3-8 MECHANICALLY STABILIZED EMBANKMENT

WELDED WIRE MAT DENSITY PER FULL FACE PANEL - **ϕ (PHI) = 34º** BACKFILL MATERIAL

Loading Conditions	WALL HEIGHT						
	10'*	12'	14'	16'	18'	20'	22'
1	5 AT 6 x W11	6 AT 6 x W11	7 AT 6 x W11	2 AT 6 x W11 6 AT 4 x W11	9 AT 6 x W11	2 AT 6 x W11 8 AT 4 x W11	2 AT 6 x W11 9 AT 4 x W11
2	5 AT 6 x W11	6 AT 6 x W11	7 AT 6 x W11	1 AT 6 x W11 4 AT 4 x W11 3 AT 6 x W11	9 AT 6 x W11	1 AT 6 x W11 8 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 1 AT 6 x W11
3	5 AT 6 x W11	6 AT 6 x W11	7 AT 6 x W11	2 AT 6 x W11 6 AT 4 x W11	7 AT 6 x W11 2 AT 4 x W11	2 AT 6 x W11 8 AT 4 x W11	2 AT 6 x W11 9 AT 4 x W11
4A	5 AT 6 x W11	6 AT 6 x W11	7 AT 6 x W11	1 AT 6 x W11 7 AT 4 x W11	2 AT 6 x W11 7 AT 4 x W11	1 AT 6 x W11 9 AT 4 x W11	1 AT 6 x W11 10 AT 4 x W11
4B	5 AT 6 x W11	6 AT 6 x W11	7 AT 6 x W11	1 AT 6 x W11 7 AT 4 x W11	1 AT 6 x W11 8 AT 4 x W11	1 AT 6 x W11 8 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 1 AT 6 x W11
4C	5 AT 6 x W11	1 AT 6 x W11 5 AT 4 x W11	1 AT 6 x W11 5 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 7 AT 4 x W11	1 AT 6 x W11 8 AT 4 x W11	1 AT 6 x W11 8 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 8 AT 4 x W11 2 AT 6 x W11
4D	1 AT 6 x W11 3 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 4 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 3 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 7 AT 4 x W11	1 AT 6 x W11 8 AT 4 x W11	1 AT 6 x W11 8 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 8 AT 4 x W11 2 AT 6 x W11
4E	1 AT 6 x W11 4 AT 4 x W11	1 AT 6 x W11 5 AT 4 x W11	1 AT 6 x W11 6 AT 4 x W11	1 AT 6 x W11 7 AT 4 x W11	1 AT 6 x W11 6 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 6 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 6 AT 4 x W11 4 AT 6 x W11
5A, 5B, 5C & 5D	5 AT 6 x W11	6 AT 6 x W11	7 AT 6 x W11	2 AT 6 x W11 6 AT 4 x W11	9 AT 6 x W11	2 AT 6 x W11 6 AT 4 x W11l	2 AT 6 x W11 9 AT 4 x W11

* For wall heights less than 10', use 6 x W11 for each level of mats.

Legend for soil reinforcement specified:

Number of levels of specified density → 5 AT 6 x W20 ← Size of longitudinal wires in mat**

Number of mats for a full length panel of 2 foot nominal height

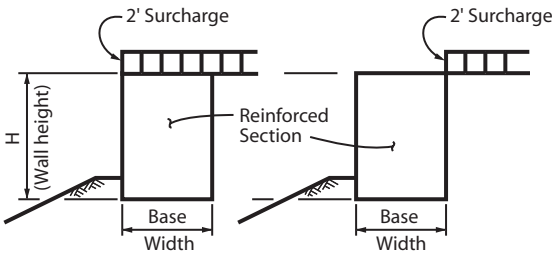
** W11 (Imperial) = MW70 (Metric)
W20 (Imperial) = MW130 (Metric)

