

NOTE:

IN CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES/DETAILS AND ANY NOTES/DETAILS ON INDIVIDUAL DRAWINGS, THE NOTES/DETAILS ON EACH DRAWING TAKE PRECEDENCE.

1. GENERAL

- 1.1 ALL DIMENSIONS ARE IN mm.
DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWINGS. FOLLOW WRITTEN DIMENSIONS ONLY.
- 1.2 ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS, SPECIFICATIONS, BILLS OF QUANTITIES AND ALL OTHER RELEVANT DOCUMENTS. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- 1.3 THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE EXECUTION.
- 1.4 ALL CONCRETE SIZES AND LEVELS ARE FOR STRUCTURAL ELEMENTS UNLESS OTHERWISE NOTED.
- 1.5 ALL OPENINGS FOR PIPING AND CONVEYANCE SHALL BE FORMED IN POSITION BEFORE THE CASTING OF CONCRETE. FOR LOCATION OF OPENINGS REQUIRED FOR M & E INSTALLATION REFER RELEVANT M & E DRAWINGS.
- 1.6 NO HOLES OR CHASES ARE PERMITTED IN THE CONCRETE MEMBERS UNLESS OTHER THAN AS DETAILED OR UNLESS APPROVED BY THE ENGINEER.
- 1.7 CONSTRUCTION JOINTS SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEERS.
- 1.8 ANY DAMAGE CAUSED TO ANY CIVIL/ STRUCTURAL WORK SHALL BE REINSTATED TO ITS ORIGINAL CONDITION WITH NO COST IMPLICATION TO THE CLIENT.
- 1.9 ELECTRICAL CONDUITS SHOULD NOT BE PROVIDED WITH IN THE COVER TO THE REINFORCEMENT OF STRUCTURAL ELEMENTS.

2. FOUNDATIONS

- 2.1 BOTTOM OF EXCAVATIONS FOR WALLS & COLUMN FOUNDATIONS SHALL BE COMPACTED PRIOR TO LAYING OF LEVELING SCREED.
- 2.2 FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE BEARING CAPACITY OF 50 kN/m²
- 2.3 FOUNDATIONS TO BE EXCAVATED TO THE GIVEN DEPTHS OR VIRGIN SOIL UNDER THE DIRECTION OF THE ENGINEER.
- 2.4 FOUNDATION EXCAVATION TO BE APPROVED BY THE ENGINEERS PRIOR TO FOUNDATION CONSTRUCTION.

3. REINFORCEMENT

- 3.1 UNLESS OTHERWISE SPECIFIED, ALL STEEL REINFORCEMENT BARS AND WELDED STEEL FABRIC REINFORCEMENTS (WSFR) SHALL COMPLY WITH THE REQUIREMENTS OF ASTM.
- 3.2 'R' DENOTES MILD STEEL OF YIELD STRENGTH = 250 N/mm²
'T' DENOTES HIGH TENSILE DEFORMED BARS (TYPE 2) OF YIELD STRENGTH = 460 N/mm²
- 3.3 CONCRETE COVER TO OUTERMOST REINFORCEMENT, INCLUDING LINKS, SHALL BE AS FOLLOWS :

STRUCTURAL ELEMENTS	IN CONTACT WITH GROUND	OTHER
SLABS	50 mm	20 mm
BEAMS	50 mm (TOP) 50 mm (SIDE & BOT.)	25 mm
COLUMNS	50 mm	40 mm
WALLS	50 mm	40 mm
FOOTINGS	50 mm	--
SUMP & TANKS	50 mm	50 mm
STAIRCASES	50 mm	20 mm

- 3.4 ALL REINFORCEMENT ARE TO BE FIRMLY SUPPORTED ON APPROVED CHAIRS OR CONCRETE BLOCKS GENERALLY AT NOT GREATER THAN 750mm CENTERS BOTH WAYS. WHERE LONGITUDINAL REINFORCEMENT ARE PLACED IN 2 LAYERS OR MORE, SPACER BARS OF 25mm DIAMETER OR THE DIAMETER OF THE LONGITUDINAL, WHICHEVER IS LARGER, ARE TO BE PROVIDED AT 1500mm INTERVALS TO SEPARATE THE LAYERS. COVER BLOCKS SHALL BE OF THE SAME CONSTITUENT OF THE CONCRETE AND THE TIE WIRE SHALL BE OF 16 GAUGE BLACK ANNEALED WIRE.
- 3.5 WELDING OF REINFORCEMENT WILL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.
- 3.6 ALL BARS SHALL BE CUT AND BENT TO CONFORM TO BS4466.
UNLESS OTHERWISE STATED IN THE DRAWINGS, THE MINIMUM LAP LENGTH FOR REINFORCEMENT SHALL BE 50 DIA. OF THE SMALLER BAR IN THE LAP.

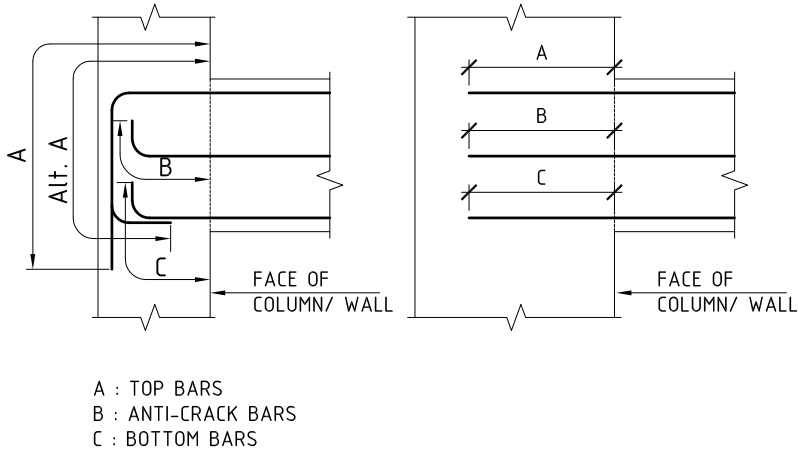
ALL BARS AT THE ENDS OF THE BEAMS WHERE THE BEAM IS NO MORE CONTINUOUS SHALL BE ANCHORED EITHER STRAIGHT OR BENT (DEPENDING ON THE WIDTH OF THE SUPPORT) AS SHOWN BELOW. THESE SHALL NOT BE USED IN CANTILEVERED BEAMS OR SLABS. THE ACTUAL DESIGN DRAWING SHALL BE STRICTLY ADHERE TO.

BAR SIZE (mm)	6	10	12	16	20	25	32
T = HIGH YIELD STEEL	-	500	600	800	1000	1200	1550
R = MILD STEEL	300	-	-	-	-	-	-

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BAR SIZE (mm)	A	B	C
T32	1100	-	900
T25	850	-	700
T20	700	-	550
T16	550	450	450
T12	400	400	400
T10	-	300	-

3.7 CRACK CONTROL BARS ARE TO BE PROVIDED UPTO 1/2 OF BEAM SECTION IN TENSION WHEN BEAM DEPTH IS GREATER THAN OR EQUAL TO 750mm, UNLESS OTHERWISE SHOWN. (REFER RELEVANT DRAWINGS FOR BAR SIZE / SPACING.)



4. PURLIN

- 4.1 PURLIN OF "C" OR "I" SECTIONS SHALL BE ROLL-FORMED FROM HIGH TENSILE GALVANIZED STEEL OF MINIMUM YIELD STRESS 450 MPa AND 275 g/m² COATING MASS.
- 4.2 BOLTS SHALL BE OF GRADE 8.8 AND GALVANIZED AS PER THE COATING MASS MENTIONED IN 4.1 ABOVE.

5. ANTI TERMITE TREATMENT

- 5.1 FOUNDATION TRENCHES AND PITS SHALL BE TREATED PRIOR TO PLACING OF ANY MATERIALS AND SECOND ROUND OF TREATMENT SHALL BE CARRIED OUT PRIOR TO CONSTRUCTION OF THE GROUND FLOOR SLAB. CONTRACTOR SHALL SUPPLY NECESSARY INFORMATION FROM THE MANUFACTURES FOR ENGINEER'S APPROVAL.

6. CONCRETE


- 6.1 UNLESS OTHERWISE SPECIFIED, ALL STRUCTURAL CONCRETE MIX TO BE OF GRADE 25
- 6.2 ALL CONCRETE STRENGTHS ARE 28 DAYS CUBE STRENGTH.
- 6.3 UNLESS OTHERWISE SPECIFIED, A LAYER OF 50mm THICK GRADE 15 CONCRETE TO BE PROVIDED BELOW ALL REINFORCED CONCRETE STRUCTURES IN CONTACT WITH THE GROUND.
- 6.4 UNLESS OTHERWISE SPECIFIED, ALL LEAN CONCRETE MIX TO BE OF GRADE 15.
- 6.5 MAXIMUM AGGREGATE SIZE SHALL BE 20mm.
- 6.6 CURING OF CONCRETE
- EXPOSED CONCRETE SURFACES SHOULD BE COVERED WITH DAMP ABSORBENT MATERIAL AFTER PLACING CONCRETE. THEY SHOULD BE KEPT CONTINUOUSLY WET BY FREQUENT SPRAYING OF WATER.
 - IN COLUMNS CURING SHOULD BE STARTED IMMEDIATELY AFTER REMOVAL OF FORMWORK.
 - MINIMUM PERIOD OF CURING IS 4 DAYS.
- 6.7 REMOVAL OF SHUTTERING :

STRUCTURAL ELEMENTS	MINIMUM PERIOD
VERTICAL FORMWORK TO COLUMNS AND WALLS	12 HOURS
SOFFIT FORMWORK TO SLABS	10 DAYS
SOFFIT FORMWORK TO BEAMS	10 DAYS
PROPS TO BEAMS	14 DAYS

- 6.8 GRADE OF CONCRETE

CONCRETE	CUBE/ CYLINDER	CHARACTERISTIC STRENGTH, N/mm ²
BLINDING SCREED / LEVELING CONCRETE	C15, (C12)	15
MASS CONCRETE	C20, (C15)	20
STRUCTURAL CONCRETE	C25, (C20)	25
WATER RETAINING STRUCTURES	C35A, (C30A)	35
PILES & PILE CAPS	C30, (C25A)	30

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7. STRUCTURAL STEEL WORK

- 7.1
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.
- 7.2
- FABRICATION AND ERECTION OF STRUCTURAL STEELWORKS SHALL IN GENERAL BE CARRIED OUT IN ACCORDANCE WITH BS 5950:2000.
- 7.3
- UNLESS OTHERWISE SPECIFIED ALL BOLTS SHALL BE BLACK BOLTS.
- 7.4
- ALL BOLTS AND NUTS SHALL COMPLY WITH BS 3692 OR BS 4190 AND BS 4933.
- 7.5
- THE LENGTH OF HOLDING DOWN BOLTS INDICATED ON THE RESPECTIVE DRAWINGS REFER TO THE PENETRATION DEPTH ONLY.
- 7.6
- UNLESS OTHERWISE SPECIFIED , THE MATERIALS FOR ALL STRUCTURAL STEEL WORK SHALL COMPLY WITH THE FOLLOWING STANDARDS:

a.

BS EN 10025:1993 HOT ROLLED PRODUCTS OF NON-ALLOY STRUCTURAL STEELS

b.

BS EN 10056:1993 STRUCTURAL STEEL EQUAL AND UNEQUAL LEG ANGLES - DIMENSIONS

c.

BS EN 10113:1993 HOT ROLLED PRODUCTS IN WELDABLE FINE GRAIN STRUCTURAL STEELS

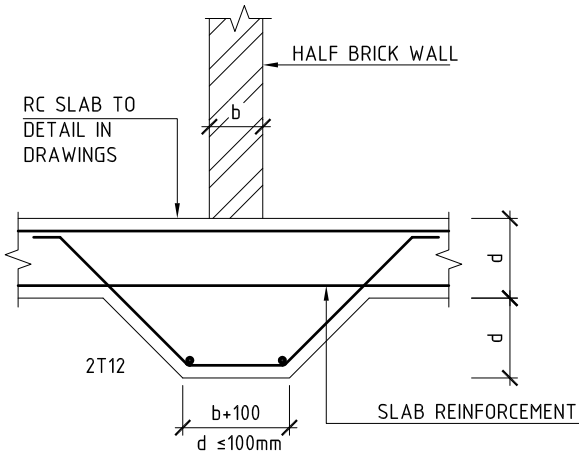
d.

BS EN 10210:1994 HOT FINISHED STRUCTURAL HOLLOW SECTIONS OF NON-ALLOY AND FINE GRAIN STRUCTURAL STEELS

e.

