DEVELOPMENT APPLICATION

PDPLANPMTD-2025/053067

PROPOSAL: Replacement of Seawall

LOCATION: 2 Lanrick Court, Lindisfarne

RELEVANT PLANNING SCHEME: Tasmanian Planning Scheme - Clarence

ADVERTISING EXPIRY DATE: 02/03/2026 00:00:00

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 02/03/2026 00:00:00. In addition to legislative requirements, plans and documents can also be viewed at www.ccc.tas.gov.au during these times.

Any person may make representations about the application to the Chief Executive Officer, by writing to PO Box 96, Rosny Park, 7018 or by electronic mail to clarence@ccc.tas.gov.au. Representations must be received by Council on or before 02/03/2026 00:00:00.

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

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

Clarence City Council

Clarence... a brighter place

APPLICATION FOR DEVELOPMENT / USE OR SUBDIVISION

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

Proposal: Replacement Seawall

Location: *Address* 2 Lanrick Court Lindisfarne 7015

Suburb/Town ..... *Postcode* .....

Current Owners/s:

Applicant:

Personal Information Removed

Tax Invoice for application fees t be in the name o (if different from applicant)

Is the property on the Tasmanian Heritage Register? Yes [ ] No [X]

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

If you had pre-application discussions with a Council Officer, please give their name: Vanessa Tomlin/Gopal Neupane

Current Use of Site: Residential

Does the proposal involve land administered or owned by the Crown or Council? Yes [ ] No [x]

Declaration:

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

Acknowledgement:

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

Applicant's Signature:

Personal Information Removed

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

Clarence City Council

DEVELOPMENT/USE OR SUBDIVISION CHECKLIST

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Documentation required:

1. **MANDATORY DOCUMENTATION**

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

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

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

2. **ADDITIONAL DOCUMENTATION**

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

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

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

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

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
62407	2
EDITION	DATE OF ISSUE
3	15-Oct-2018

SEARCH DATE : 06-Jun-2025
SEARCH TIME : 12.35 PM

DESCRIPTION OF LAND

City of CLARENCE
Lot 2 on Sealed Plan 62407 (formerly being SP1411)
Derivation : Part of 2560 Acres Gtd. to T.G. Gregson
Prior CT 2301/16

SCHEDULE 1

M719333 TRANSFER to BARBARA JULIA TURNER and PAUL ROBERT TURNER Registered 15-Oct-2018 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP 62407 FENCING COVENANT in Schedule of Easements

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Owner Ellen Dickson

Title Reference 784 - 80 C.T.

Areas of Parcels

Lot Number	Area	Lot Number	Area
1	A. R. P. 0 · 1 · 4 8/10		
2	P. 35 9/10		
3	P. 35 8/10		
8	A. R. P. 0 · 1 · 22 4/10		
	1 · 0 · 18 9/10		
Total	~~A. R. P. 1 · 0 · 16 4/10~~	Total	

11d

PLAN OF SURVEY ~ No 1667

$16.00 5417/1V

of land situated in the

TOWN OF LINDISFARNE

P41

$12.00

Grantee : 2560 acres. Gtd. to T. G. Gregson
~~930 acres. Gtd. to E. P. Wilson & Others.~~

Scale 50 feet to an inch

For Office Use

Registered Number

S.P.1411

Filed by Clarence Corporation

on 9-6-67 at 11.16

Receipt No. 11466

Receiving Clerk

Effective from 18/12/67

Recorder of Titles / ~~Registrar of Deeds~~

REGISTERED NUMBER

62407

NO INFORMATION TO BE WRITTEN WITHIN THIS SPACE

TALUNE STREET

100+04' 90'6"

1

2

(P. Pitney Owner)

(E. Dickson Owner)

(229/19D.)

30'0½" 238+44'

86'3½" 17+24'

WIDE

13.1.69

11

(229/19D.)

272+04'40"

RIGHT OF WAY 163'0" 15' WIDE

(PRIVATE)

1

COURT. 50 FT.

C. C. Letter

53'3" 11+45'

54'0" 191+45'

11A

(303/15D.)

272+04'40" 130'0"

2

LANRICK ROAD

(229/19D.)

73'5½" 6+39'40"

141'4"

118'0" 44'30"

134+57'15"

156+11'45"

177+26'15"

262+18' 108'0"

8

198+40'45"

E. Dickson Owner

(P. 277.)

(S.P. 1851)

357+05'30" 13'5"

3 337+46'30"

318+27'30"

56'2½"

32+10'

300+15'

283+08'

266+04'

W. D. Geeves Owner

(771 - 12 C.T.)

86'3½" 58+04'

River Derwent

E. BARRIE VALENTINE
AUTHORISED SURVEYOR
AND TOWN PLANNER
149A MACQUARIE ST.
HOBART

(214/38D.)

(229/19D.)

Plan of Survey

SCHEDULE OF EASEMENTS

PLAN NO. S.P.1411

NOTE:—The Town Clerk or Council Clerk must sign the certificate on the back page for the purpose of identification.

The Schedule must be signed by the owners and mortgagees of the land affected. Signatures should be attested.

EASEMENTS.

Rights of Carriageway.
Lot 1 is subject to a right of carriageway ~~as appurtenant to~~ FOR the Clarence Municipal Commission over the right of way 15 feet wide shown ~~coloured green~~ on the plan.

Covenants.
The owner of each lot shown on the plan (OTHER THAN LOT 8) covenants with ELLEN DICKSON that THE VENDOR the said ELLEN DICKSON ~~(as vendor)~~ shall not be required to fence.

Signed by ELLEN DICKSON
as registered proprietor
of the land comprised
Cert. of Title Vol 784
Fol. 80.

Ellen Dickson

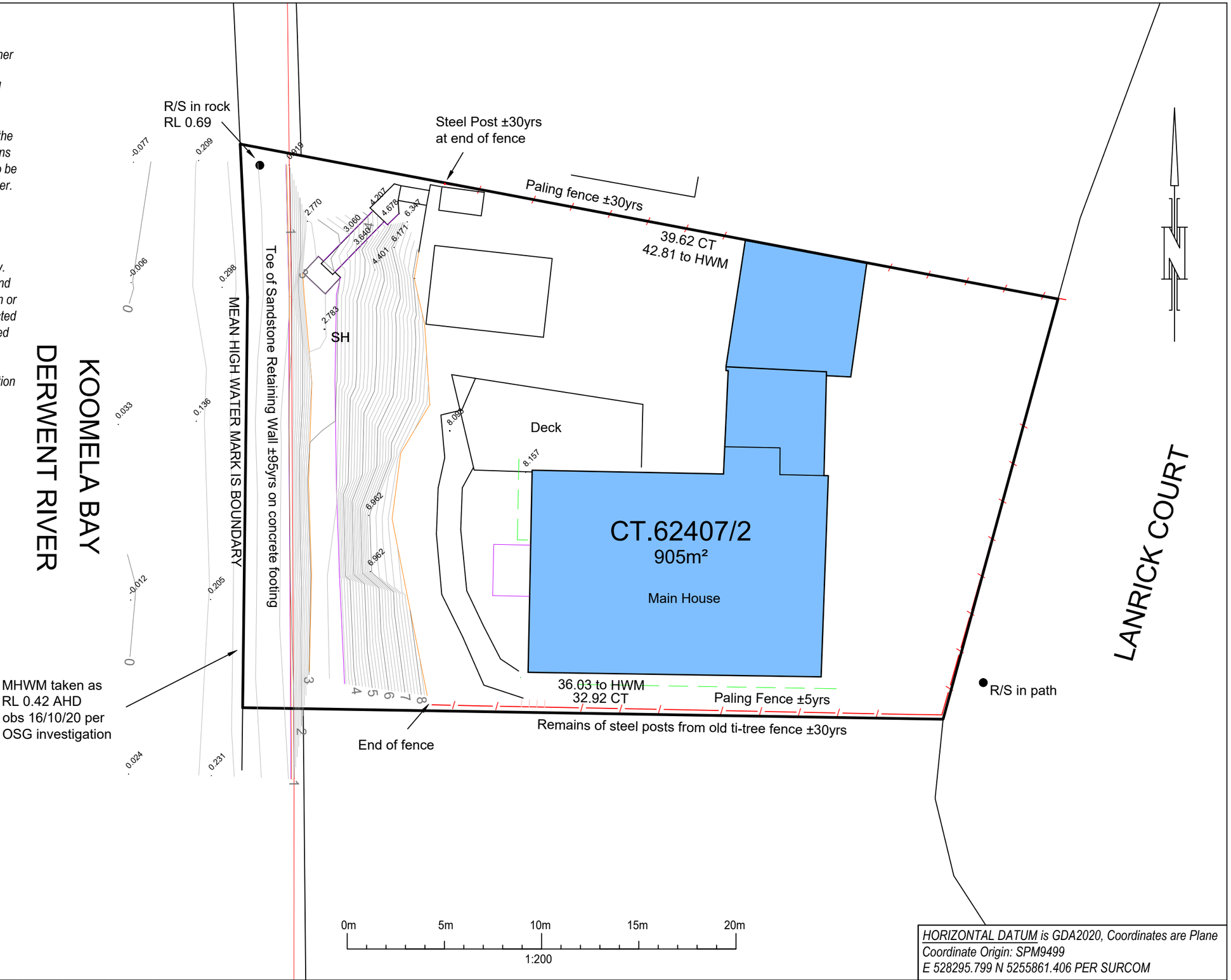
NOTES:

This plan and associated digital model is prepared for Paul Turner from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose.

The title boundaries as shown on this plan were not marked at the time of the survey and have been determined by plan dimensions only and not by field survey. No measurements or offsets are to be derived between the features on this plan and the boundary layer. The relationship between the features in this model and the boundary layers cannot be used for any set out purposes or to confirm the position of the title boundaries on site.

Services shown have been located where visible by field survey. Services denoted as being "Per DBYD only" are approximate and for illustrative purposes only. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

This note forms an integral part of the Plan/Data. Any reproduction of this plan/model without this note attached will render the information shown invalid.



HORIZONTAL DATUM is GDA2020, Coordinates are Plane
Coordinate Origin: SPM9499
E 528295.799 N 5255861.406 PER SURCOM

REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D				
C				
B				
A				

ROGERSON & BIRCH SURVEYORS
UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@rbsurveyors.com
WEB: www.rbsurveyors.com

Contour & Detail Plan

FOR: *PAUL TURNER*

LOCATION: *2 LANRICK COURT, LINDISFARNE*

Date:	*Contour interval:*	*Reference:*
25-09-2024	*0.200m*	*TURPA01 12083-02*
Drawn:	*Scale:*	*Bearing Datum: MGA2020 per*
SH	*1:200 (A3)*	*MGA PER GPS OBS*
Approved:	*C.T. Reference:*	*Vertical Datum:*
SH	*62407/2*	*AHD83 per SPM9499*

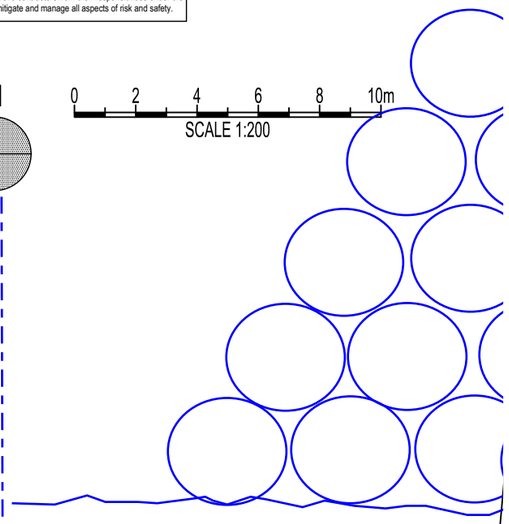
SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.	

N

0 2 4 6 8 10m

SCALE 1:200



ELEVATION A

KOOLER BAY

RIVER

Provide 3 x buttresses at nom 10m max crs to Geotechnical Engineers specifications to dissipate backwash

Taper end of wall to marry in with adjacent embankment.

proposed extent of new wall - full length of property boundary

A

A

CH 0

CH 5

SH

CH 10

CH 15

CH 20

CH 25

CH 30

CH 32

Wall to stop short by approx 2m of property boundary

PROPERTY BOUNDARY

Return rock wall back into existing bank at each end - typical. Refer detail

DETAIL 1

REV	DATE	REMARK
A	23.10.2024	SITE SECTION SKETCH

Accepted CJM (Discipline Head)	Date
Accepted RAJC (Team Leader)	Date
Approved CJM (Principal)	Date

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SCALES @ A3	DESIGNED BY	DRAWN BY
NTS	CEF	CEF
	PLOT DATE	23/10/2024

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Ground Floor, 73 Paterson Street, Launceston (03) 6334 5548

www.jmg.net.au infohbt@jmg.net.au infoltn@jmg.net.au

PROJECT
2 LANRICK COURT
LINDISFARNE

TITLE
SITE SECTIONS
EXISTING RETAINING WALL

PROJECT NO. 240696CS

DWG NO. SK01

REVISION A

PLOT DETAILS 240696CS - C3D BASE.DWG

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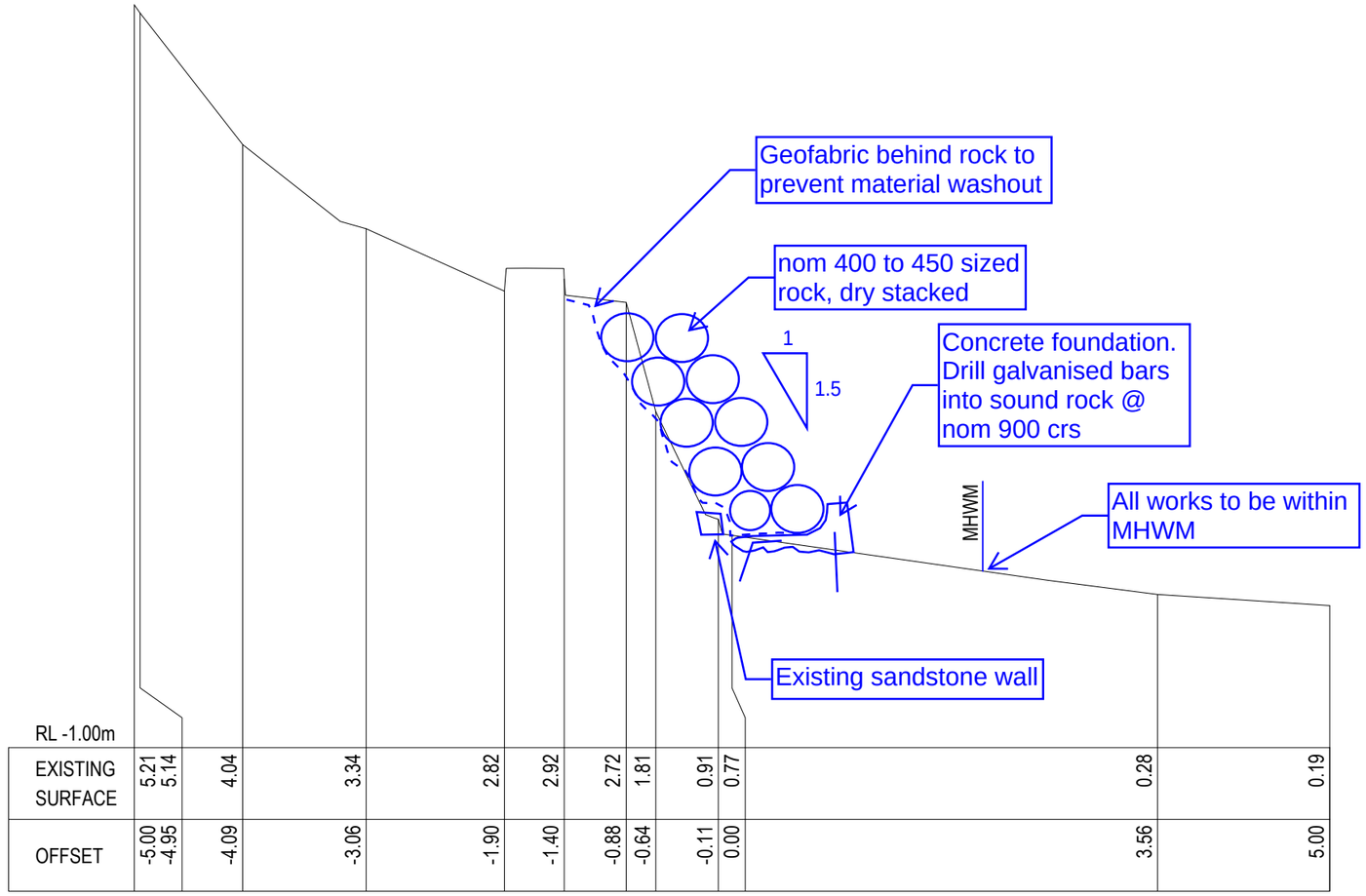

RL -1.00m											
EXISTING SURFACE	5.21	5.14	4.04	3.34	2.82	2.92	2.72	1.81	0.91	0.77	0.28	0.19
OFFSET	-5.00	-4.95	-4.09	-3.06	-1.90	-1.40	-0.88	-0.64	-0.11	0.00	3.56	5.00

CH 5.00 m
ALN-Ex. Retaining Wall

ALN-Ex. Retaining Wall CROSS SECTIONS
SCALES: 1:50(H) 1:50(V)

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PROJECT
2 LANRICK COURT
LINDISFARNE

