



**PROPOSED TSU WAREHOUSE PERSPECTIVE VIEW**

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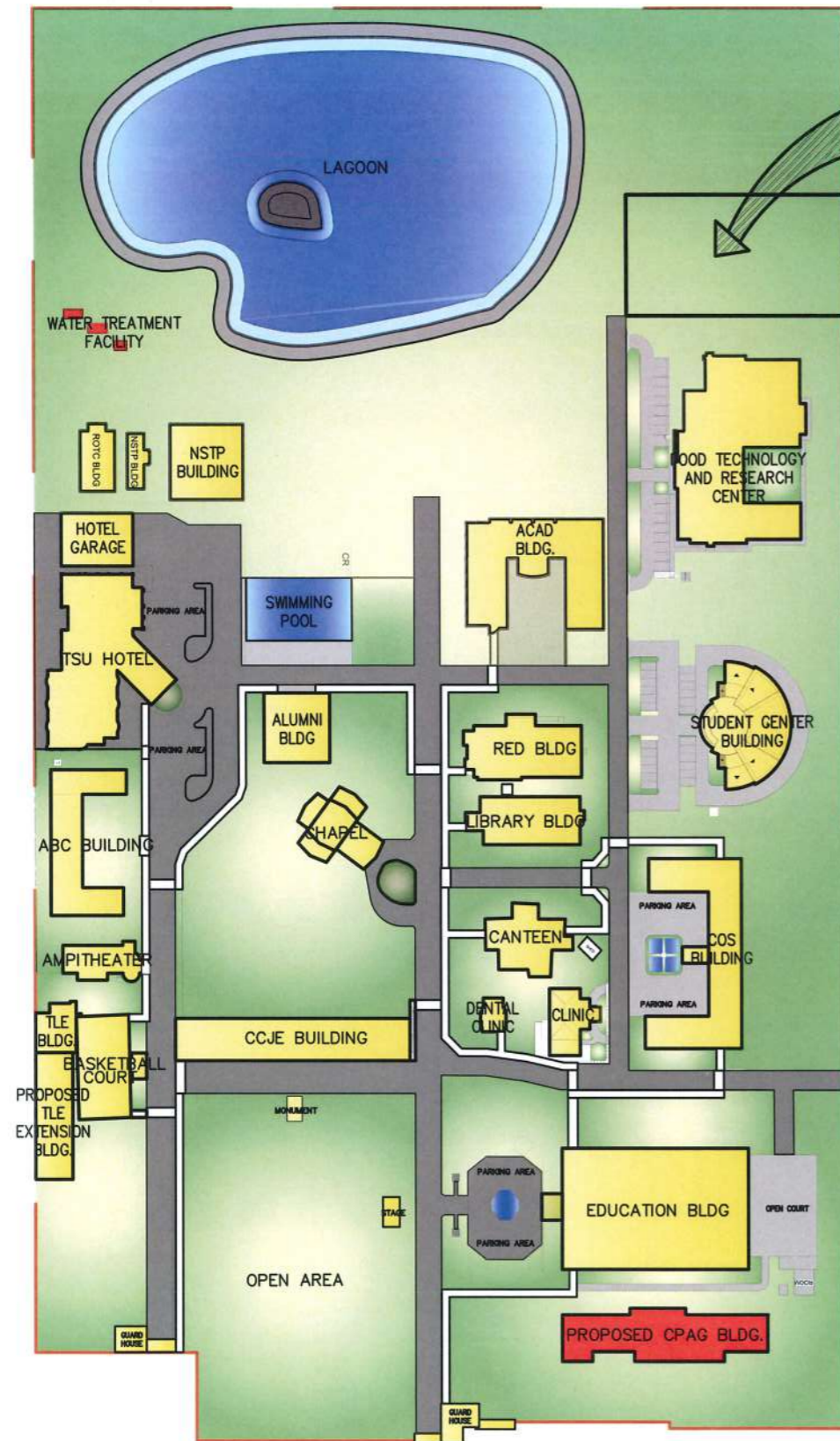
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### LOCATION MAP

SCALE 1:2000

SITE



LUCINDA  
EXTENSION  
CAMPUS

TO BAGUIO

COLLEGE  
OF THE  
HOLY  
SPIRIT

TO MANILA

### VICINITY MAP

SCALE : NTS



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EXTENSION CAMPUS PROPERTY LINE

SITE DEVELOPMENT LINE

ROAD TEE TURNAROUND

WATER SOURCE LINE

WAREHOUSE SITE DEVELOPMENT LINE

FOOD TECH.  
SEPTIC TANK

EXISTING FTRC BUILDING

PROPOSED 6.0 METER ACCESS R



# PROPOSED SITE DEVELOPMENT PLAN

SCALE : NOT TO SCALE



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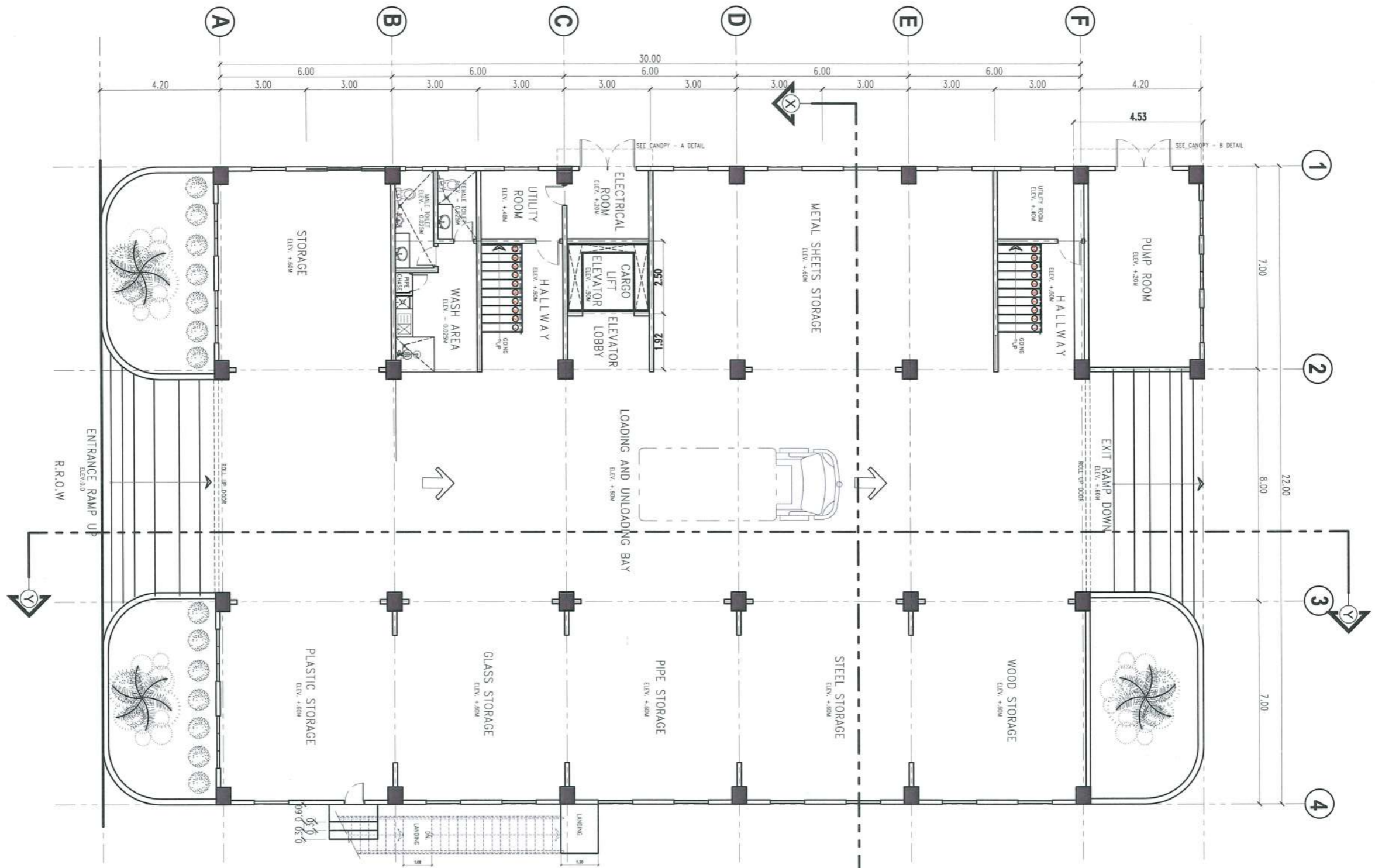
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**PROPOSED GROUND FLOOR PLAN**  
SCALE 1:150 M



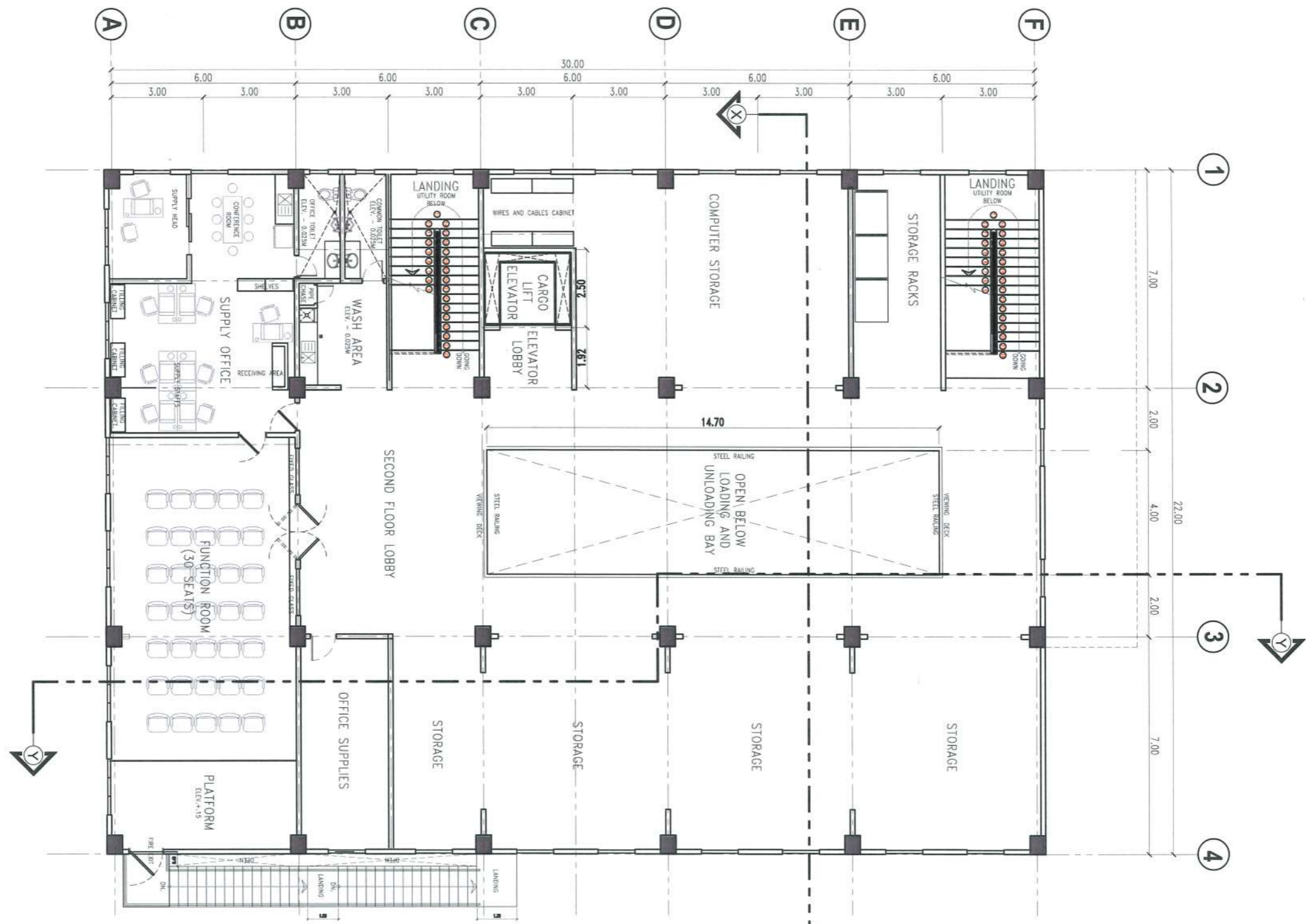
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**PROPOSED SECOND FLOOR PLAN**  
SCALE 1:150 M

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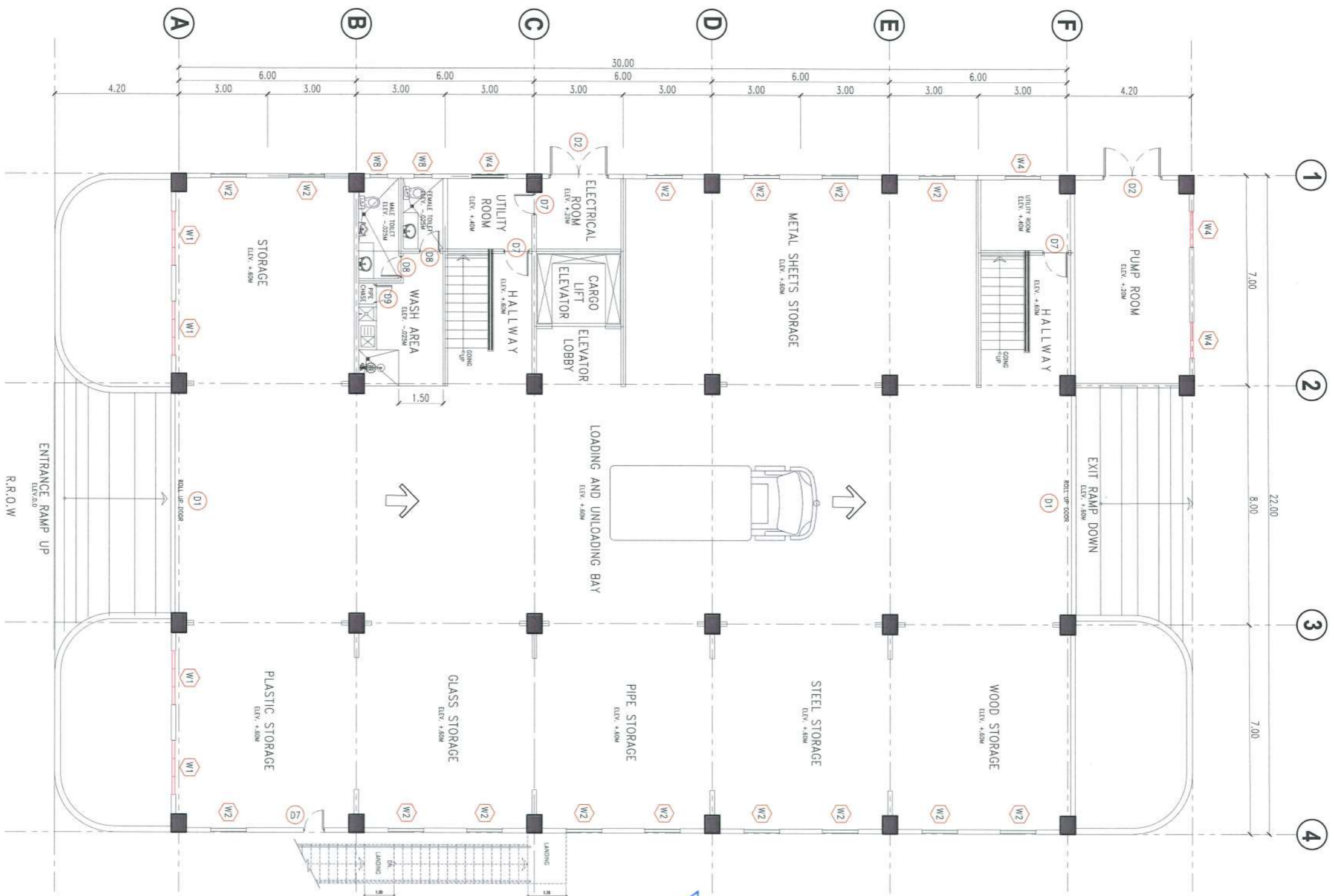
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**GROUND FLOOR DOORS & WINDOWS CALLOUT**  
SCALE 1:150 M



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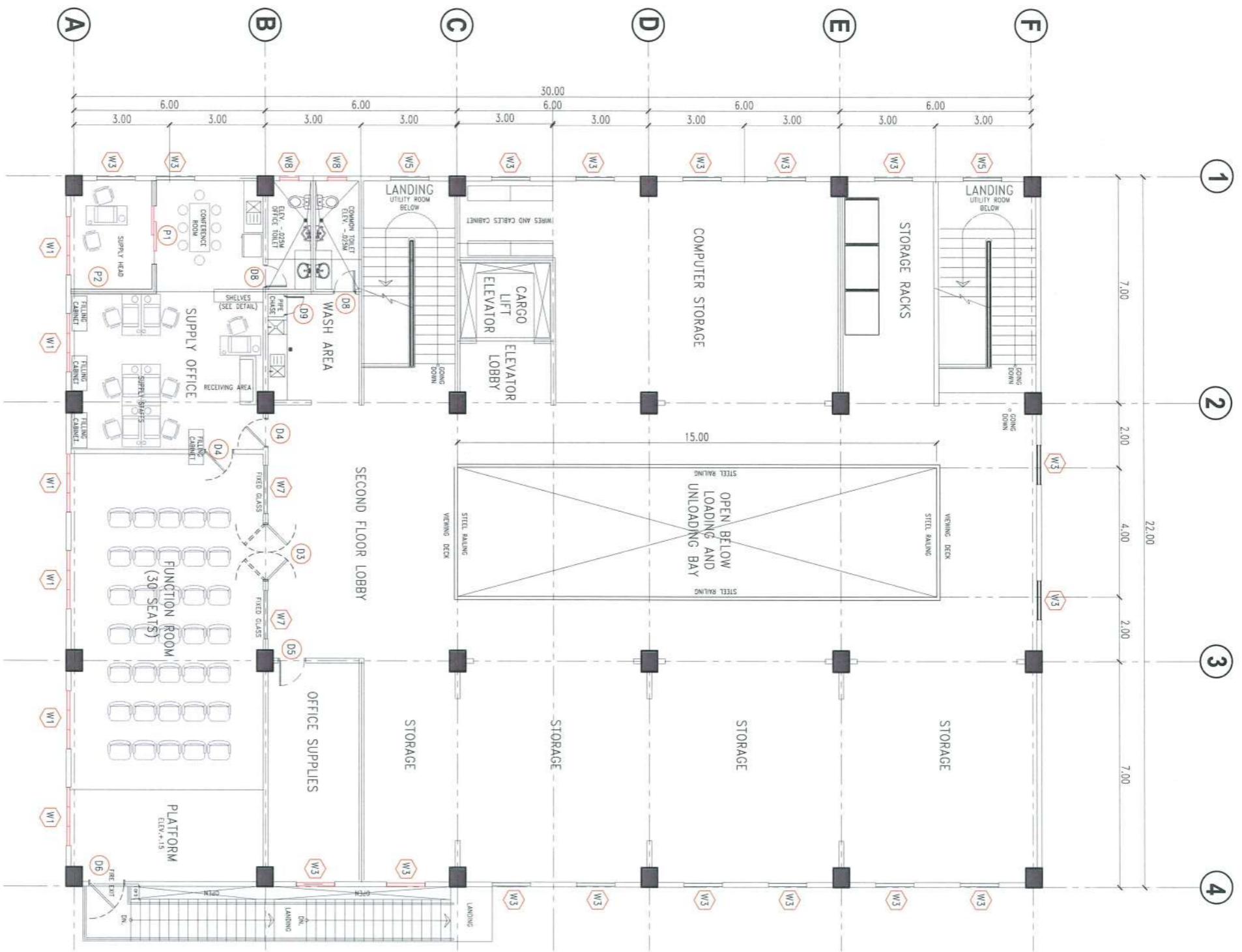
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**SECOND FLOOR DOORS, WINDOWS & PARTITION CALLOUT**

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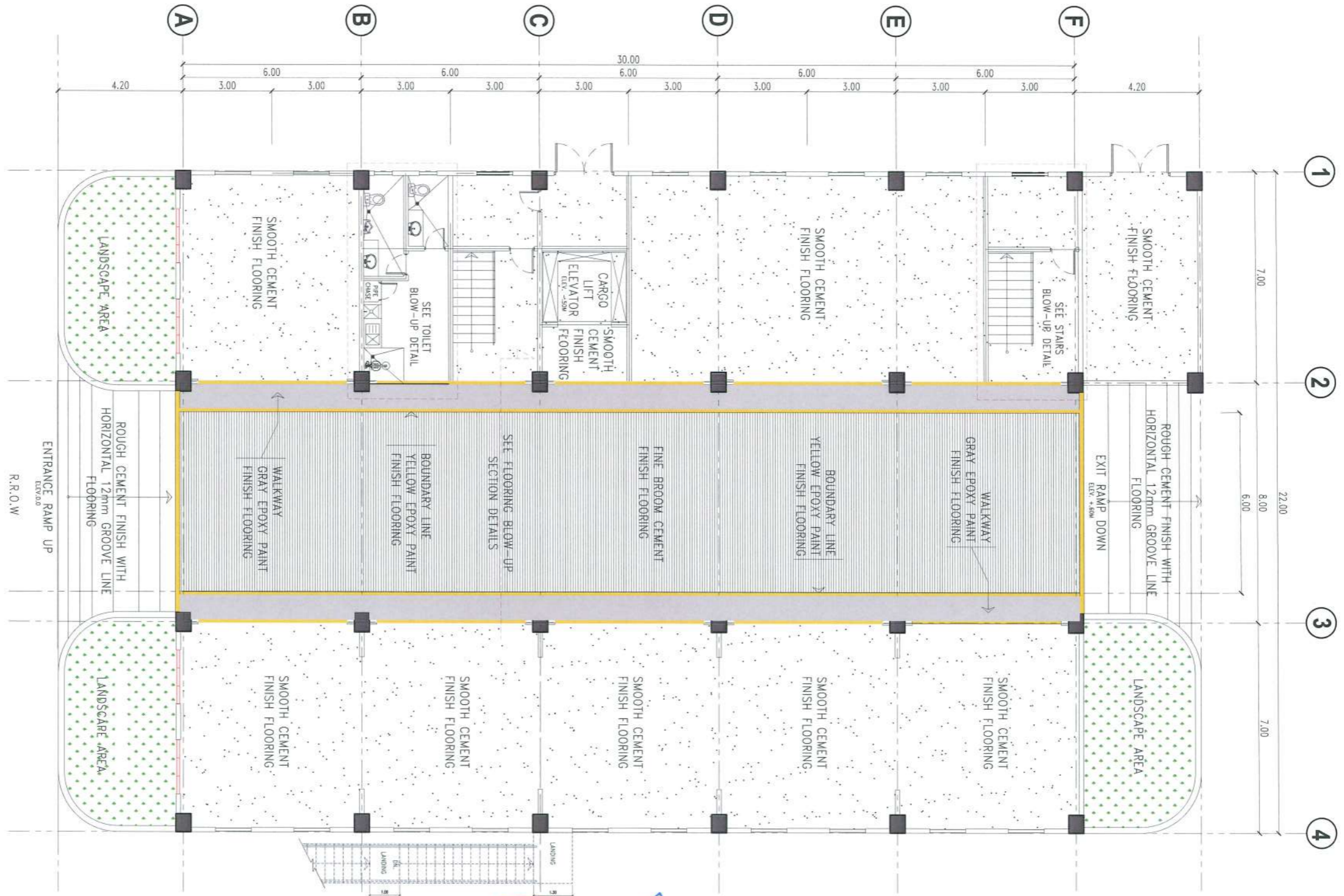

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**GROUND FLOOR TILE LAYOUT & FLOOR FINISHES**  
SCALE 1:150 M

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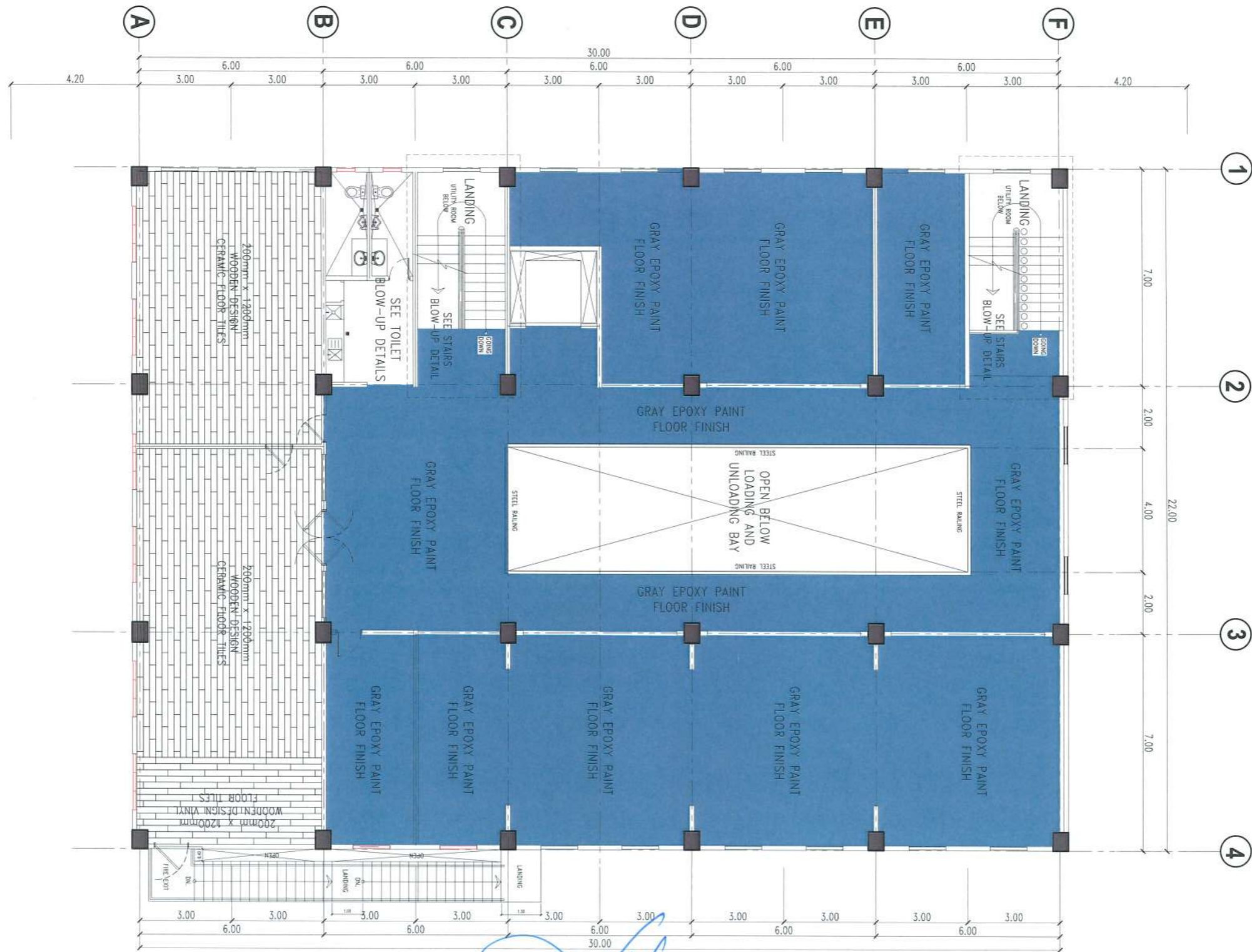
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# SECOND FLOOR TILE LAYOUT & FLOOR FINISHES

SCALE 1:150 M



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**NOTE:**

- FOR INTERIOR & EXTERIOR WALL, SLAB & STAIR SOFFIT
- USE SMOOTH PAINT FINISH, AT LEAST 2
- COATS OF SEMI-GLOSS LATEX (OFF-WHITE)
- FOR PUMP ROOM, TOILET CEILING & ROOF EAVES
- USE SMOOTH PAINT FINISH, AT LEAST 2
- COATS OF FLAT LATEX PAINT



**GROUND FLOOR REFLECTIVE CEILING PLAN**  
SCALE 1:150 M

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- NOTE:**
- FOR INTERIOR & EXTERIOR WALL, SLAB & STAIR SOFFIT  
USE SMOOTH PAINT FINISH, AT LEAST 2  
COATS OF SEMI-GLOSS LATEX (OFF-WHITE)
  - FOR PUMP ROOM, TOILET CEILING & ROOF EAVES  
USE SMOOTH PAINT FINISH, AT LEAST 2  
COATS OF FLAT LATEX PAINT



**SECOND FLOOR REFLECTIVE CEILING PLAN**  
SCALE 1:150 M

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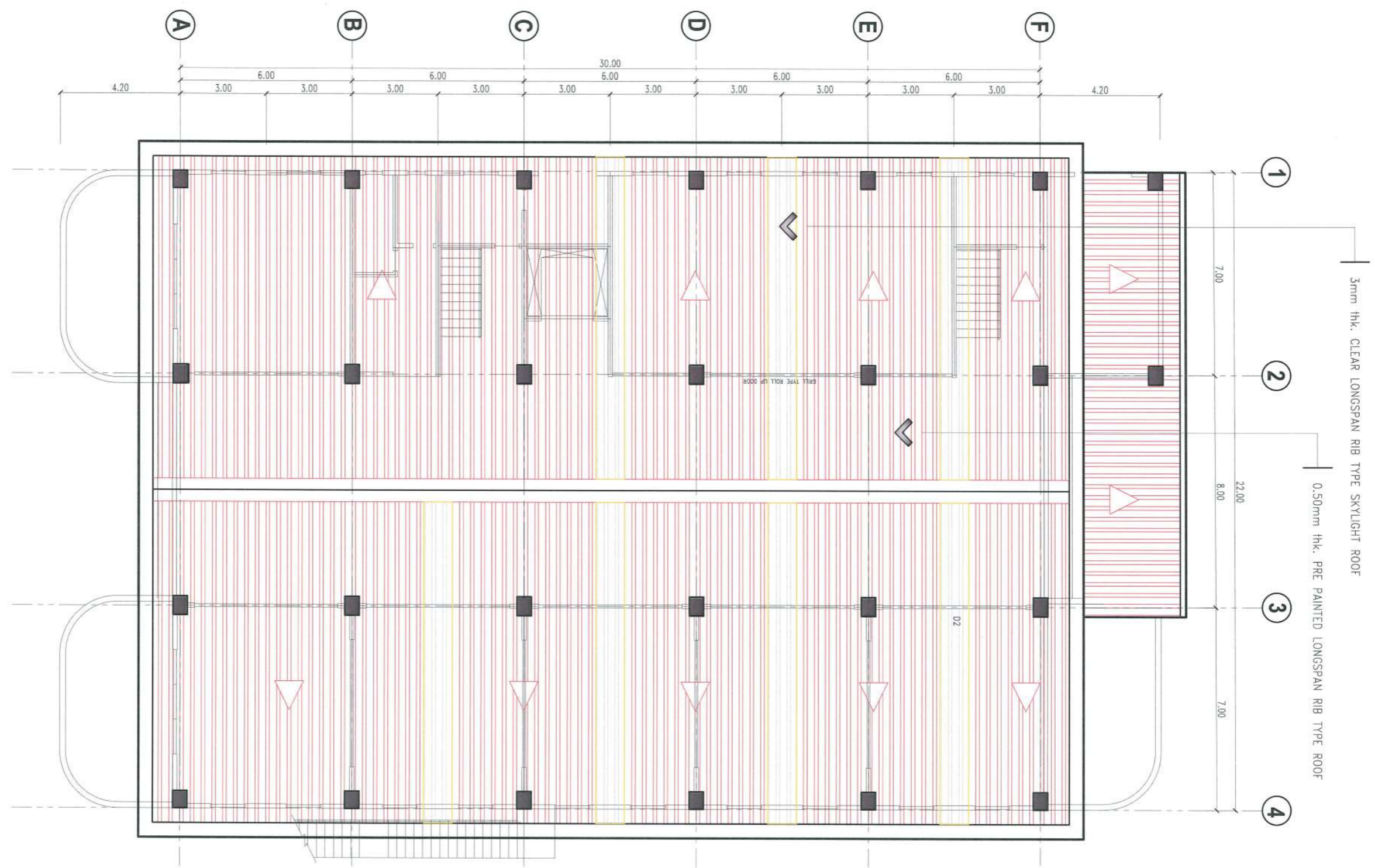
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# PROPOSED ROOF PLAN

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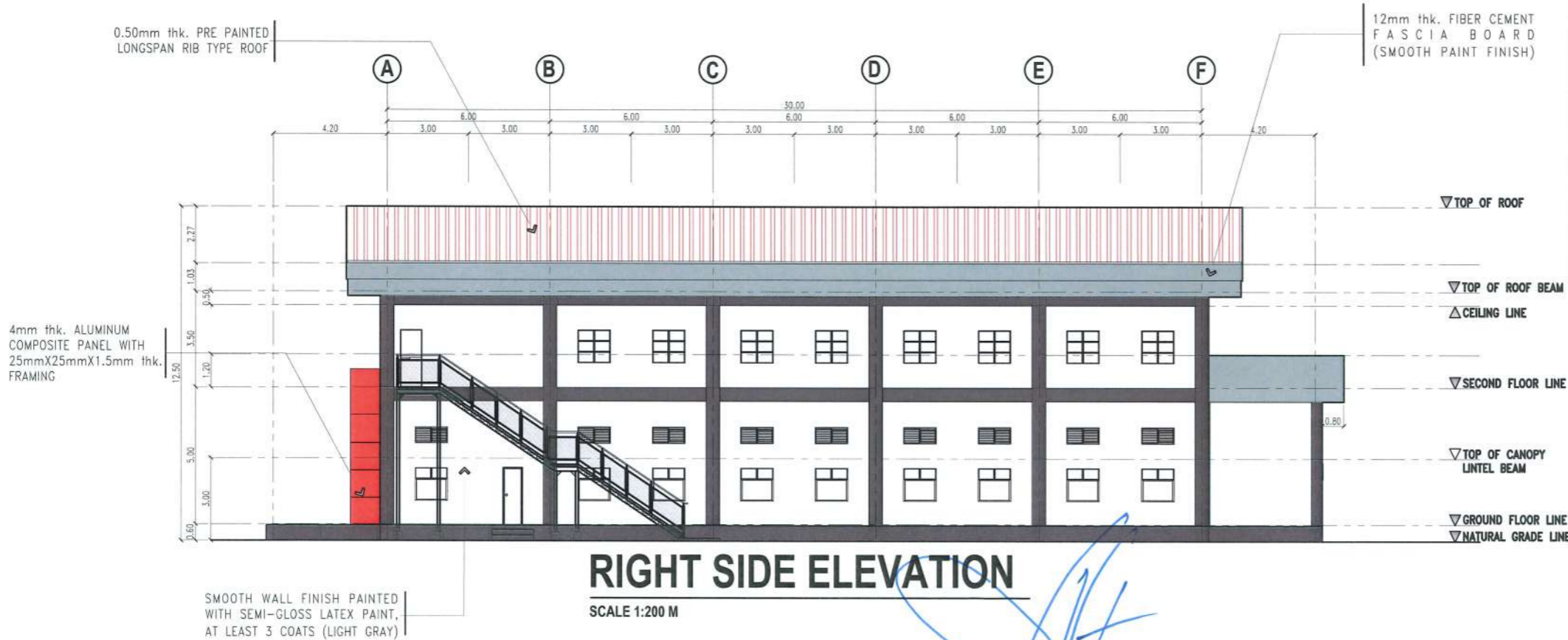
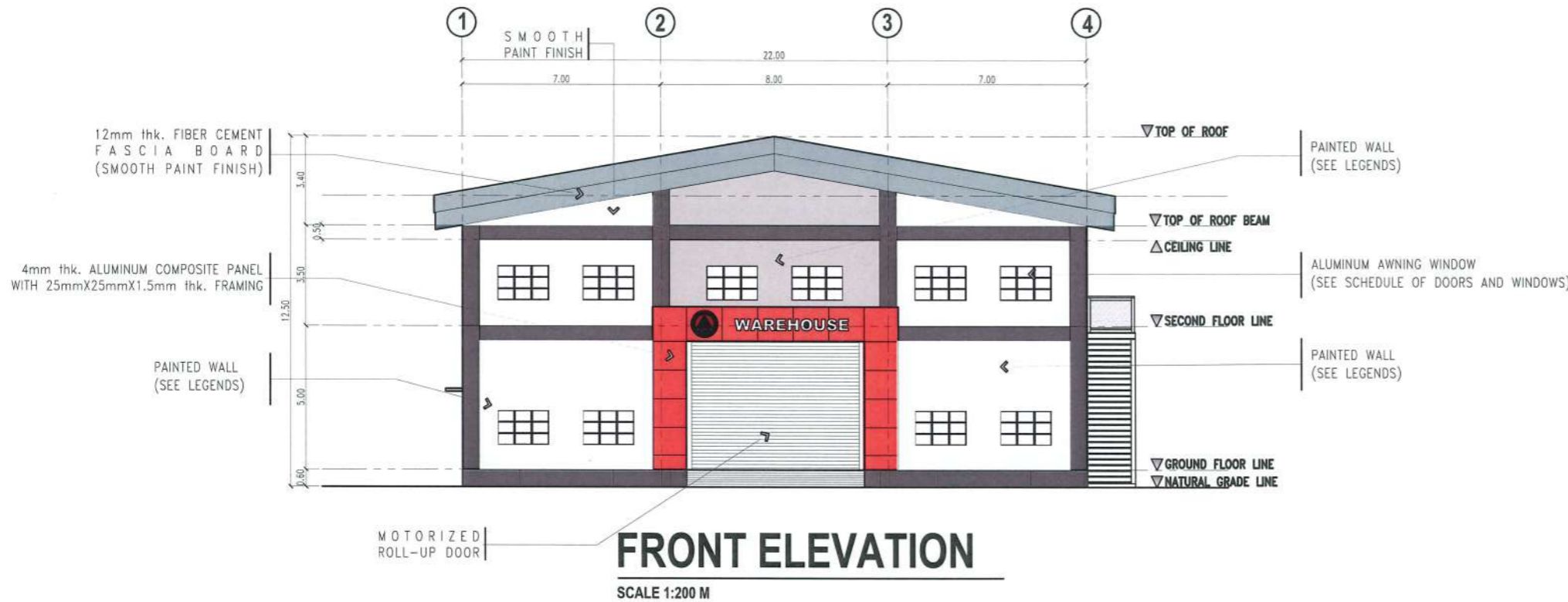
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# LEGENDS :

-  - WALL ACCENT  
4mm thk. ALUMINUM COMPOSITE PANEL (RED) WITH FRAMING SYSTEM
-  - CENTER EXTERIOR WALL FRONT & REAR  
SMOOTH PAINT FINISH, AT LEAST 2 COATS OF SEMI-GLOSS LATEX (LIGHT GRAY)
-  - INTERIOR & EXTERIOR WALL, SLAB & STAIR SOFFIT  
SMOOTH PAINT FINISH, AT LEAST 2 COATS OF SEMI-GLOSS LATEX (OFF-WHITE)
-  - INTERIOR & EXTERIOR COLUMNS AND BEAMS  
SMOOTH PAINT FINISH AT LEAST 1 COAT OF PRIMER AND 2 COATS OF SEMI-GLOSS LATEX (GRAY)
-  - FACIA BOARD  
12mm thk. FIBER CEMENT FASCIA BOARD (SMOOTH PAINT FINISH GRAY)
-  - ROOFING  
0.50mm thk. PRE-PAINTED LONGSPAN RIB-TYPE ROOF



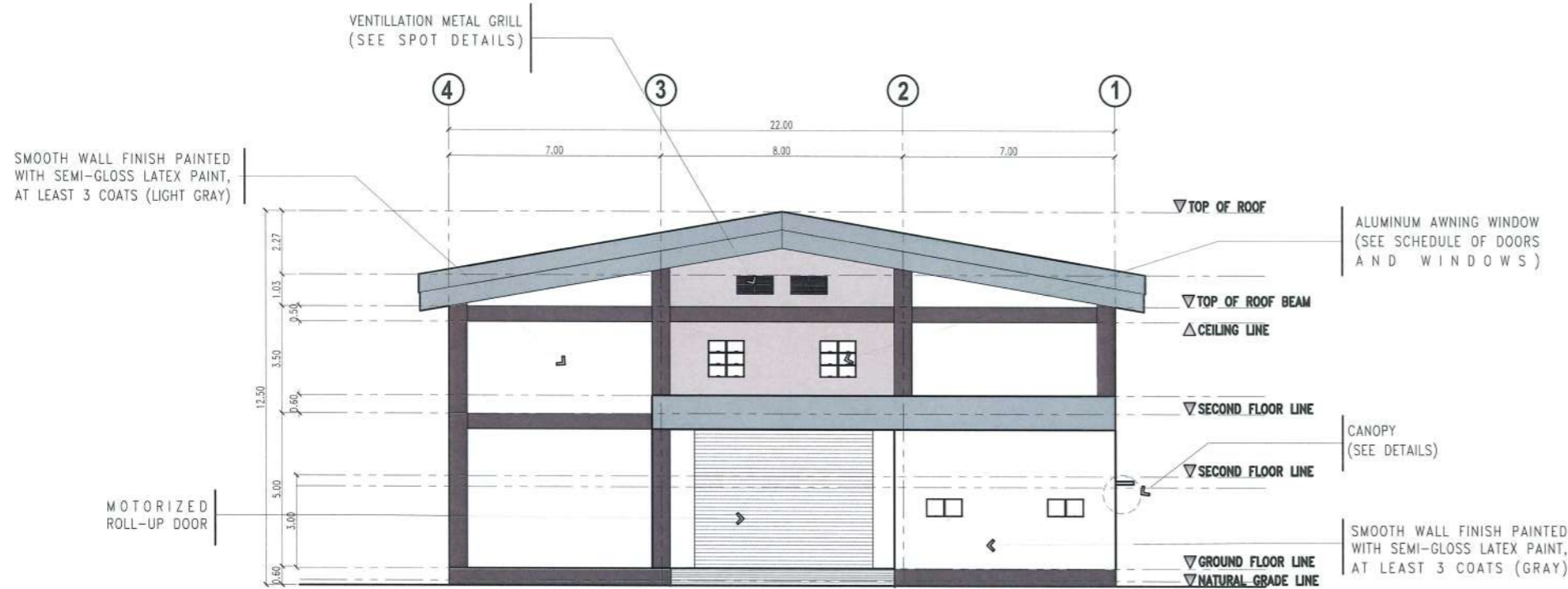
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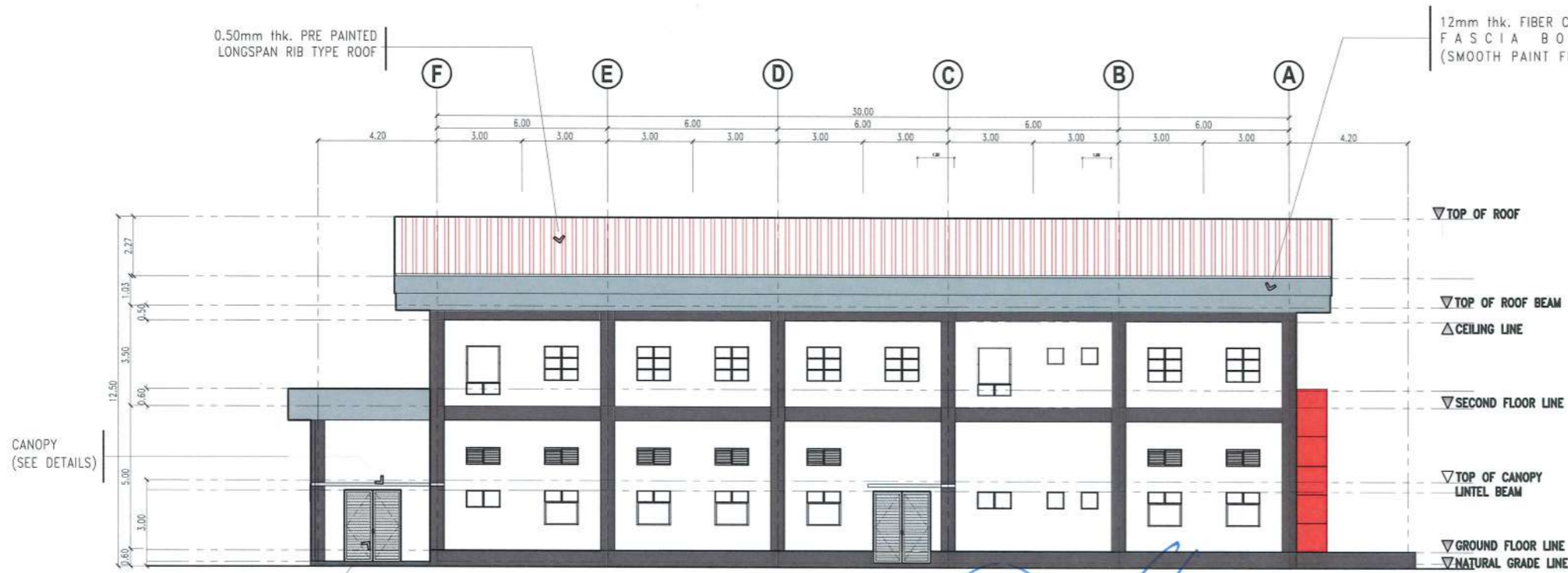
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### REAR ELEVATION

SCALE 1:200 M



### LEFT SIDE ELEVATION

SCALE 1:200 M

### LEGENDS :

-  - WALL ACCENT  
4mm thk. ALUMINUM COMPOSITE PANEL (RED) WITH FRAMING SYSTEM
-  - CENTER EXTERIOR WALL FRONT & REAR  
SMOOTH PAINT FINISH, AT LEAST 2 COATS OF SEMI-GLOSS LATEX (LIGHT GRAY)
-  - INTERIOR & EXTERIOR WALL, SLAB & STAIR SOFFIT  
SMOOTH PAINT FINISH, AT LEAST 2 COATS OF SEMI-GLOSS LATEX (OFF-WHITE)
-  - INTERIOR & EXTERIOR COLUMNS AND BEAMS  
SMOOTH PAINT FINISH AT LEAST 1 COAT OF PRIMER AND 2 COATS OF SEMI-GLOSS LATEX (GRAY)
-  - FACIA BOARD  
12mm thk. FIBER CEMENT FASCIA BOARD (SMOOTH PAINT FINISH GRAY)
-  - ROOFING  
0.50mm thk. PRE-PAINTED LONGSPAN RIB-TYPE ROOF



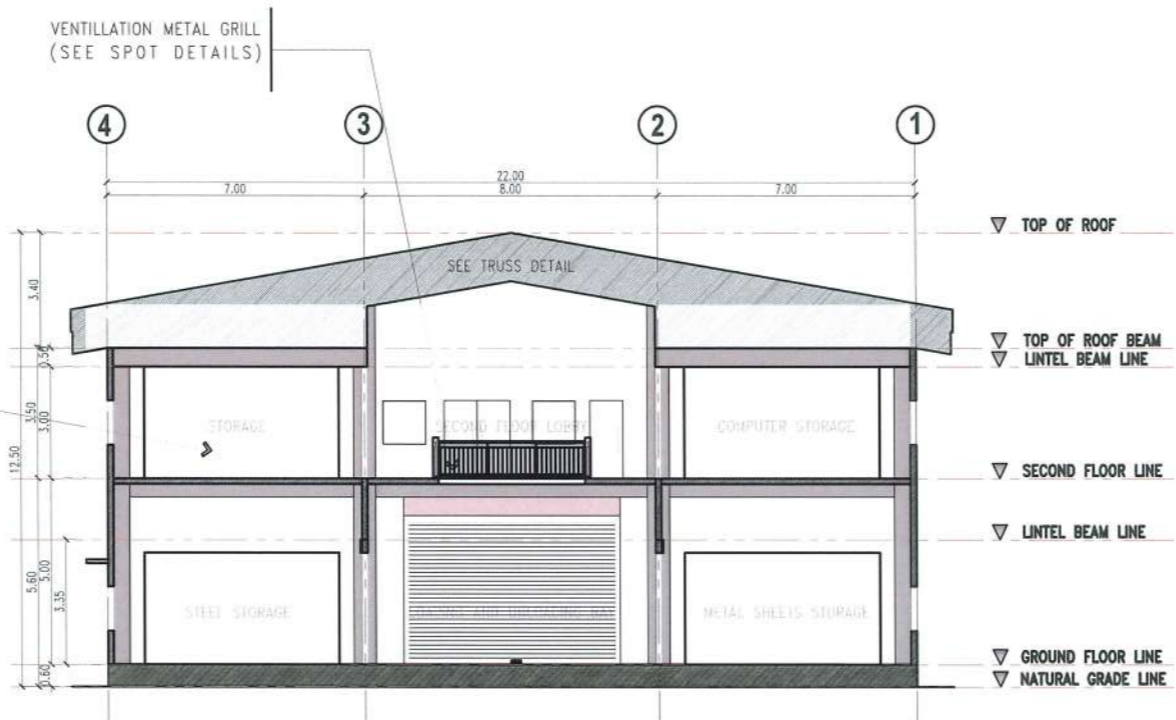
PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: **GARRY M. ARVENTO**  
**AR ENP RMP RME**  
 PTR: 448826  
 1-3-23 TARLAC PRC/1071

