



REPUBLIC OF THE PHILIPPINES

BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO

MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION

EDUCATION SUPPORT DIVISION - EDUCATION FACILITIES SECTION

BANGSAMORO GOVERNMENT CENTER, COTABATO CITY

DETAILED ENGINEERING DESIGN FOR

ONE (1) STOREY THREE (3) CLASSROOMS

SCHOOL BUILDING

(Various Shools in BARMM)

TDIF 2021

CHECKED & SUBMITTED BY:


BENJAR M. ABO
HEAD, PLANNING AND DESIGN UNIT
EDUCATION FACILITIES SECTION

RECOMMENDING APPROVAL:

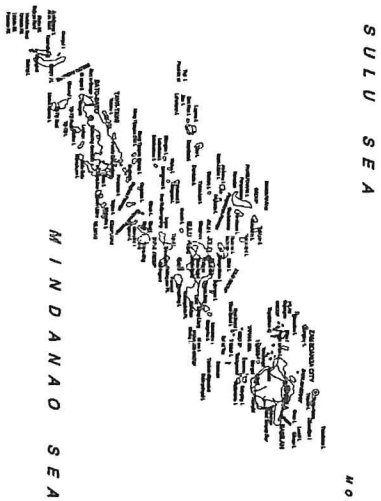
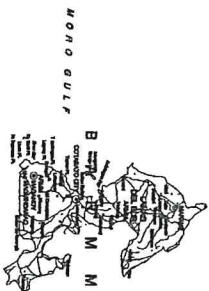

ZUBAIR A. GUIAMAN
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EDUCATION FACILITIES SECTION

APPROVED BY:


MCHAGHER M. IQBAL
MINISTER
MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION



BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO	
OFFICE OF THE BUILDING OFFICIAL	
Republic of the Philippines	
ITEM	DESCRIPTION
ARCHITECTURAL	
A-01	PERSPECTIVE VIGNETTE MAP SITE DEVELOPMENT PLAN TABLE OF CONTENT
A-02	SUMMARY OF QUANTITIES
A-03	GROUND FLOOR PLAN FRONT ELEVATION
A-04	REAR ELEVATION TYPICAL SIDE ELEVATION LONGITUDINAL SECTION CROSS SECTION
A-05	ROOF PLAN REFLECTED CEILING PLAN SCHEDULE OF DOORS & WINDOWS
A-06	TYP. C.I.G. VENT PLAN, DETAIL PERSPECTIVE SECTION PANOILING 01 DETAIL SECTION DETAIL PANOILING 02 DETAIL SECTION DETAIL
A-07	PANOILING DETAILS
A-08	BLOCK BOARD DETAILS
STRUCTURAL	
S-01	GENERAL NOTES
S-02	STANDARD DETAILS
S-03	STANDARD DETAILS
S-04	FOUNDATION PLAN DETAIL OF F-1, I.C-1 COLUMN ELEVATION DETAIL OF STIFFENER TIE BEAM DETAIL SECT. OF RAFT & CORRIDOR DETAIL SECT. OF CORRIDOR TYPICAL WALL FOOTING DETAILS SLAB TO WALL DETAILS
S-05	ROOF BEAM FRAMING PLAN DETAIL OF ROOF BEAM (RB-1) DETAIL OF ROOF BEAM (RB-2) DETAIL SECTION OF ROOF BEAM & CANTILEVER BEAM
S-06	DETAIL ELEVATION OF TRUSS ROOF FRAMING PLAN
S-07	SCHEDULE OF MEMBERS & TRUSS MEMBERS CONCRETE GUTTER DETAIL CONCRETE CORNICE DETAIL CONCRETE CORNICE CONNECTION DETAIL TRUSS SUPPORT CORNER DETAIL DETAIL CORNER OF GROSS BRACING PURLIN SPACE DETAIL PLAN CORNER OF PURLIN AND SAG ROD ROOF RIGID
P. JOINING	
P-01	PLUMBING LAYOUT PLAN WATER LINE LAYOUT PLAN ISOTHERMIC TUBING LAYOUT PLAN ISOTHERMIC WATER LINE LAYOUT PLAN
P-02	GENERAL NOTES SEPTIC TANK DETAILS MISCELLANEOUS DETAILS CATCH BASIN DETAIL AIR CHAMBER DETAIL CLEANOUT DETAIL DRAWING LEGEND
ELECTRICAL	
E-01	LIGHTING LAYOUT PLAN POWER LINE LAYOUT PLAN ELECTRICAL GENERAL NOTES ELECTRICAL LEGENDS/SYMBOLS
E-02	SCHEDULE OF LOADS AND COMPUTATIONS ELECTRICAL RISK DIAGRAM SCHEDULE OF LIGHTING FIXTURE AND LAMPS SINGLE LINE DIAGRAM
SANITARY	
S-03	BILL BOARD/SIGNAGE



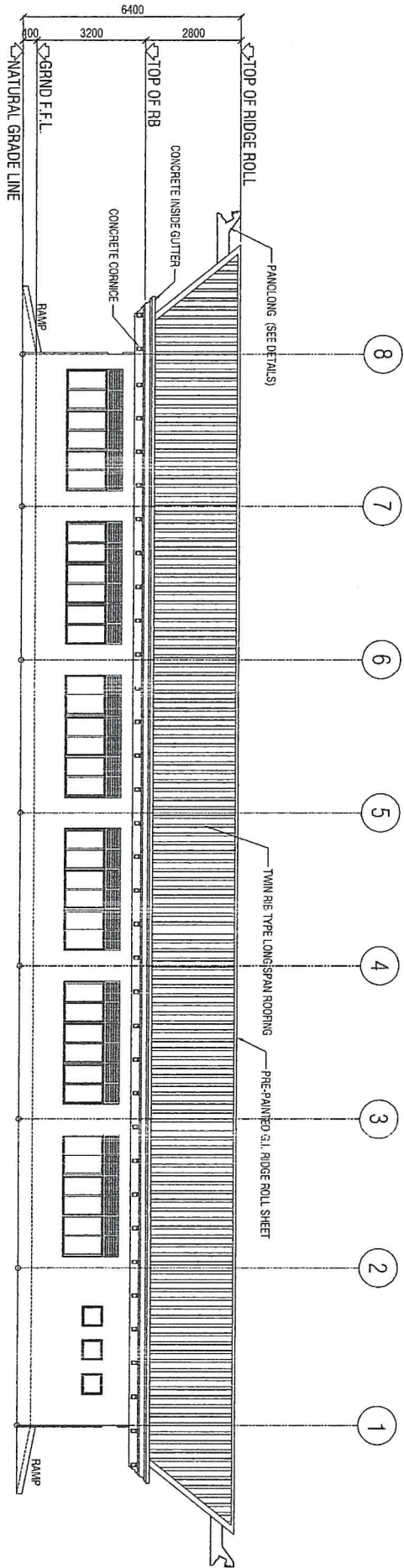
2
A-1
SITE DEVELOPMENT PLAN
SCALE
N.T.S.

3
A-1
VICINITY MAP
SCALE
NTS

			
REPUBLIC OF THE PHILIPPINES BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO		REPUBLIC OF THE PHILIPPINES BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO	
MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION		MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION	
PROJECT TITLE:	CONSTRUCTION OF 1 STOREY 3 CLASSROOMS		
SHEET CONTENTS:	-385'x310' SITE -385'x310' SITE DEVELOPMENT PLAN		
PREPARED BY:			
CHECKED AND SUBMITTED:			
RECOMMENDING APPROVAL:			
APPROVED:			
SHEET NO.:	SEE COVER SHEET		

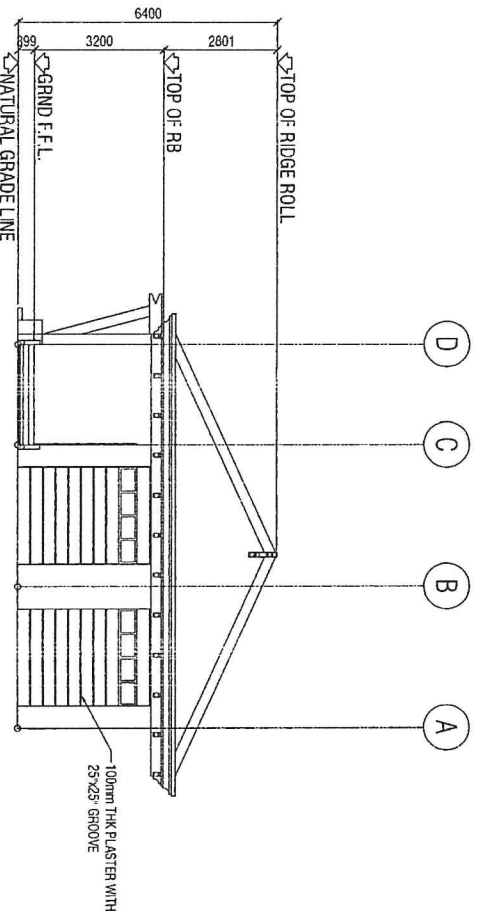


FL-1	PLAIN CEMENT FLOOR FINISH WITH FLOOR HARDENER
FL-2	PLAIN CEMENT FLOOR FINISH WITH FLOOR HARDENER (MOH-SID)
FL-3	MOH-SID CEMENT FLOOR FINISH WITH 6 mm GROOVE LINES AT 20 mm O.C



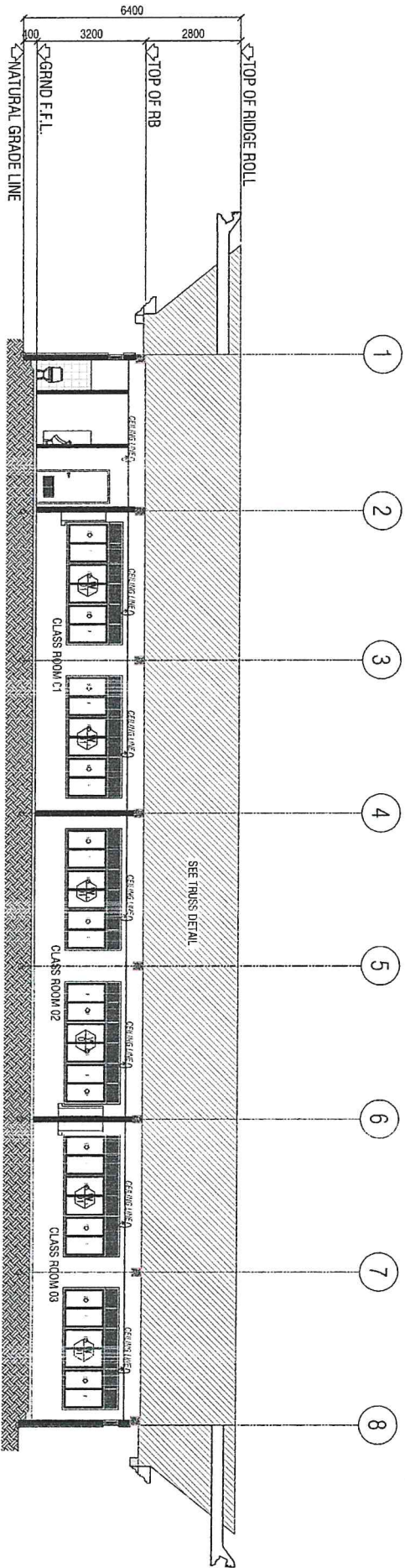
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A-4
SCALE 1:100M

REAR ELEVATION



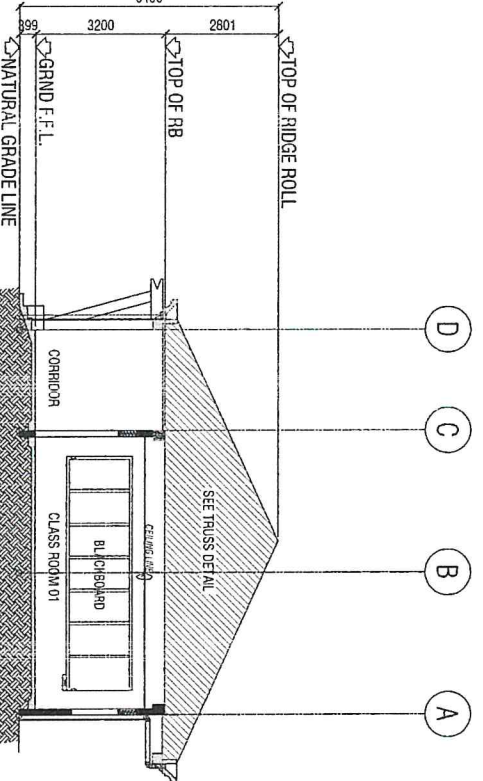
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A-4
SCALE 1:100M

