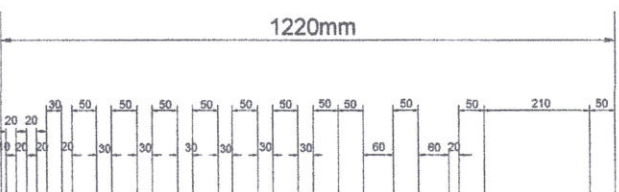
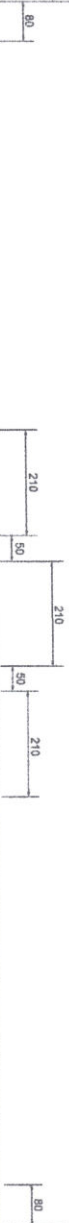


# DPWH STANDARD PROJECT BILLBOARD

2440mm



**THIS IS WHERE YOUR TAXES GO**

**NAME OF PROJECT:**

**LOCATION:**

**NAME OF CONTRACTOR:**

**DATE STARTED:**

**CONTRACT COMPLETION DATE:**

**CONTRACT COST:**

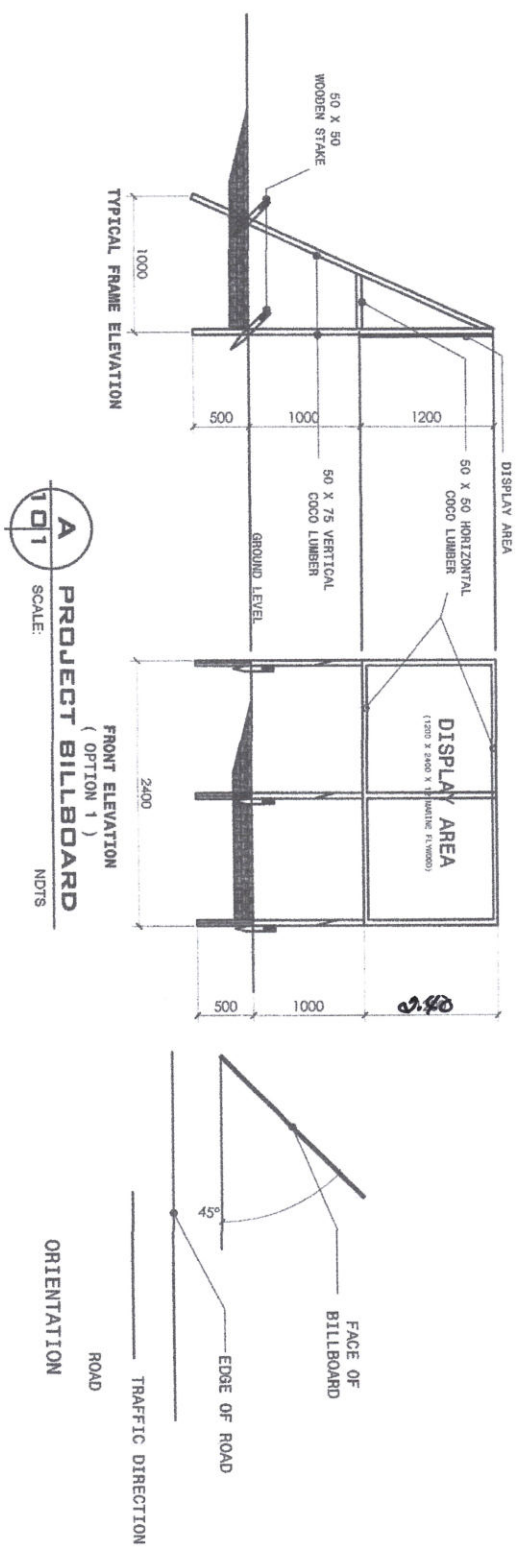
**IMPLEMENTING OFFICE:**

**SOURCES OF FUND:**

**Department of Public Works and Highways**  
 TEXT 2920 or Call (02)165-02 for any concern on this project  
[www.dpwh.gov.ph](http://www.dpwh.gov.ph)

SCALE 1 : 10 M.

**NOTE:**  
 For Source of Fund, state if DPWH Regular Budget, Priority Development Assistance Fund, DepEd/ DA/ DSWD Budget, calamity Fund, MWC Fund, etc.  
 Color Shade Combination for the Yellow Background:  
 CYAN : 0  
 MAGENTA : 76  
 YELLOW : 0  
**NOTE:** THE EXPENSES INCURRED IN THE INSTALLATION OF BILLBOARD IS INCLUDED IN THE O&M PER DO. 141, SERIES 2016



**A**  
 PROJECT BILLBOARD  
 SCALE: 10:1  
 NDTs

<p>REPUBLIC OF THE PHILIPPINES                  DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS                  REGION IX                  1ST DISTRICT ENGINEERING OFFICE                  SEGADE, PINAK, ZAMBANGA DEL NORTE</p>		<p>REPUBLIC OF THE PHILIPPINES                  COMMISSION ON AUDIT                  REGION IX</p>	
PROJECT & LOCATION :		CONSTRUCTION OF A RAEMU BUILDING DAMIAN CITY, ZAMBANGA DEL NORTE	
SHEET COUNT :		PROJECT BILLBOARD DETAILS	
ARCHITECTURAL DESIGN :		OSCAR B. MARCARES JR. ENGINEERING ASSISTANT II	
CHECKED :		 ARCHITECT	
SUBMITTED :		EVA A. TRANI ENGINEER III CHIEF, PLANNING & DESIGN SECTION	
RECOMMENDING APPROVAL :		 ASST. DISTRICT ENGINEER	
APPROVED :		 DISTRICT ENGINEER	
RECOMMENDING APPROVAL :		AMELIA P. VALDEZ DIRECTOR IV GSO	
APPROVED :		LORNA D. CABOCHANI ASSISTANT COMMISSIONER ADMINISTRATION SECTOR	
SET NO :	A	SHEET NO :	10 29

**FORMS, SCAFFOLDING & STAGING:**

**CONSTRUCTION OF FORMS:**

CONCRETE WEIGHTS ABOUT 2200 TO 2400 kg/m<sup>3</sup>. FORMS SHALL BE CLAMPED AGAINST BULGING AND SAGGING. FAILURE THAT OCCUR DURING THE PROCESS OF POURING. SMALL CRACKS DEVELOP BETWEEN JOINTS THAT GRADUALLY WIDEN AND CAUSE DEFORMATION OF THE STRUCTURE THAT REDUCE THE DESIRED STRENGTH. FORMS SHALL BE SUBSTANTIALLY STRONG TO RESIST THE WEIGHT AND HORIZONTAL PRESSURE OF FRESH CONCRETE. THE THICKNESS OF THE FORM AND THE SIZE OF THE FRAME AND RIBS DEPENDS UPON THE NATURE OF THE STRUCTURE TO BE SUPPORTED CLASSIFIED AS SMALL, MEDIUM OR MASSIVE STRUCTURE.

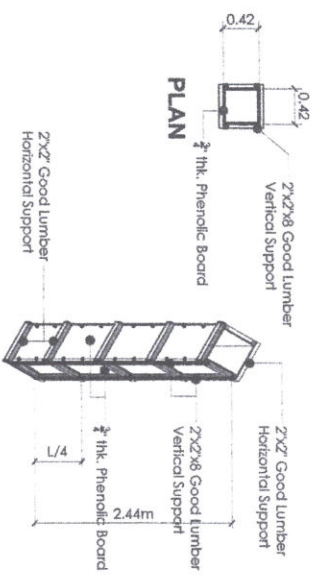
FORMS MUST BE SIMPLE AND ECONOMICALLY DESIGNED IN SUCH A MANNER THAT THEY ARE EASILY REMOVED AND REASSEMBLED WITHOUT DAMAGE TO THEMSELVES OR TO THE CONCRETE.

- SELECTION OF FORMS ARE BASED AS:
1. COST OF THE MATERIALS.
  2. CONSTRUCTION AND ASSEMBLING COST.
  3. THE NUMBER OF TIMES IT COULD BE USED.
  4. STRENGTH AND RESISTANCE TO PRESSURE AND TEAR AND WEAR.

**COLUMN FORMS:**

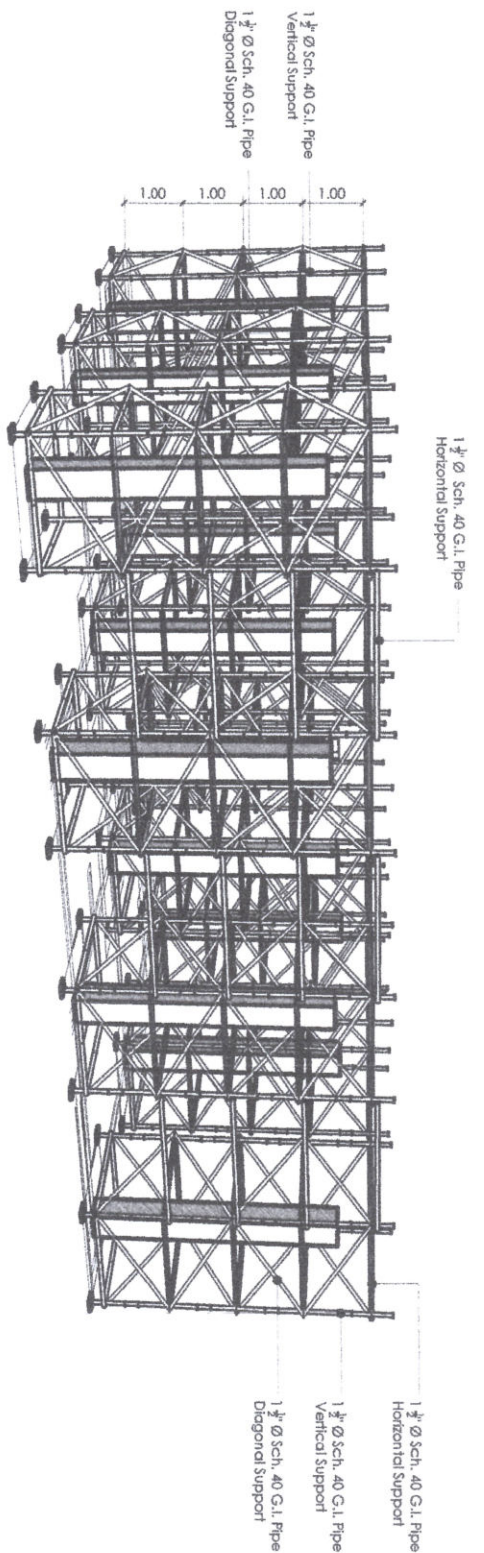
SQUARE AND RECTANGULAR COLUMN FORMS CONSIST OF TWO PIECES HAVING THE SAME WIDTH WITH THAT OF ONE SIDE OF THE COLUMN PLACED OPPOSITE TO EACH OTHER WHICH WILL BE CLOSED WITH ANOTHER PAIR OF FORM HAVING WIDER WIDTH USUALLY 10CM WIDER THE FORMER.

**TYPICAL FORMS FOR COLUMN DETAIL**  
SCALE: 1:111



**ISOMETRIC VIEW**

**A STEEL SCAFFOLDING ISOMETRY**  
SCALE: 1:112



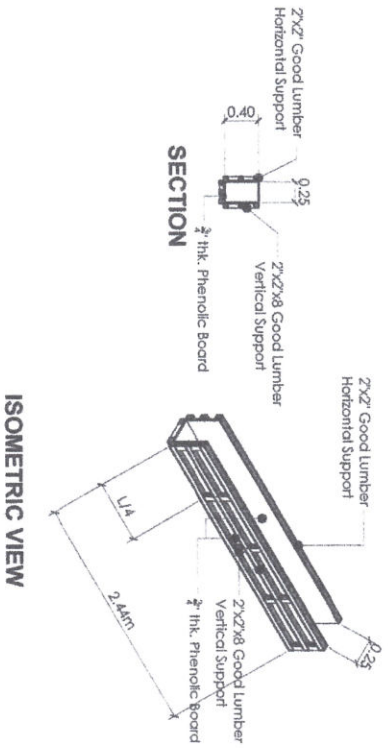
**ERECTION AND SECURING OF FORMS:**

FORMS ARE PROPERLY SECURED IN POSITION BY MEANS OF CLEATS, BRACES, TWISTED TIE WIRE, BOLTS, CLAMPS OR NAILS. ORDINARILY FOR SMALL STRUCTURE, FORMS ARE ERECTED AND SECURED BY MEANS OF COMMON WIRE NAILS NOT TOTALLY DRIVEN DOWN LEAVING A PROTRUDING HEAD FOR PULLING OFF BY THE AID OF HAMMER OR WRECKING BAR.

