

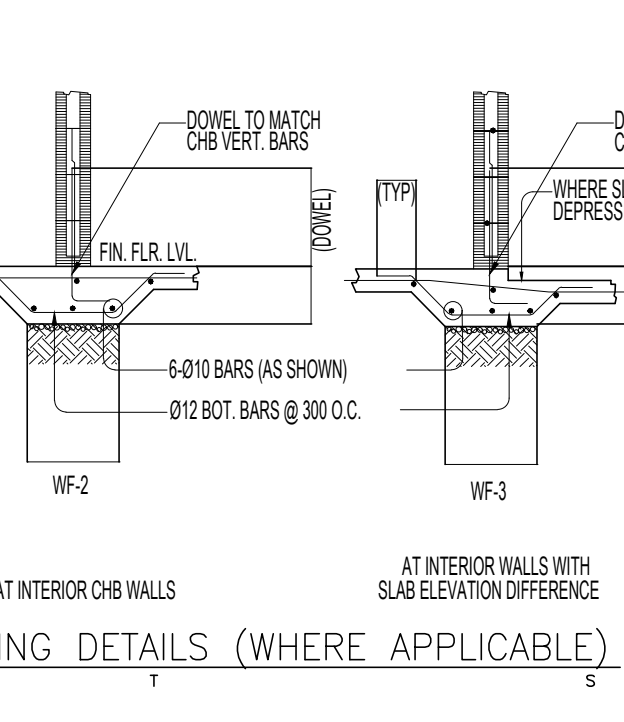
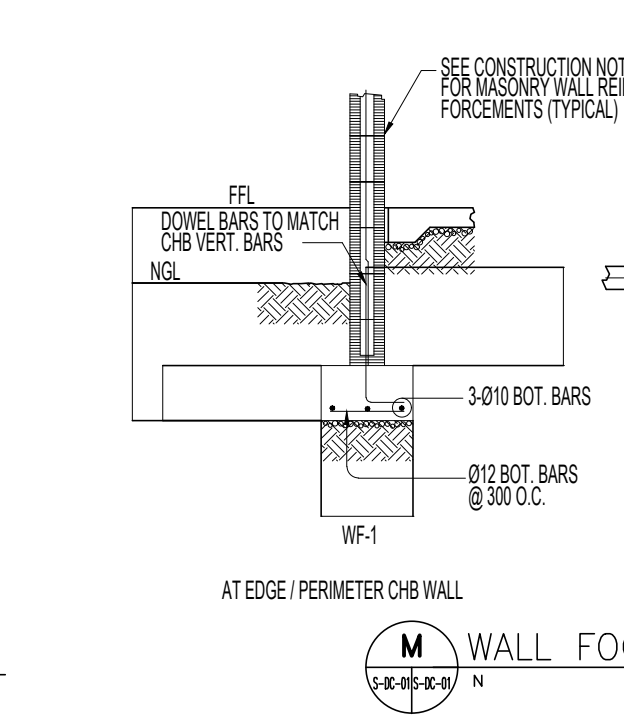
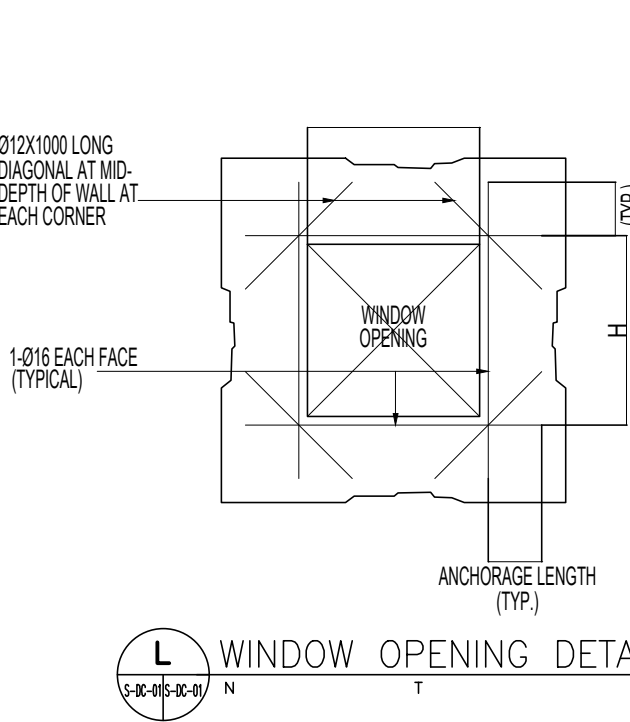
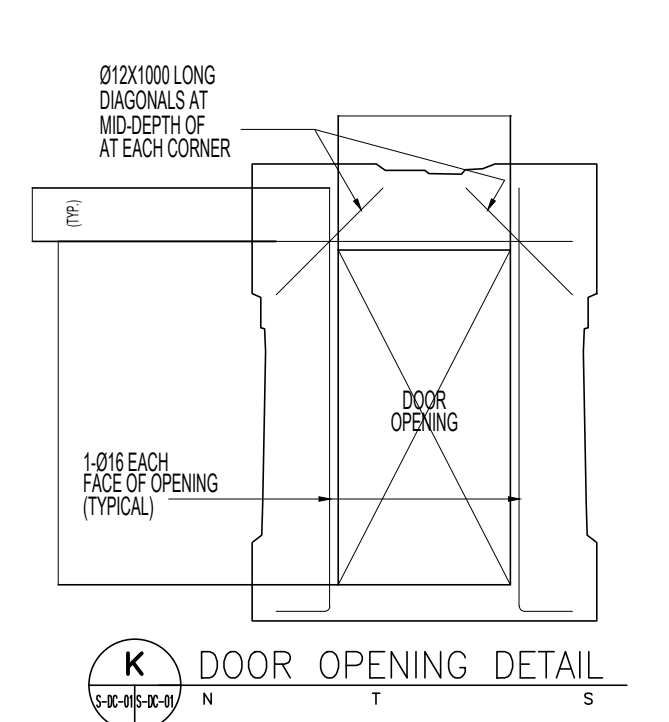