WELDED WIRE MAT DENSITY PER FULL FACE PANEL - ϕ (PHI) = 34° BACKFILL MATERIAL

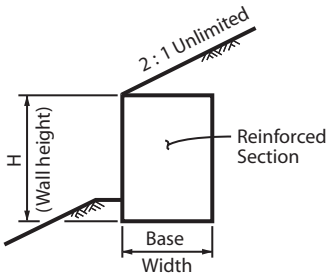
Loading Conditions	WALL HEIGHT						
	24'	26'	28'	30'	32'	34'	36'
1	3 AT 6 x W11 9 AT 4 x W11	2 AT 6 x W11 10 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 11 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 11 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 12 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 12 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11
2	1 AT 6 x W11 9 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11I 9 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11 4 AT 4 x W20
3	3 AT 6 x W11 9 AT 4 x W11	2 AT 6 x W11 11 AT 4 x W11	1 AT 6 x W11 12 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 12 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 13 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 13 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 13 AT 4 x W11 4 AT 6 x W11
4A	1 AT 6 x W11 10 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 10 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 11 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 11 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 11 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 11 AT 4 x W11 4 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 11 AT 4 x W11 5 AT 6 x W11 1 AT 4 x W20
4B	1 AT 6 x W11 9 AT 4 x W11 2 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 10 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 10 AT 4 x W11 4 AT 6 x W11 1AT4 x W20	1 AT 6 x W11 10 AT 4 x W11 4 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 10 AT 4 x W11 4 AT 6 x W11 3 AT 4 x W20
4C	1 AT 6 x W11 8 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 9 AT 4 x W11 4 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 4 AT 4 x W20
4D	1 AT 6 x W11 8 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 8 AT 4 x W11 3 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11 5 AT 4 x W20
4E	1 AT 6 x W11 5 AT 4 x W11 6 AT 6 x W11	1 AT 6 x W11 5 AT 4 x W11 5 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 4 AT 4 x W11 6 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 4 AT 4 x W11 6 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 4 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20	1 AT 6 x W11 3 AT 4 x W11 6 AT 6 x W11 7 AT 4 x W20	1 AT 6 x W11 3 AT 4 x W11 6 AT 6 x W11 8 AT 4 x W20
5A, 5B, 5C & 5D	3 AT 6 x W11 9 AT 4 x W11	2 AT 6 x W11 10 AT 4 x W11 1 AT 6 x W11	1 AT 6 x W11 11 AT 4 x W11 2 AT 6 x W11	2 AT 6 x W11 10 AT 4 x W11 3 AT 6 x W11	1 AT 6 x W11 12 AT 4 x W11 3 AT 6 x W11	2 AT 6 x W11 11 AT 4 x W11 4 AT 6 x W11	1 AT 6 x W11 12 AT 4 x W11 4 AT 6 x W11 1 AT 4 x W20

WELDED WIRE MAT DENSITY PER FULL FACE PANEL - ϕ (PHI) = 34° BACKFILL MATERIAL

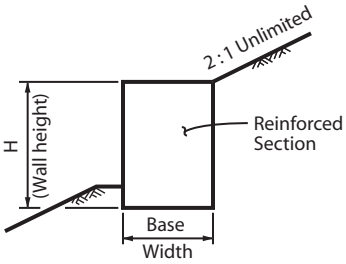
Loading Conditions	WALL HEIGHT						
	38'	40'	42'	44'	46'	48'	50'
1	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 6 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 6 AT 6 x W11 5 AT 4 x W20
2	1 AT 6 x W11 9 AT 4 x W11 5 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 9 AT 4 x W11 5 AT 6 x W11 5 AT 4 x W20	1 AT 6 x W11 9 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20	1 AT 6 x W11 9 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 1 AT 6 x W20	1 AT 6 x W11 9 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 2 AT 6 x W20	1 AT 6 x W11 9 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 3 AT 6 x W20	1 AT 6 x W11 9 AT 4 x W11 5 AT 6 x W11 7 AT 4 x W20 3 AT 6 x W20
3	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 6 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 6 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 14 AT 4 x W11 5 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 14 AT 4 x W11 5 AT 6 x W11 5 AT 4 x W20
4A	1 AT 6 x W11 11 AT 4 x W11 5 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 11 AT 4 x W11 5 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 5 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 6 AT 6 x W11 5 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 6 AT 6 x W11 6 AT 4 x W20
4B	1 AT 6 x W11 10 AT 4 x W11 4 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 10 AT 4 x W11 4 AT 6 x W11 5 AT 4 x W20	1 AT 6 x W11 10 AT 4 x W11 4 AT 6 x W11 6 AT 4 x W20	1 AT 6 x W11 10 AT 4 x W11 5 AT 6 x W11 6 AT4 x W20	1 AT 6 x W11 10 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 1 AT 6 x W20	1 AT 6 x W11 10 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 2 AT 6 x W20	1 AT 6 x W11 10 AT 4 x W11 5 AT 6 x W11 7 AT 4 x W20 2 AT 6 x W20
4C	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 5 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 7 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 2 AT 6 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 7 AT 4 x W20 2 AT 6 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 7 AT 4 x W20 3 AT 6 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 7 AT 4 x W20 4 AT 6 x W20
4D	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11 6 AT 4 x W20	1 AT 6 x W11 8 AT 4 x W11 4 AT 6 x W11 6 AT 4 x W20 1 AT 6 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 5 AT 4 x W20 2 AT 6 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 2 AT 6 x W20	1 AT 6 x W11 8 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20 3 AT 6 x W20	1 AT 6 x W11 7 AT 4 x W11 6 AT 6 x W11 6 AT 4 x W20 4 AT 6 x W20	1 AT 6 x W11 7 AT 4 x W11 6 AT 6 x W11 6 AT 4 x W20 5 AT 6 x W20
4E	1 AT 6 x W11 2 AT 4 x W11 6 AT 6 x W11 9 AT 4 x W20 1 AT 6 x W20	1 AT 6 x W11 2 AT 4 x W11 6 AT 6 x W11 9 AT 4 x W20 2 AT 6 x W20	8 AT 6 x W11 10 AT 4 x W20 3 AT 6 x W20	8 AT 6 x W11 9 AT 4 x W20 5 AT 6 x W20	7 AT 6 x W11 10 AT 4 x W20 6 AT 6 x W20	7 AT 6 x W11 10 AT 4 x W20 7 AT 6 x W20	6 AT 6 x W11 10 AT 4 x W20 9 AT 6 x W20
5A, 5B, 5C & 5D	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 1 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 2 AT 4 x W20	1 AT 6 x W11 12 AT 4 x W11 5 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 3 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 4 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 5 AT 4 x W20	1 AT 6 x W11 13 AT 4 x W11 5 AT 6 x W11 6 AT 4 x W20