TYPICAL SIDE ELEVATION



3
A-4
SCALE 1:100M

LONGITUDINAL SECTION



4
A-4
SCALE 1:100M

CROSS SECTION



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PROJECT TITLE
CONSTRUCTION OF 1 STOREY 3 CLASSROOMS

SHEET CONTENTS:
3500 ELEVATION
TYPICAL SIDE ELEVATION

PREPARED BY:
M N

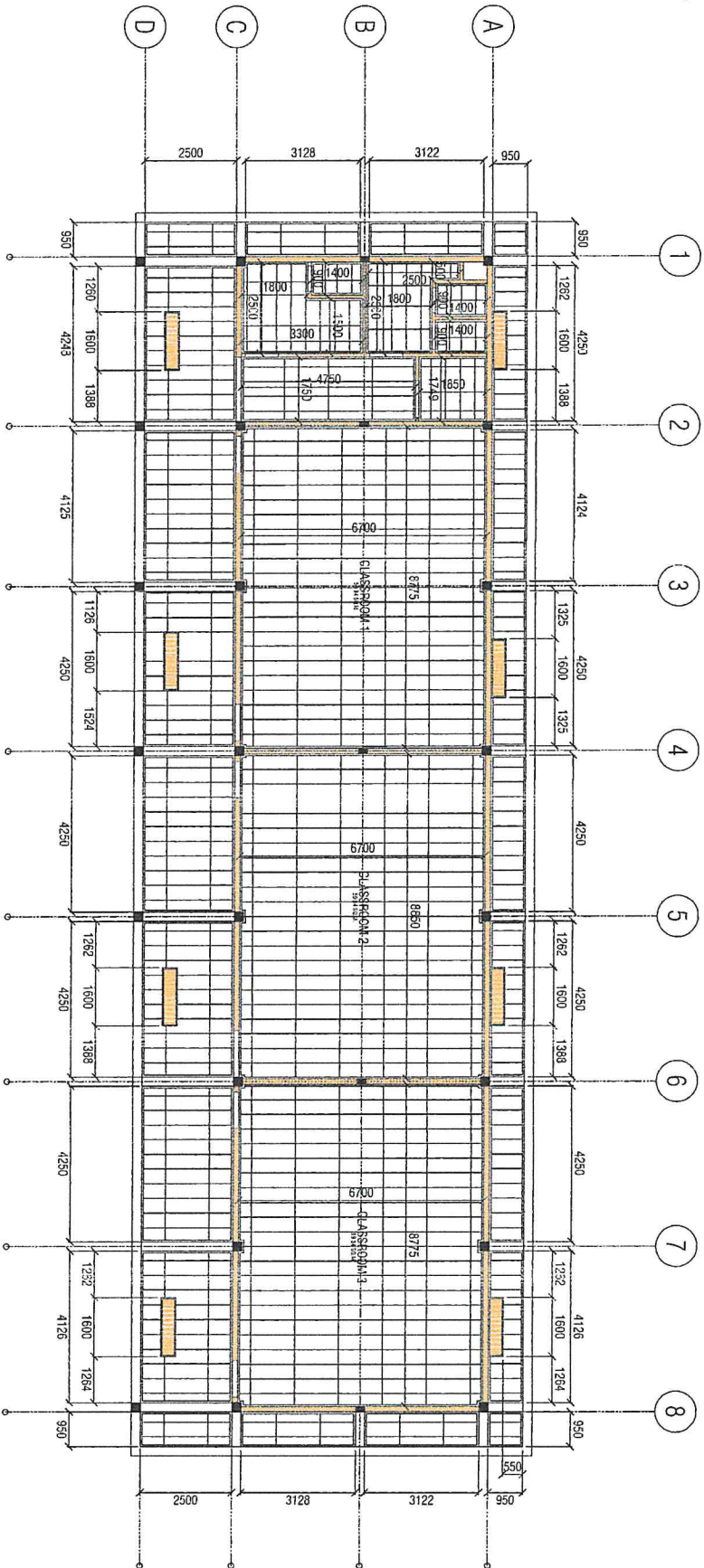
CHECKED AND SUBMITTED:
M N

RECOMMENDING APPROVAL:
M N

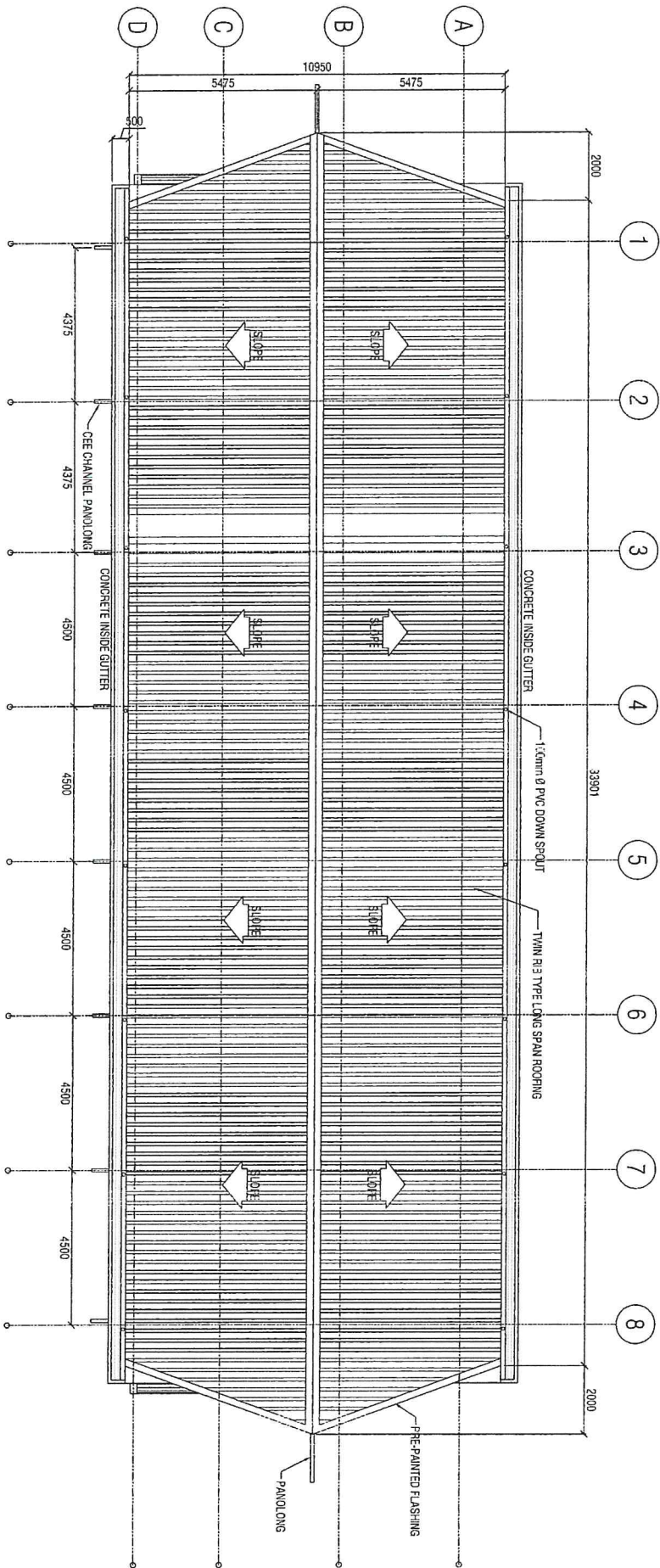
APPROVED:
M N

SEE COVER SHEET

SHEET NO.:



2 REFLECTED CEILING PLAN
A-5 SCALE 1:100M



1 ROOF PLAN
A-5 SCALE 1:100M

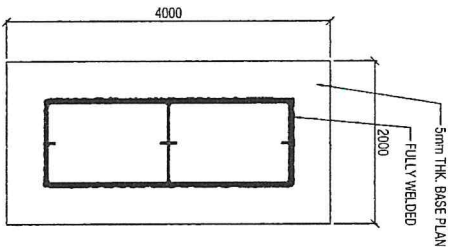
	DESCRIPTION: 3mm THK. CLEAR GLASS SLIDING WINDOW WITH FIXED CLEAR GLASS ON 2"x2" ALUMINUM FRAME WITH LOWER TRANSON	QUANTITY: 3 SETS
	DESCRIPTION: 3mm THK. CLEAR GLASS SLIDING WINDOW WITH FIXED CLEAR GLASS ON 2"x2" ALUMINUM FRAME WITH LOWER TRANSON	QUANTITY: 3 SETS
	DESCRIPTION: 3mm THK. CLEAR GLASS FIXED WINDOW ON 2"x2" ALUMINUM FRAME	QUANTITY: 4 SETS
	DESCRIPTION: 3mm THK. CLEAR GLASS FIXED WINDOW ON 2"x2" ALUMINUM FRAME	QUANTITY: 2 SETS
	DESCRIPTION: PANEL DOOR TYPE HINGED DOOR ON 50 X 150mm WOOD JAMBS/FRAMES AND 400 X 900 mm HEAD TRANSOM WITH KEYS LEVER - TYPE LOCKSETS	QUANTITY: 3 SETS
	DESCRIPTION: PANEL DOOR TYPE HINGED DOOR ON 50 X 150mm WOOD JAMBS/FRAMES WITH KEYS LEVER - TYPE LOCKSETS	QUANTITY: 2 SETS
	DESCRIPTION: PANEL DOOR TYPE HINGED DOOR ON 50 X 150mm WOOD JAMBS/FRAMES WITH KEYS LEVER - TYPE LOCKSETS	QUANTITY: 1 SET
	DESCRIPTION: PVC DOOR WITH LOWER AND COMPLETE ACCESSORIES	QUANTITY: 3 SETS

SCHEDULE OF DOORS & WINDOWS

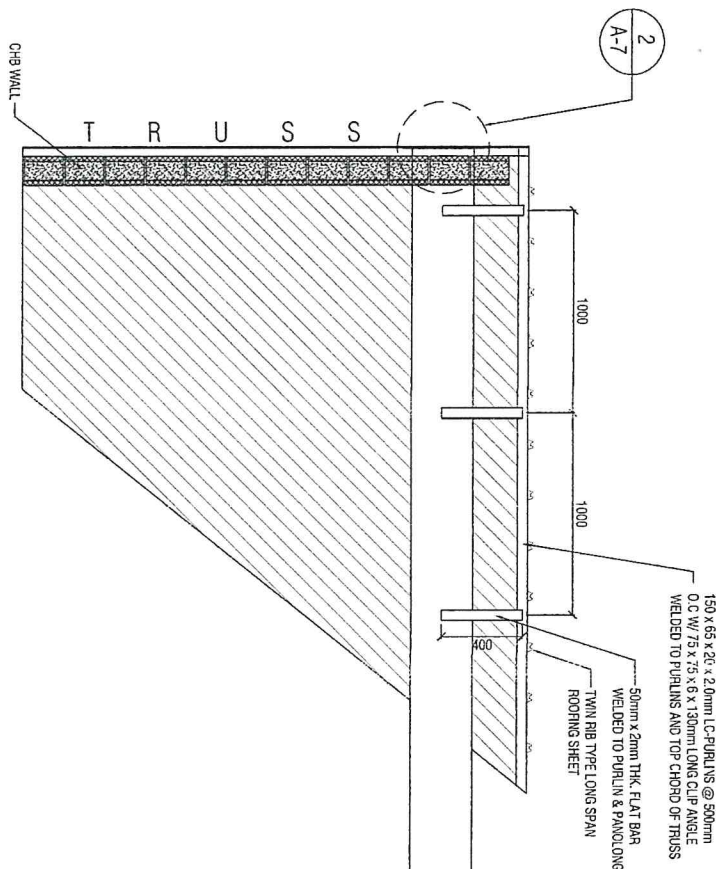
SCALE 1:40M



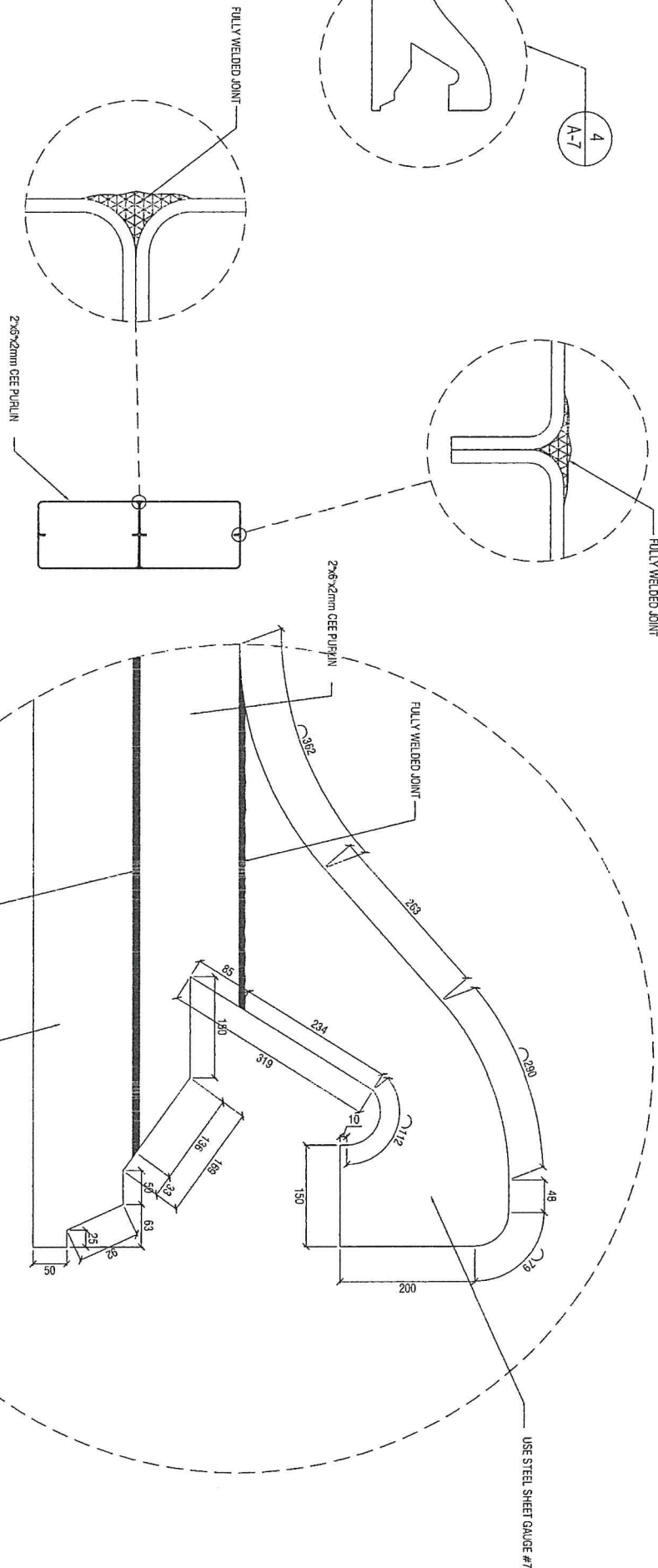
2
A-7
SECTION DETAIL
SCALE 1:5M



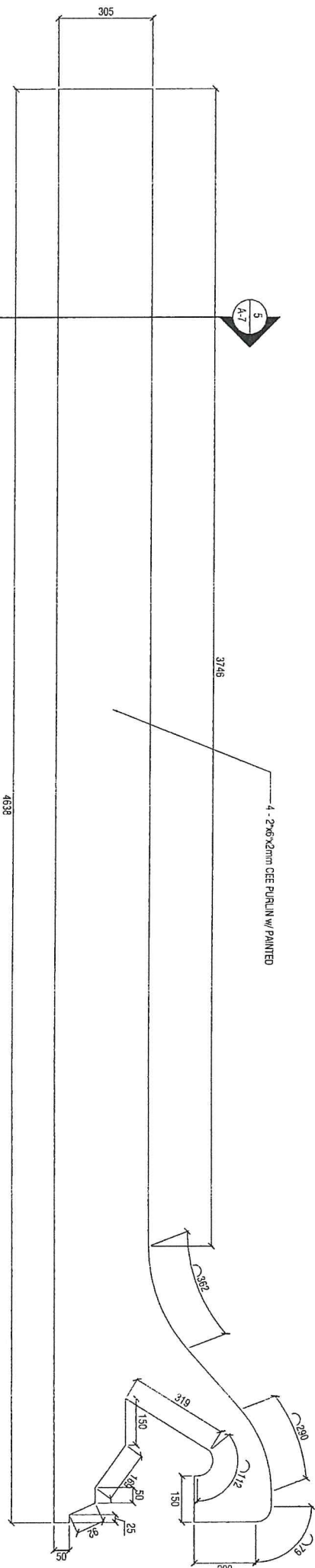
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A-7
PANOLONG CONNECTION DETAIL
SCALE 1:20M



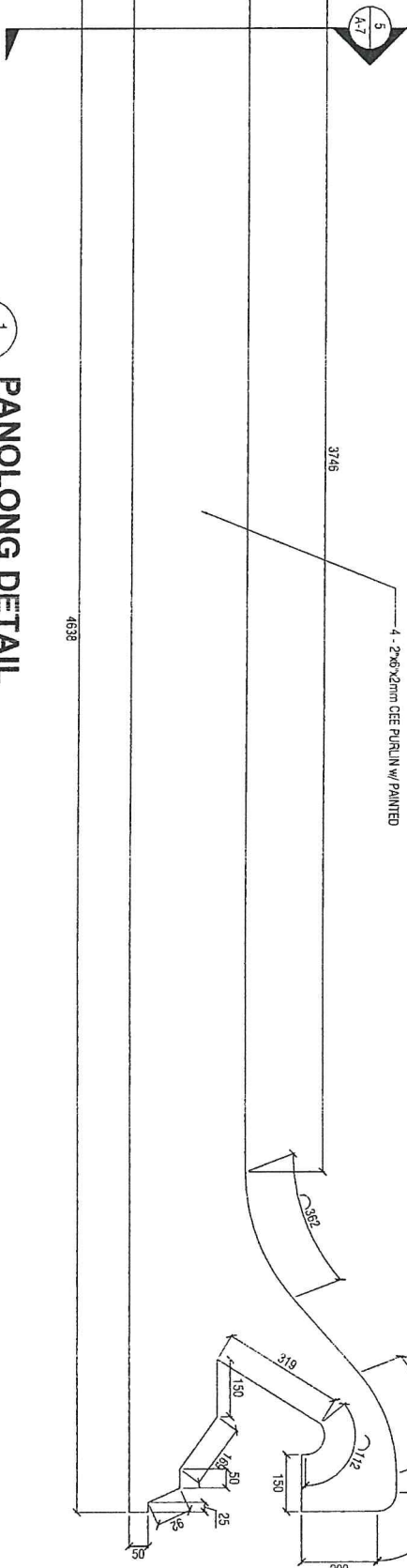
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A-7
SECTION DETAIL
SCALE 1:5M

