

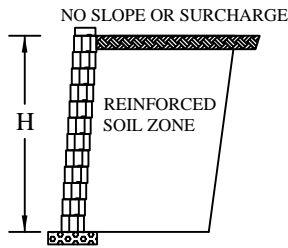
# REINFORCEMENT ESTIMATING CHART

## CLAY AND SILT SOIL

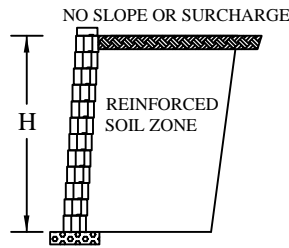
## SILTY/CLAYEY SAND SOIL

## CLEAN SAND AND GRAVEL SOIL

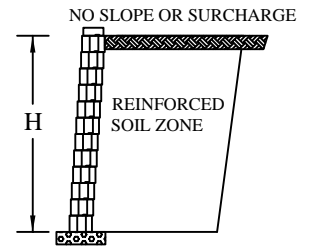
H  $\phi = 26^\circ$   
 $\gamma = 120$  pcf (19 kN/cubic meter)



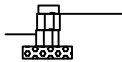
H  $\phi = 30^\circ$   
 $\gamma = 120$  pcf (19 kN/cubic meter)



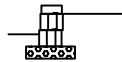
H  $\phi = 34^\circ$   
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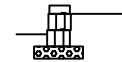
2 COURSES  
 1' 3" - 1' 4"  
 (400mm)



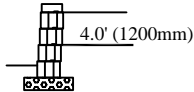
2 COURSES  
 1' 3" - 1' 4"  
 (400mm)



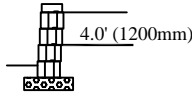
2 COURSES  
 1' 3" - 1' 4"  
 (400mm)



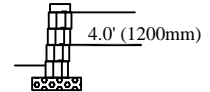
4 COURSES  
 2' 6" - 2' 8"  
 (800mm)



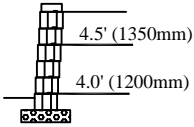
4 COURSES  
 2' 6" - 2' 8"  
 (800mm)



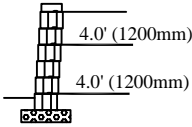
4 COURSES  
 2' 6" - 2' 8"  
 (800mm)



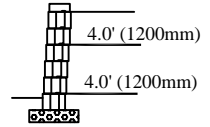
6 COURSES  
 3' 9" - 4' 0"  
 (1200mm)



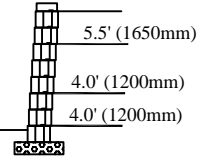
6 COURSES  
 3' 9" - 4' 0"  
 (1200mm)



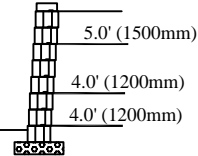
6 COURSES  
 3' 9" - 4' 0"  
 (1200mm)



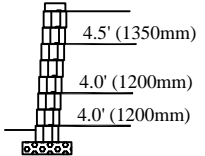
8 COURSES  
 5' 0" - 5' 4"  
 (1600mm)



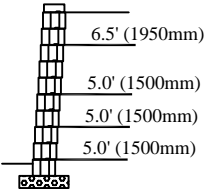
8 COURSES  
 5' 0" - 5' 4"  
 (1600mm)



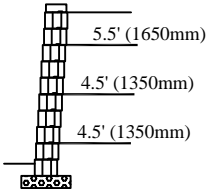
8 COURSES  
 5' 0" - 5' 4"  
 (1600mm)



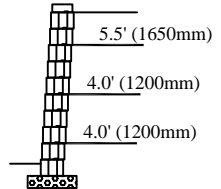
10 COURSES  
 6' 3" - 6' 8"  
 (2000mm)



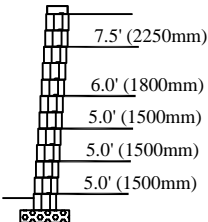
10 COURSES  
 6' 3" - 6' 8"  
 (2000mm)



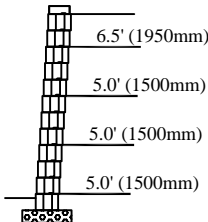
10 COURSES  
 6' 3" - 6' 8"  
 (2000mm)



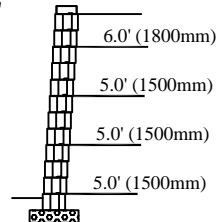
12 COURSES  
 7' 0" 6" - 8' 0"  
 (2400mm)