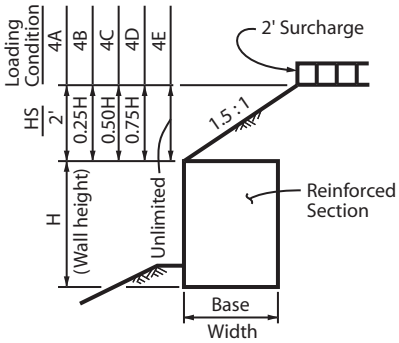
LOADING CONDITION 1



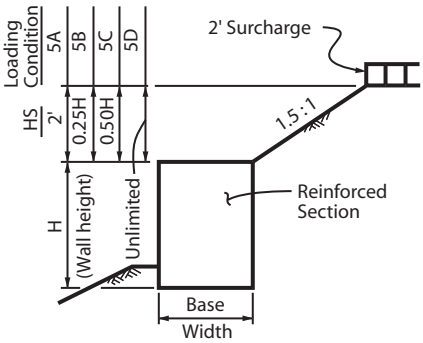
LOADING CONDITION 2



LOADING CONDITION 3



LOADING CONDITIONS 4A THRU 4E



LOADING CONDITIONS 5A THRU 5D

Notes:

1. Sequence of specified soil reinforcement for a given wall height and loading condition is from the top panel level to the bottom panel level.
2. Spacing of transverse wires of the welded wire mats shall be as follows:

   Mats for top panels - 12 inches
   Mats for the 3 levels of panels immediately below a top panel - 18 inches
   Mats for all remaining lower levels of panels - 24 inches

3. The density of soil reinforcement specified for the top level is to be used for all levels of mats in a top panel which has more than one level mats.
4. For a given wall height, which has a top panel with more than one level of soil reinforcement, reduce a corresponding number of lower levels of specified soil reinforcement which have the least specified density of soil reinforcement. If the least specified density of soil reinforcement has more than one spacing of transverse wires, reduce the level with the greatest spacing of transverse wires.
5. Example: Design wall height equals 26 feet. Actual height of tier panels under consideration equals 25'-0" to 25'-6". Loading condition 1 and $\phi = 34°$ backfill material:

Specified	2 AT 6 x W11	Top panel - 2 levels at this density
Soil	10 AT 4 x W11	Panel below top panel - 1 level at this density
Reinforcement	1 AT 6 x W11	Reduce by 1 level at this density

