A–GENERAL :

1– ALL STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL, ELECTRICAL, MECHANICAL, SANITARY AND OTHER STRUCTURAL DRAWINGS. REPORT ANY DISCREPANCY TO THE ENGINEER FOR CLARIFICATION BEFORE ERECTION OF FORMWORK.
2– SLEEVES ARE TO BE PROVIDED AND INSTALLED AT LOCATIONS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH MECHANICAL AND ELECTRICAL DRAWINGS OR AS DIRECTED BY THE ENGINEER.
3– DO NOT SCALE DIMENSIONS FROM DRAWINGS; ALL DIMENSIONS ARE TO BE READ OR COMPUTED FROM THE DRAWINGS.
4– UNLESS OTHERWISE NOTED, ELEVATIONS ARE IN METERS, DISTANCES ARE IN CM, REINFORCEMENT BAR SIZES AND STRUCTURAL STEEL SECTION DIMENSIONS ARE IN MM.
5– REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF OPENINGS IN FLOOR SLABS.
6– REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF OPENINGS IN R.C. WALLS AND COORDINATE WITH THOSE SHOWN ON STRUCTURAL DRAWINGS.
7– FIX IN PLACE ALL EMBEDDED STEEL ANCHORAGE ITEMS BEFORE CASTING OF CONCRETE.
8– ALLSECTIONS MUST BE COORDINATED WITH ARCHITECTURAL DRAWINGS BEFORE ERECTION OF FORMWORK. ANY DISCREPANCY MUST BE BROUGHT TO THE NOTICE OF THE ENGINEER FOR CLARIFICATION.
9– CABLE & DUCT OPENINGS IN FLOOR SLABS & WALLS SHALL BE FILLED AND SEALED WITH FIREPROOF EXPANDABLE MATERIAL AFTER INSTALLATION OF CABLES & DUCTS IN ACCORDANCE WITH SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
10– FOUNDATION MUST BE PLACED AT THE LEVEL INDICATED ON THE DRAWINGS & ON UNDISTURBED SOIL. ANY DISTURBED SOIL UNDER FOUNDATION MUST BE REPLACED WITH BLINDING CONCRETE.
11– FOR GROOVES AND CHAMFERS, REFER TO ARCHITECTURAL DRAWINGS.
12– CONSTRUCTION LOADS MAGNITUDE SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE METER. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
13– CONCRETE CONTRACTOR SHALL PREPARE ALL REQUIRED ELECTRO–MECHANICAL SHOP DRAWINGS NEEDED TO DETERMINE THE REQUIRED SLEEVES, OPENINGS AND/OR OTHER RESERVATIONS IN CONCRETE WORKS. HE SHALL THEN SUBMIT THE DRAWINGS TO THE ENGINEER FOR APPROVAL.
14– THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE STRUCTURAL CONTRACTOR IN ORDER TO PROVIDE ALL THE NECESSARY MATERIAL AND LABOR TO MAINTAIN AND RESTORE THE INTEGRITY OF THE WATERPROOFING SYSTEM AT ALL LOCATIONS WHERE ELECTRICAL CONDUCTORS ARE PASSING THROUGH SLEEVES LOCATED IN THE BOUNDARY WALL (OR FLOOR SLAB/FOUNDATION) OF THE PROJECT WHERE WATERPROOFING PROTECTION IS PROVIDED. THIS SHALL ALSO APPLY TO FLOOR PENETRATIONS INCLUDING ROOF FLOOR PENETRATIONS. IF THE PROPOSED MATERIAL IS SUPPLIED BY THE LIGHTNING SYSTEM MANUFACTURER, IT WILL REQUIRE THE APPROVAL OF THE WATERPROOFING SYSTEM CONTRACTOR.