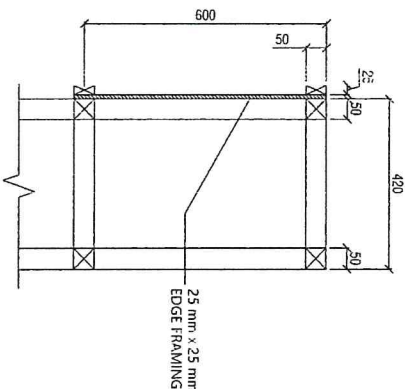
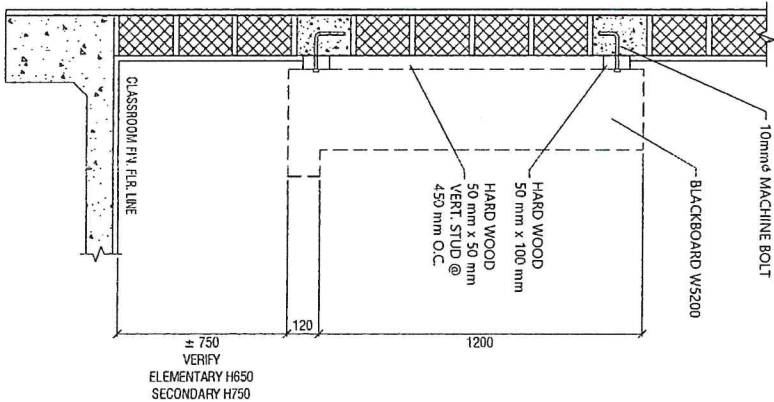
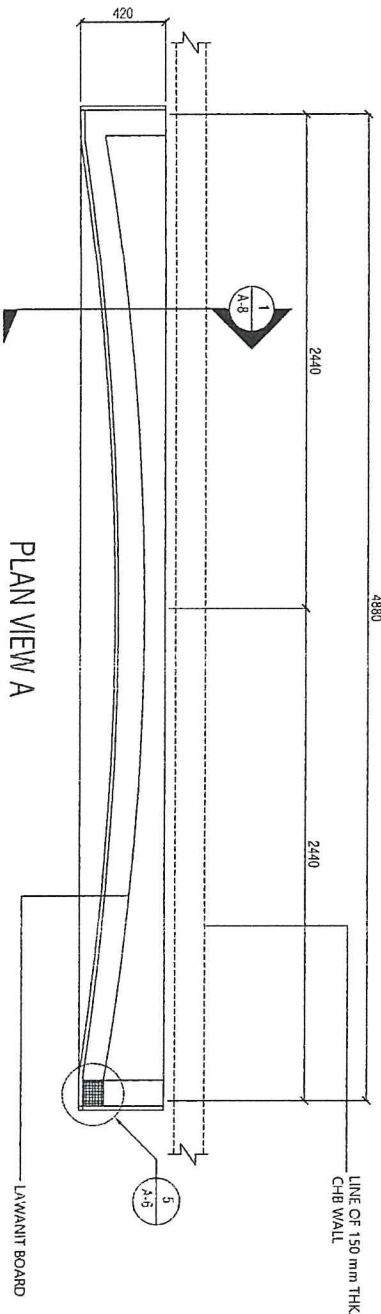
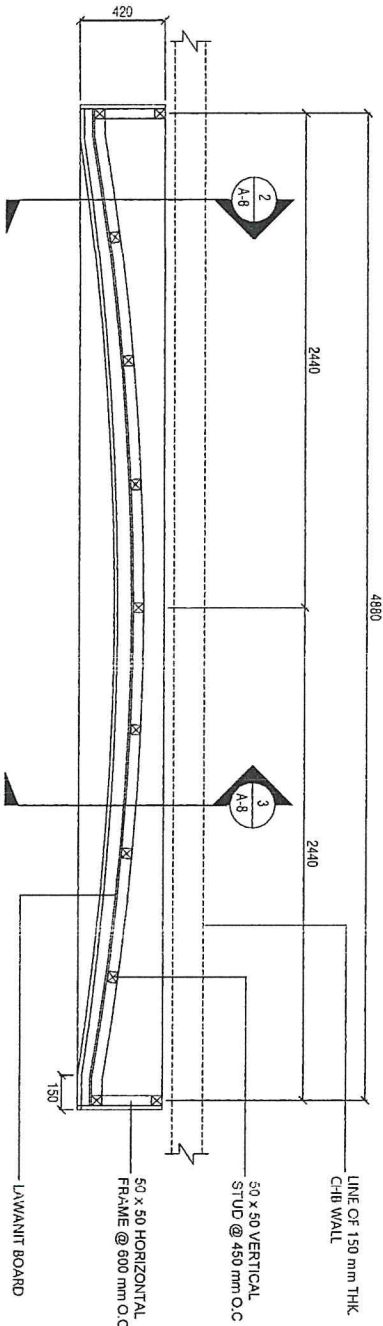
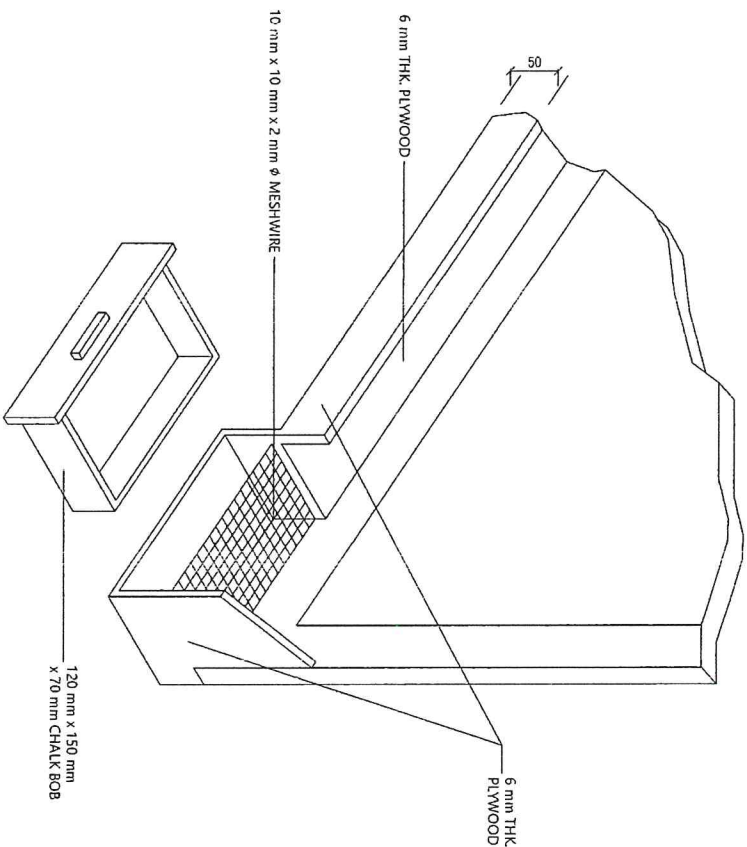
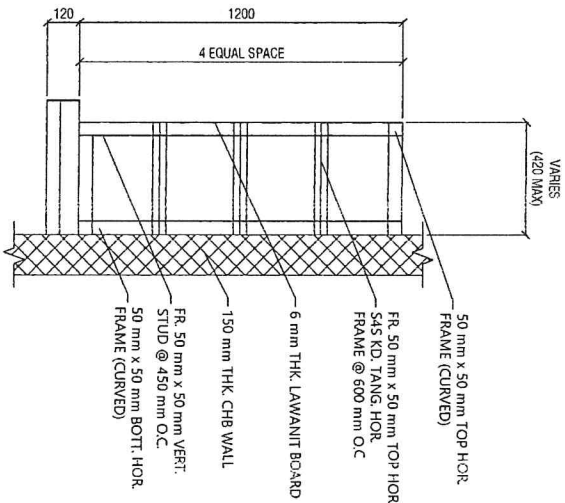
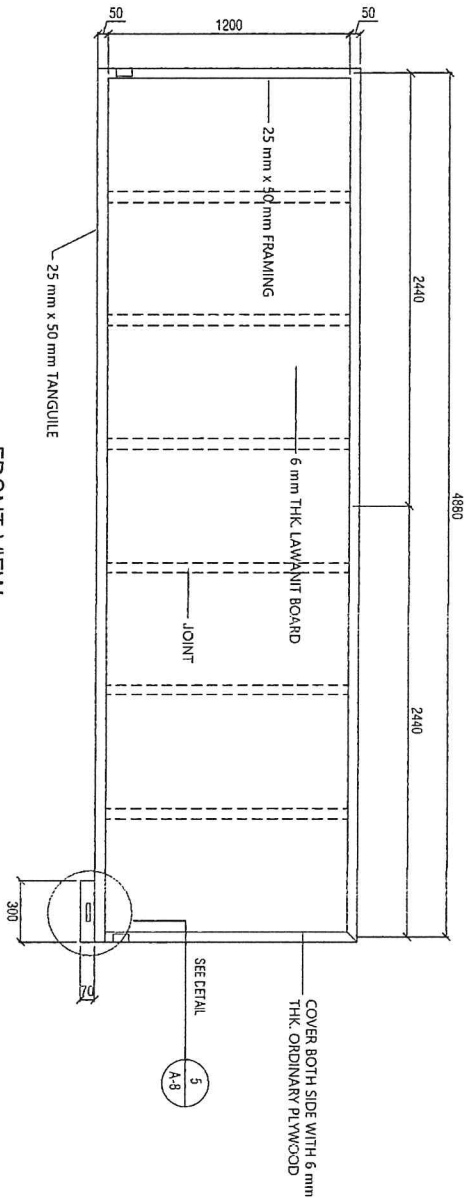


4
A-7
SPOT DETAIL
SCALE 1:5M



1
A-7
PANOLONG DETAIL
SCALE 1:10M





- SPECIFICATION:**
- MATERIALS:**
- 25 x 300 mm SOLID TANGULE OR EQUIVALENT WOOD FRAMES.
 - 6 mm THK PLYWOOD
 - 6 mm THK LAMINIT BOARD
 - 70 x 120 x 150 mm CHALKDUST BOX
 - 2 ϕ x 10 x 10 mm MESHWIRE
- FINISH:**
- FRAMING AND CHALKBOX PAINT WITH QUICK DRYING ENAMEL PAINT (BROWN)
 - BOARD PAINT WITH BLACKBOARD PAINT (GREEN) OR BLACKBOARD SLATE

GENERAL NOTES :

1.0 STANDARD AND REFERENCES

THE FOLLOWING SHALL GOVERN THE DESIGN, FABRICATION AND CONSTRUCTION OF THE PROJECT.

1.1 NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (N.S.C.P.), VOL.1, 6TH EDITION 2014.

2.0 DESIGN CRITERIA

2.1 LOADINGS

A. DEAD LOAD	- 23.56kN/m ² CONCRETE
STEEL	- 76.93kN/m ²
150mm THK CHB WALL	- 2.73 kPa
100mm THK CHB WALL	- 2.11 kPa
B. LIVE LOAD	
ROOF	- 1.00 kPa
CLASSROOM LABORATORY	- 1.90 kPa
TOILETS	- 2.40 kPa
CORRIDORS ABOVE STAIRS	- 3.80 kPa
CORRIDORS ON GROUND	- 4.80 kPa

C. WIND LOAD (NSCP 2010)

BASIC WIND VELOCITY, V = 250 KPH

P = qh = [(GCP)² - (GCP)²] (DESIGN WIND PRESSURE)

WHERE: qh = VELOCITY PRESSURE, kPa

GCP = INTERNAL PRESSURE COEFFICIENT

GCPi = INTERNAL PRESSURE COEFFICIENT

D. SEISMIC LOAD (NSCP 2010)

$V = \frac{C_d I}{R T} W$ (DESIGN BASE SHEAR)

$V_{max} = \frac{250 C_d I}{R} W$ $V_{min} = 0.11 C_d I W$

$V_{min} = \frac{0.002 M}{R} W$ (ZONE 4)

WHERE: W = TOTAL DEAD LOAD

T = NATURAL PERIOD = $C (h)^{\frac{1}{3}}$

WHERE: C = NUMERICAL COEFFICIENT

h = BUILDING HEIGHT

I = IMPORTANCE FACTOR = 1.50

R = NUMERICAL FACTOR = 8.50

SEISMIC COEFFICIENT $C_v = 0.44 N_v$

$C_a = 0.64 N_v$

NEAR SOURCE FACTOR (10km) $N_v = 1.2$

Z = SEISMIC ZONE = 0.40 (ZONE 4)

S = SOIL TYPE = D

2.2. DESIGN STRESSES

A. CONCRETE

COMPRESSIVE STRENGTH @ 28 DAYS

B. REINFORCING BARS

a. FOR BARS 16mm ϕ AND GREATER

b. FOR BARS LESS THAN 16mm ϕ

C. STRUCTURAL STEEL, ASTM-A36

FOR TRUSSES, BRACING, & STRUTS

D. PURLINS

E. MASONRY UNIT (CHB)

F. WELDS-USED E-60xx ELECTRODE

G. STRUCTURAL BOLTS, ASTM-A307

a. $f_t = 96.60$ MPa (14,000 psi)

b. $f_v = 69$ MPa (10,000 psi)

3.0 FOUNDATION

3.1 ASSUMED SOIL BEARING CAPACITY SHALL BE 96kPa (2,000 PSF)

3.1.1 IN CASE THE ACTUAL LOCATION OF THE STRUCTURE IS LESS THAN THE ASSUMED DISTANCE FROM THE SEISMIC SOURCE OF 40km; NOTIFY THE DIRECTOR, BUREAU OF DESIGN FOR PROPER REVISION OF THE DESIGN. REFER TO THE SEISMIC SOURCE MAP PROVIDED IN THE NATIONAL STRUCTURAL CODE OF THE PHILIPPINES OR PHIVOLCS SEISMIC SOURCE MAP.

3.1.2 SOIL TEST SHALL BE CONDUCTED PRIOR TO START OF CONSTRUCTION.

3.1.3 IN CASE THE ACTUAL SOIL BEARING CAPACITY IF FOUND LESS THAN THE ASSUMED, 96kPa; NOTIFY THE DIRECTOR, BUREAU OF DESIGN FOR PROPER REVISION OF FOUNDATION.

3.1.4 NO FOOTING SHALL REST ON FILL.

3.1.5 BOTTOM OF FOOTING SHALL BE AT LEAST 1,00mm. BELOW NATURAL GRADE LINE.

3.1.6 SOIL BEARING CAPACITY SHALL BE INCREASED BY 33% WHEN IN COMBINATION WITH SEISMIC OR WIND LOAD.

3.2 ALL COLUMN FOOTINGS & TIE BEAMS SHALL REST ON 100mm THK. WELL COMPACTED GRAVEL BASE COURSE.

3.3 BACK FILL SHALL BE PLACED IN LAYER AND EACH LAYER SHALL BE 200mm THK. AND SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY.

3.4 WHERE LOOSE/SOFT MATERIAL IS ENCOUNTERED AT DEPTH OF EMBEDMENT INDICATED, EXCAVATE TO FIRM LAYER AND REPLACE LOOSE/MATERIALS UNDERNEATH THE FOOTING WITHIN THE FOOTING AREA PLUS $\frac{1}{2}$ DEPTH OF SOFT MATERIAL ON ALL SIDES WITH SELECT GRANULAR BACKFILL. COMPACT SELECT GRANULAR BACKFILL TO 95% OF MAXIMUM DRY DENSITY.