FOUNDATION PRESSURE IN KIPS PER SQ. FT.
ϕ (PHI) = 34° BACKFILL

BASE WIDTH	LOADING CONDITION	WALL HEIGHT										
		4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'
8'	1	0.8	1.0	1.4	1.8	2.3						
	2	0.8	1.1	1.5	2.0	2.7						
	3	0.5	0.8	1.1	1.4	1.9						
	4A	0.8	1.1	1.5	2.0	2.7						
	4B	0.8	1.1	1.5	2.1							
	4C	0.8	1.2	1.8								
	4D	0.8	1.3	1.9								
	4E											
	5A	0.5	0.8	1.1	1.5	2.0						
	5B	0.5	0.8	1.1	1.5	2.0						
	5C	0.5	0.8	1.1	1.5	2.0						
	5D	0.5	0.8	1.2	1.6	2.1						
10'	1		1.0	1.3	1.6	2.0	2.5					
	2		1.2	1.5	1.9	2.4	3.0					
	3		0.8	1.0	1.4	1.7	2.1					
	4A		1.1	1.4	1.8	2.3	2.8					
	4B		1.1	1.4	1.9	2.4	3.1					
	4C		1.2	1.6	2.1							
	4D		1.2	1.8	2.3							
	4E											
	5A		0.8	1.1	1.4	1.7	2.2					
	5B		0.8	1.1	1.4	1.7	2.2					
	5C		0.8	1.1	1.4	1.8	2.2					
	5D		0.8	1.1	1.4	1.8	2.3					
12'	1		1.0	1.3	1.6	1.9	2.3	2.7	3.2			
	2		1.2	1.5	1.9	2.3	2.8	3.4	4.0			
	3		0.8	1.0	1.3	1.6	2.0	2.4	2.8			
	4A		1.1	1.4	1.7	2.1	2.5	3.0	3.6			
	4B		1.1	1.4	1.8	2.2	2.7	3.3				
	4C		1.2	1.5	1.9	2.5	3.3					
	4D		1.2	1.6	2.2	2.8	3.4					
	4E											
	5A		0.8	1.0	1.3	1.6	2.0	2.4	2.9			
	5B		0.8	1.0	1.3	1.6	2.0	2.4	2.9			
	5C		0.8	1.0	1.3	1.6	2.0	2.4	2.9			
	5D		0.8	1.1	1.4	1.7	2.1	2.6	3.2			
14'	1			1.2	1.5	1.8	2.2	2.5	3.0	3.4		
	2			1.6	1.8	2.2	2.7	3.2	3.7	4.4		
	3			1.0	1.3	1.6	1.9	2.2	2.6	3.0		
	4A			1.4	1.7	2.0	2.4	2.8	3.2	3.8		
	4B			1.4	1.7	2.1	2.5	3.0	3.6	4.4		
	4C			1.5	1.9	2.3	2.9	3.7				
	4D			1.6	2.0	2.7	3.2	3.8				
	4E											
	5A			1.0	1.3	1.6	1.9	2.3	2.6	3.1		
	5B			1.0	1.3	1.6	1.9	2.3	2.7	3.1		
	5C			1.0	1.3	1.6	1.9	2.3	2.7	3.1		
	5D			1.1	1.4	1.7	2.0	2.4	2.9	3.4		

