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**From:**

**Sent:** 20 May 2022 08:55

**To:** Planning <[planning@northyorkmoors.org.uk](mailto:planning@northyorkmoors.org.uk)>

**Subject:** RE: NYM/2021/0999/FL

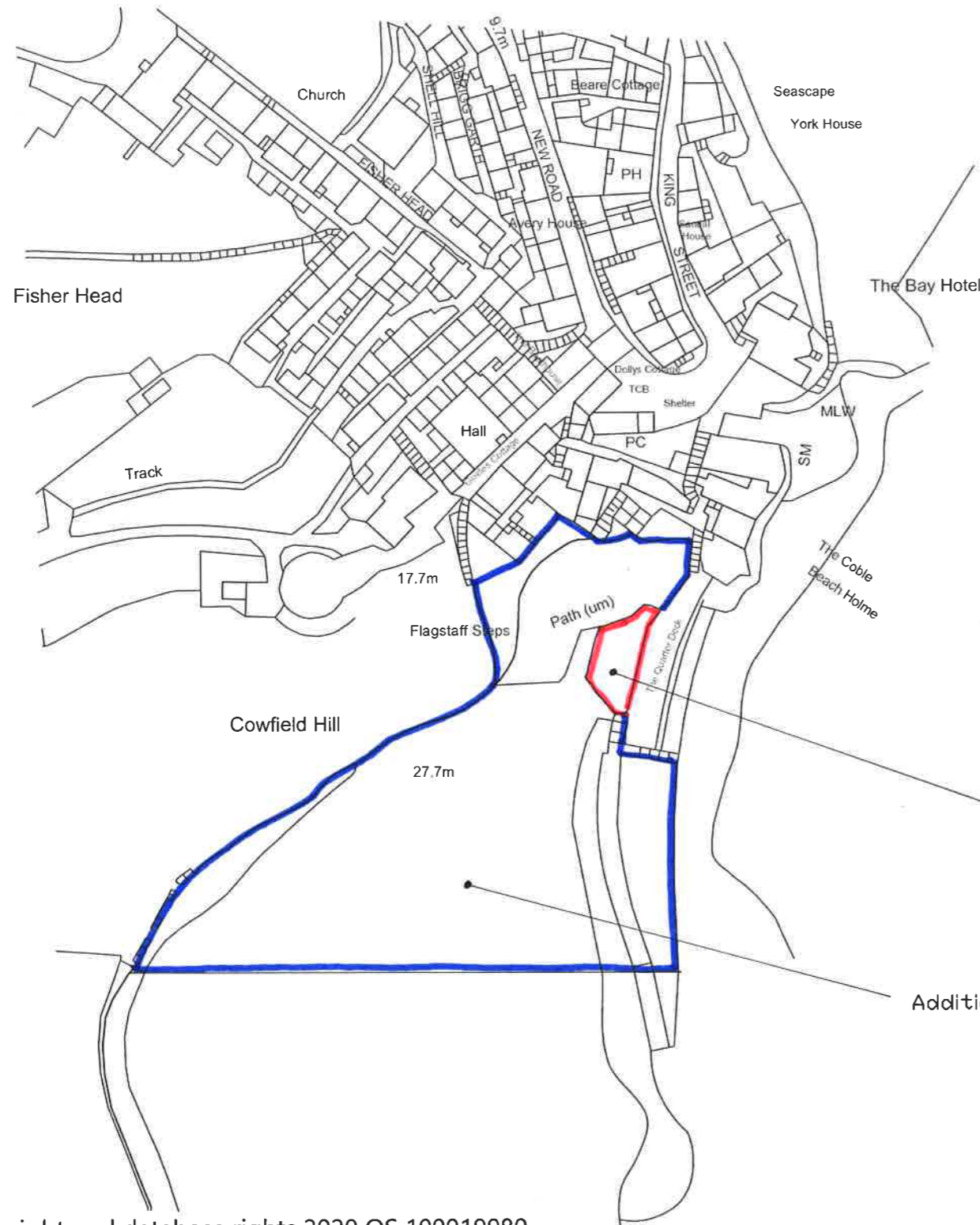
Hi Hillary,

I apologise for the delay, I now have a new revised stability and rectification report, from Alan Wood & Partners, together with replacement drawings for a much smaller extension; both attached above.

Regarding the Fylingdales parish Council's objection, could I please ask that their response is discounted, following a written acknowledgment and apology from them, that it was an inaccurate reflection of their vote, by the four councillors present at the meeting? I have attached this above.

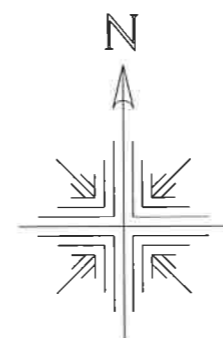
In view of a much reduced extension proposal, I hope you will now be able to look upon this application more favourably.

Kind regards  
Graham Kemp



**NYMNPA**  
 20/05/2022

**AMENDED**

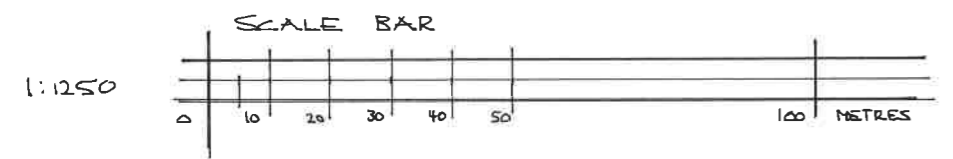


Scale 1:1250 @ A3

Location of proposed extension to existing Tea Hut  
 "The Quarterdeck", Robin Hood's Bay (REDLINE LAND)

Additional land owned by client (BLUE LINE LAND)

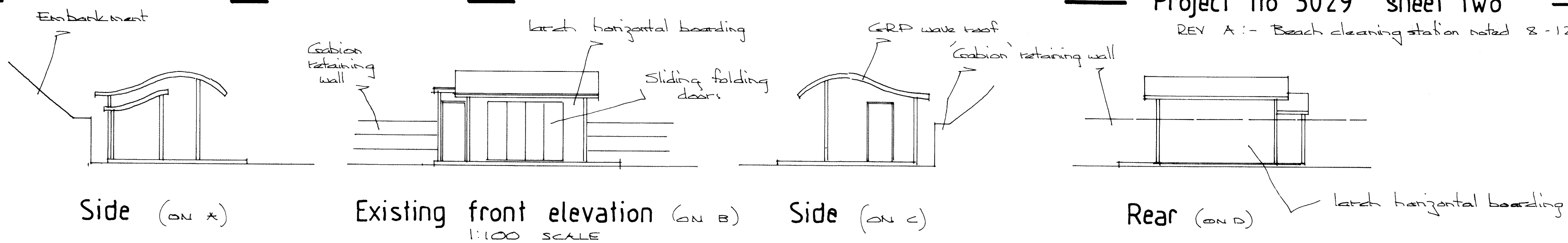
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P&N Design, Chartered Architectural Technologists  
 Unit 34b, Welton Business Park, Wiske Avenue,  
 Brough, East Yorkshire, HU15 1ZQ