**GREASING OF FORMS:**

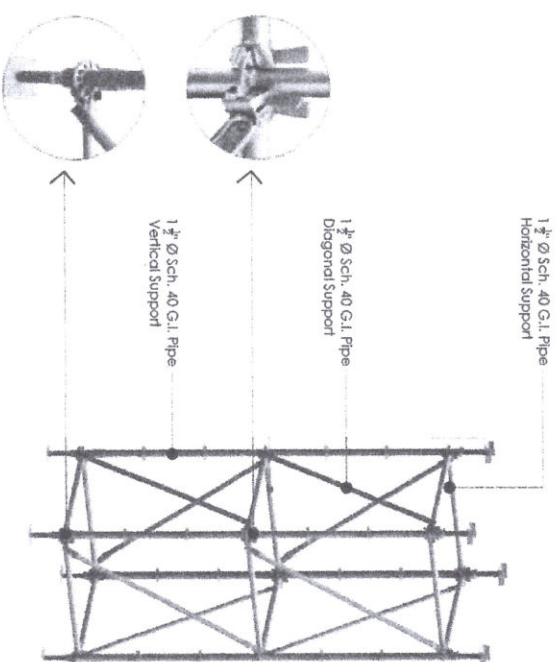
FORMS ARE CONSTANTLY GREASED BEFORE ITS USE. THE PURPOSE OF GREASING THE FORM IS TO MAKE THE WOOD WATERPROOF PREVENTING THE ABSORPTION OF WATER IN THE CONCRETE WHICH CAUSES SWELLING AND WARPING. GREASING OF FORMS ALSO PREVENTS THE ADHERENCE OF CONCRETE INTO THE PORES OF THE WOOD.

**ISOMETRIC VIEW**



**TYPICAL FORMS FOR BEAM DETAIL**  
SCALE: 1:113

**A STEEL SCAFFOLDING BLOW-UP DETAIL**  
SCALE: 1:114



<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IX 1ST DISTRICT ENGINEERING OFFICE SEGABE, PINAR, ZAMBOANGA DEL NORTE</p>	PROJECT & LOCATION :	CONSTRUCTION OF A RAEMU BUILDING DAMIAN CITY, ZAMBOANGA DEL NORTE	
	SHEET CONTENT :	FORMS / SCAFFOLDING DETAIL	
<p>REPUBLIC OF THE PHILIPPINES COMMISSION ON AUDIT REGION IX</p>	ARCHITECTURAL DESIGN:	OSCAR B. SACARES JR. ENGINEERING ASSISTANT II	
	CHECKED:	 VERONICO C. MIRASOL ARCHITECT II	
	SUBMITTED:	 EVA A. TRIANI ENGINEER III CHIEF, PLANNING & DESIGN SECTION	
	RECOMMENDED:	 AMELITA P. VALDEZ ASST. DISTRICT ENGINEER	
	APPROVED:	 LORNA D. CABOCHAN DISTRICT ENGINEER	
	SET NO.:	A 114	
	SHEET NO.:	11 29	

**GENERAL CONSTRUCTION NOTES**

**GENERAL NOTES:**

- 1.0 STANDARD AND REFERENCES:
  - 1.1 NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (N.S.C.P.) VOL. 1, 6TH EDITION, 2010.
- 2.0 DESIGN CRITERIA
- 2.1 LOADINGS:
  - A. DEAD LOAD
    - CONCRETE 23.5 kN/m
    - STEEL 7.5 kN/m
    - 150mm THK. CHB WALL 2.73 kPa
    - 100mm THK. CHB WALL 2.11 kPa
  - B. LIVE LOAD
    - ROOF 1.00 kPa
    - CLASSROOMS 1.90 kPa
    - TOILETS 2.40 kPa
    - CORRIDORS ABOVE STAIRS 3.80 kPa
    - CORRIDORS ON GROUND 4.80 kPa
    - WIND LOAD (NSCP 2010)
    - BASIC WIND VELOCITY, V 250 kph
    - P = qh[GCp] - [GCpi] [DESIGN WIND PRESSURE]
    - WHERE: qh = VELOCITY PRESSURE, kPa
    - GCpi = INTERNAL PRESSURE COEFFICIENT
    - GCpl = INTERNAL PRESSURE COEFFICIENT
  - C. SEISMIC LOAD (NSCP 2010)
    - (DESIGN BASE SHEAR)
    - $V = \frac{C_d I_a W}{R T - W}$
    - $V_{max} = 2.50 C_d I_a W$   $V_{min} = 0.11 C_d I_a W$
    - WHERE: W = TOTAL DEAD LOAD
    - T = NATURAL PERIOD =  $C_p I_p / \sqrt{S}$
    - WHERE: C = NUMERICAL COEFFICIENT
    - h = BUILDING HEIGHT
    - I = IMPORTANCE FACTOR = 1.50
    - R = NUMERICAL FACTOR = 8.50
    - SEISMIC COEFFICIENT  $C_s = 0.44 N_V$
    - NEAR SOURCE FACTOR (100m)  $N_V = 1.2$
    - 2 = SEISMIC ZONE = 0.40 (ZONE 4)
    - S = SOIL TYPE = D

**NOTES ON CONCRETE MIXES & PLACING**

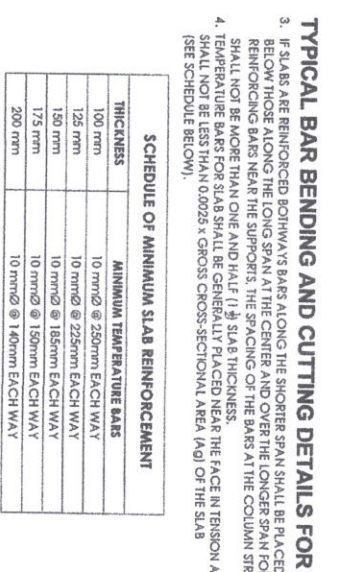
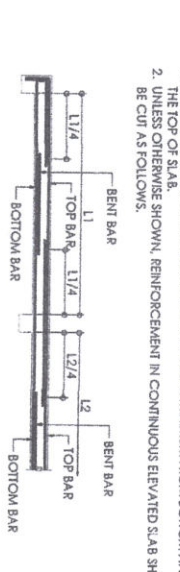
1. ALL CONCRETE SHALL DEVELOP A MIN. COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT (28) DAYS WITH CORRESPONDING MAXIMUM SIZE AGGREGATE & SLIMS AS FOLLOWS:

LOCATION	28 DAYS STRENGTH	MAX. SIZE OF AGGREGATE	MAX. SLUMP
ALL OTHERS INCLUDING SUSPENDED SLABS	3000 PSI (20.7 MPa)	25 mm	100 mm
COLUMNS	3000 PSI (20.7 MPa)	25 mm	100 mm
BEAMS, SLABS	3000 PSI (20.7 MPa)	25 mm	100 mm
SLAB ON FILL	2500 PSI (17.2 MPa)	25 mm	100 mm

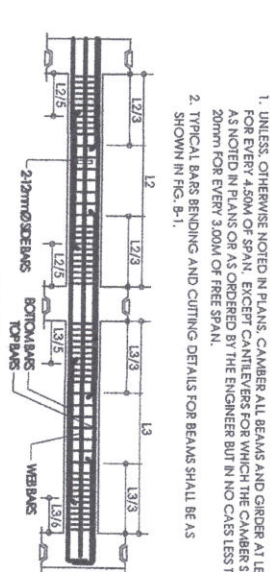
- 2. MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:
  - SUSPENDED SLABS 20 mm
  - SLAB ON GRADE 40 mm
  - WALLS ABOVE GRADE 40 mm
  - BEAMS STIRRUPS AND COLUMNS 40 mm
  - WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FORMS 50 mm
  - WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST EARTH 75 mm
- 3. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, REHANDLING OR PLACING SHALL BE DONE BEFORE SETTING. WHEN PLACING AGAINST FORMS, NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE TO THE AGGREGATE TROUGH. AGGREGATE TROUGH OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED (6) METERS IN AGGREGATE LENGTH.
- 4. NO PORTING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING BY THE DESIGNER AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATIONS ARE EXTREMELY DIFFICULT TO ACCOMPLISH.
- 5. ALL ANCHOR BOLTS, DOWNERS, AND OTHER INSERTS, SHALL BE PROPERLY POSITIONED & SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- 6. ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
- 7. STRIPPING OF FORMS AND SHORES:
  - FOUNDATION 24 HRS.
  - SUSPENDED SLAB EXCEPT WHEN ADDITIONAL LOADS ARE IMPOSED 14 DAYS
  - WALLS 21 DAYS
  - COLUMNS 21 DAYS
- 8. THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND THE LOCATION OF THE CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER AT LEAST (4) DAYS PRIOR TO THE POURING FOR APPROVAL.
- 9. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE FORMS AND SHORINGS UNTIL THE CONCRETE MEMBERS HAVE ATTAINED THEIR WORKING CONDITION AND STRENGTH.

- NOTES ON FOOTINGS:**
- 1. FOOTINGS ARE DESIGNED FOR A CHAIRS SOIL BEARING PRESSURE OF 94 kPa (2000 psi). CONTRACTOR SHALL REPORT TO THE ENGINEER IN WRITING THE ACTUAL SOIL CONDITIONS UNCOVERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DEPOSITING CONCRETE.
  - 2. FOOTING SHALL REST AT LEAST 150mm BELOW NATURAL GRADE LINE UNLESS OTHERWISE INDICATED IN PLANS. NO FOOTING SHALL REST ON FILL.
  - 3. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENTS SHALL BE 75mm CLEAR AGAINST A FORMWORK.
  - 4. IN CASES WHERE THE SOIL CONDITION IS SUCH THAT THE MINIMUM ALLOWABLE SOIL PRESSURE OF 94 kPa (2000 psi) CAN NOT BE ATTAINED AT PRACTICAL DEPTHS, THE USE OF MICROPILES, BORED PILES, OR DRIVEN PILES MAY BE ADOPTED IN lieu OF STANDARD ISOLATED FOOTINGS.

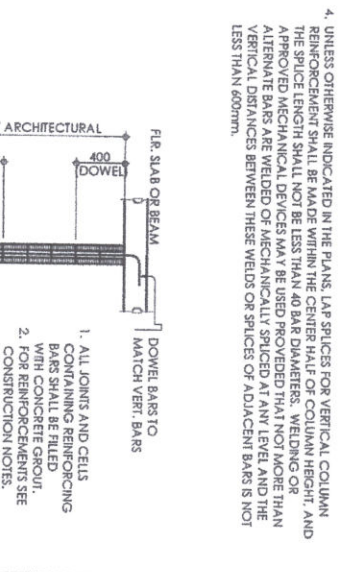
- NOTES ON REINFORCEMENT:**
- 1. UNLESS OTHERWISE NOTED IN PLANS, CAMBER ALL BEAMS AND GIRDER AT LEAST 4mm FOR EVERY 4.5M OF SPAN, EXCEPT CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN PLANS OR AS ORDERED BY THE ENGINEER BUT IN NO CASES LESS THAN 20mm FOR EVERY 3.00M OF FREE SPAN.
  - 2. TYPICAL BARS BENDING AND CUTTING DETAILS FOR BEAMS SHALL BE AS SHOWN IN FIG. B-1.