B–DESIGN :

1– DESIGN AND CONSTRUCTION ARE IN ACCORDANCE WITH:

- ACI 318M–11, "BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE AND COMMENTARY" BY THE AMERICAN CONCRETE INSTITUTE.
- IBC–2012, "INTERNATIONAL BUILDING CODE" BY THE INTERNATIONAL CODE COUNCIL.
- ASCE 7–10, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" BY THE AMERICAN SOCIETY OF CIVIL ENGINEERS.
- AISC–360–10 14TH EDITION, "MANUAL OF STEEL CONSTRUCTION" BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION INC.
- NL–135–2013 PROTECTION FROM EARTHQUAKE, GENERAL RULES
- NL–137–2013 CALCULATION OF WIND LOAD ON STRUCTURES

2– UNLESS NOTED OTHERWISE, STRUCTURAL MEMBERS ARE DESIGNED TO RESIST THE FOLLOWING LOADS:

A– SUPERIMPOSED LOAD:

–DEAD LOADS

FINISHES (TYPICAL FLOORS) ..... 2.0 KN/m²
PARTITIONS..... 4.0 KN/m²
ROOF (WATERPROOFING+SCREED) ..... 6.0 KN/m²

–LIVE LOADS

RAMPS ..... 5.0 KN/m²
CORRIDORS AND STAIRS ..... 5.0 KN/m²
OFFICES ..... 3.0 KN/m²
ROOF ..... 3.0 KN/m²
PUBLIC ASSEMBLY AREAS ..... 5.0 KN/m²
LIGHT STORAGE AREAS ..... 6.0 KN/m²
MECHANICAL/ELECTRICAL EQUIPMENT 6.0 KN/m2
LANDSCAPING ..... 50CM AVERAGE FILL.

B– WIND DESIGN DATA PER ASCE–7–2010
–BASIC WIND SPEED 3 SECOND GUST (MRI=700 YEARS) 58m/s CORRESPOND TO THE 3 SECOND GUST WIND SPEED (MRI=50 YEARS) OF 45m/s)161 Km/h) AS PER NL–137–2013.
–BUILDING EXPOSURE.....C
–TOPOGRAPHIC FACTOR KZT.....1.0

C– SEISMIC PER IBC 2012 AND ASCE 7–10:
–OCCUPANCY CATEGORY:.....III
–SEISMIC IMPORTANCE FACTOR:.....1.25
–SITE CLASS:.....B
–MAPPED SPECTRAL RESPONSE ACCELERATION....SS=1.20g
–MAPPED SPECTRAL RESPONSE ACCELERATION....S1=0.40g
–SEISMIC DESIGN CATEGORY.....D
–RESPONSE MODIFICATION FACTOR.....R=6.0
–BASIC SEISMIC RESISTING SYSTEM:
BUILDING FRAME SYSTEM: SPECIAL REINFORCED CONCRETE SHEARWALL
–ANALYSIS PROCEDURE: DYNAMIC ANALYSIS

C–FOUNDATION :

1– FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT PREPARED BY CONSULTANCY GROUP COMPANY, BEIRUT LEBANON. DATED: NOVEMBER 2015. REVISION 00
2– DESIGN BEARING CAPACITY OF SOIL UNDER FOUNDATION IS CONSIDERED TO BE EQUAL TO 400 KPA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THAT THE FOUNDATION LAYER HAS A BEARING CAPACITY AT LEAST EQUAL TO THE ABOVE
3– EXPECTED SUBSURFACE MATERIAL UNDERNEATH THE BOTTOM OF FOUNDATION IS LIMESTONE STRATA. CONTRACTOR TO CHECK THE ENCOUNTERED MATERIAL UNDERNEATH FOOTING AND INFORM ENGINEER IN CASE DIFFERENT MATERIAL IS OBSERVED;
4– IF THE SOIL AT THE BOTTOM OF EXCAVATIONS ARE UNSUITABLE TO SUPPORT THE STRUCTURE, IT SHALL BE REMOVED TO AN ADEQUATE STRATUM AS DIRECTED BY THE ENGINEER AND REPLACED WITH APPROVED MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS
5– ALL BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY UNLESS OTHERWISE STATED ON THE DRAWINGS. REFER TO THE GEOTECHNICAL REPORT FOR BACKFILL MATERIAL
6– THE CONTRACTOR SHALL NOT BACKFILL AGAINST WALL TO BE LATERALLY SUPPORTED BY A FLOOR SLAB UNLESS SUPPORT IS PROVIDED OR SLABS HAVE BEEN PLACED BACKFILL AGAINST CANTILEVER WALLS SHALL NOT BE PLACED UNTIL THE CONCRETE HAS GAINED ITS 28 DAY STRENGTH.
7– THE CONTRACTOR SHOULD REPORT TO THE ENGINEER WHEN GROUND WATER TABLE IS ENCOUNTERED FOR REVIEW AND REDESIGN.
8– LEVELS OF FOUNDATION ARE AS NOTED IN THE STRUCTURAL FOUNDATION DRAWING

