



ATTACHMENT A

**ORDINARY MEETING
OF COUNCIL**

**AGENDA
OPEN MEETING
25 JUNE2018**

**Item 7.3
Supporting Documents
SD 1970 – 263 Port Road Boat Harbour Beach**



RECEIVED
31 JAN 2018

STANDARD FEES	
Development Application < 80m ²	\$285 – Minimum Fee + advertising fee
Development Applications > 80m ²	\$285 + \$1.50/m ² + advertising fee
Level 2 Activity	\$2,075 + advertising fee by quote
SUBDIVISION	\$370 + \$60/lot + advertising fee
Advertising fee will be reimbursed if no advertising is required	
For information on other fees Ph: 6443 8316	

OFFICE USE ONLY
App. No. SD1970
PID 2750112 *see below
Log In No. 18/115950
Receipt No. 179479
Receipt Date: 2.4.15
Fee \$ *1160 inc adv

PLANNING PERMIT APPLICATION
APPLICATION FOR PLANNING APPROVAL UNDER SECTION 51,
LAND USE PLANNING & APPROVALS ACT 1993

1. Development Address 263 Port Road, Boat Harbour

2. Full Name of Applicant(s) EnviroPlan

3. Postal Address of Applicants(s) PO Box 546, Somerset TAS 7322

Would you like this address recorded for all Council correspondence Yes X No

Email Address admin@enviropianaustralia.com.au

Telephone – Day 6411 19331 Mobile

WHERE THE APPLICANT IS NOT THE OWNER

In accordance with Section 52 of the *Land Use Planning and Approvals Act 1993* if the applicant for the permit is not the owner of the land in respect of which the permit is required, the applicant must include in the application for the permit, a declaration that the applicant has notified the owner of the intention to make the application.

In the event that the property is owned or managed by the Crown or Council, this application is to be signed by the relevant Crown Minister responsible, or General Manager of the Council, and accompanied by written permission of the Minister/General Manager to the making of this application.

4. Name of Property Owner (see authorisation below)

Full Name Boat Harbour Beach Blue Waters Pty Ltd

Address Azzure - 263 Port Road, Boat Harbour Beach 7321

Telephone – Home 0404 484 163 Work/Business

Applicant's Notification to Owner

I Micheal Wells (EnviroPlan)

Full Name of Applicant(s)

71a Bass Highway, Somerset TAS 7322

of Applicant's Address

Declare that I/we have notified the owner(s) of the property(ies) of the intention to make this application.

I/We understand that in accordance with Section 52(2) of the *Land Use Planning and Approvals Act 1993* a person must not obtain or attempt to obtain a permit by wilfully making, or causing to be made, any false representation or declaration either orally or in writing.

Applicant's Signature(s) 29/01/2018

5. Proposed Development (Fully describe intended use of land or premises)
 To subdivide land owned by the members of the strata plan No 148990 into 14 allotments, road & balance

6. Supporting Information if necessary to explain special features of the proposal.
 (Attach separate sheet if required)
 Planning Report

To include –

(a) Two Copies (+ electronic copy if available) of any plan(s) and/or specification(s) for the proposed development, showing where applicable:

- ☒ i. Sufficient information to demonstrate compliance with all applicable standards, purpose statements in applicable zones and codes, any relevant local area objectives or desired future character statements;
- ☒ ii. a full description of the proposed use or development;
- ☒ iii. a full description of the manner in which the use or development will operate;
- ☒ iv. a site analysis and site plan at an acceptable scale;
- ☒ v. a detailed layout plan of the proposed buildings with dimensions at a scale of 1:100 or 1:200;
- ☐ vi. a plan of the proposed landscaping;
- ☒ vii. car parking facilities and capacity;
- ☐ viii. area of clearing of trees and bushland;
- ☐ ix. size, position, colour, illumination, fixing or support and other design details of advertising sign(s).

(b) A FULL COPY OF YOUR TITLE SHALL ALSO ACCOMPANY THE APPLICATION.

Title Certificate ☒ Title Plan ☒ Schedule of Easements ☒

(c) RELEVANT ENGINEERING APPROVALS

Access ☒ Stormwater ☒

7. Present use of site and/or buildings – full description
 Residential Strata

8. Car Parking		Floor Area		Site Area
Existing on site	>26	Existing	1300 m ²	2.037 ha
Total no. proposed	>36	Proposed	600 m ²	m ²
		Total	1900 m ²	

Questions 9 to 12 relate to Commercial and Industrial Uses and Developments only

9. What days and hours of operation are proposed?

Monday to Friday: From a.m. to p.m.

Saturday: From a.m. to p.m.

Sunday: From a.m. to p.m.

10. Number of Employees?

Existing

Proposed

11. Vehicles visiting or delivering to or from the site?

Type	No.	Trips per day
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.....

.....

12. What type of machinery is to be installed or used?

Type	No.
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.....

.....

DECLARATION BY APPLICANT (mandatory)

I declare that the information given is a true and accurate representation of the proposed development. I understand that the information and materials provided with the development application may be made available to the public. I understand that the Council may make such copies of the information and materials as in its opinion are necessary to facilitate a thorough consideration of the Permit Application. I have obtained the relevant permission of the copyright owner for the communication and reproduction of the plans accompanying the development application for the purposes of assessment of that application. I indemnify the Waratah-Wynyard Council for any claim or action taken against it in respect of breach of copyright in respect of any of the information or material provided.

I/We hereby acknowledge that Section 20(a) of the *Local Government Act 1993* provides the power for persons authorised by the General Manager to enter land without notice in relation to an application by the owner or occupier for a licence, permit or other approval given by the council.

Signature(s)

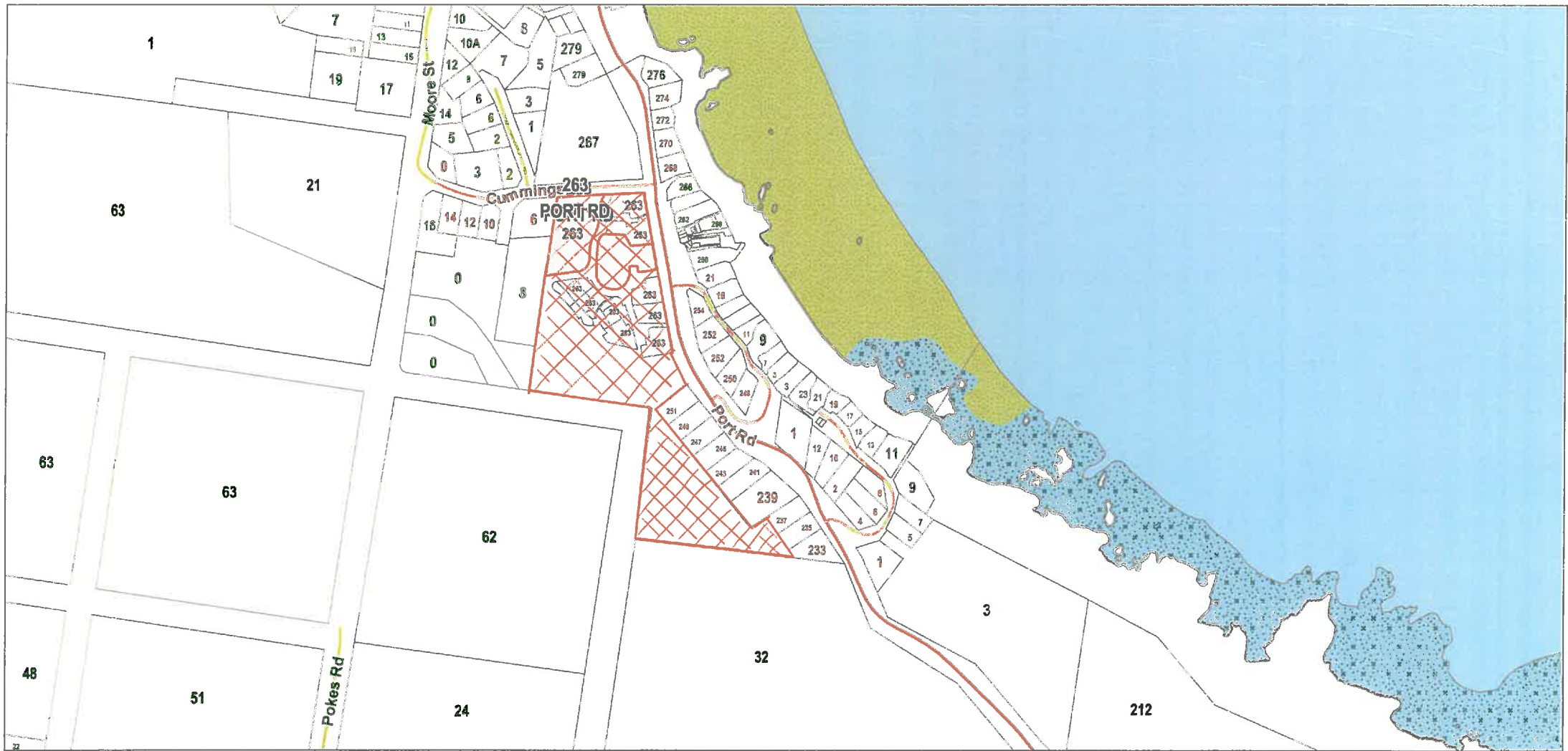
.....

29/01/2018

Date

OFFICE USE ONLY

14. Application Taken on 12.2.18 files received. By
15. Application given o.k. to process yes By Rebecca
16. Use Class Residential
17. Zoning of Property Low Density Residential
18. Proposal Subdivision - 14 LOTS + balance
19. Permit Type discretionary Advertisement Date
19. Discretion 12.4.1 (P1), (P2) 12.4.2 (P1) 12.4.4 (P1) (P2) 12.4.7 (P1)
 12.4.8 (P2)
20. Notice on Property by at am/pm
 On (see declaration attached)
21. Immediate Adjoining Property Owner(s) Notified on
22. Gas Pipeline Checked By RP
23. Heritage Listed Checked By RP
24. Assessment Committee for Dam Construction Checked By RP
25. Prime Agricultural Land Checked By RP
26. Land Hazard
 Low ☐ Medium ☒ Medium-Active ☐ High ☐ Checked By RP
27. Landslip A ☒ Landslip B ☒ portion only Landslip Susceptibility ☐ Checked By RP
28. Clock Started 12.2.18 Day 0
 Clock Stopped 22.2.18 Day 10
 Clock Restarted Day
29. 42 Days run out on: Checked By
30. Extension of Time Until
31. Application - Approved/Refused
32. Decision Date
33. Applicant(s) Notified
34. Representor(s) Notified



SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 0
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 08-Feb-2018

SEARCH TIME : 10.19 AM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
 The Common Property for Strata Scheme 148990
 Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
 of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander
 Prior CTs 141217/1 and 42531/1

SCHEDULE 1

STRATA CORPORATION NUMBER 148990, AZZURE BOAT HARBOUR BEACH

SCHEDULE 2

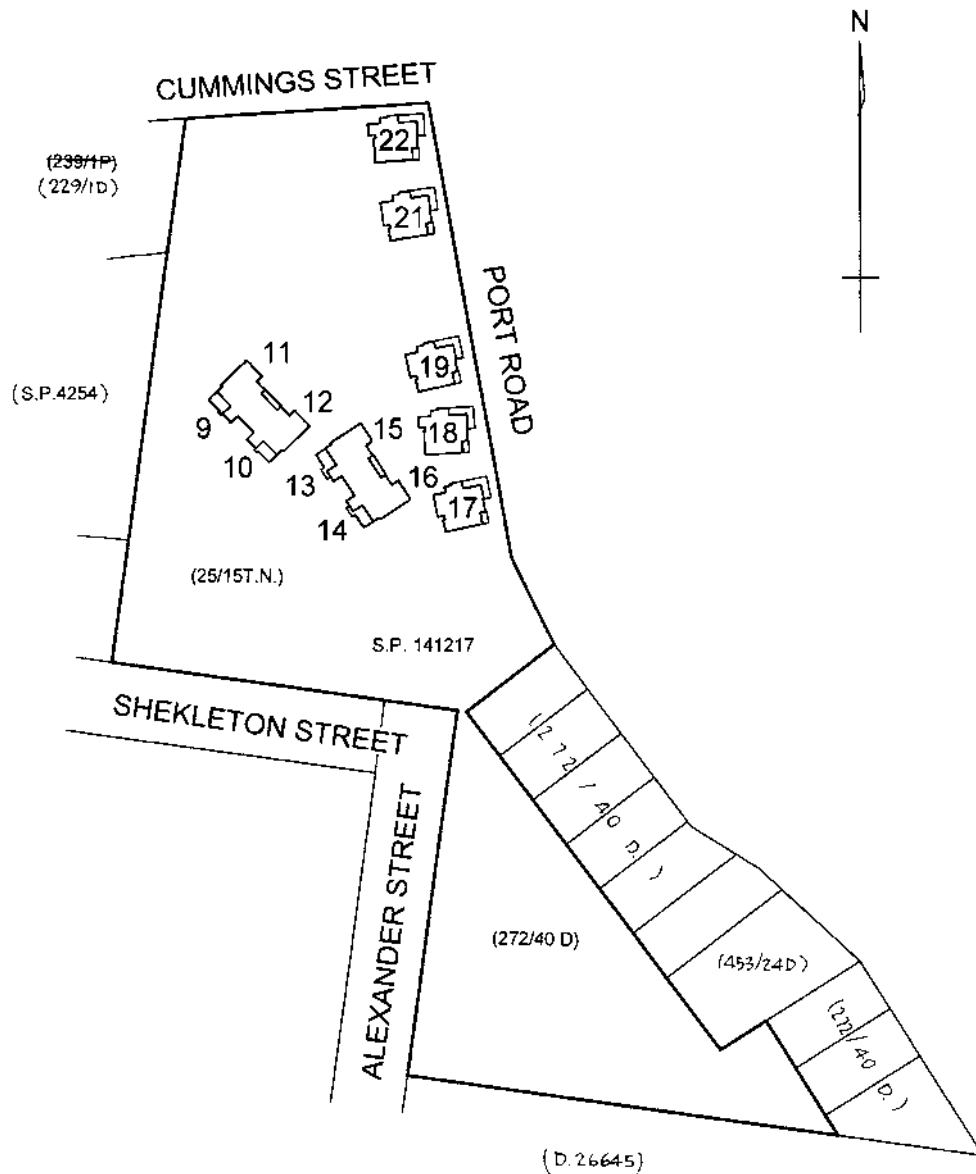
Reservations and conditions in the Crown Grant if any
 BENEFITING EASEMENT: (appurtenant to the land formerly
 comprised in Lot 1 on Diagram No. 42531) Right of
 Drainage over the drainage easements 1.52 wide on
 Diagram No. 42531
 135937 BOUNDARY FENCES CONDITION in Transfer
 C555644 FENCING CONDITION in Transfer
 B863346 PROCLAMATION: Portion of the above land as formerly
 comprised in Lot 1 on Diagram No. 55277 and Lot 1 on
 Diagram No. 42531 is affected by Landslip (Wynyard)
 Order 1975 (Statutory Rules 1975 No. 286) Registered
 02-Sep-1997 at noon
 C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
 30-Aug-2005 at noon
 C840735 APPLICATION for registration of change of by-laws
 Registered 04-Sep-2008 at noon
 D14702 ORDER FOR RELIEF by the Recorder of Titles
 Registered 17-May-2011 at noon
 C748936 APPLICATION for registration of a staged development
 scheme Registered 05-Jan-2007 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

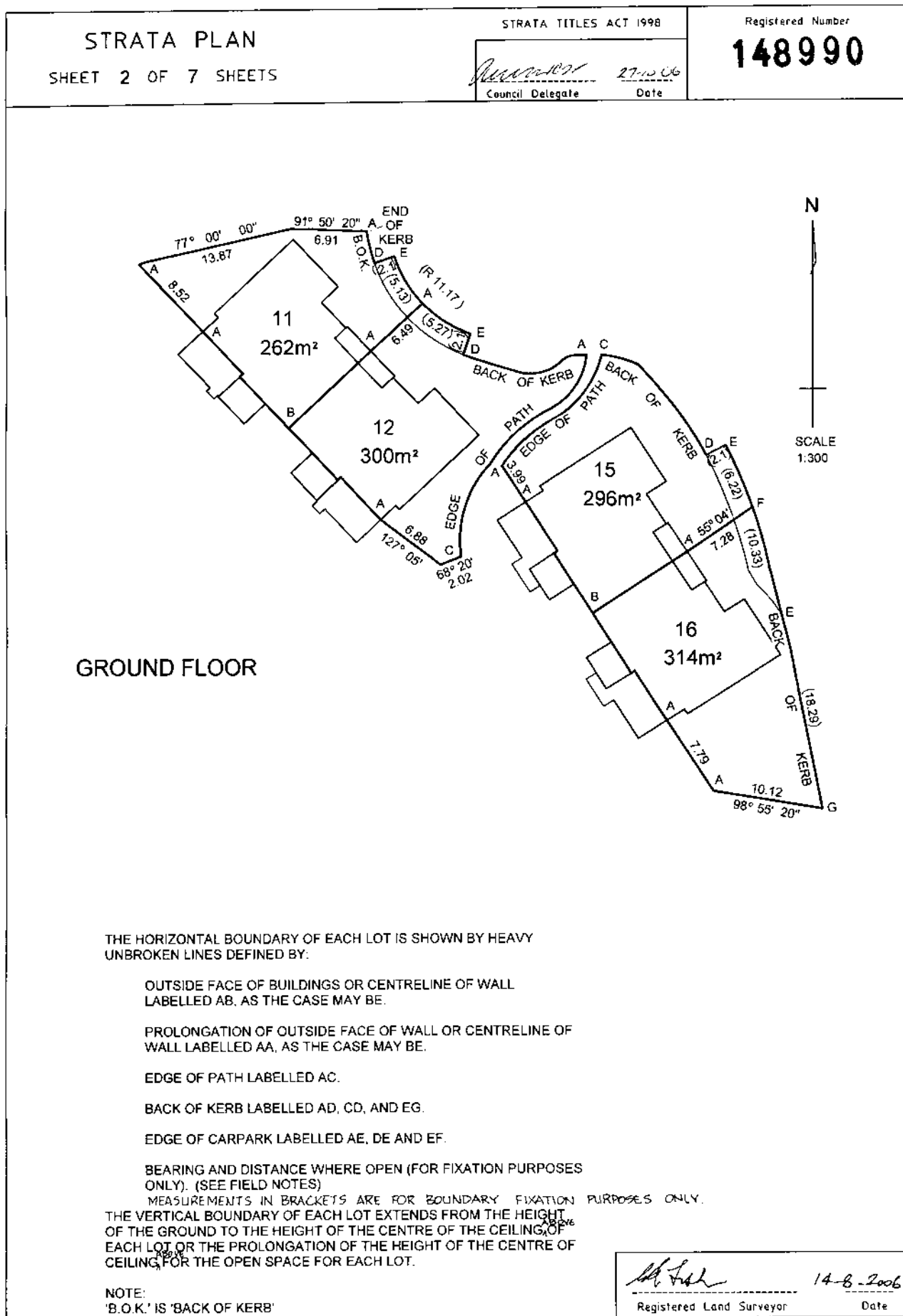
CITY/TOWN BOAT HARBOUR		STRATA PLAN		REGISTERED NUMBER
SUBURB/LOCALITY		SHEET 1 OF 7 SHEETS		148990
FOLIO REFERENCE 141217 - 1 & 42531 - 1		NAME OF STRATA SCHEME		STRATA TITLES ACT 1998
SITE COMPRISES THE WHOLE OF LOT 1 ON PLAN NO. 141217 LOT 1 ON PLAN NO. 42531		AZZURE, BOAT HARBOUR BEACH		REGISTERED - 5 JAN 2007
MAPSHEET MUNICIPAL CODE No. 127	LAST UPI No. 6601486 6601609	SCALE 1: 1250	LENGTHS IN METRES	<i>Alice Kansa</i> Recorder of Titles

SITE PLAN



NOTES: (i) ALL BUILDINGS ON THE SITE TO BE SHOWN ON SHEET 1. (iii) BUILDING TO SITE BOUNDARY OFFSETS OF LESS THAN 2.00 METRES TO BE SHOWN ON SHEET 1.		<i>Recorder</i> 27.10.06		<i>Registered Land</i> 14-8-2006
STAGED/COMMUNITY DEVELOPMENT. SCHEME No. (IF APPLICABLE) (C.748936)		Council Delegate	Date	Surveyor Date
LODGED BY FISHER & JACK PTY. LTD.				

(5-1)



STRATA PLAN

SHEET 3 OF 7 SHEETS

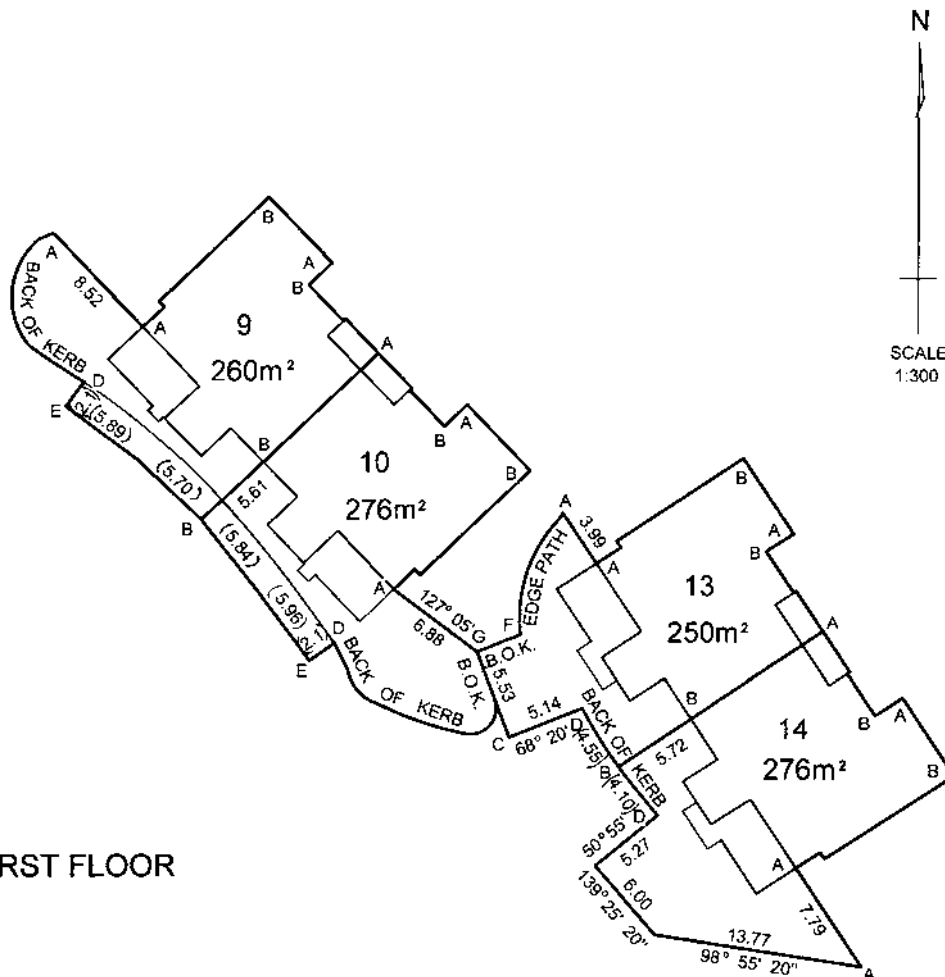
STRATA TITLES ACT 1998

Registered Number

148990

[Signature] 27-10-06
Council Delegate Date

FIRST FLOOR



THE HORIZONTAL BOUNDARY OF EACH LOT IS SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:

OUTSIDE FACE OF BUILDINGS OR CENTRELINE OF WALL LABELLED AB, AS THE CASE MAY BE.

PROLONGATION OF OUTSIDE FACE OF WALL OR CENTRELINE OF WALL LABELLED AA OR BB AS THE CASE MAY BE.

EDGE PATH LABELLED AF.

BACK OF KERB LABELLED AD, BD, DG, FG OR THE PROLONGATION OF BACK OF KERB LABELLED CG.

EDGE OF CARPARK LABELLED DE AND EB.

BEARING AND DISTANCE WHERE OPEN (FOR FIXATION PURPOSES ONLY). (SEE FIELD NOTES)

MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION PURPOSES ONLY.

THE VERTICAL BOUNDARY OF EACH LOT EXTENDS FROM THE HEIGHT OF THE CENTRE OF THE FLOOR TO THE HEIGHT OF THE HIGHEST POINT OF THE ROOF FOR EACH LOT.

NOTE:
'B.O.K.' IS 'BACK OF KERB'

[Signature] 14-8-2006
Registered Land Surveyor Date

STRATA PLAN

SHEET 4 OF 7 SHEETS

STRATA TITLES ACT 1998

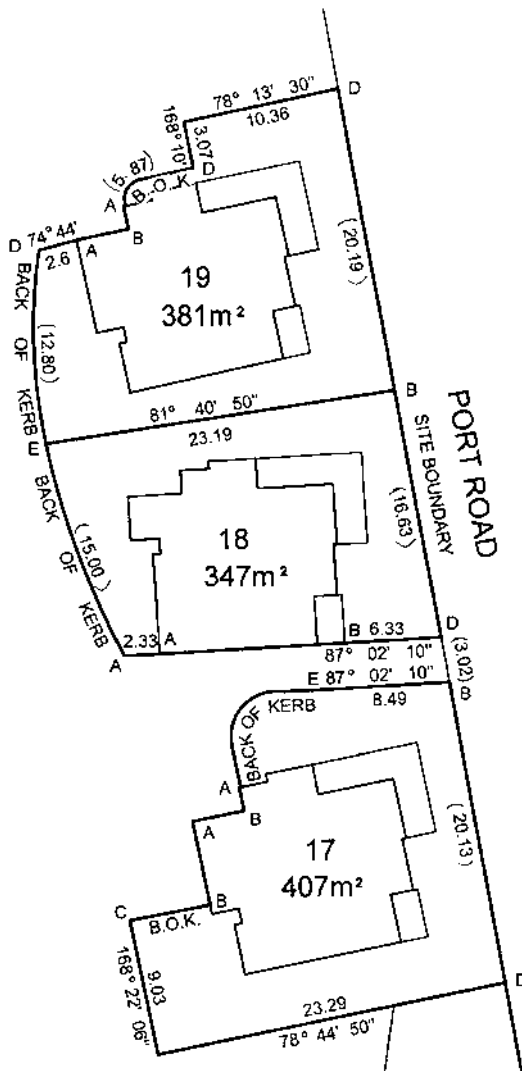
Registered Number

148990

Assessment
Council Delegate

21.10.18
Date

GROUND FLOOR



N
SCALE
1:300

THE HORIZONTAL BOUNDARY OF EACH LOT IS SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:

OUTSIDE FACE OF BUILDINGS LABELLED AB.

PROLONGATION OF OUTSIDE FACE OF WALL LABELLED AA.

BACK OF KERB LABELLED AD, AE, BC AND DE.

SITE BOUNDARY LABELLED BD.

BEARING AND DISTANCE WHERE OPEN (FOR FIXATION PURPOSES ONLY). (SEE FIELD NOTES)

MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION PURPOSES ONLY.

THE VERTICAL BOUNDARY OF EACH LOT EXTENDS FROM THE GROUND LEVEL TO THE HEIGHT OF THE HIGHEST POINT OF THE ROOF FOR EACH LOT.

NOTE:
'B.O.K.' IS 'BACK OF KERB'

Robt. Smith
Registered Land Surveyor

14-8-2018
Date

STRATA PLAN

SHEET 5 OF 7 SHEETS

STRATA TITLES ACT 1998

Registered Number

148990

Council Delegate

Date

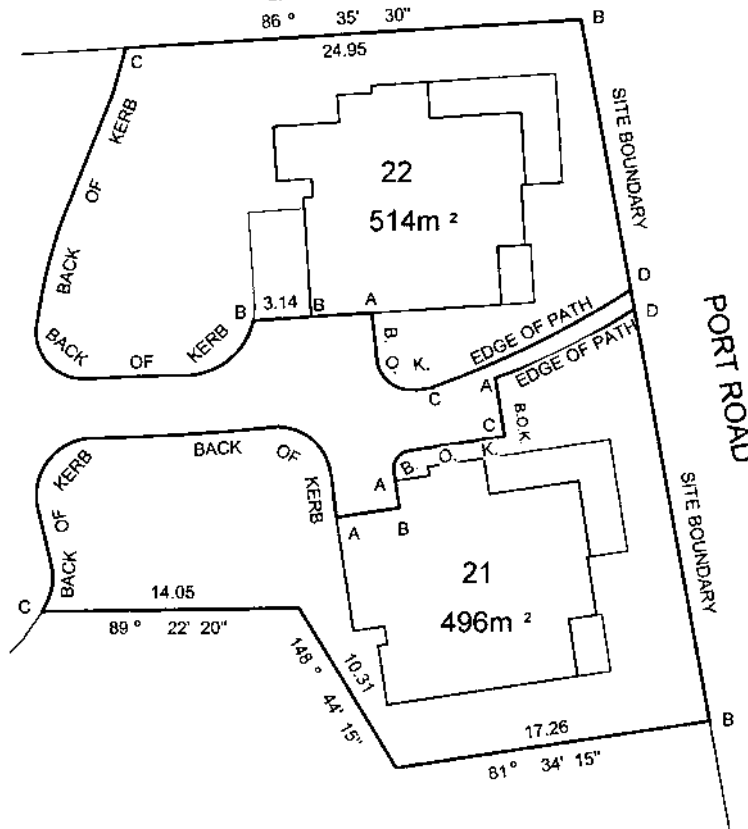
CUMMINGS STREET

SITE BOUNDARY

86° 35' 30"

N

SCALE 1 : 250



THE HORIZONTAL BOUNDARY OF EACH LOT IS SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:

OUTSIDE FACE OF BUILDINGS LABELLED AB
PROLONGATION OF OUTSIDE FACE OF WALL LABELLED BB
BACK OF KERB LABELLED AC
SITE BOUNDARIES LABELLED BD AND BC
EDGE OF PATH LABELLED AD AND CD
BEARING AND DISTANCE WHERE OPEN (FOR FIXATION PURPOSES ONLY). (SEE FIELD NOTES)
MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION PURPOSES ONLY.

THE VERTICAL BOUNDARY OF EACH LOT EXTENDS FROM THE GROUND LEVEL TO THE HEIGHT OF THE HIGHEST POINT OF THE ROOF ABOVE FOR EACH LOT.

NOTE: 'B.O.K.' IS BACK OF KERB.