TITLE
SITE SECTIONS
EXISTING RETAINING WALL

PROJECT NO. 240696CS
DWG NO. SK02
REVISION A
PLOT DETAILS 240696CS - C3D BASE.DWG

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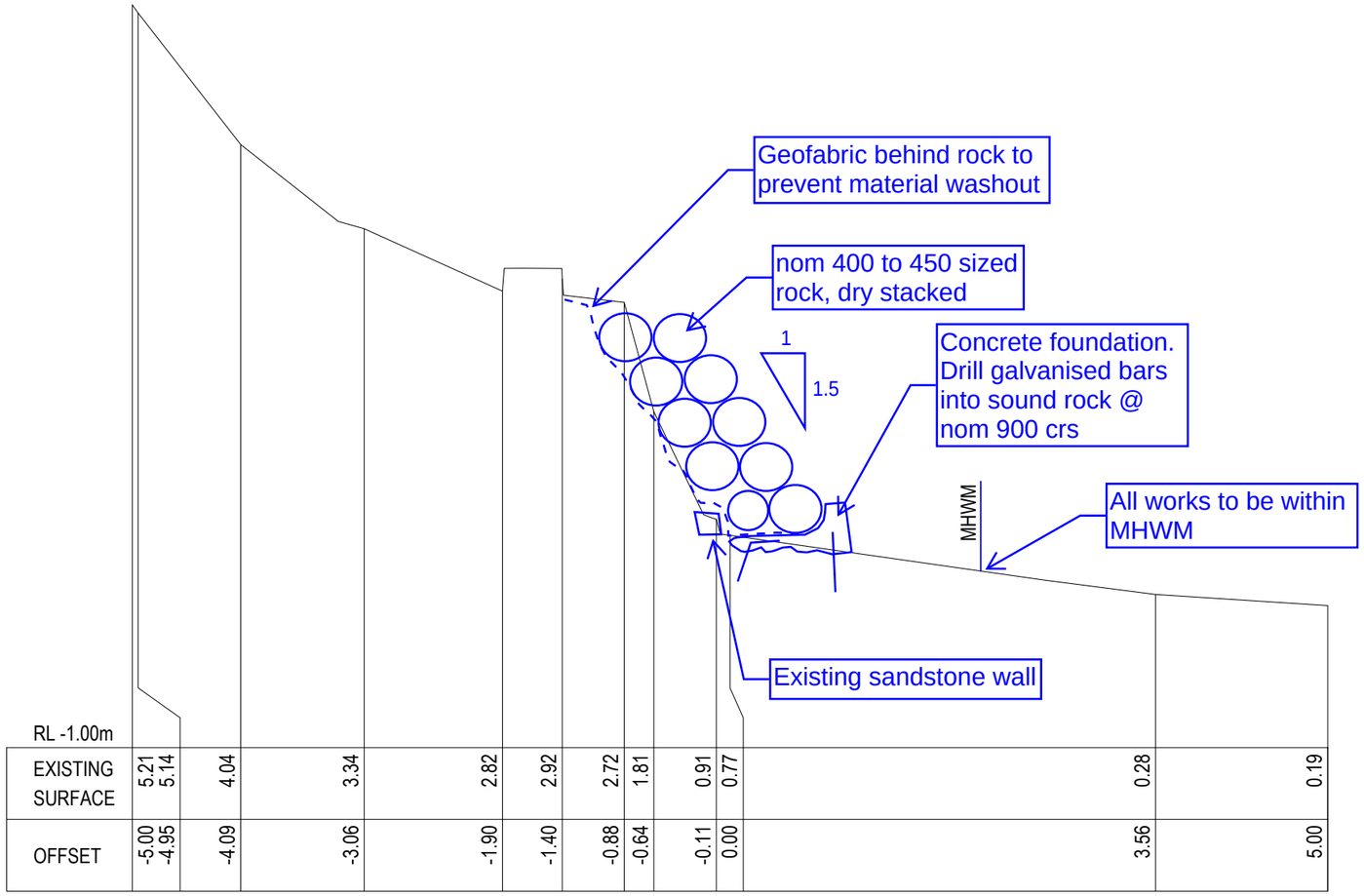

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EXISTING SURFACE	5.21	5.14	4.04	3.34	2.82	2.92	2.72	1.81	0.91	0.77	0.28	0.19
OFFSET	-5.00	-4.95	-4.09	-3.06	-1.90	-1.40	-0.88	-0.64	-0.11	0.00	3.56	5.00

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PROJECT
2 LANRICK COURT
LINDISFARNE

TITLE
SITE SECTIONS
EXISTING RETAINING WALL

PROJECT NO. 240696CS
DWG NO. SK02
REVISION A
PLOT DETAILS 240696CS - C3D BASE.DWG

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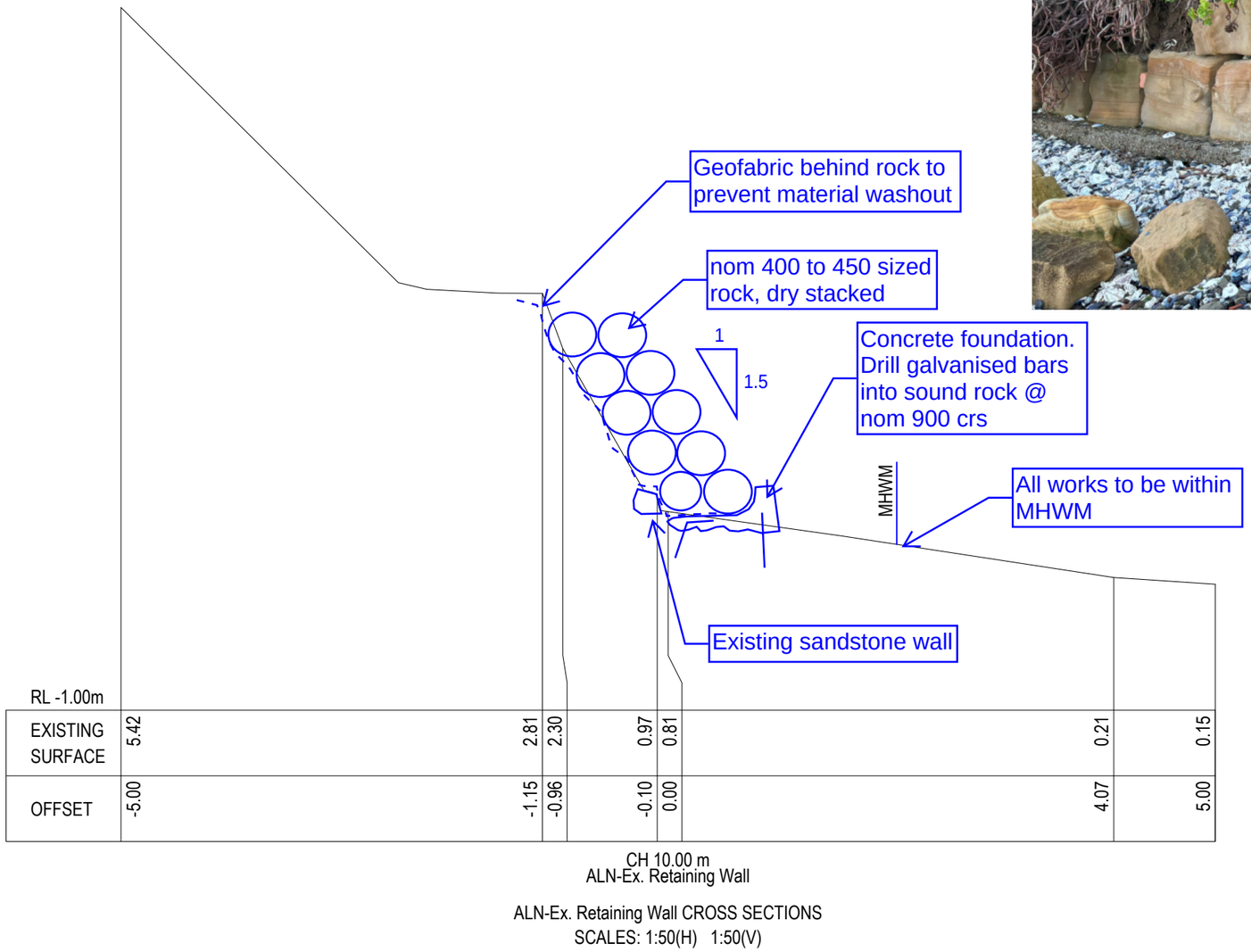

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OFFSET	-5.00		-1.15	-0.96	-0.10	0.00		4.07		5.00		

CH 10.00 m
ALN-Ex. Retaining Wall

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PROJECT
2 LANRICK COURT
LINDISFARNE

TITLE
SITE SECTIONS
EXISTING RETAINING WALL

PROJECT NO. 240696CS
DWG NO. SK03
REVISION A
PLOT DETAILS 240696CS - C3D BASE.DWG

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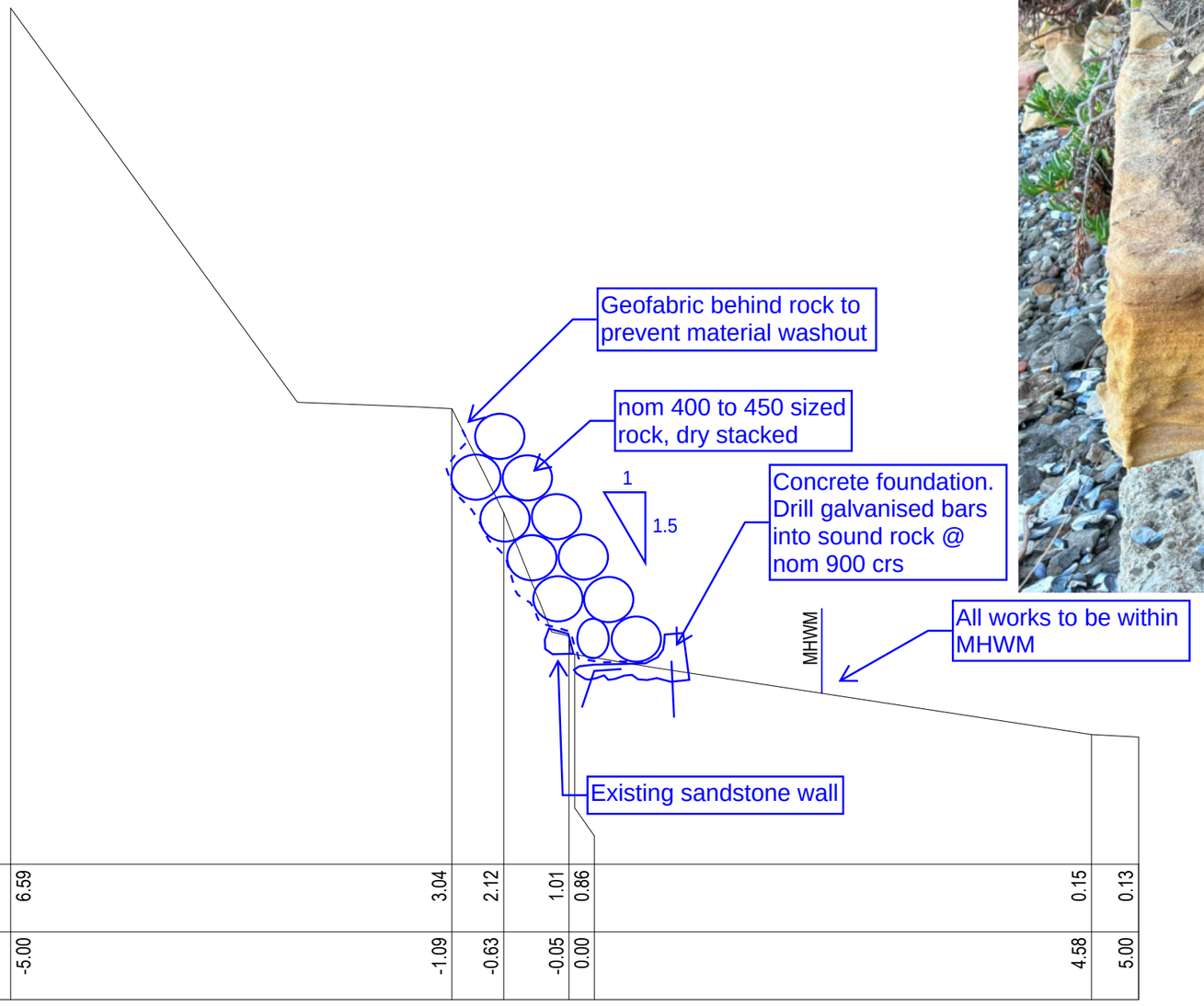

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CH 15.00 m
ALN-Ex. Retaining Wall

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PROJECT NO. 240696CS
DWG NO. SK04
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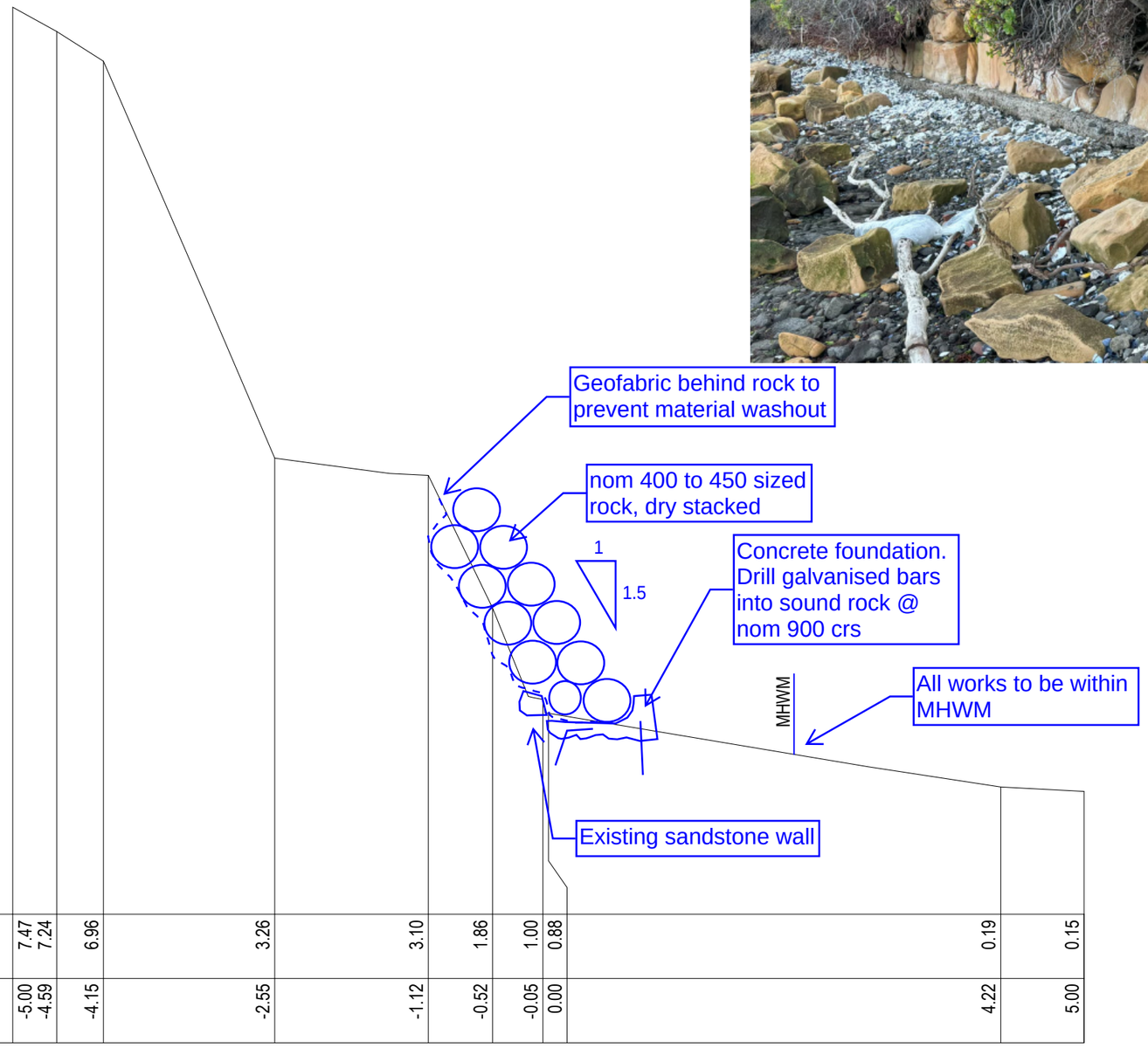

RL -1.00m										
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OFFSET	-5.00 -4.59	-4.15	-2.55	-1.12	-0.52	-0.05	0.00	4.22	5.00	

CH 20.00 m
ALN-Ex. Retaining Wall

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NTS	CEF	CEF
	PLOT DATE	23/10/2024

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Johnstone McGee & Gandy Pty. Ltd.
117 Harrington Street, Hobart, Tas (03) 6231 2555
Ground Floor, 73 Paterson Street, Launceston (03) 6334 5548
www.jmg.net.au infohbt@jmg.net.au infoltn@jmg.net.au

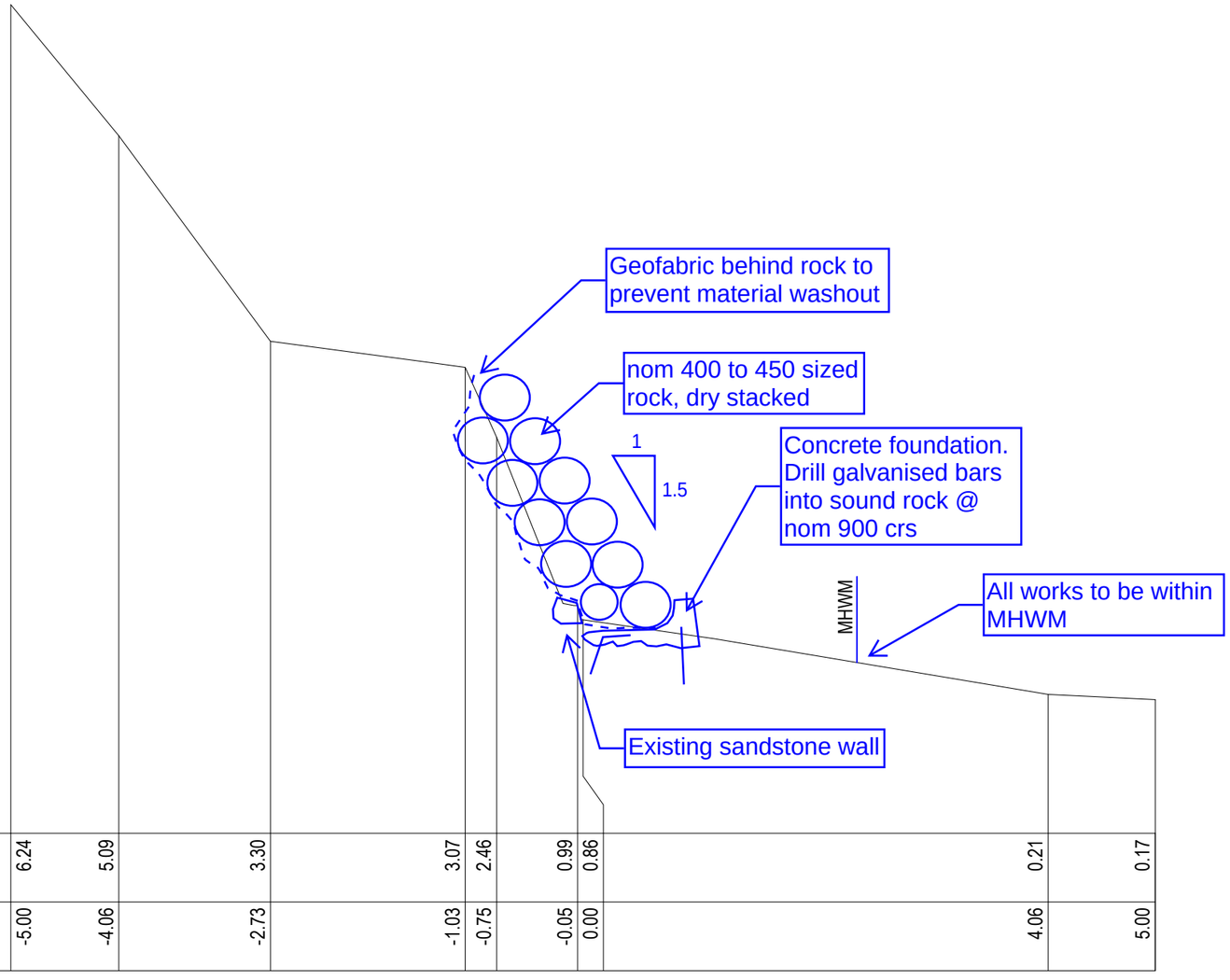
PROJECT
2 LANRICK COURT
LINDISFARNE

TITLE
SITE SECTIONS
EXISTING RETAINING WALL

PROJECT NO. 240696CS
DWG NO. SK05
REVISION A
PLOT DETAILS 240696CS - C3D BASE.DWG

SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.	