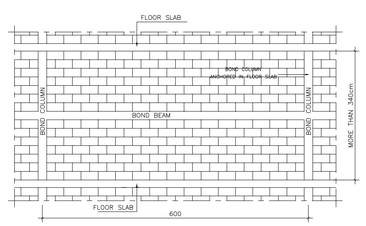
D–MASONRY WALLS:

1–ALL MASONRY BLOCKS NEED TO BE INSTALLED AT LEAST 3 MONTHS AFTER SLAB CASTING.
2– CONCRETE MASONRY BLOCKS SHALL BE CELLULAR TYPE AND SHALL HAVE A MINIMUM 28 DAY CYLINDER COMPRESSIVE STRENGTH OF 7.0 MPA.
3– MORTAR BED JOINTS, SHALL HAVE A MINIMUM 28 DAY CYLINDER COMPRESSIVE STRENGTH OF 12 MPA (TYPE 'S MORTAR) SHALL NOT EXCEED 15mm IN THICKNESS.

4– BOND BEAM & BOND COLUMN IN INTERNAL BLOCKWORK

a– A REINFORCED CONCRETE BOND BEAM HAVING A DEPTH OF 20cm. AND WIDTH EQUAL TO THE WIDTH OF THE WALL REINFORCED WITH 4T12 & T8@20 STIRRUPS SHALL BE PROVIDED AT MIDDLE HEIGHT OF ALL CONCRETE BLOCKWORK WALLS IN ALL FLOORS HAVING A CLEAR HEIGHT GREATER THAN 3.4m. THIS BEAM MUST BE ANCHORED IN ADJACENT COLUMNS/WALLS SEE. DETAIL "A" BELOW. REFER TO SPECIFICATIONS.

b– A REINFORCED CONCRETE BOND COLUMN HAVING A WIDTH OF 20cm. AND DEPTH EQUAL TO THE WALL THICKNESS REINFORCED WITH 4T12 & T8@20 TIES SHALL BE PROVIDED IN ALL BLOCKWORK WALLS AT A SPACING OF 6ms. THIS COLUMN MUST BE ANCHORED IN UPPER & LOWER SLABS. SEE DETAIL "A" BELOW. REFER TO SPECIFICATIONS.



DETAIL–A
TYPICAL DETAIL OF BOND BEAMS AND BOND COLUMNS IN CONCRETE BLOCKWORK WALLS

E–REINFORCED CONCRETE:

1– SPECIFICATIONS FOR CONCRETE MIXES OF DIFFERENT MEMBERS SHALL BE PER THE FOLLOWING TABLE:

CONCRETE SPECIFICATIONS TABLE

MEMBER	CONCRETE MIX TYPE	CEMENTITIOUS MATERIALS CONTENT (kg/m³)	28 DAY CYLINDER COMPRESSIVE STRENGTH (MPa)	W/C
		OPC		
BLINDING CONCRETE	A	300	17	0.60
FOUNDATION	B	350	35	0.40
SLABS ON GRADE	C	350	35	0.40
REINFORCED CONCRETE SLABS	D	350	35	0.40
COLUMNS AND SHEAR WALLS	E	350	40	0.40
BASEMENT WALLS	F	350	35	0.40

NOTES:

– OPC DENOTES ORDINARY PORTLAND CEMENT CONFORM TO ASTM C150 TYPE I
– REINFORCED CONCRETE MINIMUM CEMENTITIOUS CONTENT OF CONCRETE MIX SHALL BE 350 KG/M3
– W/C DENOTES MAXIMUM WATER TO CEMENTITIOUS MATERIALS CONTENT RATIO.
– WATER ABSORPTION TEST TO BS1881 : PART 122 : 1983
– FOR WATERPROOF ADDITIVE REFER TO WATERPROOFING SPECIFICATIONS
– SELF COMPACTING CONCRETE CAN BE USED TO REPLACE ANY OF THE ABOVE MIXES PROVIDED IT ACHIEVES THE SAME SPECIFIED STRENGTH & DURABILITY CRITERIA.
– THE ABOVE CONCRETE MIX DESIGNS ARE FOR GUIDANCE ONLY THE CONTRACTOR CAN SUBMIT HIS OWN DESIGNS FOR ENGINEER'S APPROVAL PROVIDED THEY ACHIEVE THE SAME SPECIFIED AND REQUIRED AVERAGE STRENGTHS AND DURABILITY CRITERIA.
– CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE TO ACI318M–11 IN ADDITION TO:
  a) ACI363R–92 FOR HIGH STRENGTH CONCRETE OF CYLINDER STRENGTH EQUAL TO OR GREATER THAN 40MPa.
  b) ACI211.1–92 FOR NORMAL STRENGTH CONCRETE OF CYLINDER STRENGTH EQUAL TO OR LESS THAN 35 MPa.