[Signature]

Registered Land Surveyor

6-12-06

Date

STRATA PLAN

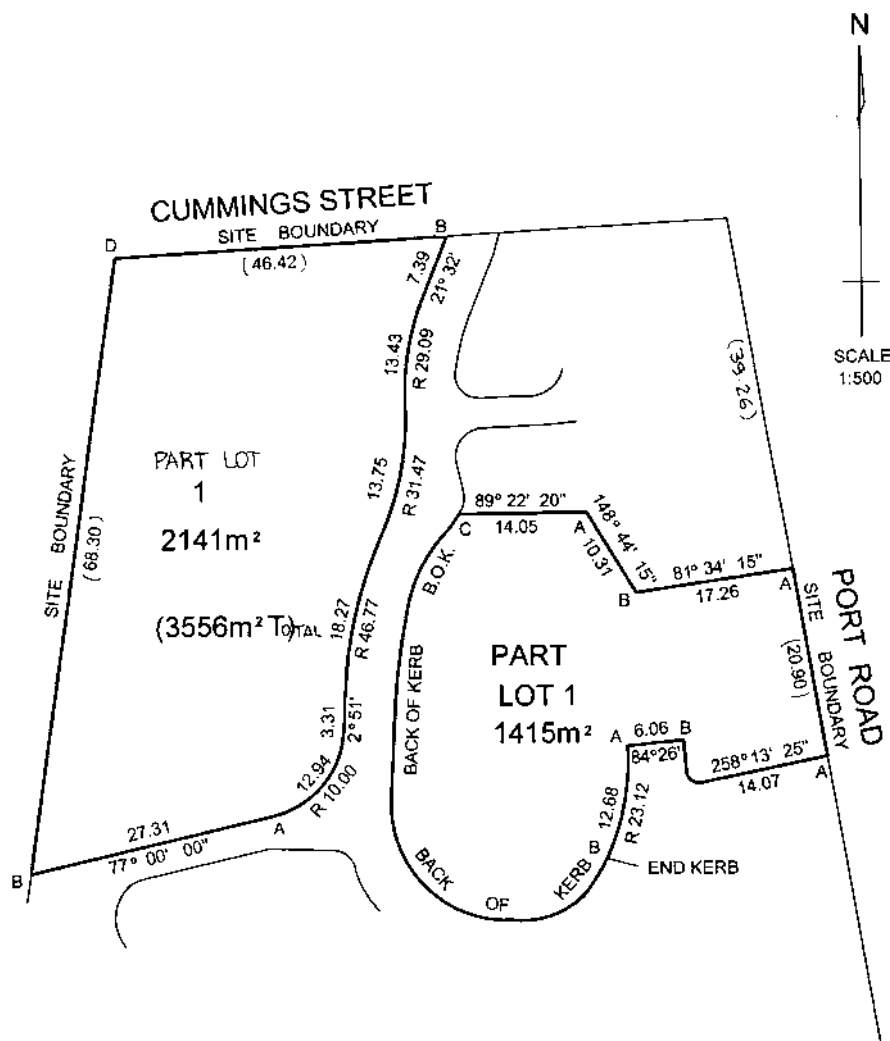
SHEET 6 OF 7 SHEETS

STRATA TITLES ACT 1998

Registered Number

Rebecca 27.10.06
Council Delegate Date

148990



GROUND FLOOR

THE HORIZONTAL BOUNDARY OF EACH LOT IS SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:

BACK OF KERB LABELLED BC.

SITE BOUNDARY LABELLED AA AND BD.

BEARING AND DISTANCE OR ARC RADIUS AND ARC DISTANCE LABELLED AB AND AC WHERE OPEN (FOR FIXATION PURPOSES ONLY). (SEE FIELD NOTES)

MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION PURPOSES ONLY. THE VERTICAL BOUNDARY OF EACH LOT EXTENDS FROM THE GROUND LEVEL TO 15 METRES ABOVE GROUND LEVEL FOR EACH LOT.

NOTE:
'B.O.K.' IS 'BACK OF KERB'

Rebecca 14-8-2006
Registered Land Surveyor Date

STRATA PLAN

SHEET 7 OF 7 SHEETS

STRATA TITLES ACT 1998

Registered Number

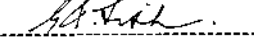
148990

STRATA CORPORATION N° 148990,
NAME OF BODY CORPORATE: AZZURE, BOAT HARBOUR BEACH

ADDRESS FOR THE SERVICE OF NOTICES: P.O. BOX 226, NOBBY BEACH, QUEENSLAND 4218

SURVEYORS CERTIFICATE

I, GARY IAN FISHER of LAUNCESTON
a surveyor registered under the Surveyors Act 2002 certify that
the building or buildings erected on the site and drawn on sheet 1 of
this plan are within the site boundaries of the folio stated on sheet 1
and any encroachment beyond those boundaries is properly authorised
according to law.


Registered Land Surveyor01/08/06
Date2112
Ref No.

COUNCIL CERTIFICATE

I certify that the WARATAH-WYNYARD Council has:
(a) approved the lots shown in this plan and
(b) issued this certificate of approval in accordance
with section 31 of the Strata Titles Act 1998


Council Delegate27/10/06
Date2505344
Ref No.

GENERAL UNIT ENTITLEMENTS

LOT	UNIT ENTITLEMENT
1	12
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
21	1
22	1
TOTAL	25

(K-1)

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 1
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 01-Apr-2015

SEARCH TIME : 02.44 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 1 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 12
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: Portion of the above land as formerly
comprised in Lot 1 on Diagram No. 55277 is affected
by Landslip (Wynyard) Order 1975 (Statutory Rules
1975 No. 286) Registered 02-Sep-1997 at noon
(MF:25010/446)
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon
M501480 CAVEAT by Jonathon Charles Root, Commissioner of
State Revenue (including Power of Sale) Registered
05-Jan-2015 at noon
C748936 APPLICATION for registration of a staged development
scheme Registered 05-Jan-2007 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 9
EDITION 4	DATE OF ISSUE 20-Sep-2017

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.31 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 9 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

M651777 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 20-Sep-2017 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: The above land is affected by Landslip
(Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
Registered 02-Sep-1997 at noon
E106602 MORTGAGE to Dandenong Properties Pty Ltd Registered
20-Sep-2017 at 12.02 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 10
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.26 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 10 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: The above land is affected by Landslip
(Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
Registered 02-Sep-1997 at noon
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 11
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.32 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 11 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: The above land is affected by Landslip
(Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
Registered 02-Sep-1997 at noon
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 12
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.21 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 12 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: The above land is affected by Landslip
(Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
Registered 02-Sep-1997 at noon
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 13
EDITION 3	DATE OF ISSUE 26-Jul-2017

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.19 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 13 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

M641861 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 26-Jul-2017 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: The above land is affected by Landslip
(Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
Registered 02-Sep-1997 at noon
E99918 MORTGAGE to Dandenong Properties Pty Ltd Registered
26-Jul-2017 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 14
EDITION 3	DATE OF ISSUE 19-Jul-2016

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.17 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
 Lot 14 on Strata Plan 148990 and a general unit entitlement
 operating for all purposes of the Strata Scheme being a 1
 undivided 1/25 interest
 Derived from Strata Plan 148990
 Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
 of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C832692 TRANSFER to GARY DENNIS WILLIAMS and JANICE SALISBURY
 as tenants in common in equal shares Registered
 19-Feb-2008 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
 The registered proprietor holds the lot and unit entitlement
 subject to any interest noted on common property
 Folio of the Register volume 148990 folio 0
 C555644 FENCING CONDITION in Transfer
 B863346 PROCLAMATION: The above land is affected by Landslip
 (Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
 Registered 02-Sep-1997 at noon
 C832693 MORTGAGE to National Australia Bank Limited
 Registered 19-Feb-2008 at 12.02 PM
 M582870 CAVEAT by Jonathon Charles Root, Commissioner of
 State Revenue (including Power of Sale) Registered
 08-Jul-2016 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 15
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.20 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 15 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: The above land is affected by Landslip
(Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
Registered 02-Sep-1997 at noon
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 16
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.17 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
 Lot 16 on Strata Plan 148990 and a general unit entitlement
 operating for all purposes of the Strata Scheme being a 1
 undivided 1/25 interest
 Derived from Strata Plan 148990
 Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
 of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
 Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
 The registered proprietor holds the lot and unit entitlement
 subject to any interest noted on common property
 Folio of the Register volume 148990 folio 0
 C555644 FENCING CONDITION in Transfer
 B863346 PROCLAMATION: Portion of the above land as formerly
 comprised in Lot 1 on Diagram No. 55277 is affected
 by Landslip (Wynyard) Order 1975 (Statutory Rules
 1975 No. 286) Registered 02-Sep-1997 at noon
 C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
 30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 17
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.16 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 17 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
BENEFITING EASEMENT: (appurtenant to the land formerly
comprised in Lot 1 on Diagram No. 42531) Right of
Drainage over the drainage easements 1.52 wide on
Diagram No. 42531
135937 BOUNDARY FENCES CONDITION in Transfer
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: Portion of the above land as formerly
comprised in Lot 1 on Diagram No. 42531 is affected
by Landslip (Wynyard) Order 1975 (Statutory Rules
1975 No. 286) Registered 02-Sep-1997 at noon
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 18
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.15 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 18 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: Portion of the above land as formerly
comprised in Lot 1 on Diagram No. 55277 is affected
by Landslip (Wynyard) Order 1975 (Statutory Rules
1975 No. 286) Registered 02-Sep-1997 at noon
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 19
EDITION 1	DATE OF ISSUE 05-Jan-2007

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.13 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 19 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

C559089 TRANSFER to BOAT HARBOUR BEACH BLUE WATERS PTY LTD
Registered 28-Jan-2005 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: Portion of the above land as formerly
comprised in Lot 1 on Diagram No. 55277 is affected
by Landslip (Wynyard) Order 1975 (Statutory Rules
1975 No. 286) Registered 02-Sep-1997 at noon
C666446 MORTGAGE to R.M.B.L. Investments Limited Registered
30-Aug-2005 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 21
EDITION 2	DATE OF ISSUE 25-Nov-2008

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.12 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
Lot 21 on Strata Plan 148990 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1
undivided 1/25 interest
Derived from Strata Plan 148990
Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

M197815 TRANSFER to RICHARD JOHN ARCHER Registered
25-Nov-2008 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 148990 folio 0
C555644 FENCING CONDITION in Transfer
B863346 PROCLAMATION: Portion of the above land as formerly
comprised in Lot 1 on Diagram No. 55277 is affected
by Landslip (Wynyard) Order 1975 (Statutory Rules
1975 No. 286) Registered 02-Sep-1997 at noon
C886745 MORTGAGE to Commonwealth Bank of Australia
Registered 25-Nov-2008 at 12.02 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SEARCH OF TORRENS TITLE

VOLUME 148990	FOLIO 22
EDITION 2	DATE OF ISSUE 01-Sep-2009

SEARCH DATE : 12-Feb-2018

SEARCH TIME : 03.11 PM

DESCRIPTION OF LAND

Parish of SHEKLETON Land District of WELLINGTON
 Lot 22 on Strata Plan 148990 and a general unit entitlement
 operating for all purposes of the Strata Scheme being a 1
 undivided 1/25 interest
 Derived from Strata Plan 148990
 Derivation : Part of 12A-2R-22Ps Gtd to W.H. Medwin and Part
 of 2018m2, The Crown and Part of Lot 6411 Gtd to J.T. Alexander

SCHEDULE 1

M244145 TRANSFER to ROGER WILLEM LUTTMER and ELIZABETH ANNE
 LUTTMER Registered 01-Sep-2009 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
 The registered proprietor holds the lot and unit entitlement
 subject to any interest noted on common property
 Folio of the Register volume 148990 folio 0
 C555644 FENCING CONDITION in Transfer
 B863346 PROCLAMATION: The above land is affected by Landslip
 (Wynyard) Order 1975 (Statutory Rules 1975 No. 286)
 Registered 02-Sep-1997 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

This plan has been prepared only for the purpose of obtaining subdivision approval from the local planning authority and the information shown hereon should be used for no other purpose.
All dimensions and areas subject to a final survey from an Authorised Cadastral Surveyor.
All measurements are in metres.



EnviroPlan

71a Bass Highway, Somerset
PO Box 546 Somerset TAS 7322
admin@enviroplanaustralia.com.au



CLIENT
Members of the Body Corporate

PROJECT
263 Port Road, Boat Harbour

DRAWN BY
M Wells

SCALE
1: 1000

DESCRIPTION
Subdivision Proposal Plan - Rev 4

ISSUE
23/03/2018



A0.1



Application for Planning Permit
Proposed Subdivision
In the
LOW DENSITY RESIDENTIAL ZONE
263 Port Road, Boat Harbour

Supporting Documentation
January 2018

CONSULTANT DETAILS



Mr. Micheal Wells GradDipUrbRegPlan.BEnvDes

Town Planner, Bushfire Assessor, Building Designer, Fire Engineer (IFE)

Bushfire Accreditation No: BFP-128

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Document Status

Revision No

Author

Signature

Date

1

M. Wells

A handwritten signature in black ink, appearing to be "M. Wells", written over a horizontal line.

January 2018

The Land – Site

Title & Description

The Certificate of Title for the subject site is C/T: 148990/0, 1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21 & 22, PID 2750112. A copy of the title is provided as Annexure A.

The street address is 263 Port Road, Boat Harbour and Boat Harbour Bluewaters Pty Ltd is the owner.



Figure 1 – Location of land 263 Port Road, Boat Harbour

The 2.037 ha property fronts onto Port Road and is located on western side of the road.

Existing Use and Development

The current use of land is a residential strata. Currently there are located on the property.

Site Analysis

Topography

The land falls from south west to north east at an average of 11° over a 250 m run.

Drainage

Stormwater is collected on site in tanks from the buildings. Excess stormwater is disposed of via municipal gutters. Sewerage is disposed of via a municipal sewer.

Land Capability

The land is within a delineated area of the Land Capability Survey Tasmania by RM Morton and CJ Grose; Department of Primary Industry and Fisheries: Tasmania 1997. The soil classification of the subject site is Class 5+4. However it is not zoned as agricultural land nor is it in agricultural use; therefore this provision is not applicable.



Figure 2 – Land Capability of site – source: www.thelist.tas.gov.au

Access

Access to the subject land is off Port Road via Cummings Street via a formed urban crossover. This is to be upgraded as part of this development.

Reticulated Services

Sewerage and stormwater reticulation services are located within the subject area. The site is already connected to these services and no modifications or extensions are proposed as part of this development. Water reticulation is available within the area but this is a private water scheme and is not a municipal service.

Surrounding Property Use

- Land to the north is residential use.
- East is residential use.
- South is agricultural use.
- West is residential use and agricultural use.

Lands Limitations

Land limitations have been identified within the subject site. A Geotechnical report accompanies this report.

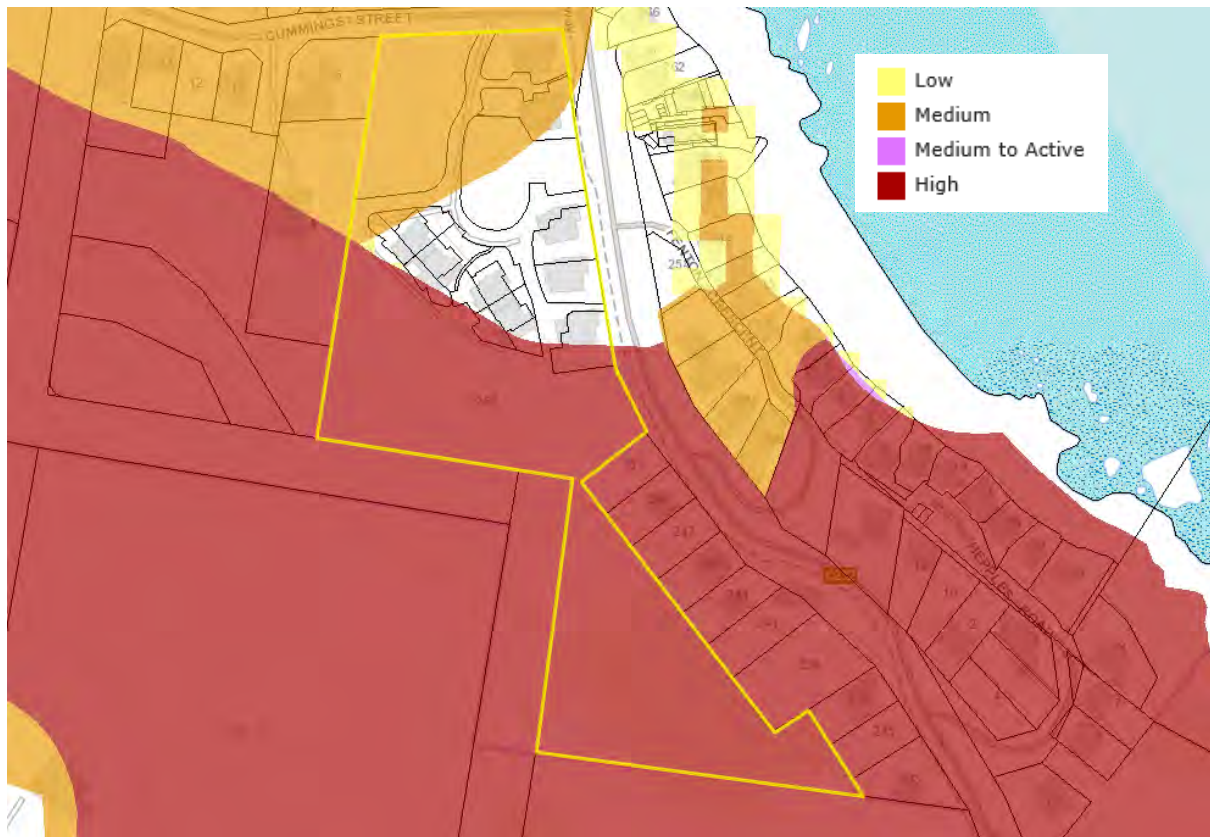


Figure 3 – Landslide Hazard Bands – source: www.thelist.tas.gov.au

Proposal

The applicants, Boat Harbour Beach Blue Waters Pty Ltd are seeking to subdivide land under the *Waratah -Wynyard Interim Planning Scheme 2013*.

The proposal is a strata that is converting to a subdivisional site.

A copy of the proposal plans is included as **Annexure C**.

The applicant is applying to the Council, as the Planning Authority, to utilise its discretion and approve the development in accordance with the provisions of **Section 57** of the *Land Use Planning and Approvals Act 1993*.

Planning Scheme Provisions

The applicable planning instrument is the *Waratah -Wynyard Interim Planning Scheme 2013* and the subject land is zoned as Low Density Residential.

The relevant sections of the Planning Scheme are listed below for discussion. The relevant issue and item identifier is provided and states whether the proposal meets the Acceptable Solutions (AS) or the Performance Criteria (PC) for each relevant section. Issues that address the Performance Criteria are listed as “Discretionary” and discussion is put forward to the relevant points.

The clauses that are not applicable to the proposal have not been discussed.

The applicable Scheme standards for development in the Low Density Residential Zone are described in the following relevant sections of the *Waratah -Wynyard Interim Planning Scheme 2013*:

- 12.1.1 Zone Purpose Statements
- 12.1.2 Local Area Objectives

- 12.1.3 Desired Future Character Statements
- 12.2 Use Table
- 12.4.1 Suitability of a site or a lot on a plan of subdivision for use or development
- 12.4.2 Dwelling Density
- 12.4.8 Subdivision
- 12.4.9 Reticulation of an electricity supply to new lots on a plan of subdivision.

Part E Codes

- E1 Bushfire-Prone Areas Code
- E3 Clearing and Conversion of Vegetation Code
- E6 Hazard Management Code
- E9 Traffic Generating Use and Parking Code

Part F Special Area Plans

- There are no specific area plans in relation to the *Waratah -Wynyard Interim Planning Scheme 2013*

12.1 Zone Purpose

12.1.1 Zone Purpose Statements

12.1.1.1

To provide for residential use or development on larger lots in residential areas where there are infrastructure or environmental constraints that limit development.

12.1.1.2

To provide for non-residential uses that are compatible with residential amenity.

12.1.2 Local Area Objectives

- a) *Land is available for residential use in urban and semi-urban settings;*
- b) *Low density residential areas make efficient use of land and optimise available infrastructure provision through a balance between infill and redevelopment of established residential areas and by incremental release of new land;*
- c) *The type, scale, and intensity of use or development are consistent with the level of permanent constraint on residential use at suburban densities.*
- d) *New or intensified use or development is restricted if the limit of a known constraint on residential use is uncertain;*
- e) *Low density residential areas provide equivalent opportunity for single dwelling and multiple dwelling developments and for shared and supported accommodation through private, public, and social investment.*
- f) *Low density residential areas enable opportunity for convenient access to basic level services and facilities for education, health care, retail, social, and recreation purposes;*
- g) *Low density residential areas provide small-scale employment opportunities in home occupation and home based business.*
- h) *The amenity and character of low density residential areas is commensurate with the location of housing and support activity within a shared urban or semi-urban living space, and is to take into account –*
 - a. *the likely impact on residential use from the occurrence and operation of non-housing activity;*
 - i. *suitability of a site for intended use;*
 - ii. *possible absence in provision or capacity of community services, transport infrastructure and utilities;*
 - iii. *restriction imposed by an environmental constraint;*
 - iv. *the level of risk from exposure to a natural hazard; and*
 - v. *the effect of location and configuration of buildings within a site on -*
 - a. *apparent bulk and scale of buildings and structures;*
 - b. *opportunity for on-site provision of private open space and facilities for parking of vehicles;*
 - c. *opportunity for access to daylight and sunlight;*
 - d. *visual and acoustic privacy between adjacent dwellings; and*
 - e. *consistency of the streetscape; and*
 - f. *the relationship between new sensitive use and the use of land in an adjoining zone*

12.1.3 Desired Future Character Statements

Use or development in a low density residential area is to provide –

- a) sites that are typically larger than suburban lots, although size is dependent on availability of utilities and land capability;
- b) choice and diversity in the design, construction, and affordability of buildings;
- c) housing as a predominant but not exclusive form of development;
- d) buildings that are typically of one or two storeys;
- e) a streetscape in which buildings are setback consistently from the frontage;
- f) buildings that are set apart from adjacent buildings to –
 - i. reduce apparent bulk and scale;
 - ii. enable each an opportunity for access to sunlight; and
 - iii. assist visual and acoustic privacy of adjoining residents;
- g) site coverage that retains unbuilt area for recreation, service activity, vehicle parking, and on-site disposal of sewage or stormwater; and
- h) an ordered pattern of lots and an internal road network

12.2 Use Table

12.3 Use Standards

12.4 Development Standards

12.4.1 Suitability of a site or lot for use or development

Objective:

The minimum properties of a site and of each lot on a plan of subdivision are to –

- a) provide a suitable development area for the intended use;
- b) provide access from a road; and
- c) make adequate provision for a water supply and for the drainage and disposal of sewage and stormwater

Acceptable Solutions A1

A site or each lot on a plan of subdivision must –

- a) have an area of –
 - i. not less than 500m² excluding any access strip; or
 - ii. if in a locality shown in the Table to this clause, not less than the site area shown for that locality; and
- b) contain a building area of not less than 10.0m x 15.0m –
 - i. clear of any applicable setback from a frontage, side or rear boundary;
 - ii. clear of any applicable setback from a zone boundary;
 - iii. clear of any registered easement;
 - iv. clear of any registered right of way benefitting other land;
 - v. clear of any restriction imposed by a utility;
 - vi. not including an access strip;
 - vii. Accessible from a frontage or access strip; and
 - viii. if a new residential lot, with a long axis within the range 30° east of north and 20° west of north

Discussion

Each allotment is greater than 500m² complying with A1(a) above.

As demonstrated in the bushfire plan each allotment contains a suitable 10m x 15m building envelope complying with A1(b).

Acceptable Solutions A2

A site or each lot on a subdivision plan must have a separate access from a road –

- a) across a frontage over which no other land has a right of access; and

- b) *if an internal lot, by an access strip connecting to a frontage over land not required as the means of access to any other land; or*
- c) *by a right of way connecting to a road –*
 - i. *over land not required as the means of access to any other land; and*
 - ii. *not required to give the lot of which it is a part the minimum properties of a lot in accordance with the acceptable solution in any applicable standard; and*
- d) *with a width of frontage and any access strip or right of way of not less than –*
 - i. *3.6m for single dwelling development; or*
 - ii. *6.0m for multiple dwelling development or development for a non-residential use; and*
- e) *the relevant road authority in accordance with the Local Government (Highways) Act 1982 or the Roads and Jetties Act 1935 must have advised it is satisfied adequate arrangements can be made to provide vehicular access between the carriageway of a road and the frontage, access strip or right of way to the site or each lot on a proposed subdivision plan.*

Discussion

Each allotment has a separate access across the frontage to Azzure Way as shown on the submission plans complying with A2(a). The internal allotments do not provide access to any other allotment complying with A2(b). Lot 3 contains a right of way access over lot 4 which is provided with a separate access complying with A2(c). Each frontage is greater than 3.6m wide complying with A2(d) and the former applicant obtained approvals from the Council under the Local Government (Highways) Act 1982.

Acceptable Solutions A3

A site or each lot on a plan of subdivision must be capable of connecting to a water supply –

- a) *provided in accordance with the Water and Sewerage Industry Act 2008; or*
- b) *from a rechargeable drinking water system [R4] with a storage capacity of not less than 10,000 litres if–*
 - i. *there is not a reticulated water supply; and*
 - ii. *development is for –*
 - a. *a single dwelling; or*
 - b. *a use with an equivalent population of not more than 10 people per day*

Discussion

Boat Harbour has a private water scheme and therefore A3(a) is not applicable to this application.

Each allotment is required by the bushfire plan to contain a bulk water supply complying with A3(b) above.

Acceptable Solutions A4

A site or each lot on a plan of subdivision must be capable of draining and disposing of sewage and liquid trade waste –

- a) *to a sewerage system provided in accordance with the Water and Sewerage Industry Act 2008; or*
- b) *by on-site disposal if –*
 - i. *sewage or liquid trade waste cannot be drained to a reticulated sewer system; and*
 - ii. *the development –*
 - a. *is for a single dwelling; or*
 - b. *provides for an equivalent population of not more than 10 people per day; or*
 - c. *creates a total sewage and waste water flow of not more than 1,000l per day; and*
 - iii. *the site has capacity for on-site disposal of domestic waste water in accordance with AS/NZS1547:2012 On-site domestic-wastewater management clear of any defined building area or access strip*

Discussion

The site is currently connected to the TasWater sewer network and is to be upgraded as part of this proposal complying with A4(a) above.

Acceptable Solutions A5

A site or each lot on a plan of subdivision must be capable of draining and disposing of stormwater –

- a) to a stormwater system provided in accordance with the Urban Drainage Act 2013; or
- b) if stormwater cannot be drained to a stormwater system –
 - i. for discharge to a natural drainage line, water body, or watercourse; or
 - ii. for disposal within the site if –
 - a. the site has an area of not less than 5000m²;
 - b. the disposal area is not within any defined building area;
 - c. the disposal area is not within any area required for the disposal of sewage;
 - d. the disposal area is not within any access strip; and
 - e. not more than 50% of the site is impervious surface; and
 - iii. the development is for a single dwelling

Discussion

The site is currently connected to the Council's stormwater network and is to be upgraded as part of this proposal complying with A5(a) above.

12.4.2 Dwelling density

Objective:

Residential dwelling density is to –

- a) make efficient use of land for housing;
- b) optimise utilities and community services; and
- c) be consistent with any constraint on suitability of the land for residential use

Performance Criteria P1

The number of dwellings on a site must be consistent with the capability of the land for residential use in terms of –

- a) a suitable building area;
- b) access from a road;
- c) provision of a water supply;
- d) disposal of sewage;
- e) disposal of stormwater; and
- f) a tolerable level of risk from a natural hazard

Discussion

Each dwelling site is provided with a suitable building area as seen in the bushfire plan and has access from Azzure Way. Each site has a water supply and disposes of sewer and stormwater and the application is accompanied by a geotechnical report demonstrating that there is a tolerable level of risk for the site complying with P1 above.

12.4.8 Subdivision

Objective:

The division and consolidation of estates and interests in land is to create lots that are consistent with the purpose of the Low Density Residential zone

Acceptable Solutions A1

Each new lot on a plan of subdivision must be –

- a) intended for residential use;
- b) a lot required for public use by the State government, a Council, a Statutory authority or a corporation all the shares of which are held by or on behalf of the State, a Council or by a statutory authority

Discussion

Each allotment is intended for a residential use complying with A1(a).

Performance Criteria P2

- a) A lot must have a frontage to a road; or
- b) An internal lot on a plan of subdivision must be –
 - i. reasonably required for the efficient use of land as a result of a restriction on the layout of lots with a frontage imposed by –
 - a. slope, shape, orientation and topography of land;
 - b. an established pattern of lots and development;
 - c. connection to the road network;

- d. connection to available or planned utilities;
- e. a requirement to protect ecological, scientific, historic, cultural or aesthetic values, including vegetation or a water course; or
- f. exposure to an unacceptable level of risk from a natural hazard; and
- ii. without likely impact on the amenity of adjacent land

Discussion

Each allotment is provided with a frontage to Azzure Way as showing its submission plans and internal allotments are required to cater to existing development on the site complying with P2(a) and (b)(i)(b) above.

12.4.9 Reticulation of an electricity supply to new lots on a plan of subdivision

Objective:

Distribution and connection of reticulated electricity supply to new lots on a plan of subdivision is to be without visual intrusion on the streetscape or landscape qualities of the residential area

Performance Criteria P1

It must be impractical, unreasonable, or unnecessary to install electricity reticulation and site connections underground

Discussion

It is unreasonable to require the existing infrastructure to be modified from overhead reticulation.

Part E Codes

E1 Bushfire-Prone Areas Code

The proposal is a subdivision and is therefore subject to the provisions of the Code. A bushfire hazard management plan from an accredited person is featured as an annexure to this report.

E2 Airport Management Code – Not Applicable

The proposal is not located within the areas defined within the Air Navigation Services – Aircraft Operations Surfaces on planning scheme maps and is therefore not applicable to the code.

E3 Clearing and Conversion of Vegetation Code

The proposal does seek to modify any existing native vegetation communities, habitats or areas of vegetation and therefore this Code is applicable to this application.

E3.6.1 Protection of a threatened native vegetation community or native vegetation providing habitat for a threatened species

Objective:

The clearing and conversion of native vegetation is to minimise likely adverse impact on biodiversity, ecological process, and habitat value.

Acceptable Solution – A1

- a) Vegetation must not be any of the following
 - i. a threatened native vegetation community;
 - ii. contain threatened flora or be threatened fauna habitat; or
 - iii. be within 30m of a water body, watercourse, wetland, or coastal shoreline; or
- b) the removal or destruction of any rare or threatened species or rare or threatened communities protected under state or commonwealth legislation must not occur unless authorised by the appropriate agency

Discussion:

The vegetation removal / modification is required by the bushfire plan and is not a threatened native community, flora or fauna habitat when examining the List records. The removal of vegetation is not within 30m of a water course and is not protected under state or federal legislation complying with A1 above.

