

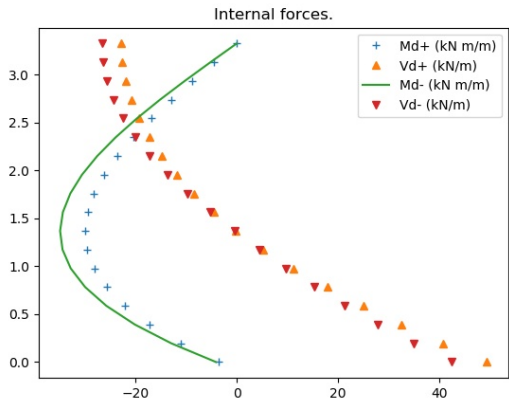
T1	
	<p>WALL GEOMETRY</p> <p>Stem top thickness : $b_{top} = 0.25 \text{ m}$</p> <p>Stem height : $h_{stem} = 3.15 \text{ m}$</p> <p>Stem bottom thickness : $b_{bottom} = 0.25 \text{ m}$</p> <p>Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 1 – Wall materials and dimensions T1

WALL : T1 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturing :	-893.94	1.00	EQ1615
Sliding :	0.87	1.00	EQ1608
Bearing capacity :	0.51	1.00	EQ1608
Adm. pressure :	2.06	1.00	EQ1608
$F_{avail.}$: available security.			
F_{req} : required security.			

WALL : T1 ROTATION CHECK		
$\beta_{disp}(\%)$	$\beta_{req}(\%)$	Combination
-1.67	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

T1 WALL REINFORCEMENT
<p>Reinforcement 1 (outside reinforcement dowels) :</p> <p>RC section dimensions; $b = 1.00 \text{ m}$, $h = 0.25 \text{ m}$</p> <p>diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters).</p> <p>diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters).</p> <p>area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 3.54$ OK!</p> <p>Bending check : $M_d = 10.39 \text{ kN m}$, $M_R = 99.62 \text{ kN m}$ $F(M) = 9.59$ OK!</p> <p>Shear check : $V_d = 38.35 \text{ kN}$, $V_R = 199.37 \text{ kN}$ $F(V) = 5.20$ OK!</p> <p>Stress check : $M = 10.39 \text{ kN m}$, $\sigma_s = 28.17 \text{ MPa}$</p>
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T1 (SUITE)
<p>$\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 8.16 \text{ OK!}$</p> <p>Reinforcement 3 (footing top reinforcement) : RC section dimensions; $b = 1.00 \text{ m}$, $h = 0.36 \text{ m}$ diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$ Bending check : $M_d = 0.91 \text{ kN m}$, $M_R = 152.86 \text{ kN m}$ $F(M) = 167.99 \text{ OK!}$ Shear check : $V_d = 2.99 \text{ kN}$, $V_R = 279.12 \text{ kN}$ $F(V) = 93.24 \text{ OK!}$ Stress check : $M = 0.91 \text{ kN m}$, $\sigma_s = 1.76 \text{ MPa}$ $\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 130.52 \text{ OK!}$</p> <p>Reinforcement 4 (inside reinforcement dowels) : diam : 10 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (32 diameters). area : $A_s = 4.73 \text{ cm}^2/\text{m}$ areaMin : $1.72 \text{ cm}^2/\text{m}$ $F(A_s) = 2.75 \text{ OK!}$</p> <p>Reinforcement 5 (inside stem reinforcement) : RC section dimensions; $b = 1.00 \text{ m}$, $h = 0.25 \text{ m}$ diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters). area : $A_s = 6.67 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.46 \text{ OK!}$ Bending check : $M_d = 32.93 \text{ kN m}$, $M_R = 41.36 \text{ kN m}$ $F(M) = 1.26 \text{ OK!}$ Shear check : $V_d = 9.01 \text{ kN}$, $V_R = 199.37 \text{ kN}$ $F(V) = 22.14 \text{ OK!}$ Stress check : $M = 32.93 \text{ kN m}$, $\sigma_s = 216.06 \text{ MPa}$ $\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 1.06 \text{ OK!}$</p> <p>Reinforcement 6 (stem top transverse reinforcement) : RC section dimensions; $b = 1.00 \text{ m}$, $h = 0.25 \text{ m}$ diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$</p> <p>Reinforcement 7 (footing bottom transverse reinforcement) : diam : 10 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (32 diameters). area : $A_s = 4.73 \text{ cm}^2/\text{m}$ areaMin : $3.23 \text{ cm}^2/\text{m}$ $F(A_s) = 1.47 \text{ OK!}$</p> <p>Reinforcement 8 (footing bottom longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$</p> <p>Reinforcement 9 (footing top longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$</p> <p>Reinforcement 10 (footing skin reinforcement) : —</p> <p>Reinforcement 11 (stem outside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$</p> <p>Reinforcement 12 (stem inside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$</p>
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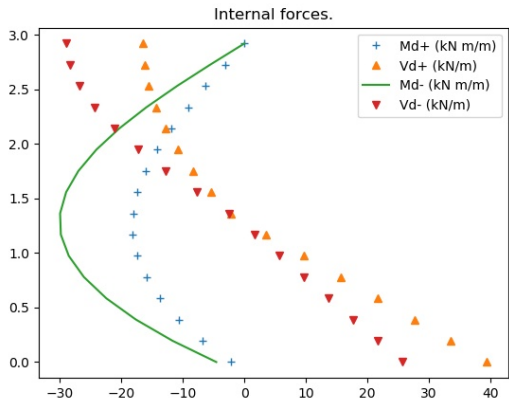
T2	
	<p>WALL GEOMETRY</p> <p>Stem top thickness : $b_{top} = 0.25 \text{ m}$</p> <p>Stem height : $h_{stem} = 2.74 \text{ m}$</p> <p>Stem bottom thickness : $b_{bottom} = 0.25 \text{ m}$</p> <p>Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 3 – Wall materials and dimensions T2

T1 (SUITE)
Reinforcement 13 (stem top skin reinforcement) :
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TABLE 2 – T1 wall reinforcement

WALL : T2 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overtuning :	-33.62	1.00	EQ1613B
Sliding :	1.46	1.00	EQ1609A
Bearign capacity :	0.65	1.00	EQ1613B
Adm. pressure :	1.13	1.00	EQ1613B
$F_{avail.}$: available security.			
F_{req} : required security.			

WALL : T2 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
-1.46	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR T2
Reinforcement 1 (outside reinforcement dowels) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
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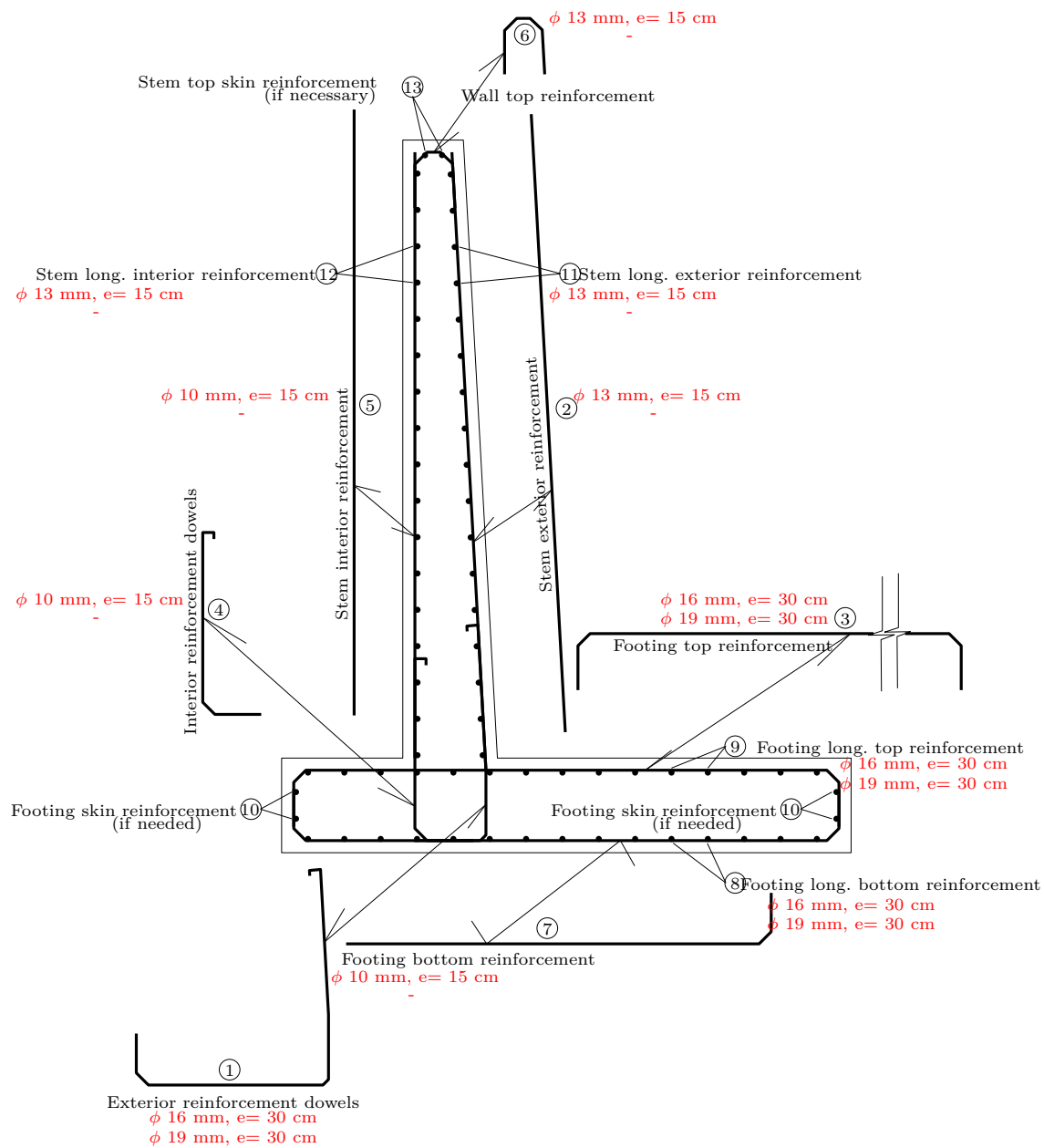


