

Notes

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2. All relative levels are in meters unless specified otherwise.
3. All dimensions measure unfinished surfaces unless specified otherwise.
4. All dimensions are to be read and not scaled off.
5. Any discrepancy in drawing is to be brought to the immediate notice of the Client/Supervising Engineer.
6. Minor adjustments need to be carried out on site to match with existing structure.
7. Verify dimensioning, take real measurements.
8. All construction changes on the site to be agreed with the Client/Supervising Engineer.

Client

Ministry of Information and Communications
Department of Air Transport

Aviation Planners & Engineers
Leading Edge Aviation Planning Professionals

Civil Engineering Consultant
Gyaltsen Consultancy

Project Title

BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

No./Revision

No./Revision	Date	By

Drawing Title

Plan Showing Footing Layout Plan

Scale 1 : 200 @ A3

Date December 2016

Drawn By S T & PD

Drawing Number

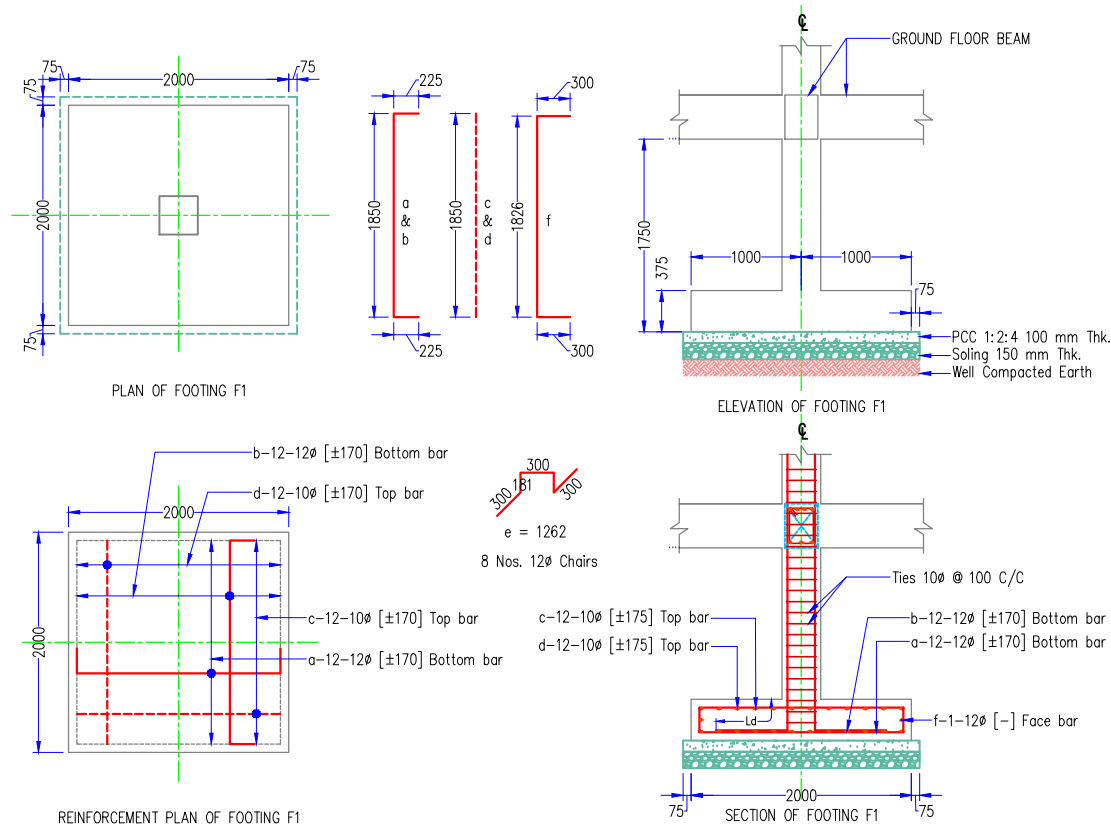
STR - 100

LEAPP Project Code

12246

Rev No.

R0

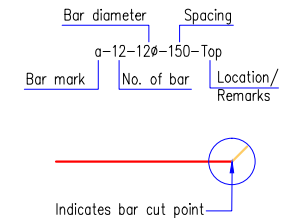


Note:-

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4. Proper shuttering shall be provided for foundation slab.
5. Concrete grade for RC work shall be of M20 Grade
6. Aggregate for RC shall be of 20 mm, well graded.
7. Steel reinforcement shall be of TMT Fe500
8. Concrete Cover of 75 mm minimum to be provided.
9. All materials used for RC work shall confirm to IS:456-2000.
10. Bearing Capacity of Soil=150 kN/sq.m

Bar Dia.	Development Length (Ld)
12 ϕ	564
16 ϕ	755
20 ϕ	940
25 ϕ	1175

Legend	
Bottom bar	—
Top bar	- - -



REBAR SCHEDULE OF FOOTING F1

FOOTING SIZE = 2000 MM X 2000 MM, PAD DEPTH = 375 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	26	a	12	12	2.300 M	±170	Bottom rebar
2	26	b	12	12	2.300 M	±170	Bottom rebar
3	26	c	10	12	1.850 M	±170	Top rebar
4	26	d	10	12	1.850 M	±170	Top rebar
5	26	e	12	8	1.262 M	-	Chair
6	26	f	12	4	2.426 M	-	Face bar

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Gyaltshen Consultancy

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BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

No. Revision

No.	Revision	Date	By
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Drawing Title

