ภาคผนวก ก

แบบอาคารคอนกรีตเสริมเหล็ก
1. GENERAL NOTES

1.1 ALL MATERIALS AND WORKMANSHIP ARE TO BE ACCORCANCED WITH ACI CODE.

1.2 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS.

1.3 ONLY FIGURED DIMENSIONS ARE TO BE USED.

1.4 ALL LEVELS SHOWN ON STRUCTURAL PLAN AND DETAIL ARE TO BE STRUCTURAL LEVELS.

1.5 CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK AND CHECK WITH ELECTRICAL AND MECHANICAL CONTRACTORS FOR POSITIONS OF ALL CONDUIT, SLEEVES, ETC. WHICH HAVE TO BE CAST INTO CONCRETE.

1.6 CONTRACTOR IS TO PROVIDE ADEQUATE TEMPORARY SHORING AND BRACING DURING CONSTRUCTION TO TAKE CARE OF WIND LOAD AND CONSTRUCTION LOADS.

1.7 ABBREVIATIONS:

- E.F. = EACH FACE OF WALL
- T. = TOP REINFORCEMENT
- B. = BOTTOM REINFORCEMENT
- D.B. = DISTRIBUTION BARS
- N.T.S. = NOT TO SCALE
- B.W. = BOTH WAYS
- T/M = TONS PER METER RUN
- Fe = FINAL OR EFFECTIVE PRESTRESSING FORCE.

1.8 CONTRACTOR SHALL PREPARE SHOP DRAWINGS FOR ALL ANY PORTIONS OF STRUCTURE AND SUBMIT TO ENGINEER FOR APPROVAL BEFORE COMMENCING OF THOSE PORTIONS OF STRUCTURE.

1.9 FOR POST-TENSIONING SYSTEM, CONTRACTOR SHALL PROPOSE TO ENGINEER FOR APPROVAL TOGETHER WITH BACK UP CALCULATION, RELEVANT INFORMATION AND DRAWINGS FOR STRANDS & BURSTING STEEL DETAILS.

2. MATERIAL SPECIFICATIONS

2.1 CONCRETE

2.1.1 CYLINDRICAL CRUSHING STRENGTH OF CONCRETE AT 28 DAYS:
240 KSC. FOR ALL STRUCTURAL MEMBERS.

2.1.2 CYLINDRICAL CRUSHING STRENGTH OF CONCRETE AT TRANSFER SHALL BE NOT LESS THAN 210 KSC.

2.1.3 MAXIMUM AGGREGATE SIZE TO BE 20 MM.

2.2 REINFORCING STEEL

2.2.1 DB DENOTES HIGH TENSILE STEEL BARS WITH MINIMUM GUARANTEED YIELD STRENGTH OF 4000 KSC.

2.2.2 RB DENOTES MILD STEEL BAR WITH A MINIMUM GUARANTEED YIELD STRENGTH OF 2400 KSC.

2.2.3 REINFORCING BAR ALSO DENOTES BY Ø WHERE

- Ø ≥ 12 MM. REPRESENTS DEFORM BAR AS DENOTED BY DB
- Ø ≤ 9 MM. REPRESENTS ROUND BAR AS DENOTED BY RB

2.3 STRUCTURAL STEEL
ALL STRUCTURAL STEEL SHALL CONFORM TO JIS G3106 OR EQUIVALENT SM41 OR EQUIVALENT AND WELDING SHALL BE ACCORDING TO AISC OR EQUIVALENT

2.4 STRAND IS ½ INCH SUPER 270 KIPS STRAND WITH CROSS SECTIONAL AREA OF 0.153 SQ.IN. (99 MM.²) AND ULTIMATE TENSILE STRESS OF 270,000 PSI. (17,850 KSC.)

3. CONCRETE NOTES

3.1 MINIMUM COVER OF CONCRETE TO MAIN REINFORCEMENT:-
    20 MM. FOR FLOOR SLABS EXCEPT GROUND FLOOR SLAB WHERE IT IS IN CONTACT WITH EARTH;
    25 MM. FOR ALL BEAM
    40 MM. FOR VERTICAL STRUCTURE WITH MINIMUM DIMENSION OF 200 MM. AND LESS;
    50 MM. FOR GROUND FLOOR SLABS AND BEAMS IN CASE IN CONTACT WITH EARTH;
    100 MM. FOR ANY CONCRETE FOUNDATIONS.