FIGURE 1 – Wall T1 reinforcement scheme

T2 (SUITE)	
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).	
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).	
area : As= 16.13 cm ² /m areaMin : 4.56 cm ² /m F(As)= 3.54 OK!	
Bending check : Md= 6.37 kN m, MR= 99.62kN m F(M)= 15.65 OK!	
Shear check : Vd= 31.78 kN, VR= 199.37 kN F(V)= 6.27 OK!	
Stress check : M= 6.37 kN m, σ_s = 17.27 MPa	
σ_{lim} = 230.00 MPa F(σ_s)= 13.32 OK!	
Reinforcement 3 (footing top reinforcement) :	
RC section dimensions; b= 1.00 m, h= 0.36 m	
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).	
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).	
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK!	
Bending check : Md= 1.82 kN m, MR= 152.86kN m F(M)= 83.92 OK!	
Shear check : Vd= 4.40 kN, VR= 279.12 kN F(V)= 63.50 OK!	
Stress check : M= 1.82 kN m, σ_s = 3.53 MPa	
σ_{lim} = 230.00 MPa F(σ_s)= 65.20 OK!	
Reinforcement 4 (inside reinforcement dowels) :	
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).	
area : As= 4.73 cm ² /m areaMin : 1.72 cm ² /m F(As)= 2.75 OK!	
Reinforcement 5 (inside stem reinforcement) :	
RC section dimensions; b= 1.00 m, h= 0.25 m	
diam : 16 mm, spacing : 400 mm reinf. development L=0.34 m (22 diameters).	
area : As= 5.00 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.10 OK!	
Bending check : Md= 29.02 kN m, MR= 31.02kN m F(M)= 1.07 OK!	
Shear check : Vd= 6.84 kN, VR= 199.37 kN F(V)= 29.15 OK!	
Stress check : M= 29.02 kN m, σ_s = 253.88 MPa	
σ_{lim} = 230.00 MPa F(σ_s)= 0.91 Error!	
Reinforcement 6 (stem top transverse reinforcement) :	
RC section dimensions; b= 1.00 m, h= 0.25 m	
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).	
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK!	
Reinforcement 7 (footing bottom transverse reinforcement) :	
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).	
area : As= 4.73 cm ² /m areaMin : 3.23 cm ² /m F(As)= 1.47 OK!	
Reinforcement 8 (footing bottom longitudinal reinforcement) :	
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).	
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).	
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK!	
Reinforcement 9 (footing top longitudinal reinforcement) :	
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).	
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).	
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK!	
Reinforcement 10 (footing skin reinforcement) :	
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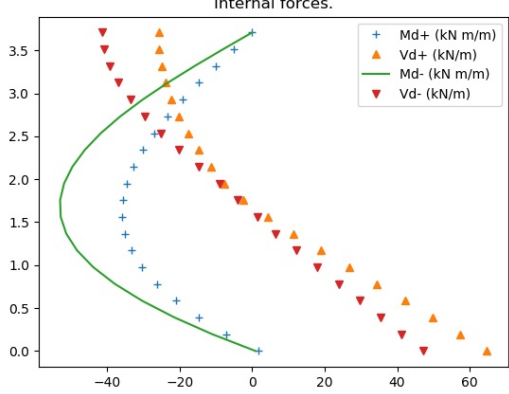
T3	
	<p>WALL GEOMETRY</p> <p>Stem top thickness : $b_{top} = 0.25 \text{ m}$</p> <p>Stem height : $h_{stem} = 3.53 \text{ m}$</p> <p>Stem bottom thickness : $b_{bottom} = 0.25 \text{ m}$</p> <p>Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 5 – Wall materials and dimensions T3

T2 (SUITE)
<p>Reinforcement 11 (stem outside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$</p> <p>Reinforcement 12 (stem inside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$</p> <p>Reinforcement 13 (stem top skin reinforcement) : —</p>

TABLE 4 – T2 wall reinforcement

WALL : T3 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	19.06	1.00	EQ1609A
Sliding :	1.13	1.00	EQ1609A
Bearign capacity :	0.50	1.00	EQ1609A
Adm. pressure :	1.12	1.00	EQ1613B
$F_{avail.}$: available security.			
F_{req} : required security.			

WALL : T3 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
-1.03	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