Footing F1 Details

Scale 1 : 50 @ A3

Date December 2016

Drawn By S T & PD

Drawing Number

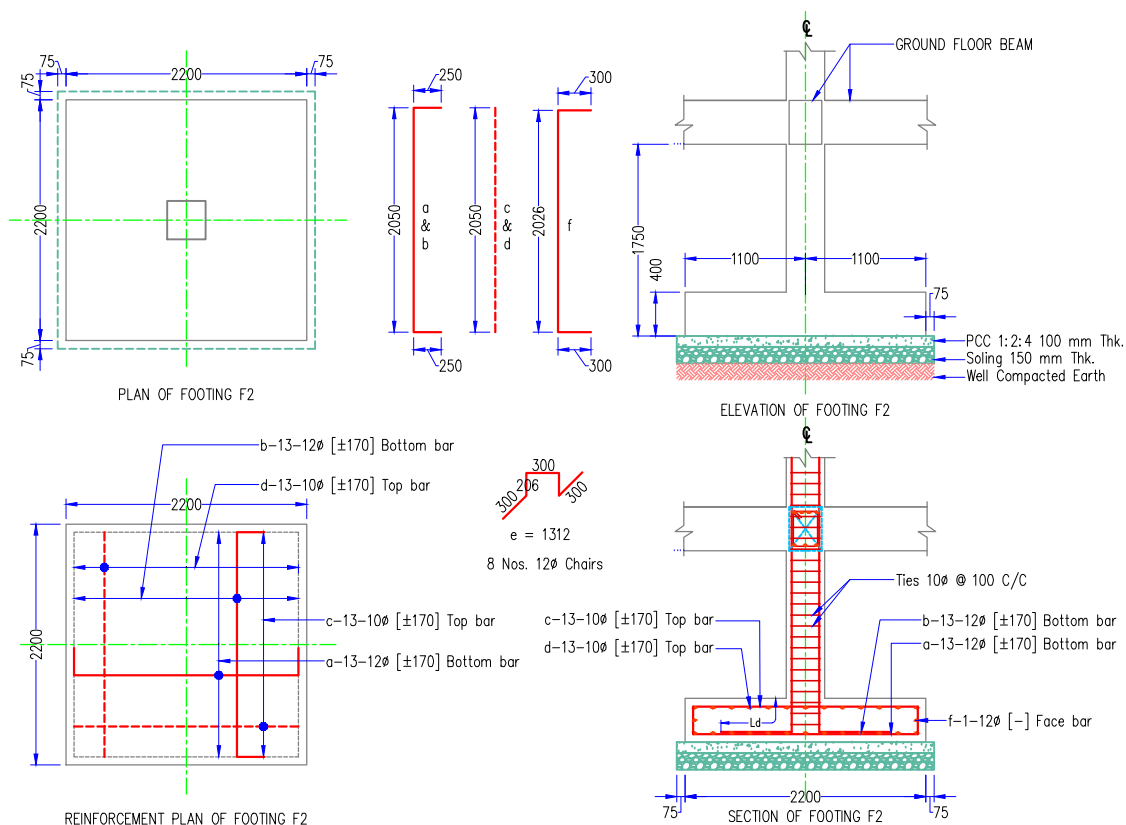
STR - 101

LEAPP Project Code

12246

Rev No.

R0



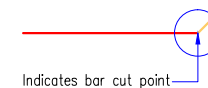
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6. Aggregate for RC shall be of 20 mm, well graded.
7. Steel reinforcement shall be of TMT Fe500
8. Concrete Cover of 75 mm minimum to be provided.
9. All materials used for RC work shall confirm to IS:456-2000.
10. Bearing Capacity of Soil=150 kN/sq.m

Bar Dia.	Development Length (Ld)
12 \emptyset	564
16 \emptyset	755
20 \emptyset	940
25 \emptyset	1175

Legend	
Bottom bar	—
Top bar	- - -

Bar diameter	Spacing
a-12-12 \emptyset -150-Top	
Bar mark	No. of bar
Location/Remarks	



REBAR SCHEDULE OF FOOTING F2

FOOTING SIZE = 2200 MM X 2200 MM, PAD DEPTH = 400 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	9	a	12	13	2.550 M	±170	Bottom rebar
2	9	b	12	13	2.550 M	±170	Bottom rebar
3	9	c	10	13	2.050 M	±170	Top rebar
4	9	d	10	13	2.050 M	±170	Top rebar
5	9	e	12	8	1.312 M	-	Chair
6	9	f	12	4	2.626 M	-	Face bar

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BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

