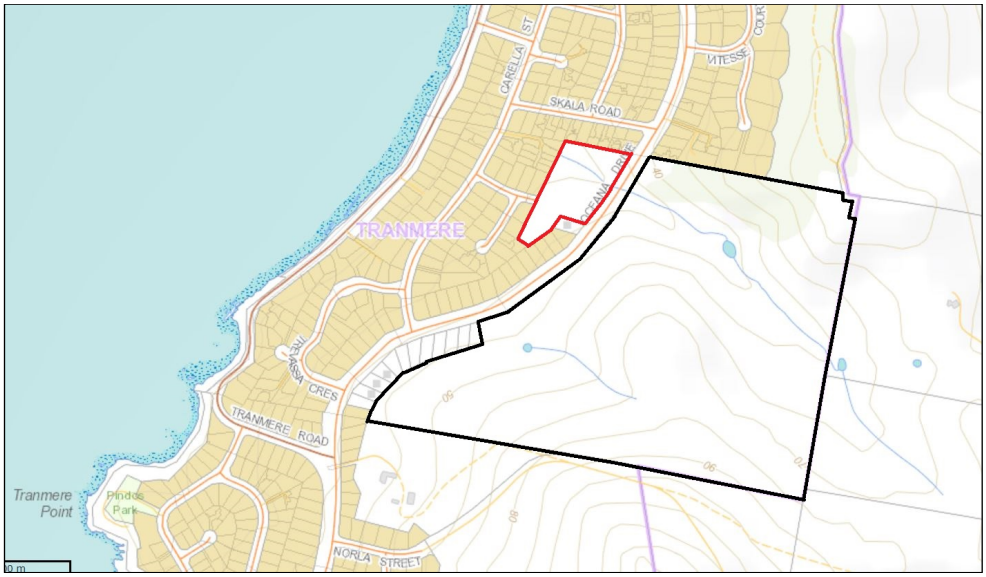


***Figure 1** – location of site (base map source: DPIWE LISTmap 11/06/23)*

2.3 The site rises gently to moderately from the west to the east from about 20mASL up to 30m. The average slope varies between 6 and 12° (LISTmap, Slope degrees 23/6/23). The slope surface is disrupted by an incised ephemeral watercourse shown in Figure 2 below.

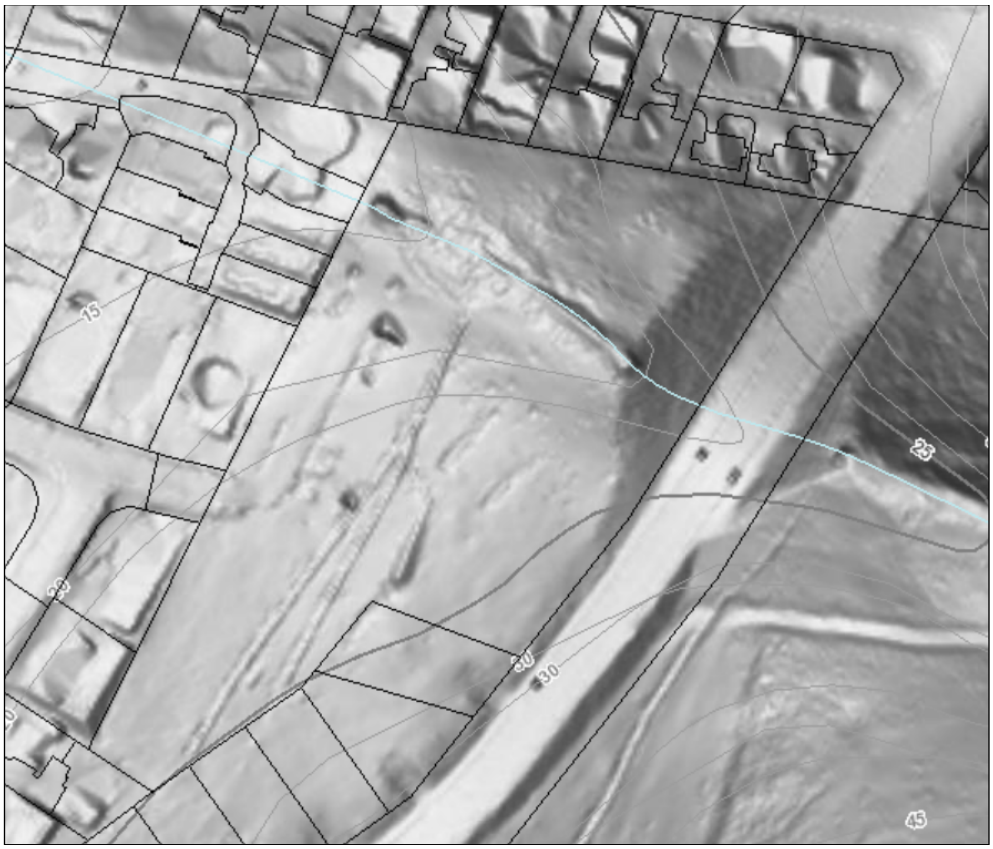


Figure 2 *– slope and watercourse (base map source: DPIWE LISTmap 23/06/23)*

2.4 The site has been cleared of native vegetation for many decades, having been used for grazing. Street trees have recently been planted adjacent to Oceana Drive, and further massed plantings have been established on the steeper slope northeastern corner of the site adjacent to Oceana Drive. The character of the site is typical of one that has been cleared awaiting residential subdivision development.

***Figure 3** – location of site, character and surrounding context (base map source: DPIWE LISTmap 26/08/23)*

2.5 **Surrounding land-use and development**
The site is bounded by the following use and development:

WEST:
Suburban residential dwellings.

NORTH:
Suburban residential dwellings.

EAST:
Oceana Drive (under the jurisdiction of Clarence Council); to the east of Oceana Drive is undeveloped land zoned General Residential (approx. 50m deep) and undeveloped grazing land zoned Landscape Conservation further upslope (the Balance of the subject property).

SOUTH:
Suburban residential dwellings

2.6 The character of the location is therefore a mix of predominantly suburban residential use and development with undeveloped grazing pasture land further upslope to the east.

***Figure 4** – site character – looking north from southern boundary (source: Google Earth 26/08/23)*

2.7 The site is situated approximately 3km south of Howrah Point local activity centre and 4km from Shoreline neighbourhood activity centre. Metro public bus services to Rosny Park and Hobart city run past the site in Oceana Drive, and approximately 450m walking distance to Tranmere Road.

2.8 Primary and secondary schools are available at Howrah and Bellerive.

3.1 THE PROPOSAL IN DETAIL

3.2 It is proposed to undertake the following:

Lot design

- Subdivide 17 residential lots from the overall title, limited to the Tranquil Place parcel, leaving a Balance of 27.36ha;
- The proposed road providing the completion of Tranquil Place will equal 2959m²;
- A footway link from Tranquil Place to Oceana Drive of 404m²; and
- Public open space in the form of a 792m² extension to the 'Droughty Point Trail', in the northeast of the Balance lot.

3.2 An excerpt of the proposal plan is provided in Figure 5 below.

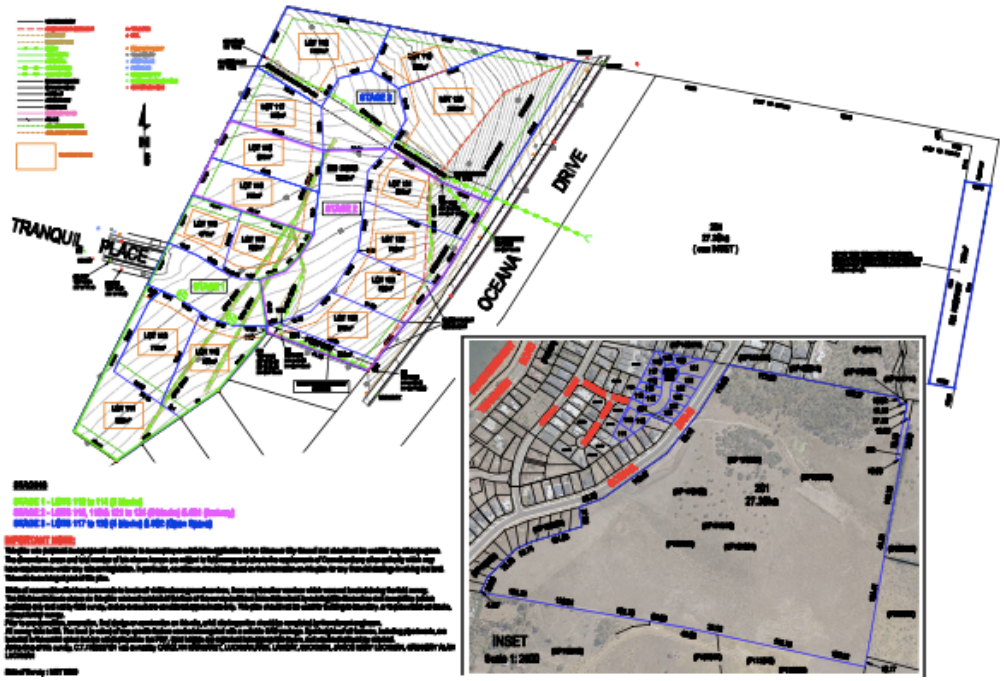


***Figure 5** – excerpt of the proposal plan (LEARY & COX, 940310 Stage 10 Rev I, 15/1/24)*

3.3 The various elements will have the following characteristics:

Lot No	Function	Stage	Area	Frontage	10m x 15m Building envelope
110	Residential	1	788 m^2	26.68 m	Yes
111	Residential	1	808 m^2	6 m	Yes
112	Residential	1	773 m^2	17.43 m	Yes
113	Residential	1	477 m^2	23.58 m	Yes
114	Residential	1	590 m^2	43.53 m	Yes
115	Residential	2	742 m^2	16.3 m	Yes
116	Residential	2	653 m^2	16.3 m	Yes
117	Residential	3	536 m^2	18.82 m	Yes
118	Residential	3	1157 m^2	25.92 m	Yes
119	Residential	3	638 m^2	12.66 m	Yes
120	Residential	3	2525 m^2	23.4 m	Yes
121	Residential	2	854 m^2	23.41 m	Yes
122	Residential	2	738 m^2	19.77 m	Yes
123	Residential	2	590 m^2	15.58 m	Yes
124	Residential	2	615 m^2	23.49 m	Yes
201	Balance	=	27.36 ha	409.58 m	NA
501	Footway	2	212 m^2	NA	NA
502	Footway (POS)	3	793 m^2	NA	NA
900	Road	1	2959 m^2	NA	NA

3.3 **Access**

All proposed lots within the Tranquil Place parcel will have access to the Tranquil Place extension. Access is not proposed to Oceana Drive.

3.4 **Staging**

Staging is proposed to occur, beginning from the existing temporary termination of Tranquil Place :

Stage 1: Lots 110 to 114 (5 lots) and Road;

Stage 2: Lots 115, 116 and 123 to 126 (6 lots) and Lot 501 (Footway); and

Stage 3: Lots 117 to 122 (6 lots) and Lot 502 (Open Space).

3.5 **Services**

Concept service detail for all services is included with the proposal plans, following extensive consultation with Council Engineers, Taswater and Telstra.

3.6 Importantly, the subdivision will be connected to a reticulated water supply, reticulated sewer, and stormwater system.

4.0 PLANNING SCHEME PROVISIONS

4.1 Planning Scheme

The subject land is within the area of the *Tasmanian Planning Scheme – Clarence* (the **planning scheme**).

4.2 Zoning

The proposed new lots (within the site, excluding the Balance) will be created entirely within the General Residential Zone. See Figure 6 below with the site outlined in black.

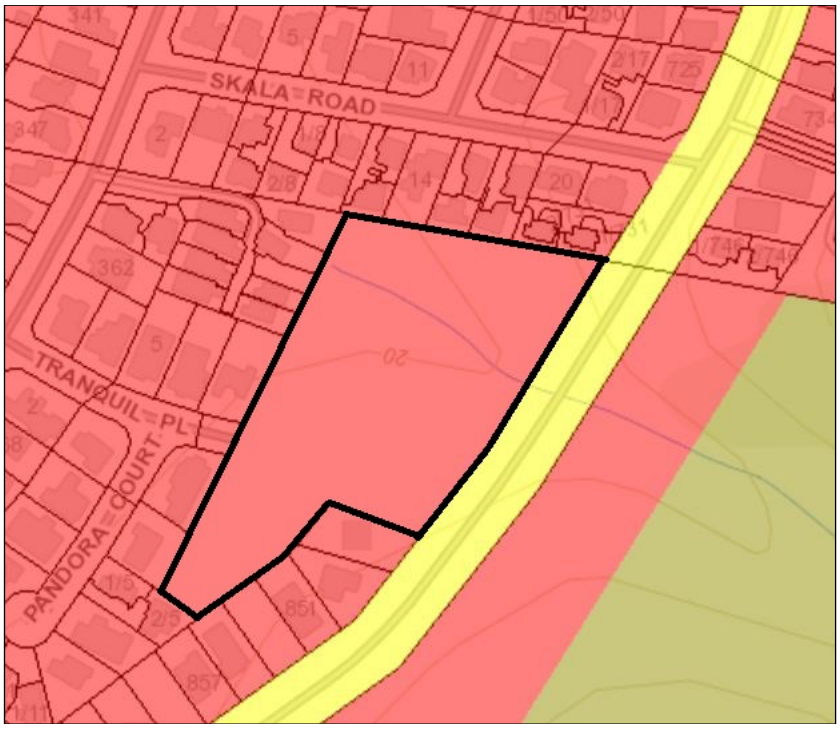


Figure 6: *excerpt from the planning scheme zoning map showing the site outlined in black. The lighter green shade is Landscape Conservation Zone (Tasmanian Planning Scheme - Zones: Clarence Local Provisions Schedule, 30/8/23)*

4.3 Matters for consideration

Pursuant to clause 6.10.1 of the planning scheme Council must, in addition to the matters required by section 51(2) of the Act, take into consideration:

> *(a) all applicable standards and requirements in this planning scheme; and*
>
> *(b) any representations received pursuant to and in conformity with section 57(5) of the Act, but in the case of the exercise of discretion, only insofar as each such matter is relevant to the particular discretion being exercised.*

4.4 In addition, pursuant to clause 6.10.2 of the planning scheme Council must take into consideration the following matters in respect of an application for a permit for a Discretionary use: In determining an application for a permit for a Discretionary use the planning authority must, in addition to the matters referred to in sub-clause 6.10.1 of this planning scheme, have regard to:

> *(a) the purpose of the applicable zone;*

(b) any relevant local area objective for the applicable zone;

(c) the purpose of any applicable code;

(d) the purpose of any applicable specific area plan;

(e) any relevant local area objective for any applicable specific area plan; and

(f) the requirements of any site-specific qualification, but in the case of the exercise of discretion, only insofar as each such matter is relevant to the particular discretion being exercised.

4.5 GENERAL RESIDENTIAL ZONE PROVISIONS

The purpose of the general Residential Zone

Under clause 8.1 of the planning scheme the purpose of the General Residential Zone is stated as being:

8.1.1 To provide for residential use or development that accommodates a range of dwelling types where full infrastructure services are available or can be provided.

8.1.2 To provide for the efficient utilisation of available social, transport and other service infrastructure.

8.1.3 To provide for non-residential use that:

(a) primarily serves the local community; and

(b) does not cause an unreasonable loss of amenity through scale, intensity, noise, activity outside of business hours, traffic generation and movement, or other off site impacts.

8.1.4 To provide for Visitor Accommodation that is compatible with residential character.

4.6 The proposal, for a relatively straightforward subdivision in the form of an extension to the adjoining suburban residential development, raises no inconsistencies with the Zone purpose statements for the General Residential Zone.

4.7 **Any relevant Local Area Objective for the General Residential Zone**

There are no Local Area Objectives for this Zone.

4.8 Applicable standards and requirements for the General Residential Zone

<table>
<tr><th colspan="2">Clause 8.6.1 Lot Design</th></tr>
<tr><td colspan="2">Objective:
That each lot:
(a) has an area and dimensions appropriate for use and development in the zone;
(b) is provided with appropriate access to a road;
(c) contains areas which are suitable for development appropriate to the zone purpose, located to avoid natural hazards; and
(d) is orientated to provide solar access for future dwellings.</td></tr>
<tr><td>Acceptable Solutions</td><td>Performance Criteria</td></tr>
<tr><td>A1
Each lot, or a lot proposed in a plan of subdivision, must:
(a) have an area of not less than 450m2 and:
(i) be able to contain a minimum area of 10m x 15m with a gradient not steeper than 1 in 5, clear of:
a. all setbacks required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; and
b. easements or other title restrictions that limit or restrict development; and
(ii) existing buildings are consistent with the setback required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2;
(b) be required for public use by the Crown, a council or a State authority;
(c) be required for the provision of Utilities; or
(d) be for the consolidation of a lot with another lot provided each lot is within the same zone.</td><td>P1
Each lot, or a lot proposed in a plan of subdivision, must have sufficient useable area and dimensions suitable for its intended use, having regard to:
(a) the relevant requirements for development of buildings on the lots;
(b) the intended location of buildings on the lots;
(c) the topography of the site;
(d) the presence of any natural hazards;
(e) adequate provision of private open space; and
(f) the pattern of development existing on established properties in the area.</td></tr>
<tr><td colspan="2">Compliance/justification
All of the proposed residential lots meet criterion (a) under the Acceptable Solution A1.
The POS Lot 502 meets criterion (b) under the Acceptable Solution A1.
The Road Lot 900 and the Footway Lot 501 meet criterion (c) under the Acceptable Solution A1.
Therefore, all proposed lots meet the Acceptable Solution A1 under clause 8.6.1.</td></tr>
<tr><td>A2
Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a frontage not less than 12m.</td><td>P2
Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must be provided with a frontage or legal connection to a road by a right of carriageway, that is sufficient for the intended use, having regard to:
(a) the width of frontage proposed, if any;
(b) the number of other lots which have the land subject to the right of carriageway as their sole or principal means of access;
(c) the topography of the site;
(d) the functionality and useability of the frontage;
(e) the ability to manoeuvre vehicles on the site; and</td></tr>
</table>

	(f) the pattern of development existing on established properties in the area, *and is not less than 3.6m wide.*
Compliance/justification Proposed Lot 111 does not meet the Acceptable Solution A2 and therefore relies upon the alternative Performance Criteria under P2: Lot 111 will have a 6m wide frontage to Tranquil Place connected to the body of the lot by a minimum 3.6m width fee-simple strip. Given the configuration of the overall site in the location of Lot 111, an internal lot with fee-simple frontage and access is the most practical and efficient means of utilising the land in accordance with the density envisaged by the planning scheme. No other titles will rely on the fee-simple strip for frontage or access. An internal lot configuration of the type proposed is not unusual in the established properties within the surrounding area. It is considered that the proposal meets the Performance Criteria under P2.	
A3 *Each lot, or a lot proposed in a plan of subdivision, must be provided with a vehicular access from the boundary of the lot to a road in accordance with the requirements of the road authority.*	***P3*** *Each lot, or a lot proposed in a plan of subdivision, must be provided with reasonable vehicular access to a boundary of a lot or building area on the lot, if any, having regard to:* *(a) the topography of the site;* *(b) the distance between the lot or building area and the carriageway;* *(c) the nature of the road and the traffic;* *(d) the anticipated nature of vehicles likely to access the site; and* *(e) the ability for emergency services to access the site.*
Compliance/justification Each lot will have access to the proposed road extension of Tranquil Place. It is considered that the proposal meets Acceptable Solution A3.	
A4 *Any lot in a subdivision with a new road, must have the long axis of the lot between 30 degrees west of true north and 30 degrees east of true north.*	***P4*** *Subdivision must provide for solar orientation of lots adequate to provide solar access for future dwellings, having regard to:* *(a) the size, shape and orientation of the lots;* *(b) the topography of the site;* *(c) the extent of overshadowing from adjoining properties;* *(d) any development on the site;* *(e) the location of roads and access to lots; and* *(f) the existing pattern of subdivision in the area.*
Compliance/justification It is considered that Lots 111, 113 to 117, and 121 to 124 do not provide a long axis between 30°W of true north and 30° E of true north. Those lots therefore rely on the alternative performance criteria under P4. The overall configuration and orientation of the site is based on a north-south axis by virtue of the location of Oceana Drive to the east, and existing development to the north, west and south. That means that in order to optimise lot yield and density in accordance with the intent of the General Residential Zone – as well as providing street access to all lots, the most efficient configuration involves lots with their long axes perpendicular to the proposed central roadway rather than parallel to it.	

Notwithstanding the non-compliance with the Acceptable Solution the size of the respective lots is sufficient to allow siting that ensures sufficient solar access to external spaces and potential dwellings. The building envelopes shown on the proposal plan confirm this. It is not the case that future dwellings will necessarily be prevented from obtaining adequate solar access: sufficient flexibility exists in the lot design to allow prudent location of future dwellings and their associated private open space. Existing subdivisions in the surrounding area demonstrate a range of lot orientation and dwelling location that confirms the potential for a suitable outcome. It is considered that the proposal meets Performance Criterion P4.

4.9

Clause 8.6.2 Roads	
Objective: *That the arrangement of new roads within a subdivision provides for:* *(a) safe, convenient and efficient connections to assist accessibility and mobility of the community;* *(b) the adequate accommodation of vehicular, pedestrian, cycling and public transport traffic; and* *(c) the efficient ultimate subdivision of the entirety of the land and of surrounding land.*	
Acceptable Solutions	***Performance Criteria***
A1 *The subdivision includes no new roads.*	*P1* *The arrangement and construction of roads within a subdivision must provide an appropriate level of access, connectivity, safety and convenience for vehicles, pedestrians and cyclists, having regard to:* *(a) any road network plan adopted by the council;* *(b) the existing and proposed road hierarchy;* *(c) the need for connecting roads and pedestrian and cycling paths, to common boundaries with adjoining land, to facilitate future subdivision potential;* *(d) maximising connectivity with the surrounding road, pedestrian, cycling and public transport networks;* *(e) minimising the travel distance between key destinations such as shops and services and public transport routes;* *(f) access to public transport;* *(g) the efficient and safe movement of pedestrians,* *cyclists and public transport;* *(h) the need to provide bicycle infrastructure on new arterial and collector roads in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling 2016;* *(i) the topography of the site; and* *(j) the future subdivision potential of any balance lots on adjoining or adjacent land.*
Compliance/justification Following consultation with Council officers, the proposed road design includes the following elements:	

- the logical completion of Tranquil Place;
- avoidance of direct vehicular access to Oceana Drive;
- provision of a pedestrian link from Tranquil Place to Oceana Drive allowing connectivity for the new subdivision together with access to public transport.

It is considered that the proposal meets the Performance Criteria under P1.

4.10

Clause 8.6.3 Services	
Objective: *That the subdivision of land provides services for the future use and development of the land.*	
Acceptable Solutions	***Performance Criteria***
A1 *Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a connection to a full water supply service.*	*A lot, or a lot proposed in a plan of subdivision,* *excluding for public open space, a riparian or littoral* *reserve or Utilities, must have a connection to a* *limited water supply service, having regard to:* *(a) flow rates;* *(b) the quality of potable water;* *(c) any existing or proposed infrastructure to provide the water service and its location;* *(d) the topography of the site; and* *(e) any advice from a regulated entity.*
Compliance/justification. A water connection is proposed to be provided to each residential lot. It is considered that the proposal meets the Acceptable Solution under A1.	
A2 *Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a connection to a reticulated sewerage system.*	***P2*** *No Performance Criterion.*
Compliance/justification. A connection to a reticulated sewerage system is proposed to be provided to each residential lot. It is considered that the proposal meets the Acceptable Solution under A2.	
A3 *Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must be capable of connecting to a public stormwater system.*	***P3*** *Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must be capable of accommodating an on-site stormwater management system adequate for the future use and development of the land, having regard to:* *(a) the size of the lot;* *(b) topography of the site;* *(c) soil conditions;* *(d) any existing buildings on the site;*

	(e) any area of the site covered by impervious surfaces; and *(f) any watercourse on the land.*
Compliance/justification. The proposal is to be provided with a stormwater system designed following consultation with Council officers. The stormwater design not only allows for connections from each proposed lot, but also encompasses existing drainage through the site. It is considered that the proposal meets the Acceptable Solution under A3.	

4.11 **Applicable Codes**

The following Codes apply to the proposal under the planning scheme:

C7.0 Natural Assets Code
C12.0 Flood-prone Areas Hazard Code
C15.0 Landslip Hazard Code
C16.0 Safeguarding of Airports Code

4.12 **C7.0 NATURAL ASSETS CODE PROVISIONS**

The purpose of the C7.0 Natural Assets Code

Under clause 7.1 of the planning scheme the purpose of the Natural Assets Code is stated as being:

C7.1.1 To minimise impacts on water quality, natural assets including native riparian vegetation, river condition and the natural ecological function of watercourses, wetlands and lakes.

C7.1.2 To minimise impacts on coastal and foreshore assets, native littoral vegetation, natural coastal processes and the natural ecological function of the coast.

C7.1.3 To protect vulnerable coastal areas to enable natural processes to continue to occur, including the landward transgression of sand dunes, wetlands, saltmarshes and other sensitive coastal habitats due to sea-level rise.

C7.1.4 To minimise impacts on identified priority vegetation.

C7.1.5 To manage impacts on threatened fauna species by minimising clearance of significant habitat.

4.13 The proposal has been designed to both accommodate and improve flood hazard risk from the existing watercourse that runs downslope east to west through the site, approximately in the location of proposed Lots 118, 122 and the intervening cul-de-sac head. Existing flood modelling and proposed 5m wide stormwater drainage easement are included on the proposal plans.

4.14 **Development standards for Subdivision under the Natural Assets Code**

C7.7.1 Subdivision within a waterway and coastal protection area or a future coastal refugia area
Objective: *That:* *(a) works associated with subdivision within a waterway and coastal protection area or a future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets; and*

(b) future development likely to be facilitated by subdivision is unlikely to lead to an unnecessary or unacceptable impact on natural assets.	
Acceptable Solutions	***Performance Criteria***
A1 *Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area or a future coastal refugia area, must:* *(a) be for the creation of separate lots for existing buildings;* *(b) be required for public use by the Crown, a council, or a State authority;* *(c) be required for the provision of Utilities;* *(d) be for the consolidation of a lot; or* *(e) not include any works (excluding boundary fencing), building area, services, bushfire hazard management area or vehicular access within a waterway and coastal protection area or future coastal refugia area.*	***P1*** *Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area or a future coastal refugia area, must minimise adverse impacts on natural assets, having regard to:* *(a) the need to locate building areas and any associated bushfire hazard management area to be outside a waterway and coastal protection area or a future coastal refugia area; and* *(b) future development likely to be facilitated by the subdivision.*

Compliance/justification

The waterway & coastal protection overlay forms a narrow buffer strip along and including the existing watercourse.

(See Figure 7 below)

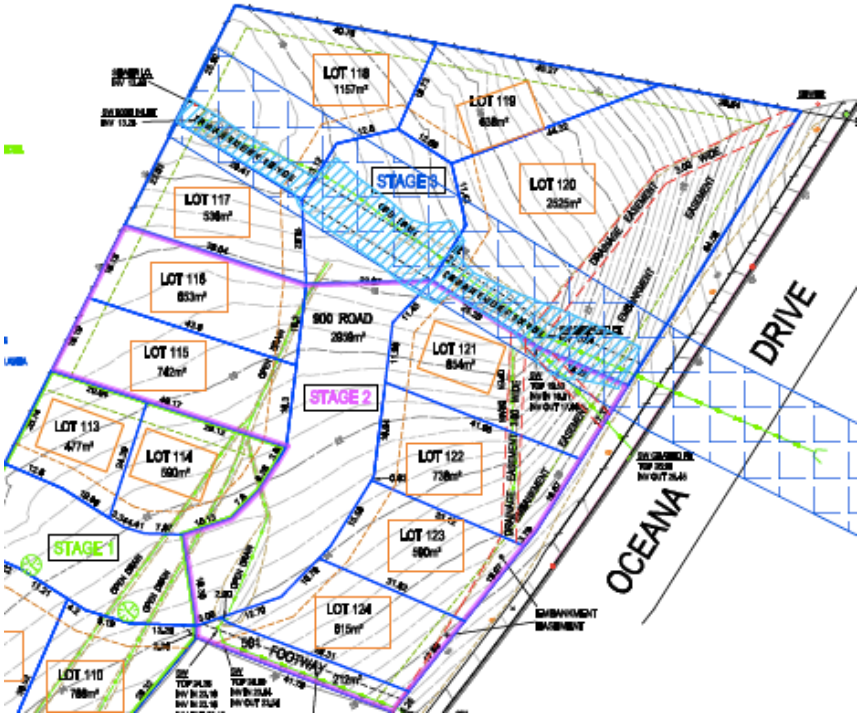


***Figure 7**: Proposed subdivision in relation to Waterway and Coastal Protection Area overlay (excerpt from LEARY & COX op cit Sheet 3)*

The location of the proposed drainage easement and required stormwater infrastructure will allow scope for future development (building areas) to be facilitated outside of the watercourse whilst removing flood hazard risk for that area of the site and downstream (adjoining properties).

It is considered that the proposal meets the Performance Criteria under P1.

4.15 **C12.0 FLOOD-PRONE AREAS HAZARD CODE**

Purpose of the C12.0 Flood-prone Areas Hazard Code

Under clause 12.1 of the planning scheme the purpose of the Flood-prone Areas Hazard Code is stated as being:

> *C12.1.1 To ensure that use or development subject to risk from flood is appropriately located and managed, so that:*
>
> > *(a) people, property and infrastructure are not exposed to an unacceptable level of risk;*
> >
> > *(b) future costs associated with options for adaptation, protection, retreat or abandonment of property and infrastructure are minimised; and*
> >
> > *(c) it does not increase the risk from flood to other land or public infrastructure.*
>
> *C12.1.2 To preclude development on land that will unreasonably affect flood flow or be affected by permanent or periodic flood.*

4.16 The flood-prone area is mapped as within the diagonal-hatched area in Figure 7 above. The flood-prone status represents the existing natural situation affecting the site and potentially adjoining land downstream. This situation would continue unabated without intervention either in the form of Council works or private works to Council's specification. The latter is enabled by the proposed subdivision.

4.17 The accompanying Stormwater and Flood Hazard Report (WILSON, A. 5/4/23) states that:

> *The proposed development and associated stormwater recommendation ensure that developing this lot reduces the downstream impacts of stormwater by up to ten times what is currently experienced under the existing scenario.* (ibid. p24)

4.18 **Development standards for Subdivision under the Flood-prone Areas Hazard Code**

C12.7.1 Subdivision within a flood-prone hazard area	
Objective: *That subdivision within a flood-prone hazard area does not create an opportunity for use or development that cannot achieve a tolerable risk from flood.*	
Acceptable Solutions	***Performance Criteria***
A1 *Each lot, or a lot proposed in a plan of subdivision, within a flood-prone hazard area, must:* *(a) be able to contain a building area, vehicle access, and services, that are wholly located outside a flood-prone hazard area;* *(b) be for the creation of separate lots for existing buildings;* *(c) be required for public use by the Crown, a council or a State authority; or* *(d) be required for the provision of Utilities.*	***P1*** *Each lot, or a lot proposed in a plan of subdivision, within a flood-prone hazard area, must not create an opportunity for use or development that cannot achieve a tolerable risk from flood, having regard to:* *(a) any increase in risk from flood for adjacent land;* *(b) the level of risk to use or development arising from an increased reliance on public infrastructure;* *(c) the need to minimise future remediation works;* *(d) any loss or substantial compromise by flood of access to the lot, on or off site;* *(e) the need to locate building areas outside the flood-prone hazard area;* *(f) any advice from a State authority, regulated entity or a council; and*

	(g) the advice contained in a flood hazard report.

Compliance/justification

A flood hazard report has been undertaken and accompanies this application (Wilson op cit).

A number of recommendations are provided that will ensure improvements to existing stormwater management on site and on adjoining land, resulting in a tolerable risk.