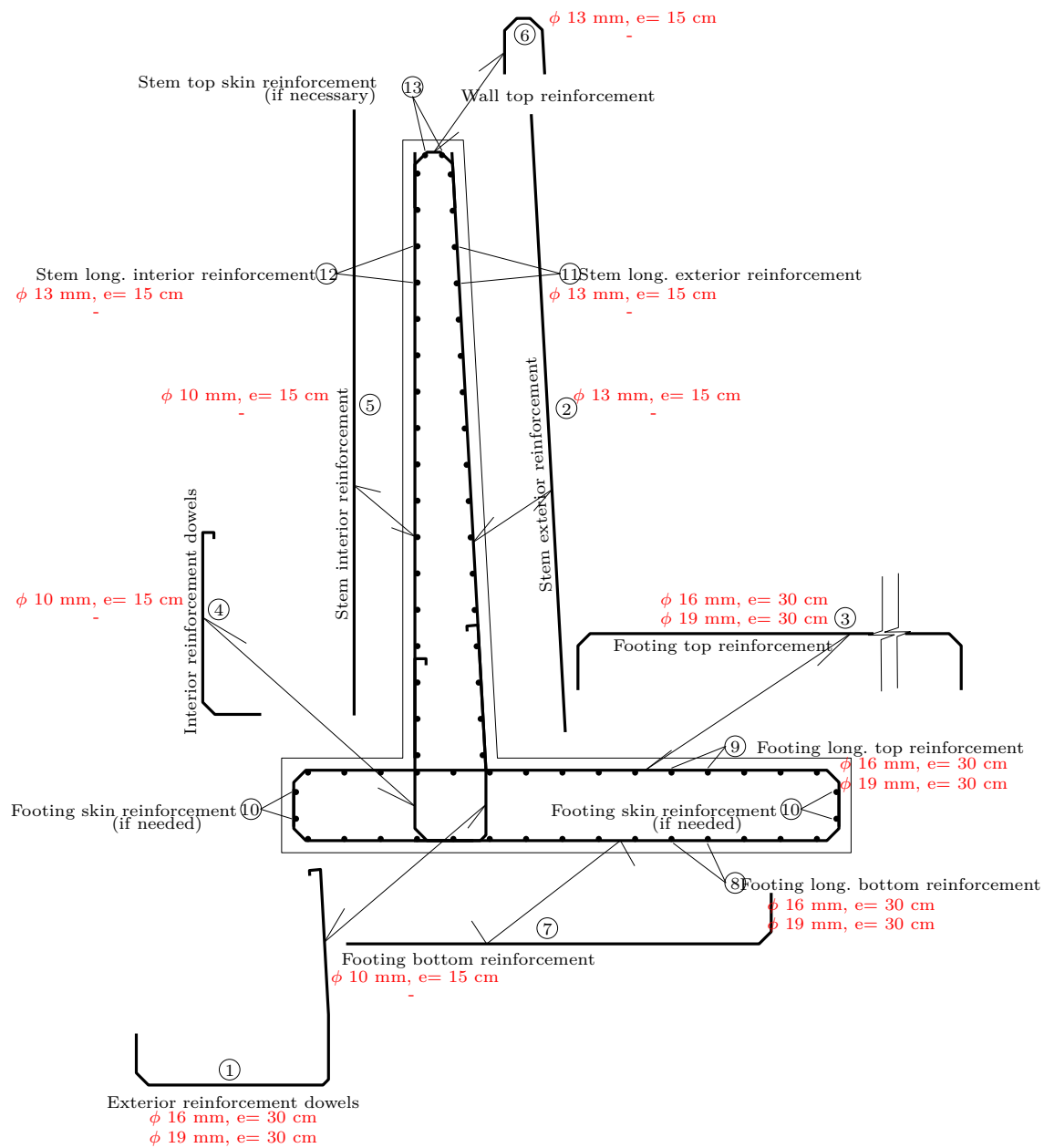


FIGURE 2 – Wall T2 reinforcement scheme

REINFORCEMENTS MUR T3
<p>Reinforcement 1 (outside reinforcement dowels) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 16.13 cm²/m areaMin : 4.56 cm²/m F(As)= 3.54 OK! Bending check : Md= 6.34 kN m, MR= 99.62kN m F(M)= 15.71 OK! Shear check : Vd= 55.00 kN, VR= 199.37 kN F(V)= 3.63 OK! Stress check : M= 6.34 kN m, σ_s= 17.19 MPa σ_{lim}= 230.00 MPa F(σ_s)= 13.38 OK!</p> <p>Reinforcement 3 (footing top reinforcement) : RC section dimensions; b= 1.00 m, h= 0.36 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 16.13 cm²/m areaMin : 6.38 cm²/m F(As)= 2.53 OK! Bending check : Md= 1.82 kN m, MR= 152.86kN m F(M)= 84.02 OK! Shear check : Vd= 3.58 kN, VR= 279.12 kN F(V)= 77.92 OK! Stress check : M= 1.82 kN m, σ_s= 3.52 MPa σ_{lim}= 230.00 MPa F(σ_s)= 65.27 OK!</p> <p>Reinforcement 4 (inside reinforcement dowels) : diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm²/m areaMin : 1.72 cm²/m F(As)= 2.75 OK!</p> <p>Reinforcement 5 (inside stem reinforcement) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 9.47 cm²/m areaMin : 4.56 cm²/m F(As)= 2.08 OK! Bending check : Md= 51.88 kN m, MR= 58.26kN m F(M)= 1.12 OK! Shear check : Vd= 7.98 kN, VR= 199.37 kN F(V)= 24.98 OK! Stress check : M= 51.88 kN m, σ_s= 239.75 MPa σ_{lim}= 230.00 MPa F(σ_s)= 0.96 ~ OK!</p> <p>Reinforcement 6 (stem top transverse reinforcement) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm²/m areaMin : 4.56 cm²/m F(As)= 1.89 OK!</p> <p>Reinforcement 7 (footing bottom transverse reinforcement) : diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm²/m areaMin : 3.23 cm²/m F(As)= 1.47 OK!</p> <p>Reinforcement 8 (footing bottom longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 16.13 cm²/m areaMin : 6.38 cm²/m F(As)= 2.53 OK!</p> <p>Reinforcement 9 (footing top longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).</p>
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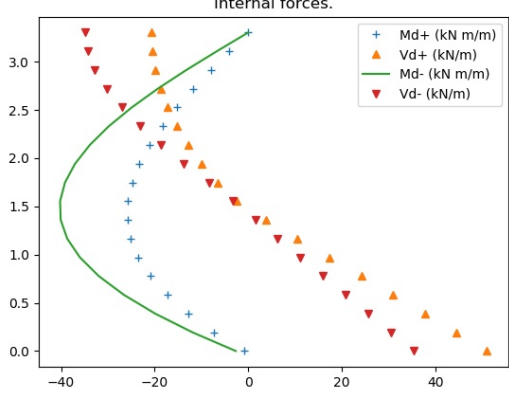
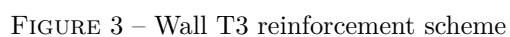
T4	
	<p>WALL GEOMETRY</p> <p>Stem top thickness : $b_{top} = 0.25 \text{ m}$</p> <p>Stem height : $h_{stem} = 3.12 \text{ m}$</p> <p>Stem bottom thickness : $b_{bottom} = 0.25 \text{ m}$</p> <p>Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 7 – Wall materials and dimensions T4

T3 (SUITE)
<p>area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$</p> <p>Reinforcement 10 (footing skin reinforcement) :</p> <p>–</p> <p>Reinforcement 11 (stem outside longitudinal reinforcement) :</p> <p>diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$</p> <p>Reinforcement 12 (stem inside longitudinal reinforcement) :</p> <p>diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$</p> <p>Reinforcement 13 (stem top skin reinforcement) :</p> <p>–</p>

TABLE 6 – T3 wall reinforcement

WALL : T4 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	-45.93	1.00	EQ1613B
Sliding :	1.45	1.00	EQ1609A
Bearign capacity :	0.64	1.00	EQ1613A
Adm. pressure :	1.08	1.00	EQ1613B
$F_{avail.}$: available security.			
F_{req} : required security.			



WALL : T4 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
-1.16	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR T4
<p>Reinforcement 1 (outside reinforcement dowels) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 16.13 cm²/m areaMin : 4.56 cm²/m F(As)= 3.54 OK! Bending check : Md= 6.77 kN m, MR= 99.62kN m F(M)= 14.72 OK! Shear check : Vd= 42.35 kN, VR= 199.37 kN F(V)= 4.71 OK! Stress check : M= 6.77 kN m, σ_s= 18.35 MPa σ_{lim}= 230.00 MPa F(σ_s)= 12.53 OK!</p> <p>Reinforcement 3 (footing top reinforcement) : RC section dimensions; b= 1.00 m, h= 0.36 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 16.13 cm²/m areaMin : 6.38 cm²/m F(As)= 2.53 OK! Bending check : Md= 2.33 kN m, MR= 152.86kN m F(M)= 65.55 OK! Shear check : Vd= 3.79 kN, VR= 279.12 kN F(V)= 73.71 OK! Stress check : M= 2.33 kN m, σ_s= 4.52 MPa σ_{lim}= 230.00 MPa F(σ_s)= 50.92 OK!</p> <p>Reinforcement 4 (inside reinforcement dowels) : diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm²/m areaMin : 1.72 cm²/m F(As)= 2.75 OK!</p> <p>Reinforcement 5 (inside stem reinforcement) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). area : As= 6.67 cm²/m areaMin : 4.56 cm²/m F(As)= 1.46 OK! Bending check : Md= 39.19 kN m, MR= 41.36kN m F(M)= 1.06 OK! Shear check : Vd= 7.46 kN, VR= 199.37 kN F(V)= 26.73 OK! Stress check : M= 39.19 kN m, σ_s= 257.14 MPa σ_{lim}= 230.00 MPa F(σ_s)= 0.89 Error!</p> <p>Reinforcement 6 (stem top transverse reinforcement) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm²/m areaMin : 4.56 cm²/m F(As)= 1.89 OK!</p> <p>Reinforcement 7 (footing bottom transverse reinforcement) : diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm²/m areaMin : 3.23 cm²/m F(As)= 1.47 OK!</p> <p>Reinforcement 8 (footing bottom longitudinal reinforcement) :</p>
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T4PH2	
	<p>WALL GEOMETRY Stem top thickness : $b_{top} = 0.25 \text{ m}$ Stem height : $h_{stem} = 3.12 \text{ m}$ Stem bottom thickness : $b_{bottom} = 0.25 \text{ m}$ Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 9 – Wall materials and dimensions T4ph2

T4 (SUITE)
diam : 16 mm, spacing : 300 mm reinf. development $L=0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L=0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$ Reinforcement 9 (footing top longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development $L=0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L=0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$ Reinforcement 10 (footing skin reinforcement) : — Reinforcement 11 (stem outside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$ Reinforcement 12 (stem inside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 1.89 \text{ OK!}$ Reinforcement 13 (stem top skin reinforcement) : —