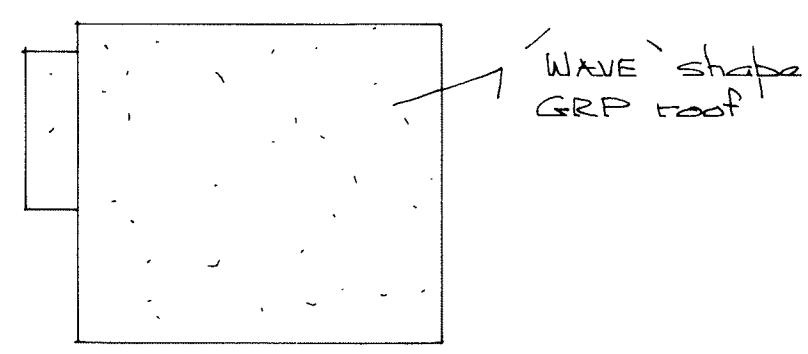
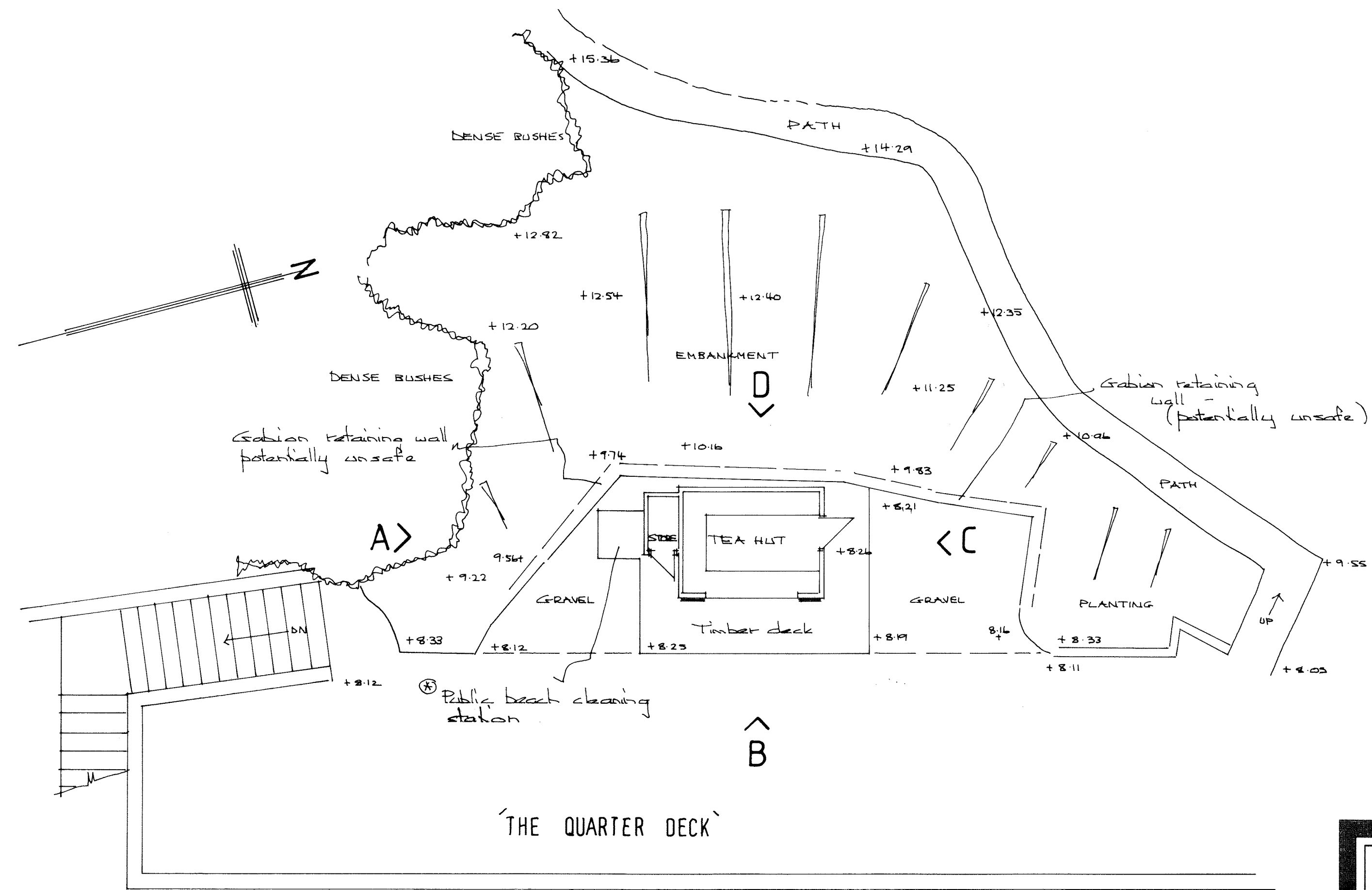
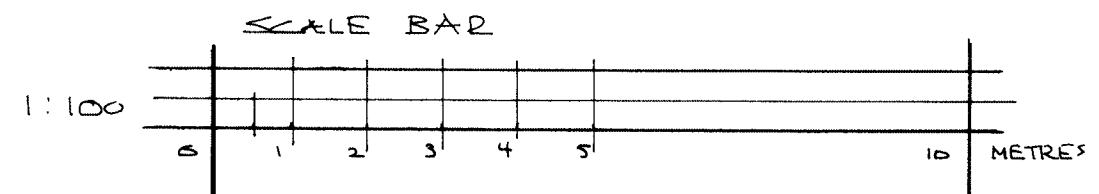
Client: Ghyllwood Developments Ltd	Date: 07/12/2021
Project: Proposed Tea Hut Extension	Scale: 1:1250 @ A3
Site: The Quarterdeck, Robin Hood's Bay	Drg.No. 3029-5

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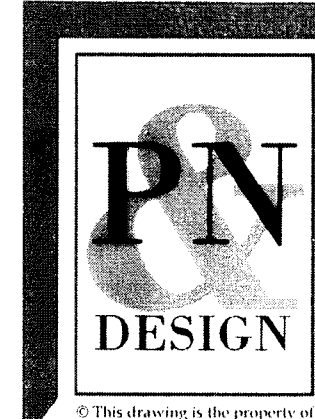
AMENDED

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20/05/2022



Roof plan 1:100 SCALE

Existing site layout plan 1:100 SCALE



1:100 SCALE, AT A2 SIZE  
 Unit 34b, Welton Business Park, Wiske Avenue,  
 Brough, East Yorkshire, HU15 1ZQ  
 Client: GHYLLWOOD DEVELOPMENTS Ltd Date: 7-12-21  
 Project: Tea Hut extension Scale: 1:100  
 Site: 'The Quarter Deck' ROBIN HOODS BAY Drg.No. 3029-2 A

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REV A : DRAWING REVISED TO SIDE EXTENSION 9-5-22

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20/05/2022

AMENDED

④ SIDE PROPOSED EXTENSION TO TEA HUT

⑤ SURFACE WATER INTO EXISTING

⑥ EXTEND GABION DETAINING WALL

EXTEND DECK AREA

THE QUARTERDECK

EXISTING TEA HUT

BEACH

EXISTING FOLL DRAIN

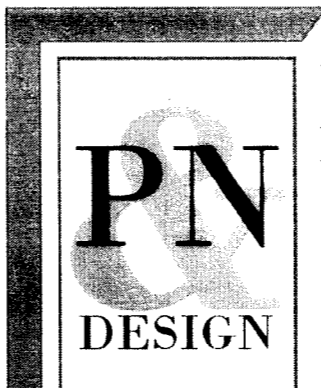
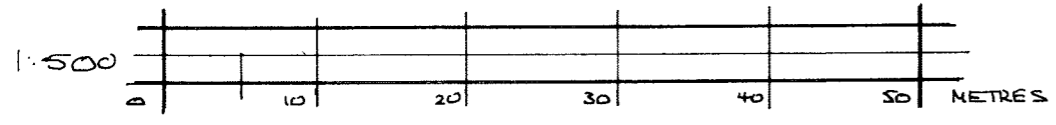
HALL

NEW ROAD

KING STREET

1:500 SCALE AT A3 SIZE

Unit 34b, Welton Business Park, Wiske Avenue,  
Brough, East Yorkshire, HU15 1ZQ



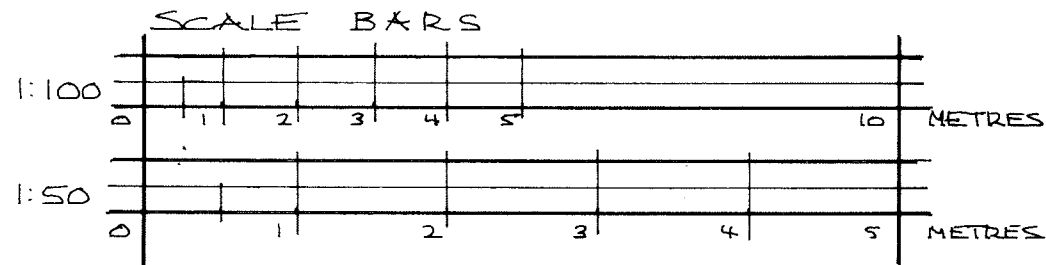
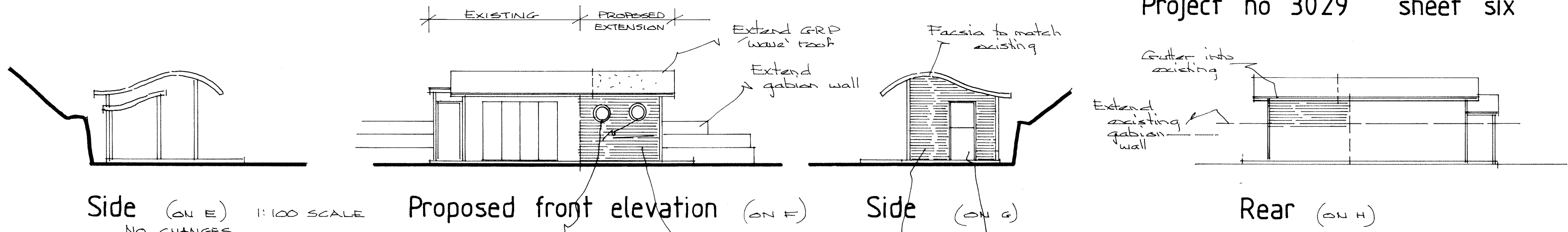
Client: GHYLLWOOD DEVELOPMENTS LTD Date: 7-12-21