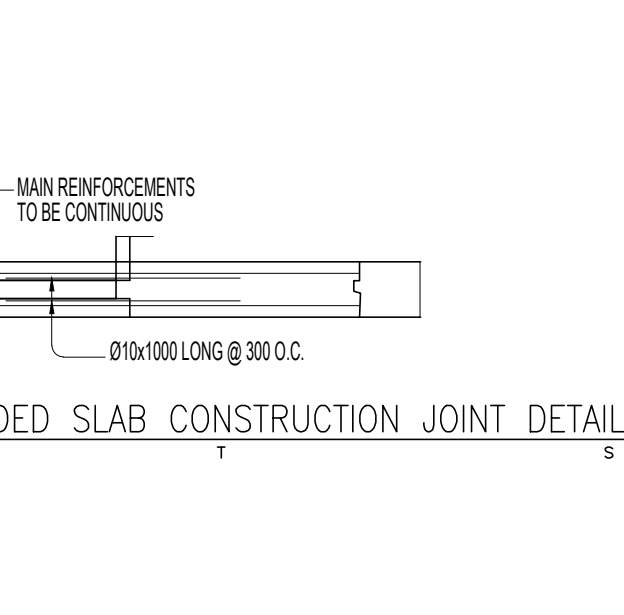
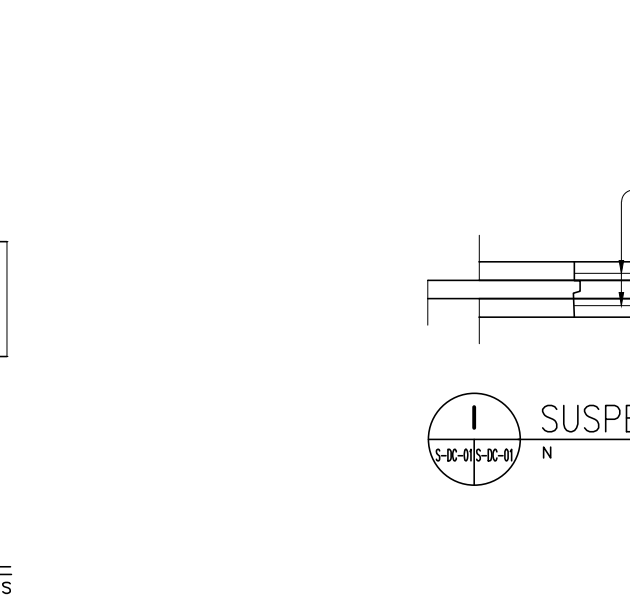
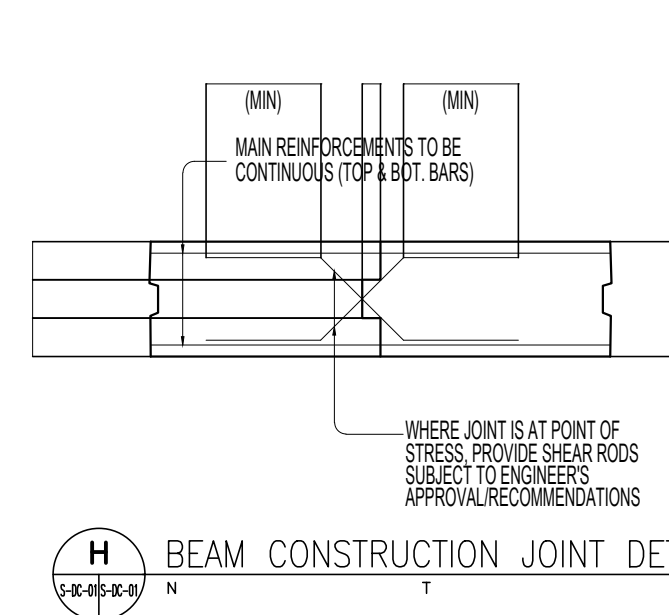
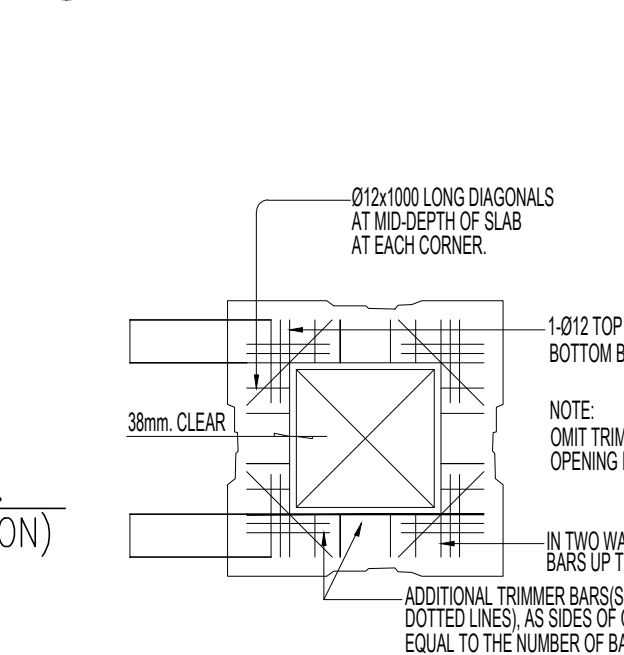
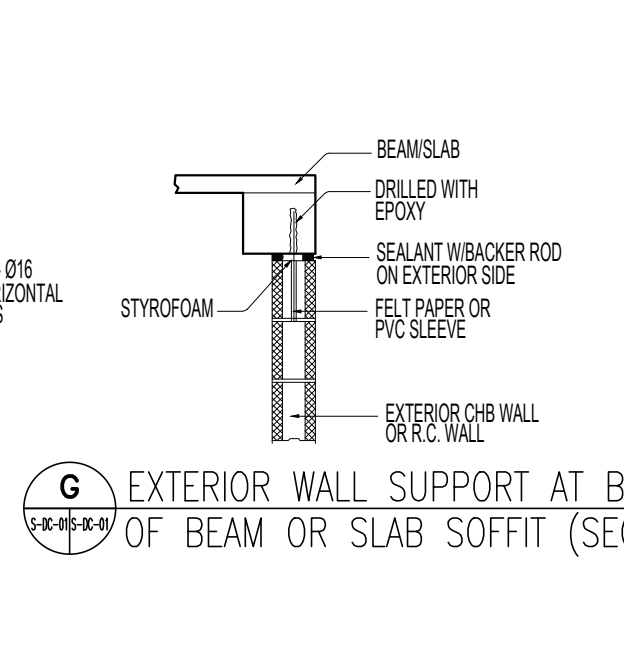