In particular, amongst other requirements the report recommends:

- A 900mm diameter pipe be linked between the Oceana Dive culvert and the Carella Drive Culvert;
- An overland flow path to large events to be created along the overland flow path, limiting total flow width to 5m wide and maximum 400mm deep. This flow path to be protected by a 5m wide easement;
- Cut off drains to be created at base of embankments to direct flows into the central overland flow path; and
- The Flood-prone Areas Hazard Code to apply to lots as per the post development model in the Stormwater and Flood Hazard Report and that this report to be attached to any future development application for lots affected by the Flood-prone Areas Hazard Code. (ibid)

It is considered that subject to Council accepting the recommendations contained on page 24 of the Stormwater and Flood Hazard Report the proposal is capable of meeting the Performance Criteria under P1.

4.19 **C15.0 LANDSLIP HAZARD CODE**

Purpose of the C15.0 Landslip Hazard Code

Under clause 15.1 of the planning scheme the purpose of the Landslip Hazard Code is stated as being:

> *C15.1.1 To ensure that a tolerable risk can be achieved and maintained for the type, scale and intensity and intended life of use or development on land within a landslip hazard area.*

4.20 The Landslide Hazard mapping overlay in the *Clarence Local Provisions Schedule* shows areas of Low landslip hazard in the north-east corner of the subject property (see Figure 8 below).

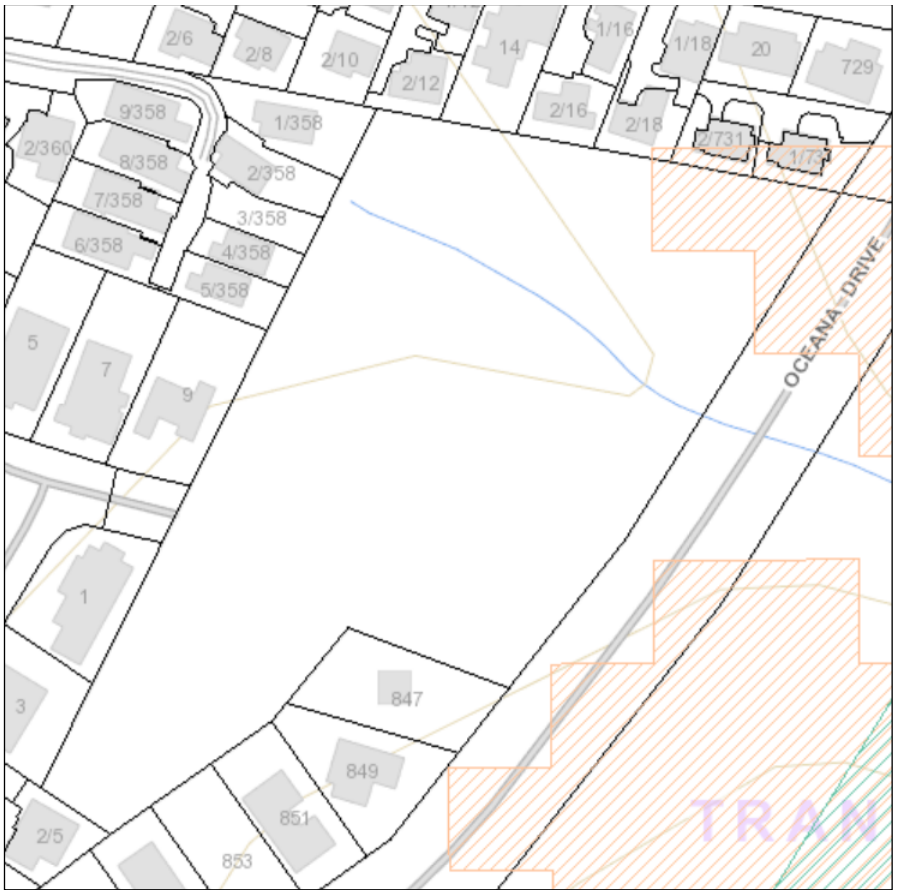


***Figure 8**: location of the Low hazard landslide areas on the subject property (Tasmanian Planning Scheme – Landslide Hazard Code: Clarence Local Provisions Schedule, 30/8/23)*

4.21 Pursuant to clause C15.4.1(e) development, including subdivision, on land within a low landslip hazard band, is exempt from application of the Code if it does not involve significant works.

4.22 None of the identified areas involve significant works as part of the subdivision. Future development will need to address relevant issues at that time. It is noted that development of adjoining land in Skala Road has taken place within the Low hazard landslide area, indicating the potential for the same to occur within the site.

4.23 C16.0 SAFEGUARDING OF AIRPORTS CODE

Purpose of the C16.0 Safeguarding of Airports Code

Under clause 16.1 of the planning scheme the purpose of the Safeguarding of Airports Code is stated as being:

> *C16.1.1 To safeguard the operation of airports from incompatible use or development.*
>
> *C16.1.2 To provide for use and development that is compatible with the operation of airports in accordance with the appropriate future airport noise exposure patterns and with safe air navigation for aircraft approaching and departing an airport.*

4.24 Whilst the entirety of the site is within the Safeguarding of Airports Code overlay, it is only affected by the Airport Obstacle Limitation Area and not the Airport Noise Exposure Area.

4.25 **Development standards for Subdivision under the Safeguarding of Airports Code**

<table>
<tr><th colspan="2">C16.7.1 Subdivision</th></tr>
<tr><td colspan="2">Objective:
To provide for subdivision:
(a) that allows for sensitive use to be suitably located to avoid exposure to excessive aircraft noise; and
(b) so that future development for sensitive use does not compromise the operation of airports.</td></tr>
<tr><td>Acceptable Solutions</td><td>Performance Criteria</td></tr>
<tr><td>A1
Each lot, or a lot proposed in a plan of subdivision, within an airport noise exposure area must be:
(a) be for the creation of separate lots for existing buildings;
(b) be required for public use by the Crown, a council or a State authority;
(c) be required for the provision of Utilities;
(d) be for the consolidation of lots;
(e) be for the creation of a lot that contains a building area not less than 10m x 15m entirely located outside of the airport noise exposure area; or
(f) not be intended for a sensitive use.</td><td>P1
Each lot, or a lot proposed in a plan of subdivision, within an airport noise exposure area must not create an opportunity for a sensitive use to be exposed to excessive aircraft noise, having regard to:
(a) the location, orientation and elevation of the site relative to aircraft flight paths;
(b) the current and future type and frequency of aircraft operating from the airport;
(c) the type of use and the operational requirements for the use;
(d) the layout and construction of buildings associated with the use;
(e) the need to not compromise the future operation of the airport;
(f) the requirements of any relevant airport master plan; and
(g) any advice from the airport operator or Airservices Australia.</td></tr>
<tr><td colspan="2">Compliance/justification
The criteria under A1 are taken to be disjunctive owing to the use of the word ‘or’ after criterion (e). Accordingly, only one criterion needs to be met in order to meet the Acceptable Solution.
The proposed new lots each contain 10m X 15m building envelopes outside of the are outside the airport noise exposure area.
The proposal therefore meets the Acceptable Solution A1.</td></tr>
</table>

5.0 PLANNING POLICIES

5.1 There are no specific strategic land use policies described in the planning scheme that act against the proposed subdivision. As stated above the key criteria for enabling subdivision within the General Residential Zone are met.

6.0 STATE POLICIES

6.1 Subdivision is permissible within the General Residential Zone subject to meeting the requirements of the *Tasmanian Planning Scheme – Clarence*. No rezoning is proposed and consequently the *State Coastal Policy 1996* has no work to do with this application.

6.2 No development or use is proposed that would raise an inconsistency with the *State Policy on Water Quality Management 1997.* Stormwater and on-site waste management are capable of being managed on-site.

6.3 The proposal does not involve prime or significant agricultural land. Consequently, it is not inconsistent with the principles of the *State Policy on the Protection of Agricultural Land 2009*

7.0 ABORIGINAL CULTURAL HERITAGE

7.1 The proposal does not include any development that risks impacting on places or items of aboriginal cultural significance.

8.0 ECOLOGY

8.1 No relevant standards or overriding conservation plans apply to the site.

9.0 PUBLIC OPEN SPACE

9.1 Following extended consultation with both Council and utility providers a footway (Lot 501) is proposed to be provided between Tranquil Place and Oceana Drive, to the south of Lot 126. This footway will be multi-functional, allowing for utility provision and pedestrian access.

9.2 In addition a 793m² extension to the Droughty Point Trail is proposed to be provided in the northeastern corner of the Balance Lot 201. Given the topography of the area, the provision of nearby foreshore reserves, the proposed Footway Lot 501, and indications from Council officers, this extension to the Droughty Point Trail is considered to be the most pragmatic and useful provision of POS for the proposed subdivision.

10.0 INFRASTRUCTURE REQUIREMENTS

10.1 There are no specific impositions on publicly funded infrastructure resulting from this proposal. Provision will be undertaken at the developer's cost.

11.0 NOMENCLATURE

11.1 The proposal is not of a scale that requires consideration of place names or local identity. The subdivision will be an extension of Tranquil Place.

12.0 CONCLUSION

12.1 The proposal is for subdivision of land within the General Residential Zone, creating a net 17 additional residential lots, roadway, public footway and Public Open Space.

12.2 It is considered to meet the quantitative and qualitative standards of the *Tasmanian Planning Scheme – Clarence.*

12.3 The proposal, allows for sustainable management of the existing land within the General Residential Zone, whilst also providing for improved management of natural hazard risk on both the subject site and adjoining land.

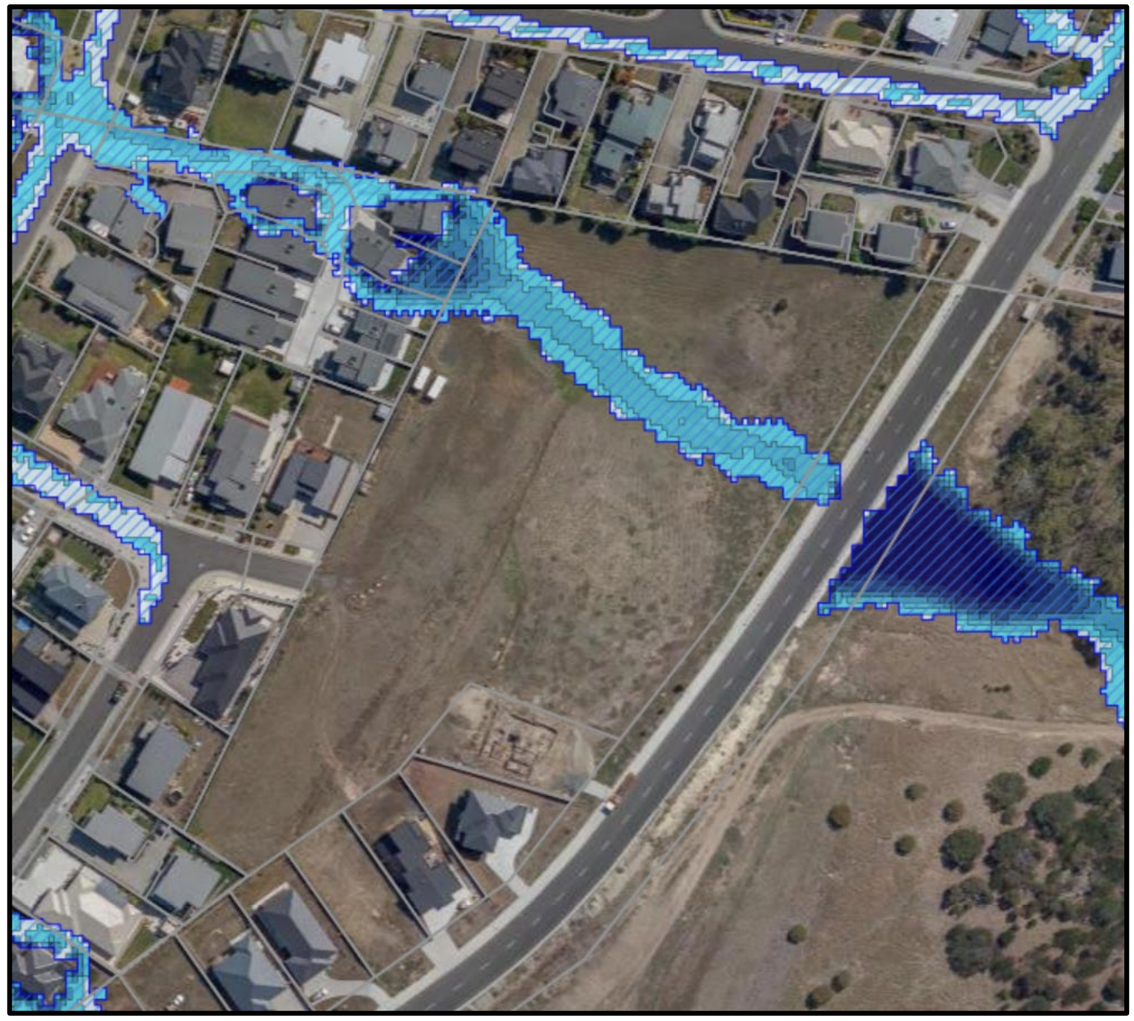
12.4 Council will have the opportunity to assess the appropriateness of individual use and development on the new lots if or when it occurs in the future. By itself the proposed subdivision will not create any conflicts or significant impacts, and represents a benign and sustainable development.

REFERENCES

- *AS/NZS1547:2012*
- Certificate of Title CT 183275/201
- DPIWE LISTmap 11/06/23
- DPIWE LISTmap 26/08/23
- Google Earth 26/08/23
- *Land Use Planning and Approvals Act 1993*

- LEARY & COX, Proposed Subdivision 312A Tranmere Road, 940310 Stage 10 Rev I, 15/1/24)
- *State Coastal Policy 1996*
- *State Policy on the Protection of Agricultural Land 2009*
- *State Policy on Water Quality Management 1997*
- *Tasmanian Planning Scheme – Clarence*
- WILSON, A. Stormwater and Flood Hazard Report 5/4/23

312A Tranmere Estate Flood Hazard and Stormwater Report



Version	Author	Model Notes	Date
V1	A.Wilson B.ENG Environmental		5/4/2023
V2	A.Wilson B.Eng Environmental	Updated for Clarence Council RFI request PDPLANPMTD-2023/038723 dated 29/09/23 Model updated with drainage channel moved fully into lot boundary easement. Images, graphs and report updated accordingly. Signature added. Recommendations updated as per Clarence Council RFI request.	18/12/2023
V2.1	A. Wilson B.Eng Environmental	Lot numbers updated to accord with updated plans.	23/02/24

This report has been completed in good faith with the information provided to Anna Wilson. 18/12/2023

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1 Purpose Of Report

The purpose of this report is to address the Preliminary Planning assessment for application PDPLIMPLN-2021/018511(A002) to provide a flood hazard report and stormwater assessment report for Stage 10 at 312A Tranmere Road, Tranmere

This report will consider the consequences of development pertaining to stormwater and flooding. It will consider how stormwater and flood risks will be managed through the development and provide management solutions to meet the requirements of the Clarence City Council Stormwater Management Procedure for New Development, the Tasmanian Planning Scheme and the Urban Drainage Act.

Specifically under the Stormwater Management Procedure for New Development this report ensure that stormwater runoff generated by new developments is of an acceptable quality, does not exacerbate flooding, can be accommodated by the council stormwater system, and will not adversely impact the future capacity of the system.

This report addresses Clarence Councils stormwater treatment requirements and provides recommendations for how they can be managed in this location.

This report should be read in conjunction with Stage 10 312A Tranmere Road plans.

2 Executive Summary

This report pertains to the area of 312A Tranmere Road Tranmere the west of Oceana Drive. A 17 lot subdivision has been proposed for this location accessing from Tranquil place as Stage 10.

This report addresses stormwater management for the proposed development and includes the flood report and the stormwater quality report for the site.

The proposed development lot is intercepted by an overland flow path that runs from an east to west through the development. On the east side the flow path is constricted by an existing 900mm dia concrete pipe under Oceana Drive. Clarence Council flood modelling shows that this pipe restricts flow in a 1% event and causes some build up of flow on the upstream side of the culvert.

The western outfall of the lot is into an area of unit development at 358 Corella St. There are a number of units in the direct flow path (although there is some space possibly allocated as a flow path) through these units. There is an existing 900mm dia culvert that takes the flow through to the ocean outfall. Clarence Council flood mapping – and our flood modelling shows that these units have an existing overland flow path through the units.

This report was undertaken on the assumption that the proposed development could not increase downstream flooding risk.

The modelling demonstrated that installing a culvert to connect the exiting 900mm culvert under Oceana Drive to the existing 900 dia culvert in Corella

Street and connecting the proposed development to this piped network significantly reduces the flooding to the downstream properties. This connection improves the hydraulic efficiency of the system thus reducing the overland flow able to flow into properties so downstream therefore flooding is significantly reduced. Adding detention in this scenario is not the recommended action for this development as;

1. the reduction in risk to downstream properties is managed by installation of the proposed pipe and;
2. detention low flows would be coincident with the highest flow rate from the upper catchment, increasing overall flood risk.

This report addresses the requirements for stormwater quality treatment and makes recommendations for treatment. However it would also be a preferable outcome to have the cost of treatment contributed to Council to enable Council to install appropriate treatment prior to the ocean outfall.

2.0 Report Recommendations

Recommendation Ref No.	*Area of interest*	Recommendation	Notes
1.	Major network	The 900 dia pipe be linked between the Oceana Dive culvert and the Carella Drive Culvert.	This line becomes part of the developments stormwater system. There is no open inlet grate at the Carella St culvert inlet.
2.	Major network	An overland flow path to large events to be created along the overland flow path, limiting total flow width to 5m wide and maximum 400mm deep. This flow path to be protected by a 5m wide easement.	The size of the overland flow path to be reduced through the cul de sac head. Cul de sac head to be designed to carry the required flow rate as per the attached plans.
3.	Major network	Cut off drains to be created at base of embankments to direct flows into the central overland flow path.	As per plans.
4.	Major network	4 small plaques be attached to the concrete turnouts to identify the flood risk to residents for the future and discourage any private construction blocking the flow path.	This option is recommended to ensure that the existence of the overland flow path is clear to future residents. Council may choose to not require this if they consider the existence of the easement sufficient. Please condition Councils preferred course of action.
5.	Major network	Council to require that the boundary fence between this development and 358 Carella St is made permeable for a 4m wide and 500mm high section within the easement.	Creating a permeable section of fence within the flow easement will ensure that the flow is directed into the safest location (the driveways) between the units at 358 Carella St.
6.	Major network	The developer provides this flood report as part of the purchase contract to land purchasers of lots 117, 118, 120 and 121.	If development occurs in flood prone area affected lots outside of the easement and development is less than that modelled as part of this report (60% impervious are per lot) then this flood report should apply to lots affected by the flood code. (The preferred outcome is that the flood code is amended once works are undertaken to reflect the topography and flood path changes established by the post development model and the works undertaken. The next option would be to attach this report to the property data and be available for use with any development on lots affected by the outdated flood overlay. Council will hold this report against the properties and make it available to future owners through a 337 or similar process, this will ensure unnecessary duplication of reporting is minimized.)
7.	Minor Network	The 5% network is accepted as designed.	The 5% network linking the Carella St culvert with the Oceana Drive culvert significantly reduces the existing overland flow in this event however some overland flow is still experienced. This is discussed further in section Minor Network Modelling Results and Recommendations
8.	Quality Targets	Council accepts $48 900 as a contribution to high priority treatment areas.	See: Stormwater Quality and Treatment

3 Flood Report – 312A Tranmere Rd Stage 10 Tranmere Estate development

3.0 Flood Hazard Report Requirements

A Flood Hazard Report, prepared in accordance with section C12.0 Flood Prone Areas Hazard Code must demonstrate the following:

Report to demonstrate that works

(a) Do not cause or contribute to flood on the site, on adjacent land or public infrastructure; and
(b) Can achieve and maintain a tolerable risk from a 1% annual exceedance probability flood event for the intended life of the use without requiring any flood protection measures.

Any specific hazard reduction or protection measure recommended in the report are to be incorporated in the engineering design drawings.

Code 12.0 Flood Prone Hazard Code.

The purpose of the Flood-Prone Areas Hazard Code is:

C12.1.1

To ensure that use or development subject to risk from flood is appropriately located and managed, so that:

(a) people, property and infrastructure are not exposed to an unacceptable level of risk;

(b) future costs associated with options for adaptation, protection, retreat or abandonment of property and infrastructure are minimised; and
(c) it does not increase the risk from flood to other land or public infrastructure.

C12.1.2

To preclude development on land that will unreasonably affect flood flow or be affected by permanent or periodic flood.

means a report prepared by a suitably qualified person for a site, that must include:

(a) details of, and be signed by, the person who prepared or verified the report;

(b) confirmation that the person has the appropriate qualifications and expertise;

(c) confirmation that the report has been prepared in accordance with any methodology specified by a State authority; and

(d) conclusions based on consideration of the proposed use or development:

(i) as to whether the use or development is likely to cause or contribute to the occurrence of flood on the site or on adjacent land;

(ii) as to whether the use or development can achieve and maintain a tolerable risk for the intended life of the use or development, having regard to:

a. the nature, intensity and duration of the use;

b. the type, form and duration of any development;

c. the likely change in the level of risk across the intended life of the use or development;

d. the ability to adapt to a change in the level of risk;

e. the ability to maintain access to utilities and services;

f. the need for flood reduction or protection measures beyond the boundary of the site;

g. any flood management plan in place for the site and/or adjacent land; and

h. any advice relating to the ongoing management of the use or development; and

(iii) any matter specifically required by Performance Criteria in this code.

3.1 Flood Report Requirements

This flood report has been prepared in accordance with requirements from the Clarence City Council Stormwater Management Procedures for New Development, the Tasmanian Planning Scheme, the Urban Drainage Act and the Tasmanian Stormwater Policy Guidance and Standards for Development.

Is the use or development is likely to cause or contribute to the occurrence of flood on the site or on adjacent land;

Flood modelling has demonstrated that the site and adjacent land downstream currently experiences overland flows. The developed flood model case study shows that the proposed development significantly reduces the incidences of flooding and minimises any existing flood risk compared to the undeveloped scenario.

and

Can the use or development can achieve and maintain a tolerable risk for the intended life of the use or development, having regard to:

a. the nature, intensity and duration of the use;

Yes. Following the flood modelling and recommendations of this flood report the development can achieve and maintain a tolerable risk of flood for residential use.

The development will not cause any dwellings to be constructed within the managed flood zone which will be protect by a stormwater easement.

The level of risk to surrounding land is reduced by the construction of this development thus the level of risk impacting on this development and surrounding properties is considered tolerable for the life of the development.

b. the type, form and duration of any development;

Yes. The development can achieve and maintain a tolerable risk of flood for the life of the development given the form that has been recommended in this report and associated plans. The recommendations provided will not only mitigate risk now but will reduce the risks of private works impacting upon future flood risk.

The form of overland flow path recommended is designed to ensure ongoing maintenance is straight forward for property owners with the swale being minimal depth and the batters being of a mowable grade. This, along with permanent signage on the kerbs outside the affected lots, and the protection of easement over the overland flow path ensure the most likely ongoing maintenance compliance.

And

c. the likely change in the level of risk across the intended life of the use or development;

The level of risk will be consistent across the life of the development. Increases in impermeable areas within the development will have minimal impact on the modelled flow rates.

Future upstream development will slight increase the impact of flooding in this location. This will not impact on the development as the flow rate is currently restricted by the Oceana Drive culvert.

Upstream development will therefore not increase the flow rate through the development, it will only extend the duration of the flow peak providing no greater risk to residents. A flood management report and recommendations will be required for any upstream development.

Climate change increases have been factored into the model at the RCP 8.5 rate. If the climate change factor changes in the future a factor of safety is built into the system by allowing space within the easement and swale to undertake works to create greater capacity in the overland flow path if required.

d. the ability to adapt to a change in the level of risk

The 5m wide easement provides some ability to adapt to future flow rates. If flow rates under climate change scenarios change significantly from what has been modelled the overland flow path has the ability to be deepened to allow for greater flow volumes.

e. the ability to maintain access to utilities and services

There are no utilities or services in this location that will be impacted by flood. Access to the overland flow path and stormwater drains are protected by a proposed easement.

f. the need for flood reduction or protection measures beyond the boundary of the site;

This development does not create a need for flood reduction or protection measures beyond the site boundary.

g. any flood management plan in place for the site and/or adjacent land; and

The flood management recommendations for this development reduce the existing flood risk to downstream properties. The adjacent properties currently experience overland flow in large events according to our model and the Clarence Council flood model. The amount of flow and depth of flow through these properties is reduced by the proposed works. Neighbouring properties will still experience overland flow in large events but the scale of the risk is reduced under the proposed development scenario.

h. any advice relating to the ongoing management of the use or development

Ongoing management recommendations for this development is for Council to ensure the flood easement is kept clear of significant blockages and to replace the plaque on the kerb if it goes missing.

3.3 Development Standards for Subdivisions.

This section addresses the Tasmanian Planning Scheme – State Planning Provisions C7.7and C12.7 Development standards for Subdivision as it pertains to the proposed development.

C7.7

C7.7.1 Development Standards for Subdivision within a waterway and coastal protection area		
Objective		
That: (a) Works associated with subdivision within a waterway and coastal protection area or a future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets; and (b) Future development likely to be facilitated by subdivision is unlikely to lead to an unnecessary or unacceptable impact on natural assets.		
Acceptable Solutions		
A1 Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area or a future coastal refugia area, must: [one of these needs to be met]		
(a)	Be for the creation of separate lots for existing buildings	Not applicable
(b)	Be required for public use by the Crown, a council, or a State authority	Not applicable.
(c)	Be required for the provision of Utilities	Not applicable
(d)	Be for the consolidation of a lot.	Not applicable
(e)	Not include any works (excluding boundary fencing), building area, services, bushfire hazard management area or vehicular access within a waterway and coastal protection area or future coastal refugia area.	Not applicable
The development does not meet the acceptable solution A1 for clause C7.7.1		
Performance Criteria		
P1 Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area (WCPA) or a future coastal refugia area, must minimise adverse impacts on natural assets, having regard to:		
(a)	The need to locate building areas and any associated bushfire hazard management area to be outside a waterway and coastal protection area or a future coastal refugia area. and	In this location the WCPA is disturbed at both ends of the short reach through the development and is entirely a rainfall triggered flow path on grass. The WCPA zone contains no waterway values, riparian environment or natural assets. Given the interrupted connections upstream and downstream attempting to create a thriving riparian environment within the WCPA is not possible in

		this location. The development has minimal impact on natural assets due to the lack of natural assets in this location thus in this case the land will serve the community more effectively as housing lots.
(b)	Future development likely to be facilitated by the subdivision.	The proposed works will allow an extra 7 lots to be created that would otherwise have access restricted by the WCPA. If protected this area would form a small island of waterway zone surrounded by development and unable to effectively link with either the upstream waterway functions or downstream as an environmental link to the ocean outfall. Flora, fauna and riparian development would be permanently stunted by the upstream and downstream limitations on the site and its small footprint. Climate change and upstream development have been factored into the modelled flood extent..
The proposed development can meet the P1 performance criteria for clause C7.7.1		

C12.7

C12.7.1 Subdivision within a flood prone hazard area		
Objective		
That subdivision within a flood-prone hazard area does not create an opportunity for use or development that cannot achieve a tolerable risk from flood.		
Acceptable Solutions		
A1 Each lot, or a lot proposed in a plan of subdivision, within a flood-prone hazard area, must:		
(a)	be able to contain a building area, vehicle access, and services, that are wholly located outside a flood-prone hazard area;	Not applicable
(b)	be for the creation of separate lots for existing buildings;	Not applicable.
(c)	be required for public use by the Crown, a council or a State authority; or	Not applicable
(d)	be required for the provision of Utilities,	Not applicable
The development does not meet the acceptable solution A1 for clause C12.7.1		

Performance Criteria		
P1 Each lot, or a lot proposed in a plan of subdivision, within a flood-prone hazard area, must not create an opportunity for use or development that cannot achieve a tolerable risk from flood, having regard to:		
(a)	any increase in risk from flood for adjacent land;	Modelling has demonstrated that the proposed works decrease the risk to surrounding properties from flood.
(b)	the level of risk to use or development arising from an increased reliance on public infrastructure; the need to minimise future remediation works; any loss or substantial compromise by flood of access to the lot, on or off site; the need to locate building areas outside the flood-prone hazard area; any advice from a State authority, regulated entity or a council; and the advice contained in a flood hazard report.	Each lot has achieved a building area and vehicle access outside of the modelled flood-prone hazard area. Lots 120, 117 and 118 have building zones and /or accesses within the existing flood zone however modelling has shown that the proposed flood management works relocate the flood risk zone away from the building zones and into a managed swale drain. The works and modelled flood zone leave adequate space on each lot for a building zone and access. The proposed works are straightforward and unlikely to require significant ongoing maintenance to be effective.

		The level of risk to proposed lots has been minimized to a tolerable extent.
The development does meet the acceptable solution A1 for clause C12.7.1		

4 Assessment Approach

The RFI criteria has been assessed utilising Infoworks ICM a 1D -2D hydraulic model to asses the hydraulic ramifications of development on the site and by using stormupdated JohnConnor software to assess the stormwater quality. Pre and post development hydraulic models have been created to quantify the differences and provide practical solutions. These have been incorporated in the development design.

Both models assume full development of the site but do not consider future upstream development as the impact of upstream development is throttled by the Oceana Drive culvert.

Both models consider upstream catchment areas, the downstream network and climate change at ARR recommended rates for the zone (16.2%).

Detailed analysis of all models was undertaken to provide recommendations.

5 Existing Site and Catchment Detail

5.0 Site Detail

The site is a greenfield site surrounded on the west north and south by development and on the east by Oceana Drive. The eastern side contains the Oceana Drive road embankment and the 900mm dia outfall from under Oceana Drive.

The site is intersected by the overland flow paths from this outfall flowing east to west and ending at a headwall on the western boundary into a 900mm dia pipe connected to the stormwater network.

The site is bisected by the waterway and coastal protection overlay as shown in the image below and by the flood overlay, both of which overlay the existing flow path. The flood overlay has been generated by Clarence Council flood modelling.

The existing flow path is ephemeral and is disconnected from natural stream values. It is entirely undergrounded both upstream by the Oceana Drive embankment and downstream by the unit development at 358 Carella St.

Figure 1 Development site – showing the waterway and coastal protection area, the flood code overlays and the existing 900mm culverts. LISTMap.

5.1 Pre Development Catchment Details

The site is a greenfield grassed site generally falling to the central drainage line.

Tranmere Predeveloped Details				
Area ha	1.59	ha	15900	m2
Top elevation m	29	m		
Base elevation m	14.5	m		
Flow path distance m	137	m		
Grade m/m	0.106	m/m	10.58	%
Existing condition	grass 100% impervious		15900	m2
Mannings n grass	0.035			

Table 1 Catchment details

The predevelopment main area of interest is the flow path bisecting the lot. Predevelopment this flow path, as shown in the Clarence Council flood model results, has three conditions to consider:

1. Upstream constriction. The flow coming into the development is limited by the upstream constriction of the drainage channel by the 900 dia culvert under the highway. This culvert and associated road embankment constrict flow and provide some unintentional upstream detention.
2. Overland flow path through centre of site
3. Culvert inlet at northwest corner of site and overland flow path downstream of site.

The implication of these three conditions will be examined throughout the report.

5.2 Geology

The predominant soil on the site and in the catchment is Kurosol - light brown in the below image.