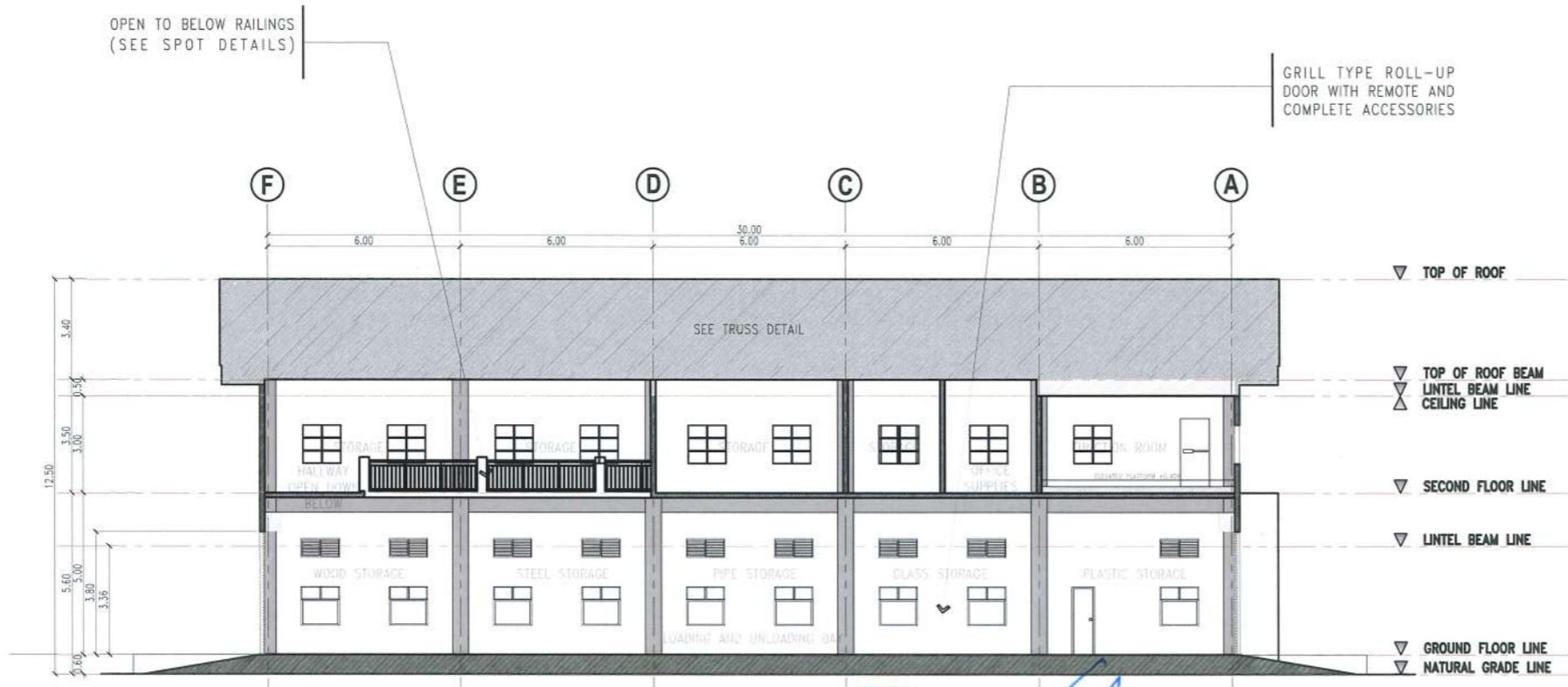
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PTR NO:	DATE ISSUED:
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IAPOA:	DATE ISSUED:

OWNER: **DR. ARNOLD E. VELASCO**

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**SECTION THRU (X - X)**  
SCALE 1:200 M



**SECTION THRU (Y - Y)**  
SCALE 1:200 M

**LEGENDS :**

-  - WALL ACCENT  
4mm thk. ALUMINUM COMPOSITE PANEL (RED) WITH FRAMING SYSTEM
-  - CENTER EXTERIOR WALL FRONT & REAR  
SMOOTH PAINT FINISH, AT LEAST 2 COATS OF SEMI-GLOSS LATEX (LIGHT GRAY)
-  - INTERIOR & EXTERIOR WALL, SLAB & STAIR SOFFIT  
SMOOTH PAINT FINISH, AT LEAST 2 COATS OF SEMI-GLOSS LATEX (OFF-WHITE)
-  - INTERIOR & EXTERIOR COLUMNS AND BEAMS  
SMOOTH PAINT FINISH AT LEAST 1 COAT OF PRIMER AND 2 COATS OF SEMI-GLOSS LATEX (GRAY)
-  - FACIA BOARD  
12mm thk. FIBER CEMENT FACIA BOARD (SMOOTH PAINT FINISH GRAY)
-  - ROOFING  
0.50mm thk. PRE-PAINTED LONGSPAN RIB-TYPE ROOF



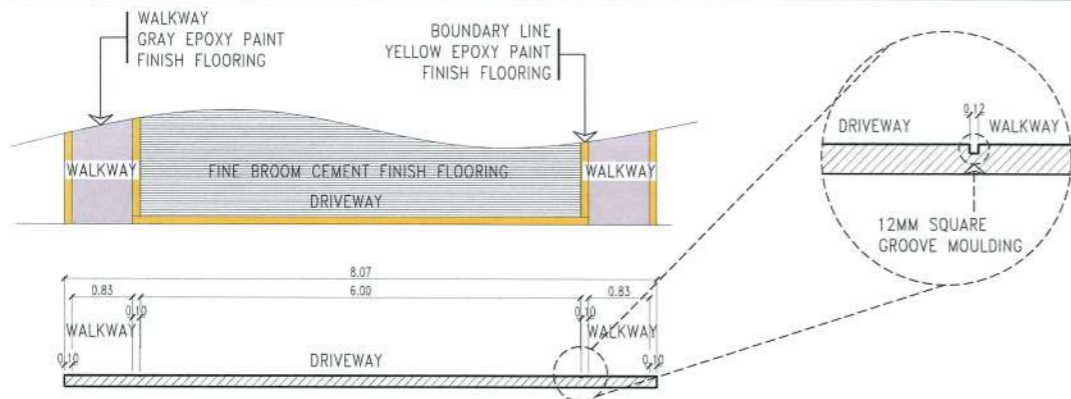
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: GARRY M. ADVENTO  
AR ENR RMP RME  
PTR: 4488926  
1-3-23 TARLAC PRC/571

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PTR NO: DATE ISSUED:  
ISSUED AT: TIN:  
IAPDA: DATE ISSUED:

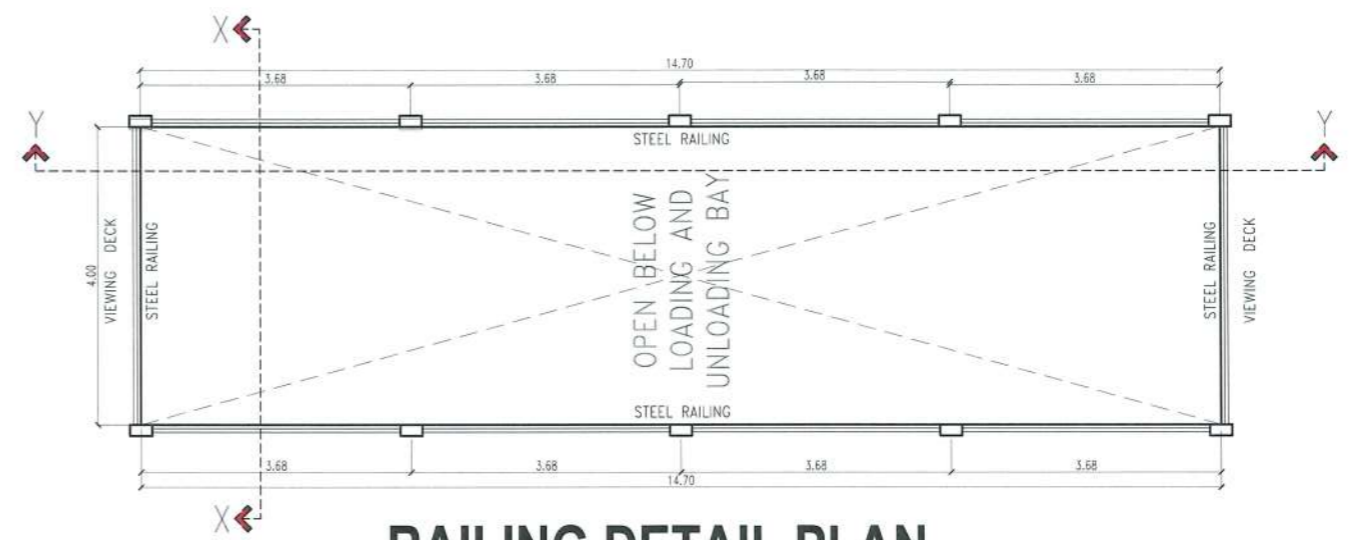
OWNER: DR. ARNOLD E. VELASCO

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DATE: SEPTEMBER, 2023  
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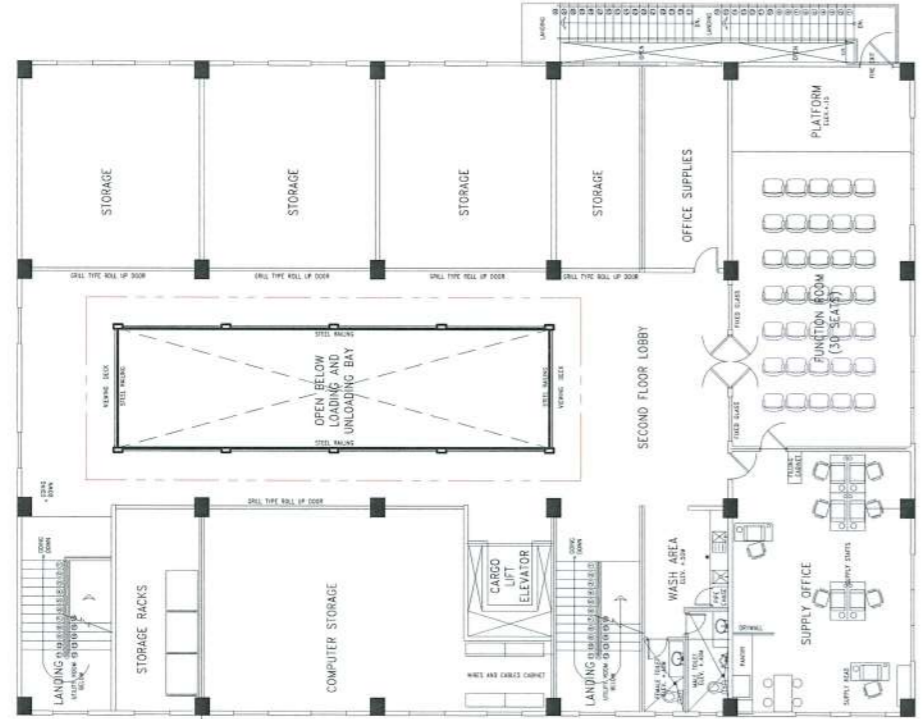
### FLOORING BLOW-UP SECTION DETAILS

SCALE 1:100 M



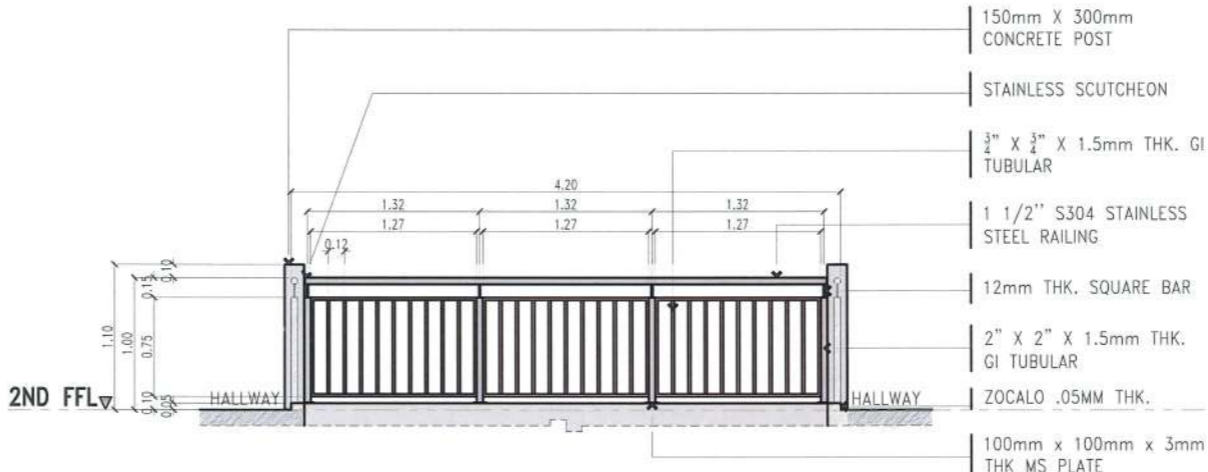
### RAILING DETAIL PLAN

SCALE 1:100 M



### SECOND FLOOR KEY PLAN

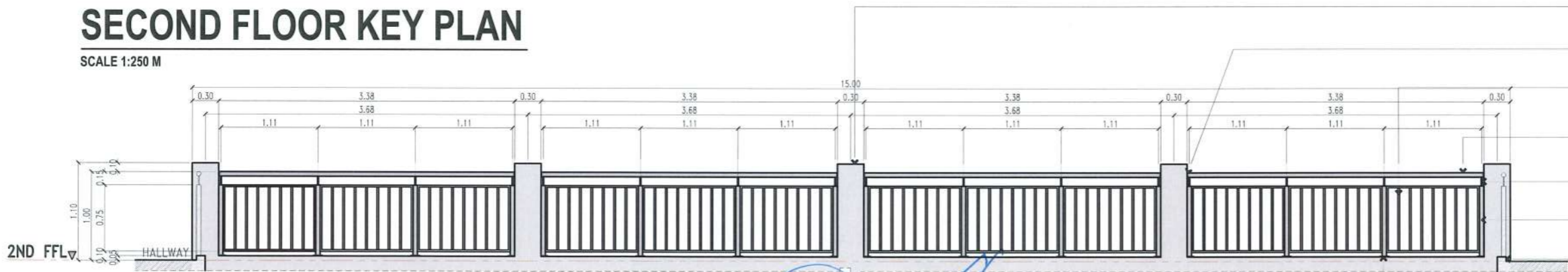
SCALE 1:250 M



### RAILING DETAIL SECTION THRU (X-X)

SCALE 1:75 M

NOTE:  
ALL STEEL FRAME MEMBERS SHALL BE PAINTED WITH EPOXY PRIMER AND AT LEAST 2 TOP COATS OF QUICK DRY ENAMEL

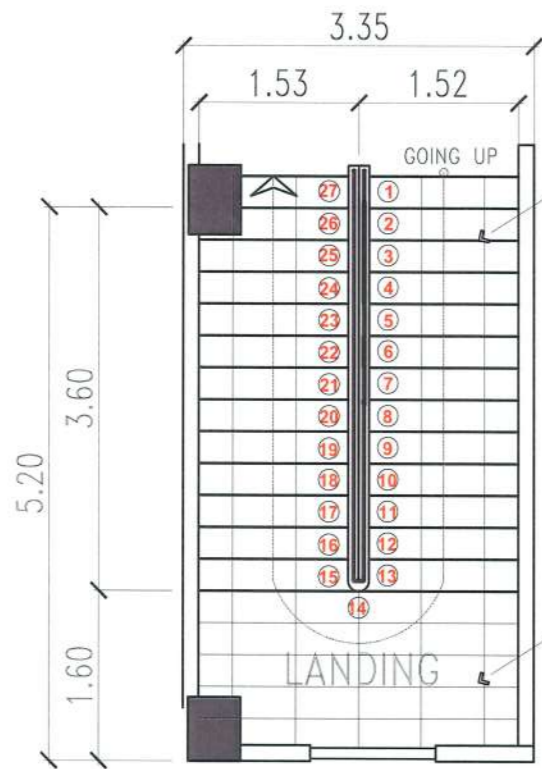


### RAILING DETAIL SECTION THRU (Y-Y)

SCALE 1:75 M

<p><b>TARLAC STATE UNIVERSITY</b> Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE	ARCHITECT:	GARRY M. ARNOLDO AR ENP/RMP/RME PTR: 4488926 1-3-28 TARLAC PRC	PRC NO:	VALIDITY:	OWNER:	DR. ARNOLDO E. VELASCO	SHEET CONTENTS:	AS SHOWN	SHEET NO:	A-16
	PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	ISSUED AT:	TARLAC	ISSUED AT:	TIN:	DATE ISSUED:	DATE ISSUED:	DATE: SEPTEMBER, 2023	16 / 91		





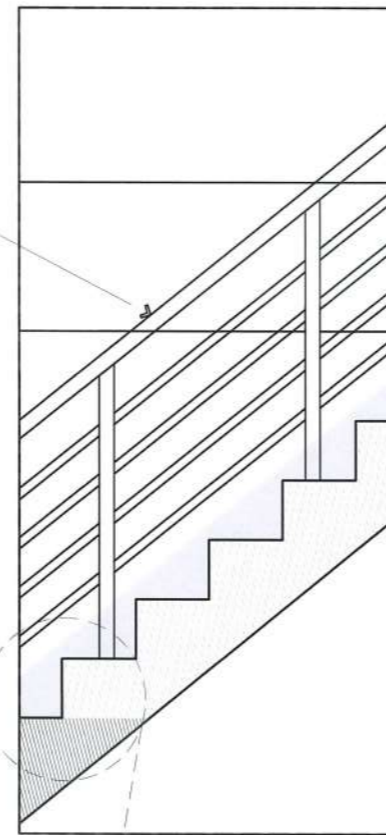
### BLOW UP STAIR PLAN

SCALE 1:70 M

1.2mm THK. BRONZE ALUMINUM STAIR NOSING (FLASHED TO STEPS)

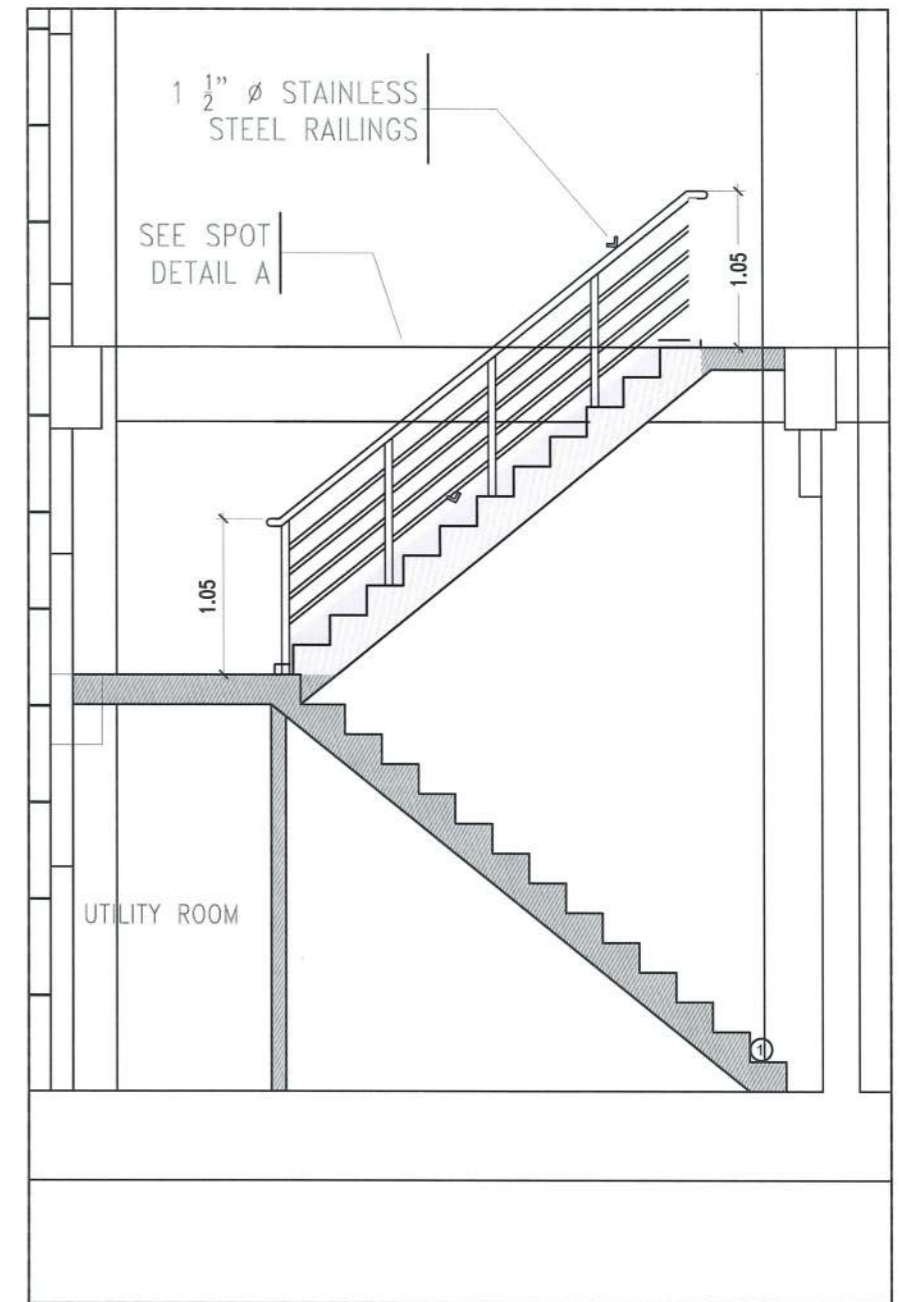
2" Ø STAINLESS STEEL TOP RAILINGS

300mm x 600mm NON-SKID CERAMIC FLOOR TILES



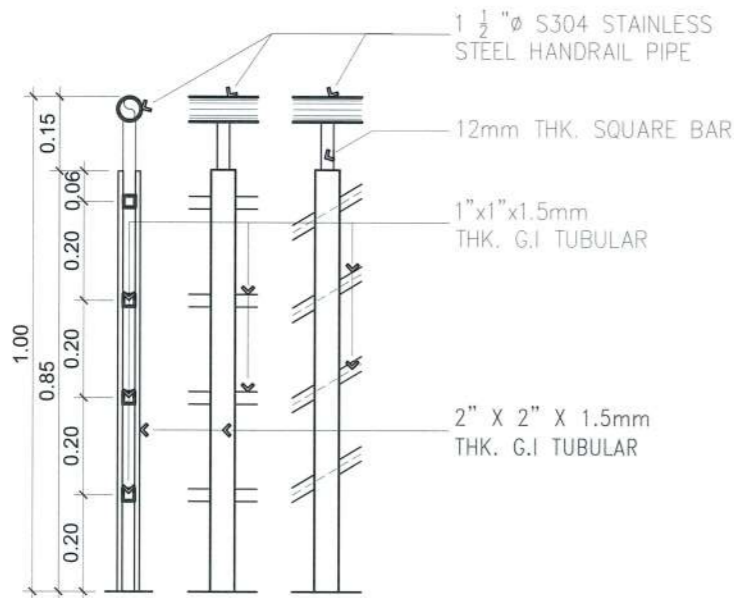
### SPOT DETAIL A

SCALE 1:40 M



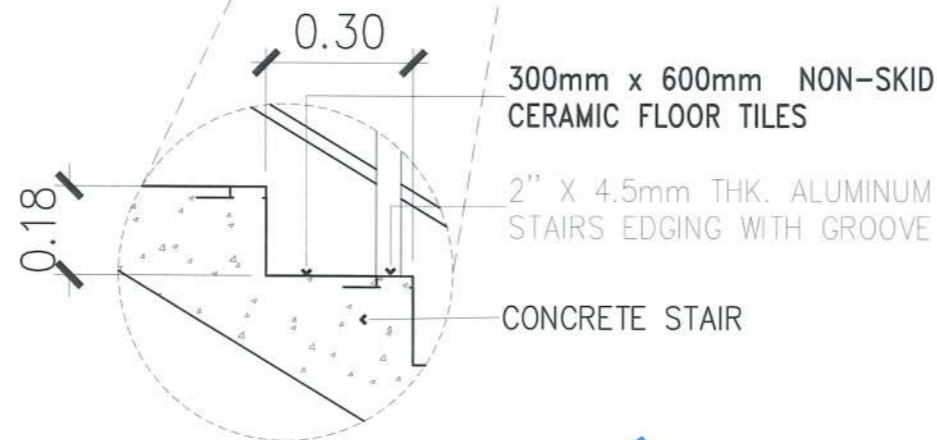
### STAIR CASE DETAIL

SCALE 1:50 M



### TYPICAL RAILING SECTION

SCALE 1:15 M



### SPOT DETAIL B

SCALE 1:10 M

NOTE:  
ALL STEEL FRAME MEMBERS SHALL BE PAINTED WITH EPOXY PRIMER AND AT LEAST 2 TOP COATS OF QUICK DRY ENAMEL



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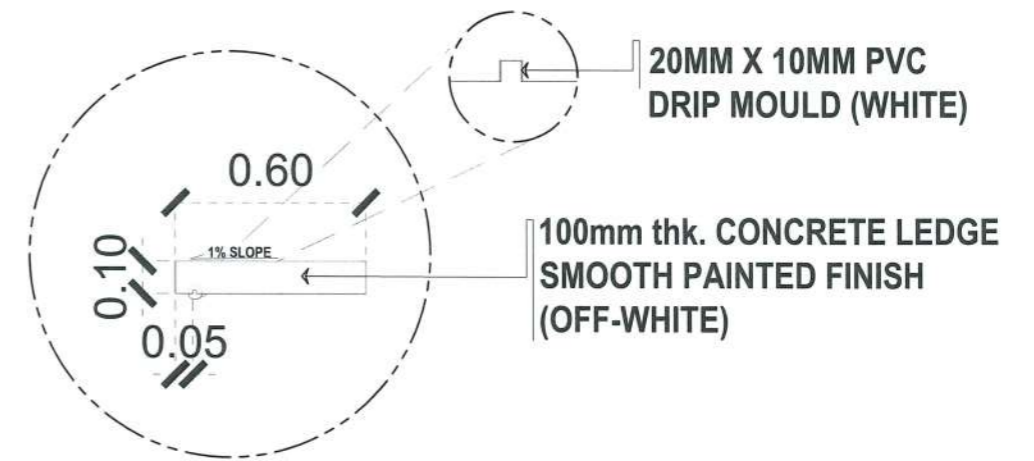
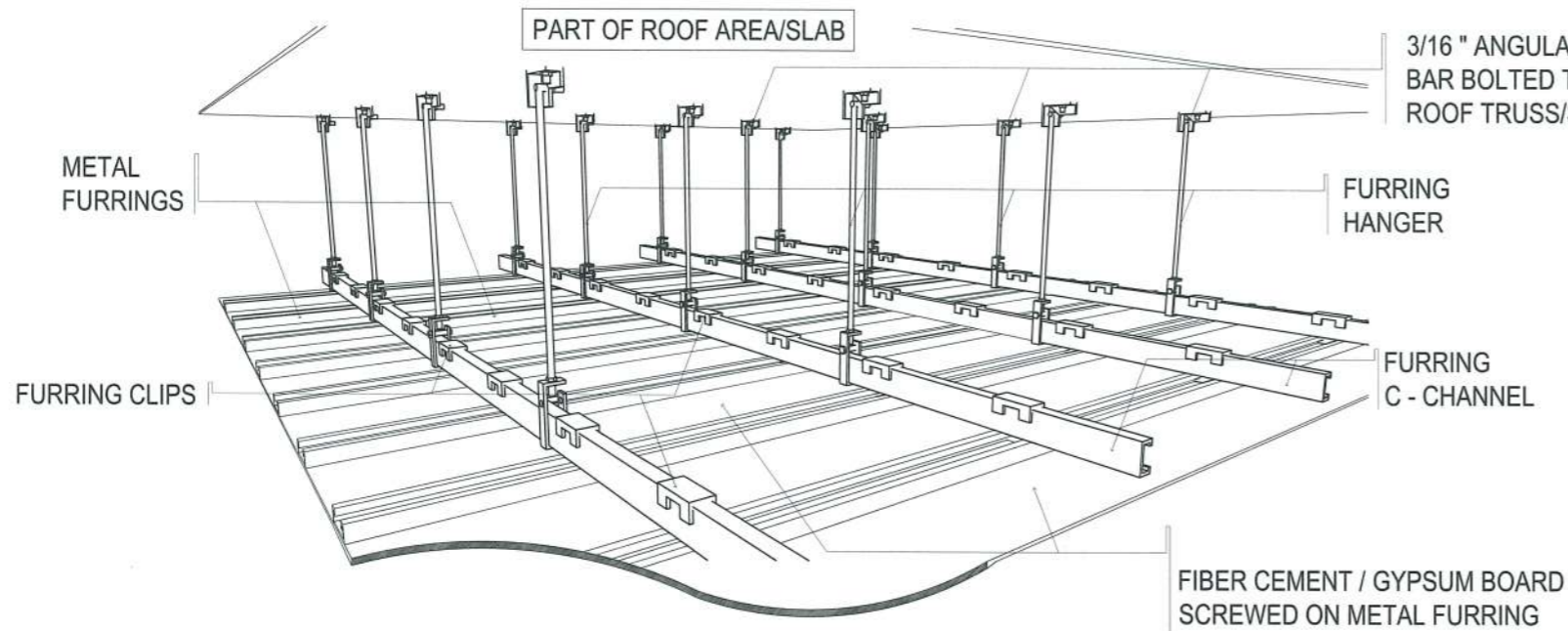
PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: **GARRY M. ADVENTO**  
AR ENP AMP RME  
PTR: 4488926  
1-3-23 TARLAC PRC/eyg

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PTR NO:	DATE ISSUED:
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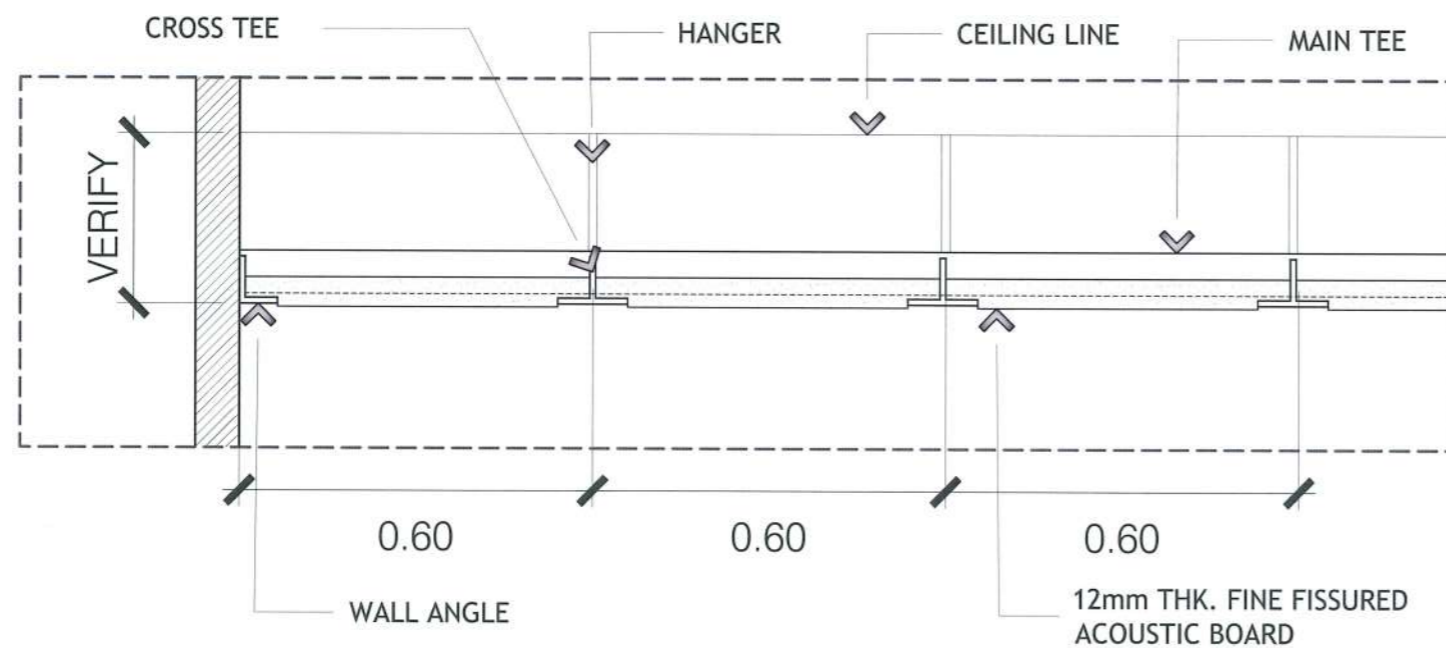


### TYPICAL CANOPY BLOW-UP DETAIL

SCALE : NTS

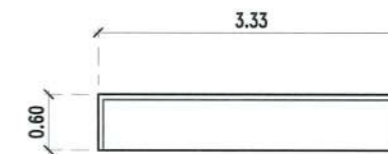
### FICEM BOARD / PVC DECORATIVE CEILING DETAIL

SCALE 1:50 M



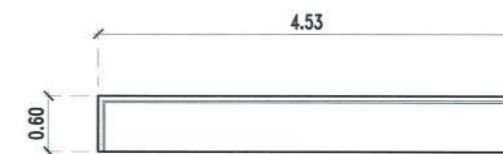
### FINE FISSURED ACOUSTIC BOARD CEILING DETAIL

SCALE 1:30 M



### CANOPY - A DETAIL

SCALE 1:80 M



### CANOPY - B DETAIL

SCALE 1:80 M



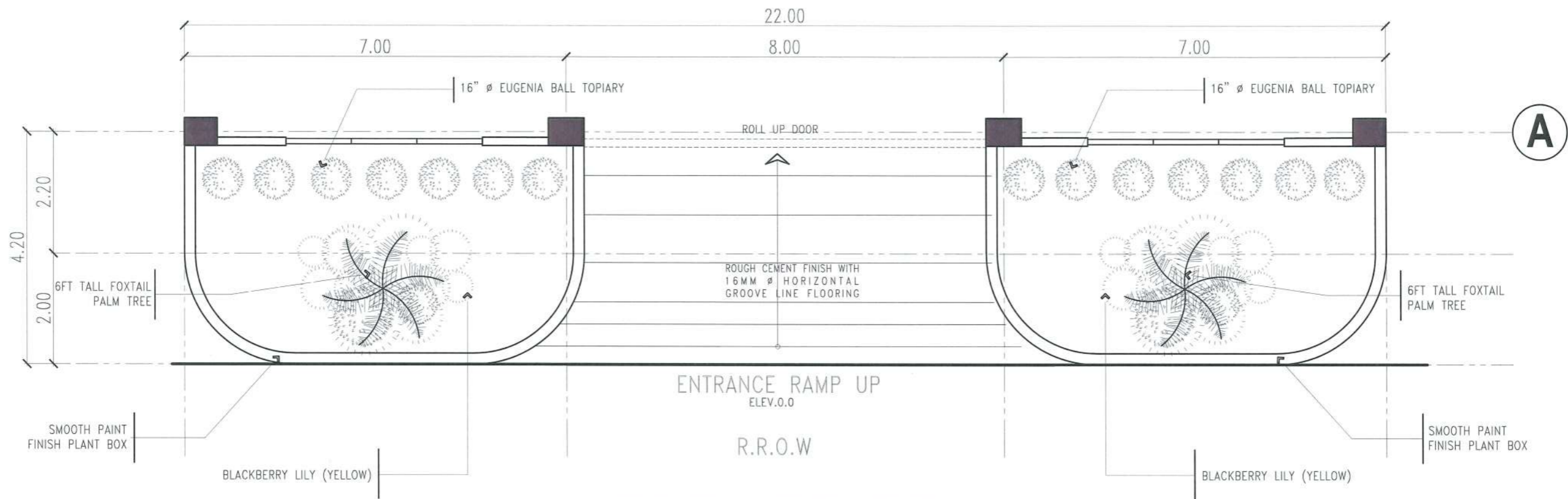
PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: GARRY M. ADVENTO  
AR ENP RMP RME  
PTR: 4488026  
1-3-23 TARLAC PRC

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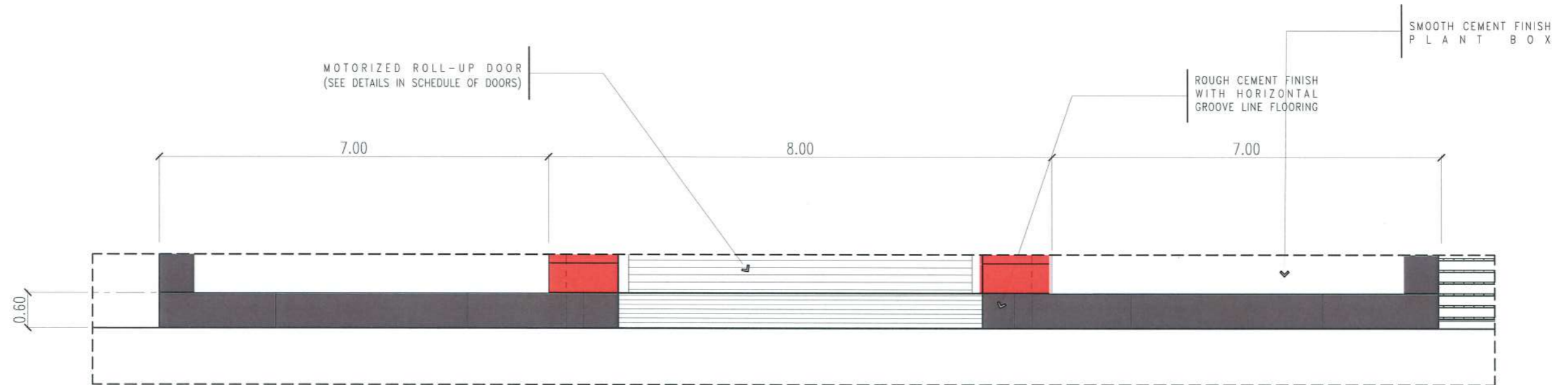
OWNER: DR. ARNOLD E. VELASCO

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### FRONT LANDSCAPE PLAN

SCALE 1:80 M



### FRONT & REAR PLANT BOX ELEVATION

SCALE 1:80 M

 <b>TARLAC STATE UNIVERSITY</b> Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE	ARCHITECT:	GARY M. ADVENTO AR/EXP/RMP/RME PTR: 4488026 1-3-23 TARLAC PRC	PRC NO:	VALIDITY:	OWNER:	DR. ARNOLD E. VELASCO	SHEET CONTENTS:	AS SHOWN	SHEET NO:	A-19
	PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	ISSUED AT:	TIN:	DATE ISSUED:	DATE ISSUED:	DATE ISSUED:	DATE ISSUED:	DATE: SEPTEMBER, 2023	PAGE NO:	19/91	

**SCHEDULE OF DOORS AND WINDOWS**  
SCALE : 1 : 80 METERS

	<p>QUANTITY : 2 SETS</p>		<p>QUANTITY : 2 SETS</p>		<p>QUANTITY : 1 SET</p>				
	<p>LOCATION : MAIN ENTRANCE AND MAIN EXIT</p>						<p>LOCATION : ELECTRICAL &amp; UTILITY ROOM</p>	<p>LOCATION : FUNCTION ROOM</p>	<p>LOCATION : SUPPLY OFFICE</p>
	<p>DESCRIPTION : GALVALUME GAUGE #20 MOTORIZED ROLL-UP DOOR WITH REMOTE CONTROL, AND CHAIN HOIST MECHANISM FOR EMERGENCY MANUAL OPERATION AND COMPLETE ACCESSORIES</p>						<p>DESCRIPTION : SINGLE SWING STEEL LOUVER DOOR (SMOOTH PAINT FINISH) FRAMING: 2" X 3" X 1.5mm THK. GI TUBULAR LOUVERS: 0.5mm THK. PRE-PAINTED G.I SHEET ACCESSORIES: 3/4" Ø HEAVY DUTY CYLINDRICAL HINGES, 12MM ROUND BAR HANDLE WITH HEAVY DUTY PADLOCK</p>	<p>DESCRIPTION : 12MM THK DOUBLE SWING FRAMELESS TEMPERED GLASS DOOR WITH HEAVY DUTY S304 STAINLESS H-TYPE DOOR HANDLE, LOCKSET AND COMPLETE ACCESSORIES</p>	<p>DESCRIPTION : 12MM THK DOUBLE SWING FRAMELESS TEMPERED GLASS DOOR WITH HEAVY DUTY S304 STAINLESS H-TYPE DOOR HANDLE, LOCKSET AND COMPLETE ACCESSORIES</p>

	<p>QUANTITY : 1 SET</p>		<p>QUANTITY : 1 SET</p>		<p>QUANTITY : 4 SETS</p>		<p>QUANTITY : 4 SETS</p>						
									<p>LOCATION : OFFICE SUPPLIES ROOM</p>	<p>LOCATION : FUNCTION ROOM</p>	<p>LOCATION : ELECTRICAL ROOM, UTILITY ROOM, PLASTIC STO. ROOM</p>	<p>LOCATION : TOILETS</p>	<p>LOCATION : PIPE CHASE</p>
									<p>DESCRIPTION : SINGLE SWING STEEL DOOR (SMOOTH PAINT FINISH) DOOR &amp; JAMB: 0.50mm thk. W/ SOUND PROOF SEAL STRIP (SELF ADHESIVE RUBBER) KNOB: HEAVY DUTY DOME TYPE LOCKSET HINGES: HEAVY DUTY HINGES OTHERS: COMPLETE ACCESSORIES</p>	<p>DESCRIPTION : SINGLE SWING STEEL PANIC DOOR WITH PULL BAR JAMB: 0.50mm thk. KNOB: PULL BAR HINGES: HEAVY DUTY HINGES OTHERS: COMPLETE ACCESSORIES</p>	<p>DESCRIPTION : SINGLE SWING STEEL DOOR (SMOOTH PAINT FINISH) DOOR &amp; JAMB: 0.50mm thk. W/ SOUND PROOF SEAL STRIP (SELF ADHESIVE RUBBER) KNOB: HEAVY DUTY DOME TYPE LOCKSET HINGES: HEAVY DUTY HINGES OTHERS: COMPLETE ACCESSORIES</p>	<p>DESCRIPTION : SINGLE SWING STEEL DOOR WITH LOUVERS (SMOOTH PAINT FINISH) DOOR &amp; JAMB: 0.50mm thk. W/ SOUND PROOF SEAL STRIP (SELF ADHESIVE RUBBER) KNOB: HEAVY DUTY DOME TYPE LOCKSET HINGES: HEAVY DUTY HINGES OTHERS: COMPLETE ACCESSORIES</p>	<p>DESCRIPTION : SINGLE SWING STEEL LOUVER DOOR (SMOOTH PAINT FINISH) FRAMING: 2" X 3" X 1.5mm THK. GI TUBULAR LOUVERS: 0.5mm THK. PRE-PAINTED G.I SHEET ACCESSORIES: 3/4" Ø HEAVY DUTY CYLINDRICAL HINGES, 12MM ROUND BAR HANDLE WITH HEAVY DUTY PADLOCK</p>

**SCHEDULE OF DOORS**

SCALE 1:80M

*GARRY M. ADVENTO*  
ARCHITECT  
PTR: 4488026  
1-3-23 TARLAC PRC/07



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

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<b>W1</b> QUANTITY : 10 SETS LOCATION : SUPPLY OFFICE, FUNCTION ROOM, PLASTIC STORAGE, STORAGE ROOM	<b>W2</b> QUANTITY : 15 SETS LOCATION : GROUND FLOOR STORAGE ROOM	<b>W3</b> QUANTITY : 17 SETS LOCATION : GROUND FLOOR STORAGE ROOM	<b>W4</b> QUANTITY : 4 SETS LOCATION : UTILITY ROOM & PUMP ROOM
DESCRIPTION : WHITE POWDER COATED ALUMINUM AWNING WINDOW WITH 6mm THK. ONE WAY REFLECTIVE GLASS (exterior) WITH COMPLETE ACCESSORIES	DESCRIPTION : STEEL LOUVER FIX WINDOW (SMOOTH PAINT FINISH) FRAMING: 2" X 3" X 1.5mm THK. GI TUBULAR LOUVERS: 0.5mm THK. PRE-PAINTED G.I SHEET WHITE POWDER COATED ALUMINUM AWNING, FIXED WINDOW WITH 6mm THK. ONE WAY REFLECTIVE GLASS (exterior) AND PAINTED GRILL TYPE LOUVER WINDOW	DESCRIPTION : WHITE POWDER COATED ALUMINUM AWNING WINDOW WITH 6mm THK. ONE WAY REFLECTIVE GLASS (exterior)	DESCRIPTION : WHITE POWDER COATED ALUMINUM AWNING WINDOW WITH 6mm THK. ONE WAY REFLECTIVE GLASS (exterior)

<b>W5</b> QUANTITY : 2 SETS LOCATION : STAIRS WINDOW	<b>W6</b> QUANTITY : 1 SETS LOCATION : FACADE AND REAR WALL	<b>W7</b> QUANTITY : 2 SETS LOCATION : FUNCTION ROOM	<b>W8</b> QUANTITY : 4 SETS LOCATION : MALE AND FEMALE TOILETS	<b>P1</b> QUANTITY : 1 SET LOCATION : SUPPLY HEAD OFFICE	<b>P2</b> QUANTITY : 1 SET LOCATION : SUPPLY HEAD OFFICE
DESCRIPTION : WHITE POWDER COATED ALUMINUM AWNING AND FIXED WINDOW WITH 6mm THK. ONE WAY REFLECTIVE GLASS (exterior)	DESCRIPTION : STEEL LOUVER FIX WINDOW (SMOOTH PAINT FINISH) FRAMING: 2" X 3" X 1.5mm THK. GI TUBULAR LOUVERS: 0.5mm THK. PRE-PAINTED G.I SHEET	DESCRIPTION : WHITE POWDER COATED ALUMINUM AWNING AND FIXED WINDOW WITH 6mm THK. ONE WAY REFLECTIVE GLASS (exterior)	DESCRIPTION : WHITE POWDER COATED ALUMINUM AWNING WINDOW WITH 6mm THK. ONE WAY REFLECTIVE GLASS (exterior)	DESCRIPTION : WHITE POWDER COATED ALUMINUM FRAME SLIDING DOOR WITH 6mm THK. FIXED TEMPERED CLEAR GLASS WITH FROSTED TINT AND COMPLETE ACCESSORIES	DESCRIPTION : WHITE POWDER COATED ALUMINUM FRAME SLIDING DOOR WITH 6mm THK. FIXED TEMPERED CLEAR GLASS WITH FROSTED TINT AND COMPLETE ACCESSORIES

## SCHEDULE OF WINDOWS & PARTITIONS

SCALE 1:80M



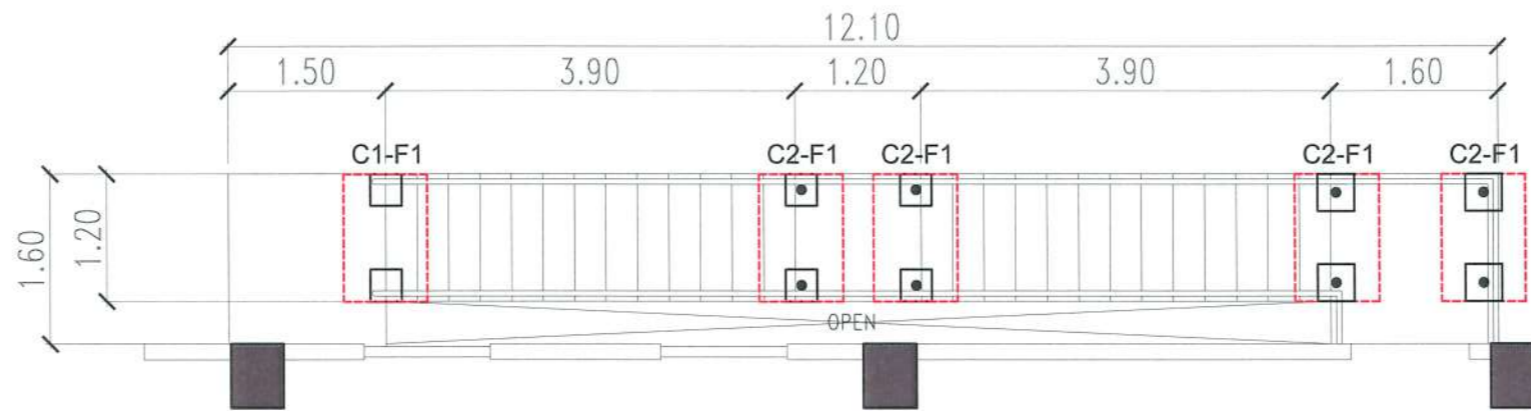
**TARLAC STATE UNIVERSITY**  
Facilities Development and Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: GARRY M. ADVENTO  
AR ENP RMP RME  
PTR: 4488926  
1-3-23 TARLAC PRC/24

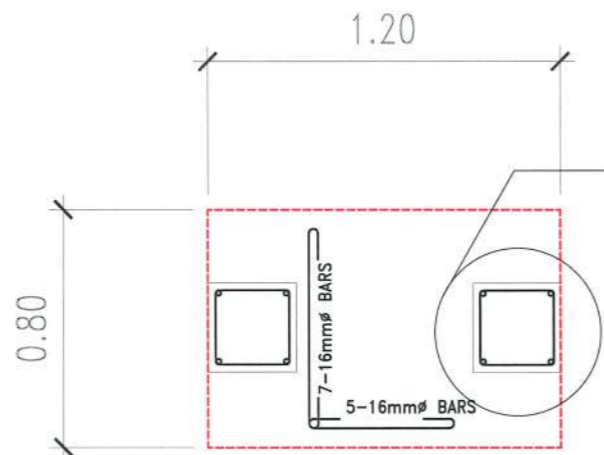
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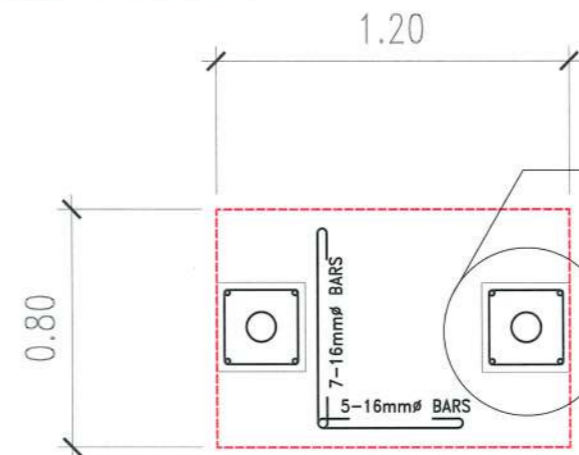
### FIRE EXIT STAIR FOUNDATION PLAN

