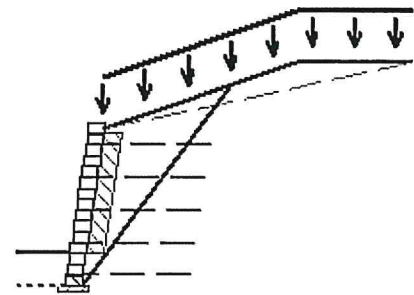


Section #9 at Station 41.25
Report Date March 03, 2020
Designer ARION
Design Standard National Concrete Masonry Association 3rd Edition
Design Static
Unit of Measure U.S./Imperial
Selected Facing Unit Product Line: Keystone Pinned Systems
 Name: Compac III
Seismic As N/A



Soil Parameters	Phi Angle	Cohesion	Unit Weight	
Soil Zone	[degrees]	[lb/ft²]	[lb/ft³]	Description
Reinforced	34	n/a	120.00	
Retained	28	0.00	120.00	
Foundation	26	0.00	120.00	
Leveling Pad	40	n/a	n/a	
Drainage	38	n/a	0.70	

Section Details

Section Height	10.00	Back Slope	18.50°	LL Surcharge	50	DL Surcharge	0
Design Height	9.66 ft	Crest Offset	12.00 ft	LL Offset	0.00 ft	DL Offset	0.00 ft
Embedment	2.00 ft	Wall Batter	8.00°	Toe Slope	0.00°	Toe Offset	0.00 ft

Minimum Factors of Safety**Reinforced**

External		Value	Internal		Value	Facing		Value
FSsl	Base Sliding	1.50	FSsl	Internal Sliding	1.50	FScs	Connection Strength	1.50
FSbc	Bearing Capacity	2.00	FSpO	Pullout	1.50	FSsc	Facing Shear	1.50
FSct	Crest Toppling	1.50	FSto	Tensile Overstress	1.50			
FSot	Overturning	2.00						

Reinforcements

3XT - Miragrid 3XT		Supplier: TenCate Mirafi - Miragrid XT, Fill Type: 3/4"- gravels or aggregate						
Tult	3,500.00 lb/ft	RFcr	1.45	RFd	1.15	LTDS	1,908.14 lb/ft	
RFid	1.10	Cds	0.90	Cl	0.90			

Connection/Shear Properties

acs1	975.00 lb/ft	IP-1	1,300.00 lb/ft	acs2	2,157.91 lb/ft	IP-2	2,252.00 lb/ft
acs max	2,293.40 lb/ft	au	900.00 lb/ft	lu	34.00 lb/ft	Vu(max)	2,762.00 lb/ft

Analysis Results

- * Analysis does not include Vertical Forces
- * Uses External Horiz. Accel Coeff in Seismic Crest Toppling
- * Embedment is included in Bearing Capacity

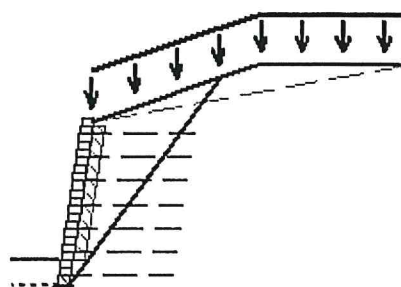
External Static		FS	
Bearing Capacity	6.20	Bearing Pressure	1390.51 lb/ft²
Overturning	4.71	Max Eccentricity	0.16 ft
Base Sliding	1.97		
Crest Toppling	7.98		
Internal Sliding	2.99		

Internal Static					Tensile	Tensile	Pullout	Pullout	Conn.	Conn.
Layer	Elevation	Rein	Length	Load	Resist.	FS	Resist.	FS	Resist.	FS
5	72.67	3XT	8.00	75	1,908	25.32	766	10.16	1,083	14.38
4	70.67	3XT	8.00	182	1,908	10.46	2,030	11.13	1,302	7.14
3	68.67	3XT	8.00	289	1,908	6.59	3,895	13.46	1,520	5.25
2	66.67	3XT	8.00	396	1,908	4.81	6,361	16.05	1,739	4.39
1	64.67	3XT	8.00	412	1,908	4.63	9,427	22.88	1,957	4.75