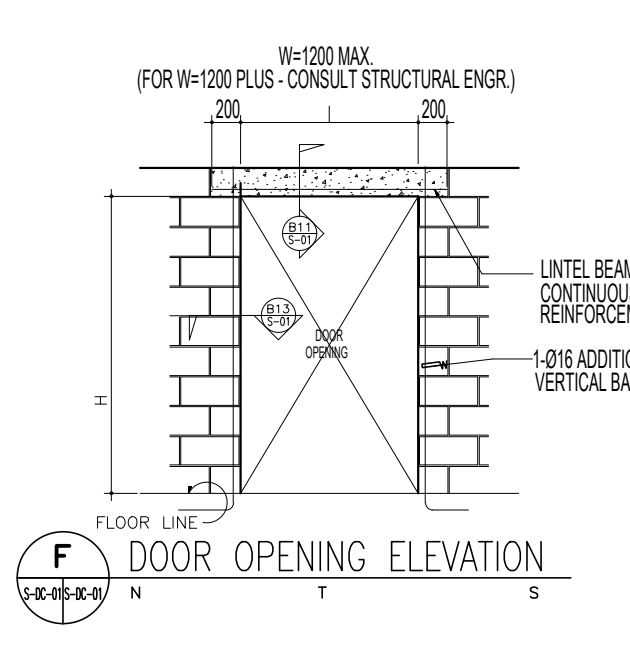
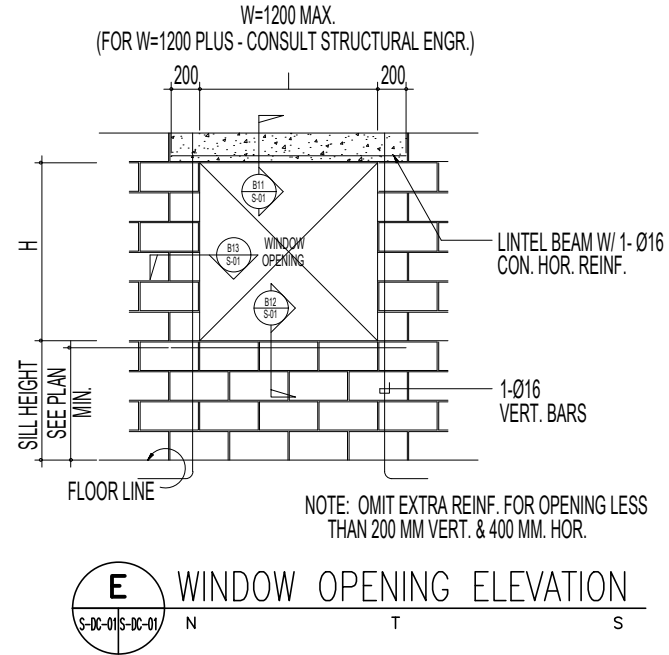
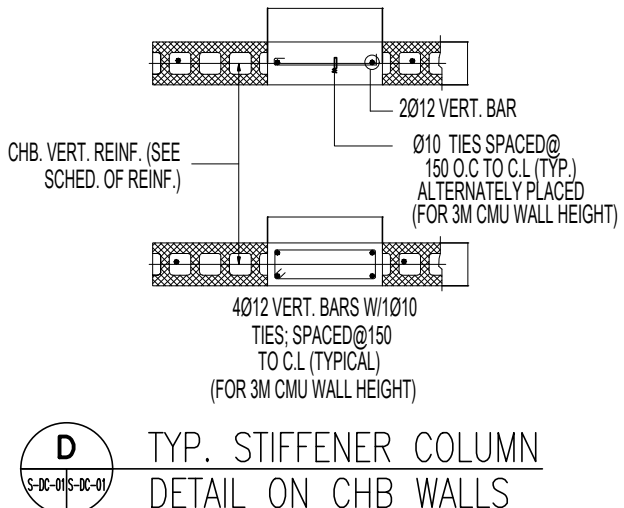
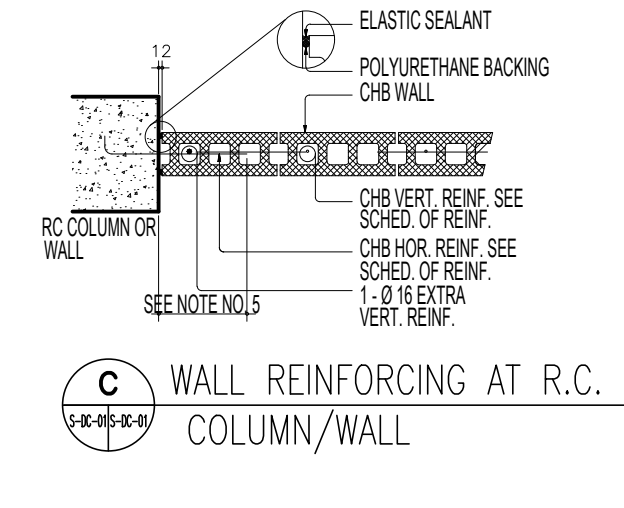
