GENERAL NOTES FOR REINFORCED CONCRETE STRUCTURE:

1. DESIGN TO COMPLY WITH :

   a. HONG KONG BUILDING (CONSTRUCTION) REGULATION, 1990
   b. THE STRUCTURAL USE OF CONCRETE, 2013
   c. CODE OF PRACTICE ON WIND EFFECTS, HONG KONG, 2004
   d. CODE OF PRACTICE FOR FIRE SAFETY IN BUILDINGS, 2011
   e. CODE OF PRACTICE FOR DEAD AND IMPOSED LOADS, 2011

2. ALL STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND OTHER RELEVANT DRAWINGS.

3. STEEL REINFORCEMENTS FOR CONCRETE SHALL COMPLY WITH THE CONSTRUCTION STANDARD CS2 : 2012 MINIMUM CHARACTERISTIC STRENGTH OF : 500MPa FOR HIGH YIELD STEEL BAR GRADE 500B, 250MPa FOR MILD STEEL BAR GRADE 250.

4. MINIMUM BOND LAP LENGTH OF REINFORCEMENT FOR ALL STRUCTURAL ELEMENTS SHALL BE AS SPECIFIED IN THE FOLLOWING SCHEDULE:

SCHEDULE OF LAP & ANCHORAGE LENGTH FOR DESIGN TO COP 2013

DIAMETER OF BAR	FOR HIGH YIELD BARS GRADE 45D ANCHORAGE	
	TL 33 x Dia.	CL 26 x Dia.
10	330	260
12	400	320
16	530	420
20	660	520
25	830	650
32	1060	840
40	1320	1040

LEGEND :

1. TL = LAP OR ANCHORAGE LENGTH UNDER TENSION OR LAP LENGTH UNDER COMPRESSION

2. CL = ANCHORAGE LENGTH UNDER COMPRESSION

3. NO SPLICING OF REINFORCEMENT OTHER THAN THOSE SHOWN ON THE DRAWING IS ALLOWED UNLESS OTHERWISE APPROVED BY THE ENGINEER AND TL SHALL BE PROVIDED.

4. NOMINAL LAP AND ANCHORAGE FOR DISTRIBUTION BARS TO BE 300 OR NL WHICHEVER THE GREATER. LAP LENGTH FOR UNEQUAL SIZE BARS SHALL BE BASED UPON THE SMALLER BAR. FOR THE FOLLOWING PROVISIONS a) OR b) APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4.

a) WHERE A LAP OCCURS AT THE TOP OF A SECTION AS CAST AND THE MINIMUM COVER IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT.

b) WHERE A LAP OCCURS AT THE CORNER OF A SECTION AND THE MINIMUM COVER TO EITHER FACE IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT, OR WHERE THE CLEAR DISTANCE BETWEEN ADJACENT LAPS IS LESS THAN 75mm OR SIX TIMES THE SIZE OF THE LAPPED REINFORCEMENT, WHICHEVER IS THE GREATER.

IF BOTH PART a) & b) CONDITION APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 2.0.

5. ALL NOMINAL LAPS OF DISTRIBUTION BAR FOR SLABS AND WALLS SHALL BE 300 MINIMUM UNLESS OTHERWISE SPECIFIED.

6. FOR DETAILS OF STRUCTURAL FALLS, SEE APPROPRIATE STRUCTURAL AND ARCHITECTURAL DRAWINGS.

7. CONCRETE TO BE DESIGNED MIX CONCRETE AS SPECIFIED IN THE FOLLOWING SCHEDULE TO CS1:2010 AND THE GRADE DESIGNATIONS GIVEN ARE THE CHARACTERISTIC CUBE STRENGTH AT 28 DAYS AND THE MAXIMUM AGGREGATE SIZE 20mm. UNLESS OTHERWISE STARTED ON THE DRAWINGS.

MEMBER	GRADE
BEAM, SLABS AND WALLS	C45/20
COLUMNS	C45/20
WATER TANKS	C45/20

8. THE EQUIVALENT SODIUM OXIDE IN CONCRETE MIX SHALL NOT EXCEED 3.0 KG PER CUBIC METER OF CONCRETE. CORRESPONDING TEST CERTIFICATES ON ALKALI CONTENT IN CEMENT, ADMIXTURES, AGGREGATE ETC., ISSUED BY A HOKLAS LABORATORY AND CALCULATION OF THE EQUIVALENT SODIUM OXIDE SHOULD BE SUBMITTED TO THE RSE QUARTERLY.

9. CONCRETE CUBES SHALL BE MADE AND TESTED WITH TEST REPORT IN ACCORDANCE WITH THE PROVISIONS OF THE HONG KONG BUILDING (CONSTRUCTION) REGULATIONS : 1990 AND THE CONSTRUCTION STANDARD CS1 : 2010, EXCEPT SECTION 7.1. :

10. UNLESS OTHERWISE STATED, CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS SPECIFIED IN THE FOLLOWING SCHEDULE OR EQUAL TO THE DIAMETER OF THAT REINFORCEMENT, WHICHEVER IS THE GREATER :

IN CONTACT WITH EARTH	SLAB	STAIR	BEAM	COLUMN	WALL
1.1 CAST ON BLINDING	50	50	50	50	50
1.2 CAST AGAINST SOIL	75	75	75	75	75

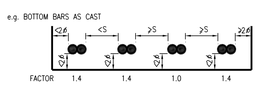
11. CONCRETE COVER SHALL ALSO FULFIL THE REQUIREMENT FOR APPROPRIATE FIRE RESISTANCE RATING AS SPECIFIED IN THE CODE OF PRACTICE FOR FIRE RESISTING CONSTRUCTION OR NOMINAL COVER FOR DURABILITY WHICHEVER IS GREATER.

	CONCRETE COVER TO MAIN REINFORCEMENT			NOMINAL COVER FOR DURABILITY
	120 MINS. F.R.P.	60 MINS. F.R.P.	240 MINS. F.R.P.	
SLAB, SIMPLY SUPPORTED	35	25	55*	35
SLAB, CONTINUOUS	25	25	45*	35
STAIR	35	25	55*	35
BEAM, SIMPLY SUPPORTED	50*	30	80*	40
BEAM CONTINUOUS	50	30	60*	40
COLUMN	35	25	35	35
WALL	25	25	25	35
WALL SLAB FOR WATER TANK	40	40	40	40

*REINFORCEMENT CONSISTING OF EXPANDED METAL LATH OR A WIRE FABRIC NOT LIGHTER THAN 0.5 kg/m2 WITH 2mm DIAMETER WIRE AT NOT MORE THAN 100mm CENTRES OR A CONTINUOUS ARRANGEMENT OF LINKS AT NOT MORE THAN 200mm CENTRES SHALL BE INCORPORATED IN THE CONCRETE COVER AT A DISTANCE NOT EXCEEDING 20mm FROM THE FACE OF THE STRUCTURAL MEMBERS SURROUNDING THE PLANT/MACHINE ROOMS AND AT OTHER AREAS REQUIRING 120 MINS. F.R.P. AS SPECIFIED IN THE GENERAL BUILDING PLANS.

e.g. TOP BARS AS CAST (NOTES : Ø = BAR DIA.)

e.g. BOTTOM BARS AS CAST



NOTE: FOR LAPS IN BOTTOM OF SECTION AS CAST MINIMUM COVER CRITERIA APPLIES TO CORNER BARS ONLY
S = 75mm OR Ø, WHICHEVER IS GREATER
* = DIAMETER OF THE LAPPED REINFORCEMENT

12. CONSTRUCTION JOINTS TO BE POSITIONED AS FOLLOWS :-

a. THE JOINT IN A BEAM TO BE VERTICAL AND AT ONE-THIRD OF THE SPAN.
b. THE JOINT IN A SLAB TO BE VERTICAL, AT ONE-THIRD OF THE PANEL AND PARALLEL TO THE REINFORCEMENT.
c. THE JOINT IN COLUMNS TO BE AT THE UNDERSIDE OF THE LOWEST BEAM OVER THE COLUMNS OR AT 75mm ABOVE FLOOR LEVEL.

13. CONSTRUCTION JOINTS WHERE NOT SHOWN SHOULD BE LOCATED TO THE APPROVAL OF THE ENGINEER.

14. DURING CONSTRUCTION THE STRUCTURE SHOULD BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.

15. SIZE OF CONCRETE ELEMENTS DOES NOT INCLUDE THICKNESS OF APPLIED FINISHES.

16. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE.

17. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER. THE CONCRETE COVER TO EMBEDDED PIPES OR CONDUITS SHALL BE A MINIMUM OF 20mm.

18. WATER BORNE PIPES SHALL NOT BE PLACED WITHIN R.C. CONCRETE WITHOUT THE APPROVAL OF THE BUILDINGS DEPARTMENT, AP AND RSE.

19. SPACER BARS SHALL BE OF DIAMETER = 25mm OR DIAMETER OF MAIN BAR WHICHEVER IS GREATER @1.5m c/c.

20. ALL ROOF SCREEDING TO BE LIGHT WEIGHT CONCRETE OF DENSITY BETWEEN 1600 TO 1700kg/m3 AND MINIMUM CUBE STRENGTH Uw=21N/mm2 AT 28 DAYS.

21. ALL BEAM SIZE TO BE READ AS BREADTH x DEPTH

22. ALL LEVELS SHOWN IN FRAMING PLANS TO BE STRUCTURAL FLOOR LEVEL.
(LEGEND : 108.7 SFL STRUCTURAL FLOOR LEVEL AT 108.7 mPD.)

23. ALL DIMENSION ARE IN MILLIMETRE & LEVEL IN mPD EXCEPT OTHERWISE STATED.

24. ALL EARTH BACKFILLING TO BE COMPACTED TO 95% OF MAX. DRY DENSITY TO BS 1377-TEST 12.

25. ALL BENT TO STEEL REINFORCEMENT SHALL COMPLY WITH BS 8666:2000

26. THE GENERAL BUILDING PLANS ARE SUBMITTED ON (31-12-2020).

NOTES FOR ANNOTATION OF BARS :

1. ALL DIMENSIONS SHOWN ARE IN mm.

2. ANY DISCREPANCY FOUND BETWEEN THE DETAILS SHOWN IN THIS DRAWING AND THAT SHOWN IN DETAILED DRAWINGS SHALL BE REPORTED TO THE ENGINEER FOR DIRECTION.

3. BAR REFERENCING :

EXAMPLE : 16T32-200

NUMBER OF BARS: 16
TYPE OF STEEL: T (HIGH YIELD STEEL BAR GRADE 500B)
DIAMETER OF BARS: 32mm
PITCH OF BARS (IF APPLICABLE): 200 mm

NOTES FOR ANNOTATION OF BARS :

1. ALL DIMENSIONS SHOWN ARE IN mm.

2. ANY DISCREPANCY FOUND BETWEEN THE DETAILS SHOWN IN THIS DRAWING AND THAT SHOWN IN DETAILED DRAWINGS SHALL BE REPORTED TO THE ENGINEER FOR DIRECTION.

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DIAMETER OF BARS: 32mm
PITCH OF BARS (IF APPLICABLE): 200 mm

NOTES FOR CONSTRUCTION OF CANTILEVERED BEAM & SLAB :

1. ALL CANTILEVERED PROJECTIONS SHOULD BE CAST MONOLITHICALLY WITH AND AT THE SAME TIME AS THE DIRECTLY SUPPORTING MEMBERS. CONSTRUCTION JOINTS MUST NOT BE LOCATED ALONG THE EXTERNAL EDGE OF THE SUPPORTING MEMBERS.

2. ADEQUATE BAR SPACERS SHOULD BE PROVIDED TO MAINTAIN THE POSITION AND ALIGNMENT OF THE STEEL REINFORCEMENT.

3. DURING CONCRETING, ADEQUATE COMPACTION SHOULD BE GIVEN TO ENSURE GOOD QUALITY CONCRETE. EVERY ENDEAVOUR SHOULD ALSO BE MADE TO AVOID STEEL REINFORCEMENT FROM BEING DISPLACED OR DEPRESSED.

4. ALL PROPPING TO THE SOFFIT OF THE FORMWORK FOR THE CANTILEVERED PROJECTIONS SHOULD BE MAINTAINED FOR AT LEAST 14 DAYS.

NOTES FOR WATERPROOFING CONSTRUCTION :

1. WATERSTOP :

a) FOR LOCATIONS AND DETAILS OF WATERSTOP AT EXPANSION JOINTS, CONSTRUCTION JOINTS ETC. REFER TO ALL RELEVANT DRAWINGS. JOINT NOT SPECIFIED SHALL RECEIVE THE PRIOR APPROVAL BY THE ENGINEER.

b) TYPE OF WATERSTOPS SHALL BE AS SPECIFIED IN THE CONTRACT OR TO THE APPROVAL OF THE ENGINEER.

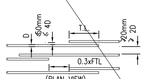
c) DETAIL OF FIXING OF WATERSTOPS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER.

d) PRIOR TO CONCRETING, THE WATERSTOP SHALL BE NAILED, CLIPPED OR TIED WITH WIRE TO ITS CORRECT POSITION SECURELY AND ADEQUATELY. DETAIL AND SPACING OF SUCH NAILING, CLIPS AND TIES SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER AND TO THE APPROVAL OF THE ENGINEER.

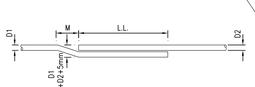
e) CARE SHALL BE TAKEN TO AVOID ANY AIR VOIDS BEING TRAPPED BETWEEN THE WATERSTOP AND THE SURROUNDING CONCRETE.

f) SURROUNDING STEEL REINFORCEMENT SHALL NOT BE PLACED IN CONTACT WITH THE WATERSTOP, MINIMUM SPACING TO BE 40mm.

2. ALL CONCRETE USED IN WATER RETAINING STRUCTURE SHALL BE WATERPROOFING CONCRETE AND COMPLY WITH BS8007.

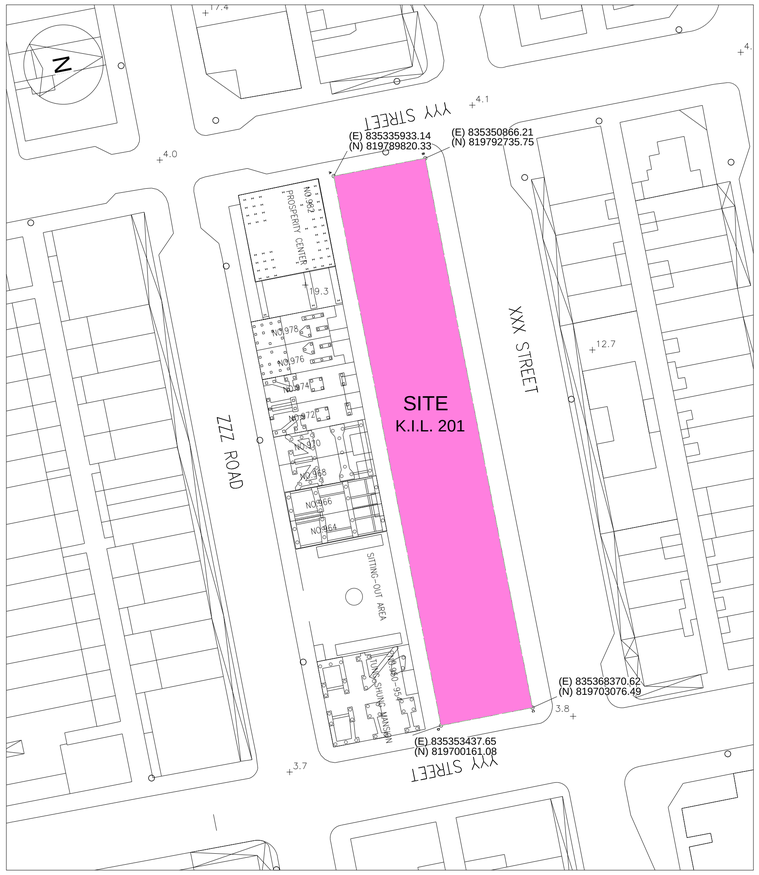


DETAILS OF LAPS AND ADJACENT LAPS



NOTES:
D=D1 OR D2 (WHICHEVER IS THE SMALLER)

TYPICAL DETAILS OF BAR LAPPING



BLOCK PLAN
1:500

FOR REFERENCE ONLY

Tekla Structures

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR SUPERSTRUCTURE

SCALE AS SHOWN@A1

DRAWING NO. S001 REV. NO.

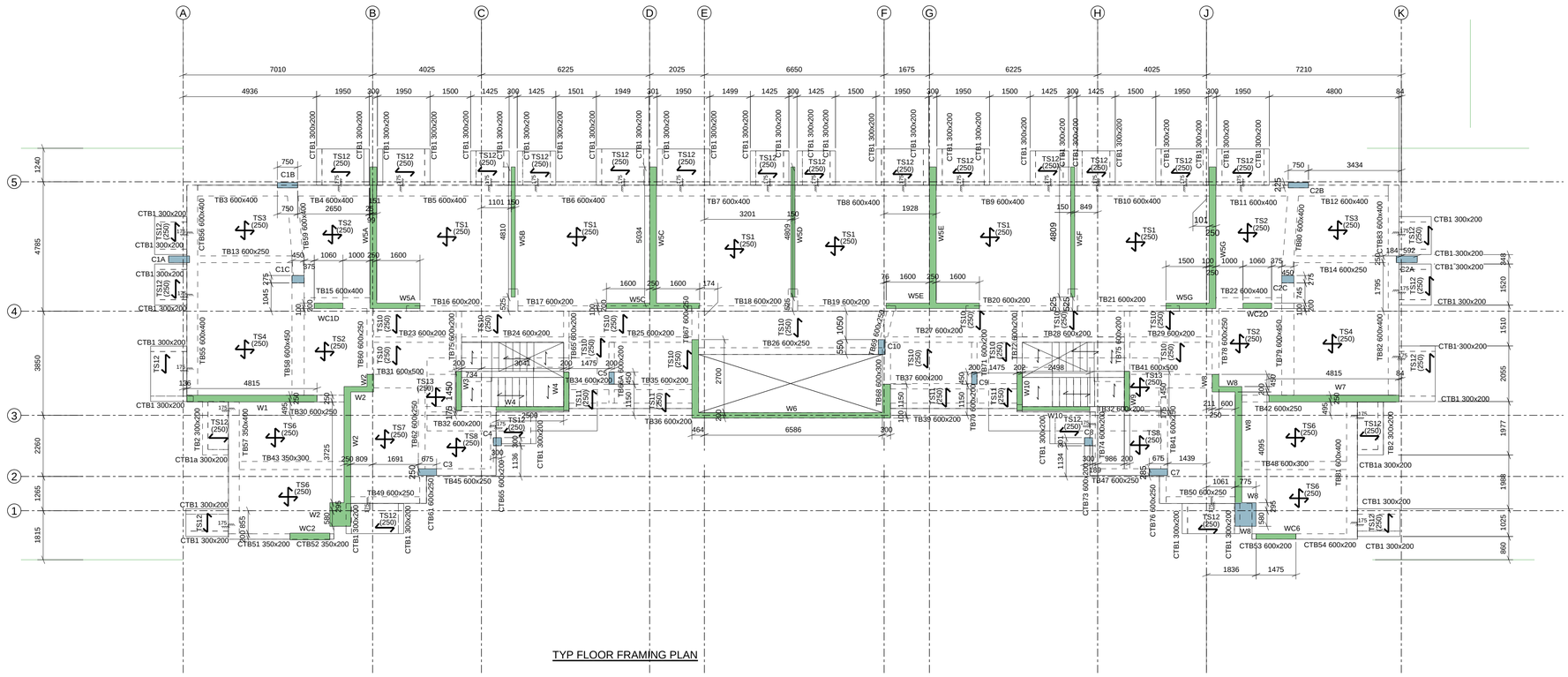
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



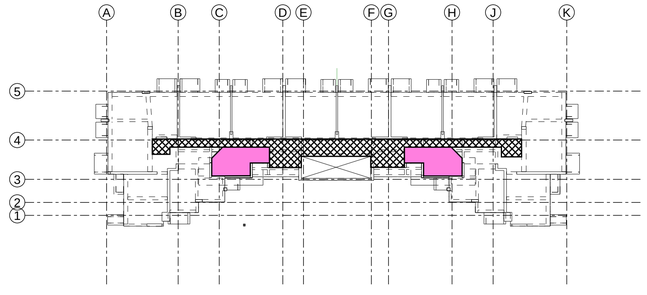
TYP FLOOR FRAMING PLAN

NOTES

1. ALL BEAM SIZE TO BE 400(B)x600(D), UNLESS OTHERWISE STATED.
2. ALL SLAB SIZE TO BE 150mm THK, UNLESS OTHERWISE STATED.