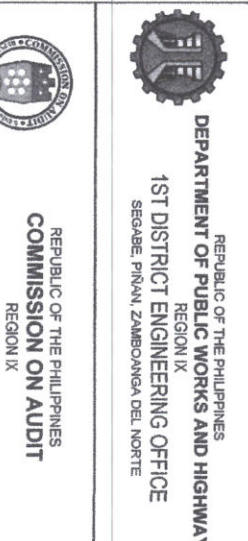
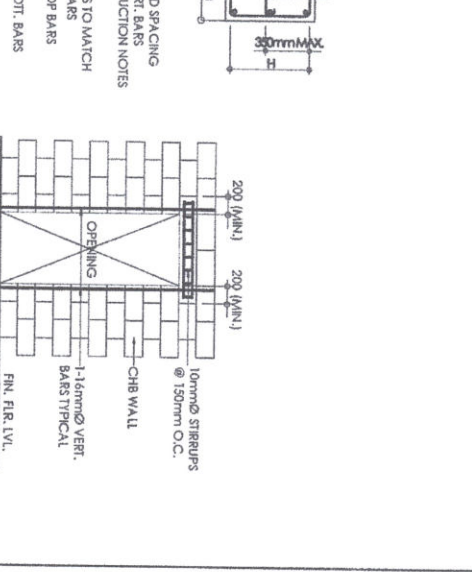
- NOTES ON TIE-BEAMS:**
- 1. UNLESS OTHERWISE NOTED IN PLANS, CAMBER ALL BEAMS AND GIRDER AT LEAST 4mm FOR EVERY 4.5M OF SPAN, EXCEPT CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN PLANS OR AS ORDERED BY THE ENGINEER BUT IN NO CASES LESS THAN 20mm FOR EVERY 3.00M OF FREE SPAN.
  - 2. TYPICAL BARS BENDING AND CUTTING DETAILS FOR BEAMS SHALL BE AS SHOWN IN FIG. B-1.



- NOTES ON COLUMNS:**
- 1. PROVIDE EXTRA SETS OF TIES AT 100mm O.C. FOR TIED COLUMN REINFORCEMENT ABOVE AND BELOW BEAM-COLUMN CONNECTIONS FOR A DISTANCE FROM FACE OF CONNECTION EQUAL TO THE GREATER OF THE OVERALL THICKNESS OF COLUMN, 2 THE CLEAR HEIGHT OF COLUMN OR 450mm.
  - 2. COLUMN TIES SHALL BE PROTECTED EVERYWHERE BY A COVERING OF CONCRETE CAST MONOLITHICALLY WITH THE CORE WITH THE MINIMUM THICKNESS OF 40mm AND NOT LESS THAN 40 TIMES THE MAXIMUM SIZE OF COARSE AGGREGATE IN MILLIMETERS.
  - 3. WHERE COLUMNS CHANGE IN SIZE, VERTICAL REINFORCEMENTS SHALL BE CHECKED AT A SLOPE OF NOT MORE THAN 1 IN 6 AND EXTRA 10mm TIES AT 100mm SHALL BE PROVIDED THRU OUT THE OFFSET REGION.
  - 4. UNLESS OTHERWISE INDICATED IN THE PLANS, LAP SPICES FOR VERTICAL COLUMN REINFORCEMENT SHALL BE MADE WITHIN THE CENTER HALF OF COLUMN HEIGHT, AND THE SPICE LENGTH SHALL NOT BE LESS THAN 40 BAR DIAMETERS. WELDING OR ALTERNATE MECHANICAL DEVICES MAY BE USED PROVIDED THAT NOT MORE THAN VERTICAL BARS ARE WELDED OR MECHANICALLY SPICED AT ANY LEVEL AND THE VERTICAL DISTANCES BETWEEN THESE WELDS OR SPICES OF ADJACENT BARS IS NOT LESS THAN 600mm.



- NOTES ON REINFORCEMENT:**
- 1. UNLESS OTHERWISE NOTED IN PLANS, CAMBER ALL BEAMS AND GIRDER AT LEAST 4mm FOR EVERY 4.5M OF SPAN, EXCEPT CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN PLANS OR AS ORDERED BY THE ENGINEER BUT IN NO CASES LESS THAN 20mm FOR EVERY 3.00M OF FREE SPAN.
  - 2. TYPICAL BARS BENDING AND CUTTING DETAILS FOR BEAMS SHALL BE AS SHOWN IN FIG. B-1.



REPUBLIC OF THE PHILIPPINES  
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
 REGION IX  
 1ST DISTRICT ENGINEERING OFFICE  
 SEGABE, PINKAN, ZAMBOANGA DEL NORTE

PROJECT & LOCATION:  
 CONSTRUCTION OF A RAEMU BUILDING  
 DAVITAN CITY, ZAMBOANGA DEL NORTE

SHEET CONTENT:  
 GENERAL CONSTRUCTION NOTES-1

ARCHITECTURAL DESIGNER:  
 OSCAR R. SANCHEZ JR.  
 ENGINEERING ASSISTANT II  
 STRUCTURAL DESIGNER:  
 JOHN REX C. SABEL  
 ENGINEER II

CHECKED:  
 FREDY V. C. MIRASOL  
 ARCHITECT II

SUBMITTED:  
 EVALA. TRANI  
 ENGINEER III  
 CHIEF, PLANNING & DESIGN SECTION

RECOMMENDING APPROVAL:  
 RECOMMENDING APPROVAL:  
 APPROVED:  
 DISTRICT ENGINEER

RECOMMENDED BY:  
 AMELIA P. VALDEZ  
 DIRECTOR IV  
 APPROVED:  
 LORNA D. CABOCHAN  
 ASSISTANT COMMISSIONER  
 ADMINISTRATION SECTOR

SET NO.: 111  
 SHEET NO.: 12/29

**GENERAL CONSTRUCTION NOTES**

**TABLE 'a'**  
REINFORCING BARS EMBEDMENT LENGTHS AND LAPPED SPICES IN MILLIMETERS

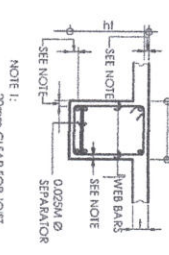
BAR SIZE (Ø/Ø/Ø)	EMBEDMENT	LAPPED	EMBEDMENT	LAPPED
10mm Ø	300	300	300	300
12mm Ø	300	300	300	300
14mm Ø	300	300	300	300
20mm Ø	400	500	500	500
25mm Ø	600	800	500	750
32mm Ø	750	1000	650	850

NOTE: TOP PLAN BARS \* MULTIPLY VALUE BY 2

1. THE BEAM REINFORCING BARS END IN A WALL THE CLEAR LENGTH FROM THE BAR TO THE FARTHER FACE OF THE WALL NOT BE LESS THAN 25mm. EMBEDMENT LENGTH SHALL BE AS SHOWN IN A TABLE 'A' FOR REINFORCING BARS IN WALLS. THE COLUMN OR WITHIN A DISTANCE THREE TIMES THE DIAMETER FROM THE FACE OF THE COLUMN. IN THIS TWO STRIPS SHALL BE PROVIDED AT ALL SPICES.

4. IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS, USE 25mm BAR SEPARATORS SPACED AT 100mm ON CENTER. IN NO CASE SHALL THERE BE LESS THAN (2) SEPARATORS BETWEEN TWO LAYERS OF BARS UNLESS SPECIFIED OTHERWISE.

5. MAINTAIN CONCRETE PROTECTION FOR REINFORCING BARS ON STEEL SHAPES AS SHOWN IN FIG. B-2 UNLESS SPECIFIED ELSEWHERE.



**FIG. B-2**  
NOTES ON WELDS:  
1. USE 25mm ELECTRODES FOR ALL MEMBERS WELDED.  
2. WELDS SHALL DEVELOP THE FULL STRENGTH OF MEMBERS JOINED UNLESS OTHERWISE SHOWN OR DETAILED IN THE DRAWINGS.

**NOTES ON STRUCTURAL STEEL:**

1. STRUCTURAL STEEL TO BE USED FOR FABRICATION AND ERECTION OF THE STRUCTURE SHALL COMPLY WITH ALL THE REQUIREMENTS OF THE SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING LATER EDITION.

2. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.

3. ALL WELDED CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS CONNECTED.

4. UNLESS OTHERWISE SPECIFIED ALL WELDING RODS SHALL CONFORM AWS E60 ELECTRODES.

5. ALL BOLTS USED UNLESS OTHERWISE SPECIFIED SHALL BE ASTM A 307 BOLTS.

**NOTES ON EMBEDDED PIPES:**

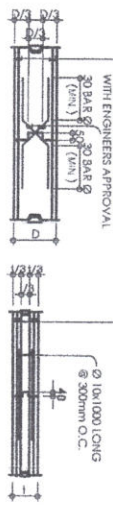
A. ALL EMBEDDED PIPES FOR UTILITIES, ETC. THAT PASS THRU BEAMS SHALL NOT EXCEED 100mm IN DIAMETER OR 1/4 BEAM DEPTH WHICHEVER IS LESS UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

B. HOLES SHALL BE ALLOWED TO PASS THRU BEAMS VERTICALLY.

C. NO PIPES SHALL BE EMBEDDED IN COLUMNS.

**NOTES ON CONSTRUCTION JOINTS IN CONCRETE:**

1. WHERE A CONSTRUCTION JOINT IS TO BE MADE, THE SURFACE OF CONCRETE SHALL BE CLEANED AND ALL LOOSE AND SHALLOWS WATER REMOVED. STRIPES SHALL BE PROVIDED AT THE JOINT.



**TYPICAL SLAB TO BEAM CONSTRUCTION JOINT DET.**

**NOTES ON CONCRETE WALLS:**

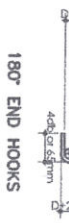
1. ALL WALLS SHALL BE REINFORCED ACCORDING TO THE FOLLOWING SCHEDULE OF WALL REINFORCEMENT UNLESS OTHERWISE INDICATED IN THE PLANS.

WALL THICKNESS	REINFORCEMENT			REMARKS	VERTICAL REGION
	HORIZONTAL	VERTICAL	REINFORCEMENT		
100mm	10mm Ø @ 200mm O.C.	10mm Ø @ 300mm O.C.	HORIZONTAL BARS AT CENTERS VERTICAL BARS STAGGERED OUT		VERT BARS
150mm	12mm Ø @ 200mm O.C.	10mm Ø @ 300mm O.C.			HOR BARS

REINFORCING BARS SHALL HAVE 20mm CLEAR CONCRETE COVER FROM FACE OF WALL EXCEPT AND FOR EXPOSED PARTS OF FORMED WALLS WHERE THE MINIMUM SHALL BE 50mm CLEAR.

2. CARRY VERTICAL BARS AT LEAST 60mm ABOVE FLOOR LEVEL TO PROVIDE FOR SPICES WHEN AND HORIZONTAL BARS SHALL BE SPICED BY LAPPING AT THE WALL ENDS VERTICAL BARS SHALL BE SPICED BY LAPPING AT THE WALL ENDS UNLESS OTHERWISE NOTED (SEE FIG. 1).

3. UNLESS OTHERWISE NOTED IN THE PLANS ALL OPENINGS IN WALLS 250mm OR THICKER SHALL BE REINFORCED AROUND WITH 2-20mm Ø BARS FOR 250mm, 200mm, 175mm, 150mm, USE 21mm Ø VERTICAL REINFORCEMENT BENT TO A 45° ANGLE LIKE STRIPS AND SPACED ACCORDING TO THE SCHEDULE UNLESS OTHERWISE NOTED (SEE FIG. 1).