RL -1.00m									
EXISTING SURFACE	6.24	5.09	3.30	3.07	2.46	0.99	0.86	0.21	0.17
OFFSET	-5.00	-4.06	-2.73	-1.03	-0.75	-0.05	0.00	4.06	5.00

CH 25.00 m
ALN-Ex. Retaining Wall

ALN-Ex. Retaining Wall CROSS SECTIONS
SCALES: 1:50(H) 1:50(V)

REV	DATE	REMARK
A	23.10.2024	SITE SECTION SKETCH

Accepted CJM (Discipline Head)	Date	
Accepted RAJC (Team Leader)	Date	
Approved CJM (Principal)	Date	

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SCALES @ A3	DESIGNED BY	DRAWN BY
NTS	CEF	CEF
	PLOT DATE	23/10/2024

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PROJECT
2 LANRICK COURT
LINDISFARNE

TITLE
SITE SECTIONS
EXISTING RETAINING WALL

PROJECT NO. 240696CS
DWG NO. SK06
REVISION A
PLOT DETAILS 240696CS - C3D BASE.DWG

SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.	

un-armoured area to be left as undisturbed as possible, locally infill with original sandstone as needed, with no works over property boundary.

re-positioned sandstone blocks, to provide transition from new dry stacked wall to original condition on property boundary.

existing sandstone blocks, untouched

nom 400 to 450 sized rock, dry stacked

NSL

ELEVATION A

existing sandstone blocks, untouched

re-positioned sandstone blocks

Geofabric behind rock to prevent material washout

nom 400 to 450 sized rock, dry stacked

2m nom

typical each end

PLAN VIEW

Concrete foundation. Drill galvanised bars into sound rock @ nom 900 crs. Foundation not shown for clarity

900mm to 1000mm

new wall to be flush with existing

extent of new concrete foundation to extend only as far as dry stacked rock.

900mm to 1000mm

Boulder wall buttress full height of wall on concrete foundation.

10m nom

10m nom crs

All works to be within MHWM

REV	DATE	REMARK
A	23.10.2024	SITE SECTION SKETCH

Accepted CJM (Discipline Head)	Date	
Accepted RAJC (Team Leader)	Date	
Approved CJM (Principal)	Date	

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SCALES @ A3	DESIGNED BY	DRAWN BY
NTS	CEF	CEF
	PLOT DATE	23/10/2024

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PROJECT
2 LANRICK COURT
LINDISFARNE

TITLE
SITE SECTIONS
EXISTING RETAINING WALL

PROJECT NO. 240696CS

DWG NO. SK07

REVISION A

PLOT DETAILS 240696CS - C3D BASE.DWG

MATTHEW CLARK
PLANNERS

Planning Report

Seawall Replacement
2 Lanrick Court, Lindisfarne

For Paul and Barbara Turner
June 2025

Table of Contents

VERSION CONTROL					
Version	**Description**	**Author**		**Reviewer**	
1.0	Draft Planning Report	AD	5.6.25	MC	6.6.25

Summary

Use:	Not applicable
Development:	Seawall Replacement
Location:	2 Lanrick Court, Lindisfarne
Certificate of Title:	Volume 62407 Folio 2
Property ID:	5131798
Planning Authority:	Clarence City Council
Planning Policy:	Tasmanian Planning Scheme – Clarence Local Provisions Schedule
GM/Crown Consent:	Yes
Applicant:	MC Planners obo Paul and Barbara Turner
Date of Assessment:	June 2025
Assessor:	Angela Dionysopoulos

The development application relies on the performance criteria of the following provisions of the *Tasmanian Planning Scheme (Clarence)*:

- C7.6.1 (A1/P1, A2/P2, A5/P5) *Buildings and works within a waterway and coastal protection area or a future coastal refugia area*;
- C10.6.2 (A1/P1) *Coastal protection works within a coastal erosion hazard area*; and
- C11.6.2 (A1/P1) *Coastal protection works within a coastal inundation hazard area*.

There is no Acceptable Solution for the latter two discretions. Whilst relying on the Performance Criteria of these clauses, the development meets the objectives and purpose of the Open Space Zone and complies with the *Tasmanian Planning Scheme (Clarence)*.

Introduction

MC Planners have been engaged by Paul and Barbara Turner to prepare a development application for the replacement of an existing seawall.

The report details the proposed development and provides an assessment against the provisions of the *Tasmanian Planning Scheme (Clarence)* ('the planning scheme').

The proposal has been considered against the 'General Residential Zone' (8.0) and the 'Open Space Zone' (29.0).

Development on the site is subject to several codes which it is required to be assessed against:

- Parking and Sustainable Transport Code (C2.0);
- Natural Assets Code (C7.0);
- Coastal Erosion Hazard Code (C10.0);
- Coastal Inundation Hazard Code (C11.0);
- Flood-Prone Areas Hazard Code (C12.0);
- Landslip Hazard Code (C15.0) and;
- Safeguarding of Airports Code (C16.0).

Site Location and Context

The subject site is located at 2 Lanrick Court (PID 5131798, CT 62407/2), Lindisfarne. The site has a total area of 928.3m^2 and has frontage to Lanrick Court.

The subject site (refer to Figure 1) is located in a coastal residential area south of Natone Hill reserve. The site adjoins Koomela Bay, with the rocky estuary foreshore designated as open space. There is an existing dwelling at the site, as well as a shed, carport and garage. External garden steps lead down to the foreshore at the rear. An existing seawall located at the rear boundary of the site has partly eroded and requires replacement.

Survey work has been undertaken to establish the location of the seawall relative to the site boundary. It is confirmed that the proposed seawall works are located entirely within private land at CT 62407/2, and do not protrude into the adjoining Crown Land (refer to Appendix E).

Refer to the Titles in Appendix A for full details.

Figure 1. Subject Site (CT 62407/2) in dark blue (source: LISTmap, Accessed 19.11.2024)

Proposed Development

The proposed seawall will extend along the length of the rear boundary, with a setback of approximately 2m from the side boundaries where the new sea wall will be keyed into the existing sea wall. The new wall includes three buttresses at 10m centres to dissipate wave energy along the wall and prevent scouring around the ends of the wall.

The proposed wall comprises dry stacked rock supported by a concrete foundation. The wall is proposed to extend approximately 3m upslope from the foundation, with a maximum building height (from natural ground level) of approximately 1.35m, owing to the gradient. Existing exotic vegetation will be removed within the footprint of the proposed wall to accommodate the 1:1.5 batter and the slope lined with geofabric to prevent material washout.

The contractor has advised that the construction will be undertaken by a 20 Tonne Excavator, material will be either brought along the foreshore from the existing foreshore access at the end of Talune Street or barged in if this is not possible. Crown and Council works permits will be required for either option. A draft Construction Management Plan is attached in Appendix D. No works will be required on Council or Crown land. Works are anticipated to be undertaken over the course of one week.

The proposal is more fully set out in the plans at Appendix B.

Policy Assessment

The proposed seawall does not meet the list of exemptions (clause 4.0). However, the proposed vegetation removal to allow for construction of the wall is exempt, as it is within a private garden, is not protected by legislation, a permit condition, Part 5 Agreement or covenant and is not part of a Local Heritage Place or a significant tree (clause 4.4.2).

The site is located on land zoned 'General Residential' and 'Open Space' (see Figure 2).

The site is subject to the waterway and coastal protection area, low coastal erosion hazard band, the airport obstacle limitation area overlays over the entire property. The future coastal refugia area (Figure 3), medium landslip hazard band (Figure 4), medium coastal inundation hazard band (Figure 5), and flood-prone areas (Figure 6) overlays are also present over part of the site.

The nature of the proposal and the location of the site requires that the proposal be considered against the following Scheme elements:

- Development Not Required to be Categorised into a Use Class (7.10)
- General Residential Zone (8.0);
- Open Space Zone (29.0);
- Parking and Sustainable Transport Code (C2.0);
- Natural Assets Code (C7.0);
- Coastal Erosion Hazard Code (C10.0);
- Coastal Inundation Hazard Code (C11.0)
- Flood-Prone Areas Hazard Code (C12.0);
- Landslip Hazard Code (C15.0); and
- Safeguarding of Airports Code (C16.0).

The following section provides an assessment of the proposal against each of the above-listed planning scheme elements.

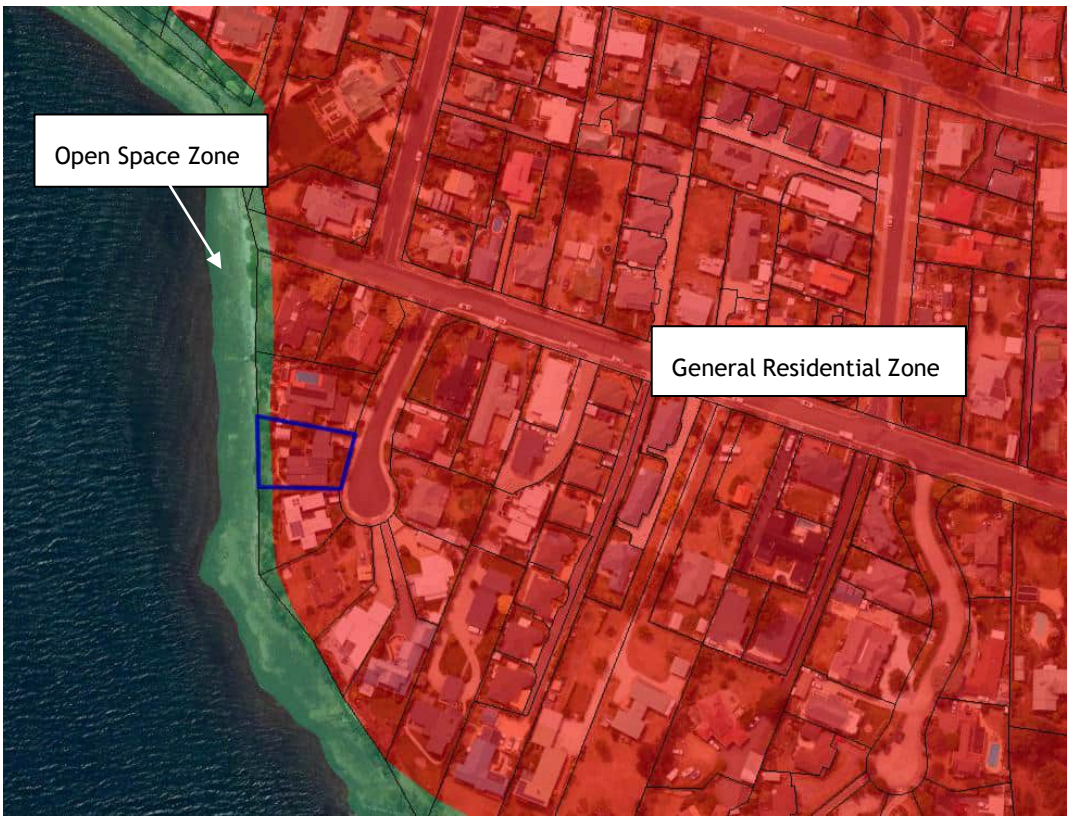

Figure 2. Land use zones (source: LIST map - accessed on 19.11.2024)

Figure 3. (left) Future coastal refugia area and & Figure 4. (right) Medium landslip hazard band (source: LIST map - accessed on 19.11.2024)

Figure 5. (left) Medium coastal inundation hazard band and & Figure 6. (right) Flood-prone area (source: LIST map - accessed on 19.11.2024)

General Provisions Development Not Required to Be Categorised Into a Use Class (7.10)

The proposal is for a wall, which is a type of development not required to be categorised into a use class.

Clause 7.10 of the Scheme provides that development which is not required to be categorised into a Use Class, and to which clause 6.8.2 applies may be approved at the discretion of the planning authority.

Clause 6.8.2 is relevant in that it provides that the planning authority has discretion under clause 7.10 to refuse or permit a development that is not required to be categorised into a use class if:

(a) there are no applicable standards that apply to the development; or

(b) the use or development relies on any Performance Criteria to demonstrate compliance with an applicable standard; and

(c) the development is not Prohibited under any other provision of this planning scheme.

As the development is reliant on performance criteria to comply with an applicable standard, per (b) of clause 6.8.2, Clause 7.10 is relevant.

Under clause 7.10.2 an application must only be approved under sub-clause 7.10.1 if there is no unreasonable detrimental impact on adjoining uses or the amenity of the surrounding area. On this, the wall is of design which minimises offsite impacts as informed by the Coastal Vulnerability Assessment.

Under 7.10.3, being those matters related to the purpose of the applicable zones and codes; it is considered that as the proposal demonstrably complies with the relevant standards, the proposal inherently fulfills the purpose of the respective zones and codes.

General Residential Zone (8.0)

The majority of the site is zoned *General Residential*. However, no development is proposed within the General Residential Zone. Therefore, none of the zone provisions apply.

Open Space Zone (29.0)

The proposed development is located entirely within the *Open Space Zone*.

29.2 Use Table

The proposed seawall development is located within the coastal zone[1] and comprises coastal protection works, which means 'structures or works aimed at protecting land, property and human life from adverse impacts caused by erosion or inundation in the coastal zone' (Table 3.1). The proposal therefore does not need to be categorised into one of the Use Classes (clause 6.2.6).

29.3 Use Standards

No use is proposed, and the use standards therefore do not apply.

29.4 Development Standards for Buildings and Works

29.4.1 Building height, setback and siting

A1 *Building height must be not more than 10m.*	*P1* *…*

The maximum proposed building height is approximately 1.35m, complying with Acceptable Solution A1.

[1] *State Coastal Policy Validation Act 2003*, s.5(1)

A2 *Buildings must have a setback from a frontage of:* *(a) not less than 5m; or* *(b) not more or less than the maximum and minimum setbacks of the buildings on adjoining properties,* *whichever is the lesser.*	*P2* …

The proposed development is located in excess of 5m from the frontage, complying with Acceptable Solution A2.

A3 *Buildings must have a setback from side and rear boundaries adjoining a General Residential Zone, Inner Residential Zone or Low Density Residential Zone not less than:* *(a) 3m; or* *(b) half the wall height of the building,* *whichever is the greater.*	*P3* …

The maximum proposed building height of the wall is approximately 1.35m, requiring a 0.675m setback from the side boundary. A setback from the side boundaries of approximately 2m is proposed, complying with Acceptable Solution A3 (b).

A4 *Air extraction, pumping, refrigeration systems, compressors or generators must be separated a distance of not less than 10m from a General Residential Zone, Inner Residential Zone or Low Density Residential Zone.*	*P4* …

No air extraction, pumping, refrigeration systems, compressors or generators are proposed, and the standard does not apply.

29.4.2 Outdoor storage areas

No outdoor storage area is proposed, and the standard does not apply.

29.5 Development Standards for Subdivision

There is no proposed subdivision. As such, clause 29.5 and all sub-clauses are not applicable.

The proposal complies with all the applicable standards of the Open Space Zone.

Parking and Sustainable Transport Code (C2.0)

No use or development is exempt from this code (C2.1.1).

C2.5 Use Standards

No use is proposed, and the proposed development does not require categorisation into a Use Class. Therefore, none of the code use standards apply.

C2.6 Development Standards for Buildings and Works

No vehicle access or parking is proposed, and none of the code development standards apply.

Natural Assets Code (C7.0)

The proposed development is on land within a waterway and coastal protection area and a future coastal refugia area, and the code applies (C7.2.1). Although the proposal is for coastal protection works, they are not by or on behalf of the Crown, State authority or council, and the proposal is therefore not exempt from the code (C7.4.1(f)).

C7.5 Use Standards

There are no use standards in the code.

C7.6 Development Standards for Buildings and Works

C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area

A1 *Buildings and works within a waterway and coastal protection area must: (a) be within a building area on a sealed plan approved under this planning scheme; (b) in relation to a Class 4 watercourse, be for a crossing or bridge not more than 5m in width; or (c) if within the spatial extent of tidal waters, be an extension to an existing boat ramp, car park, jetty, marina, marine farming shore facility or slipway that is not more than 20% of the area of the facility existing at the effective date.*	*P1.1* *Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to: (a) impacts caused by erosion, siltation, sedimentation and runoff; (b) impacts on riparian or littoral vegetation; (c) maintaining natural streambank and streambed condition, where it exists; (d) impacts on in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation; (e) the need to avoid significantly impeding natural flow and drainage; (f) the need to maintain fish passage, where known to exist; (g) the need to avoid land filling of wetlands; (h) the need to group new facilities with existing facilities, where reasonably practical; (i) minimising cut and fill; (j) building design that responds to the particular size, shape, contours or slope of the land; (k) minimising impacts on coastal processes, including sand movement and wave action; (l) minimising the need for future works for the protection of natural assets, infrastructure and property; (m) the environmental best practice guidelines in the Wetlands and Waterways Works Manual; and (n)*

	the guidelines in the Tasmanian Coastal Works Manual. *P1.2* *Buildings and works within the spatial extent of tidal waters must be for a use that relies upon a coastal location to fulfil its purpose, having regard to: (a) the need to access a specific resource in a coastal location; (b) the need to operate a marine farming shore facility; (c) the need to access infrastructure available in a coastal location; (d) the need to service a marine or coastal related activity; (e) provision of essential utility or marine infrastructure; or (f) provisions of open space or for marine-related educational, research, or recreational facilities.*

The proposed development is not within a building area, for a crossing or bridge, or within the spatial extent of tidal waters. The proposal is therefore unable to meet Acceptable Solution A1 and is assessed against Performance Criterion P1.

The proposed development will not have any adverse impact on natural assets as only garden exotics will be removed (P1.1). The proposed seawall will reduce erosion, with geofabric lining to prevent material washout while still allowing for natural water flow and drainage (a) (e). The proposed vegetation removal, which is exempt (clause 4.4.2), is limited to 'FUR urban areas' (TASVEG 4.0) located within the footprint of the proposed seawall construction (b). The proposed development is not located within the watercourse and there are no wetlands on the site (c) (d) (f) and (g). The proposal is co-located with the existing seawall structure, which is to be retained (h). The minimal cut required to achieve the engineered wall batter (i). The proposed seawall is designed following the contours of the land (j). A recurved design with buttressing has been adopted to reduce wave energy as recommended by the Coastal Report (refer Appendix C) (k). The proposed seawall provides for coastal protection and takes into account the appropriate design life of the structure, as detailed at Appendix C (l). The proposed development is to be undertaken in accordance with the *Wetlands and Waterways Works Manual* and the *Tasmanian Coastal Works Manual* and this will form part of the contract with the civil contractor (m and n).

The proposal meets Performance Criterion P1.1 and complies with the standard. The proposed development is not within the spatial extent of tidal waters, and P1.2 therefore does not apply.

