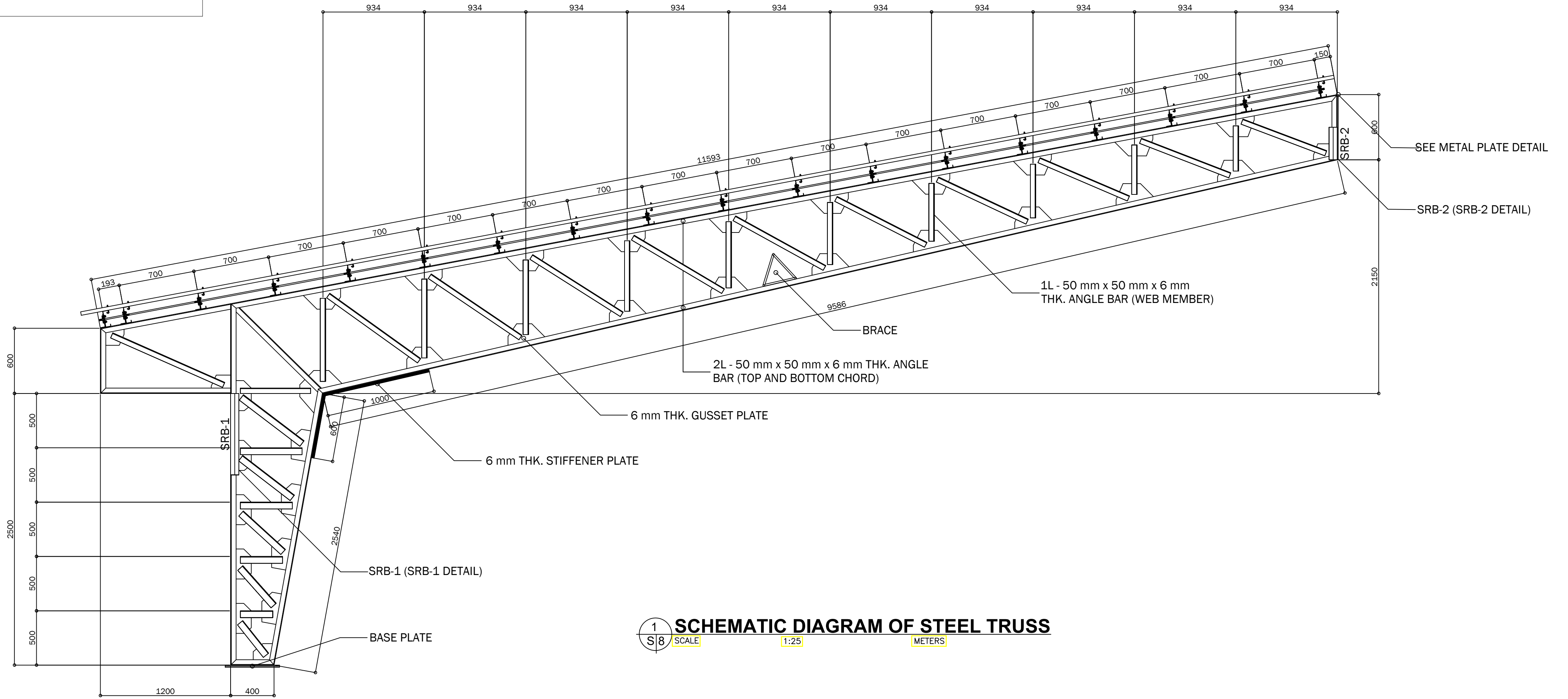


MAIN FRAME



1 SCHEMATIC DIAGRAM OF STEEL TRUSS
SCALE: 1:25 METERS



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE XII
SOUTH COTABATO 1ST
DISTRICT ENGINEERING OFFICE
LAGAO, GENERAL SANTOS CITY

PROJECT NAME AND LOCATION:

Construction of Multi-Purpose Building
(Covered Court), Polomolok Creek Integrated
School, Barangay Magsaysay, Polomolok,
South Cotabato

SHEET CONTENTS:

SCHEMATIC DIAGRAM OF STEEL TRUSS
MAIN FRAME

DRAFTED:

SIGNED
SALIHA L. MALAMPUT
ENGINEER II

PREPARED:

SIGNED
NERIO M. CONCEPCION, Ph.D
ENGINEER II / CIVIL ENGINEER

REVIEWED:

SIGNED
ARJAY DE QUIA CEBALLOS
ENGINEER II
DATE:

SUBMITTED:

SIGNED
LEI ANGELOUS S. BANTILAN
CHIEF, PLANNING DESIGN SECTION
DATE:

RECOMMENDED:

SIGNED
ADRIANO N. NOGODULA III
OIC-ASSISTANT DISTRICT ENGINEER
DATE:

APPROVED:

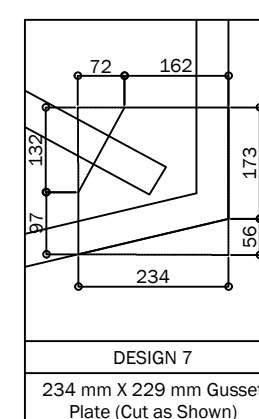
SIGNED
JONATHAN G. BANTUG
DISTRICT ENGINEER
DATE:

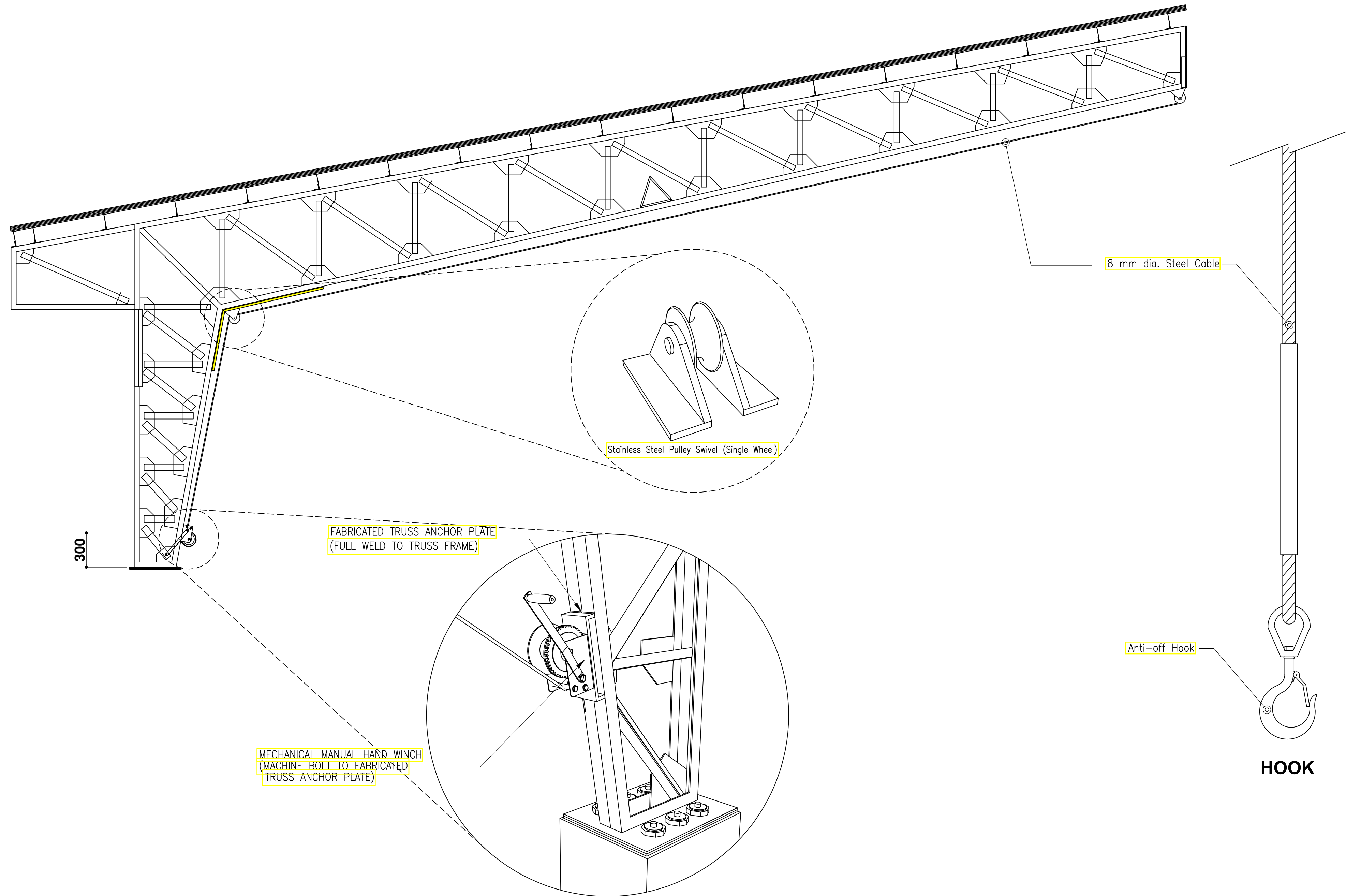
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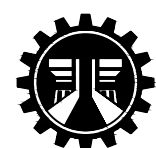


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S10 SCALE 1:25 METERS

HAND WINCH AND PULLEY DETAIL

MECHANICAL MANUAL HAND WINCH	
<ul style="list-style-type: none"> - Heavy Duty (1.5 tons capacity) - Commercial Type Hand winch - Anti-Skid Rubber Handle - welded to the main truss 	
ANTI-OFF HOOK	
<ul style="list-style-type: none"> - Heavy Duty (1.5 tons capacity) - Commercial Type Anti-off Hook 	
FIXED PULLEY	
<ul style="list-style-type: none"> - Heavy Duty (1.5 tons capacity) - Commercial Type Fixed Pulley - Suitable for 8mm diameter wire cable - welded to the main truss 	

NOTE:
Provide 2-steel plate with 6-machine bolts with nuts and washer
1-plate welded to truss, 1-welded to winch



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South Cotabato**

SHEET CONTENTS:

HAND WINCH AND PULLEY DETAILS

DRAFTED:

SIGNED
SALIHA L. MALAMBUT
ENGINEER II

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GENERAL NOTES

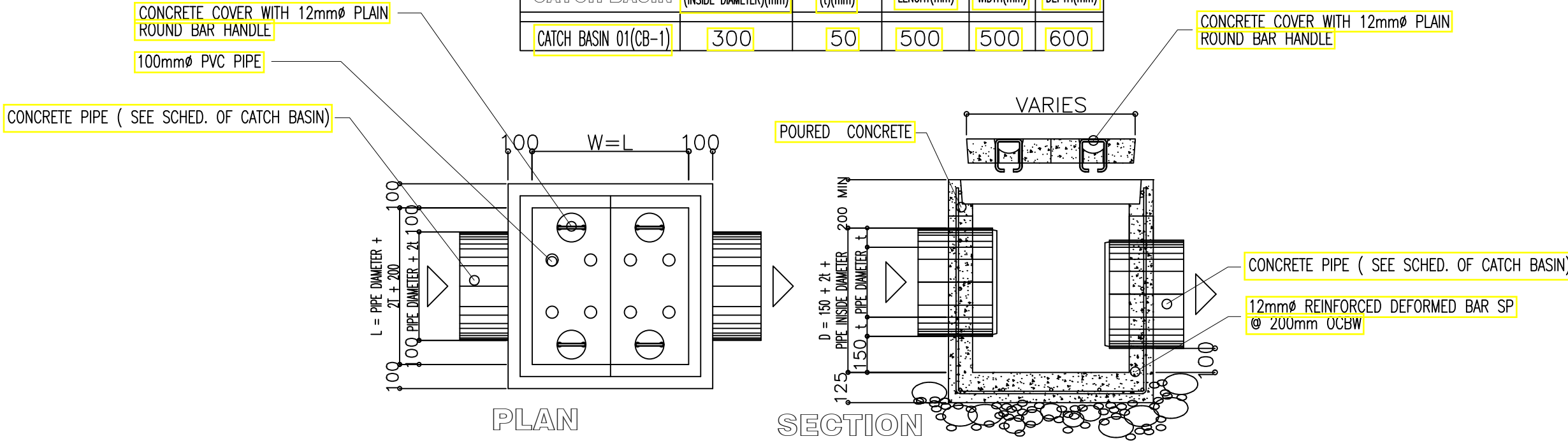
1. ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISIONS OF THE NATIONAL PLUMBING CODE OF THE PHILIPPINES, UNIFORM PLUMBING CODE AND THE LOCAL RULES AND REGULATIONS OF THE LOCALITY.
2. THE CONTRACTOR MUST STUDY THE DRAWINGS CAREFULLY IN ORDER TO ASCERTAIN THE EXACT LOCATION OF ALL THE EXISTING AND PROPOSED UTILITIES.
3. PRIOR TO ANY INSTALLATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL TO THE ENGINEER/ARCHITECT IN SUFFICIENT DETAILS AND IN SCALE OF EITHER 1:50, 1:20 OR
4. ALL DIMENSIONS ARE IN METRIC SYSTEM UNLESS OTHERWISE
5. VERIFY AND RECONCILE THIS DRAWING WITH THE GOVERNING SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCY FOUND HEREIN.
6. ALL PIPES SHALL BE INSTALLED AS INDICATED ON THE APPROVED CONSTRUCTION DRAWINGS. ANY RELOCATION FOR PROPER EXECUTION OF OTHER TRADES SHALL HAVE PRIOR
7. CORRESPONDING ADJUSTMENTS IN THE ALIGNMENT OR LOCATION OF THE UNDERGROUND UTILITIES WILL BE DONE AND/OR SHOWN BY THE CONTRACTOR THRU SHOP DRAWINGS APPROVED BY THE AUTHORIZED ENGINEER.
8. OMISSIONS FROM THE DRAWINGS OR THE MISDESCRIPTION OF DETAILS OF WORK WHICH ARE MANIFESTLY NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS OR WHICH ARE CUSTOMARILY PERFORMED SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR MISDESCRIBED DETAILS OF THE WORK BUT SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS.
9. ALL PIPE DIAMETERS INDICATED ARE OF NOMINAL DIAMETER IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
10. PROPOSED UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVERT ELEVATION OF ALL PIPES AND STRUCTURES VERIFIED BY THE CONTRACTOR.
11. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT THE SITE AND THE WORKS WITH DRAINAGE AND SEWER EFFLUENT POINT AND THE WATER LINE CONNECTING POINT.
12. SIZE OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE NATIONAL PLUMBING CODE OF THE PHILIPPINES AND/OR THE UNIFORM PLUMBING CODE.
13. RUN ALL HORIZONTAL PIPING IN PERFECT ALIGNMENT & AT UNIFORM GRADE OF NOT LESS THAN 1% FOR PIPE SIZES 100mmØ & LARGER AND 2% FOR PIPE SIZES 75mmØ & SMALLER.
14. PROVIDE PIPE CLEANOUTS AS SHOWN IN THE DRAWING AND/OR UNDER THE FOLLOWING CONDITIONS:

a. EVERY CHANGE IN HORIZONTAL DIRECTIONS

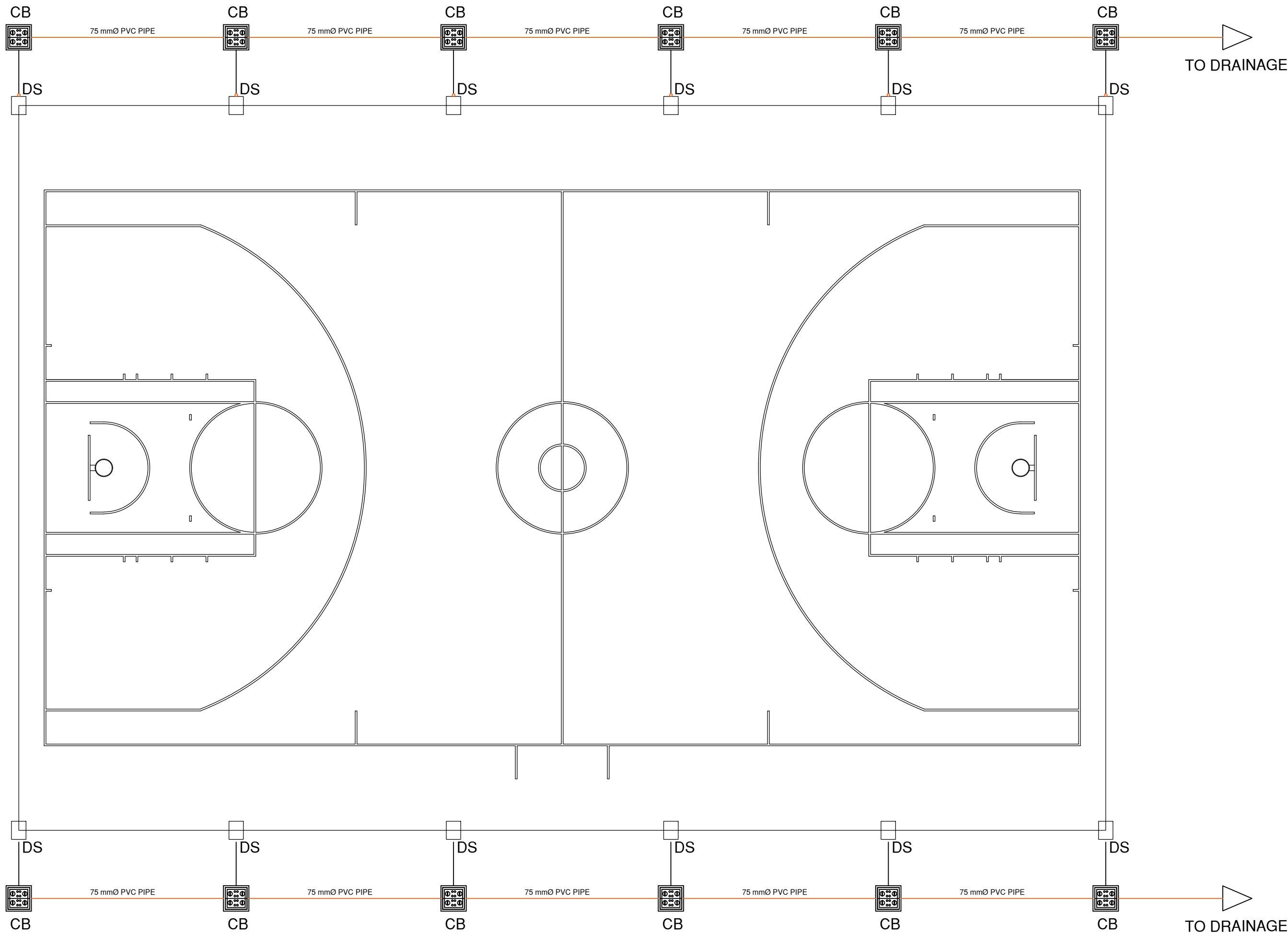
b. EVERY 15.0 METERS IN HORIZONTAL RUN OF PIPE.

c. AT END OF ANY HORIZONTAL PIPELINE.
15. FOR PROPOSED UTILITIES THAT WILL CROSS EXISTING PAVEMENT,

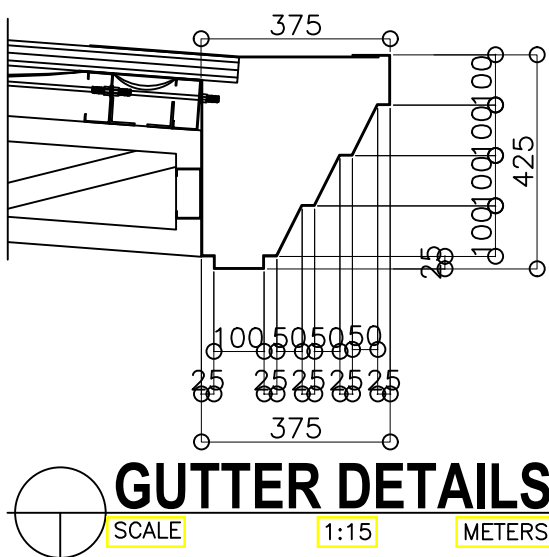
NOTE: VALUES GIVEN ABOVE ARE BASED ON INTERIOR DIMENSIONS.