Project: Tea Hut extension Scale: 1:500

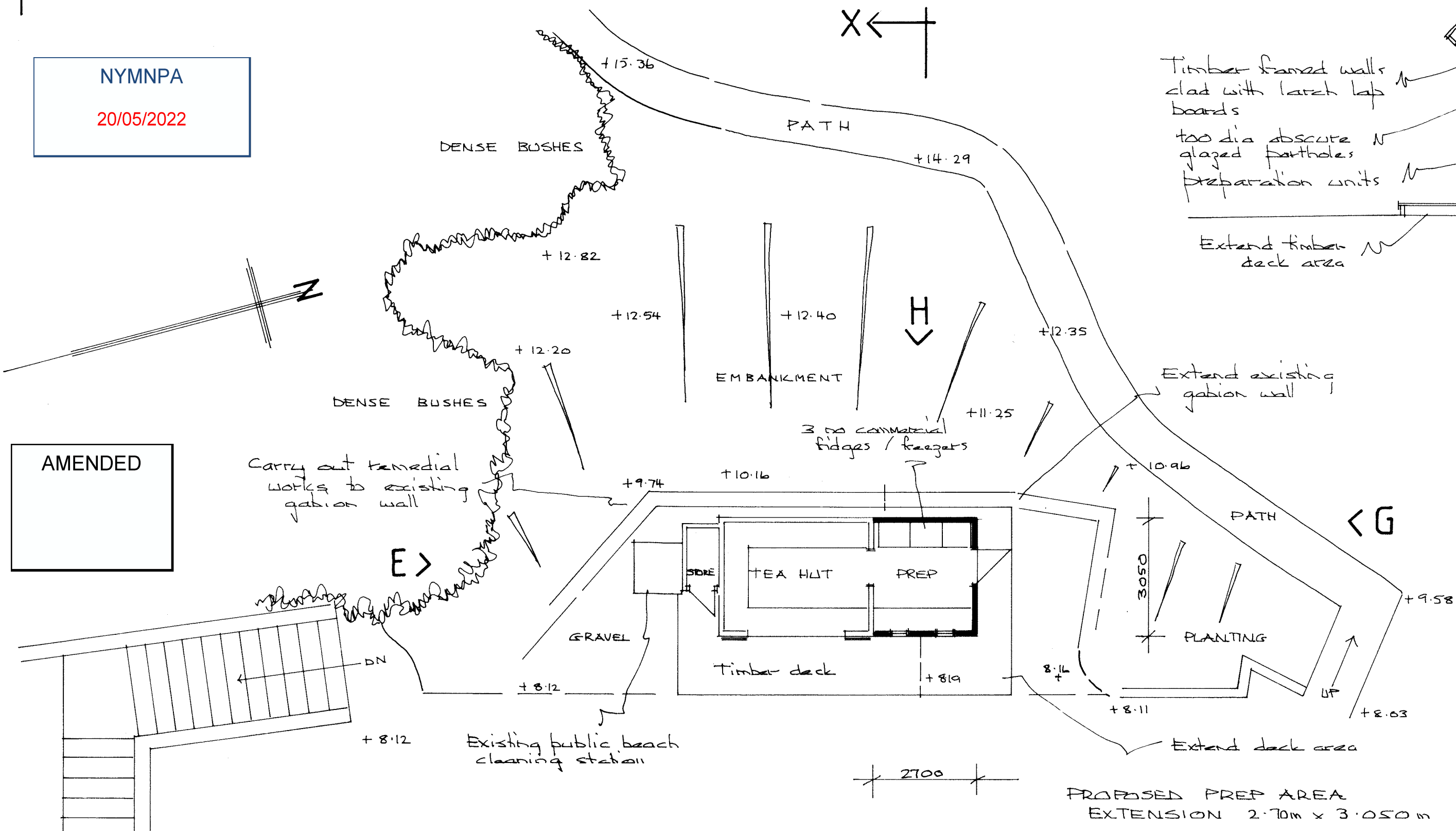
Site: The Quarterdeck ROBINHOODS BAY Drg.No. 3029-4A

Proposed block plan 1:500 SCALE - 3029-4

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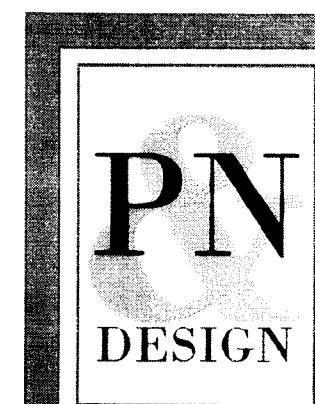
NYMNP  
20/05/2022



"THE QUARTER DECK"

Proposed site layout plan 1:100 SCALE

3029 - 6 -



1:100 & 1:50 SCALE AT A2 SIZE  
Unit 34b, Welton Business Park, Wiske Avenue, Brough, East Yorkshire, HU15 1ZQ  
Client: GHYLL WOOD DEVELOPMENTS Date: 9-5-22  
Project: Tea Hut extension Scale: 1:100 & 1:50  
Site: 'The Quarterdeck' ROBIN HOODS BAY Drg.No. 3029-6

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# Engineer/ Manage/ Deliver/

NYMNPA

20/05/2022



**Alan Wood & Partners**

**Issuing Office**

Hallamshire House  
Meadow Court  
Hayland Street  
Sheffield  
S9 1BY  
SK

Telephone: 01142 440077

Email: eng@alanwood.co.uk

Website: www.alanwood.co.uk

**SPECIFICATION FOR THE REMEDIATION OF AN EXISTING GABION BASKET WALL**

**THE TEA HUT, ROBIN HOOD'S BAY**

Project Reference: JS/AHB/46640 – Rp001

Prepared by: Andy Borthwick

Signed: .....

Date: 20<sup>th</sup> April 2022

Approved by: Jonathan Saunders *BSc (Hons), MSc (Eng), CEng, MIMMM, FGS*

.....  
Date: 20<sup>th</sup> April 2022

Issue	Revision	Revised by	Approved by	Revised Date

For the avoidance of doubt, the parties confirm that these conditions of engagement shall not and the parties do not intend that these conditions of engagement shall confer on any party any rights to enforce any term of this Agreement pursuant of the Contracts (Rights of third Parties) Act 1999.

The Appointment of Alan Wood & Partners shall be governed by and construed in all respects in accordance with the laws of England & Wales and each party submits to the exclusive jurisdiction of the Courts of England & Wales



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## CONTENTS

<b>1.0 INTRODUCTION .....</b>	<b>3</b>
<b>2.0 SITE WORK .....</b>	<b>4</b>
<b>2.1 General.....</b>	<b>4</b>

## APPENDICES

### **APPENDIX A – LimitState Geo Analysis Reports**

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## 1.0 INTRODUCTION

This specification presents the steps required for the reinstatement of a section of an existing gabion basket retaining wall at the rear of the Tea Hut on the Quarterdeck, Robin Hood's Bay, Whitby, North Yorkshire,

A section of the existing gabion basket wall at the rear of the Tea Hut has deformed and is bulging towards the rear of the Tea Hut building. The existing gabion basket wall has been constructed to retain a steeply inclined embankment behind the Tea Hut.

## 2.0 SITE WORK

### 2.1 General

It is proposed to replace the section of the gabion basket wall that has failed with a new gabion basket wall adopting a 'hit and miss' methodology using the following steps.

1. The area of the proposed works will need to be appropriately isolated from the public and site occupiers.
2. Prior to undertaking any works on the site and prior to each shift, the slope behind the gabion basket wall will need to be assessed for any signs of movement. Careful monitoring of the slope will need to be maintained while the works are being carried out.
3. Should any signs of slope movement or instability be noted, then all works should cease, and AWP should be contacted. No works are to commence until notified otherwise.
4. All loose material and vegetation should be removed from the affected area. All spoil to be placed in an area agreed with the client.
5. The affected gabion baskets will need to be removed using a 'hit and miss' methodology. All material not to be reused is to be removed from site.
6. Following the removal of the existing gabion baskets, a 500mm deep trench bedding layer will need to be excavated to accommodate the type 1 granular bedding layer.
7. Replacement baskets will need to be placed upon a prepared base of 200mm thick, clean and compacted Type 1 granular material.
8. A 150mm dia perforated drainage pipe will need to be installed to the rear and base of the gabion basket wall.
9. The new gabion basket wall will need to be installed in accordance with the manufacturer's specifications and recommendations.
10. The replacement gabion wall will need to be leant back at a 6° angle.
11. The gabion basket fill material should comprise 100mm to 200mm, angular durable stone. Demolition rubble is not to be used. Lightweight aggregate must not be used within the gabions.
12. The gabion basket stone fill should be placed horizontally in layers and in such a manner to reduce voiding to as little as possible. The rock should be as tightly packed as possible.
13. Bracing wires are to be installed from the front to the back of the baskets at 1/3 intervals. This is to reduce the deformation of the baskets upon filling.

14. Prior to placing the free draining granular layer to the rear of the gabion basket wall. A geotextile separation layer will need to be placed onto the exposed slope material. This is to reduce the migration of fines into the gabion wall and drainage layer.
15. 40mm low density aggregate, such as Leca LWA, should be placed at the rear of the gabion wall and over the perforated drainage pipe. This should be placed up to the top of the gabion basket wall.
16. Once the section of new gabion basket wall has been installed, then the topsoil can be replaced back onto the slope. This may need to be secured in place using wooden stakes the tops of which will need to be at least 50mm below the surface of the topsoil. The stakes should be placed at a maximum of 2.00m centres. This is to hold the topsoil in place.

Upon no circumstance should the failed section of the gabion basket wall be removed in its entirety as this will lead to potential slope instability. Only a 'hit and miss' methodology should be adopted and using careful site controls to monitor the slope during the site remedial works.

## APPENDIX A

### **LimitState Geo Analysis Reports**



This report was generated by LimitState:GEO3.5.g.24265 - limitstate.com

## About this Report

This report has been generated using LimitState:GEO, a software application capable of directly identifying the critical collapse mechanism for a wide variety of geotechnical stability problems, including those involving slopes, retaining walls, footings etc.

The software utilizes the Discontinuity Layout Optimization (DLO) procedure to obtain a solution (Smith and Gilbert 2007). The main steps involved are: (i) distribution of nodes across the problem domain; (ii) connection of every node to every other node with potential discontinuities (e.g. slip-lines); (iii) application of rigorous optimization techniques to identify the critical subset of potential discontinuities, and hence also the critical failure mechanism and margin of safety.

The accuracy of the DLO solution is controlled by the specified nodal density. Within the set of all possible discontinuities linking pairs of nodes, all potential translational failure mechanisms are considered, whether anticipated or not by the engineer. Failure mechanisms involving rotations along the edges of solid bodies in the problem can also be identified. Thus in this case the solution identified by the DLO procedure is guaranteed to be the most critical solution for the problem posed. This means that there is no need to prescribe any aspect of the collapse mechanism prior to an analysis, or to separately consider different failure modes. The critical mechanism and collapse load factor are determined according to the well established upper bound theorem of plasticity.

LimitState:GEO reports the solution to a problem both visually as a collapse mechanism and numerically in terms of an Adequacy Factor, which is defined as the factor by which specified loads must be increased, or material strengths decreased, in order for the system under consideration to reach a collapse state.