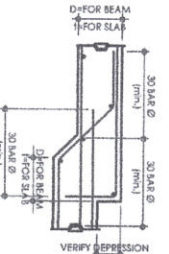


**90° END HOOKS**  
**180° END HOOKS**

**MAIN BAR END HOOKS (ALL GRADIS)**

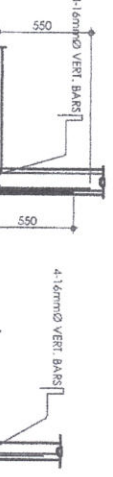
BAR SIZE (Ø/Ø/Ø)	90° HOOK	180° HOOK	90° HOOK
10mm Ø	40	75	150
12mm Ø	75	100	200
14mm Ø	75	125	250
20mm Ø	110	150	300
25mm Ø	150	200	400
32mm Ø	200	300	500

**TYPICAL DETAIL FOR BEAM OR SLAB CHANGE SOFFIT**



**REINFORCING CONCRETE UNTEL BEAM IN CONCRETE BLOCK WALLS**

CLASH	TOTAL	MIN. HEIGHT OF UNTEL	REINFORCEMENT
1.20m	1.20m	200	1-12mm Ø 1-12mm Ø 1-12mm Ø
1.50m	1.50m	200	1-12mm Ø 1-12mm Ø 1-12mm Ø
1.80m	1.80m	200	1-12mm Ø 1-12mm Ø 1-12mm Ø
2.10m	2.10m	250	1-12mm Ø 1-12mm Ø 1-12mm Ø
2.40m	2.40m	250	1-12mm Ø 1-12mm Ø 1-12mm Ø
2.70m	2.70m	250	1-12mm Ø 1-12mm Ø 1-12mm Ø
3.00m	3.00m	300	1-12mm Ø 1-12mm Ø 1-12mm Ø
3.30m	3.30m	300	1-12mm Ø 1-12mm Ø 1-12mm Ø
3.60m	3.60m	300	1-12mm Ø 1-12mm Ø 1-12mm Ø
3.90m	3.90m	300	1-12mm Ø 1-12mm Ø 1-12mm Ø
4.20m	4.20m	300	1-12mm Ø 1-12mm Ø 1-12mm Ø



**TYPICAL CONNECTION DETAIL OF R.C. WALL AT CORNERS**

**NOTES ON STRIPPERS:**

1. ALL REINFORCEMENT SHALL BE BENT UNLESS OTHERWISE PERMITTED BY THE STRUCTURAL ENGINEER.

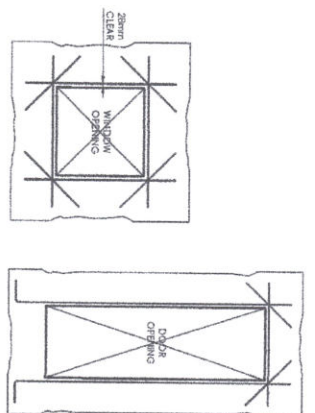
2. AS SHOWN IN THE DESIGN DRAWINGS OR PERMITTED BY THE STRUCTURAL ENGINEER.

3. TIES & CLOSE STRIPPERS MUST BE BENT AT 135°.

**STRIPPERS AND THE HOOKS (ALL GRADIS)**

BAR SIZE (Ø/Ø/Ø)	180° HOOK	135° HOOK	90° HOOK
10mm Ø	40	125	100
12mm Ø	50	140	115
14mm Ø	60	155	130
20mm Ø	110	200	180
25mm Ø	150	250	230

**TYPICAL EXTERIOR WINDOW & DOOR OPENING**



NOTE: PROVIDE THESE ADDITIONAL BARS FOR ALL OPENINGS PLUS BARS (NOT SHOWN) PARALLEL TO SIDE OF OPENING EQUAL TO THE NUMBER OF TERMINATED BARS AT OPENINGS.  
SEE ARCHITECTURAL & MECHANICAL PLANS FOR SLAB OPENING LOCATION.

REPUBLIC OF THE PHILIPPINES  
**DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS**  
REGION IX  
**1ST DISTRICT ENGINEERING OFFICE**  
SEGABE, PIRAY, ZAMBOANGA DEL NORTE

PROJECT & LOCATION:  
**CONSTRUCTION OF A RAEMU BUILDING**  
DAYAM CITY, ZAMBOANGA DEL NORTE

SHEET CONTENT:  
GENERAL CONSTRUCTION NOTES-2

ARCHITECTURAL DESIGN:  
OSCAR R. SANCAS JR.  
ENGINEERING ASSISTANT II  
STRUCTURAL DESIGN:  
JOHN ALEX Q. BALE  
ENGINEER II

APPROVED:  
VERONICO C. MURASOL  
ARCHITECT II

SUBMITTED:  
EVA A. TIRANI  
ENGINEER III  
CHIEF, PLANNING & DESIGN SECTION

RECOMMENDED:  
CHRISTOPHER L. EBAL  
ASST. DISTRICT ENGINEER  
RECOMMENDING APPROVAL:

APPROVED:  
VERONICO D. MICALANDA  
DISTRICT ENGINEER

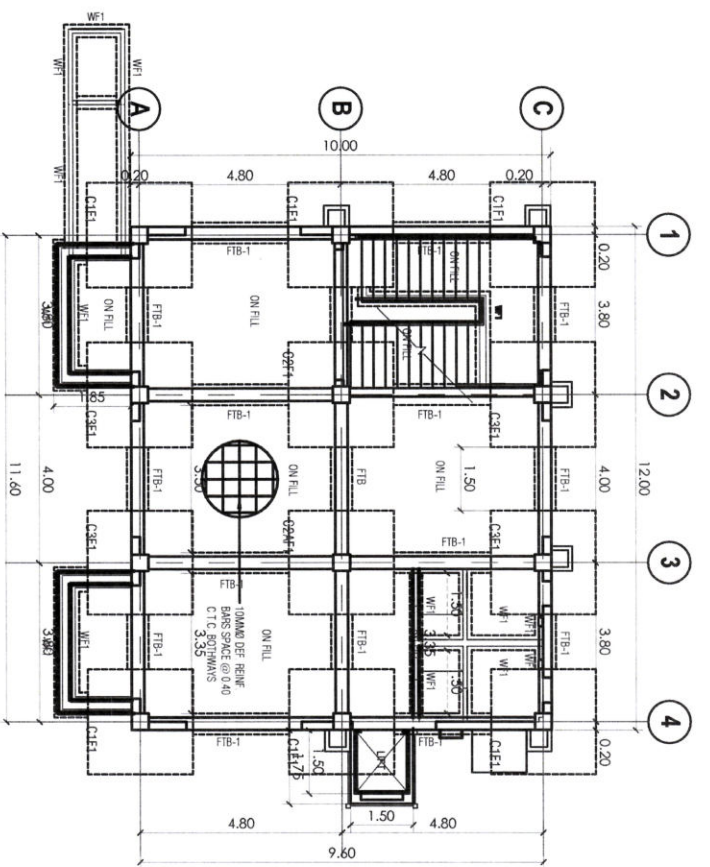
RECOMMENDING APPROVAL:  
ATTY. MARISOL D. LEGASPI  
DPC DIRECTOR IV  
REGIONAL DIRECTOR

RECOMMENDED:  
AMELIA P. VALDEZ  
DIRECTOR IV  
GSO

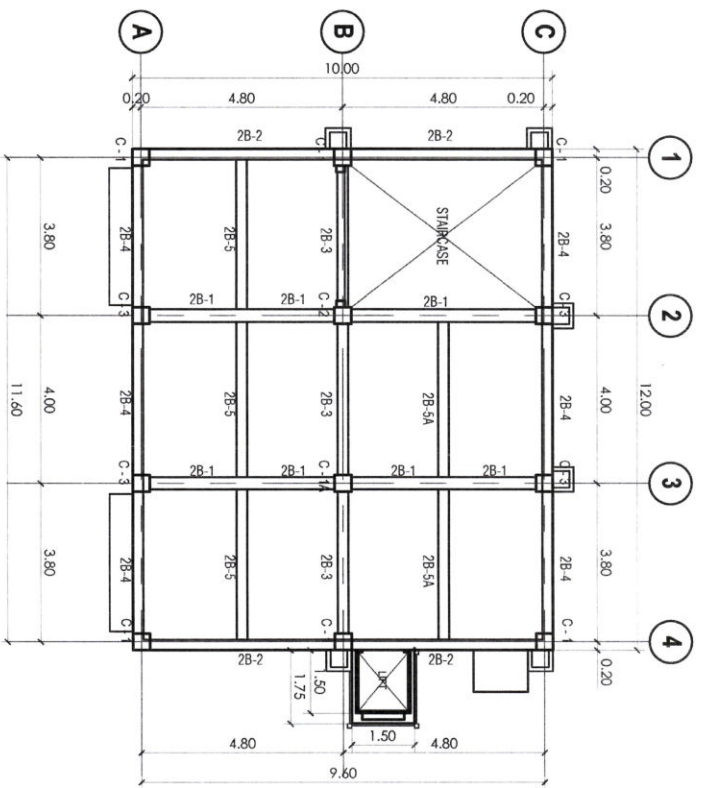
APPROVED:  
LORNA D. CABOCHAN  
ASST. COMMISSIONER  
ADMINISTRATION SECTION

REPUBLIC OF THE PHILIPPINES  
**COMMISSION ON AUDIT**  
REGION IX

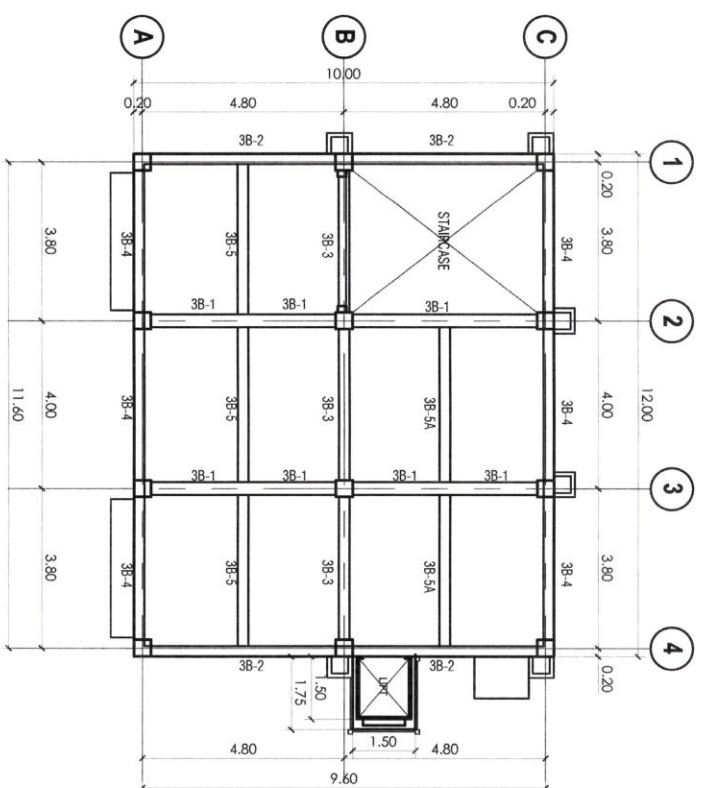
SET NO.: **S 21**  
SHEET NO.: **13 29**



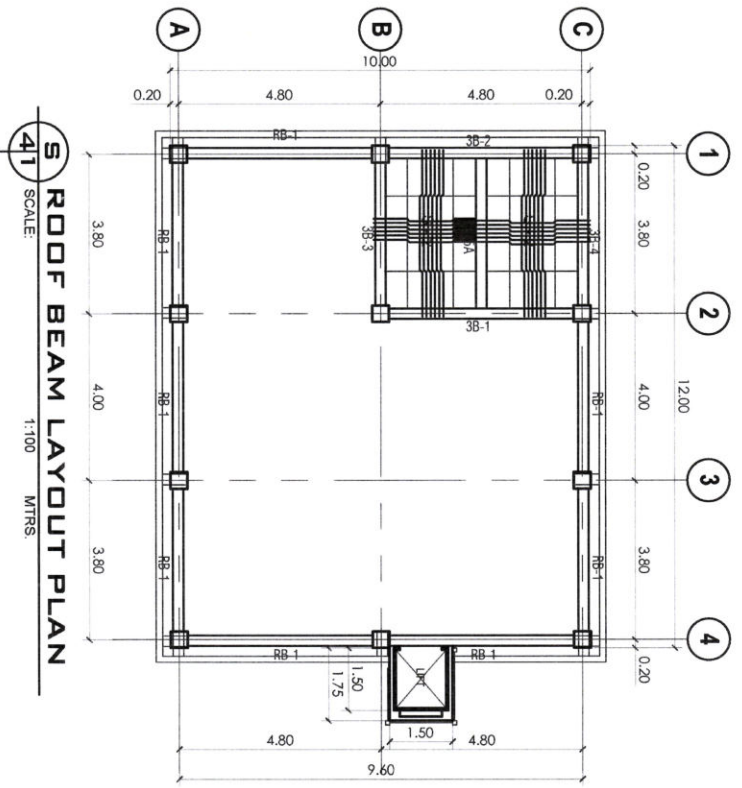
**S1 FOUNDATION PLAN**  
SCALE: 1:100 MTRS.