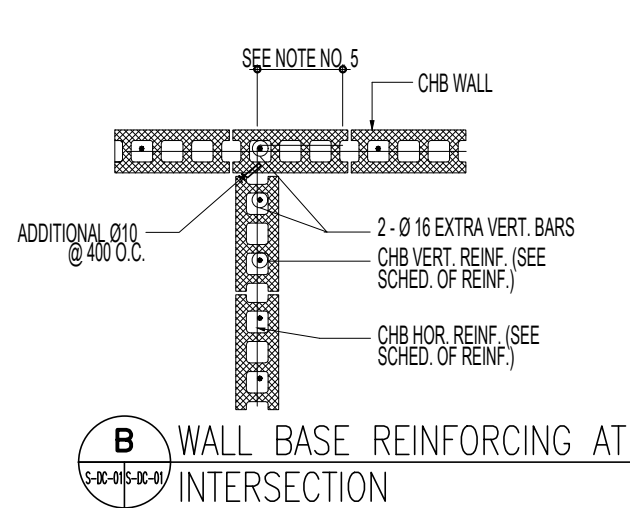
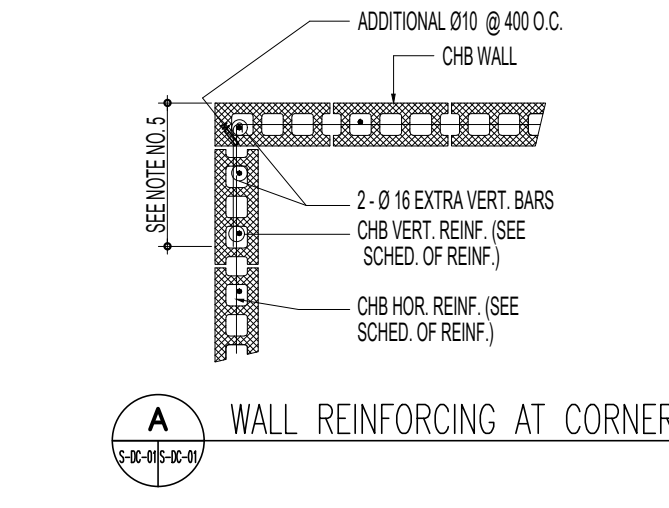
NOTE : WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION. ANY DISCREPANCY, IN ALL DRAWINGS & SPECIFICATIONS, SHALL BE SUBJECT FOR VERIFICATION AND CORRECTIONS SHALL BE ESCANDALIZED BY THE ENGINEER. ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS, SHALL BE RETURNED WHEN NO LONGER IN USE.