A2 *Buildings and works within a future coastal refugia area must be located within a building area on a sealed plan approved under this planning scheme.*	*P2.1* *Buildings and works within a future coastal refugia area must allow for natural coastal processes to continue to occur and avoid or minimise adverse impacts on natural assets, having regard to: (a) allowing for the landward transgression of sand dunes and the landward colonisation of wetlands, saltmarshes and other coastal habitats from adjacent areas; (b) avoiding the creation of barriers or drainage networks that would prevent future tidal inundation; (c) allowing the coastal processes of sand deposition or erosion to continue to occur; (d) the need to group new facilities with existing facilities, where reasonably practical; (e) the impacts on native vegetation; (f) minimising cut and fill; (g) building design that*

	responds to the particular size, shape, contours or slope of the land; (h) the impacts of sea-level rise on natural coastal processes and coastal habitat; (i) the environmental best practice guidelines in the Wetlands and Waterways Works Manual; and (j) the guidelines in the Tasmanian Coastal Works Manual. *P2.2* *Buildings and works within a future coastal refugia area must be for a use that relies upon a coastal location to fulfil its purpose, having regard to: (a) the need to access a specific resource in a coastal location; (b) the need to operate a marine farming shore facility; (c) the need to access infrastructure available in a coastal location; (d) the need to service a marine or coastal related activity; (e) provision of essential utility or marine infrastructure; and (f) provision of open space or for marine-related educational, research, or recreational facilities.*

The proposed development is not within a building area and is unable to meet Acceptable Solution A2. As such, Performance Criterion P2 is addressed.

The proposed development allows for the continuation of natural coastal processes and will not have an adverse impact on natural assets (P2.1). The adjoining habitat is classified as intertidal rock (Figure 7), with no wetlands or saltmarshes in proximity (a). The proposed seawall has the same function as the existing seawall and the site is on a bluff so is not subject to future tidal inundation or sand deposition (b)(c). The proposal is co-located with the existing seawall structure on neighbouring properties (d). The vegetation proposed for removal, which is exempt (clause 4.4.2), is exotic rather than native vegetation (e). The minimal cut required to achieve the engineered wall batter (f). The proposed seawall is designed following the contours of the land (g). The proposed development is to be undertaken in accordance with the *Wetlands and Waterways Works Manual* and the *Tasmanian Coastal Works Manual* and this will form part of the contract with the civil contractor (i) (j).

Figure 7. Derwent Estuary Habitat Atlas (source: LISTmap, Accessed 5.06.2025)

Clause (c) has regard to allowing the coastal processes of sand deposition or erosion to continue to occur. The proposal will not prevent sand deposition; however, the seawall constitutes coastal protection works designed to mitigate potential erosion. Nevertheless, the proposal is appropriate considering the objective of the standard (7.6.1). The objective of the standard is:

That buildings and works within a waterway and coastal protection area or future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets.

The proposed seawall is necessary to protect the site from adverse impacts caused by erosion. The extent of the seawall is limited to approximately 28m, representing an insignificant portion of the River Derwent coastline, and any impact it may have in reducing erosion cannot be considered unacceptable in that context.

Clause (h) has regard to the impacts of sea-level rise on natural coastal processes and coastal habitat. The *Coastal Vulnerability Assessment* report at Appendix C addresses coastline recession in detail. The report identifies a minimal baseline level of erosion, taking into account the impacts of sea-level rise.

The proposed seawall does not require categorisation into a Use Class, and clause P2.2 therefore does not apply. Nevertheless, the coastal protection works inherently relate to the coastal location.

The proposal meets Performance Criterion P1 and complies with the standard.

A3 *Development within a waterway and coastal protection area or a future coastal refugia area must not involve a new stormwater point discharge into a watercourse, wetland or lake.*	*P3* …

No new stormwater point discharge is proposed, and the standard does not apply.

A4 *Dredging or reclamation must not occur within a waterway and coastal protection area or a future coastal refugia area.*	*P4.1* …

No dredging or reclamation is proposed, and the standard does not apply.

A5 *Coastal protection works or watercourse erosion or inundation protection works must not occur within a waterway and coastal protection area or a future coastal refugia area.*	*P5* *Coastal protection works or watercourse erosion or inundation protection works within a waterway and coastal protection area or a future coastal refugia area must be designed by a suitably qualified person and minimise adverse impacts on natural coastal processes, having regard to: (a) impacts on sand movement and wave action; and (b) the potential for increased risk of inundation to adjacent land.*

The proposed coastal protection works are located within a waterway and coastal protection area and a future coastal refugia area and are unable to meet Acceptable Solution A5. The proposal is therefore considered against Performance Criterion P5.

The proposed seawall has been designed by Johnstone McGee & Gandy Pty Ltd (JMG) with review by Geo-Environmental Solutions Pty Ltd (GES), who confirm they have suitable qualifications. The *Coastal Vulnerability Assessment* report (Appendix C) provides detailed consideration of wave action (a) as well as inundation risks (b). The proposal meets Performance Criterion P5 and complies with the standard.

C7.6.2 Clearance within a priority vegetation area

There is no priority vegetation area on the site and the standard does not apply.

C7.7 Development Standards for Subdivision

No subdivision is proposed and the code subdivision standards therefore do not apply.

The proposal complies with all the applicable standards of the Natural Assets Code.

Coastal Erosion Hazard Code (10.0)

The proposed development is within a coastal erosion hazard area and does not meet any of the code exemptions (C10.4.1). The code applies (C10.2.1).

C10.5. Use Standards

No use is proposed, and the proposed development does not require categorisation into a Use Class. None of the code use standards apply.

C10.6 Development Standards for Buildings and Works

C10.6.1 Buildings and Works, excluding coastal protection works, within a coastal erosion hazard area

As the proposal is for coastal protection works, the standard does not apply.

C10.6.2 Coastal protection works within a coastal erosion hazard area

A1 *No Acceptable Solution.*	*P1* *Coastal protection works within a coastal erosion hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to:* *(a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose;* *(b) the advice contained in a coastal erosion hazard report that:* *(i) there is no increased risk from coastal erosion on the site, on adjacent land or public infrastructure; and* *(ii) risks from coastal erosion to 2100 can be mitigated;* *(c) the need for arrangements to be made, including with the applicant, to meet the cost of construction and ongoing maintenance of the coastal protection works; and* *(d) any advice from a State authority, regulated entity or a council.*

There is no Acceptable Solution as such P1 will need to be considered.

The site is not within a non-urban zone (a). A Coastal Report is attached in Appendix C (b). The applicant will meet the cost of construction and ongoing maintenance (c). Council has provided advice on this proposal on the 3/9/23 PDPLIMPLN-2023/037662 and 15/4/24 PDPLIMPLN-2024/048091 and a Pre-DA meeting on the 4/11/24 (d).

C10.6.3 Buildings and works located within a coastal erosion investigation area

The site is not within a coastal erosion investigation area and the standard does not apply.

C10.7 Development Standards for Subdivision

No subdivision is proposed, and the subdivision standard does not apply.

The proposal complies with all the applicable standards of the Coastal Erosion Hazard Code.

Coastal Inundation Hazard Code (C11.0)

C11.5 Use Standards

No use is proposed, and the proposed development does not require categorisation into a Use Class. None of the code use standards apply.

C11.6 Development Standards for Buildings and Works

C11.6.1 Buildings and works, excluding coastal protection works, within a coastal inundation hazard area

The proposal is for coastal protection works and the standard does not apply.

C11.6.2 Coastal protection works within a coastal inundation hazard area

A1 *No Acceptable Solution.*	*P1* *Coastal protection works within a coastal inundation hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to:* *(a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose;* *(b) the advice contained in a coastal inundation hazard report that:* *(i) there will not be an increased risk of coastal inundation from a 1% annual exceedance probability coastal inundation event in 2100 on the site, on adjacent land or public infrastructure; and* *(ii) the risks from coastal inundation in a 1% annual exceedance probability coastal inundation event in 2100 can be mitigated;* *(c) the need for arrangements to be made, including with the applicant, to meet the cost of construction and ongoing maintenance of the coastal protection works; and* *(d) any advice from a State authority, regulated entity or a council.*

The site is not within a non-urban zone (a). A Coastal Report is attached in Appendix C (b). The applicant will meet the cost of construction and ongoing maintenance (c). Council has provided advice on this proposal on the 3/9/23 PDPLIMPLN-2023/037662 and 15/4/24 PDPLIMPLN-2024/048091 and a Pre-DA meeting on the 4/11/24 (d).

C11.7 Development Standards for Subdivision

No subdivision is proposed, and the code subdivision standards do not apply.

The proposal complies with all the applicable standards of the Coastal Inundation Hazard Code.

Flood-Prone Areas Hazard Code (C12.0)

Development is proposed within a flood-prone hazard area. However, the land is also subject to the Coastal Inundation Hazard Code. The Flood-Prone Areas Hazard Code therefore does not apply (C12.2.5).

Landslip Hazard Code (C15.0)

Development is proposed within a medium landslip hazard band. However, the proposed seawall constitutes building work as defined in the *Building Act 2016* and does not involve significant works. The Landslip Hazard Code therefore does not apply (C15.4.1(d)).

Safeguarding of Airports Code (C16.0)

The proposal is located within an airport obstacle limitation area. However, the proposed development is well below the AHD height specified for the site in the relevant airport obstacle limitation area, being 147 AHD (Figure 8). The Safeguarding of Airports Code therefore does not apply (C16.4.1).

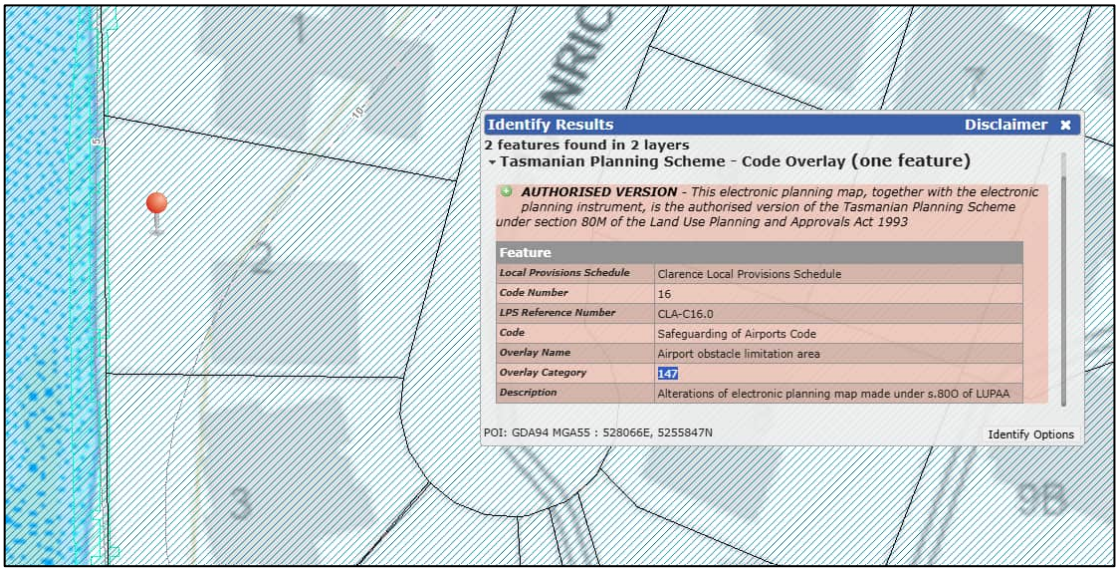

Figure 8. AHD height for the airport obstacle limitation area (source: LISTmap, Accessed 5.06.2025)

Conclusion

This proposal seeks approval for a seawall at 2 Lanrick Court, Lindisfarne. The development is on land zoned 'General Residential' and Open Space', which is subject to the Waterway and Coastal Protection Areas, Future Coastal Refugia Areas, Low Coastal Erosion Hazard Band, Medium Coastal Inundation Hazard Band, Flood-Prone Hazard Areas, Medium Landslip Hazard Band and the Airport Obstacle Limitation Areas Overlays.

The proposal has been considered against the development standards of the applicable zone and codes and the proposal generates the following discretions under the *Tasmanian Planning Scheme (Clarence):*

- C7.6.1 (A1/P1, A2/P2, A5/P5) *Buildings and works within a waterway and coastal protection area or a future coastal refugia area*;
- C10.6.2 (A1/P1) *Coastal protection works within a coastal erosion hazard area*; and
- C11.6.2 (A1/P1) *Coastal protection works within a coastal inundation hazard area.*

There is no Acceptable Solution for the latter two discretions. The proposal has been assessed against all relevant scheme criteria and is found to either comply with the Acceptable Solutions or satisfy the relevant Performance Criteria. The application is considered to be acceptable with respect to the planning scheme requirements and therefore ought to be supported by the Planning Authority.

GES

GEO-ENVIRONMENTAL

SOLUTIONS

COASTAL VULNERABILITY ASSESSMENT

PROJECT:

Sea Wall Replacement

Site Address:

2 Lanrick Court,
Lindisfarne,
TAS
7015

CLIENT:

Barbara & Paul Turner

DATE:

28/01/2026

DOCUMENT CONTROL

Document Prepared By:

Geo-Environmental Solutions Pty Ltd

ABN 24 115 004 834

29 Kirksway Place

Battery Point

TAS, 7004

P: +61 3 6223 1839

E: office@geosolutions.net.au

W: geosolutions.net.au

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Date:	28/01/2026	
Approved By:	V. Gupta	
	Signature:	Date
		28/01/2026

FIGURES

TABLE

EXECUTIVE SUMMARY

Geo-Environmental Solutions Pty Ltd (GES) were contracted by Barbara & Paul Turner to prepare a coastal vulnerability assessment for a proposed works at Lindisfarne, Tasmania. The project area consists of a single cadastral title (CT – 62407/2) located at 2 Lanrick Court Lindisfarne. (The Site).

This assessment considers the proposed replacement of the existing seawall within a mapped Coastal Erosion Hazard Area, Coastal Inundation Hazard Area, and Waterway and Coastal Protection / Future Coastal Refugia Area under the Tasmanian Planning Scheme. The purpose of the works is to stabilise the foreshore and protect an existing residential use that is reliant on its coastal location.

This assessment has been reviewed and built upon in an erosion assessment which involved site-specific hydrodynamic and erosion modelling to further assess the site inundation and erosion risks.

The site is located on a sloped, vegetated coastal cliff above the Derwent River and includes an existing block seawall that has experienced damage due to wave activity. The existing seawall provides some protection, but enhancements are necessary to provide long term durability and reduce erosion risk.

GES recommends maximizing effectiveness, the sea wall should be designed with a recurved or stepped slope to reduce wave energy more efficiently. Toe protection should be provided using buried rocks or a reinforced concrete footing to prevent scouring and undermining. Boulders must be tightly interlocked to resist displacement, and a geotextile underlay should be installed behind and beneath the structure to prevent soil migration and support drainage. Additional drainage measures, such as weep holes or gravel backfill, should be included to relieve hydrostatic pressure. Regular maintenance, especially after storm events, will be necessary to inspect and reposition any dislodged materials, ensuring continued performance of the seawall.

The natural values in the vicinity of the site are classified as moderate to low. No significant vegetation, habitat or wetlands will be affected, and the design ensures that natural sand movement and tidal flow pathways are maintained.

If the recommendations are adhered to, the proposed development will meet the requirements for works in the coastal erosion and inundation hazard area and it will fulfill the performance solution codes C7, C10 and C11, as outlined in the Tasmanian Planning Scheme - Clarence Council (2021).

1 INTRODUCTION

Geo-Environmental Solutions Pty Ltd (GES) were contracted by Barbara & Paul Turner to prepare a coastal vulnerability assessment for a proposed works at Lindisfarne, Tasmania. The project area consists of a single cadastral title (CT – 62407/2) located at 2 Lanrick Court Lindisfarne. (The Site).

An application to conduct construction works has triggered the assessment in accordance with the Tasmania Planning Scheme (TPS) – Clarence City Council and following of the Director's Determination for Coastal Erosion and Inundation areas which provides building requirements for building and demolition work in coastal erosion and inundation hazard areas. The site is located within a waterways and coastal protection overlay as per Tasmanian Planning Scheme.

GES have undertaken this assessment using available scientific literature and datasets. Estimations are determined by approximation with appropriate regional information applied where appropriate to site specific information. Data collection and site-specific modelling was undertaken in assessment of the site.

2 OBJECTIVES

The objective of the site investigation is to:

- Identify which codes need to be addressed in terms of coastal vulnerability and identify the performance criteria relevant to the project which need addressing;
- Conduct a literature review of all geological, geomorphologic, hydrodynamic information and any erosion or inundation assessments which are relevant to the site;
- Review hydrodynamic assessments of the local area to determine projected sea level rise, storm tides and site-specific hydrodynamic conditions and where applicable, GES's site-specific soil investigation findings;
- Conduct a detailed erosion assessment of site erosion vulnerability in terms of long-term beach recession and short-term storm erosion.
- Conduct a site risk assessment for the proposed development ensuring relevant performance criteria are addressed; and
- Where applicable, provide recommendations on methods and design approach to reduce inundation and erosion impact.

3 SITE DETAILS

3.1 Project Area Land Title

The land studied in this report is defined by the following title reference:

- CT 62407/2

the 'Site' and/or the 'Project Area' in this report.

3.2 Project Area

The project site is located approximately 6 km northeast of Hobart (see Figure 1), near the coastline on the eastern shore of the River Derwent. The property is positioned within the sheltered area of Beltana Point, which forms part of Koomela Bay.

The Derwent River in Tasmania is a tidal estuary, and it doesn't experience oceanic swell like coastal beaches nearby. However, the site can be exposed by cause ripples and small waves, particularly during periods of strong onshore winds or when large vessels pass through.

Figure 1 - Location of the site

3.2.1 Proposed Works

The project site covers approximately 928.3 square meters and includes an existing residential building with a few outbuildings. Also, the existing sea wall, located along the site's western boundary, is constructed from large sandstone blocks laid on a concrete plinth, which rests on underlying mudstone. Several of these sandstone blocks have become dislodged, likely due to wash generated by nearby boat activity. The proposed works involve replacing the current sea wall by repositioning dislodged sandstone blocks and extending the structure.

Plans for proposed works have been provided to GES from the JMG Project No 240696CS, dated: 23/10/2024). The plans are presented in Figure 2.

