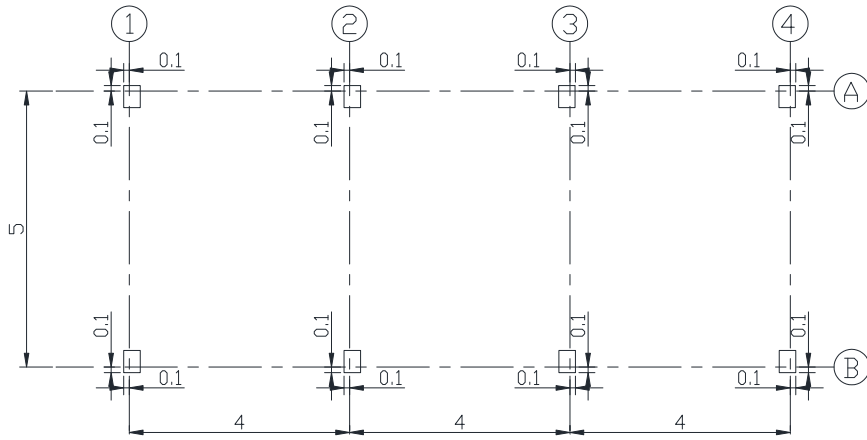


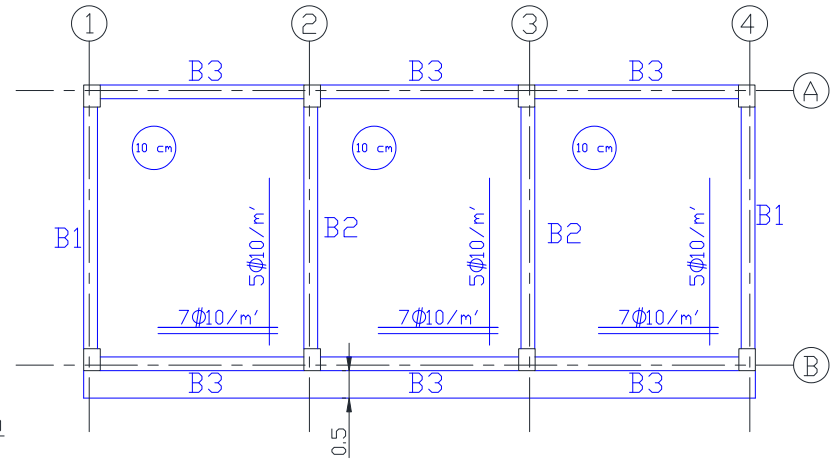


CB 415 Quantity Surveying, Cost Estimation and Specifications

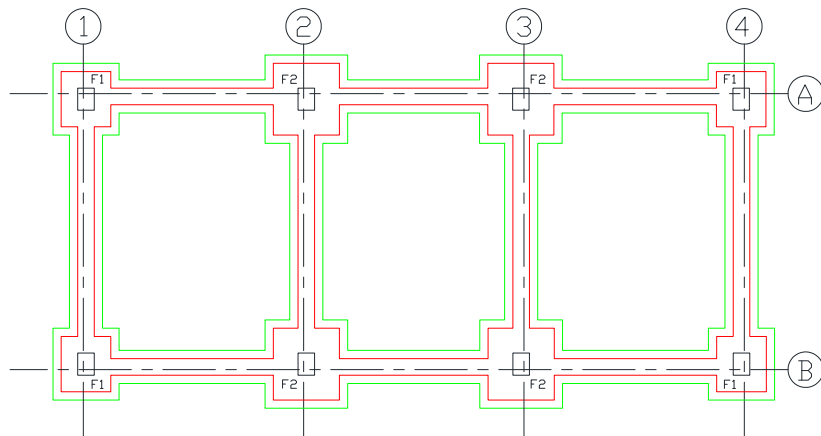
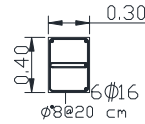
Q. S. Example Dr. Karim Helmi