NOTE : IF IN DOUBT, ASK! DO NOT SCALE!



**BATAAN PENINSULA STATE UNIVERSITY**  
TECHNICAL WORKING GROUP FOR INFRASTRUCTURE

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TELEPHONE NO. : (047) 237-15-98



## CONSTRUCTION NOTES

### NOTES ON STRUCTURAL STEEL:

- ALL STRUCTURAL STEEL WORKS SHALL BE IN ACCORDANCE WITH AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- ALL STRUCTURAL SHAPES AND PLATES SHALL CONFORM TO ASTM A36.
- ALL SPLICES AND CONNECTIONS SHALL BE DESIGNED FOR AT LEAST 125 % OF THE CAPACITY OF THE MEMBER BEING JOINED OR A MINIMUM STRESS OF 6 KIPS.
- ALL STRUCTURAL WELDINGS SHALL CONFORM TO E 70 XX.
- ALL STRUCTURAL ANCHOR BOLTS SHALL CONFORM TO A307.
- THE CONTRACTOR SHALL SUBMIT SHOP / FABRICATION DRAWINGS OF ALL STRUCTURAL STEEL FRAMING TO INCLUDE MATERIAL SCHEDULE, ERECTION SCHEMES, DETAIL OF CONNECTIONS AND SPLICES FOR REVIEW AND APPROVAL OF ENGINEER PRIOR TO ERECTION.
- ALL STRUCTURAL STEEL SURFACE SHALL BE APPLIED WITH A SHOP COAT OF ZINC CHROMATE PRIMER PAINT AFTER FABRICATION AND PRIOR TO ERECTION AND SECOND OF THE SAME PAINT AFTER WELDING AND/OR ERECTION.
- THE CONTRACTOR SHALL VERIFY ACTUAL DIMENSIONS SHOWN IN THIS DRAWINGS AT JOB SITE PRIOR TO PREPARATION OF SHOP DRAWINGS.
- ALL WELDS NOT SPECIFIED SHALL BE CONTINUOUS FILLET WELDS, USING NOT LESS THAN THE MIN. SIZE, BASED ON THE THINNER PART JOINED PER AISC/AWS.

### NOTES ON MASONRY AND CONCRETE BLOCKS

- ALL NON-LOAD BEARING TYPE CONCRETE BLOCKS SHALL HAVE A UNIT WEIGHT NOT TO EXCEED 80 PCF. FOR LOAD BEARING TYPE CONCRETE BLOCKS, A MINIMUM COMPRESSIVE STRENGTH OF 8.28 MPA (1200 PSI) SHALL BE DEVELOPED.
  - PROVIDE 1-Ø16 EXTRA VERTICAL BARS AT CORNERS, INTERSECTIONS, END OF WALLS, AND EACH SIDE OF OPENINGS AS SHOWN.
  - LINTEL BEAMS OR LINTEL BLOCKS SHALL BEAR AT LEAST 8 INCHES (200 MM.) ON EACH SIDE OF MASONRY WALL OPENING.
  - WALL REINFORCEMENTS SHALL BE AS FOLLOWS:
- | WALL THICKNESS  | VERTICAL REINFORCEMENT | HORIZONTAL REINFORCEMENT |
|-----------------|------------------------|--------------------------|
| 8 IN. (200 MM.) | Ø 10 @ 400 MM.         | Ø12 @ 600 MM.            |
| 6 IN. (150 MM.) | Ø 10 @ 400 MM.         | Ø10 @ 600 MM.            |
| 4 IN. (100 MM.) | Ø 10 @ 600 MM.         | Ø10 @ 600 MM.            |
- BLOCK WALL REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 30 BAR DIAMETERS WHERE SPICED. HORIZONTAL/VERTICAL DOWELS FROM FOOTINGS, COLUMNS/WALLS OR SLABS SHALL EXTEND INTO THE BLOCK WALL A MINIMUM OF 30 BAR DIAMETERS OR MINIMUM OF 400mm. WHICHEVER IS LONGER AND DOWELS TO MATCH VERTICAL REINFORCEMENTS OF WALL.
  - ALL CELLS CONTAINING REINFORCING BARS OR INSERTS SHALL BE SOLIDLY FILLED WITH CONCRETE GROUT. (REFER TO SPECIFICATIONS)