SCHEDULE AND DETAIL OF CATCH BASIN



STORM DRAINAGE & DOWNSPOUT



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PROJECT NAME AND LOCATION:

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School, Barangay Magsaysay, Polomolok,
South Cotabato

SHEET CONTENTS:

GENERAL CONSTRUCTION NOTES,
STANDARD STRUCTURAL SPECIFICATION
AND DETAILS

DRAFTED:

SIGNED
SALIHA L. MALAMBAT
ENGINEER II

PREPARED:

SIGNED
LEONARDO M. LLANOS JR.
ENGINEER II / MASTER PLUMBER

REVIEWED:

SIGNED
ARJAY DE QUIA CEBALLOS
ENGINEER II

DATE:

SUBMITTED:

SIGNED
LEI ANGELOUS S. BANTILAN
CHIEF, PLANNING DESIGN SECTION

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RECOMMENDED:

SIGNED
ADRIANO N. NOGODULA III
OIC-ASSISTANT DISTRICT ENGINEER

DATE:

APPROVED:

SIGNED
JONATHAN G. BANTUG
DISTRICT ENGINEER

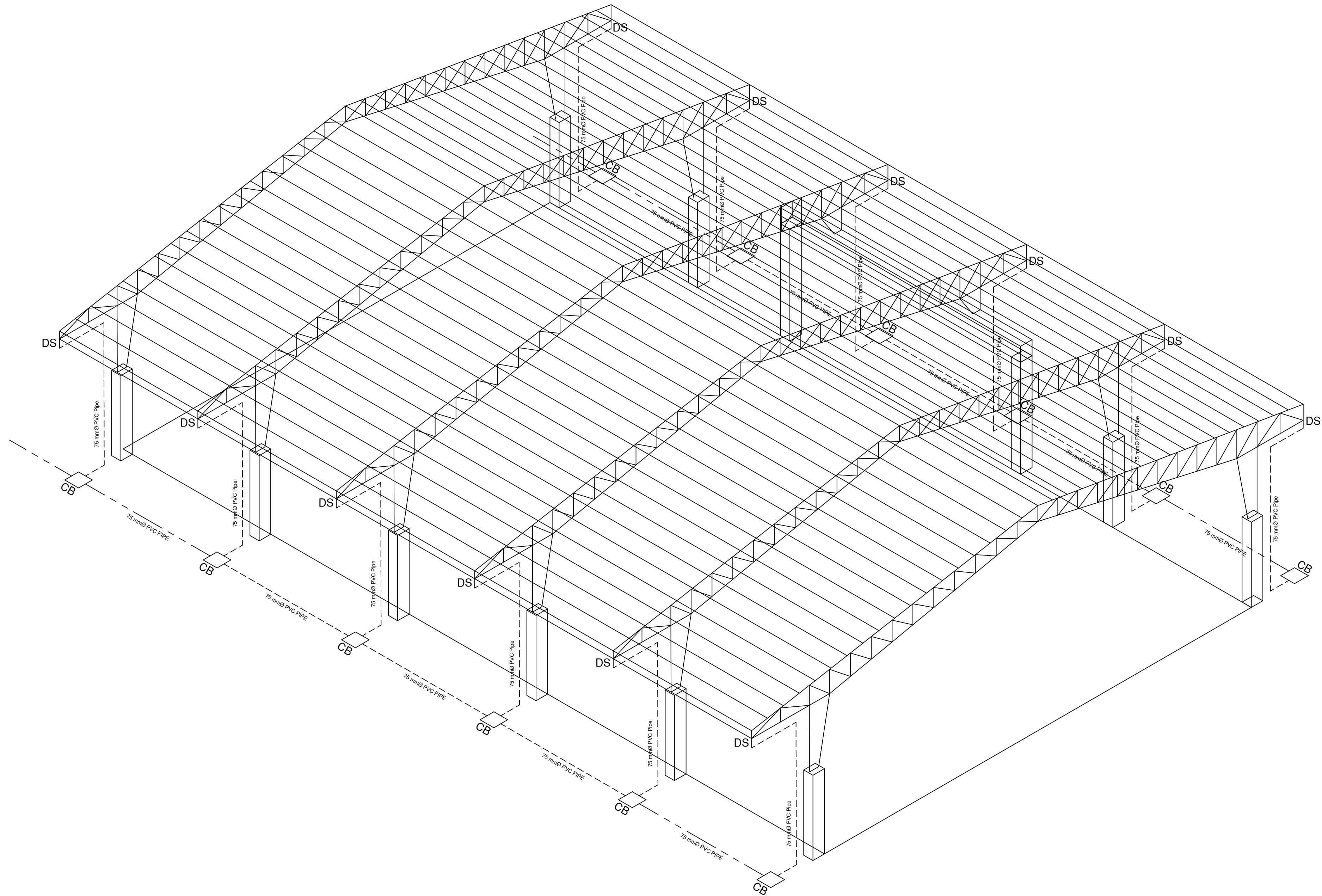
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 **STORM DRAINAGE & DOWNSPOUT ISOMETRIC**
SCALE 1:100 METERS



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APPROVED:

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JONATHAN G. BANTUG
DISTRICT ENGINEER
DATE:

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02 02

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GENERAL NOTES

1. ALL ELECTRICAL INSTALLATION WORKS HEREIN SHALL BE DONE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE. THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITY, AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE COMPANIES.

2. THE ELECTRIC SERVICE VOLTAGE SHALL BE 1-PHASE, 2 WIRE, 230 V, 60 Hz

3. THE ELECTRICAL WIRING INSTALLATION SHALL BE DONE IN RIGID METAL CONDUITS, FLEXIBLE CONDUITS SHALL BE USED WHERE REQUIRED. MINIMUM SIZE FOR ALL CONDUITS SHALL BE 20mmØ ELECTRICAL TRADE SIZE FOR METAL CONDUITS, MATSUSHITA,KOREAN STEEL PIPE OR NIPPON PIPEBRAND SHALL BE USED.

4. ALL WIRE SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THHN" OR "THW" UNLESS OTHERWISE INDICATED. THE MINIMUM SIZE FOR POWER AND LIGHTING SHALL BE 3.5mm2

5. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF SERVICE ENTRANCE FOR CONNECTION TO THE POWER SUPPLY.