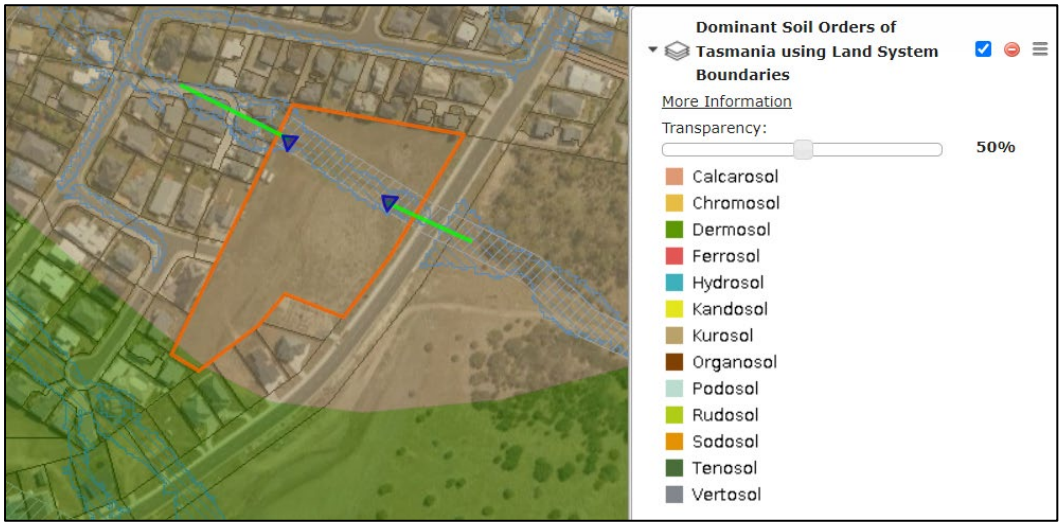

Figure 2 Dominant Soil Orders of Tasmania using Land System Boundaries. Source LISTMap.

Using the unpublished Hydrologic Soils Group Mapping Tasmania document (Kidd, 2019) these soils are classed as:

Soil Type	Great Soil Group	Hydrologic Group Class	Stormwater design parameters
Kurdosol (light in image)	Many podzolic soils and soloths	D	For stormwater design purposes, it is assumed that the Antecedent Moisture Condition is "Rather wet" (refer to ARR 2016, Table 5.3.11) and the Horton Maximum (Initial) Infiltration Rate is **33.7 mm/hr**, the Minimum (Final) Infiltration Rate is **6 mm/hr** and the Shape Factor/Decay Rate k is 2 /hour (refer ARR 2016, Table 5.3.12).

Table 2 Soils classification - Hydrologic Soils Mapping Tasmania (Kidd, 2019).

5.3 Clarence Council Stormwater Management and Flood Modelling Results.

This area is noted in the Clarence City Council Tranmere Stormwater System Management Plan October 2019 (Engeny , 2019) as a “hotspot”.

5.2.7 Hotspot 7 - Carella Street near Skala Road

Hotspot 7 consists of properties on Carella Street and Tranmere Road near Skala Road as shown in Figure 5.9. The properties are affected by flood hazard of up to H4 (*Unsafe for vehicles and people*). It is noted that the development of 358 Carella Street occurred after the capture date of the LiDAR data. This means that any earthworks associated with the development that may affect the flow path have not been incorporated into the hydraulic model.

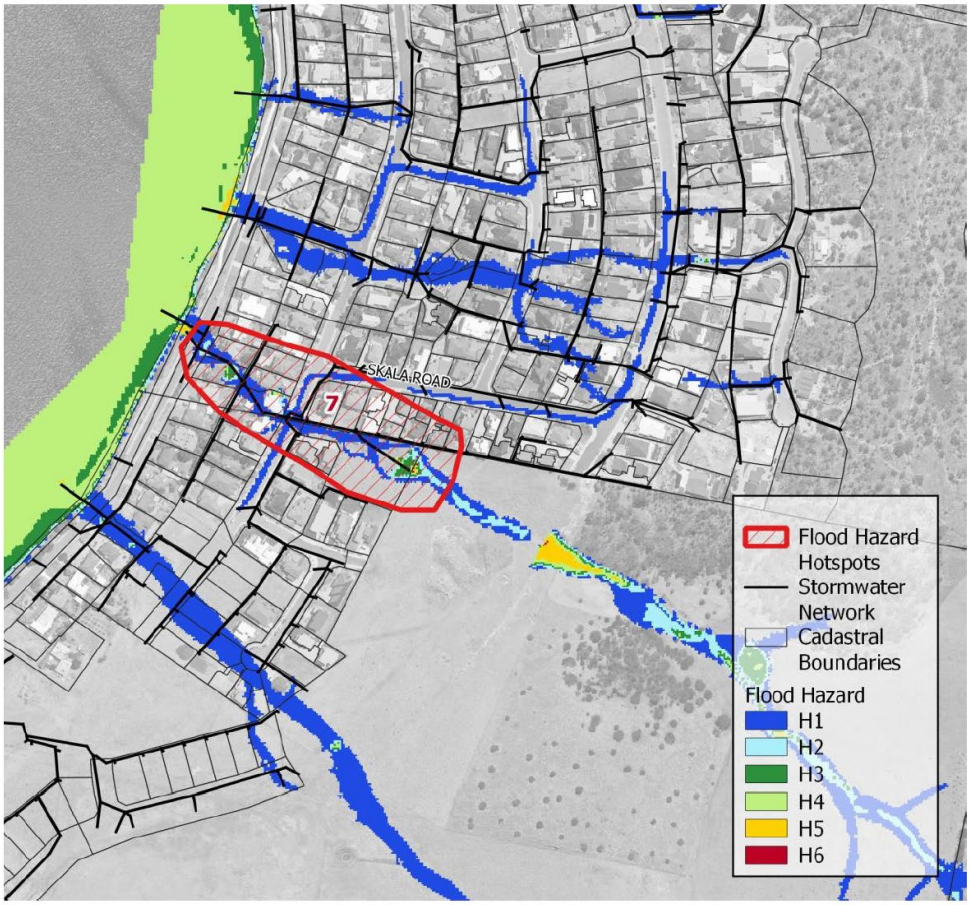

Figure 5.9 Flood Hazard Hotspot 7

Figure 3 Engeny Stormwater System Management Plan Hotspot 7 details

The report has associated recommendations for management:

8.8 Hotspot 7 - Carella Street near Skala Road

8.8.1 Identification of Potential Management Options

One (1) potential management option has been identified for Hotspot 7 as shown in Figure 8.8.

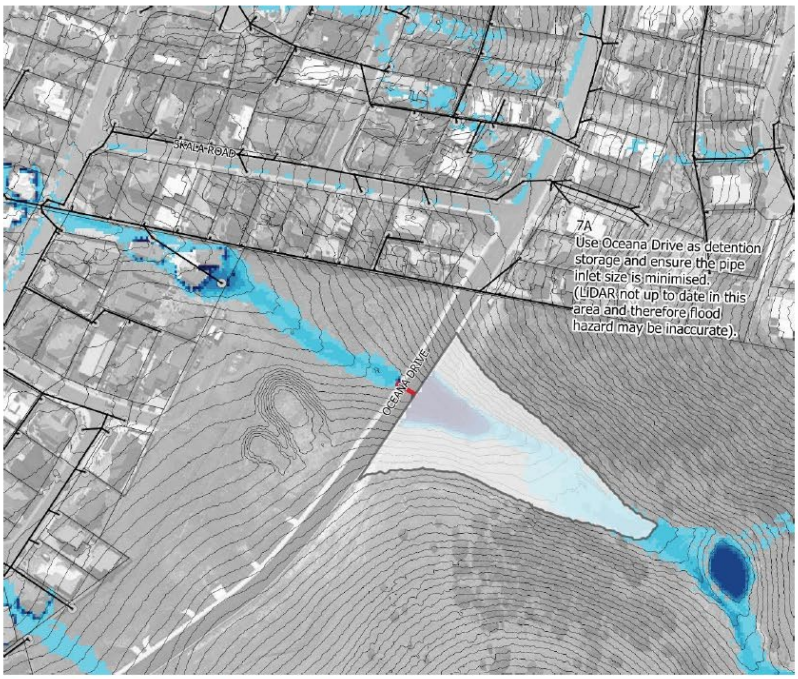

Figure 8.8 Hotspot 7 Potential Management Options

8.8.2 Evaluation of Potential Management Options

Option 7A

Option 7A consists of using the Oceana Drive road embankment as detention storage to protect properties on Carella Street. The diameters of the pipes under Ocean Drive and under 358 Carella Street are both currently 900 mm. The Oceana Drive pipe under hydraulic head (due to upstream storage) can result in peak flows exceeding the capacity of the downstream pipe. A reduction in the inlet diameter upstream of Oceana Drive (e.g. orifice plate) will attenuate peak flows to be conveyed by the downstream pipe.

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TRANMERE STORMWATER SYSTEM MANAGEMENT PLAN
ENGENY WATER MANAGEMENT

It is recommended that the Hotspot 7 drainage system is further investigated at a later stage when updated topography information is available for the key affected properties.

Figure 4 Engeny Stormwater System Management Plan Fig 8.8 Hotspot management option 7A

This report shows that there is some concerning overland flow through the Carella St properties. Whilst the report states that the Lidar was captured prior to the development of the units at 358 Carella St it appears that the flow is diverted by the units so it appears as though the Lidar is consistent with the aerial photography and the current situation.

The recommendation is to limit the flows downstream by the use of the Oceana Drive culvert and embankment as a detention basin.

Note on recommendation Option 7A:

This stormwater and flood report has identified that whilst the flow through the Oceana Drive culvert is under head and therefore exceeds the capacity of the Carella Drive culvert, the issue that more signifcantly affects the amount of overland flow through Carella Drive and downstream to the ocean is the inlet capacity of the Carella Drive Culvert. The inlet arrangements will never capture the full flow once the stormwater is out of the culvert environment and will be inefficient at returning the water flows into the system at the same rates. This causes water to overflow around the inlet and overflow through downstream properties.

6 Flood Model Results

The flood model has been developed to compare and assess the predevelopment and post development results impacts. The impacts have been assessed for the major network / overland flow impacts for a 1% plus climate change event and the impacts in a 5% plus climate change event on the minor network and any overland for that may occur in this event.

Flow rates and depths of flow were assessed as was flood hazard.

Hazard was modelled using the Australian Disaster Resilience Handbook Collection Flood Hazard Guideline (Australian Institue for Disaster Resilience, 2017) as depth * velocity and the results plotted against the flood hazard curve colours for the maximum flow in the critical 1% event.

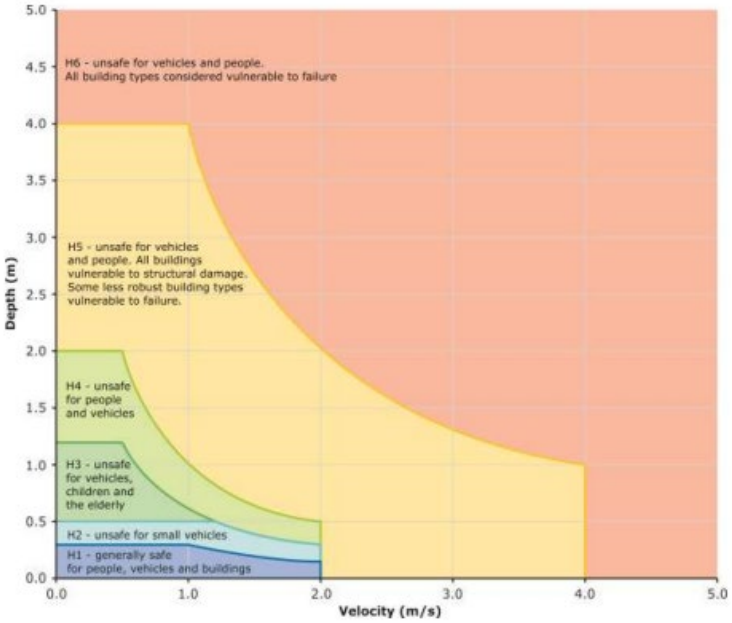


Figure 5 General flood hazard vulnerability curves from the Australian Institute for Disaster Resilience 2017.

6.0 Predevelopment Results and Impacts

The existing 1% plus climate change (cc) flood risk has been modelled in the Clarence Council Tranmere Stormwater Management Plan 2019 by Engeny.

This model shows flows going overland downstream from 312A Tranmere Drive and is consistent with our model. The critical event at this location is a 6hr flood event. SST 1%_6hr_2 was the event selected through the ensemble modelling as the critical event. The depths show between the two models, our ICM model and the Engeny report indicate good correlation for the flood map.

Clearly in an undeveloped scenario there are two areas of concern.

1. The site itself is impacted by the overland flow path as shown here and in the flood code overlay.
2. Downstream properties are impacted. Overland flow impacts extend to the ocean outfall.

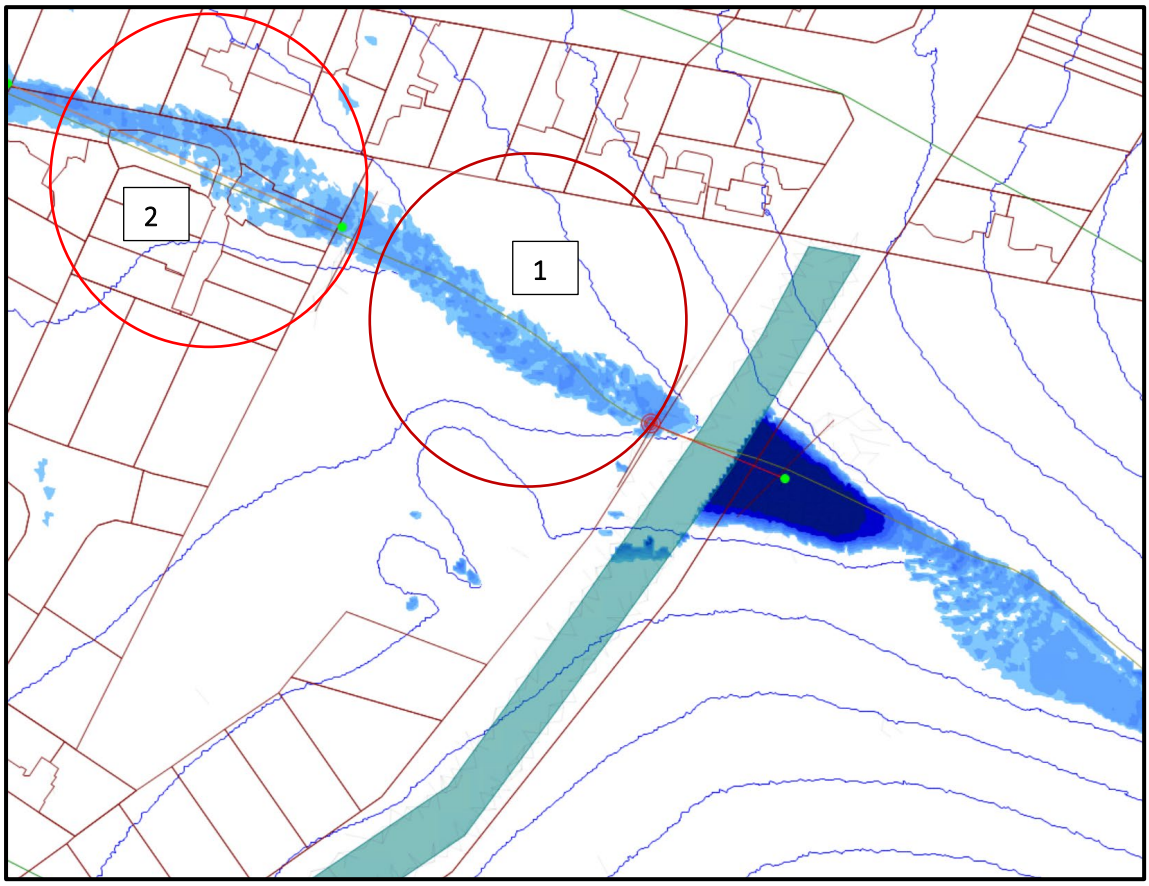


Figure 6 1% 6hr undeveloped ICM model results using Clarence Council depths over the ground model.

8.8 Hotspot 7 - Carella Street near Skala Road

8.8.1 Identification of Potential Management Options

One (1) potential management option has been identified for Hotspot 7 as shown in Figure 8.8.

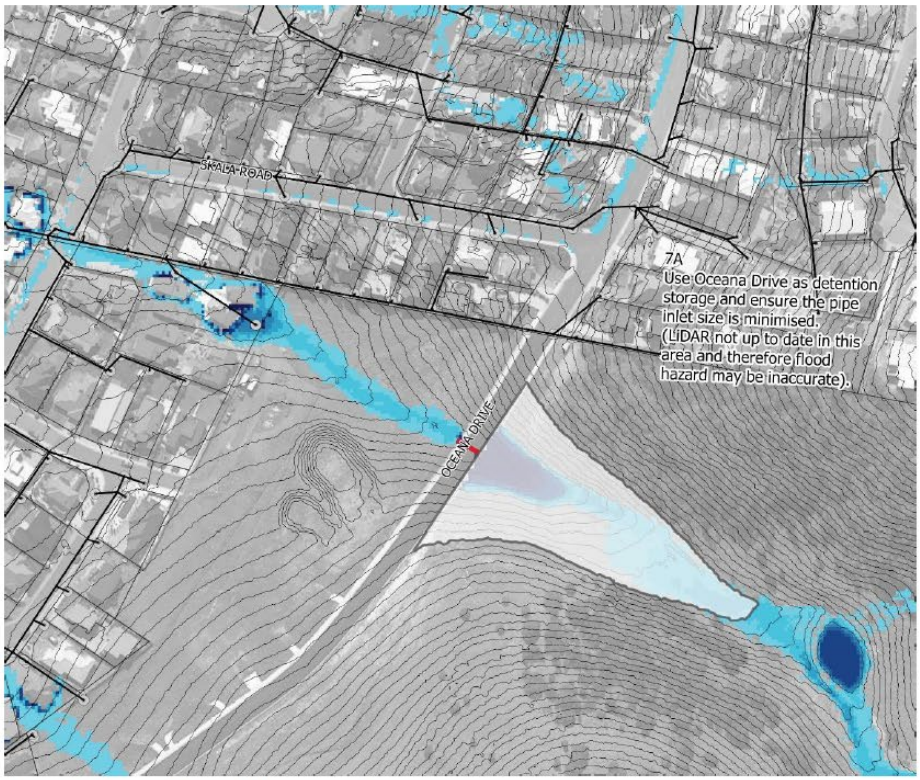


Figure 8.8 Hotspot 7 Potential Management Options

8.8.2 Evaluation of Potential Management Options

Option 7A

Option 7A consists of using the Oceana Drive road embankment as detention storage to protect properties on Carella Street. The diameters of the pipes under Ocean Drive and under 358 Carella Street are both currently 900 mm. The Oceana Drive pipe under hydraulic head (due to upstream storage) can result in peak flows exceeding the capacity of the downstream pipe. A reduction in the inlet diameter upstream of Oceana Drive (e.g. orifice plate) will attenuate peak flows to be conveyed by the downstream pipe.

Figure 7 Engeny 1% Flood model for comparison with our model results.

Flow rates for the model have been calculated using a 2D results line at the outfall of the lot as shown below highlighted in red.

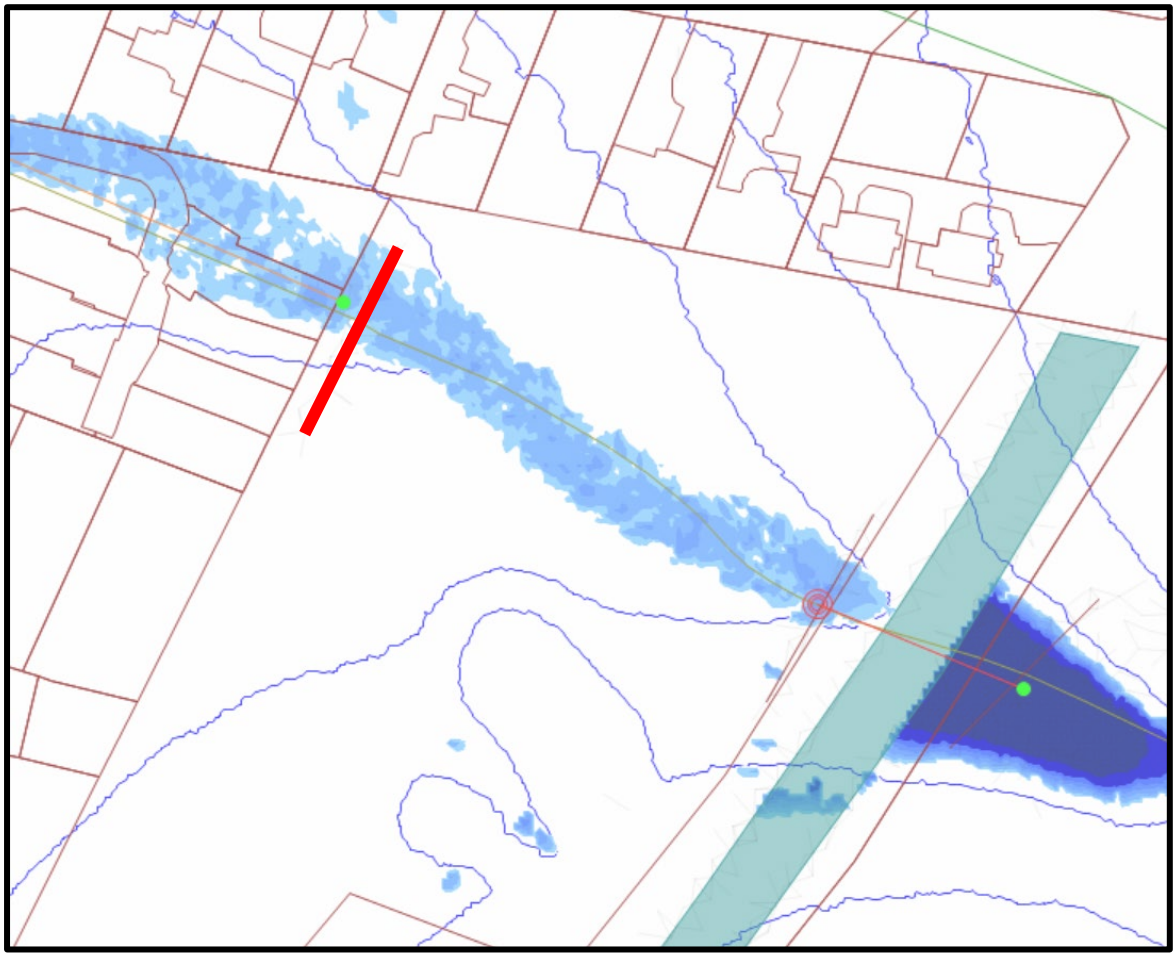


Figure 8 1% 6hr results showing location of 2D results line. – ground model view.

For clarity of analysis the results have been further analysed using a depth colour gradient that more clearly defines the depths and highlights the threshold of > 0.5m as this is a helpful metric when assessing against flood hazard curves. The 2d zone view incorporating the triangle elements over the ground model view used in the above images is used throughout this report from here onwards.

These results demonstrate that the undeveloped results through the site sit between 0.05m depth and 0.5m depth.

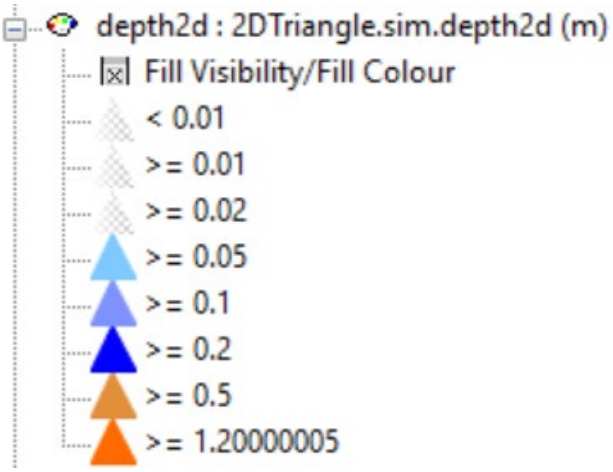


Figure 9 Depth threshold key.

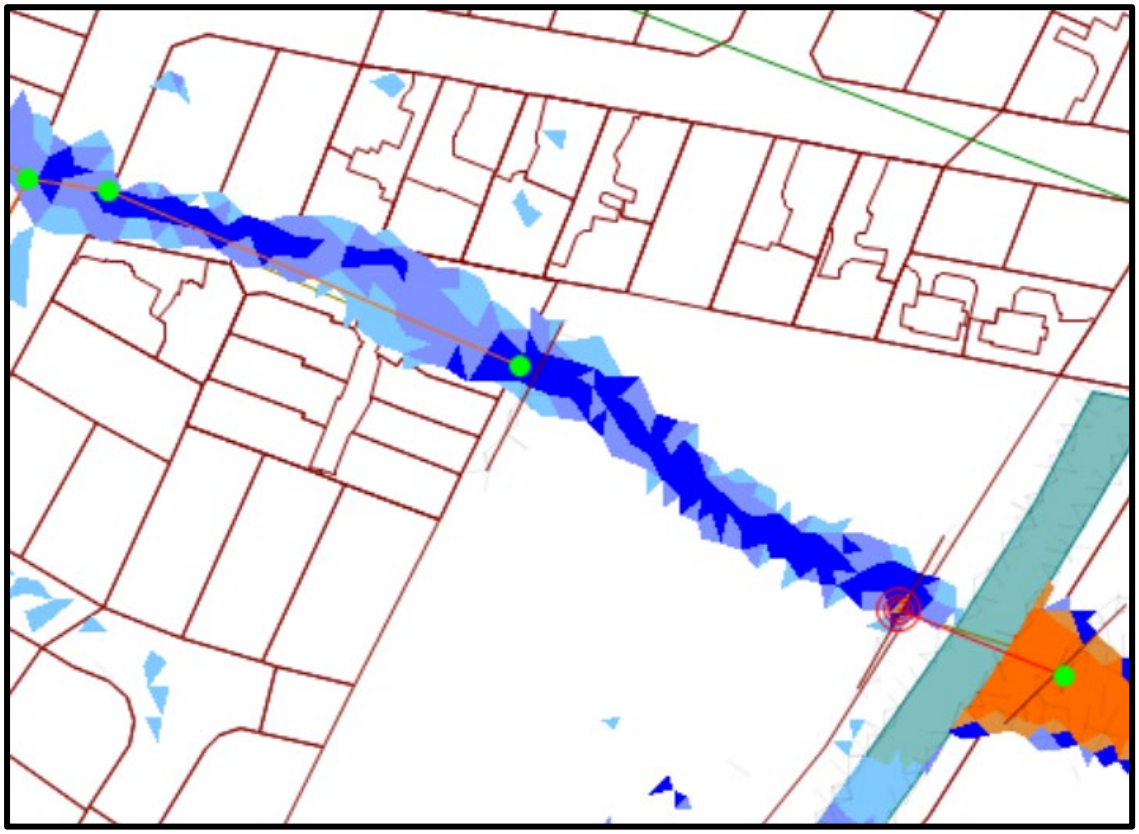


Figure 10 1% 6hr undeveloped results using 2d zone view and graduated depth thresholds.

An ensemble analysis was run which identified the 6hr event as the critical event for the 2D results line location.

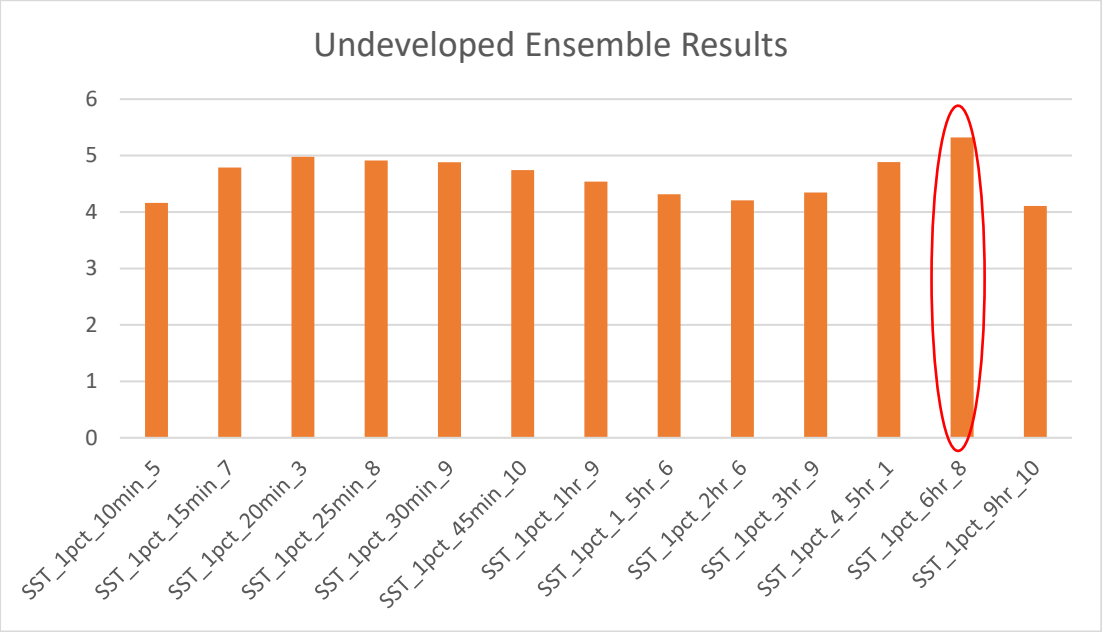


Figure 11 Tranmere Estate Undeveloped Ensemble Results

The flow rates for the 6hr critical event are:

Scenario	*Max Flow Rate (m3/s)*	*Total Flow Volume (m3)*	*Max Depth of Flow (m)*
Undeveloped Base scenario	5.23 m3/s	29 525 m3	0.34m

Table 3 Undeveloped Max Flow Rates 1% 6hr event

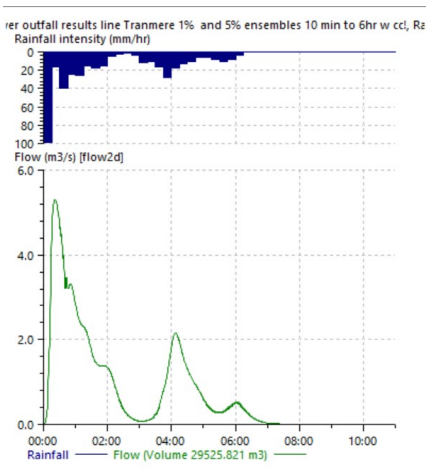


*Figure 12 Graph of flow **rates** at outfall model.*

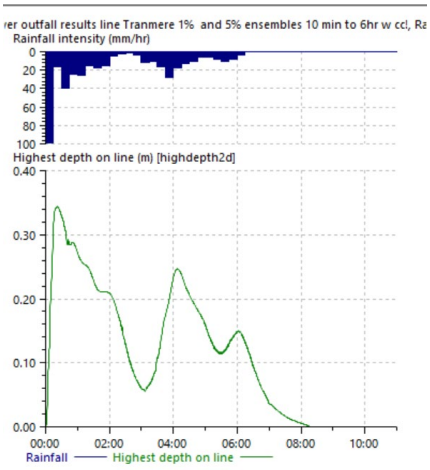


*Figure 13 Graph of flow **depth** at outfall 2D results line for 1% 6hr undeveloped*

6.1 Post Development Results and Impacts

The fully developed critical event continues to be a 6hr event. Subcatchments for each lot representing all impervious areas including roofs and driveways have been included and connected to the stormwater system. The runoff volume from these subcatchmets was verified against a straight roof runoff calculation. The proposed stormwater network was added including the 900mm dia link pipe between the existing Oceana Drive culvert and the existing downstream inlet.

The model was rerun with an additional overland flow path designed into the system. The three results – no development, full development and full development with defined overland flow path are analysed to provide recommendations.

Note that the reduction in flow rates between the developed and undeveloped scenarios was consistent across timeframes within the ensembles analysis as shown in the graph below of ensemble results.