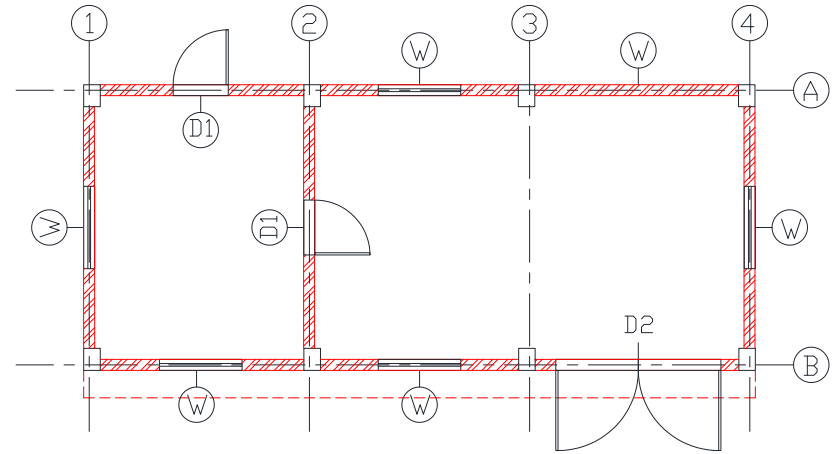
Columns and axes



Roof rft.



Foundations



Arch. Plan

Footing	Dimensions			Reinforcement	
	L	W	H	Long direction	Short Direction
F1	1.00	0.90	0.40	5 ϕ 12	6 ϕ 12
F2	1.30	1.20	0.40	7 ϕ 12	8 ϕ 12

All ties are 30 x 40 cm have a top and bottom reinforcement 3 ϕ 16 and stirrups ϕ 8 @20 cm

Foundation level -1.10 m

Plain concrete for foundations extends 15 from all ends of footings and ties and have a thickness of 15 cm

