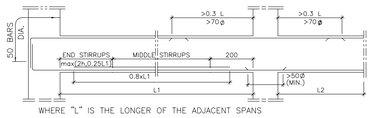
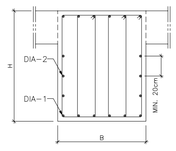
GENERAL DETAILS :



WHERE "L" IS THE LONGER OF THE ADJACENT SPANS

PROPORTIONS OF BAR LENGTHS AND SYMBOLS OF REINFORCEMENT (TO BE USED UNLESS SHOWN OTHERWISE ON THE DRAWINGS)

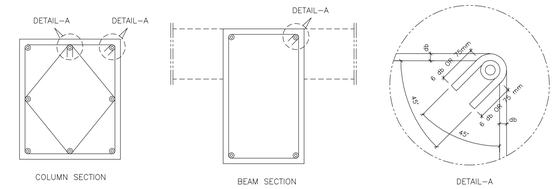
1 TYP. BEAM REINFORCEMENT U.N.O.
NTS



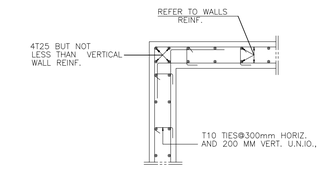
DIA-2 > 1/2 x (DIA-1) MAX.

TOTAL As SIDE= $\frac{BxH}{1000}$ (B&H in cm.)

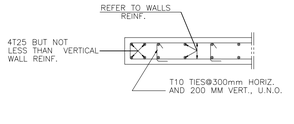
2 SIDE BARS DETAIL FOR BEAMS U.N.O.
NTS



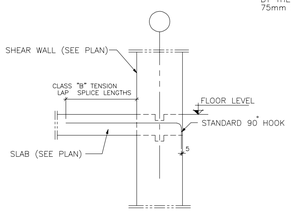
3 TYPICAL DETAIL FOR CLOSED STIRRUP AT BEAMS & COLUMNS
NTS



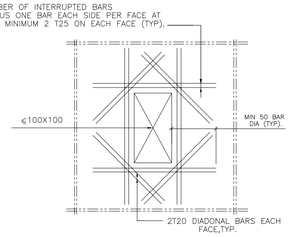
4 TYP. CORNER DETAIL AT CONC. WALLS
NTS



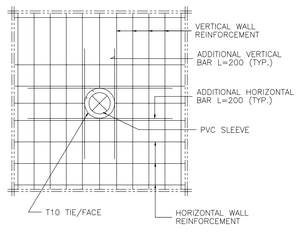
5 TYP. EDGE DETAIL AT CONC. WALLS
NTS



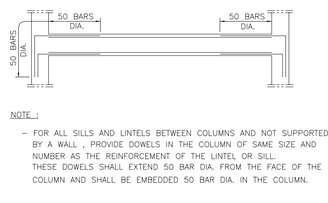
6 TYPICAL SLAB TO WALL CONNECTION
NTS



7 TYP. WALL/SLAB OPENING DETAIL U.N.O.
NTS



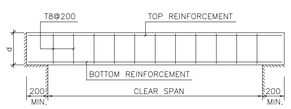
8 TYP. PIPE-WALL OPENING DETAIL U.N.O.
NTS



NOTE :

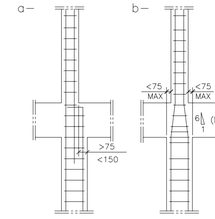
- FOR ALL SILLS AND LINTELS BETWEEN COLUMNS AND NOT SUPPORTED BY A WALL , PROVIDE DOWELS IN THE COLUMN OF SAME SIZE AND NUMBER AS THE REINFORCEMENT OF THE LINTEL OR SILL. THESE DOWELS SHALL EXTEND 50 BAR DIA. FROM THE FACE OF THE COLUMN AND SHALL BE EMBEDDED 50 BAR DIA. IN THE COLUMN.

9 TYP. LINTEL DETAIL
NTS

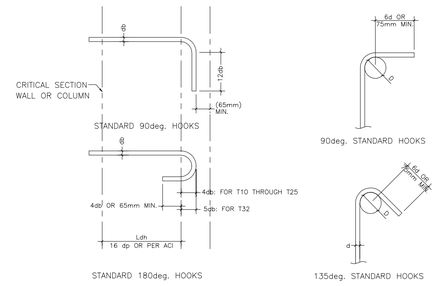


SCHEDULE OF LINTELS REINFORCEMENT

CLEAR SPAN (cm) \ LINTEL WIDTH =b	b=10cm.		b=15cm.		b=20cm OR 25cm		b=40cm.		DEPTH= d
	TOP REINF.	BOTTOM REINF.	TOP REINF.	BOTTOM REINF.	TOP REINF.	BOTTOM REINF.	TOP REINF.	BOTTOM REINF.	
< 200	1T10	1T14	2T10	2T12	2T10	2T12	4T10	4T12	20
200-300	1T10	1T16	2T10	2T14	2T10	2T16	4T10	4T16	25
301-400	1T10	1T20	2T10	2T16	2T10	2T18	4T12	4T18	30
401-500	1T10	1T20	2T10	2T16	2T10	2T18	4T12	4T20	40
501-600	1T10	1T20	2T10	2T16	2T10	2T18	4T12	4T20	50
601-700	1T12	1T25	2T12	4T20 in 2layers	2T12	2T25	4T12	4T25	60