4.0 MATERIALS

4.1 CONCRETE

4.1.1 CONCRETE COVER OVER REINFORCING BARS SHALL BE AS FOLLOWS :

A. FOOTINGS, FOOTING-TIE BEAMS (CAST AGAINST EARTH)

B. BEAMS AND COLUMNS (TIO STRIRUPS AND TIES)

C. WALLS, SIDE OF FOOTING-TIE BEAMS (CAST AGAINST FORMS)

D. SUSPENDED SLAB

4.1.2 BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, ETC., RELATING TO THE WORK.

4.2 REINFORCING BARS

4.2.1 ALL REINFORCING BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIALS THAT WILL IMPAIR BOND.

4.2.2 ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE OR APPLYING MORTAR OR GROUT.

4.2.3 LAPPED SPLICES SHALL BE STAGGERED WHERE POSSIBLE.

4.2.4 UNLESS OTHERWISE INDICATED, SPLICING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI-318M, EXCEPT THAT THE MINIMUM LAP SPICE SHALL BE 40 BAR DIAMETER BUT NOT LESS THAN 800mm.

4.2.5 UNLESS SHOWN OTHERWISE ON PLANS, SPLICES SHALL BE AS FOLLOWS:

A. INTERMEDIATE BEAMS: TOP BARS SHALL BE SPLICED AT MID-SPAN AND BOTTOM BARS AT THE SUPPORT.

B. BEAMS FRAMING TO COLUMNS: TOP BARS SHALL BE SPLICED AT MID-SPAN AND BOTTOM BARS SHALL NOT BE SPLICED W/IN THE COLUMN OR W/IN A DISTANCE OF TWICE THE MEMBER DEPTH FROM THE FACE OF THE COLUMN. THE SPLICED LENGTH SHALL NOT BE LESS THAN 1.4 TIMES THE DEVELOPMENT LENGTH (ld) IN 4.2.8 BELOW BUT NOT LESS THAN 600mm.

C. COLUMNS: LAP SPLICES SHALL NOT BE MADE WITHIN THE CENTER HALF OF HEIGHT AND THE SPICE SHALL NOT BE LESS THAN 30 BAR DIAMETER. WELDING OR THE USE OF APPROVED MECHANICAL DEVICES MAY BE PERMITTED PROVIDED NOT MORE THAN ALTERNATE BARS ARE WELDED OR SPLICED AT ANY LEVEL AND THE MINIMUM VERTICAL DISTANCE BETWEEN TWO ADJACENT BAR SPLICES SHALL BE 600mm.

D. CHB WALLS: VERTICAL BARS SHALL BE SPLICED AT THE TOP OF WALL FOOTINGS OR FOOTING-TIE BEAMS AND AT THE BOTTOM OF REINFORCED CONCRETE UNITE BEAMS OR BEAMS.

4.2.6 UNLESS OTHERWISE INDICATED: ALL BEAMS TERMINATING AT A COLUMN SHALL HAVE TOP AND BOTTOM BARS EXTENDING TO THE FAR FACE OF THE COLUMN, TERMINATING IN A STANDARD 90 HOOK LENGTH OF ANCHORAGE SHALL NOT BE LESS THAN 600mm.

4.2.7 SHOP DRAWING FOR REINFORCEMENT SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER PRIOR TO FABRICATION & INSTALLATION.

4.2.8 DEVELOPMENT LENGTH (ld) OF REINFORCING BARS SHALL BE AS FOLLOWS:

SIZE OF REBARS	DEVELOPMENT LENGTH
10mm	170mm
12mm	220mm
16mm	270mm
20mm	380mm
25mm	600mm

4.3 STRUCTURAL STEEL

4.3.1 ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 AND SHALL HAVE A MINIMUM YIELD STRESS, $f_y = 248$ MPa (36,000 psi)

4.3.2 ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE AS AMENDED TO DATE.

4.3.3 ALL BOLTS SHALL CONFORM TO ASTM A-307 UNLESS OTHERWISE INDICATED.

4.3.4 SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 AND PERFORMED BY QUALIFIED WELDERS

4.3.5 UNLESS OTHERWISE INDICATED, WELDING ELECTRODES SHALL BE E60.

4.3.6 NO STEEL SHALL BE FABRICATED OR ERECTED UNTIL SHOP DRAWINGS HAVE BEEN APPROVED BY THE STRUCTURAL ENGINEER.

4.3.7 WELDS/(CONFORM) WITH AMERICAN WELDING STANDARDS) USING E60xx ELECTRODES, $f_y = 93.77$ MPa.

4.3.8 ANCHOR BOLTS (CONFORM WITH ASTM A-307) $f_t = 96.60$ MPa. $f_y = 69$ MPa.

4.4 CONCRETE HOLLOW BLOCKS (CHB)

4.4.1 UNLESS OTHERWISE INDICATED, CHB USED IN THIS WORK SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH $f_m = 3.45$ MPa (500 psi)

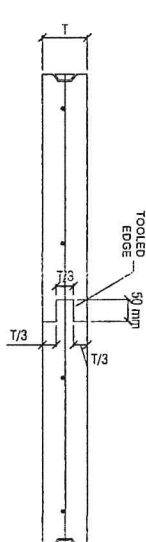
4.4.2 ALL CHB CELLS SHALL BE FILLED SOLIDLY WITH GROUT.

5.0 CONSTRUCTION JOINT

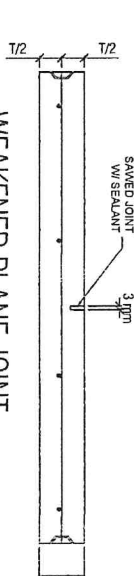
5.1 CONSTRUCTION JOINT SHALL NOT INDICATED ON THE PLANS SHALL BE MADE SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER EXCEPT SLAB ON GRADE.

5.2 UNLESS SHOWN OTHERWISE, SLAB ON GRADE SHALL HAVE CONTROL JOINTS SPACED AT 6000mm MAXIMUM CENTER TO CENTRE.

5.3 BEAMS CONSTRUCTION JOINT SHALL BE LOCATED W/IN THE MIDDLE THIRD OF THE SPAN. IT SHALL BE PROVIDED WITH 3 EXTRA STRIRUPS @ 75mm O.C. ON EACH SIDE OF THE JOINT.



CONSTRUCTION JOINT

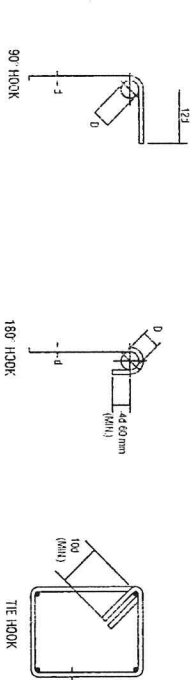


WEAKENED PLANE JOINT

NOTES:

CONTROL JOINT CAN BE EITHER CONSTRUCTION JOINT OR WEAKENED PLANE JOINT.

1C CONTROL JOINTS FOR SLAB-ON-FILL

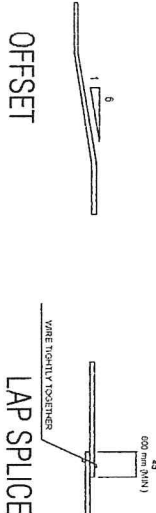


BAR SIZE	90° HOOK	180° HOOK
10 mm Ø THRU 25 mm Ø	6d	4d
28 mm Ø THRU 35 mm Ø	8d	4d

NOTE:

1. ALL BENDS SHOWN IN DETAILS/SCHEDULES SHALL BE STANDARD HOOK OTHERWISE NOTED.

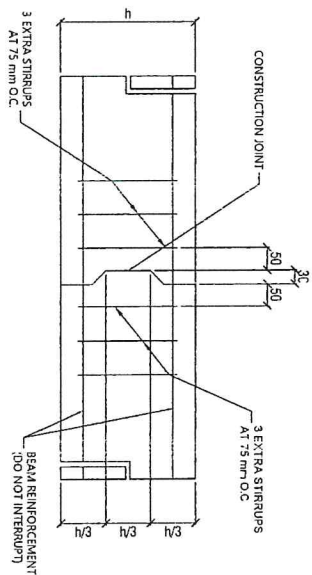
2. 180° HOOKS MAY BE SUBSTITUTED FOR 90° HOOKS.



OFFSET

LAP SPICE

1B TYP. REINFORCEMENT DETAIL



NOTE:

PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED R.A. OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE LATTER AND DESIGN NOT TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

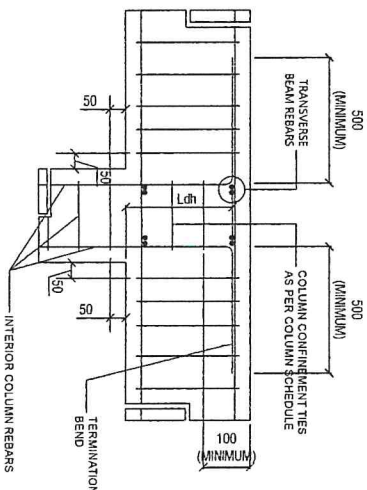
THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITY/STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

1A BEAM CONSTRUCTION JOINT

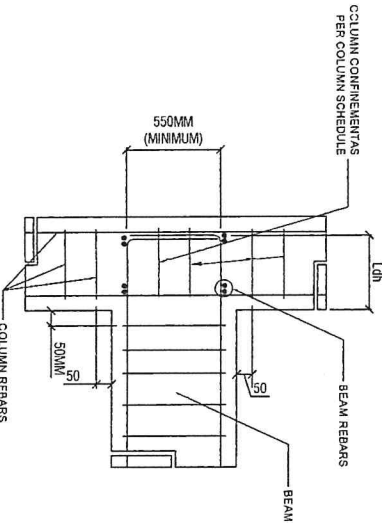
SPLICING REQUIREMENT OF REINFORCING BARS "Ls" OR "Ld"

BEAMS				COLUMN		FLOOR SLABS		NOTE:
BAR SIZE	SINGLE & 2 BAR BUNDLE	THREE BAR BUNDLE	BAR SIZE	VERTICAL REINFORCEMENT	THREE BAR BUNDLE	BAR SIZE	SINGLE & 2 BAR BUNDLE	
160	600MM.	750MM.	800MM.	925MM	200	1000MM	100	400MM
200	750MM.	900MM.	1200MM.	250	1500MM	120	500MM	Ld = DEVELOPMENT LENGTH OF RE-BARS ABOVE VALUES SHALL BE THE MINIMUM SPlice ON DEVELOPMENT LENGTH. ADDITIONAL MODIFICATION FACTORS OF 40 (CAPITAL 12) SHALL BE USED WHEREVER APPLICABLE. SENDING BARS FOR BEAMS SHALL NOT BE BUNDLED.
250	950MM.	1200MM.	1450MM.					

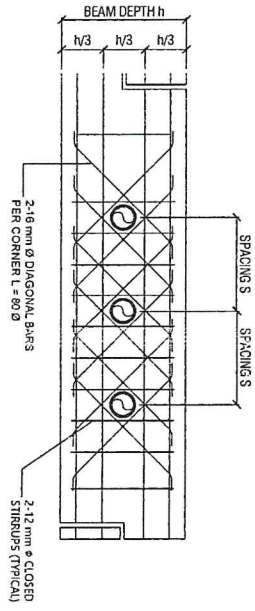
REMOVAL OF FORMS & SHORINGS				CAMBER REQUIREMENT			
STRUCTURAL ELEMENTS		CLEAR SPAN BETWEEN SUPPORTS	MINIMUM TIME PERIOD (DAYS)	ELEMENT		MINIMUM CAMBER	
WALLS, COLUMNS, BEAMS, GIRDER SIZES & SLAB ON GRADE		—	1	R.C. BEAMS		6MM. FOR EVERY 4.50 M. SPAN	
JOIST, BEAMS & GIRDER SOFFIT		UNDER 3.00 M.	7	CANTILEVER R.C. BEAMS		18MM. FOR EVERY 3.00 M. SPAN	
		3.00 M. TO 6.00 M.	14				
		OVER 6.00 M.	21				
		UNDER 3.00 M.	4				
ONE-WAY FLOOR SLABS		3.00 M. TO 6.00 M.	7			3MM. FOR EVERY 3.00 M. SHORTER SPAN	
		OVER 6.00 M.	10				



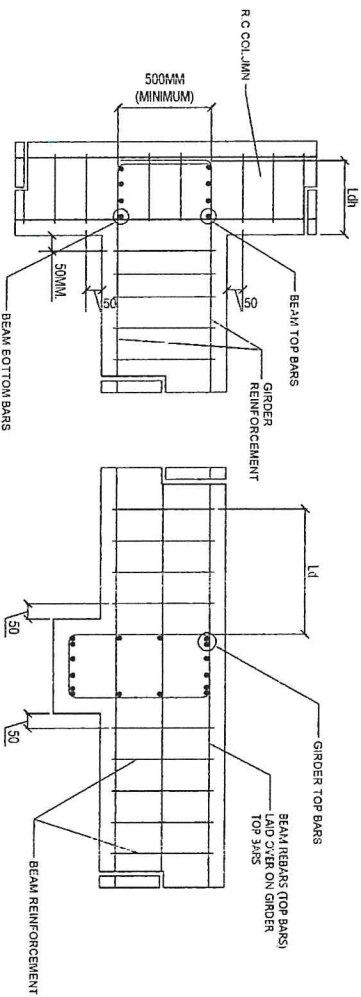
1D
INTERIOR COLUMN
TERMINATION BEND
NOT TO SCALE



1A
BEAM RE-BAR
TERMINATION BEND
NOT TO SCALE

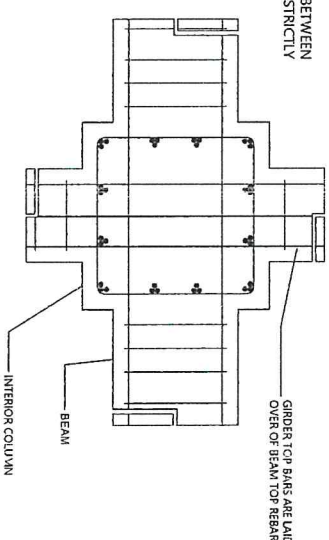


1E
TYP. BEAM PENETRATION DETAIL
NOT TO SCALE

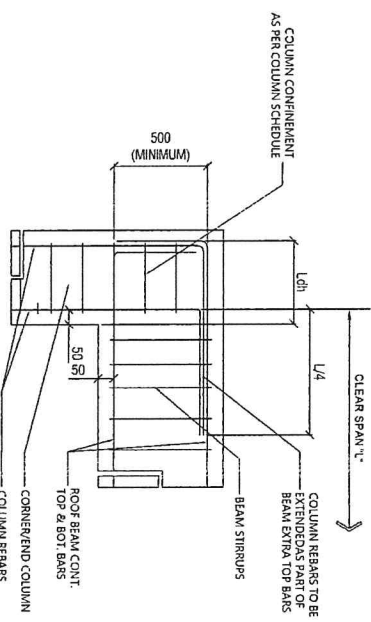


1B
TYP. BEAM & GIRDER RE-BAR LAYOUT
NOT TO SCALE

STANDARD DETAILS



1F
TYP. PLAN OF BEAM / GIRDER COLUMN JOINT
NOT TO SCALE

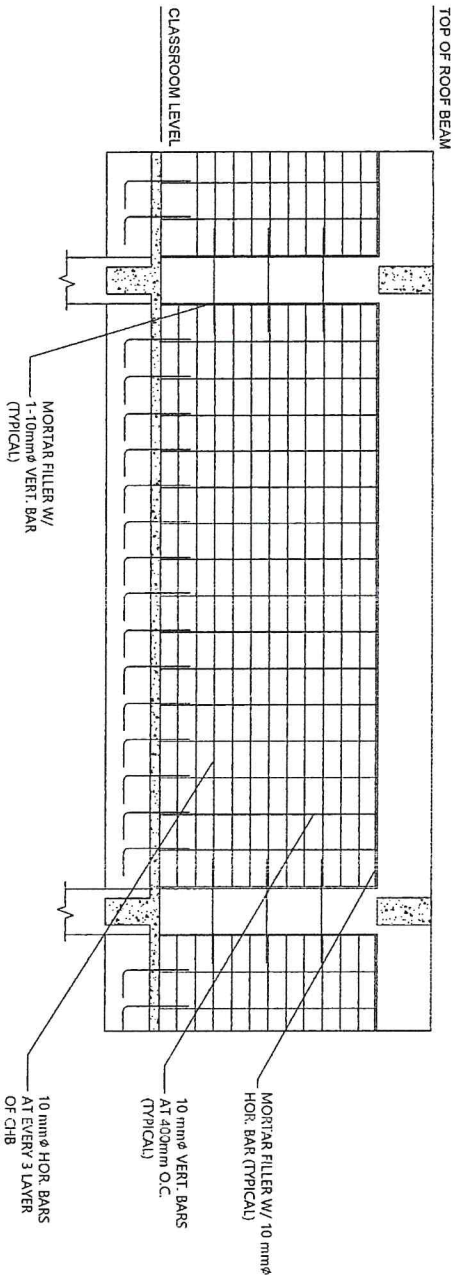


1C
CORNER / EXTERIOR COLUMN
TERMINATION BEND
NOT TO SCALE

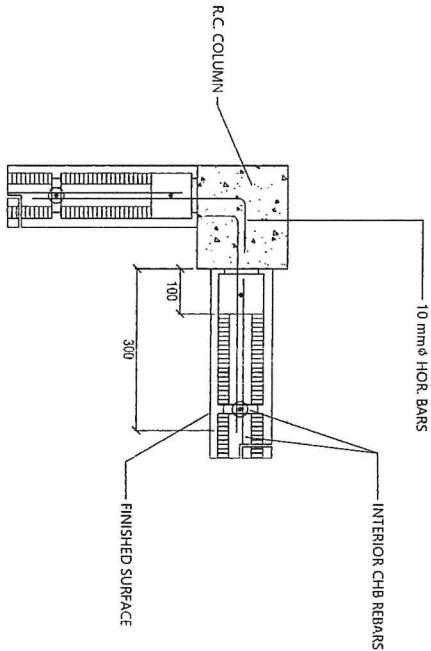
NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE LATTER AND DESIGN NOT TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.
THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITY/STRUCTURES DUE TO FAULTY DESIGN, EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