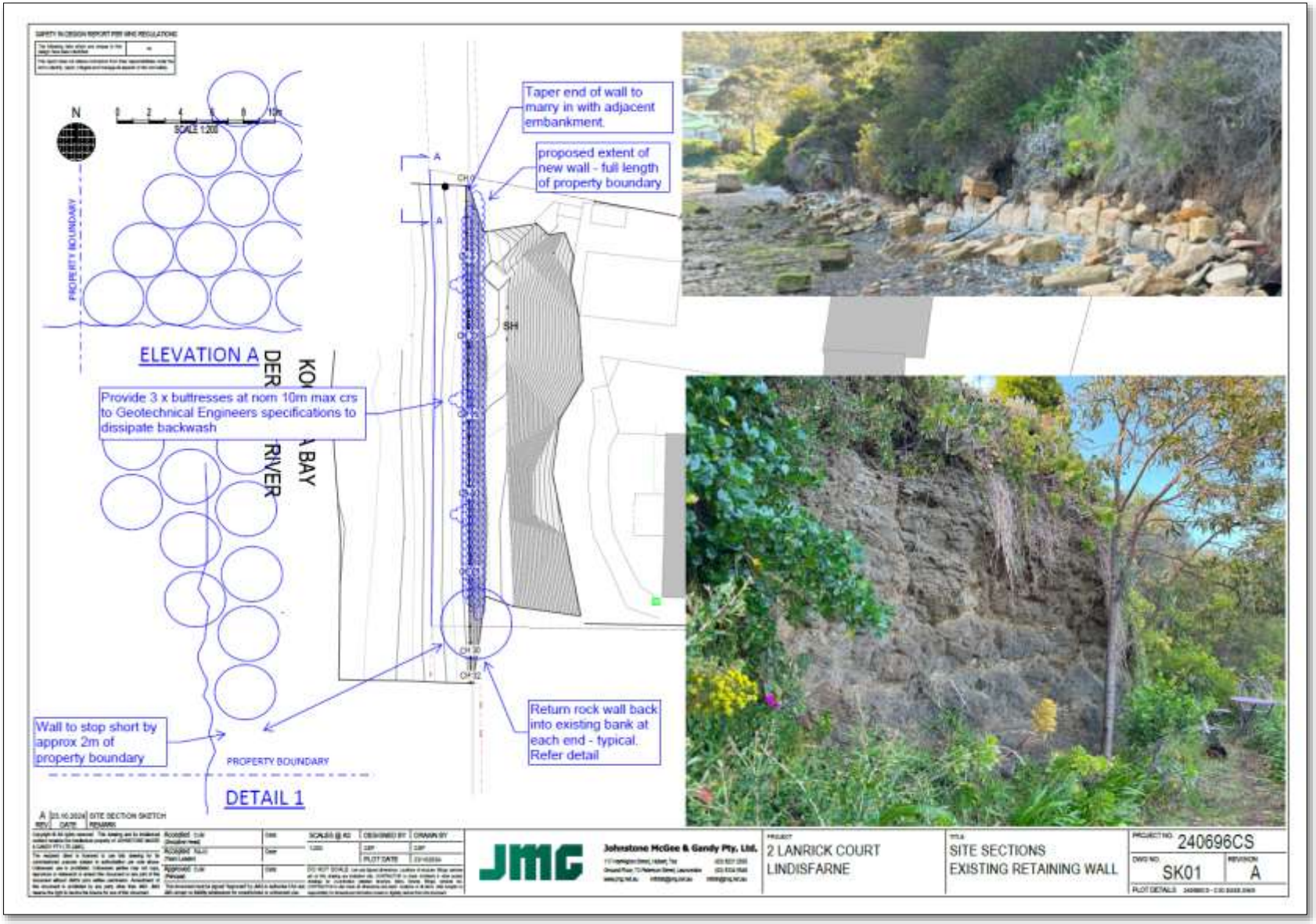

Figure 2 – Plans of the project area

4 PLANNING

4.1 Australian Building Code Board

This report presents a summary of the overall building construction risk to coastal erosion and inundation processes. This assessment has been conducted a 'normal' building design life category based on a 2025 baseline (ABCB 2015).

'The design life of buildings should be taken as 'Normal" for all building importance categories unless otherwise stated.'

As per Table 3-1, the following sub systems are identified for the proposed development:

- Building foundations subsystems are considered not accessible or economical to repair and therefore are to be designed with a 50-year life till 2073; and
- Wastewater subsystems are considered to have moderate ease of access but difficult or costly to replace or repair and are therefore to be designed with a 15-year life till 2038.

Table 3-1 Design life of building and plumbing installations and their components

Building Design Life Category	*Building Design Life (years)*	*Design life for components or sub systems readily accessible and economical to replace or repair (years)*	*Design life for components or sub systems with moderate ease of access but difficult or costly to replace or repair (years)*	*Design life for components or sub systems not accessible or not economical to replace or repair (years)*
Short	1 < dl < 15	5 or dl (if dl<5)	dl	dl
Normal	50	5	15	50
Long	100 or more	10	25	100

Note: Design Life (dl) in years

4.2 The Tasmanian Building Regulations 2016

The Tasmanian Building Regulations are regulated by the Consumer, Building and Occupation Services (CBOS) department and are formed from the Tasmanian Building Act 2016. New state-wide planning and building requirements are being implemented for hazardous areas. These include areas potentially subject to landslip, bushfire, flooding, coastal erosion, & costal inundation. Details of the Tasmanian Building Regulations are presented in Appendix 1.

4.3 Tasmanian Planning Scheme Overlay – Clarence Council (TPS, 2021)

4.3.1 Development & Works Acceptable Solutions

Where applicable, the need for further performance criteria compliance is outlined in Appendix 1.

4.3.2 Waterways and Coastal Protection Overlay (WCPO)

C7.6.1 Building and Works

The proposed development falls within a waterway and coastal protection area and a future coastal refugia area

The following performance criteria need to be addressed:

- C7.6.1 P1.1, P2.1 and P5

4.3.3 Coastal Erosion Hazard Code (CEHC)

C10.6.2 Coastal protection works within a coastal erosion hazard area

Given that the proposed development resides in the CEHC Area, and there are no acceptable solutions for buildings and works in a CEHC Area,

The following performance criteria need to be addressed:

- C10.6.2 P1.1

4.3.4 Coastal Inundation Hazard Areas Code (CIHC)

C11.6.2 Coastal protection works within a coastal erosion hazard area

The proposed development fall within the CIHC overlay and there are no acceptable solutions for buildings and works in a CIHC Area.

The following performance criteria need to be addressed:

- C11.6.2 P1.1

*As per Tasmanian Planning Scheme – Clarence Council requirements for the minimum level of the habitable rooms finished floor for the site in Lindisfarne the 1% AEP flood level for 2100 with freeboard is defined at **2,6 m AHD for Lindisfarne***

4.3.5 Waterways And Coastal Protection Overlay (WCPO)

The proposed works fall within waterways and coastal protection overlay (Figure 3).

Figure 3 – Waterways and Coastal Protection Overlay (Source: The List)

4.3.6 Coastal Erosion Hazard Code Overlay (CEHC)

The proposed works fall within Low Coastal Erosion Hazard Overlay Figure 4.

Figure 4 – Coastal Erosion Hazard Overlay (Source: The List)

4.3.7 Coastal Inundation Hazard Code Overlay (CIHC)

The proposed works are located within the Medium Coastal Inundation Overlay (CIHC) Figure 5.

Figure 5 - Coastal Inundation Hazard Overlay (Source: The List)

5 SITE MAPPING

To assist in determination of the vulnerability of the site to erosion from coastal processes, it is important to determine the geological and geomorphological characteristics of the site, Roches Beach.

5.1 Geological Mapping and Geomorphology

Based on the MRT 1:25,000 scale geology map 'Engineering Geology Greater Hobart Area', indicates the site is underlain by Transitional olivine basalt (Map Unit: Tbr). The geological map with the hillshade model for the site has been presented in Figure 6.

The shoreline near the site is classified as a cliff with potential for rockfalls, collapse, or slumping of the rock face. The site is exposed along a cliff covered by topsoil and vegetation. The slope of the cliff is approximately 40 to 50 degrees.

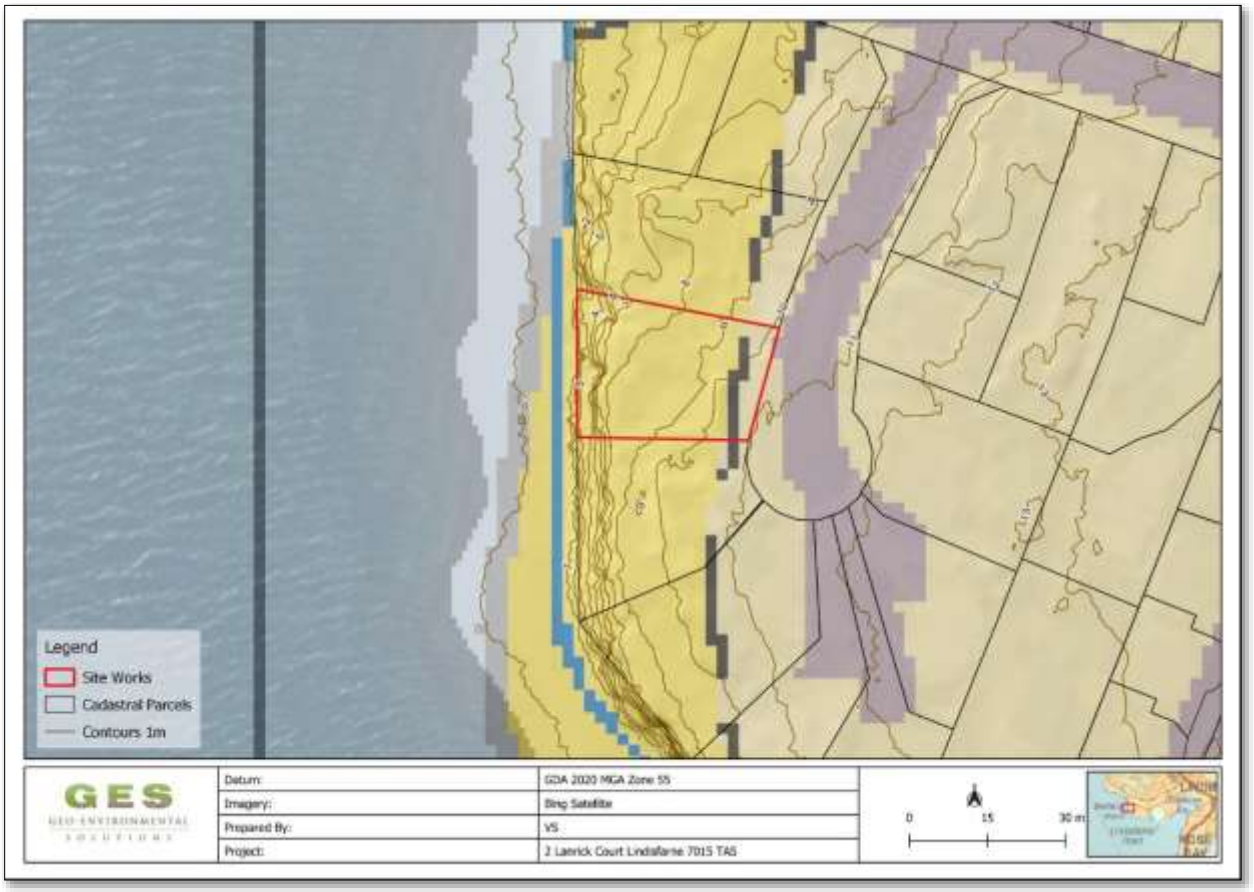

Figure 6 - Local Geology with Hill shade (Map Source: MRT Hobart Engineering Geology Map 25K)

5.2 NRM South Mapping

The LIST presents a summary of the site coastal vulnerability over a 100 m section of the coastline near the site. Table 1 presents a summary of the relevant site geomorphic information, coastal vulnerability and

natural values. The site is exposed to hard rock cliffed shoreline. The local area has a natural values index of 3 indicating a 'moderate to low integrated conservation value' area. The local area has a geovalue of three (3) indicating the local area has a low geoconservation priority. The site development will not impact on the local features of geoconservation significance. Foreshore natural resource values relevant to the site are presented in Table 1 (Appendix 4).

Table 1 - NRM South Natural Values Assessment

Feature	Description
Segment ID	13355
Segment Length (m)	100
Minimum Vulnerability: Coastal Vulnerability Mapping	Not a minimal vulnerability shoreline
Cliff Vulnerability: Coastal Vulnerability Mapping	Exposed hard-rock cliffed shoreline
Unclassified Vulnerability: Coastal Vulnerability Mapping	Not an unclassified vulnerability shoreline
Erosion Vulnerability: Coastal Vulnerability Mapping	Not a soft clayey-gravelly or colluvial shoreline
Sandy Vulnerability: Coastal Vulnerability Mapping	Not a sandy shoreline
Muddy Vulnerability: Coastal Vulnerability Mapping	Not a muddy shoreline
Coastal Vulnerability0	Cliffs
Coastal Vulnerability	Sloping rocky bottom in lowest intertidal to subtidal zone
Backshore Type Coastal Vulnerability	Bedrock (may include soil)
Geovalue	3
Natural Value Index	3

6 COASTAL EROSION ASSESSMENT

6.1 Coastal Shoreline

Digital Earth Australia Coastlines (DEA Coastlines) is a continental dataset that includes annual shorelines, and rates of coastal change along the entire Australian coastline from 1988 to the present. The product combines satellite data from Geoscience Australia's Digital Earth Australia program with tidal modelling to map the typical location of the coastline at mean sea-level for each year. The product allows trends of coastal erosion and growth to be examined annually at both a local and continental scale, and for patterns of coastal change to be mapped historically and updated regularly as satellite data continues to be acquired. This allows current rates of coastal change to be compared with that observed in previous

years or decades.

The position of means sea level for each year 1988 to 2024 along the beach in front of the site, from the DEA Coastlines, is shown in Figure 6. The beach generally stable since 1988.

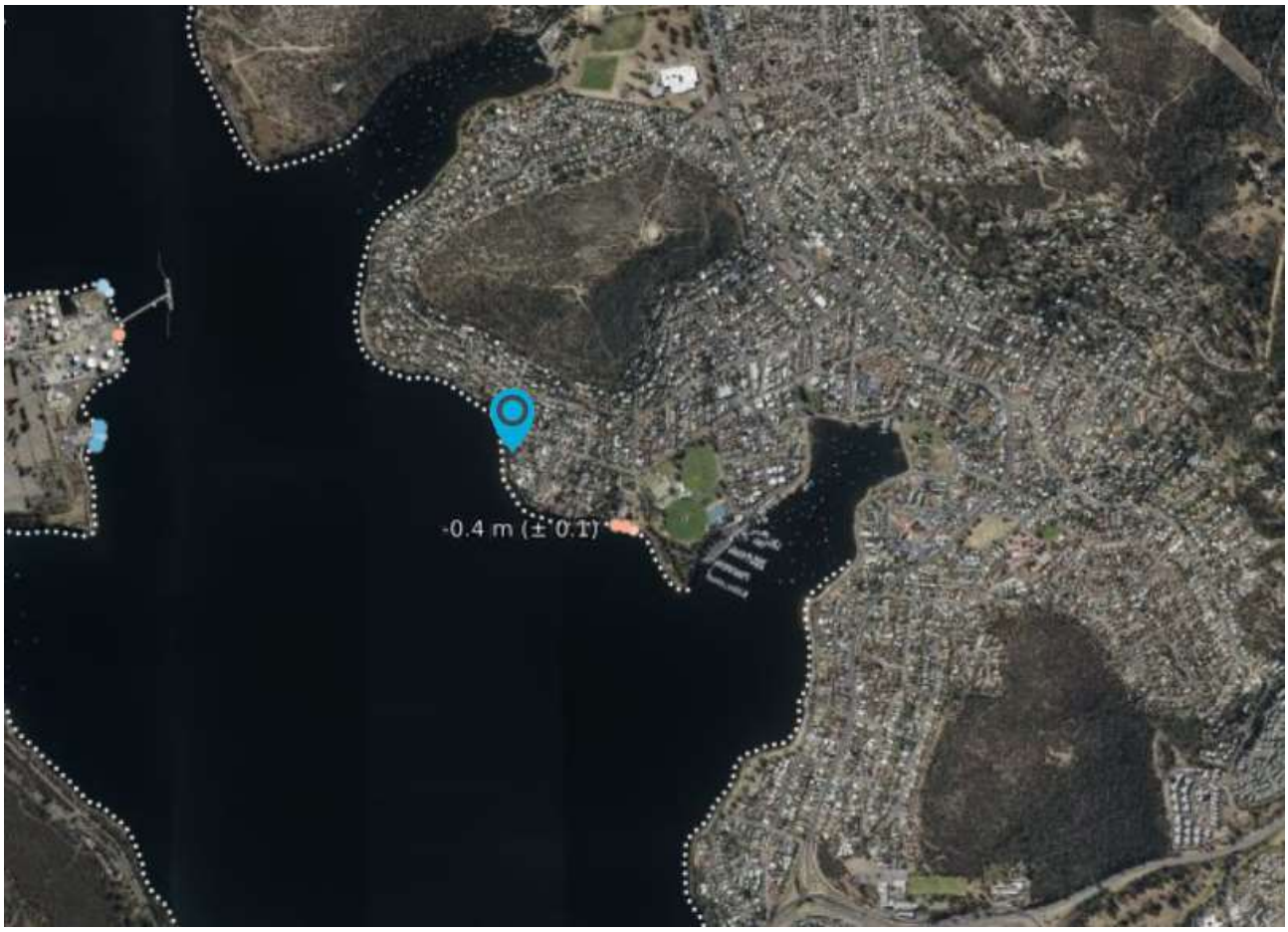

Figure 7 - Position of mean sea level from 1988 to 2024 along the project area shoreline (Source: DEA Coastlines)

6.2 Design Setbacks

When developing an understanding of the coastal erosion risk there are five key factors which need to be assessed (Mariani et al, 2012), these are detailed below:

- S1: Allowance for storm erosion
- S2: Allowance for long term (underlying) recession.
- S3: Allowance for beach rotation and/or medium-term fluctuations in sediment supply
- S4: Allowance for reduced foundation capacity (to Stable Foundation Zone)
- S5: Allowance for future recession (Bruun Rule)
- N: Design life of project – 50

Figure 8 below presents the method of estimation of present day and future position of the coastal hazard lines diagrammatically for the sandy beaches investigated in the present study.

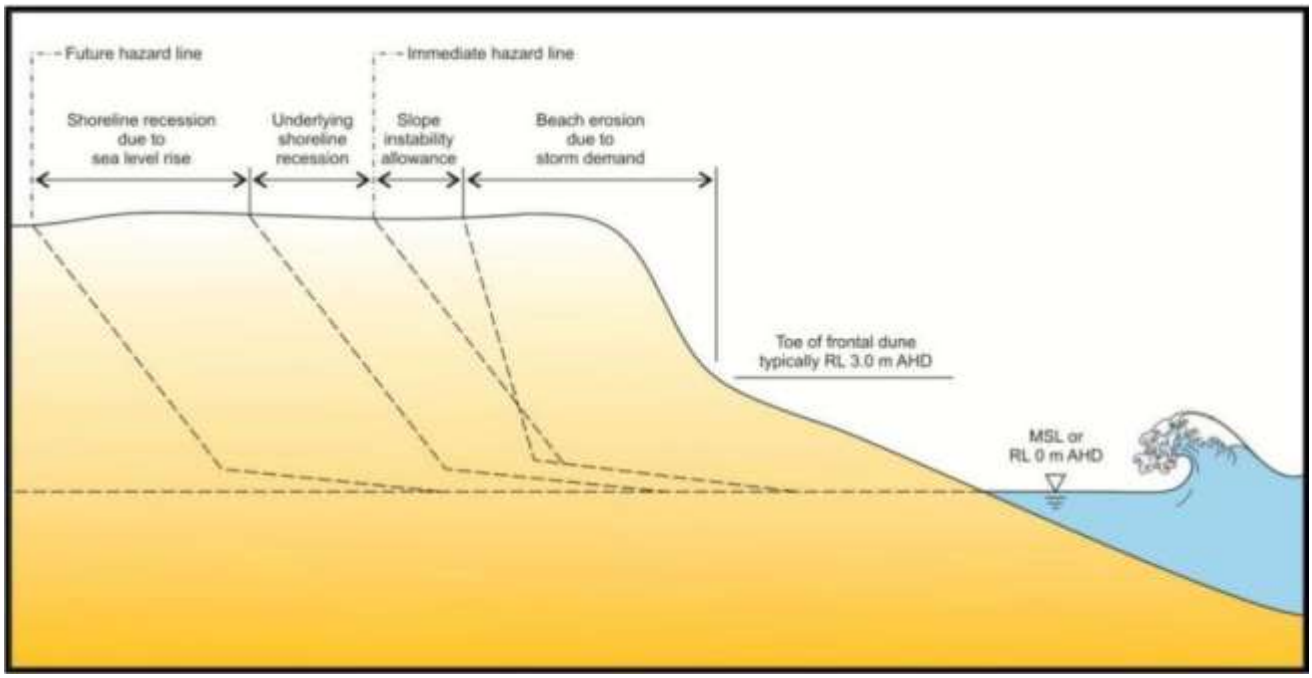

Figure 8 – Estimation of Coastal Hazard Lines

6.2.1 Storm Erosion Demand (S1)

Historical imagery has been reviewed to provide a context in which to assess the site in terms of site erosion potential from storms. Storm erosion rates are therefore relatively small. Aside from longer term recession attributed to sea level rise, storm erosion events have the potential to cause beach erosion (storm bite) which is followed by a period of beach rebuilding. The erosion and nourishment cycle is typically, in equilibrium unless longer term recession or progradation is occurring.