TABLE 8 – T4 wall reinforcement

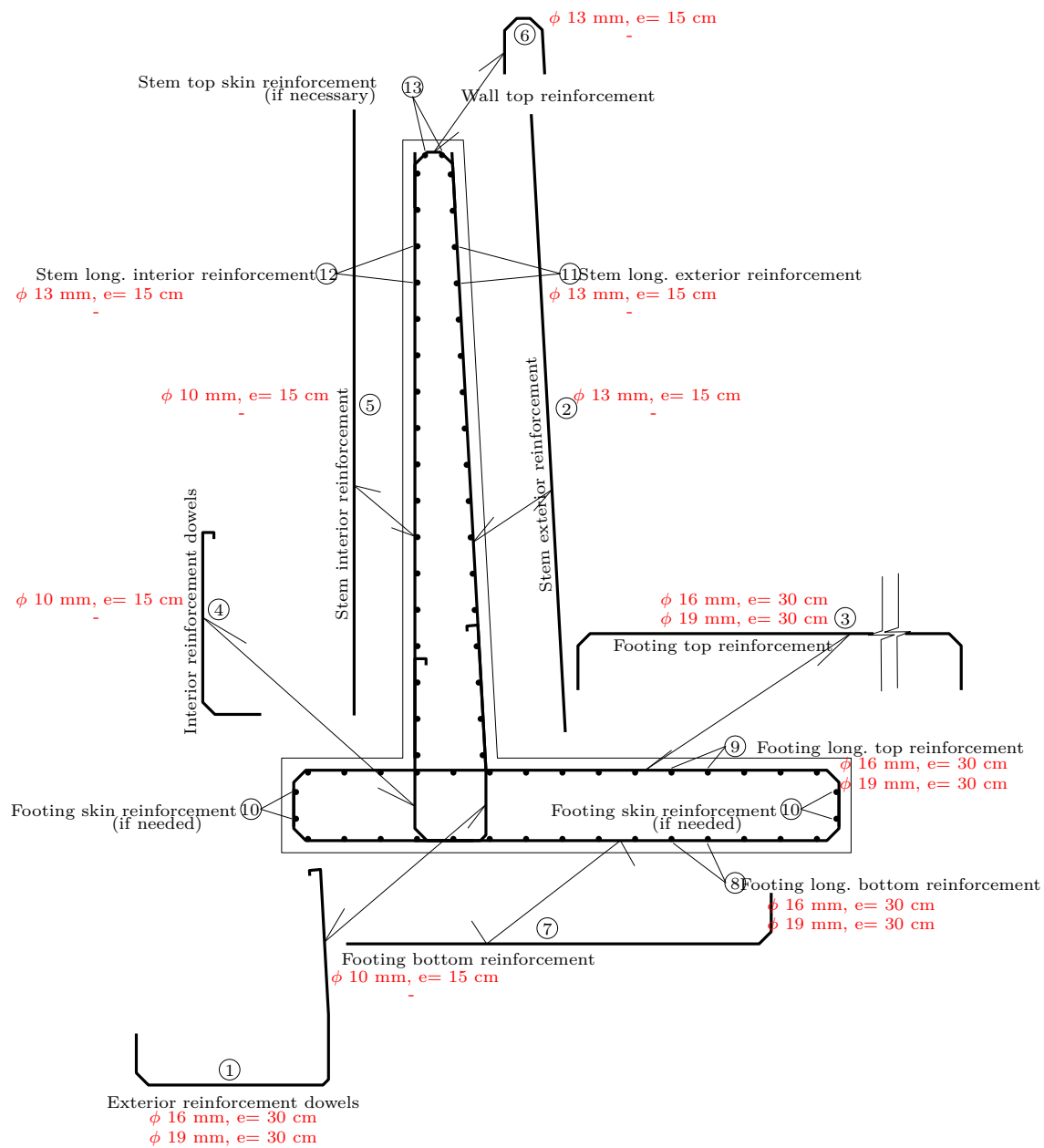


FIGURE 4 – Wall T4 reinforcement scheme

WALL : T4PH2 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	181.44	1.00	EQ1609A
Sliding :	3.65	1.00	EQ1609A
Bearign capacity :	1.17	1.00	EQ1613B
Adm. pressure :	1.53	1.00	EQ1613B
$F_{avail.}$: available security.			
F_{req} : required security.			

WALL : T4PH2 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
-0.13	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR T4PH2
<p>Reinforcement 1 (outside reinforcement dowels) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 16.13 cm²/m areaMin : 4.56 cm²/m F(As)= 3.54 OK! Bending check : Md= 0.00 kN m, MR= 99.62kN m F(M)= 370105512389011.12 OK! Shear check : Vd= 13.38 kN, VR= 199.37 kN F(V)= 14.90 OK! Stress check : M= 0.00 kN m, σ_s= 0.00 MPa σ_{lim}= 230.00 MPa F(σ_s)= 315137461021360.50 OK!</p> <p>Reinforcement 3 (footing top reinforcement) : RC section dimensions; b= 1.00 m, h= 0.36 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters). area : As= 16.13 cm²/m areaMin : 6.38 cm²/m F(As)= 2.53 OK! Bending check : Md= 2.06 kN m, MR= 152.86kN m F(M)= 74.20 OK! Shear check : Vd= 9.56 kN, VR= 279.12 kN F(V)= 29.20 OK! Stress check : M= 2.06 kN m, σ_s= 3.99 MPa σ_{lim}= 230.00 MPa F(σ_s)= 57.65 OK!</p> <p>Reinforcement 4 (inside reinforcement dowels) : diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm²/m areaMin : 1.72 cm²/m F(As)= 2.75 OK!</p> <p>Reinforcement 5 (inside stem reinforcement) : RC section dimensions; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters). area : As= 6.67 cm²/m areaMin : 4.56 cm²/m F(As)= 1.46 OK! Bending check : Md= 14.34 kN m, MR= 41.36kN m F(M)= 2.88 OK! Shear check : Vd= 1.51 kN, VR= 199.37 kN F(V)= 131.66 OK! Stress check : M= 14.34 kN m, σ_s= 94.08 MPa σ_{lim}= 230.00 MPa F(σ_s)= 2.44 OK!</p>
../..

T4PH2 (SUITE)	
Reinforcement 6 (stem top transverse reinforcement) :	
RC section dimensions ; b= 1.00 m, h= 0.25 m	
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).	
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK !	
Reinforcement 7 (footing bottom transverse reinforcement) :	
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).	
area : As= 4.73 cm ² /m areaMin : 3.23 cm ² /m F(As)= 1.47 OK !	
Reinforcement 8 (footing bottom longitudinal reinforcement) :	
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).	
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).	
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK !	
Reinforcement 9 (footing top longitudinal reinforcement) :	
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).	
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).	
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK !	
Reinforcement 10 (footing skin reinforcement) :	
—	
Reinforcement 11 (stem outside longitudinal reinforcement) :	
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).	
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK !	
Reinforcement 12 (stem inside longitudinal reinforcement) :	
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).	
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK !	
Reinforcement 13 (stem top skin reinforcement) :	
—	

TABLE 10 – T4ph2 wall reinforcement

WALL : T5 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	-22.35	1.00	EQ1613B
Sliding :	1.69	1.00	EQ1609A
Bearign capacity :	0.73	1.00	EQ1613B
Adm. pressure :	1.22	1.00	EQ1613B
$F_{avail.}$: available security.			
F_{req} : required security.			

WALL : T5 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
-1.41	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR T5	
Reinforcement 1 (outside reinforcement dowels) :	
	../..

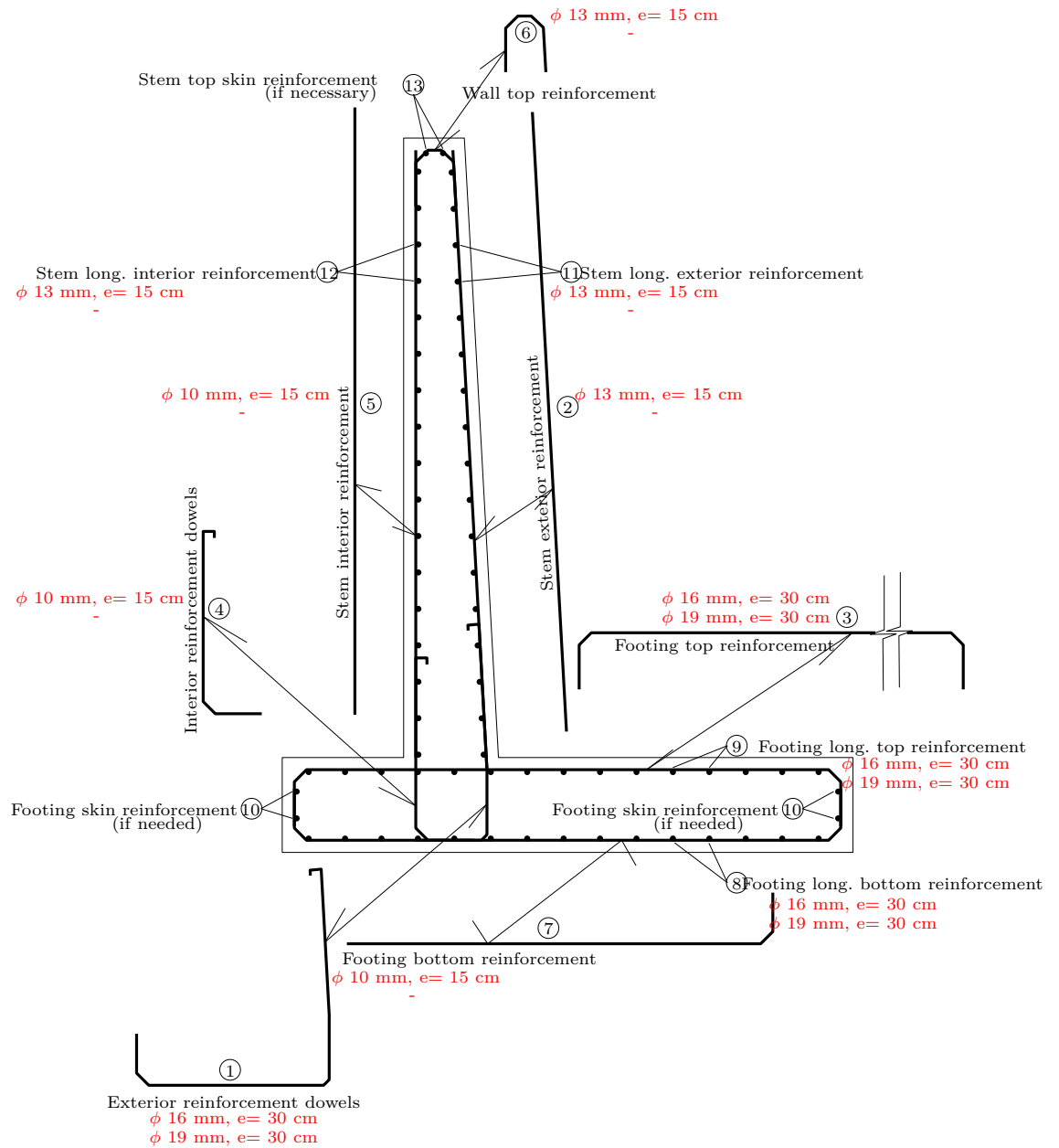


FIGURE 5 – Wall T4ph2 reinforcement scheme

T5	
	<p>WALL GEOMETRY Stem top thickness : $b_{top} = 0.25 \text{ m}$ Stem height : $h_{stem} = 2.51 \text{ m}$ Stem bottom thickness : $b_{bottom} = 0.25 \text{ m}$ Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 11 – Wall materials and dimensions T5