2– TRIAL MIXES MUST BE PERFORMED AND 28 DAY CYLINDER STRENGTHS & DURABILITY TEST RESULTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
3– ALL REINFORCED CONCRETE SHALL BE VIBRATED. FOR HIS APPROVAL PRIOR TO ANY CONCRETE WORK FOR PERMANENT WORKS.
4– ONLY STANDARD ASTM CYLINDERS SHALL BE USED FOR SAMPLING CONCRETE FOR COMPRESSIVE STRENGTH TESTS.
5– ALL REINFORCING STEEL BARS SHALL BE DEFORMED HIGH GRADE STEEL CONFORM TO ASTM A706 WITH A MINIMUM YIELD STRENGTH OF 420 MPA, ALTERNATICELY, ASTM A615M REBARS CAN BE USED AS LONG AS IT CONFORM TO SECTION 21.1.5.2 OF ACI 318M–11:
  a) THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED FY BY MORE THAN 125MPa
  b) THE RATIO OF THE ACTUAL TENSILE STRENGTH TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25
6– WELDED WIRE FABRIC SHALL BE PLAIN WIRE CONFORMING TO ASTM A82 WITH A YIELD STRENGTH OF 500 MPA.
7– ALL MECHANICAL CONNECTIONS SHALL BE TYPE 2 AS PER ACI 318M–11 CHAPTER 21 THE FULL MECHANICAL CONNECTION SHALL DEVELOP IN THE FULL MECHANICAL CONNECTION SHALL DEVELOP IN SPECIFIED YIELD STRENGTH Fy OF THE BAR.
8– LENGTH OF LAP SPLICES OF REINFORCEMENT BARS SHALL BE AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, IT SHALL NOT BE LESS THAN CLASS "B" TENSION LAP SPLICE, (REFER TO TABLE FOR SPLICE LENGTH ON SHEET NO. S001)
9– MECHANICAL CONNECTIONS AND LAP SPLICES IN HORIZONTAL MEMBERS SHALL BE STAGGERED.
10– MINIMUM CLEAR CONCRETE COVER TO STEEL REINFORCEMENT SHALL BE AS SHOWN ON DRAWINGS WHERE NOT SHOWN, IT SHALL BE AS FOLLOWS:
  75mm. FOR FOUNDATION IN CONTACT WITH SOIL, BLINDING, OR WATERPROOFING
  50mm. FOR CONCRETE IN CONTACT WITH WATER
  50mm. FOR FORMED CONCRETE EXPOSED TO EARTH OR WEATHER
  50mm. FOR EXTERNAL FACE OF BASEMENT WALLS
  40mm. FOR CONCRETE IN DROP BEAMS & COLUMNS (TO STIRRUPS & TIES) AND NOT EXPOSED TO EARTH OR WEATHER.
  50mm. FOR COLUMNS (TO STIRRUPS & TIES) WITH BUNDLE LONGITUDINAL BARS AND NOT EXPOSED TO EARTH OR WEATHER.
  25mm. IN CATS–IN–SITU SLABS, RIBS & EMBEDDED BEAMS NOT EXPOSED
  35mm. IN POST TENSIONING SLABS & HOLLOW CORE SLAB.
  35mm. IN WALLS NOT EXPOSED TO EARTH OR WEATHER OR WATER.
11– ANGLE SUBTENDED BY TWO INTERSECTING LEGS OF A COLUMN TIE SHOULD NOT EXCEED 135 DEGREES.
12– THE CONTRACTOR SHALL ASSIGN AN APPROVED SPECIALIZED REINFORCEMENT ENGINEERING COMPANY TO PREPARE BAR BENDING SCHEDULES AND SHOP DRAWINGS, AND TO CUT AND BEND REINFORCEMENT BARS, FOR ENGINEER'S APPROVAL.