No./Revision

No./Revision	Date	By

Drawing Title

Footing F2 Details

Scale 1 : 50 @ A3

Date December 2016

Drawn By S T & PD

Drawing Number

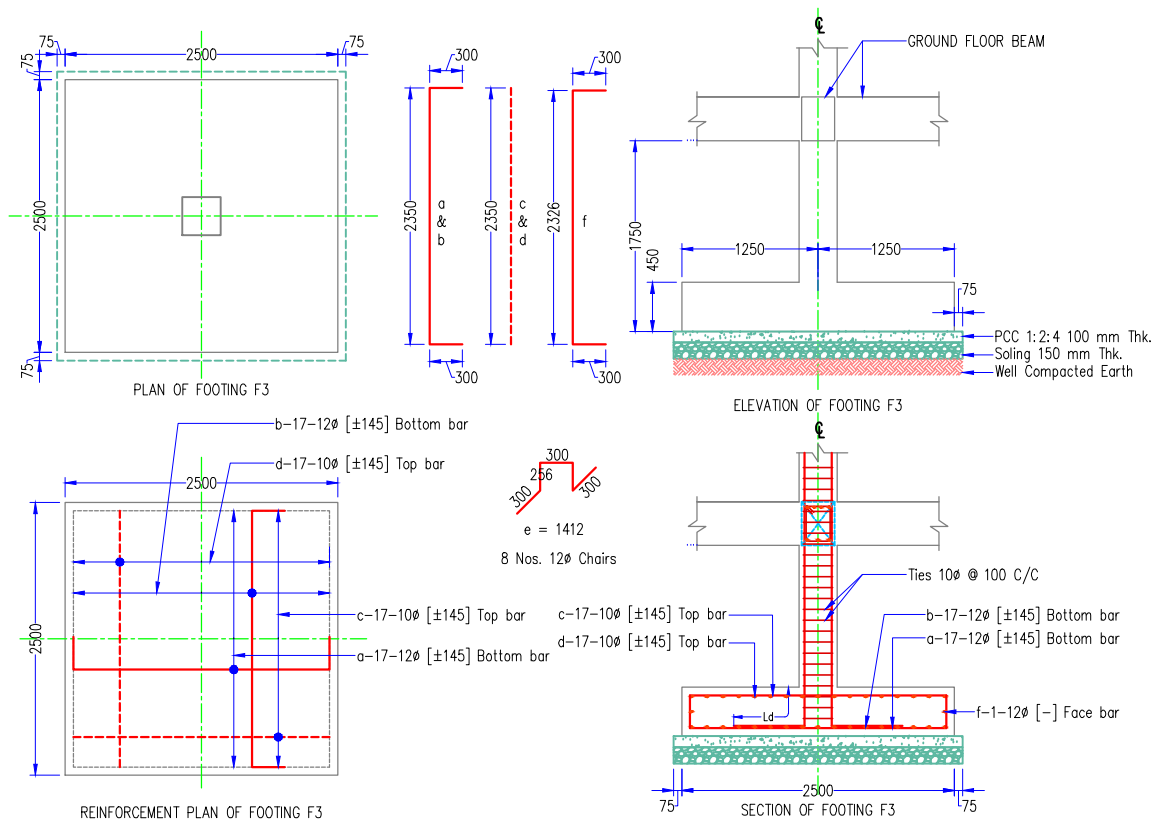
STR - 102

LEAPP Project Code

12246

Rev No.

R0

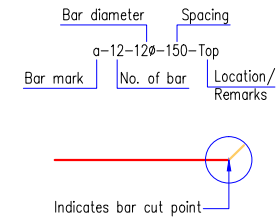


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4. Proper shuttering shall be provided for foundation slab.
5. Concrete grade for RC work shall be of M20 Grade
6. Aggregate for RC shall be of 20 mm, well graded.
7. Steel reinforcement shall be of TMT Fe500
8. Concrete Cover of 75 mm minimum to be provided.
9. All materials used for RC work shall conform to IS:456-2000.
10. Bearing Capacity of Soil=150 kN/sq.m

Bar Dia.	Development Length (Ld)
12Ø	564
16Ø	755
20Ø	940
25Ø	1175

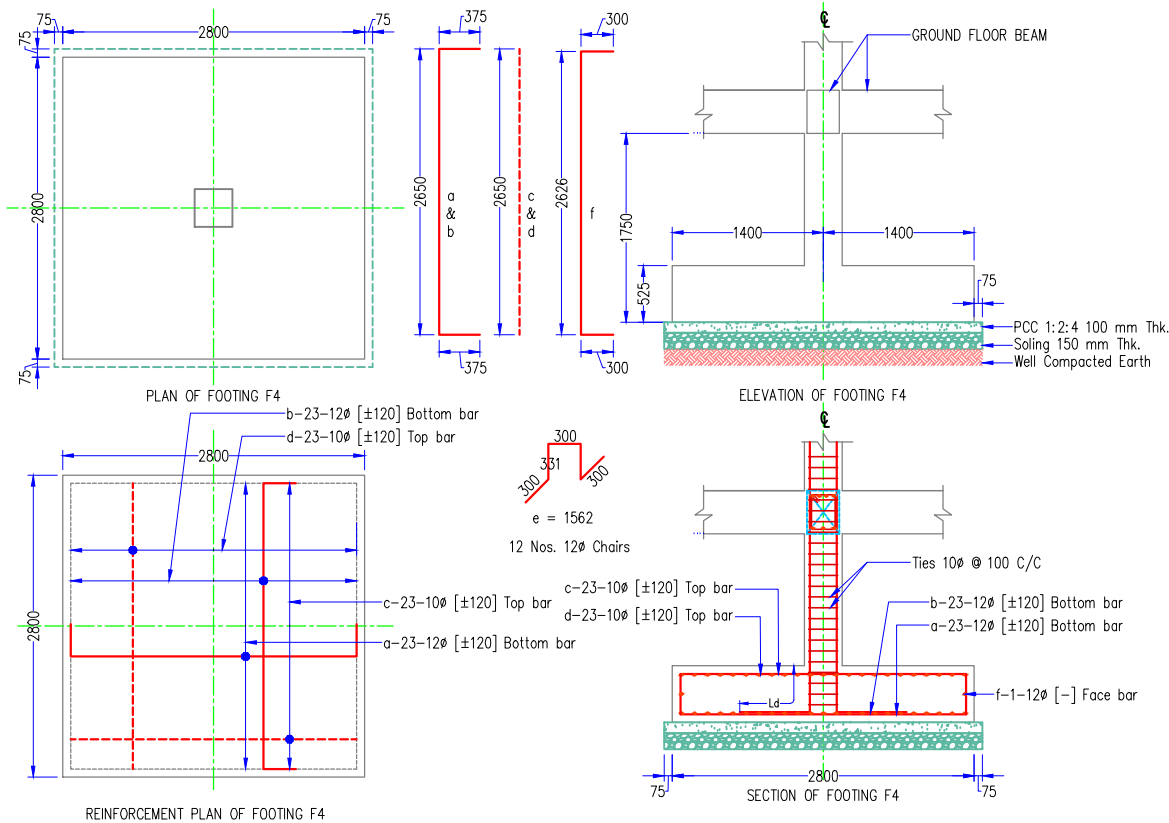
Legend
Bottom bar
Top bar



REBAR SCHEDULE OF FOOTING F3

FOOTING SIZE = 2500 MM X 2500 MM, PAD DEPTH = 450 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	19	a	12	17	2.950 M	±145	Bottom rebar
2	19	b	12	17	2.950 M	±145	Bottom rebar
3	19	c	10	17	2.350 M	±145	Top rebar
4	19	d	10	17	2.350 M	±145	Top rebar
5	19	e	12	8	1.412 M	-	Chair
6	19	f	12	4	2.926 M	-	Face bar