**S2 SECOND FLOOR BEAM LAYOUT PLAN**  
SCALE: 1:100 MTRS.



**S3 THIRD FLOOR BEAM LAYOUT PLAN**  
SCALE: 1:100 MTRS.



**S4 ROOF BEAM LAYOUT PLAN**  
SCALE: 1:100 MTRS.

**3F BEAMS SCHEDULE:**

BEAM ID	LEFT SUPPORT	MID	RIGHT SUPPORT
3B-5A	0.25 4 - 16mmØ 2 - 16mmØ	2 - 16mmØ 2 - 16mmØ	4 - 16mmØ 2 - 16mmØ
3B-5	0.25 4 - 16mmØ 2 - 16mmØ	2 - 16mmØ 2 - 16mmØ	4 - 16mmØ 2 - 16mmØ
3B-4	0.25 5 - 16mmØ 3 - 16mmØ	2 - 16mmØ 3 - 16mmØ	5 - 16mmØ 3 - 16mmØ
3B-3	0.25 4 - 20mmØ 4 - 20mmØ	2 - 20mmØ 3 - 20mmØ	4 - 20mmØ 3 - 20mmØ
3B-2	0.25 5 - 20mmØ 3 - 20mmØ	2 - 20mmØ 5 - 20mmØ	5 - 20mmØ 3 - 20mmØ
3B-1	0.25 6 - 20mmØ 3 - 20mmØ	2 - 20mmØ 5 - 20mmØ	6 - 20mmØ 3 - 20mmØ

**DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS**  
 REGION IX  
 1ST DISTRICT ENGINEERING OFFICE  
 SEGABE PIVAN, ZAMBOANGA DEL NORTE

**REPUBLIC OF THE PHILIPPINES**  
 COMMISSION ON AUDIT  
 REGION IX

**PROJECT & LOCATION:**  
 CONSTRUCTION OF A RAEMU BUILDING  
 DAPITAN CITY, ZAMBOANGA DEL NORTE

**SHEET CONTENT:**  
 FOUNDATION PLAN  
 SECOND FLOOR BEAM LAYOUT PLAN  
 THIRD FLOOR BEAM LAYOUT PLAN  
 SCHEDULE OF COLUMN  
 2F BEAMS SCHEDULE

**ARCHITECTURAL DESIGNER:**  
 OSCAR B. SACARES, JR.  
 ENGINEERING ASSISTANT II  
 STRUCTURAL DESIGN  
 JOHN REYO, BAEL  
 ENGINEER II

**CHECKED:**  
 FERNANDO C. MIRASOL  
 ARCHITECT II

**SUBMITTED:**  
 EVA A. TRANI  
 ENGINEER III  
 CHIEF, PLANNING & DESIGN SECTION  
 RECOMMENDING APPROVAL:

**RECOMMENDED:**  
 CHRISTOPHER EBAL  
 ASST. ARCHITECT ENGINEER  
 RECOMMENDING APPROVAL:

**APPROVED:**  
 VERONICO O. MICALANDAYO  
 DISTRICT ENGINEER

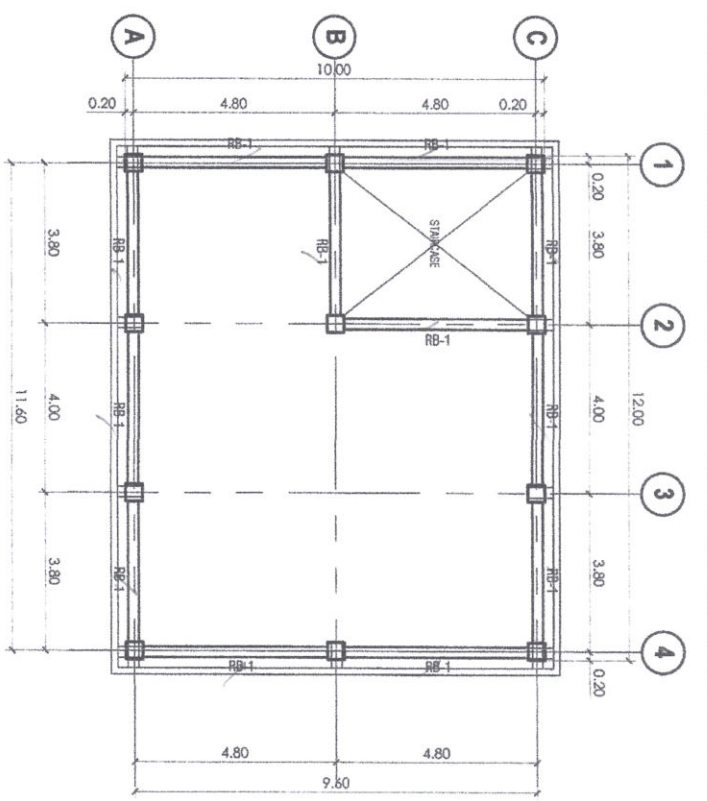
**ATTY. MARISOL D. LEGASPI**  
 OIC-DIRECTOR IV  
 REGIONAL DIRECTOR

**AMELIA P. VALDEZ**  
 DIRECTOR IV  
 GSO

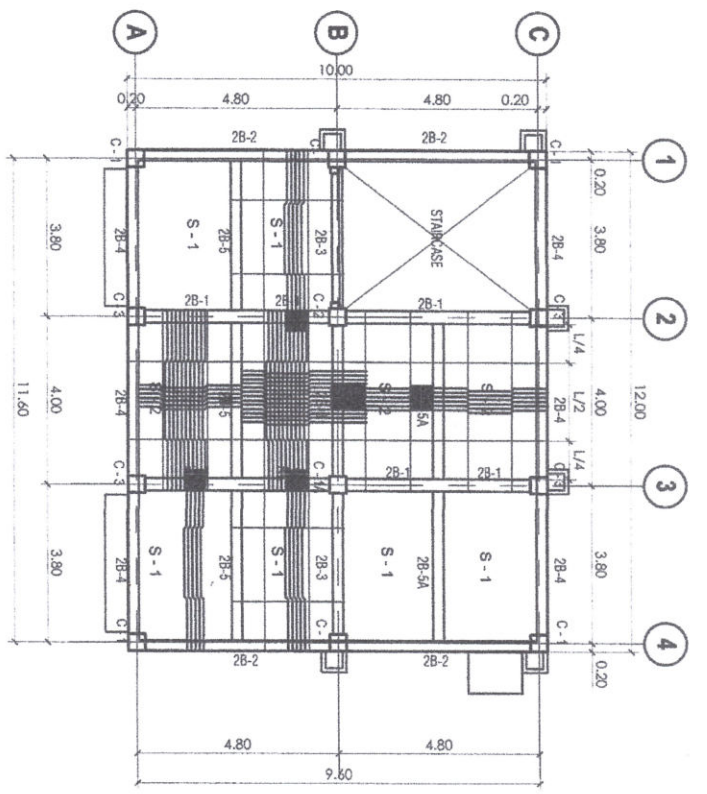
**LORNA D. CABOCHAN**  
 ASSISTANT COMMISSIONER  
 ADMINISTRATION SECTION

SET NO: **S 313**

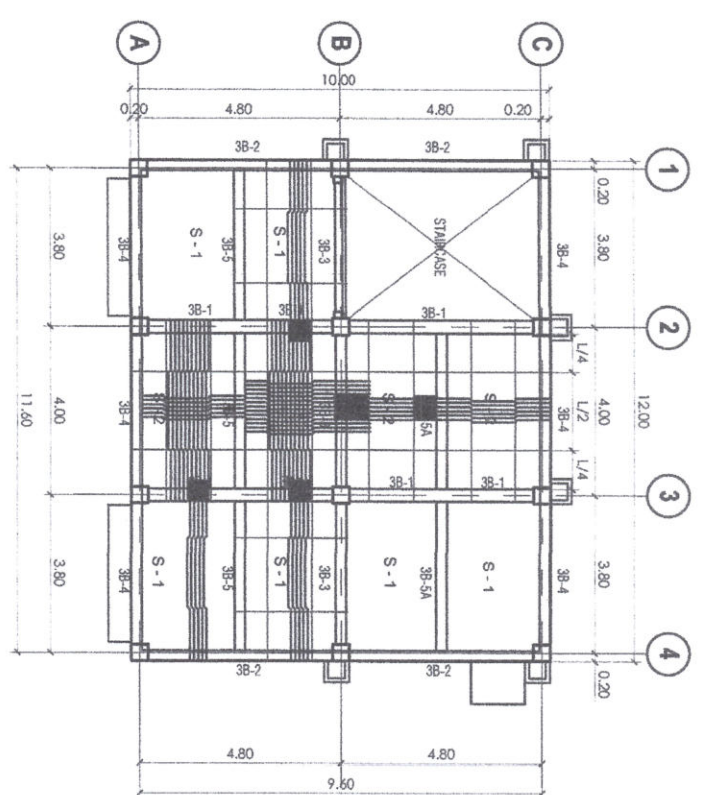
SHEET NO: **14 29d**



**41** **S ROOF BEAM LAYOUT PLAN**  
SCALE: 1:100 METRS.



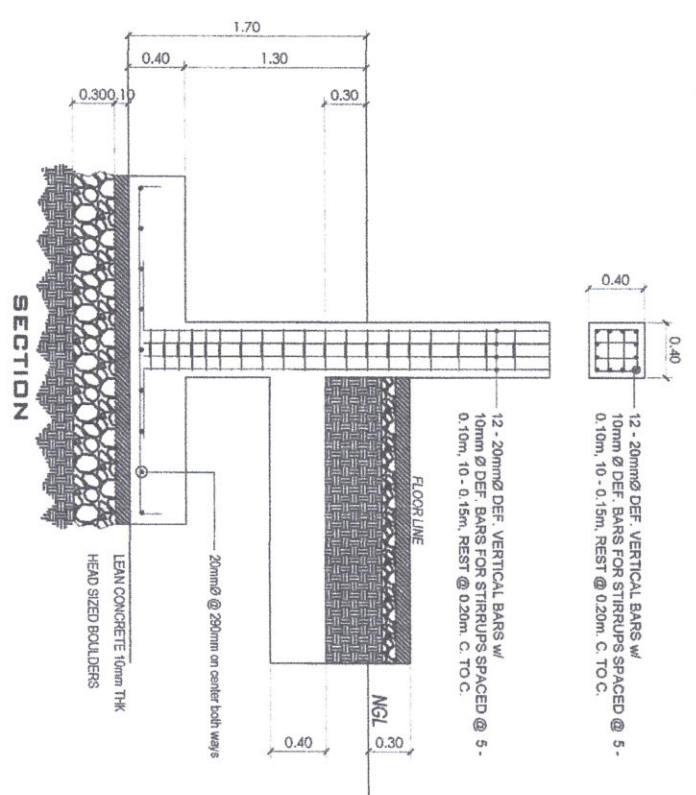
**42** **S SECOND FLOOR FRAMING LAYOUT PLAN**  
SCALE: 1:100 METRS.



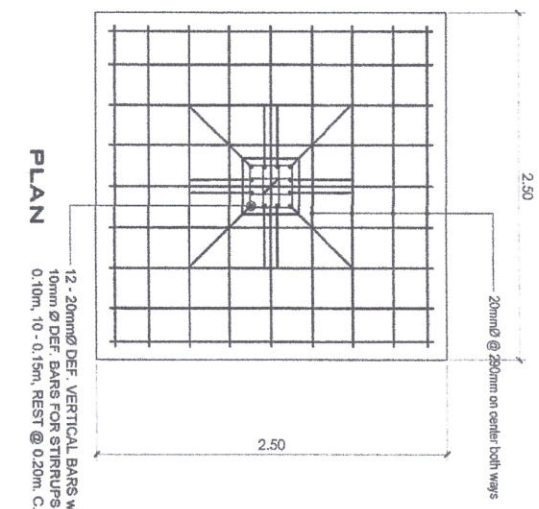
**43** **S THIRD FLOOR FRAMING LAYOUT PLAN**  
SCALE: 1:100 METRS.