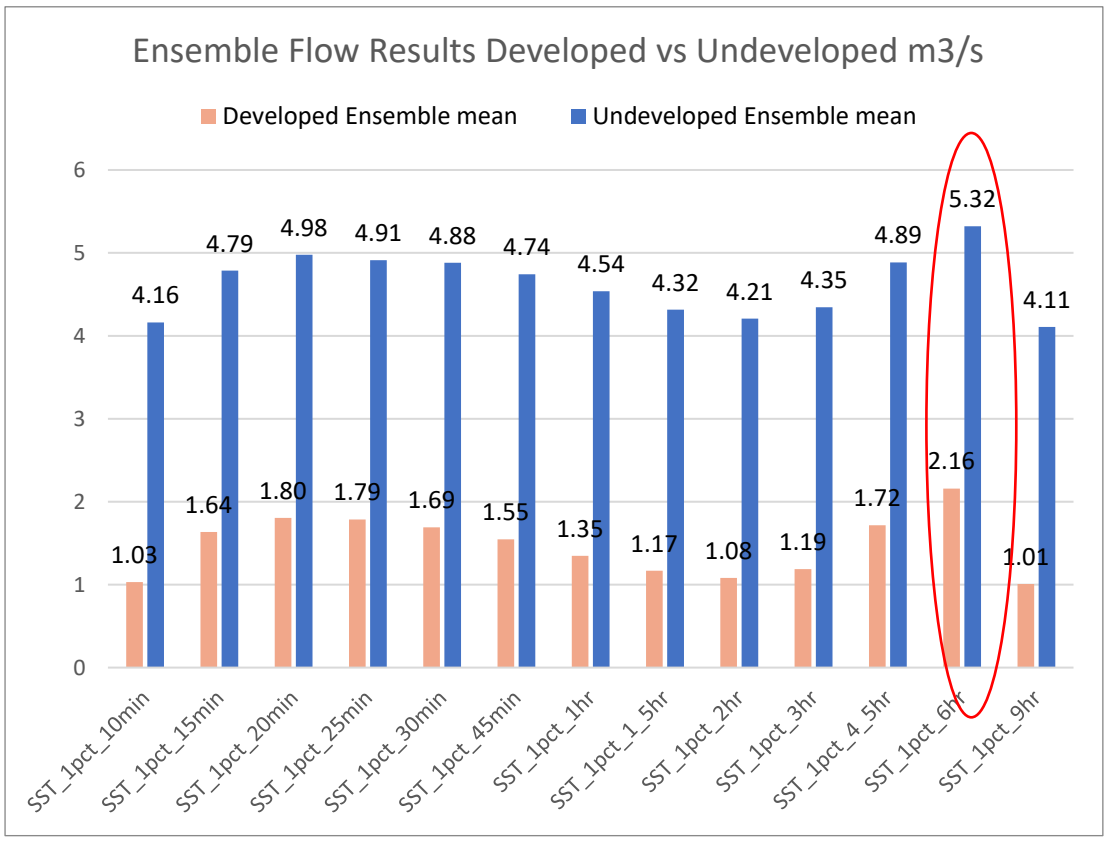


Figure 14 Graph of the ensemble analysis of undeveloped vs developed scenarios. Selected maximum event (6hr) used in ongoing analysis highlighted.

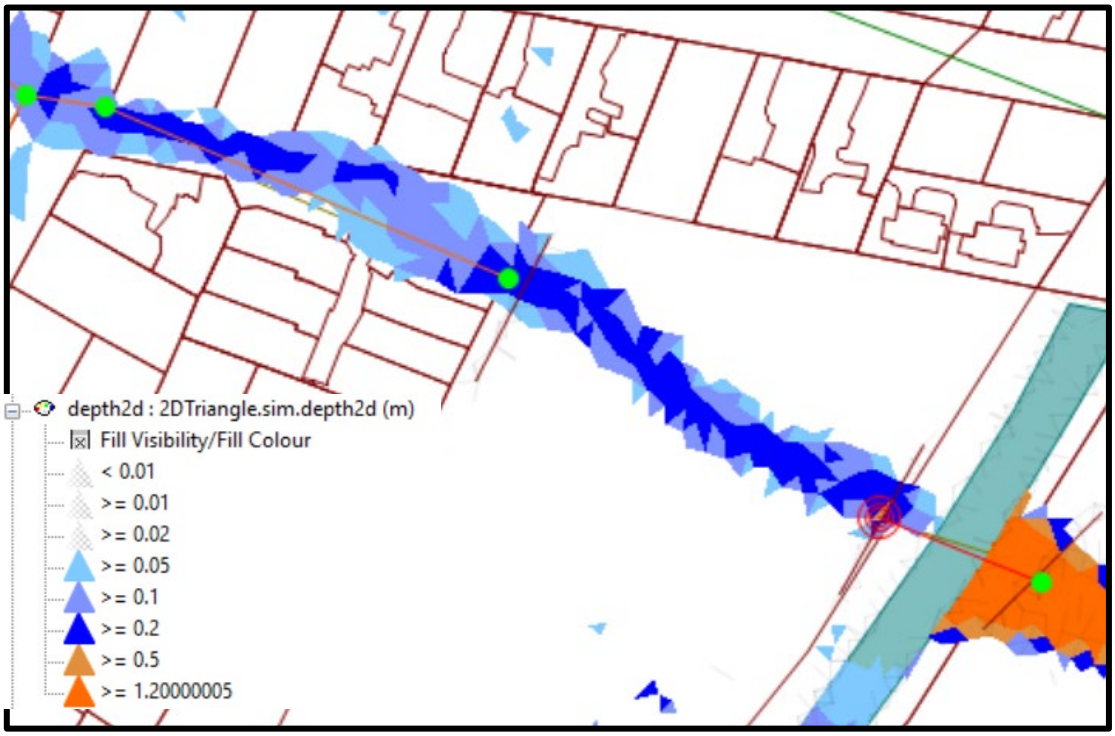


Figure 15 1% 6hr Undeveloped results showing unmanaged overland flow.

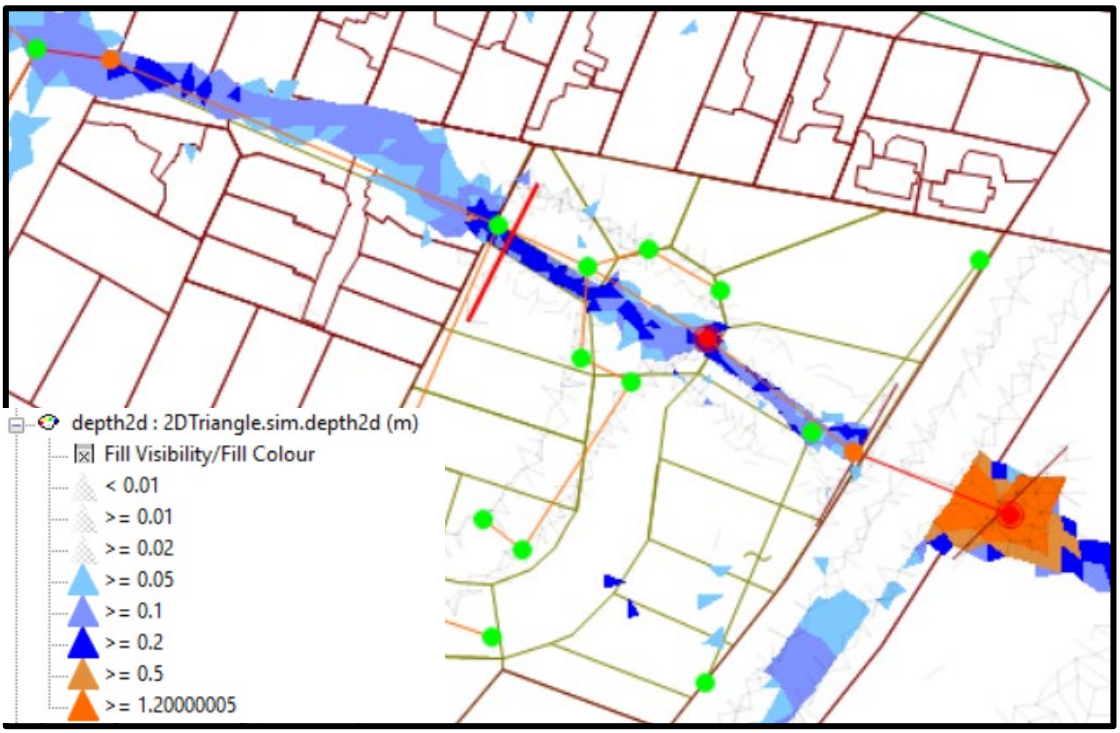
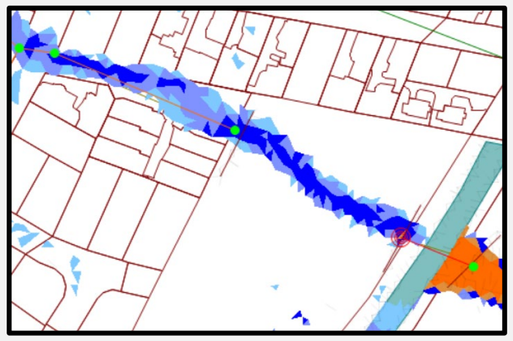
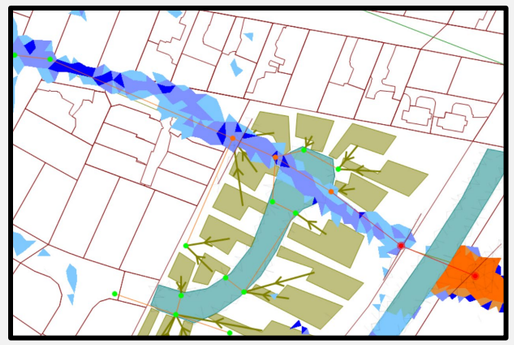
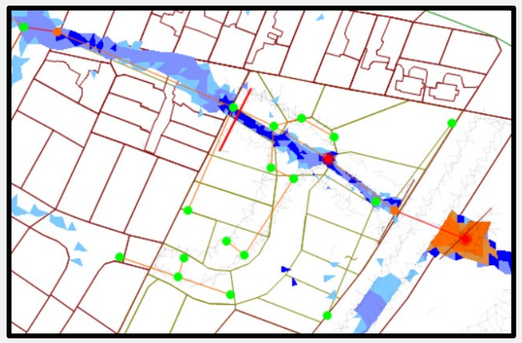
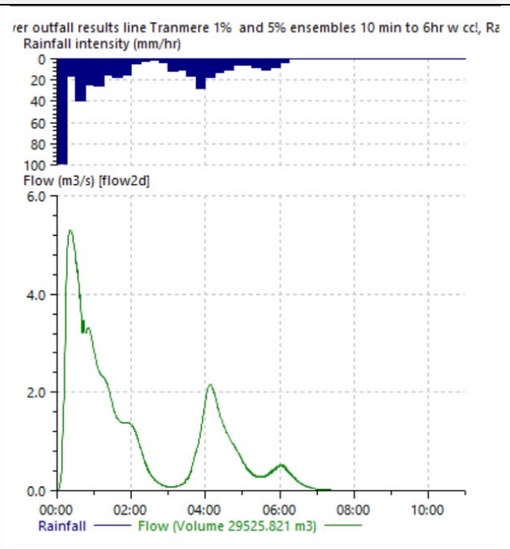
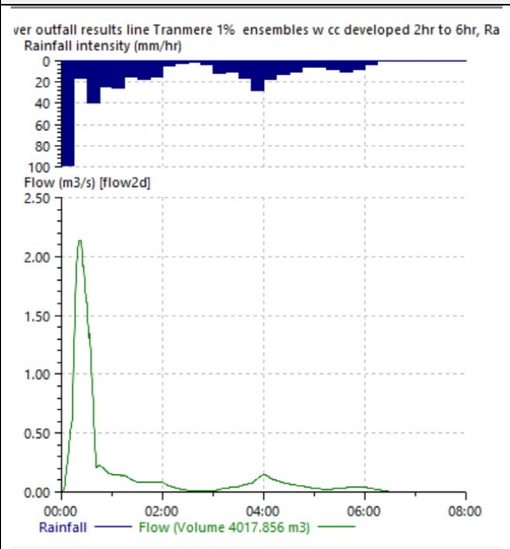
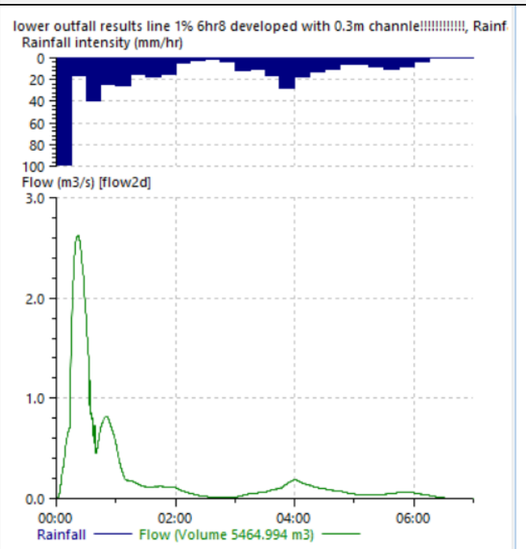
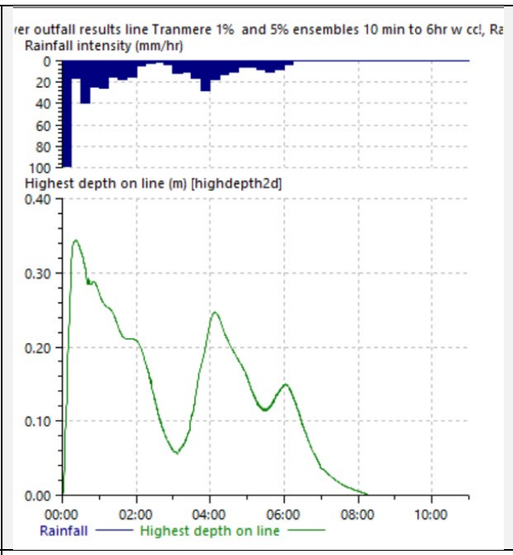
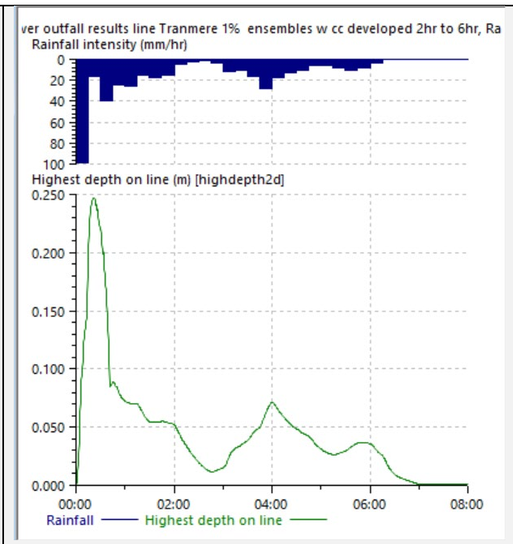
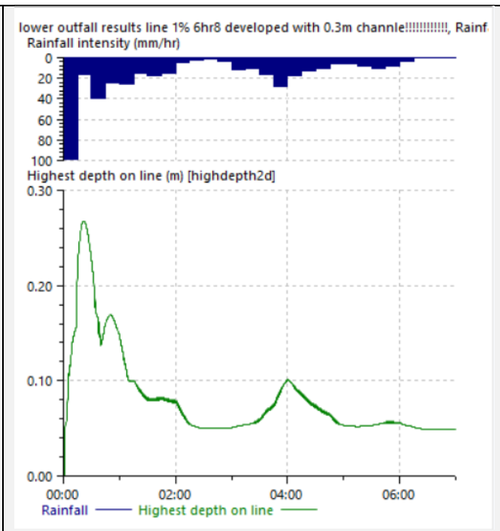
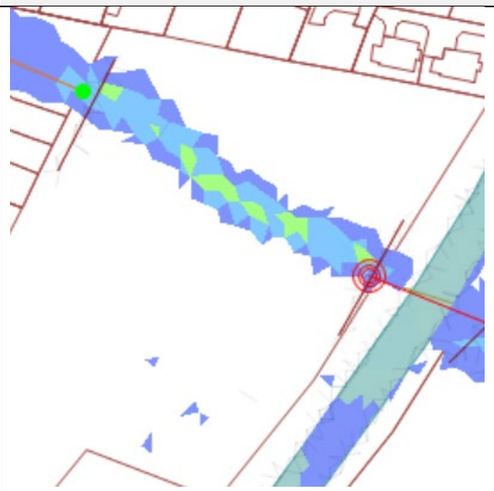
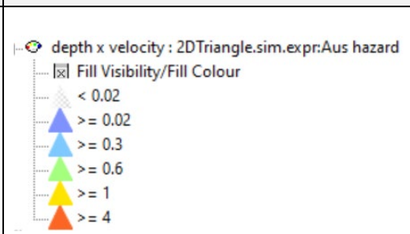
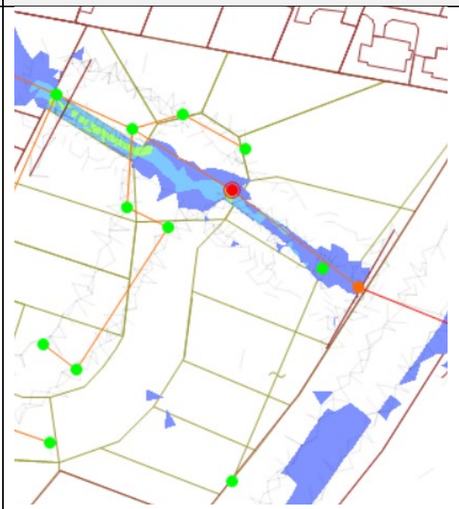


Figure 16 1% 6hr Fully developed overland flow results with defined channel

6.1.1.1.1 1% Event Model Results Analysis

	Undeveloped	Full development	Full development with overland flow channel	Notes
1% 6hr Peak Flow Results	 SST 1% 6hr 8	 SST 1% 6hr 8 (showing indicative lot catchments)	 SST 1% 6hr 8 (indicative lot catchments hidden for clarity)	It is evident that the developed results reduce the depth of overland flow and contain greater flows within the piped network. Constraining the remaining flows in a swale then further limits the impact of the overland flow without unduly increasing depths.
Flow Rates at outfall				These graphs show that the total overland flow rate is more than halved by the development and the total volume of overland flow is reduced by a factor of 10. Note that diverting this volume of water away from the overland flow path will significantly reduce all flooding shown downstream in the Clarence Tranmere flood model. Whilst some of this flow may escape under extreme events further downstream the flow is still far more contained than in the scenario where there is nearly 30 000 m3 flowing overland downstream.
Max Flow Rate	5.23 m3/s	2.09 m3/s	2.61 m3/s	
Total Overland Flow	29 525 m3	4017 m3	5464 m3	

Graph of depth at outfall				The depth graphs and data show that the maximum flow depth at the outfall is reduced by the development. Containing the flow in a channel then returns the maximum flow depth to approximately pre development depths but with significantly less flow. The further benefit of containing the flow in a channel is it can be diirected to the safest area in the downstream lot. The reduction in width of flow area then ensures that the most effective development footprint may be utilised whilst continuing to provide adequate flow paths.
Highest Depth at Outfall	0.35 m	0.25 m	0.27 m	
Width of inundation > 5cm at outfall	20.6m	14.6m	4.8 m	
Flood Hazard in lot D x V (m2/s)				Again these images show that the hazard through the site - specifically the area of H3 and H4 hazard (combined in green) is reduced and contained through the site.
Flood Hazard				These images have been included to show the

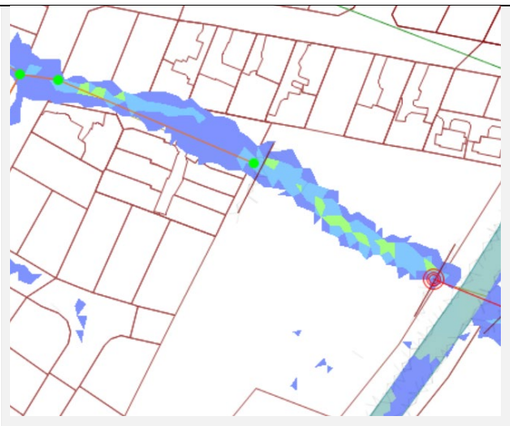
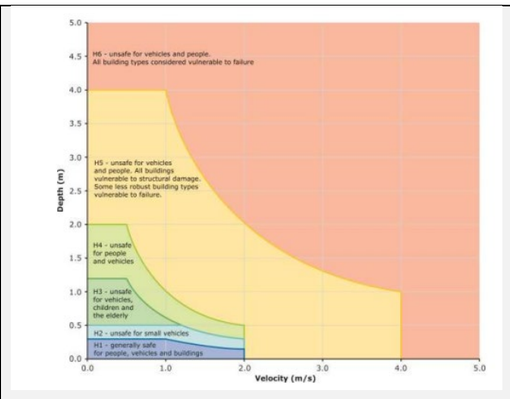
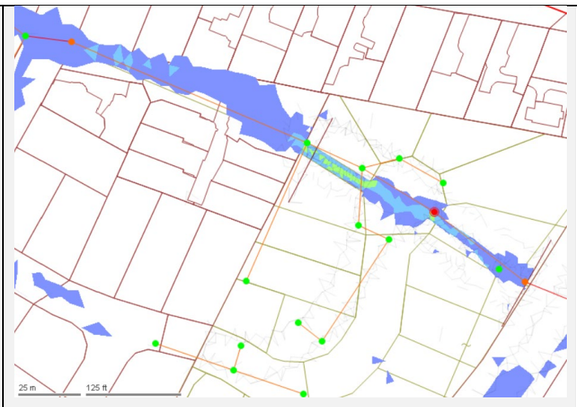
including downstream impacts D x V (m2/s)				reduction in hazard on the downstream properties.
Note that although a 6hr event was the critical event for both developed and undeveloped scenarios the actual rainfall pattern from the ensemble that create the peak was different. Thus these comparison graphs are to compare the peak flow but have overall different shapes. SST_1%_6hr_2 was the selected event for the undeveloped scenario and SST_1%_6hr_8 for the developed scenario.				

Table 4 1% Flood model with climate change results - Developed vs undeveloped results.

The model results demonstrate that developing the site significantly **reduces** the downstream overland flow and flood risk in a 1% event.

This may be a counterintuitive results however the reason that full development reduces the flood impact rather than increasing it is due to piping the distance between the 900mm dia culvert under Oceana Drive and linking it to the existing 900mm dia culvert under 358 Carella Street.

The culvert inlet at 358 Carella St could not take in overland flow efficiently and thus flow was pushing past the inlet and into the downstream properties. It is likely that the actual outcome would have been worse than shown as the model was run with no blockage factor and inlets of this type are prone to blockage even from long grass. Piping the link forms a much more efficient route for the water to get into the lower pipe and ensures that nearly all of the flow from under Oceana Drive is contained within the piped network.

The second benefit is that developing the site ensures that the roofs, roads and driveways are directly connected to the stormwater system, again reducing the overland flow available to flood downstream properties.

Due to its location at the bottom end of the catchment, directly connecting this area ensures that the peak flow from the development is through the piped network prior to the main peak from the upper catchment impacting on the network. Note that in this case installing detention in this development would result in increased peak flows as the detention low flow release would coincide with the upper catchment peak flow.

Detention in this case is not recommended as the development has clearly reduced the flooding impact on surrounding properties rather than increasing the impact.

6.2 Flood Mitigation Recommendations

Recommendations from the flood analysis are:

	Recommendation	Notes
1.	The 900 dia pipe be linked between the Oceana Dive culvert and the Carella Drive Culvert.	This line becomes part of the developments stormwater system. There is no open inlet grate at the Carella St culvert inlet.
2.	An overland flow path to large events to be created along the overland flow path, limiting total flow width to 5m wide and maximum 400mm deep. This flow path to be protected by a 5m wide easement.	The size of the overland flow path to be reduced through the cul de sac head. Cul de sac head to be designed to carry the required flow rate as per the attached plans.
3.	Cut off drains to be created at base of embankments to direct flows into the central overland flow path.	As per plans
4.	4 small plaques be attached to the concrete turnouts to identify the flood risk to residents for the future and discourage any private construction blocking the flow path.	Plaques to read: The 5m wide easement between these plaques is a flow path for overland water flows during high rainfall events. The land upstream and downstream of these plaques should be kept clear of any anything that may impede or divert water flow. Fences and gardens within the easement should allow for the unimpeded flow of water. – image at Figure 11
5.	Council to require that the boundary fence between this development and 358 Carella St is made permeable for a 4m wide and 500mm high section within the easement.	Fence details are included in the plans.
6.	The developer provides this flood report as part of the purchase contract to land purchasers of lots 118, 122 and 123.	**If possible:** If development occurs in flood prone area affected lots outside of the easement and development is less than that modelled as part of this report – 60% impervious area, then Council should accept this flood report as a flood report if required for any future development on lots 118, 122 and 123. Council should only require an additional flood report if development is proposed either within the flood zone shown in this report or if proposed development exceeds 60% or total lot area.

Table 5 1% Flood Mitigation Recommendations

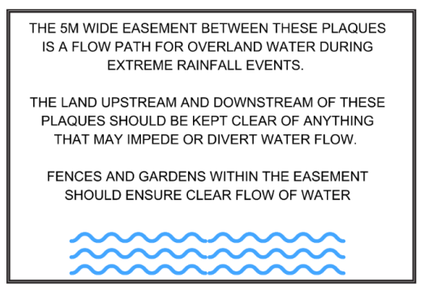


Figure 17 Plaque design as per recommendation 4. Council logo may be added if required.

6.3 Minor Network Modelling Results and Recommendations

The ensemble results for the 5% event demonstrate that the pipe network is exceeded somewhat for all events. In this case the 30 min event is the critical event for the network. Note that all modelling in this report includes a climate change factor and the developed impervious area covering 60% of the total lot area.

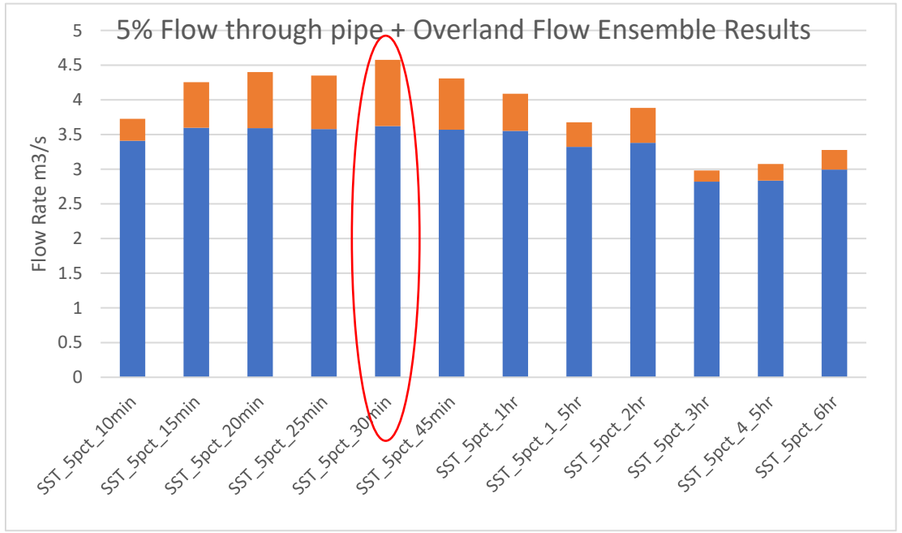


Figure 18 5% Ensemble results through pipe and overland flow at the outfall point.

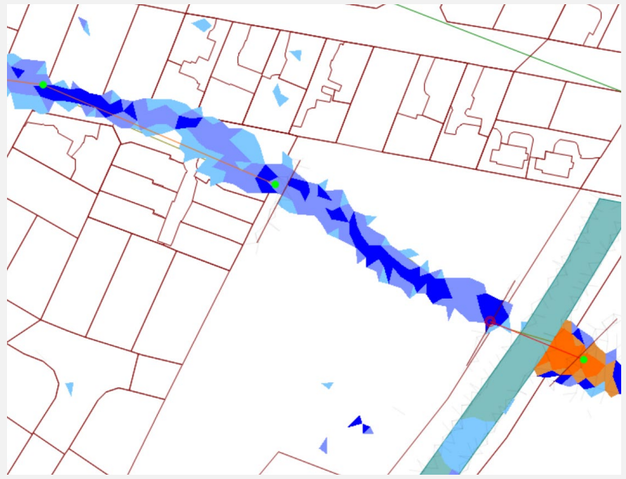
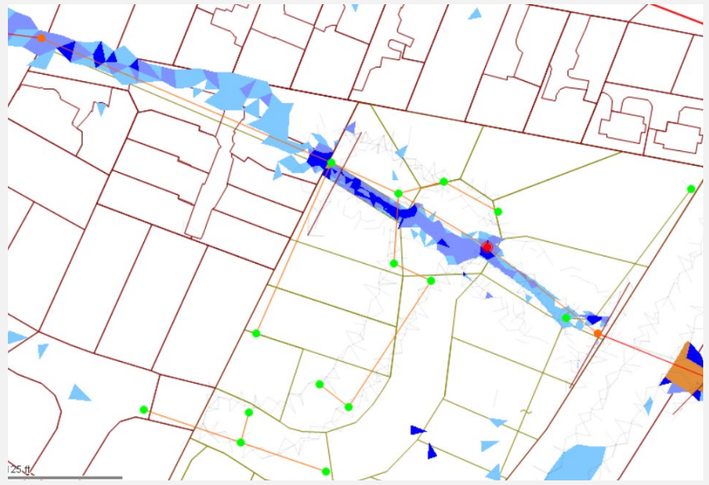
The minor network modelling results are again dominated by the flows through the upstream culvert. Whilst connecting the culvert to the downstream network does again reduce the overland flow to downstream properties the network is exceeded for a short time in 5% events. The amount and depth of flow is again significantly reduced by the proposed development.

Recommendations from these results are that whilst there continues to be some exceedances of the minor network in a 5% event these are significantly diminished by the development and the situation is significantly improved. As discussed in the 1% section detention in this area is not considered appropriate. These consideration mean that the recommendation is that the network and subdivision be approved with the continuation if the 900mm dia pipe connection between the Oceana Drive culvert and the downstream network.

If there are future issues with this overland flow path throttling the inflows at the Oceana Drive culvert using a designed riser at the culvert inlet upstream of Oceana Drive could be implemented.

Results are demonstrated in the following table:

6.3.1.1.1 5% Event Model Results Analysis

	Undeveloped	Full development	Notes
5% 30min Peak Flow Results	 SST 5% 30min 10	 SST 5% 30min 10	It is evident that the developed results reduce the depth of overland flow and contain greater flows within the piped network. In the undeveloped image the flow exits the Oceana Drive culvert and all flow is overland. The ground conditions cause the flow path to widen. Once the flow of water is lost out of the piped system (the culvert) it is not able to be effectively returned into the downstream culvert due to • Width of flow • Volume of flow • Inlet arrangements • Inlet head losses • Outlet head losses By piping the flow from the existing culvert under Oceana Drive it ensures that the maximum volume of flow is passed into the lower network thus minimizing the volume of water that is left to flow overland. The increased hydraulic efficiency of this option ensures that flow is transferred to the ocean outfall quickly, minimizing the concurrent load that would occur if added detention was installed downstream of the existing (unmanaged) detention occurring at the Oceana Drive culvert.