T5 (SUITE)
<p>RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.25 \text{ m}$ diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 3.54 \text{ OK!}$ Bending check : $M_d = 5.77 \text{ kN m}$, $M_R = 99.62 \text{ kN m}$ $F(M) = 17.27 \text{ OK!}$ Shear check : $V_d = 26.03 \text{ kN}$, $V_R = 199.37 \text{ kN}$ $F(V) = 7.66 \text{ OK!}$ Stress check : $M = 5.77 \text{ kN m}$, $\sigma_s = 15.64 \text{ MPa}$ $\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 14.70 \text{ OK!}$ Reinforcement 3 (footing top reinforcement) : RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.36 \text{ m}$ diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$ Bending check : $M_d = 1.67 \text{ kN m}$, $M_R = 152.86 \text{ kN m}$ $F(M) = 91.40 \text{ OK!}$ Shear check : $V_d = 3.97 \text{ kN}$, $V_R = 279.12 \text{ kN}$ $F(V) = 70.27 \text{ OK!}$ Stress check : $M = 1.67 \text{ kN m}$, $\sigma_s = 3.24 \text{ MPa}$ $\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 71.01 \text{ OK!}$ Reinforcement 4 (inside reinforcement dowels) : diam : 10 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (32 diameters). area : $A_s = 4.73 \text{ cm}^2/\text{m}$ areaMin : $1.72 \text{ cm}^2/\text{m}$ $F(A_s) = 2.75 \text{ OK!}$ Reinforcement 5 (inside stem reinforcement) : RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.25 \text{ m}$</p>
../..

T5 (SUITE)			
diam : 16 mm, spacing : 400 mm reinf. development L=0.34 m (22 diameters).			
area : As= 5.00 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.10 OK!			
Bending check : Md= 23.62 kN m, MR= 31.02kN m F(M)= 1.31 OK!			
Shear check : Vd= 6.42 kN, VR= 199.37 kN F(V)= 31.05 OK!			
Stress check : M= 23.62 kN m, σ_s = 206.69 MPa			
σ_{lim} = 230.00 MPa F(σ_s)= 1.11 OK!			
Reinforcement 6 (stem top transverse reinforcement) :			
RC section dimensions ; b= 1.00 m, h= 0.25 m			
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).			
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK!			
Reinforcement 7 (footing bottom transverse reinforcement) :			
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).			
area : As= 4.73 cm ² /m areaMin : 3.23 cm ² /m F(As)= 1.47 OK!			
Reinforcement 8 (footing bottom longitudinal reinforcement) :			
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).			
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).			
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK!			
Reinforcement 9 (footing top longitudinal reinforcement) :			
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).			
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).			
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK!			
Reinforcement 10 (footing skin reinforcement) :			
—			
Reinforcement 11 (stem outside longitudinal reinforcement) :			
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).			
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK!			
Reinforcement 12 (stem inside longitudinal reinforcement) :			
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).			
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK!			
Reinforcement 13 (stem top skin reinforcement) :			
—			

TABLE 12 – T5 wall reinforcement

WALL : T6 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	13.59	1.00	EQ1609A
Sliding :	1.10	1.00	EQ1609A
Bearign capacity :	0.43	1.00	EQ1609A
Adm. pressure :	1.03	1.00	EQ1613B
$F_{avail.}$: available security.			
F_{req} : required security.			

WALL : T6 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
-1.37	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

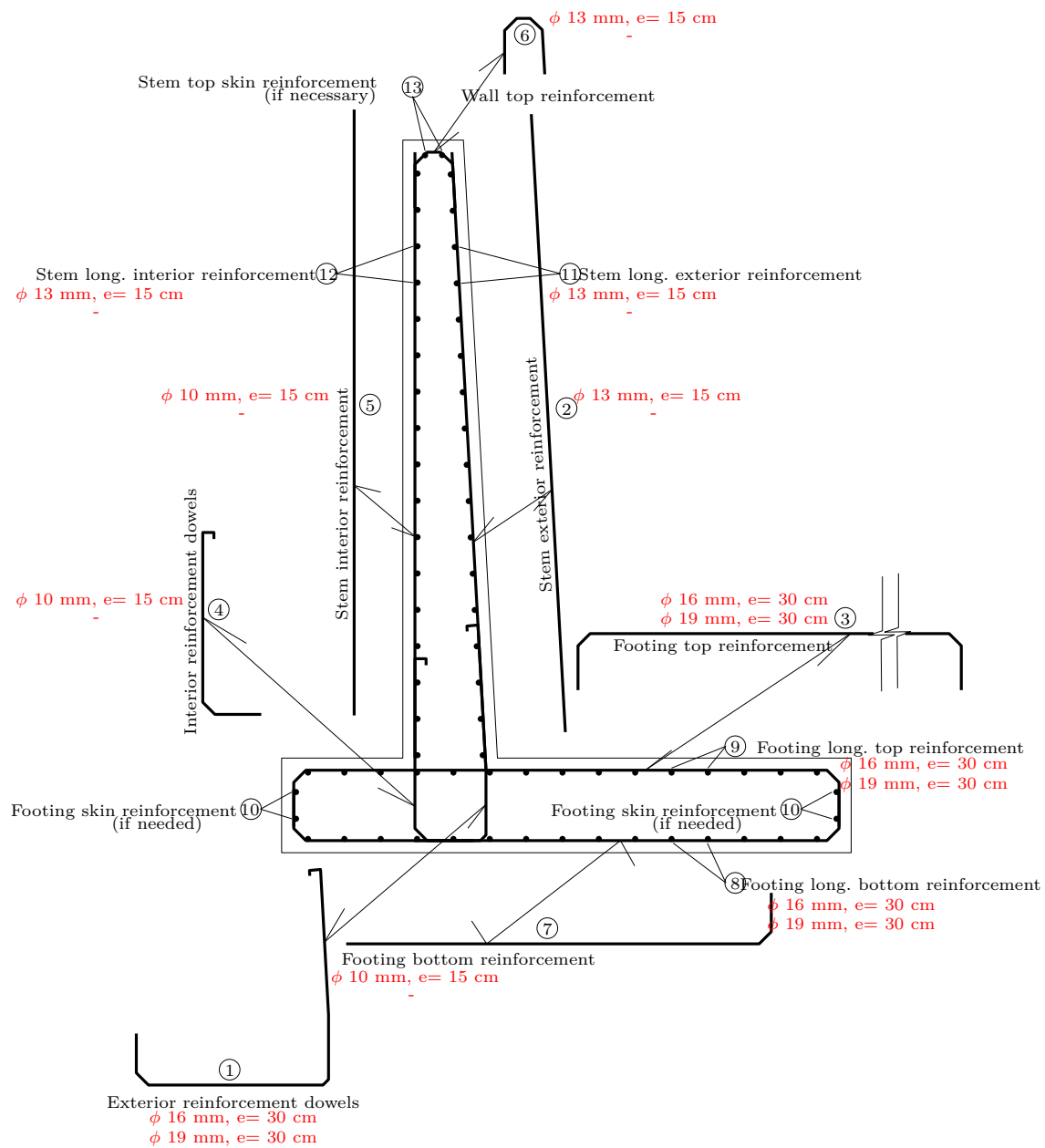


FIGURE 6 – Wall T5 reinforcement scheme

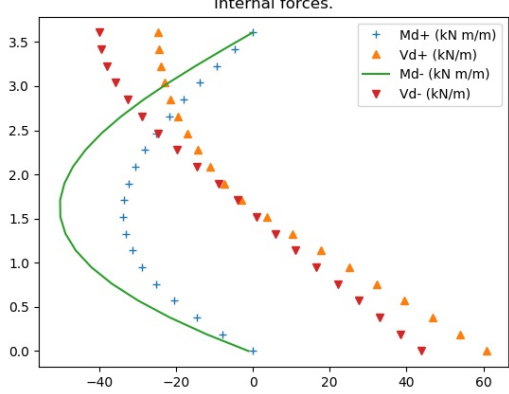
T6	
	<p>WALL GEOMETRY</p> <p>Stem top thickness : $b_{top} = 0.25 \text{ m}$</p> <p>Stem height : $h_{stem} = 3.43 \text{ m}$</p> <p>Stem bottom thickness : $b_{bottom} = 0.25 \text{ m}$</p> <p>Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 13 – Wall materials and dimensions T6