SCALE 1:70 M



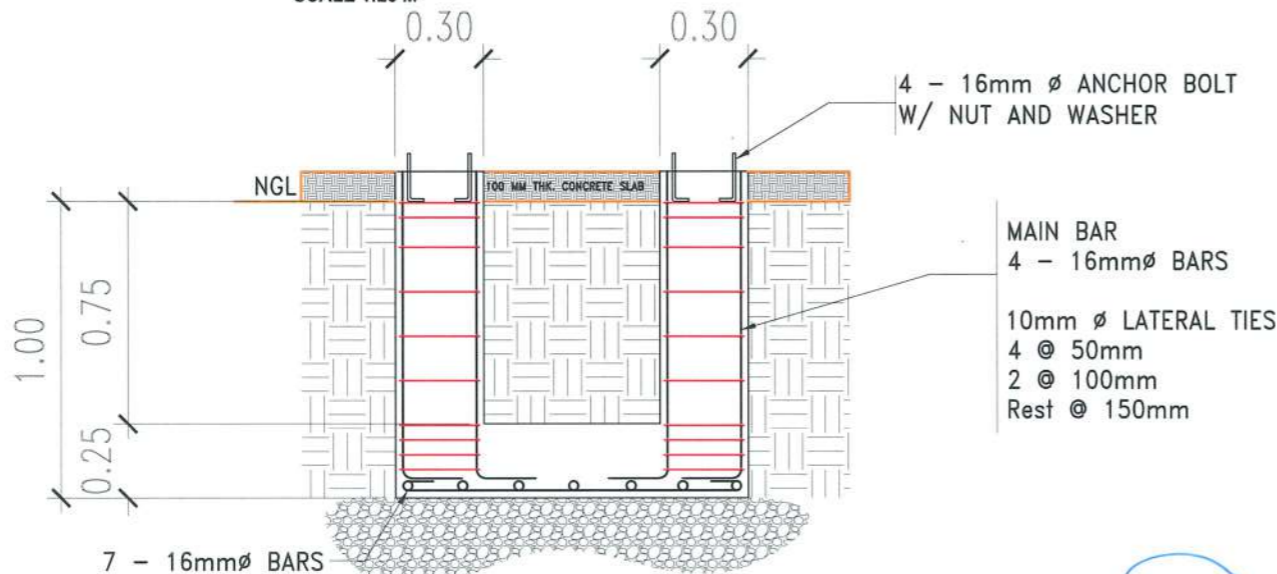
### STAIR C1-F1 PLAN

SCALE 1:25 M



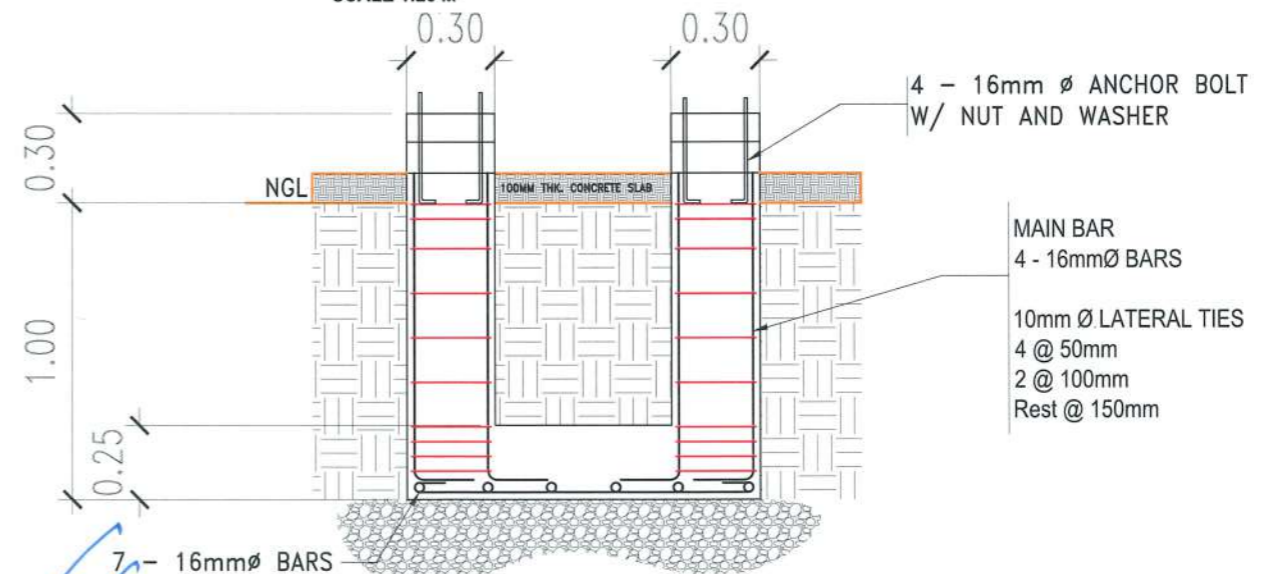
### STAIR C2-F1 PLAN

SCALE 1:25 M



### STAIR C1-F1 SECTION

SCALE 1:25 M



### STAIR C2-F1 SECTION

SCALE 1:25 M



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PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

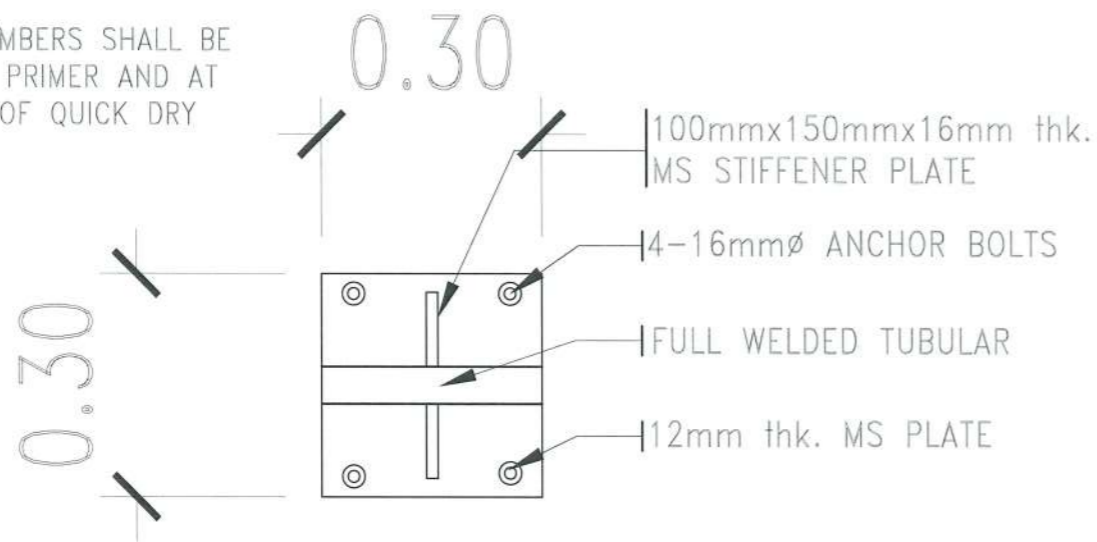
ARCHITECT: **GARRY M. ADVENTO**  
AR ENR AMP RME  
PTR: 4488926  
1-3-23 TARLAC PRC

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JAPOA:	DATE ISSUED:

OWNER: **DR. ARNOLD E. VELASCO**

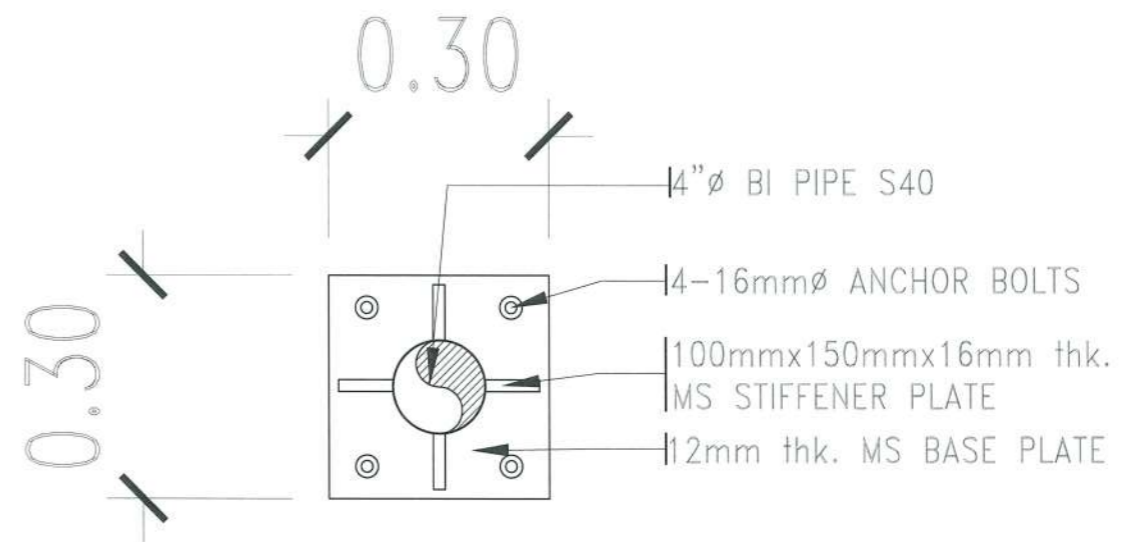
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NOTE:  
ALL STEEL FRAME MEMBERS SHALL BE PAINTED WITH EPOXY PRIMER AND AT LEAST 2 TOP COATS OF QUICK DRY ENAMEL



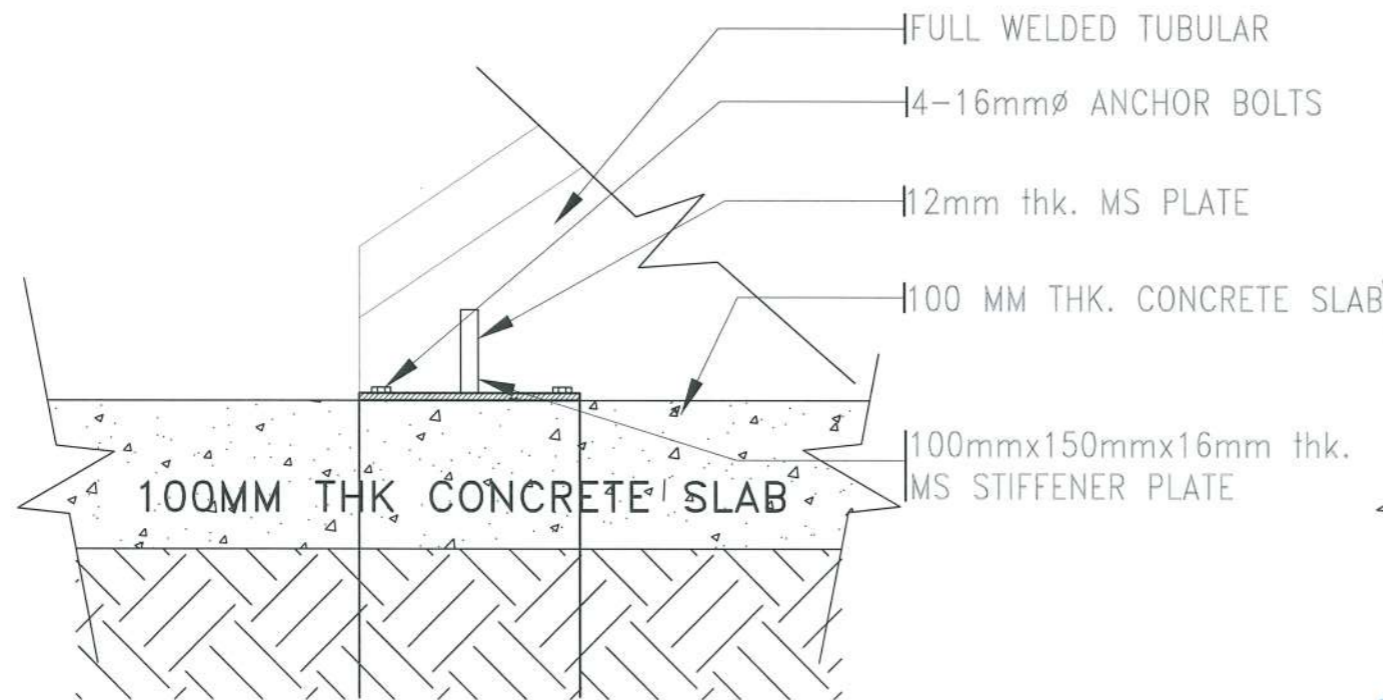
### PEDESTAL PLAN 1

SCALE 1:10 M



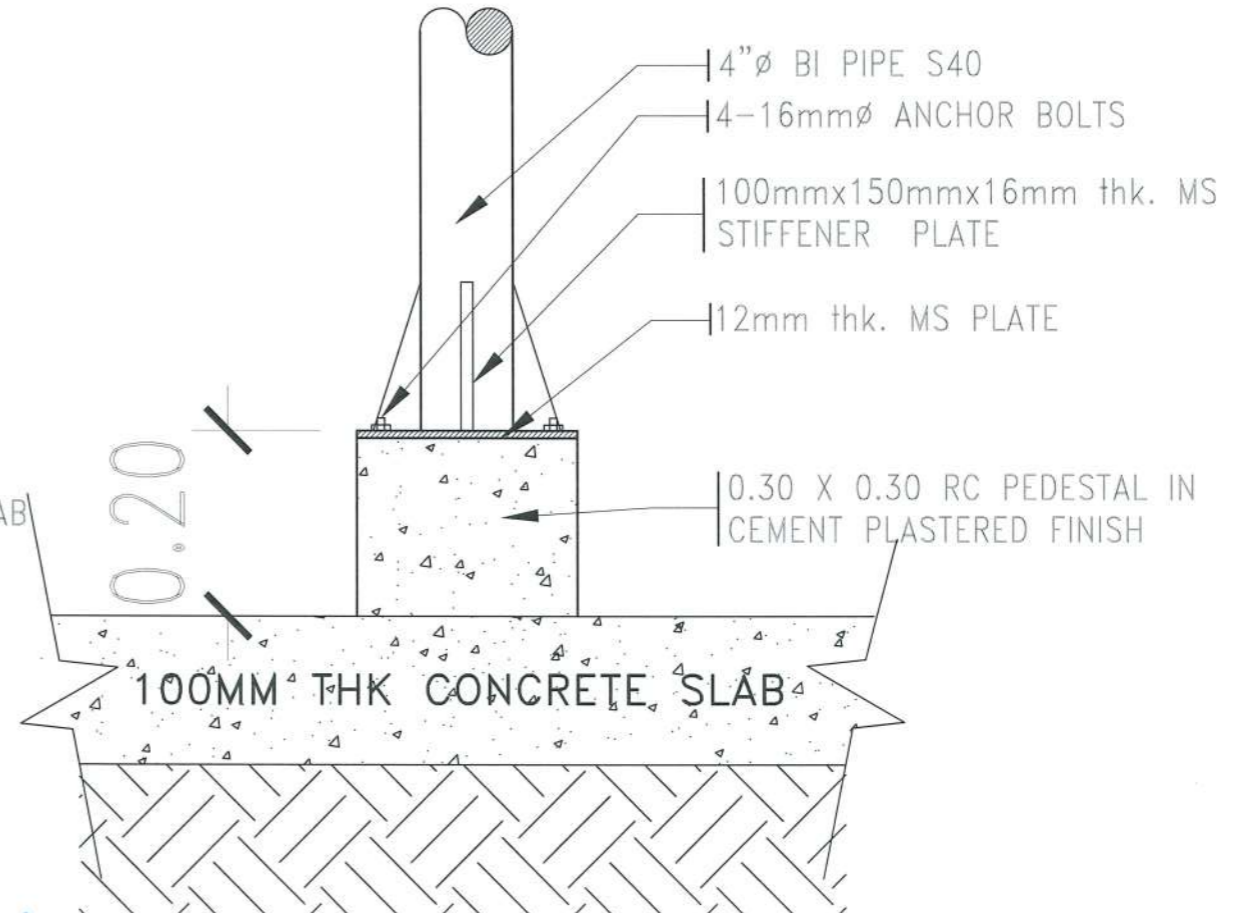
### PEDESTAL PLAN 2

SCALE 1:10 M



### PEDESTAL SECTION 1

SCALE 1:10 M



### PEDESTAL SECTION 2

SCALE 1:10 M



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

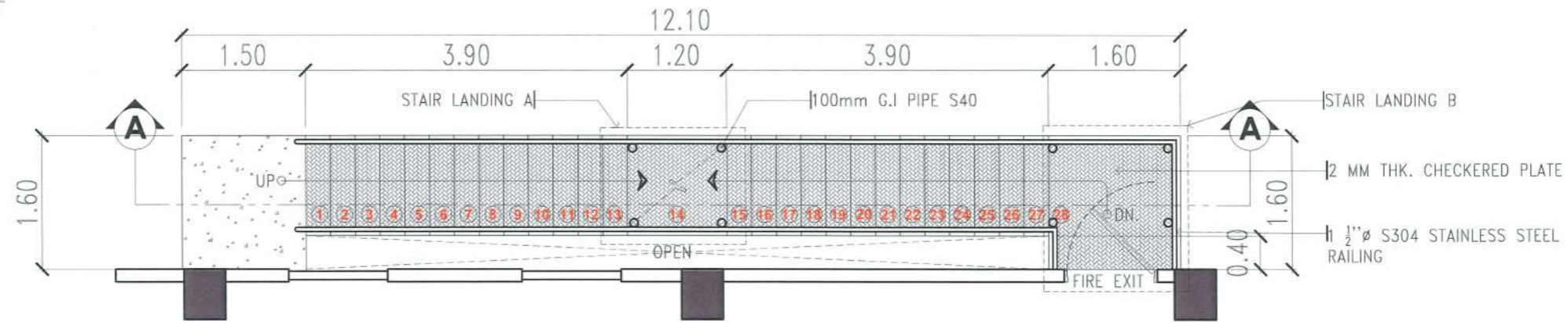
ARCHITECT: GARRY M. ADVENTO  
AR ENP RMP RME  
PTR: 4488926  
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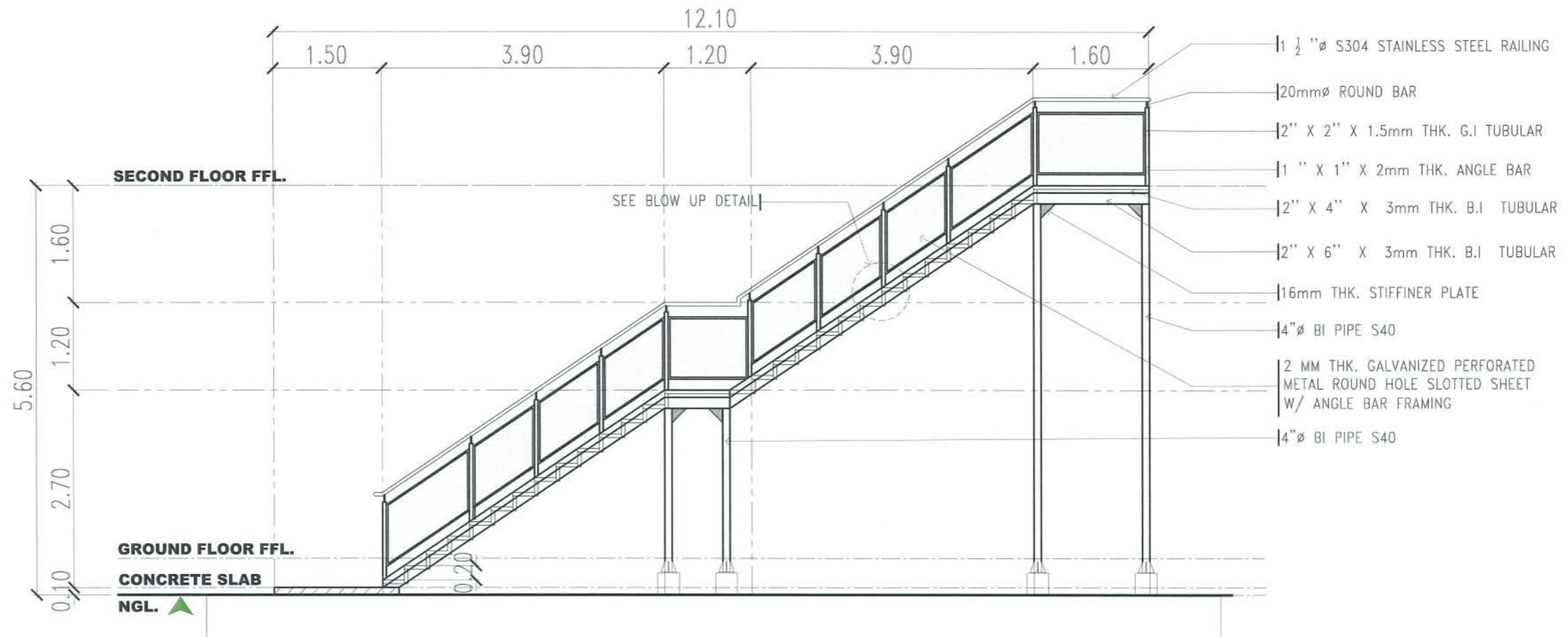
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NOTE:  
ALL STEEL FRAME MEMBERS SHALL BE PAINTED WITH EPOXY PRIMER AND AT LEAST 2 TOP COATS OF QUICK DRY ENAMEL



### FIRE EXIT STAIR DETAIL PLAN

SCALE 1:70 M



### FIRE EXIT STAIR LEFT SIDE ELEVATION

SCALE 1:70 M



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
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ARCHITECT: GARRY M. ADVENTO  
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PTR: 4488326  
1-3-23 TARLAC PRC

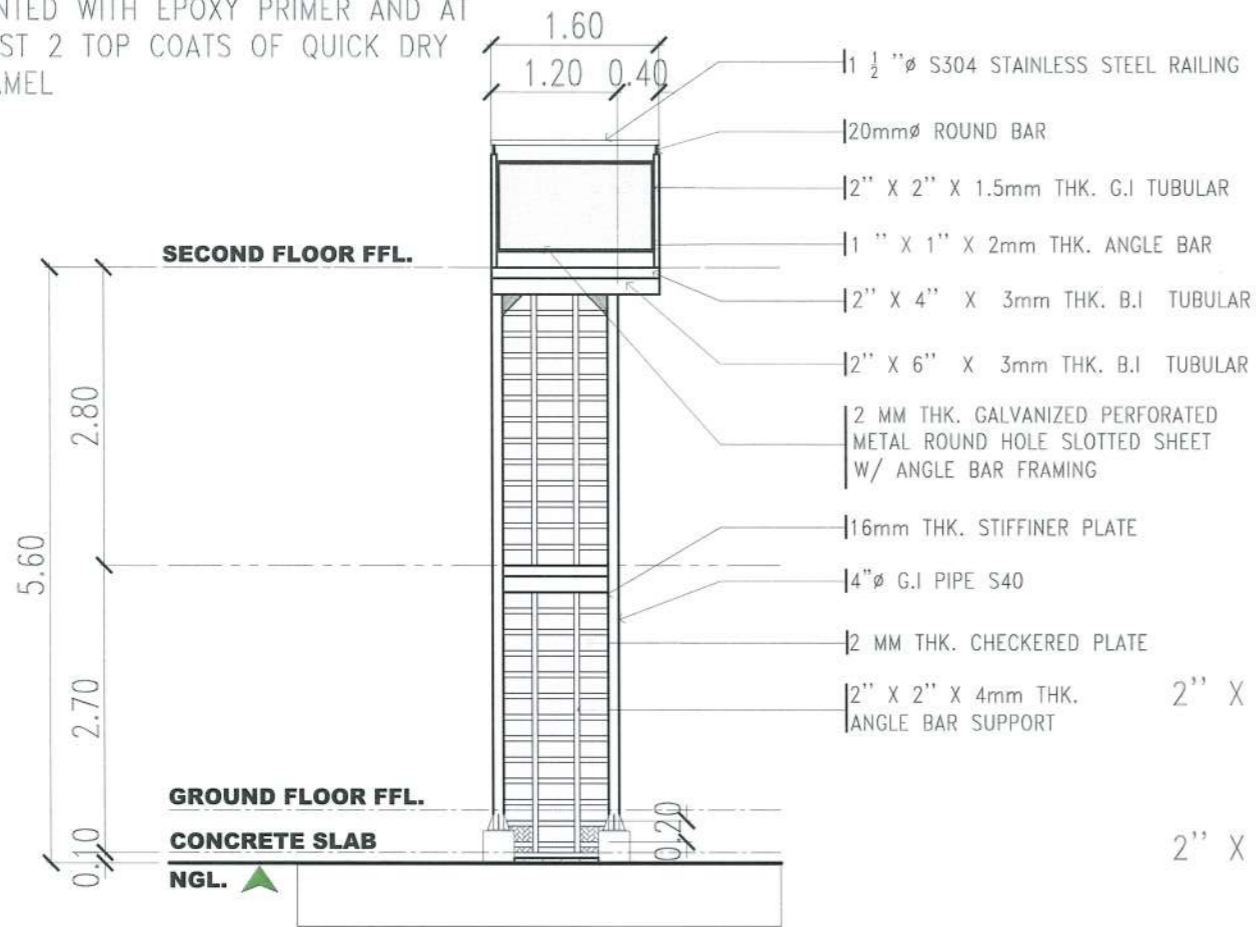
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PTR NO: DATE ISSUED:  
ISSUED AT: TIN:  
JAPDA: DATE ISSUED:

OWNER: DR. ARNOLD E. VELASCO

SHEET CONTENTS: AS SHOWN  
PAGE NO: A-24  
DATE: SEPTEMBER, 2023  
24/91

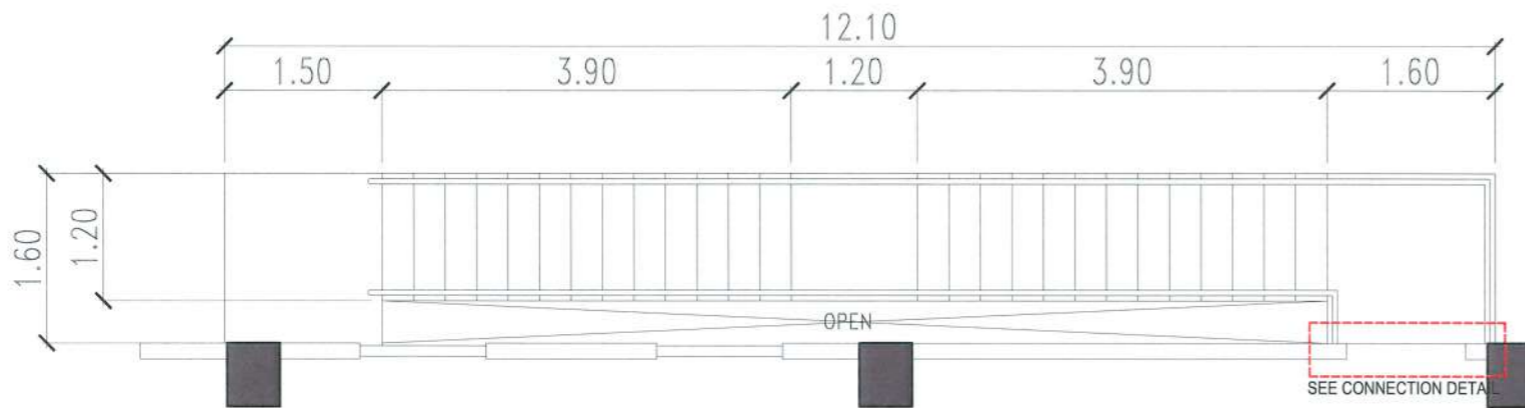


NOTE:  
ALL STEEL FRAME MEMBERS SHALL BE PAINTED WITH EPOXY PRIMER AND AT LEAST 2 TOP COATS OF QUICK DRY ENAMEL



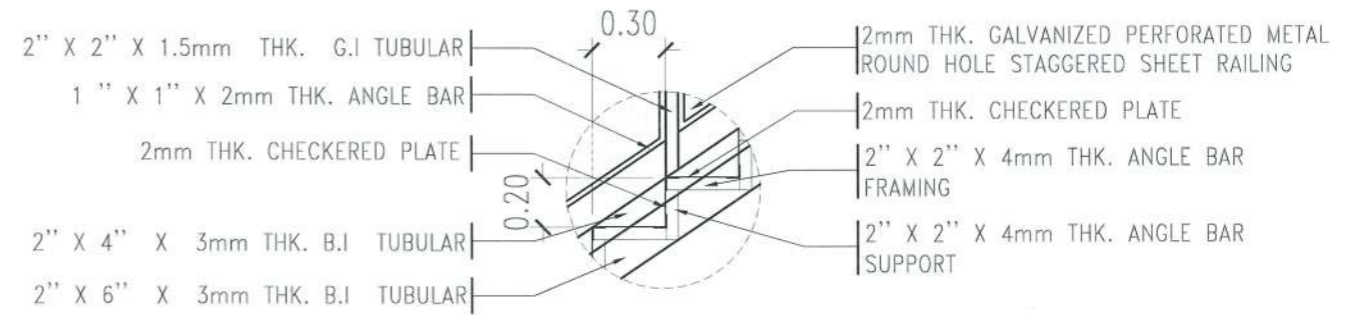
### FIRE EXIT STAIR FRONT ELEVATION

SCALE 1:70 M



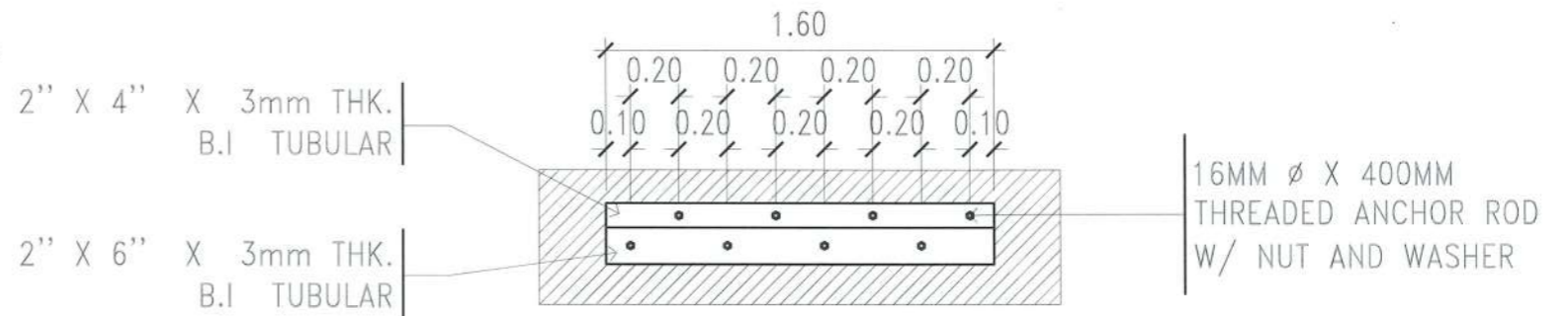
### FIRE EXIT STAIR CONNECTION DETAIL KEY PLAN

SCALE 1:70 M



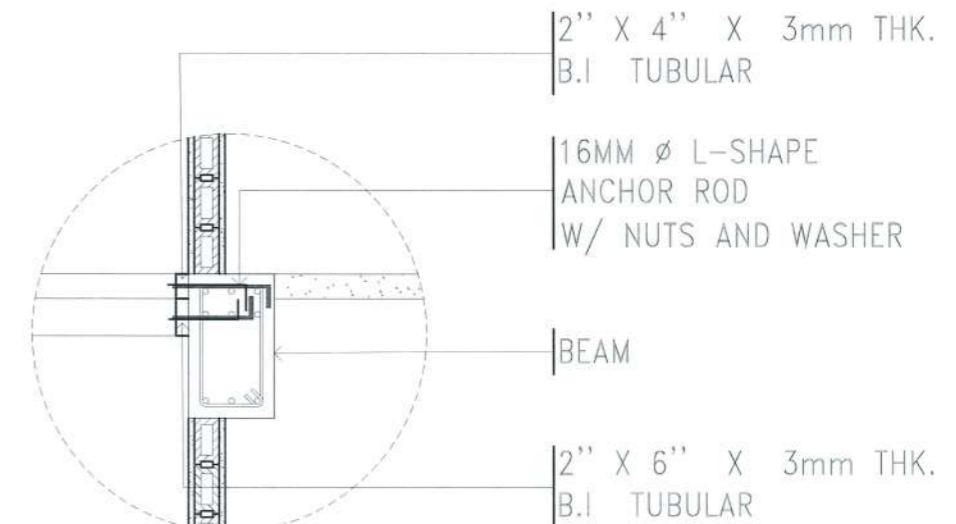
### FIRE EXIT STAIR BLOW UP DETAIL

SCALE 1:25 M



### CONNECTION DETAIL PLAN

SCALE 1:30 M



### CONNECTION DETAIL SECTION

SCALE 1:30 M



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Facilities Development and Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: GARRY M. ADVENTO  
AR ENP RMP RME  
PTR: 4486026  
1-3-23 TARLAC PRC

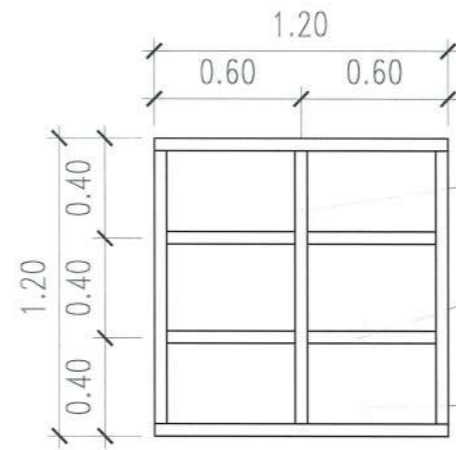
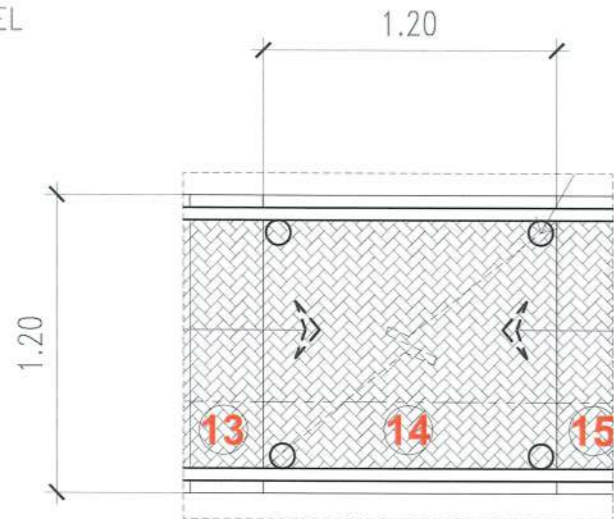
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ISSUED AT: TIN:  
DATE ISSUED:

OWNER: DR. ARNOLD E. VELASCO

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DATE: SEPTEMBER, 2023

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PAGE NO: 25/91

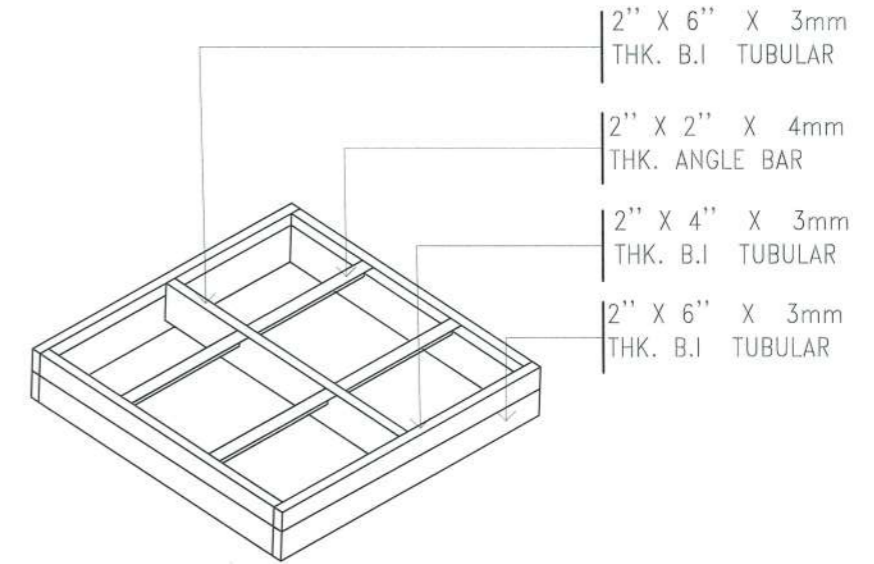
NOTE:  
ALL STEEL FRAME MEMBERS SHALL BE PAINTED WITH EPOXY PRIMER AND AT LEAST 2 TOP COATS OF QUICK DRY ENAMEL



2" X 6" X 3mm  
THK. B.I TUBULAR

2" X 2" X 4mm  
THK. ANGLE BAR

2 MM THK.  
CHECKERED PLATE



2" X 6" X 3mm  
THK. B.I TUBULAR

2" X 2" X 4mm  
THK. ANGLE BAR

2" X 4" X 3mm  
THK. B.I TUBULAR

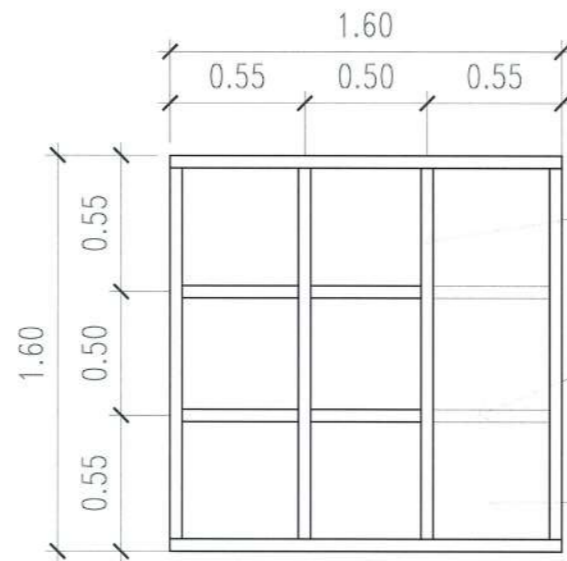
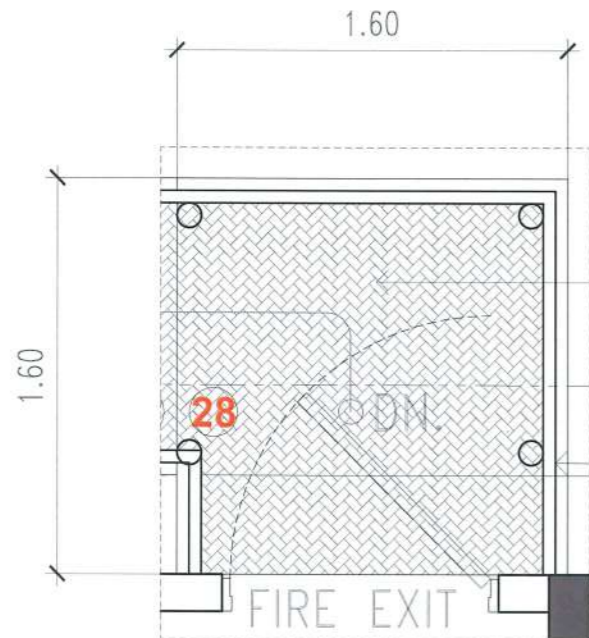
2" X 6" X 3mm  
THK. B.I TUBULAR

### FIRE EXIT STAIR LANDING A FRAMING DETAIL

SCALE 1:30 M

### FIRE EXIT STAIR LANDING A ISOMETRIC

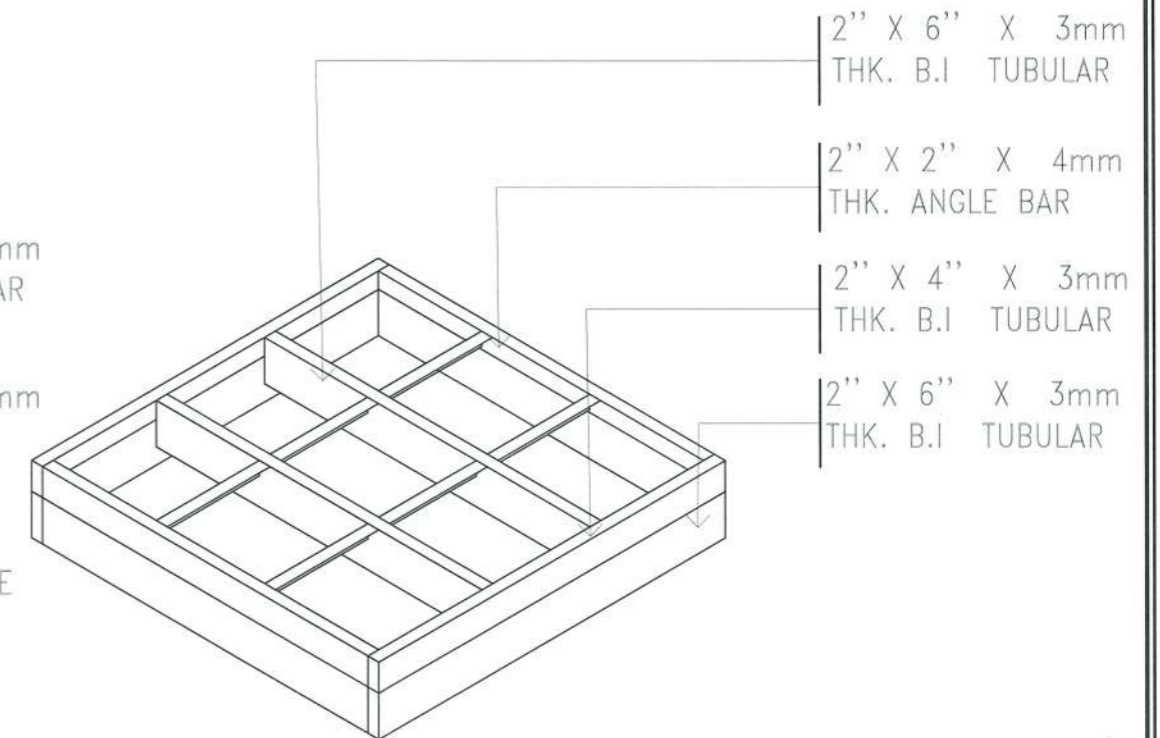
NTS



2" X 6" X 3mm  
THK. B.I TUBULAR

2" X 2" X 4mm  
THK. ANGLE BAR

2 MM THK.  
CHECKERED PLATE



2" X 6" X 3mm  
THK. B.I TUBULAR

2" X 2" X 4mm  
THK. ANGLE BAR

2" X 4" X 3mm  
THK. B.I TUBULAR

2" X 6" X 3mm  
THK. B.I TUBULAR

### FIRE EXIT STAIR LANDING B FRAMING DETAIL

SCALE 1:30 M

### FIRE EXIT STAIR LANDING B ISOMETRIC

NTS



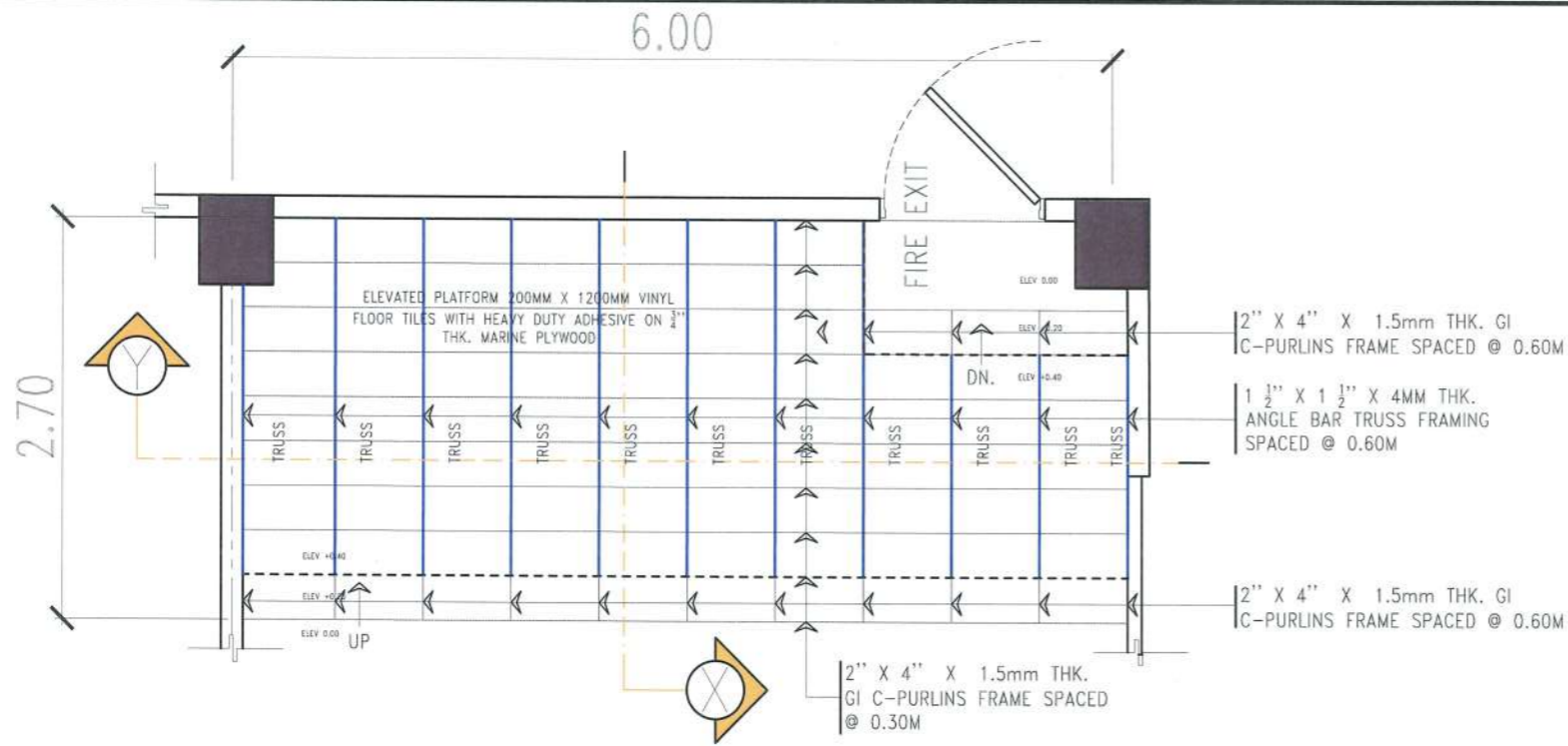
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: GARRY M. ADVENTO  
AR ENP RMP RME  
PTR: 4488926  
1-3-23 TARLAC PRG/1571

PRC NO: VALIDITY:  
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IAPDA: DATE ISSUED:

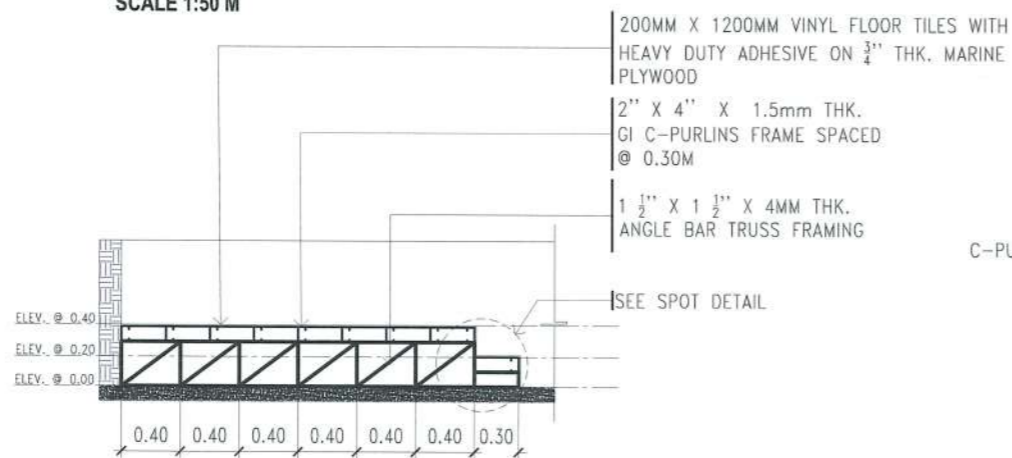
OWNER: DR. ARNOLD E. VELASCO

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SHEET NO: A-26  
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DATE: SEPTEMBER, 2023