SCHEDULE OF MASONRY WORKS					
LINTEL BEAMS			MASONRY		
CHB WALL 1 (MM.)	B (MM.)	H (MM.)	HORZ. BARS	STIRRUPS	HORIZONTAL BARS
100	100	200	2-10MMØ	10MMØ @ 300	10MMØ @ 600 MM. O.C
150	150	200	4-10MMØ	10MMØ @ 300	10MMØ @ 600 MM. O.C
200	200	200	4-10MMØ	10MMØ @ 300	10MMØ @ 600 MM. O.C

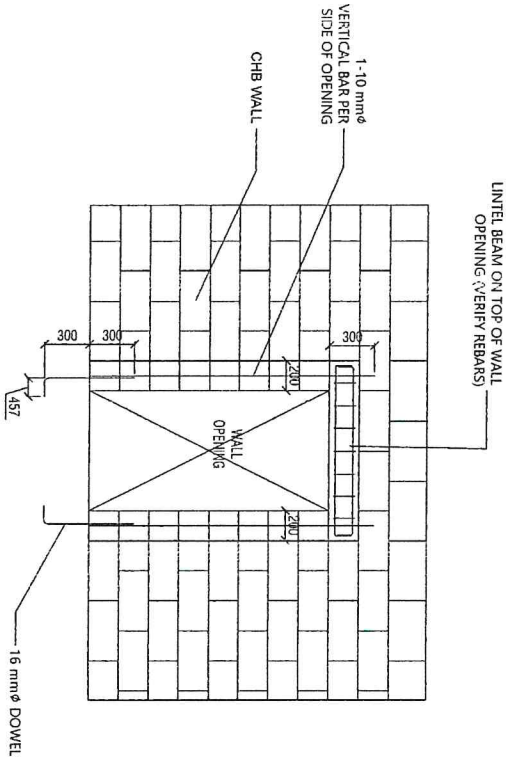
- NOTE :**
- REFER TO ARCHITECTURAL PLANS TO VERIFY LOCATIONS OF ALL CHB & R.C. NON-STRUCTURAL WALLS.
 - REFER TO THICKNESS OF FINISHES TO ARCHITECTURAL PLANS.
 - 12mm THICK GAP SHALL BE PROVIDED IN BETWEEN WALLS & COLUMNS, WALLS & BEAMS & SLAB ON TOP.
 - SILICONE SEALANT SHALL BE PROVIDED FOR ALL EXTERNAL WALL (CHB OR R.C.) FOR INTERNAL WALLS SEALANTS NEED NOT BE PROVIDED.
 - STRUCTURAL R.C. WALLS (i.e. WATER TANK, ETC.) SHALL NOT BE PROVIDED W/ 12mm THK. GAPS ALL AROUND.
 - STRUCTURAL GAPS SHALL IN NO CASE BE COVERED WITH PLASTER.



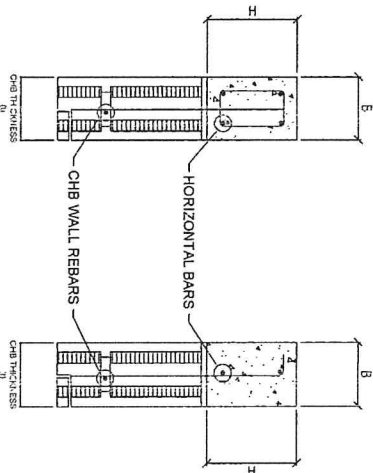
1A TYPICAL MASONRY ELEVATION
S-3 N O T T O S C A L E



1C R.C. & CHB EXTERIOR WALL SIDE ANCHORAGE DETAIL
S-3 N O T T O S C A L E



1B TYP. CHB WALL OPENING ELEV.
S-3 N O T T O S C A L E



1D TYP. LINTEL BEAM DETAIL
S-3 N O T T O S C A L E

NOTE:

PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF RA 9184 APPROVAL BY THE ENGINEERING OFFICIALS AND DESIGN ENGINEERING BY SR CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE DESIGN/STRUCTURES DUE TO FAULTS IN DESIGN AND/OR CONSTRUCTION WITHOUT EXCEPT FOR THE CHANGE OF THE CONSULTANTS.

DETAIL SECT. OF CORRIDOR

THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE DESIGN, EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.



PROJECT TITLE:

CONSTRUCTION OF 1 STOREY 3 CLASSROOMS

SHEET CONTENTS:	PREPARED BY:
- 300F BEAM FRAMING PLAN - DETAIL OF ROOF BEAM (RB-1)	

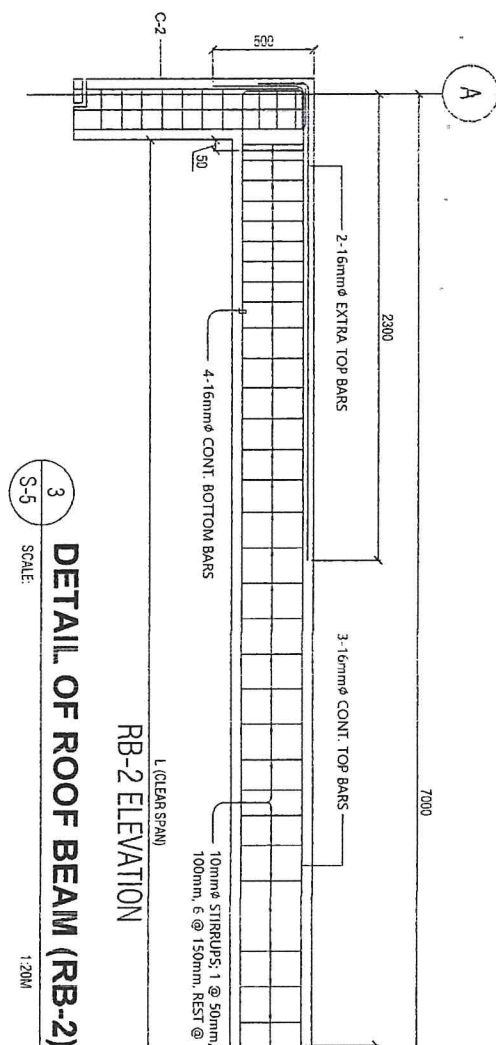
CHECKED AND SUBMITTED: 

RECOMMENDING APPROVAL:

APPROVED: _____

SEE COVER SHEET

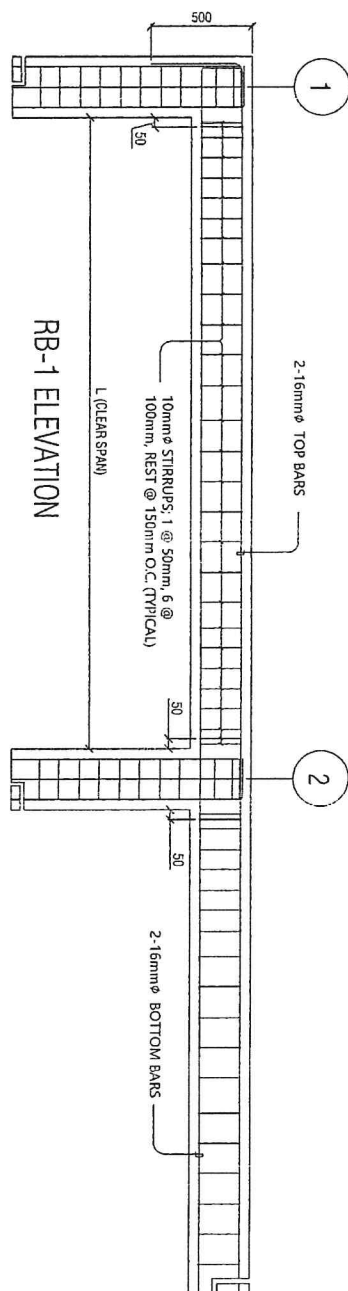
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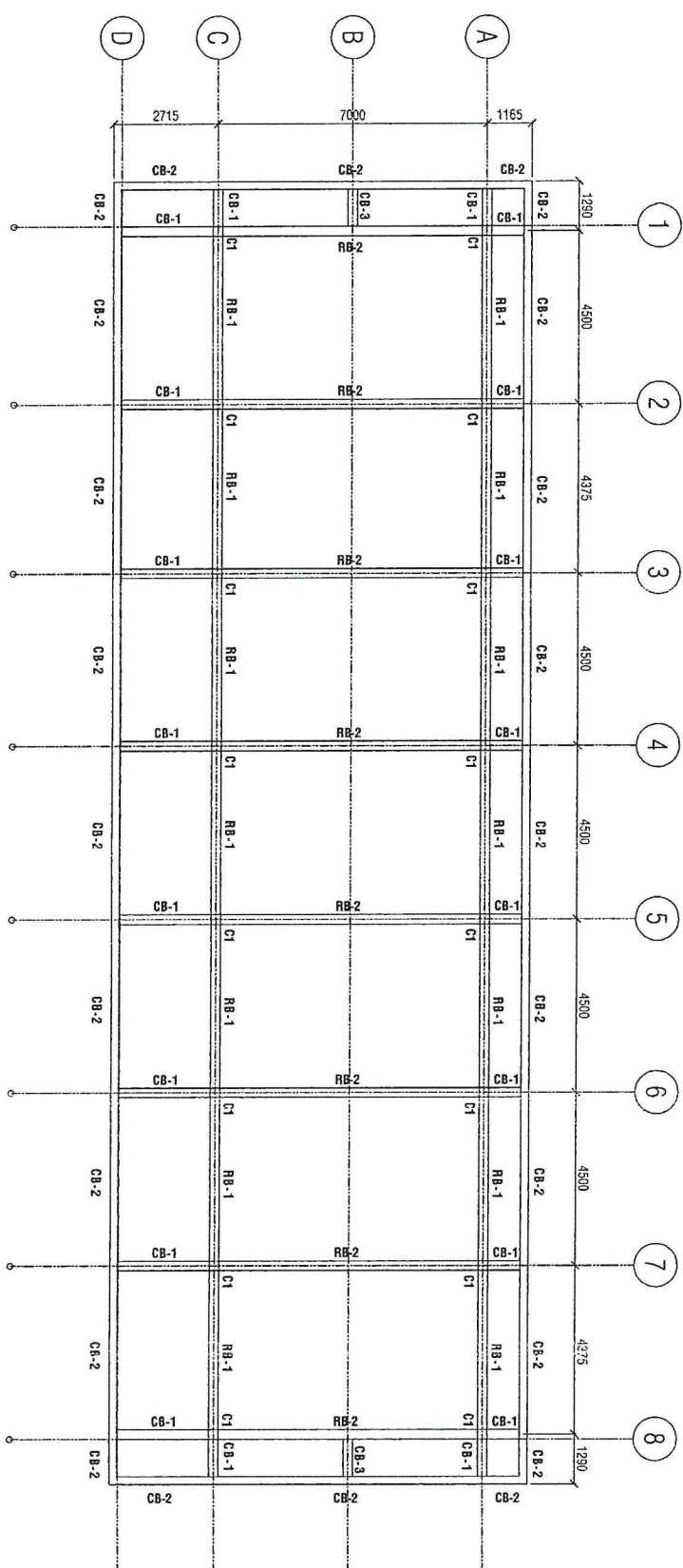
3
S-5

DETAIL OF ROOF BEAM (RB-2)

SCALE: 1:20M



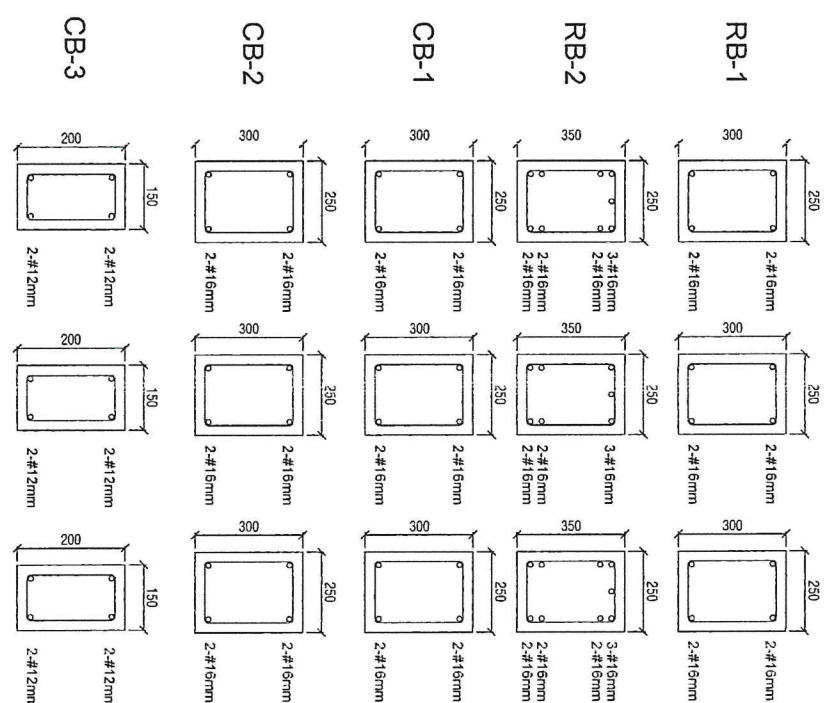
2
S-5
SCALE: 1:20M
DETAIL OF ROOF BEAM (RB-1)



1
S-5

ROOF BEAM FRAMING PLAN

SCALE 1:100M

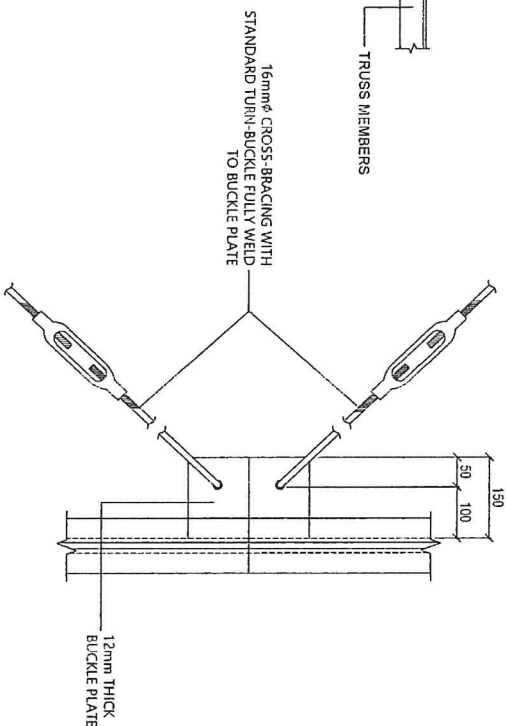


5
S-4

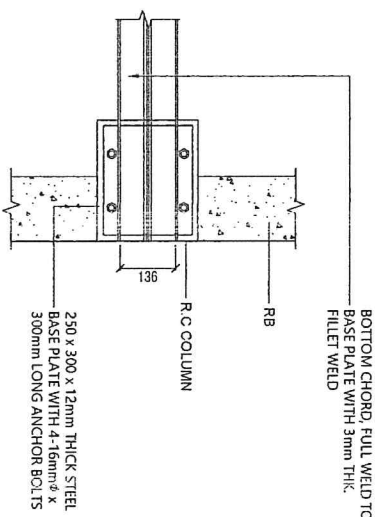
SCALE: 1/20M

**DETAIL SECTION OF ROOF BEAM
& CANTILEVER BEAM**

THE DESIGN CONSULTANT SHALL BE FULLY RESPONSIBLE FOR THE FAILURE OF FACILITY/STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.