### NOTES:

- ACI SECTION 12.4 STATES THAT DEVELOPMENT LENGTH OF INDIVIDUAL BARS WITH A BUNDLE, IN TENSION OR COMPRESSION, SHALL BE THAT FOR THE INDIVIDUAL BAR, INCREASED 20% FOR THREE BAR BUNDLE, AND 33% FOR FOUR-BAR BUNDLE.
- FOR COLUMNS AT ANY LEVEL, NO MORE THAN ALTERNATE BARS SHOULD BE SPICED, NOT MORE THAN 33% OF THE BARS SHALL BE SPICED WITHIN THE REQUIRED LAP LENGTH. MINIMUM DISTANCE BETWEEN TWO ADJACENT BAR SPLICES SHALL BE 600MM.
- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 300MM DEPTH OF CONCRETE CAST BELOW THE REINF.
- AS MUCH AS POSSIBLE, SPLICES SUBJECTED TENSILE STRESSES ARE DISCOURAGE. THESE SHOULD BE AVOIDED OR PROVIDED WITH STANDARD HOOKS.

### A. GENERAL

- CONSTRUCTION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
- SHOP DRAWINGS WITH ERECTION AND PLACING DIAGRAMS OF ALL STRUCTURAL STEEL, MISCELLANEOUS RON, PRE-CAST CONCRETE ETC. SHALL BE SUBMITTED FOR ENGINEERS APPROVAL BEFORE FABRICATION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS TO BEGIN. CHECK WITH MECHANICAL AND ELECTRICAL CONTRACTORS FOR CONDUITS, PIPE SLEEVES, ETC. TO BE EMBEDDED IN CONCRETE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORINGS AND BRACINGS OF THE STRUCTURE FOR ALL LOADS THAT MAY BE IMPOSED DURING CONSTRUCTION.

### B. CONCRETE & REINFORCEMENT

- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST BUILDING CODE OF AMERICAN CONCRETE INSTITUTE (ACI-318).
- ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT (28) DAYS WITH CORRESPONDING MAXIMUM SIZE AGGREGATE AND SLUMPS AS FOLLOWS:

LOCATION	28 DAYS STRENGTH	MAX. SIZE AGGREGATE	MAX. SLUMP
CURBS & SLAB ON GRADE EXCEPT FOUND.	3000 PSI	1 IN. (25MM.)	4 IN. (100MM.)
FOUNDATION	4000 PSI	3/4 IN. (19MM.)	4 IN. (100MM.)
COLUMN	3500 PSI	3/4 IN. (19MM.)	4 IN. (100MM.)
SUSPENDED SLABS/ BEAMS	3000 PSI	3/4 IN. (19MM.)	4 IN. (100MM.)

- ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 40 FOR DIA. 12 AND SMALLER BARS AND GRADE 60 FOR DIA. 16 AND LARGER BARS.
- IN GENERAL, THE LATEST EDITION OF ACI-315, MANUAL OF STANDARD PRACTICE DETAILING REINFORCED CONCRETE STRUCTURES SHALL BE ADHERED TO, UNLESS OTHERWISE SHOWN OR NOTED.
- MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

SUSPENDED SLABS	3/4 IN. ( 19 MM. )
SLAB ON GRADE	1 1/2 IN. ( 38 MM. )
WALLS ABOVE GRADE	1 IN. ( 25 MM. )
BEAM STIRRUPS AND COLUMN TIES	1 1/2 IN. ( 38 MM. )
WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FORMS	2 IN. ( 50 MM. )
WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST EARTH	3 IN. ( 75 MM. )

- SPLICES SHALL BE SECURELY WIRED TOGETHER AND SHALL LAP OR EXTEND IN ACCORDANCE WITH TABLE 1 (TABLE OF LAP SPLICE AND ANCHORAGE LENGTH) UNLESS OTHERWISE SHOWN ON DRAWINGS. SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.
- ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS, SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, STOOLS, EQUIPMENTS, AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.
- ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN (7) CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
- STRIPPING OF FORMS AND SHORES:

FOUNDATION	24 HRS.
SUSPENDED SLAB EXCEPT WHEN ADDITIONAL LOADS ARE IMPOSED	8 DAYS
WALLS	18 HRS.
BEAMS	14 DAYS

### C. CAMBER REQUIREMENTS

- UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIFICATIONS CAMBER ALL RC BEAMS AT LEAST 10mm. FOR EVERY 4000mm. OF CLEAR SPAN EXCEPT CANTILEVERS WHICH SHALL BE 50mm. FOR EVERY 3000mm. OF CLEAR SPAN.
- UNLESS OTHERWISE NOTED IN PLANS OR SPECIFICATIONS, CAMBER ALL R.C. 8mm PER 3000mm. OF SHORTER SPAN AND 14mm. FOR EVERY 2000mm. OF SLABS CANTILEVER SPAN.

### D. FOUNDATION

- FOUNDATION IS DESIGNED USING ALLOWABLE SOIL BEARING CAPACITY OF 144 kpa ASSUMED.
- FOUNDATION SHALL REST ON NATURAL SOIL, UNLESS OTHERWISE NOTED BY THE ENGINEER, NO PART OF THE FOUNDATION SHALL REST ON FILL.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER FOOTING EXCAVATION HAVE BEEN COMPLETED AND PRIOR TO CONCRETING TO CONFIRM THE DESIGN SOIL BEARING CAPACITY.

PROJECT TITLE:

REPAIR & REHABILITATION OF  
ACADEMIC BLDG. II AT DINA-  
LUPIHAN CAMPUS

LOCATION:

BATAAN PENINSULA STATE UNIVERSITY,  
DINALUPIHAN CAMPUS

### STRUCTURAL ENGINEER

REG. NO. :  
PTE. NO. :  
PLACE :  
TIN. NO. :

### MASTER PLUMBER/SANITARY ENGINEER

REG. NO. :  
PTE. NO. :  
PLACE :  
TIN. NO. :

### PROFESSIONAL ELECTRICAL ENGINEER

REG. NO. :  
PTE. NO. :  
PLACE :  
TIN. NO. :

### PROFESSIONAL MECHANICAL ENGINEER

REG. NO. :  
PTE. NO. :  
PLACE :  
TIN. NO. :

### REVISION

NO.	DESCRIPTION	DATE
1		
2		

PREPARED BY:

AR. ROXETTE S. UMEREZ

ARCHITECT 1, RPSU TWO

REG. NO. :  
PTE. NO. :  
PLACE :  
TIN. NO. :

REVIEWED BY:

MR. BILLY ALIPIO

CAMPUS DIRECTOR

NOTED BY:

ENGR. ALFREDO D. VALENTOS

DIRECTOR OF PPES

RECOMMENDED BY:

DR. EDMUNDO C. TUNGOL

VICE PRESIDENT ADMIN. & FINANCE

APPROVED BY:

DR. GREGORIO J. RODIS

UNIVERSITY PRESIDENT

REPUBLIC ACT 9266.

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SHEET CONTENT:

STRUCTURAL DETAIL  
STRUCTURAL GENERAL  
NOTES

SHEET NUMBER

S-DC-01