WALL SCHEDULE	
MARK	THICKNESS (mm)
W1	250
W2	200
W2	250
W2	875
W3	200
W4	150
W4	200
W5A	200
W5A	250
W5B	150
W5C	200
W5C	250
W5D	150
W5E	200
W5E	250
W5F	150
W5G	200
W5G	250
W6	200
W6	250
W6	300
W7	250
W8	200
W8	250
W8	875
W9	200
W10	150
W10	200
WC1D	200
WC2	250
WC2D	200
WC6	200

COLUMN SCHEDULE	
MARK	SIZE (mm)
C1A	250x775
C1B	200x750
C1C	275x450
C2A	250x775
C2B	200x750
C2C	275x450
C3	250x675
C4	300x300
C5	450x200
C7	250x675
C8	300x300
C9	450x200
C10	550x250



LOADING KEY PLAN

USAGE	LEGEND	LL (kPa)	FIN. (kPa)	F.R.R. (Min)
STAIRCASE		3.0	1.25	60/60/60
LOBBY		3.0	1.25	60/60/60
DOMESTIC		2.0	0.5	60/60/60
PLANT ROOM		7.5	1.25	60/60/60
FLAT ROOF		5.0	5.60	60/60/60

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

TYP Floor Framming

SCALE AS SHOWN@A1

DRAWING NO. S002

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

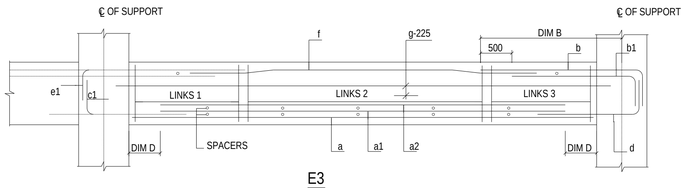
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Tekla Structures

R.C. BEAM SCHEDULE

BEAM MARK	BEAM SIZE (DxB)	ELEV. REFER	REINFORCEMENT										REINFORCEMENT			DIMENSION			
			a	a1	a2	b	b1	c	d	e	f	g	LINKS 1	LINKS 2	LINKS 3	A	B	C	D
TB1	300x200	E9	2T20	-	-	-	2T16	-	-	-	-	-	<----------	T10-150(2 LEGS)	---------->	2550	-	-	-
TB1a	300x200	E9	2T20	-	-	-	2T16	-	-	-	-	-	<----------	T10-150(2 LEGS)	---------->	2550	-	-	-
TB2	300x200	E10	2T16	-	-	2T16	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	---------->	0	-	-	-
TB3	600x400	E5	4T25	-	-	4T25	-	4T25	4T25	4T25	4T20	-	<----------	T10-200(4 LEGS)	---------->	0	1300	1000	-
TB4	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1000	1800	-
TB5	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1000	1800	-
TB6	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB7	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB8	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB9	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB10	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB11	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1000	-
TB12	600x400	E3	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(4 LEGS)	---------->	0	1000	1300	-
TB13	600x250	E10	2T25	-	-	2T25	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	8T16-200(2 LEGS)	0	-	-	-
TB14	600x250	E10	2T25	-	-	2T25	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	8T16-200(2 LEGS)	0	-	-	-
TB51	600x200	E9a	2T20	2T20	2T20	2T20	-	-	-	-	-	T10-225 E.F.	<----------	T10-150(2 LEGS)	---------->	1000	-	-	-
TB54	600x200	E9a	2T20	2T20	2T20	2T20	-	-	-	-	-	T10-225 E.F.	<----------	T10-150(2 LEGS)	---------->	1000	-	-	-



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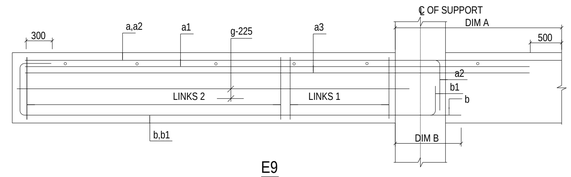

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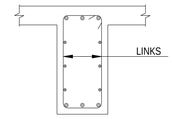
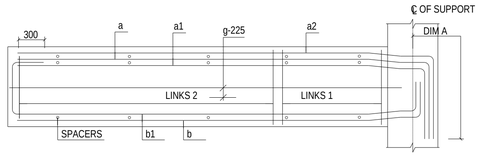


2 LEGS

E4



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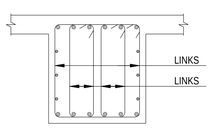
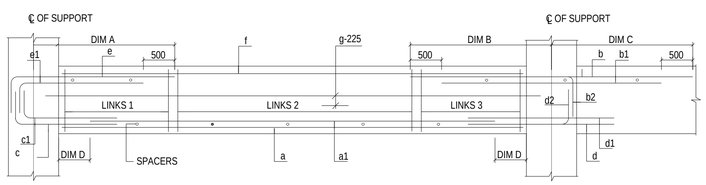


6 LEGS



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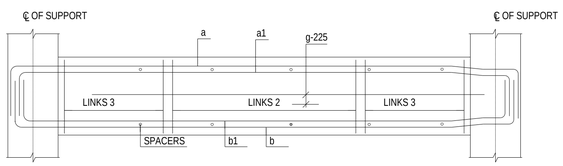


E10

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

BEAM R.C. SCHEDULE

SCALE AS SHOWN@A1

DRAWING NO. S003

REV. NO.

SOURCE ---

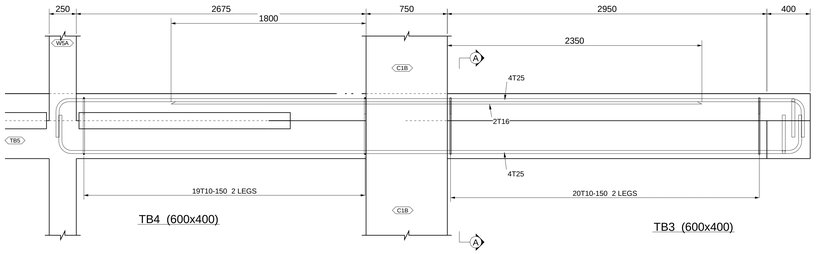
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

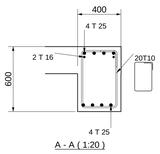
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures

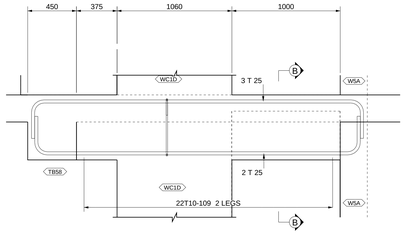


TB4 (600x400)

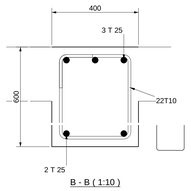
TB3 (600x400)



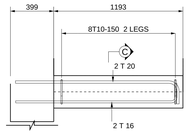
A - A (1:20)



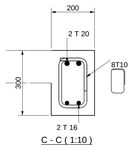
TB15 (600x400)



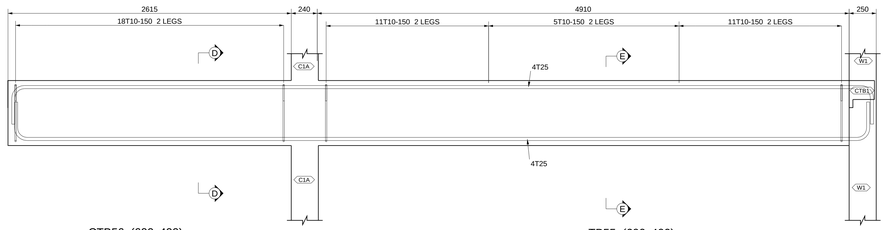
B - B (1:10)



CTB1 (300x200)

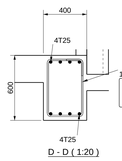


C - C (1:10)

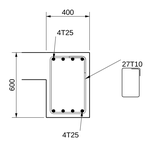


CTB56 (600x400)

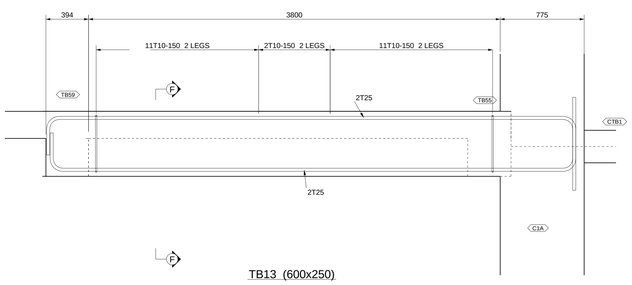
TB55 (600x400)



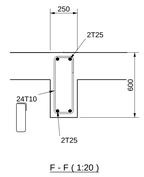
D - D (1:20)



E - E (1:20)



TB13 (600x250)



F - F (1:20)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

BEAM RC DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S004

REV. NO.

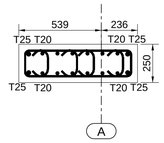
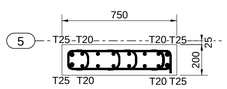
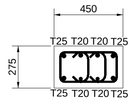
SOURCE ---

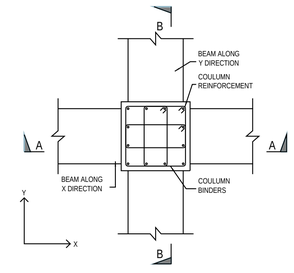
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

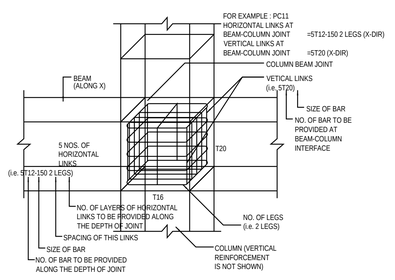
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

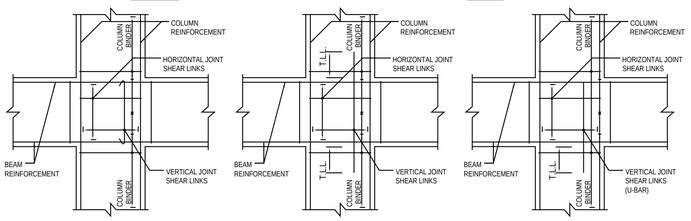
29/F TO 5/F			
COLUMN MARK	C1A	C1B	C1C
COLUMN SIZE	250X775	200X750	275X450
VERT. BARS	4T25+12T16 (2.96%)	4T25+12T20 (3.82%)	4T25+4T20 (2.60%)
BINDERS IN TYPICAL REGION	T10-175	T10-175	T10-175
BINDERS IN CRITICAL REGION	T10-125	T10-125	T10-125
CRITICAL REGION H (mm)	1000	1000	1000



TYPICAL DETAIL FOR COLUMN-BEAM JOINT
(PLAN VIEW)

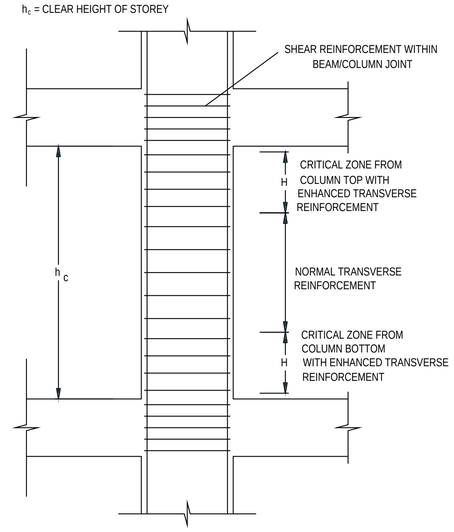


COLUMN BEAM JOINT DETAIL
(3D VIEW)



NOTES:
VERTICAL JOINT SHEAR REINFORCEMENT SHOULD CONSIST OF INTERMEDIATE COLUMN BARS ADEQUATELY ANCHORED IN THE COLUMN AND PLACED BETWEEN THE CORNER BARS AND WITH IN THE EFFECTIVE JOINT AREA AS DEFINED IN CLAUSE 6.8.1.3 OF THE CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013.

IF H > $\frac{1}{2}$ h_c
COLUMN BINDERS SHOULD BE ACCORDING TO CRITICAL ZONE
h_c = CLEAR HEIGHT OF STOREY



CRITICAL ZONE IN COLUMN

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
COLUMN RC DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

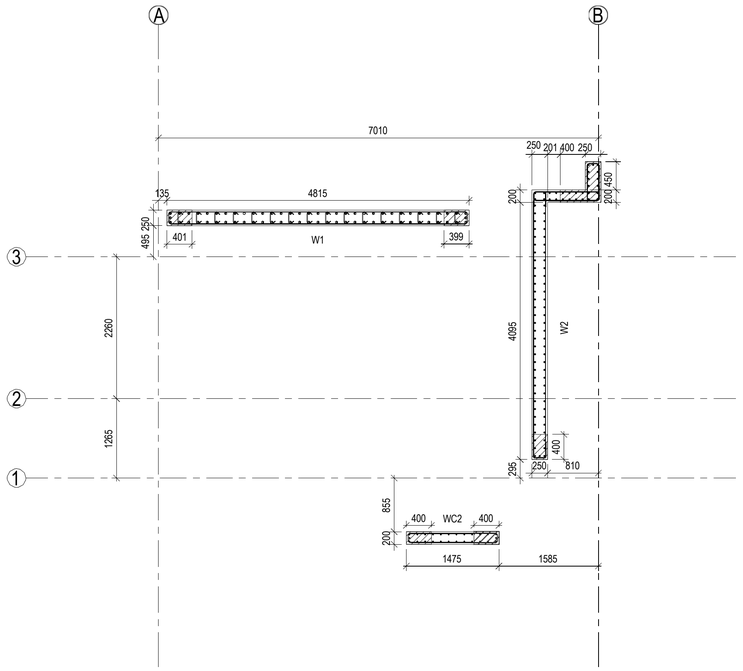
BD's OFFICAL USE

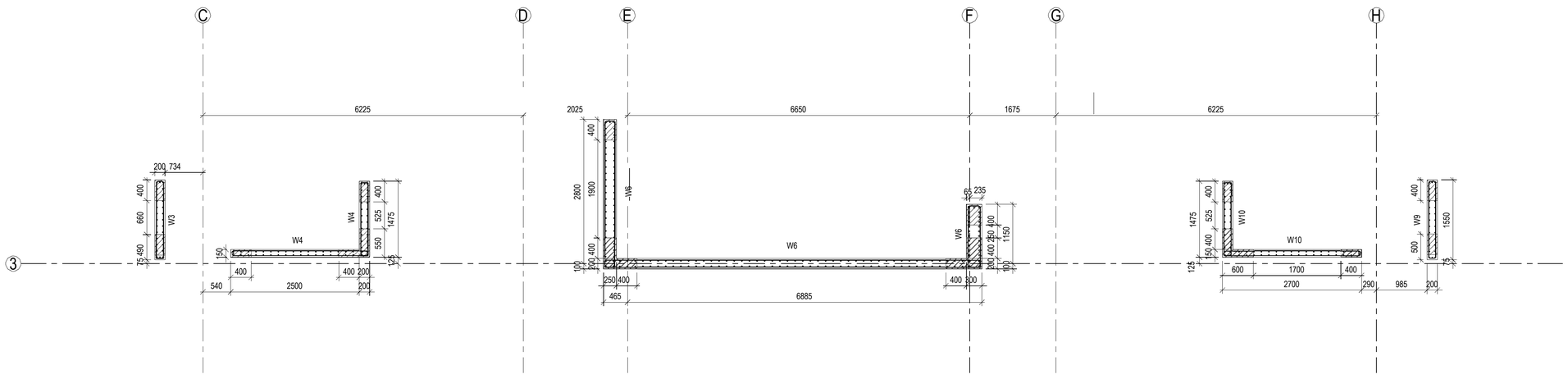
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures

R.C. WALL SCHEDULE

FLOOR	WALL MARK	CONCRETE GRADE	THICKNESS (mm)	VERTICAL BARS	HORIZONTAL BARS	BINDER		STEEL RATIO (%)
						HORIZONTAL	VERTICAL	
4/F	W1	C60	250	T40-150	T10-150	T12-300	150	3.4
4/F	W2	C60	250	T25-125	T12-125			1.3
4/F	W3	C60	200	T20-125	T10-100	-	-	1.3
4/F	W4	C60	150	T20-150	T10-150	-	-	1.4
4/F	W4	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5A	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5A	C60	250	T25-125	T12-125	-	-	1.6
4/F	W5B	C60	150	T20-100	T10-150	T12-200	150	2.1
4/F	W5C	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5C	C60	250	T25-125	T12-125	-	-	1.6
4/F	W5D	C60	150	T20-125	T10-150	-	-	1.7
4/F	W5E	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5E	C60	250	T25-125	T12-125	-	-	1.6
4/F	W5F	C60	150	T20-100	T10-150	T12-200	150	2.1
4/F	W5G	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5G	C60	250	T32-175	T12-125	-	-	1.8
4/F	W6	C60	200	T25-150	T10-100	-	-	1.6
4/F	W6	C60	250	T20-125	T12-125	-	-	1.0
4/F	W6	C60	300	T32-100	T10-150	-	-	2.7
4/F	W7	C60	250	T25-150	T12-125	-	-	1.3
4/F	W8	C60	250	T32-175	T12-125	-	-	1.8
4/F	W9	C60	200	T20-125	T10-100	-	-	1.3
4/F	W10	C60	150	T20-150	T10-150	-	-	1.4
4/F	W10	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC1D	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC2	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC2D	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC6	C60	200	T20-125	T10-100	-	-	1.3





BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
WALL R.C. DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S006

REV. NO.