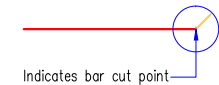
Note: -

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4. Proper shuttering shall be provided for foundation slab.
5. Concrete grade for RC work shall be of M20 Grade
6. Aggregate for RC shall be of 20 mm, well graded.
7. Steel reinforcement shall be of TMT Fe500
8. Concrete Cover of 75 mm minimum to be provided.
9. All materials used for RC work shall confirm to IS:456-2000.
10. Bearing Capacity of Soil=150 kN/sq.m

Bar Dia.	Development Length (Ld)
12 ϕ	564
16 ϕ	755
20 ϕ	940
25 ϕ	1175

Legend	
Bottom bar	—
Top bar	- - -

Bar diameter	Spacing	No. of bar	Location/Remarks
a-12-12 ϕ -150-Top			



REBAR SCHEDULE OF FOOTING F4

FOOTING SIZE = 2800 MM X 2800 MM, PAD DEPTH = 525 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	29	a	12	23	3.400 M	±120	Bottom rebar
2	29	b	12	23	3.400 M	±120	Bottom rebar
3	29	c	10	23	2.650 M	±120	Top rebar
4	29	d	10	23	2.650 M	±120	Top rebar
5	29	e	12	12	1.562 M	-	Chair
6	29	f	12	4	3.226 M	-	Face bar

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Civil Engineering Consultant

Gyaltshen Consultancy

Project Title

BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

No.	Revision	Date	By

Drawing Title

Footing F4 Details

Scale 1 : 50 @ A3

Date December 2016

Drawn By ST & PD

Drawing Number

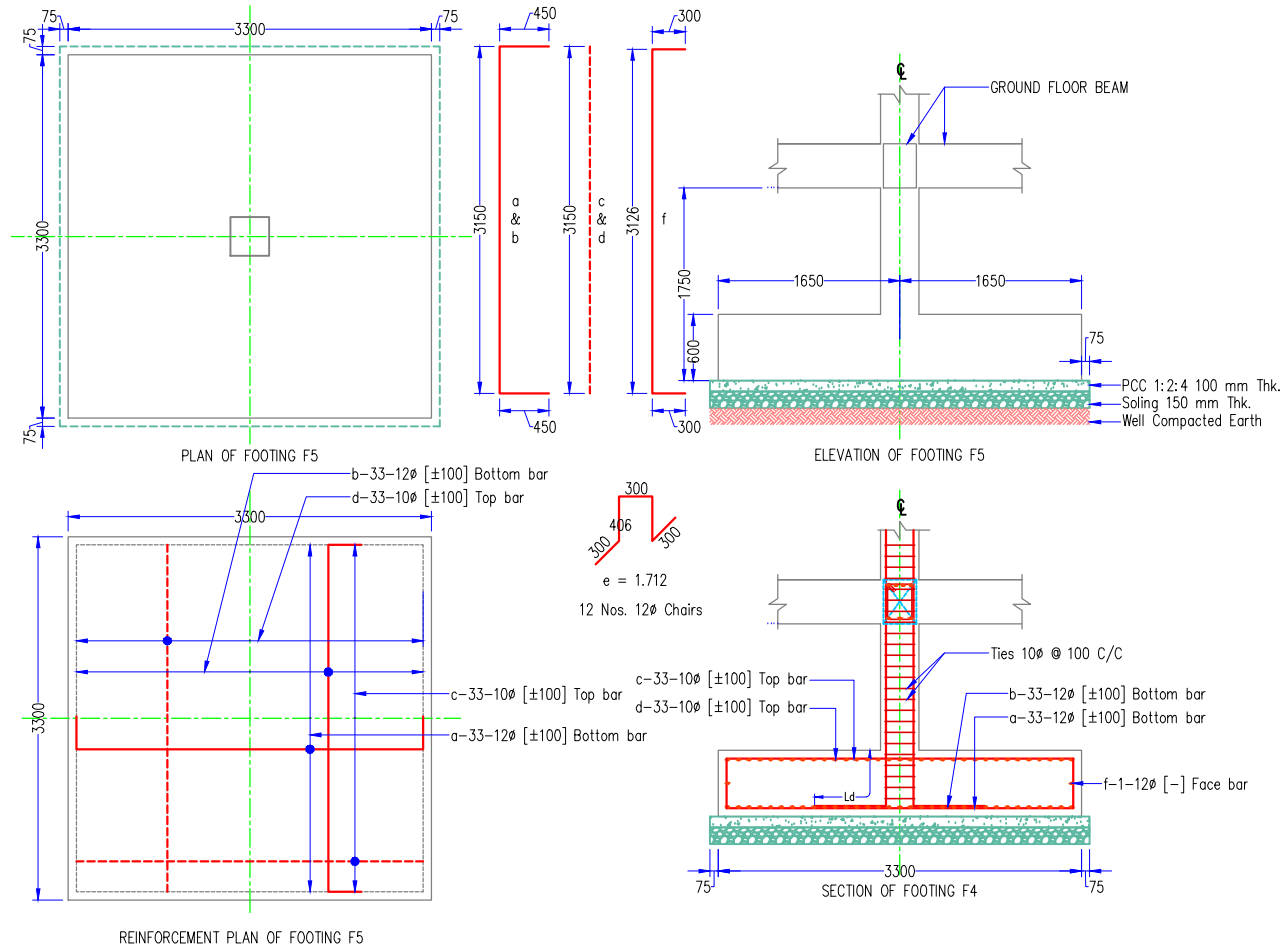
STR - 103

LEAPP Project Code

12246

Rev No.