## REFERENCE

Smith, C.C. and Gilbert, M. (2007) Application of discontinuity layout optimization to plane plasticity problems, Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, Vol. 463, 2086, pp 2461-2484.

## Summary

Name	Date of Analysis	Name of Engineer	Organization
The Tea Hut	Wed Apr 20 2022	Andy Borthwick	Alan Wood & Partners

Reference #	Location	Map Reference	Tags
46640	Robin Hoods Bay		

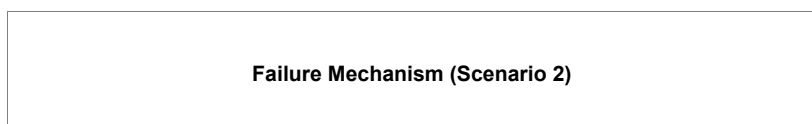
  

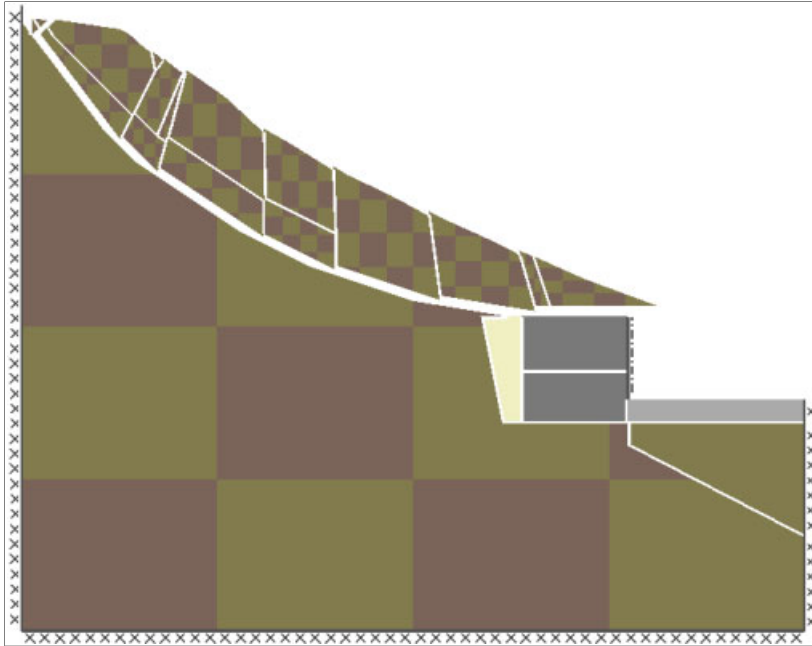
Comments
Slope stability following gabion basket remediation.

Target Nodal Density	Nodal Spacing Scale Factor	Water	Model Translational Failures?	Model Rotational Failures?	Seismic Accelerations: Horiz. / Vert. (g)
Medium (500 nodes)	1.54364	Enabled	True	Along edges	None

Scenario	Partial Factor Set	Short / Long Term?*	Analysis Type	Adequacy Factor
1	User	Long Term	Factor Load(s)	4.132
<b>2*</b>	<b>EC7 DA1/2</b>	<b>Long Term</b>	<b>Factor Load(s)</b>	<b>1.515</b>

\*This report provides details of this scenario, which has been identified as the most critical. \*\*For Mohr Coulomb materials with Drainage Behaviour specified as 'drained/undrained', undrained properties are used in a short term analysis, and drained properties are used in a long term analysis.





## Geometry

(all distances in m)

### All Geometrical Objects

No. of Vertices (V)	No. of Boundaries (B)	No. of Solids (S)
36	41	6

### Boundary Objects

ID	Start Vertex ID (x, y)	End Vertex ID (x, y)	Baseline Nodal Spacing	Support Type	Material(s)
B1	V1 (0, 20)	V2 (15, 20)	0.5	Fixed	-
B2	V2 (15, 20)	V49 (15, 22)	0.5	Fixed	-
B9	V9 (11, 26)	V10 (10, 26)	0.5	Free	-
B10	V10 (10, 26)	V39 (8.8, 27)	0.5	Free	-
B11	V11 (8.7, 27)	V12 (8.3, 27)	0.5	Free	-
B12	V12 (8.3, 27)	V13 (7.4, 28)	0.5	Free	-
B13	V13 (7.4, 28)	V14 (6.4, 28)	0.5	Free	-
B14	V14 (6.4, 28)	V15 (5.6, 29)	0.5	Free	-
B15	V15 (5.6, 29)	V16 (4.6, 29)	0.5	Free	-
B16	V16 (4.6, 29)	V17 (4.1, 29)	0.5	Free	-
B17	V17 (4.1, 29)	V18 (3.3, 30)	0.5	Free	-
B18	V18 (3.3, 30)	V19 (2.6, 31)	0.5	Free	-
B19	V19 (2.6, 31)	V20 (2.3, 31)	0.5	Free	-
B20	V20 (2.3, 31)	V21 (1.9, 31)	0.5	Free	-
B21	V21 (1.9, 31)	V22 (1.7, 31)	0.5	Free	-
B22	V22 (1.7, 31)	V23 (1.5, 31)	0.5	Free	-
B23	V23 (1.5, 31)	V24 (1.4, 32)	0.5	Free	-
B24	V24 (1.4, 32)	V25 (0, 32)	0.5	Free	-
B25	V1 (0, 20)	V25 (0, 32)	0.5	Fixed	-
B27	V29 (11, 26)	V32 (11, 26)	0.5	Free	-
B30	V31 (11, 26)	V9 (11, 26)	0.5	Free	-
B31	V31 (11, 26)	V29 (11, 26)	0.5	Free	-
B33	V32 (11, 26)	V28 (11, 25)	0.5	Symmetry	-
B34	V28 (11, 25)	V50 (11, 24)	0.5	Symmetry	-
B38	V33 (11, 24)	V35 (15, 24)	0.5	Free	-

B39	V36 (9.3, 25)	V28 (11, 25)	0.5	Free	Gabion Internal 2 Gabion Internal 1
B40	V33 (11, 24)	V37 (9.3, 24)	0.5	Free	Gabion Interface 3
B41	V36 (9.3, 25)	V37 (9.3, 24)	0.5	Free	Gabion Interface 5
B44	V37 (9.3, 24)	V40 (9, 24)	0.5	Free	-
B46	V39 (8.8, 27)	V11 (8.7, 27)	0.5	Free	-
B49	V33 (11, 24)	V42 (11, 23)	0.5	Free	-
B52	V42 (11, 23)	V48 (12, 23)	0.5	Free	-
B53	V48 (12, 23)	V49 (15, 22)	0.5	Free	-
B55	V49 (15, 22)	V35 (15, 24)	0.5	Fixed	-
B56	V50 (11, 24)	V51 (15, 24)	0.5	Free	-
B57	V51 (15, 24)	V35 (15, 24)	0.5	Fixed	-
B59	V50 (11, 24)	V33 (11, 24)	0.5	Free	Gabion Interface 2
B60	V31 (11, 26)	V52 (9.3, 26)	0.5	Free	Gabion Interface 6
B61	V52 (9.3, 26)	V36 (9.3, 25)	0.5	Free	Gabion Interface 5
B62	V40 (9, 24)	V54 (8.6, 26)	0.5	Free	-
B66	V54 (8.6, 26)	V52 (9.3, 26)	0.5	Free	-

\* Loaded boundary.

### Solid Objects

ID	Vertex IDs (x, y)	Boundary IDs	Baseline Nodal Spacing (x / y)	Material(s)/Water Regime(s)
S38*	V28 (11,25) V50 (11,24) V33 (11,24) V37 (9.3,24) V36 (9.3,25)	B34 B59 B40 B41 B39	1 / 1	Gabion Wall
S50*	V50 (11,24) V51 (15,24) V35 (15,24) V33 (11,24)	B56 B57 B38 B59	1 / 1	Concrete
S51*	V35 (15,24) V33 (11,24) V42 (11,23) V48 (12,23) V49 (15,22)	B38 B49 B52 B53 B55	1 / 1	Dense Sand
S55*	V28 (11,25) V32 (11,26) V29 (11,26) V31 (11,26) V52 (9.3,26) V36 (9.3,25)	B33 B27 B31 B60 B61 B39	1 / 1	Gabion Wall
S64*	V54 (8.6,26) V40 (9,24) V37 (9.3,24) V36 (9.3,25) V52 (9.3,26)	B62 B44 B41 B61 B66	1 / 1	Light Weight Aggregate
S65*	V54 (8.6,26) V40 (9,24) V37 (9.3,24) V33 (11,24) V42 (11,23) V48 (12,23) V49 (15,22) V2 (15,20) V1 (0,20) V25 (0,32) V24 (1.4,32) V23 (1.5,31) V22 (1.7,31) V21 (1.9,31) V20 (2.3,31) V19 (2.6,31) V18 (3.3,30) V17 (4.1,29) V16 (4.6,29) V15 (5.6,29) V14 (6.4,28)	B62 B44 B40 B49 B52 B53 B2 B1 B25 B24 B23 B22 B21 B20 B19 B18 B17 B16 B15 B14 B13	1 / 1	Very Stiff Clay Copy of Dense Sand



V13 (7.4,28)	B12		
V12 (8.3,27)	B11		
V11 (8.7,27)	B46		
V39 (8.8,27)	B10		
V10 (10,26)	B9		
V9 (11,26)	B30		
V31 (11,26)	B60		
V52 (9.3,26)	B66		

\* Loaded solid (self weight).











