



<b>Top reinforcement Along Parallel Edge</b>					
Area of reinf. Required		Min Pt*( Depth of Pilecap/2) *1000	Ast req	1080	sqmm/m
Area of reinforcement provided			Ast provided	1102	sqmm/m
Check		Ast provided > Ast req			OK
<b>Bottom reinforcement Along Perpendicular Edge</b>					
Area of reinf. Required		Min Pt*( Depth of Pilecap/2) *1000	Ast req	540	sqmm/m
Area of reinforcement provided			Ast provided	545	sqmm/m
Check			Check		OK
<b>Top reinforcement Along Perpendicular Edge</b>					
Area of reinf. Required		Min Pt*( Depth of Pilecap/2) *1000	Ast req	1080	sqmm/m
Area of reinforcement provided			Ast provided	1102	sqmm/m
Check		Ast provided > Ast req			OK
<b>Step 9)Design for Shear</b>					
<b>Along Parallel Edge</b>					
One Way shear check do not applicable for 1 piles pile-cap design					
					11.2.2.1 $V_c = (0.16\lambda/\sqrt{f_c} + 1) \rho_w \frac{V_u d}{M_u} b_w d$
<b>Along Perpendicular Edge</b>					
One Way shear check do not applicable for 1 piles pile-cap design					
					11.4.7.9 $0.66 \sqrt{f_c} b_w d$
<b>Step 10)Design of Face reinforcement</b>					
Belff considered for SFR			Belff SFR	500	mm
Area of side face reinf. Required		SFR% x D x Belff sfr	Asfr Req	150	sqmm
Area of side face reinf. Provided			Asfr pro	213	sqmm
<b>Step 11)Design For Column Load Transfer</b>					
Area of pilecap base		Area of Pilecap	A1	0.81	sqm
Area of column		Bc x Dc	A2	0.49	sqm
Modification Factor		Sqrt(A1/A2)<=2		1.29	
Concrete Bearing capacity		$\Phi_c \times 0.85 \times \text{Modification Factor} \times A2 \times F_{ck} \times 1000$	$\Phi_c \text{Pnb}$	6984.71	kN
Check		$\Phi_c \text{Pnb} > P_u$		SAFE	
Area Of Dowels				-	sqmm

10.14 — Bearing strength

10.14.1 — Design bearing strength of concrete shall not exceed  $\phi(0.85f_c A_1)$ , except when the supporting surface is wider on all sides than the loaded area, then the design bearing strength of the loaded area shall be permitted to be multiplied by  $\sqrt{A_2/A_1}$  but by not more than 2.