**3F BEAMS SCHEDULE:**

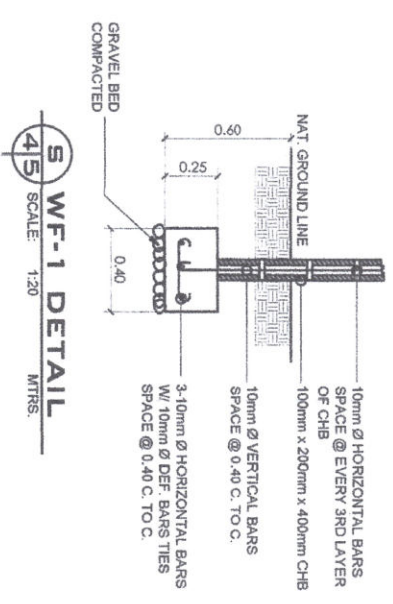
	LEFT SUPPORT	MID	RIGHT SUPPORT
3B-5A	0.25 4 - 16mm $\varnothing$ 2 - 16mm $\varnothing$	2 - 16mm $\varnothing$ 2 - 16mm $\varnothing$	4 - 16mm $\varnothing$ 2 - 16mm $\varnothing$
3B-5	0.25 4 - 16mm $\varnothing$ 2 - 16mm $\varnothing$	2 - 16mm $\varnothing$ 2 - 16mm $\varnothing$	4 - 16mm $\varnothing$ 2 - 16mm $\varnothing$
3B-4	0.25 5 - 16mm $\varnothing$ 3 - 16mm $\varnothing$	2 - 16mm $\varnothing$ 3 - 16mm $\varnothing$	5 - 16mm $\varnothing$ 3 - 16mm $\varnothing$
3B-3	0.25 4 - 20mm $\varnothing$ 4 - 20mm $\varnothing$	2 - 20mm $\varnothing$ 3 - 20mm $\varnothing$	4 - 20mm $\varnothing$ 3 - 20mm $\varnothing$
3B-2	0.25 5 - 20mm $\varnothing$ 3 - 20mm $\varnothing$	2 - 20mm $\varnothing$ 5 - 20mm $\varnothing$	5 - 20mm $\varnothing$ 3 - 20mm $\varnothing$
3B-1	0.25 6 - 20mm $\varnothing$ 3 - 20mm $\varnothing$	2 - 20mm $\varnothing$ 5 - 20mm $\varnothing$	6 - 20mm $\varnothing$ 3 - 20mm $\varnothing$



**44** **S TYPICAL COLUMN FOOTING DETAIL**  
SCALE: 1:30 METRS.



**45** **S WF-1 DETAIL**  
SCALE: 1:20 METRS.



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
REGION IX  
1ST DISTRICT ENGINEERING OFFICE  
SEGADE, PINAN, ZAMBOANGA DEL NORTE

REPUBLIC OF THE PHILIPPINES  
COMMISSION ON AUDIT  
REGION IX

PROJECT & LOCATION:  
CONSTRUCTION OF A RAEMU BUILDING  
DAPITAN CITY, ZAMBOANGA DEL NORTE

SHEET CONTENT:  
ROOF BEAM LAYOUT PLAN  
SECOND FLOOR FRAMING LAYOUT PLAN  
THIRD FLOOR FRAMING LAYOUT PLAN  
3F BEAMS SCHEDULE  
TYPICAL COLUMN FOOTING DETAIL  
WF-1 DETAIL

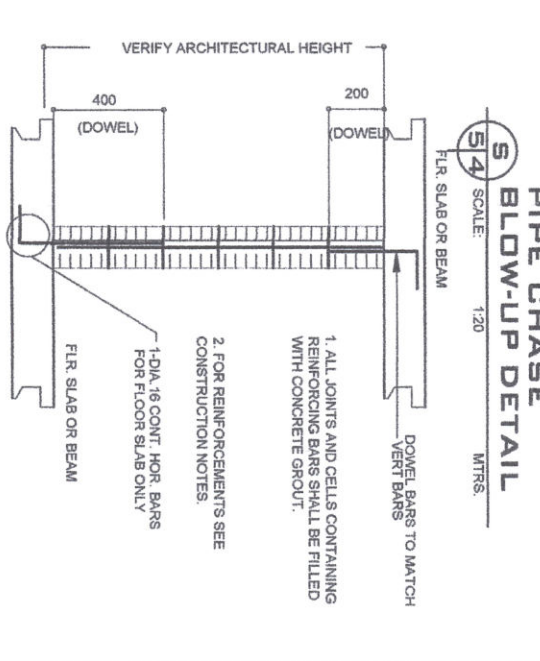
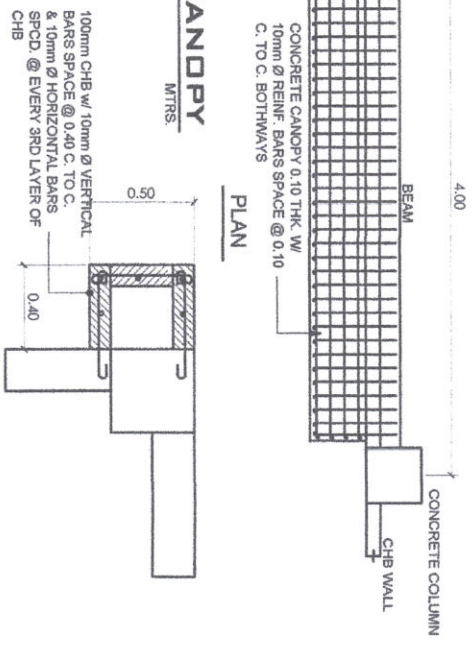
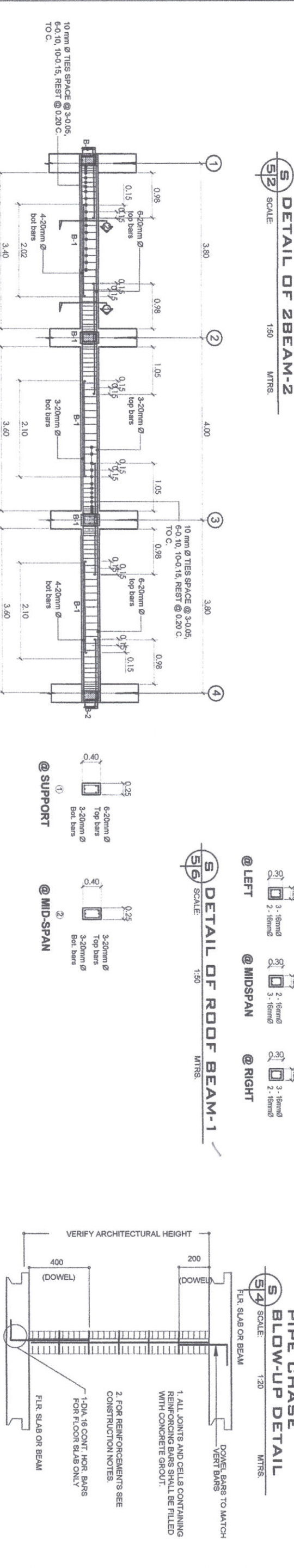
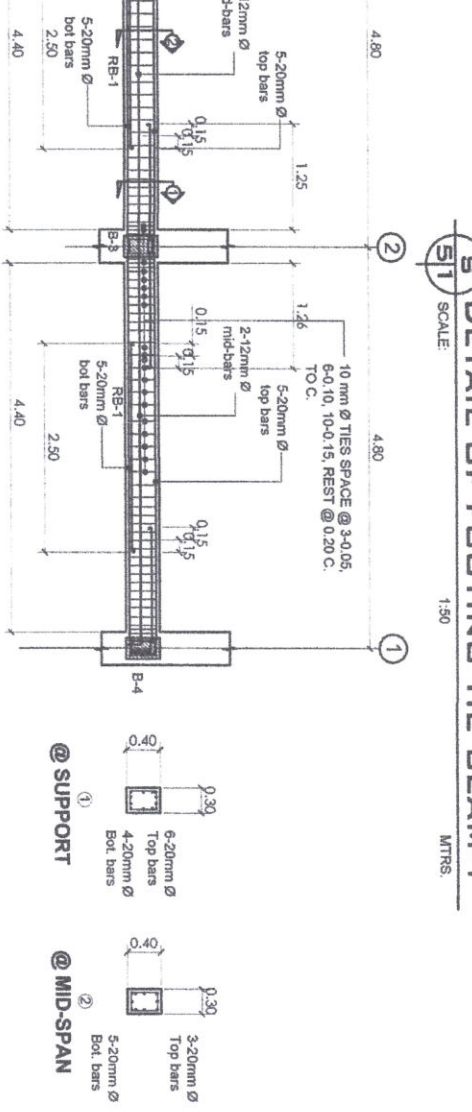
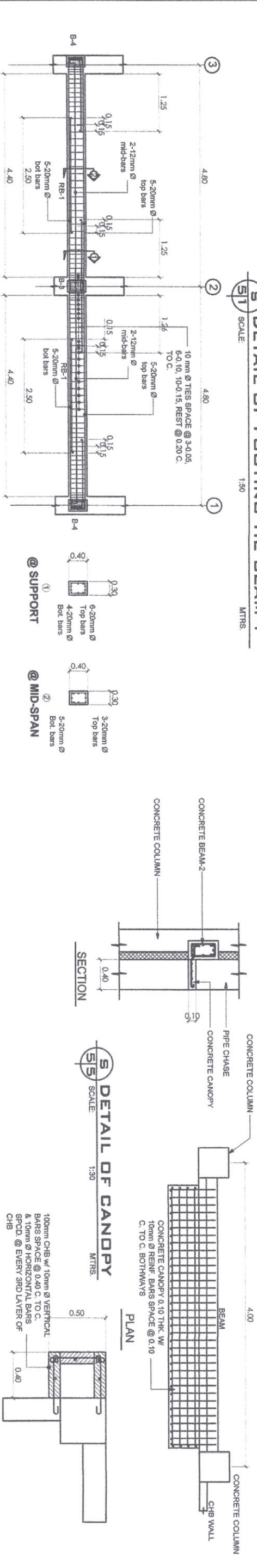
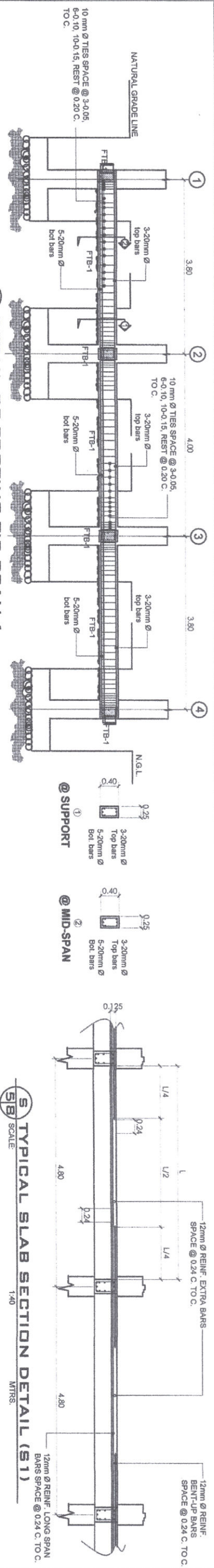
ARCHITECTURAL DESIGN: OSCAR ALBACARES JR. ENGINEER AND ASSISTANT II STRUCTURAL DESIGN: JOHN REX D. BANEL ENGINEER I	CHECKED: FERNANDO C. MIRASOL ARCHITECT II	SUBMITTED: EVA A. TRANI ENGINEER III CHIEF PLANNING & DESIGN SECTION	RECOMMENDED: CHRISTOPHER LIBRAL ASST. DISTRICT ENGINEER
APPROVED: LORNA D. CABOCHANI ASSISTANT COMMISSIONER ADMINISTRATION SECTION	APPROVED: AMABELIA P. VALDEZ DIRECTOR IV GSD	APPROVED: VERONICO O. MISABANDAYO DISTRICT ENGINEER	APPROVED: ATTY. MARISOL P. LEGOSPI SPECIAL DIRECTOR IV REGIONAL DIRECTOR