6. ALL PIPE SLEEVES SHALL BE PROVIDED WITH PROPER SUPPORT OR ANCHORAGE NECESSARY FOR PERMANENT CONNECTION WITH CONCRETE WALLING OR BEAM.

7. ALL SERVICE ENTRANCE EQUIPMENT, SWITCHES, PANELBOARDS, LIGHTING FIXTURE AND ALL NON-CURRENT CARRYING METAL PARTS SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE.

8. ALL 20-AMPERE CIRCUIT HOMERUNS TO PANELBOARDS MORE THAN 30 METERS IN LENGTH SHALL BE 50mm UNLESS OTHERWISE SPECIFIED

9. ALL FEEDERS SHALL BE INSTALLED AS INDICATED ON PLANS BRANCH CKT. HOMERUN WIRES SHALL BE INSTALLED IN INDIVIDUAL HOMERUN CONDUITS.

10. ANY DISCREPANCY IN LOCATION AND RATINGS OF EQUIPMENT AND APPARATUS SHALL BE VERIFIED WITH THE OWNER OR ANY OF HIS REPRESENTATIVES AND CHANGES SHALL BE MADE ACCORDINGLY.
11. ALL MATERIALS TO BE USED AND THE EQUIPMENT TO BE INSTALLED SHALL BE BRAND NEW AND MUST BE OF THE APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE INTENDED.

12. ALL FLUORESCENT LAMP FIXTURES SHALL HAVE HIGH POWER FACTOR AND RAPID START BALLAST AND LAMPS SHALL BE WARM WHITE THROUGHOUT UNLESS OTHERWISE SPECIFIED BY THE ARCHITECT.

13. THE MOUNTING HEIGHTS OF WIRING DEVICES AND FLOODLIGHT SHALL BE AS FOLLOWS:

A.) LIGHT SWITCHES1400mm ABOVE FLOOR FINISH

B.) CONVENIENCE OUTLETS300mm ABOVE FLOOR FINISH OR AS REQUIRED

C.) PANELBOARDS AND CABINETS1500mm ABOVE FLOOR FINISH AT CENTER OR AS REQUIRED

D.) FLOODLIGHT1000mm ABOVE THE PEDESTAL AT CENTER OR AS REQUIRED

ALL MOUNTING HEIGHTS SHALL BE SUBJECT TO ARCHITECTS APPROVAL PRIOR TO INSTALLATION

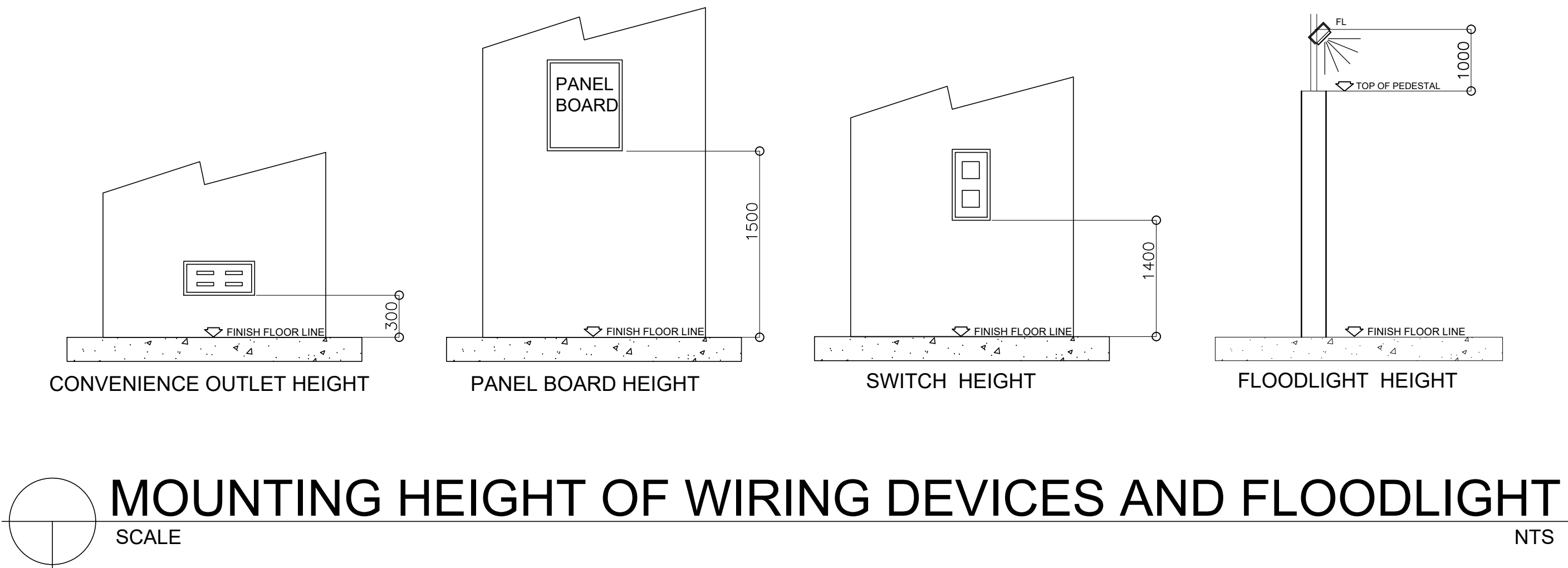
14. FOR EACH SPARE BRANCH CIRCUIT IN PANELBOARD, PROVIDE ONE 20mmØ EMPTY CONDUIT TERMINATED TO 100mm OCTAGONAL BOX ABOVE CEILING.

15. PROVIDE PULL WIRES IN ALL SPARE DUCTS AND EMPTY CONDUITS.

16. ALL ELECTRICAL WORKS AND INSTALLATION SHALL BE DONE UNDER THE DIRECT SUPERVISION OF REGISTERED ELECTRICAL ENGINEER OR REGISTERED MASTER ELECTRICIAN.