PLAN (AT END OF TRUSS)



4
S-7

TRUSS SUPPORT CONN. DETAIL

SCALE: 1/10M



100

8mm Ø BAR DOWEL

CONCRETE ADHESIVE

The image displays two orthographic views of a mechanical component: a Side View (top) and a Front View (bottom).

Side View: This view shows the profile of the part. The overall width is 200 units. The total height is 200 units, composed of a 105-unit base and a 95-unit upper section (35 + 35 + 25). The upper section features a quarter-circle fillet with a radius of 52.5 units. The base has a 105-unit wide central section and two 35-unit wide side sections.

Front View: This view shows the front of the part. The overall height is 100 units. The total width is 200 units, composed of a 105-unit wide central section and two 35-unit wide side sections. The central section contains several horizontal lines, likely representing a threaded hole or a slot.

3
S-7

CONCRETE CORNICE CONNECTION DETAIL

SCALE: 1/32"

150 x 150 x 6mm SPUCE
PLATE CONNECTION (FULL
WELD) STAGGERED

150

73.5 73.5

WELDED AT SPUCED
CONNECTION

150

A cross-sectional diagram of a bolted joint. A J-shaped bolt is shown passing through a block of material. A neoprene gasket is positioned between the bolt head and the block. A nut is shown on the other side of the block, secured by the bolt. Labels with leader lines point to the following components: PURLIN (the top surface of the block), BIGGER SIZE OF WASHER (the washer under the nut), NUT, NEOPRENE GASKET, and J-SHAPED BOLT.

12mm Ø SAG ROD WITH
STANDARD NUT &
WASHER

LC-PURLINS

75 x 75 x 6 x 130mm LONG CLIP
ANGLE WELDED TO PURLIN AND
TOP CHORD OF TRUSS

TOP CHORD OF TRUSS



PROJECT TITLE:

CONSTRUCTION OF 1 STOREY 3 CLASSROOMS

SHEET CONTENTS:

- PLUMBING LAYOUT PLAN
- WATER LINE LAYOUT PLAN

PREPARED BY:	
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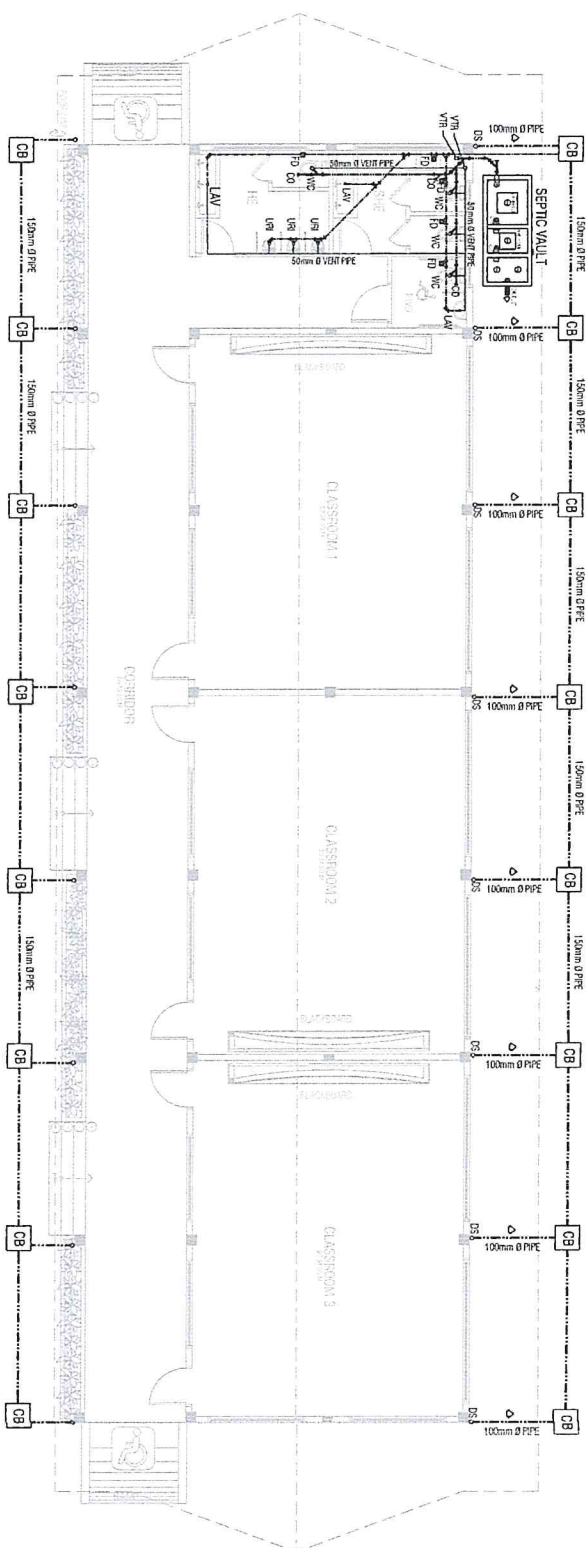
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RECOMMENDING APPROVAL:

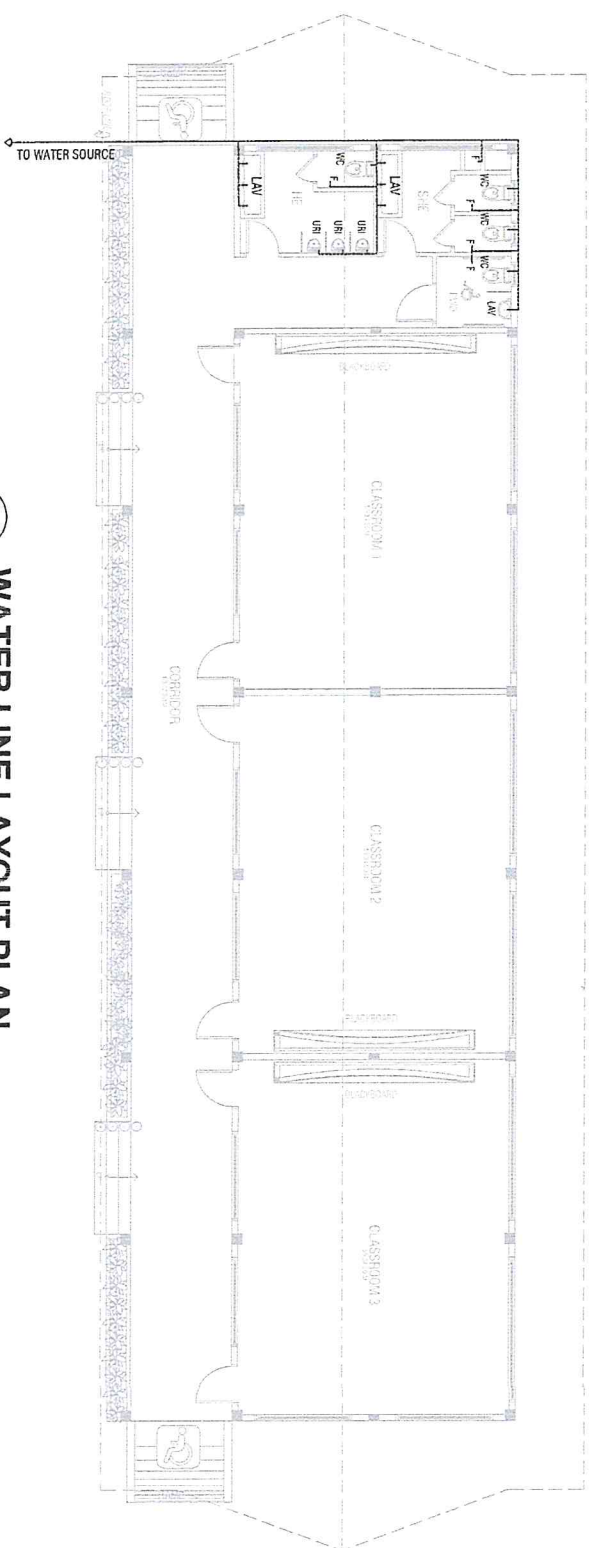
APPROVED:	
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SEE COVER SHEET

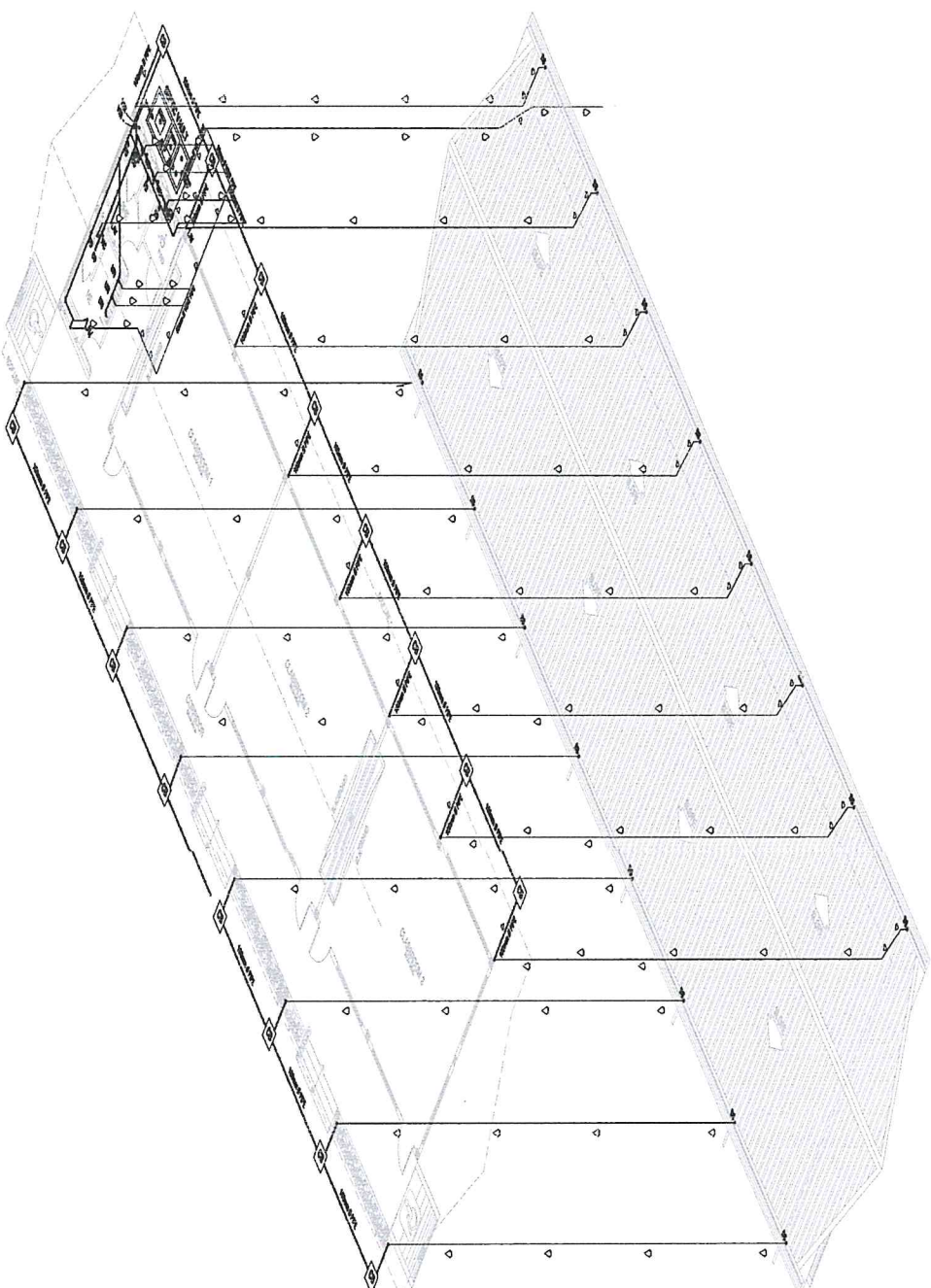
SHEET NO.:
D 01



1
P-1
PLUMBING LAYOUT PLAN
SCALE 1:100MM



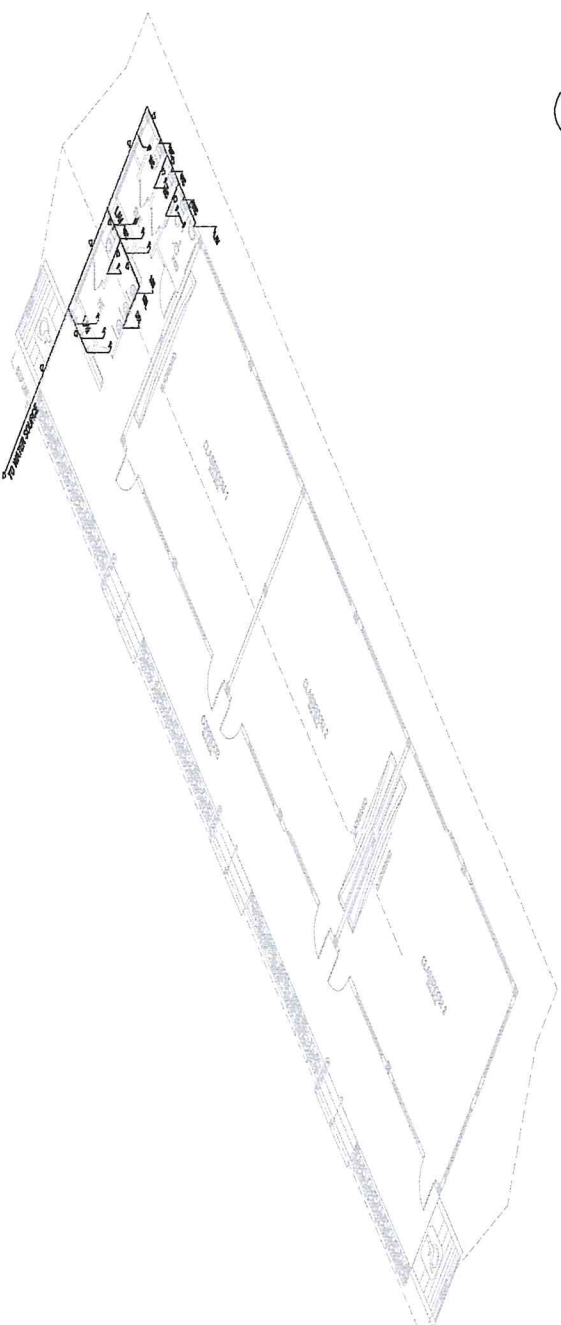
2
P-1
WATER LINE LAYOUT PLAN
SCALE
1:100M