SOURCE ---

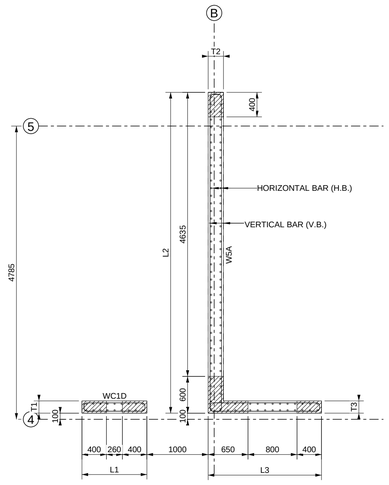
90mm (W) x 40mm (H) space
for COMPANY LOGO

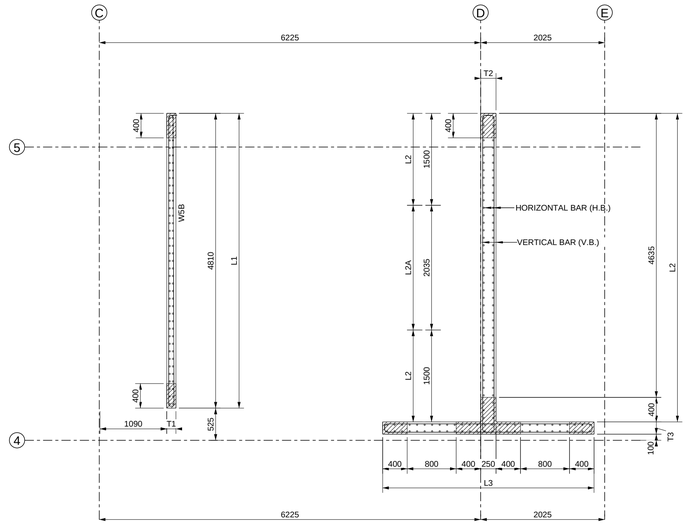
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Tetra Structures





FL. MARK	THINKNESS (mm)									
	T1	T2	T3		L1	%	L2	%	L3	%
27/F to 18/F	200	250	200	V.B. (E.F.)	T16-150	0.67	T16-200	0.40	T16-180	0.56
				H.B. (TYP.)	T10-250	0.15	T10-250	0.13	T10-250	0.15
18/F to 11/F	200	250	200	V.B. (E.F.)	T16-150	0.67	T16-200	0.40	T16-180	0.56
				H.B. (TYP.)	T10-250	0.15	T10-250	0.13	T10-250	0.15
11/F to 4/F	200	250	200	V.B. (E.F.)	T16-150	0.67	T16-200	0.40	T16-180	0.56
				H.B. (TYP.)	T10-250	0.15	T10-250	0.13	T10-250	0.15

FL. MARK	THINKNESS (mm)												
	T1	T2	T3		L1	%	L2	%	L2A	%	L3	%	
27/F to 18/F	100	250	200	V.B. (E.F.)	T16-150	0.67	T16-200	0.40	T16-200	0.40	T16-180	0.56	
				H.B. (TYP.)	T10-250	0.15	T10-250	0.13	T10-250	0.13	T10-250	0.15	
18/F to 11/F	150	250	200	V.B. (E.F.)	T16-150	0.67	T16-200	0.40	T16-200	0.40	T16-180	0.56	
				H.B. (TYP.)	T10-250	0.15	T10-250	0.13	T10-250	0.13	T10-250	0.15	
11/F to 4/F	150	250	200	V.B. (E.F.)	T16-150	0.67	T16-200	0.40	T16-200	0.40	T16-180	0.56	
				H.B. (TYP.)	T10-250	0.15	T10-250	0.13	T10-250	0.13	T10-250	0.15	

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

WALL R.C. DETAIL (Schedule)

SCALE AS SHOWN@A1

DRAWING NO. S007

REV. NO.

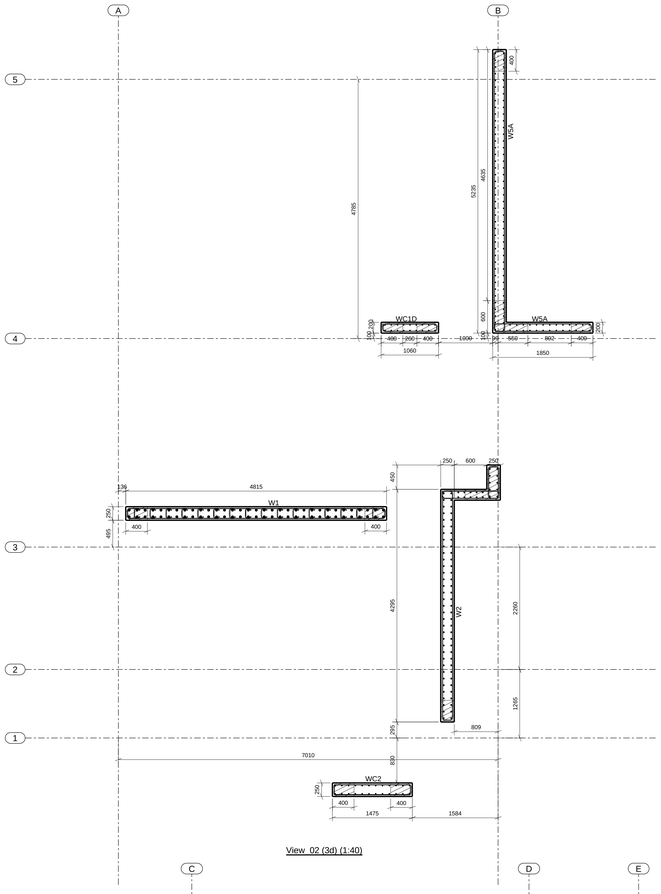
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



View 02 (3d) (1:40)

R.C. WALL SCHEDULES

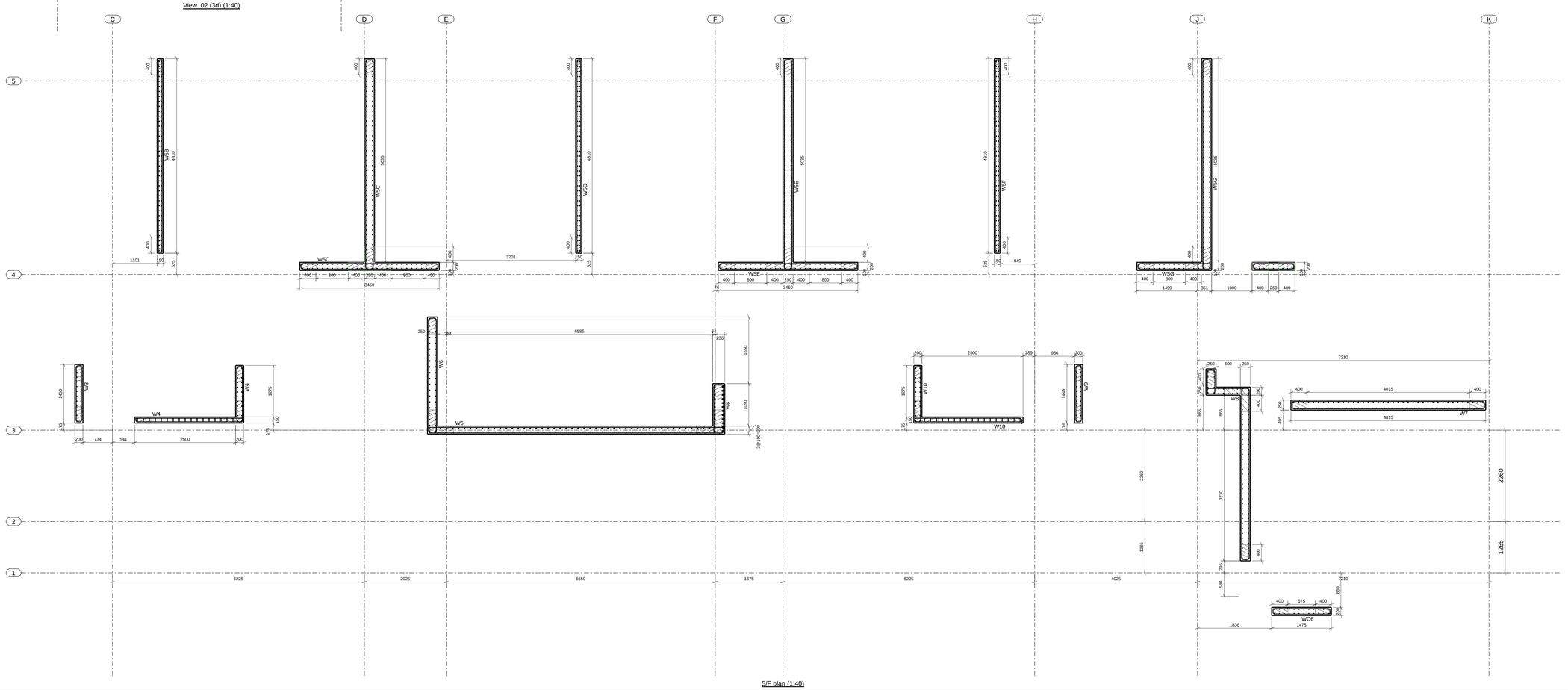
FLOOR	WALL MARK	CONCRETE GRADE	THICKNESS (mm)	VERTICAL BARS	HORIZONTAL BARS	BINDER		STEEL RATIO (%)
						HORIZONTAL	VERTICAL	
4/F	W1	C60	250	T40-150	T10-150	T12-300	150	3.4
4/F	W2	C60	250	T25-125	T12-125	-	-	1.3
4/F	W3	C60	200	T20-125	T10-100	-	-	1.3
4/F	W4	C60	150	T20-150	T10-150	-	-	1.4
4/F	W4	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5A	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5A	C60	250	T25-125	T12-125	-	-	1.6
4/F	W5B	C60	150	T20-100	T10-150	T12-200	150	2.1
4/F	W5C	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5C	C60	250	T25-125	T12-125	-	-	1.6
4/F	W5D	C60	150	T20-125	T10-150	-	-	1.7
4/F	W5E	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5E	C60	250	T25-125	T12-125	-	-	1.6
4/F	W5F	C60	150	T20-100	T10-150	T12-200	150	2.1
4/F	W5G	C60	200	T20-125	T10-100	-	-	1.3
4/F	W5G	C60	250	T32-175	T12-125	-	-	1.8
4/F	W6	C60	200	T10-100	T10-100	-	-	1.6
4/F	W6	C60	250	T20-125	T12-125	-	-	1.0
4/F	W6	C60	300	T32-100	T10-150	T12-200	150	2.7
4/F	W7	C60	250	T25-150	T12-125	-	-	1.3
4/F	W8	C60	250	T32-175	T12-125	-	-	1.8
4/F	W9	C60	200	T20-125	T10-100	-	-	1.3
4/F	W10	C60	150	T20-150	T10-150	-	-	1.4
4/F	W10	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC1D	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC2	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC2D	C60	200	T20-125	T10-100	-	-	1.3
4/F	WC6	C60	200	T20-125	T10-100	-	-	1.3

LEGEND :

CONFINED AREA

BINDERS

TYPICAL DETAIL OF WALL
(N.T.S.)



5/F plan (1:40)

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
WALL RC DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S008

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

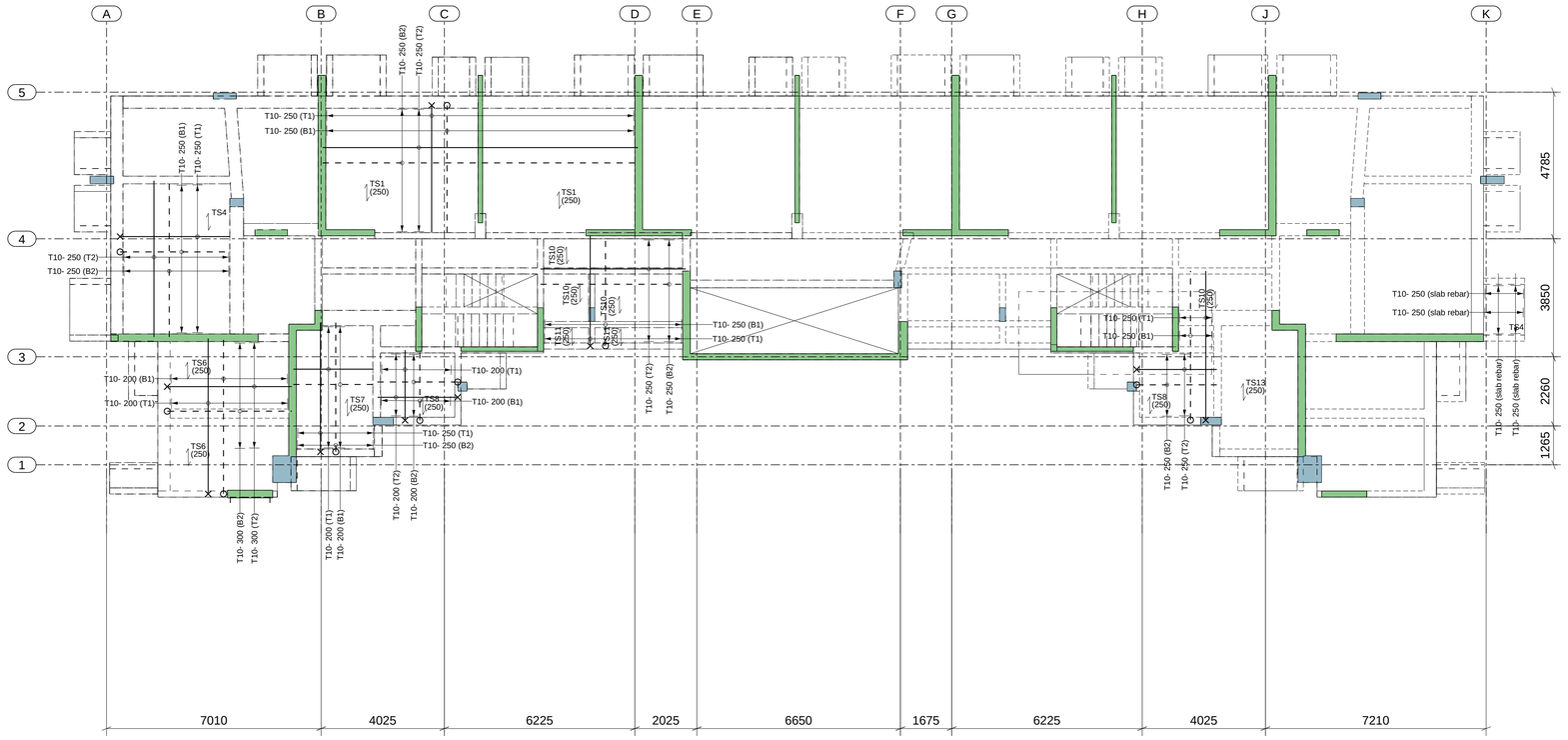
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

BD REF :

BIM REF :

Yata Structure



5/F plan (1:100)

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

SLAB R.C. DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S009

REV. NO.

SOURCE ---

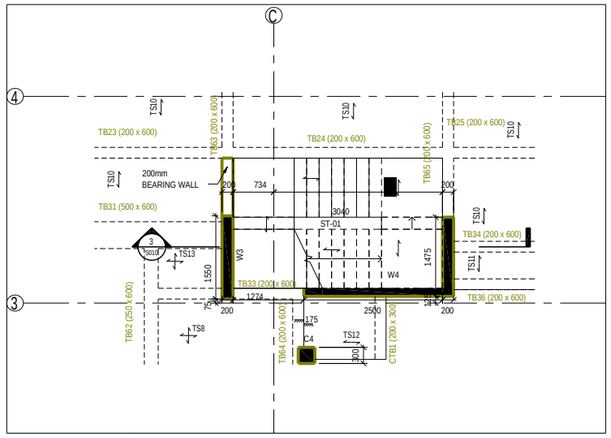
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

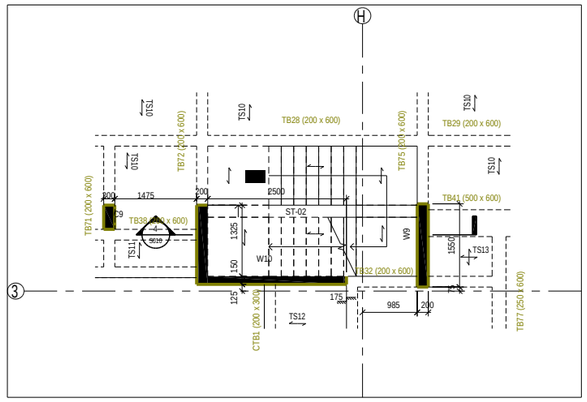
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

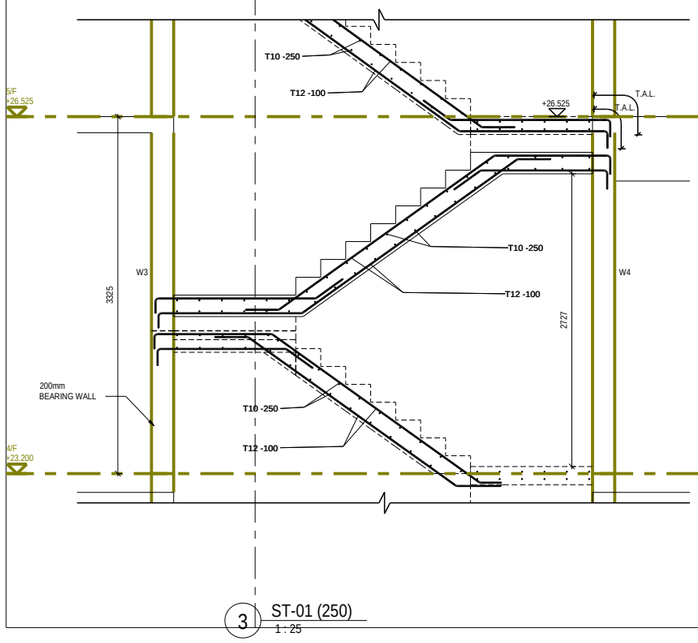
Tekla Structures



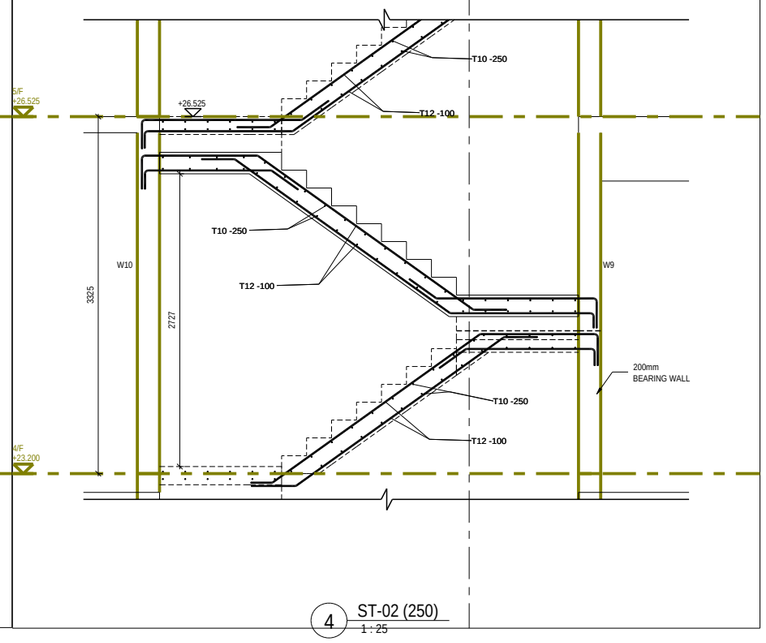
1 TYPICAL FLOOR PART PLAN OF STAIRCASE ST-01
1 : 50



2 TYPICAL FLOOR PART PLAN OF STAIRCASE ST-02
1 : 50



3 ST-01 (250)
1 : 25



4 ST-02 (250)
1 : 25

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STAIRCASE R.C. DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S010

REV. NO.

SOURCE ---

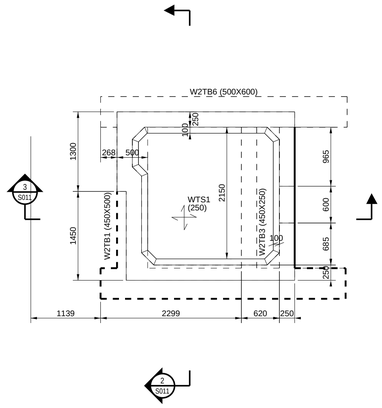
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

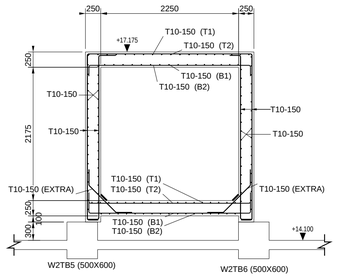
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

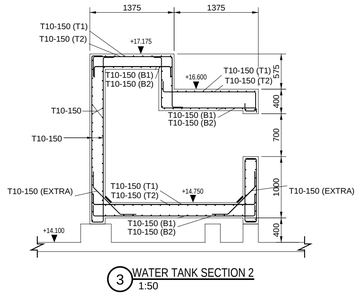
Tekla Structures



1 6.6m3 FLUSHING WATER TANK AT 2/ F
1:50



2 WATER TANK SECTION 1
1:50



3 WATER TANK SECTION 2
1:50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
WATER TANK DETAILS

SCALE AS SHOWN@A1

DRAWING NO. S011

REV. NO.