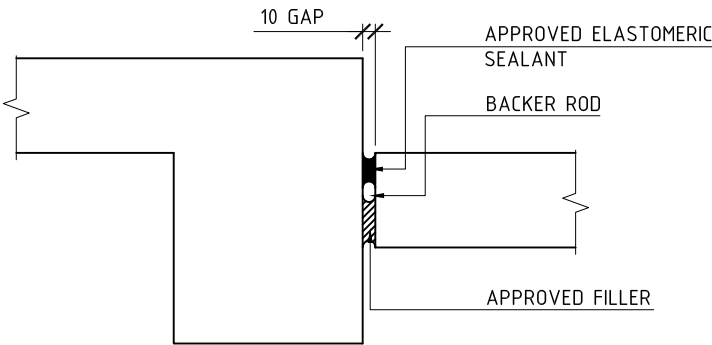
BS EN 10219:1997 COLD FORMED WELDED STRUCTURAL HOLLOW SECTIONS OF NON-ALLOY AND FINE GRAIN STEELS
- 7.7
- THE USE OF HIGH STRENGTH FRICTION GRIP (SHFG) BOLTS AND ASSOCIATED NUTS AND WASHERS SHALL COMPLY WITH BS 4395 AND SHALL BE IN ACCORDANCE WITH BS 4604.
- 7.8
- ALL METAL ARC WELDING SHALL BE DONE IN ACCORDANCE WITH BS EN 1011. ELECTRODES USED SHALL COMPLY WITH BS EN 499.
- 7.9
- UNLESS OTHERWISE SPECIFIED , ALL OPEN ENDS OF HOLLOW SECTIONS ARE TO BE COVERED WITH 6MM THICK MILD STEEL PLATE WELDED ALL ROUND.
- 7.10
- ENDS OF COLUMNS, RAFTERS AND ALL PLATE EDGES SHALL BE CUT CLEAN AND SQUARE TO ENSURE GOOD FIT BETWEEN COMPONENTS.
- 7.11
- ALL FILLET WELDS ARE TO BE 6mm THICK CONTINUOUS UNLESS OTHERWISE SPECIFIED.
- 7.12
- ALL BASE PLATES SHALL BE SET ON 25mm MINIMUM HIGH STRENGTH NON-SHRINK GROUT.
- 7.13
- ALL DIRT, GRIT, OIL, RUST AND MILL SCALES ARE TO BE REMOVED BEFORE ANY COAT OF PAINT CAN BE APPLIED.
- 7.14
- ALL STRUCTURAL STEEL WORK SHALL BE SAND BLASTED, PAINTED WITH 1 COAT OF AN APPROVED RUST-INHIBITIVE PRIMER, 1 COAT OF AN APPROVED UNDERCOAT AND 2 FINISHING COATS OF APPROVED EPOXY PAINT.
- 7.15
- CONSIDERATION SHALL BE GIVEN TO THE STABILITY AND SAFETY OF STEEL FRAMEWORK DURING ERECTION. THE CONTRACTOR SHALL ENSURE THAT THE STRUCTURE IS NOT SUBJECT TO EXCESSIVE DEFLECTION OR STRESS DURING ERECTION.
- 7.16
- STRUCTURAL STEEL MEMBERS WHICH ARE TO BE ENCASED IN CONCRETE SHALL BE LEFT UNPAINTED AND SHALL BE CLEAN AND FREE FROM LOOSE RUST AND SCALE AT THE TIME OF CONCRETING.
- 7.17
- ALL GALVANIZED STRUCTURAL STEEL WORK SHALL BE HOT-DIPPED GALVANIZED WITH A MINIMUM COATING MASS OF 450 g/m². THE GALVANIZED COATING ON ALL STEEL MEMBERS SHALL CONFORM TO THE REQUIREMENT OF BS 729.
- 7.18
- ALL OTHER PRECAUTIONS FOR CLEANING AND RUST PREVENTION OF STRUCTURAL STEEL AS MENTIONED IN SPECIFICATIONS AND/OR ARCHITECTURAL DRAWING SHALL BE DONE AS DEEMED NECESSARY BY THE ENGINEER.
- 7.19
- UNLESS OTHERWISE SPECIFIED ALL STRUCTURAL STEEL SHALL BE OF GRADE 43A(p_y= 275 N/mm²) OR AN EQUIVALENT

8. HALF BRICK WALL SUPPORT AT GRADE SLAB



09. JOINTS

- 9.1
- EXPANSION JOINTS IN CONCRETE GROUND SUPPORTED SLAB SHALL BE CONSTRUCTED AT LOCATIONS AND AS DETAILED ON THE DRAWINGS OR IF NOT DETAILED AT INTERVALS OF NOT MORE THAN 9m IN ANY DIRECTION. PRG MOULDED 12mm THICK EXPANSION JOINT FILLER SHALL BE INSTALLED AND SET 12mm BELOW FINISHED SLAB AND SPACE FILLED WITH APPROVED SEALING MATERIAL



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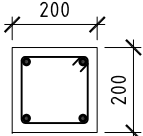
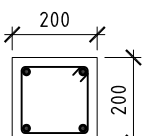
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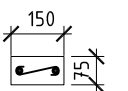
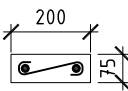
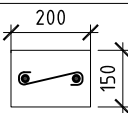
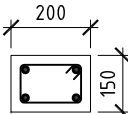
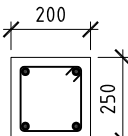

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10. STIFFENERS & LINTEL DETAILS

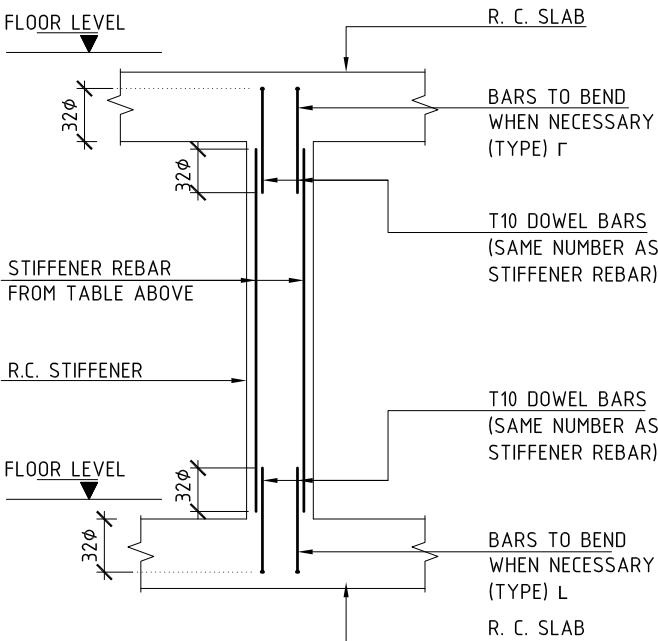
10.1 VERTICAL & HORIZONTAL RC STIFFENERS FOR ALL BRICK WALLS SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAILS GIVEN BELOW :

RC MEMBERS	REINFORCEMENT DETAILS	
	250mm BRICK WALL	
VERTICAL STIFFENERS	@ 4000 C/C WITH 4T12 AND R6-150 C/C LINKS	
HORIZONTAL STIFFENERS	@ 4000 C/C WITH 4T12 AND R6-200 C/C LINKS	

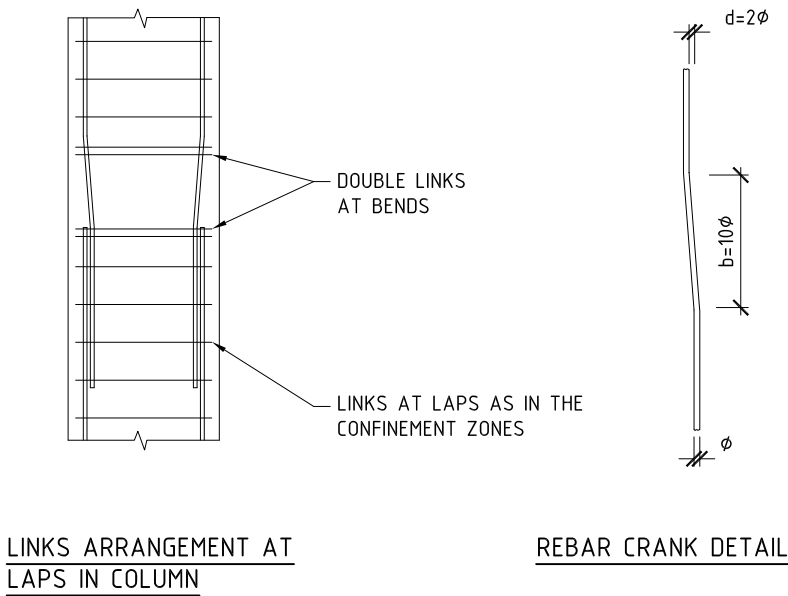
10.2 SCHEDULE OF LINTELS

LOCATION	MAIN R/F	STIRRUPS	SECTION
OPENINGS UPTO 1m FOR 150mm WALLS	2T12	R6-150 C/C	
OPENING UPTO 1m FOR 200mm WALLS	2T12	R6-150 C/C	
OPENINGS 1m TO 1.4m FOR 200mm WALLS	2T12	R6-150 C/C	
OPENINGS 1.4m TO 1.8m FOR 200mm WALLS	4T12	R6-150 C/C	
OPENINGS 1.8m TO 3m FOR 200mm WALLS	4T12	R6-150 C/C	


* FOR OPENINGS GREATER THAN 3.0m CHECK WITH STRUCTURAL DESIGNER.



11. COLUMN LINK ARRANGEMENT AT LAPS



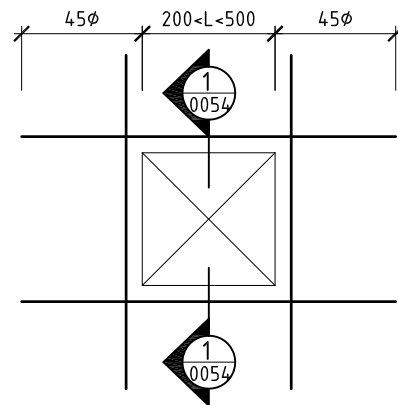
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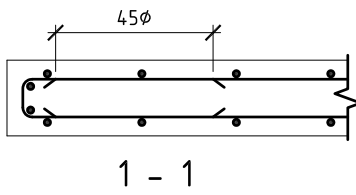
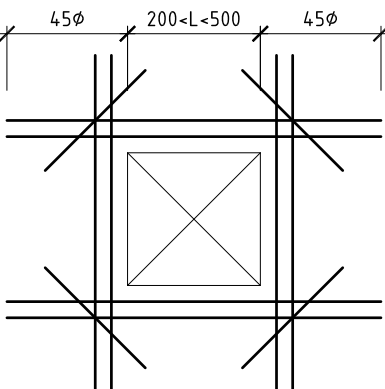
12. STANDARD TRIMMING DETAILS FOR STRUCTURAL OPENINGS

- 12.1 DIAMETER OF TRIMMER BARS SHALL BE SIMILAR TO BIGGER REINFORCING BARS OF THE STRUCTURE THROUGH WHICH THE OPENING IS FORMED.
- 12.2 NO TRIMMER BARS ARE REQUIRED FOR OPENINGS NOT GREATER THAN 200mm WIDE , BUT NO REINFORCING BARS SHALL BE CUT. REINFORCING BARS SHALL BE ADJUSTED IN POSITION TO AVOID OPENINGS.
- 12.3 UNLESS OTHERWISE SHOWN IN THE DRAWINGS, TRIMMER BAR DETAILS FOR THE DIFFERENT SIZE OPENINGS ARE AS SHOWN :

(a) 200mm<Max. DIMENSION OF OPENING (L)<500mm

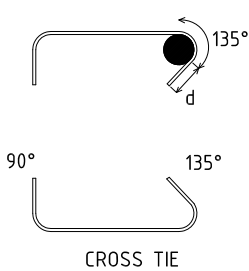
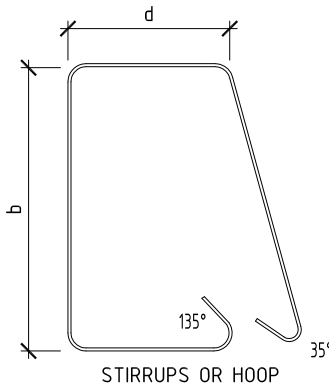


(b) 500mm<Max. DIMENSION OF OPENING (L)<1000mm



- 12.4 NOTES ON REPLACEMENT BARS :
- a. NUMBER OF TRIMMER BARS SHALL NOT BE LESS THAN THE NUMBERS OF BARS CUT BY OPENING.
- b. MINIMUM 2 NOS EACH AND BAR DIAMETER (φ) SHALL BE EQUAL TO THE GREATEST DIAMETER OF THE BARS CUT BY THE OPENING BUT NOT LESS THAN 2T12 TOP & BOTTOM.
- c. BOTH PERPENDICULAR AND DIAGONAL TRIMMING BARS SHALL BE PROVIDED AS SHOWN ABOVE AND ON EACH FACE OF THE MEMBER..