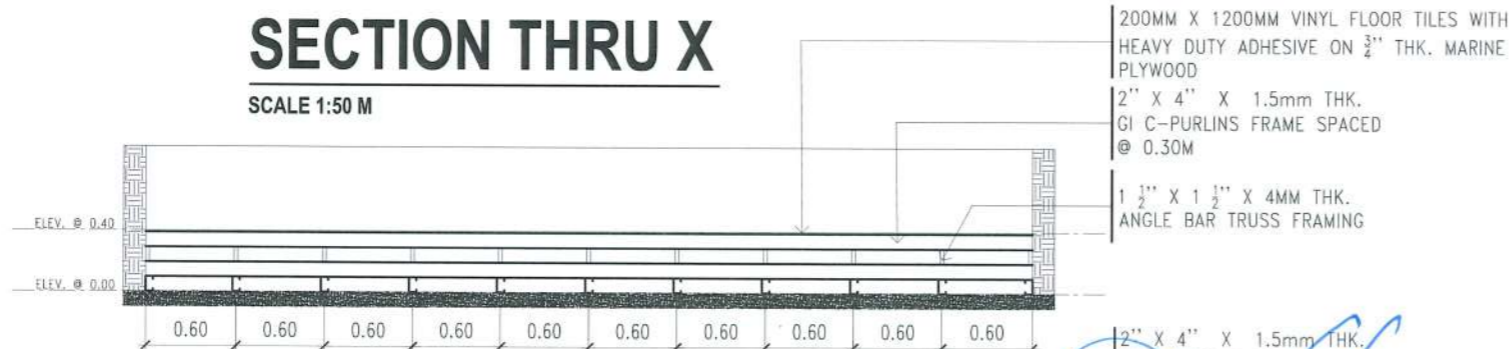
## PLATFORM DETAIL PLAN

SCALE 1:50 M



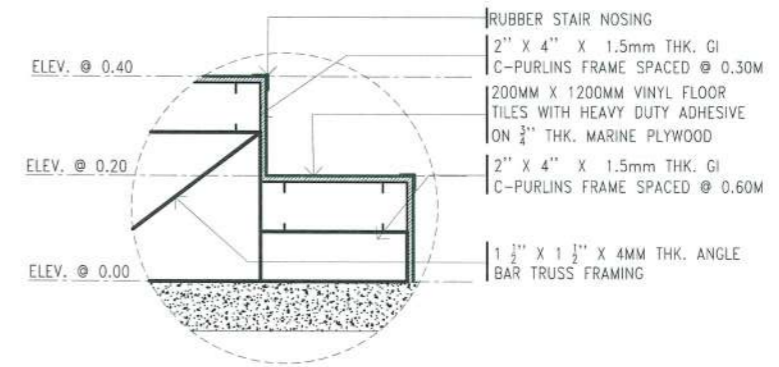
## SECTION THRU X

SCALE 1:50 M



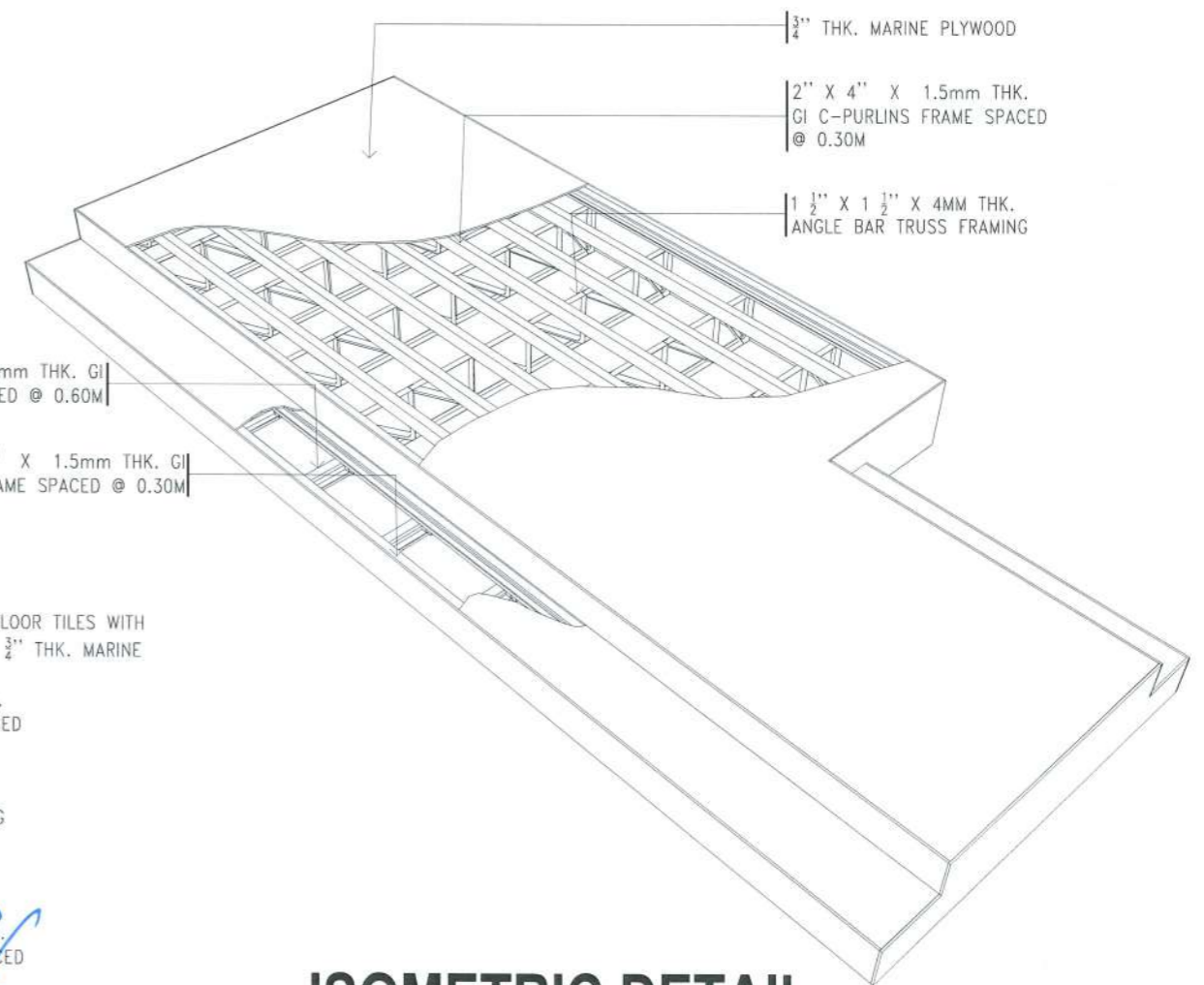
## SECTION THRU Y

SCALE 1:50 M



## SPOT DETAIL

SCALE 1:15 M



## ISOMETRIC DETAIL

NTS

NOTE:  
ALL STEEL FRAME MEMBERS SHALL BE  
PAINTED WITH EPOXY PRIMER



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Romulo Boulevard, Tarlac City, Philippines 2300

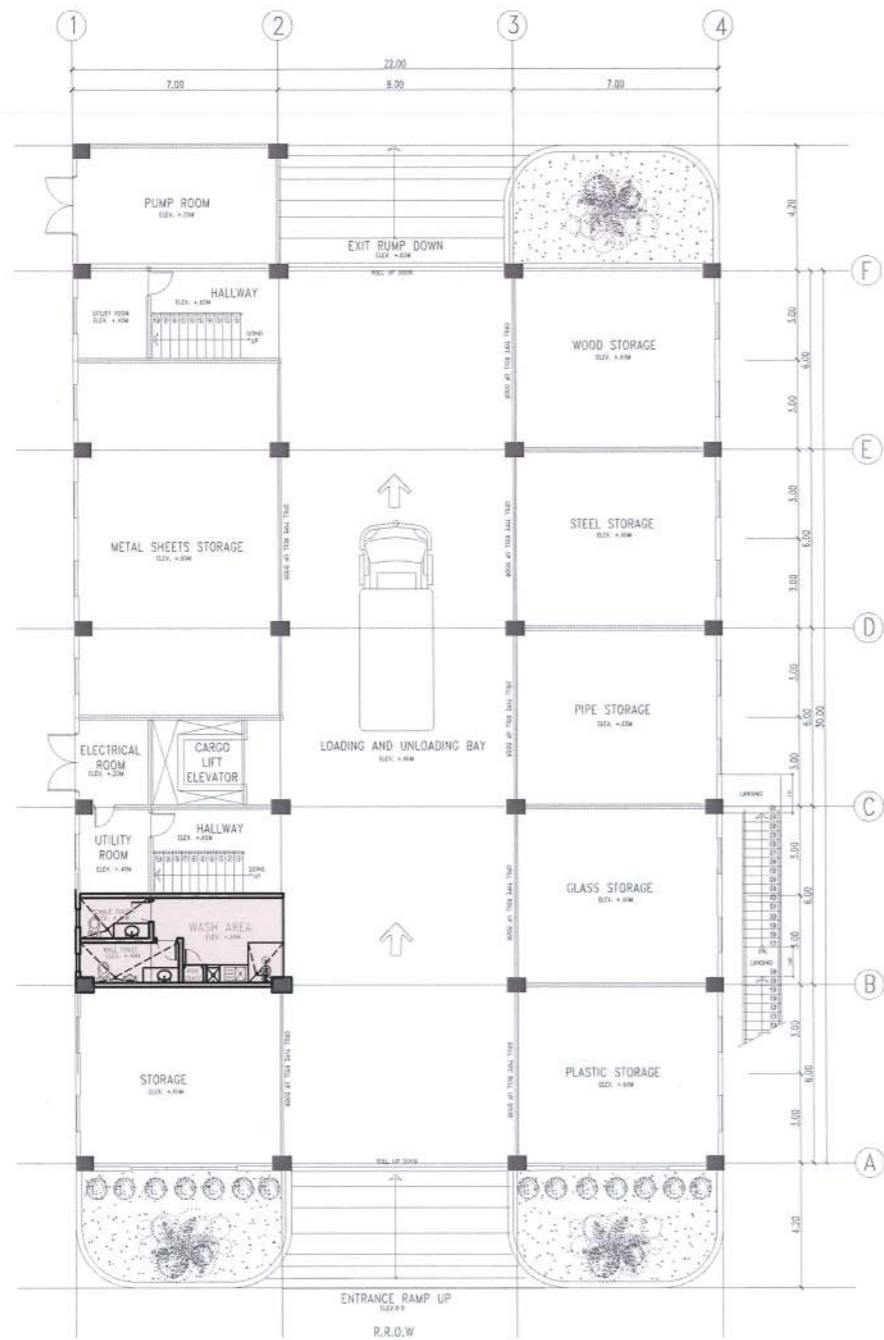
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PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: **GARRY M. ADVENTO**  
**AR ENP RMP RME**  
PTR: 4488926  
1-3-23 TARLAC PRG/44

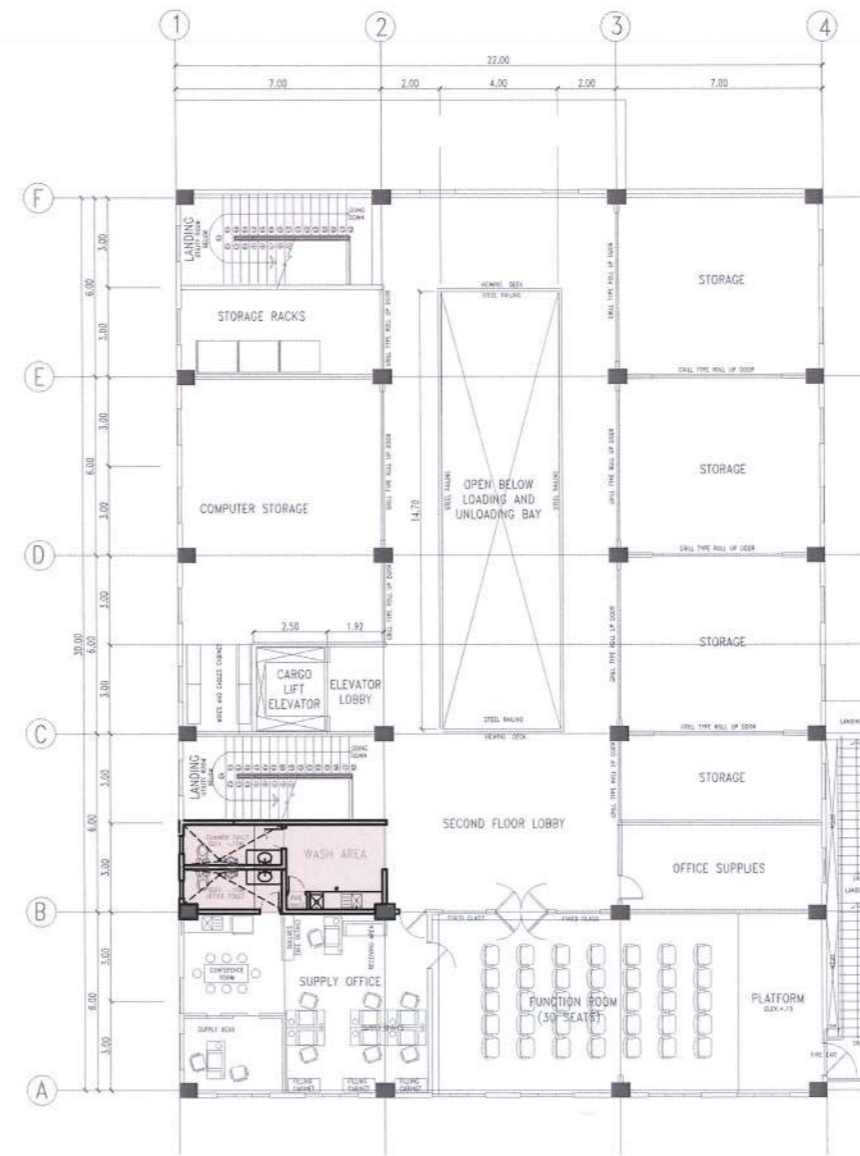
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ISSUED AT:	TIN:
IAPOA:	DATE ISSUED:

OWNER:  
**DR. ARNOLD E. VELASCO**

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**GROUND FLOOR KEY PLAN**



**SECOND FLOOR KEY PLAN**

SCALE 1:250 M

*(Handwritten signature in blue ink)*



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Facilities Development and Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

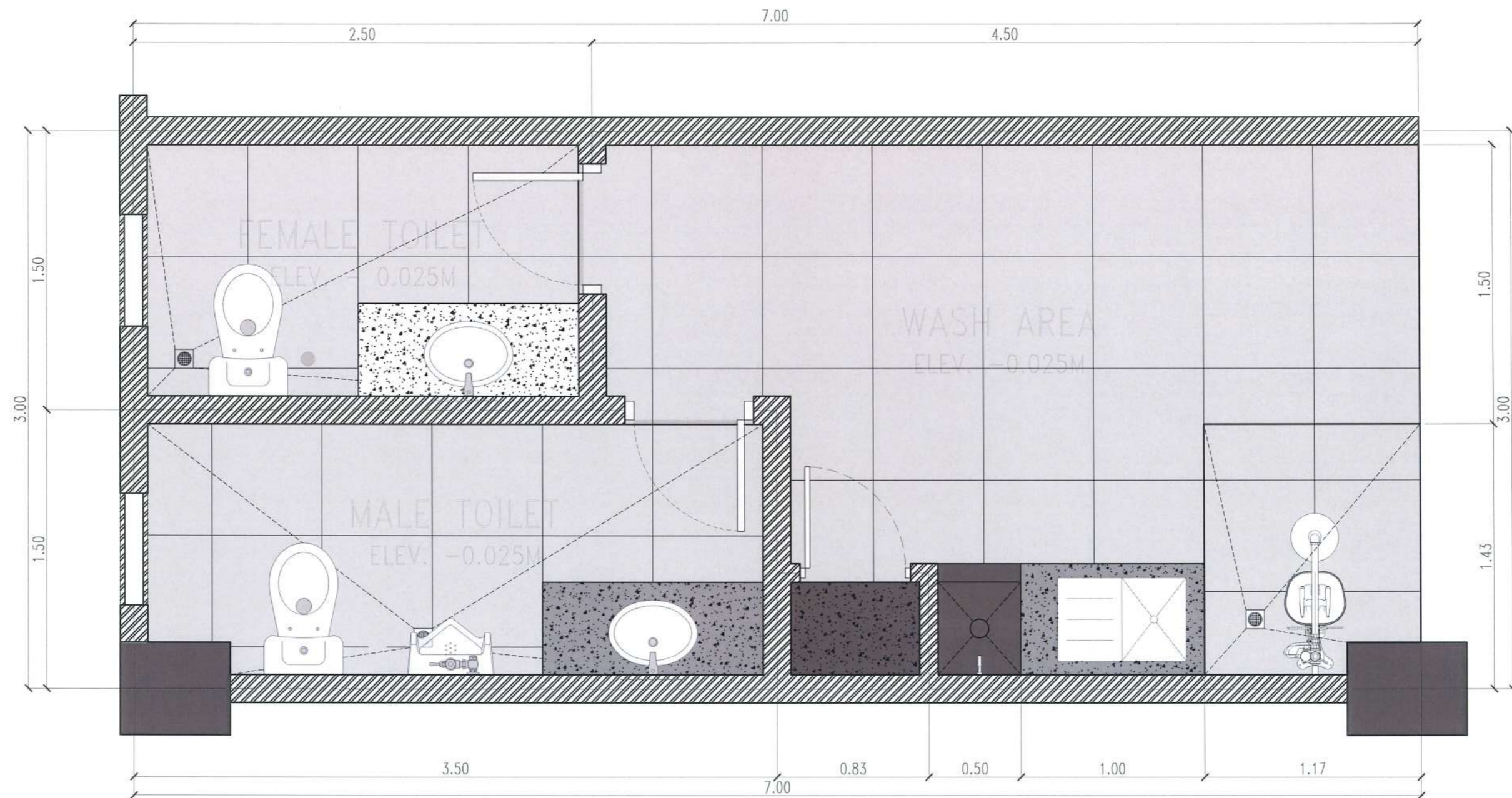
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: **GARRY M. MADVENTO**  
AR ENP RMP RME  
PTR: 4488926  
1-3-23 TARLAC PRC/SA

PRC NO: VALIDITY:  
PTR NO: DATE ISSUED:  
ISSUED AT: TIN:  
APOA: DATE ISSUED:

OWNER: DR. ARNOLD E. VELASCO  
*(Handwritten signature)*

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PAGE NO: 28/91



## GROUND FLOOR COMFORT ROOM BLOW-UP PLAN

SCALE 1:25 M

*[Handwritten Signature]*  
 GARRY M. ADVENTO  
 AR/ENP/RMP/RME  
 PTR: 4488126  
 1-3-23 TARLAC PRC



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 Facilities Development and  
 Management Office  
 Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:  
 CONSTRUCTION OF TSU WAREHOUSE

PROJECT LOCATION:  
 LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT:  
 GARRY M. ADVENTO  
 AR/ENP/RMP/RME  
 PTR: 4488126  
 1-3-23 TARLAC PRC

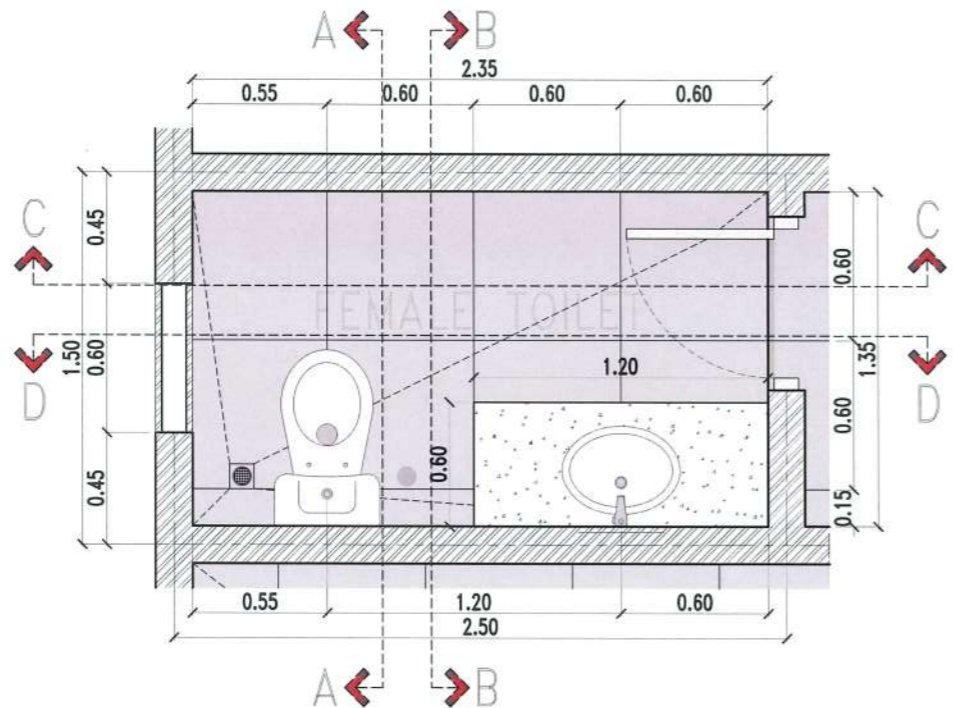
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OWNER:  
 DR. ARNOLD E. VELASCO  
*[Handwritten Signature]*

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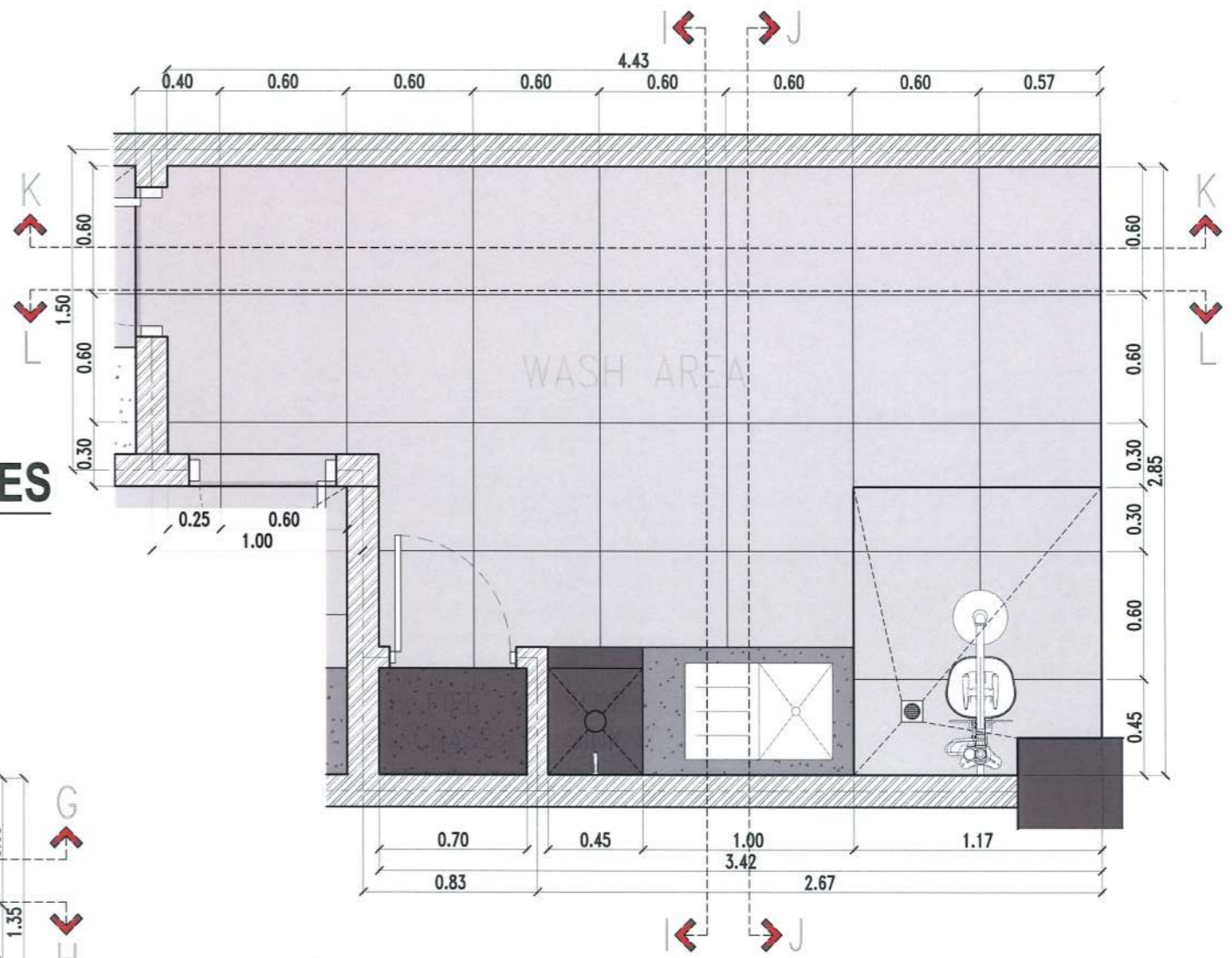
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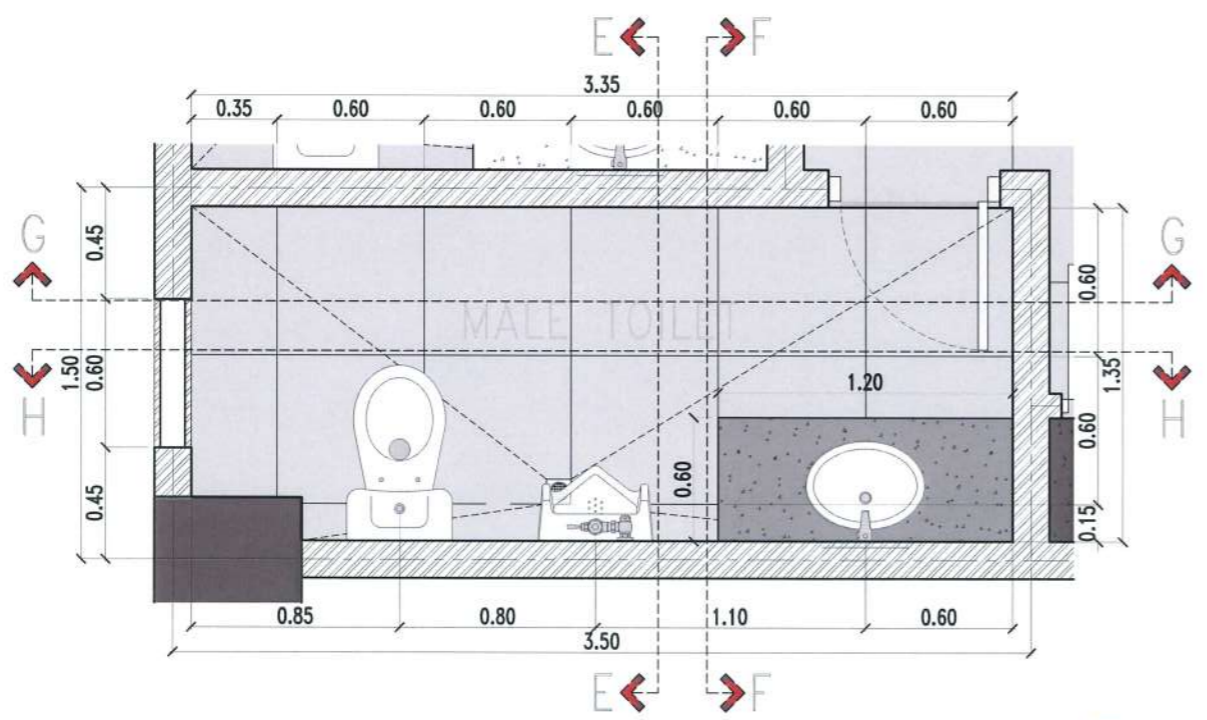
**FEMALE TOILET SECTION CUTTING PLANE LINES**

SCALE 1:30 M



**WASH AREA SECTION CUTTING PLANE LINES**

SCALE 1:30 M



**MALE TOILET SECTION CUTTING PLANE LINES**

SCALE 1:30 M



PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

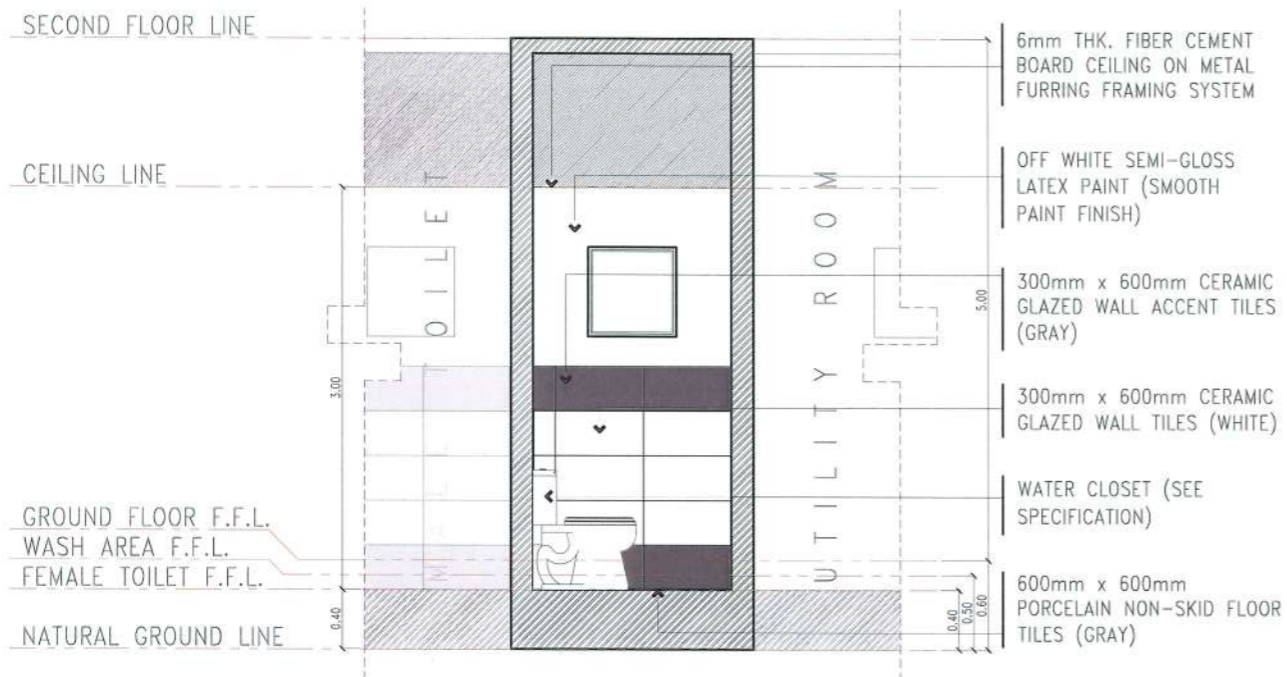
ARCHITECT: **GARRY M. ADVENTO**  
**AR ENP RMP RME**  
**PTR: 4488926**  
**1-3-23 TARLAC PRC**

PRC NO:	VALIDITY:
PTR NO:	DATE ISSUED:
ISSUED AT:	TIN:
JAPOA:	DATE ISSUED:

OWNER: **DR. ARNOLD E. VELASCO**

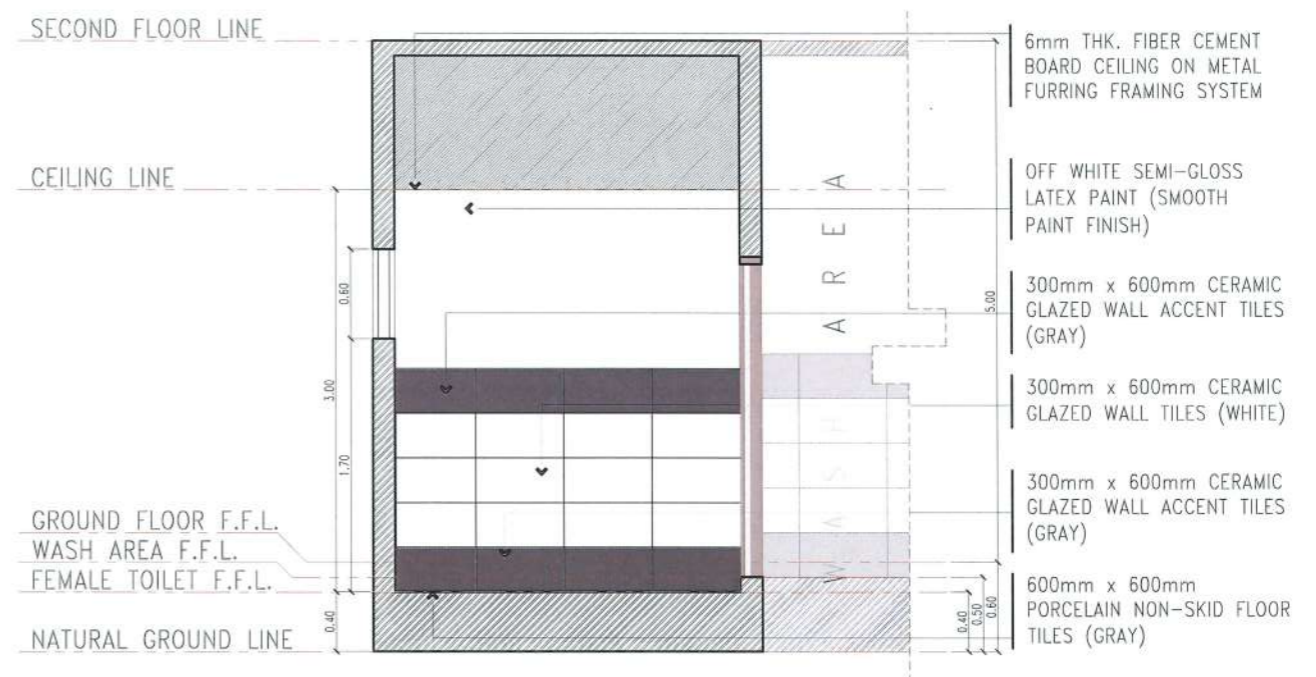
SHEET CONTENTS:	SHEET NO:
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	30/91

# FEMALE TOILET SECTIONAL ELEVATIONS



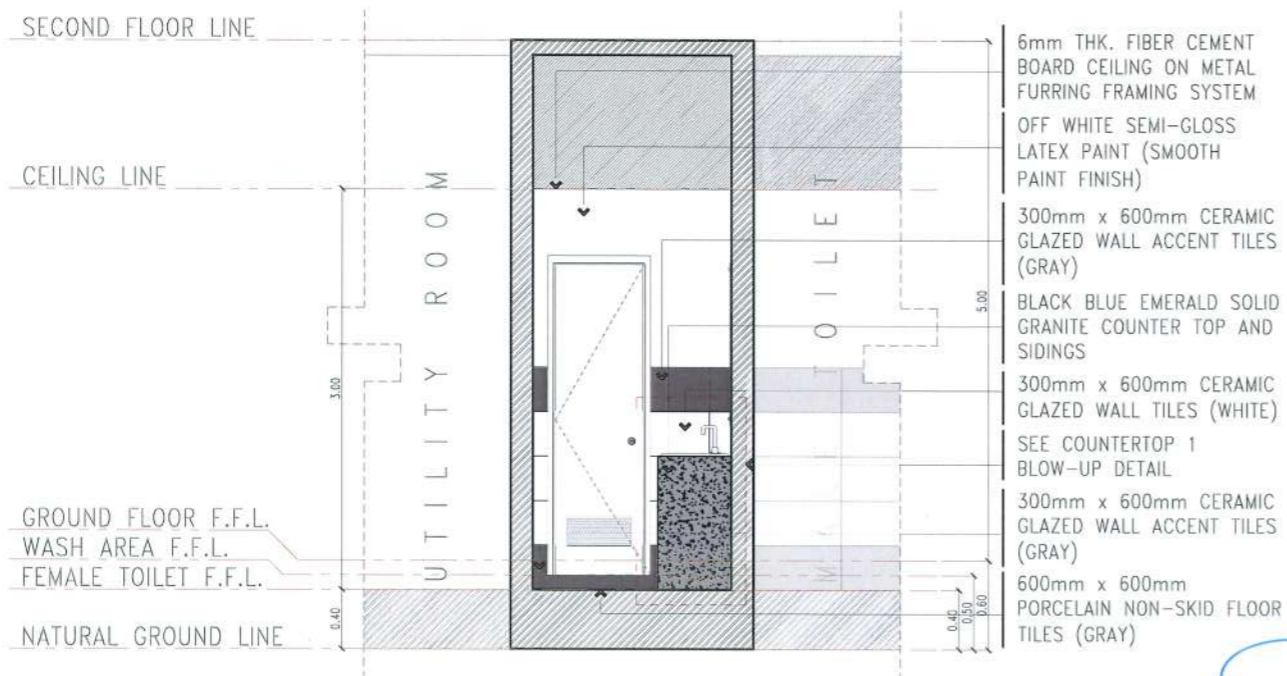
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SCALE 1:50 M



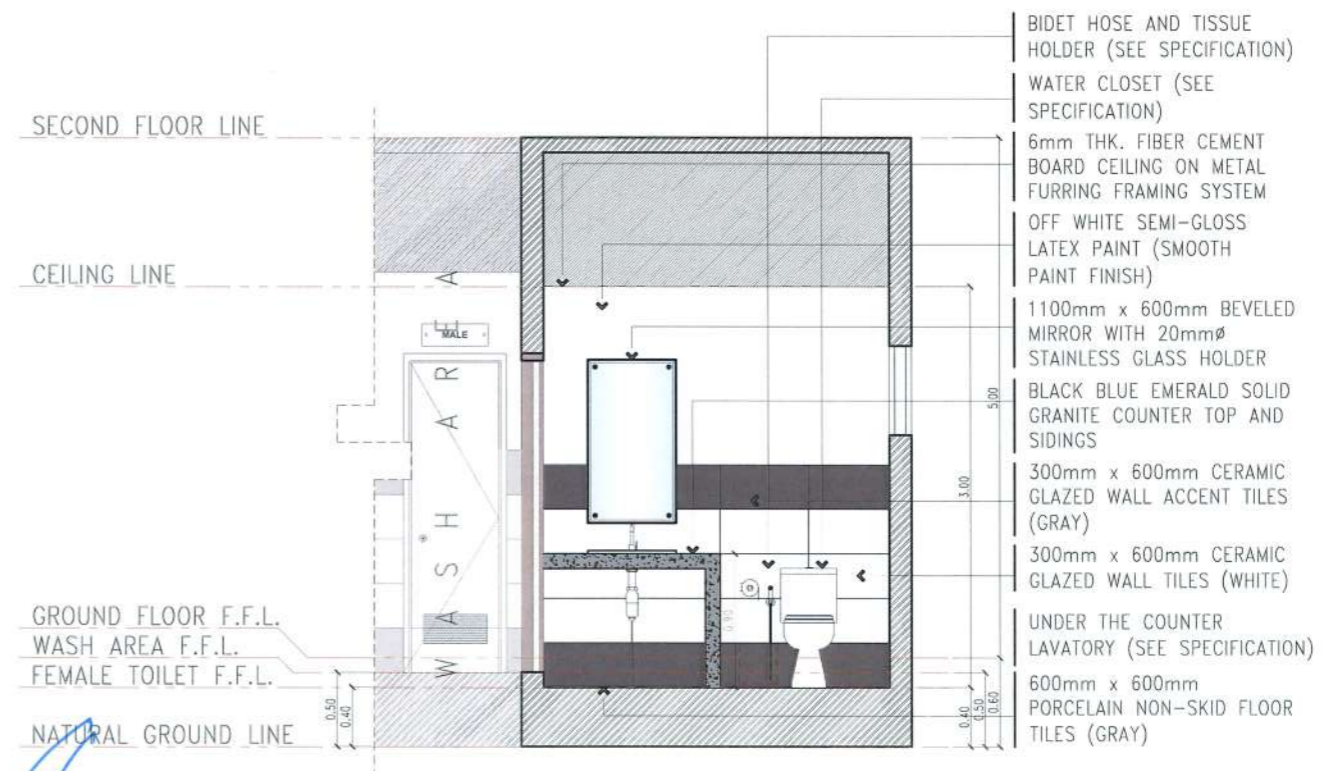
**SECTIONAL ELEVATION THRU C-C**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU B-B**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU D-D**

SCALE 1:50 M

*(Handwritten signature)*  
GARRY M. ADVENTO  
ARCHITECT  
AR ENRAMP RME  
PTR: 4488026  
1-3-23 TARLAC PRG/oy



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

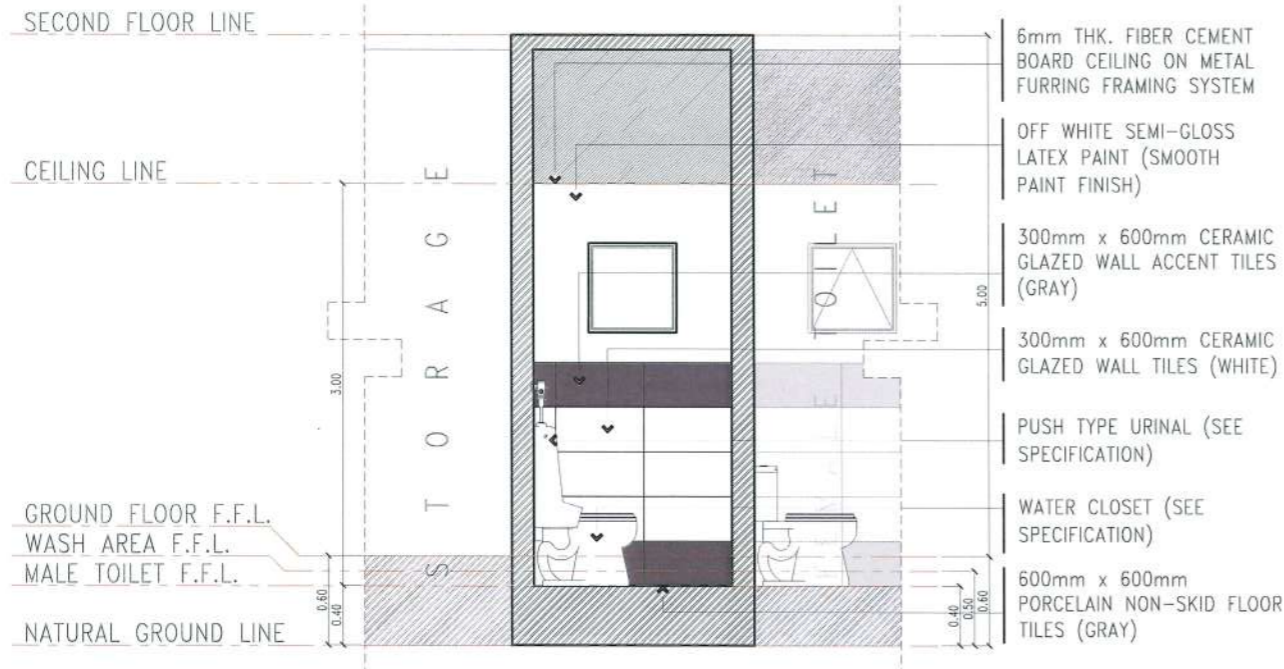
ARCHITECT: GARRY M. ADVENTO  
AR ENRAMP RME  
PTR: 4488026  
1-3-23 TARLAC PRG/oy

PRC NO: \_\_\_\_\_ VALIDITY: \_\_\_\_\_  
PTR NO: \_\_\_\_\_ DATE ISSUED: \_\_\_\_\_  
ISSUED AT: \_\_\_\_\_ TIN: \_\_\_\_\_  
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OWNER: \_\_\_\_\_  
*(Signature)* DR. ARNOLD E. VELASCO

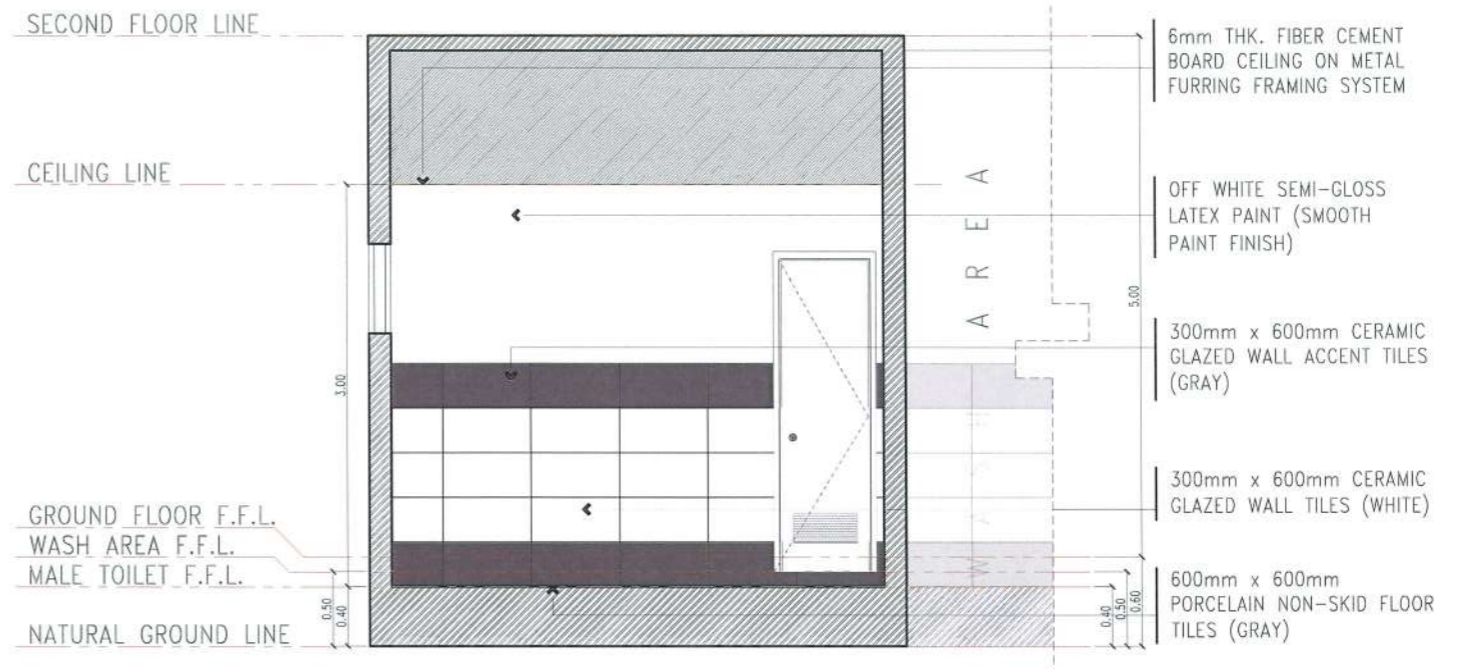
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DATE: SEPTEMBER, 2023  
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# MALE TOILET SECTIONAL ELEVATIONS



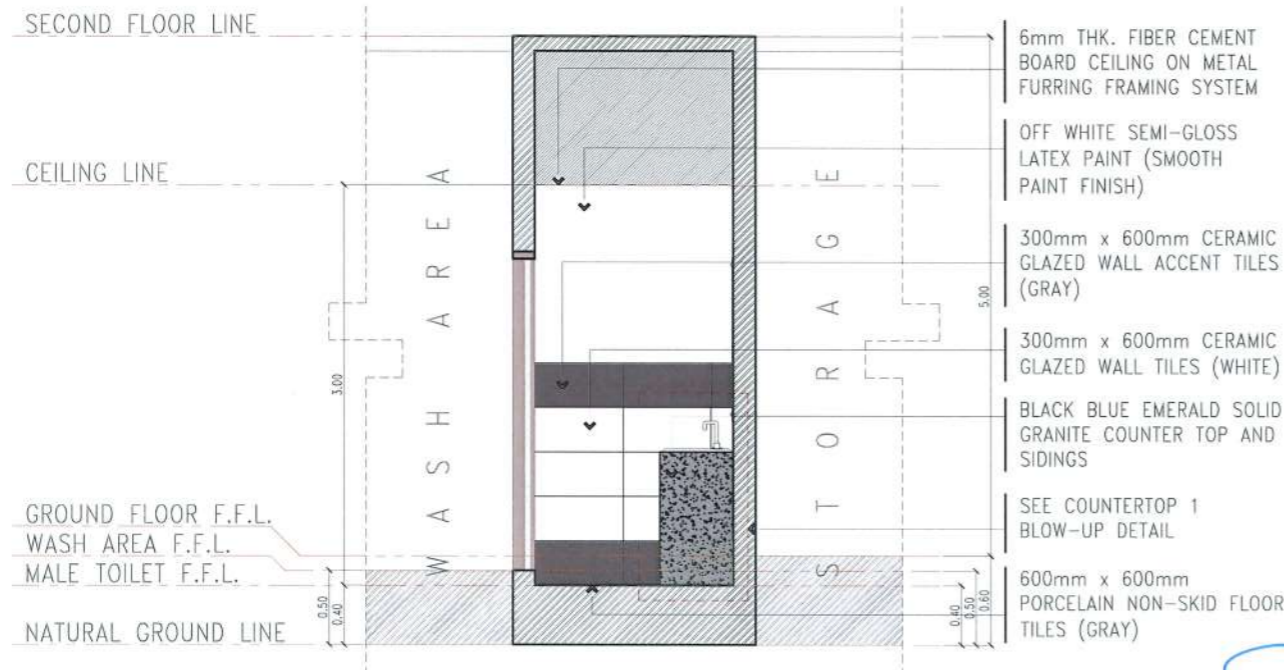
**SECTIONAL ELEVATION THRU E-E**

SCALE 1:50 M



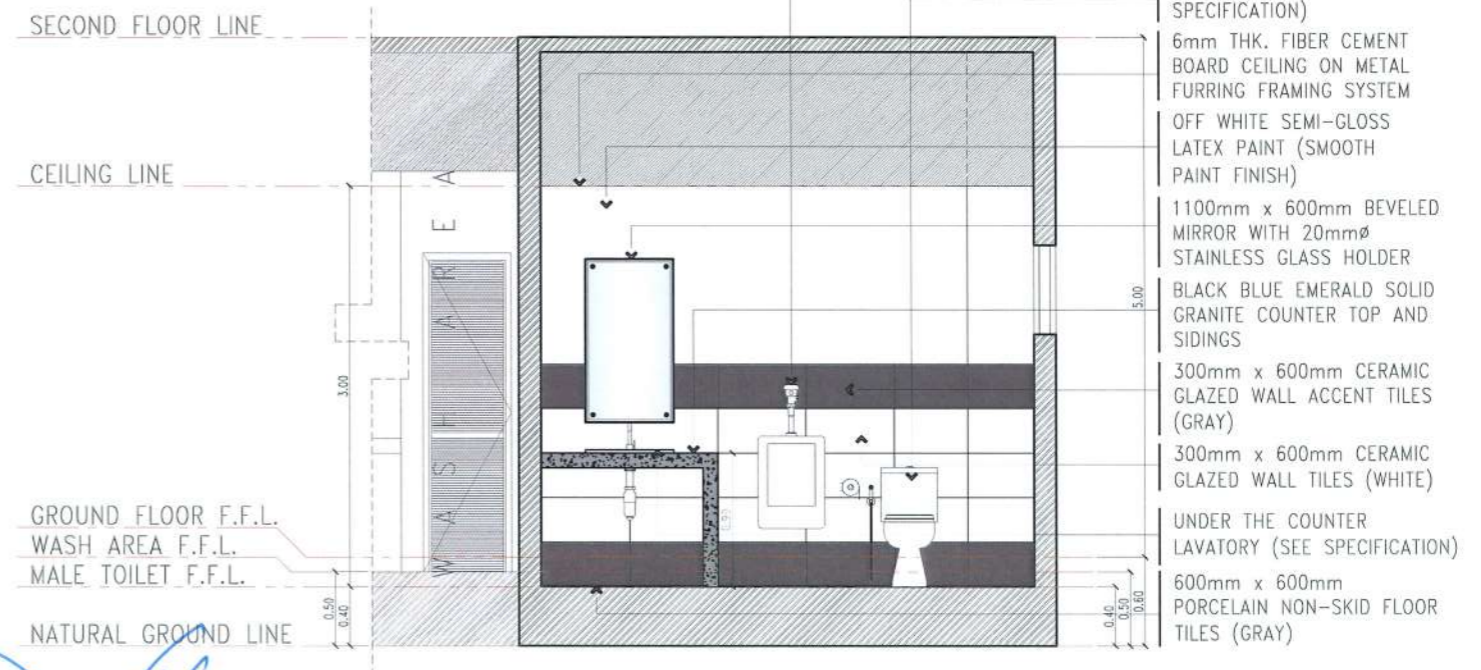
**SECTIONAL ELEVATION THRU G-G**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU F-F**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU H-H**