SOURCE ---

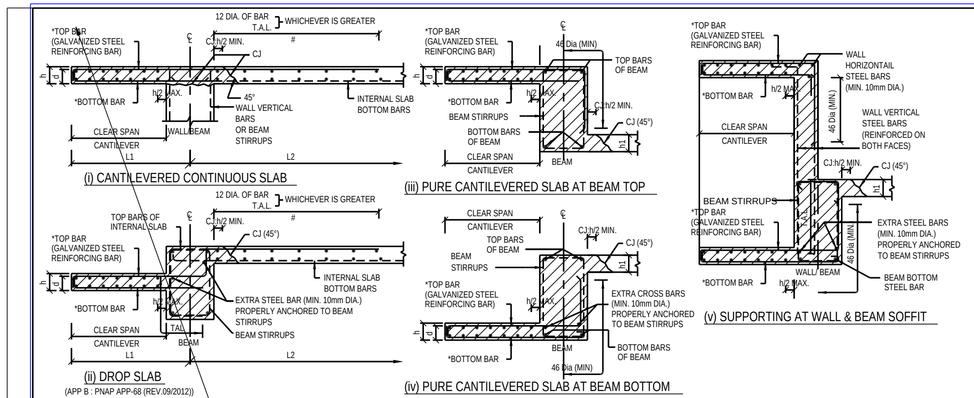
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

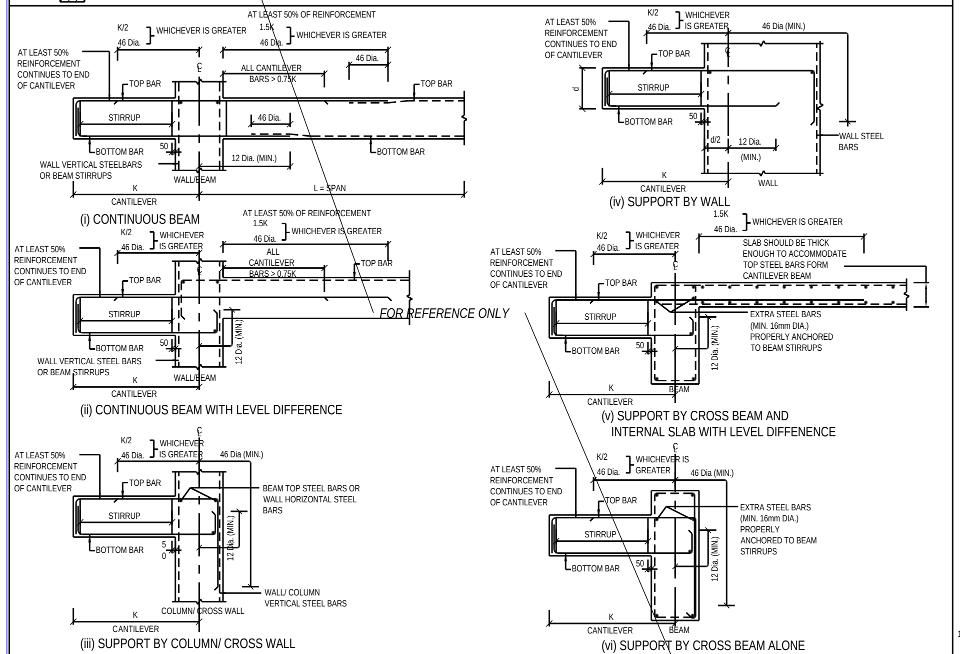
Tekla Structures



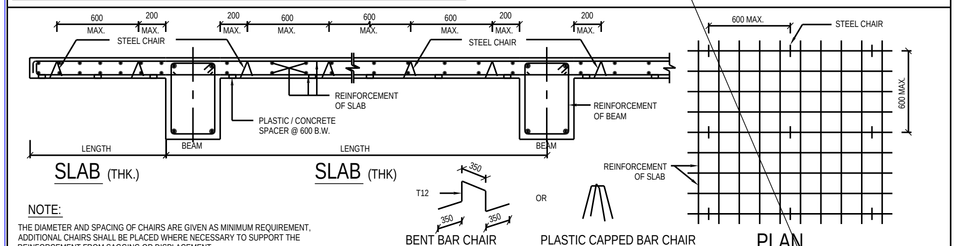
TYPICAL DETAIL SHOWING THE ARRANGEMENT OF REINFORCEMENT IN CANTILEVERED SLABS PROJECTED FROM DIFFERENT TYPES OF SUPPORT TO COMPLY WITH PNAP APP-68

NOTES:

1. *TOP BAR/*BOTTOM BAR DENOTED T10-150 TOP & BOTTOM (BOTH WAY) MIN., UNLESS OTHERWISE STATED.
2. * OF REINFORCEMENT BARS OF NOT GREATER THAN 16mm FOR CANTILEVERED SLAB WITH DROP. [6(d) OF APPENDIX A-PNAP APP-68 (REV.09/2012)]
3. # DENOTED THE GREATER OF :
   (i) BEYOND POINT OF CONTRAFLEXURE AT A DISTANCE OF X (X = THE GREATER OF 12 DIA. OF BAR OR d)
   (ii) T.A.L.
4. LEGEND (FOR EXTERNAL CANTILEVERED SLAB OF SPAN EXCEEDING 750mm EXPOSED TO WEATHERING)
   CJ CONSTRUCTION JOINT
   WATER-PROOF CONCRETE
5. GALVANIZED STEEL REINFORCEMENT BAR FOR CANTILEVERED SLABS WITH A SPAN EXCEEDING 750mm EXPOSED TO WEATHERING.



TYPICAL DETAIL SHOWING THE ARRANGEMENT OF REINFORCEMENT IN CANTILEVERED BEAMS PROJECTED FROM DIFFERENT TYPES OF SUPPORT



NOTE:

THE DIAMETER AND SPACING OF CHAIRS ARE GIVEN AS MINIMUM REQUIREMENT, ADDITIONAL CHAIRS SHALL BE PLACED WHERE NECESSARY TO SUPPORT THE REINFORCEMENT FROM SAGGING OR DISPLACEMENT.

STEEL CHAIR OF SLAB

A. BEND IN REINFORCEMENT

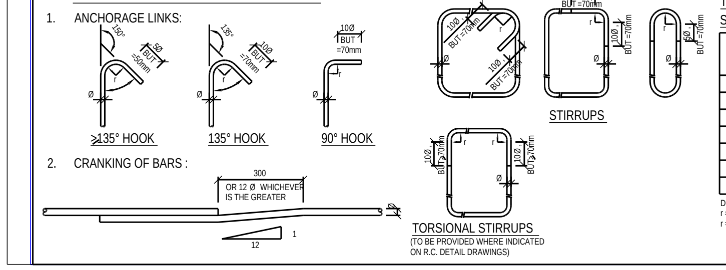


TABLE A1-1:
STANDARD HOOKS AND BENDS REQUIREMENT

BAR SIZE (mm)	MINIMUM INTERNAL RADIUS (r) OF BEND (mm) REBARS TO CS2 : 2012
10	20
12	24
16	48
20	80
25	100
32	128
40	160

D = DIAMETER OF BAR
r = INTERNAL BEND RADIUS
r = 2 D FOR T10 TO T12
= 3 D FOR T16
= 4 D FOR T20 TO T40

NOTES: (CANTILEVER STRUCTURE)

1. FOR GENERAL NOTES REFER TO DRG S001
2. DESIGN & CONSTRUCTION OF CANTILEVERED PROJECTING STRUCTURES (A/C HOOD & A/C PLATFORM) TO COMPLY WITH PNAP APP-68.
3. COVER TO REINFORCEMENT TO BE 40mm FOR CANTILEVERED PROJECTING STRUCTURES
4. ALL MAIN REINFORCEMENT FOR CANTILEVERED SLAB OVER 750mm AND EXPOSED TO WEATHER SHOULD BE GALVANIZED REBAR TO BS EN 1461:2009 AND THICKNESS OF ZINE COATING SHALL BE MIN. 85μm

GENERAL NOTES FOR R.C. CANTILEVER PROJECTING STRUCTURES

(A) CONSTRUCTION

1) ALL CANTILEVERED PROJECTIONS SHOULD BE CAST MONOLITHICALLY WITH AND AT THE SAME TIME AS THE DIRECTLY SUPPORTING MEMBERS. CONSTRUCTION JOINTS MUST NOT BE LOCATED ALONG THE EXTERNAL EDGE OF THE SUPPORTING MEMBERS. IN CASE THIS IS UNAVOIDABLE, ANY ALTERNATIVE CONSTRUCTION METHOD MUST BE SUBMITTED FOR APPROVAL. SUCH METHOD SHOULD ENSURE THAT THE FINISHED PRODUCT WOULD BE ABLE TO ATTAIN A STRUCTURAL STRENGTH NO LESS THAN THAT PROVIDED BY MONOLITHIC CONSTRUCTION, AND THAT IT WOULD NOT INVITE INGRESS OF WATER THROUGH THE JOINT.
2) ADEQUATE BAR SPACERS SHOULD BE PROVIDED TO MAINTAIN THE POSITION AND ALIGNMENT OF THE STEEL REINFORCEMENT.
3) DURING CONCRETING, ADEQUATE COMPACTION SHOULD BE GIVEN TO ENSURE GOOD QUALITY CONCRETE. EVERY ENDEAVOUR SHOULD BE MADE TO AVOID STEEL REINFORCEMENT FROM BEING DISPLACED OR DEPRESSED.
4) ALL PROPPINGS TO THE SOFFIT OF THE FORMWORK FOR THE CANTILEVERED PROJECTIONS SHOULD BE MAINTAINED FOR AT LEAST 14 DAYS AFTER CONCRETING.
5) AP/RSE SHALL PROVIDE ADEQUATE SUPERVISION AND INSPECTION ON THE CONSTRUCTION OF CANTILEVERED PROJECTING STRUCTURES TO ENSURE COMPLIANCE WITH THE APPROVAL PLANS.

(B) CONSTRUCTION REPORT

FOR CANTILEVERED SLABS OF SPAN EXCEEDING 750mm, EXPOSE TO WEATHERING, AP/RSE IN CONJUNCTION WITH THE REGISTERED CONTRACTOR, IS REQUIRED TO SUBMIT A CONSTRUCTION REPORT UPON COMPLETION OF THE WORKS, TO INCLUDE THE FOLLOWING :

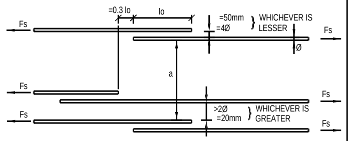
(a) AN AS-BUILT RECORD PLAN SHOWING :
1) THE LOCATION AND DIMENSIONS OF THE MEMBERS OF THE CANTILEVERED SLAB.
2) THE DIRECTION AND GRADIENT OF THE FALL.
3) THE LOCATION OF THE DRAINAGE OUTLETS/ DOWN PIPES.
4) THE THICKNESS OF SCREEDING AND FINISHES.
5) THE LOCATION AND DETAILS OF ANY CONSTRUCTION JOINTS.
6) THE DETAILS OF THE WATER-PROOF MEMBRANE/TANKING, WHERE APPLICABLE.
7) THE GRADE OF CONCRETE AND STEEL REINFORCEMENT.
8) THE DIAMETER AND SPACING OF STEEL REINFORCEMENT IN THE CANTILEVERED SLAB.
9) THE DATE ON WHICH THE CONCRETE WAS CAST.
10) THE CONCRETE COVER OF THE STEEL REINFORCEMENT AT CRITICAL POSITIONS OF CANTILEVERED SLABS, AS MEASURED BY COVERMETER.

(b) RECORD PHOTOGRAPHS OF CANTILEVERED SLABS AND SUPPORTING MEMBERS SHOWING :
1) THE CONDITION AND ARRANGEMENT OF THE IN-POSTION STEEL REINFORCEMENT PRIOR TO CONCRETING.
2) THE CONDITION AFTER CONCRETING BUT BEFORE LAYING OF THE FINISHES AND WATERPROOFING MATERIALS.

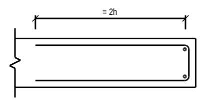
(c) A FORM BA14 CONFIRMING THE WORKS HAVE BEEN CARRIED OUT IN ACCORDANCE WITH THE APPROVED PLANS AND ARE STRUCTURALLY SAFE.

GENERAL NOTES OF FIXING OF REINFORCEMENT FOR CONCRETE WORKS

1) BAR REINFORCEMENT AND FABRIC REINFORCEMENT FROM EACH BATCH SHOULD NOT BE FIXED UNTIL TESTING OF THE BATCH HAS BEEN COMPLETED.
2) LOOSE RUST, EXCESSIVE FLAKY RUST OR MILL-SCALE ON REINFORCEMENT MUST BE REMOVED BY WIRE-BRUSHING, AND BADLY CORRODED, DAMAGED OR SCALING STEEL SHOULD NOT BE USED.
3) THE REINFORCEMENT SHOULD BE FIXED AT CORRECT LOCATION WITH MINIMUM COVER AS SHOWN ON APPROVED PLANS. SPACERS AND CHAIRS SHOULD BE PLACED AT MAXIMUM SPACING OF 0.6m, WHILE FOR 20mm Ø OR SMALLER BARS, THE SPACING SHOULD BE SUITABLY REDUCED TO AVOID SAGGING.
4) INTERSECTING AND LAPPING BARS SHOULD BE SUFFICIENTLY TIED TO PREVENT MOVEMENT OF THE REINFORCEMENT AND THE ENDS OF TYING WIRE, TYING DEVICES AND CLIPS SHOULD NOT ENCROACH INTO THE CONCRETE COVER.
5) ACCESS SHOULD BE OBTAINED BY USING PLANKS AND LADDERS OR OTHER METHODS WHICH ARE INDEPENDENTLY SUPPORTED AND WELL CLEAR OF THE COMPLETED REINFORCEMENT.
6) PREFABRICATED REINFORCEMENT CAGES SHOULD BE ADEQUATELY SUPPORTED AND BRACED BEFORE LIFTING.
7) THE REGISTERED CONTRACTOR SHOULD PROVIDE CONTINUOUS SUPERVISION TO ENSURE THE FIXING OF REINFORCEMENT IS CARRIED OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN COMPLIANCE WITH PNAP ADV-15. AP/RSE SHOULD PROVIDE ADEQUATELY QUALITY SUPERVISION.
8) REGISTERED CONTRACTOR SHOULD INFORM THE AP/RSE TO INSPECT ALL REINFORCEMENT AFTER FIXING AND IN TIME MINIMUM 6 HOURS ADVANCE OF CONCRETING. FOR WALLS, COLUMNS ETC., THE INSPECTION SHOULD BE ARRANGED BEFORE THE ERECTION OF FORMWORK.
9) THE CONTRACTOR SHOULD ENSURE THAT THE INSPECTED REINFORCEMENT BE MAINTAINED IN THE APPROVED CONDITIONS UNTIL CONCRETING HAS BEEN COMPLETED.
10) TENSION LAP LENGTH AND ANCHORAGE LENGTH :
LAP LENGTHS FOR UNEQUAL SIZE BARS MAY BE BASED UPON THE SMALLER BAR. THE FOLLOWING PROVISIONS APPLY:
(a) WHERE A LAP OCCURS AT THE TOP OF A SECTION AS CAST AND THE MINIMUM COVER IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4;
(b) WHERE A LAP OCCURS AT THE CORNER OF A SECTION AND THE MINIMUM COVER TO EITHER FACE IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT OR, WHERE THE CLEAR DISTANCE BETWEEN ADJACENT LAPS (DIMENSION 'a' IN ADJACENT LAPS) IS LESS THAN 75mm OR SIX TIMES THE SIZE OF THE LAPPED REINFORCEMENT, WHICHEVER IS THE GREATER, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4;
(c) IN CASE WHERE BOTH CONDITIONS (a) & (b) APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 2.0.



4. EDGE REINFORCEMENT FOR A SLAB



TENSION ANCHORAGE AND LAP LENGTH

i. MINIMUM ULTIMATE ANCHORAGE BOND LENGTHS

CONCRETE GRADE	TYPE OF ANCHORAGE LENGTH	fy 250 N/mm²	REINFORCEMENT TYPES fy 500 N/mm² RIBBED	FABRIC
30	TENSION	36	40	31
	COMPRESSION	29	32	25
~~35~~	~~TENSION~~	~~33~~	~~38~~	~~29~~
	~~COMPRESSION~~	~~27~~	~~30~~	~~23~~
~~40~~	~~TENSION~~	~~31~~	~~35~~	~~27~~
	~~COMPRESSION~~	~~25~~	~~28~~	~~22~~
45	TENSION	29	33	~~25~~
	COMPRESSION	24	26	~~20~~
~~50~~	~~TENSION~~	~~28~~	~~31~~	~~24~~
	~~COMPRESSION~~	~~22~~	~~25~~	~~19~~
≥60	TENSION	26	28	~~22~~
	COMPRESSION	20	23	~~18~~

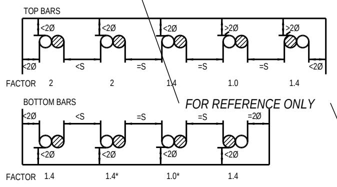
ULTIMATE ANCHORAGE BOND LENGTHS (l) AS MULTIPLES OF BAR DIAMETER

ii. MINIMUM LAP LENGTH

CONCRETE GRADE	TYPE OF ANCHORAGE LENGTH	fy 250 N/mm²	REINFORCEMENT TYPES fy 500 N/mm² RIBBED	FABRIC
30	TENSION AND COMPRESSION LAP LENGTH - lo	36	40	31
	1.4 x TENSION LAP	50	56	44
	2.0 x TENSION LAP	71	80	62
~~35~~	~~TENSION AND COMPRESSION LAP LENGTH - lo~~	~~33~~	~~38~~	~~29~~
	~~1.4 x TENSION LAP~~	~~46~~	~~52~~	~~40~~
	~~2.0 x TENSION LAP~~	~~66~~	~~75~~	~~57~~
~~40~~	~~TENSION AND COMPRESSION LAP LENGTH - lo~~	~~31~~	~~35~~	~~27~~
	~~1.4 x TENSION LAP~~	~~43~~	~~49~~	~~38~~
	~~2.0 x TENSION LAP~~	~~62~~	~~70~~	~~54~~
45	TENSION AND COMPRESSION LAP LENGTH - lo	29	33	~~25~~
	1.4 x TENSION LAP	41	47	~~35~~
	2.0 x TENSION LAP	58	66	~~50~~
~~50~~	~~TENSION AND COMPRESSION LAP LENGTH - lo~~	~~28~~	~~31~~	~~24~~
	~~1.4 x TENSION LAP~~	~~39~~	~~44~~	~~34~~
	~~2.0 x TENSION LAP~~	~~55~~	~~62~~	~~48~~
≥60	TENSION AND COMPRESSION LAP LENGTH - lo	26	28	~~22~~
	1.4 x TENSION LAP	36	40	~~31~~
	2.0 x TENSION LAP	51	56	~~44~~

NOTES:
1. THE VALUES ARE ROUNDED UP TO THE NEAREST WHOLE NUMBER AND THE LENGTH DERIVED FROM THESE VALUES MAY DIFFER SLIGHTLY FROM THOSE CALCULATED DIRECTLY FOR EACH BAR OR WIRE SIZE.