### Water Table (all distances in m)

Water Table Status	Vertices (x, y)
Enabled	(No water table points defined)

**Water Regimes** (potentials in m, pressures in kN/m<sup>2</sup> (kPa))  
(No water regime defined)


**Materials** (unit weights (weight densities) in kN/m<sup>3</sup>, strengths in kN/m<sup>2</sup> (kPa), angles in degrees, datum level in m, undrained strength gradient in kN/m<sup>2</sup> (kPa)/m)

### Mohr-Coulomb Material(s)


Key	Name	Unit Weight (Saturated Unit Weight)	Drainage Behaviour	c' (φ')	c <sub>u</sub> (datum) (gradient) (grid)
	Gabion Internal 2	0 (0)	Always drained	0* (35*)	0 (0) (0) (-)
	Gabion Interface 3	22 (22)	Drained/undrained	2.5* (13.1243*)	75 (0) (0) (-)
	Gabion Interface 5	2.5 (2.5)	Always drained	0* (26.5651*)	0 (0) (0) (-)
	Concrete	23 (23)	Always undrained	0 (0)	10000* (0*) (0*) (-)
	Gabion Interface 2	23 (23)	Always undrained	0 (0)	0* (0*) (0*) (-)
	Dense Sand	18 (21)	Always drained	0* (45*)	0 (0) (0) (-)
	Gabion Interface 6	18 (21)	Always drained	1* (26.5651*)	10 (0) (0) (-)
	Light Weight Aggregate	2.5 (2.5)	Always drained	0* (45*)	0 (0) (0) (-)
	Very Stiff Clay	22 (22)	Drained/undrained	5* (25*)	150 (0) (0) (-)
	Copy of Dense Sand	18 (21)	Always drained	2* (45*)	20 (0) (0) (-)

\*Property used in Scenario 2 (described in this report).

### Cutoff Material(s)

Key	Name	Unit Weight (Saturated Unit Weight)	σ <sub>t</sub>	σ <sub>c</sub>
	Gabion Internal 1	0 (0)	500	0

### Rigid Material(s)

Key	Name	Unit Weight (Saturated Unit Weight)
	Gabion Wall	24 (24)

## Partial Factors

Factor	User	EC7 DA1/2*		
Unfavourable: permanent	1	1		
Unfavourable: variable	1	1.3		
Unfavourable:				

accidental				
Favourable: permanent	1	1		
Favourable: variable	1	0		
Favourable: accidental	1	0		
c'	1	1.25		
tanφ'	1	1.25		
c <sub>u</sub>	1	1.4		

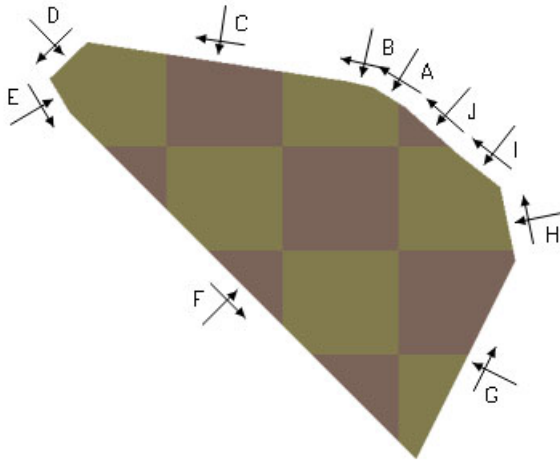
\*These partial factors were used in Scenario 2 (described in this report).

### Loads (normal and shear loads in kN/m<sup>2</sup> (kPa))

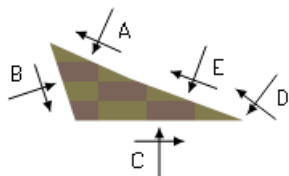
#### Solid Objects

Loaded Object	Type	Loading Type	Adequacy?
S38	Permanent (unfactored self weight: 24 kN/m <sup>3</sup> )	neutral	true
S50	Permanent (unfactored self weight: 23 kN/m <sup>3</sup> )	neutral	false
S51	Permanent (unfactored self weight: 18 kN/m <sup>3</sup> )	neutral	true
S55	Permanent (unfactored self weight: 24 kN/m <sup>3</sup> )	neutral	true
S64	Permanent (unfactored self weight: 2.5 kN/m <sup>3</sup> )	neutral	true
S65	Permanent (unfactored self weight: 20 kN/m <sup>3</sup> )	neutral	true

**Free-Body Diagrams** (Scenario 2; normal and shear forces are reported as total forces in kN per m width which include the effects of water pressures; angles in degrees [clockwise +ve, measured from horizontal], distances in m)

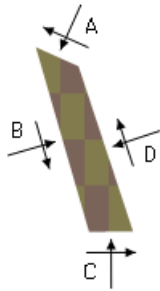


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(1.67, 31.4)	(1.53, 31.5)	-148.282	-2.20151e-08	3.14298e-08	-1.51626e-08	3.52504e-08
B	(1.53, 31.5)	(1.41, 31.5)	-167.203	-3.41867e-08	3.98868e-08	-3.13294e-08	4.21682e-08
C	(1.41, 31.5)	(0.283, 31.7)	-171.418	-8.26816e-08	2.86922e-07	-2.71372e-07	1.2457e-07
D	(0.283, 31.7)	(0.119, 31.5)	135.924	0.251274	0.566226	-0.232088	-0.574356
E	(0.119, 31.5)	(0.204, 31.4)	59.4737	0.947558	-1.02776	0.294217	1.3666
F	(0.204, 31.4)	(1.72, 29.9)	44.9986	33.7018	-21.1231	8.89447	38.767
G	(1.72, 29.9)	(2.15, 30.7)	-63.4334	14.5252	9.28141	-8.84095	14.7974
H	(2.15, 30.7)	(2.08, 31)	-101.573	0.00950119	0.530125	-0.115655	0.517443
I	(2.08, 31)	(1.9, 31.2)	-142.005	-1.62368e-07	-1.30599e-08	1.1023e-07	1.1993e-07
J	(1.9, 31.2)	(1.67, 31.4)	-138.424	-1.53479e-07	0	1.02458e-07	1.14275e-07
					Self Weight (kN/m):		-54.8741
					Sum:	0	0

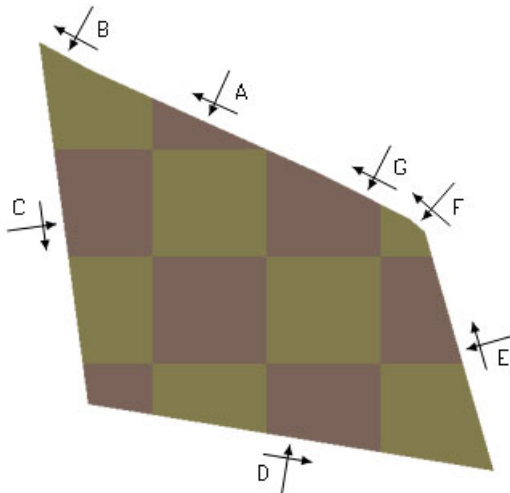


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(10, 26.4)	(9.04, 26.8)	-155.834	9.13434e-08	1.04004e-07	-1.32282e-07	-4.07669e-08
B	(9.04, 26.8)	(9.35, 25.9)	71.7231	11.966	8.38528	13.992	-4.20955
C	(9.35, 25.9)	(11.4, 25.9)	0	30.9643	-13.992	-13.992	30.9643
D	(11.4, 25.9)	(11.4, 25.9)	-144.162	-4.1564e-07	1.05332e-08	2.41401e-07	3.38516e-07
E	(11.4, 25.9)	(10, 26.4)	-159.775	5.98417e-08	1.27806e-07	-1.40613e-07	-1.19698e-08
					Self Weight (kN/m):		-26.7548

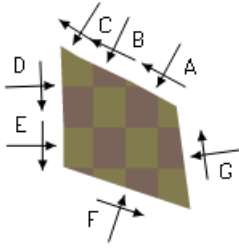
					Sum:	0	0
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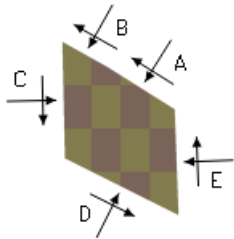
Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(9.04, 26.8)	(8.8, 26.9)	-155.839	1.56035e-07	-5.46371e-08	-1.40217e-08	-1.64728e-07
B	(8.8, 26.9)	(9.1, 25.9)	73.9237	15.8033	10.223	18.0162	-5.44715
C	(9.1, 25.9)	(9.35, 25.9)	-0.184542	8.05464	-3.99831	-4.02414	8.04177
D	(9.35, 25.9)	(9.04, 26.8)	-108.277	11.966	8.38528	-13.992	4.20955
					Self Weight (kN/m):		-6.80416
					Sum:	0	0



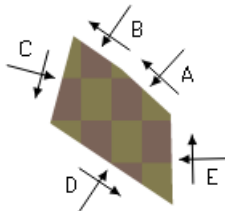
Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(8.34, 27.2)	(7.35, 27.6)	-155.754	2.21806e-07	-5.80145e-08	-3.81887e-08	-2.26065e-07
B	(7.35, 27.6)	(7.12, 27.8)	-151.524	8.1719e-08	-2.54612e-08	-1.65721e-08	-8.3974e-08
C	(7.12, 27.8)	(7.33, 26.2)	82.3039	37.0473	20.1846	39.4166	-15.0417
D	(7.33, 26.2)	(9.1, 25.9)	9.34468	69.6807	-33.1554	-21.4005	74.1398
E	(9.1, 25.9)	(8.8, 26.9)	-106.076	15.8033	10.223	-18.0162	5.44715
F	(8.8, 26.9)	(8.73, 27)	-138.929	0	-8.72044e-09	6.72718e-09	-5.5541e-09
G	(8.73, 27)	(8.34, 27.2)	-153.075	3.8204e-08	-1.73603e-08	-1.81978e-09	-4.19239e-08
					Self Weight (kN/m):		-64.5452
					Sum:	0	0



Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(7.12, 27.8)	(6.42, 28.1)	-151.53	-1.21844e-07	1.21831e-08	4.73718e-08	1.12918e-07
B	(6.42, 28.1)	(5.6, 28.5)	-154.732	-5.99276e-08	-9.83111e-09	3.44718e-08	4.99967e-08
C	(5.6, 28.5)	(5.34, 28.7)	-147.854	1.08682e-08	-1.11659e-08	3.673e-09	-1.51428e-08
D	(5.34, 28.7)	(5.39, 27.5)	87.9224	23.1397	13.4648	23.6126	-12.6171
E	(5.39, 27.5)	(5.39, 26.8)	90	27.1355	12.7141	27.1355	-12.7141
F	(5.39, 26.8)	(7.33, 26.2)	18.4344	94.4299	-43.4211	-11.3315	103.315
G	(7.33, 26.2)	(7.12, 27.8)	-97.6961	37.0473	20.1846	-39.4166	15.0417
					Self Weight (kN/m):		-93.0256
					Sum:	0	0

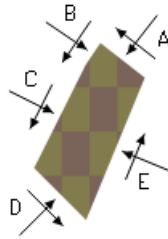


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(5.34, 28.7)	(4.58, 29.2)	-147.864	-1.10977e-07	-3.09211e-09	6.16565e-08	9.23252e-08
B	(4.58, 29.2)	(4.06, 29.5)	-150.728	-3.42539e-08	-1.28756e-08	2.79792e-08	2.35854e-08
C	(4.06, 29.5)	(4.09, 28.1)	88.7538	23.4181	14.0533	23.7182	-13.5406
D	(4.09, 28.1)	(5.39, 27.5)	26.5643	44.7108	-22.4735	-0.1056	50.041
E	(5.39, 27.5)	(5.34, 28.7)	-92.0776	23.1397	13.4648	-23.6126	12.6171
					Self Weight (kN/m):		-49.1174
					Sum:	0	0

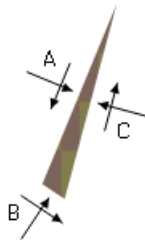


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(4.06, 29.5)	(3.34, 30.1)	-137.482	-1.43363e-07	1.62652e-08	8.48996e-08	1.1666e-07
B	(3.34, 30.1)	(2.64, 30.6)	-145.33	-2.31867e-08	-7.11502e-09	1.90404e-08	1.50236e-08

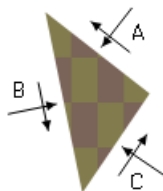
C	(2.64, 30.6)	(2.29, 29.3)	104.933	18.3975	12.1657	14.6413	-16.4956
D	(2.29, 29.3)	(4.09, 28.1)	33.6912	66.5721	-33.4722	9.07695	73.9584
E	(4.09, 28.1)	(4.06, 29.5)	-91.2462	23.4181	14.0533	-23.7182	13.5406
					Self Weight (kN/m):		-71.0033
					Sum:	0	0



Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(2.64, 30.6)	(2.27, 30.9)	-142.015	-1.81166e-07	2.44327e-09	1.09582e-07	1.44288e-07
B	(2.27, 30.9)	(2.15, 30.7)	124.114	0.807526	0.985728	0.115655	-1.26901
C	(2.15, 30.7)	(1.72, 29.9)	116.567	14.5252	9.28141	8.84095	-14.7974
D	(1.72, 29.9)	(2.15, 29.4)	45.0013	14.9284	-8.01205	4.89058	16.2213
E	(2.15, 29.4)	(2.64, 30.6)	-67.573	20.2039	12.6565	-13.8472	19.4072
					Self Weight (kN/m):		-19.5621
					Sum:	0	0

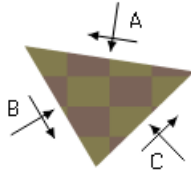


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(2.64, 30.6)	(2.15, 29.4)	112.427	20.2039	12.6565	13.8472	-19.4072
B	(2.15, 29.4)	(2.29, 29.3)	33.6919	5.65215	-2.8137	0.794109	6.26364
C	(2.29, 29.3)	(2.64, 30.6)	-75.0675	18.3975	12.1657	-14.6413	16.4956
					Self Weight (kN/m):		-3.35208
					Sum:	0	0

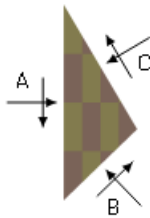


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
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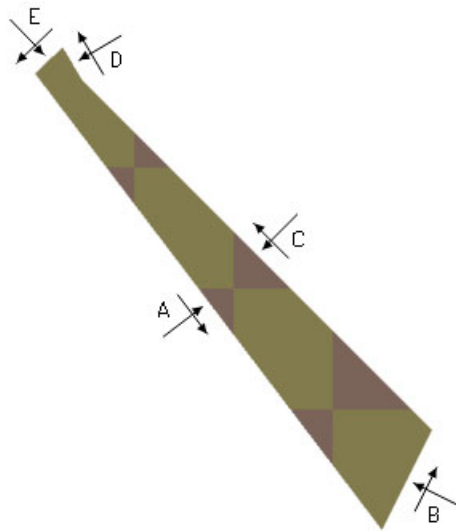
A	(2.27, 30.9)	(2.08, 31)	-142.024	-1.14953e-07	-2.42267e-08	8.98471e-08	7.56871e-08
B	(2.08, 31)	(2.15, 30.7)	78.4268	0.00950119	0.530125	0.115655	-0.517443
C	(2.15, 30.7)	(2.27, 30.9)	-55.8856	0.807526	0.985728	-0.115655	1.26901
					Self Weight (kN/m):		-0.751565
					Sum:	0	0



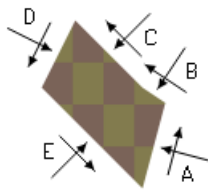
Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S.\cos\theta + N.\sin\theta$	Vertical Equilibrium Term: $-S.\sin\theta + N.\cos\theta$
A	(0.283, 31.7)	(0, 31.7)	-171.413	-5.25254e-09	9.0023e-09	-8.11774e-09	6.53705e-09
B	(0, 31.7)	(0.119, 31.5)	59.4843	-0.0924285	-0.300187	-0.232088	0.211637
C	(0.119, 31.5)	(0.283, 31.7)	-44.0761	0.251274	0.566226	0.232088	0.574356
					Self Weight (kN/m):		-0.785993
					Sum:	0	0



Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S.\cos\theta + N.\sin\theta$	Vertical Equilibrium Term: $-S.\sin\theta + N.\cos\theta$
A	(0, 31.7)	(0, 31.4)	90	-0.384423	-0.198675	-0.384423	0.198675
B	(0, 31.4)	(0.119, 31.5)	-44.0519	0.312337	0.514336	0.152335	0.582143
C	(0.119, 31.5)	(0, 31.7)	-120.516	-0.0924285	-0.300187	0.232088	-0.211637
					Self Weight (kN/m):		-0.569181
					Sum:	0	0

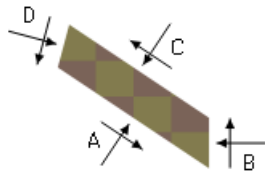


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(0, 31.4)	(1.5, 29.4)	52.765	44.4414	-26.4948	19.3508	47.9849
B	(1.5, 29.4)	(1.72, 29.9)	-63.436	14.9445	7.50642	-10.0098	13.3973
C	(1.72, 29.9)	(0.204, 31.4)	-135.001	33.7018	-21.1231	-8.89447	-38.767
D	(0.204, 31.4)	(0.119, 31.5)	-120.526	0.947558	-1.02776	-0.294217	-1.3666
E	(0.119, 31.5)	(0, 31.4)	135.948	0.312337	0.514336	-0.152335	-0.582143
					Self Weight (kN/m):		-20.6665
					Sum:	0	0

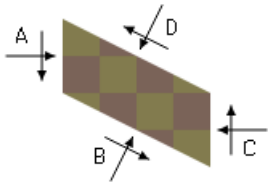


Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S \cdot \cos\theta + N \cdot \sin\theta$	Vertical Equilibrium Term: $-S \cdot \sin\theta + N \cdot \cos\theta$
A	(2.15, 28.8)	(2.29, 29.3)	-75.0663	19.1021	9.40297	-16.034	14.0078
B	(2.29, 29.3)	(2.15, 29.4)	-146.308	5.65215	-2.8137	-0.794109	-6.26364
C	(2.15, 29.4)	(1.72, 29.9)	-134.999	14.9284	-8.01205	-4.89058	-16.2213
D	(1.72, 29.9)	(1.5, 29.4)	116.564	14.9445	7.50642	10.0098	-13.3973
E	(1.5, 29.4)	(2.15, 28.8)	44.9991	32.2567	-15.6978	11.7089	33.9089
					Self Weight (kN/m):		-12.0344
					Sum:	0	0





Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S.\cos\theta + N.\sin\theta$	Vertical Equilibrium Term: $-S.\sin\theta + N.\cos\theta$
A	(2.15, 28.8)	(4.09, 27.5)	33.6913	103.706	-48.0299	17.5622	112.93
B	(4.09, 27.5)	(4.09, 28.1)	-90	24.5192	11.7381	-24.5192	11.7381
C	(4.09, 28.1)	(2.29, 29.3)	-146.309	66.5721	-33.4722	-9.07695	-73.9584
D	(2.29, 29.3)	(2.15, 28.8)	104.934	19.1021	9.40297	16.034	-14.0078
					Self Weight (kN/m):		-36.7024
					Sum:	0	0



Face	Start Point (x, y)	End Point (x, y)	Angle ( $\theta$ )	Normal (N)	Shear (S)	Horizontal Equilibrium Term: $S.\cos\theta + N.\sin\theta$	Vertical Equilibrium Term: $-S.\sin\theta + N.\cos\theta$
A	(4.09, 28.1)	(4.09, 27.5)	90	24.5192	11.7381	24.5192	-11.7381
B	(4.09, 27.5)	(5.39, 26.8)	26.5643	67.7513	-31.0686	2.51067	74.4929
C	(5.39, 26.8)	(5.39, 27.5)	-90	27.1355	12.7141	-27.1355	12.7141
D	(5.39, 27.5)	(4.09, 28.1)	-153.436	44.7108	-22.4735	0.1056	-50.041
					Self Weight (kN/m):		-25.4279
					Sum:	0	0





This report was generated by LimitState:GEO3.5.g.24265 - limitstate.com

## About this Report

This report has been generated using LimitState:GEO, a software application capable of directly identifying the critical collapse mechanism for a wide variety of geotechnical stability problems, including those involving slopes, retaining walls, footings etc.