10 TYPICAL COLUMN DETAILS
NTS

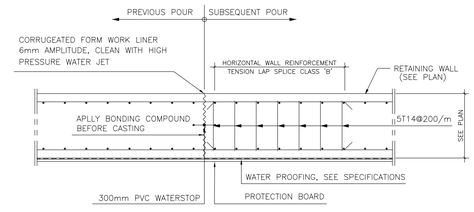


11 DEVELOPMENT HOOK DETAILS
NTS

TABLE FOR CLASS "B" TENSION LAP SPLICES (mm)				
BAR DIAMETER	CASE 1		CASE 2	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
32	2275	1750	2975	2625
25	1800	1375	2700	2075
22	1575	1225	2500	1850
20	1100	850	1750	1275
18	1000	775	1500	1175
16	900	700	1350	1050
14	825	625	1250	950
12	725	550	1100	825
10	550	425	825	650

NOTES:
1- CONCRETE STRENGTH AT 28 DAYS CYLINDER (fc 28) EQUAL TO 35 MPa (MIN).
2- CASE 1:
FOR BEAMS AND COLUMNS:
COVER AT LEAST EQUAL TO 1 db
AND CENTER TO CENTER SPACING EQUAL TO AT LEAST 2 db
FOR ALL OTHERS:
CENTER SPACING EQUAL TO 3 db .
CASE 2:
FOR BEAMS AND COLUMNS:
COVER LESS THEN 1 db
AND CENTER TO CENTER SPACING LESS THEN 2 db
FOR ALL OTHERS:
CENTER SPACING EQUALLESS THEN 3 db.
3- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 300 MM OF CONCRETE CAST BELOW THE BARS.

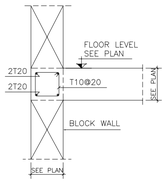
12 TYP. TENSION LAP SPLICE LENGTH U.N.O.
NTS



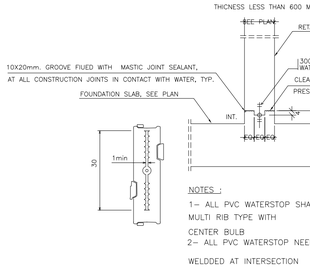
NOTES :

1- CONSTRUCTION JOINTS AT MIDDLE THIRD OF SPAN WHENEVER POSSIBLE
2- HORIZONTAL POUR LENGTH SHALL NOT EXCEED 12m
3- MINIMUM 14 DAYS BETWEEN CONCRETE POURS
4- SUBMIT POURS CONSTRUCTION JOINTS LOCATIONS AND CONSTRUCTION SEQUENCE FOR STRUCTURAL ENGINEER APPROVAL

13 TYP. WALL CONSTRUCTION JOINT
NTS



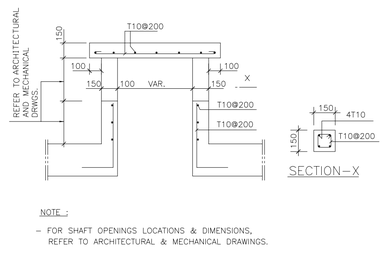
14 TYP. DETAIL AT SHEARWALL OPENING U.N.O.
1:20



NOTES :

1- ALL PVC WATERSTOP SHALL BE MULTI RIB TYPE WITH CENTER BULB
2- ALL PVC WATERSTOP NEED TO BE WELDDED AT INTERSECTION

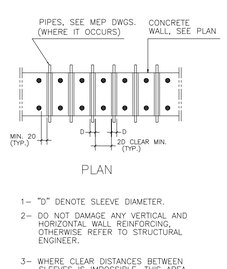
TYP. CONSTRUCTION JOINT AT BASEMENT WALLS
15 WALLS AND WATER TANKS
NTS



NOTE :

- FOR SHAFT OPENINGS LOCATIONS & DIMENSIONS, REFER TO ARCHITECTURAL & MECHANICAL DRAWINGS.

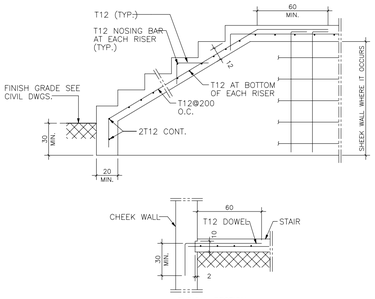
16 TYPICAL COVERED VENTILATION SHAFT DETAIL U.N.O. ON PLANS
NTS



PLAN

1- "D" DENOTE SLEEVE DIAMETER.
2- DO NOT DAMAGE ANY VERTICAL AND HORIZONTAL WALL REINFORCING, OTHERWISE REFER TO STRUCTURAL ENGINEER.
3- WHERE CLEAR DISTANCES BETWEEN SLEEVES IS IMPOSSIBLE, THIS AREA SHALL BE TREATED AS A WALL OPENING, REFER TO STRUCTURAL ENGINEER.

17 TYPICAL PIPING THROUGH WALL
NTS



TYPICAL SECTION

NOTE :

WHERE CHEEK WALL IS REQUIRED, PROVIDE 200 THICK WALL WITH T12@200 EACH WAY.

18 TYPICAL DETAIL OF CONCRETE STAIR ON GRADE U.N.O.
NTS

NOTES

No.	REVISION	APP'D	DATE

CLIENT

الجمهورية اللبنانية
مجلس الإنماء والإعمار

CONSULTANT

خطيب وعلمي
Khatib & Alami
consolidated engineering company S.A.L.

PROJECT TITLE

CHHIM GOVERNMENTAL OFFICES BUILDING

DRAWING TITLE

GENERAL NOTES AND GENERAL DETAILS
(SHEET 2 OF 4)

	NAME	DRAWING No.
DESIGNED	O.N.	S001
DRAWN	A.M.	
COORDINATED	H.J.	PROJECT No.
CHECKED	F.K.	BY151600
APPROVED	I.F.K.	
SCALE	N.T.S.	FILE NAME
DATE	February 2016	BY1516-SG-GEN-01
APPROVED FOR CONSTRUCTION		SHEET No.

TENDER SUBMISSION