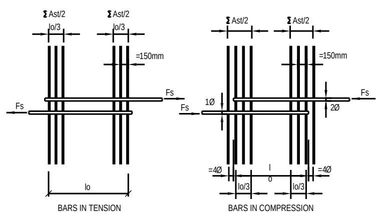
ULTIMATE LAP LENGTHS AS MULTIPLES OF BAR DIAMETER



*NOTES: FOR LAPS IN BOTTOM OF SECTION AS CAST MINIMUM COVER CRITERIA APPLIES TO CORNER BARS ONLY.
S = 75mm OR 6ø, WHICHEVER IS GREATER
ø = DIAMETER OF THE LAPPED REINFORCEMENT (SMALLER BAR)

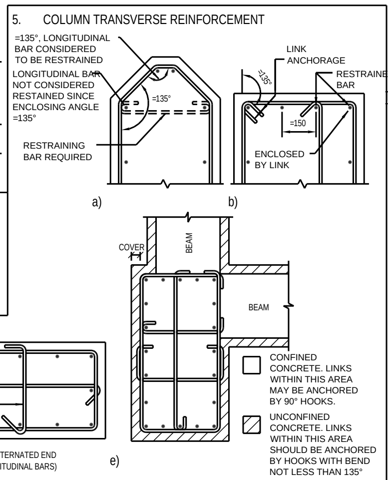
iii. COMPRESSION LAP LENGTH

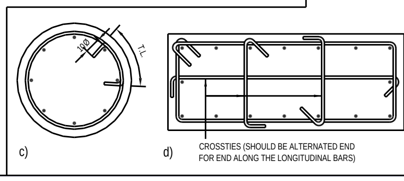
THE COMPRESSION LAP LENGTH SHOULD BE AT LEAST 25% GREATER THAN THE DESIGN COMPRESSION ANCHORAGE LENGTH NECESSARY TO DEVELOP THE REQUIRED STRESS IN THE REINFORCEMENT. LAP LENGTHS FOR UNEQUAL SIZE BAR (OR WIRES IN FABRIC) MAY BE BASED UPON THE SMALLER BAR DIAMETER.



TRANSVERSE REINFORCEMENT FOR LAPPED SPLICES

5. COLUMN TRANSVERSE REINFORCEMENT





GENERAL NOTES:

1. DESIGN AND CONSTRUCTION OF STRUCTURE IN ACCORDING WITH :-
   i) HONG KONG BUILDING (CONSTRUCTION) REGULATIONS.
   ii) CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013.
   iii) DESIGN OF CONCRETE STRUCTURES FOR RETAINING AQUEOUS LIQUID BS 8007:1987
   iv) CODE OF PRACTICE FOR FIRE SAFETY IN BUILDINGS 2011.
   v) CODE OF PRACTICE ON WIND EFFECTS HONG KONG 2004.
   vi) CONSTRUCTION TOLERANCE SHALL COMPLY WITH CLAUSE 10.2 OF CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013.
   vii) CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.
   viii) CODE OF PRACTICE FOR DEAD AND IMPOSED LOAD 2011.
2. ALL CONCRETE FOR PILE WALL SHALL BE DESIGNED MIX GRADE 30D/20. ALL CONCRETE SHALL COMPLY WITH CS1:2010. (EXCEPT CL. 7.1) WITH CONCRETE CUBE SIZE 150mm x 150mm x 150mm.

DESIGNATION (DESIGNED MIX CONC.)	ELEMENT OF CONSTRUCTION
GRADE 60D/20	ALL BEAMS, COLUMNS, SHEAR WALLS UNDER G/F, & TRANSFER BEAMS
GRADE 60D/20 WATERPROOF	BASEMENT COLUMNS
GRADE 45D/20 WATERPROOF	WATER TANKS, FUEL TANKS, SEWAGE TANKS BASEMENT STRUCTURE EXCEPT COLUMN
GRADE 45D/20	ALL SLABS, STAIRCASES, BEAMS, SHEAR WALLS OVER G/F, HANGER WALL, BEARING WALL, GRAVITY TOE WALL, PLINTH. ON-GRADE SLAB, PARTITION WALL & NON-STRUCTURAL ELEMENT ETC.
GRADE 30D/20	ON-GRADE SLAB
GRADE 60D/20 WATERPROOF 1	BASEMENT COLUMNS

a. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METRE OF CONCRETE SHOULD NOT EXCEED 3.0 kg WHEN DETERMINED IN ACCORDANCE WITH THE SPECIFICATION ITEMS GIVEN IN APPENDIX A OF PRACTICE NOTE FOR AP/RSE APP-74.
b. IF PFA IS TO BE USED, THE REQUIREMENT SPECIFIED IN PRACTICE NOTE FOR AP/RSE APP-33 SHALL BE FULFILLED.

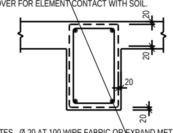
3. REINFORCEMENT
   a) HIGH TENSILE BAR 500B CONFORM WITH CS2 : 2012 (DENOTE BY `T') CHARACTERISTIC STRENGTH fy = 500 N/sq. mm
   b) ALL REINFORCEMENT SHALL BE CUT OR BENT TO COMPLY WITH BS 8666 : 2005.
4. MINIMUM COVER TO ALL REINFORCEMENT TO BE PROVIDED AS FOLLOW OR EQUAL TO DIAMETER OF BAR, WHICHEVER IS THE GREATER
5. CEMENT CONCRETE BLINDING OF 10P/20 MIX PROVIDE FOR ALL BEAMS ON GROUND, SEE TYPICAL DETAIL REFER TO TD/002 DETAIL OF BEAMS (75mm THICK)
6. ALL LEVELS SHOWN ARE IN METRES (m.P.D.) AND OTHER DIMENSIONS SHOWN ARE IN MILLIMETRES,
7. ALL SETTING OUT DIMENSIONS SHOULD BE REFEREED TO ARCHITECTURAL DRAWING. UNLESS OTHERWISE STATED.
8. ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, PLUMBING, ELECTRICAL AND MECHANICAL DRAWINGS. ALL CHASES, CHAMFERS, POCKETS, FIXING TO BE BUILT IN FOR OTHER TRADES, ETC. SHALL BE PROVIDED IN THE LOCATION AND THE SIZES SHOWN ON THE DRAWING OR AS REQUIRED.
9. THE CONTRACTOR SHALL CHECK DRAWINGS OF ALL TRADES AND VERIFY ALL LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER AT LEAST 21 DAYS PRIOR TO CONCRETING.
10. THE CONTRACTOR SHALL MARK ALL STRUCTURAL OPENINGS FOR COMBINED BUILDING SERVICES ON STRUCTURAL FRAMING PLANS FOR ENGINEER'S APPROVAL AT LEAST 21 DAYS PRIOR TO CONCRETING OF STRUCTURE WHERE STRUCTURAL OPENING IS REQUIRED.
11. ALL WATER TANK SHOULD PROVIDED OVERFLOW DEVICE TO PREVENT OVERFLOW.
12. LEGEND:

HB HORIZONTAL BAR	D BAR DIAMETER	t THICKNESS OF WALL
VB VERTICAL BAR	RA RADIUS OF BEND	TYP TYPICAL
EF EACH FACE	R MILD STEEL	MIN MINIMUM
BF BOTH FACE	T HIGH TENSILE STEEL	MAX MAXIMUM
TLL TENSION LAP LENGTH	H DEPTH OF BEAM	APP APPROXIMATE
TAL TENSION ANCHORAGE LENGTH	d THICKNESS OF SLAB	STR STRUCTURE
lo LAP LENGTH	V CANTILEVER STRUCTURAL ELEMENT	

ELEMENT OF CONSTRUCTION	~~F.R.R. 60/60/60~~	F.R.R. 120/120/120	F.R.R. 240/240/240	REMARK
SLABS	~~30~~ ~~(25)~~	35 (30)	* 55 (45)	( ) FOR CONTINUOUS. 40 FOR CANOPY & CANTILEVERED PROJECTING STRUCTURES & ARCHITECTURAL FEATURES { } FOR INTERNAL SLABS OTHER THAN BATH ROOM AND KITCHEN
BEAMS	~~30~~	* 50 (40)	* 80 (60)	( ) FOR CONTINUOUS
COLUMNS, POST	~~40~~	40	40	
SHEAR WALL,	~~30~~	35	35	
R.C. WALLS	~~30~~	35	35	
STAIRCASES	~~30~~	35	* 55	
~~SWIMMING POOL,~~	~~40~~	~~40~~	~~40~~	~~50 (FOR AGAINST EARTH)~~
WATER TANKS	~~40~~	40	40	40 (FOR SURFACES CONTACT WITH WATER)
TRANSFER BEAM	~~40~~	40	55	

NOTE : FOR ELEMENT EXPOSES TO WEATHER
i) MINIMUM COVER TO BE `40' FOR CONCRETE GRADE 30D/20,
ii) MINIMUM COVER TO BE `35' FOR CONCRETE GRADE 35D/20 AND 40D/20.
iii) MINIMUM COVER TO BE `30' FOR CONCRETE GRADE 45D/20 OR ABOVE.
FIRE RESISTANCE REQUIREMENT REFER TO BUILDING PLAN

* CONCRETE COVER FOR ELEMENT CONTACT WITH SOIL.

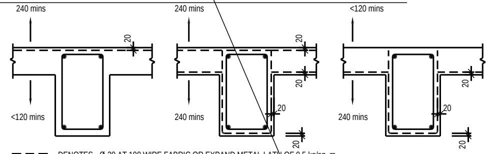


NOTES FOR ELASTIC FIRESTOP

1. HILTI CP601S ELASTIC FIRESTOP TO BE APPLIED STRICTLY ACCORDING WITH MANUFACTURER INSTRUCTION. (BD REF: BD-D067 120min FRP.)

DENOTES Ø 20 AT 100 WIRE FABRIC OR EXPAND METAL LATH OF 0.5 kg/sq. m

TYPICAL DETAILS OF SIMPLY SUPPORTED R.C. BEAM FOR F.R.R. 120 mins



DENOTES Ø 20 AT 100 WIRE FABRIC OR EXPAND METAL LATH OF 0.5 kg/sq. m

TYPICAL DETAILS OF BEAM AND SLAB FOR F.R.R. = 240 mins

NOTES FOR CANTILEVER ANCHORAGE OF TENSION REINFORCEMENT

1. A FULL ANCHORAGE LENGTH SHOULD BE PROVIDE FOR THE TOP TENSION REINFORCEMENT OF A CANTILEVERED PROJECTING STRUCTURE. WHEN FULL ROTATIONAL RESTRAINT IS PROVIDED AT THE NEAR FACE OF THE SUPPORTING MEMBER, I.E. THE FACE AT WHICH THE BAR ENTERS THE SUPPORTING MEMBER, THE ANCHORAGE SHALL BE DEEMED TO COMMENCE AT ½ THE WIDTH OF THE SUPPORTING MEMBER OR ½ THE EFFECTIVE DEPTH OF THE CANTILEVERED PROJECTING STRUCTURE WHICHEVER IS LESS, FROM THE NEAR FACE OF THE SUPPORTING MEMBER. WHERE THE CANTILEVERED PROJECTING STRUCTURE IS A CONTINUOUS SLAB OR BEAM AND THE SUPPORT IS NOT DESIGNED TO PROVIDED ROTATIONAL RESTRAINT IN THE ANALYSIS OF THE CONTINUOUS STRUCTURE, THE ANCHORAGE SHALL BE DEEMED TO COMMENCE AT THE FAR FACE OF THE SUPPORTING MEMBER, AND THE TOP REINFORCEMENT SHOULD NOT TERMINATE BEFORE THE NEAREST POINT OF CONTRA FLEXURE IN THE ADJACENT SPANS. NO REDUCTION IN ANCHORAGE BOND LENGTH DUE TO ACTUAL BAR STRESS SHALL BE PERMITTED.

BD REF :
BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
Typical Detail 1

SCALE

DRAWING NO. S012
REV. NO.

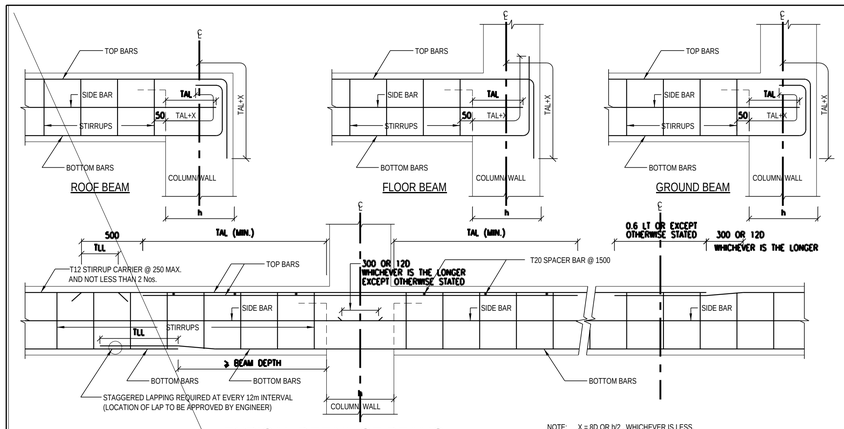
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

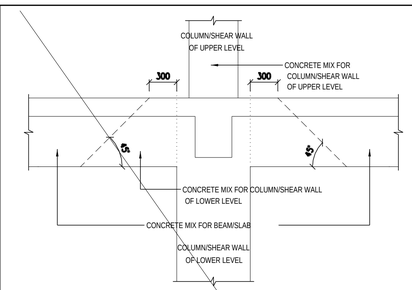
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

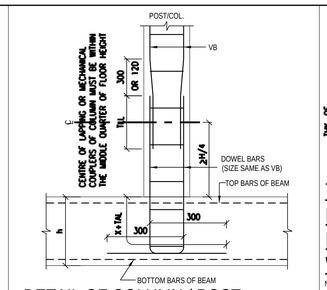


TYPICAL DETAIL OF BEAMS

NOTE: X = 8D OR h/2 , WHICHEVER IS LESS.
D = DIAMETER OF STEEL BAR.

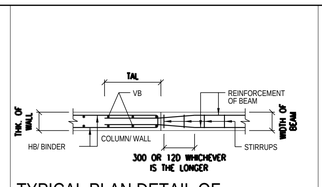


DETAIL OF JUNCTION BETWEEN DIFFERENT CONCRETE MIX



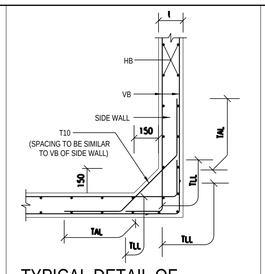
DETAIL OF COLUMN / POST REST ON BEAM

NOTE: X = 8D OR h/2 , WHICHEVER IS LESS.
D = DIAMETER OF STEEL BAR

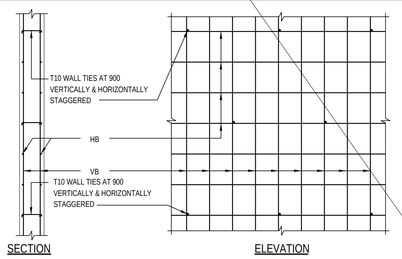


TYPICAL PLAN DETAIL OF REINFORCEMENT ARRANGEMENT FOR BEAM AT JUNCTION WITH COLUMN/ WALL

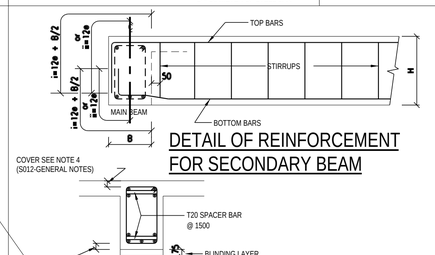
NOTE: BEAM REINFORCEMENT SHALL BE CRANKED IF NECESSARY TO AVOID INTERRUPTION WITH COLUMN/WALL REINFORCEMENT.



TYPICAL DETAIL OF HAUNCH & WATER TANK SIDE WALL

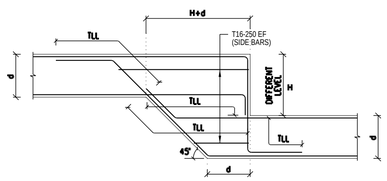


TYPICAL DETAIL OF WALL TIES

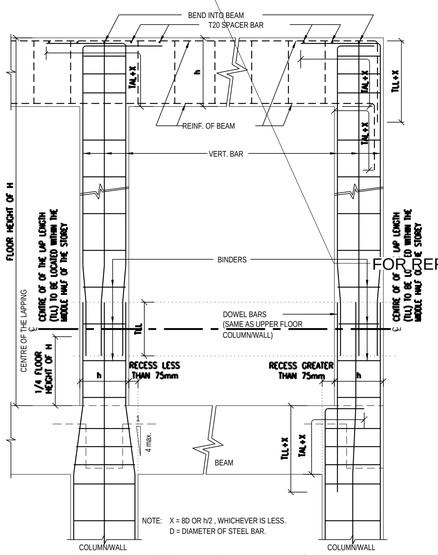


DETAIL OF REINFORCEMENT FOR SECONDARY BEAM

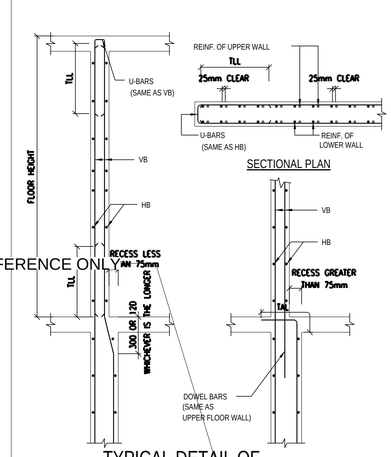
DETAIL OF BEAMS



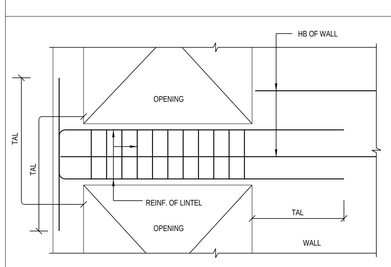
TYPICAL DETAIL OF CRANK BEAM



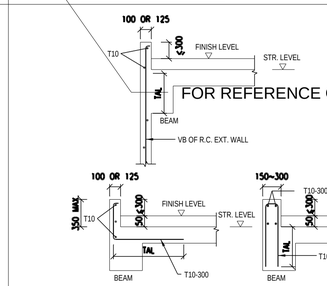
TYPICAL DETAIL OF COLUMN/WALL



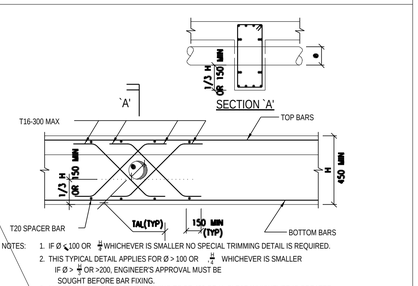
TYPICAL DETAIL OF SHEAR WALL / CORE WALL



TYPICAL DETAIL OF ANCHORAGE LENGTH FOR LINTEL OF WALL

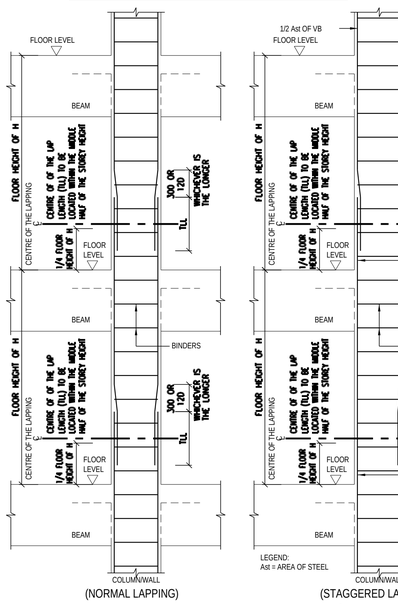


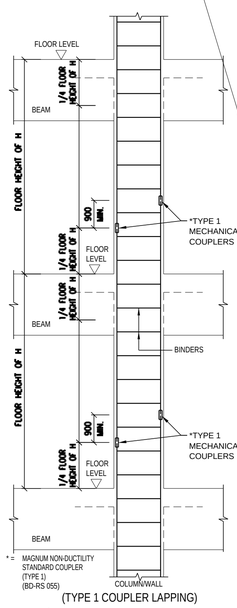
TYPICAL DETAIL OF R.C. CURB

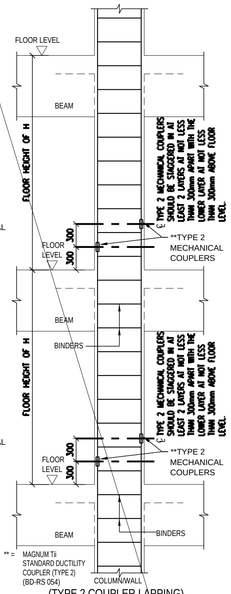


NOTES:
1. IF Ø ≤ 100 OR $\frac{H}{3}$ WHICHEVER IS SMALLER NO SPECIAL TRIMMING DETAIL IS REQUIRED.
2. THIS TYPICAL DETAIL APPLIES FOR Ø > 100 OR $\frac{H}{3}$ WHICHEVER IS SMALLER
IF Ø > $\frac{H}{3}$ OR >200, ENGINEER'S APPROVAL MUST BE SOUGHT BEFORE BAR FIXING.
3. MIN SPACING OF ADJACENT OPENING TO BE 400 OR H. CLEAR WHICHEVER IS GREATER AND SUBJECT TO ENGINEER'S APPROVAL.