All walls are 20 cm thick

Roof finishing level +3.7 m

Internal floor finishing level +0.30 m

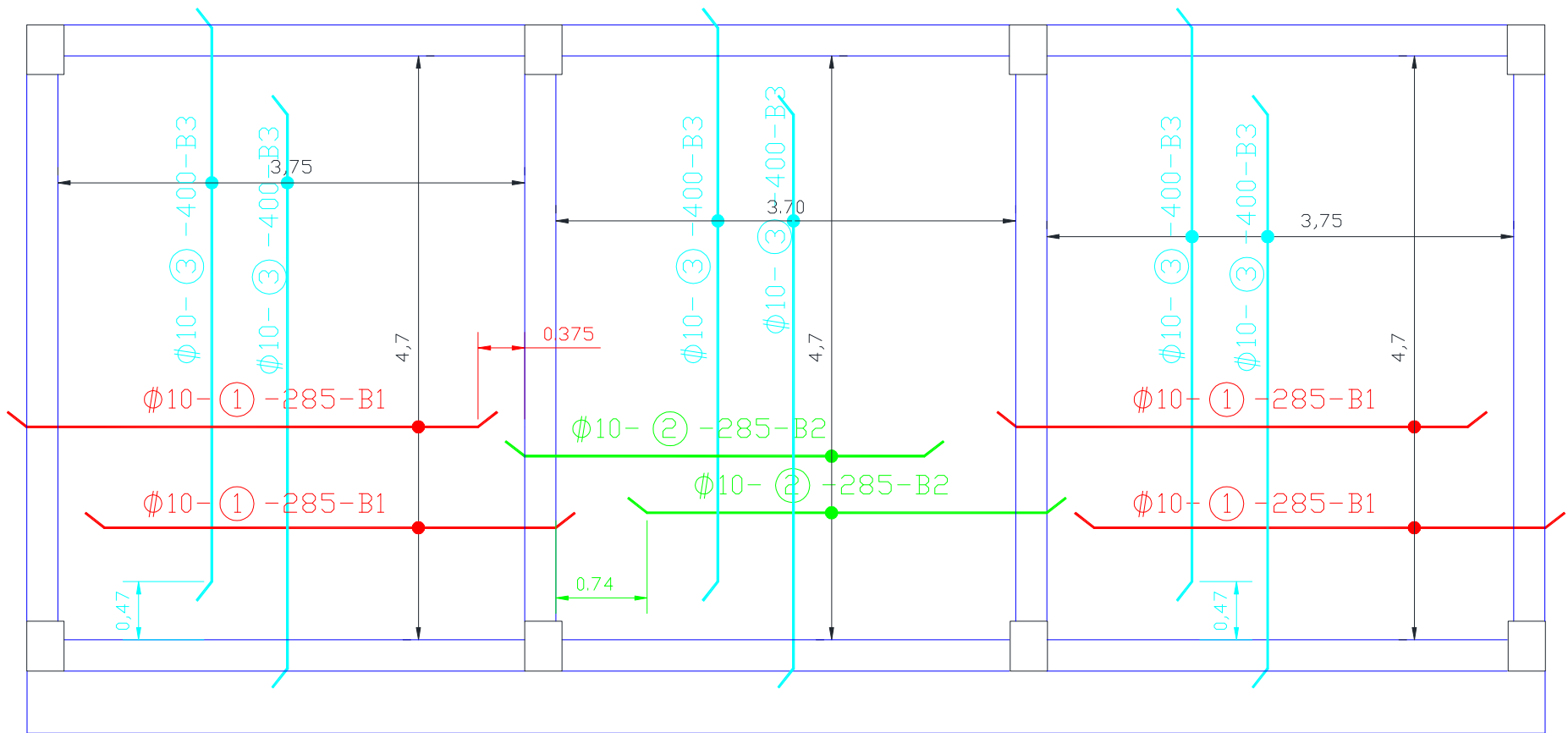
Window W1 is 1.50 x 1.0 m

Door D1 is 1.0 x 2.2 m

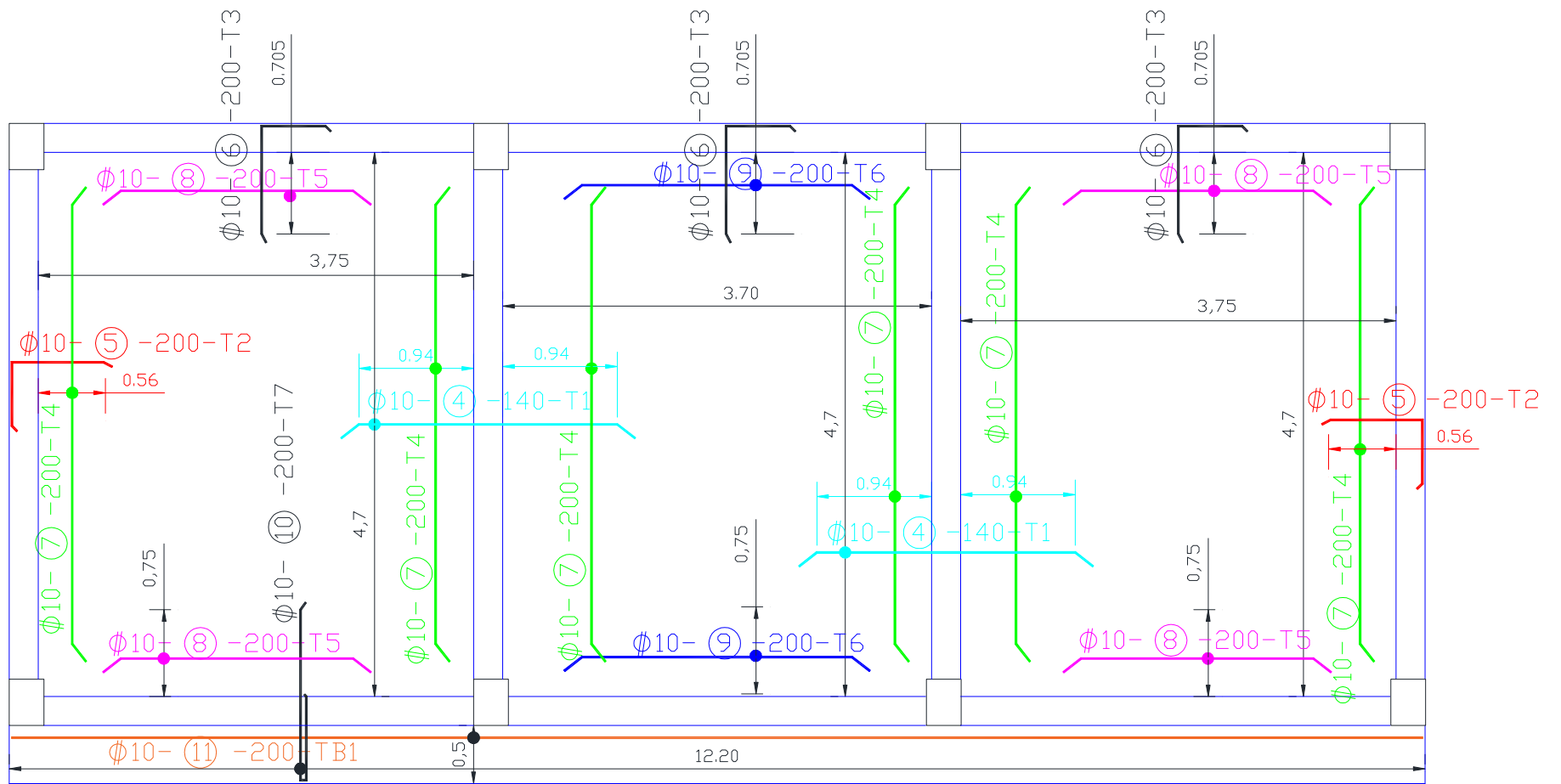
Door D2 is 3.0 x 2.5 m

Roof parapet height is 50 cm