13. STIRRUP & CROSS-TIE SHAPES



d>=6φ (10φ)
d>=80mm (100mm)

VALUES GIVEN IN () ARE FOR
MILD STEEL REINFORCEMENT

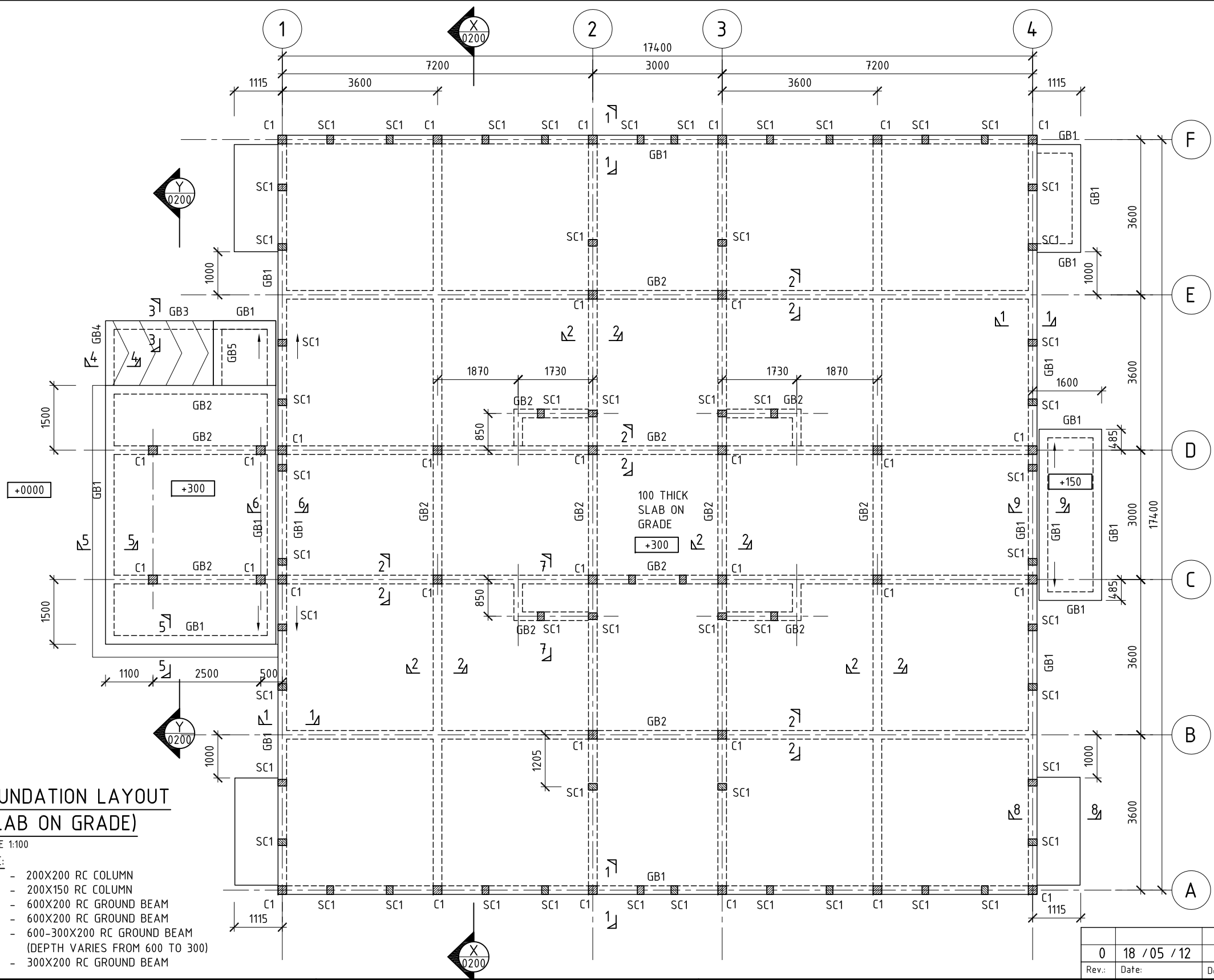
STIRRUPS & CROSS-TIES FOR COLUMNS, BEAM-COLUMN JOINTS,
BEAM CONFINEMENT ZONES AND WALL END ZONES

14. NOTATIONS

- EGL - EXISTING GROUND LEVEL
- GFL - GROUND FLOOR LEVEL
- FFL - FINISHED FLOOR LEVEL
- B/W- BOTH WAYS
- B - BOTTOM (B1 BOTTOM LAYER 1)
(B2 BOTTOM LAYER 2)
- T - TOP (T1 TOP LAYER 1)
(T2 TOP LAYER 2)
- C/C- CENTER TO CENTER
- T20-25-100T HIGH YIELD STEEL 20mm DIAMETER BAR MARK 25 AT 100mm CENTERS ON TOP
- B1 (750X200)
 - WIDTH OF BEAM
 - DEPTH OF BEAM
 - BEAM ID
- 20T10-12-100-B1
 - OUTER / INNER LAYER
 - BOTTOM (B)/TOP (T)
 - C/C DISTANCE BETWEEN BARS (SPACING)
 - BAR MARK
 - BAR SIZE
 - TYPE OF STEEL
 - No. OF BARS
- 2T6-13-100
 - SPACING BETWEEN LINKS / GROUPS
 - BAR MARK
 - LINK DIAMETER
 - TYPE OF STEEL
 - No. OF CLOSED LINKS IN A LINK GROUP

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			VLW	DKAAD	A3	NTS	16 / 05 / 2012	



NOTE:
PROVIDE STIFFENER COLUMNS SC1 AT TWO
ENDS OF THE ALL WALL OPENINGS.
REFER ARCHITECTURAL DRAWINGS FOR THE
EXACT COLUMNS OF SC1

FOUNDATION LAYOUT
(SLAB ON GRADE)

SCALE 1:100

NOTE:

- C1 - 200X200 RC COLUMN
- SC1 - 200X150 RC COLUMN
- GB1 - 600X200 RC GROUND BEAM
- GB2 - 600X200 RC GROUND BEAM
- GB3 - 600-300X200 RC GROUND BEAM
(DEPTH VARIES FROM 600 TO 300)
- GB4 - 300X200 RC GROUND BEAM

Project:		Title:		Design By:		Atlas ID.:		PIDU No.:		Sub No.:		Discipline:		Seq No.:		Rev No.:	
DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC		FOUNDATION LAYOUT (SLAB ON GRADE) 02 - LABORATORY		UNOPS , PIDU Physical Infrastructure Design Unit 		00081984		CMB 0356		02		S		0101		0	
Drawn:		Checked:		Size:		Scale:		Date:		Rev.:							
VLW		DKAAD		A3		1:100		16 / 05 / 2012									

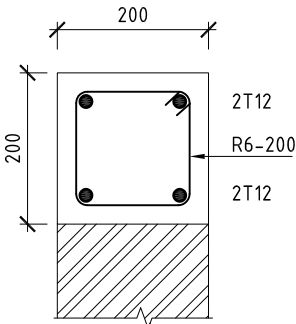
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LEGEND

- C1 - 20X200 RC COLUMN
R1 - RAFTER 1 (IPE180)
R2 - RAFTER 2 (100x50x3mm THICK RHS)
R3 - RAFTER 3 (IPE100)
TB1 - 200X200 RC BEAM

NOTE:

1. REFER DWG.NO CMB 0356 02 S 0800 FOR THE LINTEL DETAILS FOR THE OPENINGS IN PERIMETER WALLS.
2. PROVIDE A CONTINUOUS BAND OF LINTEL IN ALL INTERNAL WALLS.
3. FOR INTERNAL WALLS ALONG GRID 2/3, ROOF TIE BEAM TB1 SHALL BE PROVIDE AT THE TOP OF THE WALL IN PARALLEL TO THE RAFTERS (TO THE SLOPE OF THE ROOF)

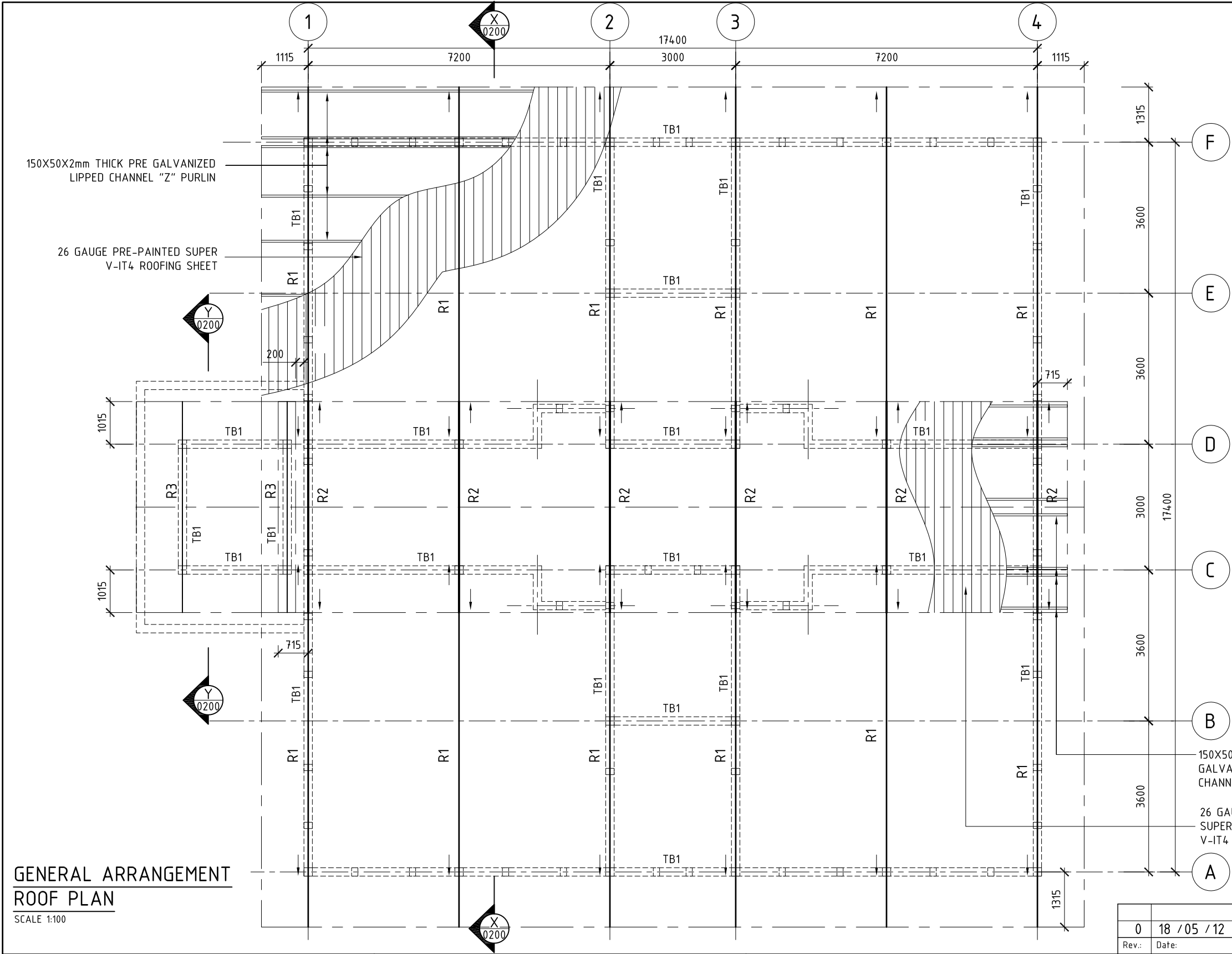


ROOF TIE BEAM-TB1
(200X200)

SCALE 1:10

GENERAL ARRANGEMENT
ROOF PLAN

SCALE 1:100




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VLW	DKAAD	A3	1:100	16 / 05 / 2012		

Project:	Title:	Design By:	Atlas ID.:				PIDU No.:	Sub No.:	Discipline:	Seq No.:	Rev No.:
DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	GENERAL ARRANGEMENT ROOF PLAN & DETAILS	UNOPS , PIDU Physical Infrastructure Design Unit	00081984				CMB 0356	02	S	0102	0
02 - LABORATORY		UNOPS	Drawn:	Checked:	Size:	Scale:	Date:	Rev.:			
			VLW	DKAAD	A3	1:100	16 / 05 / 2012				



- GENERAL NOTES - STRUCTURAL SHEET 1 - 5
- FOUNDATION LAYOUT (SLAB ON GRADE)
- GENERAL ARRANGEMENT ROOF PLAN & DETAILS
- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 1
- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 2
- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 3
- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 4
- ROOF DETAILS - SHEET 1
- ROOF DETAILS - SHEET 2
- ROOF DETAILS - SHEET 3

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Atlas ID.:		PIDU No:		Sub No:	Discipline:	Seq No:	Rev No.:
00081984		CMB 0356		02	S	0200	0
Drawn:	Checked:	Size:	Scale:	Date:		Rev.:	
VLW	DKAAD	A3	1:100	16 / 05 / 2012			

Project:	Title:	Design By:	Atlas ID.:	PIDU No:	Sub No:	Discipline:	Seq No:	Rev No.:
DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	GENERAL ARRANGEMENT SECTIONS 02 - LABORATORY	 UNOPS , PIDU Physical Infrastructure Design Unit	00081984	CMB 0356	02	S	0200	0
			Drawn:	Checked:	Size:	Scale:	Date:	Rev.:
			VLW	DKAAD	A3	1:100	16 / 05 / 2012	



SCALE 1:25

* - THIS DEPTH TO BE ADJUSTED ACCORDING TO THE FINDINGS OF SOIL INVESTIGATIONS.