E3.6.2 Clearing of vegetation on land of scenic or landscape value**Objective:**

The clearing and conversion of vegetation is to minimise likely adverse impact on scenic or landscape value –

- a) *on land in the Environmental Living zone, Environmental Management zone, Open Space zone, and Rural Living zone;*
or
- b) *on land identified on the planning scheme map as significant for scenic or landscape value*

Discussion:

The clearing of vegetation is not within a zone featured in the provision and is not within land identified on a planning scheme map as significant or of scenic value.

E3.6.3 Clearing of vegetation on land susceptible to landslide**Objective:**

The clearing and conversion of vegetation on land in a landslide hazard area to which Code E6 – Hazard Management applies under this planning scheme is to minimise risk for activating a landslide.

Acceptable Solution – A1

The site must be within an area –

- a) *exposed to a low level of likely risk from landslide; and*
- b) *a landslide hazard risk assessment as defined in E6 ^{L1} must indicate clearing of native vegetation –*
 - i. *can achieve and maintain a tolerable level of risk; or*
 - ii. *there is an insufficient increase in the level of risk to warrant any specific hazard reduction or protection measures; or*
 - iii. *any condition or requirement for specific hazard reduction or protection measures*

Discussion:

The application is accompanied by a geotechnical report that addresses E3.6.3 above.

E4 Change in Ground Level Code – Not Applicable

The proposal does not alter any ground levels to existing or natural ground levels and therefore this Code is not applicable to this application.

E5 Local Heritage Code – Not Applicable

The proposal does not contain any heritage issues and therefore this Code is not applicable to this application.

E6 Hazard Management Code**E6.5.2 Use likely to be exposed to a natural hazard****Objective:**

The level of likely risk from exposure to a natural hazard is tolerable for the nature and duration of a use.

Acceptable Solution – A1

If a use is on land within an area of risk from exposure to a natural hazard as shown on a map forming part of this planning scheme –

- a) *use must not be for a critical use, a hazardous use, or a vulnerable use;*
- b) *use must not be residential use if the level of risk is medium or higher; and*

- c) a hazard risk assessment must demonstrate a tolerable level of risk can be achieved and maintained for the nature and duration of the use.

Discussion:

The application is accompanied by a Geotechnical report that addresses E6.5.2A1(b) & (c) above.

E6.6.2 Development on land exposed to a natural hazard

Objective:

The level of likely risk from exposure to a natural hazard is to be tolerable for the type, form, scale and duration of each development

Acceptable Solution – A1

If the site is within an area of risk shown on a natural hazard map forming part of this planning scheme –

- a) a hazard risk assessment must determine –
 - i. there is an insufficient increase in risk to warrant any specific hazard reduction or protection measure; or
 - ii. a tolerable level of risk can be achieved for the type, form, scale and duration of the development; and
- b) if a hazard risk assessment established need to involve land on another title for hazard management consistent with the objective, the consent in writing of the owner of that land must be provided to enter into a Part 5 agreement to be registered on the title of the land and providing for the effected land to be managed in accordance with recommendations for hazard management

Discussion:

The application is accompanied by a Geotechnical report.

E7 Sign Code – Not Applicable

The proposal does not contain any signage as part of the application and therefore this Code is not applicable to this application.

E8 Telecommunication Code – Not Applicable

The proposal is for a residential dwelling and does not contain any telecommunications infrastructure and therefore this Code is not applicable to this application.

E9 Traffic Generating Use and Parking Code

E9.5 Use Standards

E9.5.1 Provision for parking

Objective:

Provision is to be made for convenient, accessible, and usable vehicle parking to satisfy requirements for use or development without impact for use or development of other land or for the safety and operation of any road

Acceptable Solution – A1

Provision for parking must be –

- a) the minimum number of on-site vehicle parking spaces must be in accordance with the applicable standard for the use class as shown in the Table to this Code;

Discussion:

Each allotment is capable of providing parking in accordance with the Table to the Clause complying with A1(a)

E9.5.2 Provision for loading and unloading vehicles

Objective:

Provision is made for conveniently located and accessible areas for the loading and unloading of goods and materials and for the pick-up and set-down of passengers from vehicles

Acceptable Solution – A1

There must be provision within a site for –

- a) on-site loading area in accordance with the requirement in the Table to this Code; and
- b) passenger vehicle pick-up and set-down facilities for business, commercial, educational and retail use at the rate of 1 space for every 50 parking spaces

Discussion:

Not applicable – the application is for a residential use.

E9.6.1 Design of vehicle parking and loading areas

Objective:

Vehicle circulation, loading, and parking areas–

- a) protect the efficient operation and safety of the road from which access is provided;
- b) promote efficiency, convenience, safety, and security for vehicles and users; and
- c) provide an appropriate layout and adequate dimension to accommodate passenger or freight vehicle associated with use of the site

Acceptable Solution – A1.1

All development must provide for the collection, drainage and disposal of stormwater; and

Acceptable Solution – A1.2

Other than for development for a single dwelling in the General Residential, Low Density Residential, Urban Mixed Use and Village zones, the layout of vehicle parking area, loading area, circulation aisle and manoeuvring area must –

- a) Be in accordance with AS/NZS 2890.1 (2004) – Parking Facilities - Off Street Car Parking;
- b) Be in accordance with AS/NZS 2890.2 (2002) Parking Facilities - Off Street Commercial Vehicles;
- c) Be in accordance with AS/NZS 2890.3 1993) Parking Facilities – Bicycle Parking Facilities;
- d) Be in accordance with AS/NZS 2890.6 Parking Facilities - Off Street Parking for People with Disabilities;
- e) Each parking space must be separately accessed from the internal circulation aisle within the site;
- f) Provide for the forward movement and passing of all vehicles within the site other than if entering or leaving a loading or parking space; and
- g) Be formed and constructed with compacted sub-base and an all-weather surface.

Discussion:

The new road intends to upgrade existing provisions and provide greater stormwater control as part of the development complying with A1.1. Parking is in accordance with AS2890.1 and each site is capable of providing an ability to turn a vehicle and leave the site to Azzure Way complying with A1.2 above.

Acceptable Solution – A2

Design and construction of an access strip and vehicle circulation, movement and standing areas for use or development on land within the Rural Living, Environmental Living, Open Space, Village, or Environmental Management zones must be in accordance with the principles and requirements for in the current edition of Unsealed Roads Manual – Guideline for Good Practice ARRB

Discussion:

Not applicable – the development is not within the zone subject to the provision.

E10 Water and Waterways Code – Not Applicable

The proposal is located approximately 82 metres away from the nearest water body to; exceeding the 30 metre requirement and therefore the Code is not applicable to this application.

Conclusion

This supporting documentation demonstrates that the proposal of a proposed subdivision supports and furthers the Planning Scheme aims and objectives, relevant Clauses and Schedules as set out for development within the Low Density Zone.

Where the proposal does not comply with the Acceptable Solution (AS) it has been demonstrated that the Performance Criteria (PC) are satisfied and there is not an unreasonable loss of amenity as a consequence of this proposal. Therefore Council are requested to exercise its Discretionary powers in relation to this development.

With the above in mind, a planning permit for a proposed subdivision at 263 Port Road, Boat Harbour is respectfully sought from the Planning Authority.



Annexure A – Title Documents

Annexure B – Proposal Plans

Annexure C – Geotechnical Report

Annexure D – Bushfire Plan



Bushfire Risk

Assessment Report & Certificates

for

Gerd Hagmaier

263 Port Road

Date of Plan

10/05/2018

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

ABN: 28 650 042 436

71a Bass Highway, Somerset

PO Box 546 Somerset, TAS 7322

Email: admin@enviropianaustralia.com.au

Consultant Details



Mr. Micheal Wells GradDipUrbRegPlan.BEnvDes

Town Planner, Bushfire Assessor, Building Designer, Fire Engineer (IFE)

Bushfire Accreditation No: **BFP-128**

Scope of Assessors Accreditation

Micheal Wells (BFP-128) is accredited by the Chief Officer of the Tasmania Fire Service under Section 60B of the *Fire Service Act 1979* for the following Scope of Works:

1. Certify a Bushfire Attack Level Assessment for **Building Work**
2. Certify an **Exemption** from a Bushfire Hazard Management Plan
- 3A. Certify Acceptable Solutions for **Buildings or Extensions**
- 3B. Certify Acceptable Solutions for **Small Subdivisions** (less than 10 Lots or a single stage)
- 3C. Certify Acceptable Solutions for **Large Subdivisions** (10 lots or more or in multiple stages)

Works performed by *Micheal Wells (BFP-128)* that require Tasmania Fire Service endorsement:

4. Certify Performance Criteria of the Bushfire-Prone Areas Code.

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Bushfires in Tasmania are an unpredictable natural phenomenon and preparing a Bushfire Hazard Management Plan increases your chances of defending your property and assists in the protection the people whom frequent it. This Fire Hazard Management Plan in no way guarantees immunity from a bushfire in or around your property or the effects thereof.


Any measures implemented based on the advice from *EnviroPlan Australia*, is offered as potential methods of reducing your properties risk of fire damage only and is not to be relied upon as a total solution. It in no way guarantees that any or all buildings on site will survive the effects of a bushfire nor does it guarantee the safety and security of any individuals whom frequent the property.

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Document Status

Revision No	Author	Signature	Date
1	M. Wells		19/01/2017
2	M Wells		10/05/2018

BUSHFIRE-PRONE AREAS CODE

CERTIFICATE¹ UNDER S51(2)(d) *LAND USE PLANNING AND APPROVALS ACT 1993*

1. Land to which certificate applies²

Land that is the Use or Development Site that is relied upon for bushfire hazard management or protection.

Name of planning scheme or instrument:

Waratah Wynyard Interim Planning Scheme 2013

Street address:

263 Port Road, Boat Harbour, Tasmania 7321

Certificate of Title / PID:

CT's: 148990/0, 1, 10, 11, 12, 13, 14, 15, 16,
17, 18, 19, 21 & 22 , PID: 2750112

Land that is not the Use or Development Site that is relied upon for bushfire hazard management or protection.

Street address:

Certificate of Title / PID:

2. Proposed Use or Development

Description of Use or Development:

Proposed Subdivision

Code Clauses:

☐

E1.4 Exempt Development

☐

E1.5.2 Hazardous Use

☐

E1.5.1 Vulnerable Use

☒

E1.6.1 Subdivision

¹ This document is the approved form of certification for this purpose, and must not be altered from its original form.

² If the certificate relates to bushfire management or protection measures that rely on land that is not in the same lot as the site for the use or development described, the details of all of the applicable land must be provided.

3. Documents relied upon

Documents, Plans and/or Specifications

Title:

Author:

Date: **Version:**

Bushfire Hazard Report

Title:

Author:

Date: **Version:**

Bushfire Hazard Management Plan

Title:

Author:

Date: **Version:**

Other Documents

Title:

Author:

Date: **Version:**

4. Nature of Certificate

<input checked="" type="checkbox"/>	E1.6 – Development standards for subdivision		
	E1.6.1 Subdivision: Provision of hazard management areas		
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.1 P1	Hazard Management Areas are sufficient to achieve tolerable risk	
<input type="checkbox"/>	E1.6.1 A1 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.1 A1 (b)	Provides BAL 19 for all lots	Report: Bushfire Hazard Management Report Section: Section 4 - Drawings / Specifications Author: Micheal Wells
<input type="checkbox"/>	E1.6.1 A1 (c)	Consent for Part 5 Agreement	

	E1.6.2 Subdivision: Public and fire fighting access		
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.2 P1	Access is sufficient to mitigate risk	
<input type="checkbox"/>	E1.6.2 A1 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.2 A1 (b)	Access complies with Tables E1, E2 & E3	Report: Bushfire Hazard Management Report Section: Section 4 - Drawings / Specifications Author: Micheal Wells

	E1.6.3 Subdivision: Provision of water supply for fire fighting purposes		
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.3 A1 (a)	Insufficient increase in risk	
<input type="checkbox"/>	E1.6.3 A1 (b)	Reticulated water supply complies with Table E4	
<input type="checkbox"/>	E1.6.3 A1 (c)	Water supply consistent with the objective	
<input type="checkbox"/>	E1.6.3 A2 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.3 A2 (b)	Static water supply complies with Table E5	Report: Bushfire Hazard Management Report Section: Section 4 - Drawings / Specifications Author: Micheal Wells
<input checked="" type="checkbox"/>	E1.6.3 A2 (c)	Static water supply is consistent with the objective	Report: Bushfire Hazard Management Report Section: Section 4 - Drawings / Specifications Author: Micheal Wells

5. Bushfire Hazard Practitioner³

Name:	Micheal Wells	Phone No:	(03) 6411 1931
Address:	71a Bass Highway	Fax No:	
	PO Box 546	Email Address:	admin@envirolanaustralia.com.au
	Somerset TAS		7322
Accreditation No:	BFP – 128	Scope:	1, 2, 3A, 3B & 3C

6. Certification

I, certify that in accordance with the authority given under Part 4A of the Fire Service Act 1979 –

The use or development described in this certificate is exempt from application of Code E1 – Bushfire-Prone Areas in accordance with Clause E1.4 (a) because there is an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measure in order to be consistent with the objectives for all the applicable standards identified in Section 4 of this Certificate.

☐

or

There is an insufficient increase in risk from bushfire to warrant the provision of specific measures for bushfire hazard management and/or bushfire protection in order for the use or development described to be consistent with the objective for each of the applicable standards identified in Section 4 of this Certificate.

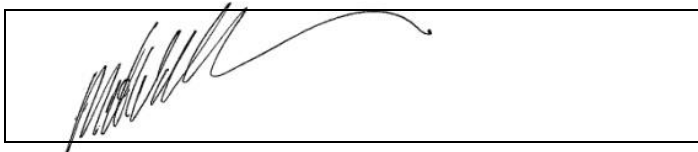
☐

and/or

The Bushfire Hazard Management Plan/s identified in Section 3 of this certificate is/are in accordance with the Chief Officer's requirements and can deliver an outcome for the use or development described that is consistent with the objective and the relevant compliance test for each of the applicable standards identified in Section 4 of this Certificate.

☒

Signed:
certifier



Date:

10/05/2018

Certificate No:

217283 – 5

³ A Bushfire Hazard Practitioner is a person accredited by the Chief Officer of the Tasmania Fire Service under Part IVA of Fire Service Act 1979. The list of practitioners and scope of work is found at www.fire.tas.gov.au.



The Land – Site

Title & Description

Phone Contact: 0404 484 163

Land Owners: Gerd Hagmaier

Owners Agent:

Property Location: 263 Port Road, Boat Harbour Tasmania 7321

Property ID: 2750112

Certificate of Title: CT: 148990/0, 1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21 & 22

Lot Size: 2 ha (20000 m²)

Council: Waratah Wynyard Council

Class of Building:

Type of Building:

Description of Work: Proposed Subdivision

Referenced Documents:

<i>Drawn By</i>	<i>Plan No</i>	<i>Revision No</i>	<i>Date</i>
Fisher Survey & Design	2450		11/9/2017

Aerial Image of Site



Figure 1 – Location of land 263 Port Road, Boat Harbour

The 2 ha (20000 m²) property fronts onto Port Road and is located on the western side of the road.

Existing Use and Development

The current use of land is residential use with units located on the property.

Site Analysis

Topography

The land falls from south west to north east at an average of 11° over a 250 m run.

Access

The existing site access to the subject land is off Port Road via a formed urban crossover and does require further upgrades off Cummings Street as part of this development.

In order to be compliant – all site accesses must be in accordance with AS/NZ 2890.1 - *Parking Facilities - Off-Street Car Parking* and in particular *Section 3 Access Facilities to Off-Street Parking Areas and Queuing Areas*.

Road Class Descriptions & Conclusion:

(AADT = Annual Average Daily Traffic Volume)

4A: Main Road (>150 AADT)

- All weather road predominately two lane and unsealed; can be sealed if economically justified;
- Operating speed of 50-80 km/h according to terrain; and
- Minimum carriage width of 7m.

4B: Minor Road (150-50 AADT)

- All weather two lane road formed and gravelled or single lane sealed road with gravel shoulders;
- Operating speed of 30-70 km/h according to terrain; and
- Minimum carriage width of 5.5m

4C: Minor Road (50 – 10 AADT)

- Substantially a single lane two way dry weather formed (natural materials) track/road;
- Operating speed of 20-40 km/h according to terrain; and
- Minimum carriage width of 4m.

The RTA Guidelines (Guide to Traffic Generating Developments) average daily residential dwelling rates for vehicle movements at **9.0** / dwelling with a weekday hourly rate of **0.85** / dwelling.

Port Road is the main access road to Boat Harbour. The road corridor width is 18 m with a formed construction of 9 m (including shoulders) supporting the 4b road construction.

The road is constructed to Municipal Standards for public access and is constructed to accommodate large vehicle volumes for safe vehicular passage. The road can easily accommodate the increase in AADT placed by the proposal and does not pose a detriment to the safe access/egress for occupants, fire or other emergency personnel.

Water Services

The following best describes to available services to the site and any mitigation measures required by the development:

- Municipal reticulated water services are not located within the vicinity of the site and therefore bulk on-site water storage facilities are required for this proposal in accordance with the Schedule 1 of this Plan.
- Bulk on-site water storage facilities required for firefighting purposes should be suitably sized to ensure 10,000 litres of water is stored as a dedicated firefighting supply and held in reserve. Potable supplies must be in addition to this requirement.

Surrounding Property Use

- Lands to the north residential use;
- East is residential use;
- South is agricultural use; and
- West is residential and agricultural use.

TasVeg Overlay



Figure 2 – TasVEG 3.0 Fire Attributes of land 263 Port Road, Boat Harbour (source: www.theLIST.tas.gov.au)

The 'TasVEG Fire Attributes' layer defines the surrounding vegetation as being:

Vegetation Group	Fire Sensitivity / Flammability
Scrub, Heathland and Coastal Complexes	H Flammability, L Sensitivity
Agricultural, Urban and Exotic Vegetation	VH Flammability, L Sensitivity
Non Eucalypt Forest and Woodland	M Flammability, H Sensitivity

The following vegetation table best describes the flora contained within the bushfire exposure:

Generalised Description

Forests:

Open tree canopy dominated by eucalypt species (typically >10m in height) with crowns that touch or overlap. Canopy allows most sunlight to penetrate supporting growth of a prominent understorey layer varying between hard-leaved shrubs to luxuriant soft leaved shrubs, ferns and herbs.

Woodlands:	<i>Dominated by an open to sparse layer of eucalypts with the crowns rarely touching. Typically 15-35m high (may be shorter at sub-alpine altitudes). Diverse ground cover of grasses and herbs. Shrubs are sparsely distributed. Usually found on flat to undulating ground.</i>
Tall Heaths (Scrub):	<i>Shrubby vegetation greater than 2 metres tall. Principal plant species include banksias, spider flowers, wattles, legumes, eucalypts, tea-trees, paper barks, she oaks, grass trees, cord rushes and sedges. Grasses are scarce. Not found in arid and semi arid locations. Includes Hawkesbury Sandstone vegetation with scattered over-storey trees and predominantly healthy understorey and coastal heath. May include some mallee eucalypts in coastal locations.</i>
Grasslands:	<i>Dominated by perennial grasses and the presence of broad-leaved herbs on flat topography. Lack of woody plants. Plants include grasses, daisies, legumes, geraniums, saltbushes and Copperburrs.</i>
Managed Land:	<i>Non-vegetated or reduced vegetation areas such as: actively grazed pastures, maintained urban yards, maintained lawns, crops, orchards, vineyards, commercial nurseries, playing fields, golf course fairways, cleared parks, non-vegetated areas, formed roads and footpaths including cleared verges, waterways, etc.</i>

Bushfire Interface Area

The bushfire Interface Model is a state-wide spatial dataset which has been modelled to describe the spatial distribution in Tasmania of Type 1 and Type 2 urban-bushland interface types.

- Type 1 interfaces are those areas where structures adjoin bushland fuels, there is a clear delineation between the built & natural environments, and there are multiple dwellings in close proximity to one another (e.g. a typical suburban neighbourhood backing onto bushland).
- Type 2 interfaces are those areas where structures are scattered within bushland fuels, the built & natural environments are blended, and dwellings are spaced further apart (e.g. a typical rural/rural-residential area with larger blocks, long driveways etc).

The site location is described as being a **Type 2** Bushfire interface area.



Figure 3 – Bushfire Interface Areas of land Port Road, Boat Harbour (source: www.theLIST.tas.gov.au)

Given the proximity of the proposal to the classified vegetation; it is not anticipated that the use or development will likely cause or contribute to the occurrence or intensification of bushfire on the site or on adjacent lands.

Proposal

The developer, Gerd Hagmaier is seeking to construct a Proposed Subdivision.

The proposal is to create a 14 lot subdivision from an existing strata arrangement.

Intended Purpose of Plan

The plan is intended to satisfy the provisions of the Code E1 of the Planning Scheme.

Purpose for Future Buildings on New Allotments

The purpose of this bushfire assessment report is to identify the Bushfire Attack Level (BAL) in accordance with AS 3959-2009 Construction of Buildings in Bushfire Prone Areas, and Guidelines for Development in Bushfire Prone Areas of Tasmania 2005.

The BAL will enable the appropriate construction method and applicable construction requirements for the proposed building works to be designed in accordance with AS 3959-2009, Part 3.7.4, 3.7.4.1 and 3.7.4.2 of the National Construction Code Amendment 2013, Building Act 2016, including transitional Arrangements Building Regulations 2014 (Part 1A) and National Construction Code 2016 and the Guidelines for Development in Bushfire Prone Areas of Tasmania.

General Information - Fire Danger Index:

The Fire Danger Index (FDI) is a measure of the probability of a bushfire starting, its rate of spread, intensity and the difficulty of extinguishment according to combinations of temperature, relative humidity, wind speed and available fuels, all of which is influenced by daily rainfall events and the time elapsed between such rainfall events.



The **FDI** in Tasmania is **50**.

Applicable Standard to which the plan relates

E1.6.1 Subdivision – Provision of Hazard Management Areas

The proposal provides for sufficient separation from building areas and bushfire-prone vegetation which reduces heat transfer and ember attack and provides protection for all lots contained within the proposal.

Objective <i>Subdivision provides for hazard management areas that:</i> <ul style="list-style-type: none"> a) <i>facilitate an integrated approach between subdivision and subsequent building on a lot;</i> b) <i>provide for sufficient separation of building areas from bushfire-prone vegetation to reduce the radiant heat levels, direct flame attack and ember attack at the building area; and</i> c) <i>provide protection for lots at any stage of a staged subdivision.</i> 	
Acceptable Solutions A1 <ul style="list-style-type: none"> (a) <i>TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of hazard management areas as part of a subdivision; or</i> (b) <i>The proposed plan of subdivision:</i> <ul style="list-style-type: none"> i. <i>shows all lots that are within or partly within a bushfire-prone area, including those developed at each stage of a staged subdivisions;</i> ii. <i>shows the building area for each lot;</i> iii. <i>shows hazard management areas between bushfire-prone vegetation and each building area that have dimensions equal to, or greater than, the separation distances required for BAL 19 in Table 2.4.4 of Australian Standard AS 3959 – 2009 Construction of Buildings in Bushfire Prone Areas; and</i> iv. <i>is accompanied by a bushfire hazard management plan for each individual lot, certified by the TFS or accredited person, showing hazard management areas greater than the separation distances required for BAL 19 in Table 2.4.4 of Australian Standard AS 3959 – 2009 Construction of Buildings in Bushfire Prone Areas; and</i> (c) <i>If hazard management areas are to be located on land external to the proposed subdivision the application is accompanied by the written consent of the owner of that land to enter into an agreement under section 71 of the Act that will be registered on the title of the neighbouring property providing for the affected land to be managed in accordance with the bushfire hazard management plan.</i> 	Performance Criteria P1 <p><i>A proposed plan of subdivision shows adequate hazard management areas in relation to the building areas shown on lots within a bushfire-prone area, having regard to:</i></p> <ul style="list-style-type: none"> (a) <i>the dimensions of hazard management areas;</i> (b) <i>a bushfire risk assessment of each lot at any stage of staged subdivision;</i> (c) <i>the nature of the bushfire-prone vegetation including the type, fuel load, structure and flammability;</i> (d) <i>the topography, including site slope;</i> (e) <i>any other potential forms of fuel and ignition sources;</i> (f) <i>separation distances from the bushfire-prone vegetation not unreasonably restricting subsequent development</i> (g) <i>an instrument that will facilitate management of fuels located on land external to the subdivision; and</i> (h) <i>any advice from the TFS.</i>
Performance: Discussion: Complies with A1 (b) above.	Acceptable Solution Satisfied

E1.6.2 Subdivision: Public and Fire Fighting Access

Objective Access roads to, and the layout of roads, tracks and trails, in a subdivision: <ul style="list-style-type: none"> (a) allow safe access and egress for residents, firefighters and emergency service personnel; (b) provide access to the bushfire-prone vegetation that enables both property to be defended when under bushfire attack and for hazard management works to be undertaken; (c) are designed and constructed to allow for fire appliances to be manoeuvred; (d) provide access to water supplies for fire appliances; and (e) are designed to allow connectivity, and where needed, offering multiple evacuation points. 	
Acceptable Solutions A1 <ul style="list-style-type: none"> (a) TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant specific measures for public access in the subdivision for the purposes of fire fighting; or (b) A proposed plan of subdivision showing the layout of roads, fire trails and the location of property access to building areas is included in a bushfire hazard management plan that: <ul style="list-style-type: none"> i. Demonstrates proposed roads will comply with Table E1, proposed private accesses will comply with Table E2 and proposed fire trails will comply with Table E3; and ii. Is certified by the TFS or an accredited person. 	Performance Criteria P1 <p>A proposed plan of subdivision shows access and egress for residents, fire-fighting vehicles and emergency service personnel to enable protection from bushfires having regard to:</p> <ul style="list-style-type: none"> (a) appropriate design measures, including: <ul style="list-style-type: none"> i. two way traffic; ii. all weather surfaces; iii. height and width of any vegetation clearances; iv. load capacity; v. provision of passing bays; vi. traffic control devices; vii. geometry, alignment and slope of roads, tracks and trails; viii. use of through roads to provide for connectivity; ix. limits on the length of cul-de-sacs and dead-end roads; x. provision of turning areas; xi. provision for parking areas; xii. perimeter access; and xiii. fire trails; (b) the provision of access to: <ul style="list-style-type: none"> i. bushfire-prone vegetation to permit the undertaking of hazard management works; and ii. fire fighting water supplies; and (c) any advice from the TFS.
Performance:	Acceptable Solution Satisfied
Discussion: Complies with A1 (b) above and Table E1 & E2.	

Table E1 – Standards for Roads

Element	Requirement
Roads	<p>Unless the development standards in the zone require a higher standard, the following apply:</p> <ul style="list-style-type: none"> a) Two-wheel drive, all-weather construction; b) Load capacity of at least 20 tonnes, including for bridges and culverts; c) Minimum carriageway width is 7 metres for a through road, or 5.5 metres for a dead-end or cul-de-sac road; d) Minimum vertical clearance of 4 metres; e) Minimum horizontal clearance of 2 metres from the edge of the carriageway; f) Cross falls of less than 3 degrees (1:20 or 5%); g) Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; h) Curves have a minimum inner radius of 10 metres; i) Dead-end or cul-de-sac roads are not more than 200 metres in length unless the carriageway is 7 metres in width; j) Dead-end or cul-de-sac roads have a turning circle with a minimum 12 metres outer radius; and k) Carriageways less than 7 metres wide have 'No Parking' zones on one side, indicated by a road sign that complies with AS1743-2001 Road signs-Specifications.

Table E2 – Standards for Property Access

Element	Requirement
A <i>Property access length is less than 30 metres; or access is not required for a fire appliance to access a water connection point</i>	<i>There are no specified design and construction requirements.</i>
B <i>Property access length is 30 metres or greater; or access for a fire appliance to a water connection point.</i>	<p><i>The following design and construction requirements apply to property access:</i></p> <ul style="list-style-type: none"> <i>a) All-weather construction;</i> <i>b) Load capacity of at least 20 tonnes, including for bridges and culverts;</i> <i>c) Minimum carriageway width of 4 metres;</i> <i>d) Minimum vertical clearance of 4 metres;</i> <i>e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;</i> <i>f) Cross falls of less than 3 degrees (1:20 or 5%);</i> <i>g) Dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;</i> <i>h) Curves with a minimum inner radius of 10 metres;</i> <i>i) Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and</i> <i>j) Terminate with a turning area for fire appliances provided by one of the following:</i> <ul style="list-style-type: none"> <i>i. A turning circle with a minimum inner radius of 10 metres; or</i> <i>ii. A property access encircling the building; or</i> <i>iii. A hammerhead 'T' or 'Y' turning head 4 metres wide and 8 metres long</i>
C <i>Property access length is 200 metres or greater.</i>	<p><i>The following design and construction requirements apply to property access:</i></p> <ul style="list-style-type: none"> <i>a) The Requirements for B above; and</i> <i>b) Passing bays of 2 metres additional carriageway width and 20 metres length provided every 200 metres.</i>
D <i>Property access length is greater than 30 metres, and access is provided to 3 or more properties.</i>	<p><i>The following design and construction requirements apply to property access:</i></p> <ul style="list-style-type: none"> <i>a) Complies with Requirements for B above; and</i> <i>b) Passing bays of 2 metres additional carriageway width and 20 metres length must be provided every 100 metres.</i>

E1.6.1.3 Subdivision – Provision of Water Supply for Fire Fighting Purposes

<p>Objective</p> <p>Adequate, accessible and reliable water supply for the purposes of fire fighting can be demonstrated at the subdivision stage and allow for the protection of life and property associated with the subsequent use and development of bushfire-prone areas</p>	
Acceptable Solutions	Performance Criteria
<p>A1</p> <p><i>In areas serviced with reticulated water by the water corporation:</i></p> <ul style="list-style-type: none"> <i>(a) TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of a water supply for fire fighting purposes;</i> <i>(b) A proposed plan of subdivision showing the layout of fire hydrants, and building areas, is included in a bushfire hazard management plan approved by the TFS or accredited person as being compliant with Table E4; or;</i> <p><i>or</i></p>	<p>P1</p> <p><i>No Performance Criteria</i></p>

(c) A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for fire fighting purposes is sufficient to manage the risks to property and lives in the event of a bushfire.	
Performance:	Not Applicable
Discussion: The proposal is not in a municipal reticulated area and therefore the provision is not applicable.	
Acceptable Solutions	Performance Criteria
A2 In areas that are not serviced by reticulated water by the water corporation: (a) The TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant provision of a water supply for firefighting purposes; or (b) The TFS or an accredited person certifies that a proposed plan of subdivision demonstrates that static water supply, dedicated to fire fighting, will be provided and located compliant with Table E5; or (c) A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for firefighting purposes is sufficient to manage the risks to property and lives in the event of a bushfire.	P2 No Performance Criteria
Performance:	Acceptable Solution Satisfied
Discussion: Complies with A1 (c) above and Table E5	

Table E4 – Reticulated Water Supply for Fire Fighting

Element	Requirement
A Distance between building area to be protected and water supply	The following requirements apply: a) The building area to be protected must be located within 120 metres of a fire hydrant; and b) The distance must be measured as a hose lay, between the water connection point and the furthest part of the building area.
B Design criteria for fire hydrants	The following requirements apply: a) Fire hydrant system must be designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia WSA 03 – 2011-3.1 MRWA 2 nd Edition; and b) Fire hydrants are not installed in parking areas.