TYPICAL DETAIL OF SLEEVE OPENING THROUGH BEAM

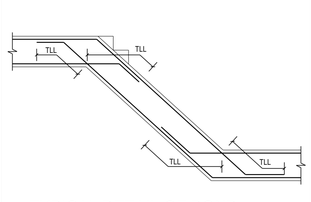




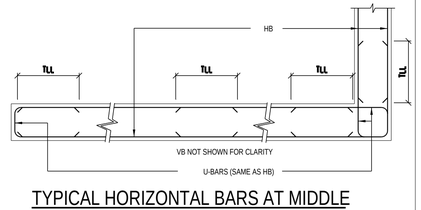


TYPICAL DETAIL OF COLUMN/WALL LAPPING

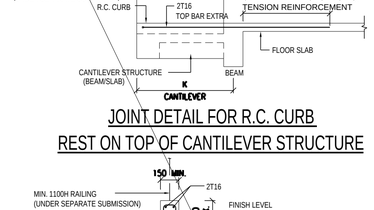
* CRITICAL ZONE LOCATION REFER TO CoP 9.9.2.2.
10mm OR ¼ THE DIAMETER OF THE LARGEST LONGITUDINAL BAR FOR LINKS IN CRITICAL ZONE.



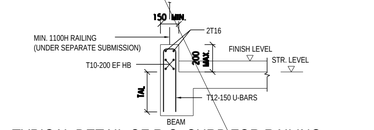
TYPICAL DETAIL OF BOND LENGTH OF MAIN BARS AT INCLINED SLAB AND BEAM



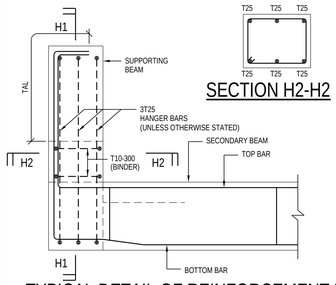
TYPICAL HORIZONTAL BARS AT MIDDLE & END OF BOTH CORE WALL & PERIMETER WALL



JOINT DETAIL FOR R.C. CURB REST ON TOP OF CANTILEVER STRUCTURE

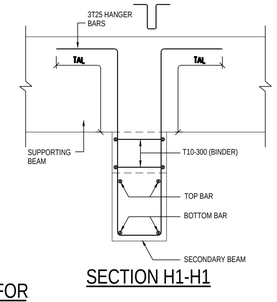


TYPICAL DETAIL OF R.C. CURB FOR RAILING

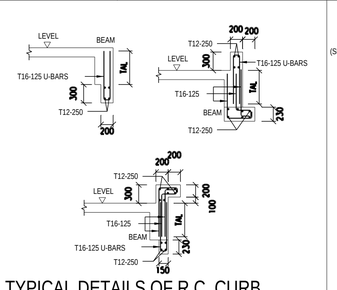


SECTION H2-H2

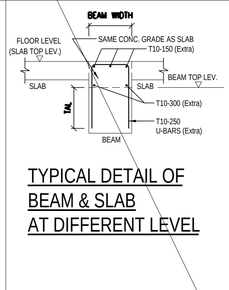
TYPICAL DETAIL OF REINFORCEMENT FOR SECONDARY BEAM HANGING BY MAIN BEAM



SECTION H1-H1



TYPICAL DETAILS OF R.C. CURB FOR CURTAIN WALL



TYPICAL DETAIL OF BEAM & SLAB AT DIFFERENT LEVEL

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
TYPICAL DETAIL 2

SCALE AS SHOWN@A1

DRAWING NO. S013

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

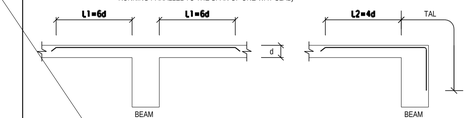
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

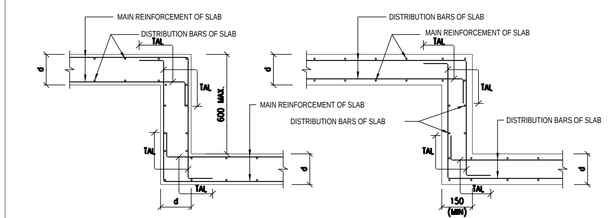
Tekla Structures

TYPICAL DETAIL OF FLANGE BAR

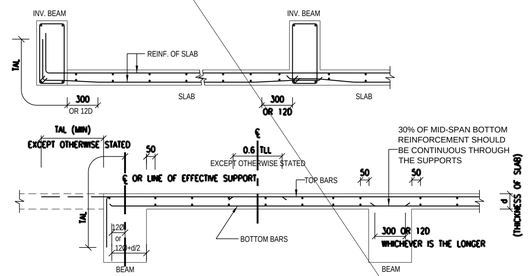
(TO BE PROVIDED AT TOP OF TEE-BEAM & ELL-BEAM WHICH RUNNING PARALLEL TO THE SPAN OF ONE-WAY SLAB)



SLAB THICKNESS, 'd' (mm)	L1	L2	FLANGE BARS	DISTRIBUTION BARS
125	750	500	T10-200	T10-300
150	900	600	T10-170	T10-300
175	1050	700	T12-210	T10-290
200	1200	800	T12-180	T10-230
225	1350	900	T12-160	T10-230
250	1500	1000	T12-150	T10-200
300	1800	1300	T12-125	T10-200

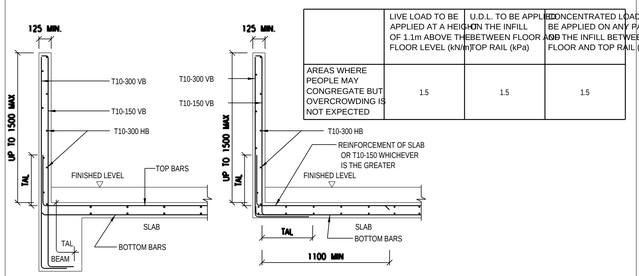


TYPICAL DETAIL OF DROP SLAB



TYPICAL DETAIL OF REINFORCEMENT FOR SLAB

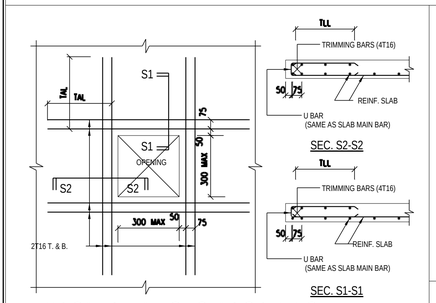
NOTE: LAPPING LENGTH OF 46D TO BE APPLIED TO ALL TOP REINFORCEMENT AT ROOF SLABS.



	LIVE LOAD TO BE APPLIED AT A HEIGHT OF 1.1m ABOVE THE FLOOR LEVEL (kN/m)	U.D.L. TO BE APPLIED ON THE INFILL BETWEEN FLOOR AND TOP RAIL (kPa)	CONCENTRATED LOAD TO BE APPLIED ON ANY PART OF THE INFILL BETWEEN FLOOR AND TOP RAIL (kN)
AREAS WHERE PEOPLE MAY CONGREGATE BUT OVERCROWDING IS NOT EXPECTED	1.5	1.5	1.5

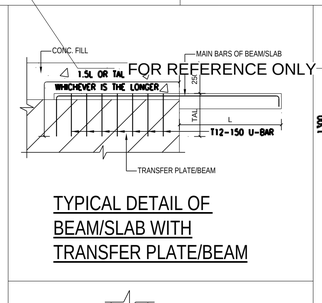
TYPICAL DETAIL OF R. C. PARAPET

NOTE: ALL HEIGHT & THICKNESS OF R.C. PARAPET REFER TO ARCH. DRAWING.
DESIGN IMPOSED HORIZONTAL LOAD TO BE AREA WHERE PEOPLE MAY CONGREGATE BUT OVERCROWDING IS NOT EXCEPTED.

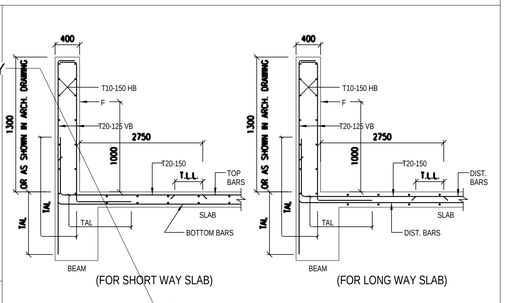


TYPICAL DETAIL OF SLAB OPENING

NOTE: LOCATION TO BE APPROVED BY ENGINEER.

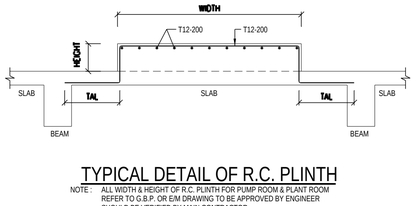


TYPICAL DETAIL OF BEAM/SLAB WITH TRANSFER PLATE/BEAM



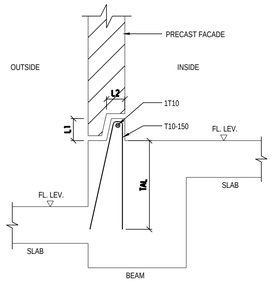
TYPICAL DETAIL OF DRIVEWAY & CAR-PORT BARRIER

(FOR VEHICLES WEIGHT < 30,000 kg)
(ALLOWABLE IMPACT LOAD=360 kN)
(FOR DOWNWARD STRAIGHT RAMP EXCEEDS 20m IN LENGTH)



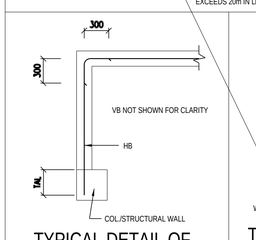
TYPICAL DETAIL OF R.C. PLINTH

NOTE : ALL WIDTH & HEIGHT OF R.C. PLINTH FOR PUMP ROOM & PLANT ROOM REFER TO G.B.P. OR E/M DRAWING TO BE APPROVED BY ENGINEER SHOULD BE VERIFIED BY MAIN CONTRACTOR.

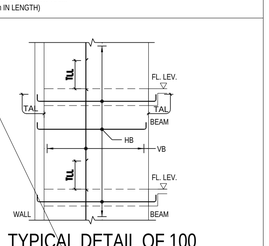


TYPICAL DETAIL OF BEAM UNDERNEATH FOR PRECAST FACADE

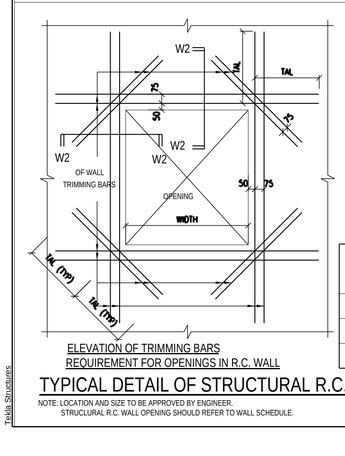
NOTE : L1 & L2 REFER TO PRECAST FACADE R.C. DETAILS.



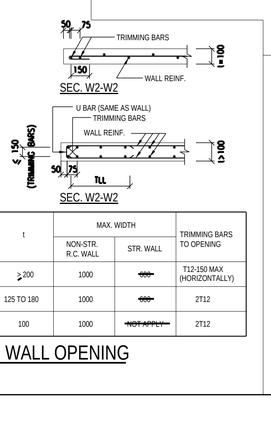
TYPICAL DETAIL OF HB AT JUNCTION OF R. C. WALL



TYPICAL DETAIL OF 100 R.C. LIFT PARTITION WALL



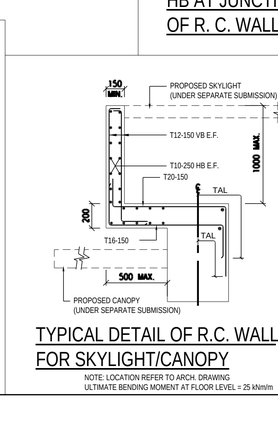
ELEVATION OF TRIMMING BARS REQUIREMENT FOR OPENINGS IN R.C. WALL



t	MAX. WIDTH		TRIMMING BARS TO OPENING
	NON-STR. R.C. WALL	STR. WALL	
≥ 200	1000	~~600~~	T12-150 MAX. (HORIZONTALLY)
125 TO 180	1000	~~600~~	2T12
100	1000	~~NOT APPLY~~	2T12

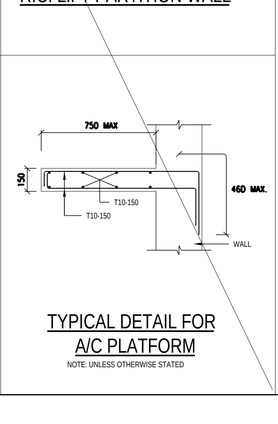
TYPICAL DETAIL OF STRUCTURAL R.C. WALL OPENING

NOTE: LOCATION AND SIZE TO BE APPROVED BY ENGINEER.
STRUCURAL R.C. WALL OPENING SHOULD REFER TO WALL SCHEDULE.



TYPICAL DETAIL OF R.C. WALL FOR SKYLIGHT/CANOPY

NOTE: LOCATION REFER TO ARCH. DRAWING
ULTIMATE BENDING MOMENT AT FLOOR LEVEL = 25 kNm/m



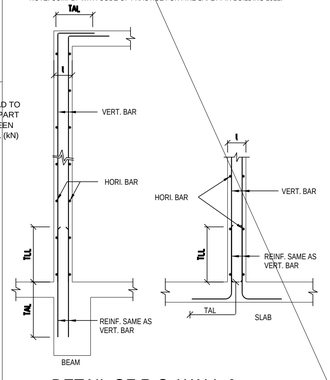
TYPICAL DETAIL FOR A/C PLATFORM

NOTE: UNLESS OTHERWISE STATED

TABLE OF REINFORCEMENT FOR BEARING/HANGER & SCREEN WALL

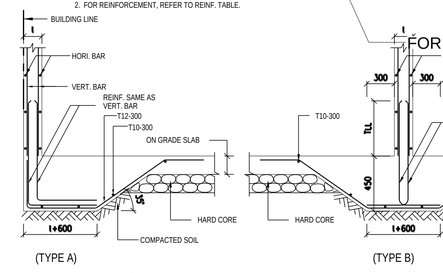
t	FIRE RESISTANCE PERIOD		
	VERT. BAR (EF)		HORI. BAR (EF)
	4 HOURS	2 HOURS/1 HOUR	
150mm	-	T12-150	T10-300
180mm	T12-125	T12-300	T10-300
200mm	T16-200	T12-275	T10-300
250mm	T12-225	T12-225	T10-250
300mm	T12-180	T12-180	T10-200
400mm	T16-225	T16-225	T10-225
450mm	T16-200	T16-200	T10-200

NOTE: COMPLY WITH CODE OF PRACTICE FOR FIRE SAFETY IN BUILDING 2011.



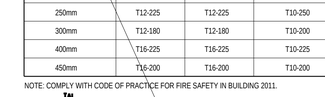
DETAIL OF R.C. WALL & BEARING WALL (t>100)

NOTES: 1. FOR THICKNESS OF WALL, REFER TO BUILDING PLAN.
2. FOR REINFORCEMENT, REFER TO REINF. TABLE.

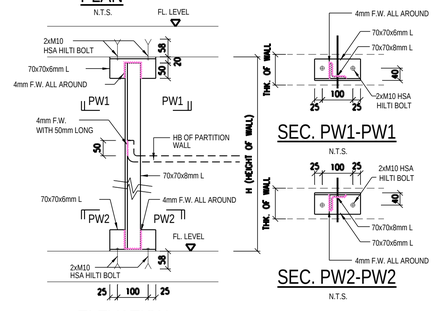


DETAIL OF R.C. WALL ON CONC. BASE

NOTES: ALLOWABLE BEARING CAPACITY OF SOIL IS 50 kPa.



H	3m < H < 4m
'L'	2m



TYPICAL DETAIL FOR 75/100mm INTERNAL PARTITION WALL STIFFENER

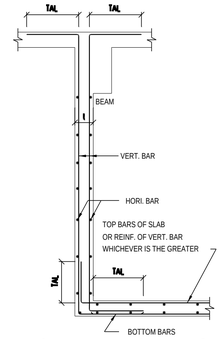
NOTES :

1. LOCATION TO BE APPROVED BY ENGINEER.
2. ALL STRUCTURAL STEEL SECTIONS ARE TO BE NEW MATERIAL AND WELDABLE STRUCTURAL STEEL OF GRADE S275 COMPLY WITH BS EN 10025.
3. ALL WELDING TO BE 4 mm FILLET WELD IN ACCORDANCE WITH BS EN 1011, AND ELECTRODES TO BS EN ISO 2560 UNLESS OTHERWISE STATED.
4. ALL ANCHOR BOLT (PROTECTION AGAINST CORROSION) SHALL BE HILTI BOLT OR EQUIVALENT APPROVED. THE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES SHOULD BE ADHERED TO EXCEPT OTHERWISE STATED.

TABLE OF REINFORCEMENT FOR NON-LOAD BEARING R.C. WALL

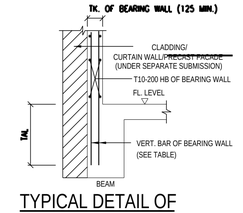
THICKNESS (mm)	FIRE RESISTANCE PERIOD			
	VERT. BAR (EF)			HORI. BAR (EF)
	4 HOURS	2 HOURS	1 HOUR	
75	-	-	T12-150 ONE LAYER	T10-150 ONE LAYER
100	-	T12-110 ONE LAYER	T12-110 ONE LAYER	T10-300 ONE LAYER
125	-	T16-160 ONE LAYER	T10-250 ONE LAYER	T10-250 ONE LAYER
150	-	T12-150	T10-300	T10-300
160	-	T10-300	-	
200~250	-	T10-300	T10-300	T10-250
180	T12-125	-	-	T10-300
240	T10-250	-	-	T10-250
125 EXTERNAL WALL	-	-	T10-200	T10-200

NOTE: COMPLY WITH CODE OF PRACTICE FOR FIRE SAFTY IN BUILDINGS 2011.



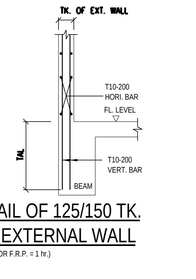
TYPICAL DETAIL OF HANGER WALL HUNG FROM BEAM/SLAB

NOTES: 1. FOR THICKNESS OF WALL, REFER TO FRAMING PLAN.
2. FOR REINFORCEMENT, REFER TO REINF. TABLE.