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 7' 0" 6" - 8' 0"  
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 7' 0" 6" - 8' 0"  
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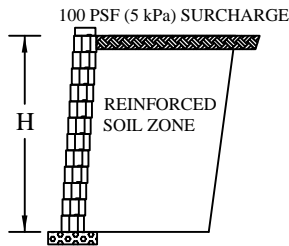
# REINFORCEMENT ESTIMATING CHART

## CLAY AND SILT SOIL

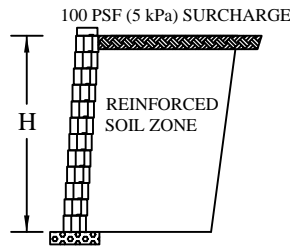
## SILTY/CLAYEY SAND SOIL

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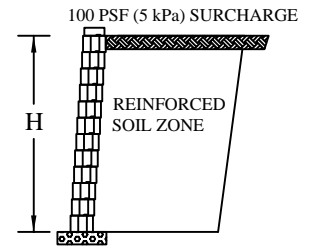
H  $\phi = 26^\circ$   
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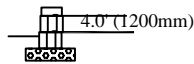
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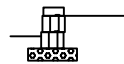
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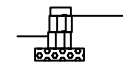
2 COURSES  
 1' 3" - 1' 4"  
 (400mm)



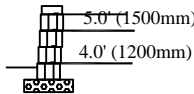
2 COURSES  
 1' 3" - 1' 4"  
 (400mm)



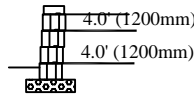
2 COURSES  
 1' 3" - 1' 4"  
 (400mm)



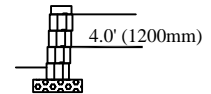
4 COURSES  
 2' 6" - 2' 8"  
 (800mm)



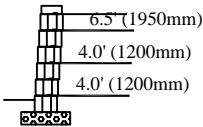
4 COURSES  
 2' 6" - 2' 8"  
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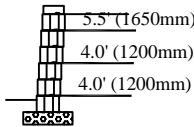
4 COURSES  
 2' 6" - 2' 8"  
 (800mm)



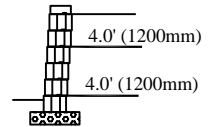
6 COURSES  
 3' 9" - 4' 0"  
 (1200mm)



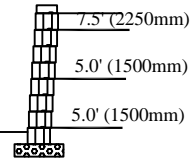
6 COURSES  
 3' 9" - 4' 0"  
 (1200mm)



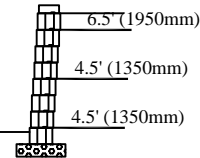
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 (1200mm)



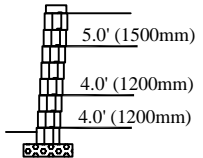
8 COURSES  
 5' 0" - 5' 4"  
 (1600mm)



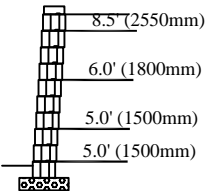
8 COURSES  
 5' 0" - 5' 4"  
 (1600mm)



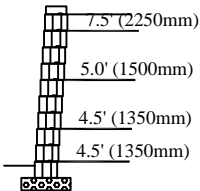
8 COURSES  
 5' 0" - 5' 4"  
 (1600mm)



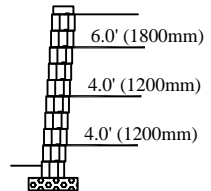
10 COURSES  
 6' 3" - 6' 8"  
 (2000mm)



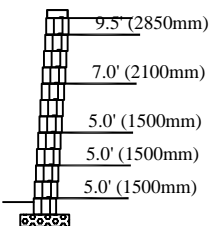
10 COURSES  
 6' 3" - 6' 8"  
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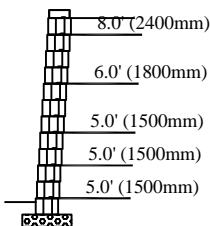
10 COURSES  
 6' 3" - 6' 8"  
 (2000mm)