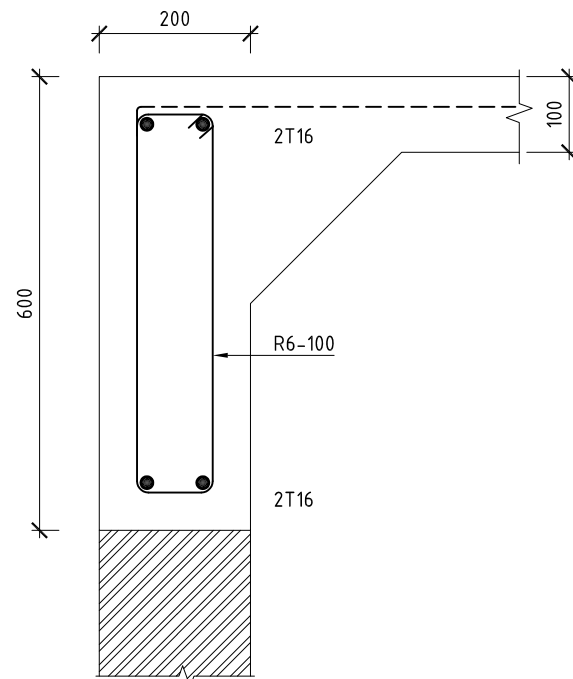


SCALE 1:25

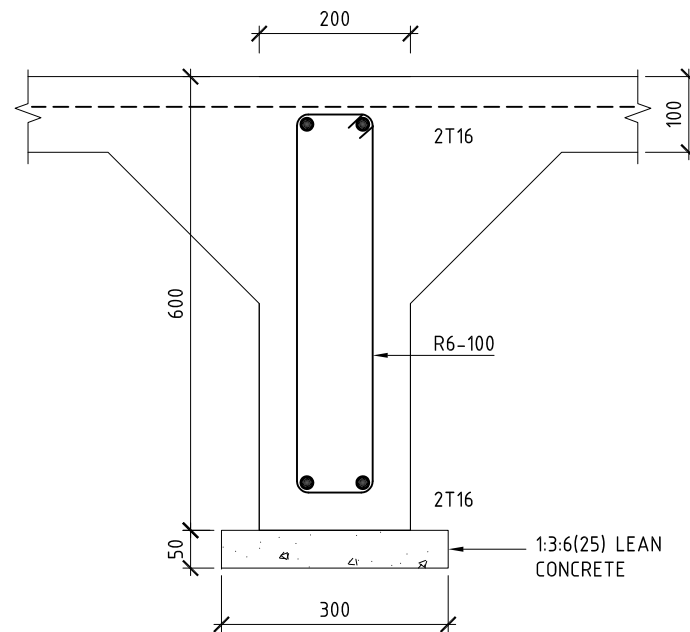


- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 4

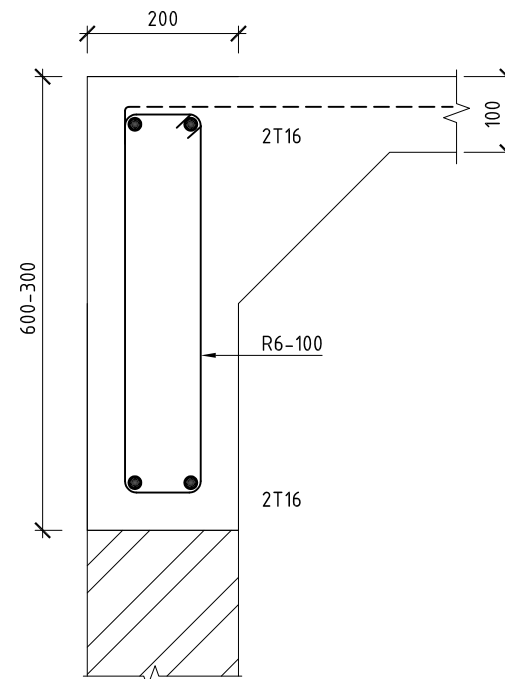
Project:	Title:	Design By:	Atlas ID.:	PIDU No:	Sub No:	Discipline:	Seq No:	Rev No:
DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	FOUNDATIONS & GROUND FLOOR DETAILS SHEET 1 02 - LABORATORY	 UNOPS , PIDU Physical Infrastructure Design Unit 	00081984	CMB 0356	02	S	0300	0
			Drawn:	Checked:	Size:	Scale:	Date:	Rev.:
			VLW	DKAAD	A3	1:25	16 / 05 / 2012	



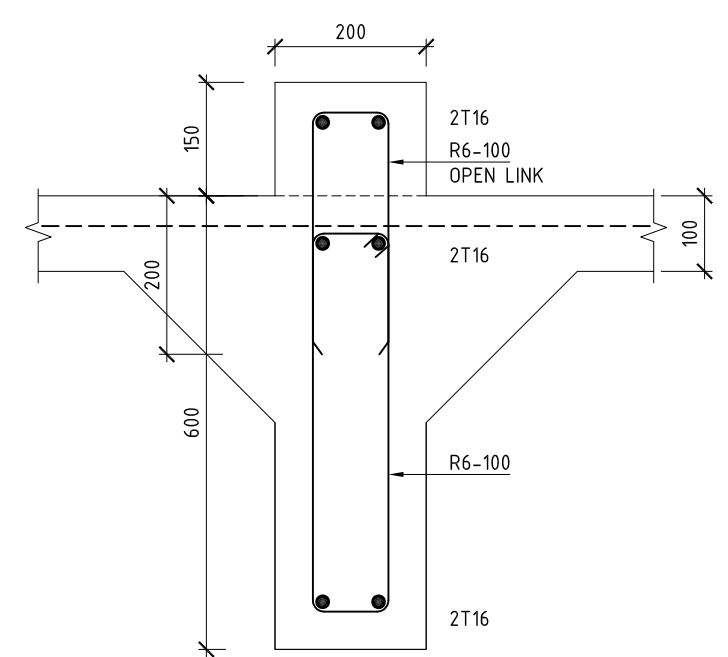
BEAM-GB1
(600X200)
SCALE 1:10



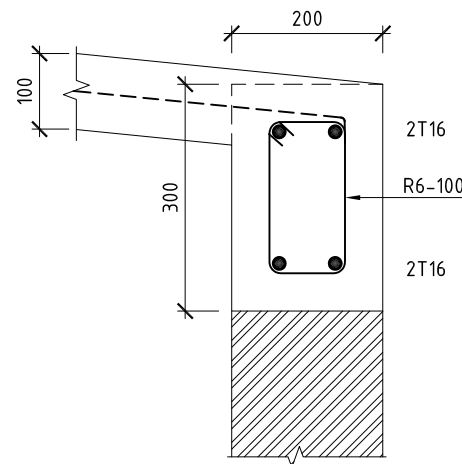
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(600X200)
SCALE 1:10



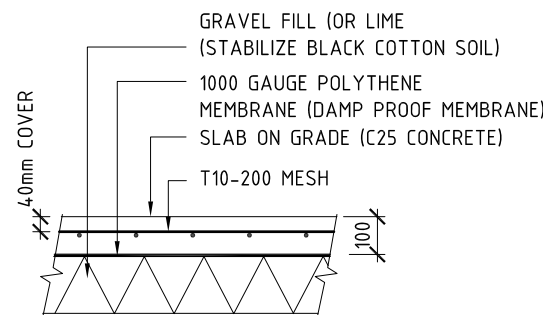
BEAM-GB3
(600-300X200)
SCALE 1:10



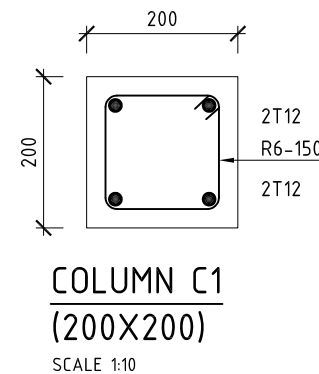
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(600X200)
SCALE 1:10



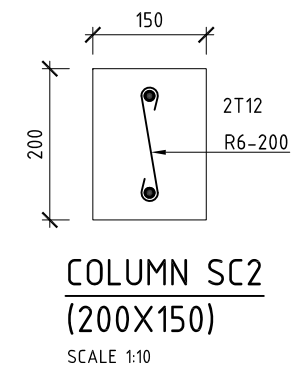
BEAM-GB4
(300X200)
SCALE 1:10



DETAIL OF SLAB ON GRADE
(TYPICAL DETAIL)
SCALE 1:20



COLUMN C1
(200X200)
SCALE 1:10



COLUMN SC2
(200X150)
SCALE 1:10

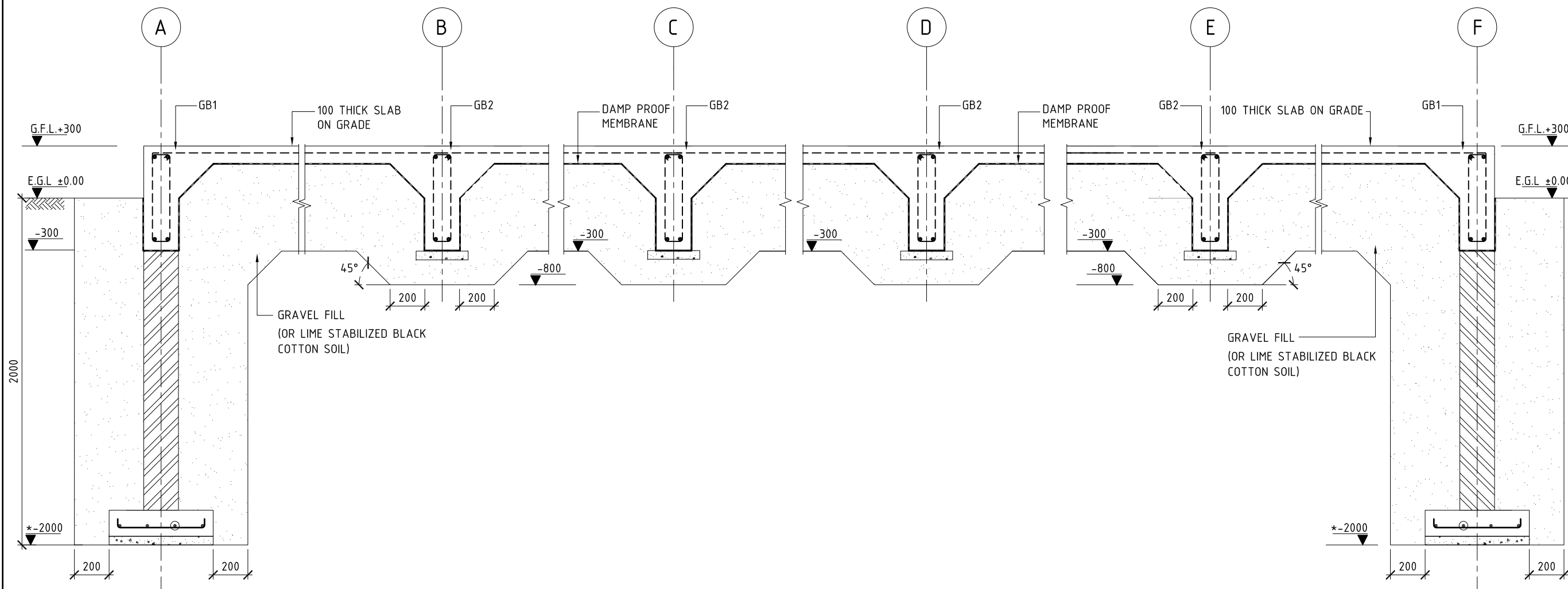
REFERENCE DRAWINGS

CMB 0356 02 S 0050-0054
CMB 0356 02 S 0101
CMB 0356 02 S 0300
CMB 0356 02 S 0302
CMB 0356 02 S 0303

- GENERAL NOTES - STRUCTURAL SHEET 1 - 5
- FOUNDATION LAYOUT (SLAB ON GRADE)
- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 1
- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 3
- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 4