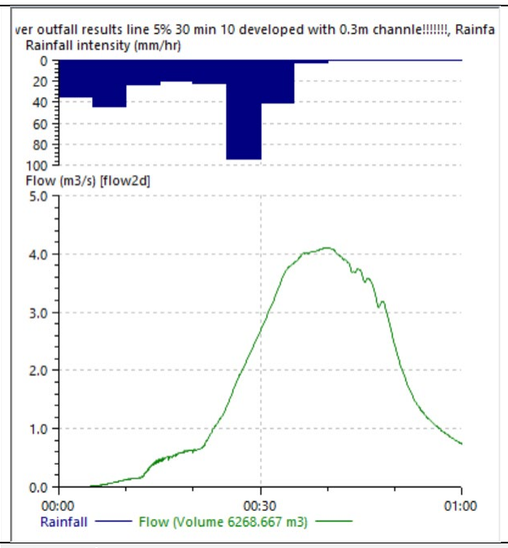
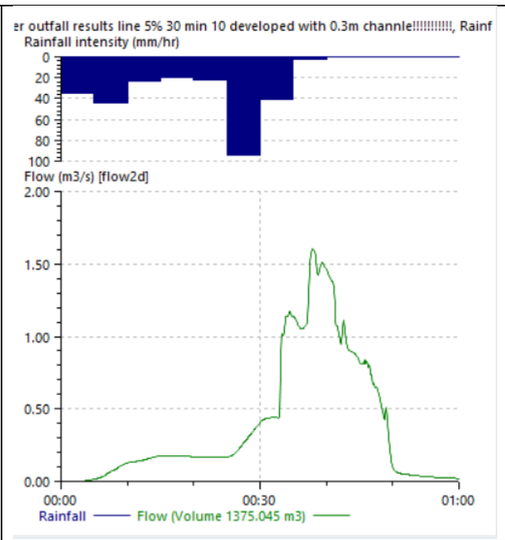
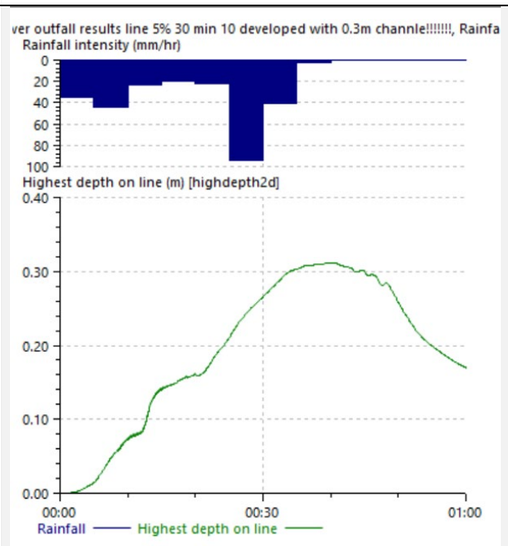
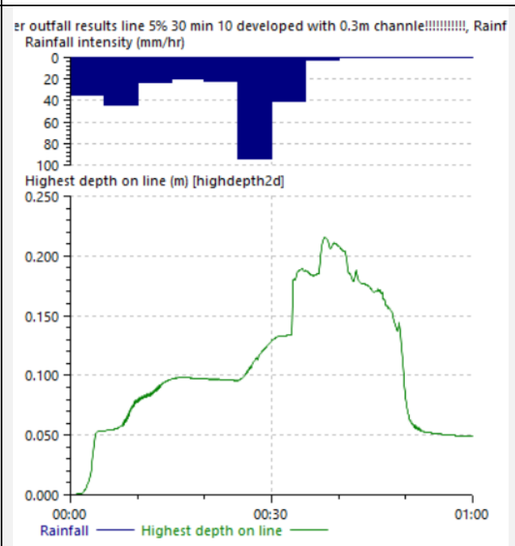
Flow Rates at 2D results line – indicating overland flow at the boundary			These graphs show that the maximum overland flow rate is more than halved by the development and the total volume of overland flow is reduced by a factor of 4.5
Max Flow Rate	4.09 m3/s	0.91 m3/s	
Total Overland Flow	6269 m3	1375 m3	
Highest depth on 2D results line			The depth graphs and data show that the maximum flow depth at the outfall is reduced by a third once the development is constructed. The flow in this instance is alos constrained by the designed overland flow way. The shape of the developed scenario graph shows the minor and standard overland flows for most of the event sit at about 10cm which spikes to a maximum of 20cm depth for approximately 12 minutes.
Highest Depth at Outfall	0.31 m	0.22 m	
Width of inundation > 5cm at outfall	16.7m	4.8m	

Table 6 5% Minor network and overland flow results undeveloped vs developed comparis

7 Stormwater Quality and Treatment

7.0 Stormwater Quality Requirements

Stormwater quality management is required under Clarence Councils Stormwater Management Procedure for New Development.

The treatment train has been modelled in johnconnor online by stormupdated to assess treatment train effectiveness against the requirements for treatment. Treatment requirements as requested by Clarence City Council are to:

Provide a report and amended plans, including supporting calculations by a suitably qualified and experienced engineer, which demonstrate how the proposed stormwater system for the developed catchment will achieve the State Stormwater Strategy targets and compensate for loss of water quality due to piping the watercourse. If this treatment cannot be achieved, demonstrate why it is not feasible.

Target Level	Water Quality Treatment Target
1	Site specific requirements at discretion of council (for example sites with, or draining to, areas with environmental values, potentially contaminating activities etc).
2	90% reduction in the average annual load of litter/gross pollutants based on typical urban stormwater concentrations; AND 80% reduction in the average annual load of total suspended solids (TSS) based on typical urban stormwater TSS concentrations; AND 45% reduction in the average annual load of total phosphorus (TP) based on typical urban stormwater TP concentrations; AND 45% reduction in the average annual load of total nitrogen (TN) based on typical urban stormwater TN concentrations.

Figure 1 Clarence City Council Stormwater Management Procedure for New Developments Water Quality Treatment Targets.

7.1 Stormwater Quality Model

The stormwater quality model was developed assuming full residential development with a total of 60% impervious area, with 60% of the impervious area being roads and driveways and the remaining 40% made up of roofed surfaces. The pervious surfaces have been split into two to feed into the proposed treatment unit with a primary pre-treatment of a SPEL stormsack prior to the basin to filter out gross pollutants.

Stormsack and SPEL Basin have been modelled with their SQUIDEP verified treatment results.

Tranmere Developed Details		total impervious m2	Road area m2	roof area m2	total pervious m2
Proposed condition	urban 60% impervious	9540	5724	3816	6360
Mannings n asphalt	0.016				

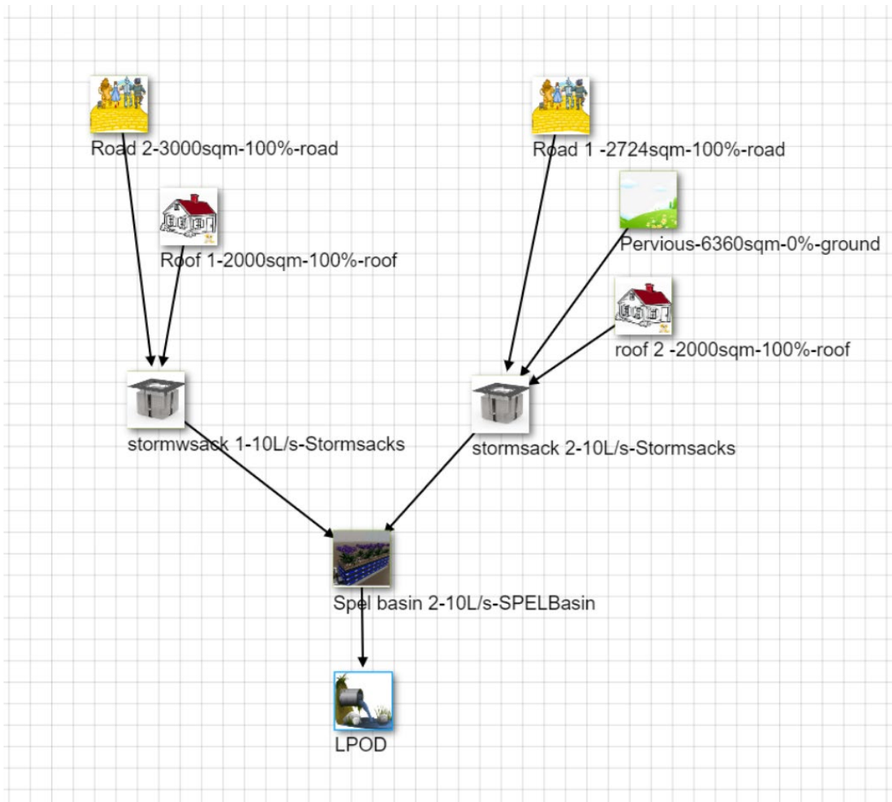


Figure 19 johnconnor_ stormupdated water quality model layout

7.2 Stormwater Quality Results

The stormwater quality results are as shown below. The full treatment report is attached as Appendix 1.

JCO REPORT

Date: 20-3-2023

Basic Information:

Project Name:	Tranmere Estate
Assessor Name:	Anna Wilson
Assessor Email:	awilson@cja.com.au
City Council:	City of Clarence
Address Line 1:	11 Skala Rd, Tranmere TAS 7018, Australia
Address Line 2:	Tranmere, TAS, 7018
Development Type:	residentialSubdivision
Planning Permit No:	

Model Details:

LAT: -42.912996, LNG: 147.4194934

The Model has been checked against City of Clarence's guidelines.

The treatment results in the report are based on the Authority's preferred meteo template for this location.

Treatment Train Effectiveness Result

LPOD

	Sources	Residual Load	% Reduction	Target Reduction
Flow (ML/yr)	5.73	5.73	0.00	N/A
Total Gross (kg/yr)	174.58	7.29	95.82	70.00
Total Nitrogen (kg/yr)	14.76	5.06	65.71	45.00
Total Phosphorus (kg/yr)	2.22	0.79	64.44	45.00
Total Suspended Solid (kg/yr)	1134.08	177.84	84.32	80.00

Table 7 Proposed Treatment Train Effectiveness Results.

This demonstrates that the proposed treatment train consisting of 2 storm sacks and one SPELBasin that bypasses at 10L/s effectively treats the stormwater to the required levels.

7.3 Stormwater Quality Recommendations

The modelled treatment train which includes one SPEL basin and one stormsack on either side of the creekline is a feasible method of stormwater treatment at this location.

However given its proximity to the ocean outfall it is possible that Council will have better long term outcomes if a contribution is made from this development and the funds put towards treatment at ocean outfalls in high priority areas along this stretch of coastline.

Please note that the quote received for the SPEL treatment train proposed is **$48 900** and the full quote is available in appendix 2. We propose that the full amount be transferred to Council but will include the treatment train in the subdivision design within the cul de sac head road reserve if requested or conditioned.

Figure 20 Location of subdivision outfall and network ocean outfall

8 Conclusions

This is a lot that creates the greatest value to the community under a developed scenario due to its size, location and lack of environmental value. The proposed development and associated stormwater recommendation ensure that developing this lot reduces the downstream impacts of stormwater by up to ten times what is currently experienced under the existing scenario.

The existing culverts constrain the stormwater management options on the site and cause significant stormwater impacts through the site and to downstream properties in the 5% and 1% events.

Developing the site and linking the existing culverts is a hydraulically effective method of managing the stormwater which significantly reduces downstream overland flow impacts and utilizes the downstream network more efficiently. As the downstream receiving waterway is the Derwent Estuary there is no need to minimize amounts of flow into this waterway from this development this detention is not indicated in this location.

The following recommendations have arisen from the flood and stormwater quality analysis and are shown in the below table:

It is recommended that Council accepts all recommendations however recommendation numbers **4, 5 and 8** pertaining to the proposed plaques, the 358 Carella Drive boundary fence and the stormwater quality contribution should be explicitly approved or conditioned by Council.

	Area of interest	Recommendation	Notes
1.	Major network	The 900 dia pipe be linked between the Oceana Dive culvert and the Carella Drive Culvert.	This line becomes part of the developments stormwater system. There is no open inlet grate at the Carella St culvert inlet.
2.	Major network	An overland flow path to large events to be created along the overland flow path, limiting total flow width to 5m wide and maximum 400mm deep. This flow path to be protected by a 5m wide easement.	The size of the overland flow path to be reduced through the cul de sac head. Cul de sac head to be designed to carry the required flow rate as per the attached plans.
3.	Major network	Cut off drains to be created at base of embankments to direct flows into the central overland flow path.	
4.	Major network	4 small plaques be attached to the concrete turnouts to identify the flood risk to residents for the future and discourage any private construction blocking the flow path.	This option is recommended to ensure that the existence of the overland flow path is clear to future residents. Council may choose to not require this if they consider the existence of the easement sufficient. Please condition Councils preferred course of action.
5.	Major network	Council to require that the boundary fence between this development and 358 Carella St is made permeable for a 4m wide and 500mm high section within the easement.	Creating a permeable section of fence within the flow easement will ensure that the flow is directed into the safest location (the driveways) between the units at 358 Carella St.
6.	Major network	The developer provides this flood report as part of the purchase contract to land purchasers of lots 117, 118, 120 and 121.	If development occurs in flood prone area affected lots outside of the easement and development is less than that modelled as part of this report (60% impervious are per lot) then this flood report should apply to lots affected by the flood code. (The preferred outcome is that the flood code is amended once works are undertaken to reflect the topography and flood path changes established by the post development model and the works undertaken. The next option would be to attach this report to the property data and be available for use with any development on lots affected by the outdated flood overlay. Council will hold this report against the properties and make it available to future owners through a 337 or similar process, this will ensure unnecessary duplication of reporting is minimized.)
7.	Minor Network	The 5% network is accepted as designed.	The 5% network linking the Carella St culvert with the Oceana Drive culvert significantly reduces the existing overland flow in this event however some overland flow is still experienced. This is discussed further in section 6.4 Minor Network Modelling Results and Recommendations
8.	Quality Targets	Council accepts $48 900 as a contribution to high priority treatment areas.	See: Stormwater Quality and Treatment Section 7.

Table 8 Flood Report Recommendations.

9 Appendices

9.0 Stormwater Quality Report – John Connor Online

JCO REPORT

Date: 20-3-2023

Basic Information:

Project Name:	Tranmere Estate
Assessor Name:	Anna Wilson
Assessor Email:	awilson@cja.com.au
City Council:	City of Clarence
Address Line 1:	11 Skala Rd, Tranmere TAS 7018, Australia
Address Line 2:	Tranmere, TAS, 7018
Development Type:	residentialSubdivision
Planning Permit No:	

Model Details:

LAT: -42.912996, LNG: 147.4194934

The Model has been checked against City of Clarence's guidelines.

The treatment results in the report are based on the Authority's preferred meteo template for this location.

Source Nodes

Node Name	Node Type	Area(sqm)	% of Impervious
Pervious	ground	6360.00	0.00
Road 1	road	2724.00	100.00
Road 2	road	3000.00	100.00
Roof 1	roof	2000.00	100.00
roof 2	roof	2000.00	100.00

Total Catchment Area(sqm): 16084.00

Treatment Nodes

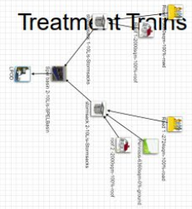
Node Name	Node Type
Spel basin 2	SPELBasin
stormwsack 1	Stormsacks
stormsack 2	Stormsacks

Treatment Train Effectiveness Result

LPOD

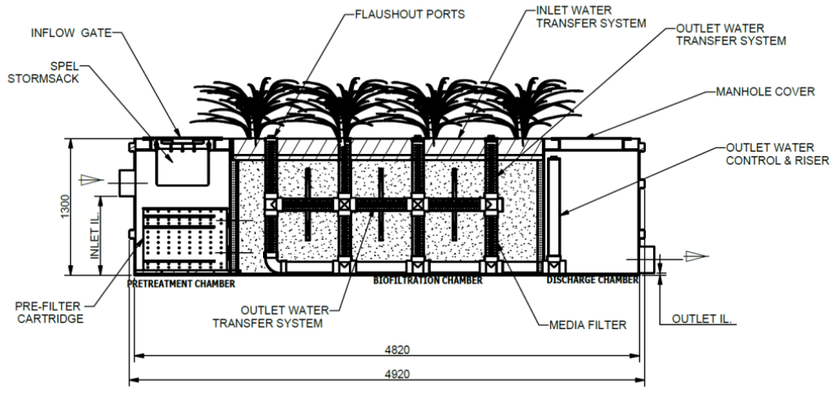
	Sources	Residual Load	% Reduction	Target Reduction
Flow (ML/yr)	5.73	5.73	0.00	N/A
Total Gross (kg/yr)	174.58	7.29	95.82	70.00
Total Nitrogen (kg/yr)	14.76	5.06	65.71	45.00
Total Phosphorus (kg/yr)	2.22	0.79	64.44	45.00
Total Suspended Solid (kg/yr)	1134.08	177.84	84.32	80.00

Treatment Trains



Check this model online!

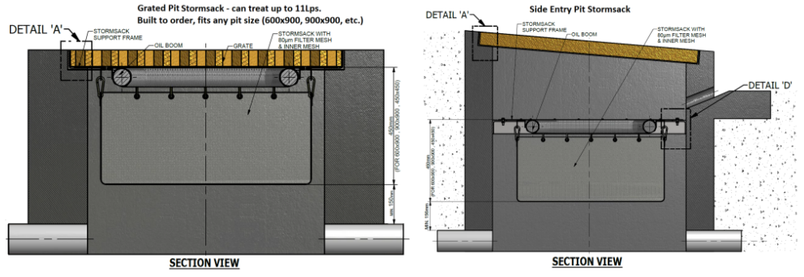
Specifications and Typical Drawings - SQIDEP SPEL Basin



ELEVATION VIEW
SECTION A-A

Treatment Device Name	Total High-flow bypass(L/s)
Spel basin 2	10

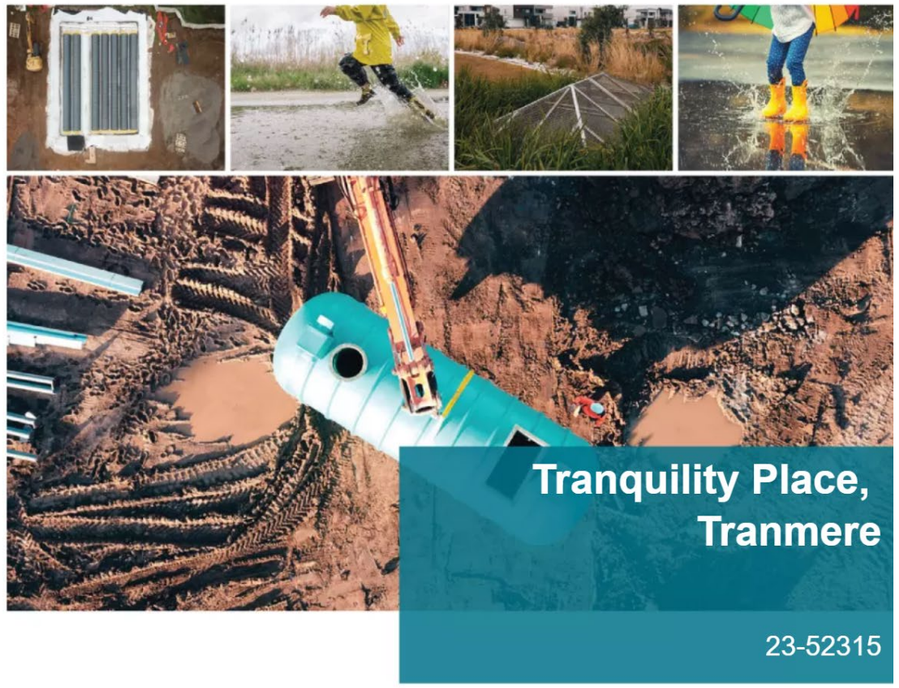
Specifications and Typical Drawings - SPEL Storm Sack



SECTION VIEW **SECTION VIEW**

Treatment Device Name	Total High-flow bypass(L/s)
stormwsack 1	10
stormsack 2	10

spelstormwater
joy in water



Tranquility Place, Tranmere

23-52315

Created by:

Lee Parker
SPEL Stormwater

www.spel.com.au

Prepared for:

Anna Wilson
Tivoli Green

spelstormwater
joy in water

PHONE: 1300 773 500
EMAIL: sales@spel.com.au
OFFICE: 897 Wellington Road, Rowville, VIC 3178
ABN: 32 379 724 600
www.spel.com.au

Proposal for Tranquility Place, Tranmere

TO: Anna Wilson
Tivoli Green
Hobart, TAS
0400 415 322

QUOTE NO: 23-52315
DATE: Mar 16, 2023
EMAIL: awilson@cja.com.au

Dear Anna,

Thank you for this opportunity to provide you with a quotation for the project located at Tranquility Place, Tranmere. Please see below our proposal.

PRICING SCHEDULE FOR TREATMENT	QTY
Stormsack SSS.6060.C1 600 x 600mm Stormsack (SSS.6060.C1) Complete with support brackets & fitting hardware - To Suit 600mm x 600mm Grated Pits	2
SPELBasin MWS-L-4-21 10 LPS Treatment Flowrate Fibreglass Tank 6120mm x 1340mm x 1300mm Includes: • Pretreatment, Biofiltration, and Discharge Chambers • Internal pipeworks	1
Freight	1
Commissioning	1
Subtotal (Ex GST)	**A$48,900.00**

Notes:
This submission is based on a standard purchase order/invoice transaction, any supply agreement/contract will incur further administration or legal fees.

HEAD OFFICE: 100 Silverwater Road, Silverwater NSW 2128
POSTAL: PO BOX 7138, Silverwater NSW 2128
EMAIL: sales@spel.com.au
ABN: Total Stormwater (SPEL VIC & TAS) 32 379 724 600
www. spel.com.au

5.2.7 Hotspot 7 - Carella Street near Skala Road

Hotspot 7 consists of properties on Carella Street and Tranmere Road near Skala Road as shown in Figure 5.9. The properties are affected by flood hazard of up to H4 (*Unsafe for vehicles and people*). It is noted that the development of 358 Carella Street occurred after the capture date of the LiDAR data. This means that any earthworks associated with the development that may affect the flow path have not been incorporated into the hydraulic model.

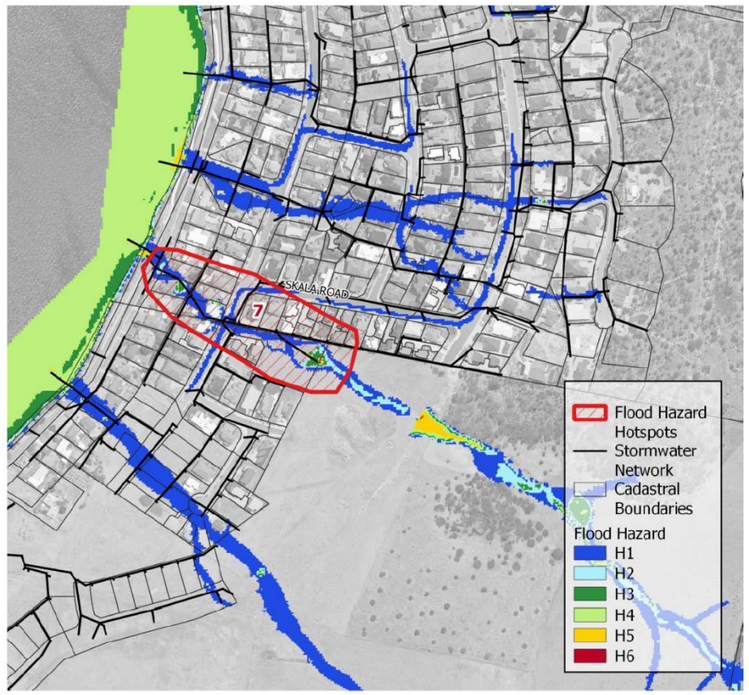


Figure 5.9 Flood Hazard Hotspot 7

8.8 Hotspot 7 - Carella Street near Skala Road

8.8.1 Identification of Potential Management Options

One (1) potential management option has been identified for Hotspot 7 as shown in Figure 8.8.

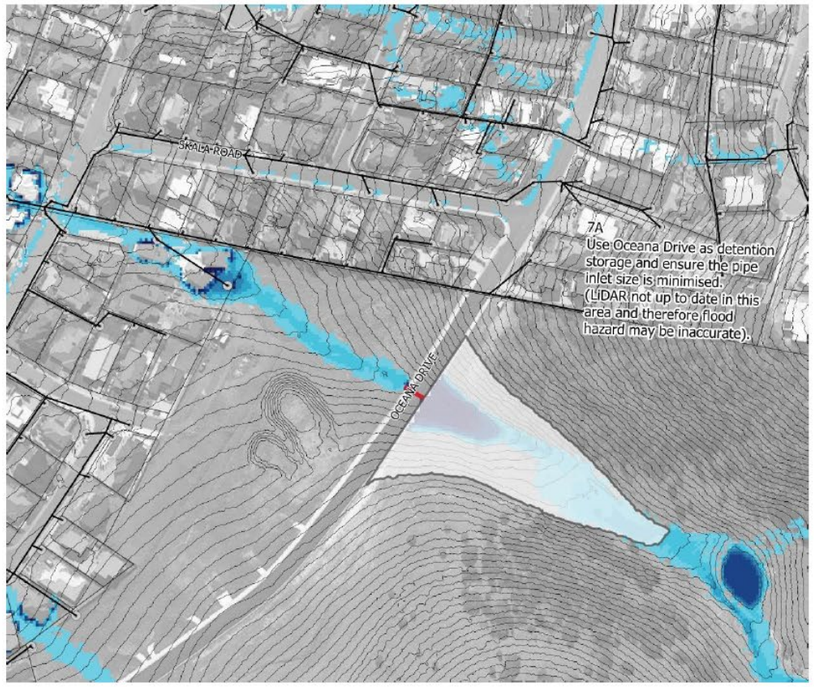


Figure 8.8 Hotspot 7 Potential Management Options

8.8.2 Evaluation of Potential Management Options

Option 7A

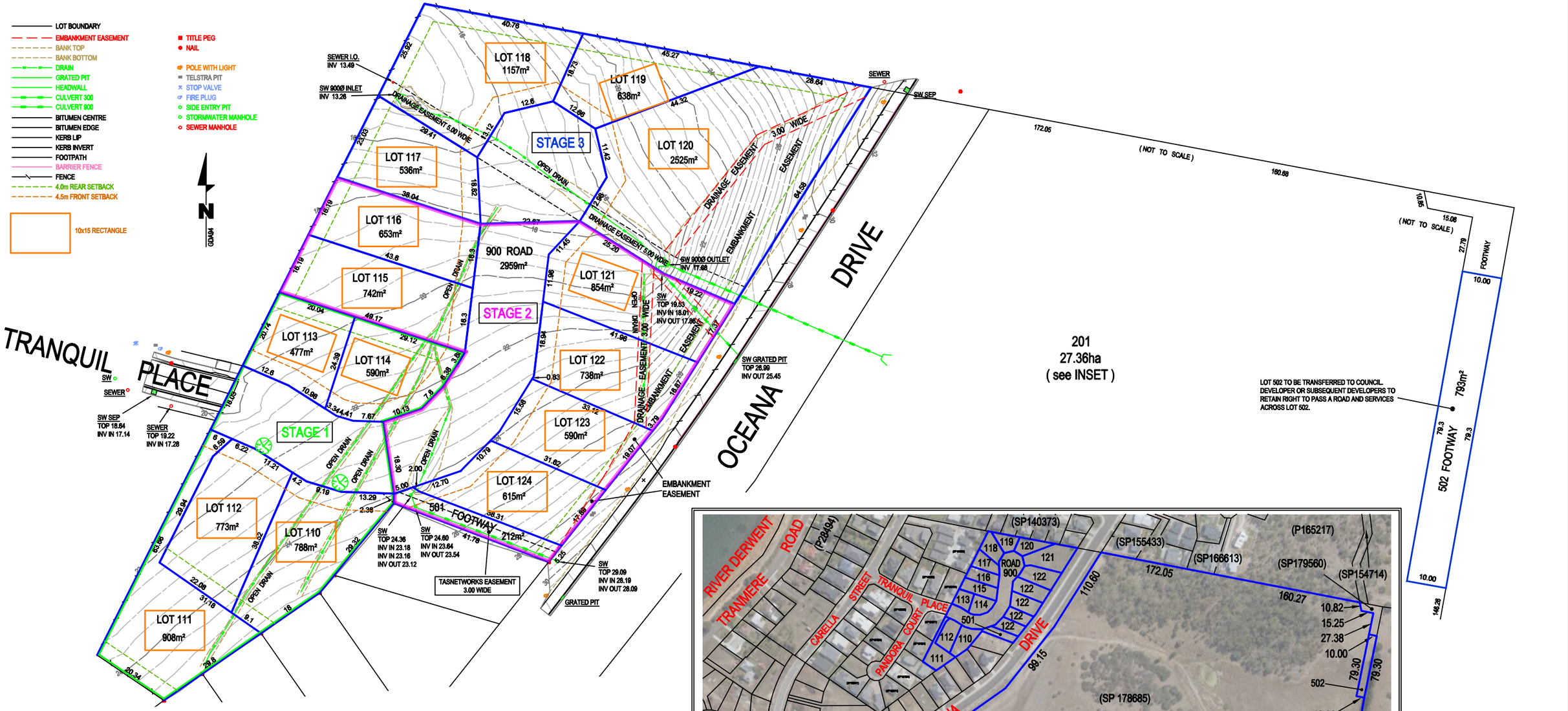
Option 7A consists of using the Oceana Drive road embankment as detention storage to protect properties on Carella Street. The diameters of the pipes under Ocean Drive and under 358 Carella Street are both currently 900 mm. The Oceana Drive pipe under hydraulic head (due to upstream storage) can result in peak flows exceeding the capacity of the downstream pipe. A reduction in the inlet diameter upstream of Oceana Drive (e.g. orifice plate) will attenuate peak flows to be conveyed by the downstream pipe.

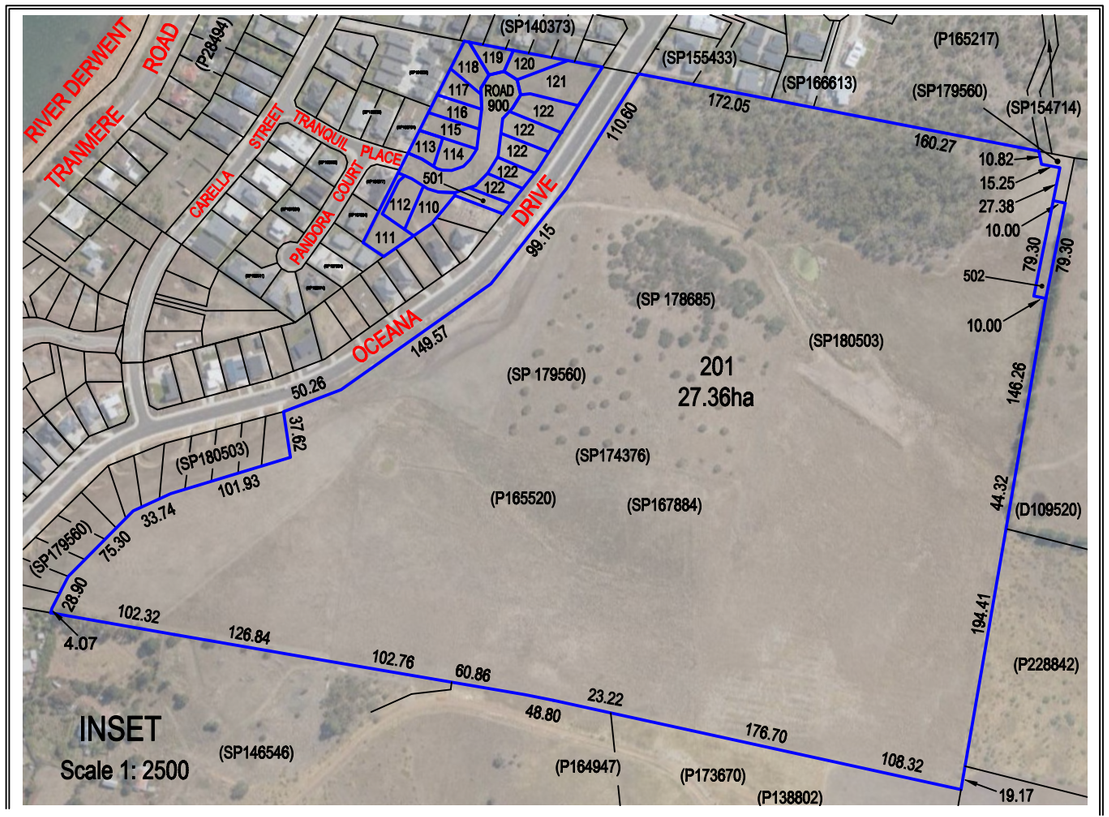
LOT BOUNDARY
EMBANKMENT EASEMENT
BANK TOP
BANK BOTTOM
DRAIN
GRATED PIT
HEADWALL
CULVERT 300
CULVERT 900
BITUMEN CENTRE
BITUMEN EDGE
KERB LIP
KERB INVERT
FOOTPATH
BARRIER FENCE
FENCE
4.0m REAR SETBACK
4.5m FRONT SETBACK

10x15 RECTANGLE

TITLE PEG
NAIL
POLE WITH LIGHT
TELSTRA PIT
STOP VALVE
FIRE PLUG
SIDE ENTRY PIT
STORMWATER MANHOLE
SEWER MANHOLE

GDA94





STAGING

STAGE 1 - LOTS 110 to 114 (5 blocks)
STAGE 2 - LOTS 115, 116 & 121 to 124 (6 blocks) & 501 (footway)
STAGE 3 - LOTS 117 to 120 (4 blocks) & 502 (Open Space)

IMPORTANT NOTE:

This plan was prepared as a proposed subdivision to accompany a subdivision application to the Clarence City Council and should not be used for any other purpose. The dimensions. areas and total number of lots shown hereon are subject to field survey and also to the requirements of Council and any other authority which may have requirements under any relevant legislation. In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land. This note is an integral part of this plan.