R0

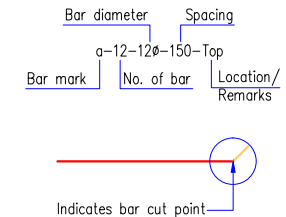


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6. Aggregate for RC shall be of 20 mm, well graded.
7. Steel reinforcement shall be of TMT Fe500
8. Concrete Cover of 75 mm minimum to be provided.
9. All materials used for RC work shall conform to IS:456-2000.
10. Bearing Capacity of Soil=150 kN/sq.m

Bar Dia.	Development Length (Ld)
12 ϕ	564
16 ϕ	755
20 ϕ	940
25 ϕ	1175

Legend
Bottom bar
Top bar



REBAR SCHEDULE OF FOOTING F5

FOOTING SIZE = 2800 MM X 2800 MM, PAD DEPTH = 525 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	6	a	12	33	4.050 M	±100	Bottom rebar
2	6	b	12	33	4.050 M	±100	Bottom rebar
3	6	c	10	33	3.150 M	±100	Top rebar
4	6	d	10	33	3.150 M	±100	Top rebar
5	6	e	12	12	1.712 M	—	Chair
6	6	f	12	4	3.726 M	—	Face bar

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Project Title

BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

No./Revision

No./Revision	Date	By

Drawing Title

Footing F5 Details

Scale: 1 : 50 @ A3

Date: December 2016

Drawn By: S T & PD

Drawing Number

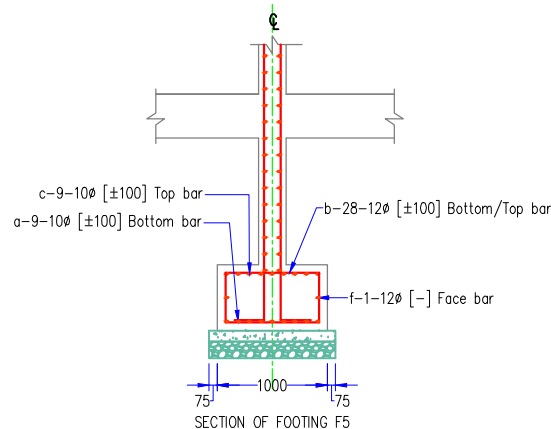
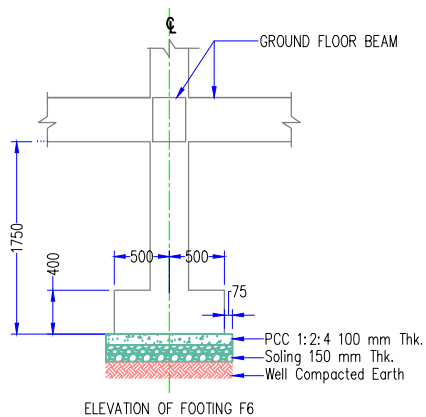
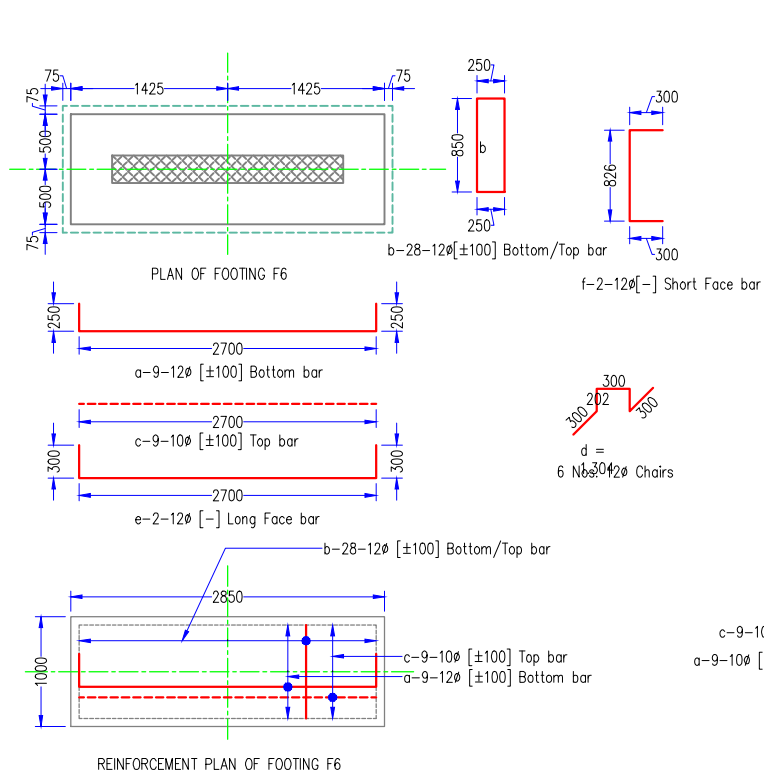
STR - 105

LEAPP Project Code

12246

Rev No.

R0

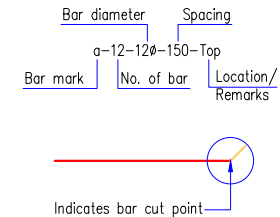


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6. Aggregate for RC shall be of 20 mm, well graded.
7. Steel reinforcement shall be of TMT Fe500
8. Concrete Cover of 75 mm minimum to be provided.
9. All materials used for RC work shall conform to IS:456-2000.
10. Bearing Capacity of Soil=150 kN/sq.m

Bar Dia.	Development Length (Ld)
12Ø	564
16Ø	755
20Ø	940
25Ø	1175

Legend	
Bottom bar	—
Top bar	- - -



REBAR SCHEDULE OF FOOTING F5

FOOTING SIZE = 2800 MM X 2800 MM, PAD DEPTH = 525 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	1	a	12	9	3.200 M	±100	Bottom/Top rebar
2	1	b	12	27	2.200 M	±100	Bottom rebar
3	1	c	10	9	2.700 M	±100	Top rebar
4	1	d	10	6	1.304 M	±100	Chair
5	1	e	12	2	3.300 M	-	Long Face bar
6	1	f	12	2	1.426 M	-	Short Face bar

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Project Title

BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

No./Revision

No./Revision	Date	By
1		
2		
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Drawing Title