3
P-1

ISOMETRIC PLUMBING LAYOUT PLAN

SCALE 1:100M



4
P-1
ISOMETRIC WATER LINE LAYOUT PLAN
SCALE 1:100M

PROJECT TITLE:

SHEET CONTENTS:

PREPARED BY:

CHECKED AND SUBMITTED: *W*

RECOMMENDING APPROVAL:

APPROVED:

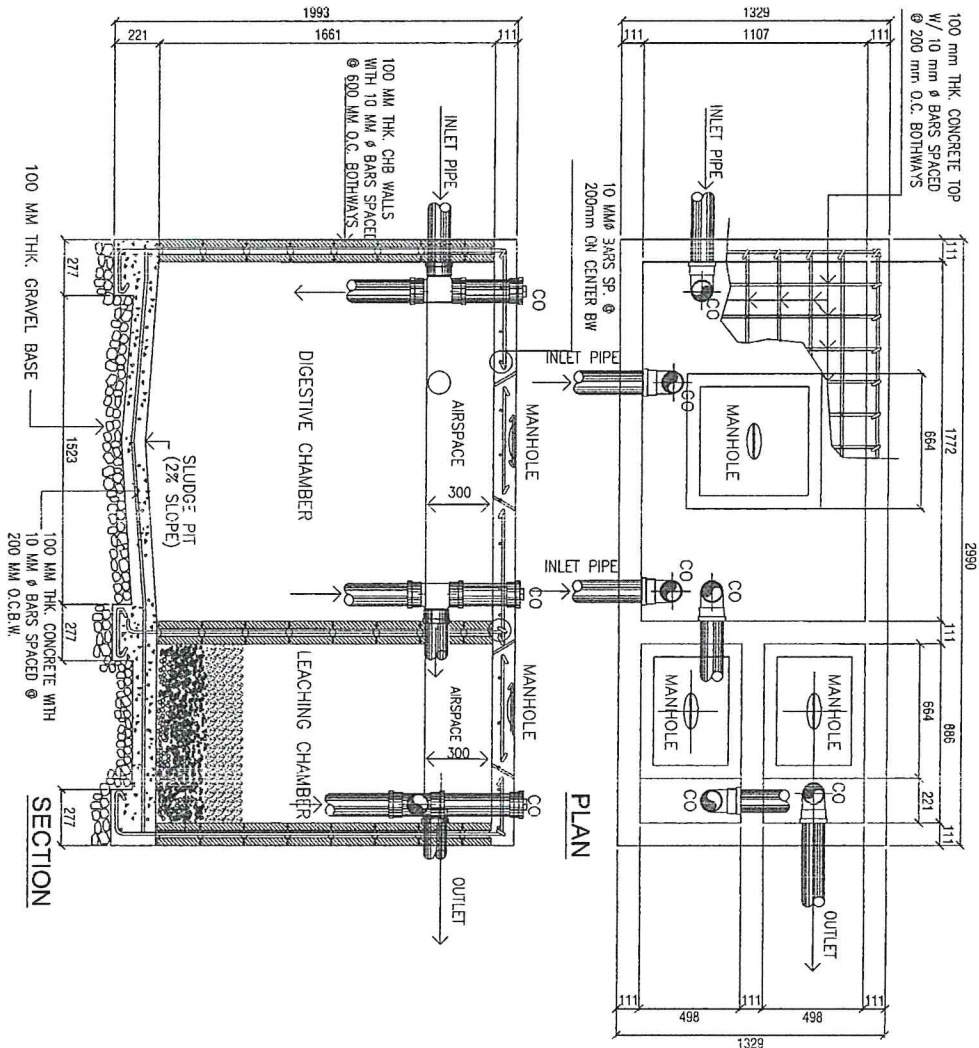
SHEET NO.:

GENERAL NOTES:

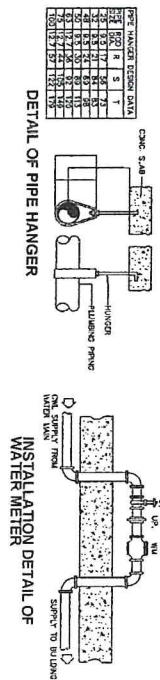
- 1.0 ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED IN ACCORDANCE TO THE PROVISION OF THE PHILIPPINE PLUMBING CODE, THE NATIONAL BUILDING CODE AND THE RULES AND REGULATIONS OF THE LOCAL MUNICIPALITY.
- 2.0 COORDINATE THE DRAWINGS WITH OTHER RELATED DRAWINGS AND SPECIFICATIONS THE ENGINEER AND/OR THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND HEREIN.
- 3.0 ALL PIPES SHALL BE INSTALLED AS INDICATED. ANY RELOCATION REQUIRED FOR PROPER EXECUTION OF THE PLUMBING WORK SHALL BE WITH PRIOR APPROVAL OF THE ENGINEER AND/OR THE ARCHITECT
- 4.0 PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INERT ELEVATIONS OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.
- 5.0 ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN ONE PERCENT (0.01) AND ONE-HALF PERCENT (0.05) MINIMUM UNLESS OTHERWISE SPECIFIED.
- 6.0 WATER SUPPLY PIPE TO FIXTURE SHALL BE SIZED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- 7.0 ALL BRANCHES OF FIXTURE OR GROUP OF FIXTURES SHALL BE PROVIDED WITH AIR CHAMBER MADE OF CAPPED VERTICAL EXTENSION PIPE
- 8.0 ALL WATER LINES SHALL BE HYDROSTATICALLY TESTED @ 100 PSI FOR A PERIOD OF TWO(2) HOURS BEFORE BURIED OR COVERED. GALVANIZED IRON (G.I.) PIPES DIRECTLY IN CONTACT WITH THE SOIL SHALL BE PROVIDED WITH TWO COATS OF MELTED ASPHALT AND WRAPPED WITH JUTE CLOTH SOAKED IN MELTED ASPHALT.
- 9.0 THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES @ SITE AND COORDINATE THE WORK WITH THE SEWER AND STORM DRAINAGE LINE EFFLUENT DISPOSAL POINT AND WATERLINE SERVICE CONNECTION/TAPPING POINT.
- 10.0 ALL PIPE SIZES AND OTHER DIMENSIONS ARE IN MILLIMETER (mm) UNLESS OTHERWISE SPECIFIED AND ARE INDICATIVE OF INSIDE DIAMETER.

MATERIAL SPECIFICATION:

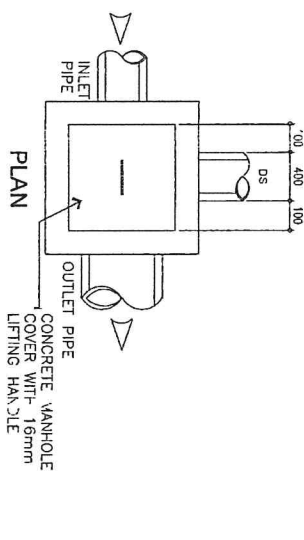
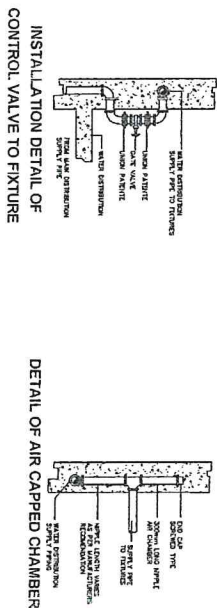
- | | | |
|-----|-----------------------------------|--|
| 1. | HOT & COLD WATER LINE | POLYPROPYLENE PN20 VESBO, PLASTHERM, POLYMUTAN BELDEN, PILSATHERM OR APPROVED EQUAL |
| 2. | WASTE PIPES, VENTS
DOWNSPOUTS | PVC PIPE, SERIES 1000 & CLASS 35 BY EMERALD CROWN, MOLDEX OR APPROVED EQUAL |
| 3. | MALLEABLE IRON
FITTINGS | ASTM A-338-51 |
| 4. | GATE VALVE | ASTM A-72-52T |
| 5. | FLOOR DRAINS | CLASS 125# BY HONEY WELL |
| 6. | ROOF DRAIN ON
G.I. GUTTER | PLASTHERM OR VESBO |
| 7. | GREASE TRAP | JAMAN OR JPI |
| 8. | BRONZE GATE VALVES | PRE-FABRICATED STAINLESS
STEEL WIRE BASKET |
| 9. | CHECK VALVES AT
PUMP DISCHARGE | 5 GPM STAINLESS STEEL BY JAMAN OR JPI |
| 10. | FLOAT VALVE | CLASS 125# BY NIBCO, TOZEN OR
APPROVED EQUAL |
| 11. | AFOOT VALVE | CLASS 125# BY KITZ OR TOZEN |
| 12. | WATER METER | CLASS 125# BY CLAYAL |
| 13. | WATER HEATER | APCO |
| 14. | POTABLE WATER
TANK | B-METER OR ARADS, ACTARIS
SINGLE & MULTI-POINT INSTANT WATER HEATER
BY NATIONAL, AMICI OR STIEBEL ELTRON |
| 15. | RAINWATER CATCHMENT
TANK | POLYPROPYLENE STEEL, 10000L CAPACITY TANK
BY BEST TANK |
| 16. | POTABLE WATER
TANK | STAINLESS STEEL 1000L CAPACITY TANK
BY BEST TANK |



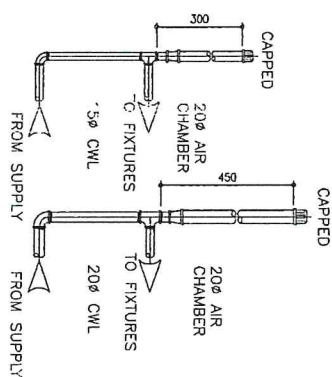
SEPTIC VAULT DETAILS



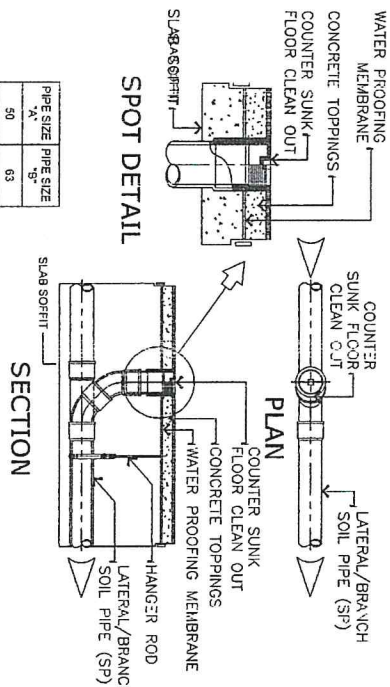
MISCELLANEOUS DETAILS



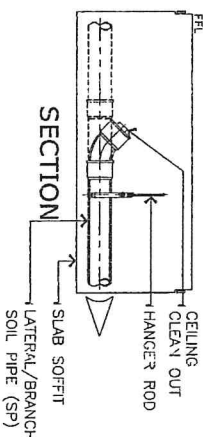
CATCH BASIN DETAIL



AIR CHAMBER DETAIL



CLEAN-OUT DETAIL



WC	WATER CLOSET
FD	FLOOR DRAIN
FCO	FLOOR CLEAN OUT
CCO	CEILING CLEAN OUT
DS	DOWNSPOUT 3" Ø PVC PIPE
LAV	LAVATORY
EC	END CAP
FAU	FAUCET
HB	HOSE BIBB
CVT	CIRCUIT VENT
CB	CATCH BASIN
SHO	SHOWER
SH	SHOWER HEAD
SV	SHOWER VALVE
KS	KITCHEN SINK
WM	WATER METER
CV	CHECK VALVE
WH	WATER HEATER
ST	SIAMESE TWIN
SS	SOIL STACK 4" Ø PVC PIPE
CWLD	COLD WATER LINE DOWNFEED
CWLR	COLD WATER LINE RISER
WS	WASTE STACK 2" Ø PVC PIPE
VSTR	VENT STACK THRU ROOF 3" Ø PVC PIPE
WSTR	WASTE STACK THRU ROOF 2" Ø PVC PIPE
—	SANITARY LINE
—	WATER LINE
—	DRAINAGE LINE
①	2" Ø PVC PIPE SCHEDULE 1000
②	3" Ø PVC PIPE SCHEDULE 1000
③	4" Ø PVC PIPE SCHEDULE 1000
④	6" Ø PVC PIPE SCHEDULE 1000
⑤	8" Ø PVC PIPE SCHEDULE 1000
⑥	1 1/2" Ø U-PVC/ PPR PIPE
⑦	3/4" Ø U-PVC/ PPR PIPE
⑧	1" Ø U-PVC/ PPR PIPE

DRAWING LEGEND:



PROJECT TITLE:	SHEET CONTENTS:
CONSTRUCTION OF 1 STOREY 3 CLASSROOMS	-LIGHTING LAYOUT PLAN -POWER LAYOUT PLAN

PREPARED BY:

[Signature]