- *GES considers a storm erosion demand of 5 m3/m is applicable for the site.*

6.2.2 Long Term (underlying) Recession (S2)

The long-term erosion (potential non sea level rises related recession) was determined to be 0m/year based on the shoreline contour located along shoreline

- *Adopted Recession for proposed site is 0m.*

6.2.3 Beach Rotation and/or medium – term fluctuations in sediment supply (S3)

The shoreline beach rotation does not apply for this site,

6.2.4 Reduce Foundation Capacity (to Stable Foundation Zone) (S4)

A stable foundation zone assessment has not been conducted for the site.

6.2.5 Future Recession (Bruun Rule) (S5)

The shoreline escarpment and the site is potentially vulnerable to storm tide erosion and recession without a sea wall or armouring of the shoreline boundary.

Coastline recession has been investigated in detail in this report due to the presence of the existing sea wall and the proposed replacement with a newly engineered structure. However, along the existing retaining wall, there is evidence of bedrock, which would be subject to very low rates of coastal erosion. The topsoils on the slope above, however, may be more vulnerable.

The Bruun Rule has been applied to the site to estimate the response of the shoreline profile to sea-level rise. The Bruun Rule is widely used by government and non-government bodies to determine recession rates on sandy shores which are at risk of inundation. The Bruun Rule states that a typical concave-upward beach profile erodes sand from the beach face and deposits it offshore to maintain constant water depth. There are a few cases where the Bruun rule cannot be applied, which include where longshore drift is predominant, where there is dominant influence of surrounding headlands and in environments where wave activity is minimal. While there are objections to the Bruun Rule in some cases, there are no accepted alternatives.

6.2.6 Bruun Rule Beach Recession Model

The standard Bruun Rule has been applied to the site to determine sea level rise induced recession from the dominant waves active at the site.

The Standard Bruun Rule is typically expressed as R = s(L/(D + h)) or R=SLR*50 and is illustrated in Figure 8.

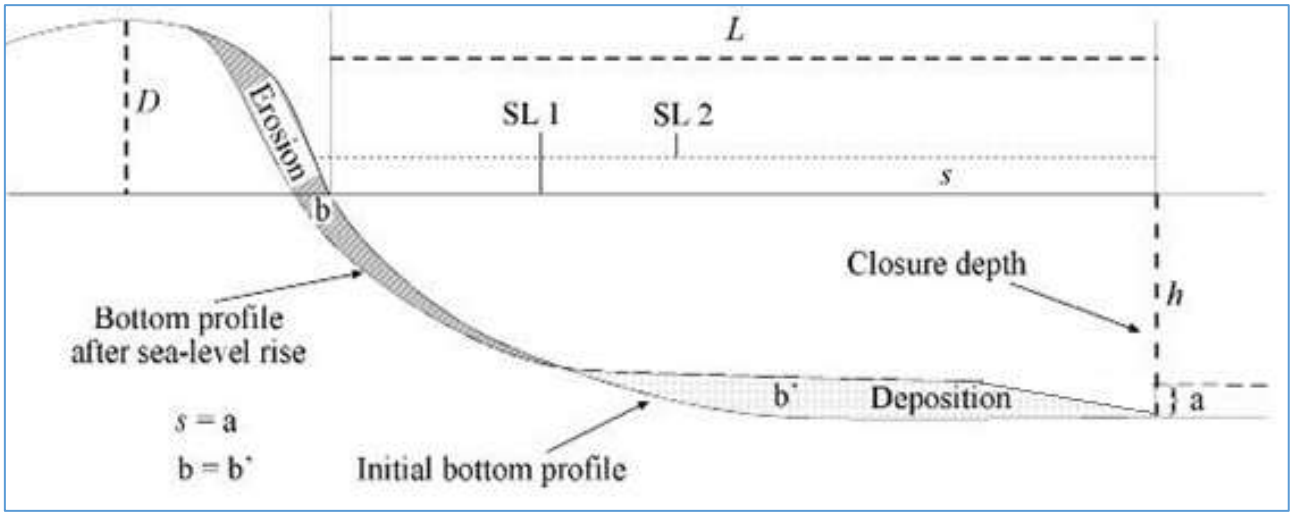

Figure 9 - Summary of standard Bruun Rule for Calculating Beach Recession

- *Adopted future recession due to sea level rise is 15m by 2100 (with no shoreline protection).*

6.3 Summary of Erosion Allowance

An assessment of estimated coastal erosion was carried out without taking into consideration the presence of the existing or proposed sea wall. Due to the rock platform present at the site, the natural levels of

erosion area predicted to be minimal, unless there is further failure in the existing sea wall, which could occur under adverse conditions. The proposed sea wall, if constructed, would further reduce possible bank erosion and enhance long-term coastal protection. The total erosion allowance as specified above has been calculated along the Derwent River shoreline taking in consideration failure of the existing sea wall (i.e. no protection on the shoreline) for 2100 is presented below within Table 2.

Table 2 Summary of Design Setbacks at the site

S1 - Erode 2x1% AEP storm (m)	*S2 - Yearly Recede (m, p.a.)*	*S3 - Beach Rotates (m)*	*S4 -Stable Zone (m)*	*S5 - 2100 SLR Recedes (m)*
5m³/m	*0*	*0*	*0*	*15*

Allowance for the design setback (DS) is defined as:

$$DS = S1 + N * S2 + S3 + S4 + S5$$

$$DS = 20m$$

7 COASTAL INUNDATION HAZARD ASSESSMENT

As identified in the directors Determination and regulation 56(3) of the Building Regulations 2016, the defined flood level is the level above the 0 metre Australian Height Datum with a one percent probability of being exceeded in a storm surge flooding event in the year 2100, as specified in the Coastal Inundation Hazard Band Levels List for the relevant locality in the relevant Local Provisions Schedule of the Tasmanian Planning Scheme.

7.1 Storm Tide

Storm tide events may be defined in terms of the culmination of astronomical tide and storm surge events. Maximum storm tide inundation levels have been adopted for the site based on a 1% AEP that an inundation event will occur. GES obtained data for storm tide levels from Canute 3.0. taking in account greenhouse gas emission scenario - very high RCP 8.5, Climate Model Ensemble Percentile Upper (95th), IPCC Version AR6 (Baseline 1995 -2014). (Source: Canute 3.0)

- *The storm tide level adopted for the site is 1.24 m AHD.*

7.2 Sea Level Rise

Storm tide events may be defined in terms of the culmination of astronomical tide and storm surge events. Maximum storm tide inundation levels have been adopted for the site based on a 1% AEP that an inundation event will occur. The TPS - Clarence Council SLR adopted 0.8m rise by 2100. However, the GES has adopted the most recently published following sea level rise estimates-based Canute 3.0, IPCC AR6 projections (very high RCP8.5 climate scenario):

- *1.01m rise by 2100.*

7.3 Stillwater Levels

The effects of storm tide may be combined with sea levels projections to provide baseline water levels (reported in m AHD) which are referred to as still water level. The still-water levels adopted for the site is based on 1% AEP estimates Table 3.

Table 3 Summary of Site Stillwater Levels for 2100 estimates (1% AEP)

Stillwater Elevations	2100 (Canute 3.0)
Sea Level Rise (m, AHD)	1.01
Tidal Influence & Barometric Low Influence (m)	1.24
Wind & Wave Set up (m)	0.16
Summary (m, AHD)	2.52

7.4 Site Wave and Wind Conditions

As wind setup, wave setup and wave runup normally occur simultaneously during storm surge events, these components are combined with extreme tide and storm surge predictions to provide maximum inundation levels for the site. Wave models have been generated for the site to define the site-specific hazards. The dominant winds for the site are local winds intercepting the site from west. The site is expected to be impact by local fetch winds.

Adopted estimates of the southeastern wind and waves for the site:

- R2% Wave Runup Based on (Mase 1989) – 2.50m.

8 WAVE MODELLING OF PROPOSED SEAWALL

This 3D wave analysis provides a coastal engineering assessment for the proposed seawall (P1) and the three buttresses planned for the foreshore at 2 Lanrick Court, Lindisfarne. The assessment considers the site drawings, the three-dimensional wave modelling outputs, the expected local wind wave climate and the broader coastal processes that influence this section of Koomela Bay.

The wave field in this locality is shaped strongly by the presence of Beltana Point (P2). This headland acts as a natural deflector that bends and redirects incoming wave trains as they travel into the inner part of the River Derwent. As a result, the waves do not approach the shoreline in a uniform direction. Instead, they rotate around the point and are directed toward both Koomela Bay and Beauty Bay. At the subject site, the dominant wave approach occurs from the south and gradually rotates toward a north easterly direction as the waves reach the foreshore. This oblique angle of incidence increases the runup forces acting on any coastal structure and promotes the formation of longshore currents along the wall alignment. (Refer to Figure 1)

The three-dimensional wave modelling further shows that when waves reflect from the existing wall, the returning backwash forms narrow bands of turbulence. These localised turbulent zones can concentrate energy at the base of the wall and increase the potential for toe scour if they are not properly managed.

In addition to the wave transformation processes described above, the local wind wave climate has been reviewed using the methodology outlined in Section 5.3.1 of the coastal assessment approach.

The expected local wind waves are calculated using the software SwanOne, which applies duration averaged wind speeds derived from the relevant Australian Standard together with guidance from the Shore Protection Manual. The local wave generation in the River Derwent is governed by the Design wind speed referenced to a height of ten metres and adjusted for terrain category, wind direction, fetch length and duration. The regional gust wind speed for Hobart is 41m/s for a 1% AEP (Annual Exceedance Probability) event in wind region A4 in accordance with AS NZS 1170.2. This regional value is converted to a duration averaged Design wind speed that incorporates direction, air sea temperature differential and the expected exposure time. Computational modelling using SwanOne indicates that a

Design wind speed of approximately 21 metres per second blowing from the north across a fetch of around six kilometres produces the largest local wind waves at the site. These waves have an estimated significant height of approximately one metre and a peak period of about 3.4 seconds. This is consistent with a locally generated wind sea environment rather than a swell dominated system.

The results from the Computational Fluid Dynamics (CFD) analysis using Flow-3D Software, shows that proposed seawall design responds appropriately to these coastal conditions. The inclusion of three evenly spaced buttresses is a key feature that improves the structure's performance. Each buttress interrupts the smooth front face of the wall and breaks up both the incident wave front and the returning backwash. This reduces the hydraulic loading on the structure and dissipates energy before it can accumulate. The buttresses help disperse the return flow into smaller eddies, lowering the potential for toe scour and

reducing cyclic forces that would otherwise act along a continuous flat wall. The tapered ends at the northern and southern extremities provide a gradual transition into the natural embankment and prevent terminal scour. (Refer to Figure 2)

In summary, the combined influence of wave deflection from Beltana Point, the south to north east incident wave direction, the locally generated wind seas and the reflective wave behaviour at the shoreline creates a dynamic but manageable coastal environment. The proposed design, including the three buttresses and the tapered wall ends, provides an appropriate engineering response to these conditions and is expected to improve stability and reduce long term erosion risk at the foreshore.

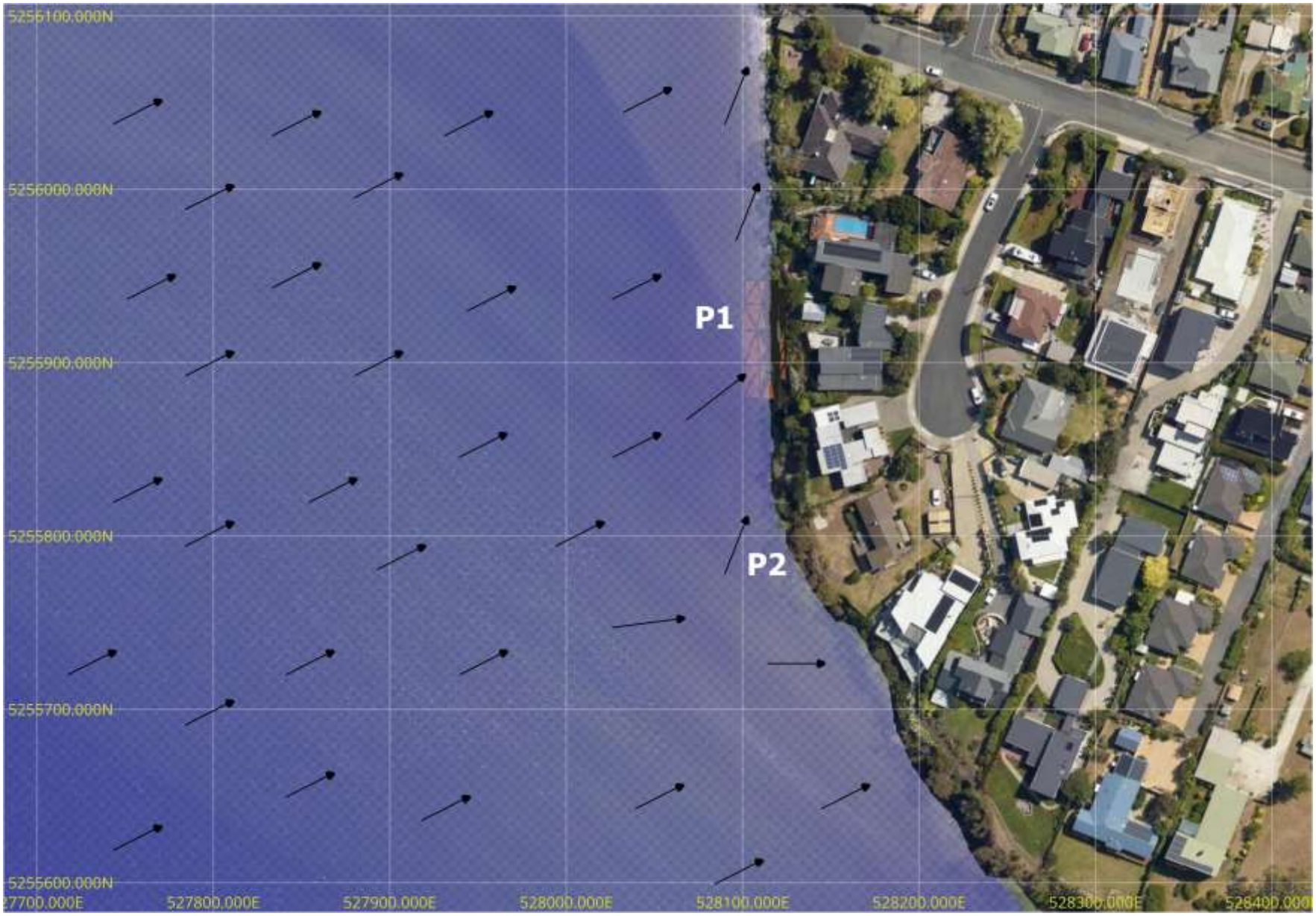

Figure 10. SWAN model outputs showing 1% AEP significant wave height for a 140°N extreme wind

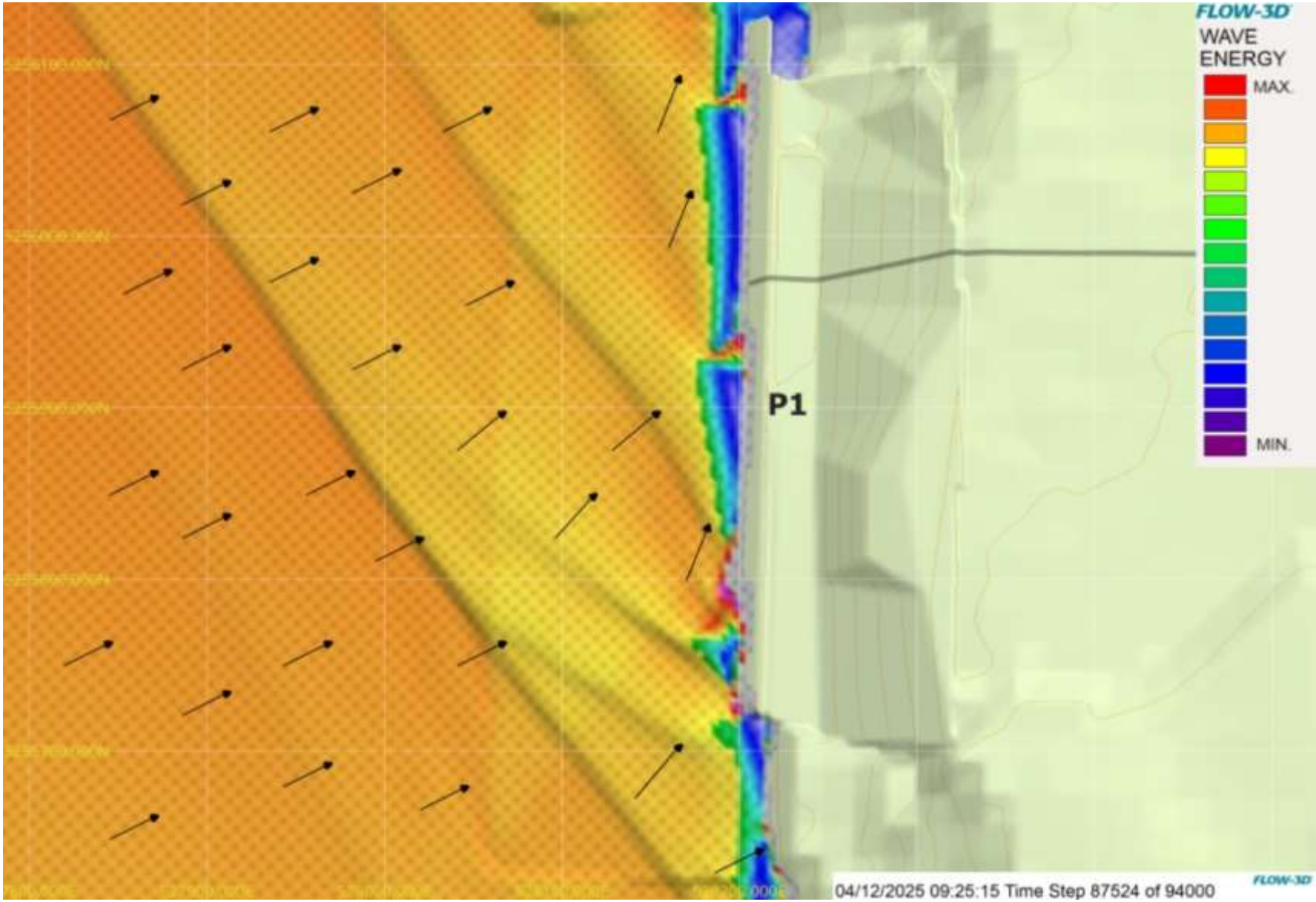

Figure 11. Wave Energy Analysis – Flow 3D 1% AEP significant wave height for a 140°N extreme win

9 RISK ASSESSMENT

The qualitative risk assessment criteria have been developed to identify key risks that may arise from building works in areas that are vulnerable to erosion and inundation hazard. The risk assessment based on year 2100, 1.01m AHD high SLR scenario.