Table E5 – Static Water Supply for Fire Fighting

Element	Requirement
A Distance between building area to be protected and water supply	The following requirements apply: a) The building area to be protected must be located within 90 metres of the water connection point of a static water supply; and b) The distance must be measured as a hose lay, between the water connection point and the furthest part of the building area.
B	A static water supply:

Static Water Supplies	<ul style="list-style-type: none"> a) May have a remotely located offtake connected to the static water supply; b) May be a supply for combined use (fire fighting and other uses) but the specified minimum quantity of fire fighting water must be available at all times; c) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems; d) Must be metal, concrete or lagged by non-combustible materials if above ground; and e) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2009, the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by: <ul style="list-style-type: none"> i. Metal; ii. Non-combustible material; or iii. Fibre-cement a minimum of 6mm thickness.
C Fittings, pipework and accessories (including stands and tank supports)	<p>Fittings and pipework associated with a water connection point for a static water supply must:</p> <ul style="list-style-type: none"> a) Have a minimum nominal internal diameter of 50mm; b) Be fitted with a valve with a minimum nominal internal diameter of 50mm; c) Be metal or lagged by non-combustible materials if above ground; d) Where buried, have a minimum depth of 300mm (compliant with AS/NZS 3500.1-2003 Plumbing and Drainage, Part 1 Water Services Clause 5.23); e) Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to fire fighting equipment; f) Ensure the coupling is accessible and available for connection at all times; g) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220 mm length); h) Ensure underground tanks have either an opening at the top of not less than 250 mm diameter or a coupling compliant with this Table; and i) Where a remote offtake is installed, ensure the offtake is in a position that is: <ul style="list-style-type: none"> i. Visible; ii. Accessible to allow connection by firefighting equipment; iii. At a working height of 450 – 600mm above ground level; and iv. Protected from possible damage, including damage by vehicles.
D Signage for static water connections	<p>The firefighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must:</p> <ul style="list-style-type: none"> a) Comply with water tank signage requirements within Australian Standard AS 2304-2011 Water storage tanks for fire protection systems; or b) Comply with the Tasmania Fire Service Water Supply Guideline published by the Tasmania Fire Service.
E Hardstand	<p>A hardstand area for fire appliances must be:</p> <ul style="list-style-type: none"> a) No more than 3 metres from the firefighting water point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like); b) No closer than 6 metres from the building area to be protected c) With a minimum width of 3 metres constructed to the same standard as the carriageway; and d) Connected to the property access by a carriageway equivalent to the standard of the property access.



EnviroPlan Australia
Micheal Wells
Bushfire Accreditation No: **BFP-128**

Bushfire Attack Level (BAL) Assessment

Property Address: 263 Port Road, Boat Harbour, Tasmania 7321
Municipality: Waratah Wynyard
Date of Assessment: 10/05/2018

Type of Work

Building Class Adopted: Not Applicable
Proposal Description: Proposed Subdivision

Fire Danger Index

FDI Adopted: **50**

Vegetation Type

Classification Adopted: **Shrub Land**

Lot 1 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H - Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 3	S 120	E 3	W 55

Closest Exposure: 120 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
BAL value for each side of site	BAL - LOW	BAL - LOW	BAL - LOW	BAL - LOW

Site BAL Assessment

BAL classification adopted for site is: BAL - LOW

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL - LOW, BAL - 12.5, BAL - 19, BAL - 29, BAL - 40 & BAL - FZ (Flame Zone)

Lot 2 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 3	S 93	E 3	W 83

Closest Exposure: 83 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
BAL value for each side of site	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 3 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H - Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 3	S 76	E 3	W 77

Closest Exposure: 76 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
BAL value for each side of site	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL - LOW, BAL - 12.5, BAL - 19, BAL - 29, BAL - 40 & BAL - FZ (Flame Zone)

Lot 4 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Distance classified vegetation	to	Show distance in metres					
		N	10	S	71	E	2

Closest Exposure: 60 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
BAL value for each side of site	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 5 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 3	S 58	E 3	W 77

Closest Exposure: 58 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
BAL value for each side of site	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 6 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 3	S 43	E 3	W 79

Closest Exposure: 43 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
BAL value for each side of site	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 7 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 3	S 19	E 3	W 40

Closest Exposure: 19 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
BAL value for each side of site	BAL - LOW	BAL - 19	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 19

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 8 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 1.5	S 24	E 1.5	W 23

Closest Exposure: 23 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
BAL value for each side of site	BAL - LOW	BAL - 19	BAL - LOW	BAL - 19

Site BAL Assessment

BAL classification adopted for site is: BAL - 19

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 9 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Distance classified vegetation to		Show distance in metres	
	N	1.5	S 27
			E 4
			W 27

Closest Exposure: 27 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
BAL value for each side of site	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 10 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Distance classified vegetation to		Show distance in metres							
		N	1.5	S	42	E	4	W	19

Closest Exposure: 19 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
BAL value for each side of site	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 19

Site BAL Assessment

BAL classification adopted for site is: BAL - 19

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL – 40 & BAL – FZ (Flame Zone)

Lot 11 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Distance classified vegetation to		Show distance in metres							
		N	1.5	S	63	E	4	W	19

Closest Exposure: 19 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
BAL value for each side of site	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 19

Site BAL Assessment

BAL classification adopted for site is: BAL - 19

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 12 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Distance classified vegetation	to	Show distance in metres					
		N	1.5	S	82	E	4

Closest Exposure: 34 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
BAL value for each side of site	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - 12.5

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 13 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Distance classified vegetation	to	Show distance in metres					
		N	1.5	S	57	E	4

Closest Exposure: 57 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
BAL value for each side of site	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - LOW

Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Lot 14 – BAL Assessment

BAL Determination Sheet

EnviroPlan Australia

Micheal Wells

Bushfire Accreditation No: **BFP-128**

Scope of Accreditation: **1, 2, 3A, 3B & 3C**

Parent Title - PID: **2750112** CT: **148990 / 1**



Classification for each side of the Site

Vegetation Class	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>	Exclusions (where applicable)
Group A - Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group B - Woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group C - Shrubland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group D - Scrub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group E - Mallee/Mulga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Group F - Rainforest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group G (FDI 50) - Grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group H – Managed Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation Proximity

Show distance in metres				
Distance classified vegetation to	N 4	S 71	E 4	W 5

Closest Exposure: 71 metres

Note: If there is no classification vegetation within 100m of the site then the BAL is LOW for that part of the site.

Land Slope

	N <input checked="" type="checkbox"/>	S <input checked="" type="checkbox"/>	E <input checked="" type="checkbox"/>	W <input checked="" type="checkbox"/>
Slope under the classified vegetation	Upslope			
	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope/0° <input checked="" type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input checked="" type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
BAL value for each side of site	BAL - LOW	BAL - 12.5	BAL - LOW	BAL - LOW

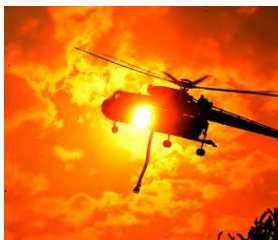
Site BAL Assessment

BAL classification adopted for site is: BAL - 12.5

Note 1: Site BAL is adopted from the highest BAL rating on any single exposure.

Note 2: BAL – LOW, BAL – 12.5, BAL – 19, BAL – 29, BAL -40 & BAL – FZ (Flame Zone)

Section 4



Bushfire Hazard Management Plan

Note: Specifications must be read in conjunction with the Bushfire Hazard Management Plan that accompanies this Bushfire Risk Report

Hazard Management Area (marked yellow). Separation distances as shown. Maintain HMA in a minimum fuel condition at all times with regular maintenance from September through to March each calendar year.

Non-Combustible water storage tank (i.e. steel, concrete or shielded) with 10,000ltrs minimum stored capacity per habitable building to be protected is required. This must be dedicated for firefighting purposes and fitted with A DIN or NEN standard forged Storz 65 mm adaptor fitted with a suction washer. A connection / standpipe is required to be constructed within 90m of the furthest part of the habitable building/s to be protected. Domestic water volumes are in addition to the above requirement.

Clearly defined hardstand area for fire fighting appliance access to firefighting connection (5.5m x 10.5m clear working area), constructed in accordance with AS2419.1 2005. Accessible from property access, located within 3m of water connection point & greater than 6m away from habitable buildings.












CLASSIFICATION
This development has BAL 19 separation distances determined in accordance with Method 1 of Section 2.2 of AS3959.2009 Construction of Buildings in Bushfire-Prone Areas. Separation distances between the building area and the Classified Vegetation are appropriate and in accordance with the requirements of Table 4.4(d)(1b) of the Directors Determination for Building in Bushfire-Prone Areas.

SPECIFICATIONS ON PAGE Bo.2 TO BE FOLLOWED
The Specifications featured on page Bo.2 of this Plan form the basis of how to construct, manage and maintain the property in accordance with this Plan.

Lot Number	Assigned BAL
1	BAL - LOW
2	BAL - 12.5
3	BAL - 12.5
4	BAL - 12.5
5	BAL - 12.5
6	BAL - 12.5
7	BAL - 19
8	BAL - 19
9	BAL - 12.5
10	BAL - 19
11	BAL - 19
12	BAL - 12.5
13	BAL - 12.5
14	BAL - 12.5

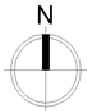
NOTE:
Hazard Management Areas to Boundaries as shown

LEGEND	
	HMA
	Existing Building
	Building to Demolish
	Balance Land HMA
	Fire Water Sign
	Bushfire Water Tank
	Remote Off-Take
	100mm Water Main

Certified Plan
As Shown

Micheal Wells
Scope: 1, 2, 3A, 3B & 3C
BFP-128

GENERAL
This plan is to be read in conjunction with the bushfire risk assessment report. Ensure that all contractors and consultants are provided with a full copy of this plan. All services are to be located on site by contractors prior to commencement of works. Notify the Council Authorities and Bushfire Risk Assessor if any variation in Building Layout or Classified Vegetation occurs.

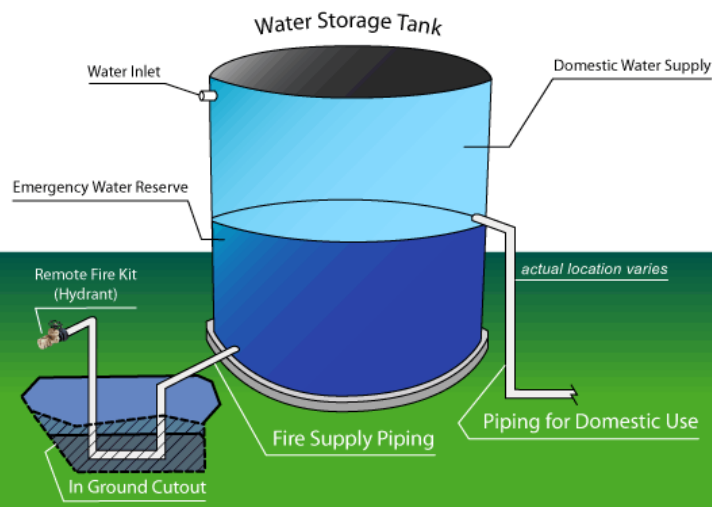
CLIENT Gerd Hagmaier	PID: 2750112	DRAWN BY M Wells	SCALE @ A3 1: 600	DESIGNERS DESCRIPTION: EnviroPlan	DESCRIPTION Bushfire Hazard Management Plan
PROJECT 263 Port Road, Boart Harbour	CT: 148990/0	ISSUE 10/05/2018	DESIGNERS REFERENCE NUMBERS: AO.1		



NON-RETICULATED AREAS SPECIFICATIONS

GENERAL REQUIREMENTS

1.0	General
1.1	A Hazard Management Area (HMA) must be established around the habitable structure/s to be protected in accordance with the distances specified on B0.1 of this Plan;
1.2	Lawns within the HMA must be well maintained during the fire season from September through to March and kept as "short cropped";
1.3	Paths and driveways must be constructed of non-combustible materials;
1.4	Dams, uncovered water storages, orchards, vegetable gardens, waste water systems and tanks etc. must be located on the fire prone side of the proposed habitable structure;
1.5	Only fire retardant plants of the low flammability type (fire resisting garden plants - TFS) should be planted within the HMA;
1.6	No vegetation must be able to fall onto the proposed structure;
1.7	The owner/s must maintain tree crowns within the HMA to have a horizontal separation of 5 meters from each crown;
1.8	Trees of significant establishment should be retained so as to create a screen to protect from radiant heat transfer and ember protection;
1.9	The HMA must be located within the property boundaries.
1.10	It is the responsibility of the land owner to maintain the landscaping in accordance with the Bushfire Hazard Management Plan.
1.11	All paths and pedestrian areas within 1 meter of any habitable structure on the subject site must be constructed of non-combustible materials (i.e. stone, paving, concrete, pebbles etc);
1.12	Vegetation along pathways should be of a low flammability type and in accordance with the Tasmania Fire Service's brochure - Fire Retardant Garden Plants. Plants that produce a lot of debris should be avoided. Trees and shrubs that retain dead material in branches, or which shed long strips of bark, or rough fibrous bark, or large quantities of leaves should be avoided;
1.13	Vines on walls or tree canopies over roofed areas should be avoided
1.14	Timber, woodchip and flammable mulches cannot be used and brush and timber fencing should be avoided;
1.15	Total shrub cover should be kept to a maximum of 20% of the available area;
1.16	Clear space from any habitable structures of at least 4 times the mature height of any shrubs planted;
1.17	Shrubs must not be planted in cluster forms or clumps;
1.18	Remove ground level fuels and trim the bottom of tree canopies to at least a height of 2m off ground level;
1.19	Minimise ground level fuels wherever possible;



WATER

2.0	Static Water Supply - Distance to Building Area
2.1	A static water connection point must be located within 90 metres of the building area;
2.2	The distance between the static water connection point and the furthest part of the building area must be measured as a hose lay

3.0	Static Water Supplies
3.1	The water tank supply required by this development may have a remotely located offtake connected to the static water supply;
3.2	The water supply can be used for combined use (fire fighting and other uses) but the specified minimum quantity of fire fighting water must be available at all times;
3.3	The static water supply must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems – domestic supply is in addition to this amount;
3.4	The water storage tank must be metal, concrete or lagged by non-combustible materials if above ground;
3.5	If the tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2009, the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by Metal, Non-combustible Material; or Fibre-cement a minimum of 6mm thickness.

4.0	Tank Fittings, Pipework and Accessories
All fittings and pipework associated with a water connection point must:	
4.1	Have a minimum nominal internal diameter of 50mm;
4.2	Be fitted with a valve with a minimum nominal internal diameter of 50mm;
4.3	Be metal or lagged by non-combustible materials if above ground;
4.4	Where buried, have a minimum depth of 300mm (compliant with AS/NZS 3500.1 2003 Clause 5.23)
4.5	Provide a DIN or NEN standard forged Storz 65mm coupling fitted with a suction washer for connection to firefighting equipment;
4.6	Ensure the coupling is accessible and available for connection at all times;
4.7	Ensure the coupling is fitted with a blank cap and securing chain (min 220mm length)
4.8	Ensure underground tanks have an opening at the top of not less than 250mm diameter.
4.9	Where remote off-take is installed; ensure the off-take is in a position that is visible and accessible to allow connection by firefighting equipment and is at a working height of 450mm - 600mm above ground level and protected from possible damage including damage by vehicles.

5.0	Signage for Static Connections
The water connection point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must comply with:	
5.1	Water tank signage requirements within AS2304 2011 Water Storage Tanks for Fire Protection Systems; or
5.2	Be marked with the letter "W" contained within a circle with the letter in upper case and not less than 100mm in height; and
5.3	Be a fade -resistant material with white reflective lettering and circle on a red background; and
5.4	Be located within 1 meter of the water connection point in a situation which will not impede access or operation; and
5.5	Be not less than 400mm above the ground.

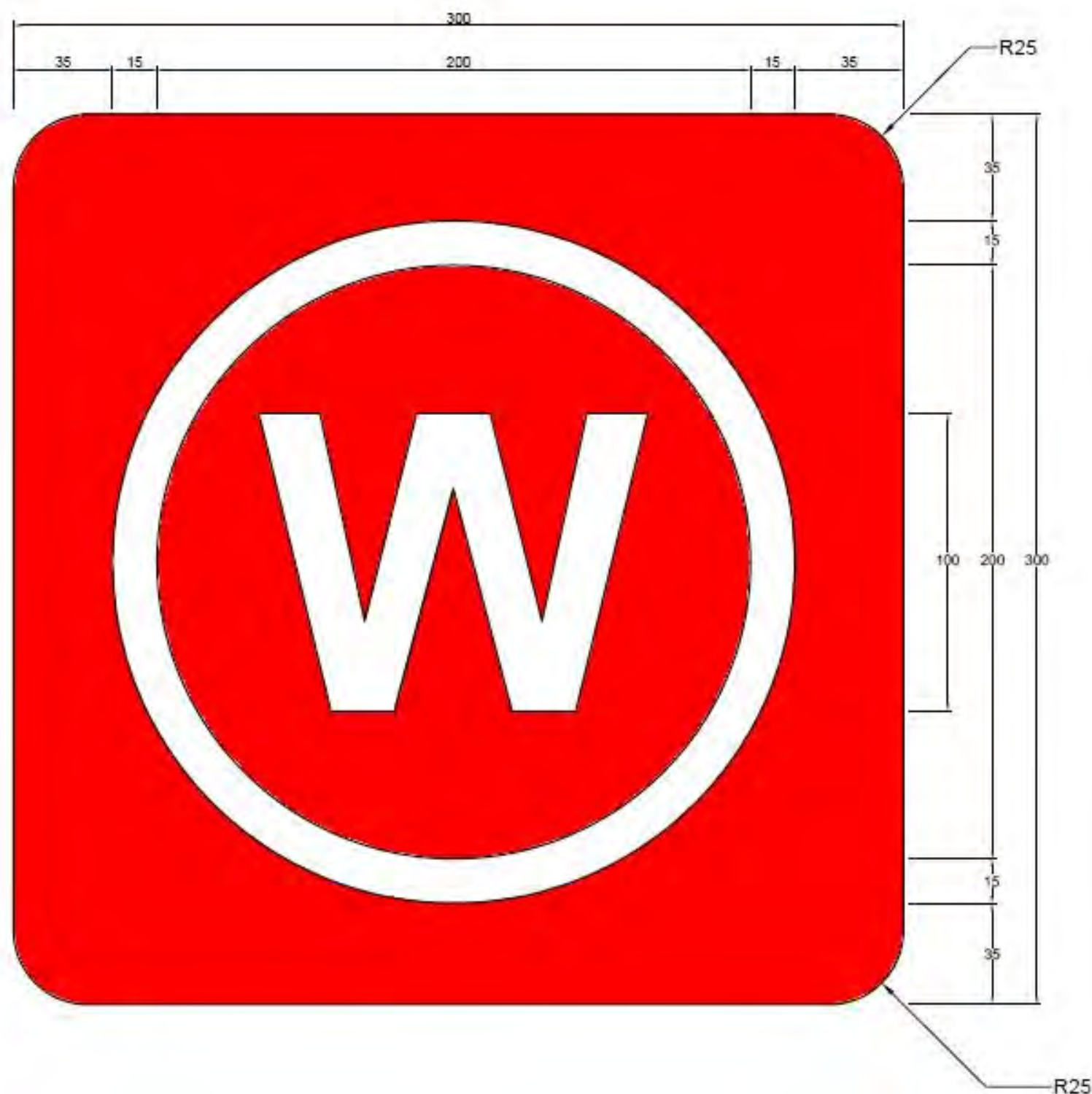
6.0	Hard Stand Areas for Static Water Supplies
A hard stand area for fire appliance must be provided:	
6.1	No more than 3 meters from the water connection point measured as a hose-lay (including the minimum water level in dams, swimming pools and the like); and
6.2	No closer than 6 meters form the building area to be protected; and
6.3	With a minimum with of 3 meters constructed to the same standard as the carriageway; and
6.4	Connected to the property access by a carriageway equivalent to the standard of the property access.

ACCESS

7.0	Property Access Exceeding 30 meters to Building Area
7.1	The property access must be constructed to an all-weather construction with a load capacity of at least 20 tonnes including any bridges or culverts if applicable;
7.2	The carriageway from the access to the building area must be a minimum of 4 meters wide with a vertical clearance of 4 meters;
7.3	The carriageway must have a minimum horizontal vegetation clearance of 0.5 meters;
7.4	The carriageway must contain a cross-fall of less than 3 degrees (1:20 or 5%) and dips of less than 7 degrees (1:8 or 12.5%) from an entry and exit angle;
7.5	All curves on the carriageway must contain a minimum inner radius of 10 meters;
7.6	The carriageway must have cross falls of less then 3 degrees (1:20 or 5%) and a maximum grade of 15 degrees (1:3.5 or 28%) for sealed roads and / or 10 degrees (1:5.5 or 18%) for unsealed roads;
7.7	All terminations of carriageways must be provided with a turning area for fire appliances by either a turning circle with a minimum radius of 10 meters; a property access encircling the habitable building or a hammerhead 'T' or 'Y' turning head 4 meters wide and 8 meters long

GENERAL
This plan is to be read in conjunction with the bushfire risk assessment report. Ensure that all contractors and consultants are provided with a full copy of this plan. All services are to be located on site by contractors prior to commencement of works. Notify the Council Authorities and Bushfire Risk Assessor if any variation in Building Layout or Classified Vegetation occurs.

CLIENT Gerd Hagmaier	PID: 2750112	DRAWN BY M Wells	SCALE @ A3 1: 600	DESIGNERS DESCRIPTION: EnviroPlan	DESCRIPTION Bushfire Hazard Management Plan
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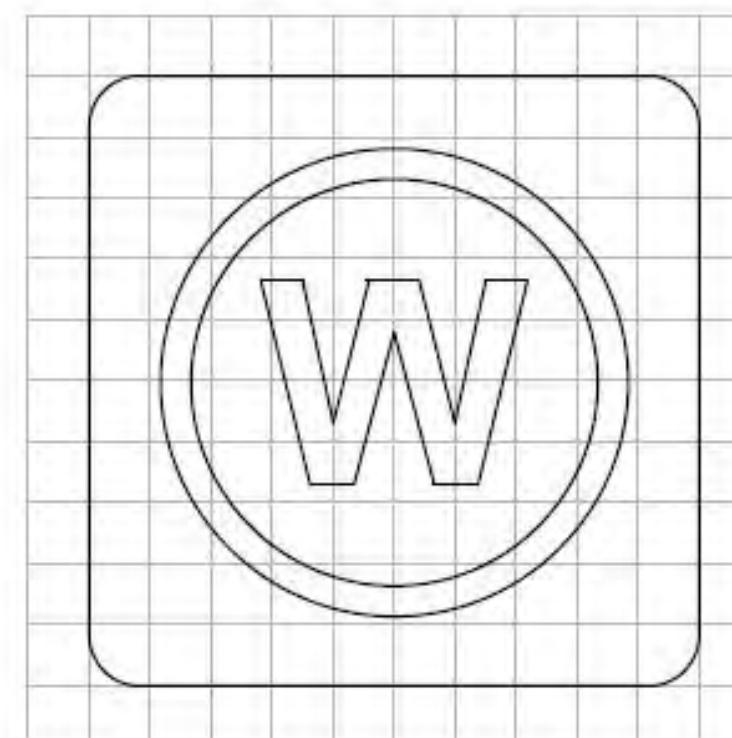


OVERALL SIGN DIMENSIONS (mm): 300 x 300, +/- 5
 SURFACE AREA OF SIGN (sq m) : 0.0895

LEGEND COLOUR: WHITE (N14) IN ACCORDANCE WITH AS2700,
 WITH A RETROREFLECTIVE SURFACE FINISH
 BACKGROUND COLOUR: SIGNAL RED (R13) IN ACCORDANCE WITH AS2700

FOR SIGN FIXING AND LOCATION REQUIREMENTS, REFER TO
 TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

FOR LEGEND SPECIFICATIONS AND MANUFACTURING DETAIL
 REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES



GRID MODULE X = 30mm Y= 30mm



Tasmania Fire Service



**LANDSLIDE RISK ASSESSMENT
PROPOSED SUBDIVISION
263 PORT ROAD, BOAT HARBOUR**

Prepared for: **Gerd Hagmaier**

Date: 16 March 2018

Document Reference: TG18061/1 - 01report

Contents

1	INTRODUCTION	1
2	BACKGROUND INFORMATION	1
	2.1 Implications of Landslip A Zone	1
	2.2 Regional Setting	2
	2.3 Geology	2
	2.4 Landslide Inventory	2
	2.5 Landslide Susceptibility Mapping	3
	2.6 Previous Reports	3
	2.7 Proposed Development	4
3	FIELD INVESTIGATION	4
4	RESULTS	4
	4.1 Surface Conditions	4
	4.2 Subsurface Conditions	5
5	GEOTECHNICAL MODEL	6
	5.1 Geological History	6
	5.2 Landslide Morphology	6
	5.3 Proposed Geotechnical Model	7
6	LANDSLIDE RISK ASSESSMENT	8
	6.1 General	8
	6.2 Geotechnical Model	8
	6.3 Potential Hazards	9
	6.4 Risk to Property	9
7	DISCUSSION & RECOMMENDATIONS	10
8	REFERENCES	10

Important information about your report

Figures

Figure 1	MRT Geological Mapping
Figure 2	MRT Landslide Inventory
Figure 3	MRT Landslide Susceptibility
Figure 4	Proposed Subdivision Layout
Figure 5	Site Layout and Borehole Locations
Figure 6	Regional Geomorphology and Features
Figure 7	Inferred Cross Sections of Landslides

Appendices

Appendix A	Engineering Borehole Logs
Appendix B	Selected Site Photographs
Appendix C	Landslide Risk Matrix
Appendix D	Guidelines to Hillside Construction

Version	Date	Prepared by	Reviewed by	Distribution
Draft	16 March 2018	David Gibbons	Dr Wayne Griffioen	Electronic

1 INTRODUCTION

Tasman Geotechnics was commissioned by Gerd Hagmaier to carry out a Landslide Risk Assessment for a proposed subdivision at 263 Port Road, Boat Harbour (title reference 148990/0), also known as Azzure Beach Houses.

The assessment is required as part of the Planning Application process as the subdivision is mapped within a Landslip A zone, or is covered by a Medium Landslide Hazard band. The proposal is to subdivide 263 Port Road into 14 new lots. Details of the proposed subdivision are presented in Section 2.7.

Our scope of work consisted of:

- Review of maps and reports in the public domain (e.g. MRT website) and by direct discussion with MRT personnel;
- Review historical aerial photographs to check for topographic features;
- Carrying out a site walkover to note geomorphological features associated with landslide activity;
- Drilling of three boreholes (BH1, BH1(2) and BH2) to depths of 2.1m, 10.1m and 17.1m to determine subsurface conditions;
- Developing a geotechnical model for the site based on our boreholes, MRT data and site observations;
- Assessing the stability of the site and surrounds for the current condition, and for the proposed development;
- Determine measures to maintain or improve the stability of the site, including recommendations on treating the springs adjacent to the site.

The assessment is consistent with the Landslide Risk Assessment guidelines published by the Australian Geomechanics Society (2007).

2 BACKGROUND INFORMATION

2.1 Implications of Landslip A Zone

It is our understanding that the provisions of the Building Act 2000 and Building Regulations 2014 remain applicable until the new Tasmanian Planning Scheme comes into effect.

For an A landslip area, the Tasmanian *Building Act 2000* states that

- (1) A person must not erect, alter or add to a building in an A landslip area except in accordance with subsection (2)*
- (2) The minister, on the recommendation of a general manager, may permit a person to –*
 - (a) Erect, in an A landslip area–*
 - (i) A shed; or*
 - (j) An insubstantial building; or*
 - (b) Carry out building work, other than erections, in respect of a building in an A landslip area; or*
 - (c) Erect a building within the boundaries of a wharf in an A landslip area.*

The Building Regulations stipulate that a person may only erect, alter or add to a building in a B landslip area if the total floor area will not exceed 200m² when the building work is completed.

The Building Regulations also state that a permit may be issued for a building with more than 200m² floor area, if a certificate is given by a geotechnical engineer confirming that:

- i) the erection, alteration or addition can be carried out safely, and
- ii) the building will be structurally sound, and
- iii) the completed building will not affect the stability of the land.

In landslide areas, a person may only (Clause 13, Building Regulations 2014):

- a) *Excavate or deposit, material in a landslide if the excavation or deposition is carried out in such a manner as to allow rainwater or seepage to drain from the site; or*
- b) *Permanently excavate or deposit any material for, or in connection with, building work in a landslide are if –*
 - i. *The excavation is not more than 600 millimeters in depth; and*
 - ii. *The material, when deposited, is not more than one meter in height above ground level and is compacted and graded so as not to aggravate existing landslide conditions; or*
- c) *Backfill a trench or hole in a landslide area if the trench or hole is backfilled with well compacted material which was previously removed from the trench or hole; or*
- d) *Fell or remove trees or other vegetation for, or in connection with, building work on land in a landslide area if the person has obtained the written agreement of a permit authority; or*
- e) *Use any earth-moving or vibrating compaction equipment for, or in connection with, building work on land in a landslide are if the person has obtained the written agreement of a permit authority.*

2.2 Regional Setting

Boat Harbour is a seaside town built at the base of a steep coastal escarpment with a sheltered beach as the main attraction. Many of the houses were initially holiday shacks and still display their origins.

A prominent headland, Table Cape is situated to the east of the town and a rugged rocky coastline extends to the west. To the south a steep escarpment rises to a plateau approximately 120m above sea level.

2.3 Geology

The Mineral Resources Tasmania (MRT) 1:25,000 Series Digital Geological map, Wynyard Sheet, shows the Boat Harbour township and site to be mapped on landslide deposits derived predominantly from weathered Tertiary rocks. A section of deeply weathered basalt encroaches onto the eastern part of the site. Deeply weathered basalt is also mapped on the plateau uphill of the site. Outcrops of basalt occur at the shore line.

In addition, Proterozoic rocks, metamorphosed siliceous shelf sequences, are mapped at Shelf Point and the coastline west of Boat Harbour.