SYMBOL/LEGEND:

	LED UFO HIGH BAY 120WATTS, 12600LM,DAYLIGHT,E40, Ø345X215mm
	LED FLOODLIGHT, 70WATTS, 6650LM, DAYLIGHT, 195X286mm
	MAIN DISTRIBUTION PANELBOARD
	SINGLE POLE SWITCH W/ PLATE
	2-SINGLE POLE SWITCH W/ PLATE
	3-SINGLE POLE SWITCH W/ PLATE
	3-WAY SWITCH, I-CONTROLLED
	FIXTURE CIRCUIT HOMERUN, X-CIRCUIT HOMERUN NUMBER,
	LIGHTING CONDUIT LINE
	POWER CONDUIT LINE
	SERVICE ENTRANCE
	CKT. BREAKER, RATING AS INDICATED



PANELBOARD: MDP BOLT-ON PANEL BOARD, W/ GROUND TERMINAL

CKT. NO.	LOAD DESCRIPTION	VA LOAD	CIRCUIT BREAKER					WIRE & CONDUIT SIZE
			VOLT	POLE	AT	AF	KAIC	
1	LO-(4 FLOODLIGHT)	400	230	2	15	50	10	2-3.5mm² THHN WIRE STRANDED IN 20mmø PVC
2	LO-(12 HI-BAY LIGHT)	1440	230	2	15	50	10	2-3.5mm² THHN WIRE STRANDED IN 20mmø PVC
3	CONVENIENCE OUTLET	720	230	2	20	50	10	2-3.5mm² THHN WIRE STRANDED + 1-3.5mm² TW(G) WIRE STRANDED IN 20mmø PVC
4	SPARE	1900	230	2	20	50	10	PROVIDE EMPTY RISER IN 20mmø PVC
	TOTAL	4460	USE: 4 Branches Bolt-on Panel Board, 40AT /50AF Main CB, Center Main, 2 Pole, 230VAC, 60Hz with Grounding Lugs MAIN WIRE: 2 - 8.0 mm² THHN/THWN Copper Wire + 1 - 5.5 mm² TW (G) in 25mmø RSC PIPE					
FOR OVER-ALL TOTAL CONNECTED LOADS: 4460 VA I _L @ 80% DF <div>I_L = $\left \frac{4460}{230} \right \cdot 0.80 = 15.51 \text{ AMPERES}$</div>								



I. Recommended Size of Transformer Calculation:

@ 1.2 DIVERSITY FACTOR:

VA= 4460 VA/ 1.2 Div. Factor= 3716 VA

KVA= 3716 VA/ 1000 = 3.7 kVA

Use:1-10 kVA Single Phase, 60Hz, OISC Pole Mounted Distribution Transformer

Note/s: (Transformer not included in the scope of works.)

II. Illumination Level Calculation:

Given:

(COVERED COURT)

a) General Lighting Load for Open Area Covered Court
=200-500 Lm/ sq.m

b) Floor Area, Ground Floor Area = 600 sq.m

c.1) (12 SETS- LED UFO HIGH BAY 120WATTS,
12600LM,DAYLIGHT)

c.2) (4 SETS- LED FLOODLIGHT, 70WATTS,
6650LM, DAYLIGHT)

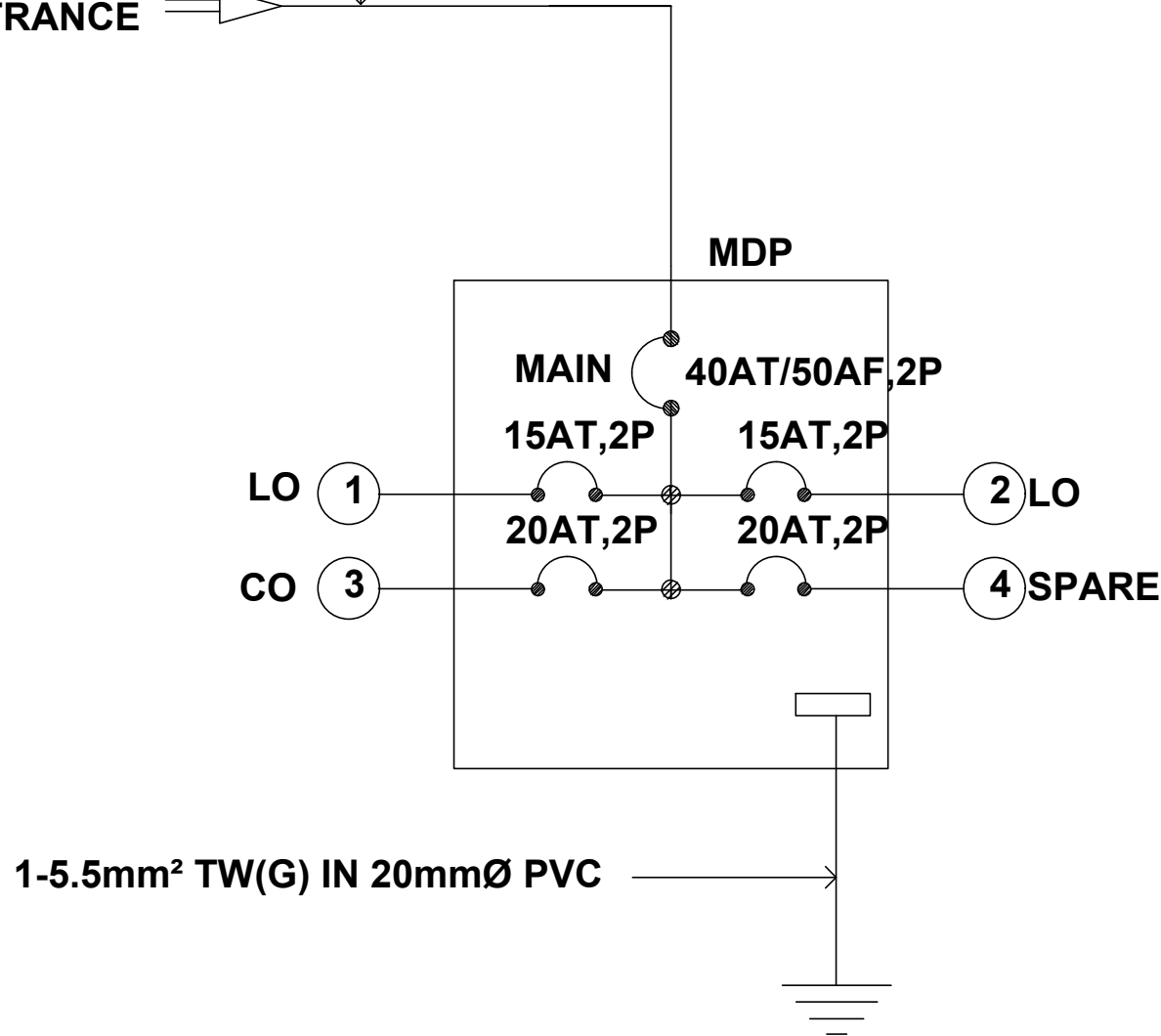
So; Illumination Level, I_x= lux

$$I_x = \frac{(12 \times 12600) + (4 \times 6650) \text{ Lumen}}{\text{Area}}$$

$$I_x = \frac{177,800 \text{ Lumen}}{600\text{m}^2} = 296.33 \text{ Lumen/ sq.m}$$