**S**

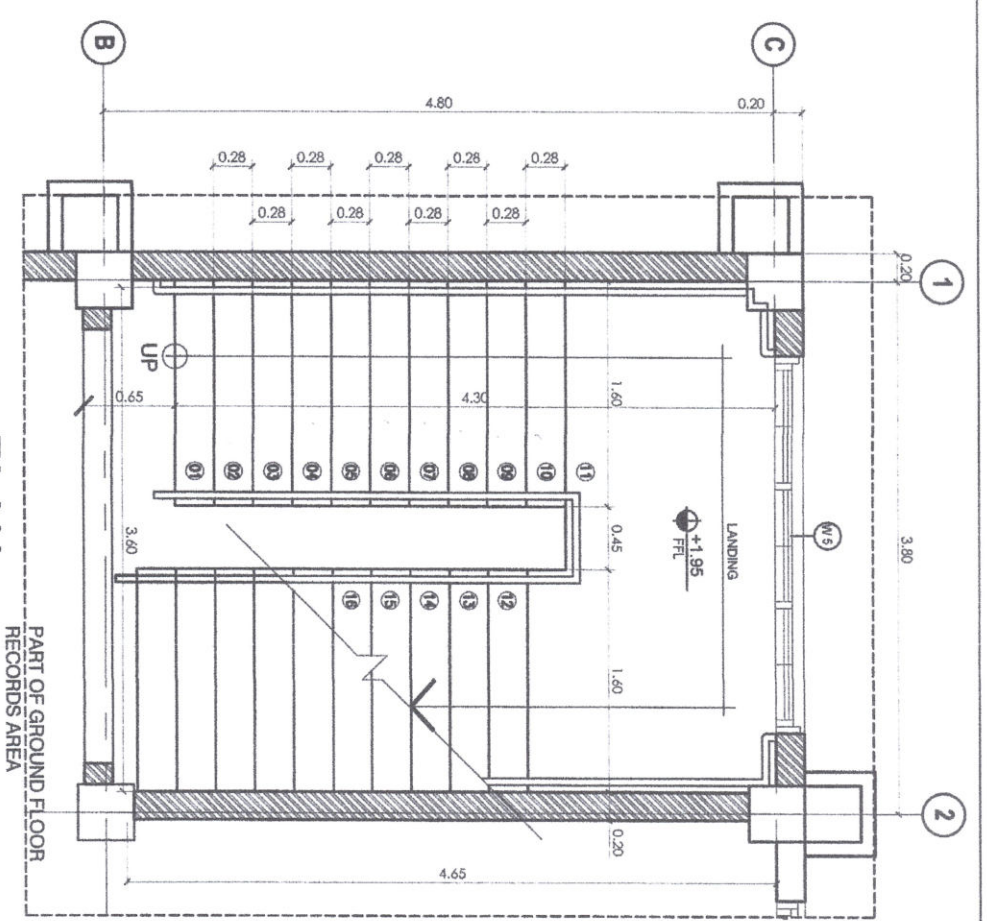
4/5

**15**

29

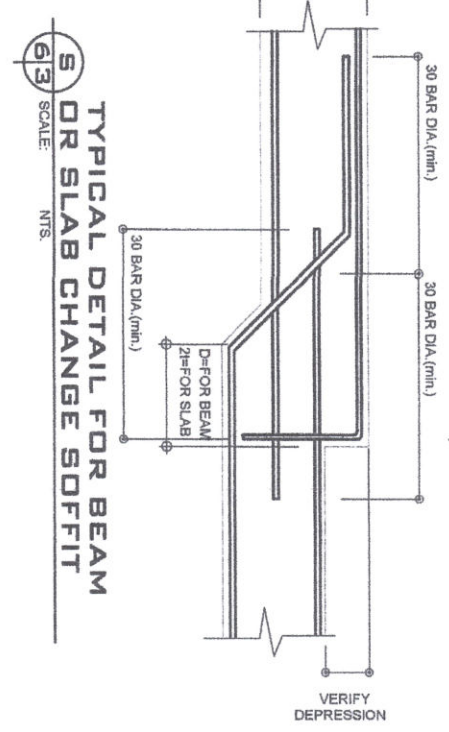


<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IX 1ST DISTRICT ENGINEERING OFFICE SEGABE, PIVAN, ZAMBOANGA DEL NORTE</p>		<p>PROJECT &amp; LOCATION : CONSTRUCTION OF A TAENMU BUILDING DAPITAN CITY, ZAMBOANGA DEL NORTE</p>		<p>SHEET CONTENT : DETAIL OF FOOTING TIE BEAM-1 DETAIL OF 2BEAM-2, DETAIL OF 2BEAM-3 DETAIL OF CANOPY PIPE CHASE BLOW-UP DETAIL PARTITION REIN., DET. OF RB-1 TYP. SLAB SECTION DETAIL</p>		<p>ARCHITECTURAL DESIGN: OSCAR R. SANCHEZ JR. ENGINEERING ASSISTANT II STRUCTURAL DESIGN: JOHN REY D. BAEI ENGINEER II</p>		<p>CHECKED: FERRAN C. MIRASOL ARCHITECT II</p>		<p>SUBMITTED BY: EVA A. TRANI ENGINEER III CHIEF, PLANNING &amp; DESIGN SECTION</p>		<p>RECOMMENDED: KIMBERLY E. BAL ASST. DISTRICT ENGINEER</p>		<p>APPROVED: VERONICA C. MICALANDAYO DISTRICT ENGINEER</p>		<p>SET NO.: S 16</p>		<p>SHEET NO.: 16 29</p>	
<p>REPUBLIC OF THE PHILIPPINES COMMISSION ON AUDIT REGION IX</p>				<p>RECOMMENDING APPROVAL: ATTN: MARISOL D. LEGASPI CHIEF DIRECTOR IV REGIONAL DIRECTOR</p>				<p>RECOMMENDING APPROVAL: AMELIA P. VALDEZ DIRECTOR IV GDO</p>				<p>APPROVED: LORNA D. CABOCHAN ASSISTANT COMMISSIONER ADMINISTRATION SECTION</p>							