REINFORCEMENTS MUR T6
<p>Reinforcement 1 (outside reinforcement dowels) :</p> <p>RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.25 \text{ m}$</p> <p>diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters).</p> <p>diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters).</p> <p>area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $4.56 \text{ cm}^2/\text{m}$ $F(A_s) = 3.54 \text{ OK!}$</p> <p>Bending check : $M_d = 7.38 \text{ kN m}$, $M_R = 99.62 \text{ kN m}$ $F(M) = 13.49 \text{ OK!}$</p> <p>Shear check : $V_d = 51.43 \text{ kN}$, $V_R = 199.37 \text{ kN}$ $F(V) = 3.88 \text{ OK!}$</p> <p>Stress check : $M = 7.38 \text{ kN m}$, $\sigma_s = 20.02 \text{ MPa}$</p> <p>$\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 11.49 \text{ OK!}$</p> <p>Reinforcement 3 (footing top reinforcement) :</p> <p>RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.36 \text{ m}$</p> <p>diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters).</p> <p>diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters).</p> <p>area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$</p> <p>Bending check : $M_d = 1.65 \text{ kN m}$, $M_R = 152.86 \text{ kN m}$ $F(M) = 92.67 \text{ OK!}$</p> <p>Shear check : $V_d = 2.01 \text{ kN}$, $V_R = 279.12 \text{ kN}$ $F(V) = 138.73 \text{ OK!}$</p> <p>Stress check : $M = 1.65 \text{ kN m}$, $\sigma_s = 3.19 \text{ MPa}$</p> <p>$\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 71.99 \text{ OK!}$</p> <p>Reinforcement 4 (inside reinforcement dowels) :</p> <p>diam : 10 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (32 diameters).</p> <p>area : $A_s = 4.73 \text{ cm}^2/\text{m}$ areaMin : $1.72 \text{ cm}^2/\text{m}$ $F(A_s) = 2.75 \text{ OK!}$</p>
../..

T6 (SUITE)			
Reinforcement 5 (inside stem reinforcement) :			
RC section dimensions ; b= 1.00 m, h= 0.25 m			
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).			
area : As= 9.47 cm ² /m areaMin : 4.56 cm ² /m F(As)= 2.08 OK !			
Bending check : Md= 49.02 kN m, MR= 58.26kN m F(M)= 1.19 OK !			
Shear check : Vd= 8.13 kN, VR= 199.37 kN F(V)= 24.54 OK !			
Stress check : M= 49.02 kN m, σ_s = 226.52 MPa			
σ_{lim} = 230.00 MPa F(σ_s)= 1.02 OK !			
Reinforcement 6 (stem top transverse reinforcement) :			
RC section dimensions ; b= 1.00 m, h= 0.25 m			
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).			
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK !			
Reinforcement 7 (footing bottom transverse reinforcement) :			
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).			
area : As= 4.73 cm ² /m areaMin : 3.23 cm ² /m F(As)= 1.47 OK !			
Reinforcement 8 (footing bottom longitudinal reinforcement) :			
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).			
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).			
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK !			
Reinforcement 9 (footing top longitudinal reinforcement) :			
diam : 16 mm, spacing : 300 mm reinf. development L=0.34 m (22 diameters).			
diam : 19 mm, spacing : 300 mm reinf. development L=0.61 m (32 diameters).			
area : As= 16.13 cm ² /m areaMin : 6.38 cm ² /m F(As)= 2.53 OK !			
Reinforcement 10 (footing skin reinforcement) :			
—			
Reinforcement 11 (stem outside longitudinal reinforcement) :			
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).			
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK !			
Reinforcement 12 (stem inside longitudinal reinforcement) :			
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).			
area : As= 8.60 cm ² /m areaMin : 4.56 cm ² /m F(As)= 1.89 OK !			
Reinforcement 13 (stem top skin reinforcement) :			
—			

TABLE 14 – T6 wall reinforcement

WALL : RW1 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	89663485090069.61	1.00	EQ1609B
Sliding :	190861662231325.06	1.00	EQ1609B
Bearign capacity :	2.12	1.00	EQ1609B
Adm. pressure :	3.07	1.00	EQ1609B
$F_{avail.}$: available security.			
F_{req} : required security.			

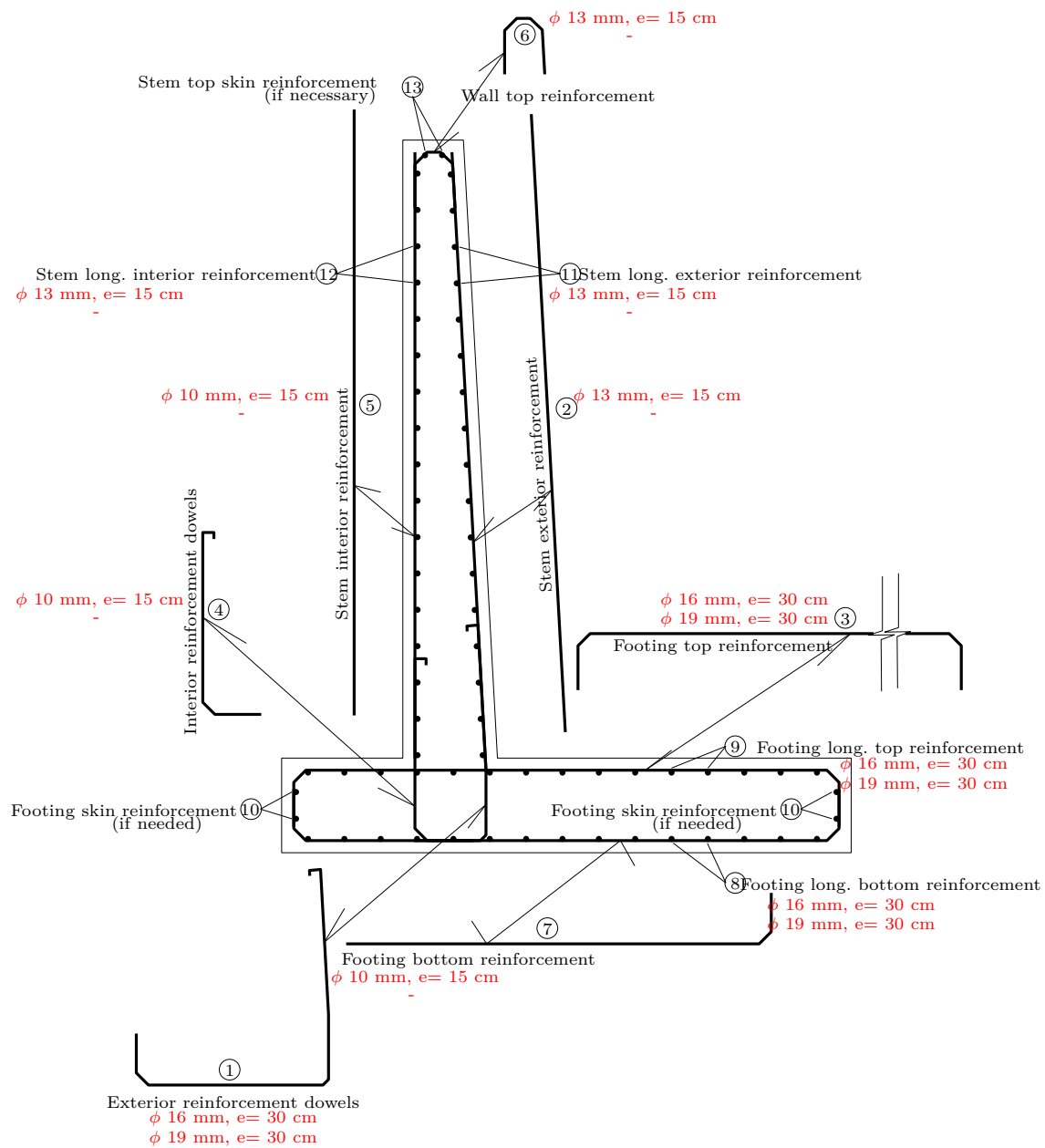


FIGURE 7 – Wall T6 reinforcement scheme

RW1	
	<p>WALL GEOMETRY</p> <p>Stem top thickness : $b_{top} = 0.15 \text{ m}$</p> <p>Stem height : $h_{stem} = 2.28 \text{ m}$</p> <p>Stem bottom thickness : $b_{bottom} = 0.15 \text{ m}$</p> <p>Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 15 – Wall materials and dimensions RW1

WALL : RW1 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
0.00	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR RW1
<p>Reinforcement 1 (outside reinforcement dowels) :</p> <p>RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.15 \text{ m}$</p> <p>diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters).</p> <p>diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters).</p> <p>area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $2.73 \text{ cm}^2/\text{m}$ $F(A_s) = 5.90$ OK !</p> <p>Bending check : $M_d = 0.00 \text{ kN m}$, $M_R = 46.39 \text{ kN m}$ $F(M) = 164948030564126.31$ OK !</p> <p>Shear check : $V_d = 0.00 \text{ kN}$, $V_R = 119.62 \text{ kN}$ $F(V) = 968928454062834.50$ OK !</p> <p>Stress check : $M = 0.00 \text{ kN m}$, $\sigma_s = 0.00 \text{ MPa}$</p> <p>$\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 180987640979824.62$ OK !</p> <p>Reinforcement 3 (footing top reinforcement) :</p> <p>RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.36 \text{ m}$</p> <p>diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters).</p> <p>diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters).</p> <p>area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53$ OK !</p> <p>Bending check : $M_d = 0.57 \text{ kN m}$, $M_R = 152.86 \text{ kN m}$ $F(M) = 266.26$ OK !</p> <p>Shear check : $V_d = 2.97 \text{ kN}$, $V_R = 279.12 \text{ kN}$ $F(V) = 93.99$ OK !</p>
../..