NOTE: THESE CALCULATIONS, QUANTITIES, AND LAYOUTS ARE FOR PRELIMINARY DESIGN ONLY
AND SHOULD NOT BE USED FOR CONSTRUCTION WITHOUT REVIEW BY A QUALIFIED ENGINEER



Section #24 at Station 1,136.50
Report Date March 03, 2020
Designer ARION NDREGJONI
Design Standard National Concrete Masonry Association 3rd Edition
Design Static
Unit of Measure U.S./Imperial
Selected Facing Unit Product Line: Keystone Pinned Systems
 Name: Compac III
Seismic As N/A



Soil Parameters	Phi Angle	Cohesion	Unit Weight	
Soil Zone	[degrees]	[lb/ft²]	[lb/ft³]	Description
Reinforced	34	n/a	120.00	
Retained	28	0.00	120.00	
Foundation	26	0.00	120.00	
Leveling Pad	40	n/a	n/a	
Drainage	38	n/a	0.70	

Section Details

Section Height	14.00	Back Slope	18.50°	LL Surcharge	50	DL Surcharge	0
Design Height	13.56 ft	Crest Offset	13.96 ft	LL Offset	0.00 ft	DL Offset	0.00 ft
Embedment	2.00 ft	Wall Batter	8.00°	Toe Slope	0.00°	Toe Offset	0.00 ft

Minimum Factors of Safety**Reinforced**

External		Value	Internal		Value	Facing		Value
FSSl	Base Sliding	1.50	FSSl	Internal Sliding	1.50	FSSc	Connection Strength	1.50
FSbc	Bearing Capacity	2.00	FSpO	Pullout	1.50	FSsc	Facing Shear	1.50
FSct	Crest Toppling	1.50	FSto	Tensile Overstress	1.50			
FSot	Overturning	2.00						

Reinforcements

3XT - Miragrid 3XT		Supplier: TenCate Mirafi - Miragrid XT, Fill Type: Clays and Silts						
Tult	3,500.00 lb/ft	RFcr	1.45	RFd	1.15	LTDS	1,999.00 lb/ft	
RFid	1.05	Cds	0.70	Qi	0.70			

Connection/Shear Properties

acs1	975.00 lb/ft	IP-1	1,300.00 lb/ft	acs2	2,157.91 lb/ft	IP-2	2,252.00 lb/ft
acs max	2,293.40 lb/ft	au	900.00 lb/ft	lu	34.00 lb/ft	Vu(max)	2,762.00 lb/ft

Analysis Results

- * Analysis does not include Vertical Forces
- * Uses External Horiz. Accel Coeff in Seismic Crest Toppling
- * Embedment is included in Bearing Capacity

External Static**FS**

Bearing Capacity	5.09	Bearing Pressure	1953.77 lb/ft²
Overturning	4.21	Max Eccentricity	0.28 ft
Base Sliding	1.89		
Crest Toppling	10.39		
Internal Sliding	2.18		

