

Structural calculations

For

Gabion Wall

At

Y Goedwig , Treharris

Ref: 25.459

Date: 20.03.26

Signed:



Note: Site measurements are to be taken by the Builder or Client for fabrication

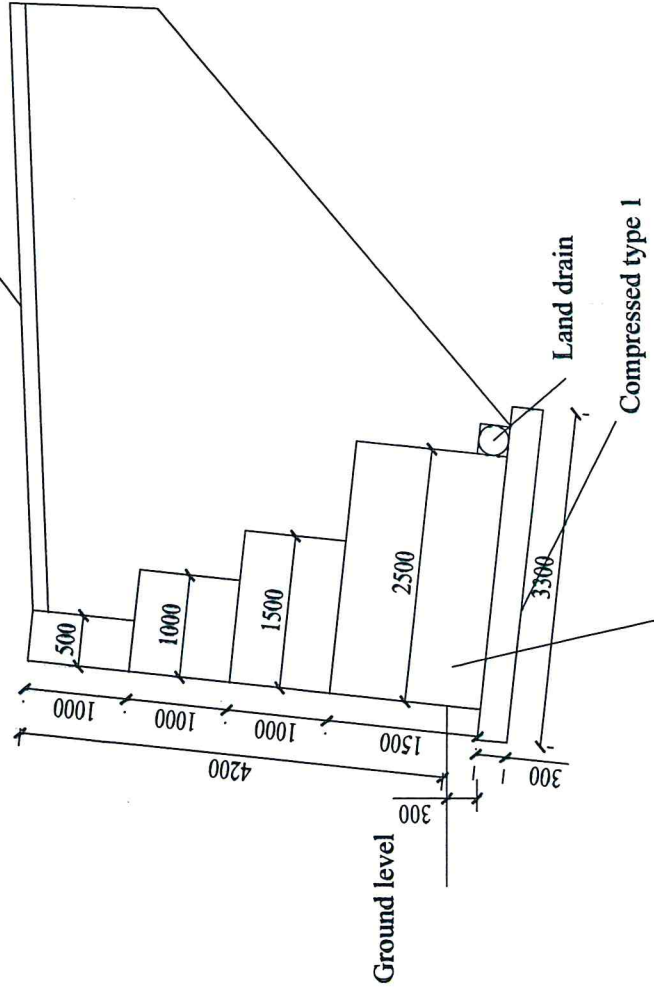
John Payne BSc C Eng MICE

Cwmffynnon Cottage, Twyn College, Newbridge, Gwent, NP11 3NR

Tel: 07772 403351

Email: jopy389@aol.com

150mm Top soil



Backfill material shall comprise a well graded granular material max. Particle size of 40mm uniformity coefficient greater than 10 and at moisture content to ensure a dense stable compacted state.

Gabions to be welded mesh 76.2x76.2x4 wire. Galvanized corrosion protection coating - 4.0 dia wire

Gabion infill to be hard and durable and 150mm nominal size but not less than 100mm and no greater than 200mm