An extract of the MRT geology map is presented on Figure 1.

2.4 Landslide Inventory

In 2010, MRT published the “*Tasmanian Landslide Hazard Series*” maps which includes 6 maps for the Wynyard area. Of particular interest is the Landslide Inventory map, which shows 7 landslides of different scale in the Boat Harbour township and another 5 along the access road (Port Road). There have also been reports of damage to dwellings in the Boat Harbour township.

An active landslide complex is located 150m south east of the site. For the purposes of this report this is referred to as the “Hepples Road Complex”. The northern part of the site is located on a larger dormant complex and this is termed as the “Town Complex”. The 5 landslides along Port Road are referred to as the “Port Road Slide”. Two smaller, probably dormant, landslides are located south of the site and these are referred to as “escarpment slides”.

An extract of the MRT landslide inventory map is shown in Figure 2.

2.5 Landslide Susceptibility Mapping

For the basalt soils of the North-West coast of Tasmania, MRT have identified two scales of landslides:

- Deep-seated rotational landslides; and
- Shallow slides or debris flows.

Landslide susceptibility maps for both scales of land sliding have been developed by MRT, and extracts are presented in Figure 3.

Susceptibility zones for first time deep-seated failures were developed by MRT by statistical analysis of slope geometry and geological material of known landslides, and are mapped as possible source, regression and runout areas associated with potential landslide movement. For the Tertiary basalts, threshold values of source, regression and runout areas are 14°, 20° and 16° respectively.

For shallow slides and debris flows, the susceptibility for source area is also based on slope angle:

- High: greater than 20°
- Moderate: between 10° and 20°
- Low: between 6° and 10°
- Very Low: less than 6°

The Wynyard Deep-seated Landslide Susceptibility Map shows that the majority of the site is located on runout areas, while the steep areas in the southern part of the site are mapped as source areas.

2.6 Previous Reports

Boat Harbour has had a history of landslides some of which have damaged buildings and others which have damaged roads and other infrastructure. A search of the MRT website identified 5 reports on landslides in the Boat Harbour Beach area. Two of these were considered relevant to the present investigation: Jennings (1965) and Matthews (1972). In addition, we obtained a copy of a Coffey Geosciences report (dated 2001), commissioned by DPIPWE and Waratah-Wynyard Council, a BFP report (dated 2003) commissioned by Fairbrother for the caravan park, and a Coffey Geotechnics report (dated 2007) for a development at 4 Moore Street.

Jennings (1965) identified the risks for Port Road crossing a landslide and recommended that an alternative route be found to access the town. He also stated the use of septic tanks and careless disposal of drainage water was aggravating an already dangerous situation in relation to landslides.

Matthews (1972) explained that the risk of landslides in Boat Harbour area were due to deeply weathered basalt forming clays which when saturated were liable to move. He mapped the Hepples Road Complex.

Coffey Geosciences (2001) undertook an investigation for the Department of Primary Industries Water and Environment and Waratah-Wynyard Council to provide a landslide risk assessment for the town. In this report they defined geomorphological units and described the existing landslides. The mapping produced by Coffey Geosciences is very similar to the landslide maps produced by MRT. This report found that the risk of loss of life for landslides in this area was very low. They are also stated that movement on the landslide crossing Port Road was "Almost Certain" which has proved to be true.

The BFP investigation comprised drilling of 8 boreholes using a 4WD mounted auger rig. One borehole was drilled to auger refusal at 3.3m below ground level. The other boreholes were terminated at 2m or 2.8m below ground level (no refusal). The soils encountered were red/brown to dark grey clay. Groundwater inflow was observed at 2.6m below ground level in 2 boreholes, rising to about 2.1m below ground level after 2 hours. No groundwater inflow was observed in the other 6 boreholes.

The investigation by Coffey Geosciences at 4 Moore Street involved drilling 2 boreholes (CGBH1 and CGBH2) using a track mounted rig, capable of both hollow stem auger and diamond drilling. Both boreholes encountered slightly weathered to fresh quartzite rock: in CGBH1 at 1m below ground level, in CGBH2 at 5m below ground level. The borehole locations are shown in Figure 7.

2.7 Proposed Development

The proposed development is to change the current strata title subdivision at 263 Port Road into a formal subdivision. It is envisaged that houses will be constructed in future on the vacant lots. The proposed subdivision layout is shown in Figure 4.

3 FIELD INVESTIGATION

The fieldwork was carried out by an Engineering Geologist from Tasman Geotechnics in July and August 2017. The fieldwork involved;

- Carrying out a walkover of the site and surroundings to note geomorphological features relevant to the investigation;
- Taking photographs of geomorphological features and rock outcrops surrounding the site;
- Drilling three boreholes (BH1, BH1(2) and BH3) to depths of 2.1m, 10.1m and 17.1m respectively to determine sub-surface conditions. BH1 was attempted using a track mounted rig, but was abandoned as the core barrel split. A truck mounted drill rig was used to drill the other 2 holes;
- Collecting soil and rock samples from each borehole;
- Discussions with local residents about landslide and spring activity, and also historical developments on the site.

The borehole logs are presented in Appendix A and the borehole locations are shown on Figure 5. Selected site photographs are presented in Appendix B.

4 RESULTS

4.1 Surface Conditions

The site has been extensively modified from natural conditions due to developments on and around the site. The following observations were made at the time of fieldwork.

The south-western corner is relatively steep with heavy vegetation cover (see Photo 1). The break in slope and change in vegetation cover broadly corresponds to the boundary of the Proclaimed Landslip A Zone.

The remainder of the site has a gentle slope of about 5° to the east (Photo 2). The site has seven existing buildings, six of which are proposed to be retained and one to be demolished, arranged around the southern and eastern edges of the site. The western part of the site without existing buildings is mostly terraced, and were part of the old caravan park. The terracing is developed on fill (red/brown and dark grey clay encountered in BFP investigation) placed on the natural surface. To the immediate west of the site are neighboring residential properties, and to the east is Port Road.

One of the existing buildings (containing Units 9, 10, 11 and 12) shows signs of damage, and is to be demolished. Although the building is located on the toe of a landslide, the damage is interpreted to be due to poor construction techniques.

Vesicular basalt outcrops near the southern boundary of the property and is also present across Port Road to the east and appears to form a ridge running uphill from the beach to the escarpment face.

Port Road is a sealed road. Various sections of the road have been reconstructed over the years, presumably on engineered fill with appropriate road-side drainage.

A number of engineered controls to manage the slopes were observed near 263 Port Road as follows. The order in the list does not imply any degree of importance.

- Dry packed rocks have been used to retain the slope behind Units 9, 10, 11 and 12 (Photo 2).
- Retaining wall on the lower side of Port Road is built of interlocking concrete blocks and presumably designed for lateral loads (Photo 3).
- Fenton Crescent is a sealed road with appropriate control of runoff.
- The concrete retaining wall on the lower side of Fenton Crescent was presumably built to an engineered design, however, it is showing signs of movement (Photo 4).
- A gabion wall forms part of the retaining wall below Fenton Crescent (Photo 5).
- Retaining walls below houses on the downhill side of Port Road. Note some of these are built to higher standards than others.
- Houses have been built on the downhill side of Port Road. These houses show no signs of landslide activity.
- Rock wall at the high-water mark to prevent wave action eroding material (Photo 6).
- Natural overflow from springs and creek uphill of 263 Port Road is piped downhill to the beach.

4.2 Subsurface Conditions

The relatively flat surfaces have been formed by fill on the site. The top two metres in BH1 appear to be red/brown basalt clay soil similar to the clay encountered by BFP and probably locally derived.

Below the clay further fill was encountered, consisting of quartzite boulders within a sandy matrix. The fill extended to a depth of about 7.0m. The presence of fill is in accord with anecdotal accounts given by residents and also the grandson of the contractor who filled the site. Apparently the site was filled in the early 1940's using material derived from road cuts made for the Bass Highway over the Sister's Hills. The land was described as a swamp prior to the fill being placed and "lots of fill was placed on the site". A truck reportedly became bogged in deep black 'pug'.

At a depth of approximately 7.0m basalt cobbles were encountered in a matrix of sand.

Fractured basalt was encountered from 8.0m below ground level and probably represents bedrock. Similar basalt is present as outcrop along the beach foreshore directly east of the site.

BH2 was drilled downhill and across Port Road in the front yard of 252 Port Road. BH2 encountered fill to approximately 5.0m depth. The fill was largely building rubble which we believe was demolition material from the old Boat Harbour District School after it burnt down in the 1960's. Beneath the fill beach sand was encountered with cobbles of basalt to a depth of 12.0m. A basalt boulder was encountered between 13.0-14.5m. Fractured basalt assumed to be bedrock was encountered from 16.0m below ground level. BH2 was terminated at 17.1m below ground level in the basalt.

Due to the presence of boulders in the fill and the fractured nature of the basalt rock, core runs were short and core recovery was poor (generally less than 50%).

The groundwater level at the site was observed at 0.6m below ground level in BH1. No measurements of groundwater level were made in BH1(2) and BH2, due to the investigation method (water cooled diamond drilling).

5 GEOTECHNICAL MODEL

5.1 Geological History

To understand why landslides are a particular problem in Boat Harbour it is necessary to understand the geological history of the site and its surrounds. A brief summary of the geological history of Boat Harbour area follows.

The basement rocks, now quartzite, were deposited as sandy sediments on the floor of a shallow sea during Mesoproterozoic times. Ripple marks still evident in some beds can be used to determine depositional depths below wave base. Age determinations have been based on radiometric dating of detrital zircons. Later sedimentation included siltstone and dolomite sequences which can now be seen west of Boat Harbour.

Orogenic movements caused folding and faulting at intervals, early Neoproterozoic to Cryogenian and again Ediacaran to Cambrian. A major fault known as the Boat Harbour Fault, prominent between Boat Harbour and Sister's Beach, probably occurred during the Wickham Orogeny at approximately 760Ma.

Unconformities are present at a number of levels indicating periods of erosion.

Major folding occurred due to a terrane collision during the Cambrian. The terrane boundary is marked by the Arthur Lineament which runs from the north coast just east of Boat Harbour to Ahrberg Bay on the west coast. Rocks within the lineament are intensely folded and high pressure metamorphic affects are prominent.

Further deposition and erosion occurred after the Cambrian but the next major event of significance to landslide activity was the opening of Bass Strait. This subjected the underlying quartzite to further erosion and wave cut activity at times. The sea levels rose and fell so that wave cut platforms developed at a number of levels. Steep slopes formed on the tilted quartzite beds and sharp ridges formed due to the hard rock.

Volcanic activity occurred at approximately 13Ma (basalt date from Tollymore Road, just south of Boat Harbour) and Table Cape was a major volcanic centre which poured basalt lava across the pre-Tertiary landscape. Lava flowed towards and past Boat Harbour and flowed down over the steep faces of the underlying rock forming the basement of what is now an escarpment. A photograph of the underlying quartzite is shown on Photo 7.

In the time since the volcanic activity ceased the basalt has weathered into deep clays. The clay surrounding Boat Harbour is resting on steep flat surfaces (Photo 8) offering very little frictional resistance to sliding so that when the clay becomes saturated it generates landslides.

5.2 Landslide Morphology

A number of landslides have been mapped close to the study site as indicated in Section 2.4. Each of these will now be considered in relation to their apparent activity so that a comparison can be made with the probable activity of the site at 263 Port Road, Boat Harbour. The features discussed below are shown in Figure 6. Schematic cross sections through the various landslides are presented in Figure 7.

Hepples Road Complex

This complex of active landslides is located south east of 263 Port Road and exhibits slow creep. A number of houses have been affected by the creep, as well as Hepples Road. The house damage includes lateral movement and rotation of footings which in turn leads to gaps or jamming of windows and doors. Walls have buckled and retaining walls have started to lean and in some cases have broken. Hepples Road has developed tension cracks and small scarps.

The hill slope in the vicinity of this slide is continuous to basalt rock outcrop at beach level. It appears that groundwater flows through the clay overlying the bedrock, and forms springs at beach level immediately above the rock surface. The slide rests on a continuous slope that finishes on outcropping basalt rock near the shoreline. The base of the slide is not subject to wave activity.

A number of retaining walls and surface drains have been constructed in the area. It is not clear if these have been engineer designed or are essentially landscaping features.

Town Complex

This is a large landslide complex with a bowl shaped head scarp, now somewhat eroded, on the escarpment above the houses. A photograph of this landslide location is shown on Photo 6. An eroded rotated block occurs just below the head scarp and displaced material forms a slope with the toe west of Port Road. To the east of the toe is a relatively level former wave cut platform which probably extends back under the displaced material. A major part of the town is built over the displaced material from this landslide.

The northern side of this landslide complex is bounded by a quartzite ridge.

From observations made during our investigation a quartzite ridge is inferred to occur on the southern side of the landslide complex. We inferred the presence of the ridge by following the strike of an outcrop of quartzite on the beach (see Photo 9).

This landslide has a classic head scarp, rotated block and debris flow profile and the toe is well defined. The toe rests on a flat wave cut platform of the underlying quartzite encountered in the 2007 Coffey Geotechnics investigation, which provides frictional resistance to the landslide debris. It would appear that very slow creep occurs at times in the displaced material but essentially the landslide complex is dormant.

Port Road Slide

This slide complex has a head scarp above Port Road, south east of the town. The slope extends all the way to the shoreline where the base of the slide is lapped by waves at high tide. The base area of the slide is also wet and marshy above high tide level probably due to groundwater seeping through the clay and running over the basalt rock which outcrops at sea level near this site (see Photo 10). This landslide is active and caused major disruptions to the town in the 1960's when landslide activity destroyed Port Road, the only access road into the town. The latest slide occurred in July 2016. A retaining wall has subsequently been built on the top side of the road where the landslide crosses Port Road.

The eastern side of this landslide is bounded by a quartzite ridge which runs from below sea level and outcrops on the plateau above (Photo 11).

Escarpment Slides

These are shallow landslides mapped on the escarpment upslope of 263 Port Road. They probably occurred due to weathered basalt sliding down hill on the steep slope. It was not possible to confirm the presence of these slides, as the hillside was too overgrown with trees and shrubs. There is no recorded evidence of recent movement and no historical records of these slides moving so they are assumed to be dormant. The toe of one of these escarpment slides extends onto 263 Port Road.

5.3 Proposed Geotechnical Model

There are two known landslides that impact the site:

- i) The toe of a shallow slide has been mapped at the site, covering parts of proposed lots 8, 9 and 10. The bulk of this relatively small slide is within the proclaimed Landslip Zone A area.
- ii) The other known landslide that impacts the site is the Town Complex, which covers the north-western third of the site.

The two landslides are separated by a quartzite ridge that extends from the beach as shown in Figure 6.

The area between the quartzite and basalt ridges in the vicinity of the 263 Port Road, was originally a gully that was filled with quartzite and building rubble.

At the investigation by BFP, a borehole terminated at 3.3m due to auger refusal. We infer that refusal was on quartzite boulder fill, similar to that encountered in BH1 and BH2. Therefore, the deep fill may extend below the caravan park, possibly to Cummings Street, and was capped with 2 to 3m of clay fill. The thickness of quartzite boulder fill will be much less below the caravan park than in the gully due to the presence of the quartzite ridge.

The fill was placed approximately 70 years ago, and there are no signs it has moved. The fill has had time to consolidate so that additional loading from a future building will not experience consolidation settlement.

During the BFP investigation, the standing groundwater level was observed at 2.1m below ground level in one borehole, while it was observed at 0.6m below ground level during our investigation. Therefore, we conclude that the standing groundwater level at the site can fluctuate from 1m to 2m below ground level. The water most likely occurs in the porous quartzite boulders with sand encountered from 2m below ground level. Variations in groundwater level may occur due to rainfall or seasonal effects.

The escarpment has a (concave) slope inflexion approximately 10m upslope of Lots 8, 9 and 10. We infer that the slope inflexion is at the landward side of a wave cut platform or marine terrace. The basalt clay material upslope of the site to the west is at a lower angle of repose than adjacent sites and also is covered in trees which act to hold the soil in place.

Spring activity occurs above the site implying that basalt rock sub-outcrops at a higher elevation than the site. This spring activity coincides with the break in slope and is probably related to the sub-outcropping of basalt and may even be a small wave cut cliff line now covered by colluvial material. Evidence for basalt outcrops coinciding with springs can be seen at the toe of the Hepples Road Complex and Port Road Slide.

Downhill of the site to the east we infer that there was no original deep clay but rather sand covered rock and hence the potential for landslide activity is lower.

6 LANDSLIDE RISK ASSESSMENT

6.1 General

Risk assessment and management principles applied to slopes can be interpreted as answering the following questions;

- What might happen? (HAZARD IDENTIFICATION).
- How likely is it? (LIKELIHOOD).
- What damage or injury might result? (CONSEQUENCE).
- How important is it? (RISK EVALUATION).
- What can be done about it? (RISK TREATMENT).

The risk is a combination of the likelihood and the consequences for the hazard in question. Thus both likelihood and consequences are taken into account when evaluating a risk and deciding whether treatment is required.

The qualitative likelihood, consequence and risk terms used in this report for risk to property are given in Appendix C and are based on the Landslide Risk Management Guidelines, published by Australian Geomechanics Society (AGS, 2007). The risk terms are defined by a matrix that brings together different combinations of likelihood and consequence. Risk matrices help to communicate the results of risk assessment, rank risks, set priorities and develop transparent approaches to decision making.

6.2 Geotechnical Model

The field observations indicate that the subsurface conditions at the proposed subdivision comprise approximately 2.0m of clay fill overlying quartzite boulder fill in a sandy matrix. South of the site, the fill appears to have been used to fill a gully, the base of which is sand overlying basalt rock. At the site, the thickness of quartzite boulder fill would be less due to the inferred quartzite ridge.

The presence of the fill and the boulder embankment has prevented further movement/sliding from the steep escarpment.

A number of springs occur just uphill of the site and an intermittent creek flows downhill to the south of the site. Currently a surface cut-off drain at the toe of the slope directs surface water to a pipe which conducts the water downhill to the beach.

The local groundwater level at the toe of the slope is very high (around 0.6m below ground level at the time of fieldwork), due to the continuous flow of groundwater from the escarpment and the (slow) discharge through the filled gully. Groundwater levels below the majority of the subdivision is likely to vary from 1m to 2m below ground level, and **will** vary depending on rainfall and other factors.

6.3 Potential Hazards

Based on the site observations, borehole data and available information discussed in the sections above, the following landslide hazards are identified for the site:

Large scale (deep-seated) landslide. A large scale landslide (Town Complex) extends onto the north-western part of the site. The morphology and subsurface conditions at the Town Complex indicates it is a dormant landslide toe resting on quartzite bedrock. It is our assessment that the likelihood of a deep-seated landslide affecting the present site is Rare.

Shallow landslide in escarpment above the site. A shallow slide has been mapped uphill of the site, with the toe terminating at 263 Port Road. The slope inflexion just above the site suggests bedrock is at shallow depth. The slide probably occurred before any fill was placed in the gully, and is most likely related to erosion in the gully. Under current climatic conditions and with vegetation cover, the slope above the site should remain stable.

Therefore, by minimising the depth and extent of excavations on the property, and lowering the local groundwater levels (by subsoil drains), the likelihood of a shallow landslide on the slopes above the site under current climatic conditions, is assessed to be Unlikely.

It is noted here that the requirements for bush fire hazard management can potentially conflict with the desire to maintain vegetation on slopes for slope stability reasons. At this stage, there are no details available on the extent of 'clearing' required for bush fire protection. This is discussed further in Section 7.

Rock fall from the escarpment. The likelihood of rock falls is a function of the rock size, ground slope and degree of vegetation cover. There is presently no evidence of soil erosion or soil creep occurring at the site. Assuming the hillside above the site remains vegetated and there is no soil erosion, the likelihood of a rock fall is assessed to be Unlikely.

The identification of the potential hazards considers both the site and nearby properties, and is necessary to address stability issues that may negatively impact upon the site and influence the risk to property.

6.4 Risk to Property

The following table summarizes the risk to property of the landslide events in relation to a proposed subdivision and construction of future houses on the vacant lots as described in Section 2.7, **assuming limitations in Section 7 are incorporated.**

Table 1. Landslide risk profiles

Scenario	Likelihood	Consequence	Risk Profile
Deep-seated landslide	Rare	Major: substantial damage could occur to existing dwellings	Low
Shallow slide above the site	Unlikely	Medium: debris flow could cause some damage	Low
Rock fall	Unlikely	Medium: individual rocks could cause some damage	Low

The assessment shows that the proposed subdivision and construction of future houses on the vacant lots presents a Low level of risk, **provided the limitations listed in Section 7 are incorporated in the design.**

7 DISCUSSION & RECOMMENDATIONS

In order to ensure the proposed subdivision and future dwellings in the subdivision do not change the risk profile above Low for the site, it is recommended that the following limitations be enforced:

- Future dwellings should be designed to be light weight and flexible. The default site classification to AS2870 is Class P, due to the site being located in a landslip area and more than 0.4m of fill other than sand. We recommend site specific site classification (to AS2870) is carried out for future dwellings.
- Permanent cut slopes should be designed at 26° (1V:2H) or flatter. The depth of any permanent excavation at the site should be no more than 1m, unless approved by a Geotechnical Engineer.
- A sub-soil cut off drain should be installed at the toe of the steep slope (ie edge of Landslip A area) to a depth of 2.0m. This should comprise of a trench lined with geofabric and filled with coarse aggregate. Water collected by the sub-soil drain should be discharged to Council's storm water system.
- A concrete lined spoon drain should be installed at the toe of the steep slope to intercept surface runoff and direct it to Council's storm water system.
- Storm water from roofs and paved areas should be diverted to Council's storm water system.
- Where possible, vegetation should be maintained on the steep slopes above the houses to prevent erosion of surface soils. As a minimum, vegetation should comprise grass. If trees are planted on the slope, then the site should be managed such that when the trees reach maturity and are removed, they are replaced with new (young) trees.
- Where trees have to be cut down for bush fire management purposes, we recommend that they are cut off above ground level, without removing the stump. Low shrubs should be planted to take over the soil-binding effect once the tree roots decompose.
- Maintenance of surface runoff, vegetation, retaining structures and other measures described above are the responsibility of the site owner.
- Good hillside construction practices should be followed. A copy of Some Guidelines for Hillside Construction are presented in Appendix D.

A copy of this report should be made available to all future purchasers of the Lots so they are aware of the landslide risk.

8 REFERENCES

- BFP Consultants, 2003. Investigation for Boat Harbour Beach Caravan Park. Ref: 2303234
- Coffey Geosciences, 2001. Landslide Risk Assessment. HO 9/1-AJ
- Coffey Geotechnics, 2007. Geotechnical investigation and landslide risk assessment. GEOTPV293AA/ab.
- Jennings, I.B., 1965. Preliminary report on landslips on Boat Harbour Beach Road. TR9_107_108.
- Matthews, W.L., 1972. Land stability at Boat Harbour Beach. TR17_116_119.
- Stevenson, M.D., Mazengarb, C., 2010. Wynyard, Tasmanian Landslide Map Series, Mineral Resources Tasmania.



Important information about your report

These notes are provided to help you understand the limitations of your report.

Project Scope

Your report has been developed on the basis of your unique project specific requirements as understood by Tasman Geotechnics at the time, and applies only to the site investigated. Tasman Geotechnics should be consulted if there are subsequent changes to the proposed project, to assess how the changes impact on the report's recommendations.

Subsurface Conditions

Subsurface conditions are created by natural processes and the activity of man.

A site assessment identifies subsurface conditions at discrete locations. Actual conditions at other locations may differ from those inferred to exist, because no professional, no matter how qualified, can reveal what is hidden by earth, rock and time.

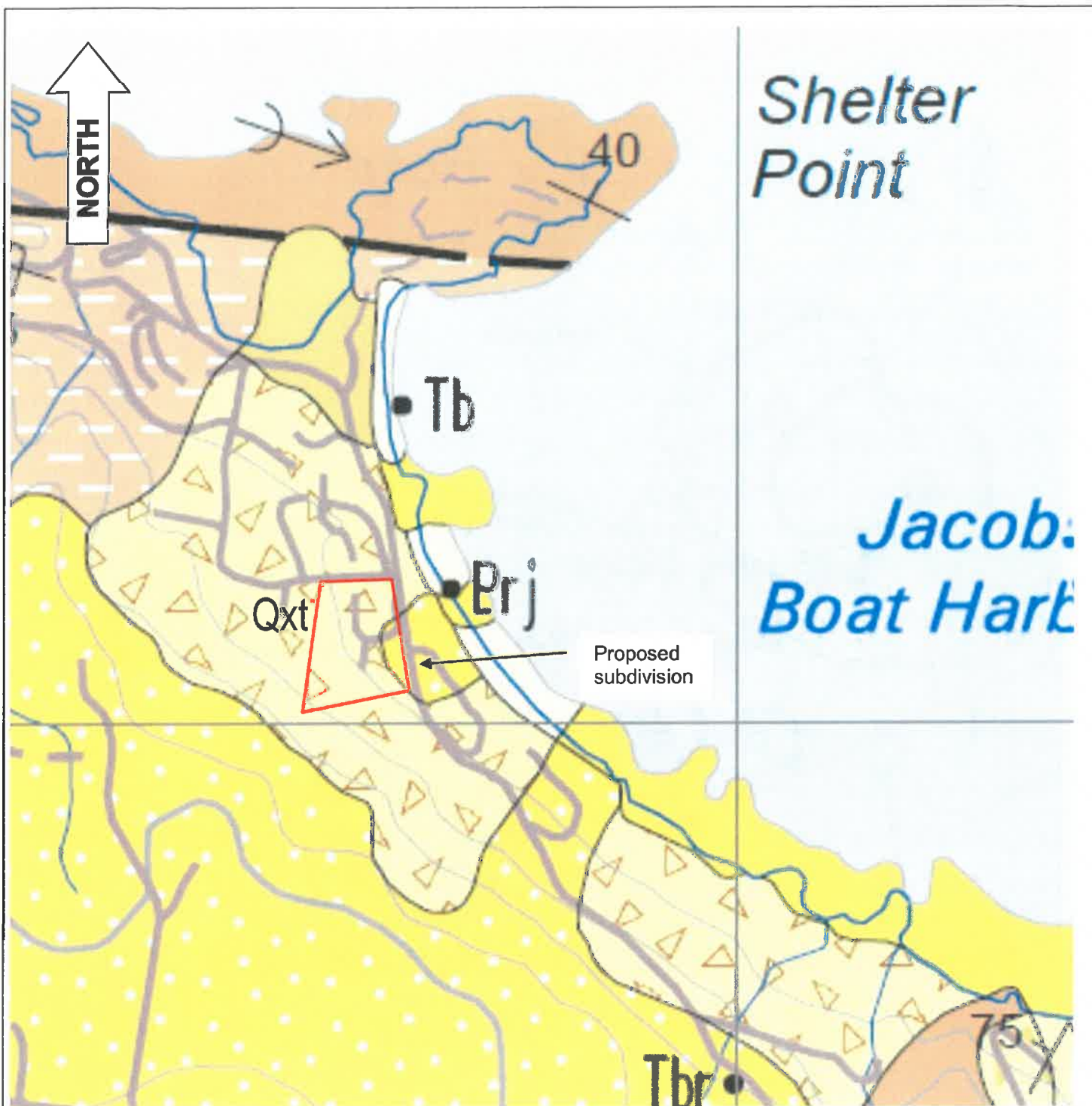
Nothing can be done to change the conditions that exist, but steps can be taken to reduce the impact of unexpected conditions. For this reason, the services of Tasman Geotechnics should be retained throughout the project, to identify variable conditions, conduct additional investigation or tests if required and recommend solutions to problems encountered on site.

Advice and Recommendations

Your report contains advice or recommendations which are based on observations, measurements, calculations and professional interpretation, all of which have a level of uncertainty attached.


The recommendations are based on the assumption that subsurface conditions encountered at the discrete locations are indicative of an area. This can not be substantiated until implementation of the project has commenced. Tasman Geotechnics is familiar with the background information and should be consulted to assess whether or not the report's recommendations are valid, or whether changes should be considered.

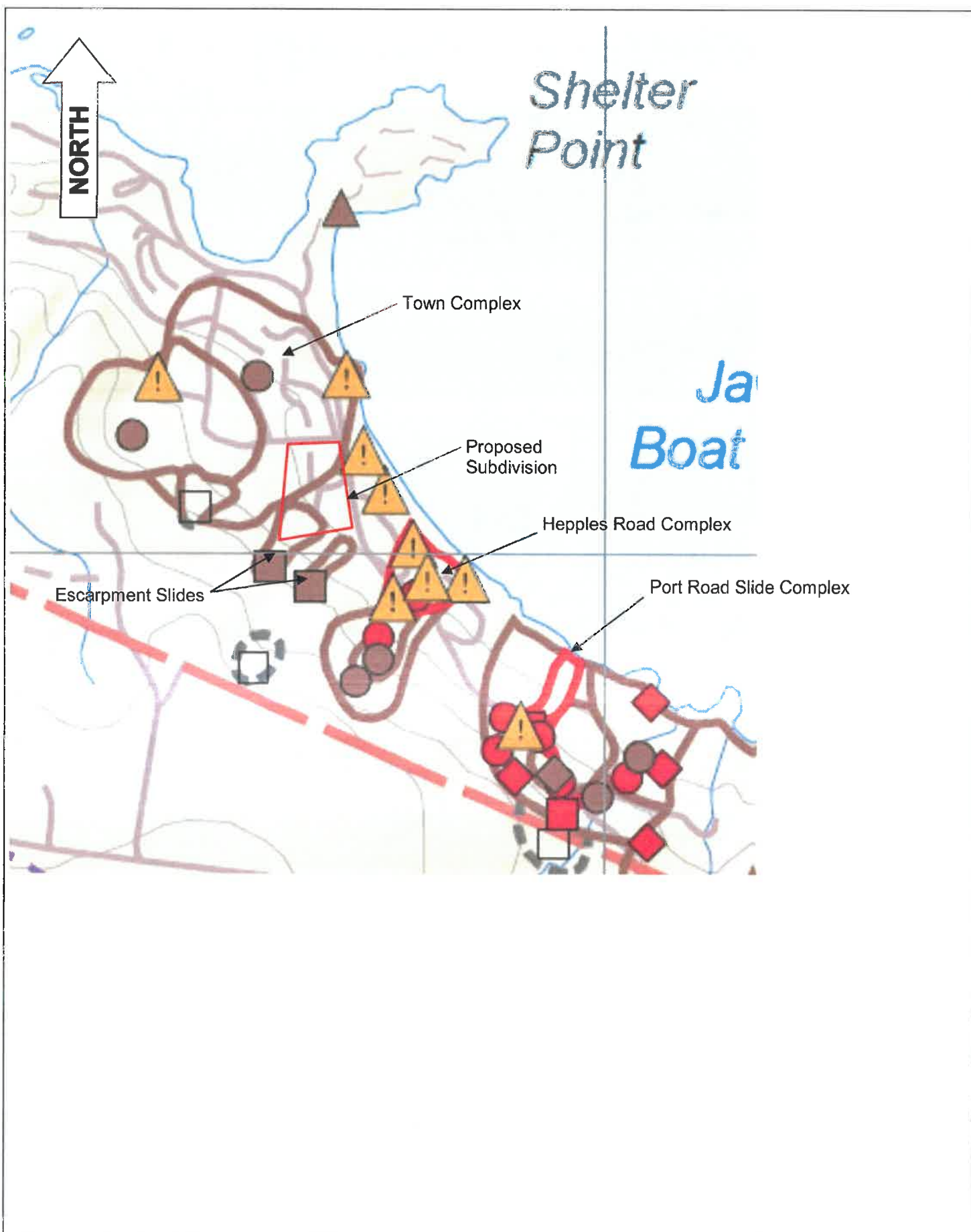
The report as a whole presents the findings of the site assessment, and the report should not be copied in part or altered in any way.