While all reasonable effort has been made to locate all visible above ground services, there may be other services which were not located during the field survey. The title boundaries as shown on this plan were not marked at the time of the survey and have been determined by existing title dimensions and occupation (where available) only and not by field survey, and as a result are considered approximate only. This plan should not be used for building to boundary. or to prescribed set-backs, without further survey.
Prior to any demolition, excavation, final design or construction on this site, a full site inspection should be completed by the relevant engineers.
All survey data is 3D. The level (z-value) of any specific feature can be interrogated with a suitable CAD package. Spot heights of all features, including pipe inverts, are included in the model space but are not displayed on the PDF. Spot heights are organised into appropriate layers, and can be displayed as required.
At the time of this survey, C.T.176222/101 was owned by CAROLYN MARGARET, LUCKMAN,PAUL LAMONT, LUCKMAN, JANICE MARY LUCKMAN, GREGORY ALAN LUCKMAN

Date of Survey : MAY 2020

AMENDMENTS

No.	Revision/Issue	Date
G	SWALE ADDED LOTS ADJUSTED	15-5-2023
H	HUTCHINGS SPURR FLOOD MAPPING ADDED LOTS 121 & 122 ADJUSTED	15-12-2023
I	LOTS COMBINED AND ADJUSTED WALKWAY ADJUSTED TO 5m WIDE	15-01-2024
J	[illegible]	28-02-2024

LEARY&COX LAND & ENGINEERING SURVEYORS
Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
312A TRANMERE RD
TRANMERE
TAS 7018

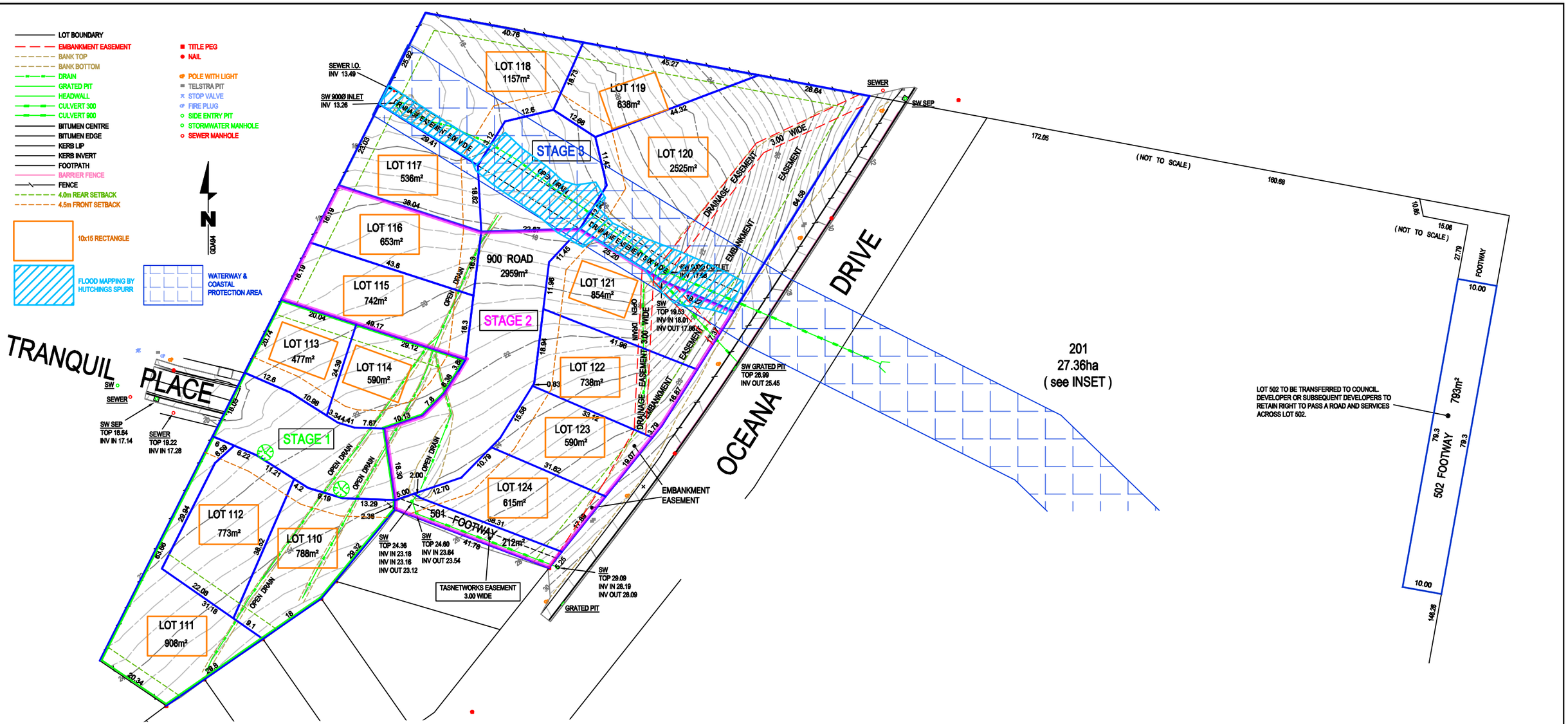
Drawing Title
PROPOSED SUBDIVISION

Client
G LUCKMAN
C.T. 183275 - 201

SCALE
1:500 at A1

Contour Interval 0.50 m
Date 23-03-2023
SHEET 1 of 3
DRAWN KS, LO
CHK'D TC
DATUM Horz: GDA 94 Vert: AHD

FILE REF: 9403
Geocivil Ref 940301
AutoCAD Ref 940310 Rev D



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J	NO CHANGE	28-02-2024

LEARY&COX LAND & ENGINEERING SURVEYORS

Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address: 312A TRANMERE RD TRANMERE TAS 7018

Drawing Title: PROPOSED SUBDIVISION

Client: G LUCKMAN
C.T. 183275 - 201

SCALE: 1:500 at A1

Contour Interval: 0.50 m
Date: 23-03-2023
SHEET: 2 of 3
DRAWN: KS, LO
CHK'D: TC
DATUM Horz: GDA 94 Vert: AHD

FILE REF: 9403
Geocivil Ref: 940301
AutoCAD Ref: 940310 Rev D

LOT BOUNDARY
EMBANKMENT EASEMENT
BANK TOP
BANK BOTTOM
DRAIN
GRATED PIT
HEADWALL
CULVERT 300
CULVERT 900
BITUMEN CENTRE
BITUMEN EDGE
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KERB INVERT
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NAIL

POLE WITH LIGHT
TELSTRA PIT
STOP VALVE
FIRE PLUG
SIDE ENTRY PIT
STORMWATER MANHOLE
SEWER MANHOLE

10x15 RECTANGLE

FLOOD MAPPING BY HUTCHINGS SPURR

WATERWAY & COASTAL PROTECTION AREA

GDA94

TRANQUIL PLACE

OCEANA DRIVE

STAGE 1
STAGE 2
STAGE 3

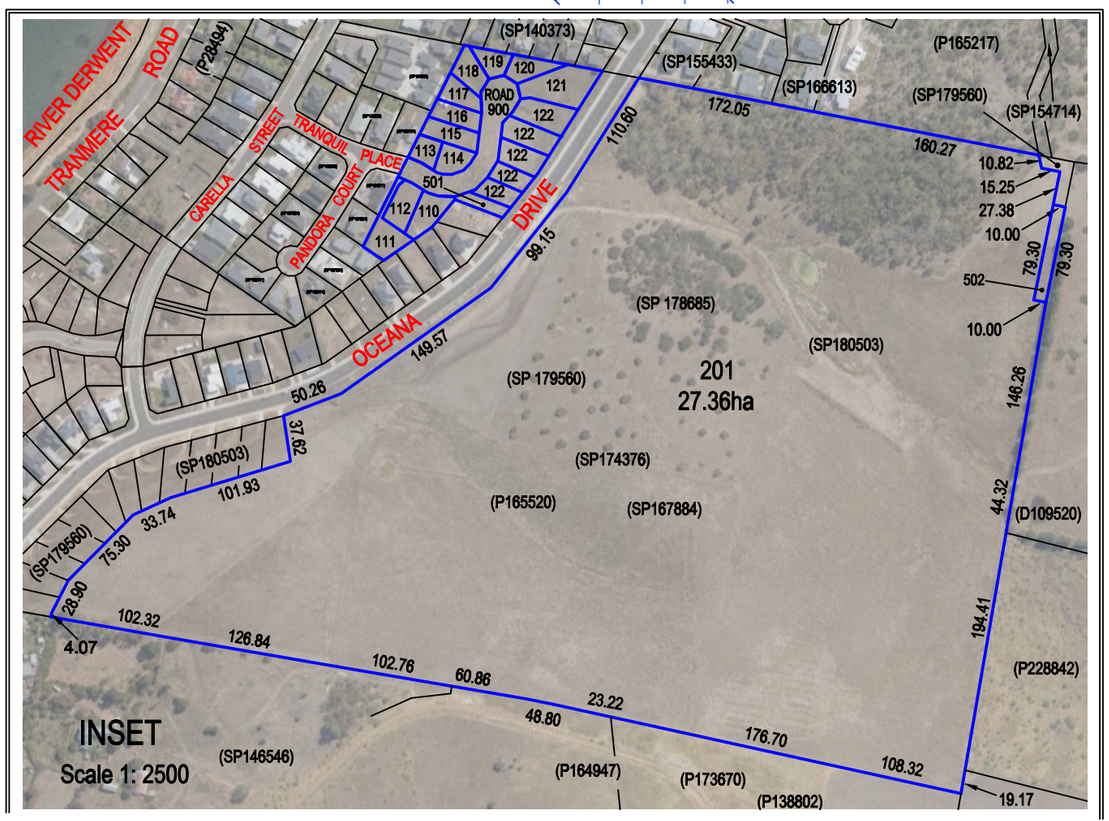
LOT 110 788m²
LOT 111 908m²
LOT 112 773m²
LOT 113 477m²
LOT 114 590m²
LOT 115 742m²
LOT 116 653m²
LOT 117 536m²
LOT 118 1157m²
LOT 119 638m²
LOT 120 2525m²
LOT 121 854m²
LOT 122 738m²
LOT 123 590m²
LOT 124 615m²
900 ROAD 2959m²
501 FOOTWAY 212m²
502 FOOTWAY 793m²
201 27.36ha (see INSET)

SEWER I.O. INV 13.49
SW 9000 INLET INV 13.26
SW SEP TOP 18.84 INV IN 17.14
SEWER TOP 19.22 INV IN 17.28
SW TOP 24.36 INV IN 23.18 INV IN 23.16 INV OUT 23.12
SW TOP 24.60 INV IN 23.64 INV OUT 23.54
SW TOP 29.09 INV IN 28.19 INV OUT 28.09
SW TOP 19.83 INV IN 18.01 INV OUT 17.86
SW GRATED PIT TOP 26.99 INV OUT 25.45
SW 9000 OUTLET INV 17.58
SEWER
SW SEP

DRAINAGE EASEMENT 5.00 WIDE
DRAINAGE EASEMENT 3.00 WIDE
EASEMENT
EMBANKMENT
OPEN DRAIN
TASNETWORKS EASEMENT 3.00 WIDE
GRATED PIT

LOT 502 TO BE TRANSFERRED TO COUNCIL. DEVELOPER OR SUBSEQUENT DEVELOPERS TO RETAIN RIGHT TO PASS A ROAD AND SERVICES ACROSS LOT 502.

(NOT TO SCALE)



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1:500 at A1

Contour Interval 0.50 m
Date 23-03-2023
SHEET 3 of 3
DRAWN KS, LO
CHK'D TC

FILE REF: 9403
Geocivil Ref 940301
AutoCAD Ref 940310 Rev D
DATUM Horz: GDA 94
Vert: AHD

DRAWING LISTS

10043/100 REV A COVER SHEET
10043/101 REV A ROAD & STORMWATER PLAN
10043/102 REV A SEWER RETICULATION PLAN
10043/103 REV A WATER RETICULATION PLAN
10043/104 REV A TRANQUIL PLACE LONG & CROSS SECTIONS
10043/105 REV A TRANQUIL PLACE CROSS SECTIONS 2
10043/106 REV A STORMWATER LONG SECTIONS
10043/107 REV A SEWER LONG SECTIONS
10043/108 REV A STORMWATER SWALE PLAN
10043/109 REV A STORMWATER SWALE CROSS SECTIONS
10043/110 REV A SOIL & WATER MANAGEMENT PLAN

TASWATER INFRASTRUCTURE SEWER NOTES:

1. ALL SEWER WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH THE SEWER CODE OF AUSTRALIA WSA 02-2014-3.1 MRWA EDITION V2.0 , TASWATER'S SUPPLEMENTS TO THESE CODES & ALL RELEVANT W. H. & S. STANDARDS.
2. ALL SEWER PIPES TO BE 150ø UPVC CLASS SN8 AT 1.65% MINIMUM FALL U.N.O.
3. FOR MINIMUM COVER OVER PIPES, REFER MRWA- S- 201, TABLE 201-C
4. ALL PRODUCTS USED IN CONSTRUCTION TO COMPLY WITH THE CITY WEST WATER MATERIAL LIST
5. ALL SEWER WORKS MUST BE TESTED AND INSPECTED BY 'TASWATER' PRIOR TO BACKFILL.
6. ALL LIVE SEWER CONNECTIONS ARE TO BE DONE BY TASWATER AT THE DEVELOPERS COST.
7. ALL MAINTENANCE STRUCTURES TO BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING

- MRWA-S-309 MAINTENANCE HOLES – GENERAL CONSTRUCTION REQUIREMENTS
- MRWA-S-310 CONCRETE MAINTENACE HOLES – BASE CONSTRUCTION
- MRWA-S-311 CONCRETE MAINTENACE HOLES – INTRENAL DROP

8. ALL WORK TO BE DONE BY CONTRACTOR AT DEVELOPERS COST U.N.O.
9. LOCATE ALL EXISTING GAS, ELECTRICAL, TELECOMMUNICATIONS, WATER MAINS, SEWER MAINS AND STORMWATER MAINS ETC. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND ADVISE THE ENGINEER OF ANYTHING THAT APPEARS NOT BE HAVE BEEN CONSIDERED IN THE DESIGN.
10. ALL MAINTENANCE/INSPECTION MHS IN TRAFFICABLE AREAS TO HAVE MIN CLASS 'D' LIDS.
11. PIPE EMBEDMENT TO BE IN ACCORDANCE WITH MRWA-S-202.

- FOR PIPES GRADES GREATER THAN 10% EMBEDMENT WILL BE 20mm CEMENT TREATED CLASS 3 FCR. PLANT MIXED 3% CEMENT
- FOR PIPES GRADES LESS THAN 10% EMBEDMENT WILL BE 7mm FCR

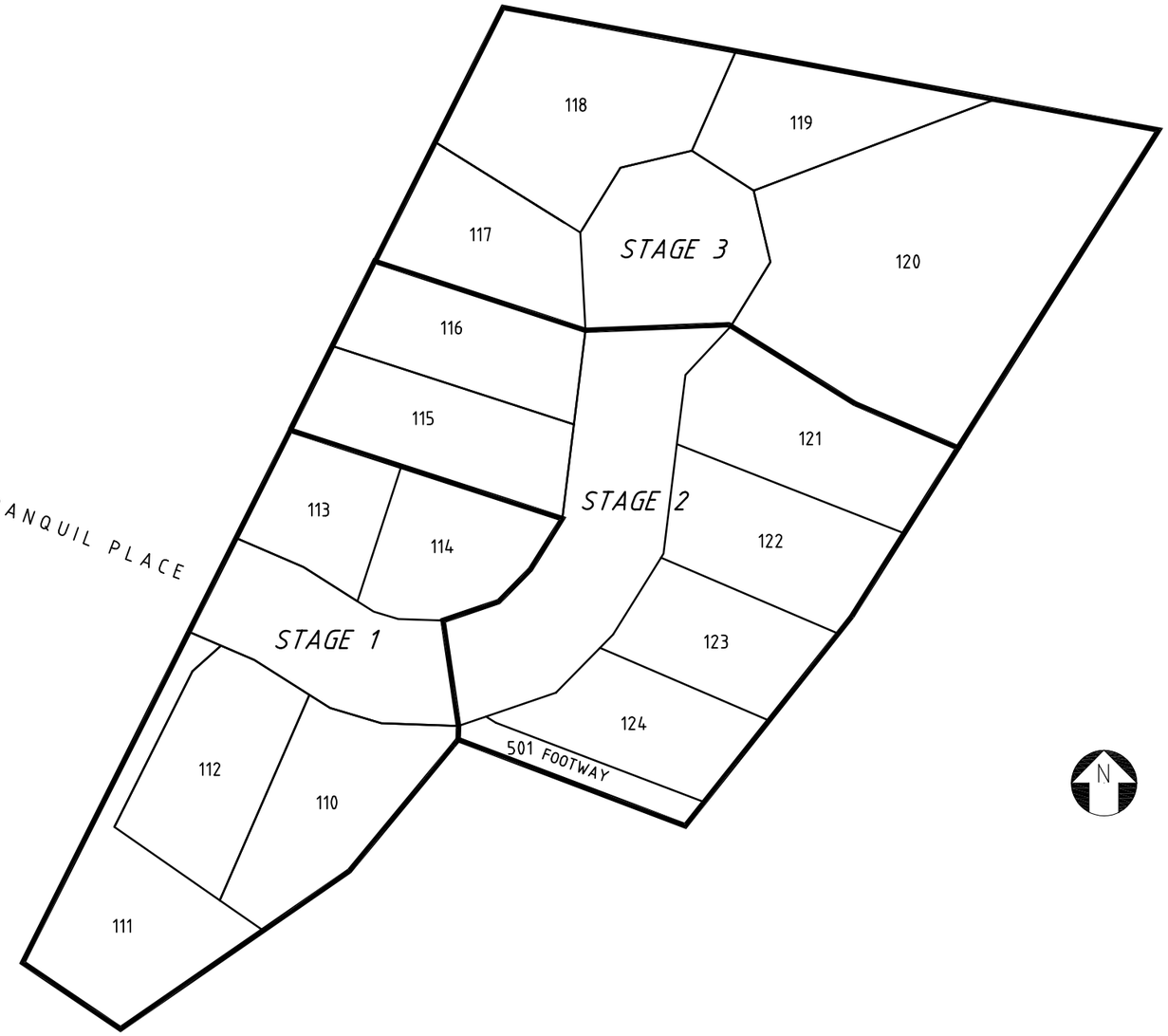
12. BULKHEADS AND TRENCH STOPS TO BE IN CONSTRUCTED ACCORDANCE WITH DRG. MRWA-S-205 AND AS NOTED ON THE APPROVED SEWER PLANS AND LONG SECTIONS.
11. LOT CONNECTIONS TO BE IN ACCORDANCE WITH MRWA-S-301 TO MRWA-S-304 AND AS NOTED ON THE APPROVED SEWER PLANS & LONG SECTIONS. FOR LOT CONNECTIONS GREATER THAN 2.50m IN DEPTH INSTALL "JUMP UP: TYPE 2 CONNECTIONS IN ACCORDANCE WITH MRWA-S-303 I.O TO SURFACE. SEWER PIPE TO BE 100 DIA PVC CLASS SN10
12. SEWER PIPE CLEARANCES TO BE IN ACCORDANCE WITH WSA 02-2014-3.1 MRWA VER. 2 SECTION 5.4, TABLE 5.4 AND TASWATER'S SUPPLMENT.

TASWATER INFRASTRUCTURE WATER NOTES:

1. ALL WATER SUPPLY WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH THE WATER CODE OF AUSTRALIA WSA 03-2011-3.1 MRWA EDITION V2.0 , TASWATER'S SUPPLEMENTS TO THESE CODES & ALL RELEVANT W. H. & S. STANDARDS.
2. GENERALLY WATER MAINS TO BE INSTALLED AFTER THE CONSTRUCTION OF STORM WATER AND SEWER ASSETS.
3. FOR MINIMUM COVER OVER PIPES AND TRENCH WIDTHS, REFER TASWATER TW WSA03-2011-3.1 MRWA v2 TABLE 1 MRWA-W-202
4. PIPE TRENCHFILL SHALL BE IN ACCORDANCE WITH MRWA-W-202
5. PIPE EMBEDMENT SHALL BE IN ACCORDANCE WITH MRWA-W-203

- FOR PIPES GRADES GREATER THAN 10% EMBEDMENT WILL BE 20mm CEMENT TREATED CLASS 3 FCR. PLANT MIXED 3% CEMENT
  FOR PIPES GRADES LESS THAN 10% EMBEDMENT WILL BE 7mm FCR AND AS NOTED ON THE APPROVED WATER MAIN PLANS & LONG SECTIONS WHERE SHOWN.

6. ALL WATER SUPPLY WORKS MUST BE TESTED AND INSPECTED BY 'TASWATER' PRIOR TO BACKFILL.
7. ALL LIVE WATER CONNECTIONS ARE TO BE DONE BY TASWATER AT THE DEVELOPERS COST.
6. ALL WORK TO BE DONE BY CONTRACTOR AT DEVELOPERS COST U.N.O.
9. LOCATE ALL EXISTING GAS, ELECTRICAL, TELECOMMUNICATIONS, WATER MAINS, SEWER MAINS AND STORMWATER MAINS ETC. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND ADVISE THE ENGINEER OF ANYTHING THAT APPEARS NOT BE HAVE BEEN CONSIDERED IN THE DESIGN.
10. BULKHEADS AND TRENCH STOPS TO BE IN ACCORDANCE WITH DRG. MRWA-W-208 & 209 AND AS NOTED ON THE APPROVED WATER LONG SECTIONS WHERE SHOWN
11. WATER MAIN CLEARANCES SHALL BE IN ACCORDANCE WITH WSA 03-2011-3.1, 5.12.5.2 TABLE 5.5
12. THRUST AND ANCHOR BLOCKS SHALL BE CONSTRUCTED IN ACCORDANCE MRWA-W-204 & 205A
13. LOT CONNECTIONS TO BE IN ACCORDANCE WITH TASWATER DRG. No. TWS-W-0002 SHEET 5 OF 19 FOR DN20 & DN25 BELOW GROUND CONNECTIONS
14. FOR LOT CONNECTIONS TO RETICULATION MAINS REFER MRWA-W-110
15. STOP VALVES SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-302
    HYDRANTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-305
16. HYDRANT MARKINGS TO BE IN ACCORDANCE WITH MRWA-W-301 FOR KERBS
17. CUL-DE-SAC POLY LOOPS TO BE INSTALLED IN ACCORDANCE MRWA-W-108 & MRWA-W-109
18. ALL PROPERTY CONNECTION PIPES TO BE I.D.20 UNLESS NOTED OTHERWISE & ALL LOT CONNECTION VALVES TO BE I.D.20. ALL LOT CONNECTIONS TO BE ADJACENT TO THE DRIVEWAY ACCESSES OF EACH LOT FACING THE MIDDLE OF THE LOT, WHERE POSSIBLE, OUTSIDE OF A TRAFFICABLE AREA AND IN ACCORDANCE WITH 'TASWATER'S' STANDARD DRAWINGS TW-SD-W-20 SERIES, WATER METERING POLICY, BOUNDARY BACKFLOW CONTAINMENT BUSINESS RULE & AS3500.1:2003, INSTALLED AT THE PROPERTY BOUNDARY.
19. ALL WATER MAINS TO BE TESTED AND WITNESSED BY TASWATER SUBIVISIONAL INSPECTOR TO STATIC PRESSURE PLUS 50%.
20. MINIMUM COVER TO BE 1000mm UNDER MAJOR ROADS, 750mm UNDER LOCAL STREETS AND 750mm ELSEWHERE U.N.O
21. ALL TRENCHES UNDER TRAFFICKED AREAS TO BE BACK FILLED WITH APPROVED FCR INCLUDING FUTURE DRIVEWAY EXTENSIONS.
22. FLUSHING OF MAINS TO BE CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
23. ELECTROMAGNETIC TRACKER TAPE TO BE PLACED IN ALL WATER MAIN TRENCHES ABOVE THE PIPE.
24. WATER MAINS TO BE BEDDED ON 80mm APPROVED 7mm CLEAN METAL.
25. CONCRETE THRUST BLOCKS TO BE PROVIDED AT ALL SUDDEN CHANGES OF DIRECTION, BOTH VERTICALLY AND HORIZONTALLY AT TEES AND END OF LINES AND ANYWHERE ELSE REQUIRED/AND IN ACCORDANCE WITH DRAWINGS MRWA-W-205A, B OR C.
26. FIRE HYDRANT & VALVE MARKERS TO BE IN ACCORDANCE WITH DRAWINGS MRWA-W-300 & 301. ALL VALVES ETC TO BE RESILIENT SEATED POWDER COATED CLASS 16.
27. WHERE DN100 PIPES CROSS UNDER ROADS THEY MUST BE DN100 PN35 D.I.C.L. PIPE.
28. ALL WATER WORKS MUST BE TESTED AND INSPECTED BY TASWATER PRIOR TO BACKFILL.
29. PROPERTY CONNECTIONS LOCATED WITHIN AN AREA SUBJECT TO TRAFFICABLE LOADS MUST BE INSTALLED IN A CLASS 'B' METER BOX AND SURROUND.
30. ALL WORK TO BE DONE BY CONTRACTOR AT DEVELOPERS COST UNLESS NOTED OTHERWISE.
31. ALL CONNECTIONS TO EXISTING WATER OR SEWER TO BE DONE BY TASWATER AT DEVELOPERS COST.
32. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING SERVICES PRIOR TO UNDERTAKING ANY EXCAVATION AND TO NOTIFY THE ENGINEER OF ANYTHING THAT DOES NOT APPEAR TO HAVE BEEN CONSIDERED IN THE DESIGN.



STAGING OF DEVELOPMENT		
STAGE	NO. OF LOTS	LOT NUMBERS
STAGE 1	5	LOTS 110-114
STAGE 2	6	LOTS FOOTWAY 501 115-116 & 121-124
STAGE 3	4	LOTS 117-120

GENERAL NOTES:

ALL CONSTRUCTION TO COMPLY WITH THE FOLLOWING LOCAL GOVT. STANDARDS & THE MUNICIPAL STANDARD SPECIFICATION.

TSD-G02.v3 URBAN ROADS TYPICAL SERVICE LOCATIONS
TSD-G04.v3 REFENCE POINTS

URBAN ROADS
TSD-R06.v3 URBAN ROADS TYPICAL SECTION & PAVEMENT WIDTHS
TSD-R07.v3 CUL-DE-SAC TURNING HEADS
MSD 1-03 STANDARD VEHICLE CROSSING
TSD-R11.v3 FOOTPATHS

SUB-SOIL
TSD-R12.v3 CONSTRUCTION DETAILS
TSD-R13.v3 PIT CONNECTION - TYPE FD

CONCRETE KERB AND CHANNELS
TSD-R14.v3 PROFILE DIMENSIONS
TSD-R15.v3 CONSTRUCTION DETAILS
TSD-R17.v3 VEHICULAR CROSSINGS
TSD-R23.v3 SIGNS

SIDE ENTRY PITS
TSD-SW04.v3 GRATE AND FRAME DETAILS
TSD-SW09.v3 TYPE 3
TSD-SW11.v3 KERB TRANSITIONS
TSD-SW25.v3
TSD-SW28.v3 GUIDES TO SEDIMENT CONTROL
TSD-RF04.v3 NATURE STRIP DETAILS

STORMWATER MANHOLES ø100 - ø600 DIA PIPES
TSD-SW02.v3 GENERAL ARRANGEMENTS
TSD-SW03.v3 BENCHING DETAILS

EXCAVATION.
ALL STOCKPILES TO BE LOCATED CLEAR OF ANY WATERCOURSE.

FCR BACKFILL OVER ALL PIPES UNDER PROPOSED DRIVEWAYS & ROADWAYS

ALL STORM WATER LOT CONNECTIONS TO BE ø150

TRAFFIC MANAGEMENT NOTES:

1. THE CONTRACTOR IS TO PREPARE A TRAFFIC MANAGEMENT PLAN FOR APPROVAL BY THE DEVELOPMENT ENGINEER PRIOR TO COMMENCING WORKS ON SITE.
2. THE TRAFFIC MANAGEMENT PLAN SHALL COMPLY WITH THE REQUIREMENTS OF AS 1742.
3. TRAFFIC MANAGEMENT SHALL BE IMPLEMENTED DURING CONSTRUCTION OF ALL WORKS WITHIN THE ROAD RESERVATION.
4. THE CONTRACTOR SHALL MAINTAIN ONE TRAFFICABLE LANE AT ALL TIMES.
5. DISRUPTIONS TO TRAFFIC SHALL BE MINIMIZED.
6. ALL PERSONS INVOLVED IN TRAFFIC MANAGEMENT MUST HOLD APPROPRIATE QUALIFICATIONS - TO COUNCIL APPROVAL.
7. APPROPRIATE SAFETY GEAR SHALL BE WORN BY ALL PERSONS WORKING IN THE ROAD RESERVATION.