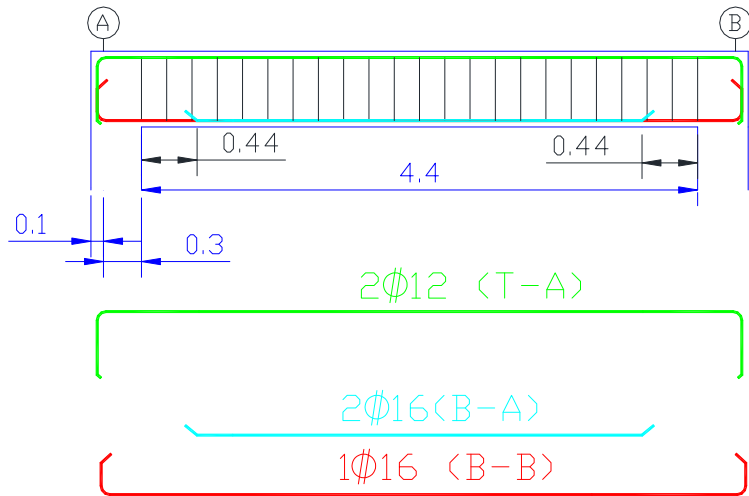
Beam	Dimensions		Reinforcement				
	W	H	Top End support	Top int. support	Bottom	Hanging	Stirrups
B1	0.25	0.60	2 ϕ 12	-	3 ϕ 16	2 ϕ 12	ϕ 8 @20 cm
B2	0.25	0.60	2 ϕ 16	-	4 ϕ 16	2 ϕ 12	ϕ 8 @20 cm
B3	0.25	0.60	2 ϕ 12	2 ϕ 16	2 ϕ 16	2 ϕ 12	ϕ 8 @20 cm