3.2 MINIMUM LAPS AND SPLICES SHALL BE MAINTAINED INCLUDING DOWELS EXTENSIONS AND EMBEDMENT OR OTHERWISE INDICATED.
    FOR HIGH TENSILE STEEL : 45 Ø FOR TENSION & 30 Ø FOR COMPRESSION
    FOR MILD STEEL : 40 Ø FOR TENSION & 30 Ø FOR COMPRESSION
    NO SPLICE SHALL BE MADE AT POINT OF MAXIMUM STRESS.

3.3 100 MM. BINDING LAYER OR 1:3:5 CONCRETE MIX TO BE PROVIDED UNDERNEATH ALL R.C. WORK WHICH ARE IN CONTACT WITH EARTH.

3.4 100 MM. COMPACTED SAND OR OTHERWISE INDICATED SHALL BE PROVIDED BEFORE CASTING OF LEAN CONCRETE.

4. STRAND PROVISIONS

4.1 CONSTRUCTION JOINT ARE TO BE LOCATED WHERE NECESSARY BY CONTRACTOR SUBJECT TO ARCHITECT’S AND ENGINEER’S APPROVAL.

4.2 STARTER BARS FROM STRUCTURAL FLOOR FOR R.C. WALL/COLUMN SHALL CORRESPOND IN NUMBER AND SIZE TO REINFORCEMENT IN WALL/COLUMN IN WHICH THEY ARE EMBEDDED.

4.3 KEYWAYS SHALL BE PROVIDED FOR ALL FLOOR SLABS AND STAIRS LEADING INTO R.C. WALL/COLUMN WITH MINIMUM DOWEL BARS IN KEYWAYS OF Y12 © 250 OR OTHERWISE INDICATED.

4.4 CRANKING OF VERTICAL BARS (IF ANY) SHALL NOT EXCEED A SLOPE OF 1 IN 10

4.5 R9-250(T) DISTRIBUTION BARS OVER SUPPORT OR WALL SHALL BE PROVIDED FOR TOP REINFORCEMENT UNLESS OTHERWISE SHOWN.

5. PILES

5.1 PILE TYPE, SIZE PROPERTIES AND OTHER REQUIREMENTS SHALL STRICTLY CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS AND SHALL BE APPROVED BY ENGINEER PRIOR TO THE INSTALLATION.

5.2 DESIGN WORKING LOAD CAPACITY FOR BORED PILE DIA 0.80M×8.00M. AND DIA 1.00M×8.00M. SHALL BE 90 AND 135 METRIC TONS FACTOR OF SAFETY SHALL NOT BE LESS THAN 2.50

5.3 CONCRETE FOR PILES SHALL BE CLASS “240” AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 350 KILOGRAMS PER SQUARE CENTIMETRE AT THE END OF 28 DAYS.

5.4 COMPRESSION PILE LOAD TEST SHALL BE PERFORMED ON A MINIMUM ACCORDING TO SPECIFICATION FOR BORED PILE DIA 1.00M×8.00M. OF THE ABOVE TEST PILES AS SELECTED BY THE ENGINEER.

5.5 MAXIMUM ALLOWABLE DEVIATION FORM SPECIFIED LOCATION OF PILE SHALL BE 8 CENTIMETER

5.6 OUT-OF-PLUMBNESS SHALL NOT EXCEED 1.0 PERCENT FOR EACH PILE.

5.7 PILE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE SURVEYING OF ALL PILE POSITIONS.
ก.2 ผังสายขั้มและฐานรถ
ก.4 แบบรายละเอียดฐานราก

2 PLIES

3 PLIES

4 PLIES

5 PLIES

6 PLIES

7 PLIES

8 PLIES
ก.5 แบบรายละเอียดสี

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ก.6 แบบรายละเอียดการคิดราคา

- เหล็กอินเส้นต่าง
  - เหล็กอินเส้นบน

OFFSET < 7.5 cm
LAP SPlice 40 
MAX SLOPE 1:6

OFFSET > 7.5 cm
LAP SPlice 40 

ก.7 แบบรายละเอียดงาน
ก.8 แบบรายการเดียวด้าน
ก.9 แบบรายละเอียดผนัง

RC WALL PLAN

ก.10 แบบรายละเอียดช่องปิดมาตรฐาน

2DB16 x 1 500 TOP & BOTTOM

2DB20 TOP & BOTTOM