TOTAL = 15 RESIDENTIAL LOTS

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

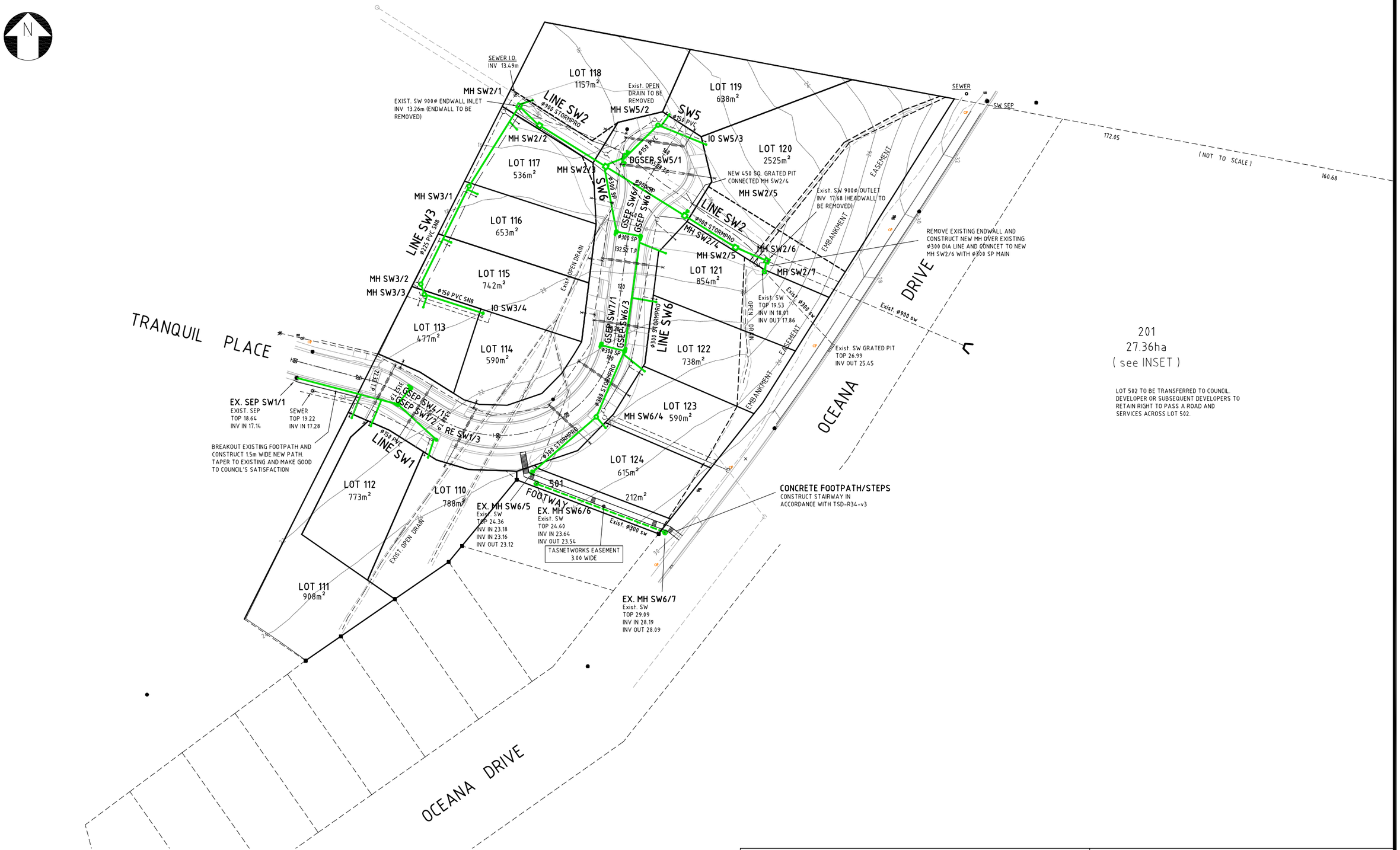
No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO TASWATER	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347
^ STRUCTURAL ^ CIVIL ^ MUNICIPAL ^ MECHANICAL ^ MARINE ^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
COVER SHEET

SCALE NOT TO SCALE
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/100 REVISION A
No. OF SHEETS



CLIENT:
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A	ISSUED TO COUNCIL DA	19.02.2024		

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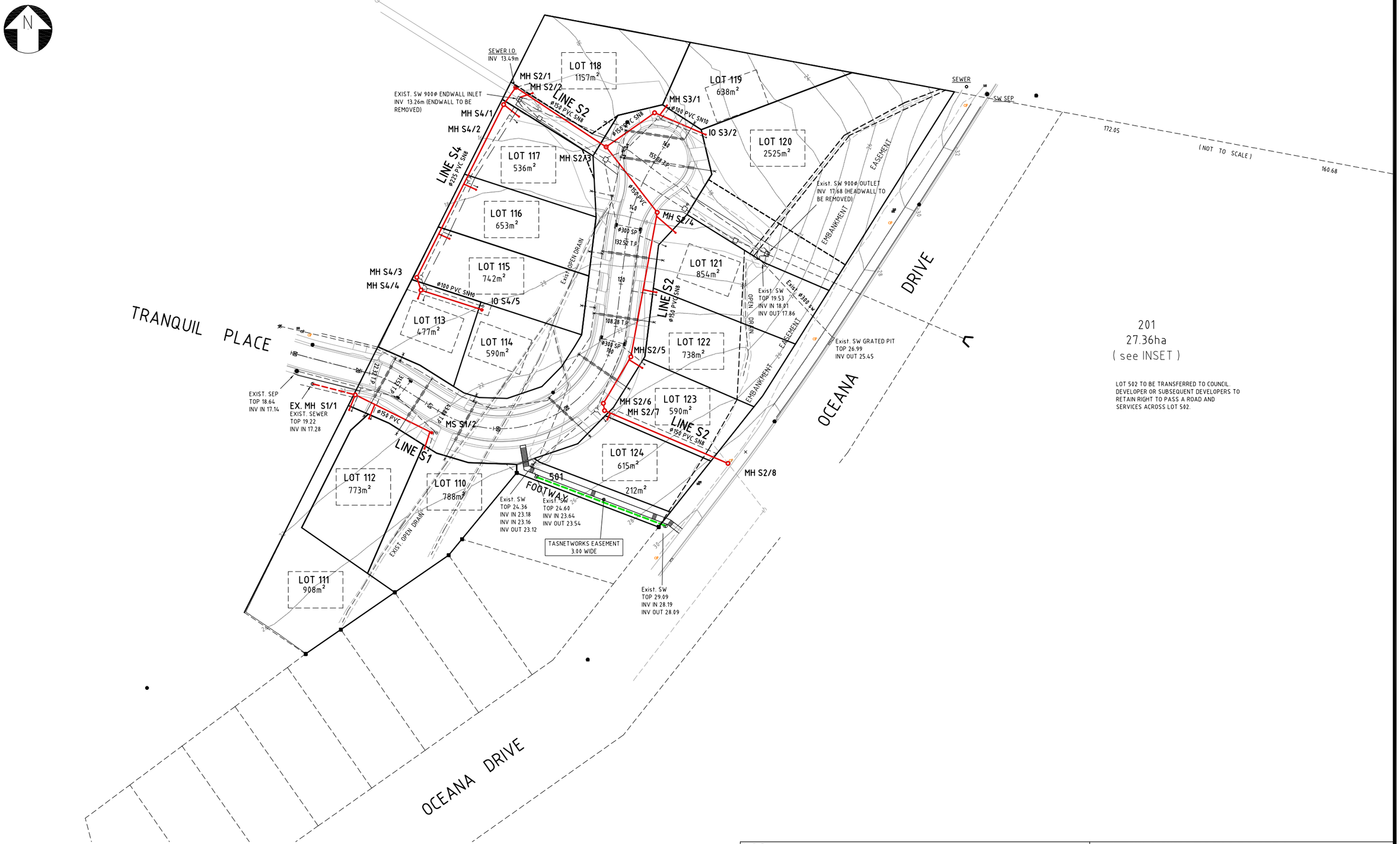
312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
COVER SHEET

SCALE	1:500 (A1)	DRAWING No.	REVISION
DRAWN	B. STANFORD	DATE FEB '23	21281/101 (A)
APPROVED		No. OF SHEETS	



CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
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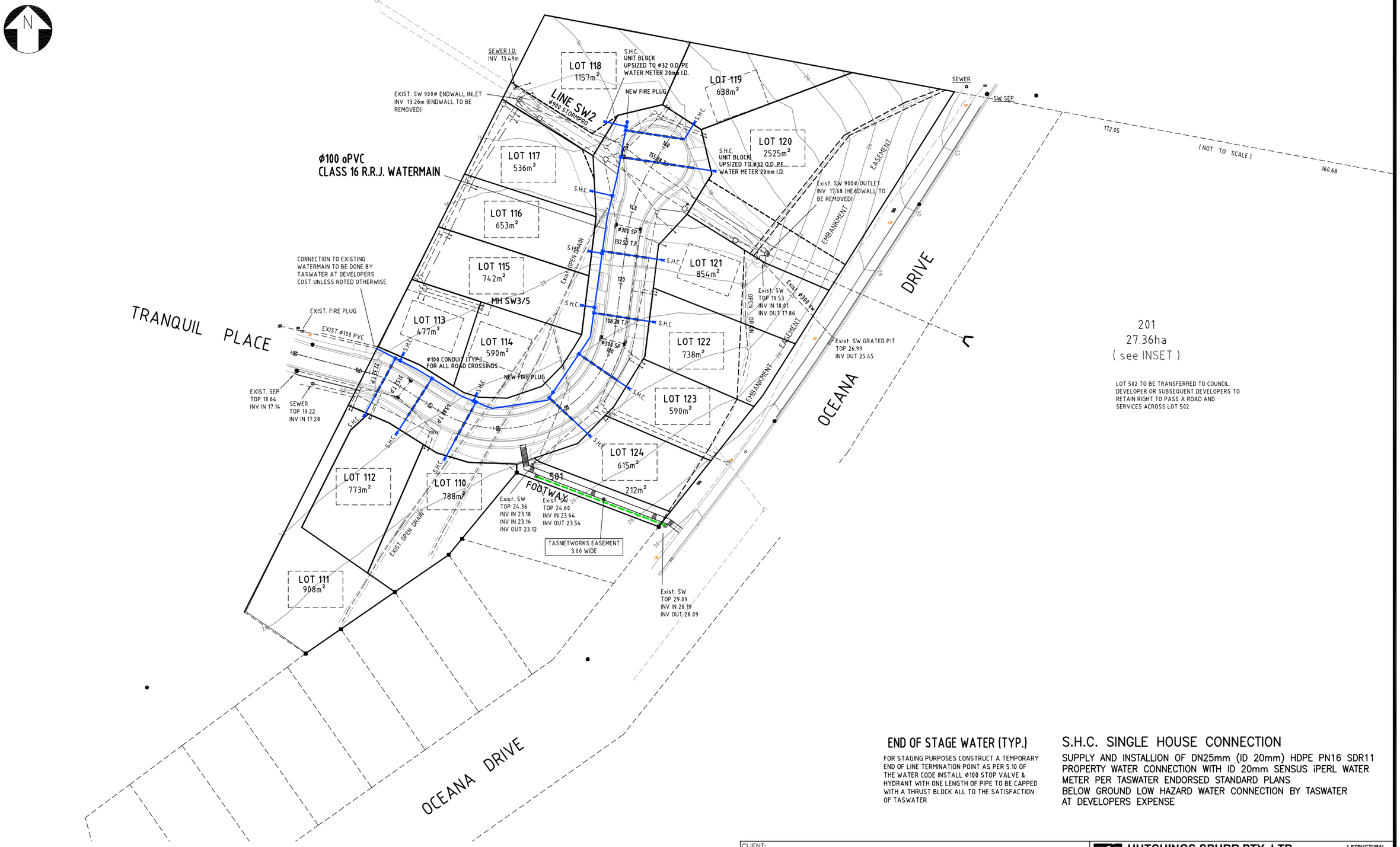
312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
SEWER RETICULATION PLAN

SCALE	1:500 (A1)	DRAWING No.	REVISION
DRAWN	B. STANFORD	DATE FEB '23	21281/102 A
APPROVED		No. OF SHEETS	



201
27.36ha
(see INSET)

LOT 502 TO BE TRANSFERRED TO COUNCIL. DEVELOPER OR SUBSEQUENT DEVELOPERS TO RETAIN RIGHT TO PASS A ROAD AND SERVICES ACROSS LOT 502.

END OF STAGE WATER (TYP.)

FOR STAGING PURPOSES CONSTRUCT A TEMPORARY END OF LINE TERMINATION POINT AS PER S.10 OF THE WATER CODE INSTALL ø100 STOP VALVE & HYDRANT WITH ONE LENGTH OF PIPE TO BE CAPPED WITH A THRUST BLOCK ALL TO THE SATISFACTION OF TASWATER

S.H.C. SINGLE HOUSE CONNECTION

SUPPLY AND INSTALLION OF DN25mm (ID 20mm) HDPE PN16 SDR11 PROPERTY WATER CONNECTION WITH ID 20mm SENSUS iPERL WATER METER PER TASWATER ENDORSED STANDARD PLANS BELOW GROUND LOW HAZARD WATER CONNECTION BY TASWATER AT DEVELOPERS EXPENSE

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
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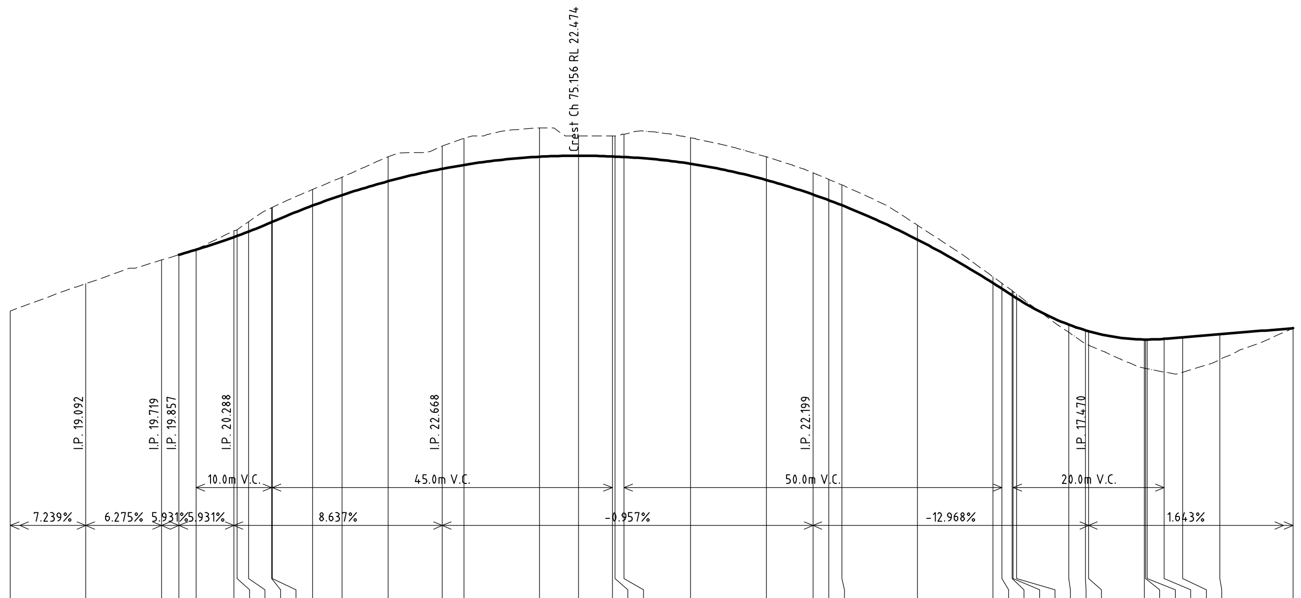
312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
WATER RETICULATION PLAN

SCALE	1:500 (A1)	DRAWING No.	REVISION
DRAWN	B. STANFORD	DATE FEB '23	21281/103 A
APPROVED		No. OF SHEETS	

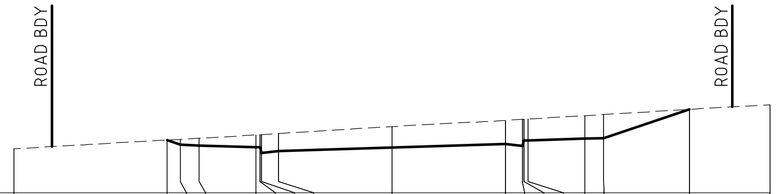


CHAINAGE	EXISTING SURFACE	DESIGN SURFACE	Centreline Cut/Fill
0.000	100.00	18.368	
10.000	19.09	19.092	0.00
20.000	19.72	19.719	0.00
22.316	19.86	19.857	0.00
24.592	20.00	19.992	-0.01
29.592	20.49	20.322	-0.17
30.000	20.52	20.352	-0.17
31.517	20.73	20.467	-0.26
34.592	21.10	20.720	-0.38
34.646	21.11	20.725	-0.39
40.000	21.58	21.157	-0.42
43.877	21.91	21.431	-0.48
50.000	22.45	21.800	-0.65
57.146	22.73	22.129	-0.60
60.000	22.93	22.229	-0.70
70.000	23.21	22.446	-0.76
75.156	23.00	22.474	-0.53
79.646	23.00	22.453	-0.55
80.000	23.00	22.449	-0.55
81.177	23.04	22.438	-0.60
90.000	22.95	22.260	-0.69
100.000	22.44	21.832	-0.61
106.177	22.02	21.448	-0.57
108.281	21.85	21.296	-0.55
110.000	21.70	21.164	-0.54
120.000	20.64	20.256	-0.38
130.000	19.27	19.108	-0.16
131.177	19.10	18.957	-0.14
132.518	18.90	18.783	-0.12
132.644	18.89	18.766	-0.12
133.099	18.82	18.708	-0.11
140.000	17.81	18.010	0.20
142.234	17.50	17.859	0.36
142.644	17.47	17.835	0.36
150.000	16.86	17.616	0.76
150.198	16.85	17.616	0.77
150.395	16.84	17.615	0.78
152.644	16.75	17.634	0.88
155.082	16.75	17.674	0.92
160.000	17.09	17.755	0.66
169.672	17.91	17.914	0.00

LONGITUDINAL SECTION

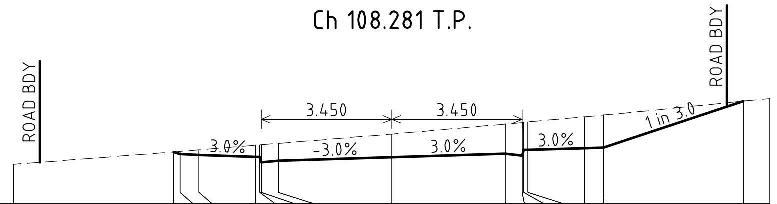
TRANQUIL PLACE

SCALES: HORIZ 1: 500 (A1)
VERT 1: 100 (A1)



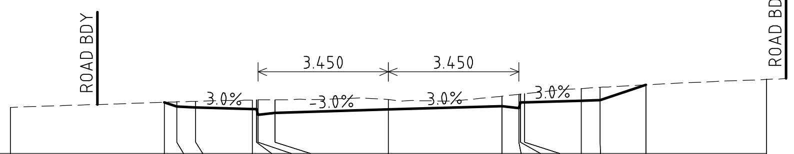
DESIGN SURFACE		21.49	21.38	21.35	21.31	21.31	21.16	21.21	21.30	21.39	21.34	21.49	21.49	21.53	21.55	22.30	
EXISTING SURFACE	21.26	21.49	21.51	21.54	21.63	21.64	21.64	21.67	21.85	22.01	22.04	22.04	22.05	22.14	22.17	22.30	22.43
OFFSET	-10.000	-5.950	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	7.872	10.000

Ch 108.281 T.P.



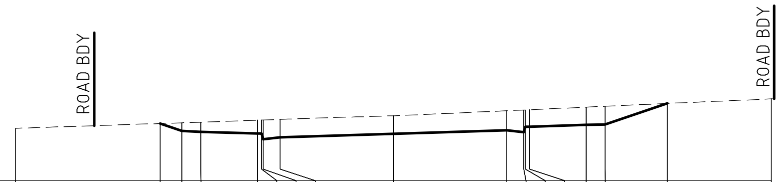
DESIGN SURFACE		21.97	21.91	21.89	21.84	21.84	21.69	21.74	21.83	21.92	21.87	22.02	22.02	22.07	22.08	23.31	
EXISTING SURFACE	21.64	21.97	21.98	22.02	22.15	22.16	22.16	22.20	22.44	22.71	22.75	22.75	22.76	22.90	22.95	23.31	23.38
OFFSET	-10.000	-5.771	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	9.295	10.000

Ch 100.000



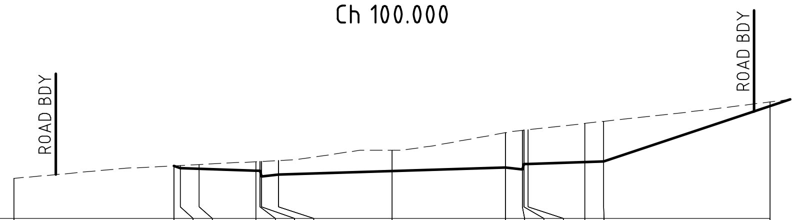
DESIGN SURFACE		20.66	20.55	20.52	20.48	20.48	20.33	20.38	20.47	20.56	20.51	20.66	20.66	20.70	20.72	21.12	
EXISTING SURFACE	20.52	20.66	20.67	20.68	20.72	20.72	20.72	20.72	20.73	20.82	20.87	20.87	20.88	21.02	21.06	21.12	21.26
OFFSET	-10.000	-5.933	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	6.815	10.000

Ch 31.517 T.P.



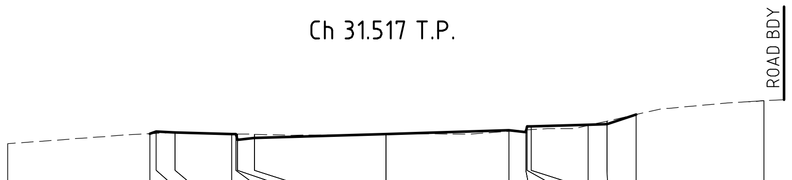
DESIGN SURFACE		21.70	21.51	21.49	21.44	21.44	21.29	21.34	21.43	21.52	21.47	21.62	21.62	21.67	21.68	22.23	
EXISTING SURFACE	21.58	21.70	21.72	21.74	21.79	21.80	21.80	21.81	21.91	22.04	22.06	22.06	22.07	22.13	22.16	22.23	22.35
OFFSET	-10.000	-6.174	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	7.254	10.000

Ch 43.88 T.P.



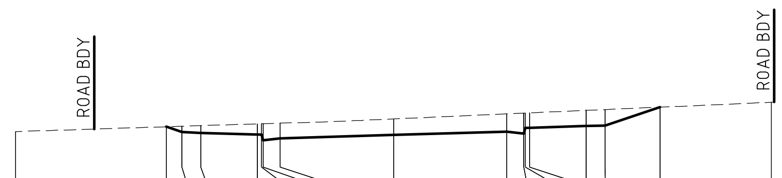
DESIGN SURFACE		22.59	22.53	22.50	22.46	22.46	22.31	22.36	22.45	22.54	22.49	22.64	22.64	22.68	22.70	
EXISTING SURFACE	22.25	22.59	22.60	22.62	22.70	22.70	22.70	22.73	23.00	23.46	23.53	23.53	23.54	23.71	23.76	24.28
OFFSET	-10.000	-5.773	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	10.000

Ch 80.000



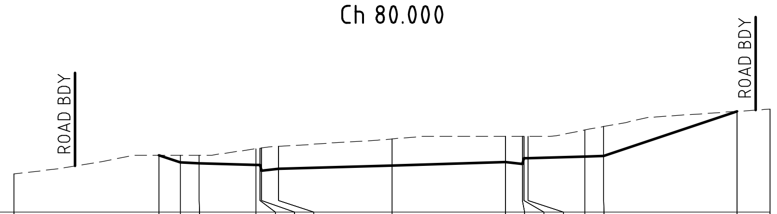
DESIGN SURFACE		19.87	19.92	19.90	19.85	19.85	19.70	19.75	19.86	19.95	19.90	20.05	20.05	20.10	20.11	20.37	
EXISTING SURFACE	19.60	19.87	19.87	19.90	19.86	19.86	19.86	19.85	19.86	19.93	19.96	19.96	19.97	20.08	20.19	20.37	20.73
OFFSET	-10.000	-6.244	-6.075	-5.575	-4.075	-3.965	-3.925	-3.475	0.000	3.250	3.700	3.740	3.850	5.350	5.850	6.620	10.000

Ch 22.316 T.P.



DESIGN SURFACE		21.37	21.24	21.21	21.17	21.17	21.02	21.07	21.16	21.25	21.20	21.35	21.35	21.39	21.41	21.89	
EXISTING SURFACE	21.25	21.37	21.39	21.40	21.45	21.45	21.45	21.47	21.58	21.72	21.74	21.74	21.74	21.81	21.83	21.89	22.02
OFFSET	-10.000	-6.014	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	7.058	10.000

Ch 40.000



DESIGN SURFACE		22.50	22.31	22.28	22.24	22.24	22.09	22.14	22.23	22.32	22.27	22.42	22.42	22.46	22.48	23.66	
EXISTING SURFACE	22.00	22.50	22.50	22.50	22.67	22.69	22.69	22.73	22.93	23.00	23.00	23.00	23.00	23.16	23.26	23.66	23.72
OFFSET	-10.000	-6.172	-5.600	-5.100	-3.600	-3.490	-3.450	-3.000	0.000	3.000	3.450	3.490	3.600	5.100	5.600	9.133	10.000

Ch 60.000

CROSS SECTIONS

TRANQUIL COSTS

SCALES: 1: 100 (A1)

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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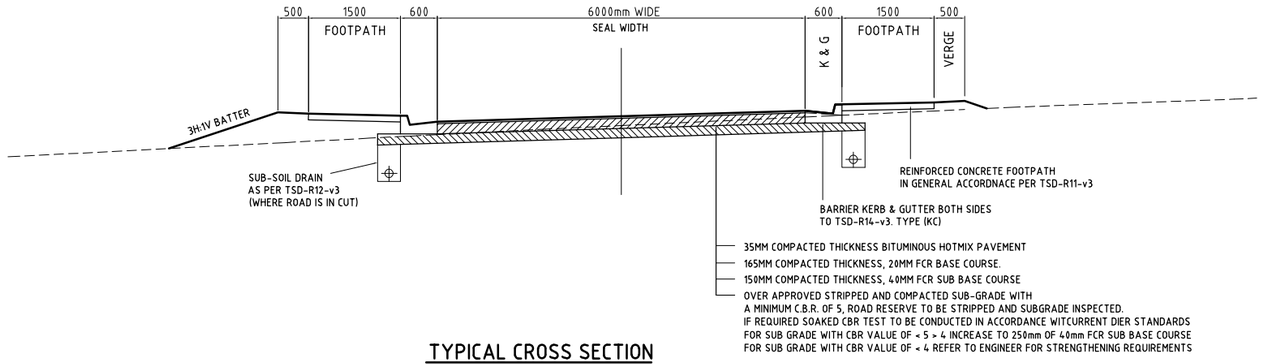
312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
TRANQUIL PLACE LONG & CROSS SECTIONS

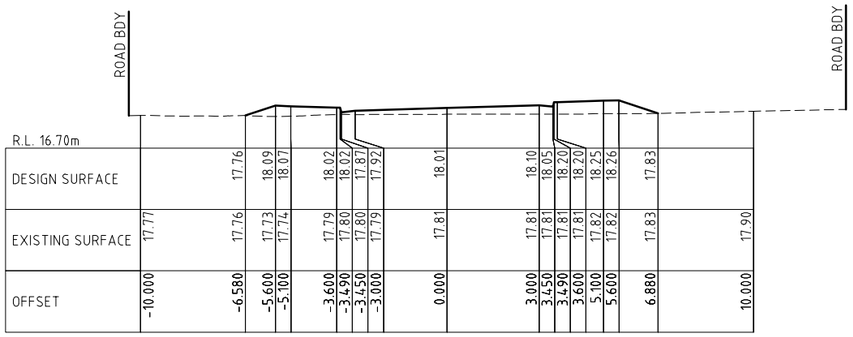
SCALE	AS SHOWN
DRAWN	B. STANFORD
DATE	FEB '24
APPROVED	
DRAWING No.	21281/104
REVISION	A
No. OF SHEETS	



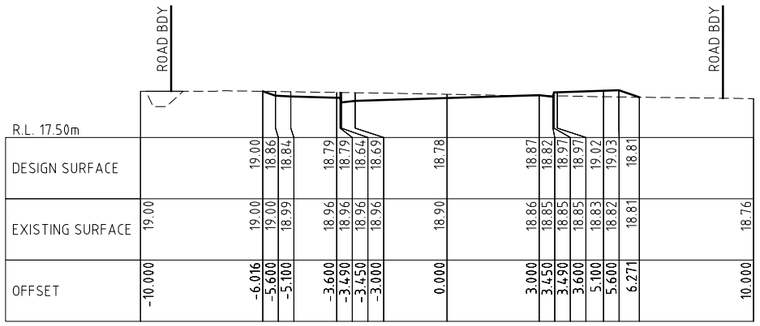
TYPICAL CROSS SECTION

TRANQUIL PLACE

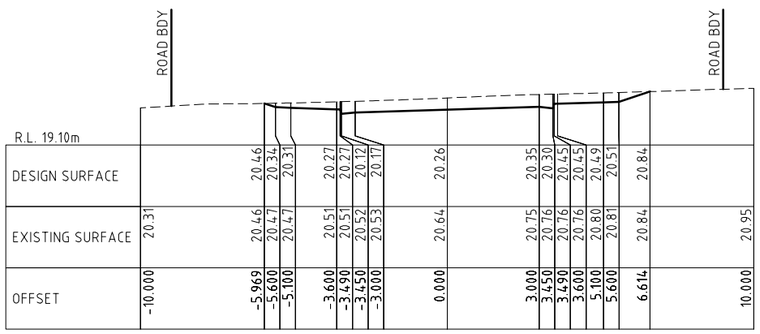
SCALE 1:50 (A1)



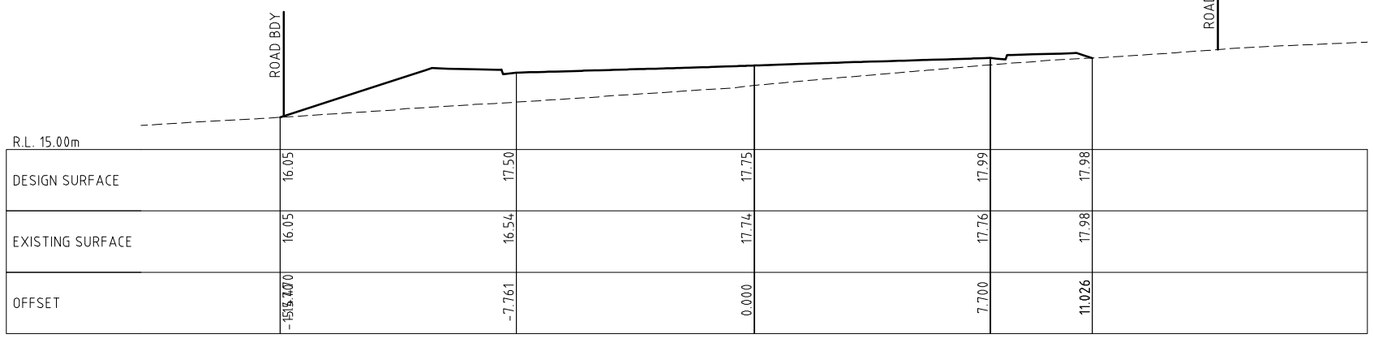
Ch 140.000



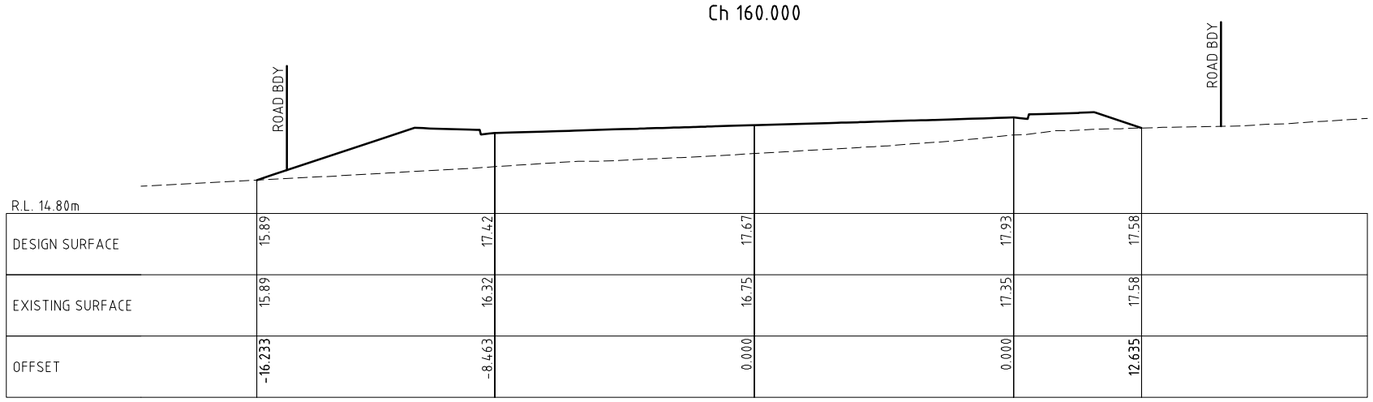
Ch 132.52 T.P.



Ch 120.000



Ch 160.000



Ch 155.082 T.P.