Foundation Pressure in Kips per Sq. Ft.
ϕ (PHI) = 34° Backfill

BASE WIDTH	LOADING CONDITION	WALL HEIGHT												
		10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'
16'	1	1.5	1.8	2.1	2.4	2.8	3.2	3.6	4.1					
	2	1.9	2.2	2.6	3.1	3.5	4.1	4.7	5.4					
	3	1.3	1.5	1.8	2.2	2.5	2.9	3.3	3.7					
	4A	1.7	2.0	2.3	2.7	3.1	3.5	4.0	4.5					
	4B	1.7	2.1	2.4	2.8	3.3	3.9	4.6						
	4C	1.8	2.2	2.7	3.3	4.0								
	4D	2.0	2.4	3.1	3.6	4.2								
	4E													
	5A	1.3	1.6	1.8	2.2	2.5	2.9	3.3	3.8					
	5B	1.3	1.6	1.8	2.2	2.5	2.9	3.3	3.8					
	5C	1.3	1.6	1.9	2.2	2.6	3.0	3.4	3.9					
	5D	1.4	1.6	2.0	2.3	2.7	3.1	3.6	4.2					
18'	1		1.8	2.1	2.4	2.7	3.1	3.4	3.9	4.3				
	2		2.2	2.6	3.0	3.4	3.9	4.4	5.0	5.7				
	3		1.5	1.8	2.1	2.4	2.8	3.1	3.5	4.0				
	4A		2.0	2.3	2.6	2.9	3.3	3.7	4.2	4.7				
	4B		2.0	2.4	2.8	3.2	3.6	4.2	4.8	5.6				
	4C		2.2	2.6	3.1	3.6	4.4							
	4D		2.4	2.8	3.5	4.0	4.6	5.4						
	4E													
	5A		1.5	1.8	2.1	2.4	2.8	3.2	3.6	4.0				
	5B		1.5	1.8	2.1	2.4	2.8	3.2	3.6	4.0				
	5C		1.5	1.8	2.1	2.5	2.8	3.2	3.6	4.1				
	5D		1.6	1.9	2.2	2.6	3.0	3.4	3.9	4.4				
20'	1			2.0	2.3	2.6	3.0	3.3	3.7	4.1	4.6	5.0		
	2			2.6	3.0	3.4	3.8	4.3	4.8	5.4	6.0	6.7		
	3			1.8	2.1	2.4	2.7	3.0	3.4	3.8	4.2	4.6		
	4A			2.2	2.5	2.9	3.2	3.6	4.0	4.4	4.9	5.4		
	4B			2.3	2.7	3.1	3.5	4.0	4.5	5.1	5.8			
	4C			2.6	3.0	3.4	4.0	4.7	5.6					
	4D			2.8	3.3	3.9	4.4	5.1	5.8					
	4E													
	5A			1.8	2.1	2.4	2.7	3.1	3.4	3.8	4.2	4.7		
	5B			1.8	2.1	2.4	2.7	3.1	3.4	3.8	4.3	4.8		
	5C			1.8	2.1	2.4	2.7	3.1	3.5	3.9	4.3	4.8		
	5D			1.9	2.2	2.5	2.9	3.3	3.7	4.2	4.7	5.2		
22'	1				2.3	2.6	2.9	3.2	3.6	4.0	4.4	4.8	5.2	5.8
	2				3.0	3.3	3.8	4.2	4.7	5.2	5.8	6.4	7.0	7.8
	3				2.1	2.3	2.6	3.0	3.3	3.7	4.0	4.4	4.9	5.4
	4A				2.5	2.8	3.1	3.5	3.8	4.2	4.7	5.1	5.6	6.2
	4B				2.7	3.0	3.4	3.8	4.3	4.8	5.4	6.1	6.8	
	4C				2.9	3.4	3.8	4.4	5.1	5.9				
	4D				3.2	3.7	4.3	4.9	5.5	6.2				
	4E													
	5A				2.1	2.3	2.7	3.0	3.3	3.7	4.1	4.5	4.9	5.4
	5B				2.1	2.4	2.7	3.0	3.3	3.7	4.1	4.5	5.0	5.5
	5C				2.1	2.4	2.7	3.0	3.4	3.7	4.1	4.6	5.0	5.6
	5D				2.2	2.5	2.8	3.2	3.6	4.0	4.4	4.9	5.5	6.1