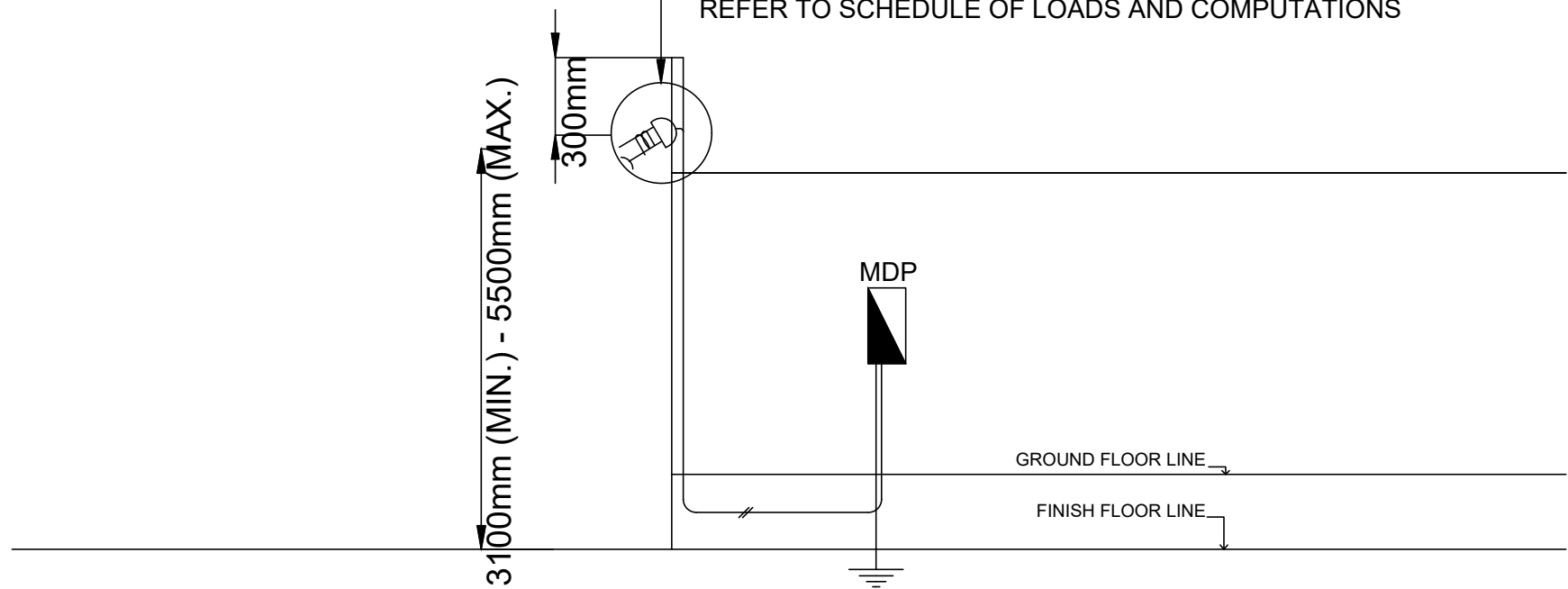
I_x= 296 lux (Actual Illumination Level)

1Ø, 230V, 2-WIRES 60Hz SERVICE ENTRANCE 2 - 8.0 mm² THHN/THWN Copper Wire in 25mmØ RSC



POWER SOURCE:
2-Wire, 1-Phase, 230 Vac, 60 Hz
SERVICE LATERAL PROVIDED WITH 25mmØ
"TYPE F" CONDULETS FOR 230V, 2-WIRE,
60Hz, A.C. TO CONNECT TO AVAILABLE
POWER LINES.

NOTE:
ALL SIZES OF SERVICE FEEDER (WIRES IN CONDUIT)
REFER TO SCHEDULE OF LOADS AND COMPUTATIONS



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South Cotabato

SHEET CONTENTS:

LOAD SCHEDULE
PANEL BOARD DIAGRAM

DRAFTED:

SIGNED
SALIHA L. MALAMBAT
ENGINEER II

PREPARED:

SIGNED
JAMES ALLEN P. ECHAVEZ
ENGINEER I / ELECTRICAL ENGINEER

REVIEWED:

SIGNED
ARJAY DE QUIA CEBALLOS
ENGINEER II

SUBMITTED:

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LEI ANGELOUS S. BANTILAN
CHIEF, PLANNING DESIGN SECTION

RECOMMENDED:

SIGNED
ADRIANO N. NOGODULA III
OIC-ASSISTANT DISTRICT ENGINEER

APPROVED:

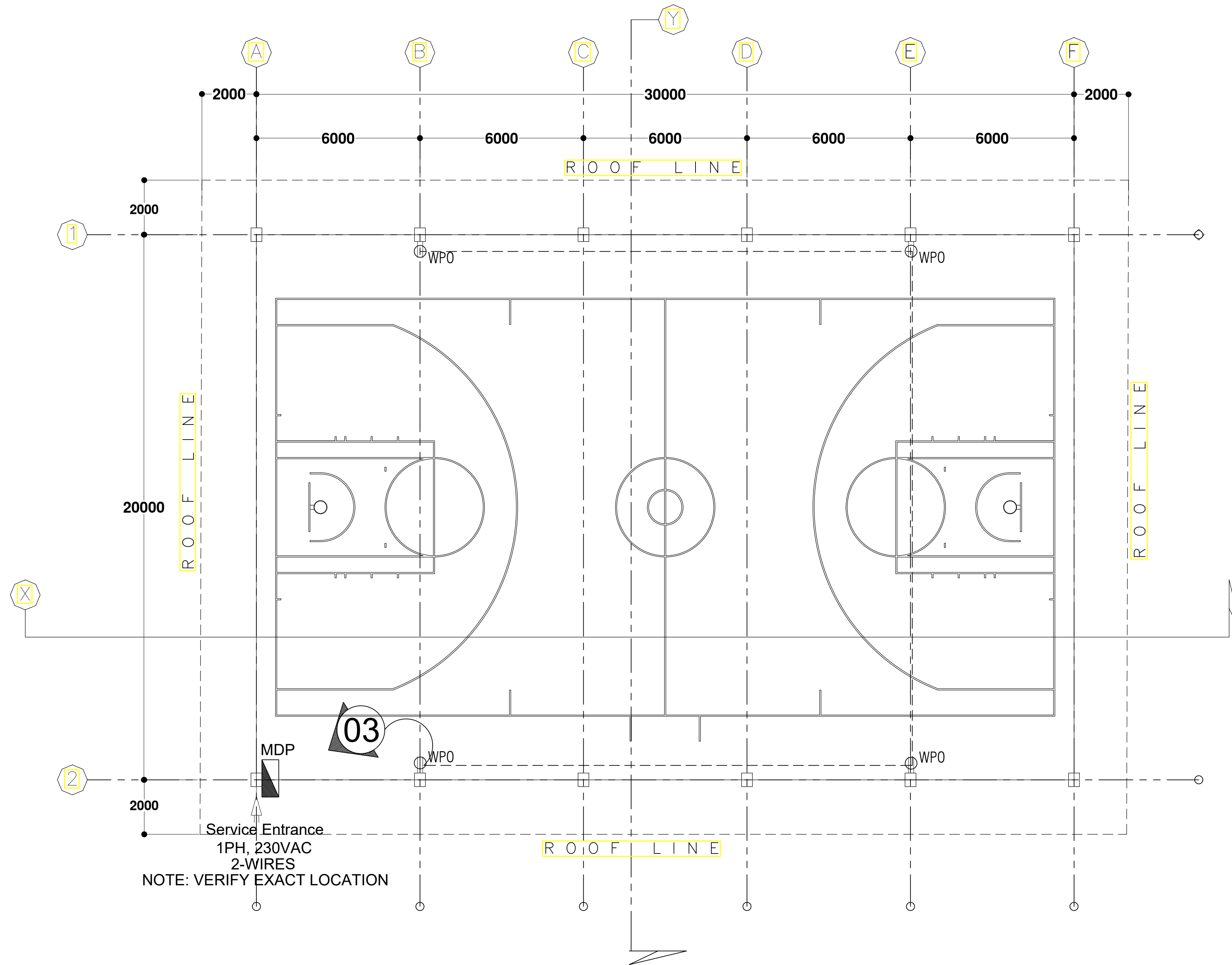
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 **POWER LAYOUT PLAN**
SCALE 1:100M