F–STEEL:

1– STEEL W SHAPES AND STEEL PLATES SHALL CONFORM TO ASTM A572M GR 345, DESIGNED TO AISC 360–10 AND AISC GUIDES UNLESS NOTED OTHERWISE.
2– SPLICE CONNECTIONS IN COLUMNS ARE STANDARD AS PER AISC. 350–10 STEEL CONSTRUCTION MANUAL
3– WHERE GROUTED SLEEVES TO FOUNDATION BOLTS ARE USED NO RELIANCE SHOULD BE PLACED ON THE GROUT TO RESIST HORIZONTAL SHEAR. THE CONTRACTORS DESIGN SHOULD ENSURE THAT SUCH HORIZONTAL FORCES CAN BE TRANSMITTED BY EITHER BASE FRICTION OR DIRECTLY BY SETTING THE BASEPLATE INTO A SHALLOW POCKET, OR IN THE CASE OF HIGH SHEAR FORCES BY THE PROVISION OF A SHEAR KEY FIXED TO THE UNDERSIDE OF THE BASEPLATE.
4– GROUT UNDER BASE PLATES IS TO BE NON–SHRINK AND HAVE A MINIMUM CHARACTERISTIC STRENGTH AT 28 DAYS OF 60 MPA .
5– SHEAR STUDS SHALL BE 25mm Ø, 100mm LONG HEADED STUDS UNLESS NOTED OTHERWISE AND SHALL CONFIRM TO ASTM A108 WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 450 MPA. THE CONTRACTOR SHALL CARRY OUT PROCEDURE TRIALS OF STUD WELDING.
6– WELDS SHALL BE MADE USING E70XX LOW HYDROGENE ELECTRODES U.N.O. SITE WELDING SHALL ONLY BE CARRIED OUT WITH THE PRIOR WRITTEN CONSENT OF THE ENGINEER AND AFTER SUBMISSION AND ACCEPTANCE OF FABRICATORS WELDING PROCEDURE. WELD TESTS AND INSPECTIONS PER AISC AND AWS D1.1.
7– THE CONTRACTOR IS TO SUPPLY AND INSTALL ALL LIFT STEELWORK.
8– NO CUTTING OR REMOVAL OF PLACED STEELWORK OR CONCRETE IS PERMITTED WITHOUT PRIOR ACCEPTANCE BY THE ENGINEER.
11– THE CONTRACTOR SHALL CLEARLY IDENTIFY THE LOCATION OF SITE CONNECTIONS ON THE FABRICATION DRAWINGS TOGETHER WITH DETAILS OF AND CALCULATIONS FOR THOSE CONNECTIONS.
13– THE CONTRACTOR SHALL ENSURE THAT THE SYSTEMS SELECTED FOR CORROSION PROTECTION AND FIRE PROTECTION ARE COMPATIBLE AND SHALL OBTAIN ACCEPTANCE BY THE ENGINEER PRIOR TO USE.

G–DAMP PROOFING AND WATERPROOFING :

1– ALL CONCRETE SURFACES OF FOOTINGS AND BASEMENT WALLS IN CONTACT WITH SOIL SHALL BE TREATED BY TWO COATS OF COLD BITUMEN WITH PRIMER COATS. REFER TO SPECIFICATIONS.
2– THE WATERPROOFING SUB–CONTRACTOR SHOULD SUBMIT SHOP DRAWINGS AND SPECIFICATIONS FOR ENGINEER'S APPROVAL.
3– AN INTEGRAL WATERPROOFING ADMIXTURE SHALL BE ADDED TO THE CONCRETE OF THE WATERTANK FLOORS, WALLS AND COLUMNS
  a– SIKA 1 AS MANUFACTURED BY SIKA, LTD, OR
  b– R.I.W. CEMENT WATERPROOFING POWDER AS MANUFACTURED BY R.I.W. PROTECTIVE PRODUCTS, LTD; OR
  c– AN APPROVED EQUIVALENT.
4– EPOXY WATER PROOF ALL INTERNAL SURFACES OF ALL WATER TANKS. USE NON TOXIC EPOXY FOR ALL POTABLE WATER TANKS.
5– WATER STOPS MUST BE FIXED IN ALL CONSTRUCTION JOINTS IN WATER RETAINING & STRUCTURES WHETHER OR NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS REGARDING THE INSTALLATION OF WATER BARS PRIOR TO COMMENCEMENT OF CONCRETING WORKS FOR ENGINEER'S APPROVAL.
6– USE PREFABRICATED ANGLE AND INTERSECTION PIECES FOR PVC WATER–STOP.
7– WATER STOPS SHALL BE SPLICED AND WELDED IN ORDER TO INSURE A CONTINUOUS WATER BARRIER
8– AN APPROVED POLYTHENE SHEET 1000 GAUGE VAPOUR BARRIER SHALL BE LAID UNDER ALL SLABS ON GRADE