FOUNDATION PRESSURE IN KIPS PER SQ. FT.
ϕ (PHI) = 34º BACKFILL

BASE WIDTH	LOADING CONDITION	WALL HEIGHT														
		18'	20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'	42'	44'	46'
24'	1	2.6	2.9	3.2	3.5	3.8	4.2	4.6	5.0	5.5	6.0					
	2	3.3	3.7	4.1	4.6	5.0	5.6	6.1	6.7	7.4	8.1					
	3	2.3	2.6	2.9	3.2	3.6	3.9	4.3	4.7	5.1	5.6					
	4A	2.8	3.1	3.4	3.8	4.1	4.5	4.9	5.4	5.8	6.4					
	4B	3.0	3.4	3.7	4.2	4.6	5.1	5.7	6.3	7.1						
	4C	3.3	3.7	4.2	4.8	5.4	6.2									
	4D	3.6	4.2	4.7	5.3	5.9	6.6	7.3								
	4E															
	5A	2.3	2.6	2.9	3.2	3.6	3.9	4.3	4.7	5.2	5.6					
	5B	2.3	2.6	2.9	3.2	3.6	4.0	4.4	4.8	5.2	5.7					
	5C	2.3	2.6	3.0	3.3	3.6	4.0	4.4	4.8	5.3	5.8					
	5D	2.5	2.8	3.1	3.4	3.8	4.2	4.7	5.2	5.7	6.3					
26'	1		2.8	3.1	3.4	3.8	4.1	4.5	4.8	5.3	5.7	6.2	6.7			
	2		3.7	4.1	4.5	5.0	5.4	5.9	6.5	7.1	7.7	8.4	9.1			
	3		2.6	2.9	3.2	3.5	3.8	4.2	4.6	5.0	5.4	5.8	6.3			
	4A		3.0	3.4	3.7	4.0	4.4	4.8	5.2	5.6	6.1	6.6	7.1			
	4B		3.3	3.7	4.1	4.5	5.0	5.5	6.0	6.6	7.3	8.1				
	4C		3.6	4.1	4.6	5.2	5.8	6.6								
	4D		4.0	4.6	5.2	5.7	6.3	7.0	7.7							
	4E															
	5A		2.6	2.9	3.2	3.5	3.8	4.2	4.6	5.0	5.4	5.9	6.4			
	5B		2.6	2.9	3.2	3.5	3.9	4.2	4.6	5.0	5.4	5.9	6.4			
	5C		2.6	2.9	3.2	3.6	3.9	4.3	4.7	5.1	5.5	6.0	6.5			
	5D		2.8	3.1	3.4	3.7	4.1	4.5	5.0	5.5	6.0	6.5	7.1			
28'	1			3.1	3.4	3.7	4.0	4.4	4.7	5.1	5.5	5.9	6.4	6.9		
	2			4.1	4.5	4.9	5.3	5.8	6.3	6.8	7.4	8.0	8.7	9.4		
	3			2.8	3.1	3.4	3.8	4.1	4.5	4.8	5.2	5.6	6.1	6.5		
	4A			3.3	3.6	4.0	4.3	4.6	5.0	5.4	5.8	6.3	6.8	7.3		
	4B			3.6	4.0	4.4	4.8	5.3	5.8	6.3	6.9	7.6	8.3	9.1		
	4C			4.0	4.5	5.0	5.5	6.2	6.9	7.9						
	4D			4.4	5.1	5.6	6.1	6.7	7.4	8.1						
	4E															
	5A			2.8	3.1	3.4	3.8	4.1	4.5	4.8	5.2	5.6	6.1	6.6		
	5B			2.8	3.2	3.5	3.8	4.1	4.5	4.9	5.3	5.7	6.1	6.6		
	5C			2.9	3.2	3.5	3.8	4.2	4.5	4.9	5.3	5.8	6.2	6.7		
	5D			3.0	3.4	3.7	4.0	4.4	4.8	5.3	5.7	6.2	6.8	7.3		
30'	1				3.4	3.7	4.0	4.3	4.6	5.0	5.4	5.8	6.2	6.6	7.1	7.6
	2				4.4	4.8	5.3	5.7	6.2	6.7	7.2	7.8	8.4	9.0	9.7	10.5
	3				3.1	3.4	3.7	4.0	4.4	4.7	5.1	5.5	5.9	6.3	6.7	7.2
	4A				3.6	3.9	4.2	4.6	4.9	5.3	5.7	6.1	6.5	7.0	7.5	8.0
	4B				4.0	4.3	4.7	5.2	5.6	6.0	6.6	7.2	7.8	8.5	9.3	
	4C				4.4	4.8	5.4	5.9	6.6	7.3	8.2					
	4D				4.9	5.5	6.0	6.6	7.2	7.8	8.5	9.3				
	4E															
	5A				3.1	3.4	3.7	4.0	4.4	4.7	5.1	5.5	5.9	6.3	6.8	7.3
	5B				3.1	3.4	3.7	4.1	4.4	4.8	5.1	5.5	5.9	6.4	6.8	7.3
	5C				3.1	3.4	3.8	4.1	4.4	4.8	5.2	5.6	6.0	6.5	6.9	7.4
	5D				3.3	3.6	4.0	4.3	4.7	5.1	5.5	6.0	6.5	7.0	7.6	8.2