Footing F6 Details

Scale 1 : 50 @ A3

Date December 2016

Drawn By S T & PD

Drawing Number

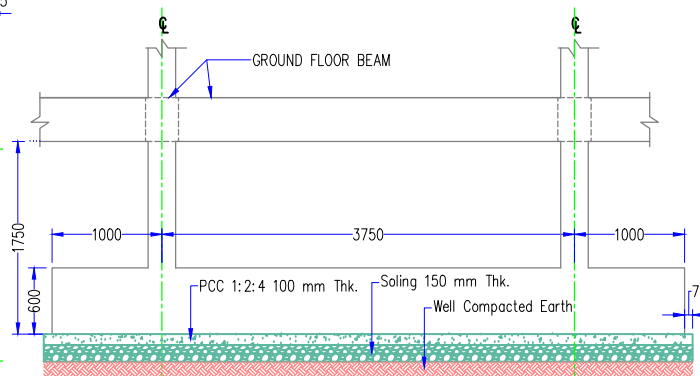
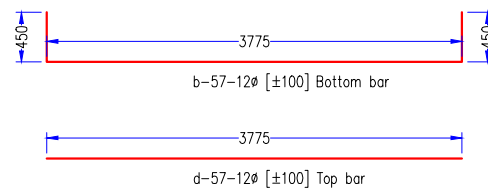
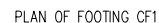
STR - 106

LEAPP Project Code

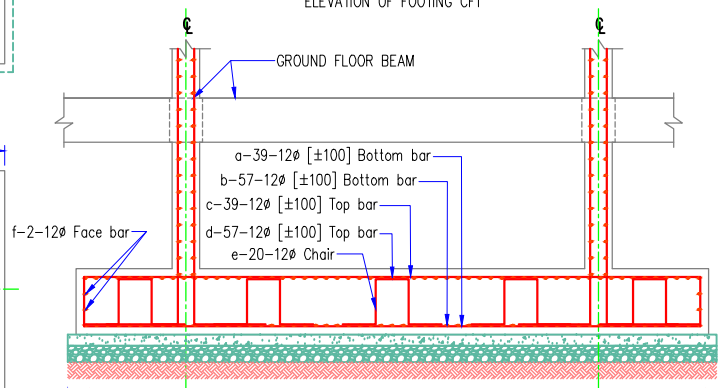
12246

Rev No.

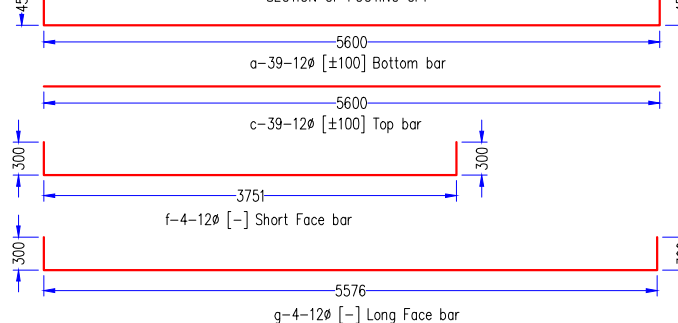
R0



ELEVATION OF FOOTING CF1




SECTION OF FOOTING CF1



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10. Bearing Capacity of Soil=150 kN/sq.m

Bar Dia.	Development Length (Ld)	Development Length (La)
12Ø	564	684
16Ø	755	912
20Ø	940	1140
25Ø	1175	1425

Bar mark	No. of bar	Location/Remarks
a-12-12	150	Top



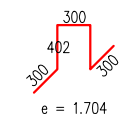
Indicates bar cut point

Bottom bar _____

Top bar _____

FOOTING SIZE = 2800 MM X 2800 MM, PAD DEPTH = 525 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	2	a	12	39	6.500 M	±100	Bottom rebar
2	2	b	12	57	4.675 M	±100	Bottom rebar
3	2	c	10	39	5.600 M	±100	Top rebar
4	2	d	10	57	3.775 M	±100	Top rebar
5	2	e	12	20	1.704 M	–	Chair
6	2	f	12	4	4.351 M	–	Short Face bar
7	2	g	12	4	6.176 M	–	Long Face bar



20 Nos. 12Ø Chairs

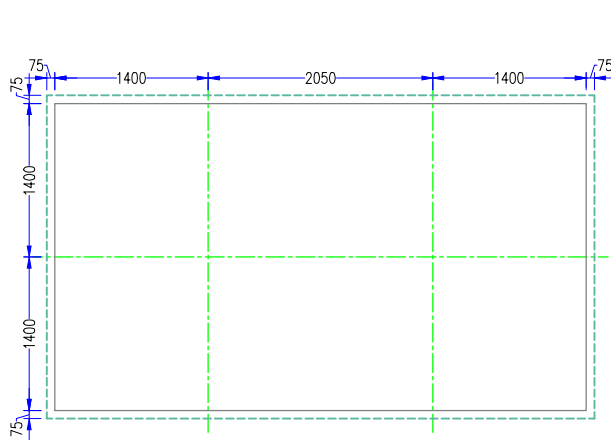
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BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

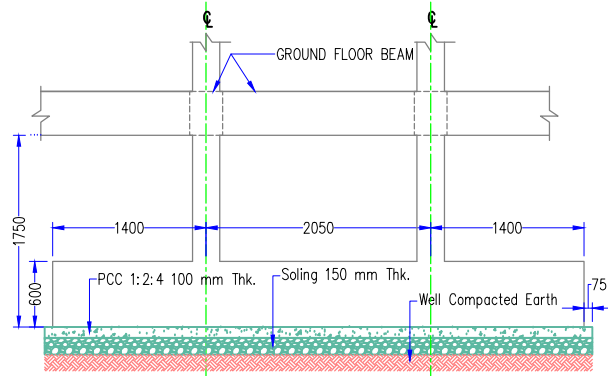
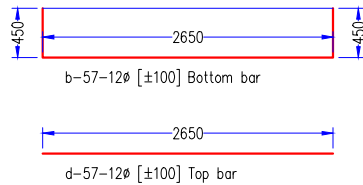
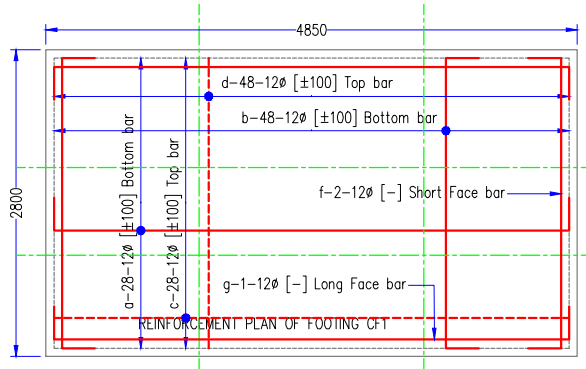
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LEAPP Project Code
12246