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Project:	Title:	Design By:	Atlas ID.:	PIDU No.:	Sub No.:	Discipline:	Seq No.:	Rev No.:
DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	FOUNDATIONS & GROUND FLOOR DETAILS SHEET 2	UNOPS , PIDU Physical Infrastructure Design Unit	00081984	CMB 0356	02	S	0301	0
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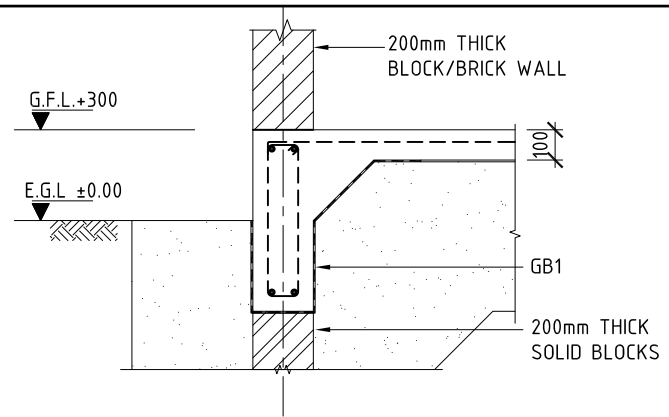
SECTION X-X (TYPICAL DETAILS -
GROUND FILLING & FOUNDATION STRUCTURE)
SCALE 1:25

REFERENCE DRAWINGS

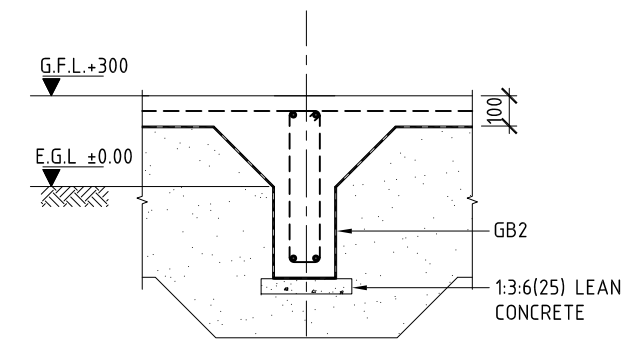
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CMB 0356 02 S 0101	- FOUNDATION LAYOUT (SLAB ON GRADE)
CMB 0356 02 S 0300	- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 1
CMB 0356 02 S 0301	- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 2
CMB 0356 02 S 0303	- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 4

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Atlas ID.:	PIDU No:	Sub No:	Discipline: Seq No: Rev No.
00081984	CMB 0356	02	S 0302 0
Drawn:	Checked:	Size:	Scale: Date: Rev.:
VLW	DKAAD	A3	1:25 16 / 05 / 2012

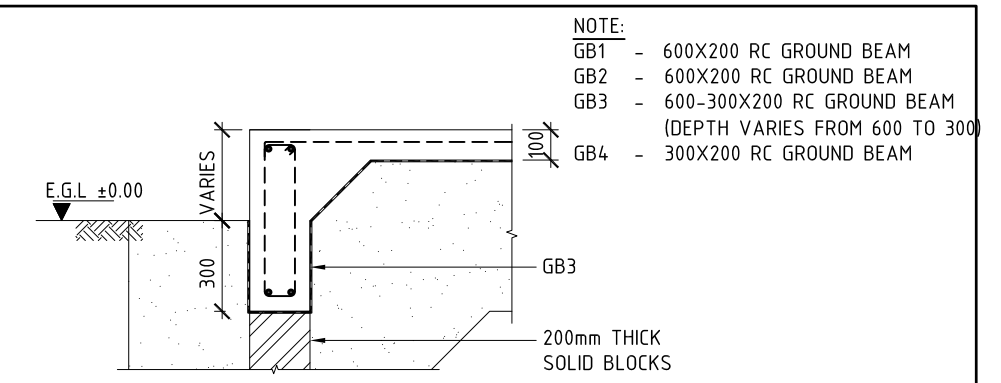
Project:	Title:	Design By:	Atlas ID.:	PIDU No.:	Sub No.:	Discipline:	Seq No.:	Rev No.:
DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	FOUNDATIONS & GROUND FLOOR DETAILS SHEET 3	UNOPS , PIDU Physical Infrastructure Design Unit	00081984	CMB 0356	02	S	0302	0
	02 - LABORATORY	UNOPS	Drawn:	Checked:	Size:	Scale:	Date:	Rev.:
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SCALE 1:25

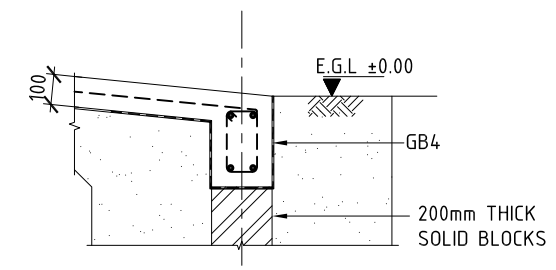


SECTION 2-2
SCALE 1:25

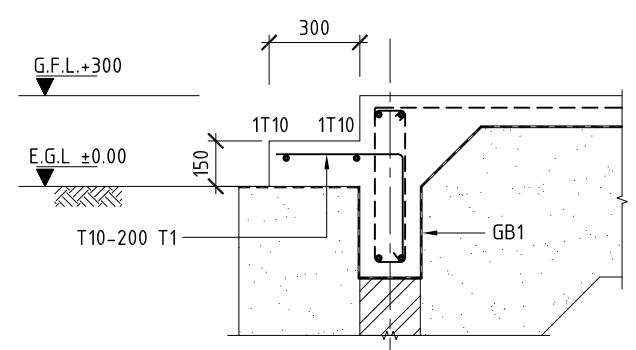


SECTION 3-3
SCALE 1:25

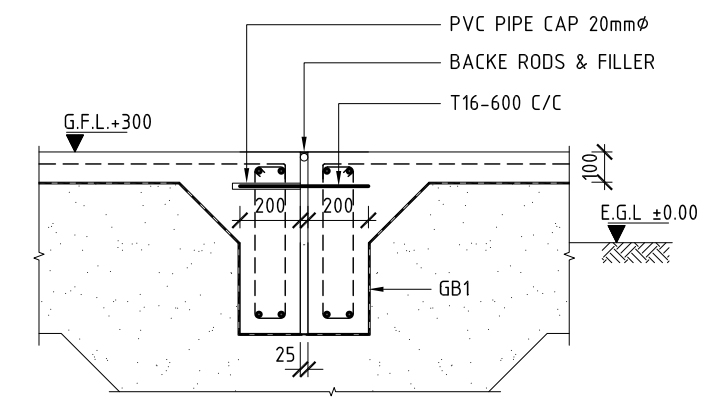
NOTE:
GB1 - 600X200 RC GROUND BEAM
GB2 - 600X200 RC GROUND BEAM
GB3 - 600-300X200 RC GROUND BEAM
(DEPTH VARIES FROM 600 TO 300)
GB4 - 300X200 RC GROUND BEAM



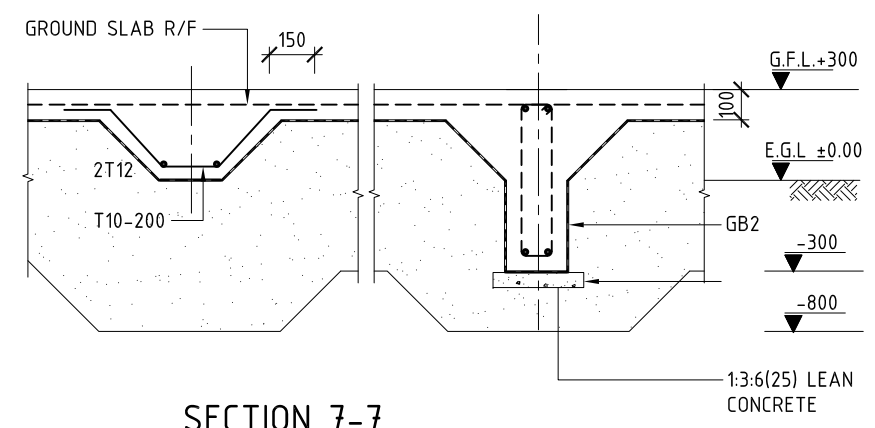
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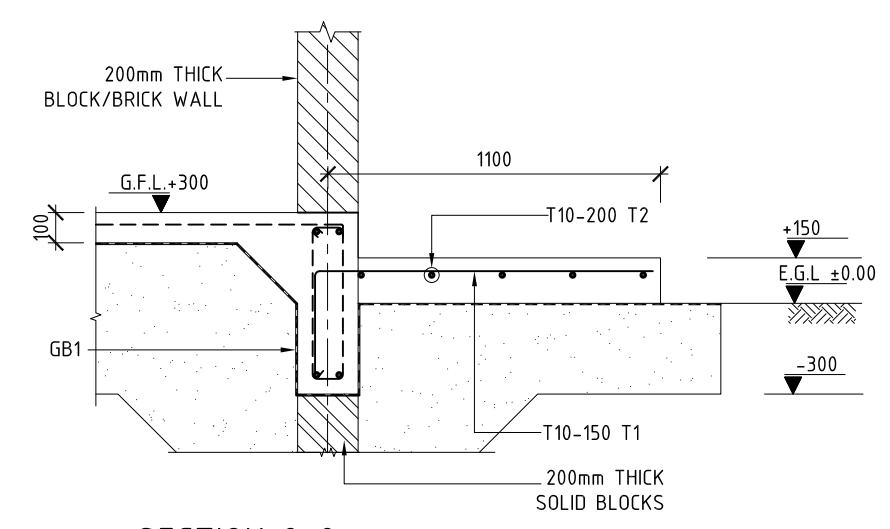
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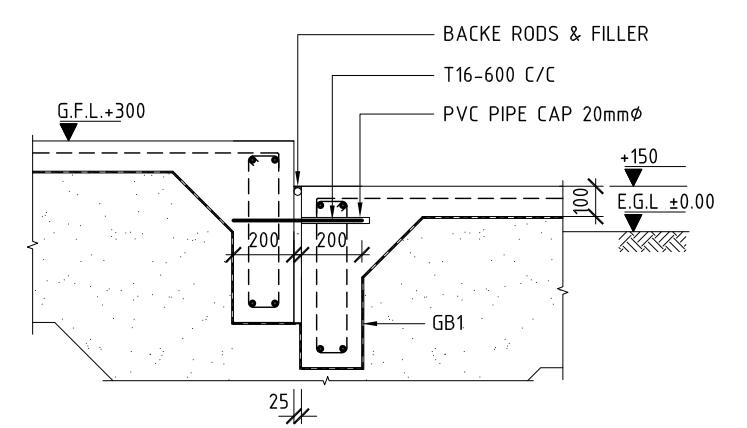
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SECTION 7-7
SCALE 1:25