FOUNDATION PRESSURE IN KIPS PER SQ. FT.
ϕ (PHI) = 34º BACKFILL

BASE WIDTH	LOADING CONDITION	WALL HEIGHT												
		26'	28'	30'	32'	34'	36'	38'	40'	42'	44'	46'	48'	50'
32'	1	3.6	3.9	4.2	4.6	4.9	5.2	5.6	6.0	6.4	6.8	7.3	7.8	
	2	4.8	5.2	5.6	6.1	6.6	7.1	7.6	8.2	8.7	9.4	10.1	10.8	
	3	3.4	3.7	4.0	4.3	4.6	5.0	5.4	5.7	6.1	6.6	7.0	7.4	
	4A	3.8	4.2	4.5	4.8	5.2	5.6	5.9	6.3	6.8	7.2	7.7	8.2	
	4B	4.3	4.7	5.1	5.5	5.9	6.4	6.9	7.5	8.1	8.8	9.5	10.4	
	4C	4.8	5.2	5.7	6.3	6.9	7.7	8.5						
	4D	5.3	6.0	6.4	7.0	7.6	8.2	8.9	9.7					
	4E													
	5A	3.4	3.7	4.0	4.3	4.6	5.0	5.4	5.7	6.1	6.6	7.0	7.5	
	5B	3.4	3.7	4.0	4.3	4.7	5.0	5.4	5.8	6.2	6.6	7.1	7.6	
	5C	3.4	3.7	4.0	4.4	4.7	5.1	5.5	5.9	6.3	6.7	7.2	7.7	
	5D	3.6	3.9	4.3	4.6	5.0	5.4	5.8	6.3	6.8	7.3	7.8	8.4	
34'	1		3.9	4.2	4.5	4.8	5.2	5.5	5.9	6.3	6.7	7.1	7.5	8.0
	2		5.2	5.6	6.0	6.5	6.9	7.4	8.0	8.5	9.1	9.7	10.4	11.1
	3		3.6	3.9	4.2	4.6	4.9	5.3	5.6	6.0	6.4	6.8	7.2	7.7
	4A		4.1	4.4	4.8	5.1	5.4	5.8	6.2	6.6	7.0	7.4	7.9	8.4
	4B		4.6	5.0	5.4	5.8	6.3	6.7	7.3	7.8	8.4	9.1	9.8	10.6
	4C		5.1	5.6	6.1	6.7	7.3	8.0	8.8					
	4D		5.7	6.4	6.9	7.4	8.0	8.6	9.3	10.1				
	4E													
	5A		3.6	3.9	4.2	4.6	4.9	5.2	5.6	6.0	6.4	6.8	7.2	7.7
	5B		3.6	4.0	4.3	4.6	4.9	5.3	5.7	6.0	6.4	6.9	7.3	7.8
	5C		3.7	4.0	4.3	4.6	5.0	5.4	5.7	6.1	6.5	7.0	7.4	7.9
	5D		3.9	4.2	4.5	4.9	5.3	5.7	6.1	6.6	7.0	7.5	8.1	8.6
36'	1			4.2	4.4	4.8	5.1	5.4	5.8	6.1	6.5	6.9	7.3	7.8
	2			5.6	6.0	6.4	6.8	7.3	7.8	8.3	8.9	9.5	10.1	10.7
	3			3.9	4.2	4.5	4.8	5.2	5.5	5.9	6.3	6.6	7.1	7.5
	4A			4.4	4.7	5.0	5.4	5.7	6.1	6.4	6.8	7.3	7.7	8.1
	4B			4.9	5.3	5.7	6.1	6.6	7.1	7.6	8.1	8.7	9.3	10.0
	4C			5.5	6.0	6.5	7.1	7.7	8.4	9.2	10.1			
	4D			6.2	6.8	7.3	7.8	8.4	9.1	9.7	10.5	11.3		
	4E													
	5A			3.9	4.2	4.5	4.8	5.2	5.5	5.9	6.2	6.6	7.0	7.5
	5B			3.9	4.2	4.5	4.9	5.2	5.6	5.9	6.3	6.7	7.1	7.6
	5C			3.9	4.3	4.6	4.9	5.3	5.6	6.0	6.4	6.8	7.2	7.7
	5D			4.2	4.5	4.8	5.2	5.6	6.0	6.4	6.8	7.3	7.8	8.3
38'	1				4.4	4.7	5.0	5.4	5.7	6.0	6.4	6.8	7.2	7.6
	2				5.9	6.4	6.8	7.2	7.7	8.2	8.7	9.2	9.8	10.4
	3				4.2	4.5	4.8	5.1	5.4	5.8	6.2	6.5	6.9	7.3
	4A				4.7	5.0	5.3	5.6	6.0	6.3	6.7	7.1	7.5.	7.9
	4B				5.2	5.6	6.1	6.5	6.9	7.4	7.9	8.4	9.0	9.6
	4C				5.9	6.4	6.9	7.4	8.1	8.8	9.5	10.4		
	4D				6.6	7.2	7.7	8.3	8.9	9.5	10.2	10.9	11.6	
	4E													
	5A				4.2	4.5	4.8	5.1	5.4	5.8	6.1	6.5	6.9	7.3
	5B				4.2	4.5	4.8	5.1	5.5	5.8	6.2	6.6	7.0	7.4
	5C				4.2	4.5	4.8	5.2	5.5	5.9	6.3	6.6	7.1	7.5
	5D				4.5	4.8	5.1	5.4	5.8	6.2	6.7	7.1	7.6	8.1