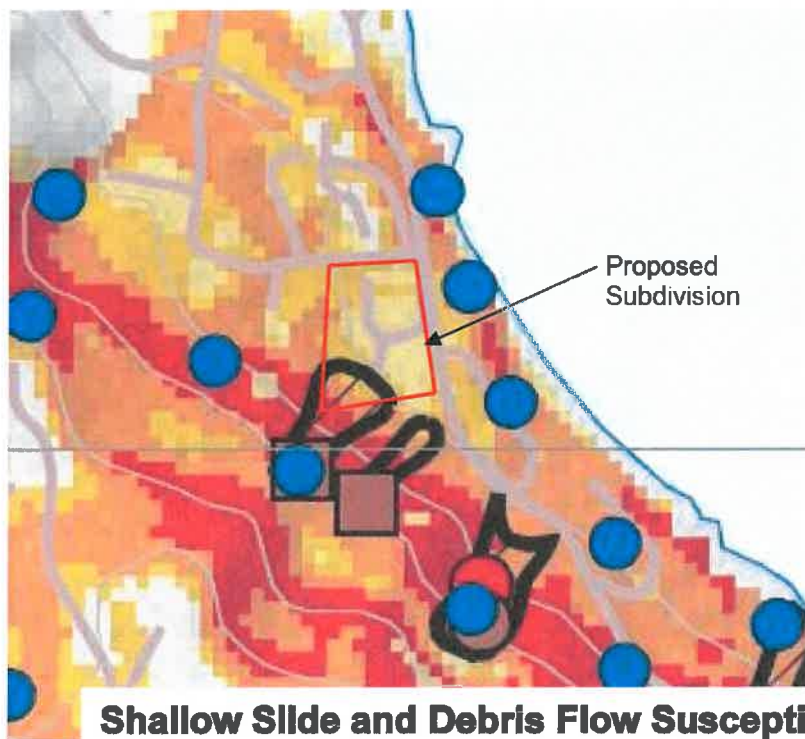
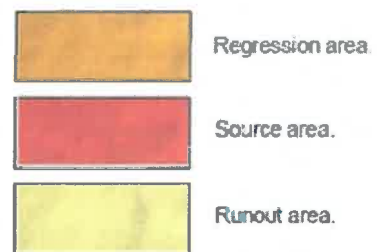
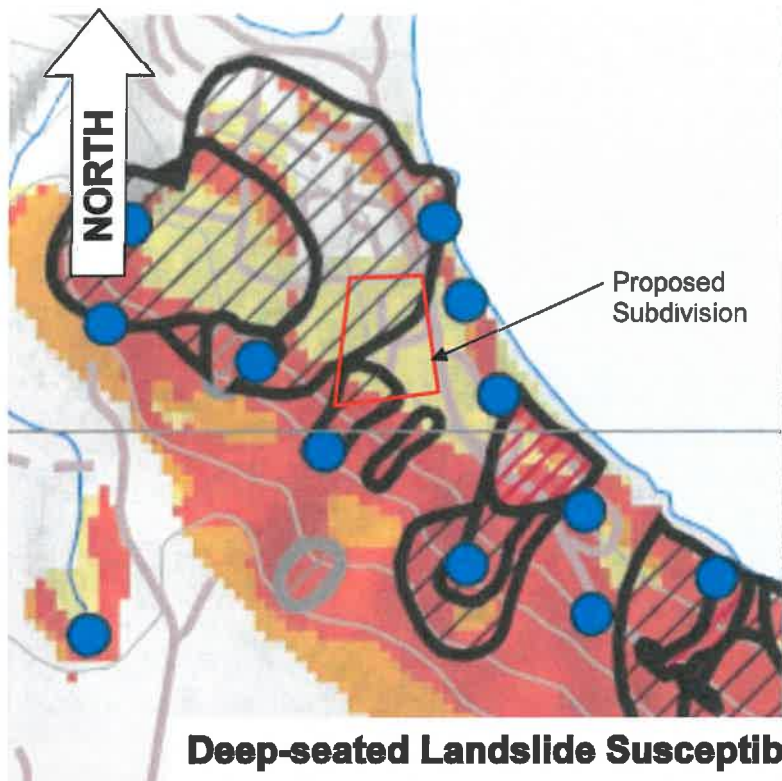
LEGEND

Qxt	Landslide deposits predominantly derived from weathered Tertiary rocks (Qxt).
Tbw	Predominantly deeply-weathered basalt (Tbw).
Ts	Terrestrial sand, gravel and minor lacustrine deposits. (Ts).
Prjs	Interbedded shaly black siltstone and thinly bedded quartzite (Prjs).
Erj	Well-bedded, cross-bedded, mostly medium to coarse-grained orthoquartzite (Erj) (Jacob Quartzite).

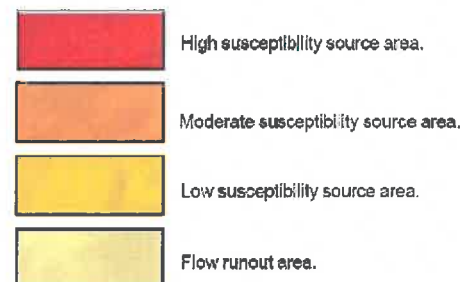
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approved	WG		project:	Landslide Risk Assessment 263 Port road, Boat Harbour	
date	14/03/2018		title:	MRT Geology Mapping	
scale	NTS		project no:	TG18061/1 – 01report	figure no: FIGURE 1
original size	A4				



drawn	DG	 TASMAN geotechnics	client:	Gerd Hagmaier	
approved	WG		project:	Landslide Risk Assessment 263 Port Road, Boat Harbour	
date	14/03/2018		title:	MRT Landslide Inventory	
scale	NTS		project no:	TG18061/1 – 01report	figure no: FIGURE 2
original size	A4				




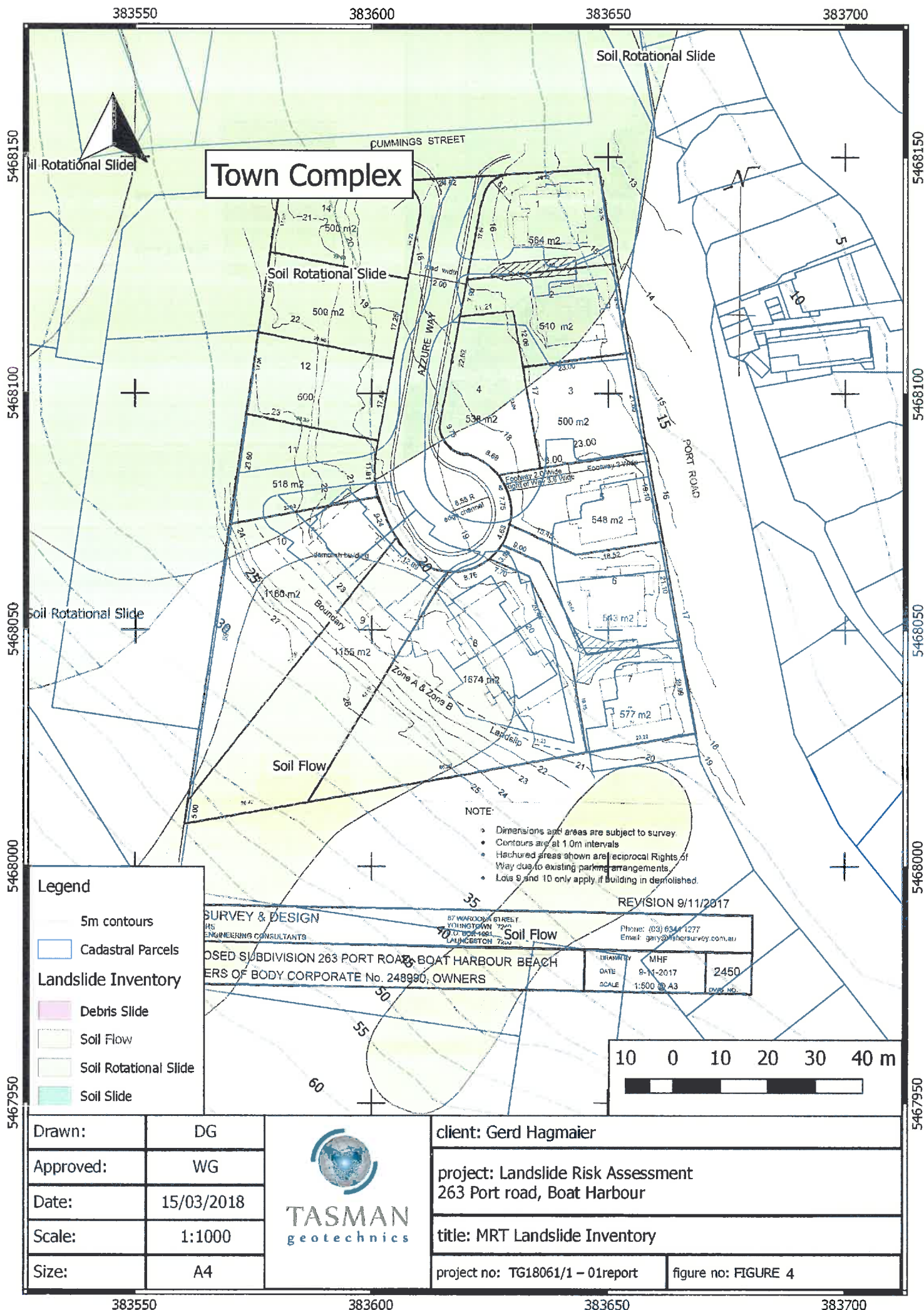
Susceptibility Zones

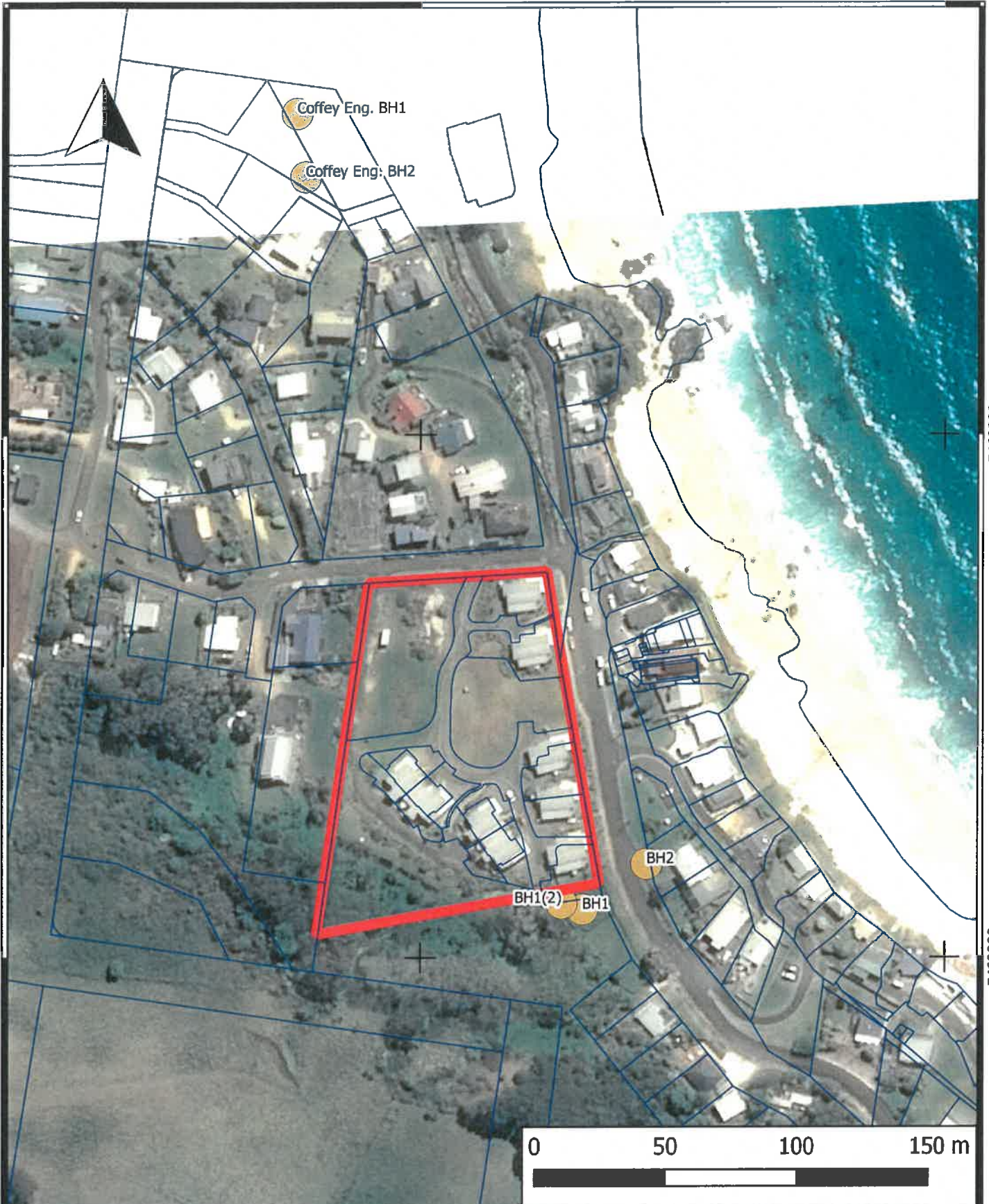


Source area: An area of hillside with the potential to form a slope failure, identified largely on the basis of slope angle and geology.

Runout area: An area down-slope of a source area where the moving earth, debris or rock can potentially travel.

drawn	DG	 TASMAN geotechnics	client:	Gerd Hagmaler	
approved	WG		project:	Landslide Risk Assessment 263 Port Road, Boat Harbour	
date	14/03/2018		title:	MRT Landslide Susceptibility	
scale	NTS		project no:	TG18061/1 – 01report	figure no: FIGURE 3
original size	A4				





0 50 100 150 m

Drawn:	DG
Approved:	WG
Date:	15/03/2018
Scale:	1:2000
Size:	A4



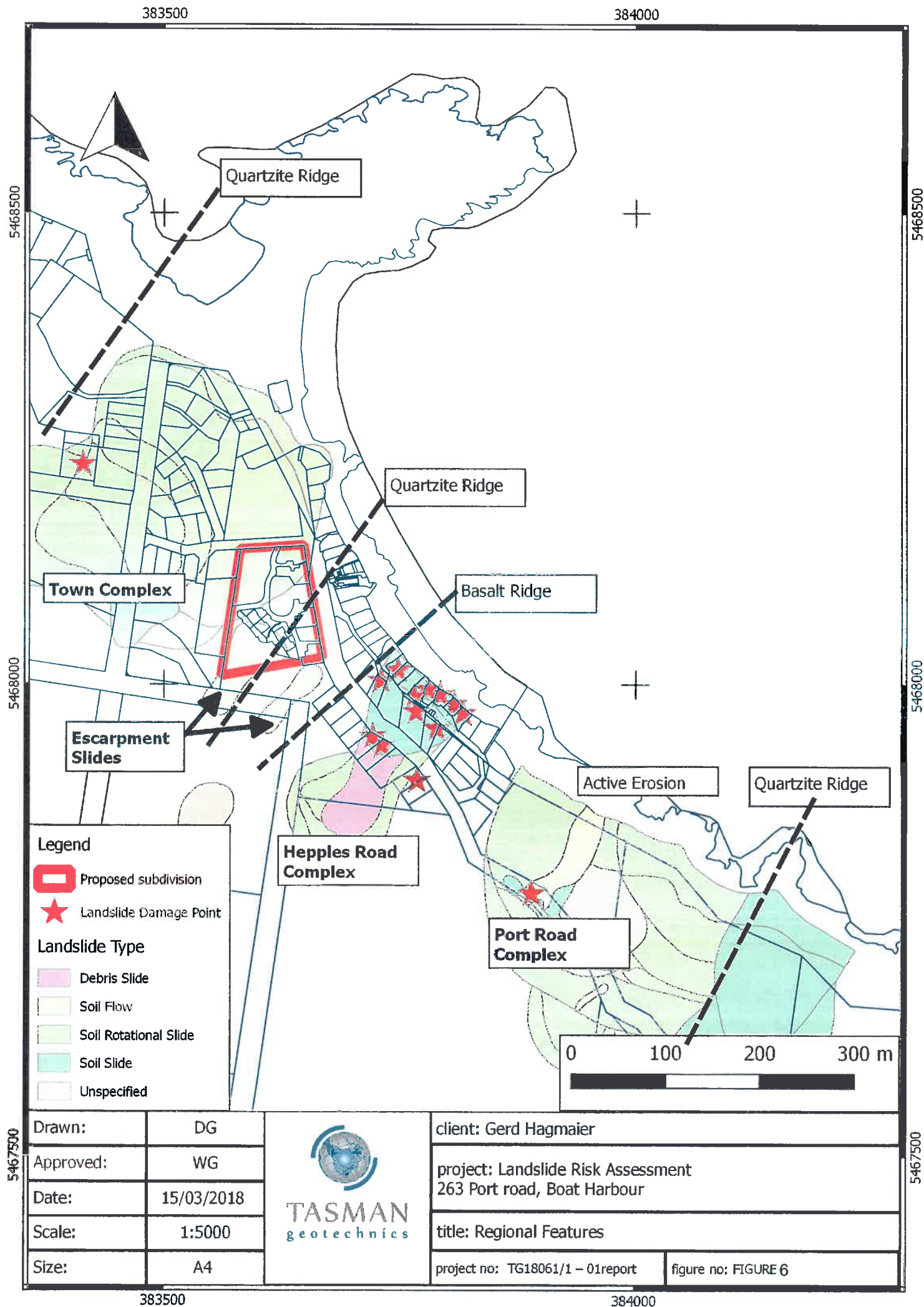
client: Gerd Hagmaier

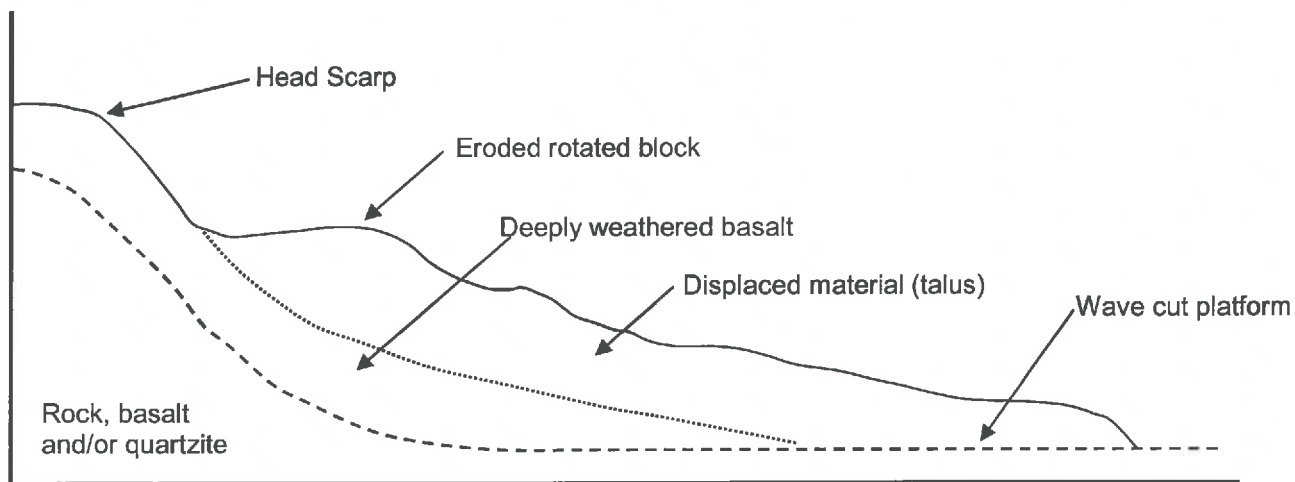
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263 Port road, Boat Harbour

title: Site Layout

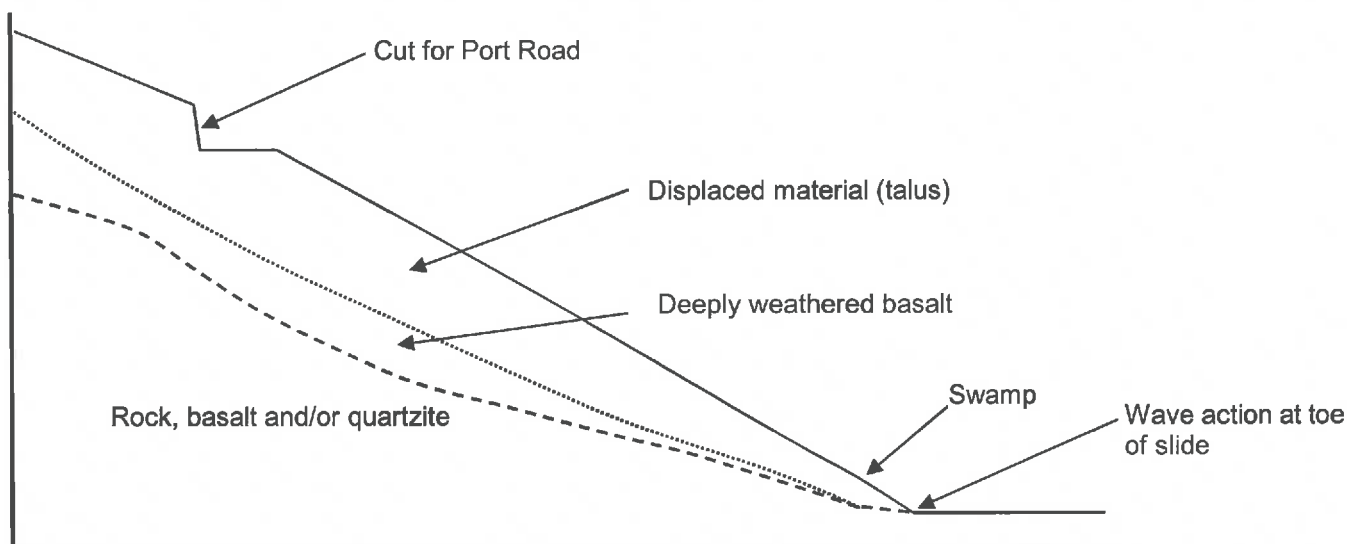
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figure no: FIGURE 5

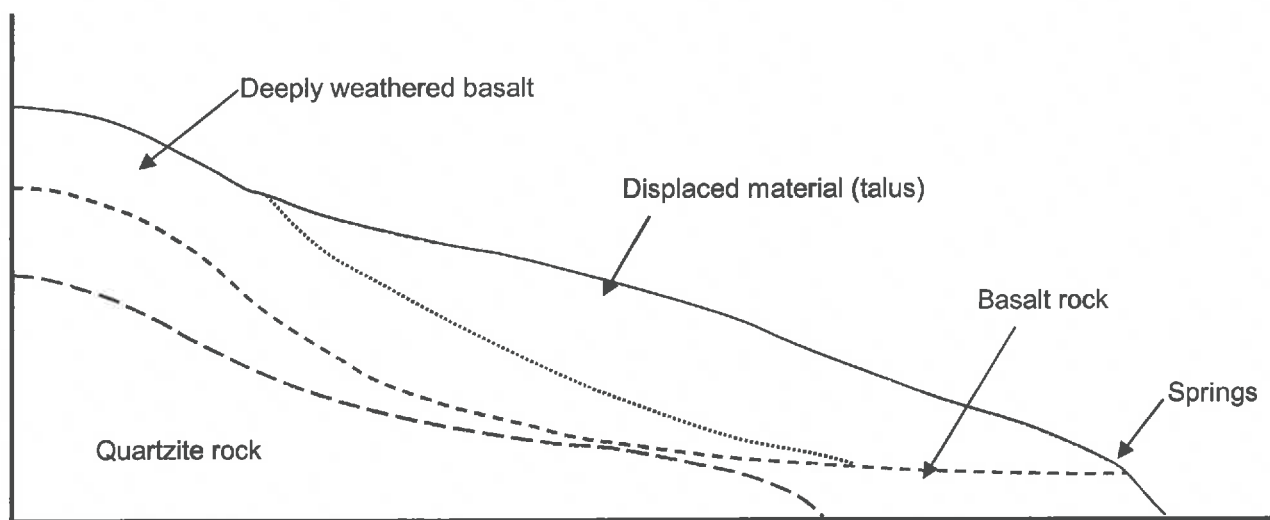





Inferred Cross Section of Town Slide Complex



Inferred Cross Section of Port Road Slide



Inferred Cross Section of Hepples Road Slide

drawn	AC	 TASMAN geotechnics	client:	Gerd Hagmaler	
approved	WG		project:	Landslide Risk Assessment 263 Port Road, Boat Harbour	
date	15/3/2018		title:	Inferred Cross Sections of Mapped Landslides	
scale	NTS		project no:	TG18061/1 – 01report	figure no: FIGURE 7
original size	A4				

Appendix A

Engineering Borehole Logs

ROCK DESCRIPTION EXPLANATION SHEET

Page 1 of 2



TASMAN
geotechnics

The descriptive terms used by Tasman Geotechnics are given below. They are consistent with AS1726-1993

Definitions	
Substance	Effectively homogeneous material, may be isotropic or anisotropic
Defect	Discontinuity or break in the continuity of a substance or substances
Mass	Any body of material which is not effectively homogenous. It can consists of two or more substances without defects, or one or more substances with one or more defects.
In engineering terms, rock substance is any naturally occurring aggregate of minerals and organics material which cannot be disintegrated or remoulded by hand in air or in water. Other material is described using soil descriptive terms.	

SUBSTANCE DESCRIPTIVE TERMS

Rock Name	Simple rock names are used rather than precise geological classification		
Particle Size	Coarse grained	0.6mm to 2mm	
	Medium grained	0.2mm to 0.6mm	
	Fine grained	0.06mm to 0.2mm	
Fabric	Terms for layers or penetrative fabric (e.g. bedding cleavage)		
	Massive	No layering of penetrative fabric	
	Poorly Developed	Layers or fabric just visible. Little effect on properties.	
	Well Developed	Layering or fabric distinct. Rock breaks more easily parallel to layering or fabric.	

BLOCK SHAPE TERMS

Blocky	Approximately equidimensional
Tabular	Thickness much less than length or width
Columnar	Height much greater than cross section

ROCK SUBSTANCE STRENGTH TERMS

Term	Abbreviation	Point Load Index, IS_{50} (MPa)	Field Guide to Strength
Very Low	VL	<0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30mm thick can be broken by finger pressure.
Low	L	0.1 to 0.3	Easily scored with a knife; indentation 1mm to 3mm show in the specimen with firm blows of the pick point; has dull sound under hammer. A piece of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling
Medium	M	0.3 to 1	Readily scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
High	H	1 to 3	A piece of core 150mm long by 50mm diameter can not be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High	VH	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
Extremely High	EH	>1	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer



CLASSIFICATION OF WEATHERING PRODUCTS

Term	Abbreviation	Definition
Residual Soil	RS	Soil derived from the weathering of rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
Extremely Weathered	XW	Material is weathered to such an extent that it has soil properties, ie, it either disintegrates or can be remoulded in water. Fabric of original rock still visible.
Distinctly Weathered	DW	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores.
Slightly Weathered	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh	FR	Rock shows no signs of decomposition or staining.

COMMON DEFECTS IN ROCK MASSES

Term	Definition
Parting	A surface or crack across which the rock has little or no tensile strength. Parallel or sub parallel to layering or a planar anisotropy in the rock substance. May be open or closed.
Joint	A surface or crack across which the rock has little or no tensile strength but which is not parallel or sub parallel to layering or planar anisotropy in the rock substance. May be open or closed.
Sheared Zone	Zone of rock substance with roughly parallel near planar, curved or undulating boundaries cut by closely spaced joints, sheared surfaces or other defects. Some of the defects are usually curved and intersect to divide the mass into lenticular or wedge shaped blocks.
Sheared Surface	A near planar, curved or undulating surface which is usually smooth, polished or slickensided.
Crushed Seam	Seam with roughly parallel almost planar boundaries, composed of disoriented, usually angular fragments of the host rock substance which may be more weathered than the host rock. The seam has soil properties.
Infilled Seam	Seam of soil substance usually with distinct roughly parallel boundaries formed by the migration of soil into an open cavity or joint. Infilled seams less than 1mm thick may be described as veneer or coating on joint surface.
Extremely Weathered Seam	Seam of soil substance, often with gradational boundaries. Formed by weathering of the rock substance in places.

DEFECT ROUGHNESS TERMS

Slickensided (Sl)	Grooved or striated surface; usually polished
Polished (Po)	Shiny smooth surface
Smooth (Sm)	Smooth to touch; few or no surface irregularities
Rough (Ro)	Many small surface irregularities (amplitude generally less than 1mm); feels like fine to coarse sandpaper
Very Rough (VR)	Many large surface irregularities (amplitude generally more than 1mm); feels like, or coarser than, very coarse sandpaper

DEFECT COATING TERMS

Clean (Cl)	No visible coating
Stained (St)	No visible coating but surfaces are discoloured
Veneer (Ve)	A visible coating of soil or mineral too thin to measure; may be patchy
Coating (Co)	A visible coating up to 1mm thick. Thicker soil material is described using appropriate defect terms (e.g. infilled seam). Thicker rock strength material is usually described as a vein.

DEFECT SHAPE TERMS

Planar (Pl)	The defect does not vary in orientation
Curved (Cu)	The defect has a gradual change in orientation
Stepped (Sp)	The defect has one or more well defined steps
Irregular (Ir)	The defect has many sharp changes in orientation
Undulating (Un)	The defect has a wavy surface

Soils are described in accordance with the Unified Soil Classification System (USCS), as shown in the following table.