SCALE 1:50 M



PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: **GARRY M. ADVENTO**  
AR ENR RMP RME  
PTR: 4488926  
1-3-23 TARLAC PRC

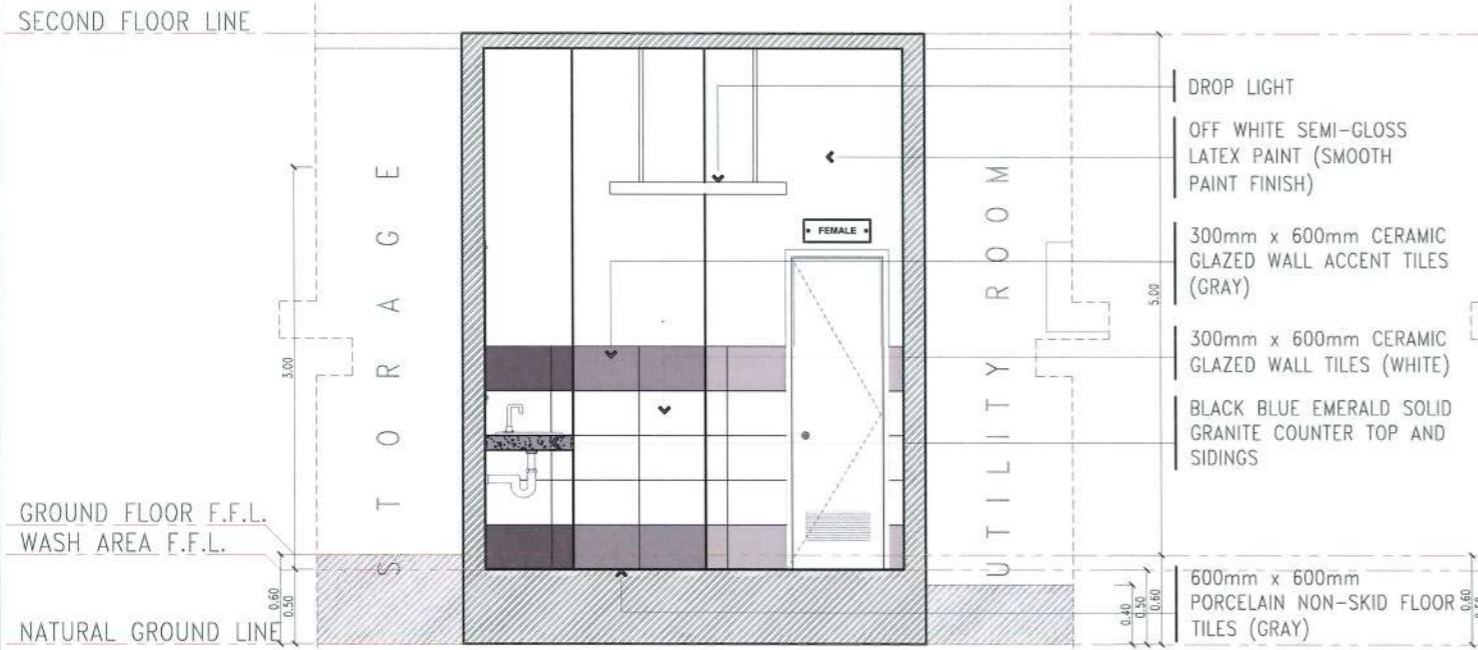
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ISSUED AT:	TIN:
IAPOA:	DATE ISSUED:

OWNER: **DR. ARNOLD E. VELASCO**

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DATE: SEPTEMBER, 2023	PAGE NO:
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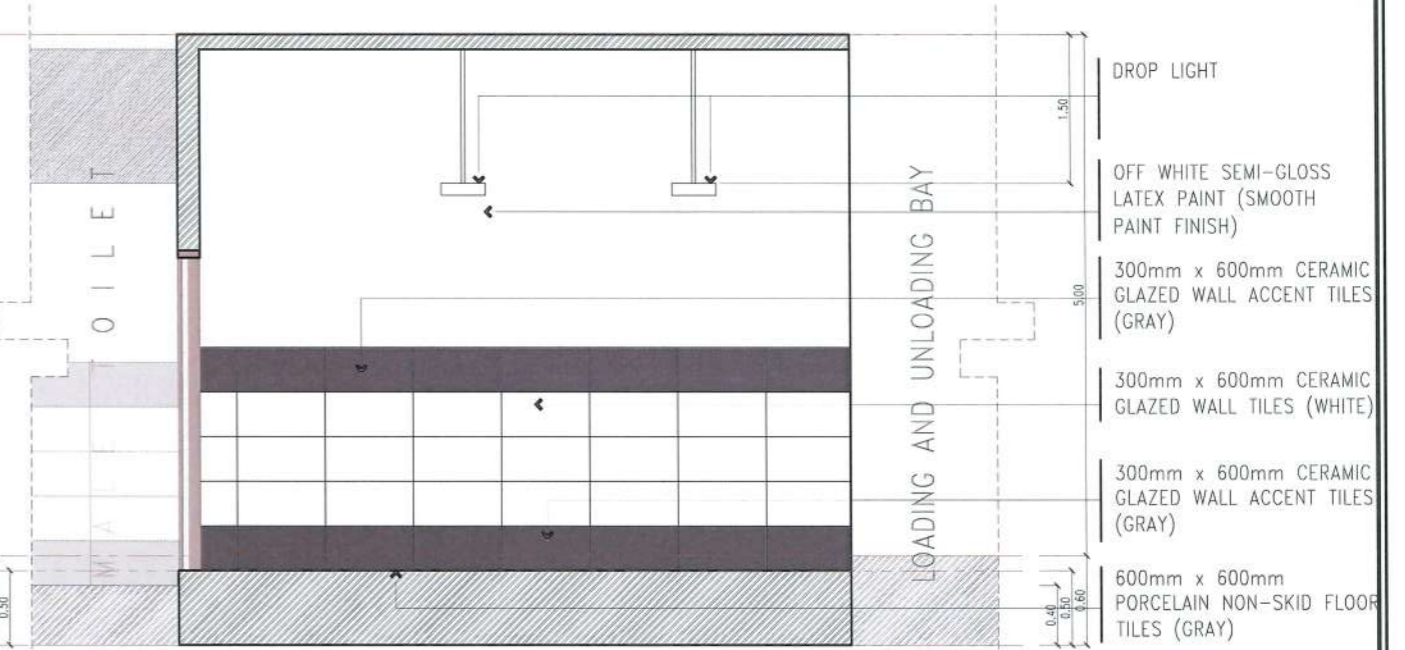


# WASH AREA SECTIONAL ELEVATIONS



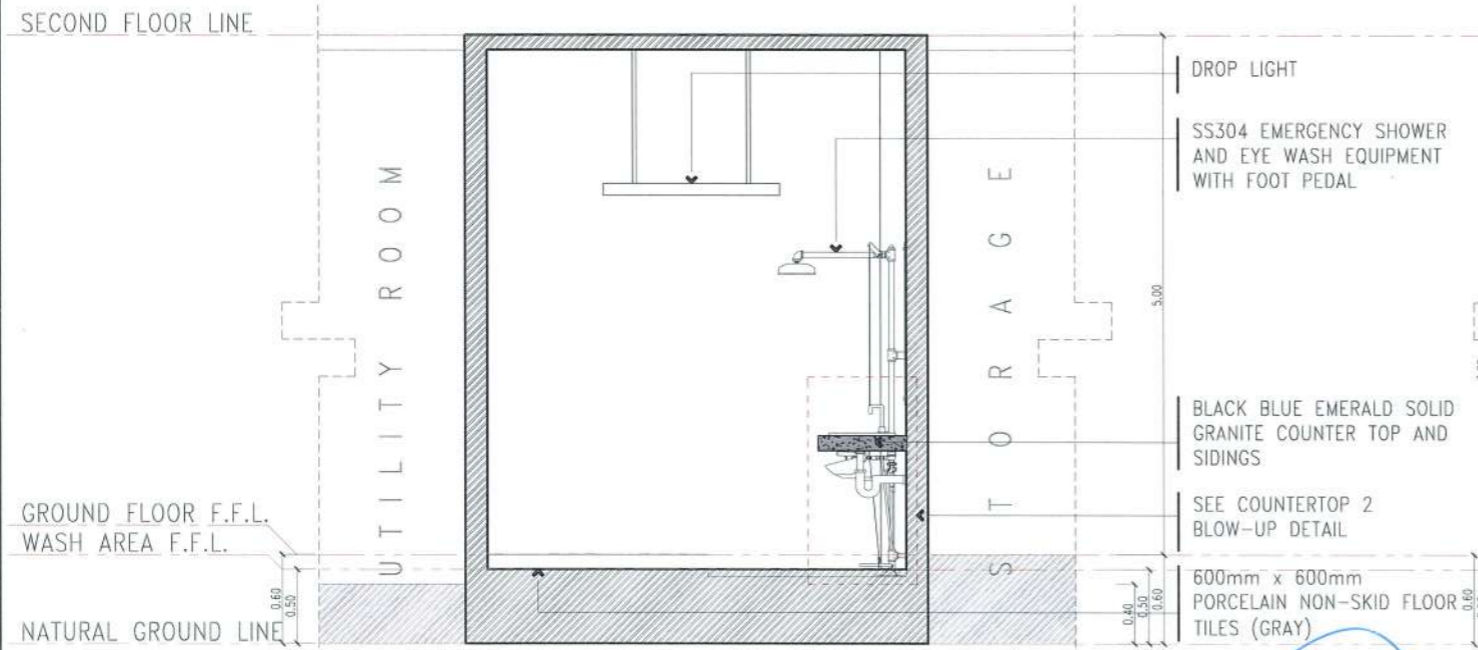
**SECTIONAL ELEVATION THRU I-I**

SCALE 1:50 M



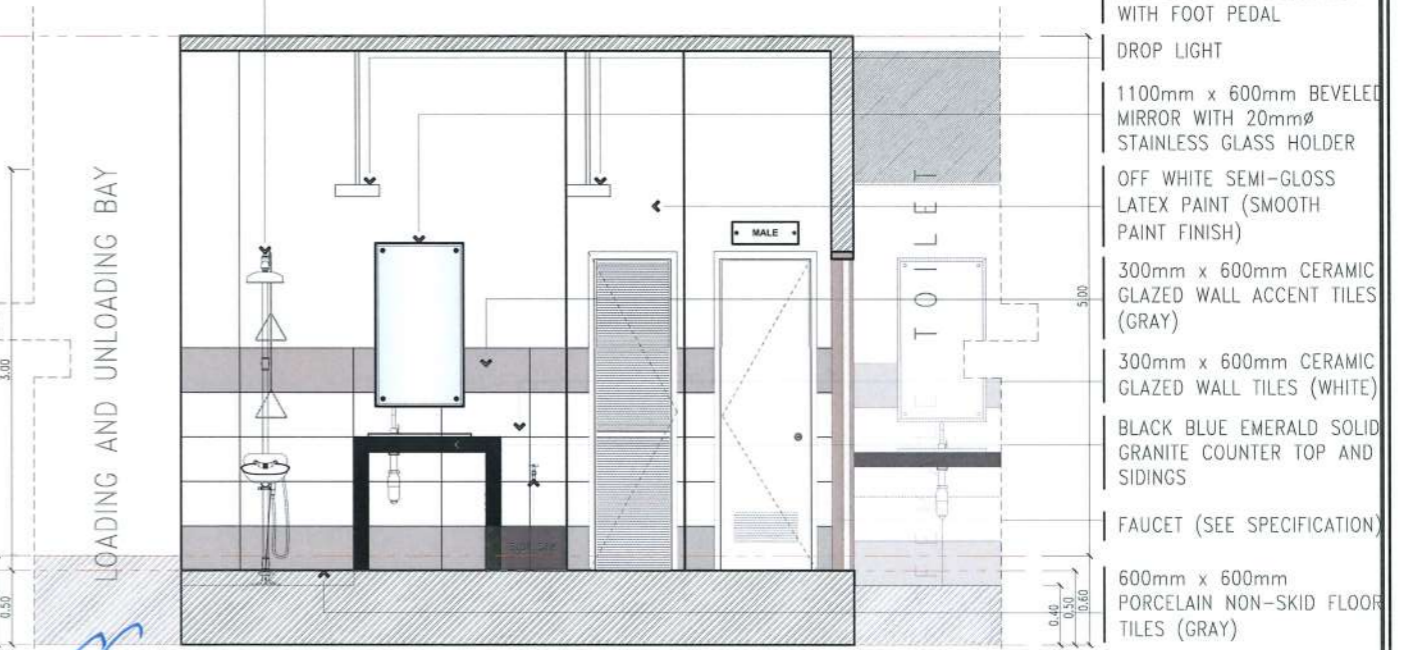
**SECTIONAL ELEVATION THRU K-K**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU J-J**

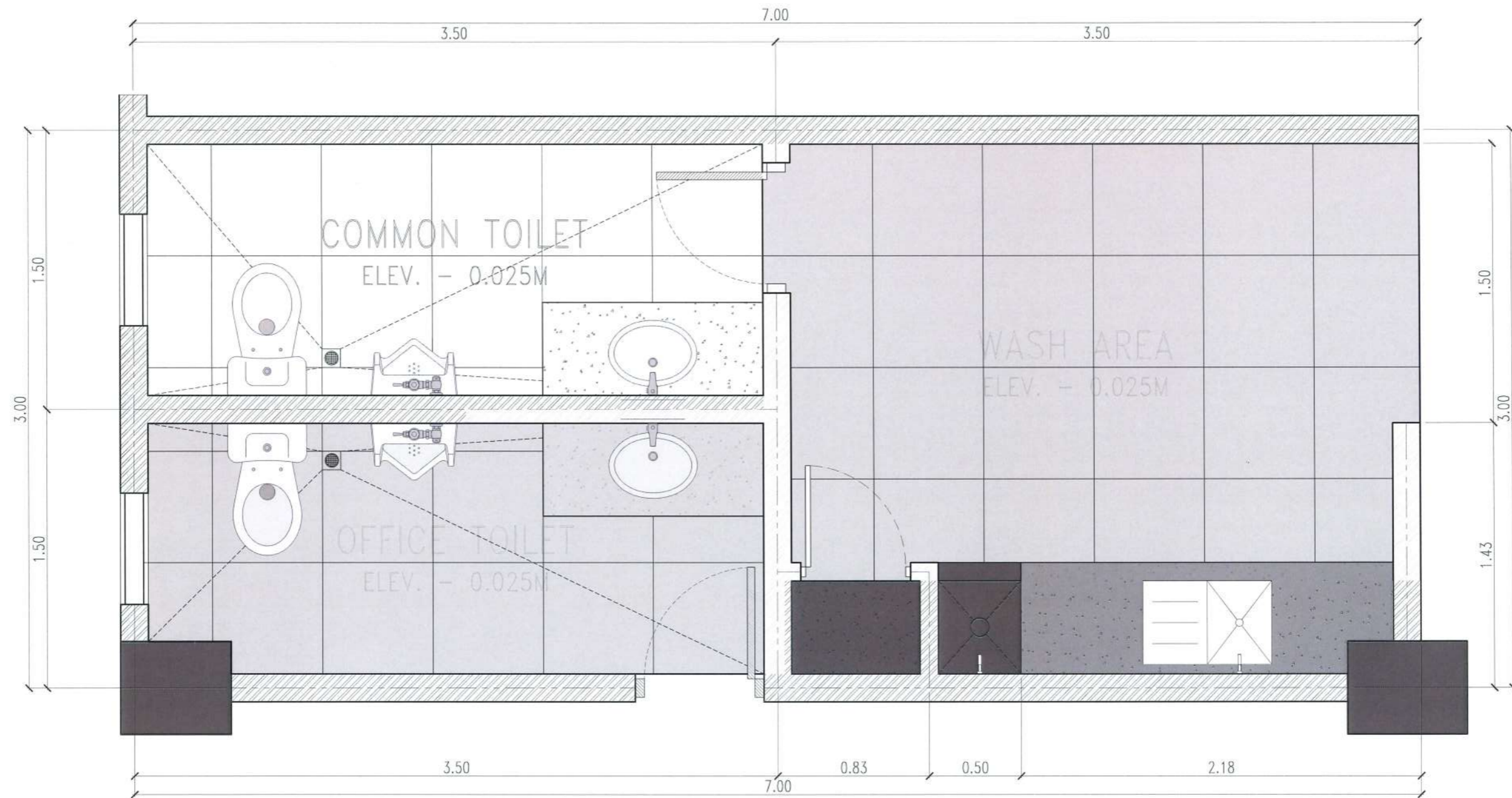
SCALE 1:50 M



**SECTIONAL ELEVATION THRU L-L**

SCALE 1:50 M

 <b>TARLAC STATE UNIVERSITY</b> Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE	ARCHITECT:	GARRY M. ADVENTO AN ENP RMP RME PTR: 4488/23 1-3-23 TARLAC PRG/107	PRC NO:	VALIDITY:	OWNER:	DR. ARNOLD E. VELASCO	SHEET CONTENTS:	AS SHOWN	SHEET NO:	A-33
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## SECOND FLOOR COMFORT ROOM BLOW-UP PLAN

SCALE 1:25 M

*[Handwritten Signature]*  
 GARRY M. ADVENTO  
 AR ENP RMP RME  
 PTR: 4488026  
 1-3-23 TARLAC PRC



**TARLAC STATE UNIVERSITY**  
 Facilities Development and  
 Management Office  
 Romulo Boulevard, Tarlac City, Philippines 2300

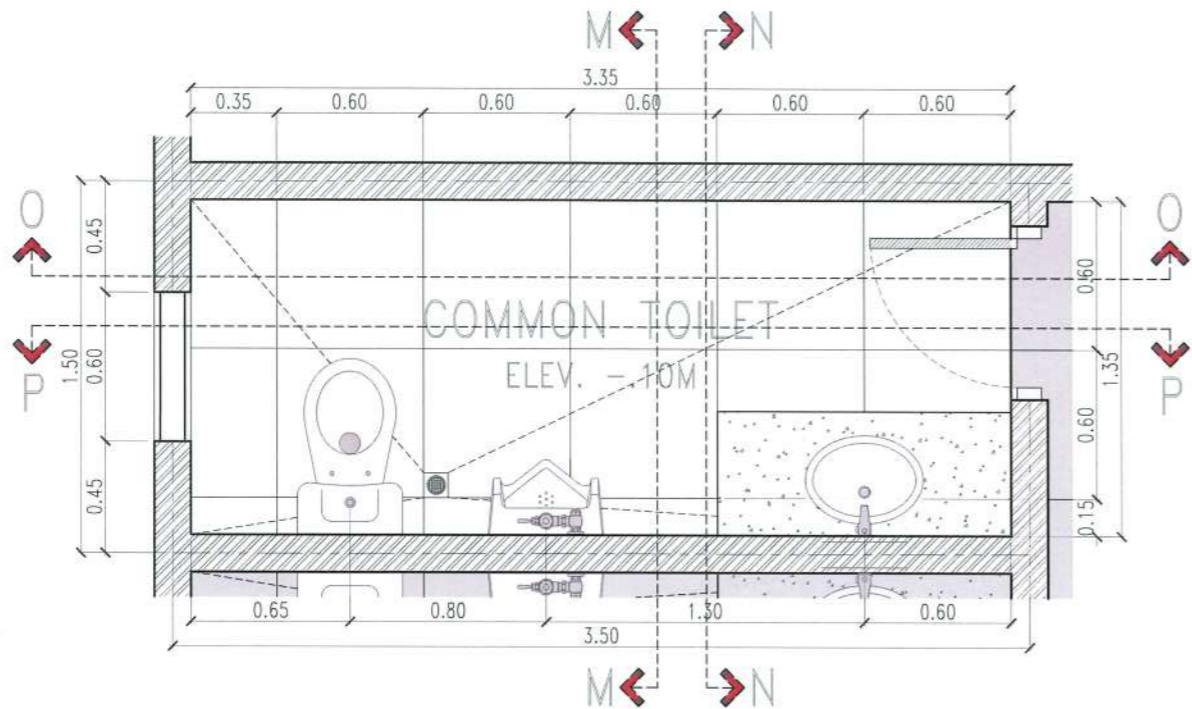
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PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT:	GARRY M. ADVENTO AR ENP RMP RME PTR: 4488026 1-3-23 TARLAC PRC
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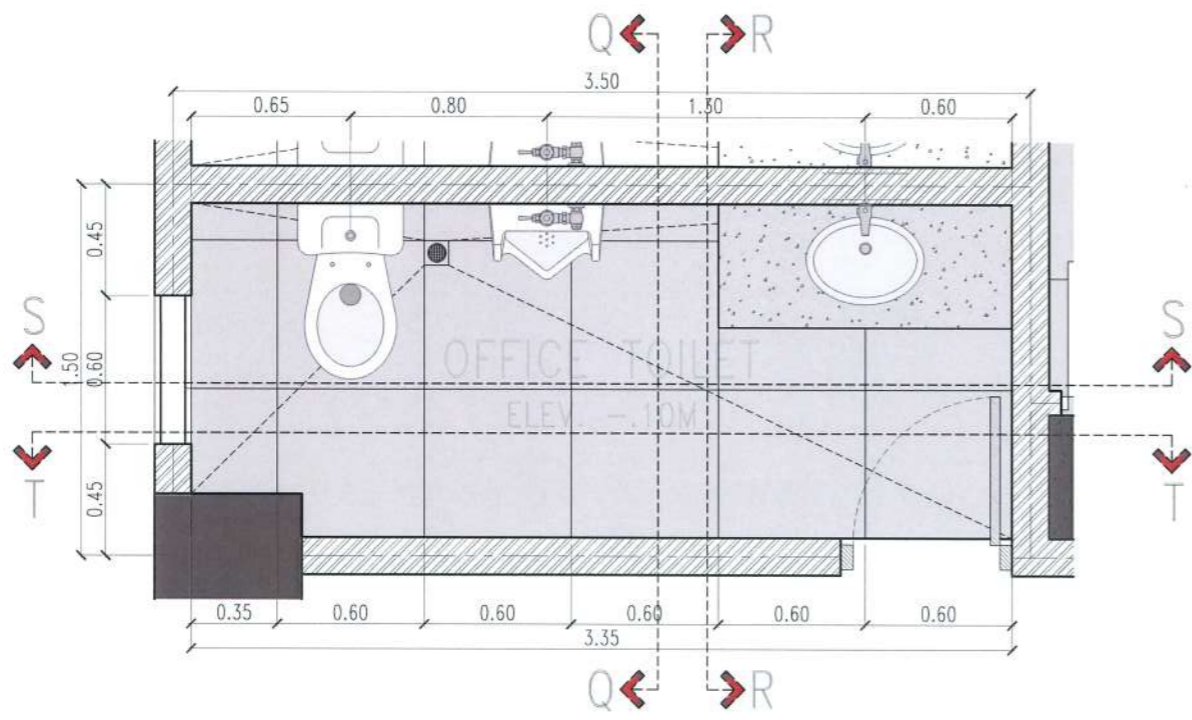
OWNER:	DR. ARNOLD E. VELASCO
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**COMMON TOILET SECTION CUTTING PLANE LINES**

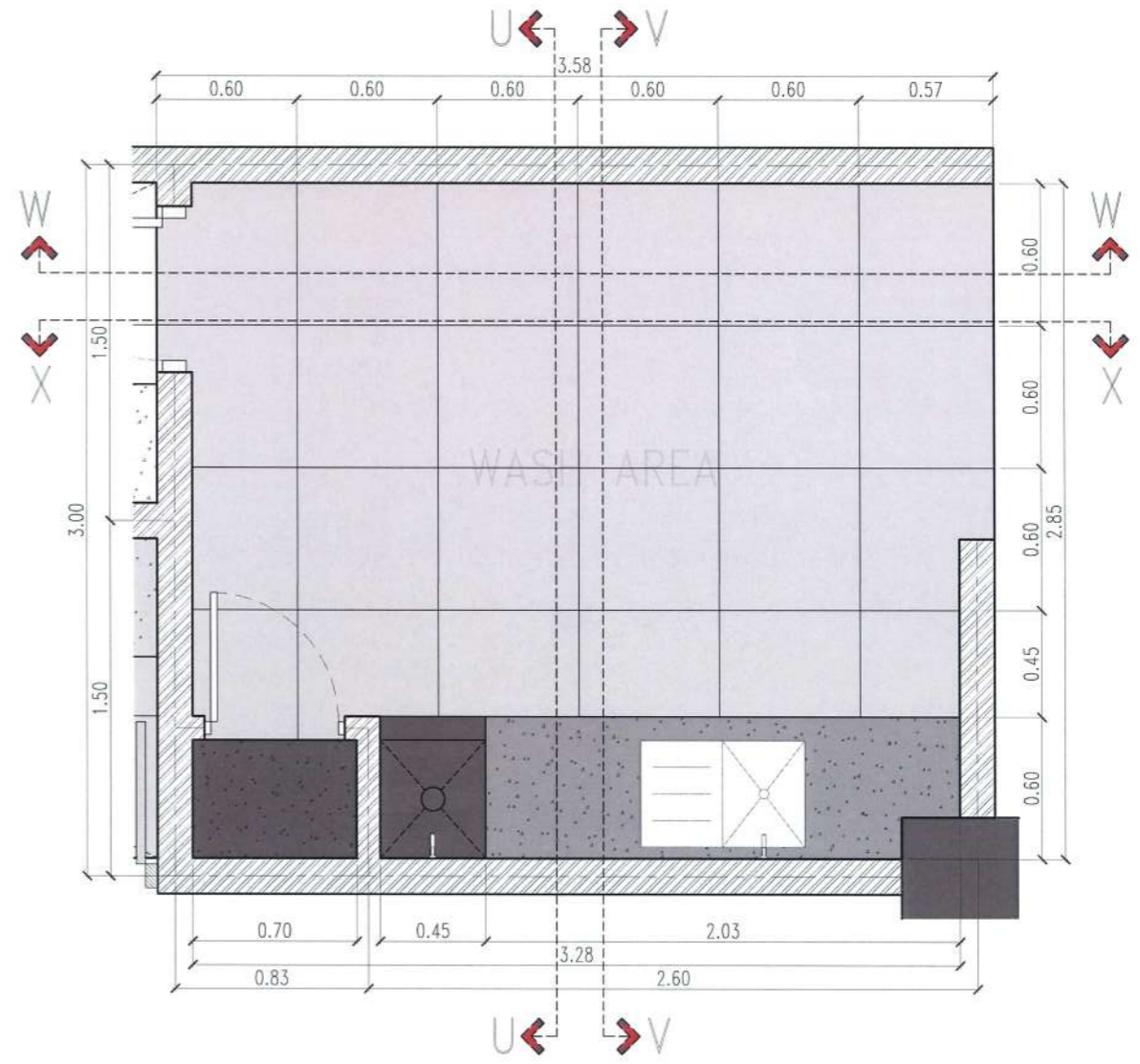
SCALE 1:30 M



**OFFICE TOILET SECTION CUTTING PLANE LINES**

SCALE 1:30 M

NOTE:  
 APPLY ATLEAST THREE(3) COATS OF CEMENTITIOUS WATERPROOFING ON SECOND FLOOR FOR ALL FLOORING AND HEIGHT OF 0.10M PERIMETER WALL ON COMFORT ROOM PRIOR TO INSTALLATION OF TILES.



**2ND FLR. WASH AREA SECTION CUTTING PLANE LINES**

SCALE 1:30 M



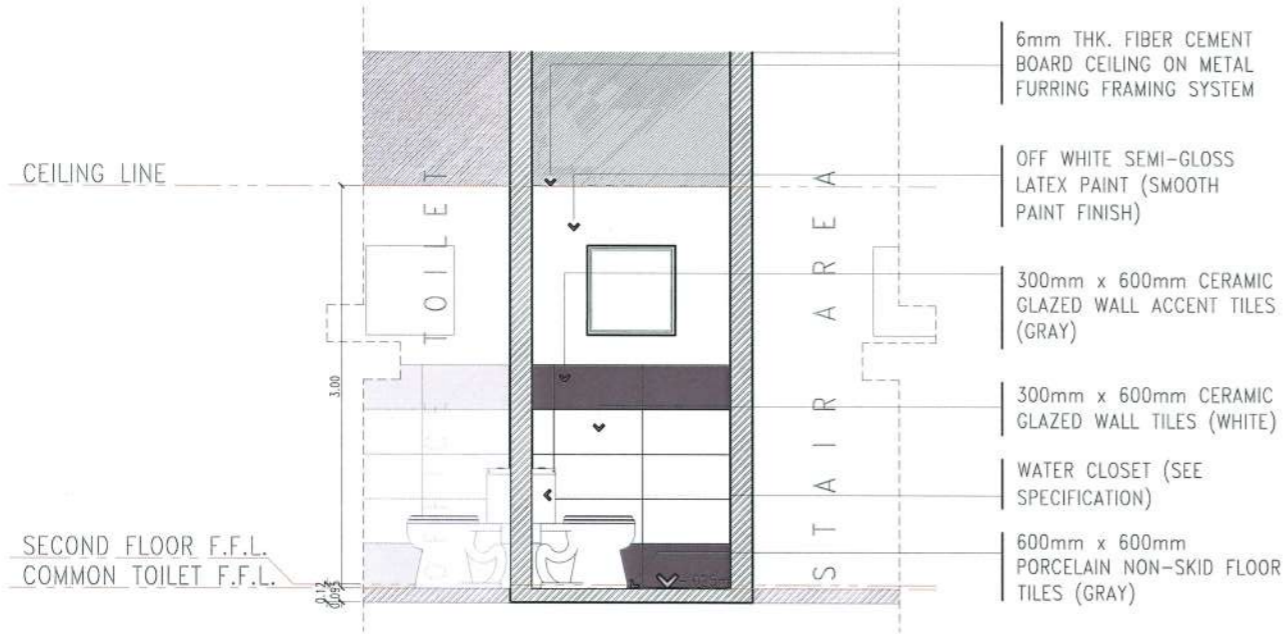
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 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: GARRY M. ADVENTO  
 AR ENR AMP RME  
 PTR: 4488926  
 1-3-23 TARLAC PRC

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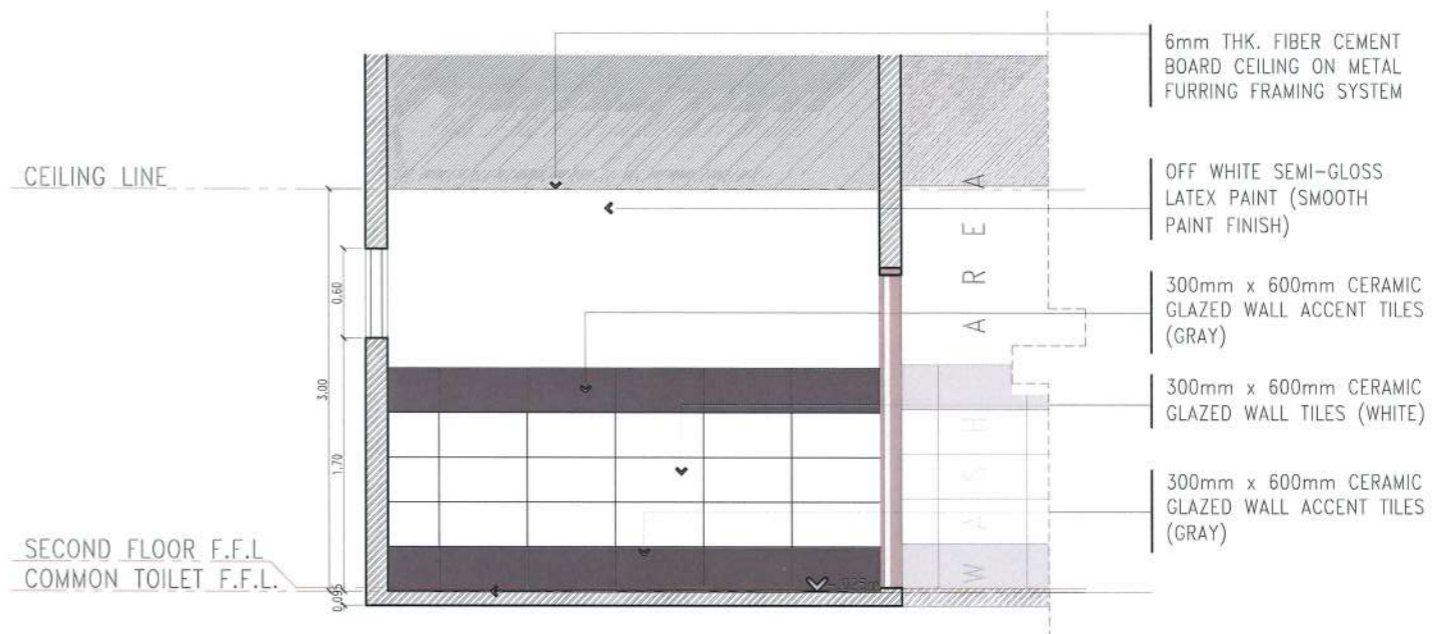
OWNER: DR. ARNOLD E. VELASCO  
 SHEET CONTENTS: AS SHOWN  
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 DATE: SEPTEMBER, 2023

# COMMON TOILET SECTIONAL ELEVATIONS



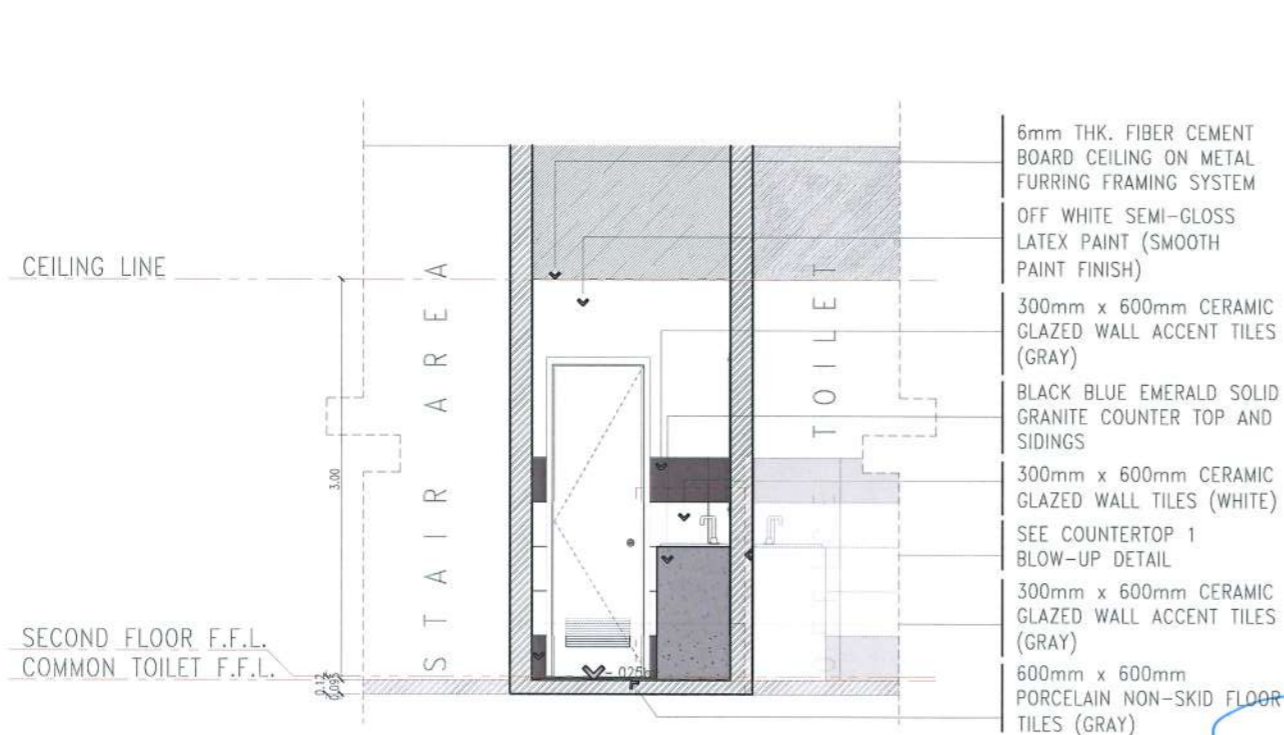
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SCALE 1:50 M



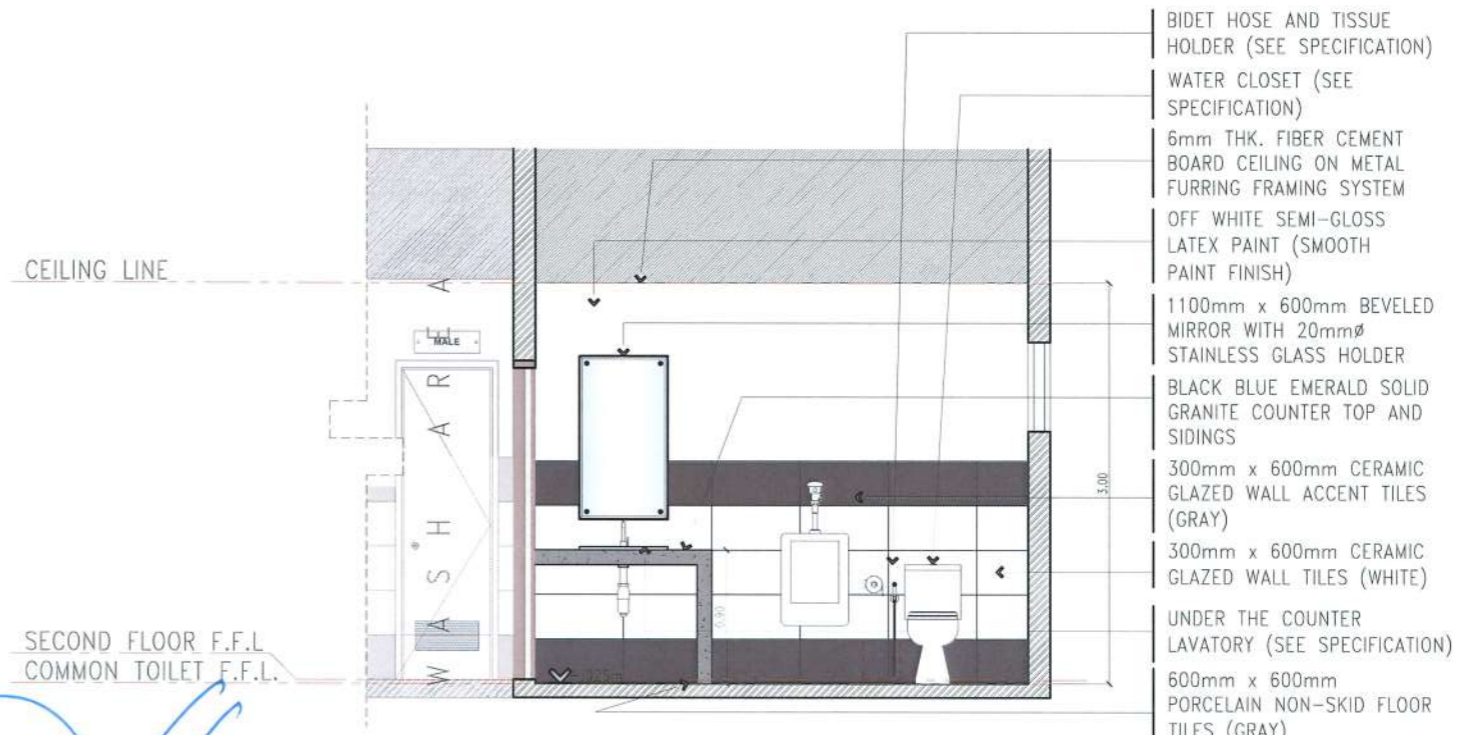
**SECTIONAL ELEVATION THRU O-O**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU N-N**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU P-P**

SCALE 1:50 M



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

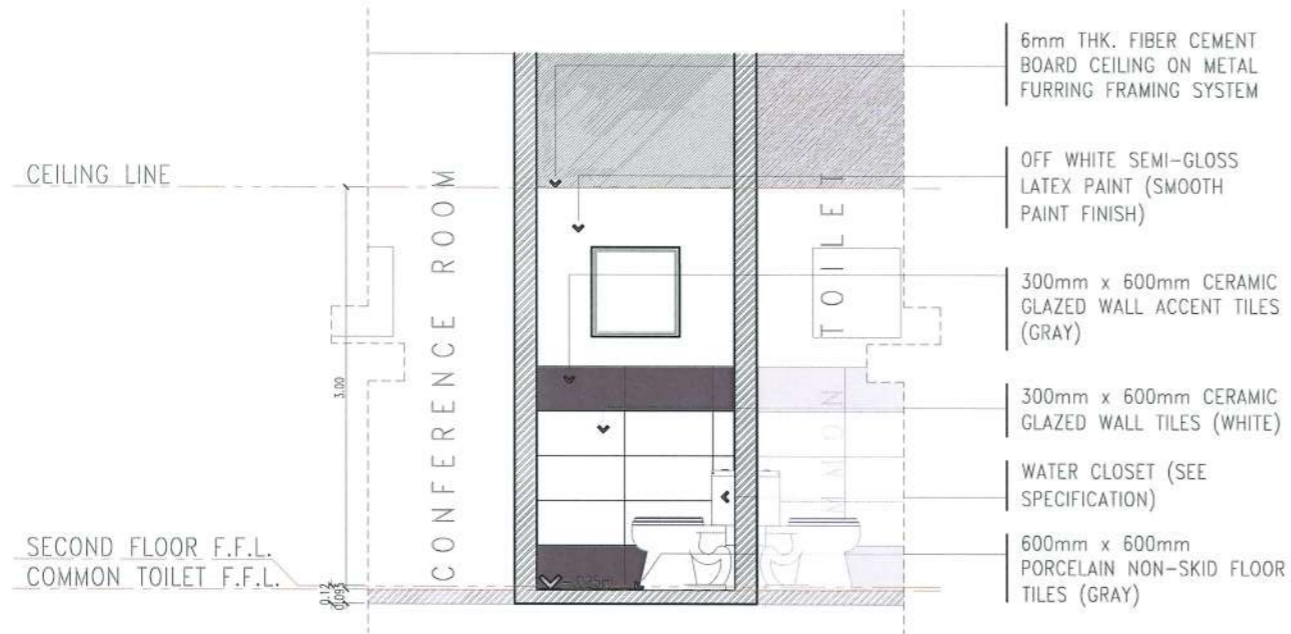
ARCHITECT: GARRY M. ADVENTO  
 AR ENP RMP RME  
 PTR: 448892G  
 1-3-23 TARLAC PRC

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OWNER: DR. ARNOLDO E. VELASCO

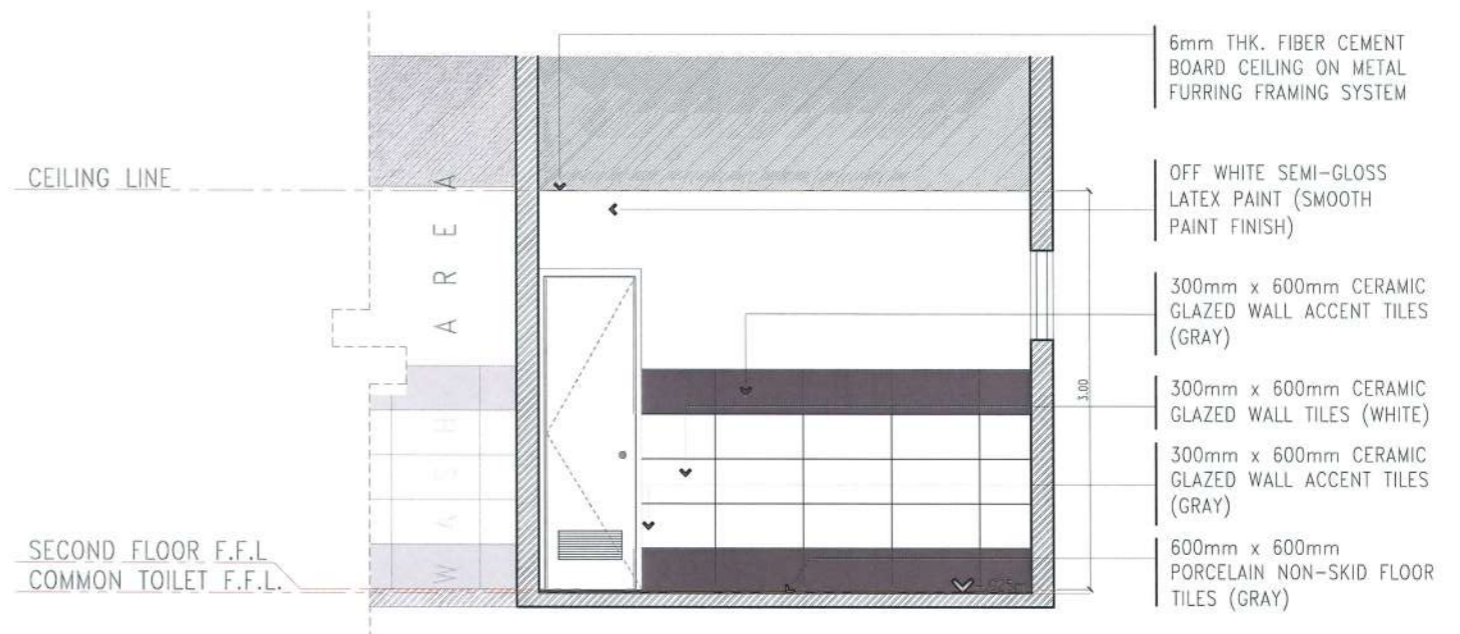
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 DATE: SEPTEMBER, 2023