The software utilizes the Discontinuity Layout Optimization (DLO) procedure to obtain a solution (Smith and Gilbert 2007). The main steps involved are: (i) distribution of nodes across the problem domain; (ii) connection of every node to every other node with potential discontinuities (e.g. slip-lines); (iii) application of rigorous optimization techniques to identify the critical subset of potential discontinuities, and hence also the critical failure mechanism and margin of safety.

The accuracy of the DLO solution is controlled by the specified nodal density. Within the set of all possible discontinuities linking pairs of nodes, all potential translational failure mechanisms are considered, whether anticipated or not by the engineer. Failure mechanisms involving rotations along the edges of solid bodies in the problem can also be identified. Thus in this case the solution identified by the DLO procedure is guaranteed to be the most critical solution for the problem posed. This means that there is no need to prescribe any aspect of the collapse mechanism prior to an analysis, or to separately consider different failure modes. The critical mechanism and collapse load factor are determined according to the well established upper bound theorem of plasticity.

LimitState:GEO reports the solution to a problem both visually as a collapse mechanism and numerically in terms of an Adequacy Factor, which is defined as the factor by which specified loads must be increased, or material strengths decreased, in order for the system under consideration to reach a collapse state.

## REFERENCE

Smith, C.C. and Gilbert, M. (2007) Application of discontinuity layout optimization to plane plasticity problems, Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, Vol. 463, 2086, pp 2461-2484.

## Summary

Name	Date of Analysis	Name of Engineer	Organization
The Tea Hut	Wed Apr 20 2022	Andy Borthwick	Alan Wood & Partners

Reference #	Location	Map Reference	Tags
46640	Robin Hoods Bay		

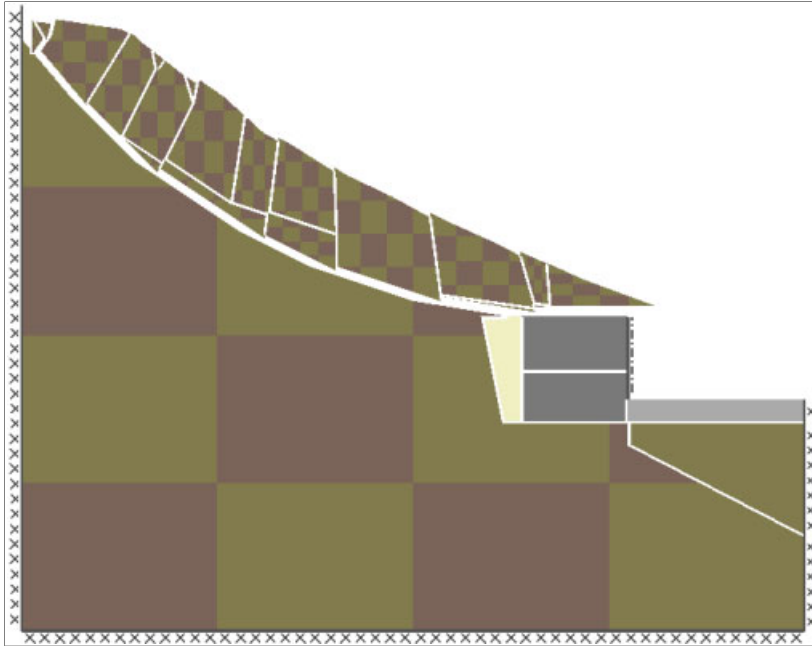
Comments
Slope stability following gabion basket remediation.

Target Nodal Density	Nodal Spacing Scale Factor	Water	Model Translational Failures?	Model Rotational Failures?	Seismic Accelerations: Horiz. / Vert. (g)
Medium (500 nodes)	1.54364	Enabled	True	Along edges	None

Scenario	Partial Factor Set	Short / Long Term?*	Analysis Type	Adequacy Factor
1	User	Long Term	Factor Strength(s)	1.393
2*	EC7 DA1/2	Long Term	Factor Strength(s)	1.115

\*This report provides details of this scenario, which has been identified as the most critical. \*\*For Mohr Coulomb materials with Drainage Behaviour specified as 'drained/undrained', undrained properties are used in a short term analysis, and drained properties are used in a long term analysis.

<b>Failure Mechanism (Scenario 2)</b>
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## Analysis Options

### Factor Strength(s)

Solution Tolerance (%)	Automatic Adequacy on Load(s)	Factor on Load(s)	Artificial Cohesion (kN/m <sup>2</sup> (kPa))
1	True	1	0.1

## Geometry

(all distances in m)

### All Geometrical Objects

No. of Vertices (V)	No. of Boundaries (B)	No. of Solids (S)
36	41	6

### Boundary Objects

ID	Start Vertex ID (x, y)	End Vertex ID (x, y)	Baseline Nodal Spacing	Support Type	Material(s)
B1	V1 (0, 20)	V2 (15, 20)	0.5	Fixed	-
B2	V2 (15, 20)	V49 (15, 22)	0.5	Fixed	-
B9	V9 (11, 26)	V10 (10, 26)	0.5	Free	-
B10	V10 (10, 26)	V39 (8.8, 27)	0.5	Free	-
B11	V11 (8.7, 27)	V12 (8.3, 27)	0.5	Free	-
B12	V12 (8.3, 27)	V13 (7.4, 28)	0.5	Free	-
B13	V13 (7.4, 28)	V14 (6.4, 28)	0.5	Free	-
B14	V14 (6.4, 28)	V15 (5.6, 29)	0.5	Free	-
B15	V15 (5.6, 29)	V16 (4.6, 29)	0.5	Free	-
B16	V16 (4.6, 29)	V17 (4.1, 29)	0.5	Free	-
B17	V17 (4.1, 29)	V18 (3.3, 30)	0.5	Free	-
B18	V18 (3.3, 30)	V19 (2.6, 31)	0.5	Free	-
B19	V19 (2.6, 31)	V20 (2.3, 31)	0.5	Free	-
B20	V20 (2.3, 31)	V21 (1.9, 31)	0.5	Free	-
B21	V21 (1.9, 31)	V22 (1.7, 31)	0.5	Free	-
B22	V22 (1.7, 31)	V23 (1.5, 31)	0.5	Free	-

B23	V23 (1.5, 31)	V24 (1.4, 32)	0.5	Free	-
B24	V24 (1.4, 32)	V25 (0, 32)	0.5	Free	-
B25	V1 (0, 20)	V25 (0, 32)	0.5	Fixed	-
B27	V29 (11, 26)	V32 (11, 26)	0.5	Free	-
B30	V31 (11, 26)	V9 (11, 26)	0.5	Free	-
B31	V31 (11, 26)	V29 (11, 26)	0.5	Free	-
B33	V32 (11, 26)	V28 (11, 25)	0.5	Symmetry	-
B34	V28 (11, 25)	V50 (11, 24)	0.5	Symmetry	-
B38	V33 (11, 24)	V35 (15, 24)	0.5	Free	-
B39	V36 (9.3, 25)	V28 (11, 25)	0.5	Free	Gabion Internal 2 Gabion Internal 1
B40	V33 (11, 24)	V37 (9.3, 24)	0.5	Free	Gabion Interface 3
B41	V36 (9.3, 25)	V37 (9.3, 24)	0.5	Free	Gabion Interface 5
B44	V37 (9.3, 24)	V40 (9, 24)	0.5	Free	-
B46	V39 (8.8, 27)	V11 (8.7, 27)	0.5	Free	-
B49	V33 (11, 24)	V42 (11, 23)	0.5	Free	-
B52	V42 (11, 23)	V48 (12, 23)	0.5	Free	-
B53	V48 (12, 23)	V49 (15, 22)	0.5	Free	-
B55	V49 (15, 22)	V35 (15, 24)	0.5	Fixed	-
B56	V50 (11, 24)	V51 (15, 24)	0.5	Free	-
B57	V51 (15, 24)	V35 (15, 24)	0.5	Fixed	-
B59	V50 (11, 24)	V33 (11, 24)	0.5	Free	Gabion Interface 2
B60	V31 (11, 26)	V52 (9.3, 26)	0.5	Free	Gabion Interface 6
B61	V52 (9.3, 26)	V36 (9.3, 25)	0.5	Free	Gabion Interface 5
B62	V40 (9, 24)	V54 (8.6, 26)	0.5	Free	-
B66	V54 (8.6, 26)	V52 (9.3, 26)	0.5	Free	-

\* Loaded boundary.