FIELD IDENTIFICATION

COARSE GRAINED SOILS	more than 50% of material less than 63mm is larger than 0.075mm	GRAVELS	GW	Well graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		GRAVELLY SOILS	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
		SANDS	SW	Well graded sands and gravelly sands, little or no fines
			SP	Poorly graded sands and gravelly sands, little or no fines
		SANDY SOILS	SM	Silty sand, sand-silt mixtures, non-plastic fines
			SC	Clayey sands, sand-clay mixtures, plastic fines

				DRY STRENGTH	DILATANCY	TOUGHNESS	
FINE GRAINED SOILS	more than 50% of material less than 63mm is less than 0.075mm	SILT & CLAY, liquid limit less than 50%	ML	Inorganic silts, very fine sands or clayey fine sands	None to low	Quick to slow	None
			CL	Inorganic clays or low to medium plasticity, gravelly clays, sandy clays and silty clays	Medium to high	None to very slow	Medium
			OL	Organic silts and organic silty clays of low plasticity	Low to medium	Slow	Low
	SILT & CLAY, liquid limit greater than 50%	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts	Low to medium	Slow to none	Low to medium	
		CH	Inorganic clays of high plasticity, fat clays	High	None	High	
		OH	Organic clays of medium to high plasticity	Medium to high	None to very slow	Low to medium	
PEAT		Pt	Peat muck and other highly organic soils				

Particle size descriptive terms

Name	Subdivision	Size
Boulders		>200mm
Cobbles		63mm to 200mm
Gravel	coarse	20mm to 63mm
	medium	6mm to 20mm
	fine	2.36mm to 6mm
Sand	coarse	600µm to 2.36mm
	medium	200µm to 600µm
	fine	75µm to 200µm

Moisture Condition

Dry (D)	Looks and feels dry. Cohesive soils are hard, friable or powdery. Granular soils run freely through fingers.
Moist (M)	Soil feels cool, darkened in colour. Cohesive soils are usually weakened by moisture presence, granular soils tend to cohere.
Wet (W)	As for moist soils, but free water forms on hands when sample is handled

Cohesive soils can also be described relative to their plastic limit, ie: <Wp, =Wp, >Wp

The plastic limit is defined as the minimum water content at which the soil can be rolled into a thread 3mm thick.

Consistency of cohesive soils

Term	Undrained strength	Field guide
Very soft VS	<12kPa	A finger can be pushed well into soil with little effort
Soft S	12 - 25kPa	Easily penetrated several cm by fist
Firm F	25 - 50kPa	Soil can be indented about 5mm by thumb
Stiff St	50-100kPa	Surface can be indented but not penetrated by thumb
Very stiff VSt	100-200kPa	Surface can be marked but not indented by thumb
Hard H	>200kPa	Indented with difficulty by thumb nail
Friable Fb	-	Crumbles or powders when scraped by thumb nail

Density of granular soils

Term	Density index
Very loose	<35%
Loose	15 to 35%
medium dense	35 to 65%
Dense	65 to 85%
Very dense	>85%

Minor Components

Term	Proportions	Observed properties
Trace of	Coarse grained: <5% Fine grained: <15%	Presence just detectable by feel or eye. Soil properties little or no different to general properties of primary component.
With some	Coarse grained: 5-12% Fine grained: 15-30%	Presence easily detected by feel or eye. Soil properties little different to general properties of primary component.

ENGINEERING BOREHOLE LOG



Borehole no. BH1

Client : Gerd Hagmaier
Project : LRA
Location : 263 Port Rd
 Boat Harbour

Sheet no. 1 of 1
Job no. TG16217/1

TASMAN
 geotechnics

Date : 28/7/17
Logged By : AC

Drill model : Posi-Trac, SR-70
Hole diameter : 150mm

Slope : deg
Bearing : deg

Method	Penetration				Notes Samples Tests	Water	Graphic Log	Classification	Material Description	Moisture Condition	Consistency density, index	Structure, additional observations
	1	2	3	4								
HF auger					1/08/2017			CH	FILL: Silty CLAY, high plasticity, dark brown, with some medium grained quartz gravel	M	St	
					SS				basaltic clay, red/brown	M	Fb	
					D				Silt with some coarse grained gravel, black	M	S	
									Auger refusal on cobble/boulder at 2.1m BH1 terminated at 2m - core barrel split			

ENGINEERING CORED BOREHOLE LOG



Borehole no. BH1(2)

Sheet no. 1 of 2

Job no. TG16217/1

Client : Gerd Hagmaier
Project : LRA
Location : 263 Port Rd
Boat Harbour

TASMAN
geotechnics

Date : 1/08/2017
Logged By : AC

Drill model : Drillmac 500 Explorer

Slope :

deg

Barrel type : NQTT

fluid: mud

Bearing :

deg

RL Surface:

Datum :

Drilling information					Rock substance			Rock mass defects				
Method	Case-lift	Water	Notes Samples Tests	Water	Graphic Log	Substance Description rock type, grain characteristics, colour, structure, minor components	Weathering	Strength Is(50)	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating		
								VL	LL	ML	HL	EH
								30	100	300	1000	>3000
											particular	general
HF auger						FILL, silty clay, high plasticity, brown						
					1.00	Silt, greenish brown						
Hammer					2.00							
						Sandy silt, grey						
						Auger refusal @ 2.8m						
					3.00	FILL: Quartzite rock (from chip samples)						
					4.00							
					5.00							
					6.00							
					7.00							
NQTT						BASALT COBBLES and SAND						
						some silt and trace of fine grained gravel						
					8.00							

ENGINEERING CORED BOREHOLE LOG



TASMAN
geotechnics

Borehole no. BH1(2)

Sheet no. 2 of 2

Job no. TG16217/1

Client : Gerd Hagmaier
Project : LRA
Location : 263 Port Rd
Boat Harbour

Date : 2/08/2017
Logged By : AC

Drill model : Drillmac 500 Explorer

Barrel type : NQTT

fluid: mud

Slope :

deg

Bearing :

deg

RL Surface:

Datum :

Drilling information					Rock substance					Rock mass defects									
Method	Case-lift	Water	Notes Samples Tests	Water	Graphic Log	Substance Description rock type, grain characteristics, colour, structure, minor components	Weathering	Strength Is(50)					Defect Spacing (mm)		Defect Description thickness, type, inclination, planarity, roughness, coating				
								VL	L	M	H	VH	EH	30	100	300	1000	>3000	particular
NQTT			100% rec			BASALT, fine grained, black												calcite lined fractures, some horizontal, some vertical, some crushed rock	
				9.00															
			100% rec		10.00														
						Terminated @ 10.1m													
											</								




TG16217/1


01/08/2017

BH1

Box 1 of 2

Drawn	EO	 TASMAN geotechnics	Client	Gerd Hagmaier	
approved	WG		Project	Landslide Risk Assessment	
date	20/12/2017			263 Port Road, Boat Harbour	
scale	NTS		Title	Core Photo	
original size	A4		Project No:	TG16217/1 - 01report	Figure: Figure BH1(2)



Drawn	EO	 TASMAN geotechnics	Client	Gerd Hagmaier	
approved	WG		Project	Landslide Risk Assessment	
date	20/12/2017			263 Port Road, Boat Harbour	
scale	NTS		Title	Core Photo	
original size	A4		Project No:	TG16217/1 - 01report	Figure: Figure BH1(2)

ENGINEERING CORED BOREHOLE LOG



Borehole no. BH2

Sheet no. 1 of 3

Job no. TG16217/1

Client : Gerd Hagmaier
Project : LRA
Location : 263 Port Rd
Boat Harbour

TASMAN
geotechnics

Date : 31/07/2017
Logged By : AC

Drill model : Drillmac 500 Explorer

Slope :

deg

RL Surface:

Barrel type : NQTT

fluid: mud

Bearing :

deg

Datum :

Drilling information					Rock substance				Rock mass defects			
Method	Case-lift	Water	Notes Samples Tests	Water	Graphic Log	Substance Description rock type, grain characteristics, colour, structure, minor components	Weathering	Strength Is(50)	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating		
								VL	LL	ML	HL	SH
								50	100	300	1000	>3000
											particular	general
HF auger						FILL, gravel in sandy matrix, medium grained, rounded quartz Clay, high plasticity, with some cobbles, red/brown						
					1.00							
			SS			no sample recovered						
						Silt, black with slight green tinge						
					2.00	auger refused @ 2.1m						
						no sample recovered						
hammer						chips quartzite						
					3.00							
						chips of concrete, brick, silt, basalt clay, quartzite pebbles and building rubble						
					4.00							
					5.00							
NQTT						Silty clay, high plasticity, greenish brown with grey patches						
			100% rec			Gravel including glass						
			100% rec			SILTY CLAY, high plasticity, greenish brown						
			0% rec		6.00	BASALT, boulder						
						BASALT cobble						
			80% rec									
					7.00	VESICULAR BASALT						
					8.00	CHARCOAL, QUARTZ PEBBLES						

ENGINEERING CORED BOREHOLE LOG



Borehole no. BH2

Sheet no. 2 of 3

Job no. TG16217/1

Client : Gerd Hagmaier
Project : LRA
Location : 263 Port Rd
Boat Harbour

TASMAN
geotechnics

Date : 31/07/2017
Logged By : AC

Drill model : Drillmac 500 Explorer

Slope : deg

RL Surface:

Barrel type : NQTT

fluid: mud

Bearing : deg

Datum :

Drilling information					Rock substance					Rock mass defects					
Method	Case-lift	Water	Notes Samples Tests	Water	Graphic Log	Substance Description rock type, grain characteristics, colour, structure, minor components	Weathering	Strength Is(50)	Defect Spacing (mm)	Defect Description thickness, type, inclination, pianarity, roughness, coating					
								VL	30	100	300	1000	>3000	particular	general
NQTT			0% recovery			No recovery									
						sand in water return									
					9.00										
						BASALT COBBLES in sandy matrix									
					10.00										
						Quartz pebble									
			100% rec			SANDY CLAY matrix with some medium grained gravel									
					11.00										
			0% rec			no recovery, return water grey, possibly sandy clay									
					12.00										
			40% rec			VESICULAR BASALT COBBLES									
			50% rec												
					13.00										
			100% rec			BASALT, fine grained, black, fractured (boulder?)									Fractures mainly horizontal some at 45° to axis
			90% rec												
					14.00										
						base of boulder									
		0% rec			No sample, probably sand from water return										
		0% rec													
		0% rec													
		0% rec													
		100% rec			16.00	BASALT, fine grained, dark grey/black	SW								

ENGINEERING CORED BOREHOLE LOG



Borehole no. BH2

Sheet no. 3 of 3

Job no. TG16217/1

Date : 1/08/2017

Logged By : AC

Client : Gerd Hagmaier

Project : LRA

Location : 263 Port Rd

Boat Harbour

TASMAN
geotechnics

Drill model : Drillmac 500 Explorer

Barrel type : NQTT

fluid: mud

Slope :

deg

Bearing :

deg

RL Surface:

Datum :

[illegible]




TG16217/1

31/07/2017


BH2

Box 1 of 2

Drawn	EO	 TASMAN geotechnics	Client	Gerd Hagmaier	
approved	WG		Project	Landslide Risk Assessment	
date	20/12/2017			263 Port Road, Boat Harbour	
scale	NTS		Title	Core Photo	
original size	A4		Project No:	TG16217/1 - 01report	Figure: Figure BH2



TG16217/1
31/07/2017
BH2
Box 2 of 2

Drawn	EO	 TASMAN geotechnics	ClientGerd Hagmaier	
approved	WG		ProjectLandslide Risk Assessment	
date	20/12/2017		263 Port Road, Boat Harbour	
scale	NTS		TitleCore Photo	
original size	A4		Project No: TG16217/1 - 01report	Figure: Figure BH2

Appendix B

Selected Site Photographs



Photo 1. View of slope behind accommodation units and site.



Photo 2. View of northern part of site from Cummings Street



Photo 3. Retaining wall at 252 Port Road.



Photo 4. View of concrete retaining wall below Fenton Crescent.



Photo 5. Gabion wall below Fenton Crescent



Photo 6. Rock wall at high-water mark to prevent erosion.



Photo 7. Basement quartzite rock, west of Boat Harbour.



Photo 8. Steeply dipping quartzite faces, typical of quartzite underlying basalt.

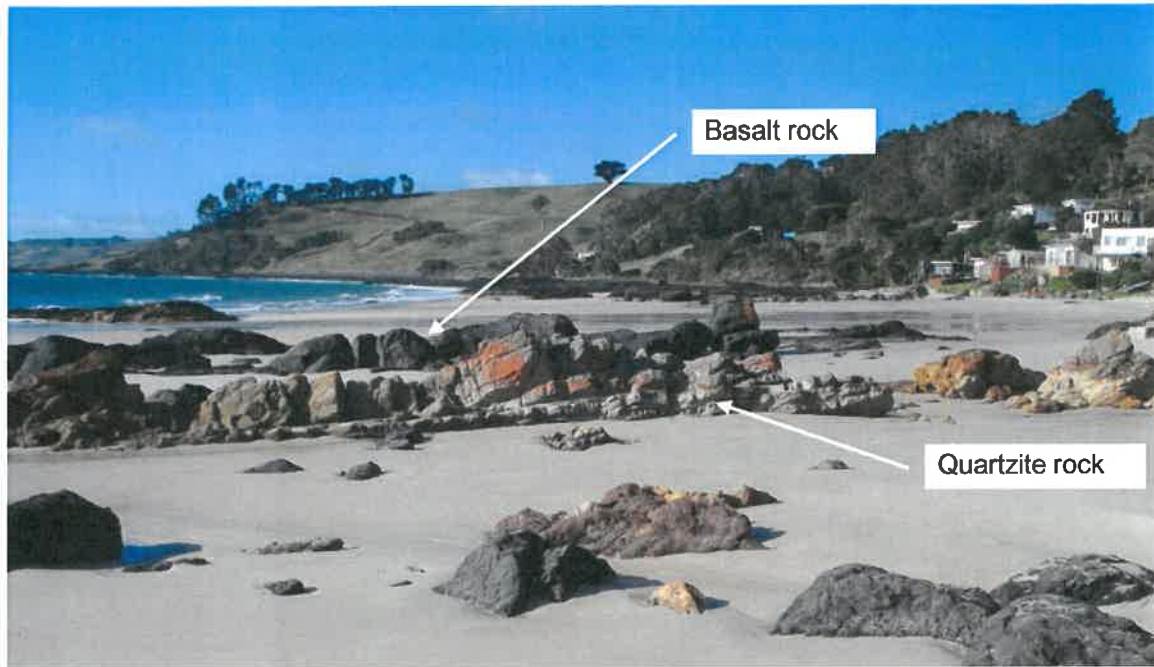


Photo 9. Quartzite rock outcrop on beach.



Photo 10. Base of Port Road Slide Complex.



Photo 11. Quartzite rock outcrop at sea level.

Appendix C
Landslide Risk Matrix

Terminology for use in Assessing Risk to Property

These notes are provided to help you understand concepts and terms used in Landslide Risk Assessment and are based on the “Practice Note Guidelines for Landslide Risk Management 2007” published in *Australian Geomechanics* Vol 42, No 1, 2007.

Likelihood Terms

The qualitative likelihood terms have been related to a nominal design life of 50 years. The assessment of likelihood involves judgment based on the knowledge and experience of the assessor. Different assessors may make different judgments.

Approximate Annual Probability	Implied indicative Recurrence Interval	Description	Descriptor	Level
10^{-1}	10 years	The event is expected to occur over the design life	Almost Certain	A
10^{-2}	100 years	The event will probably occur under adverse conditions over the design life	Likely	B
10^{-3}	1000 years	The event could occur under adverse conditions over the design life	Possible	C
10^{-4}	10,000 years	The event might occur under very adverse conditions over the design life	Unlikely	D
10^{-5}	100,000 years	The event is conceivable but only under exceptional circumstances over the design life	Rare	E
10^{-6}	1,000,000 years	The event is inconceivable or fanciful for the design life	Barely Credible	F

Qualitative Measures of Consequence to Property

Indicative Cost of Damage	Description	Descriptor	Level
200%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequential damage.	Catastrophic	1
60%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequential damage	Major	2
20%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequential damage.	Medium	3
5%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works	Minor	4
0.5%	Little damage.	Insignificant	5

The assessment of consequences involves judgment based on the knowledge and experience of the assessor. The relative consequence terms are value judgments related to how the potential consequences may be perceived by those affected by the risk. Explicit descriptions of potential consequences will help the stakeholders understand the consequences and arrive at their judgment.

Qualitative Risk Analysis Matrix – Risk to Property

Likelihood		Consequences to Property				
	Approximate annual probability	1: Catastrophic	2: Major	3: Medium	4: Minor	5: Insignificant
A: Almost Certain	10^{-1}	VH	VH	VH	H	L
B: Likely	10^{-2}	VH	VH	H	M	L
C: Possible	10^{-3}	VH	H	M	M	VL
D: Unlikely	10^{-4}	H	M	L	L	VL
E: Rare	10^{-5}	M	L	L	VL	VL
F: Barely credible	10^{-6}	L	VL	VL	VL	VL

NOTES:

1. The risk associated with Insignificant consequences, however likely, is defined as Low or Very Low
2. The main purpose of a risk matrix is to help rank risks and set priorities and help the decision making process.

Response to Risk

In general, it is the responsibility of the client and/or regulatory and/or others who may be affected to decide whether to accept or treat the risk. The risk assessor and/or other advisers may assist by making risk comparisons, discussing treatment options, explaining the risk management process, advising how others have reacted to risk in similar situations and making recommendations. Attitudes to risk vary widely and risk evaluation often involves considering more than just property damage (eg environmental effects, public reaction, business confidence etc).

The following is a guide to typical responses to assessed risk.

Risk Level		Example Implications
VH	Very High	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than the value of the property.
H	High	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	Moderate	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	Low	Usually accepted by regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	Very Low	Acceptable. Manage by normal slope maintenance procedures

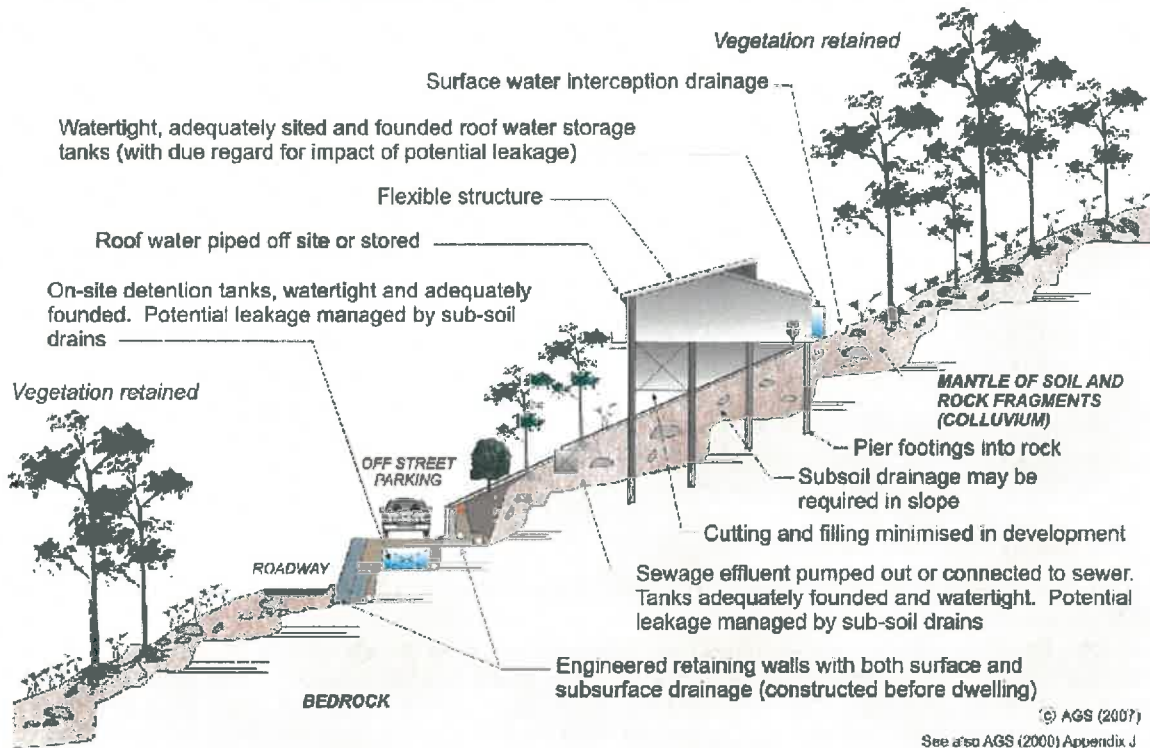
Appendix D

Guidelines to Hillside Construction

HILLSIDE CONSTRUCTION PRACTICE

Sensible development practices are required when building on hillsides, particularly if the hillside has more than a low risk of instability (GeoGuide LR7). Only building techniques intended to maintain, or reduce, the overall level of landslide risk should be considered. Examples of good hillside construction practice are illustrated below.

EXAMPLES OF GOOD HILLSIDE CONSTRUCTION PRACTICE



WHY ARE THESE PRACTICES GOOD?

Roadways and parking areas - are paved and incorporate kerbs which prevent water discharging straight into the hillside (GeoGuide LR5).

Cuttings - are supported by retaining walls (GeoGuide LR6).

Retaining walls - are engineer designed to withstand the lateral earth pressures and surcharges expected, and include drains to prevent water pressures developing in the backfill. Where the ground slopes steeply down towards the high side of a retaining wall, the disturbing force (see GeoGuide LR6) can be two or more times that in level ground. Retaining walls must be designed taking these forces into account.

Sewage - whether treated or not is either taken away in pipes or contained in properly founded tanks so it cannot soak into the ground.

Surface water - from roofs and other hard surfaces is piped away to a suitable discharge point rather than being allowed to infiltrate into the ground. Preferably, the discharge point will be in a natural creek where ground water exits, rather than enters, the ground. Shallow, lined, drains on the surface can fulfil the same purpose (GeoGuide LR5).

Surface loads - are minimised. No fill embankments have been built. The house is a lightweight structure. Foundation loads have been taken down below the level at which a landslide is likely to occur and, preferably, to rock. This sort of construction is probably not applicable to soil slopes (GeoGuide LR3). If you are uncertain whether your site has rock near the surface, or is essentially a soil slope, you should engage a geotechnical practitioner to find out.

Flexible structures - have been used because they can tolerate a certain amount of movement with minimal signs of distress and maintain their functionality.

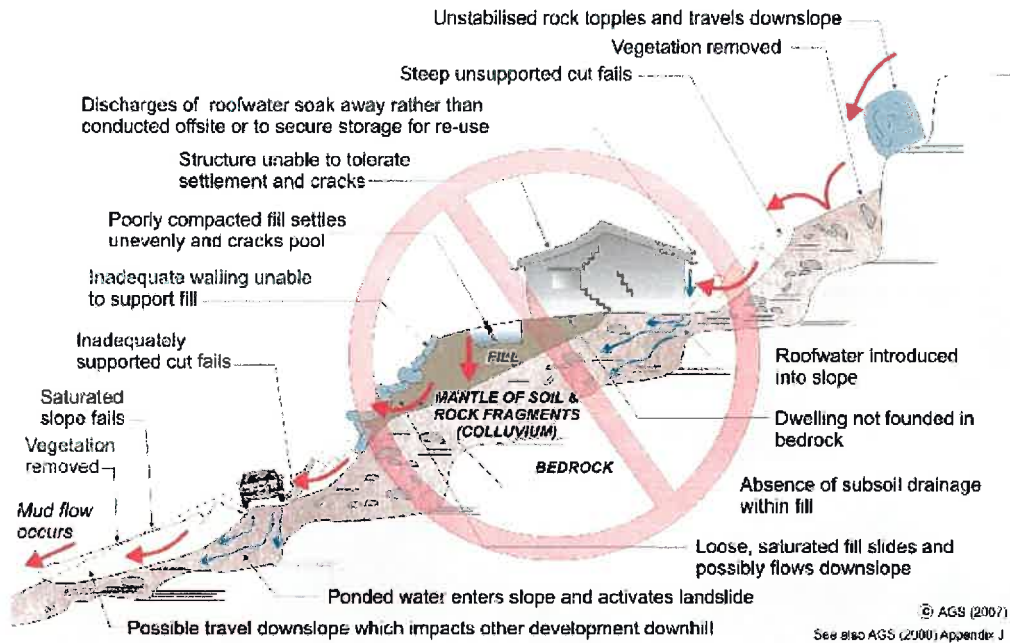
Vegetation clearance - on soil slopes has been kept to a reasonable minimum. Trees, and to a lesser extent smaller vegetation, take large quantities of water out of the ground every day. This lowers the ground water table, which in turn helps to maintain the stability of the slope. Large scale clearing can result in a rise in water table with a consequent increase in the likelihood of a landslide (GeoGuide LR5). An exception may have to be made to this rule on steep rock slopes where trees have little effect on the water table, but their roots pose a landslide hazard by dislodging boulders.

Possible effects of ignoring good construction practices are illustrated on page 2. Unfortunately, these poor construction practices are not as unusual as you might think and are often chosen because, on the face of it, they will save the developer, or owner, money. You should not lose sight of the fact that the cost and anguish associated with any one of the disasters illustrated, is likely to more than wipe out any apparent savings at the outset.

ADOPT GOOD PRACTICE ON HILLSIDE SITES

AUSTRALIAN GEOGUIDE LR8 (CONSTRUCTION PRACTICE)

EXAMPLES OF **POOR** HILLSIDE CONSTRUCTION PRACTICE



WHY ARE THESE PRACTICES POOR?

Roadways and parking areas - are unsurfaced and lack proper table drains (gutters) causing surface water to pond and soak into the ground.

Cut and fill - has been used to balance earthworks quantities and level the site leaving unstable cut faces and added large surface loads to the ground. Failure to compact the fill properly has led to settlement, which will probably continue for several years after completion. The house and pool have been built on the fill and have settled with it and cracked. Leakage from the cracked pool and the applied surface loads from the fill have combined to cause landslides.

Retaining walls - have been avoided, to minimise cost, and hand placed rock walls used instead. Without applying engineering design principles, the walls have failed to provide the required support to the ground and have failed, creating a very dangerous situation.

A heavy, rigid, house - has been built on shallow, conventional, footings. Not only has the brickwork cracked because of the resulting ground movements, but it has also become involved in a man-made landslide.

Soak-away drainage - has been used for sewage and surface water run-off from roofs and pavements. This water soaks into the ground and raises the water table (GeoGuide LR5). Subsoil drains that run along the contours should be avoided for the same reason. If felt necessary, subsoil drains should run steeply downhill in a chevron, or herring bone, pattern. This may conflict with the requirements for effluent and surface water disposal (GeoGuide LR9) and if so, you will need to seek professional advice.

Rock debris - from landslides higher up on the slope seems likely to pass through the site. Such locations are often referred to by geotechnical practitioners as "debris flow paths". Rock is normally even denser than ordinary fill, so even quite modest boulders are likely to weigh many tonnes and do a lot of damage once they start to roll. Boulders have been known to travel hundreds of metres downhill leaving behind a trail of destruction.

Vegetation - has been completely cleared, leading to a possible rise in the water table and increased landslide risk (GeoGuide LR5).

DON'T CUT CORNERS ON HILLSIDE SITES - OBTAIN ADVICE FROM A GEOTECHNICAL PRACTITIONER

More information relevant to your particular situation may be found in other Australian GeoGuides:

- | | |
|-------------------------------------|--|
| • GeoGuide LR1 - Introduction | • GeoGuide LR6 - Retaining Walls |
| • GeoGuide LR2 - Landslides | • GeoGuide LR7 - Landslide Risk |
| • GeoGuide LR3 - Landslides in Soil | • GeoGuide LR9 - Effluent & Surface Water Disposal |
| • GeoGuide LR4 - Landslides in Rock | • GeoGuide LR10 - Coastal Landslides |
| • GeoGuide LR5 - Water & Drainage | • GeoGuide LR11 - Record Keeping |

The Australian GeoGuides (LR series) are a set of publications intended for property owners; local councils; planning authorities; developers; insurers; lawyers and, in fact, anyone who lives with, or has an interest in, a natural or engineered slope, a cutting, or an excavation. They are intended to help you understand why slopes and retaining structures can be a hazard and what can be done with appropriate professional advice and local council approval (if required) to remove, reduce, or minimise the risk they represent. The GeoGuides have been prepared by the Australian Geomechanics Society, a specialist technical society within Engineers Australia, the national peak body for all engineering disciplines in Australia, whose members are professional geotechnical engineers and engineering geologists with a particular interest in ground engineering. The GeoGuides have been funded under the Australian governments' National Disaster Mitigation Program.

Enquiries: Oliver Mayer
Phone: 6443 8345
Our Ref: 2750112

16 April 2018

Micheal Wells
Email: admin@enviropianaustralia.com.au

Dear Michael

ROAD ACCESS ASSESSMENT – 263 PORT ROAD BOAT HARBOUR BEACH

I refer to your application seeking Road Access and Stormwater approval for a proposed development at the above address.

An assessment of your application has been completed and approved, please find enclosed Road and Storm water / Drainage Authority advice should you intend continuing to the development stage.

It must be noted:

- That this approval does not constitute a permit to commence works, rather, it simply advises of works required if you wish to proceed.
- All conditions in the Road and Stormwater/Drainage Authority advice are to be completed prior to signing Final Plans.
- At least (7) days prior to any works taking place within the Public Road Reserve the enclosed "Activity in Road Reserve" application form is to be completed and returned to Council for approval.
- All works within the Public Road Reserve must be performed in accordance with Activity in Road Reserve Permit's Standard Conditions at the time works are taken out.

Enclosed is a copy "Activity in Road Reserve" application and relevant Tasmanian Standard Drawings.

If you have any questions or queries, please contact Council's Engineering Department on (03) 6443 8345.

Yours faithfully



Oliver Mayer

TECHNICAL OFFICER ENGINEERING & DEVELOPMENT

Road Access Assessment

Road Authority Requirements and Conditions

Date: 16/04/2018

Location: 263 Port Road Boat Harbour Beach between existing units on lots 5 & 6.

Development Description: Residential subdivision requiring a new road access point.

Conditions

1. A new kerb crossover is to be constructed in accordance with Tasmanian Standard Drawing TSD-R09-v1, Urban Roads Driveway, TSD-R16-v1 Concrete kerbs and Channels Vehicular Crossings and the conditions in a "Activity in Road Reservation Permit".
2. A reinforced concrete driveway slab is to be constructed between the kerb crossover and the property boundary in accordance with Tasmanian Standard Drawing TSD-R09-v1, Urban Roads Driveways and the conditions in a "Activity in Road Reservation Permit".

Note: An "Activity in Road Reservation" Permit must be obtained from Council for all activity/work within the Road Reservation including the driveway construction.