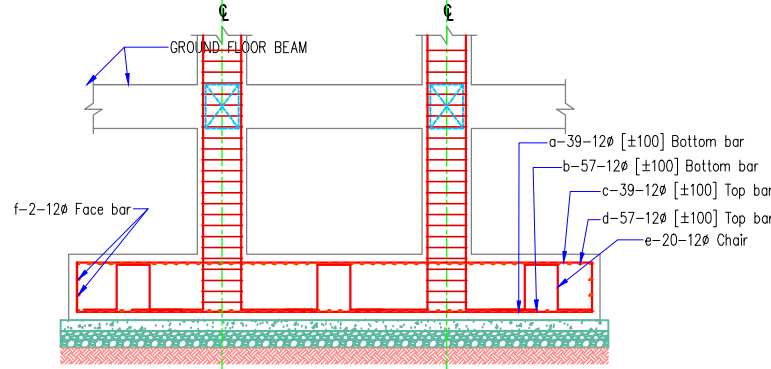
Rev No.
R0



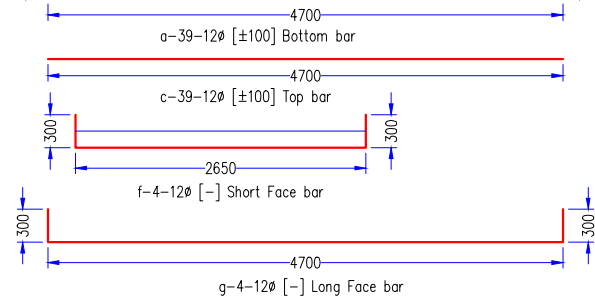
PLAN OF FOOTING CF1



ELEVATION OF FOOTING CF1



SECTION OF FOOTING CF1



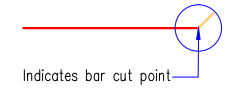
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Bar Dia.	Development Length (Ld)	Development Length (La)
12Ø	564	684
16Ø	755	912
20Ø	940	1140
25Ø	1175	1425

Bar diameter
a-12-12Ø-150-Top
Bar mark
No. of bar
Location/
Remarks

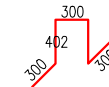
Legend
Bottom bar
Top bar



REBAR SCHEDULE OF FOOTING F5

FOOTING SIZE = 2800 MM X 2800 MM, PAD DEPTH = 525 MM, FOUNDATION DEPTH = 1750 MM

Sl.No.	No. of Footing	Mark	Bar dia.	No. of Bar	Length	Spacing	Remarks
1	1	a	12	28	5.600 M	±100	Bottom rebar
2	1	b	12	48	3.550 M	±100	Bottom rebar
3	1	c	10	28	4.700 M	±100	Top rebar
4	1	d	10	48	2.650 M	±100	Top rebar
5	1	e	12	9	1.704 M	-	Chair
6	1	f	12	4	3.250 M	-	Short Face bar
7	1	g	12	4	5.300 M	-	Long Face bar



e = 1.704

20 Nos. 12Ø Chairs

Notes

1. All dimensions are in meters unless specified otherwise.
2. All relative levels are in meters unless specified otherwise.
3. All dimensions measure unfinished surfaces unless specified otherwise.
4. All dimensions are to be read and not scaled off.
5. Any discrepancy in drawing is to be brought to the immediate notice of the Client/Supervising Engineer.
6. Minor adjustments need to be carried out on site to match with existing structure.
7. Verify dimensioning, take real measurements.
8. All construction changes on the site to be agreed with the Client/Supervising Engineer.