RW1 (SUITE)			
Stress check : $M = 0.57$ kN m, $\sigma_s = 1.11$ MPa $\sigma_{lim} = 230.00$ MPa $F(\sigma_s) = 206.86$ OK!			
Reinforcement 4 (inside reinforcement dowels) : diam : 10 mm, spacing : 150 mm reinf. development $L = 0.30$ m (32 diameters). area : $A_s = 4.73$ cm ² /m areaMin : 1.72 cm ² /m $F(A_s) = 2.75$ OK!			
Reinforcement 5 (inside stem reinforcement) : RC section dimensions ; $b = 1.00$ m, $h = 0.15$ m diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34$ m (22 diameters). area : $A_s = 6.67$ cm ² /m areaMin : 2.73 cm ² /m $F(A_s) = 2.44$ OK! Bending check : $M_d = 0.00$ kN m, $M_R = 19.36$ kN m $F(M) = 102434873501657.86$ OK! Shear check : $V_d = 0.00$ kN, $V_R = 119.62$ kN $F(V) = 720772603344139.25$ OK! Stress check : $M = 0.00$ kN m, $\sigma_s = 0.00$ MPa $\sigma_{lim} = 230.00$ MPa $F(\sigma_s) = 111267955969004.72$ OK!			
Reinforcement 6 (stem top transverse reinforcement) : RC section dimensions ; $b = 1.00$ m, $h = 0.15$ m diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30$ m (24 diameters). area : $A_s = 8.60$ cm ² /m areaMin : 2.73 cm ² /m $F(A_s) = 3.14$ OK!			
Reinforcement 7 (footing bottom transverse reinforcement) : diam : 10 mm, spacing : 150 mm reinf. development $L = 0.30$ m (32 diameters). area : $A_s = 4.73$ cm ² /m areaMin : 3.23 cm ² /m $F(A_s) = 1.47$ OK!			
Reinforcement 8 (footing bottom longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34$ m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61$ m (32 diameters). area : $A_s = 16.13$ cm ² /m areaMin : 6.38 cm ² /m $F(A_s) = 2.53$ OK!			
Reinforcement 9 (footing top longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34$ m (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61$ m (32 diameters). area : $A_s = 16.13$ cm ² /m areaMin : 6.38 cm ² /m $F(A_s) = 2.53$ OK!			
Reinforcement 10 (footing skin reinforcement) : —			
Reinforcement 11 (stem outside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30$ m (24 diameters). area : $A_s = 8.60$ cm ² /m areaMin : 2.73 cm ² /m $F(A_s) = 3.14$ OK!			
Reinforcement 12 (stem inside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30$ m (24 diameters). area : $A_s = 8.60$ cm ² /m areaMin : 2.73 cm ² /m $F(A_s) = 3.14$ OK!			
Reinforcement 13 (stem top skin reinforcement) : —			

TABLE 16 – RW1 wall reinforcement

WALL : W5 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	-14.65	1.00	EQ1608
Sliding :	1.40	1.00	EQ1609A
Bearign capacity :	1.08	1.00	EQ1609A
Adm. pressure :	2.52	1.00	EQ1609A
F_{avail} : available security.			
F_{req} : required security.			

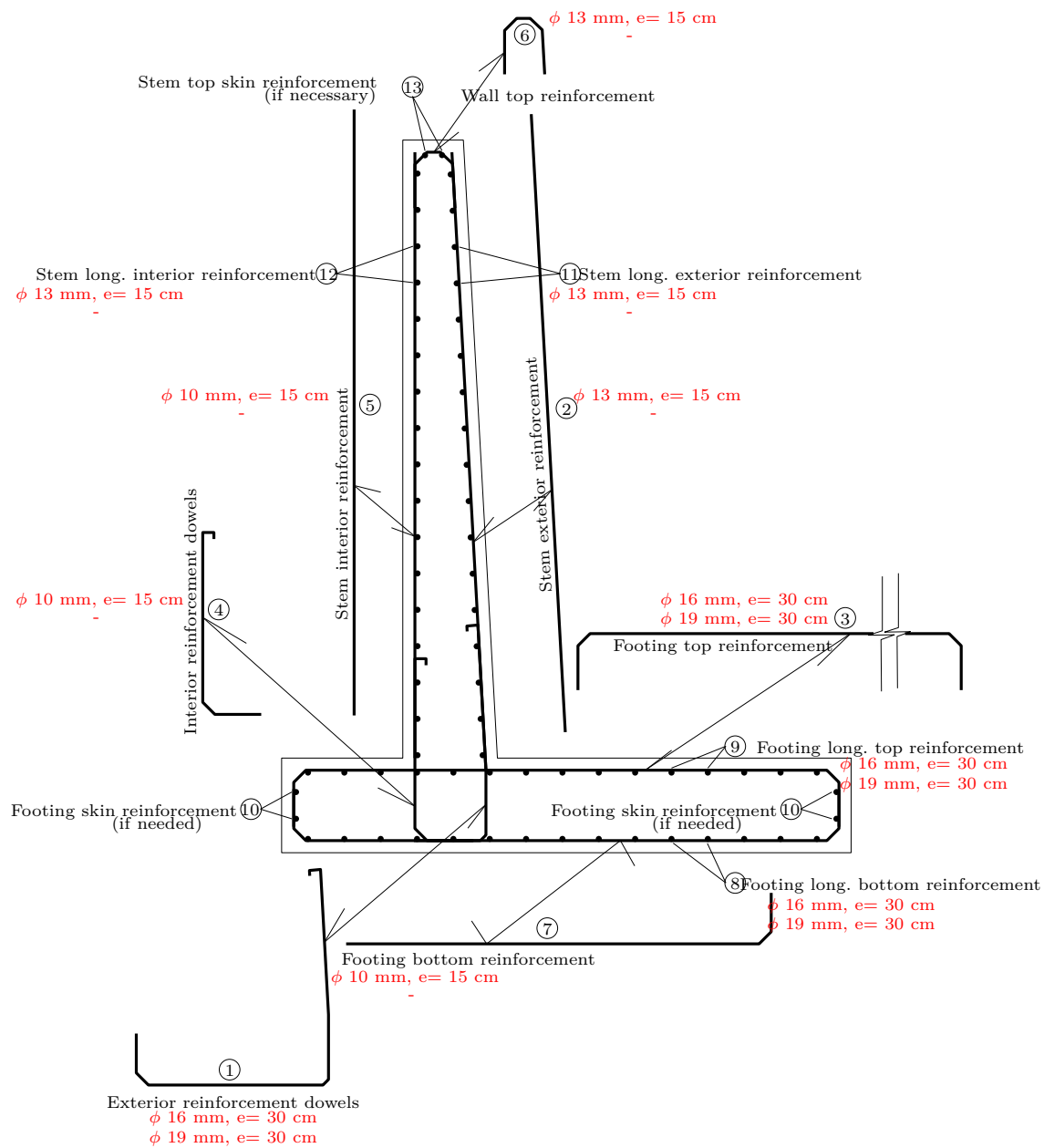


FIGURE 8 – Wall RW1 reinforcement scheme

W5	
	<p>WALL GEOMETRY</p> <p>Stem top thickness : $b_{top} = 0.20 \text{ m}$</p> <p>Stem height : $h_{stem} = 2.13 \text{ m}$</p> <p>Stem bottom thickness : $b_{bottom} = 0.20 \text{ m}$</p> <p>Footing thickness : $b_{footing} = 0.36 \text{ m}$</p>
MATERIALS	
Concrete : C4000 Steel : A615G60 Concrete cover : 55 mm	