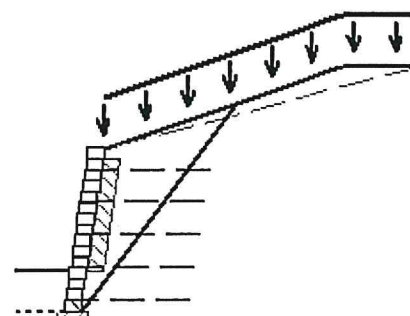
Internal Static

Layer	Elevation	Rein	Length	Load	Tensile Resist.	Tensile FS	Pullout Resist.	Pullout FS	Conn. Resist.	Conn. FS
7	76.67	3XT	10.00	67	1,999	29.77	602	8.96	1,072	15.97
6	74.67	3XT	10.00	172	1,999	11.59	1,603	9.29	1,291	7.48
5	72.67	3XT	10.00	277	1,999	7.22	3,064	11.07	1,509	5.45
4	70.67	3XT	10.00	381	1,999	5.25	4,986	13.08	1,727	4.53
3	68.67	3XT	10.00	485	1,999	4.12	7,367	15.18	1,946	4.01
2	66.67	3XT	10.00	590	1,999	3.39	10,208	17.31	2,159	3.66
1	64.67	3XT	10.00	571	1,999	3.50	13,510	23.66	2,193	3.84

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Section #2 at Station 48.75
Report Date March 03, 2020
Designer ARION NDREGJONI
Design Standard National Concrete Masonry Association 3rd Edition
Design Static
Unit of Measure U.S./Imperial
Selected Facing Unit Product Line: Keystone Pinned Systems
 Name: Compac III
Seismic As N/A



Soil Parameters	Phi Angle	Cohesion	Unit Weight	
Soil Zone	[degrees]	[lb/ft²]	[lb/ft³]	Description
Reinforced	34	n/a	120.00	
Retained	28	0.00	120.00	
Foundation	26	0.00	120.00	
Leveling Pad	40	n/a	n/a	
Drainage	38	n/a	0.70	

Section Details

Section Height	10.00	Back Slope	18.50°	LL Surcharge	50	DL Surcharge	0
Design Height	9.90 ft	Crest Offset	15.00 ft	LL Offset	0.00 ft	DL Offset	0.00 ft
Embedment	2.40 ft	Wall Batter	8.00°	Toe Slope	0.00°	Toe Offset	0.00 ft

Minimum Factors of Safety**Reinforced**

External		Value	Internal		Value	Facing		Value
FSsl	Base Sliding	1.50	FSsl	Internal Sliding	1.50	FSsc	Connection Strength	1.50
FSbc	Bearing Capacity	2.00	FSpO	Pullout	1.50	FSsc	Facing Shear	1.50
FSct	Crest Toppling	1.50	FSto	Tensile Overstress	1.50			
FSot	Overturning	2.00						

Reinforcements**3XT - Miragrid 3XT**

Supplier: TenCate Mirafi - Miragrid XT, Fill Type: Clays and Silts

Tult	3,500.00 lb/ft	RFcr	1.45	RFd	1.15	LTDS	1,999.00 lb/ft
RFid	1.05	Cds	0.70	Qi	0.70		

Connection/Shear Properties

acs1	975.00 lb/ft	IP-1	1,300.00 lb/ft	acs2	2,157.91 lb/ft	IP-2	2,252.00 lb/ft
acs max	2,293.40 lb/ft	au	900.00 lb/ft	lu	34.00 lb/ft	Vu(max)	2,762.00 lb/ft

Analysis Results

- * Analysis does not include Vertical Forces
- * Uses External Horiz. Accel Coeff in Seismic Crest Toppling
- * Embedment is included in Bearing Capacity

External Static**FS**

Bearing Capacity	6.19	Bearing Pressure	1459.91 lb/ft²
Overturning	4.25	Max Eccentricity	0.27 ft
Base Sliding	1.80		
Crest Toppling	4.68		
Internal Sliding	2.26		

Internal Static

Layer	Elevation	Rein	Length	Load	Tensile Resist.	Tensile FS	Pullout Resist.	Pullout FS	Conn. Resist.	Conn. FS
5	72.27	3XT	8.00	95	1,999	21.07	590	6.22	1,110	11.70
4	70.27	3XT	8.00	202	1,999	9.88	1,597	7.90	1,328	6.57
3	68.27	3XT	8.00	313	1,999	6.39	3,083	9.85	1,546	4.94
2	66.27	3XT	8.00	424	1,999	4.72	5,047	11.91	1,765	4.16
1	64.27	3XT	8.00	438	1,999	4.57	7,491	17.11	1,983	4.53

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