CROSS SECTIONS

TRANQUIL PLACE

SCALES: 1: 100 (A1)

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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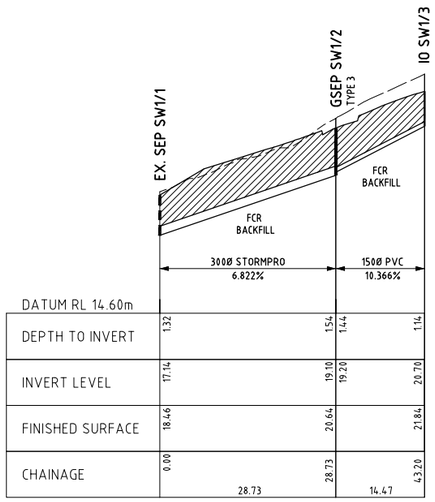
* STRUCTURAL
* CIVIL
* MUNICIPAL
* MECHANICAL
* MARINE
* ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
TRANQUIL PLACE CROSS SECTIONS 2

SCALE AS SHOWN
DRAWN B. STANFORD DATE FEB '23
APPROVED

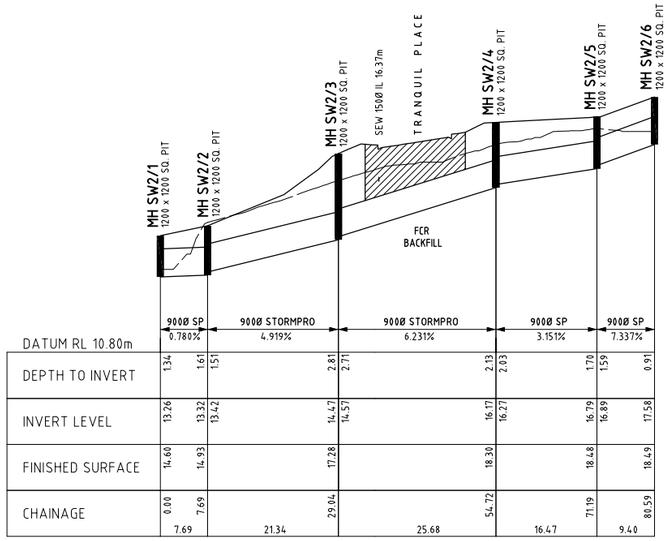
DRAWING No. 21281/105 REVISION A
No. OF SHEETS



DATUM RL 14.60m						
DEPTH TO INVERT	1.32		1.54	1.44		1.14
INVERT LEVEL	17.14		19.10	19.20		20.70
FINISHED SURFACE	18.46		20.64			21.84
CHAINAGE	0.00		28.73	28.73		43.20
		28.73			14.47	

Line SW1

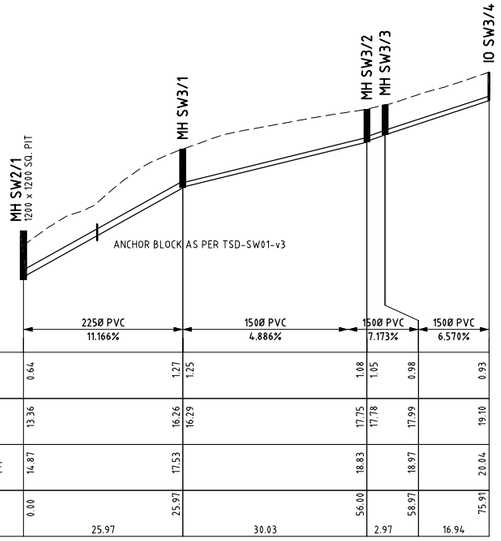
SCALES HOR 1:500 VER 1:100



DATUM RL 10.80m										
DEPTH TO INVERT	1.34	1.61	1.51		2.81	2.71		2.13	2.03	1.70	1.59	0.91
INVERT LEVEL	13.26	13.32	13.42		14.47	14.57		16.17	16.27	16.79	16.89	17.58
FINISHED SURFACE	14.60	14.93			17.28			18.30		18.48		18.49
CHAINAGE	0.00	7.69			29.04			54.72		71.19		88.59
		7.69		21.34			25.68		16.47		9.40	

Line SW2

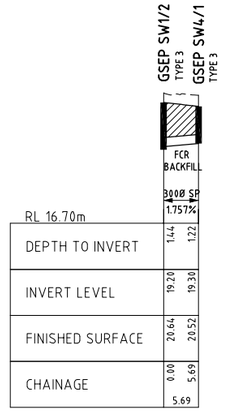
SCALES HOR 1:500 VER 1:100



RL 10.90m							
DEPTH TO INVERT	0.64	1.27	1.25	1.08	1.05	0.98	0.93
INVERT LEVEL	13.36	16.26	16.29	17.75	17.78	17.99	19.10
FINISHED SURFACE	14.87	17.53		18.83		18.97	20.04
CHAINAGE	0.00	25.97		56.00		58.97	75.91
		25.97		30.03		2.97	16.94

Line SW3

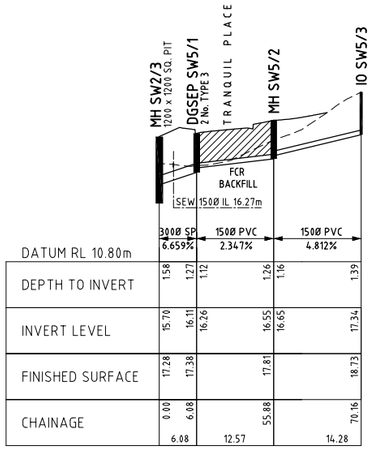
SCALES HOR 1:500 VER 1:100



RL 16.70m		
DEPTH TO INVERT	1.44	1.22
INVERT LEVEL	19.20	19.38
FINISHED SURFACE	20.64	20.52
CHAINAGE	0.00	5.69
	5.69	

Line SW4

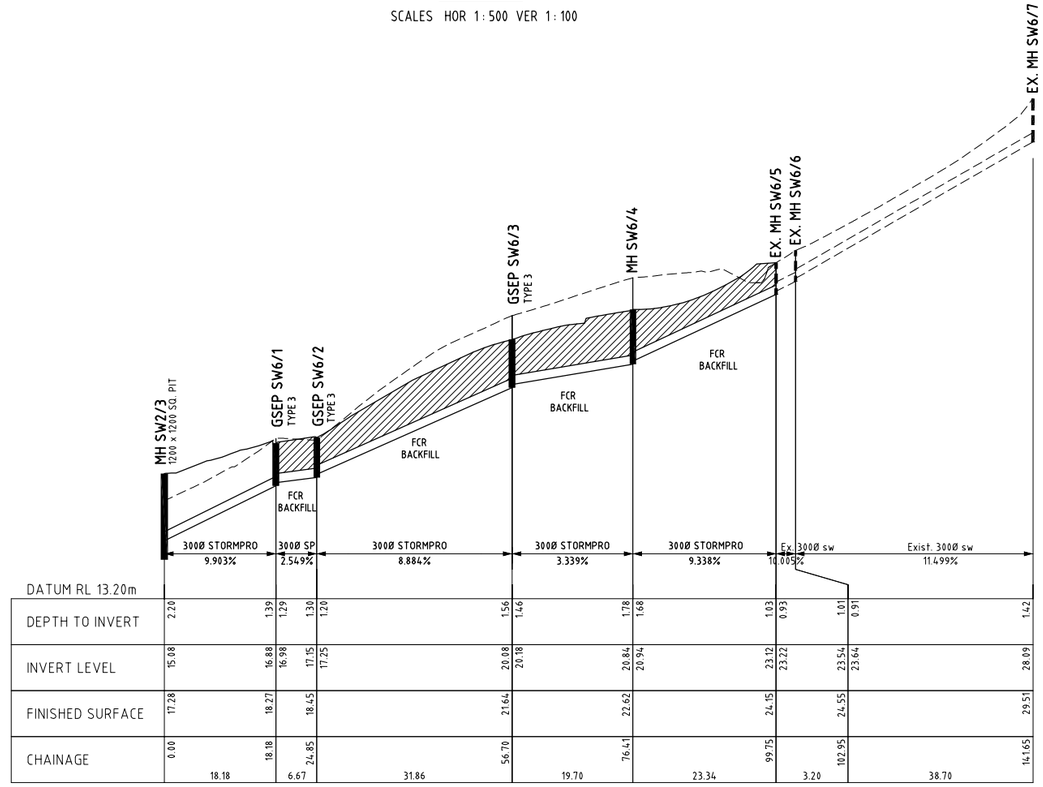
SCALES HOR 1:500 VER 1:100



DATUM RL 10.80m						
DEPTH TO INVERT	1.58	1.27	1.12		1.26	1.16	1.39
INVERT LEVEL	15.70	16.11	16.26		16.55	16.65	17.34
FINISHED SURFACE	17.28	17.38			17.81		18.73
CHAINAGE	0.00	6.08			55.88		70.16
		6.08		12.57		14.28	

Line SW5

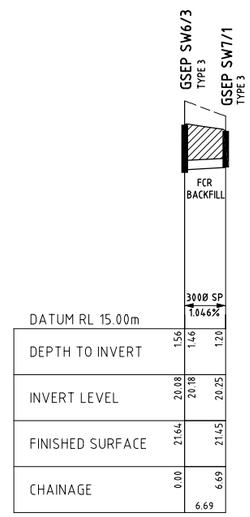
SCALES HOR 1:500 VER 1:100



DATUM RL 13.20m													
DEPTH TO INVERT	2.20	1.39	1.29	1.30	1.20	1.56	1.46	1.78	1.68	1.03	0.93	1.01	0.91	1.42
INVERT LEVEL	15.08	16.88	16.98	17.15	17.25	20.08	20.18	20.84	20.94	23.12	23.22	23.54	23.64	28.09
FINISHED SURFACE	17.28	18.27	18.45			21.64		22.62		24.15		24.55		29.51
CHAINAGE	0.00	18.18	24.85			56.70		76.41		99.75		102.95		141.65
		18.18	6.67	31.86			19.70		23.34		3.20		38.70	

Line SW6

SCALES HOR 1:500 VER 1:100



DATUM RL 15.00m			
DEPTH TO INVERT	1.56	1.46	1.20
INVERT LEVEL	20.08	20.18	20.25
FINISHED SURFACE	21.64		21.45
CHAINAGE	0.00		6.69
		6.69	

Line SW7

SCALES HOR 1:500 VER 1:100

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO TASWATER	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347

^ STRUCTURAL
^ CIVIL
^ MUNICIPAL
^ MECHANICAL
^ MARINE
^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
STORMWATER LONG SECTIONS

SCALE AS SHOWN
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/106 REVISION A
No. OF SHEETS

BACKFILL MATERIALS

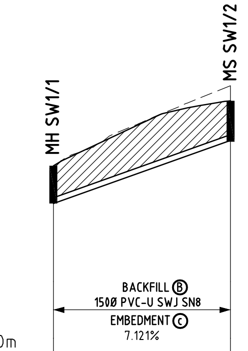
BACKFILL MATERIAL (A) = AS PER TABLE 201-B, STD. DRG. MRWA-W-201

BACKFILL MATERIAL (B) = AS PER TABLE 201-A, STD. DRG. MRWA-W-201

EMBEDMENT MATERIALS

EMBEDMENT MATERIAL (C) = 7mm FCR AS PER TABLE 202-B. STD. DRG. MRWA-W-202

EMBEDMENT MATERIAL (I) = 20mm CEMENT TREATED CLASS 3 FCR. AS PER TABLE 202-B. STD. DRG. MRWA-W-202

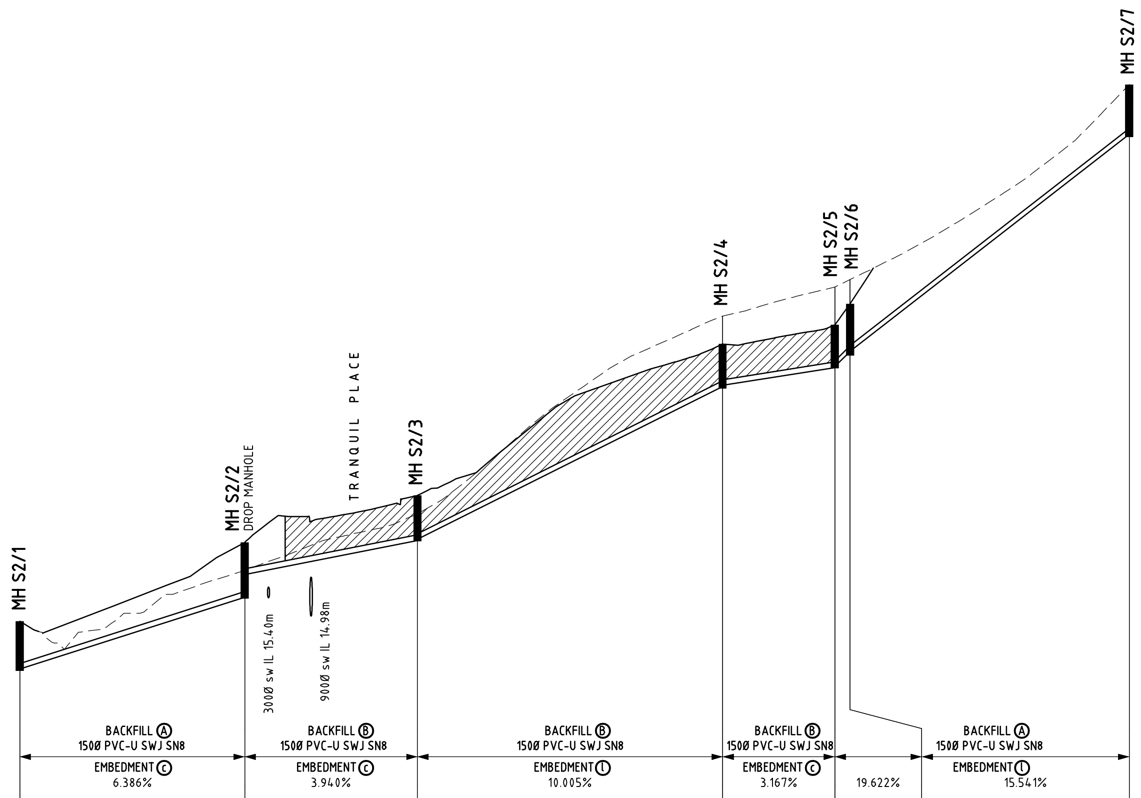


DATUM RL 15.20m

DEPTH TO INVERT	1.000		1.050
INVERT LEVEL	19.214		20.886
FINISHED SURFACE	20.214		21.936
CHAINAGE	0.000	23.480	23.480

Line S1

SCALES HOR 1:500 VER 1:100

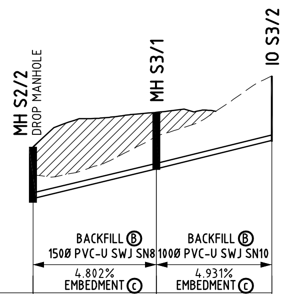


DATUM RL -6.0m

DEPTH TO INVERT	1.293 1.263		1.449 0.849		1.190 1.160		1.122 1.092		1.130 1.100		1.258 1.250		1.311
INVERT LEVEL	13.490 13.520		15.420 16.020		16.920 16.950		20.990 21.020		21.490 21.520		21.916 21.924		27.664
FINISHED SURFACE	14.783		16.87		18.110		22.112		22.620		23.174		28.975
CHAINAGE	0.00	29.755	29.76	22.841	52.60	40.379	92.98	14.838	107.81	2.018	109.83	36.932	146.76

Line S2

SCALES HOR 1:500 VER 1:100

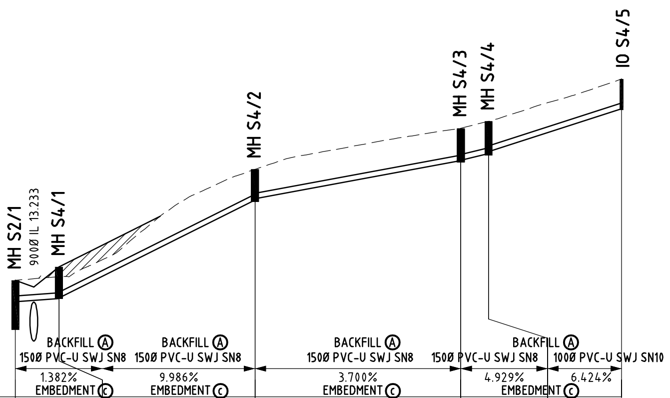


RL 13.00m

DEPTH TO INVERT	1.37		1.50		1.71
INVERT LEVEL	15.50		16.28		17.04
FINISHED SURFACE	16.87		17.78		18.75
CHAINAGE	0.00	16.31	16.31	15.27	31.58

Line S3

SCALES HOR 1:500 VER 1:100



RL 11.70m

DEPTH TO INVERT	0.56		0.58 0.56		0.81 0.78		0.86 0.85		0.85 0.80		0.79
INVERT LEVEL	14.22		14.30 14.32		16.91 16.94		17.95 17.96		18.14 18.19		19.32
FINISHED SURFACE	14.78		14.88		17.72		18.81		18.99		20.11
CHAINAGE	0.00	5.79	5.79	25.94	31.73	27.24	103.97	3.67	107.64	17.62	125.27

Line S4

SCALES HOR 1:500 VER 1:100

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO TASWATER	19.02.2024		

HUTCHINGS SPURR PTY. LTD.
CONSULTING ENGINEERS
23 ANTILL STREET, HOBART, 7000. A.C.N. 009508525
PHONE (03) 6223 5020 FAX (03) 6223 5347
^ STRUCTURAL ^ CIVIL ^ MUNICIPAL ^ MECHANICAL ^ MARINE ^ ELECTRICAL

312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
SEWER LONG SECTIONS

SCALE AS SHOWN
DRAWN B. STANFORD | DATE FEB '23
APPROVED

DRAWING No. 21281/107 REVISION (A)
No. OF SHEETS

FOR THE PLACEMENT OF FILL:-

- STRIP TOPSOIL TO EXTENT SHOWN AND STOCKPILE
- PLACE FILL SOURCED FROM EXCAVATION AND BOXING OUT FOR ROADWORKS AND COMPACT IN 150mm LAYERS TO THE APPROVAL OF THE SUPERINTENDENT

REPLACE TOPSOIL FROM STOCKPILE TO MINIMUM 150 THICK EVENLY GRADED OUT TO THE REQUIRED LEVELS. RESEED WITH GRASS AND FERTILISE

SWALE works based on stormwater report
312A Tranmere Estate Flood Hazard and
Stormwater Report - Anna Wilson 18/12/2023

Recommendations:

- 5m wide by 400mm deep grassed swale within a drainage easement.
- 4m wide x 500mm deep hinged section of fence at 358 Carella Street.
- 4 small plaques be attached to the concrete turnouts to identify the flood risk to residents for the future and discourage any private construction blocking the flow path.

INSTALL A HINGED SECTION OF FENCING AT 358 CARELLA ST. 4m LONG x 0.5m HIGH FOR 1% AEP FLOWS

EXIST. SW 900ø ENDWALL INLET INV 13.26 (ENDWALL TO BE REMOVED)

LOT 118
1157m²

LOT 119
638m²

LOT 120
2525m²

LOT 117
536m²

LOT 116
653m²

LOT 115
742m²

LOT 113
477m²

LOT 114

LOT 121
854m²

LOT 122

DRAINAGE EASEMENT 5.00 WIDE

DRAINAGE EASEMENT 5.0m WIDE

NEW ø900 SP

155.08 T.P

ø300 SP

132.52 T.P

108.28 T.P

ø300 SP

Exist. OPEN DRAIN

OPEN DRAIN

OPEN DRAIN EASEMENT

EMBANKMENT

DRIVE

Exist. SW 900ø OUTLET INV 17.68 (HEADWALL TO BE REMOVED)

Exist. SW
TOP 19.53
INV IN 18.01
INV OUT 17.86

Exist. SW GRATED PIT

EXISTING OPEN DRAINS TO BE FILLED IN WITH SUITABLY COMPACTED MATERIAL

C 109 · B 109 · A 109 · B 02

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
STORMWATER SWALE PLAN

SCALE 1:500 (A1)
DRAWN B. STANFORD | DATE FEB '23
APPROVED

DRAWING No. 21281/108 REVISION A
No. OF SHEETS

SWALE works based on stormwater report
312A Tranmere Estate Flood Hazard and
Stormwater Report - Anna Wilson 18/12/2023

Recommendations:

- 5m wide by 400mm deep grassed swale within a drainage easement.
- 4m wide x 500mm deep hinged section of fence at 358 Carella Street.
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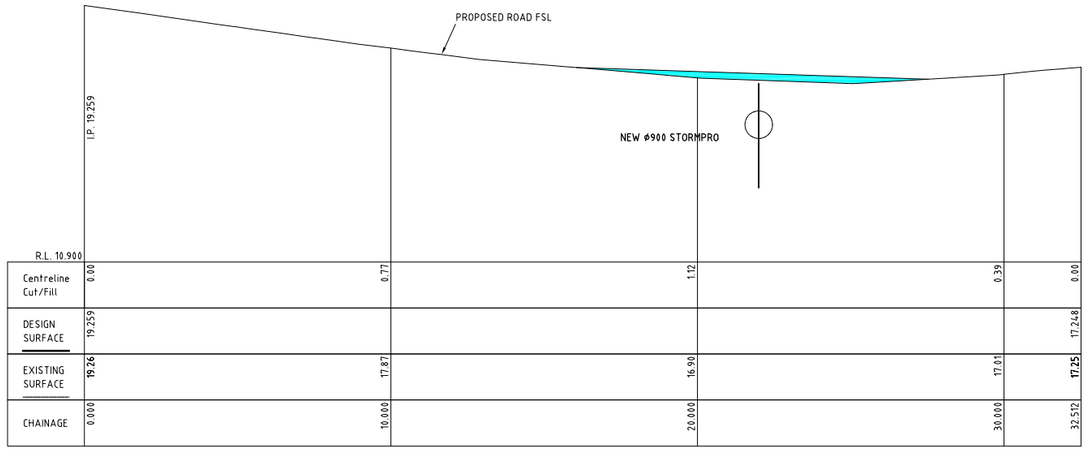
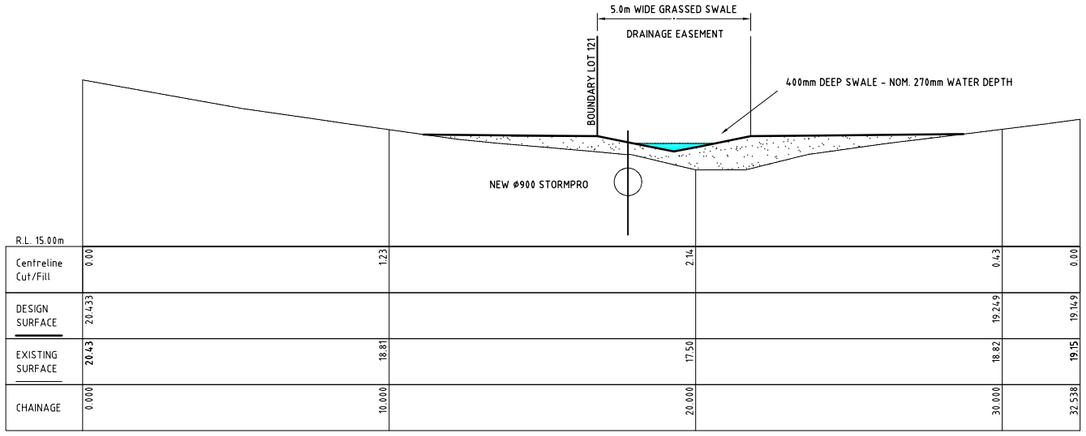


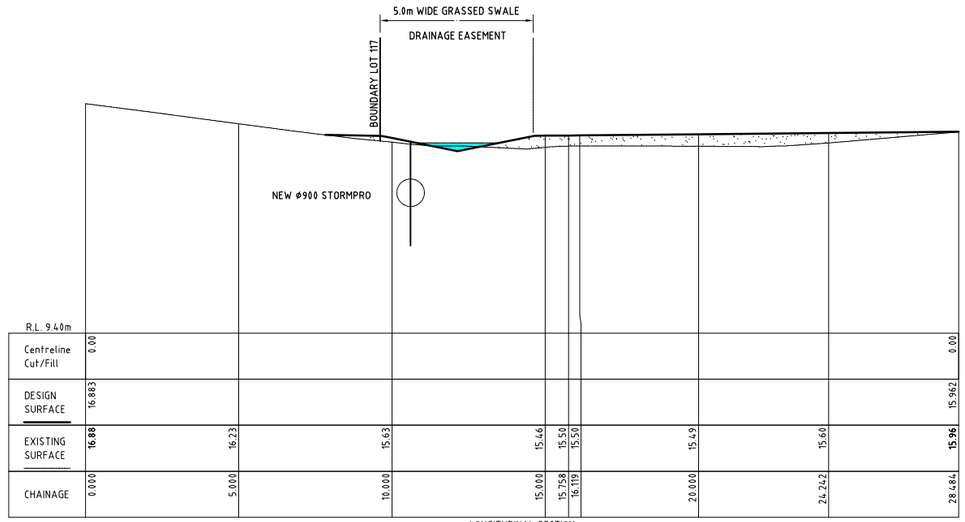
LONGITUDINAL SECTION
B Ch 0.000 to Ch 32.512
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

B
ROAD



LONGITUDINAL SECTION
A Ch 0.000 to Ch 32.538
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

A
UPSTREAM



LONGITUDINAL SECTION
C Ch 0.000 to Ch 28.484
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

C
DOWNSTREAM

FOR THE PLACEMENT OF FILL:-

- STRIP TOPSOIL TO EXTENT SHOWN AND STOCKPILE
- PLACE FILL SOURCED FROM EXCAVATION AND BOXING OUT FOR ROADWORKS AND COMPACT IN 150mm LAYERS TO THE APPROVAL OF THE SUPERINTENDENT
- REPLACE TOPSOIL FROM STOCKPILE TO MINIMUM 150 THICK EVENLY GRADED OUT TO THE REQUIRED LEVELS. RESEED WITH GRASS AND FERTILISE

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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^ MARINE
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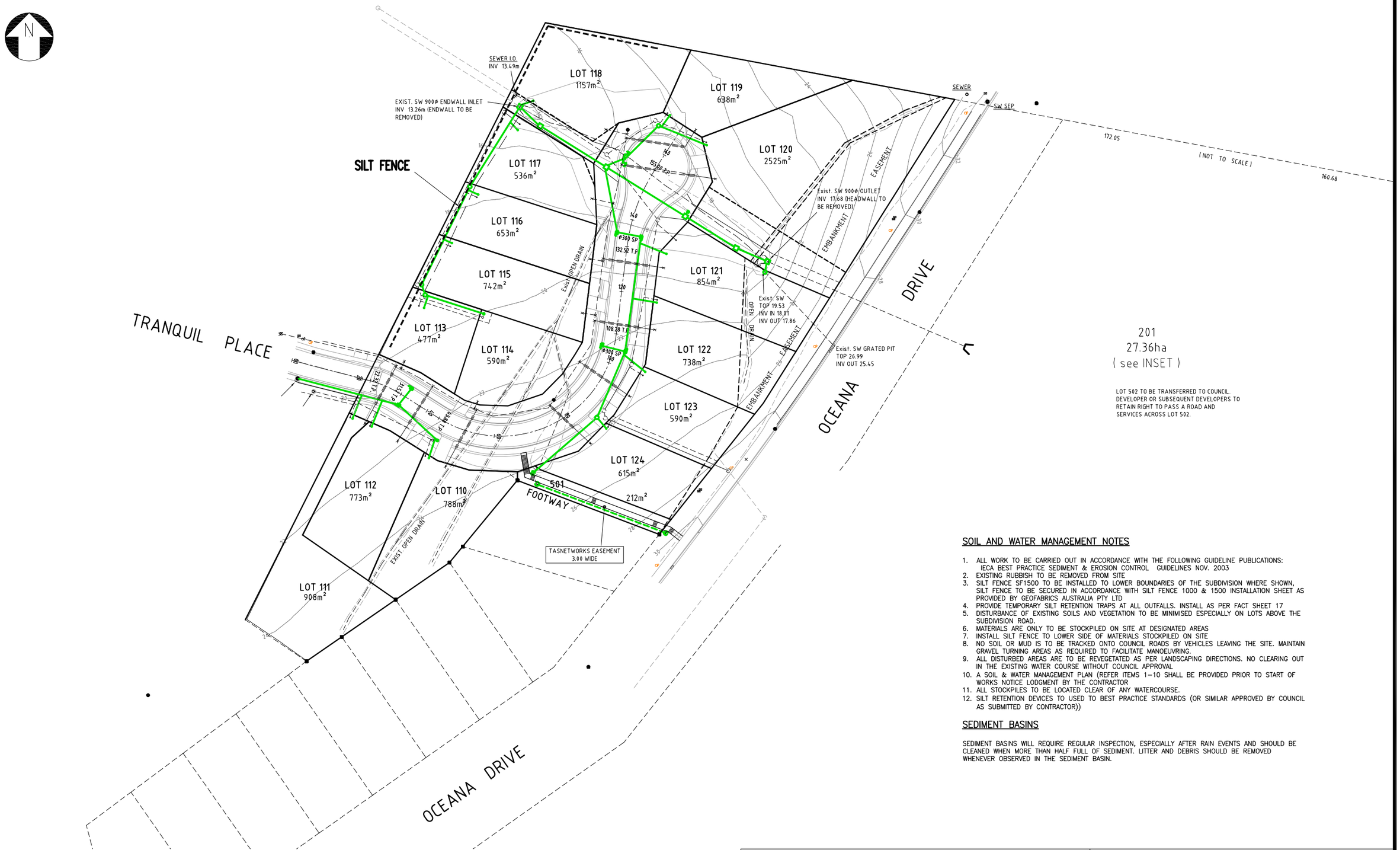
312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
STORMWATER SWALE CROSS SECTIONS

SCALE 1:500 (A1)
DRAWN B. STANFORD DATE FEB '23
APPROVED

DRAWING No. 21281/109 REVISION A
No. OF SHEETS



SOIL AND WATER MANAGEMENT NOTES

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING GUIDELINE PUBLICATIONS:
   IECA BEST PRACTICE SEDIMENT & EROSION CONTROL GUIDELINES NOV. 2003
2. EXISTING RUBBISH TO BE REMOVED FROM SITE
3. SILT FENCE SF1500 TO BE INSTALLED TO LOWER BOUNDARIES OF THE SUBDIVISION WHERE SHOWN, SILT FENCE TO BE SECURED IN ACCORDANCE WITH SILT FENCE 1000 & 1500 INSTALLATION SHEET AS PROVIDED BY GEOFABRICS AUSTRALIA PTY LTD
4. PROVIDE TEMPORARY SILT RETENTION TRAPS AT ALL OUTFALLS. INSTALL AS PER FACT SHEET 17
5. DISTURBANCE OF EXISTING SOILS AND VEGETATION TO BE MINIMISED ESPECIALLY ON LOTS ABOVE THE SUBDIVISION ROAD.
6. MATERIALS ARE ONLY TO BE STOCKPILED ON SITE AT DESIGNATED AREAS
7. INSTALL SILT FENCE TO LOWER SIDE OF MATERIALS STOCKPILED ON SITE
8. NO SOIL OR MUD IS TO BE TRACKED ONTO COUNCIL ROADS BY VEHICLES LEAVING THE SITE. MAINTAIN GRAVEL TURNING AREAS AS REQUIRED TO FACILITATE MANOEUVRING.
9. ALL DISTURBED AREAS ARE TO BE REVEGETATED AS PER LANDSCAPING DIRECTIONS. NO CLEARING OUT IN THE EXISTING WATER COURSE WITHOUT COUNCIL APPROVAL
10. A SOIL & WATER MANAGEMENT PLAN (REFER ITEMS 1–10 SHALL BE PROVIDED PRIOR TO START OF WORKS NOTICE LODGMENT BY THE CONTRACTOR
11. ALL STOCKPILES TO BE LOCATED CLEAR OF ANY WATERCOURSE.
12. SILT RETENTION DEVICES TO USED TO BEST PRACTICE STANDARDS (OR SIMILAR APPROVED BY COUNCIL AS SUBMITTED BY CONTRACTOR))

SEDIMENT BASINS

SEDIMENT BASINS WILL REQUIRE REGULAR INSPECTION, ESPECIALLY AFTER RAIN EVENTS AND SHOULD BE CLEANED WHEN MORE THAN HALF FULL OF SEDIMENT. LITTER AND DEBRIS SHOULD BE REMOVED WHENEVER OBSERVED IN THE SEDIMENT BASIN.

CLIENT:
J.M. LUCKMAN, C.M. LUCKMAN, P.L. LUCKMAN AND G.A. LUCKMAN

No.	AMENDMENT	DATE	DRG No.	REFERENCE
A	ISSUED TO COUNCIL DA	19.02.2024		

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312A TRANMERE ROAD, TRANMERE
TRANMERE ESTATE – STAGE 10
SOIL AND WATER MANAGEMENT PLAN

SCALE	1:500 (A1)	DRAWING No.	REVISION
DRAWN	B. STANFORD	DATE FEB '23	21281/110 A
APPROVED		No. OF SHEETS	