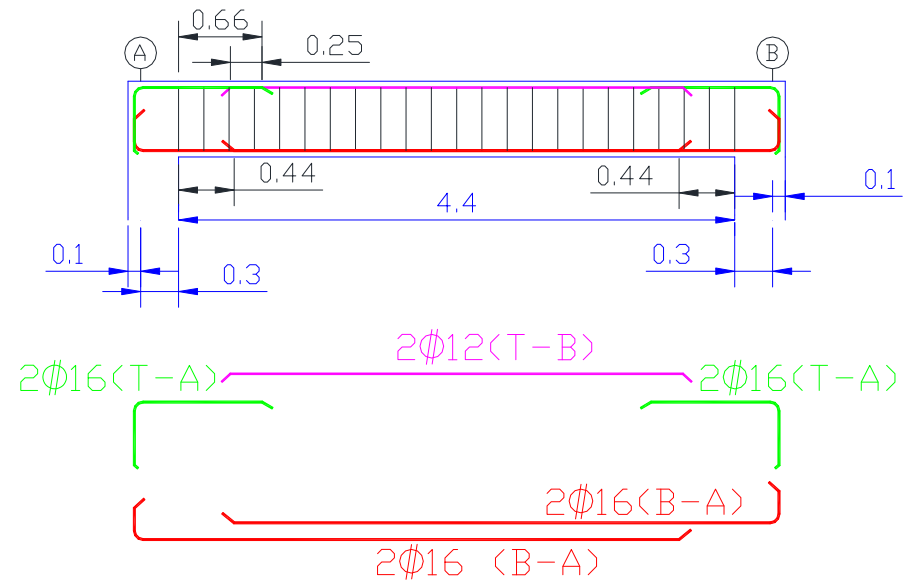
Bottom Reinforcement of Slab



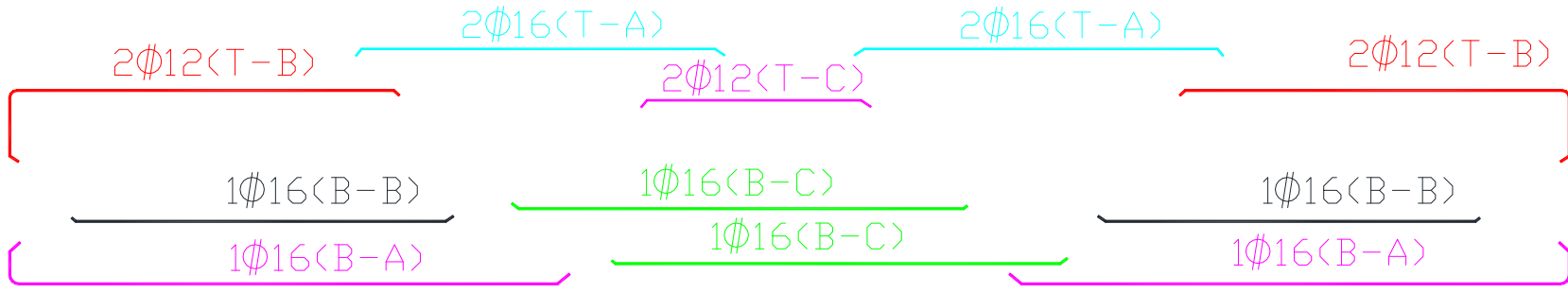
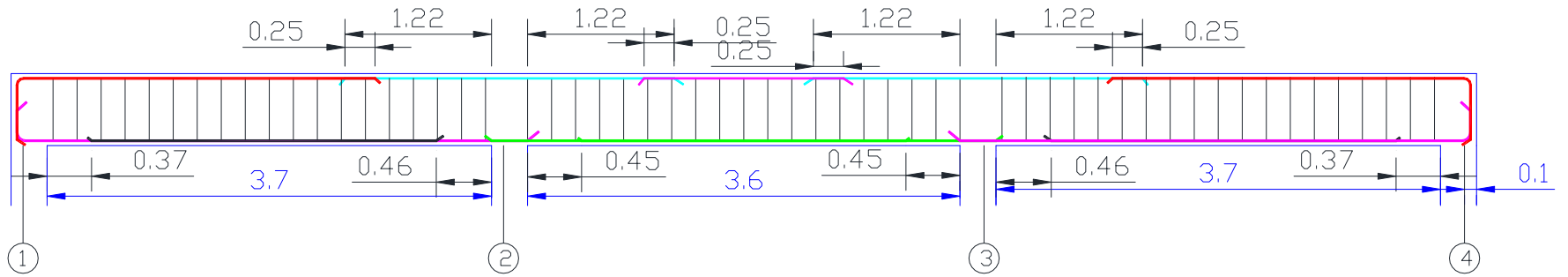
Top Reinforcement of Slab



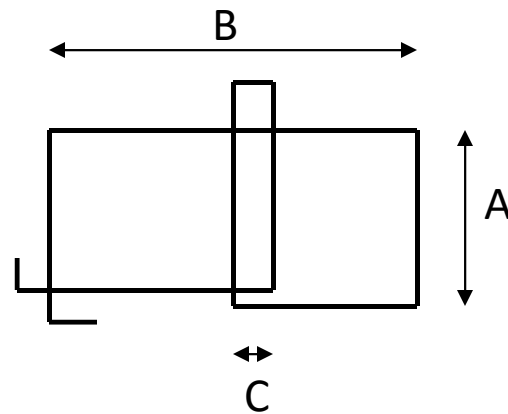
Beam B1



Beam B2



Beam B3



$$L = 2(B + C + 10\phi) + 4A - 9\phi - 4.5r$$