Given the current data set and uncertainty over long term responses (more than 77 years) to climate change the calculated long term future risk must be viewed with caution, and adjustments to the risk assessment will need to be made over time. Future data and modelling may calculate a low or higher risk, and it is important to understand that the risk estimations in this report are based upon worst case scenario sea level rise from the current data sets.

The criteria are based on a risk assessment matrix consistent with Australian Standard AS4360 on Risk Management (AS4360). The qualitative assessment of risk severity and likelihood were used to help provide a qualitative risk assessment based upon the coastal vulnerability assessment completed for the site.

A detailed risk assessment addressing the performance criteria is presented in Appendix 6. GES has established from the risk assessment that the level of risk is tolerable for the proposed development works.

10 CONCLUSIONS AND RECOMMENDATIONS

GES has conducted a site assessment to evaluate the potential risks of sea level rise associated with the proposed construction. It has been determined that, based on the 2100 high emissions scenario (1% Annual Exceedance Probability), stillwater levels could rise up to 2.52 meters above Australian Height Datum (AHD).

GES recommends maximizing effectiveness, the sea wall should be designed with a recurved or stepped slope to reduce wave energy more efficiently. Toe protection should be provided using buried rocks or a reinforced concrete footing to prevent scouring and undermining. Boulders must be tightly interlocked to resist displacement, and a geotextile underlay should be installed behind and beneath the structure to prevent soil migration and support drainage. Additional drainage measures, such as weep holes or gravel backfill, should be included to relieve hydrostatic pressure. Regular maintenance, especially after storm events, will be necessary to inspect and reposition any dislodged materials, ensuring continued performance of the seawall.

Wave modelling completed has shown the proposed design provides an appropriate engineering response to site conditions and is expected to improve stability and reduce long term erosion risk at the foreshore.

LIMITATIONS STATEMENT

The following limitations apply to this report:

- Climate Futures Light Detection and Ranging (LIDAR) digital elevation model is used for the site modelling;
- The values estimated in this report provide an order of magnitude for assessing climate change impacts and in particular climate change induced sea level rise impacts. The information is based on a collation of existing information and data, with some site specific modelling for planning purposes.

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APPENDIX 1 – ACCEPTABLE SOLUTIONS

Waterways and Coastal Protection Overlay

Objective:	That buildings and works within a waterway and coastal protection area or future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets.
Acceptable Solutions	**Performance Criteria**
A1 Buildings and works within a waterway and coastal protection area must: (a) be within a building area on a sealed plan approved under this planning scheme; (b) in relation to a Class 4 watercourse, be for a crossing or bridge not more than 5m in width; or (c) if within the spatial extent of tidal waters, be an extension to an existing boat ramp, car park, jetty, marina, marine farming shore facility or slipway that is not more than 20% of the area of the facility existing at the effective date.	**P1.1** Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to: (a) impacts caused by erosion, siltation, sedimentation and runoff; (b) impacts on riparian or littoral vegetation; (c) maintaining natural streambank and streambed condition, where it exists; (d) impacts on in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation; (e) the need to avoid significantly impeding natural flow and drainage; (f) the need to maintain fish passage, where known to exist; (g) the need to avoid land filling of wetlands; (h) the need to group new facilities with existing facilities, where reasonably practical; (i) minimising cut and fill; (j) building design that responds to the particular size, shape, contours or slope of the land; (k) minimising impacts on coastal processes, including sand movement and wave action; (l) minimising the need for future works for the protection of natural assets, infrastructure and property; (m) the environmental best practice guidelines in the *Wetlands and Waterways Works Manual*; and (n) the guidelines in the *Tasmanian Coastal Works Manual*.

A2 Buildings and works within a future coastal refugia area must be located within a building area on a sealed plan approved under this planning scheme.	**P2.1** Buildings and works within a future coastal refugia area must allow for natural coastal processes to continue to occur and avoid or minimise adverse impacts on natural assets, having regard to: (a) allowing for the landward transgression of sand dunes and the landward colonisation of wetlands, saltmarshes and other coastal habitats from adjacent areas; (b) avoiding the creation of barriers or drainage networks that would prevent future tidal inundation; (c) allowing the coastal processes of sand deposition or erosion to continue to occur; (d) the need to group new facilities with existing facilities, where reasonably practical; (e) the impacts on native vegetation; (f) minimising cut and fill; (g) building design that responds to the particular size, shape, contours or slope of the land; (h) the impacts of sea-level rise on natural coastal processes and coastal habitat; (i) the environmental best practice guidelines in the *Wetlands and Waterways Works Manual*; and (j) the guidelines in the *Tasmanian Coastal Works Manual*.

A5	P5
Coastal protection works or watercourse erosion or inundation protection works must not occur within a waterway and coastal protection area or a future coastal refugia area.	Coastal protection works or watercourse erosion or inundation protection works within a waterway and coastal protection area or a future coastal refugia area must be designed by a suitably qualified person and minimise adverse impacts on natural coastal processes, having regard to: (a) impacts on sand movement and wave action; and (b) the potential for increased risk of inundation to adjacent land.

Coastal Erosion Hazard Code (CEHC) Areas

C10.6.2 Coastal protection works within a coastal erosion hazard area

Objective:	That coastal protection works located within a coastal erosion hazard area are kept to a minimum, appropriately located, fit for purpose and do not increase the likely risks from coastal erosion to adjacent land.

Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	**P1** Coastal protection works within a coastal erosion hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to: (a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose; (b) the advice contained in a coastal erosion hazard report that: (i) there is no increased risk from coastal erosion on the site, on adjacent land or public infrastructure; and (ii) risks from coastal erosion to 2100 can be mitigated; (c) the need for arrangements to be made, including with the applicant, to meet the cost of construction and ongoing maintenance of the coastal protection works; and (d) any advice from a State authority, regulated entity or a council.

Coastal Inundation Hazard Code (CIHC) Areas

C11.6.2 Coastal protection works within a coastal inundation hazard area

Objective:	That coastal protection works located within a coastal inundation hazard area are kept to a minimum, appropriately located, fit for purpose and do not increase the likely risks from coastal inundation to adjacent land.

Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	**P1** Coastal protection works within a coastal inundation hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to: (a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose; (b) the advice contained in a coastal inundation hazard report that: (i) there will not be an increased risk of coastal inundation from a 1% annual exceedance probability coastal inundation event in 2100 on the site, on adjacent land or public infrastructure; and (ii) the risks from coastal inundation in a 1% annual exceedance probability coastal inundation event in 2100 can be mitigated; (c) the need for arrangements to be made, including with the applicant, to meet the cost of construction and ongoing maintenance of the coastal protection works; and (d) any advice from a State authority, regulated entity or a council.

APPENDIX 2 – The LIST NRM Data

Natural Values Index

Foreshores within or directly adjacent to protected natural areas are assumed to have a higher degree of naturalness compared to those adjacent to developed areas. This indicator aims to identify foreshores that are part of wider natural functioning systems, rather than focussing on individual ecological elements. High value protected areas are selected based on reservation status and the associated restrictions on activities.

Natural Value Index of 1

Significant community or habitat present.

Foreshores assigned the highest value score (i.e. a score of 1) under this indicator are those within or directly adjacent to a dedicated formal reserve equivalent to IUCN (International Union for Conservation of Nature) protected area management categories i, ii, iii, iv, or vi (see IUCN Guidelines for Applying Protected Area Management Categories (Dudley 2008) for Shore Base: A Coastal Management Tool Aquenal Pty Ltd 96 further detail). Formal reserves include National Parks, State Reserves, Game Reserves, Nature Reserves, Historic sites, Forest Reserves, Conservation areas, and areas with a Conservation Covenant.

Natural Value Index of 2

Medium Integrated Conservation Value (CFEV)

High value foreshores (i.e. those assigned a score of 2) are those within or directly adjacent to areas not listed under IUCN equivalents but included in other Informal Reserves, and State or Forestry Managed Land.

Geomorphic Attribute Value (Geomorphology)

Geomorphic value is derived from a calculation of geoconservation priority (Geovalue) and the sensitivity category applied to sites of geoconservation significance by the Tasmanian Geoconservation Database (TGD). Geovalues (Sharples and Mowling 2006) are designed to highlight coastal segments which are most likely to warrant management attention regarding the maintenance of geoconservation value.

Geovalue of 1

Indicates high geoconservation priority, with coastal segments having either the highest sensitivity to disturbance, and/or the most natural condition.

Geovalue of 2

Indicate moderate geoconservation priority.

Geovalue of 3

Indicate moderate to low geoconservation priority.

Geovalue of 4

Indicates lowest geoconservation priority where coastal segments are of low sensitivity to disturbance, yet are significantly disturbed. This mainly refers to hard rock shores that have been extensively modified.

See Sharples and Mowling (2006) for further information on calculation of Geovalues.

APPENDIX 3 - TASMANIAN BUILDING REGULATIONS 2016

Division 4 - Coastal erosion

57. Coastal erosion hazard areas

1) For the purposes of the Act, land is a coastal erosion hazard area if –
    a. the land is shown on a planning scheme overlay map as being land that is within a coastal erosion hazard area; and
    b. the land –
        i. is classified as land within a hazard band of a coastal erosion hazard area; or
        ii. is shown on a planning scheme overlay map as being land in an investigation area for a coastal erosion hazard area and the land has not been subsequently classified as being an acceptable risk.
2) For the purposes of the definition of hazardous area in section 4(1) of the Act –
    a. classification under a coastal erosion determination as being land that is within a hazard band of a coastal erosion hazard area is a prescribed attribute; and
    b. a coastal erosion hazard area is a hazardous area.

58. Works in coastal erosion hazard areas

1) A person must not perform work in a coastal erosion hazard area unless he or she is authorised to do so under the Act.
2) If a person intends to perform work in an investigation area of a coastal erosion hazard area, the person must, before performing the work, ensure that the land is classified in accordance with the coastal erosion determination –
    a. as being an acceptable risk; or
    b. into a hazard band for the coastal erosion hazard area.
3) A responsible person for work being performed in a coastal erosion hazard area must ensure that the work is being performed in accordance with the Act and the coastal erosion determination.
4) A person performing work in a coastal erosion hazard area must ensure that the work complies with the Act and the coastal erosion determination.

APPENDIX 4 - DIRECTORS DETERMINATION & BUILDING REGULATIONS 2016 - COASTAL EROSION HAZARD REPORTING

Coastal Erosion Hazard Assessment

This coastal erosion hazard report has been prepared in general accordance with methodology specified in the Directors Determination – Coastal Erosion Hazard Areas pursuant to section 20(3)(b) of the Building Act 2016 and regulation 51 of the Building Regulations 2016 (Document Version 1.2 Dated 27 September 2021).

This report has been prepared by Vinamra Gupta who has more than 7 years' experience as a Geotechnical Engineer. Vinamra has a master's degree in civil engineering. In his role at GES, he prepares technical reports such as Geotechnical Reports in accordance with AS1726 including Coastal Vulnerability Assessments, Stormwater Assessment, Landslip Assessments in Accordance Australian Geomechanics Guidelines (AGS 2007) and Site Classification Reports as per AS2870.

Practices used in this assessment are developed from recent literature, including regional public domain remote sensing, wave, sea level, and storm tide modelling data obtained through various government agencies. This data is refined to a local (site scale) using detailed bathymetry models and methods within the coastal engineering manual (CEM) as well as equations obtained from recent publications to determine wind setup, wave setup, and wave runup which is specific to the coastal setting.

Specific determinations regarding coastal hazard reporting as presented in the Director's Determination - Coastal Erosion Hazard Areas, Division 2, Section 4 'Coastal Hazard Reporting' are presented in the Table below.

Signature

Vinamra Gupta
Senior Geotechnical Engineer

Works in a Coastal Erosion Hazard Area

According to this director's determination, the following regulations are applicable for the works in a coastal erosion hazard area:

(1) The AS 2870 site classification of any land located in a coastal erosion hazard area must be Class P, on the basis that it may be subject to coastal erosion.

(2) A coastal erosion hazard report must be prepared.

(3) The design of the building footing system must be prepared by an engineer-civil.

(4) The building design (including footing system) must take into account the coastal erosion hazard report.

(5) In determining an application for a Certificate of Likely Compliance, the building surveyor must:

> (a) take into account the coastal erosion hazard report and any relevant coastal erosion management plan; and
>
> (b) be satisfied that the proposed work will not cause or contribute to coastal erosion on the site or on adjacent land; and
>
> (c) be satisfied that the proposed work can achieve and maintain a tolerable risk for the intended life of the building without requiring any specific coastal erosion protection measures; and
>
> (d) be satisfied that the proposed work will not be located on actively mobile landforms, except where the work relates to protection measures or remediation works to protect land, property or human life.

(6) In determining an application for a permit, the permit authority must take into account the coastal erosion hazard report and any relevant coastal erosion management plan.

Report Determination Criteria	Coastal Erosion Hazard Report Compliance Checklist	Compliance	Specific Comments
4. (1)	Geotechnical practitioner with experience and competence in the preparation of coastal erosion hazard reports	Yes	
4. (1) (a)	Signed Declaration	Yes	Report Author: V Gupta
4. (1) (b)	A report of a geotechnical site investigation undertaken consistent with AS 1726	Yes	The AS 1726 geotechnical model presented herein is based on deep sand profiles which are mapped at the site. No further information was required in the assessment given the site conditions are known.
4. (1) (c)	Conclusions based on consideration of the proposed work as to:		
4. (1) (c) (i)	whether the work is likely to cause or contribute to coastal erosion on the land or on adjacent land;	Yes	Given the recommendations herein are adhered to, the works will not cause or contribute to coastal erosion on the land or on adjacent land within the proposed building design life.
4. (1) (c) (ii)	whether work is proposed on actively mobile landforms;	Yes	The proposed building site and works area is not regarded as being actively mobile.
4. (1) (c) (iii)	whether the work can achieve and maintain a tolerable risk for the intended life of the building having regard to:		
	• the nature, intensity and duration of the use;	Yes	The nature of the use is coastal protection, specifically to protect the existing dwelling and associated land from erosion hazards. The intensity of the use is very low, as the seawall is a passive structure that does not generate activity. The duration of the use is permanent and ongoing,
	• the type, form and duration of any development;	Yes	The proposed works are for the construction of a permanent coastal protection structure in the form of a seawall. The seawall will be constructed using durable, marine-grade materials (rock armour and reinforced concrete) to ensure long-term stability and performance. The form of the development is designed to follow the existing shoreline alignment, with a stepped or sloped profile to minimise wave reflection and adverse coastal process impacts. The duration of the development is ongoing and permanent, as the seawall will provide continuous protection to the existing dwelling and associated assets from erosion hazards.
	• the likely change in the risk across the intended life of the building;	Yes	Consideration is given to projected coastline recession based on site specific modelling, regionally specific sea level rise forecasts, and geotechnical foundation considerations consistent with a site-specific slope stability assessment (Neilsen et. al. 1992).
	• the ability to adapt to a change in the risk;	Yes	Additional buffer allowances are accounted for in the assessment.
	• the ability to maintain access to utilities and services;	Yes	The site will retain full access to utilities and services within the design life of the proposed development.
	• the need for specific coastal erosion hazard reduction or protection measures on the site;	Yes	Coastal erosion hazard reduction or protection measures are recommended on the site as part of the site engineering design for civil works and the risk is deemed tolerable

	• the need for coastal erosion hazard reduction or protection measures beyond the boundary of the site; and	NA	Coastal erosion hazard reduction or protection measures are not recommended beyond the boundary of the site based on the projected lifetime of the proposed development.
	• any coastal erosion management plan in place for the site and/or adjacent land.	NA	A coastal erosion management plan is not required to mitigate risks to the site within the lifetime of the proposed works.
4. (2)	protection measures for any hazardous chemical used, handled, generated or stored on the site, taking into consideration the potential risks of the hazardous chemical to human health and safety as a consequence of coastal erosion on the site or adjacent land.	Yes	Overall risks associated with the storage of hazardous chemicals at the site will not be heightened beyond what has been assessed as low risk based on recommendations. No additional protection measures are recommended for the storage of hazardous chemicals at the site.
4. (4)	The declaration format for a coastal erosion hazard report must contain:		
4. (4) (a)	details of, and be signed by, the person who prepared or verified the report;	Yes	
4. (4) (b)	confirmation they have the appropriate qualifications, expertise and level of current indemnity insurance;	Yes	
4. (4) (c)	confirmation that the report has been prepared in accordance with the specified methodology.	Yes	

APPENDIX 5 – DIRECTORS DETERMINATION & BUILDING REGULATIONS 2016 - COASTAL INUNDATION HAZARD REPORTING

Works in a Coastal Inundation Hazard Area

According to this director's determination, the following regulations are applicable for the works in a coastal inundation hazard area:

(1) For the purposes of this Determination and regulation 56(3) of the Building Regulations 2016, the defined flood level is the level above the 0 metre Australian Height Datum with a one percent probability of being exceeded in a storm surge flooding event in the year 2100, as specified in the Coastal Inundation Hazard Band Levels List for the relevant locality in the relevant Local Provisions Schedule of the Tasmanian Planning Scheme.

(2) Where land is not located in a specified locality, the defined flood level for the relevant municipal area average applies.

(3) A coastal inundation hazard report must be prepared.

(4) The design of the building footing system must be prepared by an engineer-civil.

(5) The building design (including the footing system) must take into account the coastal inundation hazard report.

(6) In determining an application for a Certificate of Likely Compliance, the building surveyor must:

(a) take into account the coastal inundation hazard report and any relevant coastal inundation management plan; and

(b) be satisfied that the proposed work will not cause or contribute to coastal inundation on the site, on adjacent land or of public infrastructure; and

(c) be satisfied that the proposed work can achieve and maintain a tolerable risk for the intended life of the building without requiring any specific coastal inundation protection measures.