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SHEET CONTENTS:
POWER LAYOUT PLAN

DRAFTED: **SIGNED**
SALIHA L. MALAMBAT
ENGINEER II
PREPARED: **SIGNED**
JAMES ALLEN P. ECHAVEZ
ENGINEER I ELECTRICAL ENGINEER

REVIEWED: **SIGNED**
ARJAY DE QUIA CEBALLOS
ENGINEER II
DATE:

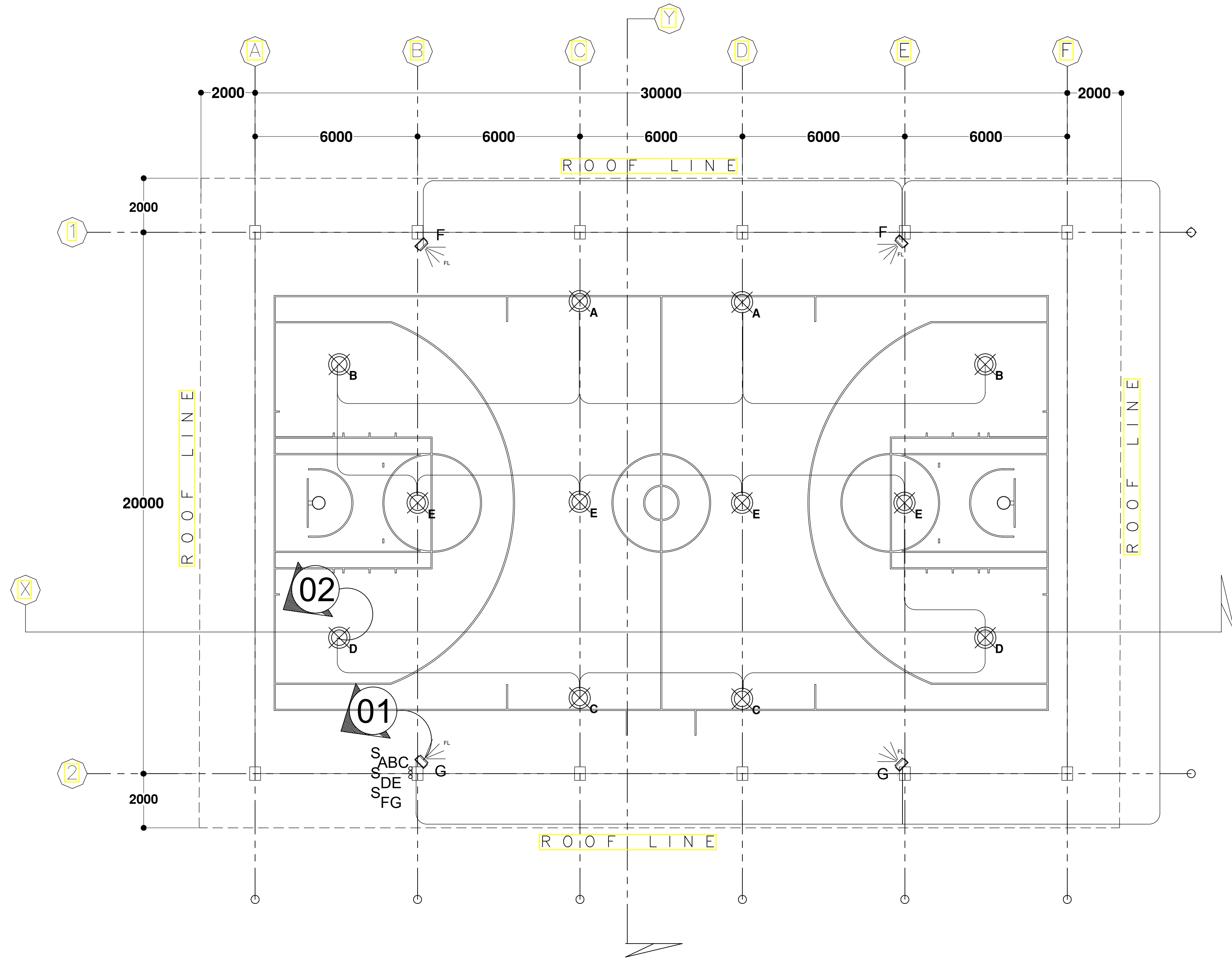
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LEI ANGELOUS S. BANTILAN
CHIEF, PLANNING DESIGN SECTION
DATE:

RECOMMENDED: **SIGNED**
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OIC-ASSISTANT DISTRICT ENGINEER
DATE:

APPROVED: **SIGNED**
JONATHAN G. BANTUG
DISTRICT ENGINEER
DATE:

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 **LIGHTING LAYOUT PLAN**
SCALE 1:100M



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South Cotabato

SHEET CONTENTS:

LIGHTING LAYOUT PLAN

DRAFTED:

SIGNED
SALIHA L. MALAMBAT
ENGINEER II

PREPARED:

SIGNED
JAMES ALLEN P. ECHAVEZ
ENGINEER I / ELECTRICAL ENGINEER

REVIEWED:

SIGNED
ARJAY DE QUIA CEBALLOS
ENGINEER II
DATE:

SUBMITTED:

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LEI ANGELOUS S. BANTILAN
CHIEF, PLANNING DESIGN SECTION
DATE:

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OIC-ASSISTANT DISTRICT ENGINEER
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