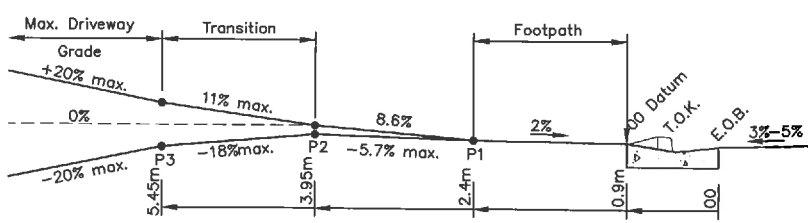
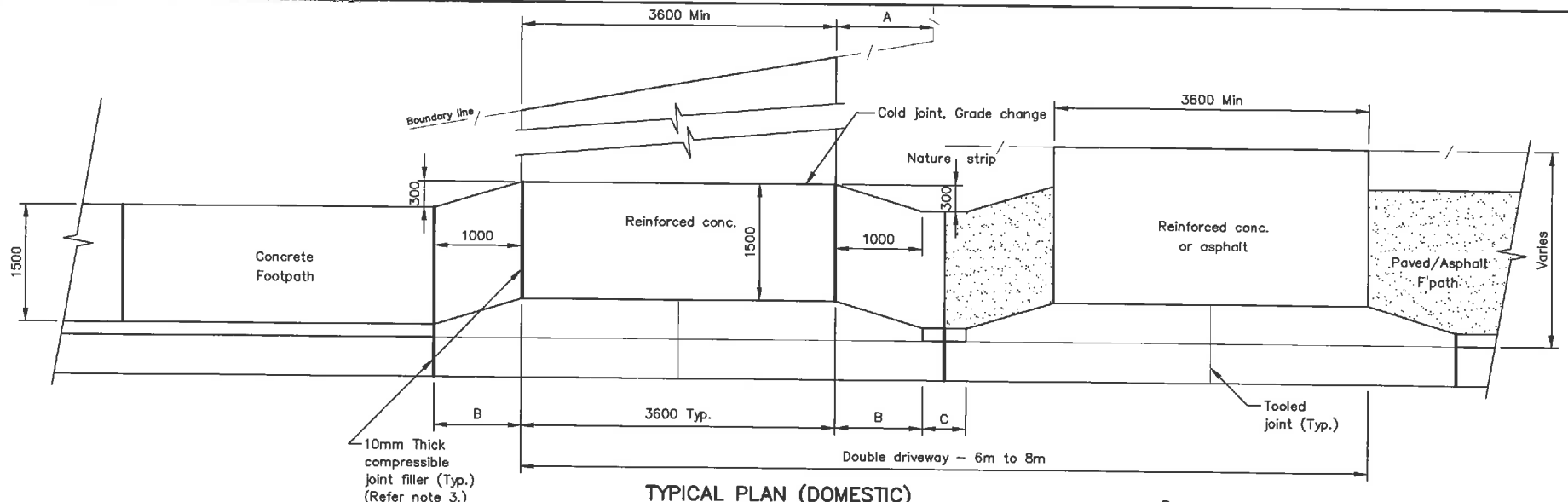
Any damage to the road pavement or nature strip in carrying out the driveway construction is to be repaired and reinstated by the developer.

All work is to be done to the satisfaction of the Director Infrastructure and Development Services.



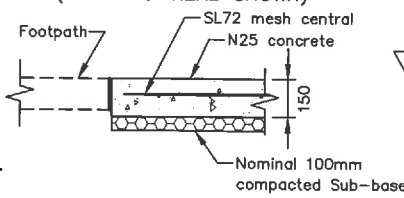
Oliver Mayer

TECHNICAL OFFICER ENGINEERING & DEVELOPMENT

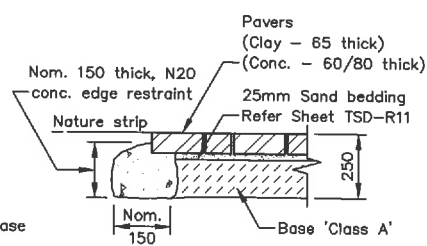


TYPICAL DRIVEWAY PROFILE
SUITS 'B85' / 'B99' VEHICLES
('TYPE KC' KERB / FOOTPATH AT KERB SHOWN)

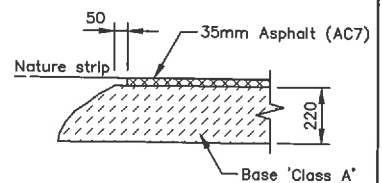
TYPICAL PLAN (DOMESTIC)
('TYPE KC' KERB SHOWN)



CONCRETE



SEGMENTAL PAVERS



ASPHALT

PAVEMENT DETAILS

(For Sub-grade C.B.R. \geq 4.0%)

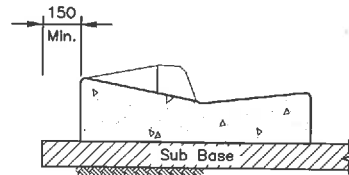
CONSTRUCTION NOTES

1. Concrete surfaces - Edge tooled, broom finish.
2. The Principal may increase depth of base course(s) for subgrade strength (C.B.R. < 4.0%)
3. Extend 10mm compressible joint filler through concrete footpaths only (Refer sheet TSD-R11, Footpaths).

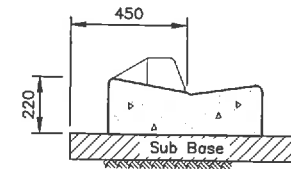
DESIGN NOTES

4. Design driveway profiles (tabulated) are in accordance with the requirements of 'AS/NZS 2890.1 : 2004' using 'Standard Design Vehicles':
 - B85 Vehicle - Domestic driveways (including 1 - 2 units)
 - B99 Vehicle - Light commercial, large unit development.
5. An approved engineering design is required for varying site conditions and for driveways used by 'Non Standard' vehicles, detailing the structural, plan geometry and vertical profile requirements.

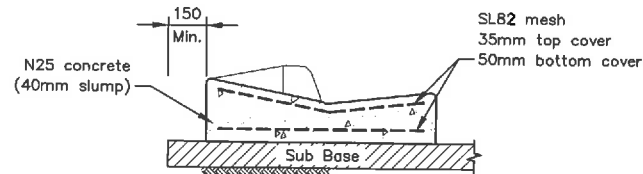
DIMENSION TABLE - PLAN VIEW		
Dim.	Description	Notes
A	Boundary Offset	New Subdivisions - 1000mm min. Established areas - Match existing
B	Transition (Wing)	Types 'KC' and 'KCM': B = 1000mm
C	Min. kerb Length	Delete transitions and construct continuous crossing if 'C' IS < 500mm



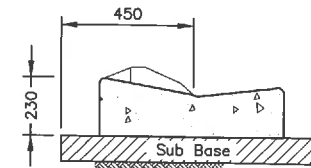
TYPE KC
UNREINFORCED
SCALE 1 : 20



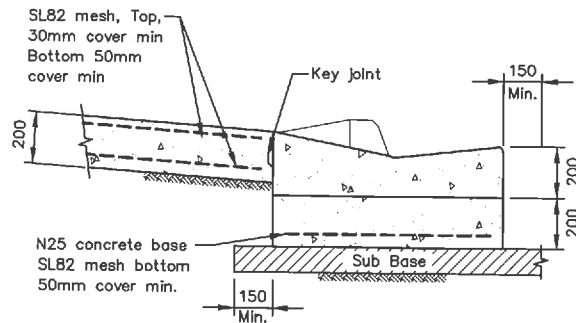
TYPE KCS
UNREINFORCED
SCALE 1 : 20



TYPE KCR & B1 (HEAVY VEHICLES)
IN-SITU POURED REINFORCED
SCALE 1 : 20
(Types KCS and KCM similar)



TYPE KCM
UNREINFORCED
SCALE 1 : 20



TYPE KCRB & B1 (HEAVY VEHICLES)
EXTRUDED ON REINFORCED BASE
SCALE 1 : 20
(Types KCS and KCM similar)

NOTES

- Sub-Base Depth
 - Sub-grade C.B.R. $\geq 4\%$ - Depth = Min. 135mm.
 - Sub-grade C.B.R. $< 4\%$ - Include 'Class B' geotextile.
- Refer Sheet TSD-R14 for additional dimensions.
- All works to be inspected prior to pouring concrete
- Any concrete oxide to be worked into the concrete surface during finishing.
- All dimensions in millimetres (mm)



SCALES: AS SHOWN
(All scales are correct at A3)

XRef File: TSD-R16-v1.dwg

REFERENCES

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It is the users responsibility to ensure this drawing is the current version. The current version can be downloaded from: www.lgat.tas.gov.au



TAS Division
IPWEA
INSTITUTE OF PUBLIC WORKS
ENGINEERING AUSTRALIA



Local Government Association Tasmania

STANDARD DRAWING

CONCRETE KERBS AND CHANNELS

VEHICULAR CROSSINGS

GPO Box 1521, Hobart Tasmania 7001 | 326 Macquarie Street, Hobart Tasmania 7000
T: 03 6233 5966 F: 03 6233 5966 Email: admin@lgat.tas.gov.au

ISSUE DATE:
30-11-2013

DWG No:
TSD-R16-v1

Submission to Planning Authority Notice

Council Planning Permit No.	SD 2015/1970	Council notice date	9/05/2018
TasWater details			
TasWater Reference No.	TWDA 2018/00722-WWC		Date of response
TasWater Contact	Phil Papps	Phone No.	(03) 6237 8246
Response issued to			
Council name	WARATAH WYNYARD COUNCIL		
Contact details	council@warwyn.tas.gov.au		
Development details			
Address	263 PORT RD, BOAT HARBOUR	Property ID (PID)	2750112
Description of development	14 Lot Subdivision		
Schedule of drawings/documents			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
EnviroPlan	Plan of Subdivision/Sewer Servicing Plan / A0.1	--	29/05/2018
Conditions			
<p>Pursuant to the <i>Water and Sewerage Industry Act 2008 (TAS)</i> Section 56P(1) TasWater imposes the following conditions on the permit for this application:</p> <p>CONNECTIONS, METERING & BACKFLOW</p> <ol style="list-style-type: none"> 1. A suitably sized sewerage system and connections to each lot of the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit. 2. Any removal of redundant and/or installation of new and modified property sewer service connections to existing TasWater mains must be carried out by TasWater at the developer's cost. <p>ASSET CREATION & INFRASTRUCTURE WORKS</p> <ol style="list-style-type: none"> 3. Plans submitted with the application Engineering Design Approval must, to the satisfaction of TasWater show, all existing, redundant and/or proposed property services and mains. 4. Prior to applying for a Permit to Construct new infrastructure the developer must obtain from TasWater Engineering Design Approval for new TasWater infrastructure. The application for Engineering Design Approval must include engineering design plans prepared by a suitably qualified person showing the hydraulic servicing requirements for sewerage to TasWater's satisfaction. 5. Prior to works commencing, a Permit to Construct must be applied for and issued by TasWater. All infrastructure works must be inspected by TasWater and be to TasWater's satisfaction. 6. In addition to any other conditions in this permit, all works must be constructed under the supervision of a suitably qualified person in accordance with TasWater's requirements. 7. Prior to the issue of a Consent to Register a Legal Document all additions, extensions, alterations or upgrades to TasWater's sewerage infrastructure required to service the development, generally as shown on the concept servicing plan listed in the above Schedule of drawings/documents, are to be constructed at the expense of the developer to the satisfaction of TasWater, with live connections performed by TasWater. 8. After testing, to TasWater's requirements, of newly created works, the developer must apply to 			

TasWater for connection of these works to existing TasWater infrastructure, at the developer's cost.

9. At practical completion of the sewerage works and prior to TasWater issuing a Consent to a Register Legal Document, the developer must obtain a Certificate of Practical Completion from TasWater for the works that will be transferred to TasWater. To obtain a Certificate of Practical Completion:
 - a. Written confirmation from the supervising suitably qualified person certifying that the works have been constructed in accordance with the TasWater approved plans and specifications and that the appropriate level of workmanship has been achieved;
 - b. A request for a joint on-site inspection with TasWater's authorised representative must be made;
 - c. Security for the twelve (12) month defects liability period to the value of 10% of the works must be lodged with TasWater. This security must be in the form of a bank guarantee;
 - d. As constructed drawings must be prepared by a suitably qualified person to TasWater's satisfaction and forwarded to TasWater.
10. After the Certificate of Practical Completion has been issued, a 12 month defects liability period applies to this infrastructure. During this period all defects must be rectified at the developer's cost and to the satisfaction of TasWater. A further 12 month defects liability period may be applied to defects after rectification. TasWater may, at its discretion, undertake rectification of any defects at the developer's cost. Upon completion, of the defects liability period the developer must request TasWater to issue a "Certificate of Final Acceptance". The newly constructed infrastructure will be transferred to TasWater upon issue of this certificate and TasWater will release any security held for the defects liability period.
11. The developer must take all precautions to protect existing TasWater infrastructure. Any damage caused to existing TasWater infrastructure during the construction period must be promptly reported to TasWater and repaired by TasWater at the developer's cost.
12. Ground levels over the TasWater assets and/or easements must not be altered without the written approval of TasWater.

FINAL PLANS, EASEMENTS & ENDORSEMENTS

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

DEVELOPMENT ASSESSMENT FEES

15. The applicant or landowner as the case may be, must pay a development assessment and Consent to Register a Legal Document fee to TasWater, as approved by the Economic Regulator and the fees will be indexed, until the date they are paid to TasWater, as follows:

- a. \$1,024.36 for development assessment; and
- b. \$226.94 for Consent to Register a Legal Document

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

16. In the event Council approves a staging plan, a Consent to Register a Legal Document fee for each

stage, must be paid commensurate with the number of Equivalent Tenements in each stage, as approved by Council.

Advice

Water

Taswater advises the subject land is located in an area unserved for water by a TasWater owned reticulated water system.

General

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

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

Service Locations

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

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

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

Declaration

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

Authorised by



Jason Taylor

Development Assessment Manager

TasWater Contact Details

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

Enquiries: Town Planner
Phone: (03) 6443 8308
Our Ref: 2750112 & SD 1970

22 February 2018

Micheal Wells
P O Box 546
SOMERSET TAS 7322

Dear Micheal,

**ADDITIONAL INFORMATION REQUIRED
DEVELOPMENT APPLICATION – SD1970 Subdivision 14 lots and balance at
263 Port Road BOAT HARBOUR BEACH**

I advise that under Section 54 of the *Land Use Planning and Approvals Act 1993* Council seeks further information in relation to application SD1970 for a 14 Lot Subdivision at 263 Port Road BOAT HARBOUR BEACH. In order to progress the assessment of your application, please provide the following:-

- Proposal plans for the subject balance lot or lot 15 at an appropriate scale.
- Demonstration of compliance with clause 12.4.1 P1 Suitability of a site or lot for use or development of the *Waratah-Wynyard Interim Planning Scheme 2013*. As not all lots are capable of meeting 12.4.1.A1 (b) (viii).
- Confirmation of compliance with clause 12.4.1 A2/P2 of the *Waratah-Wynyard Interim Planning Scheme 2013* as the location of the right of ways required for access in the planning report for proposed Lot 3 contradicts the proposed location on proposed subdivision plan.
- Demonstration of compliance with 12.4.3 Location and configuration of development of the *Waratah-Wynyard Interim Planning Scheme 2013*. The proposed subdivision is changing boundary locations in relation to existing buildings. Therefore this provision is required to be considered afresh.
- Demonstration of compliance with clause 12.4.4 Visual and acoustic privacy for residential development of the *Waratah-Wynyard Interim Planning Scheme 2013*.
- Demonstration of compliance with clause 12.4.5 Private open space for residential use of the *Waratah-Wynyard Interim Planning Scheme 2013*.
- Demonstration of compliance with clause 12.4.7 Setback of development for sensitive use of the *Waratah-Wynyard Interim Planning Scheme 2013*.
- A Geotechnical Risk Assessment that considers the proposed subdivision application as submitted. The report provided highlights 251 Port Road Boat Harbour Beach. Refer to Figure 3, 4 and 5 of the report. Therefore the Geotechnical Risk Assessment



has not yet demonstrated that the proposal will have a tolerable level of risk for all new lots in order to comply with Hazard Management Code of the *Waratah-Wynyard Interim Planning Scheme 2013*.

- Demonstration of compliance with E3 Clearing and conversion of vegetation code. As the planning report indicates it has been addressed in the Geotechnical Risk Assessment
- Demonstration of compliance with clause E9.5.1 Provision for parking of the *Waratah-Wynyard Interim Planning Scheme 2013*. Please provide details on remaining dwellings to demonstrate compliance with clause, how many spaces will be provided on-site with the proposed boundary arrangements and locations of these.

Your application has been placed on hold until all relevant documentation has been received to the satisfaction of the Planning Authority.

If you have any queries or require further information, please do not hesitate in contacting myself, on (03) 6443 8308.

Yours faithfully



Ashley Thornton
Acting Manager Development and Regulatory Services

Please quote our ref:
Your ref:
Enquiries to:

217263
SD 1790 2750112
Micheal Wells
6411 1931



16 April 2018

Planning Department
21 Saunders Street
Wynyard, TAS 7325

Dear Sir/Madam

ADDITIONAL INFORMATION REQUEST RESPONSE – SD 1970 SUBDIVISION 14 LOTS AND BALANCE AT 263 PORT ROAD BOAT HARBOUR BEACH

Please find the following responses to Council's additional information request for the above property.

1. Proposal plans for the subject balance lot or lot 15 at an appropriate scale

Please refer to revised Drawing A0.1 from EnviroPlan drawn at a scale of 1:1000 @ A3.

2. Demonstration of compliance with clause 12.4.1 P1 Suitability for a site or lot for use or development of the Waratah-Wynyard Interim Planning Scheme 2013. As not all lots are capable of meeting 12.4.1.A1(b)(viii).

Performance Criteria P1

A site or each lot on a plan of subdivision must

- a) *be of sufficient area for the intended use or development without likely constraint or interference for –*
 - i. *erection of a building if required by the intended use;*
 - ii. *access to the site;*
 - iii. *use or development of adjacent land;*
 - iv. *a utility; and*
 - v. *any easement or lawful entitlement for access to other land; and*
- b) *If a new residential lot, be orientated to maximise opportunity for solar access to a building area*

Each allotment is of a sufficient area for the intended development and is unlikely constrain or interfere with the erection of a building on each allotment for the intended residential use. Each allotment is provided with ample access opportunities as demonstrated on the submission plans. It is unlikely to negatively impact on adjacent land as the majority of the site is already constructed and the zoning is a residential zone intended for housing. It does not negatively impact on a utility provider and has no other lawful access issues to other land. All allotments with exception to lots 8, 9 & 10 comply with the acceptable solutions. Lots 8, 9 & 10 feature already constructed buildings and therefore the orientation of the lot places very little impact on the use of the land.

3. Confirmation of compliance with clause 12.4.1 A2/P2 of the Waratah-Wynyard Interim Planning Scheme 2013 as the location of the right of ways required for access in the planning report for proposed Lot 3 contradicts the proposed location on proposed subdivision plan.

Please refer to the latest revised plans.

Performance Criteria P2

- a) *A site must have a reasonable and secure access from a road provided –*
 - i. *across a frontage; or*
 - ii. *by an access strip connecting to a frontage, if for an internal lot; or*

- iii. *by a right of way connecting to a road over land not required to give the lot of which it is a part the minimum properties of a lot in accordance with the acceptable solution in any applicable standard; and*
 - iv. *the dimensions of the frontage and any access strip or the right-of-way must be adequate for the type and volume of traffic likely to be generated by –*
 - a. *the intended use; and*
 - b. *the existing or potential use of any other land which requires use of the access as the means of access for that land; and*
 - v. *the relevant road authority in accordance with the Local Government (Highways) Act 1982 or the Roads and Jetties Act 1935 must have advised it is satisfied adequate arrangements can be made to provide vehicular access between the carriageway of a road and the frontage, access strip or right of way to the site or each lot on a subdivision plan; or*
- b) *It must be unnecessary for the development to require access to the site or to a lot on a subdivision plan.*

Lots 4, 5, 11, 12, 13 & 14 of the submission plan complies with P2(a)(i).

Lot 3 complies with P2(a)(ii).

Lots 1 & 2 use a ROW over existing access arrangements to each building which caters to the existing use and expected volumes frequenting site.

Lots 6 & 7 use a ROW over existing parking arrangements to each building which caters to the existing use and expected volumes frequenting site. However, a new access is proposed off Port Road so as to improve traffic flow between lots and reduce potential for conflict.

Lots 9, 9 & 10 utilise an existing arrangement to the rear of the dwellings for access and parking. A new section connecting the cul-de-sac and car parking area of Lot 9 is proposed and is a consistent width of existing circumstances of 3.6m.

The latest revision has been forwarded to the Council Engineering department and approved.

4. *Demonstration of compliance with 12.4.3 Location and configuration of development of the Waratah-Wynyard Interim Planning Scheme 2013. The proposed subdivision is changing boundary locations in relation to existing buildings. Therefore this provision is required to be considered afresh.*

Acceptable Solutions A3

A site or each lot on a plan of subdivision must be capable of connecting to a water supply –

- a) *provided in accordance with the Water and Sewerage Industry Act 2008; or*
- b) *from a rechargeable drinking water system [R4] with a storage capacity of not less than 10,000 litres if–*
 - i. *there is not a reticulated water supply; and*
 - ii. *development is for –*
 - a. *a single dwelling; or*
 - b. *a use with an equivalent population of not more than 10 people per day*

Each allotment currently has a drinking water supply (tanks) which are proposed to be upgraded as part of this proposal.

5. *Demonstration of compliance with clause 12.4.4 Visual and acoustic privacy for residential development of the Waratah-Wynyard Interim Planning Scheme 2013.*

Performance Criteria P1

Likelihood for overlooking from a door or window in a habitable room or from any part of a balcony, deck, roof garden, parking space, or carport of a building must be minimised by –

- a) *physical separation from the door, window balcony, deck, or roof garden in an adjacent dwelling;*
- b) *off-set from a door or window to a habitable room in an adjacent dwelling;*
- c) *effective use of screening other than vegetation; or*
- d) *effect of topography and natural features*

Lots 1, 2, 5, 6, 7, 8, 9 & 10 contain existing buildings that were featured on a Strata Plan. In relation to over-looking; the southern unit of Lot 9 is the only allotment that overlooks the roof line of lots 7 from the top storey and this is the garage area of that allotment only. This is not a habitable room of the dwelling in front and privacy of that dwelling is not effected beyond that of existing circumstance.

The ROW between Lot 6 & 7 contains a privacy fence (existing) on lot 7 of the plan and living spaces of Lot 6 are to the north of the access. The installation of the ROW will not negatively impact on the existing dwellings as privacy screening already exists in this location.

6. Demonstration of compliance with clause 12.4.7 Setback of development for sensitive use of the Waratah-Wynyard Interim Planning Scheme 2013.

Performance Criteria P1

The location of a building containing a sensitive use must –

- a) *minimise likelihood for conflict, constraint or interference by the sensitive use on existing and potential use of land in the adjoining zone; and*
- b) *minimise likely impact from existing and potential use of land in the adjoining zone on the amenity of the sensitive use*

The location of existing buildings located on lots 9 & 10 of the plan do contain an existing use and it is highly unlikely that a subdivision of land that contains existing buildings where the zone boundary is not effected; that such a development would cause any conflict, constraint or interference on adjacent land beyond that of the existing built structures to the rural resource use land. Further, it is highly unlikely that this development (subdivision) will cause an increase in detriment to the existing built forms from the adjacent land use.

New allotments on lots 11 to 14 encroach within 50m of rural resource land which is currently unutilised bushland. It is highly unlikely to be cleared given the topography of the area and landslip potentials and therefore issues of constraint, conflict or interference are negligible to say the least. Given that the surrounding land uses are residential to the north, east, south and west of these allotments, there is no increase in detriment on rural resource land as that detriment is already implemented.

7. A geotechnical Risk Assessment that considered the proposed subdivision application as submitted. The report provided highlights 251 Port Road Boat Harbour Beach. Refer to Figure 3, 4 and 5 of the report. Therefore the Geotechnical Risk Assessment has not demonstrated that the proposal will have a tolerable level of risk for all new lots in order to comply with Hazard Management Code of the Waratah-Wynyard Interim Planning Scheme 2013.

Please find the attached revised geotechnical report.

8. Demonstration of compliance with E3 Clearing and conversion of vegetation code. As the planning report indicates it has been addressed in the Geotechnical Risk Assessment.

E3 Clearing and Conversion of Vegetation Code

E3.6.1 Protection of a threatened native vegetation community or native vegetation providing habitat for a threatened species

Objective:

The clearing and conversion of native vegetation is to minimise likely adverse impact on biodiversity, ecological process, and habitat value.

Acceptable Solution – A1

- a) *Vegetation must not be any of the following*
 - i. *a threatened native vegetation community;*
 - ii. *contain threatened flora or be threatened fauna habitat; or*
 - iii. *be within 30m of a water body, watercourse, wetland, or coastal shoreline; or*
- b) *the removal or destruction of any rare or threatened species or rare or threatened communities protected under state or commonwealth legislation must not occur unless authorised by the appropriate agency*

The vegetation proposed to be cleared / modified on lots 15 (balance) is not a threatened native vegetation and does not contain threatened fauna. The modified vegetation is not within 30m of a water course and is not protected by state or commonwealth legislation.

E3.6.2 Clearing of vegetation on land of scenic or landscape value

Objective:

The clearing and conversion of vegetation is to minimise likely adverse impact on scenic or landscape value –

- a) *on land in the Environmental Living zone, Environmental Management zone, Open Space zone, and Rural Living zone; or*
- b) *on land identified on the planning scheme map as significant for scenic or landscape value*

EnviroPlan Australia

ABN: 28 650 042 436

71a Bass Highway, Somerset TAS 7322 – PO Box 546 Somerset, TAS 7322

Email: admin@enviropianaustralia.com.au

Page 3 of 4

Not applicable – the land is within the Low Density Residential zone.

E3.6.3 Clearing of vegetation on land susceptible to landslide

Objective:

The clearing and conversion of vegetation on land in a landslide hazard area to which Code E6 – Hazard Management applies under this planning scheme is to minimise risk for activating a landslide.

Acceptable Solution – A1

The site must be within an area –

- a) *exposed to a low level of likely risk from landslide; and*
- b) *a landslide hazard risk assessment as defined in E6^{L1} must indicate clearing of native vegetation –*
 - i. *can achieve and maintain a tolerable level of risk; or*
 - ii. *there is an insufficient increase in the level of risk to warrant any specific hazard reduction or protection measures; or*
 - iii. *any condition or requirement for specific hazard reduction or protection measures*

The area of vegetation being modified is located within an area defined as low risk identified on the risk profile (page 9 & 10) of the attached geotechnical report. Page 10 of the report addresses bushfire related practices to satisfy the provision.

9. ***Demonstration of compliance with clause E9.5.1 Provision of parking of the Waratah-Wynyard Interim Planning Scheme 2013. Please provide details on remaining dwellings to demonstrate compliance with clause, how many spaces will be provided on-site within the proposed boundary arrangements and locations of these.***

Please refer to revised drawing A0.1 drawn by EnviroPlan. This demonstrates 2 car parking spaces per dwelling site with exception to lot 8 where 4 spaces are provided on a Strata lot of the 2 units.

If you require any additional information please don't hesitate to contact this office.

Kind Regards



Micheal Wells GradDipUrbRegPlan.BEnvDes(Arch)
Town Planning & Development Consultant
Bushfire Accreditation No: BFP-128

71a Bass Highway, Somerset TAS 7322
PO Box 546
P: 6411 1931
E: admin@enviropianaustralia.com.au

From: [Tanner, Lindsay](#)
To: [Council](#)
Subject: 263 Port Rd Boat Harbour Beach subdivision
Date: Monday, 21 May 2018 12:04:51 PM

Dear Mr Crawford, my wife and I are in the process of purchasing Unit 18/263 Port Road at Boat Harbour Beach (subject to successful subdivision) and I wish to advise that we support the subdivision proposal presented to Council. Yours sincerely Lindsay Tanner

This email and any attachments may contain personal, confidential or legally privileged information including information subject to privacy legislation. Any confidentiality or privilege is not waived because this email may have been sent to the wrong address. If you have received it in error, please let us know by reply email, delete it and destroy any copies. You should only read, transmit or distribute the email if you are authorised to do so. Except expressly agreed to in writing, any advice, information or materials provided by any representative of Lazard is provided by Lazard as principal and does not create any fiduciary relationship between Lazard and the recipient of this email.

Click [here](#) to report this email as spam.

PO Box 74
Gisborne
Victoria, 3437

18 May, 2018

General Manager,
Waratah-Wynyard Council
PO Box 168
Wynyard 7325

Dear Mr Crawford,

Re: Subdivision of Lot 7 within Strata Title 148990

As the owners of Unit 17, 263 Port Road Boat Harbour Beach, we hereby offer representation on the proposed subdivision SD1970.

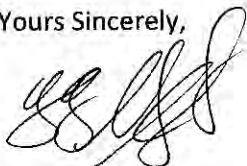
We have taken the opportunity to voice our concern to the developer in relation to the preservation of the outdoor living area on the north side of Unit 17 (Lot 7). The developer has been understanding of our concerns and we note that in relation to the Planning Scheme clause 12.4.4 and 12.4.5, the EnviroPlan letter dated 16 April 2018 states;

The ROW between Lot 6 & 7 contains a privacy fence (existing) on lot 7 of the plan and living spaces of Lot 6 are to the north of the access. The installation of the ROW will not negatively impact on the existing dwellings as privacy screening already exists in this location.

Given the above, and assuming council does not exercise any discretion which will impact this outdoor living area, we support the proposal and wish it to proceed forthwith.

If approved in its current form, the nature of the subdivision and creation of the new road "Azzure Way" will disassociate the existing 263 Port Road unit numbers from the historical allocation. I therefore propose the council consider renumbering lots 7, 6, 5, 3, 2, 1 to Port Road 253, 255, 257, 259, 261 & 263 respectively in order to clarify access, particularly for emergency services who may otherwise have trouble locating my unit.

Yours Sincerely,



Tim Crawford

Email: tim.crawford@ozemail.com.au
Mob: 0400 411 255

cc
Gerd Haigmaier
Boat Harbour Blue Waters Pty Ltd
263 Port Road

Agreement for Extension of Time

In accordance with Section 57 (6) of the *Land Use Planning and Approvals Act 1993*, I

Micheal Wells

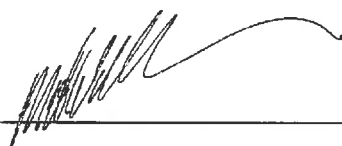
Of

EnviroPlan Australia
PO Box 546
SOMERSET TAS 7322

hereby grant the Planning Authority an extension of time until the 2nd day of July 2018,

Ref. No. 2750112 & **SD 1970**

Signed



(Applicant)

Micheal Wells (EnviroPlan

(Applicant)

31 May 2018

(Date)

Signed



SHANE CRAWFORD, *per Council delegation*

(General Manager)

31/5/18

(Date)