# OFFICE TOILET SECTIONAL ELEVATIONS



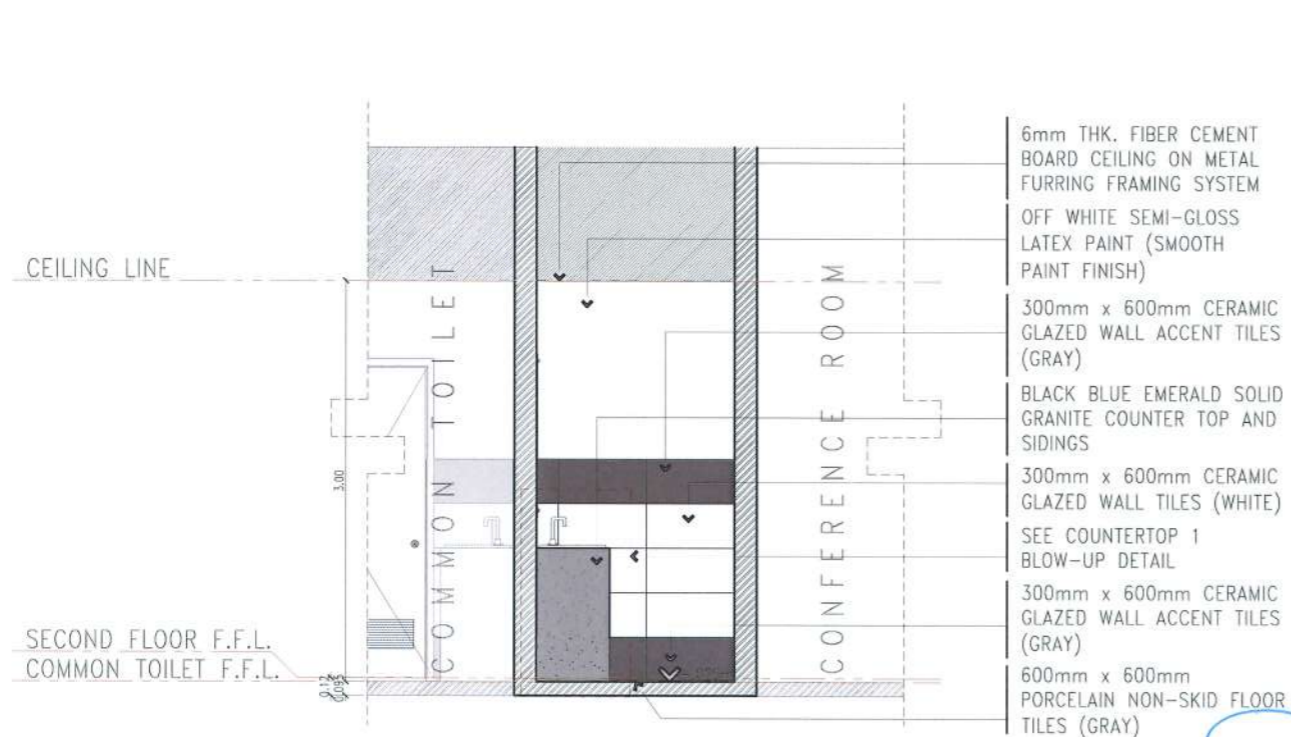
**SECTIONAL ELEVATION THRU Q-Q**

SCALE 1:50 M



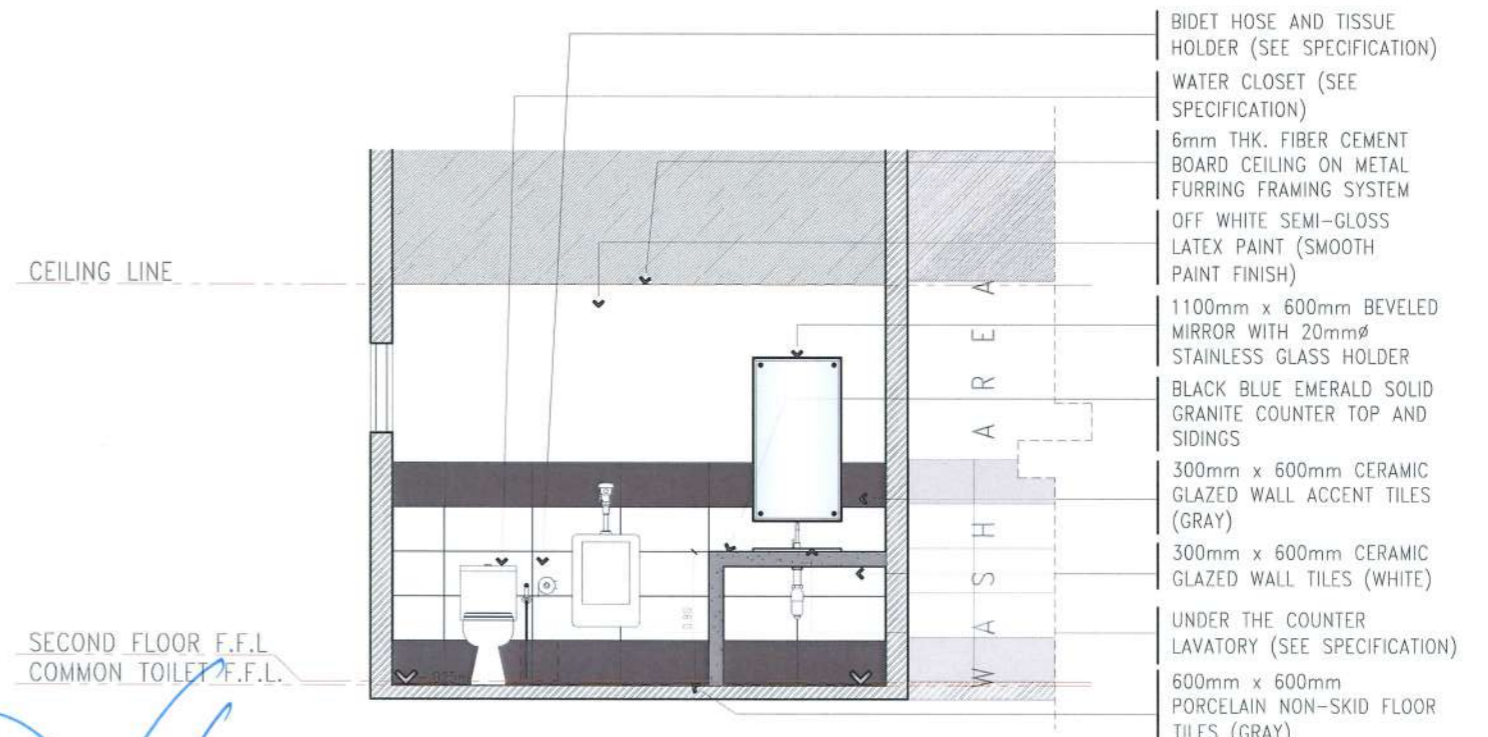
**SECTIONAL ELEVATION THRU S-S**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU R-R**

SCALE 1:50 M



**SECTIONAL ELEVATION THRU T-T**

SCALE 1:50 M



PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

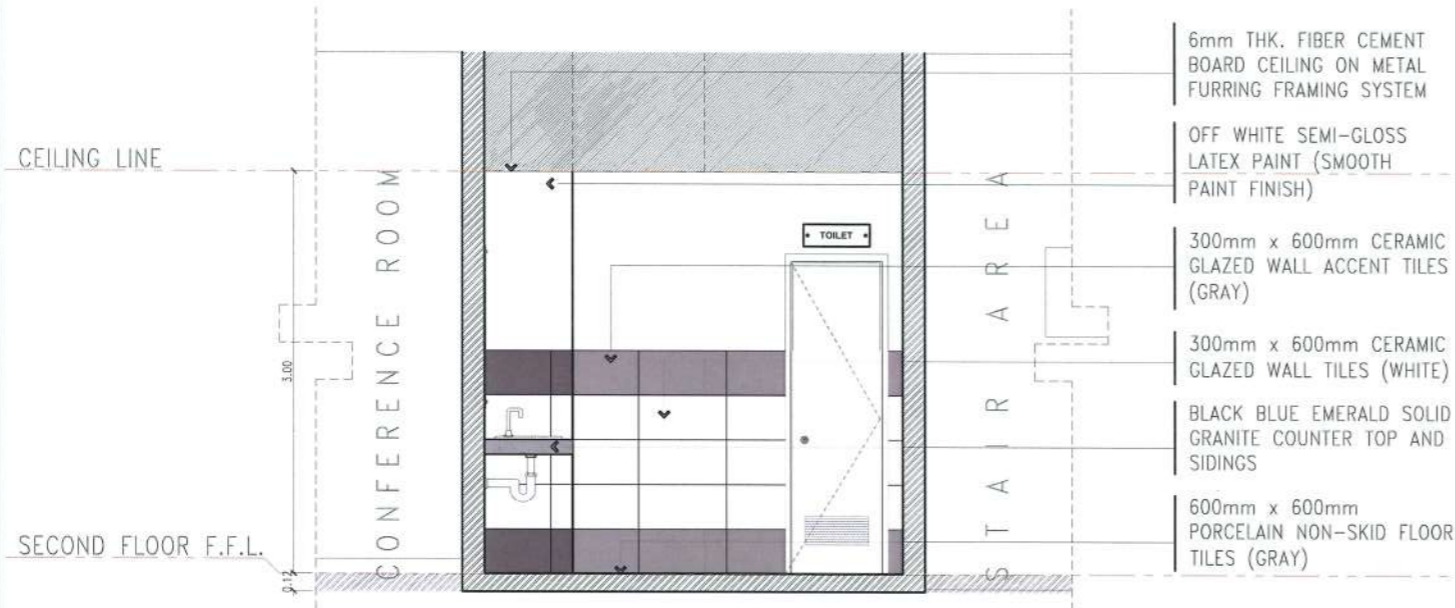
ARCHITECT: **GARRY W. ADVENTO**  
**AR ENP RMP RME**  
PTR: 4488123  
1-3-23 TARLAC

PRC NO:	VALIDITY:
PTR NO:	DATE ISSUED:
ISSUED AT:	TIN:
APDA:	DATE ISSUED:

OWNER: **DR. ARNOLD E. VELASCO**

SHEET CONTENTS:	SHEET NO:
AS SHOWN	A -37
DATE: SEPTEMBER, 2023	PAGE NO:
	37/91

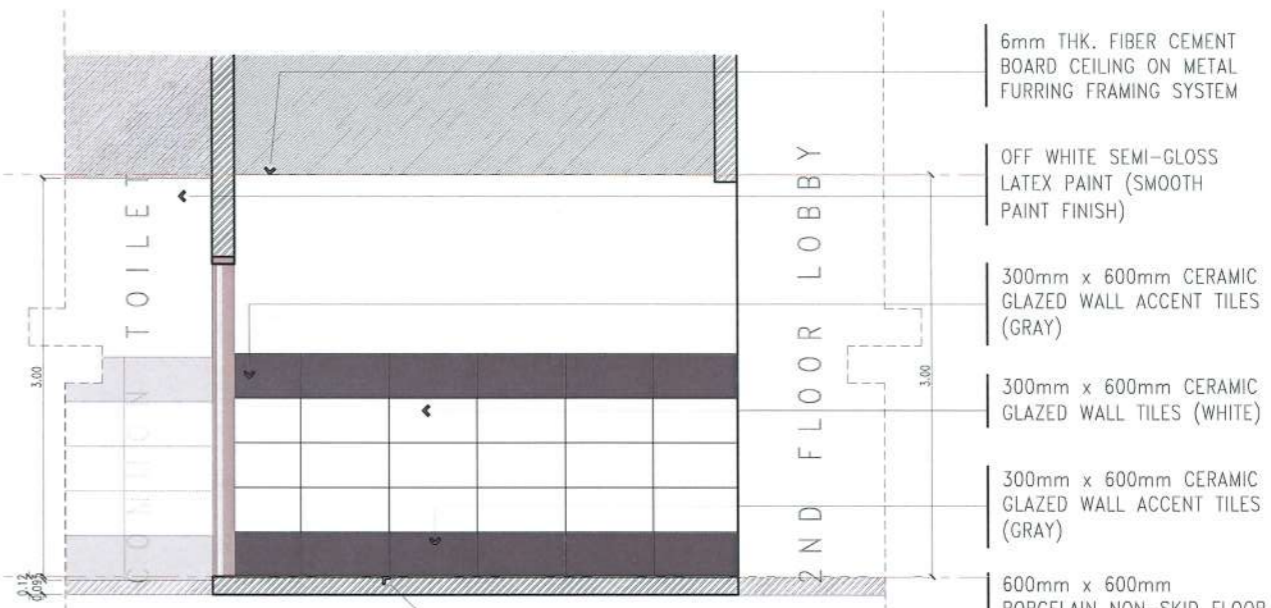
# 2ND FLR. WASH AREA SECTIONAL ELEVATIONS



**SECTIONAL ELEVATION THRU U-U**

SCALE 1:50 M

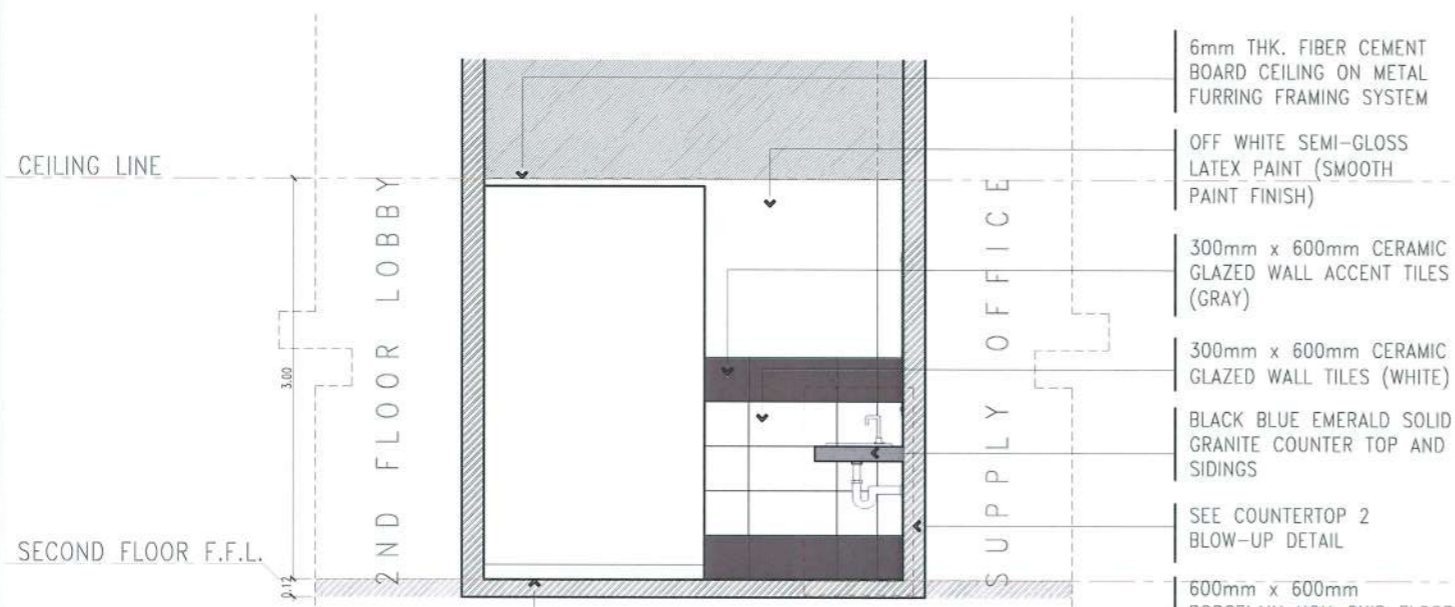
- 6mm THK. FIBER CEMENT BOARD CEILING ON METAL FURRING FRAMING SYSTEM
- OFF WHITE SEMI-GLOSS LATEX PAINT (SMOOTH PAINT FINISH)
- 300mm x 600mm CERAMIC GLAZED WALL ACCENT TILES (GRAY)
- 300mm x 600mm CERAMIC GLAZED WALL TILES (WHITE)
- BLACK BLUE EMERALD SOLID GRANITE COUNTER TOP AND SIDINGS
- 600mm x 600mm PORCELAIN NON-SKID FLOOR TILES (GRAY)



**SECTIONAL ELEVATION THRU W-W**

SCALE 1:50 M

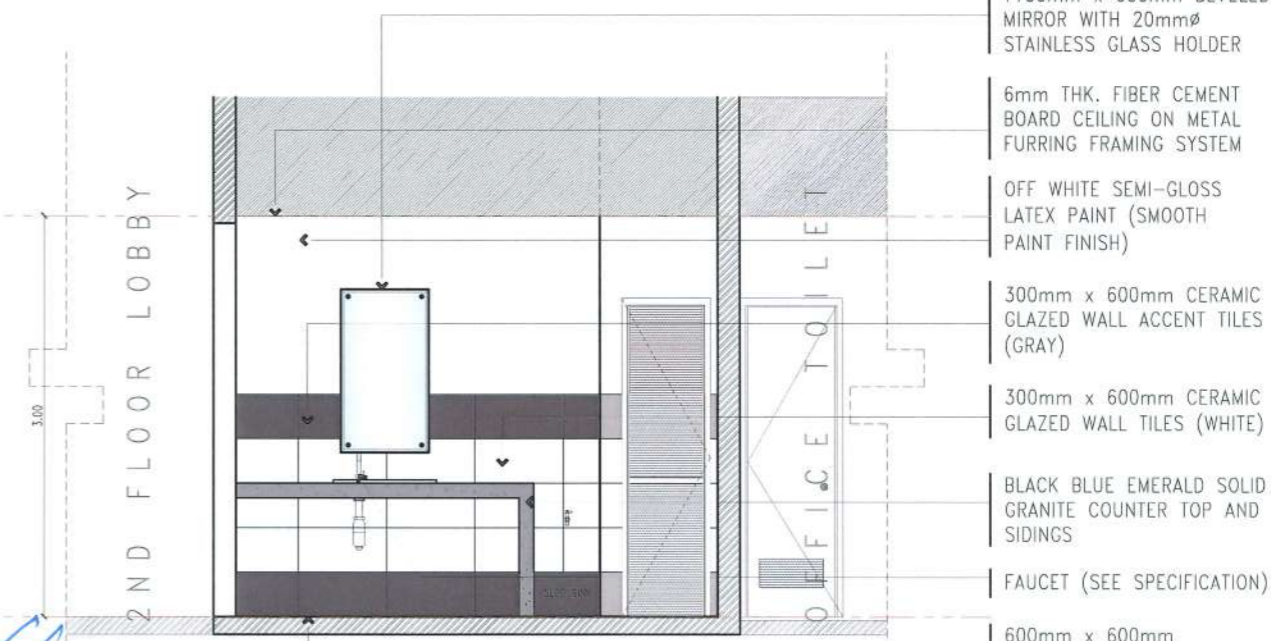
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- OFF WHITE SEMI-GLOSS LATEX PAINT (SMOOTH PAINT FINISH)
- 300mm x 600mm CERAMIC GLAZED WALL ACCENT TILES (GRAY)
- 300mm x 600mm CERAMIC GLAZED WALL TILES (WHITE)
- 300mm x 600mm CERAMIC GLAZED WALL ACCENT TILES (GRAY)
- 600mm x 600mm PORCELAIN NON-SKID FLOOR TILES (GRAY)



**SECTIONAL ELEVATION THRU V-V**

SCALE 1:50 M

- 6mm THK. FIBER CEMENT BOARD CEILING ON METAL FURRING FRAMING SYSTEM
- OFF WHITE SEMI-GLOSS LATEX PAINT (SMOOTH PAINT FINISH)
- 300mm x 600mm CERAMIC GLAZED WALL ACCENT TILES (GRAY)
- 300mm x 600mm CERAMIC GLAZED WALL TILES (WHITE)
- BLACK BLUE EMERALD SOLID GRANITE COUNTER TOP AND SIDINGS
- SEE COUNTERTOP 2 BLOW-UP DETAIL
- 600mm x 600mm PORCELAIN NON-SKID FLOOR TILES (GRAY)



**SECTIONAL ELEVATION THRU X-X**

SCALE 1:50 M

- 1100mm x 600mm BEVELED MIRROR WITH 20mm $\phi$  STAINLESS GLASS HOLDER
- 6mm THK. FIBER CEMENT BOARD CEILING ON METAL FURRING FRAMING SYSTEM
- OFF WHITE SEMI-GLOSS LATEX PAINT (SMOOTH PAINT FINISH)
- 300mm x 600mm CERAMIC GLAZED WALL ACCENT TILES (GRAY)
- 300mm x 600mm CERAMIC GLAZED WALL TILES (WHITE)
- BLACK BLUE EMERALD SOLID GRANITE COUNTER TOP AND SIDINGS
- FAUCET (SEE SPECIFICATION)
- 600mm x 600mm PORCELAIN NON-SKID FLOOR TILES (GRAY)



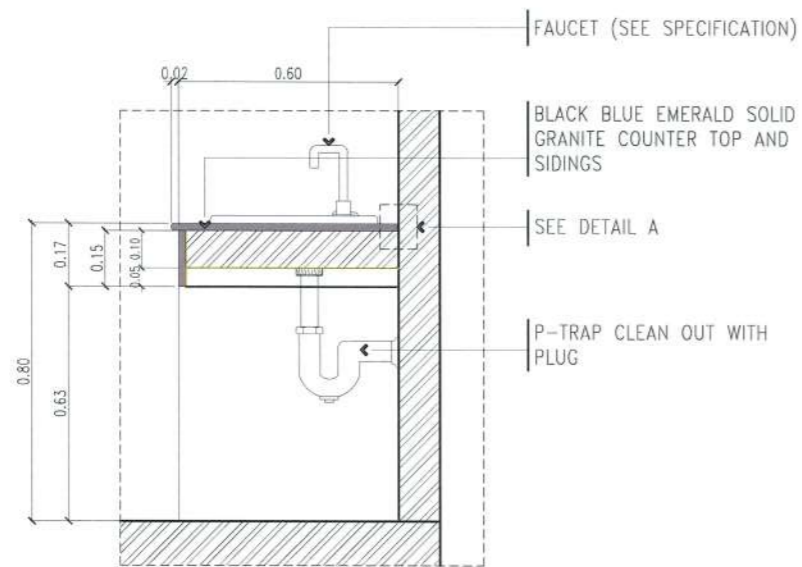
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: GARRY M. ADVENTO  
 AN ENR RMP RME  
 PTR: 4488926  
 1-3-23 TARLAC

PRC NO: VALIDITY:  
 PTR NO: DATE ISSUED:  
 ISSUED AT: TIN:  
 MPOA: DATE ISSUED:

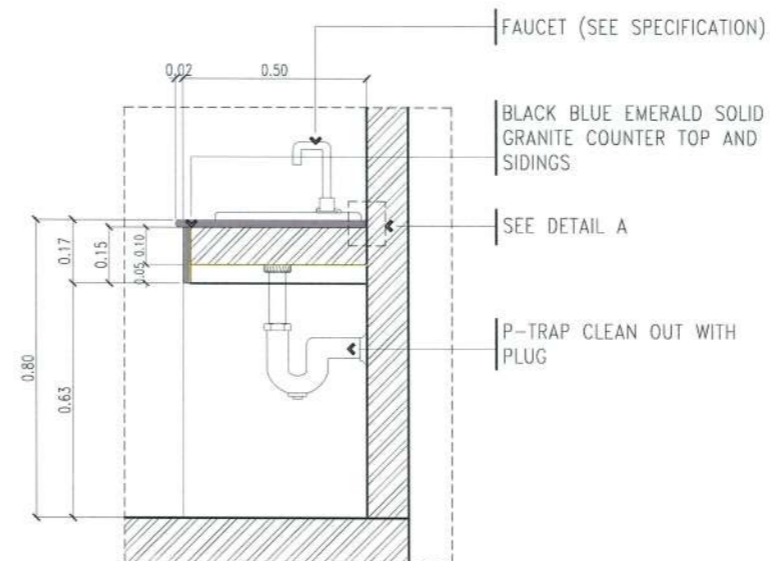
OWNER: DR. ARNOLD E. VELASCO

SHEET CONTENTS: AS SHOWN  
 SHEET NO: A-38  
 PAGE NO: 38/91  
 DATE: SEPTEMBER, 2023



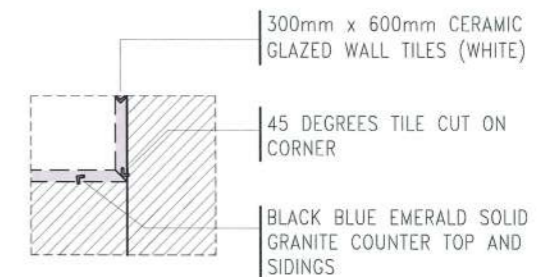
**COUNTERTOP 1 BLOW UP DETAIL**

SCALE 1:20 M



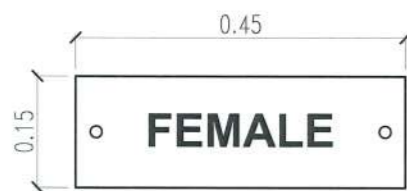
**COUNTERTOP 2 BLOW UP DETAIL**

SCALE 1:20 M

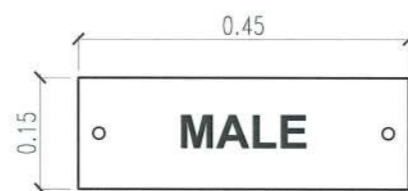


**TYPICAL TILE CONER DETAIL**

SCALE NTS



1 SET



1 SET



2 SETS



1 SET

**ACRYLIC CLEAR GLASS SIGNAGE**

SCALE : NTS

SIGNAGE SPECIFICATION:

PROPORTIONED LETTERING ON 3mm thk. CLEAR ACRYLIC GLASS WITH 2pcs. 8mmx17mm ACRYLIC GLASS FIXING BOLT SCREWS

NOTE: THE FONT STYLE, FONT SIZE, TEXT CONTENT SHALL BE FOR APPROVAL.

*GARRY M. ADVENTO*  
*ARCHITECT*  
*AR ENR AMP RME*  
*PTR: 4488426*  
*1-3-23 TARLAC PRC/179*



PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT:	GARRY M. ADVENTO	PRC NO:	VALIDITY:
	AR ENR AMP RME	PTR NO:	DATE ISSUED:
	PTR: 4488426	ISSUED AT:	TIN:
	1-3-23 TARLAC PRC/179	IAPOA:	DATE ISSUED:

OWNER:	DR. ARNOLD E. VELASCO	SHEET CONTENTS:	AS SHOWN
		DATE:	SEPTEMBER, 2023

SHEET NO:	A-39
PAGE NO:	39/91

**STRUCTURAL - GENERAL NOTES**

**A. GENERAL**

- A.1 THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES. NONETHELESS, SPECIFIC NOTES AND DETAILS SHALL PRECEDE OVER GENERAL NOTES AND TYPICAL DETAILS.
- A.2 THE STRUCTURAL DRAWINGS SHALL BE UTILIZED IN CONJUNCTION WITH OTHER DESIGN DRAWINGS (ARCHITECTURAL, ELECTRICAL, PLUMBING, MECHANICAL, ETC.). IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE REQUIREMENTS OF THE DRAWINGS INTO THEIR SHOP DRAWINGS AND CONSTRUCTION.
- A.3 CONTRACTOR SHALL STUDY THE DRAWINGS AND SPECIFICATIONS, VERIFY ALL DIMENSIONS, AND INSPECT THE FIELD CONDITIONS, REPORTING ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH ANY PHASE OF THE WORK.
- A.4 THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.
- A.5 THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES AND NOTIFY ANY CONFLICTS TO THE ARCHITECT/ENGINEER PRIOR TO COMMENCEMENT OF EXCAVATION.
- A.6 DEMOLITION OF EXISTING STRUCTURES IF ANY SHALL NOT BE COMMENCED UNTIL PROTECTIVE MEASURES ARE SET IN PLACE; PLANS, METHODS, AND SCHEDULES OF DEMOLITION SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER.
- A.7 THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE.
- A.8 THE CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, ELECTRICAL, PLUMBING AND MECHANICAL DRAWINGS FOR REQUIRED OPENINGS. MOREOVER, SEE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS AND LOCATION OF DEPRESSED FLOOR AREAS.
- A.9 DO NOT SCALE ANY DIMENSION FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST FROM THE ARCHITECT/ENGINEER THE NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.
- A.10 SHOP DRAWINGS OF STRUCTURAL ITEMS FOR STEEL AND CONCRETE MEMBERS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO THE FABRICATION AND CONSTRUCTION.

**B. REFERENCES**

- B.1 ALL CONCRETE WORKS SHALL BE DONE IN ACCORDANCE WITH:
  - THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)
  - DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315-99)
  - JOINTS IN CONCRETE CONSTRUCTION (ACI 224.3R-95)
- B.2 ALL STRUCTURAL STEEL WORKS SHALL DONE IN ACCORDANCE WITH:
  - SPECIFICATION FOR STRUCTURAL STEEL BUILDING (ANSI/AISC 360-16)
  - STEEL CONSTRUCTION MANUAL, 14TH EDITION

**C. CONCRETE**

- C.1 UNLESS OTHERWISE INDICATED IN PLANS OR NOTED IN THE STRUCTURAL SPECIFICATIONS, THE MINIMUM 28<sup>th</sup> DAYS COMPRESSIVE CYLINDER STRENGTH OF CONCRETE WITH CORRESPONDING MAXIMUM AGGREGATE SIZE AND SLUMP SHALL BE AS FOLLOWS:
 

ELEMENT	28 <sup>th</sup> DAY STRENGTH	MAX. AGGREGATE SIZE	SLUMP
FOUNDATION & WALLS	3000 PSI	3/4 in.	4 in.
COLUMNS & PEDESTALS	3000 PSI	3/4 in.	4 in.
BEAMS & GIRDERS	3000 PSI	3/4 in.	4 in.
SUSPENDED SLABS	3000 PSI	3/4 in.	4 in.
SLAB ON GRADE	2500 PSI	1 in.	4 in.
NON-STRUCTURAL ELEMENTS	2500 PSI	3/4 in.	4 in.
- C.2 CONCRETE-MIX DESIGNS ALONG WITH TEST DATA SHALL BE SUBMITTED BY THE CONTRACTOR PRIOR TO CONCRETE POURING.
- C.3 PRIOR TO PLACING OF CONCRETE, ALL REINFORCING STEEL BARS, ANCHOR BOLTS, DOWELS, EMBEDDED STRUCTURAL STEELS, PLATES, OR OTHER INSERTS, SHALL BE SECURED IN POSITION AND APPROVED BY THE ENGINEER.
- C.4 CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, REHANDLING OR FLOWING. PLACING SHALL BE DONE PROPERLY WITH BUGGIES, BUCKETS OR WHEEL-BORROWS.

- C.5 NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED BY THE ENGINEER.
- C.6 ALL CONCRETE SHALL BE CURED IMMEDIATELY AFTER FINISHING OPERATIONS BY KEEPING THE CONCRETE ELEMENT MOIST FOR AT LEAST 7 DAYS OR APPLYING LIQUID CURING COMPOUND.
- C.7 CONCRETE CYLINDERS SHALL BE FABRICATED PER EACH 40 CU.M. OR FRACTION THEREOF MIXED EACH DAY FOR EACH CLASS CONCRETE PLACED FOR EACH STRUCTURE.
- C.8 GROUT UNDER BASE PLATES SHALL BE APPROVED NON-SHRINK WITH STRENGTH AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED.

**D. REINFORCING BARS**

- D.1 REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM 615 AS FOLLOWS:
 

DIAMETER	GRADE
10mmØ	GRADE 40 (276 MPa)
12mmØ & ABOVE	GRADE 40 (276 MPa)
- D.2 USE GAUGE #16 OR HEAVIER FOR TIE WIRE.
- D.3 NO BARS PARTIALLY EMBEDDED IN CONCRETE SHALL BE FIELD BENT, EXCEPT AS SHOWN ON PLANS OR PERMITTED BY THE ENGINEER.
- D.4 BARS SHALL NOT BE WELDED UNLESS AUTHORIZED BY THE ENGINEER.
- D.5 ALL REINFORCING BARS SHALL BE CLEANED THOROUGHLY OF ALL LOOSE RUST, SOIL OR OTHER MATERIAL PRIOR TO CONCRETE POURING.
- D.6 MAINTAIN MINIMUM CONCRETE COVER TO TRAVERSE BARS AS FOLLOWS:
 

ELEMENT	CONCRETE COVER
BELOW GRADE - FOUNDATIONS & WALLS	75mm
BELOW GRADE - COLUMNS, BEAMS, GIRDERS & PEDESTALS	75mm
ABOVE GRADE - COLUMNS, BEAMS, GIRDERS & PEDESTALS	50mm
ABOVE GRADE - SUSPENDED SLABS AND WALLS	20mm
SLAB ON GRADE	40mm
- D.7 ALL LAP SPLICES OF REBARS SHALL CONFORM TO CLASS B TENSION LAP SPLICE AS SHOWN ON THE LAP SPLICE SCHEDULE, UNLESS NOTED OTHERWISE.
- D.8 ALL HOOK ENDS SHOWN ON THE DRAWINGS SHALL BE STANDARD HOOKS. ALL STIRRUPS/TIES SHALL HAVE 135° SEISMIC HOOKS, UNLESS NOTED OTHERWISE. CROSS TIES SHALL HAVE STANDARD 90° HOOK ON ONE END AND 135° SEISMIC HOOK ON THE OTHER END.
- D.9 CONSECUTIVE CROSS TIES WITH 90° AND 135° HOOK ENDS SHALL BE ALTERNATED.

**E. FORMS AND SHORES**

- E.1 FORMS AND SHORES SHALL BE DESIGNED TO CARRY THE LOADS COMING ONTO OR AGAINST THEM WITHOUT EXCESSIVE DEFLECTION.
- E.2 STRIPPING OF FORMS AND SHORES SHALL BE AS FOLLOWS:
 

FOUNDATION	1 DAY
WALLS & COLUMNS	2 DAYS
BEAMS	14 DAYS
SUSPENDED SLABS EXCEPT WHEN ADDITIONAL LOADS ARE IMPOSED	14 DAYS

**F. MASONRY**

- F.1 ALL MASONRY UNITS SHALL BE APPROVED QUALITY, SOUND, FREE FROM CRACKS AND OTHER IMPERFECTIONS.
- F.2 NON-LOAD BEARING CONCRETE HOLLOW BLOCKS SHALL BE USED WITH A MINIMUM COMPRESSIVE STRENGTH OF 500 PSI.

- F.3 METHOD OF SAMPLING FOR QUALITY TEST SHALL BE ONE (1) QUALITY TEST FOR EVERY 10,000 UNITS OR FRACTION THEREOF, WITH THREE (3) SPECIMENS FOR COMPRESSION TEST.

- F.4 CHB WALLS SHALL BE REINFORCED AS FOLLOWS:

THICKNESS	HORIZONTAL REINFORCEMENT	VERTICAL REINFORCEMENT
100mm	10mmØ @ 600mm O.C.	10mmØ @ 600mm O.C.
150mm	10mmØ @ 400mm O.C.	10mmØ @ 400mm O.C.

- F.5 ALL MASONRY WORKS SHALL BE LAID TRUE TO LINE, LEVEL, PLUMB AND NEAT IN ACCORDANCE WITH THE PLANS. DAMAGED UNITS SHALL NOT BE USED. UNITS SHALL BE CUT ACCURATELY TO FIT ALL PLUMBING DUCTS, AND OPENING FOR ELECTRICAL WORKS; ALL HOLES SHALL BE NEATLY PATCHED.
- F.6 NO CONSTRUCTION SUPPORT SHALL BE ATTACHED TO THE CHB WALL EXCEPT WHERE SPECIFICALLY PERMITTED BY THE ENGINEER.
- F.7 UNITS SHALL BE PLACED WHILE THE MORTAR IS SOFT AND PLASTIC, AND SHALL BE USED WITHIN 2.5 HOURS OF INITIAL MIXING. MORTAR THAT HAS STIFFENED SHOULD NOT BE USED. ANY UNIT DISTURBED TO THE EXTENT THAT THE INITIAL BOND IS BROKEN AFTER INITIAL POSITIONING SHALL BE REMOVED AND RE-LAID IN FRESH MORTAR.
- F.8 MORTAR FOR CELLS OF CONCRETE HOLLOW BLOCKS SHALL CONSIST OF ONE (1) PART CEMENT TO THREE (3) PARTS SAND BY VOLUME WITH SUFFICIENT WATER. IT SHALL BE A WORKABLE CEMENT-SAND MIXTURE ATTAINING A 28<sup>th</sup> DAY COMPRESSIVE STRENGTH OF 1500 PSI.
- F.9 ALL CELLS OF CHB UNITS SHALL BE FULLY GROUTED.
- F.10 WHERE CHB WALLS ADJOIN COLUMNS, BEAMS, AND WALLS, DOWELS WITH THE SAME SIZE AS THE VERTICAL OR HORIZONTAL REINFORCEMENTS SHALL BE PROVIDED.
- F.11 MORTAR FOR PLASTERING SHALL BE PROPORTIONED ONE (1) PART CEMENT TO TWO (2) PARTS SAND WITH SUFFICIENT WATER.

**G. STRUCTURAL STEEL**

- G.1 ALL STRUCTURAL STEELS SHALL CONFORM TO ASTM A36 HAVING A MINIMUM YIELD STRENGTH OF 36 KSI, UNLESS NOTED OTHERWISE.
- G.2 ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 36.
- G.3 HIGH STRENGTH BOLTS SHALL BE USED SHALL CONFORM TO ASTM A325 OR ASTM A490.
- G.4 ALL WASHERS SHALL CONFORM TO ASTM F436.
- G.5 ALL NUTS SHALL CONFORM TO ASTM A563.
- G.6 USE E70XX OR E71XX, 70 KSI STRENGTH ELECTRODES, UNLESS NOTED OTHERWISE. TEMPORARY WELDS AND ASSEMBLY ATTACHMENTS SHALL BE KEPT TO A MINIMUM
- G.7 WELDING SHALL BE DONE IN ACCORDANCE WITH APPROPRIATE WELD PROCEDURE SPECIFICATIONS (WPS).
- G.8 WELDING SHALL CONFORM TO BE DONE WITH AMERICAN WELDING SOCIETY (AWS) STANDARDS.
- G.9 FABRICATORS SHALL BE QUALIFIED WELDERS WITH AUTHENTIC CERTIFICATES.
- G.10 SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MEMBER. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED.
- G.11 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO THE FABRICATION AND ERECTION.
- G.12 STEEL MEMBERS TO BE ENCASE IN CONCRETE SHALL NOT BE PAINTED. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL HAVE AT LEAST TWO COATS OF APPROVED PRIMER PAINT.
- G.13 CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SAFETY PROTECTION FOR ERECTION.



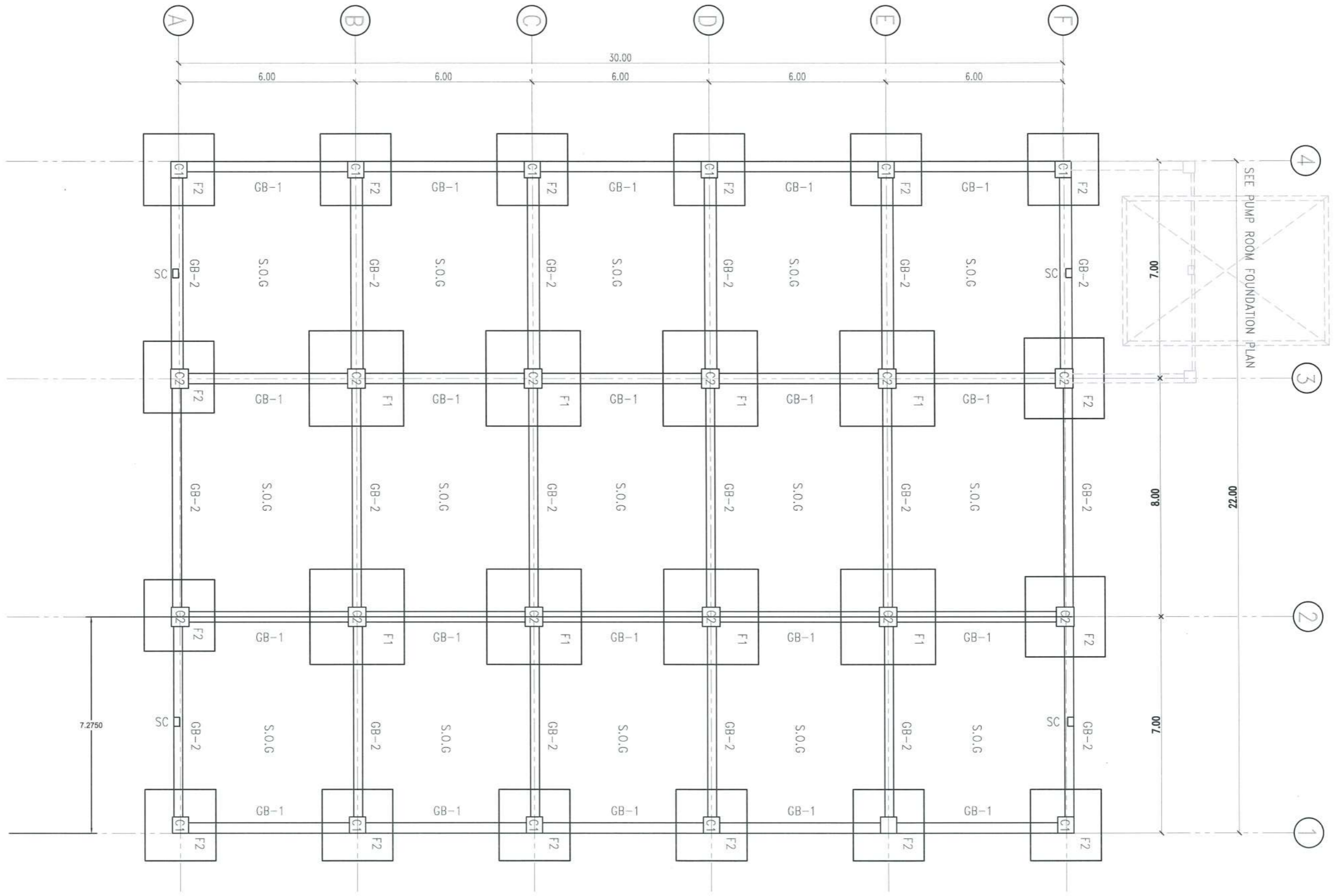
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

CIVIL ENGINEER: *[Signature]*

PRC NO: 0042692 VALIDITY: 10-03-26  
 PTR NO: 4497690 DATE ISSUED: 01-08-23  
 ISSUED AT: TARLAC CITY TIN:

OWNER: DR. ARNOLD E. VELASCO  
 SHEET CONTENTS: AS SHOWN  
 SHEET NO: S-01  
 PAGE NO: 40/91  
 DATE: SEPTEMBER, 2023





**FOUNDATION PLAN**  
SCALE 1:130 MTS.



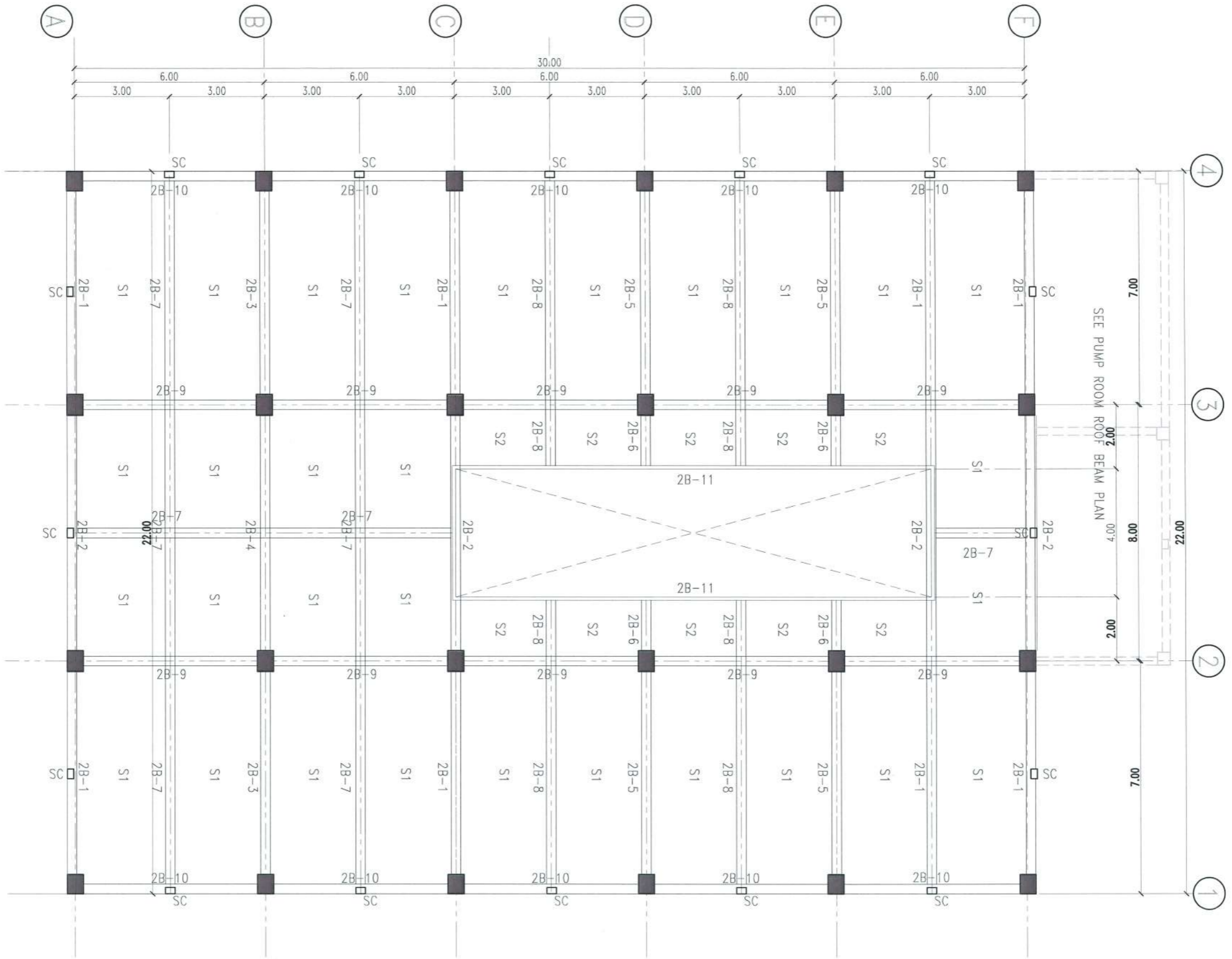
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

CIVIL ENGINEER: *[Signature]*

PRC NO: 0042692 VALIDITY: 10-03-26  
PTR NO: 4497690 DATE ISSUED: 01-08-23  
ISSUED AT: TARLAC CITY TIN:

OWNER: DR. ARNOLD E. VELASCO

SHEET CONTENTS: AS SHOWN  
DATE: SEPTEMBER, 2023  
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**SECOND FLOOR BEAM PLAN**  
SCALE 1:130 MTS.



**TARLAC STATE UNIVERSITY**  
Facilities Development and Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

CIVIL ENGINEER:  
*[Signature]*

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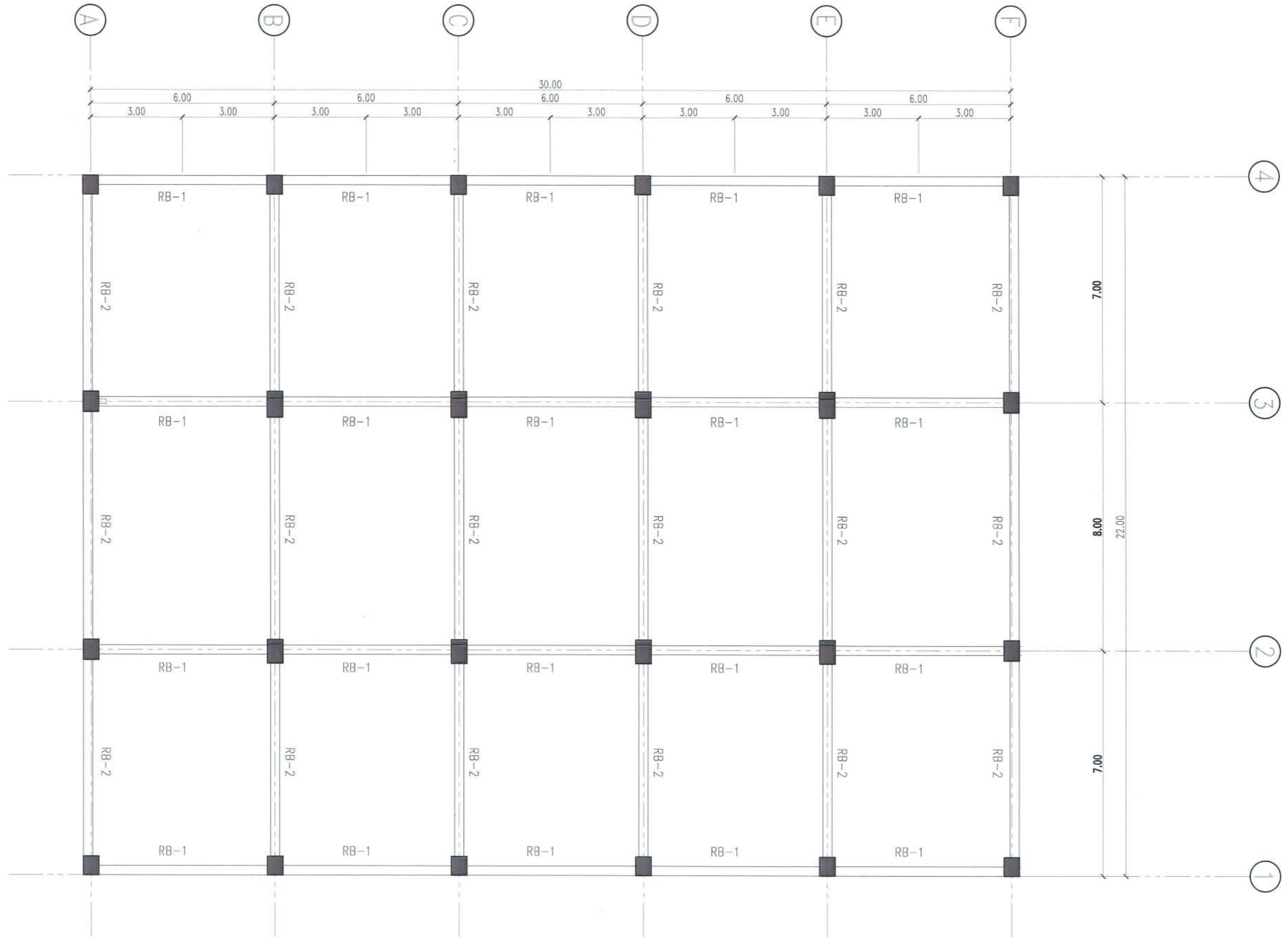
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DATE:	SEPTEMBER, 2023

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# ROOF BEAM PLAN

SCALE 1:130 MTS.