TABLE 17 – Wall materials and dimensions W5

WALL : W5 ROTATION CHECK		
$\beta_{disp}(\text{‰})$	$\beta_{req}(\text{‰})$	Combination
-1.16	2.00	ELS00
β_{disp} : wall maximum computed rotation.		
β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR W5
<p>Reinforcement 1 (outside reinforcement dowels) :</p> <p>RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.20 \text{ m}$</p> <p>diam : 13 mm, spacing : 150 mm reinf. development $L = 0.30 \text{ m}$ (24 diameters).</p> <p>area : $A_s = 8.60 \text{ cm}^2/\text{m}$ areaMin : $3.65 \text{ cm}^2/\text{m}$ $F(A_s) = 2.36 \text{ OK!}$</p> <p>Bending check : $M_d = 3.77 \text{ kN m}$, $M_R = 39.60 \text{ kN m}$ $F(M) = 10.50 \text{ OK!}$</p> <p>Shear check : $V_d = 19.29 \text{ kN}$, $V_R = 159.49 \text{ kN}$ $F(V) = 8.27 \text{ OK!}$</p> <p>Stress check : $M = 3.77 \text{ kN m}$, $\sigma_s = 23.99 \text{ MPa}$</p> <p>$\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 9.59 \text{ OK!}$</p> <p>Reinforcement 3 (footing top reinforcement) :</p> <p>RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.36 \text{ m}$</p> <p>diam : 16 mm, spacing : 300 mm reinf. development $L = 0.34 \text{ m}$ (22 diameters).</p> <p>diam : 19 mm, spacing : 300 mm reinf. development $L = 0.61 \text{ m}$ (32 diameters).</p> <p>area : $A_s = 16.13 \text{ cm}^2/\text{m}$ areaMin : $6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$</p> <p>Bending check : $M_d = 0.69 \text{ kN m}$, $M_R = 152.86 \text{ kN m}$ $F(M) = 220.34 \text{ OK!}$</p> <p>Shear check : $V_d = 2.20 \text{ kN}$, $V_R = 279.12 \text{ kN}$ $F(V) = 126.97 \text{ OK!}$</p> <p>Stress check : $M = 0.69 \text{ kN m}$, $\sigma_s = 1.34 \text{ MPa}$</p>
../..

W5 (SUITE)
$\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 171.18 \text{ OK!}$ Reinforcement 4 (inside reinforcement dowels) : diam : 10 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (32 diameters). area : $A_s = 4.73 \text{ cm}^2/\text{m}$ $\text{areaMin} : 0.95 \text{ cm}^2/\text{m}$ $F(A_s) = 5.00 \text{ OK!}$ Reinforcement 5 (inside stem reinforcement) : RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.20 \text{ m}$ diam : 16 mm, spacing : 300 mm reinf. development $L=0.34 \text{ m}$ (22 diameters). area : $A_s = 6.67 \text{ cm}^2/\text{m}$ $\text{areaMin} : 3.65 \text{ cm}^2/\text{m}$ $F(A_s) = 1.83 \text{ OK!}$ Bending check : $M_d = 15.37 \text{ kN m}$, $M_R = 30.36 \text{ kN m}$ $F(M) = 1.98 \text{ OK!}$ Shear check : $V_d = 4.73 \text{ kN}$, $V_R = 159.49 \text{ kN}$ $F(V) = 33.71 \text{ OK!}$ Stress check : $M = 15.37 \text{ kN m}$, $\sigma_s = 126.07 \text{ MPa}$ $\sigma_{lim} = 230.00 \text{ MPa}$ $F(\sigma_s) = 1.82 \text{ OK!}$ Reinforcement 6 (stem top transverse reinforcement) : RC section dimensions ; $b = 1.00 \text{ m}$, $h = 0.20 \text{ m}$ diam : 13 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (24 diameters). area : $A_s = 8.60 \text{ cm}^2/\text{m}$ $\text{areaMin} : 3.65 \text{ cm}^2/\text{m}$ $F(A_s) = 2.36 \text{ OK!}$ Reinforcement 7 (footing bottom transverse reinforcement) : diam : 10 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (32 diameters). area : $A_s = 4.73 \text{ cm}^2/\text{m}$ $\text{areaMin} : 3.23 \text{ cm}^2/\text{m}$ $F(A_s) = 1.47 \text{ OK!}$ Reinforcement 8 (footing bottom longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development $L=0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L=0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ $\text{areaMin} : 6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$ Reinforcement 9 (footing top longitudinal reinforcement) : diam : 16 mm, spacing : 300 mm reinf. development $L=0.34 \text{ m}$ (22 diameters). diam : 19 mm, spacing : 300 mm reinf. development $L=0.61 \text{ m}$ (32 diameters). area : $A_s = 16.13 \text{ cm}^2/\text{m}$ $\text{areaMin} : 6.38 \text{ cm}^2/\text{m}$ $F(A_s) = 2.53 \text{ OK!}$ Reinforcement 10 (footing skin reinforcement) : — Reinforcement 11 (stem outside longitudinal reinforcement) : diam : 10 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (32 diameters). area : $A_s = 4.73 \text{ cm}^2/\text{m}$ $\text{areaMin} : 3.65 \text{ cm}^2/\text{m}$ $F(A_s) = 1.30 \text{ OK!}$ Reinforcement 12 (stem inside longitudinal reinforcement) : diam : 10 mm, spacing : 150 mm reinf. development $L=0.30 \text{ m}$ (32 diameters). area : $A_s = 4.73 \text{ cm}^2/\text{m}$ $\text{areaMin} : 3.65 \text{ cm}^2/\text{m}$ $F(A_s) = 1.30 \text{ OK!}$ Reinforcement 13 (stem top skin reinforcement) : —

TABLE 18 – W5 wall reinforcement

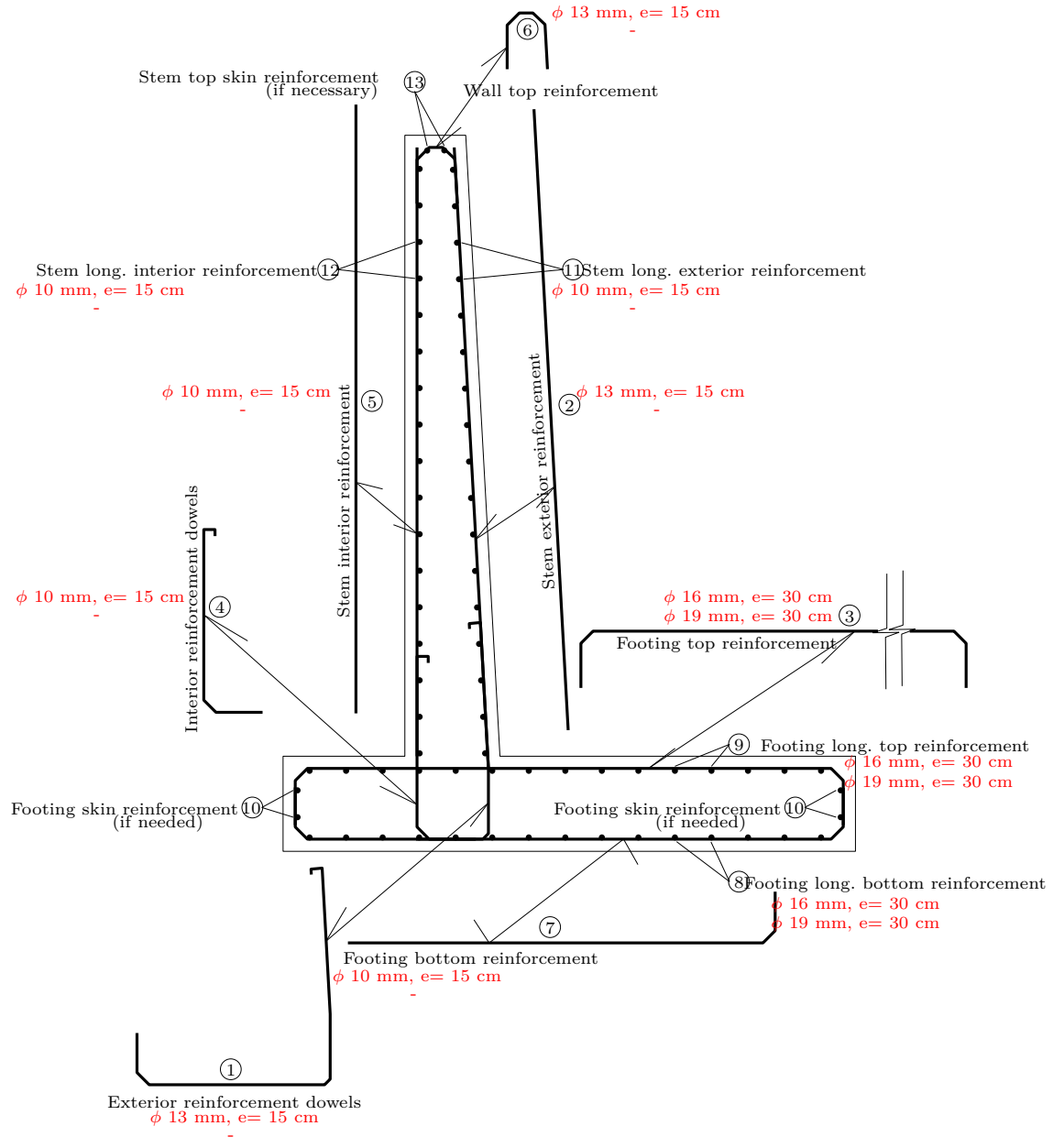


FIGURE 9 – Wall W5 reinforcement scheme