SECTION 8-8
SCALE 1:25

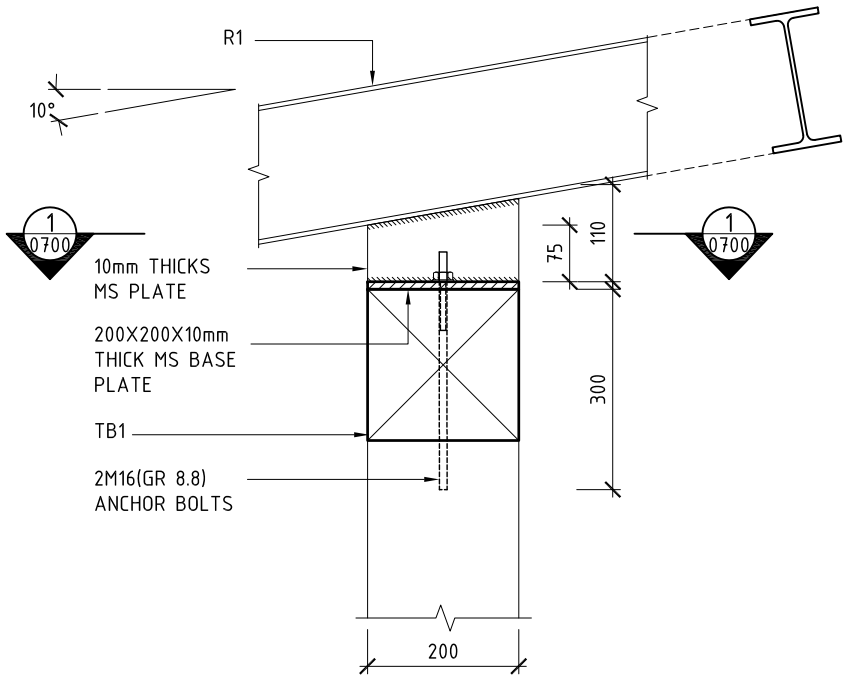


SECTION 9-9
SCALE 1:25

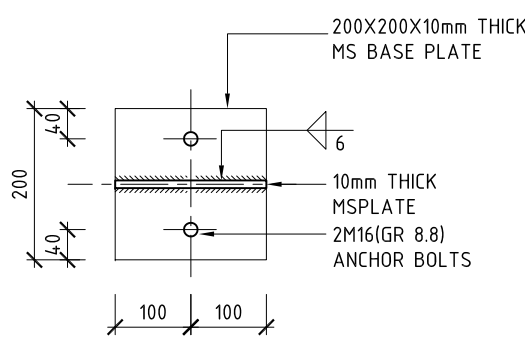
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Atlas ID.:	PIDU No.:	Sub No.:	Discipline:	Seq No.:	Rev No.:	
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DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	FOUNDATIONS & GROUND FLOOR DETAILS SHEET 4	UNOPS , PIDU Physical Infrastructure Design Unit UNOPS				
	02 - LABORATORY					

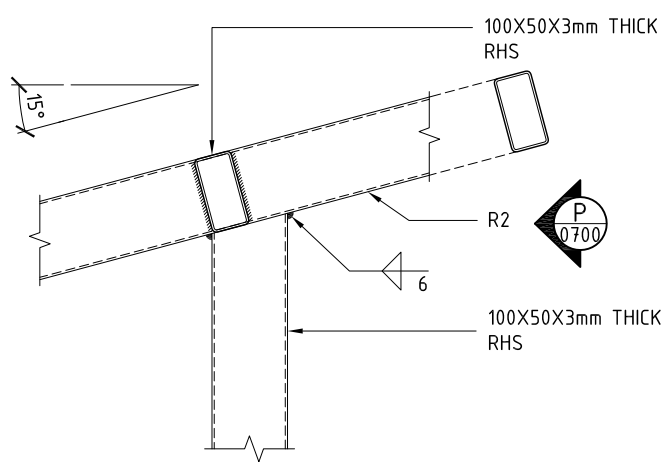
- LEGEND
- C1 - 200X200 RC COLUMN
 - R1 - RAFTER 1 (IPE180)
 - R2 - RAFTER 2 (100x50x3mm THICK RHS)
 - R3 - RAFTER 3 (IPE100)
 - TB1 - 200X200 RC BEAM



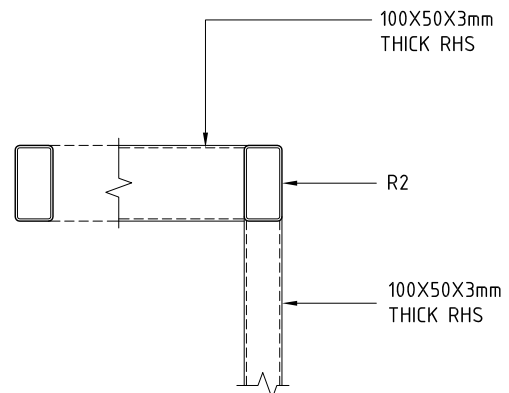
DETAIL A
SCALE 1 : 10



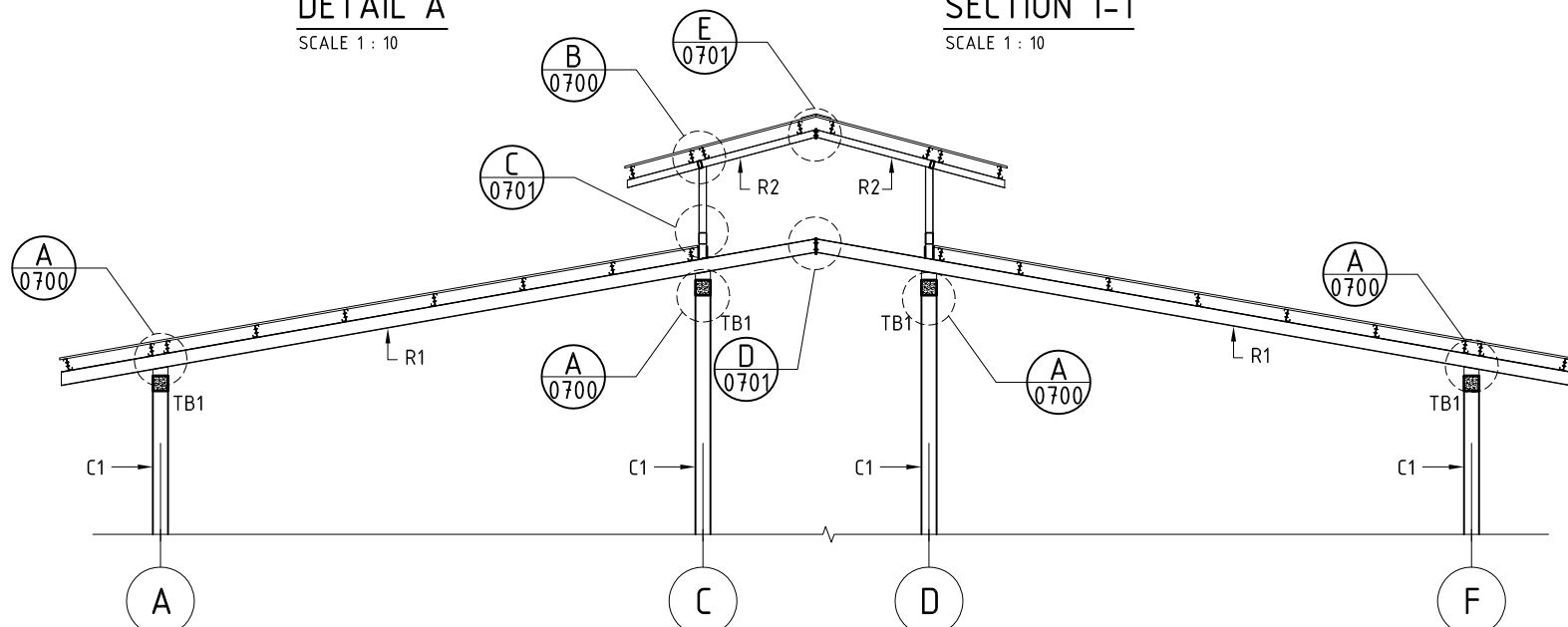
SECTION 1-1
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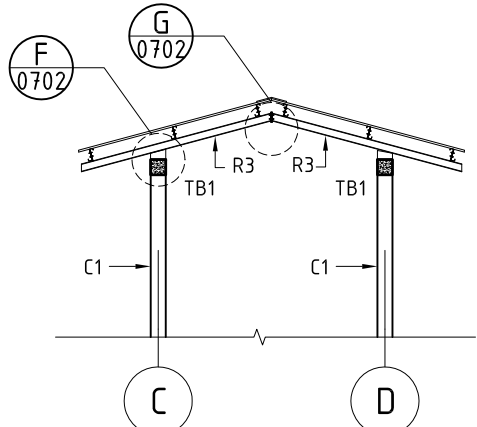
DETAIL B
SCALE 1 : 10