**TARLAC STATE UNIVERSITY**  
Facilities Development and  
Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:  
**CONSTRUCTION OF TSU WAREHOUSE**

PROJECT LOCATION:  
**LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY**

CIVIL ENGINEER:  
*[Signature]*

PRC NO: **0042692**      VALIDITY: **10-03-26**  
PTR NO: **4497690**      DATE ISSUED: **01-08-23**  
ISSUED AT: **T.C.**      TIN:

OWNER:  
*[Signature]* DR. ARNOLD E. VELASCO

SHEET CONTENTS:  
**AS SHOWN**

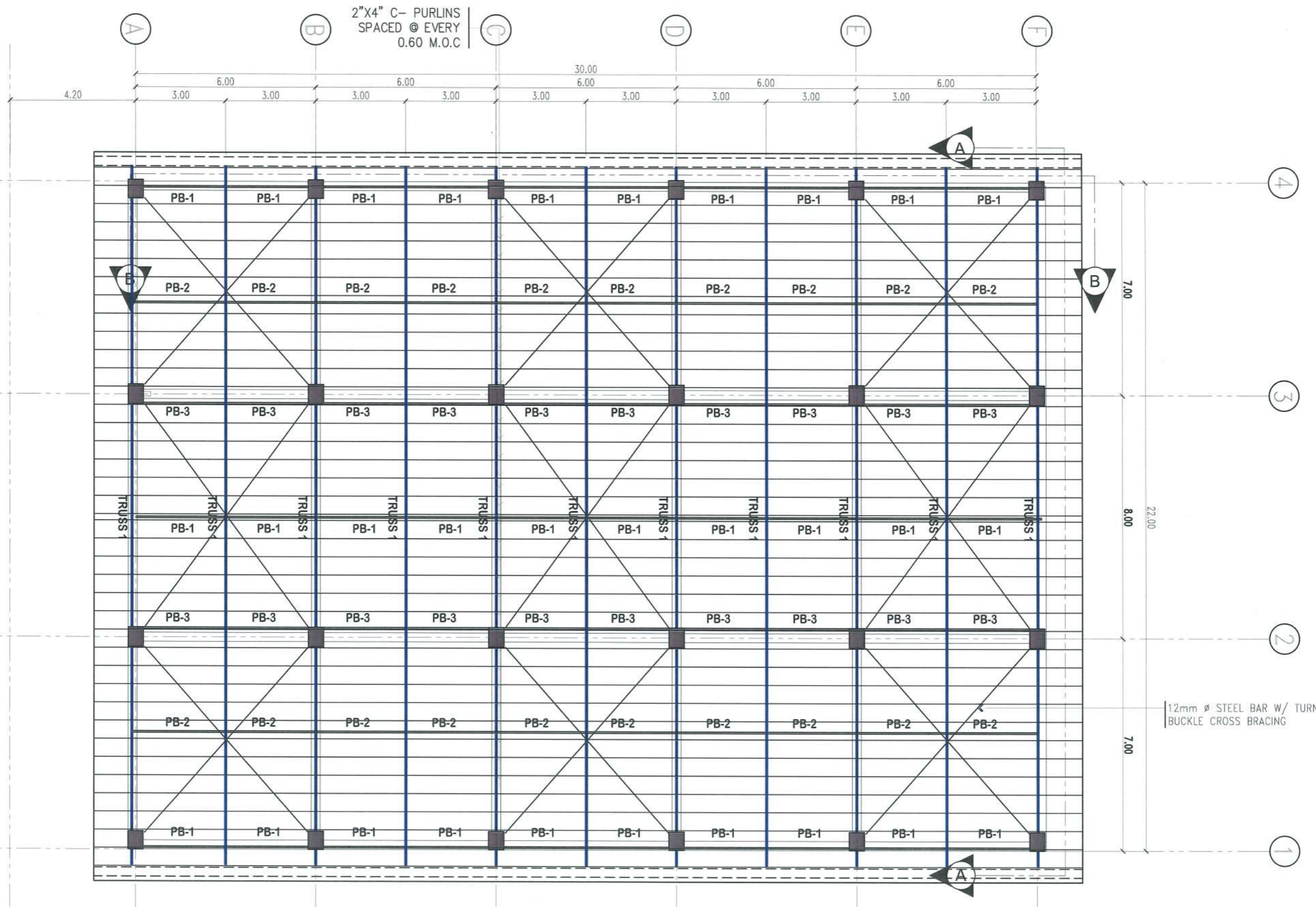
DATE: SEPTEMBER, 2023

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**S-04**

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**43/91**

# ROOF FRAMING PLAN

SCALE 1:140 MTS.



12mm Ø STEEL BAR W/ TURN BUCKLE CROSS BRACING



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

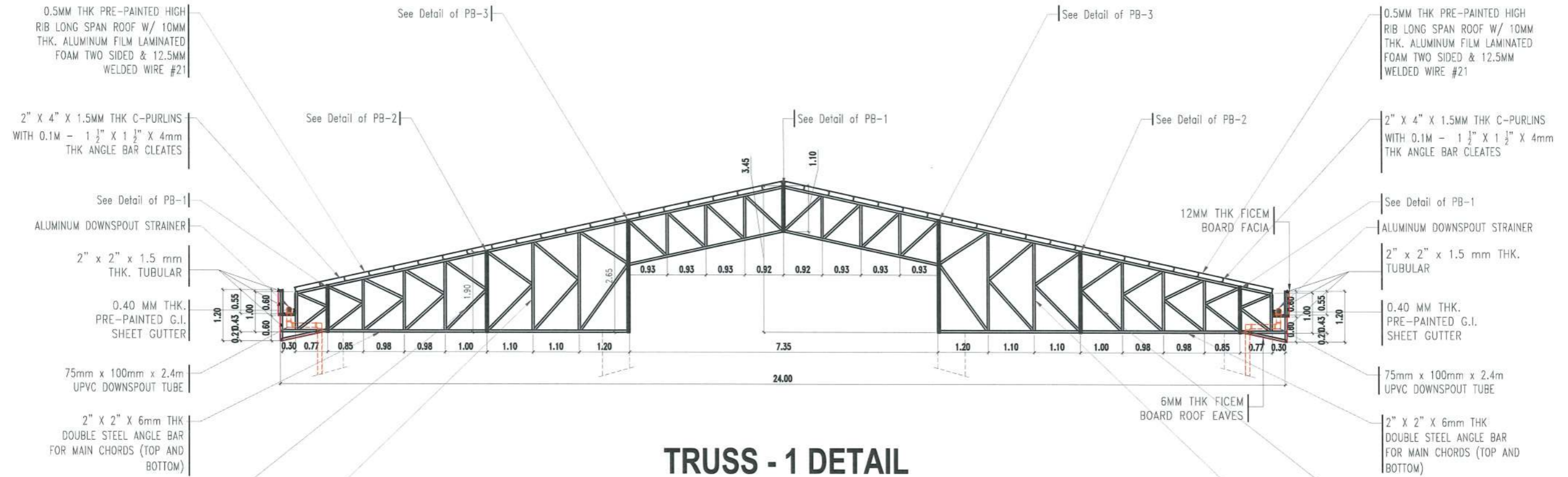
CIVIL ENGINEER: *[Signature]*

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 ISSUED AT: T.C.

VALIDITY: 10-03-24  
 DATE ISSUED: 01-08-23  
 TIN:

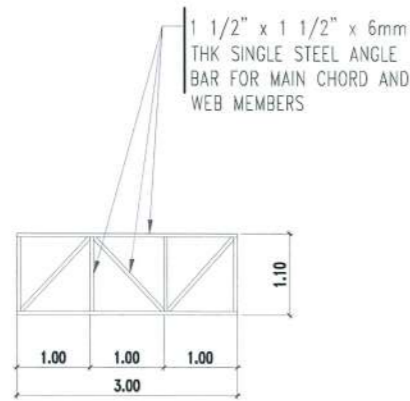
OWNER: DR. ARNOLD E. VELASCO *[Signature]*

SHEET CONTENTS: AS SHOWN  
 SHEET NO: S-05  
 PAGE NO: 44/91  
 DATE: SEPTEMBER, 2023



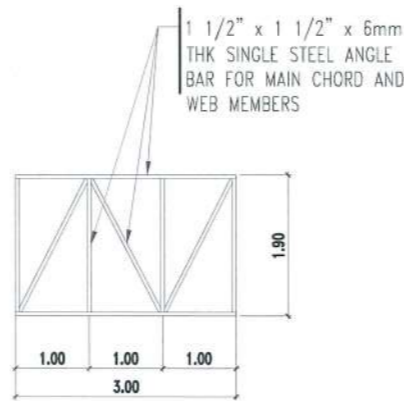
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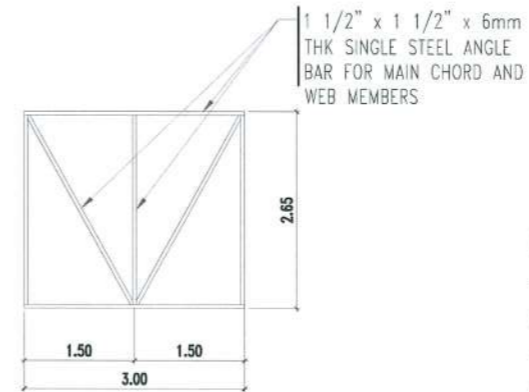
## PORTAL BEAM 1

SCALE 1:100 M



## PORTAL BEAM 2

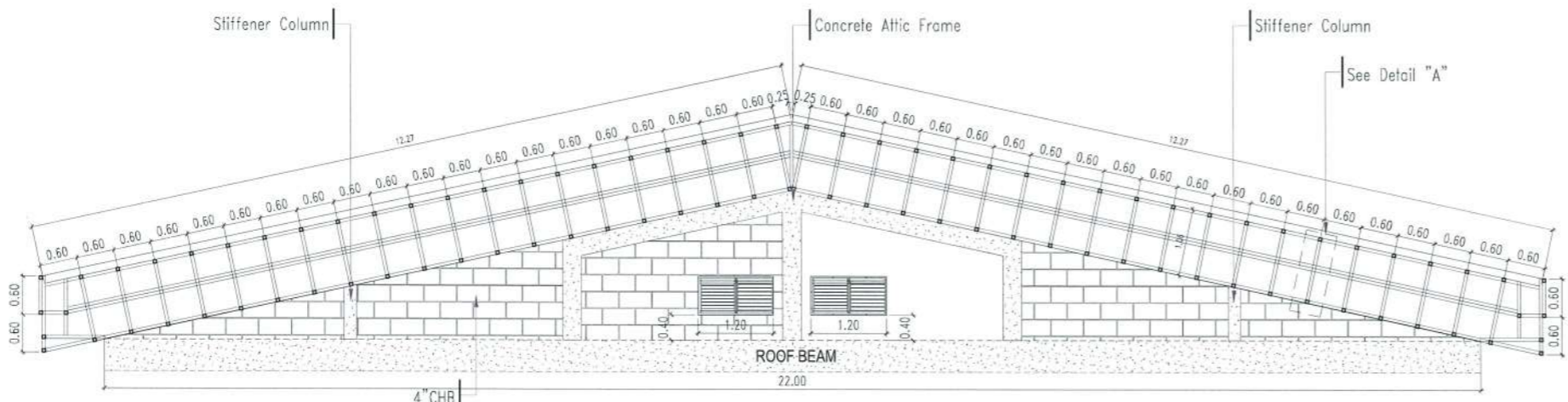
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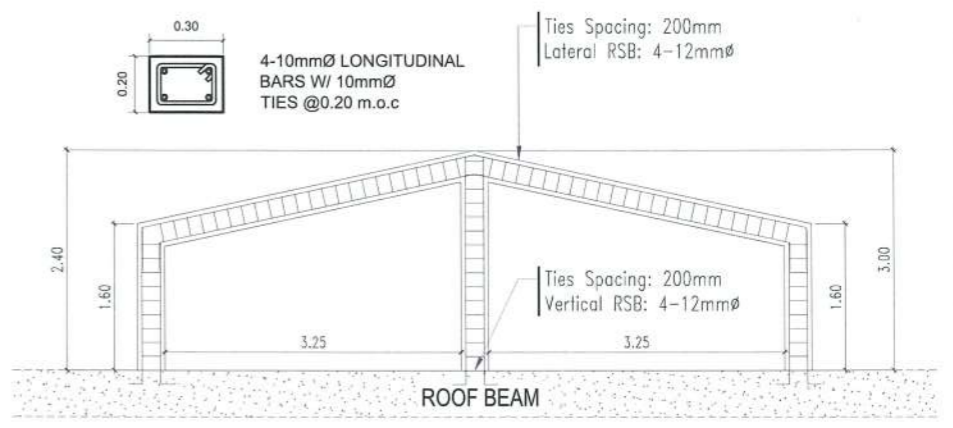
## PORTAL BEAM 3

SCALE 1:100 M

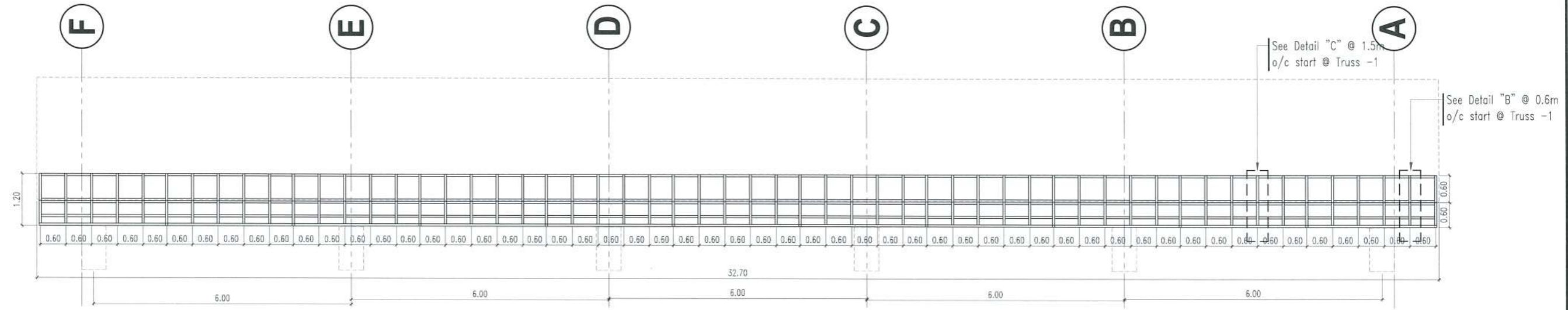
NOTE:  
 - ALL 6MM FIBER CEMENT BOARD ROOF EAVES SPACED @ EVERY 2.4M  
 - PROVIDE 10MM GROOVE IN BETWEEN FIBER CEMENT BOARD ROOF EAVES CONNECTION



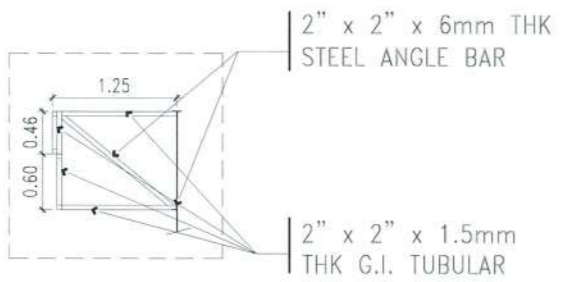
**SECTION A**  
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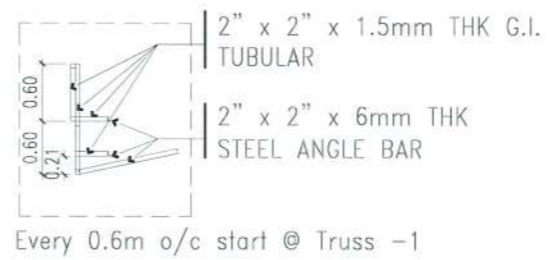
**ATTIC FRAME DETAILS**  
SCALE 1:80 M



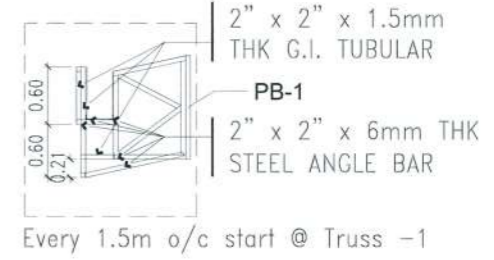
**SECTION B**  
SCALE 1:100 M



**TYPICAL DETAIL "A"**  
SCALE 1:80 M



**TYPICAL DETAIL "B"**  
SCALE 1:80 M



**TYPICAL DETAIL "C"**  
SCALE 1:80 M



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

CIVIL ENGINEER: *[Signature]*

PRC NO: 0042692 VALIDITY: 10-03-24  
PTR NO: 4497690 DATE ISSUED: 01-08-23  
ISSUED AT: T.C. TIN:

OWNER: *[Signature]* DR. ARNOLD E. VELASCO

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# SCHEDULE OF SECOND FLOOR BEAMS

MARK	CONT'. BARS		EXT SUPPORT/FREE END		MIDSPAN		INT SUPPORT		STIRRUPS			REMARKS
	SECTION	REINF	SECTION	REINF	SECTION	REINF	SECTION	REINF	DIA	NO.	SPACING	
2B-1	3-25mm top		5-25mm		3-25mm		5-25mm	10mm	2	50		
	3-25mm bot.		3-25mm		3-25mm		3-25mm		REST	175		
										SPLICE	100	
			300x600		300x600		300x600					
2B-2	3-25mm top				3-25mm		6-25mm	10mm	2	50		
	3-25mm bot.				5-25mm		3-25mm		REST	175		
										SPLICE	100	
					300x600		300x600					
2B-3	4-25mm top		4-25mm		4-25mm		8-25mm	12mm	2	50		
	4-25mm bot.		4-25mm		4-25mm		4-25mm		REST	100		
										SPLICE	100	
			350x700		350x700		350x700					
2B-4	4-25mm top				4-25mm		8-25mm	12mm	2	50		
	4-25mm bot.				6-25mm		4-25mm		REST	175		
										SPLICE	100	
					350x700		350x700					
2B-5	3-25mm top		5-25mm		3-25mm		6-25mm	10mm	2	50		
	3-25mm bot.		3-25mm		3-25mm		3-25mm		REST	150		
										SPLICE	100	
			300x600		300x600		300x600					
2B-6	3-25mm top		3-25mm		6-25mm		6-25mm	10mm	2	50		
	3-25mm bot.		3-25mm		3-25mm		3-25mm		REST	150		
										SPLICE	100	
			300x600		300x600		300x600					
2B-7	3-25mm top		3-25mm		3-25mm		6-25mm	10mm	2	50		
	3-25mm bot.		3-25mm		5-25mm		3-25mm		REST	200		
										SPLICE	100	
			300x550		300x550		300x550					
2B-8	3-25mm top		3-25mm		3-25mm		5-25mm	10mm	2	50		
	3-25mm bot.		3-25mm		4-25mm		3-25mm		REST	200		
										SPLICE	100	
			300x550		300x550		300x550					
2B-9	4-25mm top		7-25mm		4-25mm		7-25mm	12mm	2	50		
	4-25mm bot.		4-25mm		6-25mm		4-25mm		REST	125		
										SPLICE	100	
			350x600		350x600		350x600					
2B-10	3-25mm top		6-25mm		3-25mm		6-25mm	12mm	2	50		
	3-25mm bot.		3-25mm		4-25mm		3-25mm		REST	125		
										SPLICE	100	
			300x550		300x550		300x550					
2B-11	2-25mm top		2-25mm		2-25mm		2-25mm	10mm	2	50		
	2-25mm bot.		2-25mm		2-25mm		2-25mm		REST	200		
										SPLICE	100	
			200x600		200x600		200x600					

# SCHEDULE OF ROOF BEAMS

MARK	CONT'. BARS		EXT SUPPORT/FREE END		MIDSPAN		INT SUPPORT		STIRRUPS			REMARKS
	SECTION	REINF	SECTION	REINF	SECTION	REINF	SECTION	REINF	DIA	NO.	SPACING	
RB-1	3-16mm top		5-16mm		3-16mm		5-16mm	10mm	2	50		
	3-16mm bot.		3-16mm		5-16mm		3-16mm		REST	200		
										SPLICE	100	
			250x450		250x450		250x450					
RB-2	3-16mm top		5-16mm		3-16mm		5-16mm	10mm	2	50		
	3-16mm bot.		3-16mm		5-16mm		3-16mm		REST	200		
										SPLICE	100	
			250x550		250x550		250x550					

# SCHEDULE OF GRADE BEAMS

MARK	CONT'. BARS		EXT SUPPORT/FREE END		MIDSPAN		INT SUPPORT		STIRRUPS			REMARKS
	SECTION	REINF	SECTION	REINF	SECTION	REINF	SECTION	REINF	DIA	NO.	SPACING	
GB-1	3-25mm top		4-25mm		3-25mm		4-25mm	10mm	2	50		
	3-25mm bot.		4-25mm		3-25mm		4-25mm		REST	200		
										SPLICE	100	
			300x500		300x500		300x500					
GB-2	2-25mm top		4-25mm		3-25mm		4-25mm	10mm	2	50		
	2-25mm bot.		4-25mm		3-25mm		4-25mm		REST	200		
										SPLICE	100	
			300x550		300x550		300x550					

LEVEL	MARK	(COLUMN 01)	MARK	(COLUMN 02)	MARK	(COLUMN 03)
	C1	VERT. BARS 12- 25 mm dia. 500X500	C2	VERT. BARS 16- 25 mm dia. 500X650	C3	VERT. BARS 8- 16 mm dia. 400X400
FOUNDATION TO ROOF BEAM						
	TIES: 2@50mm, 8@75mm REST @150 mm SPLICING 100mm USE: 10mmØ DSB		TIES: 2@50mm, 10@75mm REST @150 mm SPLICING 100mm USE: 12mmØ DSB		TIES: 2@50mm, 10@75mm REST @150 mm SPLICING 100mm USE: 10mmØ DSB	



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CIVIL ENGINEER:

PRC NO: 0042692 VALIDITY: 10-03-24  
PTR NO: 4497690 DATE ISSUED: 1-08-23  
ISSUED AT: T.C. TIN:

OWNER:   
DR. ARNOLD E. VELASCO

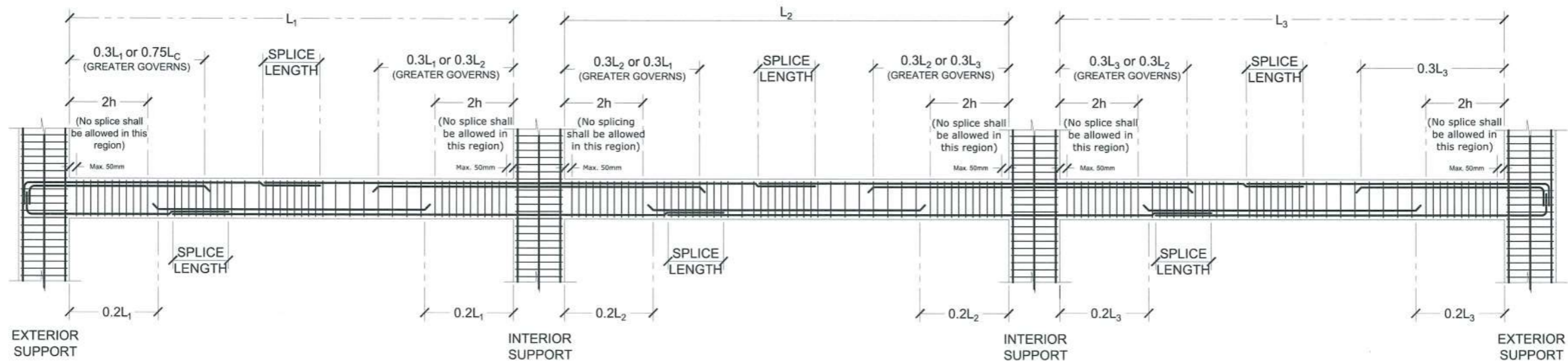
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# SCHEDULE OF SLAB

MARK	THICKNESS	REINFORCEMENT	EXTERIOR SUPPORT		MIDPANEL		INTERIOR SUPPORT	
			TOP BAR	BOTTOM BAR	TOP BAR	BOTTOM BAR	TOP BAR	BOTTOM BAR
SOG	150mm	ALONG LONG SIDE	N/A	12mm @ 400mm	N/A	12mm @ 400mm	N/A	12mm @ 400mm
		ALONG SHORT SIDE	N/A	12mm @ 400mm	N/A	12mm @ 400mm	N/A	12mm @ 400mm
S1	120mm	ALONG LONG SIDE	12mm @ 175mm	12mm @ 225mm	N/A	12mm @ 225mm	12mm @ 175mm	12mm @ 225mm
		ALONG SHORT SIDE	12mm @ 175mm	12mm @ 225mm	N/A	12mm @ 225mm	12mm @ 175mm	12mm @ 225mm
S2	120mm	ALONG LONG SIDE	12mm @ 175mm	12mm @ 225mm	12mm @ 175mm	12mm @ 225mm	12mm @ 175mm	12mm @ 225mm
		ALONG SHORT SIDE	12mm @ 175mm	12mm @ 225mm	12mm @ 175mm	12mm @ 225mm	12mm @ 175mm	12mm @ 225mm

# SCHEDULE FOOTING

MARK	TYPE	DEPTH	DIMENSION			BOTTOM BAR		TOP BAR	
			ALONG L	ALONG W	THICKNESS	ALONG L	ALONG W	ALONG L	ALONG W
F1	ISOLATED	VARIES	3.20m	3.20m	500mm	12 - 25mmØ	12 - 25mmØ	N/A	N/A
F2	ISOLATED	VARIES	2.70m	2.70m	400mm	10 - 25mmØ	10 - 25mmØ	N/A	N/A
F3	ISOLATED	VARIES	1.50m	1.50m	300mm	10 - 16mmØ	10 - 16mmØ	N/A	N/A



## TYPICAL DETAIL OF BEAMS

NTS



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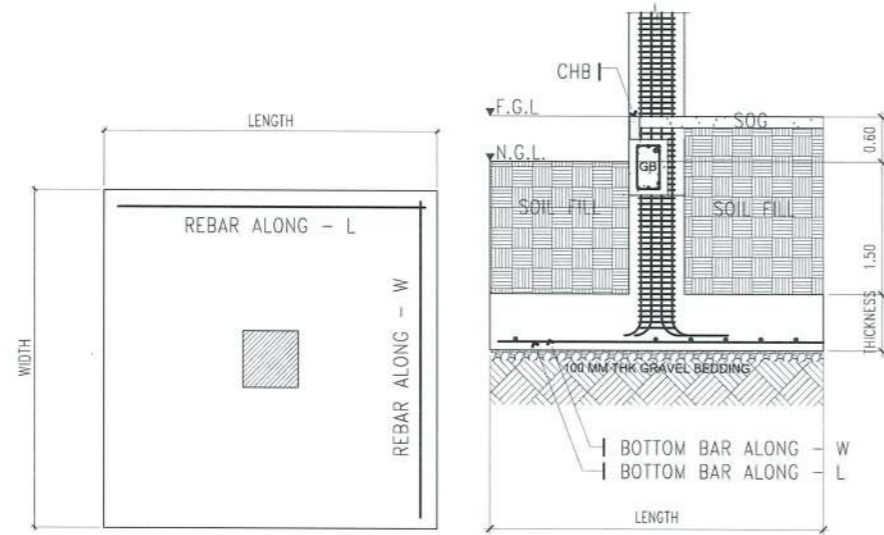
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PRC NO:	0042692	VALIDITY:	10-03-24
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OWNER:	
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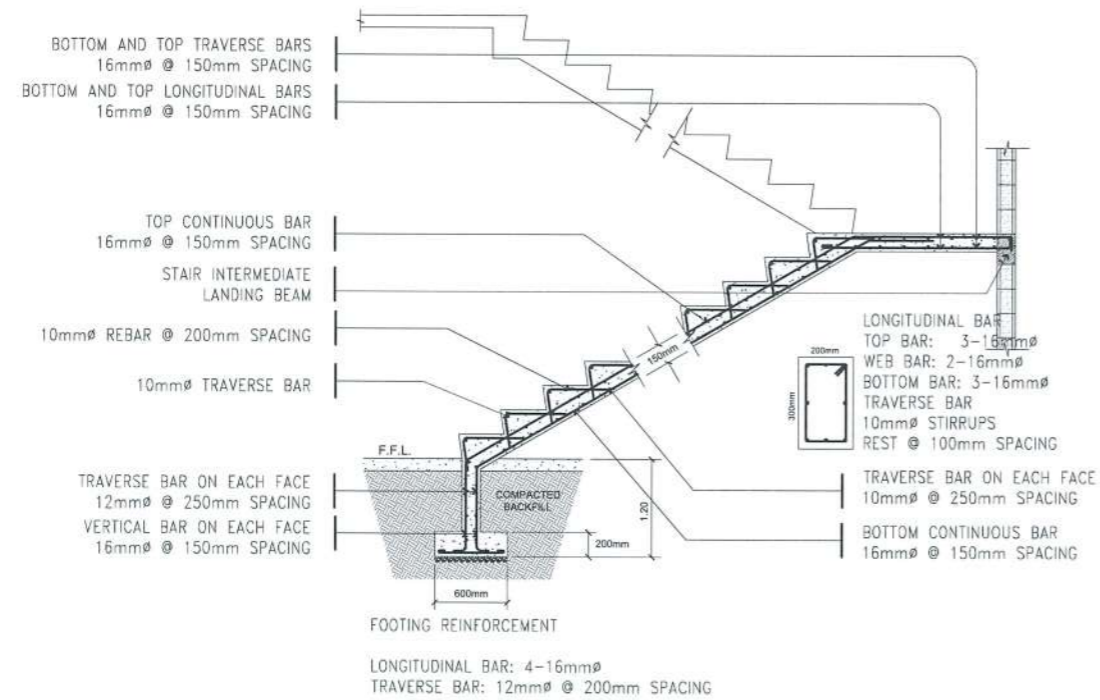
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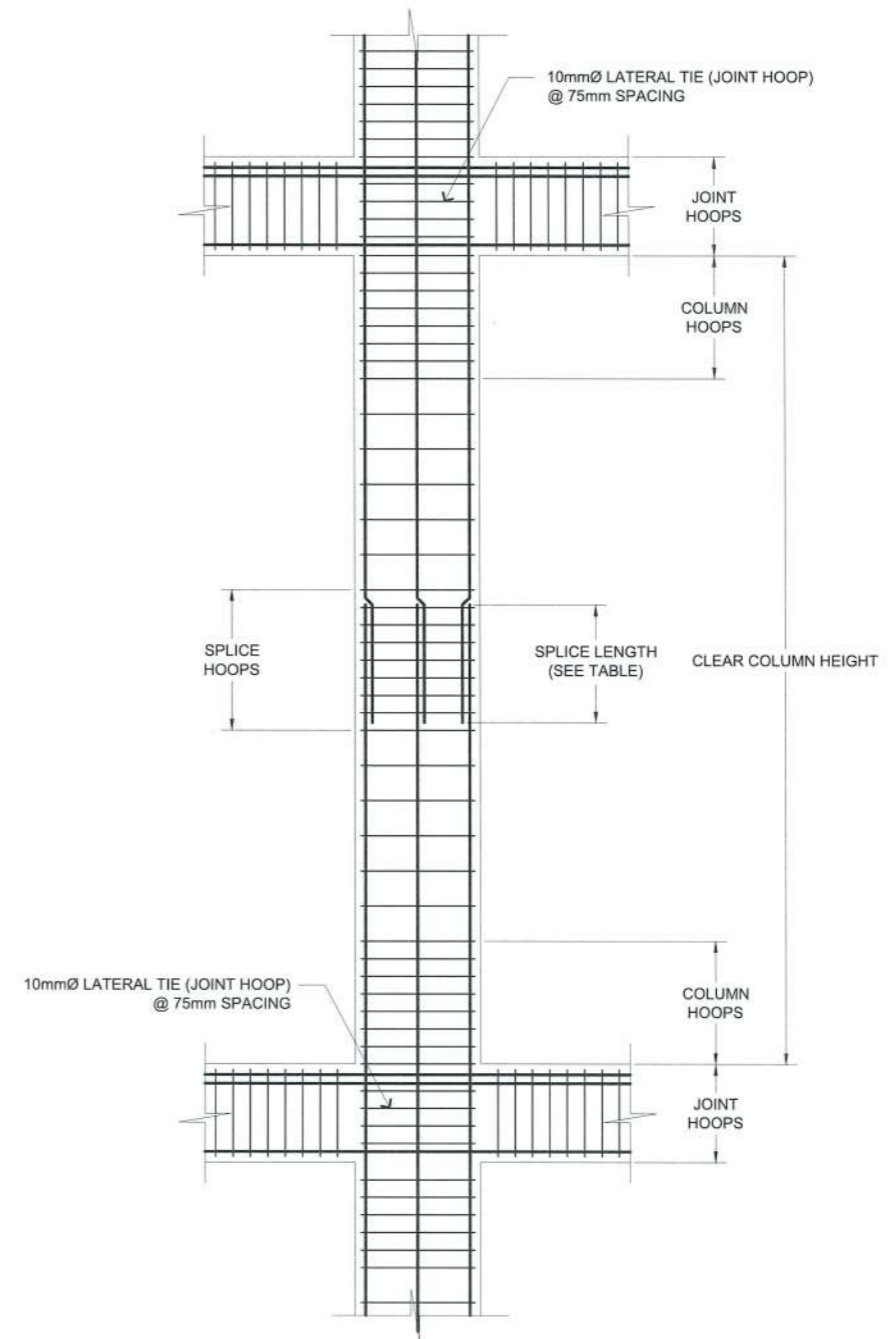
## TYPICAL DETAIL OF F1 & F2

SCALE : N.T.S



## TYPICAL DETAIL OF STAIR

SCALE : N.T.S



## TYPICAL DETAIL OF COLUMN

SCALE

N.T.S.



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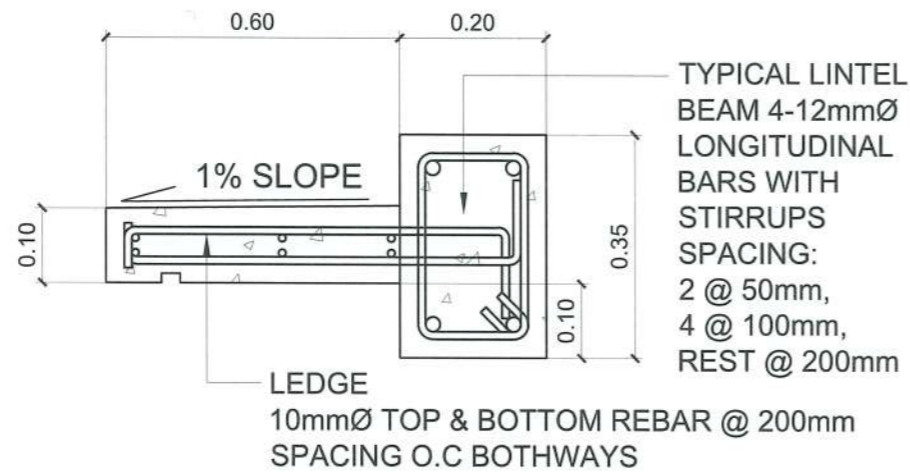
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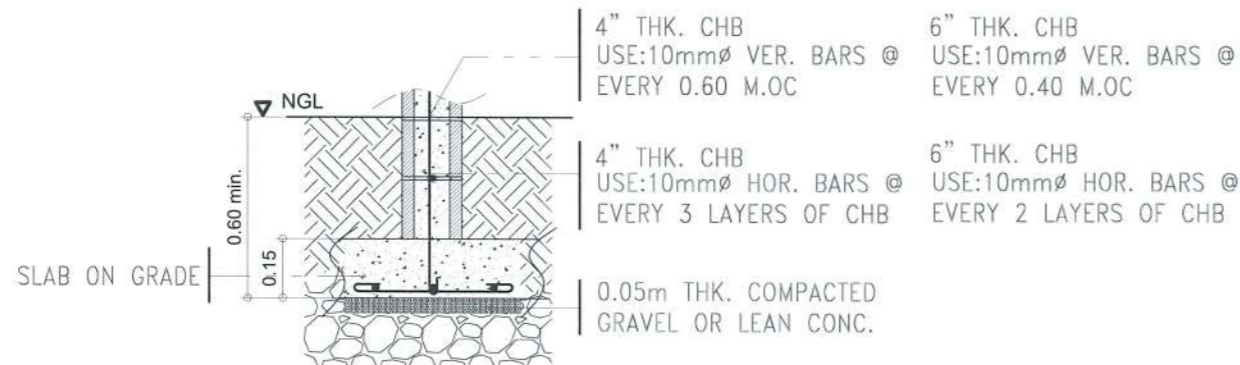
### LINTEL BEAM W/ LEDGE DETAIL

SCALE : 1:10M



### STIFFENER COLUMN CONNECTION DETAIL

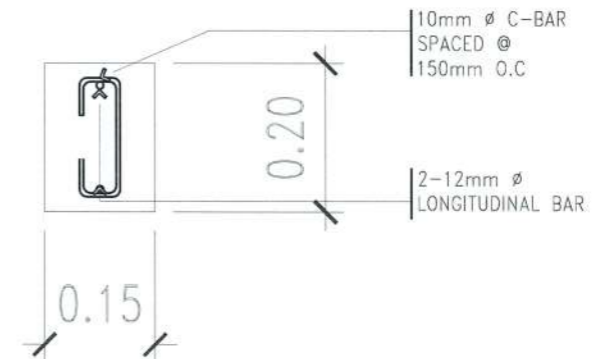
SCALE : 1:10M



### TYPICAL DETAIL OF WALL TO SLAB CONNECTION

SCALE 1:20MTS.

NOTE: PROVIDE LINTEL BEAM EVERY DOORS AND WINDOWS OPENING COLUMN TO COLUMN LINTEL BEAM CONNECTION



### TYPICAL LINTEL BEAM DETAILS

SCALE 1:10 MTS.

DEVELOPMENT LENGTH FOR STANDARD HOOKS IN TENSION			
BAR SIZE	fc' = 2,500 PSI	fc' = 3,000 PSI	fc' = 4,000 PSI
10mm	160	150	150
12mm	200	180	160
16mm	260	250	210
20mm	320	300	260
25mm	400	380	320
28mm	450	430	369
32mm	520	480	410
36mm	580	530	460

**NOTES:**

- TABULATED VALUES ARE BASED ON UNCOATED GRADE 40 REINFORCING BARS AND NORMAL-WEIGHT CONCRETE.
- DEVELOPMENT LENGTHS FOR STANDARD HOOKS IN TENSION ARE BASED ON ACI 318-14, SECTIONS 25.4.3. LENGTHS ARE IN MILLIMETERS.

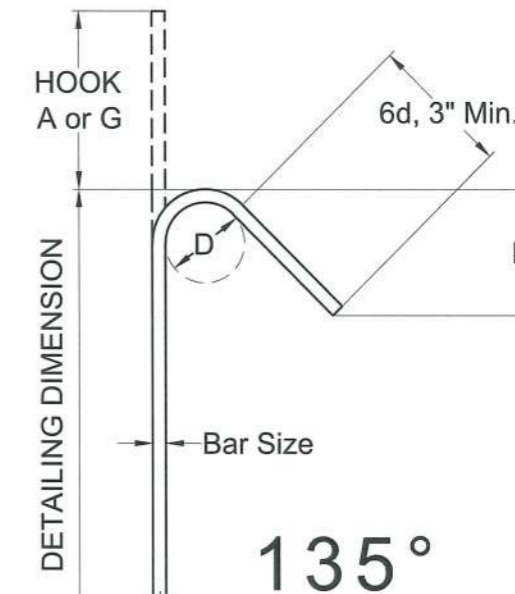
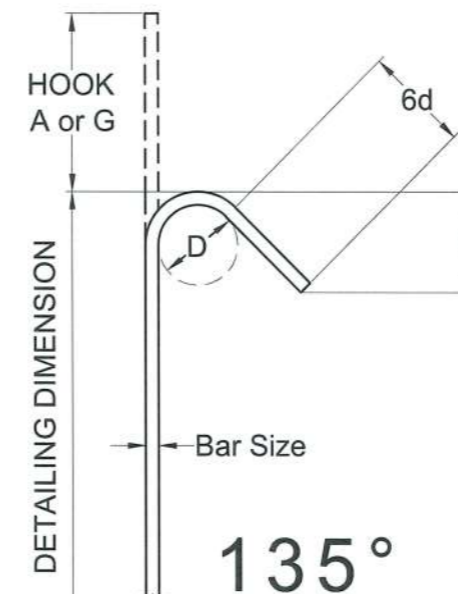
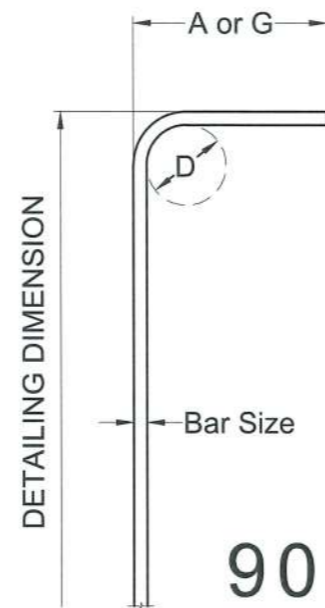
STANDARD STIRRUP/TIE HOOKS ALL GRADES: D = FINISHED BEND DIAMETER				
BAR SIZE	D (mm)	135° HOOK		90° HOOK
		A or G (mm)	H* (mm)	A or G (mm)
10mm	40	105	65	105
12mm	50	115	80	115
16mm	65	140	95	155
20mm	120	230	135	355
25mm	155	270	155	410

\*H DIMENSION IS APPROXIMATE

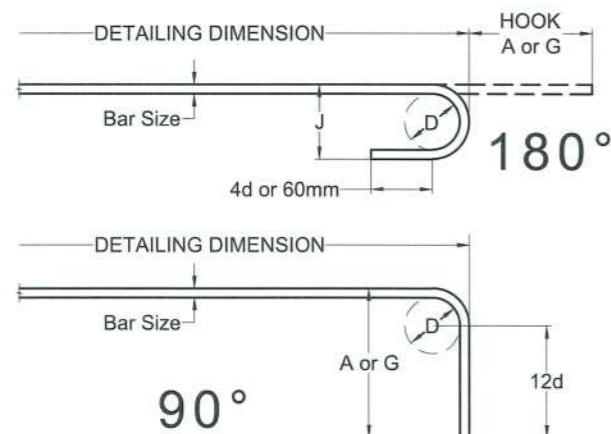
SEISMIC STIRRUP/TIE HOOKS ALL GRADES: D = FINISHED BEND DIAMETER				
BAR SIZE	D (mm)	135° SEISMIC HOOK		
		A or G (mm)	H* (mm)	
10mm	40	110	80	
12mm	50	115	80	
16mm	65	140	95	
20mm	120	230	135	
25mm	155	270	155	

\*H DIMENSION IS APPROXIMATE

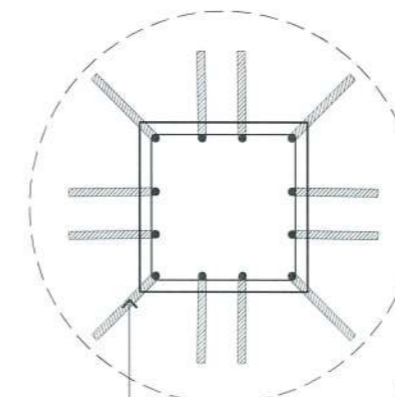
RECOMMENDED END HOOKS ALL GRADES: D = FINISHED BEND DIAMETER				
BAR SIZE	D* (mm)	180° HOOK		90° HOOK
		A or G (mm)	J (mm)	A or G (mm)
10mm	60	150	80	150
12mm	80	175	105	200
16mm	100	200	130	250
20mm	135	250	180	375
25mm	155	275	205	425
28mm	240	375	300	475
32mm	275	425	335	550
36mm	305	475	375	625



\*FINISHED BEND DIAMETERS INCLUDE "SPRING BACK" EFFECT WHEN BARS STRAIGHTEN OUT SLIGHTLY AFTER BEING BENT AND ARE SLIGHTLY LARGER THAN MINIMUM BEND DIAMETER IN ACI.



NOTE:  
LATERAL TIES NOT SHOWN



COLUMN LONGITUDINAL BAR W/ STANDARD 90° HOOK (SEE END HOOKS TABLE)

**TYPICAL COLUMN TO FOOTING CONNECTION PLAN**



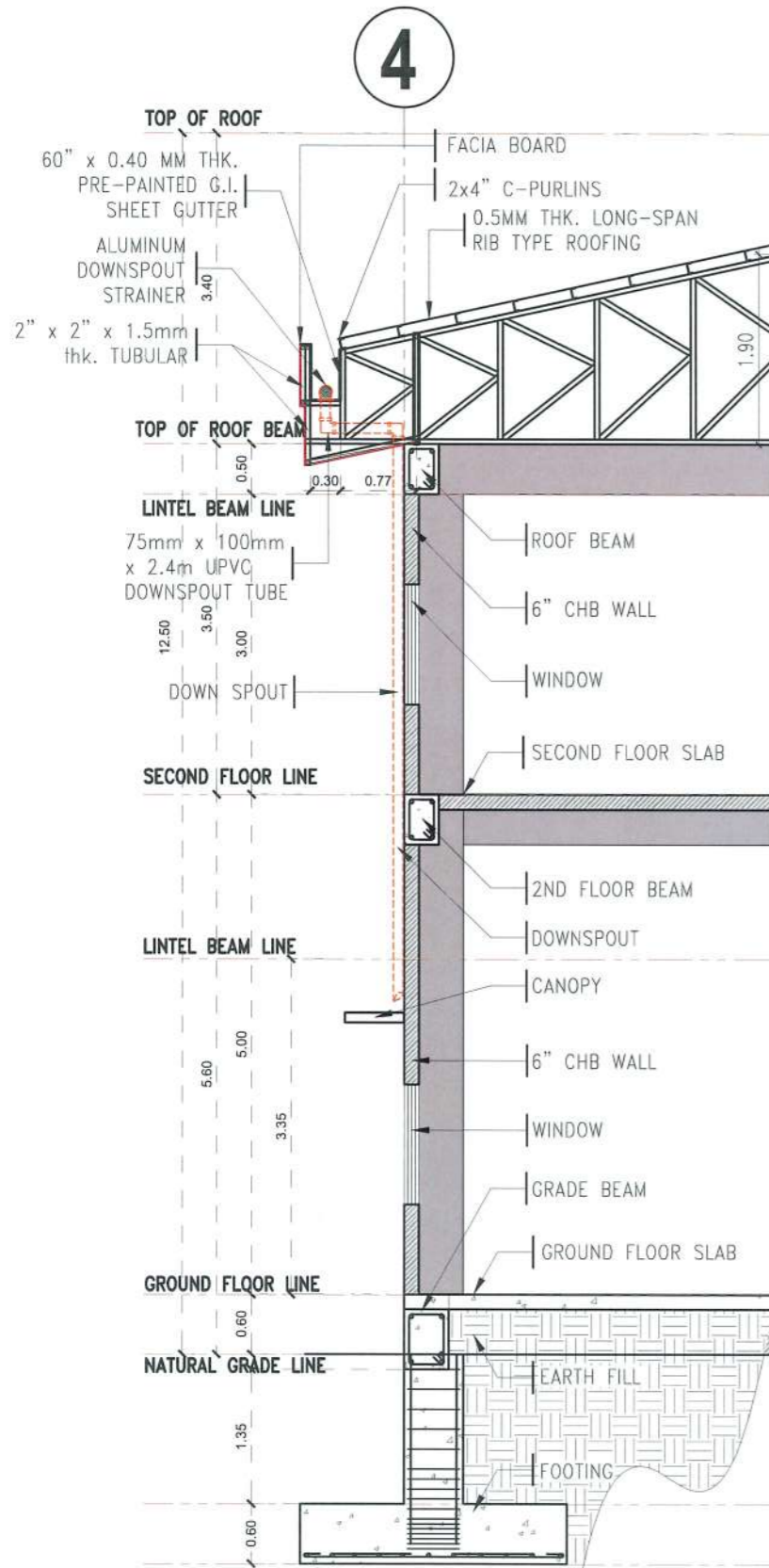
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

CIVIL ENGINEER: *[Signature]*

PRC NO: 0042693 VALIDITY: 10-03-26  
PTR NO: 4497690 DATE ISSUED: 01-08-23  
ISSUED AT: T.C. TIN:

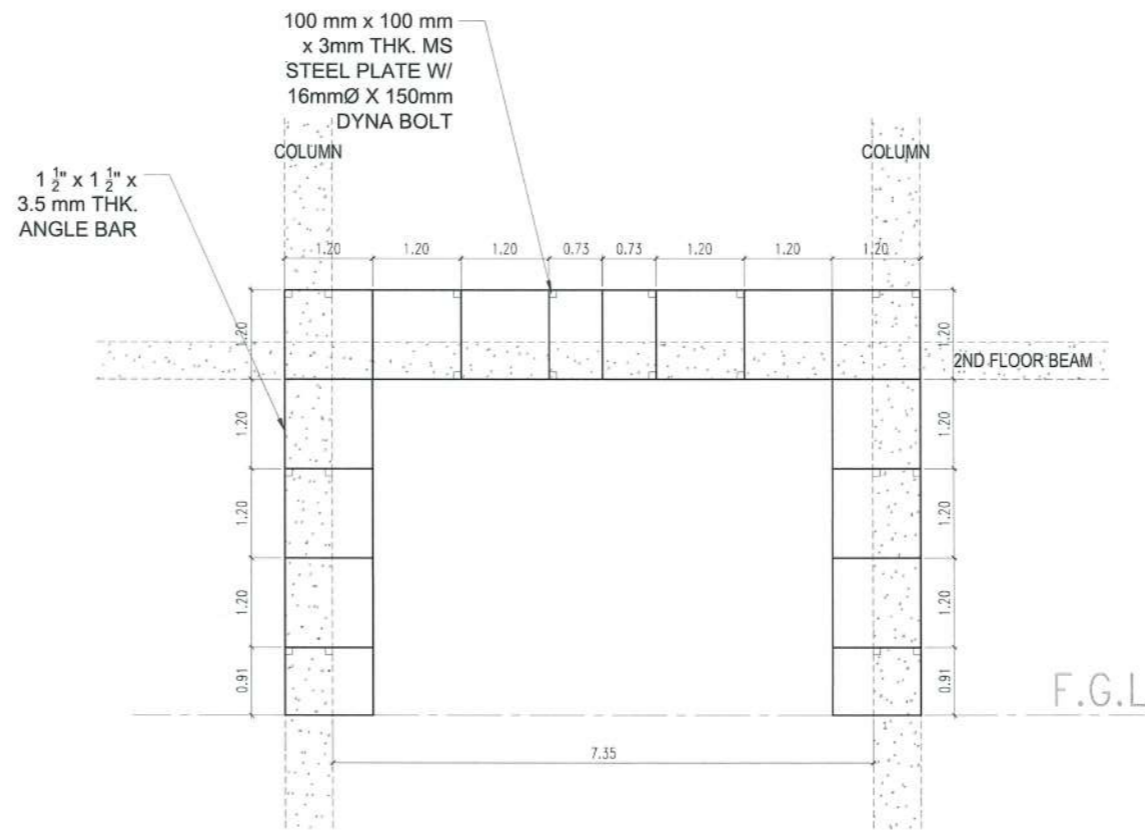
OWNER: DR. ARNOLD E. VELASCO

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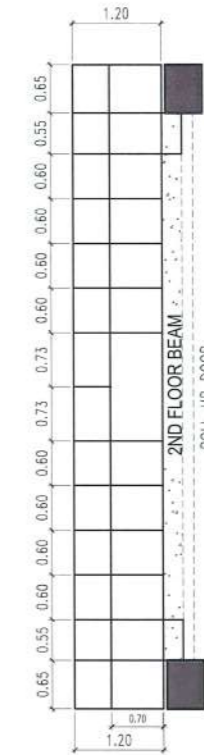
### BAY SECTION

SCALE 1:80 M



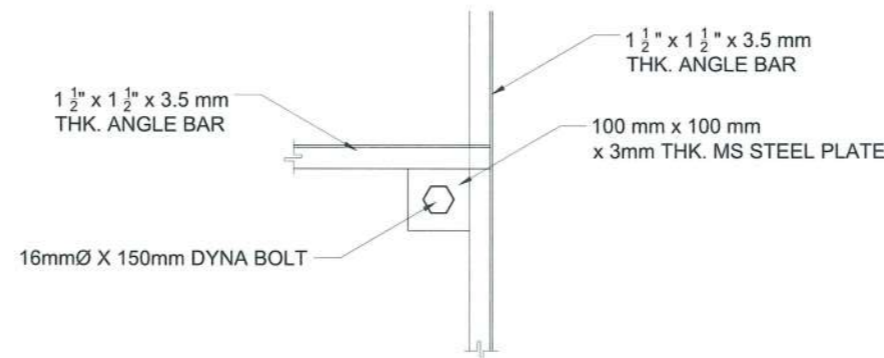
### ACP FRAMING LAYOUT

SCALE 1:100 MTS.