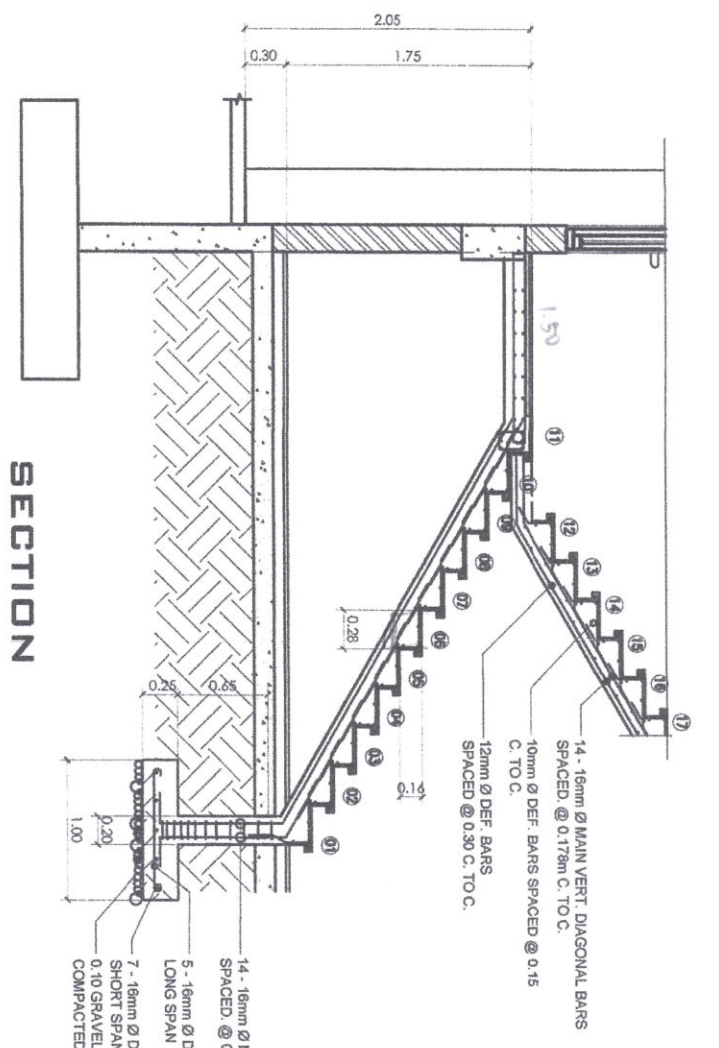


**PLAN**

**5 STAIRCASE FRAMING DETAIL**  
SCALE: 1:30  
MTRS.

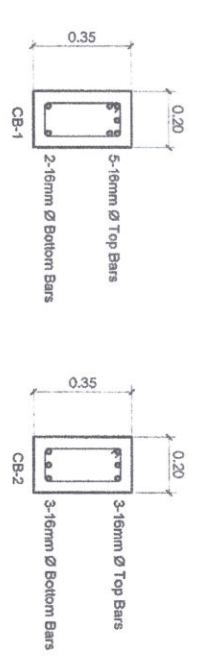


**5 OR SLAB CHANGE SOFFIT**  
SCALE: 1:30  
MTRS.

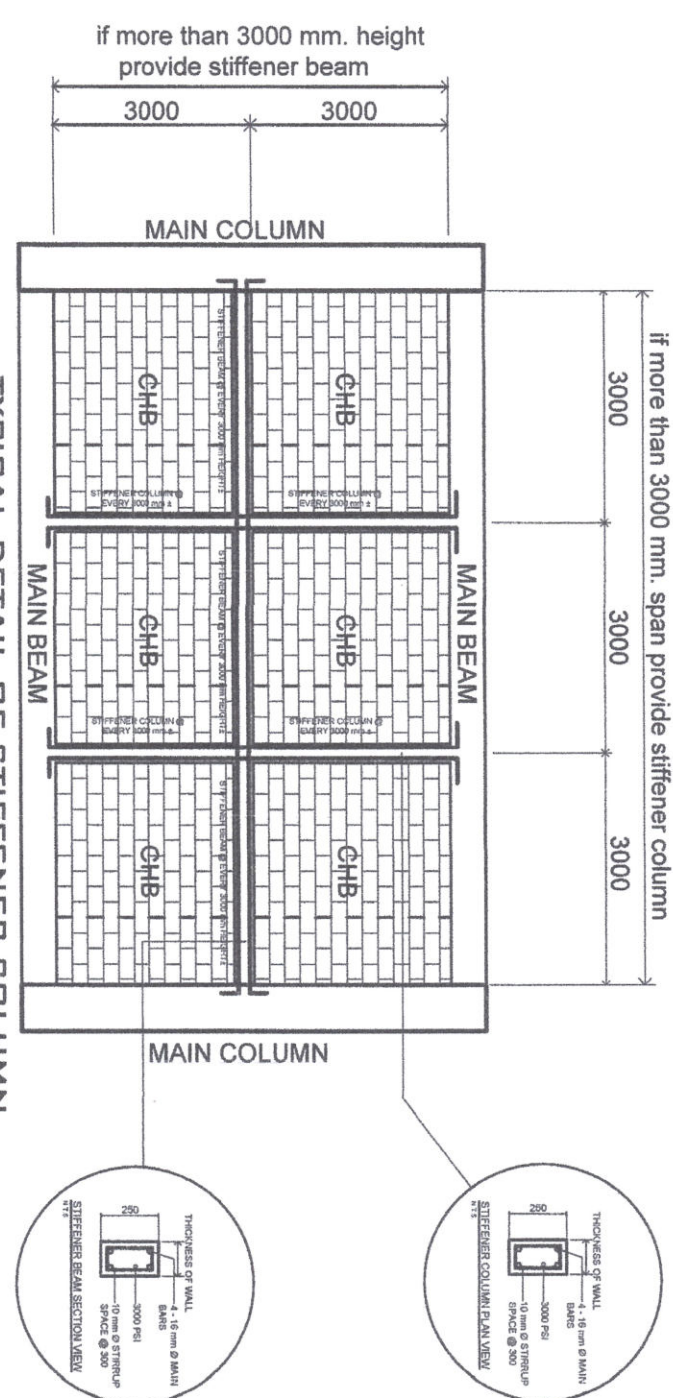


**SECTION**

**5 CANTILEVER BEAM 1 & 2 DETAIL**  
SCALE: 1:15  
MTRS.



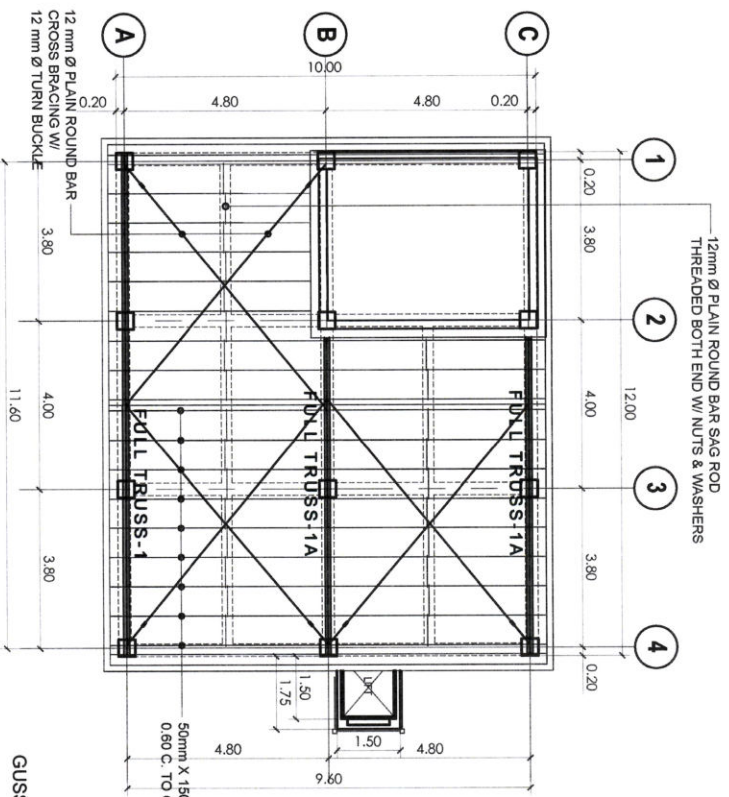
NOTE:  
USE 10mm STIRRUPS SPCD 3 @ 0.5m,  
6 @ 0.10m, 10 @ 0.15m REST @ 0.25m O.C.



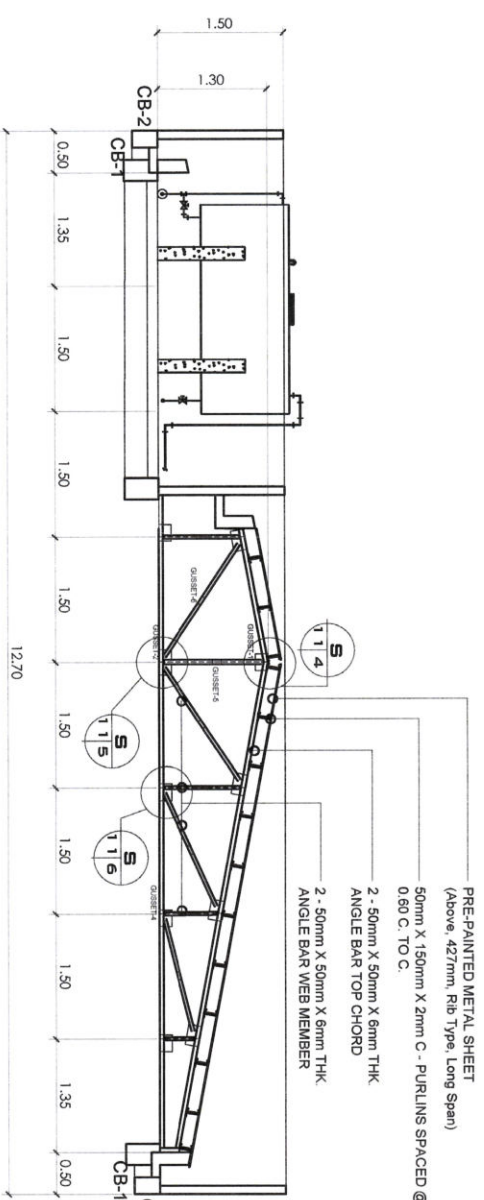
**5 & BEAM FOR MASONRY**  
SCALE: 1:30  
MTRS.

<p>DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IX 1ST DISTRICT ENGINEERING OFFICE SEGADE, PIVAN, ZAMBOANGA DEL NORTE</p>	PROJECT & LOCATION:	ARCHITECTURAL DESIGN:	CHECKED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.:	SHEET NO.:	
	<p>REPUBLIC OF THE PHILIPPINES COMMISSION ON AUDIT REGION IX</p>	<p>CONSTRUCTION OF A RAEMU BUILDING DAPITAN CITY, ZAMBOANGA DEL NORTE</p>	<p>OSCAR R. SACARES JR. ENGINEERING ASSISTANT II STRUCTURAL DESIGN JOHN REX O. BALI ENGINEER II</p>	<p>FERNANDO D. MIRASOL ARCHITECT II</p>	<p>EVA A. TRANI ENGINEER III CHIEF, PLANNING &amp; DESIGN SECTION</p>	<p>CHRISTOPHER L. BALI ASST. DISTRICT ENGINEER</p>	<p>VERONICO O. MACARANDANO DISTRICT ENGINEER</p>	<p>614</p>	<p>17 29</p>
SHEET CONTENT:		<p>STAIRCASE FRAMING DETAIL CANTILEVER BEAM 1 &amp; 2 DETAIL TYP. DETAIL FOR BEAM OR SLAB CHANGE SOFFIT TYP. DETAIL OF STIFFENER COLUMN &amp; BEAM FOR MASONRY</p>		<p>ATTY. MARCOS D. LEGASPI OIC-DIRECTOR IV REGIONAL DIRECTOR</p>		<p>AMELIA P. VALDEZ DIRECTOR IV GSO</p>	<p>LORNA D. CABOCHAN ASSISTANT COMMISSIONER ADMINISTRATION SECTION</p>		

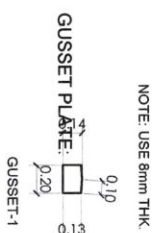




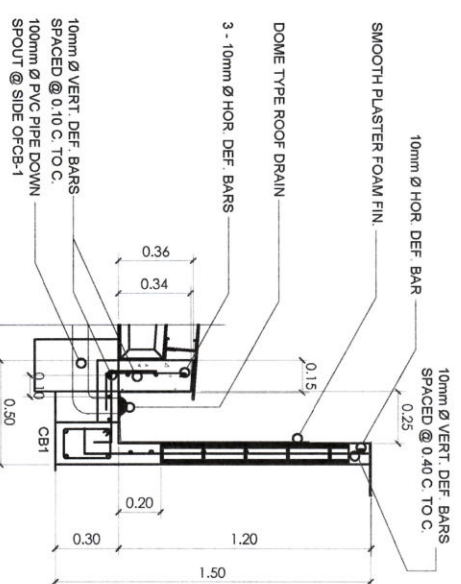
**71** ROOF FRAMING PLAN  
SCALE: 1:100 MTRS.



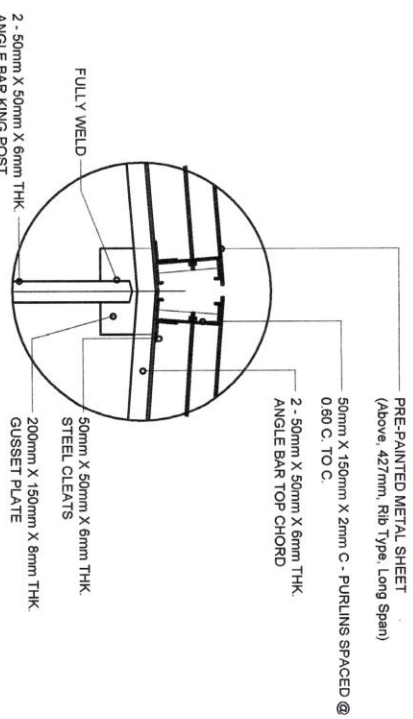
**72** FULL TRUSS-1A DETAIL  
SCALE: 1:50 MTRS.



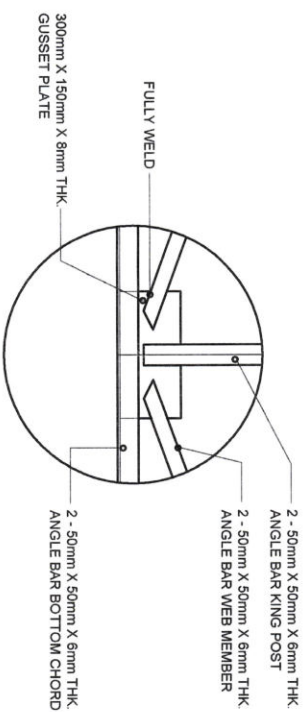
**73** GUSSET PLATE DETAIL  
SCALE: 1:30 MTRS.



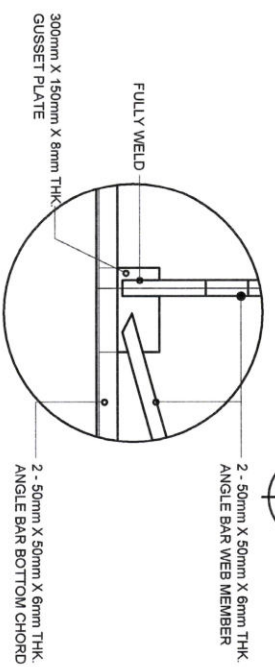
**78** DET. OF CONG. GUTTER  
SCALE: 1:20 MTRS.



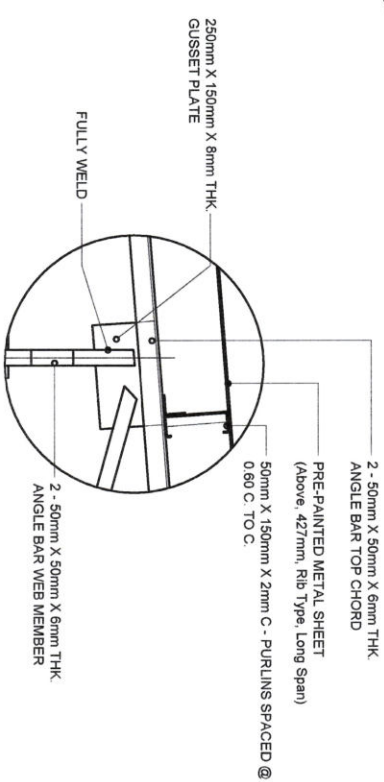
**74** CONNECTION DETAIL-1  
SCALE: 1:10 MTRS.



**75** CONNECTION DETAIL-2  
SCALE: 1:10 MTRS.



**76** CONNECTION DETAIL-4  
SCALE: 1:10 MTRS.



**77** CONNECTION DETAIL-3  
SCALE: 1:10 MTRS.

<p>DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IX SEGABE PINAN, ZAMBOANGA DEL NORTE</p>	<p>REPUBLIC OF THE PHILIPPINES COMMISSION ON AUDIT REGION IX</p>	PROJECT & LOCATION:	CONSTRUCTION OF A RAEMU BUILDING DAPITAN CITY, ZAMBOANGA DEL NORTE						
		SHEET CONTENT:	ROOF FRAMING PLAN FULL TRUSS-1 DETAIL GUSSET PLATE DETAIL DETAIL OF CONCRETE GUTTER						
ARCHITECTURAL DESIGNER:	ENGINEERING ASSISTANT II	CHECKED:	ARCHITECT II	SUBMITTED:	ENGINEER III	RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED:	DISTRICT ENGINEER
OSCAR R. SIKACHES JR.	JOHN REY O. BABEL	FERNANDO C. MIRASOL	EVA A. TRAJAI	CHRISTOPHER L. EBAL	VERONICO Q. MICALANDAVO	AMELIA P. VALDEZ	LORNA D. CABOCHAN		
CHIEF PLANNING & DESIGN SECTION	RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED:					
ATTY. MARISOL D. LEGASPI	REGIONAL DIRECTOR	ATTY. MARISOL D. LEGASPI	REGIONAL DIRECTOR	ATTY. MARISOL D. LEGASPI	REGIONAL DIRECTOR	ATTY. MARISOL D. LEGASPI	REGIONAL DIRECTOR		
SET NO.:	SHEET NO.:	SET NO.:	SHEET NO.:	SET NO.:	SHEET NO.:	SET NO.:	SHEET NO.:		
718	181	718	181	718	181	718	181		
	299		299		299		299		