VIEW P
SCALE 1 : 10



KEY PLAN - MAIN ROOF

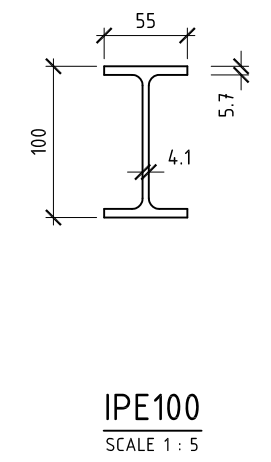
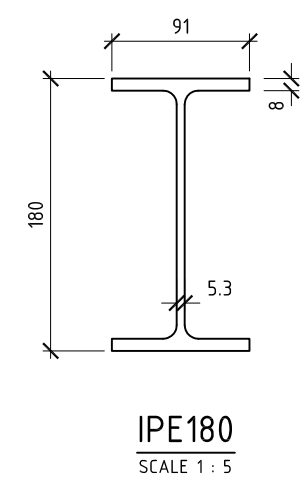
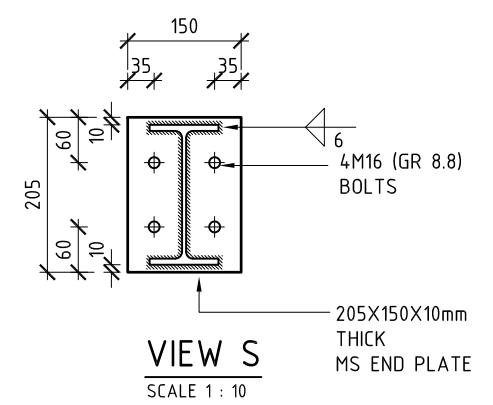
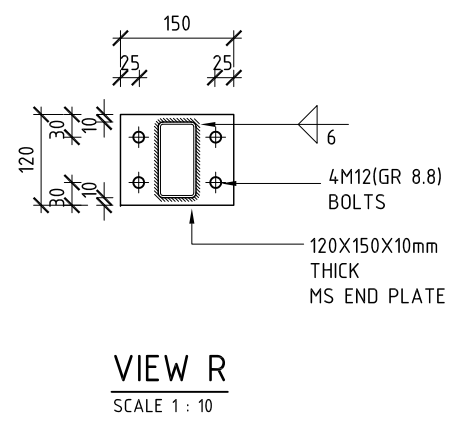
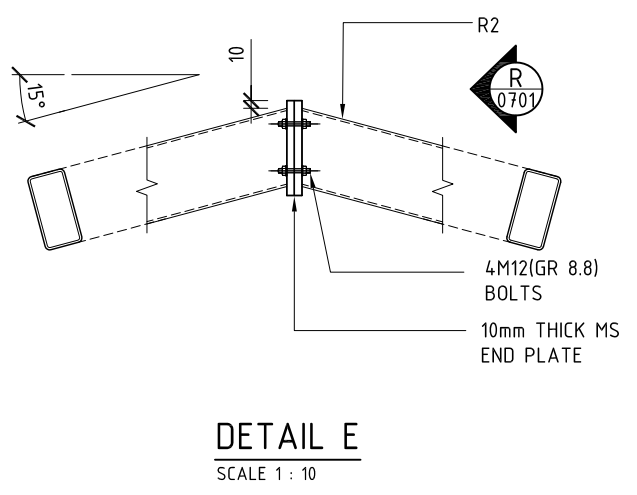
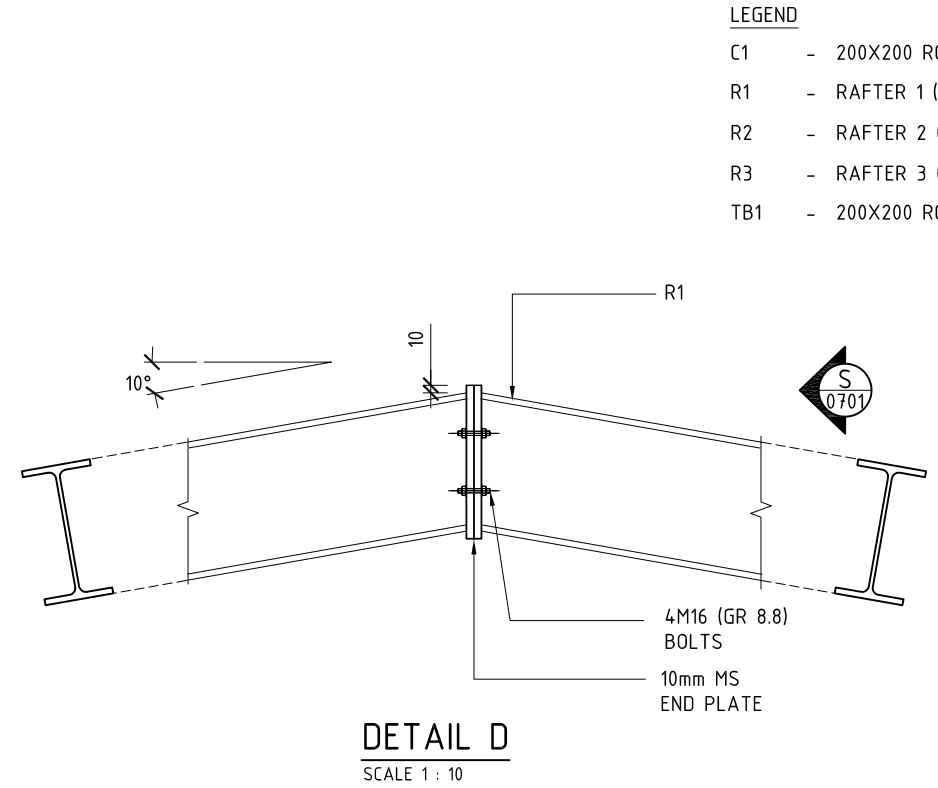
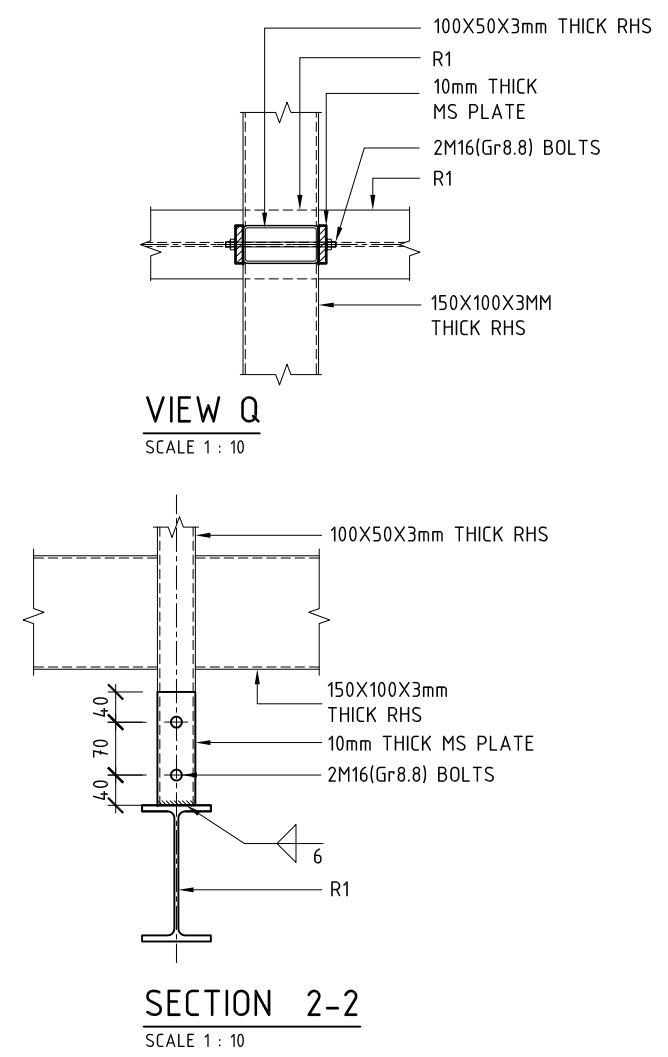
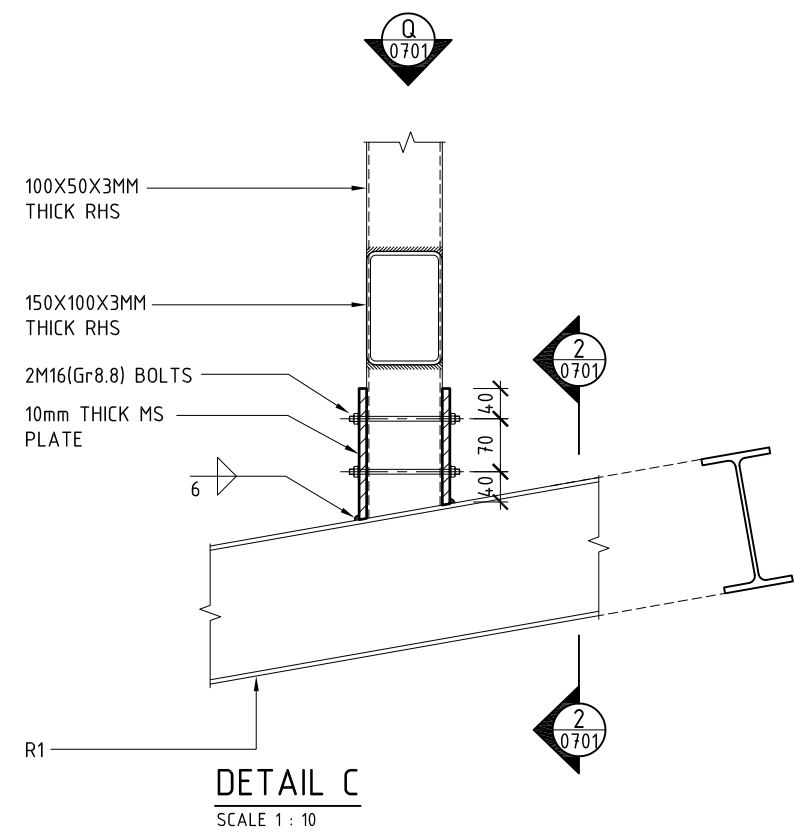


KEY PLAN - ROOF ABOVE
ENTRANCE FOYER

- REFERENCE DRAWINGS
- CMB 0356 02 S 0050-0054 - GENERAL NOTES - STRUCTURAL SHEET 1 - 5
 - CMB 0356 02 S 0102 - GENERAL ARRANGEMENT ROOF PLAN & DETAILS
 - CMB 0356 02 S 0701 - ROOF DETAILS - SHEET 2
 - CMB 0356 02 S 0702 - ROOF DETAILS - SHEET 3

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DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	ROOF DETAILS - SHEET 1 02 - LABORATORY	UNOPS , PIDU Physical Infrastructure Design Unit UNOPS	00081984	CMB 0356	02	S	0700	0



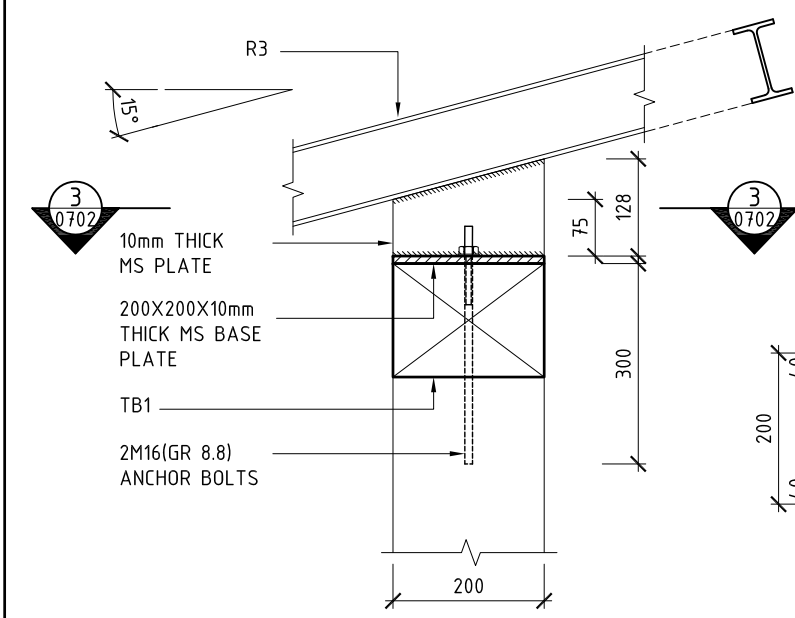
- LEGEND**
- C1 - 200X200 RC COLUMN
 - R1 - RAFTER 1 (IPE180)
 - R2 - RAFTER 2 (100x50x3mm THICK RHS)
 - R3 - RAFTER 3 (IPE100)
 - TB1 - 200X200 RC BEAM

- REFERENCE DRAWINGS**
- CMB 0356 02 S 0050-0054 - GENERAL NOTES - STRUCTURAL SHEET 1 - 5
 - CMB 0356 02 S 0102 - GENERAL ARRANGEMENT ROOF PLAN & DETAILS
 - CBM 0356 02 S 0700 - ROOF DETAILS - SHEET 1
 - CBM 0356 02 S 0702 - ROOF DETAILS - SHEET 3

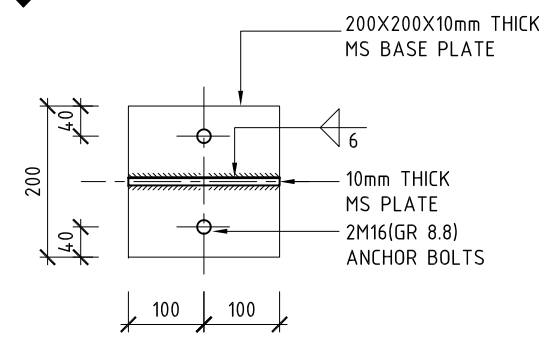
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Rev.:	Date:	Description:				Approved
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VLW	DKAAD	A3	1:5/10	16 / 05 / 2012		

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DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	ROOF DETAILS - SHEET 2	UNOPS , PIDU Physical Infrastructure Design Unit	00081984	CMB 0356	02	S	0701	0
02 - LABORATORY		UNOPS	Drawn:	Checked:	Size:	Scale:	Date:	Rev.:
			VLW	DKAAD	A3	1:5/10	16 / 05 / 2012	

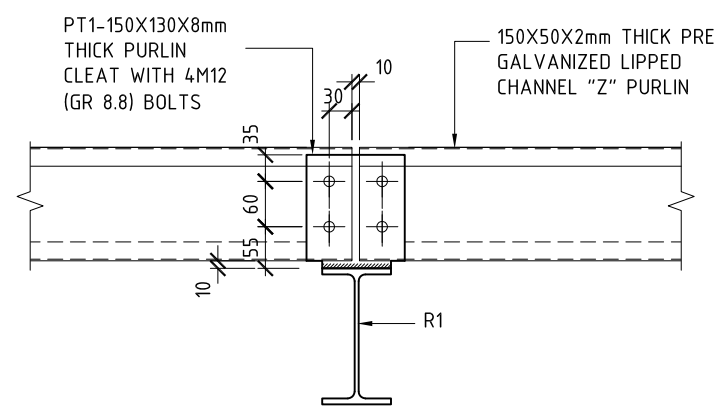
- LEGEND
- C1 - 200X200 RC COLUMN
 - R1 - RAFTER 1 (IPE180)
 - R2 - RAFTER 2 (100x50x3mm THICK RHS)
 - R3 - RAFTER 3 (IPE100)
 - TB1 - 200X200 RC BEAM