Client

Ministry of Information and Communications
Department of Air Transport

Aviation Planners & Engineers

Leading Edge Aviation Planning Professionals

Civil Engineering Consultant

Gyaltsen Consultancy

Project Title

BHUTAN DOMESTIC AIRPORT DESIGN & SUPERVISION
GELEPHU AIRPORT SECURITY QUATERS

No./Revision

No./Revision	Date	By

Date

Date	By

Drawing Title

Footing CF2 Details

Scale 1 : 50 @ A3

Date December 2016

Drawn By S T & PD

Drawing Number

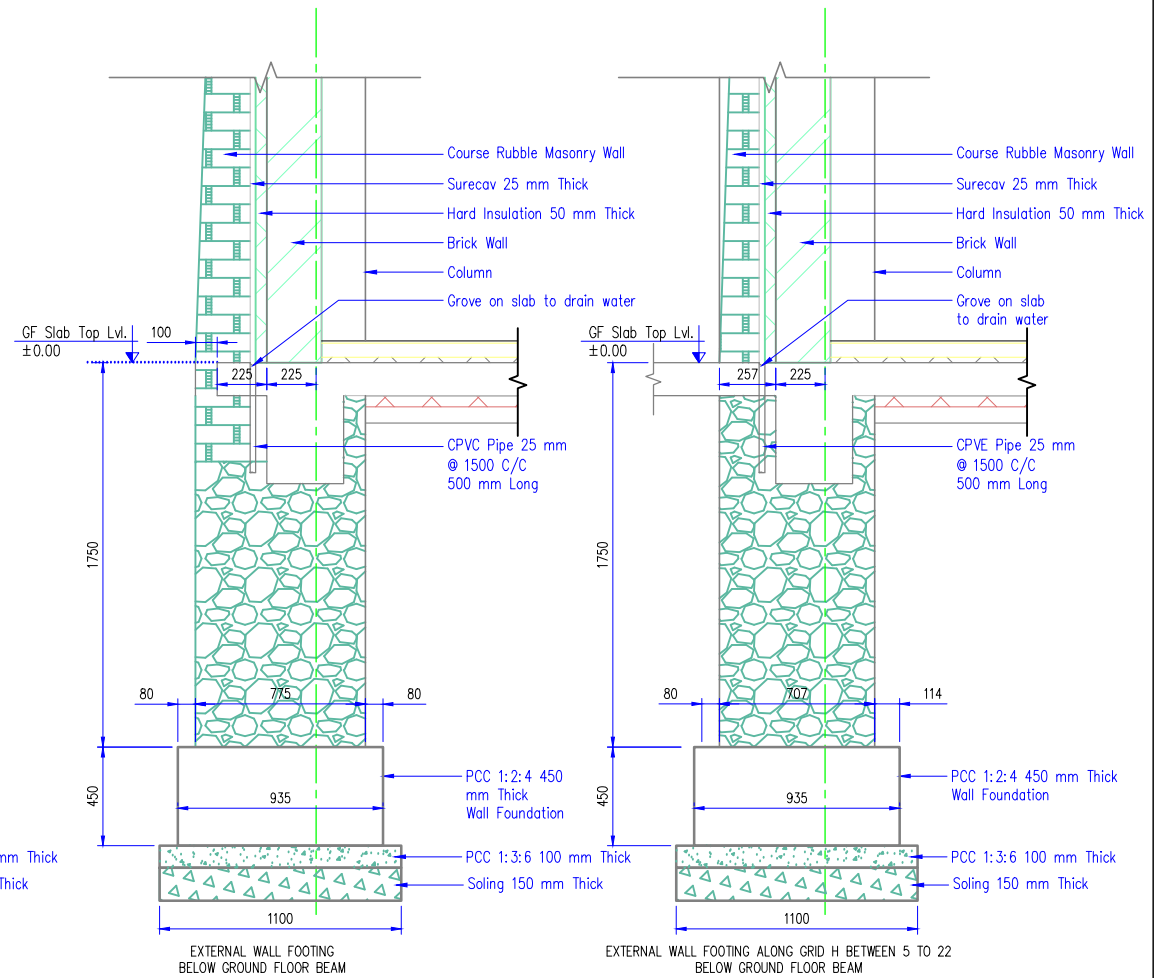
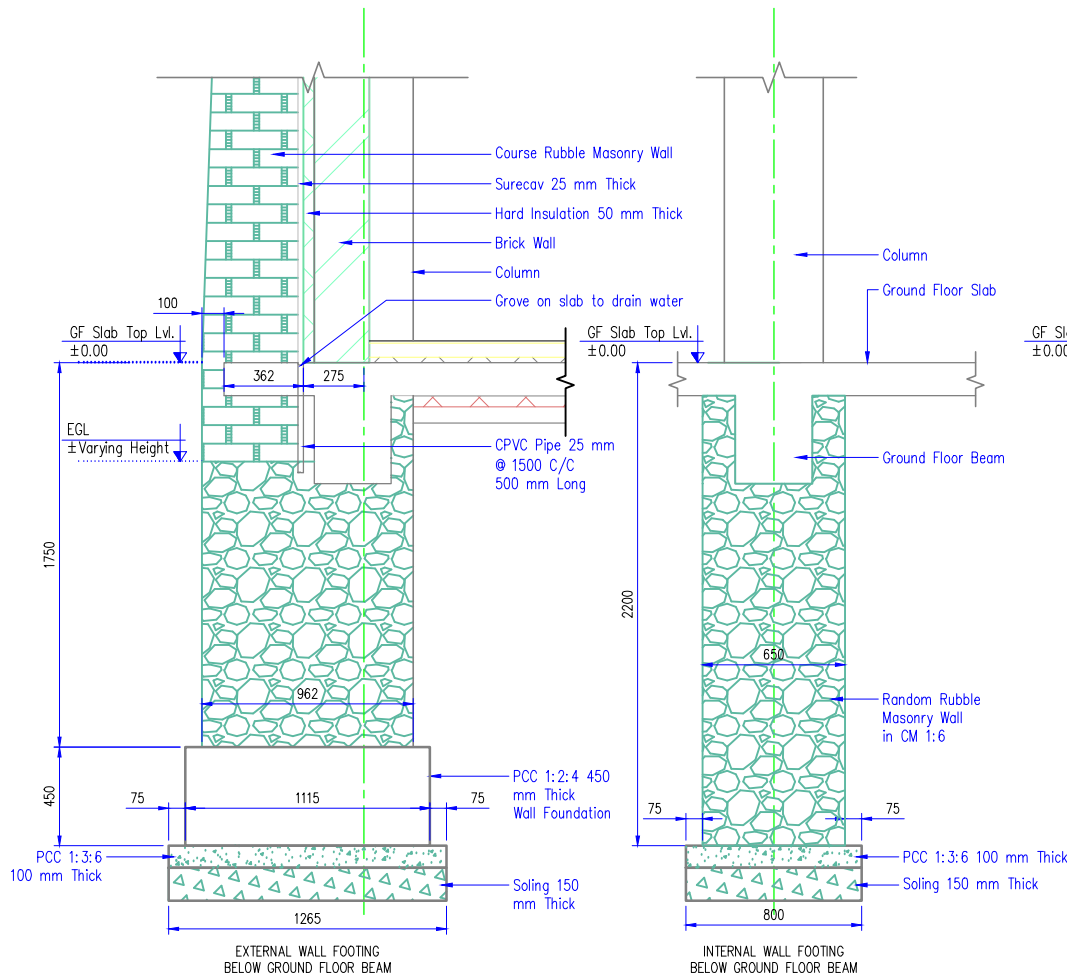
STR - 108

LEAPP Project Code

12246

Rev No.

R0



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No./Revision

No./Revision	Date	By

Date

By

Drawing Title

Wall Footing Details

Scale

1 : 25 @ A3

Date

December 2016

Drawn By

S T & PD

Drawing Number

STR - 109

LEAPP Project Code

12246

Rev No.

R0