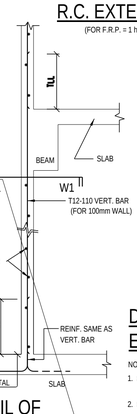
TYPICAL DETAIL OF R.C. WALL FOR CLADDING/ CURTAIN WALL/PRECAST FACADE

NOTE: LOCATION REFER TO ARCH. DRAWING .

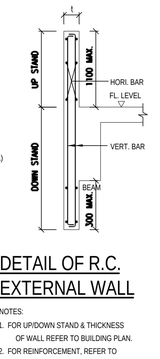


DETAIL OF 125/150 TK. R.C. EXTERNAL WALL

(FOR F.R.P. = 1 hr.)



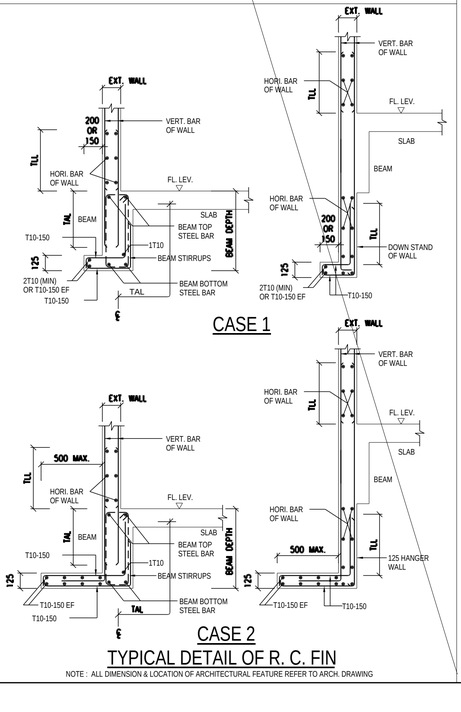
SECTION W1-W1



DETAIL OF R.C. EXTERNAL WALL

NOTES:
1. FOR UP/DOWN STAND & THICKNESS OF WALL, REFER TO BUILDING PLAN.
2. FOR REINFORCEMENT, REFER TO REINFORCEMENT TABLE.

DETAIL OF 100 R.C. WALL



TYPICAL DETAIL OF R. C. FIN

NOTE : ALL DIMENSION & LOCATION OF ARCHITECTURAL FEATURE REFER TO ARCH. DRAWING

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
TYPICAL DETAIL 3

SCALE AS SHOWN@A1

DRAWING NO. S014

REV. NO.

SOURCE ---

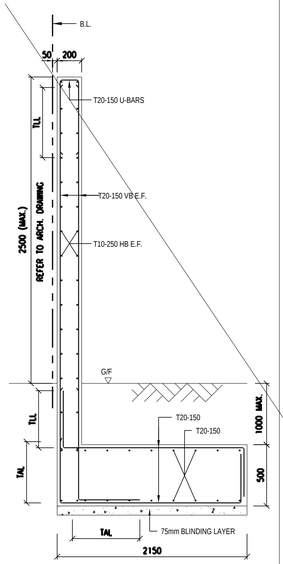
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

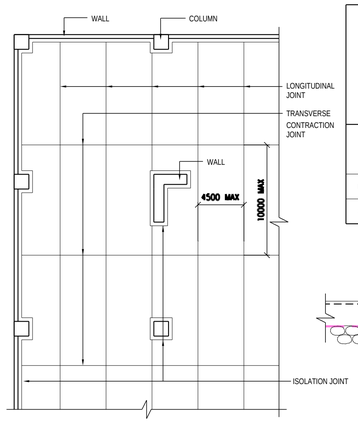
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures



TYPICAL DETAIL OF FENCE WALL TYPE II

NOTE: LOCATION REFER TO ARCH. DRAWING.
DESIGN SOIL BEARING PRESSURE = 100 Kpa
(WITH WIND) = 125 Kpa



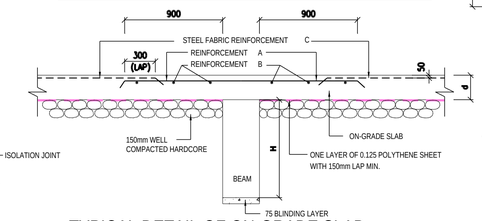
GENERAL NOTES FOR ON-GRADE SLAB

NOTE:
1. ON-GRADE SLABS TO BE CAST IN STRIPS WITH LONGITUDINAL JOINTS SPACED NOT GREATER THAN 4.5m AND WITH TRANSVERSE CONTRACTION JOINTS SPACED NOT GREATER THAN 10.0m. PROVIDE ISOLATION JOINTS AROUND INTERNAL COLUMN/WALL AND ALONG THE PERIMETER OR THE SLAB ABUTTING EXTERNAL WALL/COLUMN. PROVIDE EXPANSION JOINT FOR SLAB LONGER THAN 60m AND THE LOCATION OF IT SHALL BE APPROVED BY ENGINEER.
2. THE INSITU FILL OF THE SOIL BENEATH SHALL BE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY.

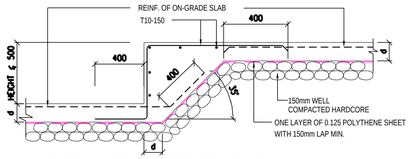
TABLE OF ON-GRADE SLAB

NOTES FOR ON-GRADE SLAB:
1. THE INSITU FILL OF SOIL BENEATH HARDCORE SHALL NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY.
2. 3 NOS. OF DRY DENSITY TEST SHALL BE CARRIED OUT FOR EVERY 800 sq.m OF FLOOR AREA BEFORE CONSTRUCTION OF ON-GRADE SLAB.
3. MIN. SLAB THICKNESS FOR F.R.P. > 2 HOURS IS 170mm.

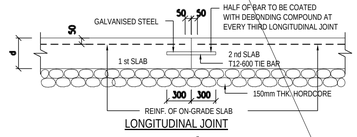
IMPOSED LOADING (kPa)	d	REINFORCEMENT			CONC. MIX
		A	B	C (BS 4483 MESH)	
UP TO 5	150	T10-150	T10-150	A142	GRADE 30D/20
>5 TO 25	250	T12-150	T10-250	B283	GRADE 30D/20



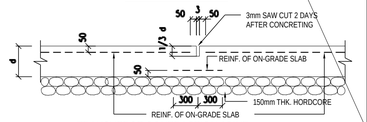
TYPICAL DETAIL OF ON-GRADE SLAB



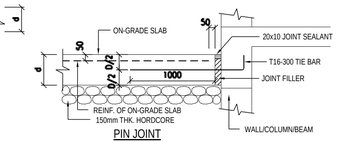
DETAIL FOR DIFFERENT LEVEL OF ON-GRADE SLAB



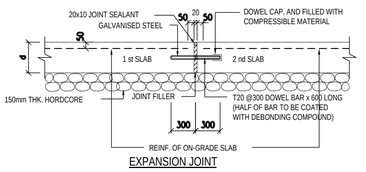
LONGITUDINAL JOINT



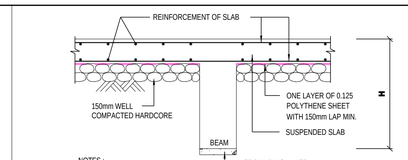
TRANSVERSE CONTRACTION JOINT



PIN JOINT

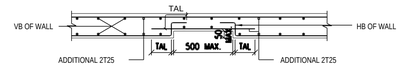


EXPANSION JOINT

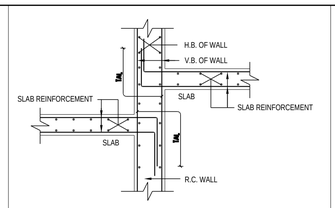


NOTES :
1. THE INSITU FILL OF THE SOIL BENEATH HARDCORE SHALL BE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY.

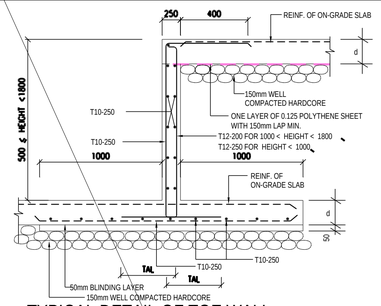
TYPICAL DETAIL OF SUSPENDED GRD. SLAB



TYPICAL WALL RECESS DETAIL

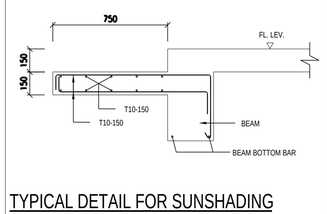


TYPICAL DETAIL FOR SLAB AT DIFFERENT LEVEL



TYPICAL DETAIL OF TOE WALL

(FOR DIFFERENT LEVEL OF ON-GRADE SLAB)



TYPICAL DETAIL FOR SUNSHADING

NOTE: LOCATION REFER TO ARCH. DRAWING .
ULTIMATE BENDING MOMENT AT FLOOR LEVEL = 65KNm/m

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
TYPICAL DETAIL 4

SCALE AS SHOWN@A1

DRAWING NO. S015

REV. NO.

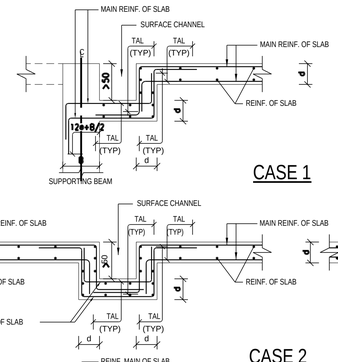
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

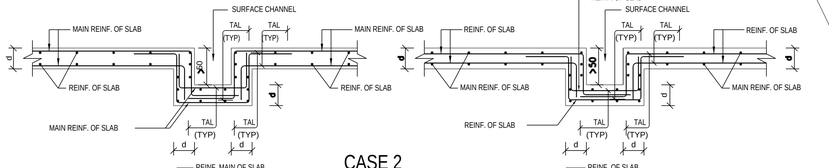
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

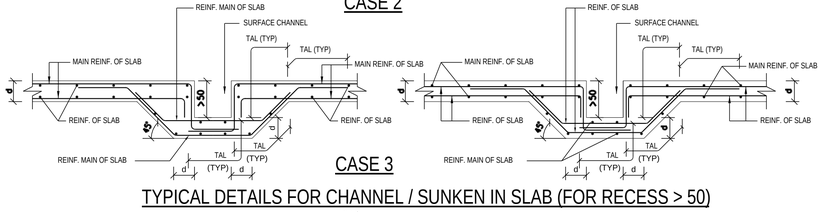
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



CASE 1



CASE 2

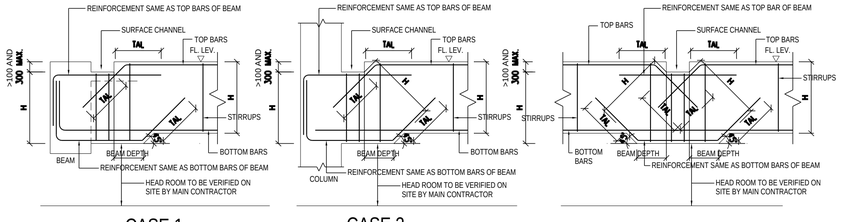


CASE 3

TYPICAL DETAILS FOR CHANNEL / SUNKEN IN SLAB (FOR RECESS > 50)

N.T.S.

NOTE : 1. ALL DIMENSION & LOCATION OF SURFACE CHANNEL REFER TO ARCHITECTURAL DRAWINGS SHOULD BE VERIFIED WITH CONTRACTOR AND APPROVED BY ENGINEER
2. d = THICKNESS OF SLAB.



CASE 1

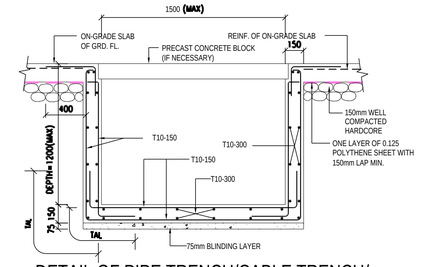
CASE 2

CASE 3

TYPICAL DETAILS FOR CHANNEL OVER BEAM (FOR RECESS > 100)

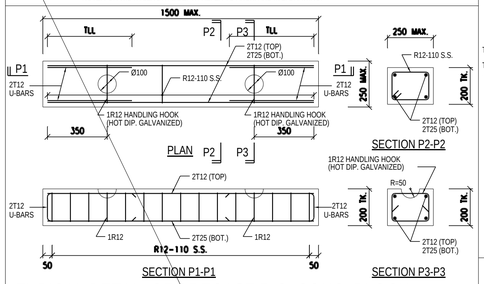
N.T.S.

NOTE : 1. ALL DIMENSION & LOCATION OF SURFACE CHANNEL REFER TO ARCHITECTURAL DRAWINGS SHOULD BE VERIFIED WITH CONTRACTOR AND APPROVED BY ENGINEER
2. H = DEPTH OF BEAM.



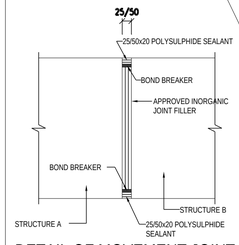
DETAIL OF PIPE TRENCH/CABLE TRENCH/ DRAW PIT (ON-GRADE)

NOTE: FOR WIDTH/LENGTH & DEPTH REFER TO ARCH. AND M/E. DRAWING.



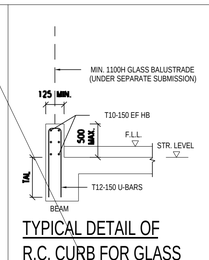
TYPICAL DETAIL OF PRECAST R.C. CONC. BLOCK

NOTES : 1. CONC. MIX TO BE GRADE 30D/20 & CONC. COVER TO BE 40 mm.
2. IMPOSED LOAD = H.A. LOADING
3. RECESS & DETAILS FOR THE HANDLING HOOKS AS SHOWN ABOVE ARE FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE TO VERIFY THEM WITH STATUTORY REQUIREMENT TO GET APPROVAL FROM AP/RSE.

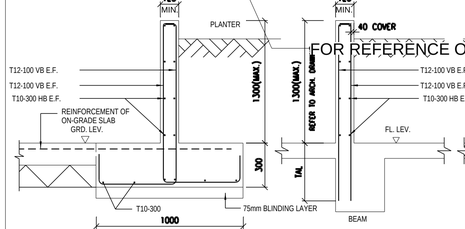


DETAIL OF MOVEMENT JOINT

(REFER TO ARCHITECTURAL DRAWING FOR DETAIL)



TYPICAL DETAIL OF R.C. CURB FOR GLASS BALUSTRADE



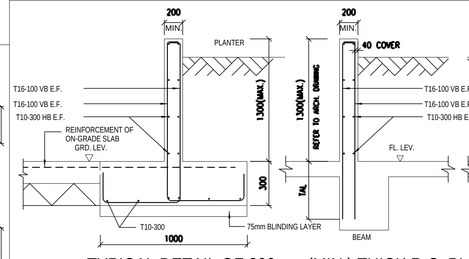
TYPICAL DETAIL OF 125mm (MIN.) THICK R.C. PLANTER WALL

FOR REFERENCE ONLY

NOTE: LOCATION REFER TO ARCH. DRAWING APPROVED BY ENGINEER.

R. C. BENCH

NOTE: LOCATION REFER TO ARCH. DRAWING .

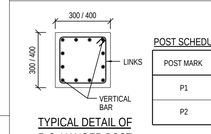


TYPICAL DETAIL OF 200mm (MIN.) THICK R.C. PLANTER WALL

NOTE: LOCATION REFER TO ARCH. DRAWING APPROVED BY ENGINEER.

R. C. BENCH

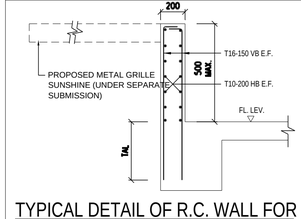
NOTE: LOCATION REFER TO ARCH. DRAWING .



TYPICAL DETAIL OF R.C. HANGER POST

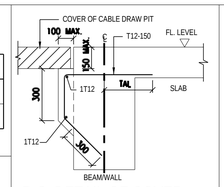
POST SCHEDULE

POST MARK	DIMENSION	VERTICAL BAR	LINKS
P1	300x400	8T20	T10-175
P2	300x400	8T20	T10-175

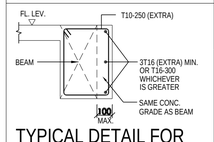


TYPICAL DETAIL OF R.C. WALL FOR SKYLIGHT METAL GRILLE SUNSHADE

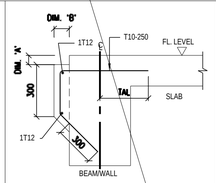
NOTE: LOCATION REFER TO ARCH. DRAWING .
ULTIMATE BENDING MOMENT AT FLOOR LEVEL = 65 kNm/m



R.C. DETAIL OF COVER FOR CABLE DRAW PIT

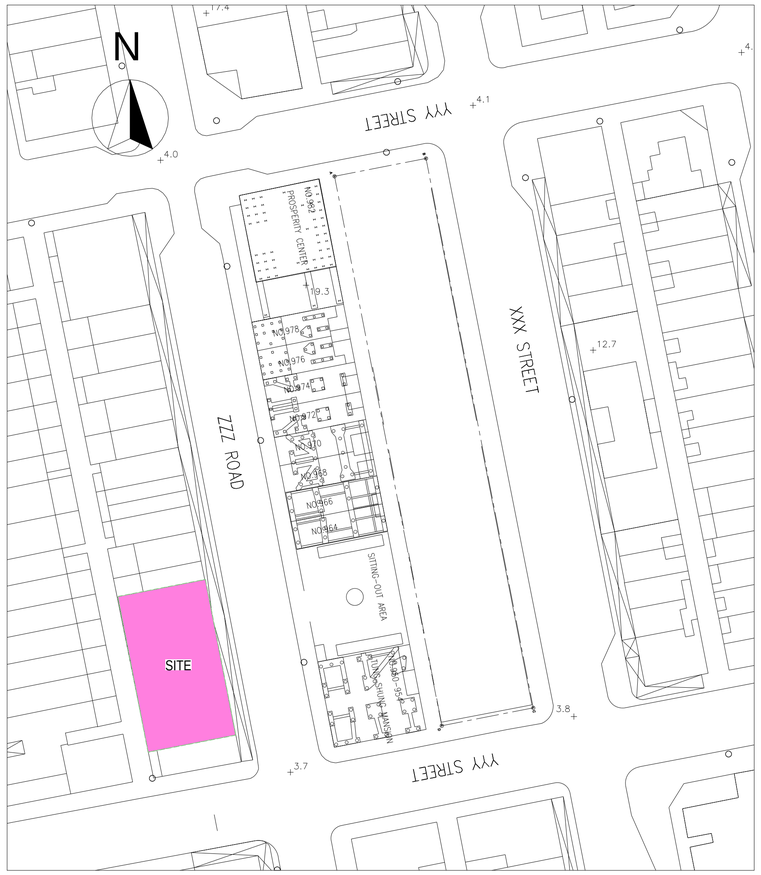


TYPICAL DETAIL FOR 100mmTHK. (MAX) CONCRETE PACKING



R.C. DETAIL OF LIFT DOOR-SILL

NOTE: ALL DIMENSION(DIM.' A' & DIM.' B') OF LIFT DOOR-SILL REFER TO ARCH. DRAWING. MAX. DIMENSION FOR DIM. 'A' & DIM. 'B' TO BE 100mm.



BLOCK PLAN
1:500

GENERAL NOTES FOR STRUCTURAL STEEL WORKS:

1. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL WORKS SHALL BE GRADE S355 J0 COMPLYING WITH BS EN 10025:2004 (Py = 355 MPa) EXCEPT HOLLOW SECTION TO BS EN 20210 AND CLASS 1 COMPLYING WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.