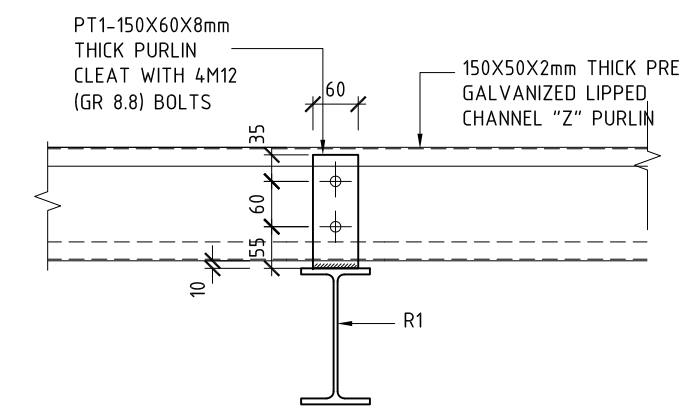
DETAIL F
SCALE 1 : 10



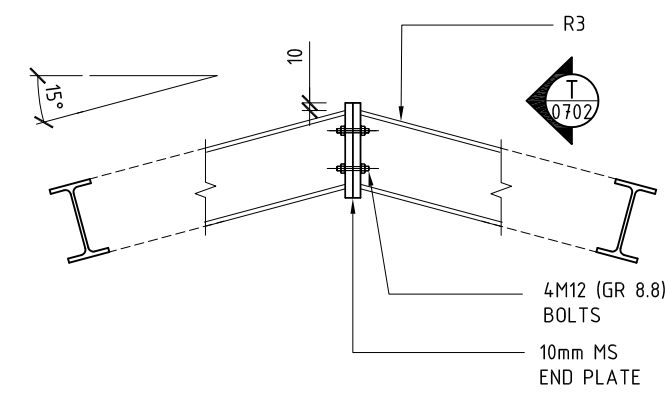
SECTION 3-3
SCALE 1 : 10



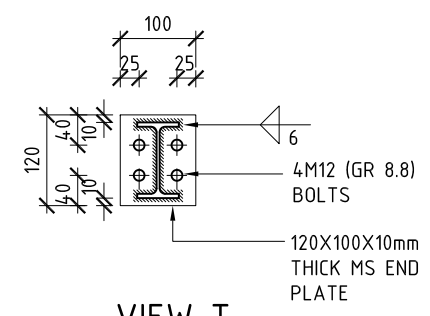
VIEW U
(FOR INTERNAL SPANS)
SCALE 1 : 10



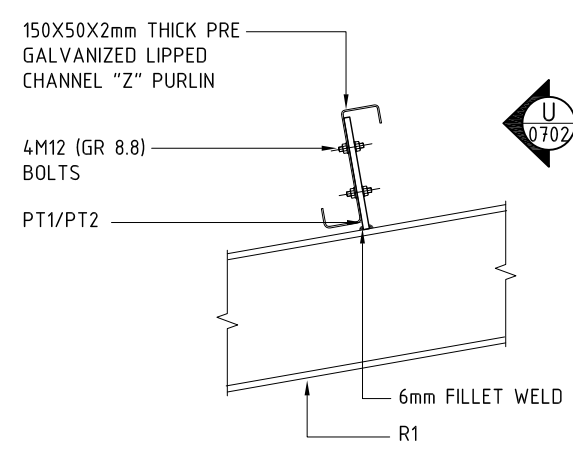
VIEW U
(FOR END SPANS)
SCALE 1 : 10



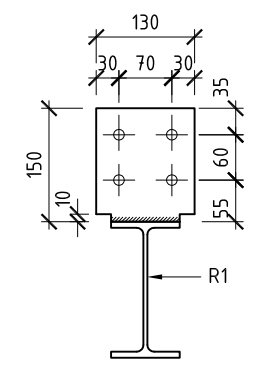
DETAIL G
SCALE 1 : 10



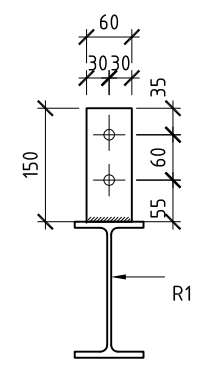
VIEW T
SCALE 1 : 10



PURLIN FIXING DETAIL
'Z' PURLIN TO RAFTER
SCALE 1 : 10



PT1
SCALE 1 : 10

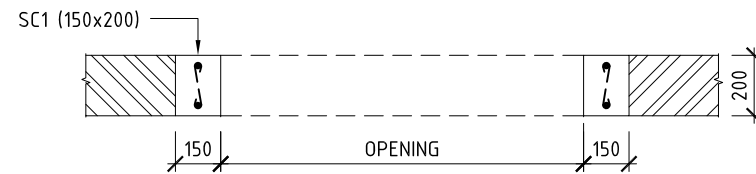


PT2
SCALE 1 : 10

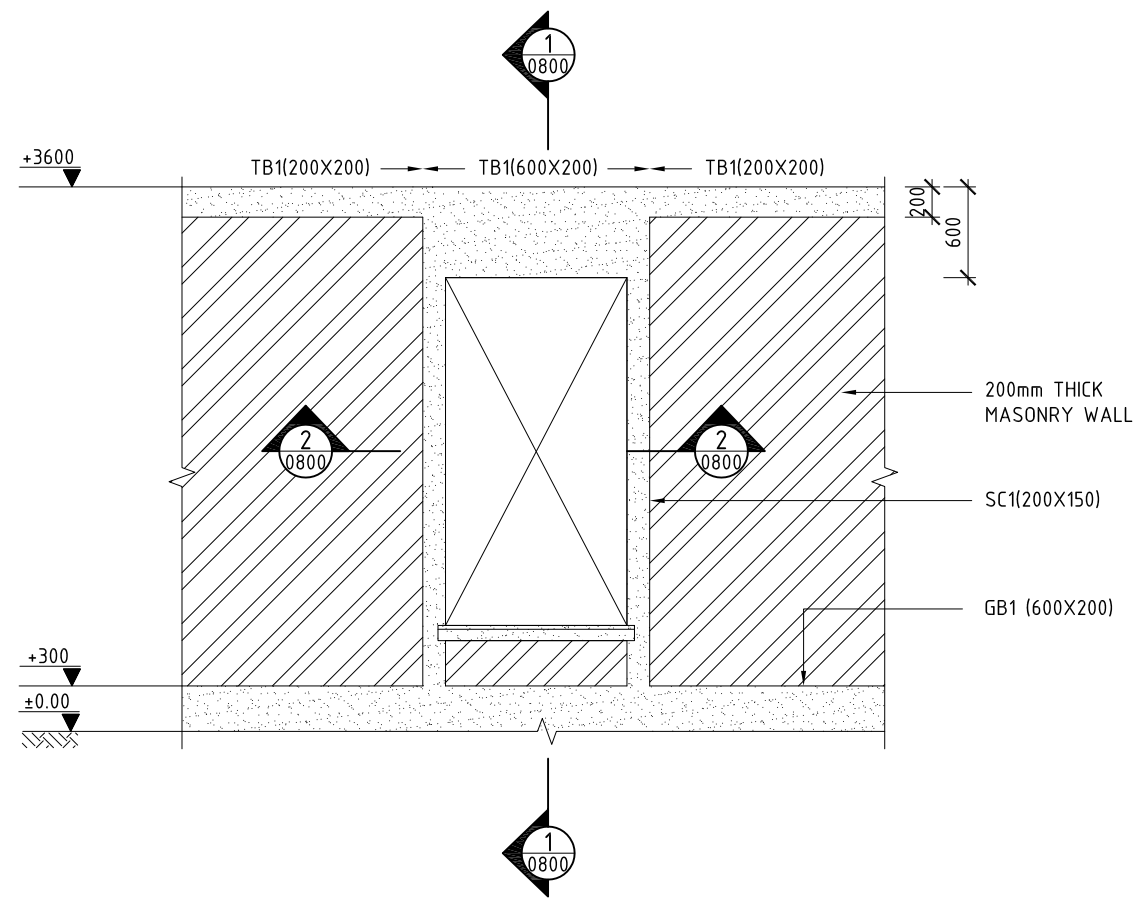
- REFERENCE DRAWINGS
- CMB 0356 02 S 0050-0054 - GENERAL NOTES - STRUCTURAL SHEET 1 - 5
 - CMB 0356 02 S 0102 - GENERAL ARRANGEMENT ROOF PLAN & DETAILS
 - CBM 0356 02 S 0700 - ROOF DETAILS - SHEET 1
 - CBM 0356 02 S 0701 - ROOF DETAILS - SHEET 2

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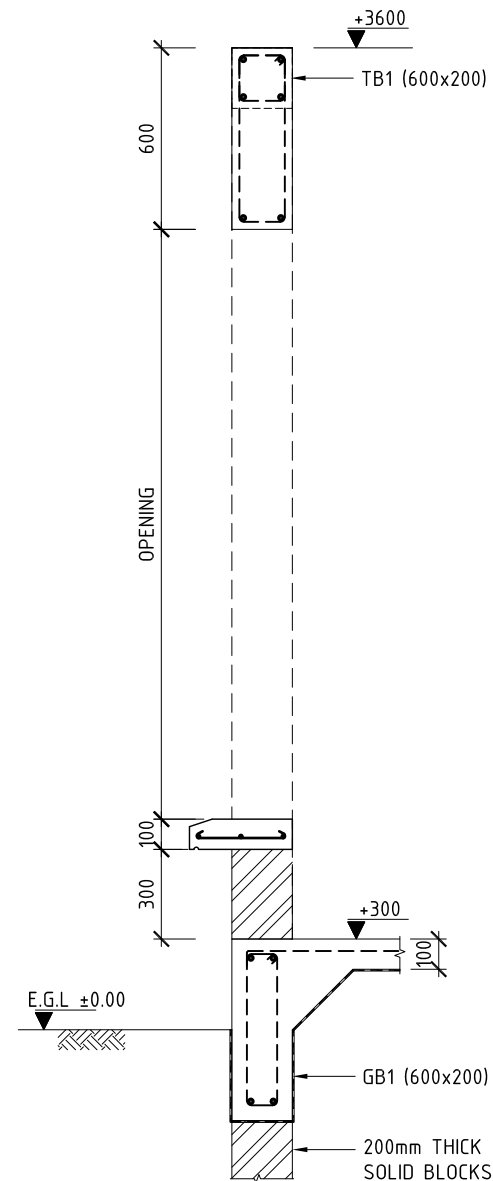
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DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	ROOF DETAILS - SHEET 3 02 - LABORATORY	UNOPS , PIDU Physical Infrastructure Design Unit UNOPS	00081984	CMB 0356	02	S	0702	0
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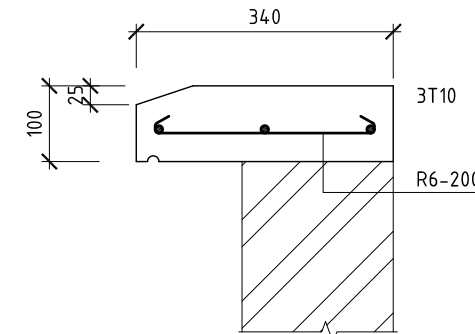
SECTION 2-2
SCALE 1 : 25



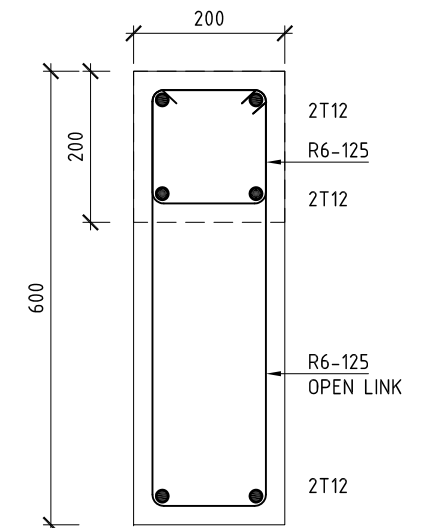
TYPICAL DETAILS AT OPENING IN
PERIMETER WALLS
SCALE 1 : 50



SECTION 1-1
SCALE 1 : 25



TYPICAL DETAIL OF SILL
SCALE 1 : 10



SECTION 4-4
SCALE 1 : 10

REFERENCE DRAWINGS

CMB 0356 02 S 0050-0054	- GENERAL NOTES - STRUCTURAL SHEET 1 - 5
CMB 0356 02 S 0101	- FOUNDATION LAYOUT (SLAB ON GRADE)
CMB 0356 02 S 0102	- GENERAL ARRANGEMENT ROOF PLAN & DETAILS
CMB 0356 02 S 0200	- GENERAL ARRANGEMENT SECTIONS - SHEET 1
CMB 0356 02 S 0300	- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 1
CMB 0356 02 S 0301	- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 2
CMB 0356 02 S 0301	- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 3
CMB 0356 02 S 0301	- FOUNDATIONS & GROUND FLOOR DETAILS - SHEET 4

0	18 / 05 / 12	TENDER ISSUE				-
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VLW	DKAAD	A3	1:25/50	16 / 05 / 2012		

Project:	Title:	Design By:	Atlas ID.:	PIDU No.:	Sub No.:	Discipline:	Seq No.:	Rev No.:
DESIGN DOCUMENTATION FOR THE JOHN GARANG UNIVERSITY, SSOC	TYPICAL DETAILS 02 - LABORATORY	UNOPS , PIDU Physical Infrastructure Design Unit UNOPS	00081984	CMB 0356	02	S	0800	0
			Drawn:	Checked:	Size:	Scale:	Date:	Rev.:
			VLW	DKAAD	A3	1:25/50	16 / 05 / 2012	