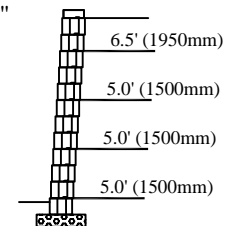
12 COURSES  
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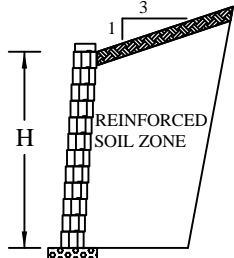
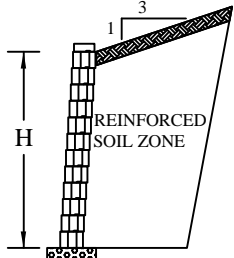
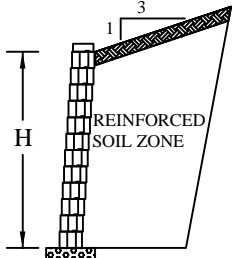
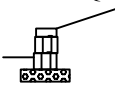
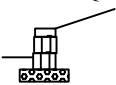
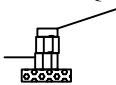
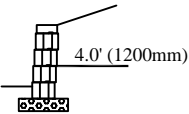
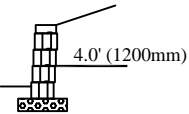
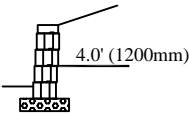
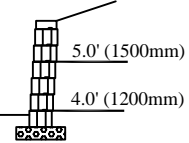
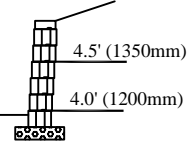
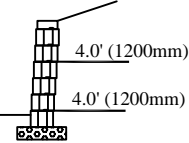
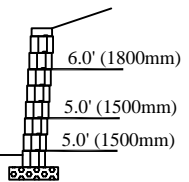
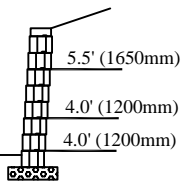
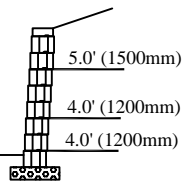
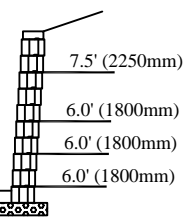
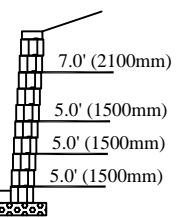
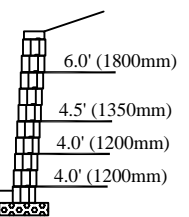
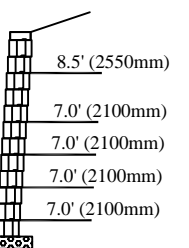
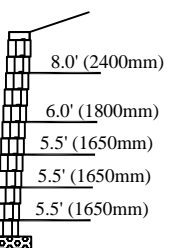


# REINFORCEMENT ESTIMATING CHART

## CLAY AND SILT SOIL

## SILTY/CLAYEY SAND SOIL

## CLEAN SAND AND GRAVEL SOIL

<p>H</p> <p><math>\phi = 26^\circ</math> <math>\gamma = 120</math> pcf (19 kN/cubic meter)</p> 	<p>H</p> <p><math>\phi = 30^\circ</math> <math>\gamma = 120</math> pcf (19 kN/cubic meter)</p> 	<p>H</p> <p><math>\phi = 34^\circ</math> <math>\gamma = 120</math> pcf (19 kN/cubic meter)</p> 
<p>2 COURSES 1' 3" - 1' 4" (400mm)</p>  <p>NO REINFORCEMENT REQUIRED <math>\leq</math> 2 COURSES</p>	<p>2 COURSES 1' 3" - 1' 4" (400mm)</p>  <p>NO REINFORCEMENT REQUIRED <math>\leq</math> 2 COURSES</p>	<p>2 COURSES 1' 3" - 1' 4" (400mm)</p>  <p>NO REINFORCEMENT REQUIRED <math>\leq</math> 2 COURSES</p>
<p>4 COURSES 2' 6" - 2' 8" (800mm)</p> 	<p>4 COURSES 2' 6" - 2' 8" (800mm)</p> 	<p>4 COURSES 2' 6" - 2' 8" (800mm)</p> 
<p>6 COURSES 3' 9" - 4' 0" (1200mm)</p> 	<p>6 COURSES 3' 9" - 4' 0" (1200mm)</p> 	<p>6 COURSES 3' 9" - 4' 0" (1200mm)</p> 
<p>8 COURSES 5' 0" - 5' 4" (1600mm)</p> 	<p>8 COURSES 5' 0" - 5' 4" (1600mm)</p> 	<p>8 COURSES 5' 0" - 5' 4" (1600mm)</p> 
<p>10 COURSES 6' 3" - 6' 8" (2000mm)</p> 	<p>10 COURSES 6' 3" - 6' 8" (2000mm)</p> 	<p>10 COURSES 6' 3" - 6' 8" (2000mm)</p> 
<p>12 COURSES 7.0' 6" - 8' 0" (2400mm)</p> 	<p>12 COURSES 7.0' 6" - 8' 0" (2400mm)</p> 	<p>12 COURSES 7.0' 6" - 8' 0" (2400mm)</p> 