(7) In determining an application for a permit, the permit authority must take into account the coastal inundation hazard report and any relevant coastal inundation management plan.

DIRECTORS DETERMINATION & BUILDING REGULATIONS 2016 - COASTAL EROSION HAZARD REPORTING

This coastal inundation hazard report has been prepared in general accordance with methodology specified in the Directors Determination – Coastal Inundation Hazard Areas pursuant to section 20(3)(b) of the Building Act 2016 and regulation 56(3) of the Building Regulations 2016 (Document Version 1.2 Dated 27 September 2021).

This report has been prepared by Vinamra Gupta who has more than 7 years' experience as a Geotechnical Engineer. Vinamra has a master's degree in civil engineering. In his role at GES, he prepares technical reports such as Geotechnical Reports in accordance with AS1726 including Coastal Vulnerability Assessments, Stormwater Assessment, Landslip Assessments in Accordance Australian Geomechanics Guidelines (AGS 2007) and Site Classification Reports as per AS2870.

Practices used in this assessment are developed from recent literature, including regional public domain remote sensing, wave, sea level, and storm tide modelling data obtained through various government agencies. This data is refined to a local (site scale) using detailed bathymetry models and methods within the coastal engineering manual (CEM) as well as equations obtained from recent publications to determine wind setup, wave setup, and wave runup which is specific to the coastal setting.

Specific determinations regarding coastal hazard reporting as presented in the Director's Determination - Coastal Inundation Hazard Areas, Division 2, Section 4 'Coastal Hazard Reporting' are presented in the Table below.

Signature

Vinamra Gupta
Senior Geotechnical Engineer

Report Determination Criteria	Coastal Inundation Hazard Report Compliance Checklist	Compliance	Specific Comments
4. (1)	Report is prepared by a specified practitioner being a practitioner with relevant qualifications, experience and competence in the preparation of coastal inundation hazard reports	Yes	Up to date models, literature and methods are used in this assessment, which draw on regional and site-specific information to determine present day and forward projected site hazards.
4. (1) (a)	Signed Declaration	Yes	Report Author: V Gupta
4. (1) (b)	Conclusions based on consideration of the proposed work as to:	Yes	
4. (1) (b) (i)	whether the work is likely to cause or contribute to coastal inundation on the land or on adjacent land or of public infrastructure;	Yes	
4. (1) (b) (iii)	whether the work can achieve and maintain a tolerable risk for the intended life of the building having regard to:	Yes	Modelling has been conducted with measures put in place to ensure that by the end of the building's lifetime, the risks are tolerable in line with the sites typical residential use and typical intensity of this use. This assessment is based on the intended use as outlined in the development application. All potential and site-specific inundation factors are considered to assess tolerable risks which include: • Government sea level projections which are calibrated to the Local Government Authority area and scaled to the building design life (DPAC 2016), • Storm tide projections (combined 1% AEP storm surge and tides) which are calculated on a local scale (0.5 km accuracy) • Wind setup conditions specific to the site which are calculated from all wind fetch directions • Wave setup and wave runup based on detailed wave modelling which has been conducted, specific to the site: o Localised wind generated waves based on dominant wind fetch incidents and calculated based on 1% AEP wind velocity and durations. Nearshore wave parameters determined based on sea level compensated water depths (to building design life) and bathymetry attenuation.
	• the nature, intensity and duration of the use;	Yes	The nature of the use is coastal protection, specifically to protection the existing dwelling and associated land from inundation hazards. The intensity of the use is very low, as

			the seawall is a passive structure that does not generate activity. The duration of the use is permanent and ongoing,
	• the type, form and duration of any development;	Yes	The proposed works are for the construction of a permanent coastal protection structure in the form of a low-profile seawall. The seawall will be constructed using durable, marine-grade materials (rock armour and reinforced concrete) to ensure long-term stability and performance. The form of the development is designed to follow the existing shoreline alignment, with a stepped or sloped profile to minimise wave reflection and adverse coastal process impacts. The duration of the development is ongoing and permanent, as the seawall will provide continuous protection to the existing dwelling and associated assets from inundation hazards.
	• the likely change in the risk across the intended life of the building;	Yes	As indicated in 4. (1) (b) (iii), consideration is given to risk in the most adverse of modelled consecutive 1% AEP storm conditions for the projected end life of the building. Where deemed necessary, a 0.3 m freeboard 'buffer' is to be applied to design 1% AEP stillwater level for the building end of life.
	• the ability to adapt to a change in the risk;	Yes	Engineering solutions may be applied if it is so desired to reduce the risk through hazard reduction. Increased risk may occur as a result of increased user vulnerability beyond what is modelled as a tolerable risk in this assessment. Eg. Changed site layout meaning reduced access during a floodwater event. Hazard reduction may include onsite wave attenuation structures such as wave breaker walls and/or revetments.
	• the ability to maintain access to utilities and services;	Yes	
	• the need for specific coastal inundation hazard reduction or protection measures on the site;	Yes	Coastal inundation hazard reduction or protection measures are not recommended on the site based on the projected lifetime of the proposed development.
	• the need for coastal inundation hazard reduction or protection measures beyond the boundary of the site;	NA	Coastal inundation hazard reduction or protection measures are not recommended beyond the boundary of the site based on the projected lifetime of the proposed works
	• any coastal inundation management plan in place for the site and/or adjacent land.	NA	Where necessary, a coastal inundation management plan may be developed where mitigation is deemed to be effective against adverse erosion conditions.
4. (2)	protection measures for any hazardous	Yes	GES are not aware of any proposal for hazardous chemicals to be used, handled, generated or stored on the site. It is

	chemical used, handled, generated or stored on the site, taking into consideration the potential risks of the hazardous chemical to human health and safety as a consequence of coastal erosion on the site or adjacent land.		recommended that if such chemicals are to be stored within the proposed extension, they are elevated above the designated inundation level.
4. (4)	The declaration format for a coastal inundation hazard report must contain:		
4. (4) (a)	details of, and be signed by, the person who prepared or verified the report;	Yes	
4. (4) (b)	confirmation they have the appropriate qualifications, expertise and level of current indemnity insurance;	Yes	
4. (4) (c)	confirmation that the report has been prepared in accordance with the specified methodology.	Yes	

APPENDIX 6 QUANTITATIVE RISK ASSESSMENT TABLES

Consequence Index

Consequence	Details - Storm Erosion and Inundation	Details – Waterways and Coastal Protection
Catastrophic	Loss of life, loss of significant environmental values due to a pollution event where there is not likely to be recovery in the foreseeable future.	Very serious environmental effects with impairment of ecosystem function. Long term, widespread effects on significant environment (eg. RAMSAR Wetland)
Major	Extensive injuries. Complete structural failure of development, destruction of significant property and infrastructure, significant environmental damage requiring remediation with a long-term recovery time.	Serious environmental impact effects with some impairment of ecosystem function. Relatively widespread medium-long term impacts.
Moderate	Treatment required, significant building or infrastructure damage i.e. loss of minor outbuildings such as car ports, garages and the like. Replacement of significant property components. linings, hard paved surfaces, cladding, flooring. Moderate environmental damage with a short-term natural or remedial recovery time.	Moderate effects on biological or physical environment (air, water) but not affecting ecosystem function. Moderate short term widespread impacts (e.g. significant spills)
Minor	Medium loss – repair of outbuildings and repair and minor replacement of building components of buildings. Replacement of floor/window coverings, some furniture through seepage (where applicable). Minor environmental damage easily remediated.	Minor effects on biological or physical environment. Minor short-term damage to small area of limited significance.
Insignificant	No injury, low loss – no replacement of habitable building components, some remediation of garden beds, gravel driveways etc. Environment can naturally withstand and recover without remediation. Inundation of the site, but ground based access is still readily available and habitable buildings are not inundated, including incorporated garages.	Limited damage to minimal area of low significance.

Likelihood Index

Level	Descriptor	Description	Guideline
A	Almost Certain	Consequence is expected to occur in most circumstances.	Occurs more than once per month.
B	Likely	Consequence will probably occur in most circumstances.	Occurs once every 1 month – 1 year.
C	Occasionally	Consequence should occur at some time.	Occurs once every 1 year - 10 years.
D	Unlikely	Consequence could occur at some time.	Occurs once every 10 years – 100 years.
E	Rare	Consequence may only occur in exceptional circumstances.	Occurs less than once every 100 years.

Source: AS/NZS 4360:2004 Risk Management

Qualitative Risk Matrix

Likelihood of the Consequence	Maximum Reasonable Consequence				
	(1) Insignificant	(2) Minor	(3) Moderate	(4) Major	(5) Catastrophic
(A) Almost certain	11 High	16 High	20 Extreme	23 Extreme	25 Extreme
(B) Likely	7 Moderate	12 High	17 High	21 Extreme	24 Extreme
(C) Occasionally	4 Low	8 Moderate	13 High	18 Extreme	22 Extreme
(D) Unlikely	2 Low	5 Low	9 Moderate	14 High	19 Extreme
(E) Rare	1 Low	3 Low	6 Moderate	10 High	15 High

Source: AS/NZS 4360:2004 Risk Management

APPENDIX 7 QUANTATIVE RISK ASSESSMENT

BUILDINGS AND WORKS WITHIN A WATERWAYS AND COASTAL PROTECTION AREA

P1.1 Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to:		Consequence	Likelihood	Risk
Performance Criteria				
(a) impacts caused by erosion, siltation, sedimentation and runoff;	By following the alignment of the existing structure, the seawall stabilises the foreshore, reducing the risk of local erosion without transferring adverse effects to adjoining land. The replacement works are confined to the existing footprint, ensuring minimal disturbance and limiting the potential for siltation and sedimentation. Surface water runoff will follow natural drainage paths, and no additional impervious surfaces are created beyond the existing structure, meaning runoff impacts are negligible.	Minor (2)	Unlikely (D)	Low (1)
(b) impacts on riparian or littoral vegetation;	No riparian or littoral vegetation is present on the site			
(c) maintaining natural streambank and streambed condition, where it exists;	No works proposed in stream.			
(d) impacts on in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation;	The works are kept to the existing wall footprint, avoiding disturbance to the adjacent waterway and preserving existing habitat structures. No removal of logs, boulders, or overhanging banks is required, and the construction methodology ensures that trailing vegetation along the shoreline is largely retained.	Minor (2)	Unlikely (D)	Low (1)
(e) the need to avoid significantly impeding natural flow and drainage;	The proposed seawall has been designed and located to avoid significantly impeding natural flow and drainage. The alignment follows the existing shoreline profile and does not extend into the watercourse.	Minor (2)	Unlikely (D)	Low (1)
(f) the need to maintain fish passage, where known to exist;	The proposed works will not impact fish passage	Minor (2)	Unlikely (D)	Low (1)
(g) the need to avoid land filling of wetlands;	No wetlands are located at the project area.			
(h) the need to group new facilities with existing facilities, where reasonably practical;	The proposed works are located at the same location where the existing sea wall is located.	Minor (2)	Unlikely (D)	Low (1)
(i) minimising cut and fill;	Earthworks are minimised due to the existing wall footprint, and excavation will be shallow because of the underlying rock.	Minor (2)	Unlikely (D)	Low (1)

(j) building design that responds to the particular size, shape, contours or slope of the land;	The seawall replacement aligns with the existing shoreline contours, maintaining integration with the natural slope and landform.	Minor (2)	Unlikely (D)	Low (1)
(k) minimising impacts on coastal processes, including sand movement and wave action;	The proposed sea will reduce wave action that creates erosion of topsoils and cliff.	Minor (2)	Unlikely (D)	Low (1)
(l) minimising the need for future works for the protection of natural assets, infrastructure and property;	No further works required other than regular maintenance.	Minor (2)	Unlikely (D)	Low (1)
(m) the environmental best practice guidelines in the Wetlands and Waterways Works Manual; and	All works should be undertaken in compliance with the 'Wetlands and Waterways Works Manual' (DPIWE, 2003).	Minor (2)	Unlikely (D)	Low (1)
(n) the guidelines in the Tasmanian Coastal Works Manual.	All proposed works should be following the guidelines of the Tasmania Coastal Works Manual.	Minor (2)	Unlikely (D)	Low (1)

P5 Coastal protection works or watercourse erosion or inundation protection works within a waterway and coastal protection area or a future coastal refugia area must be designed by a suitably qualified person and minimise adverse impacts on natural coastal processes, having regard to:				
Performance Criteria	**Comment / Compliance**	**Consequence**	**Likelihood**	**Risk**
(a) impacts on sand movement and wave action; and (b) the potential for increased risk of inundation to adjacent land.	The proposed seawall has been designed to minimise adverse impacts on natural coastal processes. The alignment follows the existing shoreline and does not extend into active sand transport areas, with tapered returns and toe protection to reduce scour and wave reflection. Drainage measures behind the wall maintain natural flow and seepage, ensuring no redirection of inundation to adjoining land. Accordingly, the works will not significantly affect sand movement or wave action, nor increase inundation risk to neighbouring properties.	Minor (2)	Unlikely (D)	Low (1)

P2.1 Buildings and works within a future coastal refugia area must allow for natural coastal processes to continue to occur and avoid or minimise adverse impacts on natural assets, having regard to:				
Performance Criteria	Comment / Compliance	**Consequence**	**Likelihood**	**Risk**
(a) allowing for the landward transgression of sand dunes and the landward colonisation of wetlands, saltmarshes and other coastal habitats from adjacent areas;	The project area is not located within or adjacent to an active dune system, nor are there wetlands, saltmarshes, or other colonising habitats at or near the site. The replacement seawall will not impede the potential landward migration of these features.	Minor (2)	Unlikely (D)	Low (1)
(b) avoiding the creation of barriers or drainage networks that would prevent future tidal inundation;	The replacement seawall follows the alignment of the existing structure and will not create new barriers or drainage networks that restrict future tidal inundation.	Minor (2)	Unlikely (D)	Low (1)

(c) allowing the coastal processes of sand deposition or erosion to continue to occur;	The shoreline is primarily rock with thin silty clay soils. Replacement works will maintain the existing conditions, ensuring natural sand transport processes continue in the subtidal zone.	Minor (2)	Unlikely (D)	Low (1)
(d) the need to group new facilities with existing facilities, where reasonably practical;	By replacing the existing seawall, the works remain grouped with existing infrastructure, avoiding dispersed interventions along the foreshore.	Minor (2)	Unlikely (D)	Low (1)
(e) the impacts on native vegetation;	The replacement seawall will require minimal disturbance, and no clearing of significant native vegetation or coastal habitat is anticipated.	Minor (2)	Unlikely (D)	Low (1)
(f) minimising cut and fill;	Earthworks are minimised due to the existing wall footprint, and excavation will be shallow because of the underlying basalt and stiff clay.	Minor (2)	Unlikely (D)	Low (1)
(g) building design that responds to the particular size, shape, contours or slope of the land;	The seawall replacement aligns with the existing shoreline contours, maintaining integration with the natural slope and landform.	Minor (2)	Unlikely (D)	Low (1)
(h) the impacts of sea-level rise on natural coastal processes and coastal habitat;	The replacement seawall is designed to accommodate projected sea-level rise and wave run-up to 2100, maintaining protection while allowing natural coastal processes to continue.	Minor (2)	Unlikely (D)	Low (1)
(i) the environmental best practice guidelines in the Wetlands and Waterways Works Manual; and	All works should be undertaken in compliance with the 'Wetlands and Waterways Works Manual' (DPIWE, 2003).	Minor (2)	Unlikely (D)	Low (1)
(j) the guidelines in the Tasmanian Coastal Works Manual.	All proposed works should be following the guidelines of the Tasmania Coastal Works Manual.	Minor (2)	Unlikely (D)	Low (1)

BUILDING AND WORKS WITHIN A COASTAL EROSION HAZARD AREA

Performance Criteria C10.6.2 P1.1 Coastal protection works within a coastal erosion hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to::	Relevance	Managed Risk Assessment (where relevant)			Further Assessment Required
		Consequence	Likelihood	Risk	
(a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose;	The site contains an existing residential dwelling and associated outbuildings that rely on a coastal location. The existing seawall protects the dwelling and associated structures from coastal erosion and vessel-generated wash. The proposed works are limited to reinstating and extending the existing seawall to continue to provide protection to the coastal-dependent residential use.	Minor (2)	Unlikely (D)	Low (1)	No
(b) the advice contained in a coastal erosion hazard report that: (i) there is no increased risk from coastal erosion on the site, adjacent land or public infrastructure; and (ii) risks from coastal erosion up to 2100 can be mitigated;	The proposed works involve repositioning dislodged sandstone blocks and extending the existing seawall along the western boundary of the site. These works will stabilise the shoreline and improve the structural integrity of the existing seawall. The proposal will not alter coastal processes beyond the immediate footprint of the existing structure and will not increase erosion risk to the subject site, adjoining land or public infrastructure. The reinstated and extended seawall will mitigate ongoing erosion risks and maintain shoreline stability over the long term, including projected coastal erosion risk to 2100	Minor (2)	Unlikely (D)	Low (1)	No
(c) the need for arrangements to be made—including with the applicant—to meet the construction and ongoing maintenance costs of the coastal protection works; and	All costs associated with the construction and ongoing maintenance of the seawall will be generated by the applicant	Minor (2)	Unlikely (D)	Low (1)	No
(d) any advice from a State authority, regulated entity or a council	n/a				

BUILDING AND WORKS WITHIN A COASTAL INUNDATION HAZARD

Performance Criteria C11.6.2 P1 Coastal protection works within a coastal inundation hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to:	Relevance	Preliminary Risk Assessment (where relevant)			Further Assessment Required
		Consequence	Likelihood	Risk	
(a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose;	The works are for the protection of an existing residential use that is reliant on its coastal location. Without appropriate coastal protection, the dwelling would be vulnerable to long-term inundation and storm tide events. The seawall ensures the ongoing safe occupation of the site without requiring relocation of the use.	Minor (2)	Unlikely (D)	Low (5)	No
(b) the advice contained in a coastal inundation hazard report that: (i) there will not be an increased risk of coastal inundation from a 1% annual exceedance probability coastal inundation event in 2100 on the site, on adjacent land or public infrastructure; and (ii) the risks from coastal inundation in a 1% annual exceedance probability coastal inundation event in 2100 can be mitigated;	The proposed seawall will not result in an increased risk of coastal inundation from a 1% AEP coastal inundation event in 2100 on the site, adjacent land, or nearby public infrastructure. The seawall is designed to withstand wave runup and storm surge impacts during a 1% AEP event in 2100.	Minor (2)	Unlikely (D)	Low (5)	No
(c) the need for arrangements to be made, including with the applicant, to meet the cost of construction and ongoing maintenance of the coastal protection works; and	All costs associated with the construction and ongoing maintenance of the seawall will be generated by the applicant	Insignificant (1)	Rare (E)	Low (1)	No
(d) any advice from a State authority, regulated entity or a council.	n/a				

Photo 1 eastern end of the wall (left) western end of the wall (right)

Photo 2 – Western end of the wall (3 Lanrick to the right)

Photo 3 – Eastern end of the wall (1 Lanrick to the left)