2. ALL STEELWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011. STRUCTURAL USE OF STEEL MATERIALS PROPERTIES SHALL COMPLY WITH BS EN 10025:2004, FOR PERMANENT STRUCTURES. MINIMUM DESIGN STRENGTH ARE AS FOLLOWS:

GRADE	THICKNESS LESS THAN OR EQUAL TO (mm)	DESIGN STRENGTH N/mm$_2$
S355	16	355

* THE STRUCTURAL STEEL ARE CLASSIFIED AS CLASS 1 IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.

3. THE STEELWORK CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STEEL HAS ADEQUATE THROUGH THICKNESS PROPERTIES TO SATISFY THE REQUIREMENTS OF HIS WELDING PROCEDURES AND WELDING SEQUENCE AND THAT THE MATERIAL AT OR ADJACENT TO WELDED LOCATIONS IS FREE OF LAMINATIONS, CENTRELINE SEGREGATION, OR OTHER CRACK LIKE INDICATIONS ON COMPLETION OF WELDING. THE STEELWORK CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE QUALITY CLASS OF STEEL WITH ENHANCED THROUGH THICKNESS PROPERTIES WHICH MAY BE REQUIRED TO BE COMPATIBLE WITH HIS CHOSEN METHOD OF WORKING.

4. ANY DAMAGED SURFACES OF GALVANISED STEEL SHALL BE COATED WITH ANTI-CORROSIVE COLD GALVANISED PRIMER PRIOR TO PAINTING.

5. PRIOR TO ERECTION ALL STEELWORK SHALL BE SPRAY WASHED WITH WATER AND DETERGENT THEN SPRAY RINSED WITH CLEAN WATER. THEY SHOULD BE FREE FROM RUST, GREASE AND LOOSING SCALES BEFORE APPLICATION OF SURFACE PROTECTION.

6. THE CONTRACTOR SHOULD EMPLOY QUALIFIED WELDERS WITH VALID WELDING CERTIFICATE.

7. ALL WELDING WORK SHALL BE CARRIED OUT BY CERTIFIED WELDERS TESTED BY A HOKLAS APPROVED LABORATORY TO BS EN 15614-8:2002.ALL WELDING WORK TO COMPLY WITH BS EN 1011 SITE WELDING SHALL ONLY BE CARRIED OUT WITH PRIOR WRITTEN CONSENT OF THE ARCHITECT.

8. ALL WELD AND BLOT CONNECTIONS SHALL BE INSPECTED BY THE ENGINEER BEFORE BEING COVERED UP AND REPRESENTATIVELY TESTED TO THE SATISFACTORY OF THE ENGINEER.

9. THE WELDING STANDARDS SHALL BE IN ACCORDANCE WITH BS EN 1011 PART 1:2009 AND PART 2:2001.

10. THE WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH BS EN ISO 15614 PART 1: 2004 AND PART 8:2002.

11. THE WELDERS SHALL BE APPROVED IN ACCORDANCE WITH BS EN 287 PART 1:2004.

12. THE WELDING TESTS SHALL BE IN ACCORDANCE WITH BS EN 1714:1998 AND BS EN ISO 9934 PART 1:2001.

13. UNLESS NOTED OTHERWISE, ALL WELDING SHALL BE 6mm CONTINUOUS FILLET WELD ALL ROUND.

14. ABBREVIATIONS FOR WELDING :-
    FW -FILLET WELD
    FPBW -FULL PENETRATION BUTT FILLET WELD
    PPBW -PARTIAL PENETRATION BUTT FILLET WELD

REFERENCE ONLY

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL SHIMMING/PACKING REQUIRED TO ACHIEVE ADEQUATE TOLERANCE AT THE CONNECTIONS.

16. THE CONTRACTOR SHOULD VERIFY THE SETTING OUT DIMENSIONS ON STRUCTURAL AND BUILDING PLANS ON SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT/ENGINEER BEFORE CONSTRUCTION WORK IS PROCEEDED.

17. THE CONTRACTOR SHOULD SUBMIT THE FABRICATION AND SHOP DRAWING TO THE ENGINEER FOR CHECKING.

18. ALL STEEL WORKS SHALL BE GALVANIZED TO BS EN ISO 1461:2009 WITH MIN. ZINC COATING THICKNESS OF 85 MICRONS AND WITH 2 COATS OF ZINC PRIMER.

19. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING TO STABILIZE THE STEEL WORKS DURING ERECTION.

20. ALL EXISTING FINISHES SHALL BE REMOVED PRIOR TO FIXING END PLATES AND ANCHOR BARS.

21. ALL ORDINARY BOLTS SHALL BE ISO GRADE 8.8 BLACK BOLT TO BS 3692:1967, UNLESS NOTED OTHERWISE.

22. ALL EXISTING REINFORCEMENT IN THE EXISTING CONCRETE STRUCTURES SHALL BE LOCATED WITH COVERMETER PRIOR TO DRILLING FOR ANCHOR BAR INSTALLATION. NO STEEL BAR SHALL BE CUT FOR DRILLING.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE BLOCK PLAN AND GENERAL NOTES

SCALE AS SHOWN@A1

DRAWING NO. R001

REV. NO.

SOURCE ---

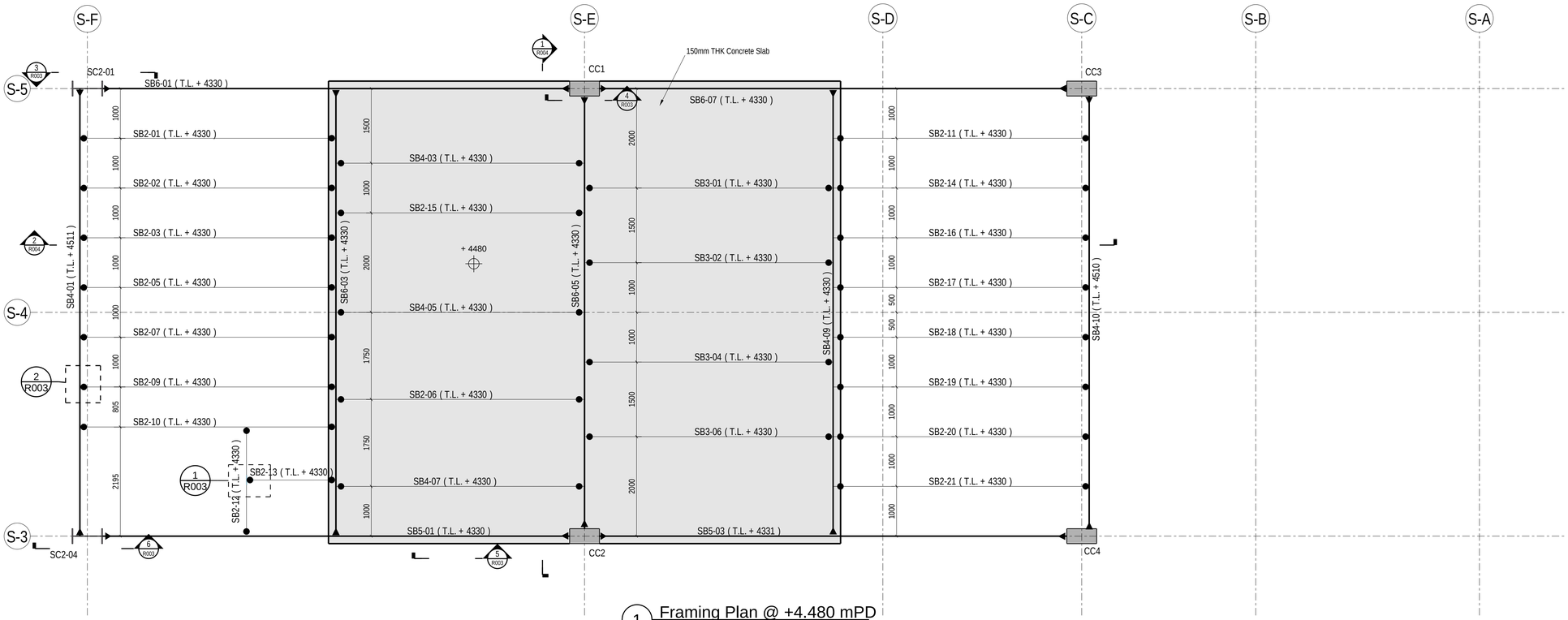
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures



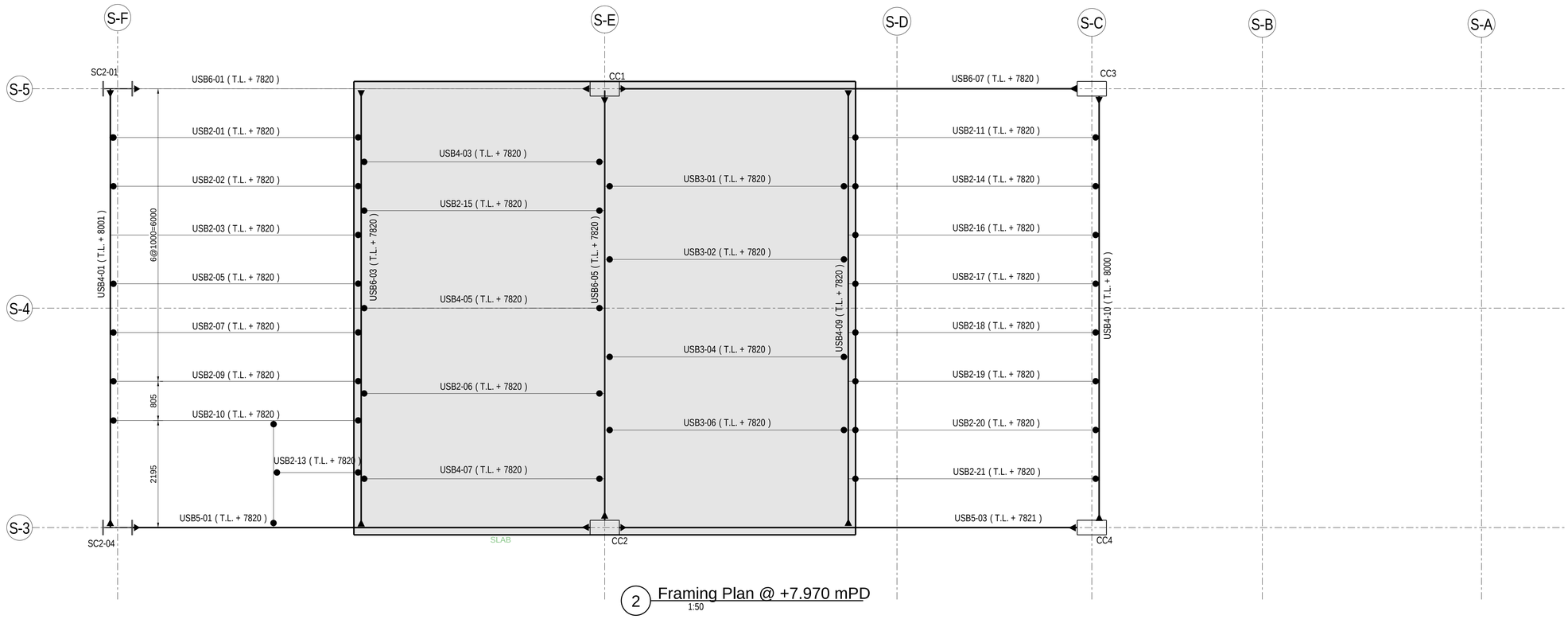
1 Framing Plan @ +4.480 mPD
1:50

LEGEND

PINNED JOINT

MOMENT JOINT

CONCRETE GRADE OF ALL CONCRETE COLUMNS TO BE C40



2 Framing Plan @ +7.970 mPD
1:50

STEEL BEAM SCHEDULE

MARK	PROFILE	GRADE
SB2	UB127x76x13	S355
SB2	UB152x89x16	S355
SB3	UB203x102x23	S355
SB4	UB356x171x57	S355
SB5	UB457x191x74	S355
SB6	UB533x210x101	S355
USB2	UB152x89x16	S355
USB3	UB203x102x23	S355
USB4	UB356x171x57	S355
USB5	UB457x191x74	S355
USB6	UB533x210x101	S355

STEEL COLUMN SCHEDULE

MARK	PROFILE	GRADE
SC2-01	UB610x305x179	S355
SC2-04	UB610x305x179	S355

CONCRETE COLUMN SCHEDULE

MARK	PROFILE
CC1	600x300
CC2	600x300
CC3	600x300
CC4	600x300

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

STEEL STRUCTURE FLOOR PLAN

SCALE AS SHOWN@A1

DRAWING NO. R002

REV. NO.

SOURCE ---

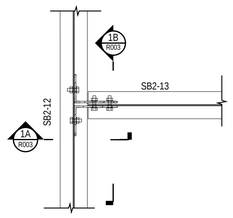
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

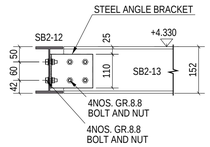
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

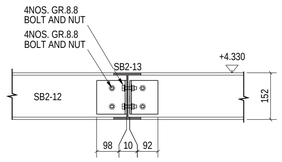
Tekla Structures



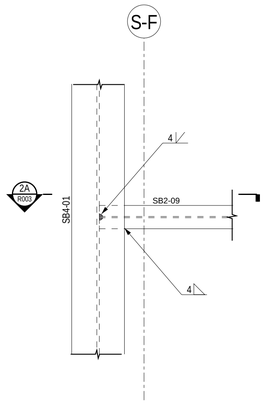
1 CONNECTION DETAIL FOR STEEL BEAM
1:10



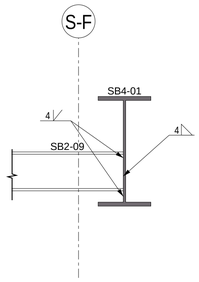
1A SECTION 1A
1:10



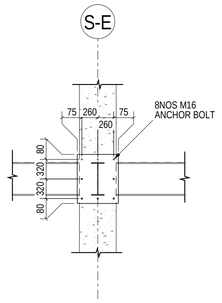
1B SECTION 1B
1:10



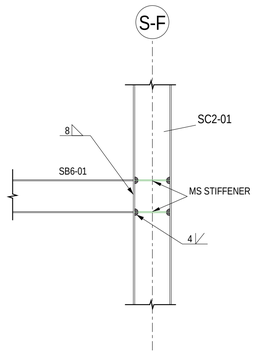
2 CONNECTION DETAIL FOR STEEL BEAM (WELDING)
1:10



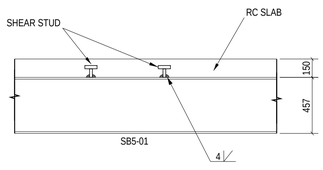
2A SECTION 2A
1:10



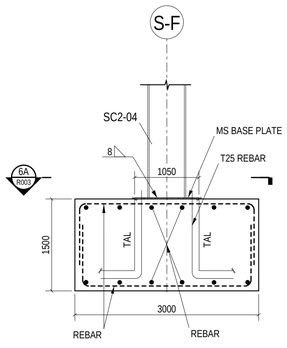
4 CONNECTION DETAIL FOR CONCRETE COLUMN AND STEEL BEAM
1:50



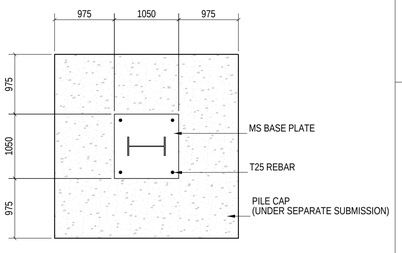
3 CONNECTION DETAIL FOR STEEL COLUMN AND STEEL BEAM
1:50



5 CONNECTION DETAIL FOR CONCRETE SLAB AND STEEL BEAM
1:25



6 CONNECTION DETAIL FOR STEEL COLUMN AND PILE CAP
1:50



6A Section 6A
1:50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE DETAIL

SCALE AS SHOWN@A1

DRAWING NO. REV. NO.
R003

SOURCE ---

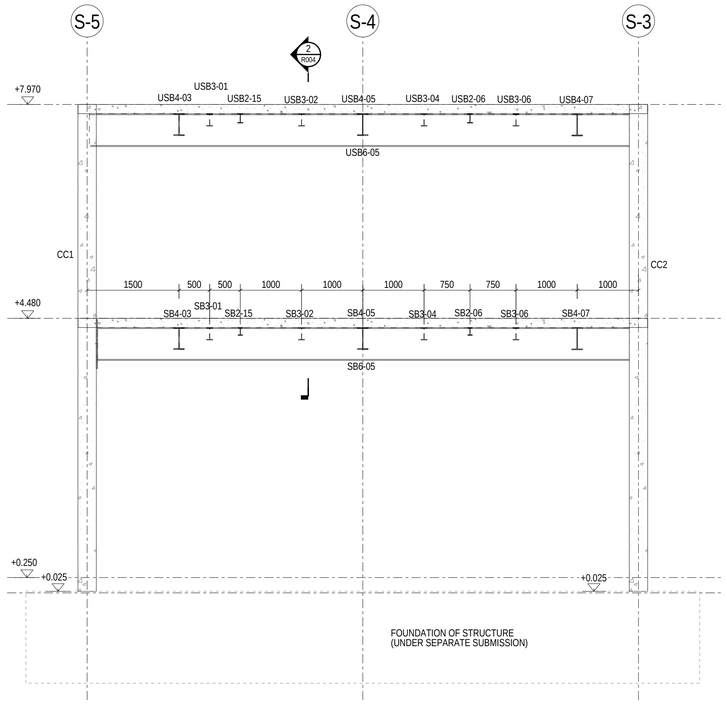
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

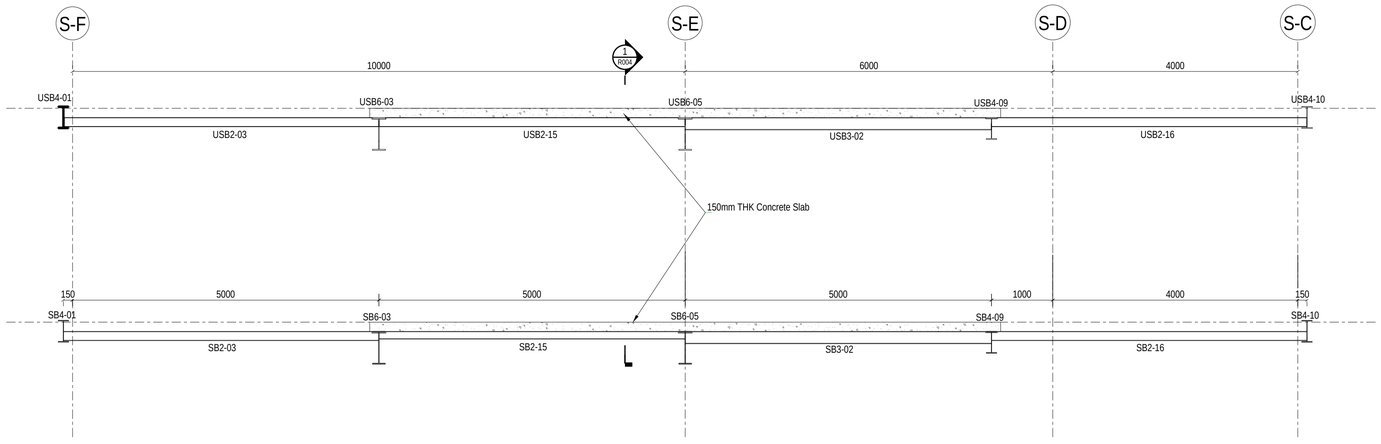
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Tekla Structures



1 Section 1
1:50



2 Section 2
1:50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE SECTIONS

SCALE AS SHOWN@A1

DRAWING NO. REV. NO.
R004

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Tekla Structures