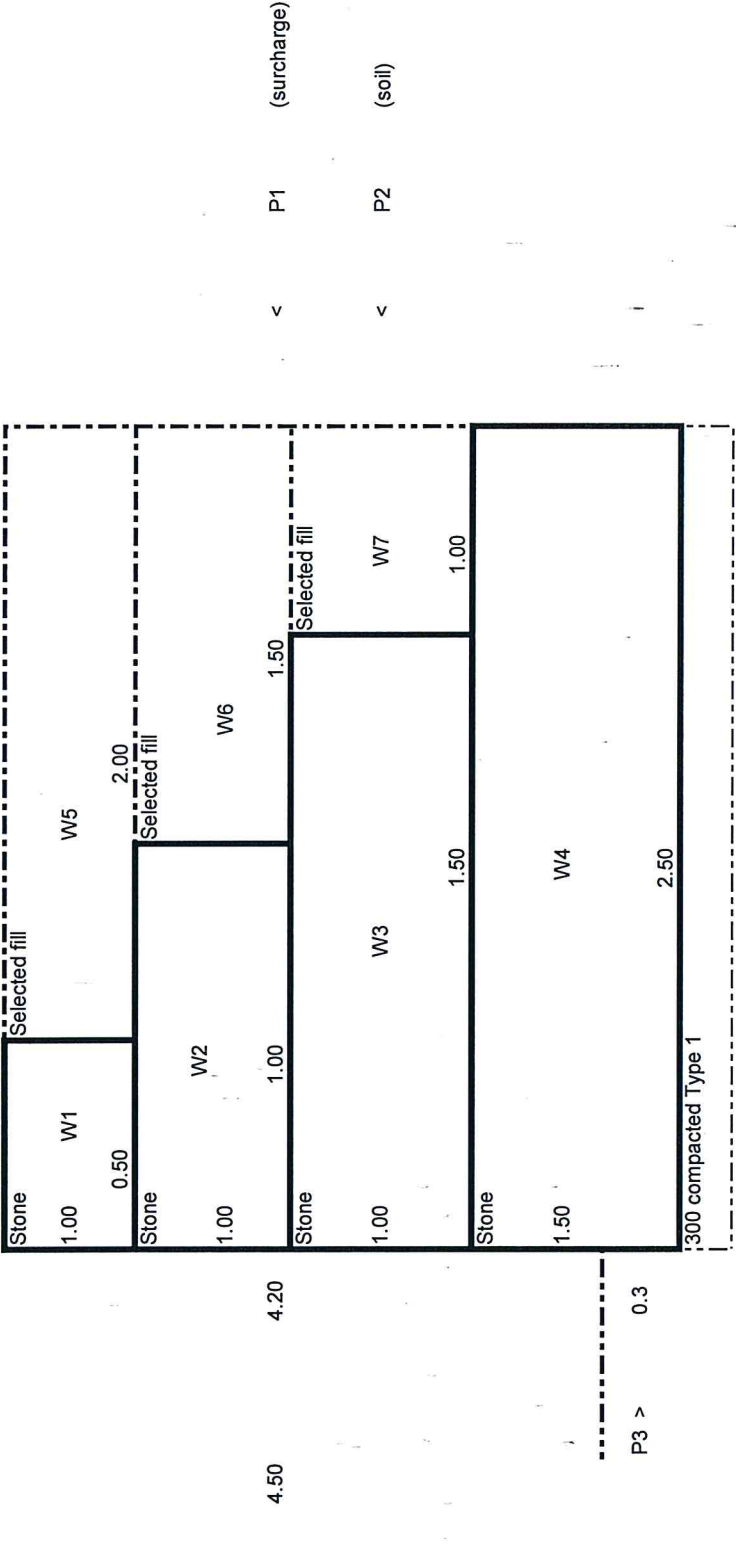
Drawing Title :-

**Y Goedwig Treharris
Gabion Wall**

Date : 3/26	Drawn By : JL
Scale : NTS	Approved : JP
Project Ref No.	Drawing No.
25.549	001

**cds
(Newbridge) Ltd**

t 07772 403351
f -
e jopy389@aol.com
w -
Construction Design Services
Cwmffynon Cottage
Twyn College
Newbridge
NP11 3NR



Soil density	18	KN/m3
Internal friction	35	Degrees
Surcharge	2	KN/m2
Ka	0.27	
Kp	3.70	
Coefficient of friction - Tan 35 X .75	0.53	

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	Width	Ht	Density	Wt(KN)	La	Mt(KNm)	La	Mt(KNm)
W1	1.00	0.50	20	10.00	0.25	2.50		
W2	1.00	1.00	20	20.00	0.50	10.00		
W3	1.00	1.50	20	30.00	0.75	22.50		
W4	1.50	2.50	20	75.00	1.25	93.75		
W5	1.00	2.00	18	36.00	1.50	54.00		
W6	1.00	1.50	18	27.00	1.75	47.25		
W7	1.00	1.00	18	18.00	2.00	36.00		
				216.00		266.00		
P1	0.27	2	4.50		KN		2.25	5.47
P2	$\frac{0.27}{2}$	18	4.50	4.50	$\frac{49.21}{51.64}$		1.50	$\frac{73.81}{79.28}$
Friction resistance		216.00	0.53		114.48			
P3	$\frac{3.70}{2}$	18	0.30	0.30	$\frac{3.00}{117.48}$			
F O S overturning			$\frac{266.00}{79.28}$		3.36 OK			
F O S sliding			$\frac{117.48}{51.64}$		2.28 OK			
Bearing pressure								
E	266.00	less	79.28	div	216		0.864 m	
Ec/I	1.250	less	0.864				0.386 m	
BP	$\frac{216}{2.50}$						86.40	
Plus or minus		$\frac{6}{2.50}$	$\frac{216}{2.5}$	0.386			79.95	
BP			166.35	or	6.45	KN/m2		

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B Sc C Eng MICE