H–CONSTRUCTION :

1– MASS CONCRETE :
THE CONTRACTOR SHALL IMPLEMENT ALL NECESSARY MEASURES TO MONITOR AND AVOID CRACKING IN FRESH HYDRATING CONCRETE
ANY ADDITIONAL REINFORCEMENT IF NEEDED WILL BE AT THE CONTRACTOR'S OWN EXPENSE.
MAXIMUM ADIABATIC TEMPERATURE RIZE SHALL BE EQUAL TO 25 °CELSIUS CONTRACTOR TO PROVIDE A LIST OF THESE MEASURES FOR ENGINEER APPROVAL
2– M.E.P. AND ARCH. COMPONENTS SUPPORT:
SEISMIC LATERAL BRACING, SUPPORT AND ANCHORAGE OF ARCH. COMPONENT AND MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT AND COMPONENTS SHALL BE DESIGNED AS PER CHAPTER 13 OF ASCE–7 2010 BY SUB–CONTRACTOR ENGINEER AND REVIEW FOR APPROVAL BY DESIGN ENGINEER.
3– CONSTRUCTION JOINTS:
CONTRACTOR TO SUBMIT POURS CONSTRUCTION JOINTS LOCATIONS AND CONSTRUCTION POURS SEQUENCE FOR STRUCTURAL ENGINEER APPROVAL.
CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS SHALL BE APPROVED BY THE ENGINEER.
CONSTRUCTION JOINTS AT ANY SURFACE IN CONTACT WITH SOIL AND/OR WATER SHALL HAVE WATER STOP BAR (REFER TO SPECIFICATIONS).
AT ANY CONSTRUCTION JOINT THE CONTACT SURFACE BETWEEN THE OLD AND NEW CONCRETE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 6mm.
IF ADDITIONAL REINFORCEMENT AT CONTACT SURFACE IS REQUIRED BY THE ENGINEER, IT SHALL BE PROVIDED AT THE EXPENSE OF THE CONTRACTOR.
4– FOR FLOOR FLATNESS AND LEVELNESS, REFER TO ARCHITECTURAL SPECIFICATIONS AND ACI 302.1R: "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION"
5– CONTRACTOR IS RESPONSIBLE FOR TEMPORARY/PERMANENT, BACKFILL, EXCAVATION, SHORING, DEWATERING AND SIMILAR WHEN NEEDED.

I–VIBRATION DESIGN:

1– ALL MECHANICAL PADS SHALL BE DETAILED AS PER ACCOUSTIC CONSULTANT
2– FINAL MECHANICAL EQUIPMENT LOADS THAT ARE PRIME TO VIBRATION SHALL BE DESIGNED FOR THE SPECIFIC SLAB VIBRATION, REFER TO THE ENGINEER
3– SPECIAL CARE SHALL BE CONSIDERED FOR ALL EQUIPMENT LOCATED ABOVE SLABS THINNER THAN 25 CM SOLID SLAB.
ACCOUSTIC FALSE CIELING MAY BE USE BELOW THESE AREAS, REFER TO ACCOUSTICAL ENGINEER.

NOTES

No.	REVISION	APP'D	DATE

CLIENT
الجمهورية اللبنانية
مجلس الإنماء والإعمار

CONSULTANT
Khatib & Alami
consolidated engineering company S.A.L

PROJECT TITLE
CHHIM GOVERNMENTAL OFFICES BUILDING

DRAWING TITLE
GENERAL NOTES AND GENERAL DETAILS (SHEET 1 OF 4)

	NAME	
DESIGNED	O.N.	DRAWING No. S000
DRAWN	A.M.	
COORDINATED	H.J.	PROJECT No. BY151600
CHECKED	F.K.	
APPROVED	I.F.K.	
SCALE	N.T.S.	FILE NAME
DATE	February 2016	BY1516–SG–GEN–01

APPROVED FOR CONSTRUCTION: TENDER SUBMISSION
SHEET No.