FOUNDATION PRESSURE IN KIPS PER SQ. FT.
ϕ (PHI) = 34º BACKFILL

BASE WIDTH	LOADING CONDITION	WALL HEIGHT								
		34'	36'	38'	40'	42'	44'	46'	48'	50'
40'	1	4.7	5.0	5.3	5.6	6.0	6.3	6.7	7.0	7.4
	2	6.3	6.7	7.2	7.6	8.1	8.6	9.1	9.6	10.2
	3	4.4	4.7	5.1	5.4	5.7	6.1	6.4	6.8	7.2
	4A	4.9	5.2	5.6	5.9	6.2	6.6	7.0	7.4	7.8
	4B	5.6	6.0	6.4	6.8	7.2	7.7	8.2	8.8	9.3
	4C	6.2	6.7	7.2	7.8	8.4	9.1	9.9	10.8	
	4D	7.1	7.6	8.1	8.7	9.3	9.9	10.6	11.3	12.0
	4E									
	5A	4.4	4.7	5.0	5.4	5.7	6.0	6.4	6.8	7.1
	5B	4.4	4.8	5.1	5.4	5.7	6.1	6.4	6.8	7.2
	5C	4.5	4.8	5.1	5.5	5.8	6.2	6.5	6.9	7.3
	5D	4.8	5.1	5.4	5.7	6.1	6.5	7.0	7.4	7.8
42'	2		6.7	7.1	7.6	8.0	8.5	9.0	9.5	10.0
	4C		6.6	7.1	7.6	8.2	8.8	9.5	10.2	11.1
	4D		7.5	8.0	8.6	9.1	9.7	10.3	11.0	11.7
44'	2			7.1	7.5	7.9	8.4	8.8	9.3	9.8
	4C			7.0	7.5	8.0	8.6	9.2	9.9	10.6
	4D			7.9	8.5	9.0	9.5	10.1	10.8	11.4
46'	2				7.4	7.9	8.3	8.8	9.2	9.7
	4C				7.4	7.9	8.4	9.0	9.6	10.2
	4D				8.4	8.9	9.4	10.0	10.6	11.2

FOUNDATION PRESSURE IN KIPS PER SQ. FT. - LOADING CONDITION 4E

ϕ (PHI) = 34º BACKFILL

BASE WIDTH	WALL HEIGHT														
	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
8'	1.1														
10'	1.2	1.5													
12'	1.2	1.6	1.9												
14'	1.3	1.7	2.0												
16'	1.4	1.8	2.1	2.5											
18'	1.5	1.9	2.2	2.6	2.9										
20'		2.0	2.3	2.6	3.0										
22'		2.1	2.4	2.7	3.1	3.4									
24'			2.5	2.8	3.2	3.5	3.9								
26'			2.6	2.9	3.2	3.6	4.0								
28'				3.0	3.3	3.7	4.0	4.4							
30'				3.1	3.4	3.8	4.1	4.5	4.9						
32'					3.5	3.9	4.2	4.6	4.9						
34					3.6	4.0	4.3	4.7	5.0	5.4					
36'						4.1	4.4	4.7	5.1	5.4	5.8				
38'						4.2	4.5	4.8	5.2	5.5	5.9				
40'							4.6	4.9	5.3	5.6	6.0	6.3			
42'							4.7	5.0	5.4	5.7	6.1	6.4	6.8		
44'								5.1	5.4	5.8	6.2	6.5	6.9		
46'								5.2	5.5	5.9	6.2	6.6	7.0	7.3	
48'									5.6	6.0	6.3	6.7	7.0	7.4	7.8
50'									5.7	6.1	6.4	6.8	7.1	7.5	7.8

BASE WIDTH	WALL HEIGHT														
	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'	42'	44'	46'	48'	50'
52'	6.2	6.5	6.8	7.2	7.6	7.9	8.3								
54'	6.2	6.6	6.9	7.3	7.6	8.0	8.4	8.8							
56'		6.7	7.0	7.4	7.7	8.1	8.4	8.8							
58'		6.8	7.1	7.5	7.8	8.2	8.5	8.9	9.2						
60'			7.2	7.6	7.9	8.3	8.6	9.0	9.3	9.7					
62'			7.3	7.6	8.0	8.4	8.7	9.1	9.4	9.8					
64'				7.7	8.1	8.4	8.8	9.1	9.5	9.8	10.2				
66'				7.8	8.2	8.5	8.9	9.2	9.6	9.9	10.3	10.7			
68'					8.3	8.6	9.0	9.3	9.7	10.0	10.4	10.7			
70'					8.4	8.7	9.1	9.4	9.8	10.1	10.5	10.8	11.2		
72'						8.8	9.1	9.5	9.8	10.2	10.6	10.9	11.3	11.7	
74'						8.9	9.2	9.6	9.9	10.3	10.6	11.0	11.4	11.7	
76'							9.3	9.7	10.0	10.4	10.7	11.1	11.4	11.8	12.2
78'							9.4	9.8	10.1	10.4	10.8	11.2	11.5	11.9	12.2
80'								9.8	10.2	10.5	10.9	11.2	11.6	12.0	12.3