### Solid Objects

ID	Vertex IDs (x, y)	Boundary IDs	Baseline Nodal Spacing (x / y)	Material(s)/Water Regime(s)
S38*	V28 (11,25) V50 (11,24) V33 (11,24) V37 (9.3,24) V36 (9.3,25)	B34 B59 B40 B41 B39	1 / 1	Gabion Wall
S50*	V50 (11,24) V51 (15,24) V35 (15,24) V33 (11,24)	B56 B57 B38 B59	1 / 1	Concrete
S51*	V35 (15,24) V33 (11,24) V42 (11,23) V48 (12,23) V49 (15,22)	B38 B49 B52 B53 B55	1 / 1	Dense Sand
S55*	V28 (11,25) V32 (11,26) V29 (11,26) V31 (11,26) V52 (9.3,26) V36 (9.3,25)	B33 B27 B31 B60 B61 B39	1 / 1	Gabion Wall
S64*	V54 (8.6,26) V40 (9,24) V37 (9.3,24) V36 (9.3,25) V52 (9.3,26)	B62 B44 B41 B61 B66	1 / 1	Light Weight Aggregate
	V54 (8.6,26) V40 (9,24) V37 (9.3,24) V33 (11,24) V42 (11,23) V48 (12,23) V49 (15,22) V2 (15,20) V1 (0,20) V25 (0,32) V24 (1.4,32)	B62 B44 B40 B49 B52 B53 B2 B1 B25 B24 B23		

V23 (1.5,31)	B22
V22 (1.7,31)	B21
V21 (1.9,31)	B20
V20 (2.3,31)	B19
V19 (2.6,31)	B18
V18 (3.3,30)	B17
V17 (4.1,29)	B16
V16 (4.6,29)	B15
V15 (5.6,29)	B14
V14 (6.4,28)	B13
V13 (7.4,28)	B12
V12 (8.3,27)	B11
V11 (8.7,27)	B46
V39 (8.8,27)	B10
V10 (10,26)	B9
V9 (11,26)	B30
V31 (11,26)	B60
V52 (9.3,26)	B66

\* Loaded solid (self weight).











### Water Table (all distances in m)

Water Table Status	Vertices (x, y)
Enabled	(No water table points defined)

**Water Regimes** (potentials in m, pressures in kN/m<sup>2</sup> (kPa))  
(No water regime defined)


**Materials** (unit weights (weight densities) in kN/m<sup>3</sup>, strengths in kN/m<sup>2</sup> (kPa), angles in degrees, datum level in m, undrained strength gradient in kN/m<sup>2</sup> (kPa)/m)

### Mohr-Coulomb Material(s)


Key	Name	Unit Weight (Saturated Unit Weight)	Drainage Behaviour	c' (φ')	c <sub>u</sub> (datum) (gradient) (grid)
	Gabion Internal 2	0 (0)	Always drained	0* (35*)	0 (0) (0) (-)
	Gabion Interface 3	22 (22)	Drained/undrained	2.5* (13.1243*)	75 (0) (0) (-)
	Gabion Interface 5	2.5 (2.5)	Always drained	0* (26.5651*)	0 (0) (0) (-)
	Concrete	23 (23)	Always undrained	0 (0)	10000* (0*) (0*) (-)
	Gabion Interface 2	23 (23)	Always undrained	0 (0)	0* (0*) (0*) (-)
	Dense Sand	18 (21)	Always drained	0* (45*)	0 (0) (0) (-)
	Gabion Interface 6	18 (21)	Always drained	1* (26.5651*)	10 (0) (0) (-)
	Light Weight Aggregate	2.5 (2.5)	Always drained	0* (45*)	0 (0) (0) (-)
	Very Stiff Clay	22 (22)	Drained/undrained	5* (25*)	150 (0) (0) (-)
	Copy of Dense Sand	18 (21)	Always drained	2* (45*)	20 (0) (0) (-)

\*Property used in Scenario 2 (described in this report).

### Cutoff Material(s)

Key	Name	Unit Weight (Saturated Unit Weight)	σ <sub>t</sub>	σ <sub>c</sub>
	Gabion Internal 1	0 (0)	500	0

### Rigid Material(s)

Key	Name	Unit Weight (Saturated Unit Weight)
	Gabion Wall	24 (24)

## Partial Factors

Factor	User	EC7 DA1/2*		
Unfavourable: permanent	1	1		
Unfavourable: variable	1	1.3		
Unfavourable: accidental	1	1		
Favourable: permanent	1	1		
Favourable: variable	1	0		
Favourable: accidental	1	0		
$c'$	1	1.25		
$\tan\phi'$	1	1.25		
$c_u$	1	1.4		

\*These partial factors were used in Scenario 2 (described in this report).

**Loads** (normal and shear loads in  $\text{kN/m}^2$  (kPa))

### Solid Objects

Loaded Object	Type	Loading Type	Adequacy?
S38	Permanent (unfactored self weight: 24 $\text{kN/m}^3$ )	neutral	true
S50	Permanent (unfactored self weight: 23 $\text{kN/m}^3$ )	neutral	true
S51	Permanent (unfactored self weight: 18 $\text{kN/m}^3$ )	neutral	true
S55	Permanent (unfactored self weight: 24 $\text{kN/m}^3$ )	neutral	true
S64	Permanent (unfactored self weight: 2.5 $\text{kN/m}^3$ )	neutral	true
S65	Permanent (unfactored self weight: 20 $\text{kN/m}^3$ )	neutral	true



**Alan Wood & Partners**

[www.alanwood.co.uk](http://www.alanwood.co.uk)



**Alan Wood & Partners**

Good Morning Graham

I'm sorry I haven't got back to you sooner, I have been awaiting responses from the 4 Councillors who discussed your planning application. I now have these and they are as follows:

*Cllrs. Sutterby and Mortimer - Jane and I agree that the letter you wrote in reply to Graham Kemp was extremely well written.*

*Cllr. Bowes - My interpretation of the application was:*

- 1. No objection to the landscaping behind.*
- 2. No objection to the building planning behind - just ensuring the profile is in keeping with the existing structure. (should read ensuring)*

*Cllr. Atkinson - I agree with David I don't object to what they want to do , They need more storage so they are not constantly running out of things. Which means less delivery's. So the extension doesn't worry me either way. Thanks Les.*

I have discussed the responses with Cllr. Nightingale (Chair of the PC) and clearly improvements need to be made in the way we handle and respond to planning application responses. This will be an item for discussion at the next meeting but it will be proposed that:

- Any objections to planning applications will be 'proposed' and 'seconded' in every instance and a 'show of hands' vote will be taken.
- The Clerk will write the exact wording of the objection at the meeting and read it back to the Councillors for agreement.
- Councillors will be made aware that where there is a 'tied' vote, the Chair (or Vice Chair) can use their casting vote. This was not something I was aware of nor, it appears, the other Councillors.

If I misinterpreted the Councillors decision on your planning application, I am sincerely sorry but, I truly believed they unanimously agreed that an objection should be put forward based upon the dimensions of the extension to the hut. If I can be of any further assistance, please do not hesitate to contact me.

Kind regards

Fylingdales Parish Council  
2<sup>nd</sup> March 2022

**Graham Kemp's comment** – I accept some of the councillors present may not be fully au fait with PC meeting protocol; however, Cllr. Jane Mortimer (one of the 2 objectors) has been a Borough Councillor for 31 years - 1month; she currently holds the, highly responsible, position of chair to the Scarborough Council Licencing Committee and has chaired the Fylingdales Parish council, many times. In this period, she has attended, literally, hundreds of official meetings. Sadly, not only did she witness a 50/50 hung vote being returned as an objection, to NYMNP, she now compounds the error by saying she was not aware the Chair/Vice Chair had a casting vote; which, if implemented, would have supported my planning application, not opposed it.

**Since my email, prompting the above response, Cllr. Jane Mortimer resigned from her position at the Fylingdales Parish Council**

NYMNP

20/05/2022



# Revised Proposal – Cliff Stabilisation and Proposed Extension to The Galley on the Quarterdeck

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Regarding the cliff stability, the original instructions to Alan Wood & Partners were to create a scheme to correct the continuing movement of the gabions. However, in doing so and if it was easily achievable, create a much-needed storage area, behind the tea hut. Unfortunately, this was interpreted as a ‘must have’ addition, which was financially unviable (over £120k) and the roof area unacceptable, to NYMNP.

Following investigations, by the engineers, It appears the original gabions were incorrectly installed and an inappropriate binding infill used, which did not hold back movement in the bank; hence, Alan Wood & Partners have now created a new revised scheme to replace the failing baskets, incorporating better foundations and additional land drainage.

The proposed extension has been greatly reduced and repositioned, from the original 6m wide in-cliff structure, behind, to a modest 2.5m wide extension to the right-hand side. All materials will be identical to and mirror the existing.

We have considered incorporating a sedum green roof, which may look aesthetically pleasing, but been advised, due to the harsh coastal location with constant sea spray, it would be difficult to maintain and potentially look scruffy, if parts begin to die off. Instead, we are open to suggestions, from NYMNP, to vary the colour of the whole roof; perhaps to a moss green, which could potentially blend better with the background. Having said that, the existing grey does blend well with the concrete Quarterdeck and galvanised metal staircase. See live picture [www.rhbcam.net](http://www.rhbcam.net)

When the projected has completed, we will densely populate the cliff behind the tea hut with high root ball, low height native vegetation, similar to area’s existing.

The extension is required for, desperately needed, storage of chilled and frozen food and consumables. We are not planning to expand our present operation, but it will save multiple deliveries per day, down the busy streets and dock area; restocking in the evening will reduce traffic and inconvenience at peak times. There is a restriction, tying the tea hut to Beacholme; however, this was proposed in the eleventh hour of the planning process, and it was never ever our intention to use this iconic residence as a stock room.

NYMNP

20/05/2022