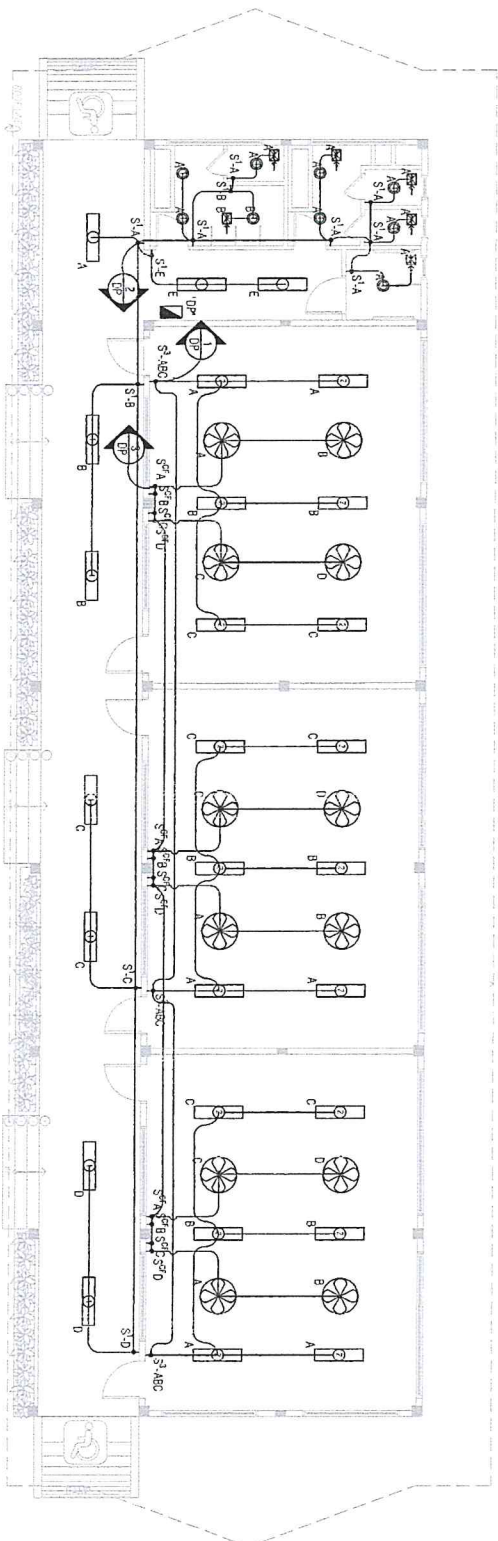
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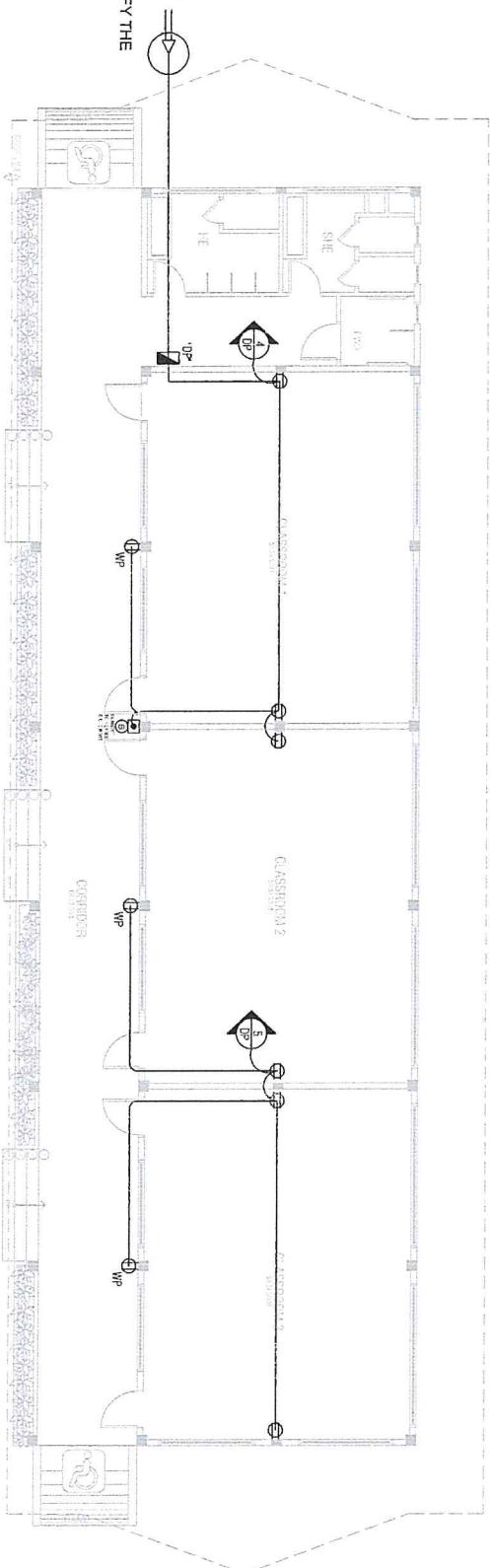
APPROVED:

SEE COVER SHEET

SHEET NO. 1



2
A-2
LIGHTING LAYOUT PLAN
SCALE
1:100N



2
A-2

POWER LINE LAYOUT PLAN

SCALE 1:100M

ELECTRICAL GENERAL NOTES

SCALE

1:100

1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, EXISTING APPLICABLE ORDINANCES, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND WITH THE REQUIREMENTS OF THE LOCAL POWER COMPANY.
2. THE TYPE OF SERVICE POWER SUPPLY TO BE USED SHALL BE SINGLE PHASE, 2-WIRE, 230V, 60 HERTZ, A.C.
3. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF SERVICE ENTRANCE FOR CONNECTION TO THE POWER COMPANY SERVICE POINT.
4. UNLESS OTHERWISE SPECIFIED, THE MINIMUM SIZES OF WIRE AND GALVANIZED RIGID STEEL RIGID PVC CONDUIT TO BE USED SHALL BE:
2.0mm² 1/4" IN AND 15mm NOMINAL DIAMETER, RESPECTIVELY. UNLESS ALL ELECTRICAL WIRES SHALL BE COLOR-CODED.
5. ALL LIGHTING CIRCUIT HOME RUNS AND CONVENIENCE OUTLETS SHALL BE WIRED WITH NOT LESS THAN 1.5 mm² IN SIZE.
6. WHEREVER REQUIRED AND NECESSARY, PULL OR JUNCTION BOXES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATION, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN OR MENTIONED IN THE SPECIFICATIONS.
7. ALL NON-CORRUGATED CARBON METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE.
8. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR LOCATION AND PURPOSE.
9. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATIONS AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED.
10. ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHTS ABOVE THE FINISHED FLOOR LEVEL, UNLESS NOTED IN THE PLAN:
 - a) WALL SWITCHES @ 1200mm
 - b) WALL CONVENIENCE OUTLETS @ 300 mm
 - c) PANEL BOARD FROM ITS TOP @ 1800 mm
11. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

SCHEDULE OF LOADS AND COMPUTATIONS

SCALE

1: 100

SCHEDULE OF LOADS AND COMPUTATIONS				TYPE OF BUILDING: SCHOOL BUILDING (FLAGSHIP) - 1 STOREY, 3 CLASSROOM						
PANEL ID : DISTRIBUTION PANELBOARD (DP)				TYPE OF SERVICE:		230V, 2 WIRE, 60 HZ, SINGLE PHASE (1Ø)		TYPE OF BUILDING: SCHOOL BUILDING (FLAGSHIP) - 1 STOREY, 3 CLASSROOM		
CIRCUIT NO.	LOAD DESCRIPTION	LOAD QTY	VA PER CIRCUIT	VOLTS	AMPS PER CIRCUIT	BRANCH CIRCUIT BREAKER				PVC CONDUIT
						AT	AF	P	KAIC	
1	2-18W LEDTUBE GLASS -LIGHTING OUTLETS	18	1012.5	230	4.40	15	50	2	10	20mm Ø
2	1-18W LEDTUBE GLASS & 1-12W LED PANEL DOWNLIGHT & 30W EXHAUST FAN - LIGHTING/EXHAUST FAN OUTLETS	9+9+6	703	230	3.06	15	50	2	10	20mm Ø
3	60W-WALL FAN OUTLETS	12	900	230	3.91	20	50	2	10	20mm Ø
4	180W-CONVENIENCE OUTLET	4	720	230	3.13	20	50	2	10	20mm Ø
5	180W-CONVENIENCE OUTLET	5	900	230	3.91	20	50	2	10	20mm Ø
6	SPARE		1500	230	6.52	20	50	2	10	20mm Ø
7	SPARE		1500	230	6.52	20	50	2	10	20mm Ø
8	SPARE		1500	230	6.52	20	50	2	10	20mm Ø
TOTAL			8736		38					

FOR TOTAL LOAD CURRENT:

TOTAL 1-PHASE CONNECTED LOAD CURRENT: 37.98 x 1 = 37.98 AMPS
HIGHEST MOTOR LOAD CURRENT @ 25%: 3.91 x 0.25 = 0.98 AMPS
TOTAL CONNECTED LOAD CURRENT @ 80% DF: 38.96 x 0.8 = 31.17 AMPS

FOR MAIN FEEDER WIRE SIZE:

TOTAL LOAD CURRENT @ 150% SF=		46.75 AMPS	
QTY.	THW	QTY.	RSC CON.
2	8.0mm ²	1-	25mm Ø

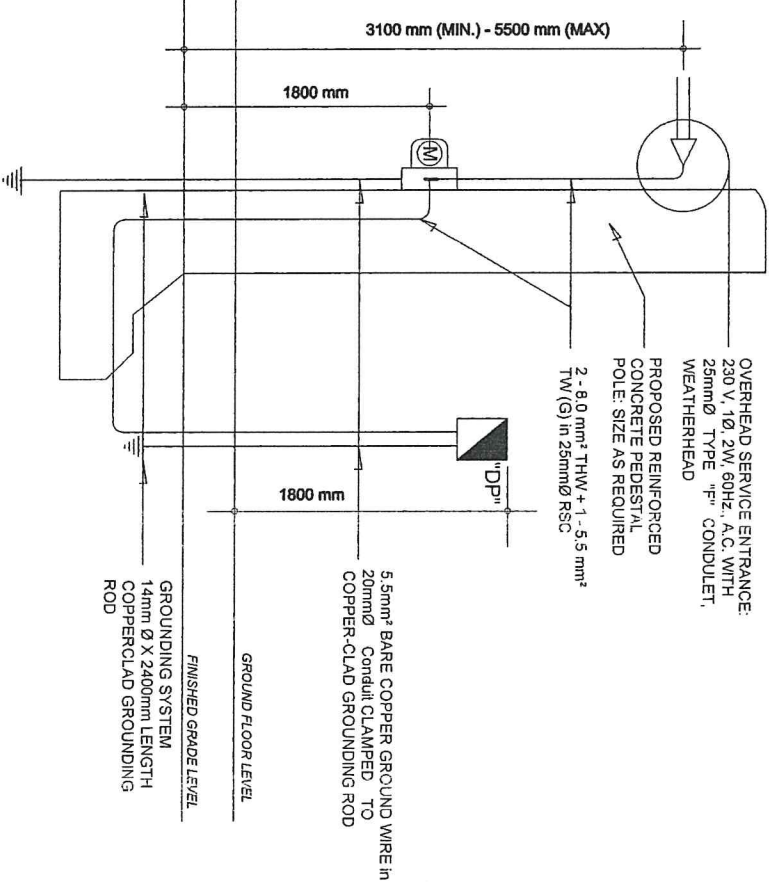
FOR MAIN FEEDER OVERCURRENT PROTECTION DEVICE RATING:			
TOTAL LOAD CURRENT @ 130% SF= 40.52 AMPS			
USE: CIRCUIT BREAKER PROTECTION FOR MAIN FEEDER			
QTY.	AT	AF	KAIC
1-	40	50	10

NEMA-1 WITH GROUNDING TERMINAL

ELECTRICAL RISER DIAGRAM

SCALE

1: 100



SCHEDULE OF LIGHTING FIXTURES AND LAMPS

SCALE

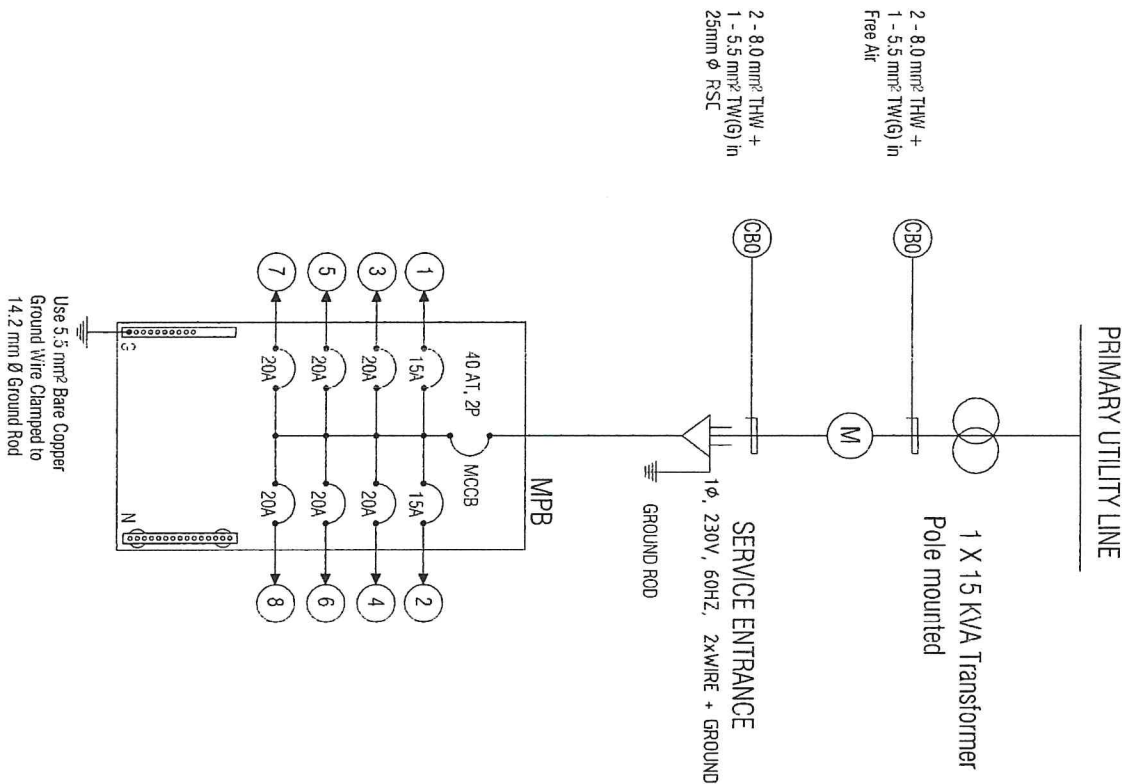
1: 100

SYMBOLS	DESCRIPTION	INSTALLATION
	ONE (1) - 18W, 230V, 60Hz, AC, LED TUBE GLASS IN ALUMINUM LOUVER, SURFACE TYPE WITH HOUSING	SURFACED CEILING MOUNTED
	TWO (2) - 18W, 230V, 60Hz, AC, LED TUBE GLASS IN ALUMINUM LOUVER, SURFACE TYPE WITH HOUSING	SURFACED CEILING MOUNTED
	ONE (1) - 12W, 230V, 60Hz, AC, LED PANEL DOWNLIGHT IN ROUND SHAPE, SURFACE TYPE	SURFACED CEILING MOUNTED

SINGLE LINE DIAGRAM

SCALE

1: 100



CONSTRUCTION OF (Name of Project and Location)

CONTRACTOR :
DATE STARTED :
CONTRACT COMPLETION DATE :
CONTRACT COST :
IMPLEMENTING OFFICE / CONTACT No. :
SOURCES OF FUND :

MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION

BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO

Ground Floor, RELC Bldg., MBHTE Regional Office, Bangsamoro Government Center, Rosary Heights 7, Cotabato City

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COMMISSION ON AUDIT

BARM

1310

1350

1275

COMISION ON AUDIT

BARM

Project :
Location :
Cost :
Fund Source :
Implementing Agency :
Development Partner/s :
Contractor/Supplier :
Brief Description of Project :

Project Details:

Project Date			Project Date			Remarks
Duration	Started	Target Date of Completion	Percentage of Completion	As of (Date)	Cost Incurred to Date	

COA BILLBOARD

NOTE:
FONT: HELVETICA
FONT SIZE: MAIN INFORMATION 3"
SUB INFORMATION 1"
FONT COLOR: BLACK

STANDARD PROJECT BILLBOARD

The diagram illustrates a standard project billboard with the following specifications:

- Overall Dimensions:** 1200mm wide by 2400mm high.
- Materials:** 50 x 75 VERTICAL COCO LUMBER for the frame and 50 x 50 WOODEN STAKE for the base.
- Display Area:** 1200 x 2400 x 12 MARINE PLYWOOD.
- Orientation:** The billboard is oriented vertically, with the display area facing the road.
- Location:** The billboard is located on the side of a road, adjacent to a traffic direction.
- Dimensions:** The billboard is 1200mm wide and 2400mm high. The display area is 1200mm wide and 2400mm high. The base is 500mm wide and 500mm high.

ORIENTATION TYPICAL FRAME ELEVATION

REPUBLIC OF THE PHILIPPINES

BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO

MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION

COMMISSION ON AUDIT

BARM

PROJECT TITLE: CONSTRUCTION OF 1 STOREY 3 CLASSROOMS

SHEET CONTENTS: -BILL BOARD/SKETCH

PREPARED BY: *IN*

CHECKED AND SUBMITTED: *[Signature]*

RECOMMENDING APPROVAL: *[Signature]*

APPROVED: *[Signature]*

SHEET NO.: *[Blank]*

SEE COVER SHEET