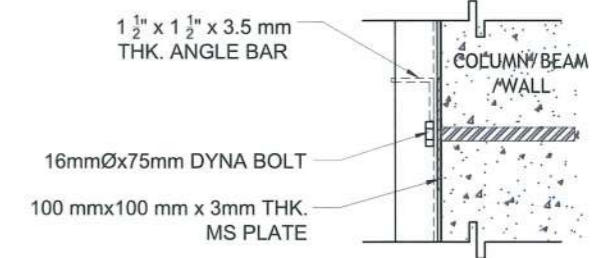
### ACP FRAMING LAYOUT

SCALE 1:100 MTS.



### TYPICAL ACP FRAMING CONNECTION DETAIL

SCALE 1:100 MTS.



### BOLT CONNECTION DETAIL

SCALE 1:100 MTS.



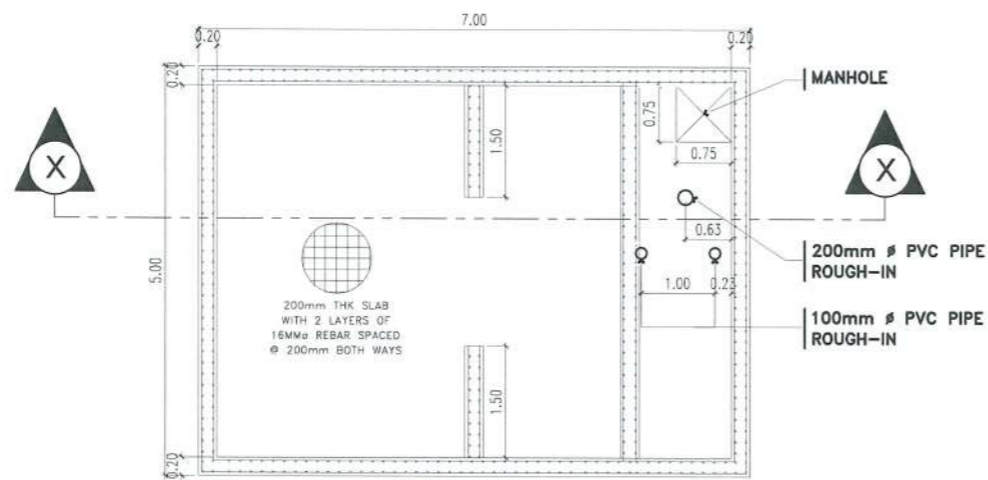
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Facilities Development and Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE	CIVIL ENGINEER:	<i>[Signature]</i>
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY		

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PTR NO:	4497690	DATE ISSUED:	01-08-23
ISSUED AT:	T.C.	TIN:	

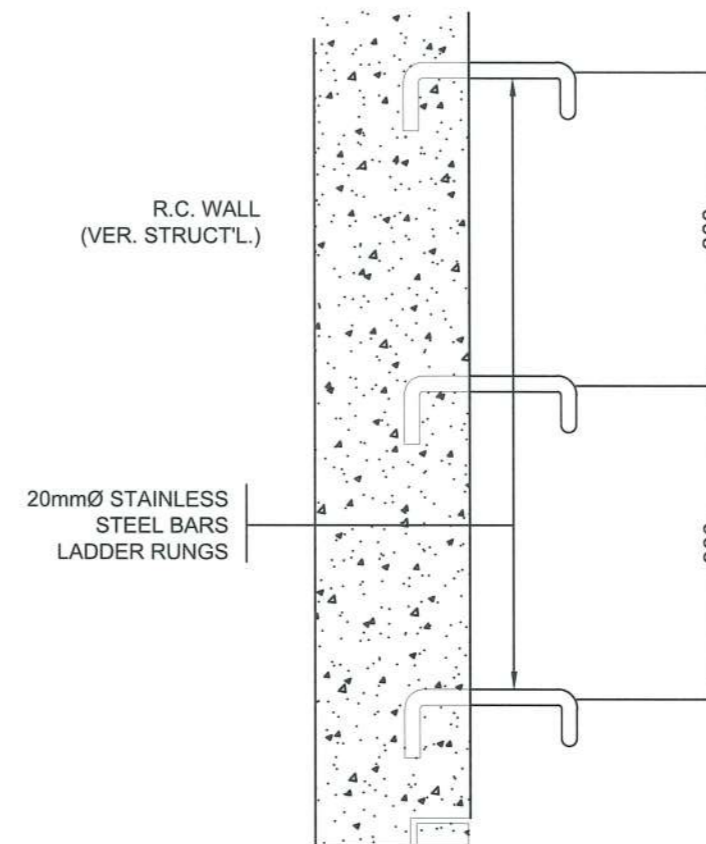
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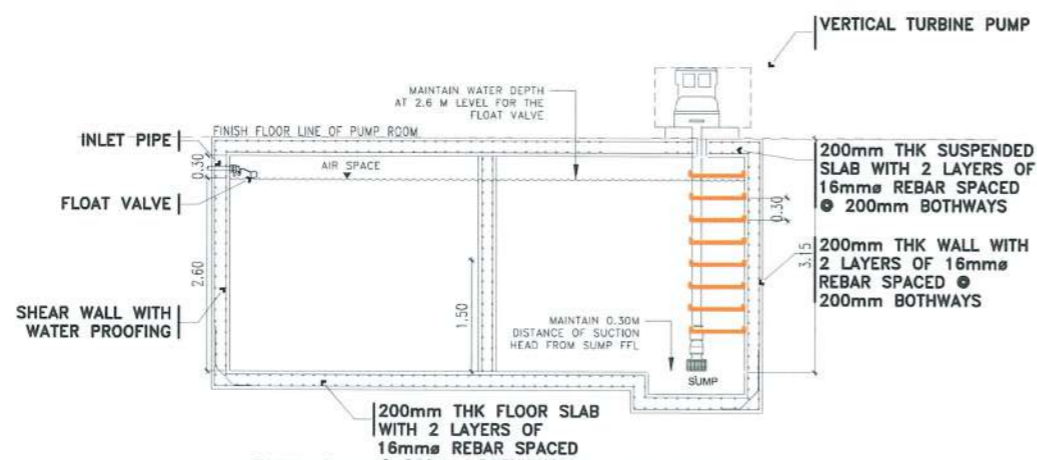


### CISTERN DETAIL PLAN

SCALE 1:100 MTS.

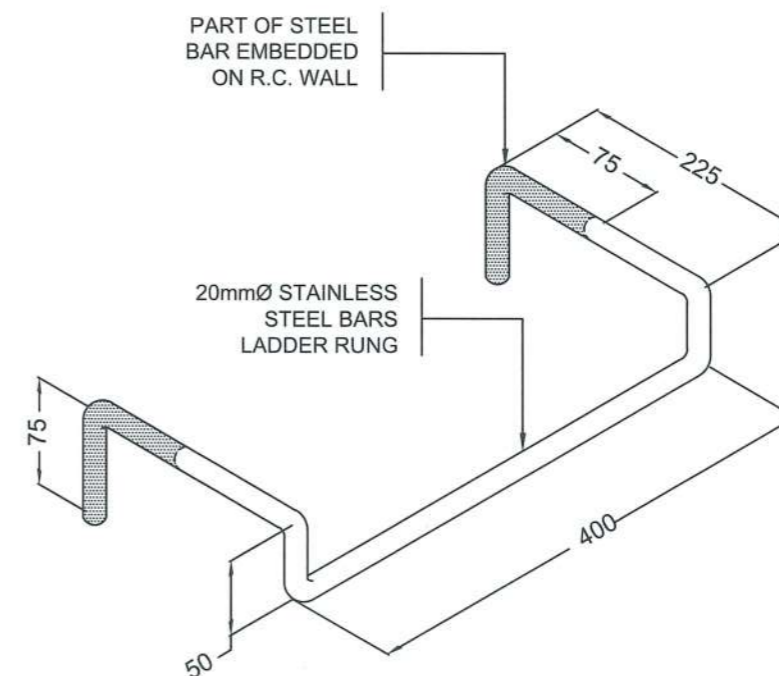


### SECTION



### SECTION THRU X-X

SCALE 1:100 MTS.



### ISOMETRIC LADDER RUNG DETAIL

SCALE 1:10 MTS.



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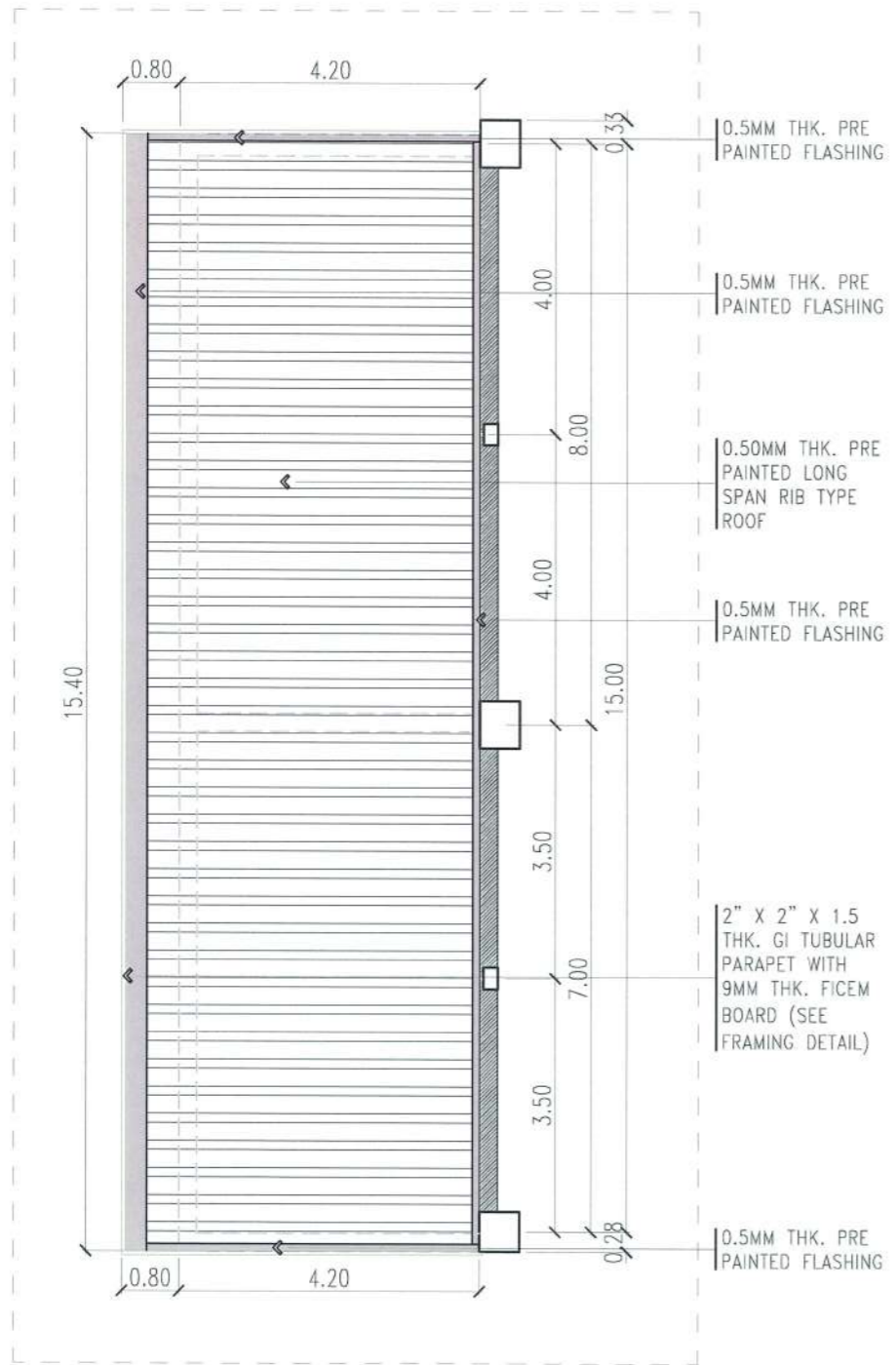
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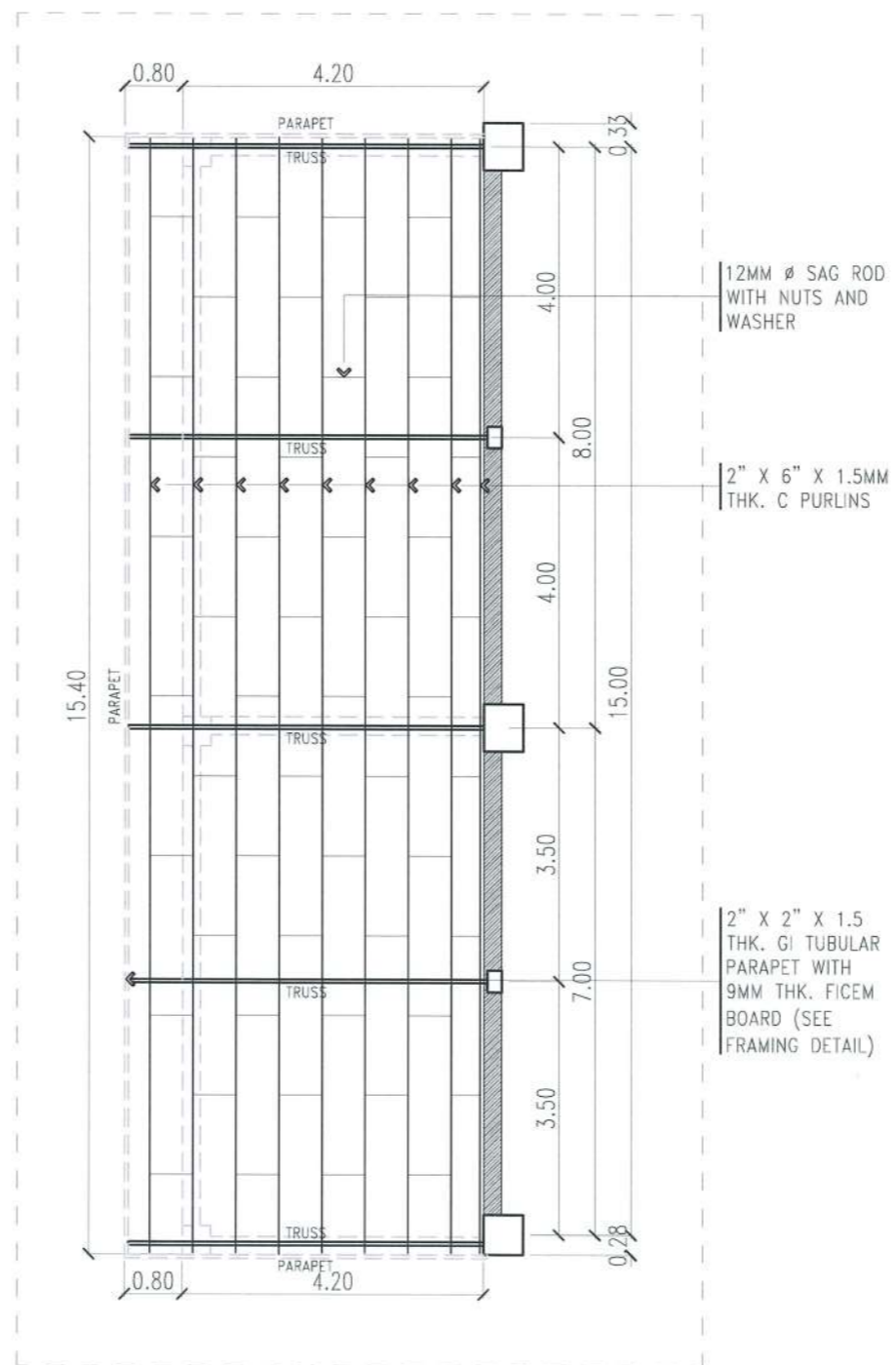
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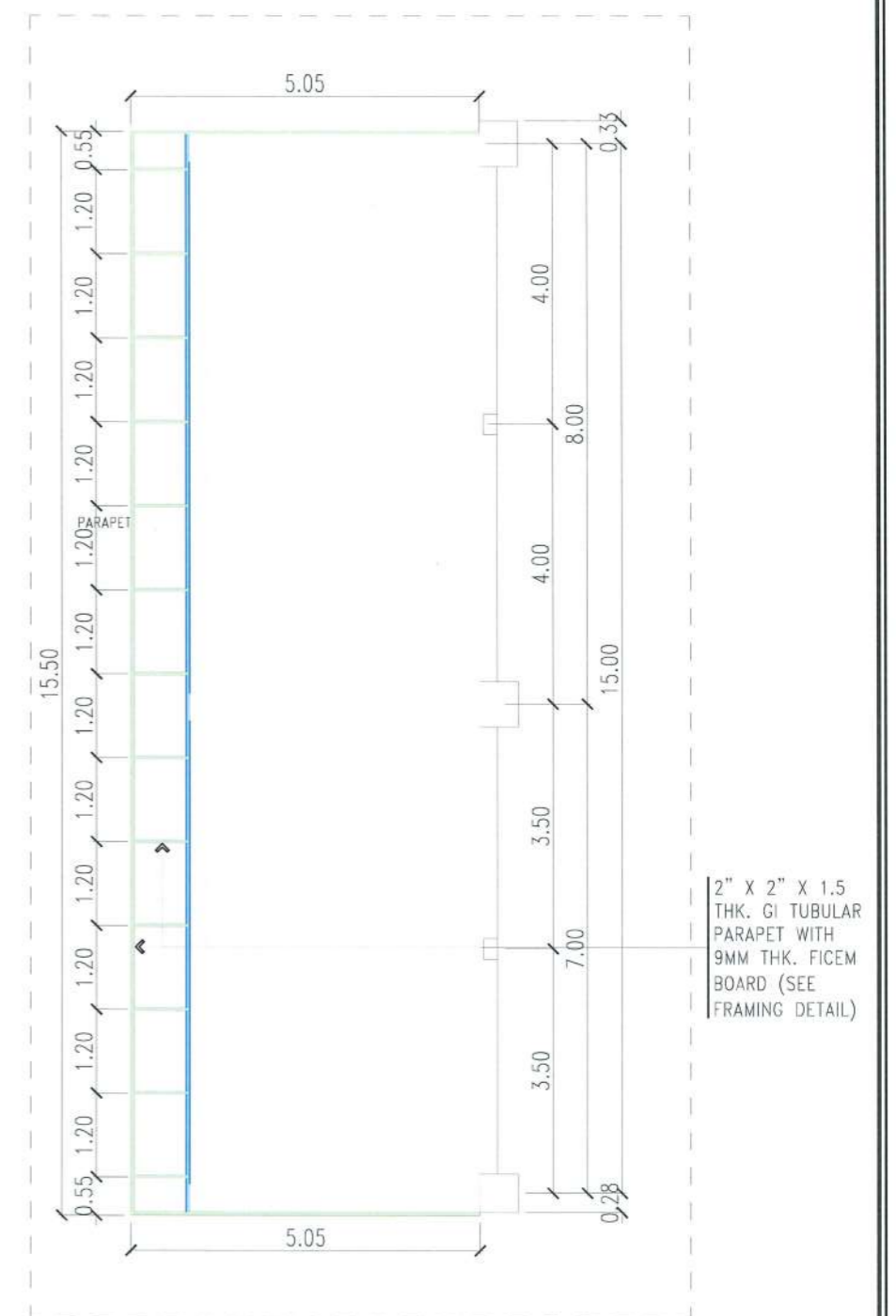
**PUMP ROOM ROOF PLAN**

SCALE 1:100 M



**ROOF FRAMING PLAN**

SCALE 1:100 M



**PARAPET FRAMING LAYOUT PLAN**

SCALE 1:100 M



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*Arnold E. Velasco*

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ISSUED AT:	T.C.	TIN:	

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DR. ARNOLD E. VELASCO

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		PAGE NO:	55/91
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






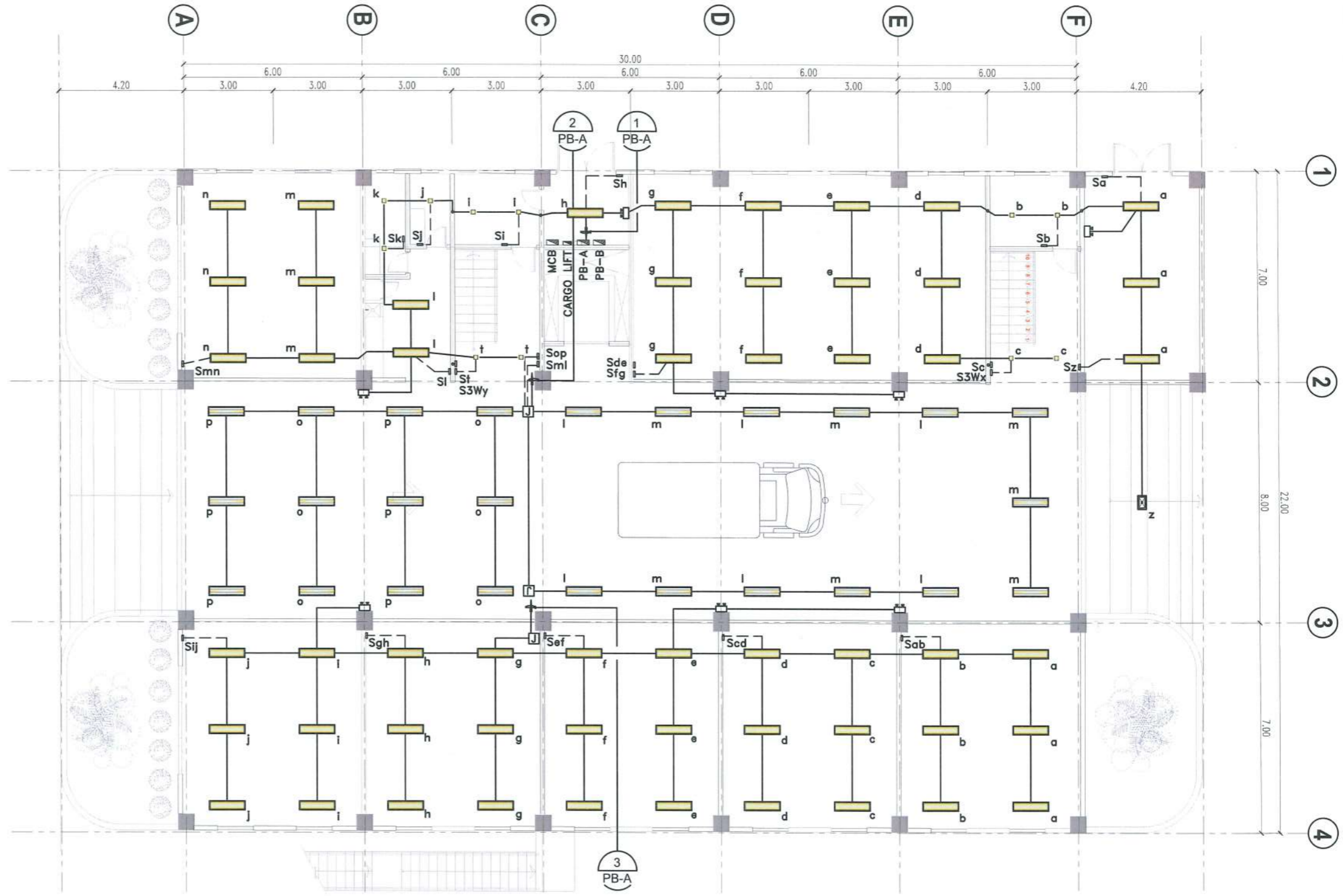


**NOTE:**

1. USE SURFACE MOUNTED LIGHTING FIXTURE TYPE ON THE CEILING SLAB AND RECESSED MOUNTED LIGHTING FIXTURE TYPE ON FIBER CEMENT CEILING.
2. IF NECESSARY, RUN RISER PIPES FOR ELECTRICAL LOADS ON PIPE CHASE.

**LEGEND**

-  12W LED SQUARE PANEL LIGHT SURFACE MOUNTED
-  50W INDUSTRIAL HIGH BAY LIGHT
-  1 X 18W LED TUBE LIGHT IN LOUVER FIXTURE
-  2 X 18W LED TUBE LIGHT IN LOUVER FIXTURE
-  3W LED UFO EMERGENCY LIGHT
-  CEILING FAN
-  LED EMERGENCY LIGHT WITH ONE GANG UNIVERSAL OUTLET
-  LED EMERGENCY EXIT SIGNAGE
-  PANEL BOARD
-  HOMERUN CIRCUIT
-  S<sub>a</sub> ONE GANG SWITCH
-  S<sub>ab</sub> TWO GANG SWITCH
-  S<sub>abc</sub> THREE GANG SWITCH
-  S<sub>3Wa</sub> ONE GANG 3-WAY SWITCH
-  S<sub>fan1</sub> CEILING FAN CONTROL SWITCH



**GROUND FLOOR LIGHTING LAYOUT**

SCALE 1:150 MTS.



**TARLAC STATE UNIVERSITY**  
Facilities Development and Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ELECTRICAL ENGINEER  
*[Signature]*

PRC NO: **NATHANIEL S. ACOSTA**  
PTR NO: **PROFESSIONAL ELECTRICAL ENGINEER**  
ISSUED AT: **PRC. 3758** TIN: **PTR NO. 05269813**  
**MOBILE: 09175932014** ISSUED: **TARLAC CITY**  
**TIN 248470077000** DATE: **JAN 03, 2023**
















OWNER: *[Signature]*  
**DR. ARNOLD E. VELASCO**

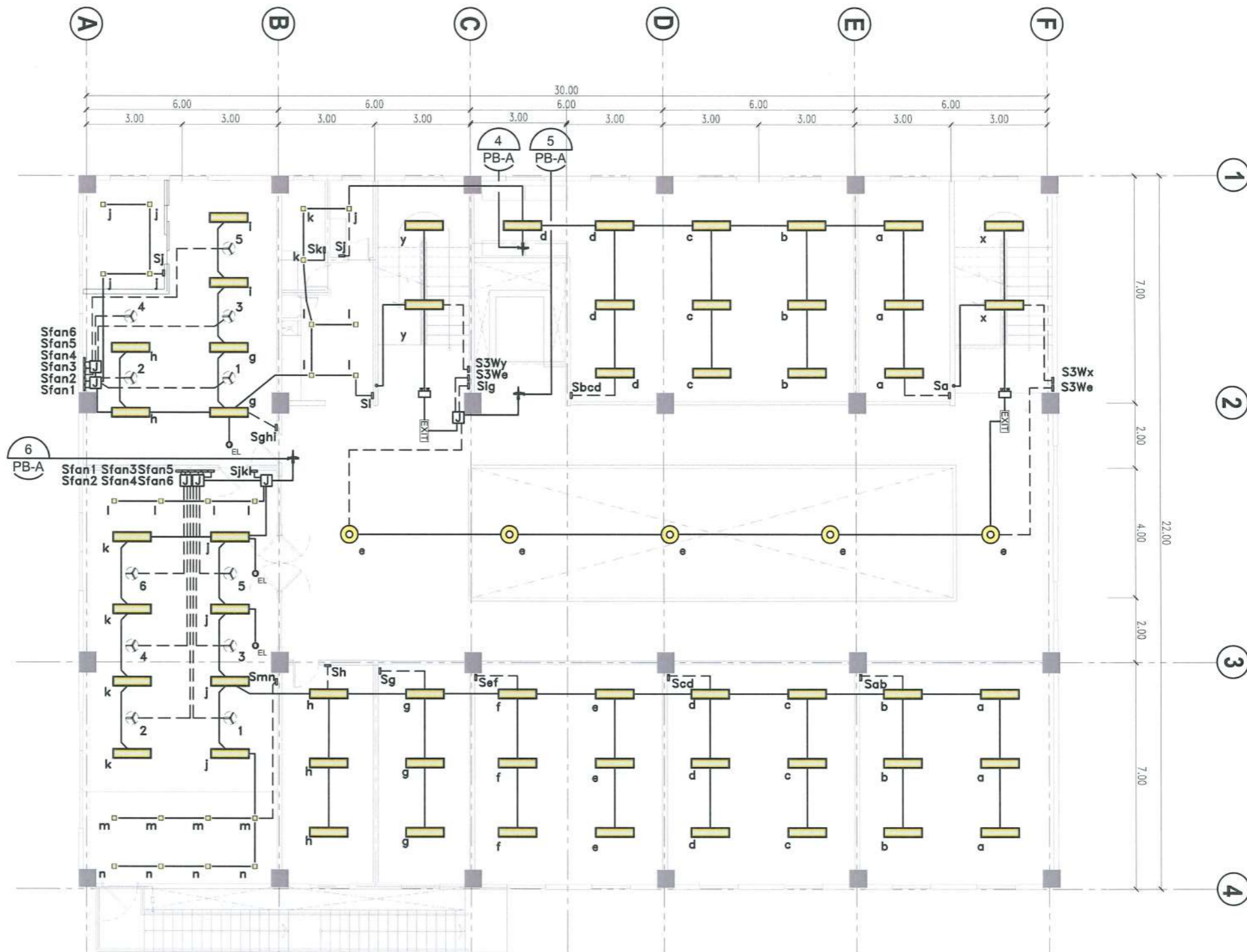
SHEET CONTENTS: AS SHOWN  
SHEET NO: **E - 01**  
PAGE NO: **57/91**  
DATE: **SEPTEMBER, 2023**

**NOTE:**

1. USE SURFACE MOUNTED LIGHTING FIXTURE TYPE ON THE CEILING SLAB AND RECESSED MOUNTED LIGHTING FIXTURE TYPE ON FIBER CEMENT CEILING.
2. IF NECESSARY, RUN RISER PIPES FOR ELECTRICAL LOADS ON PIPE CHASE.
3. LAYOUT SHALL BE CONCEAL AS MUCH AS POSSIBLE.

**LEGEND**

-  12W LED SQUARE PANEL LIGHT SURFACE MOUNTED
-  50W INDUSTRIAL HIGH BAY LIGHT
-  1 X 18W LED TUBE LIGHT IN LOUVER FIXTURE
-  2 X 18W LED TUBE LIGHT IN LOUVER FIXTURE
-  3W LED UFO EMERGENCY LIGHT
-  CEILING FAN
-  LED EMERGENCY LIGHT WITH ONE GANG UNIVERSAL OUTLET
-  LED EMERGENCY EXIT SIGNAGE
-  PANEL BOARD
-  HOMERUN CIRCUIT
-  S<sub>a</sub> ONE GANG SWITCH
-  S<sub>ab</sub> TWO GANG SWITCH
-  S<sub>abc</sub> THREE GANG SWITCH
-  S<sub>3Wa</sub> ONE GANG 3-WAY SWITCH
-  S<sub>fan1</sub> CEILING FAN CONTROL SWITCH



**SECOND FLOOR LIGHTING LAYOUT**

SCALE 1:150 MTS.



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ELECTRICAL ENGINEER  
*[Signature]*

PRC NO. **NATHANIEL S. ACOSTA**  
 PTR NO. **PROFESSIONAL ELECTRICAL ENGINEER**  
 ISSUED **PRC. 3758** TIN: PTR NO. 05269813  
 MOBILE: 09175932014 ISSUED: TARLAC CITY  
 TIN 24847007000 DATE: JAN 03, 2023

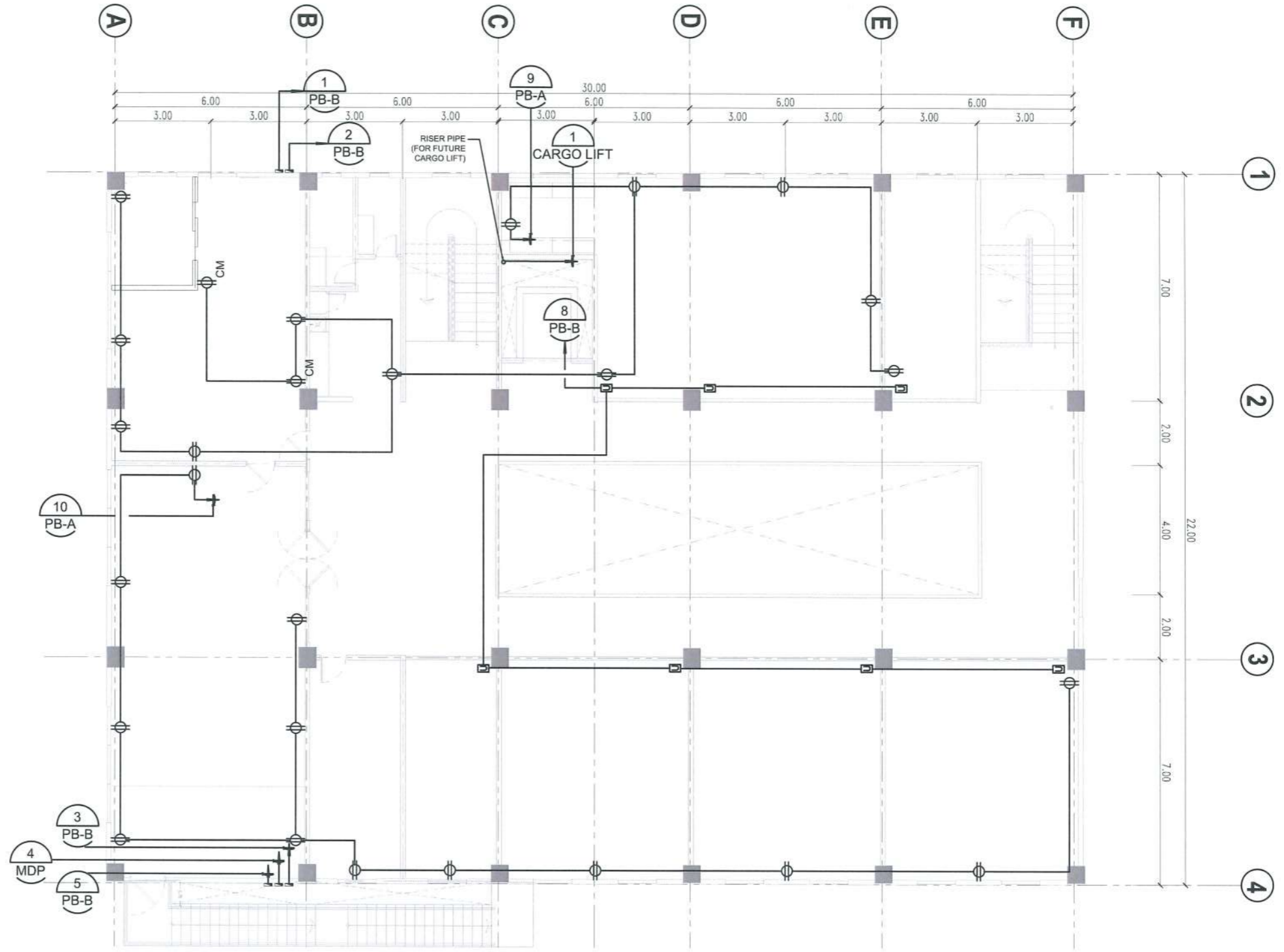
OWNER: DR. ARNOLD E. VELASCO  
*[Signature]*

SHEET CONTENTS: AS SHOWN  
 SHEET NO: E - 02  
 PAGE NO: 58/91  
 DATE: SEPTEMBER, 2023



**NOTE:**

1. IF NECESSARY, RUN RISER PIPES FOR ELECTRICAL LOADS ON PIPE CHASE.
2. LAYOUT PVC PIPES WITH WIRES AND UTILITY BOXES MOUNTED ON TRUSSES FOR THE FUTURE INSTALLATION OF MOTORIZED ROLL-UP DOORS. LAYOUT SHALL CONCEAL ABOVE TRUSSES AS MUCH AS POSSIBLE.



**LEGEND**

- UNIVERSAL DUPLEX CONVENIENCE OUTLET
- CEILING MOUNTED UNIVERSAL DUPLEX CONVENIENCE OUTLET
- WEATHERPROOF UNIVERSAL DUPLEX CONVENIENCE OUTLET
- NEMA 3R ENCLOSURE WITH MCB
- PANEL BOARD
- HOMERUN CIRCUIT
- FIRE ALARM CONTROL PANEL
- UTILITY BOX

**SECOND FLOOR POWER LAYOUT**

SCALE 1:130 MTS.

*(Handwritten signature)*



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ELECTRICAL ENGINEER: *(Handwritten signature)*

PROF. **NATHANIEL S. ACOSTA**  
 PROFESSIONAL ELECTRICAL ENGINEER  
 ISSUED AT: PRC-3758  
 MOBILE: 09175932014  
 TIN: 24847607600  
 DATE ISSUED: PTR NO. 05269813  
 ISSUED: TARLAC CITY  
 DATE: JAN 03, 2023

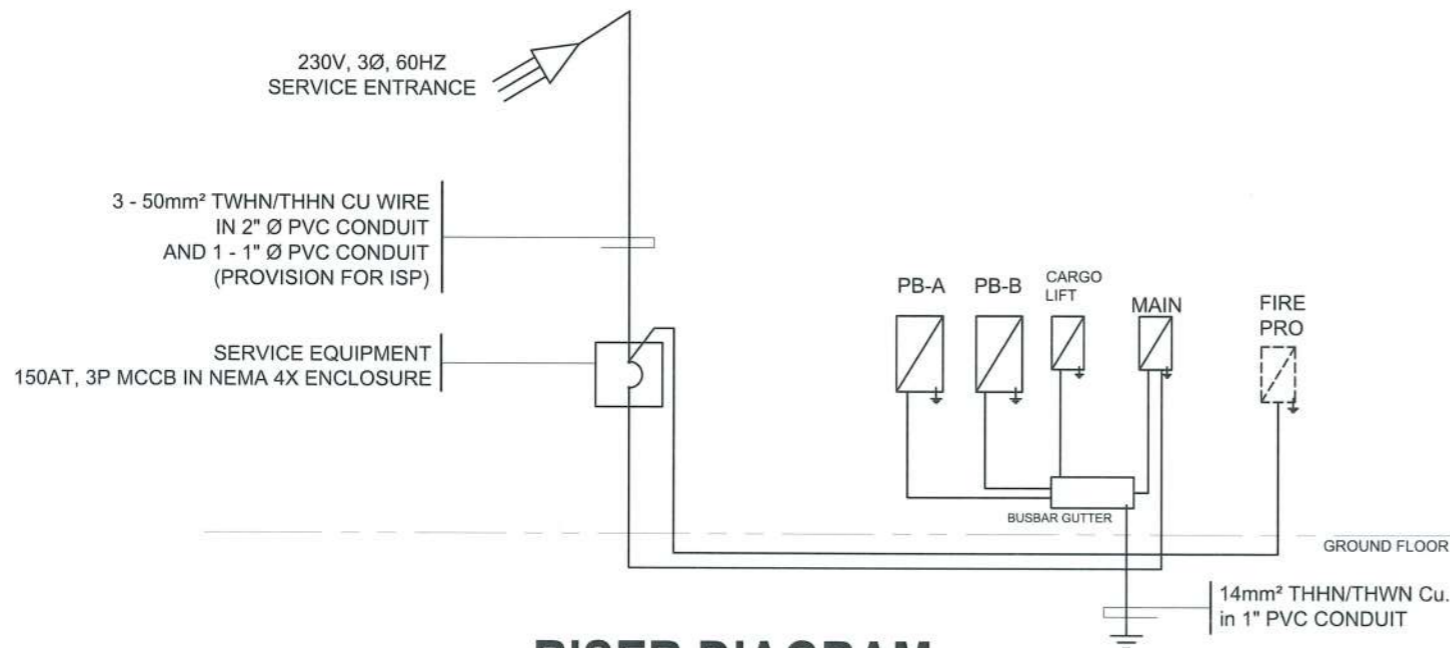
OWNER: DR. ARNOLD E. VELASCO  
*(Handwritten initials)*

SHEET CONTENTS: AS SHOWN  
 SHEET NO: E-04  
 PAGE NO: 60/91  
 DATE: SEPTEMBER, 2023

- ALL WORKS HEREIN SHALL COMPLY WITH THE LATEST PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE WITH THE RULES AND REGULATIONS OF THE NATIONAL AND LOCAL AUTHORITIES CONCERNED IN THE ENFORCEMENT OF ELECTRICAL LAWS AND ORDINANCES AND WITH RULES AND REGULATIONS OF THE POWER COMPANY CONCERNED.
- ALL WORKS HEREIN SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY QUALIFIED AND COMPETENT LICENSED ELECTRICAL ENGINEER.
- ALL MATERIALS AND EQUIPMENT TO BE USED SHALL BE NEW AND APPROVED TYPE FOR THE LOCATION AND PURPOSES.
- THE SERVICE ENTRANCE SHALL BE THREE PHASE, THREE WIRES, 230 V, 60Hz IN PVC CONDUIT.
- WHENEVER REQUIRED AND NECESSARY PVC PULL BOXES AND JUNCTION BOXES SHALL BE INSTALLED AT CONVENIENT SPACE AND LOCATION.
- ALL PANEL BOARDS SHALL BE BREAKER TYPE ENCLOSED IN A METAL CABINET. ALL MAIN BRANCHES AND MOTOR PANEL SHALL BE BOLT-ON.
- ALL CONVENIENCE OUTLETS, 3 PRONG (PARALLEL SLOT, GROUNDING TYPE) AND LIGHTING SWITCHES SHALL BE RATED 15A, 240V, AND 10A, 240V RESPECTIVELY AS MANUFACTURED.
- THE MINIMUM WIRE AND CONDUIT SIZE SHALL BE 3.5mm SQUARE THHN/THWN COPPER AND 20MM Ø RESPECTIVELY. (REFER TO THE LOAD SCHEDULE FOR THE OTHER WIRE AND CONDUIT SIZES).
- FOR EACH SPACE BRANCH CIRCUIT IN PANEL BOARD PROVIDE ONE EMPTY 20mm Ø CONDUIT CONNECTED TO AN OCTAGONAL BOX ABOVE THE CEILING.
- ALL FEEDERS AND BRANCH CIRCUITS SHALL BE INSTALLED AS INDICATED ON PLAN. INDIVIDUAL CIRCUIT HOMERUNS TO PANEL BOARDS SHALL NOT BE COMBINED IN THE SAME RACEWAY UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF THE SERVICE ENTRANCE FOR CONNECTION TO THE POWER SUPPLY AND ALSO THE ACTUAL LOCATION OF THE TELEPHONE SERVICE EQUIPMENT FOR THE CONNECTION TO MAIN TELEPHONE CABINET.
- THE METHOD OF WIRING SHALL BE AS FOLLOWS:
  - POWER SERVICE ENTRANCE: PVC THICKWALL CONDUIT SCHEDULE 40 FOR EMBEDDED PIPES
  - MAIN FEEDER, FEEDER AND SUB FEEDER: PVC THICKWALL CONDUIT SCHEDULE 40 FOR EMBEDDED PIPES
  - LIGHTING AND CONVENIENCE OUTLET: PVC THICKWALL CONDUIT SCHEDULE 40
  - TELEPHONE: PVC THICKWALL CONDUIT SCHEDULE 40
- MOUNTING HEIGHTS SHALL BE AS FOLLOWS:
  - LIGHTING SWITCHES: 1.40M ABOVE FINISHED FLOOR LINE
  - CONVENIENCE OUTLETS: 0.30M ABOVE FINISHED FLOOR LINE
  - TELEPHONE OUTLETS: 0.40M ABOVE FINISHED FLOOR LINE
  - PANEL BOARDS AND TELEPHONE CABINETS: 1.40M ABOVE FINISHED FLOOR LINE
- ALL MOUNTING HEIGHTS ARE SUBJECT TO THE ARCHITECT'S APPROVAL PRIOR TO THE INSTALLATION.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, THE FOLLOWING TESTS SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE OWNER'S REPRESENTATIVE.
  - INSTALLATION RESISTANCE TEST
  - GROUND RESISTANCE TEST
  - OPERATIONAL TEST
  - SYSTEM TEST AND ACCEPTANCE
- WORKMANSHIP: THE WORK THROUGHOUT SHALL BE EXECUTED IN THE MOST AND THOROUGH MANNER KNOWN TO TRADE AND SATISFACTION OF THE ARCHITECT AND ENGINEER.

## GENERAL NOTES AND SPECIFICATIONS

SCALE NTS



## RISER DIAGRAM

SCALE NTS

## DESIGN ANALYSIS

$$\text{TOTAL CURRENT} = 40.27 \text{ A} + 69.42 \text{ A} + 27.61 \text{ A} = 137.30 \text{ A}$$

FOR MAIN CIRCUIT BREAKER, USE: 150AT 3Ø, 230V MCCB IN NEMA1 ENCLOSURE

FOR MAIN FEEDER LINE, USE: 3 - 50mm² THHN/THWN Cu. WIRE IN 2" Ø PVC CONDUIT WITH CONCRETE ENCASUREMENT

FOR GROUNDING, SE: 1 - 14mm² THHN/THWN Cu. WIRE (G) IN 1" Ø PVC CONDUIT

FOR DISTRIBUTION TRANSFORMER:

PANEL BOARD FROM		PB-A SERVICE ENTRANCE		LOCATION SYSTEM VOLTAGE					ELECTRICAL ROOM (GROUND FLOOR)					
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VOLT-AMPERE	AMPERE PER PHASE			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	
				AB	BC	CA	ABC	AT	AF					POLE
1	LIGHTING OUTLET (GROUND FLOOR)	39	972	4.23			15	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
2	LIGHTING OUTLET (GROUND FLOOR)	25	459	1.96			15	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
3	LIGHTING OUTLET (GROUND FLOOR)	30	1080		4.70		15	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
4	LIGHTING OUTLET (SECOND FLOOR)	32	744		3.23		15	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
5	LIGHTING OUTLET (SECOND FLOOR)	9	394			1.71	15	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
6	LIGHTING OUTLET (SECOND FLOOR)	28	1784			6.49	15	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
7	CONVENIENCE OUTLET (GROUND FLOOR)	12	2160		9.39		20	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
8	CONVENIENCE OUTLET (GROUND FLOOR)	7	1260		3.46		20	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
9	CONVENIENCE OUTLET (SECOND FLOOR)	14	2520			10.96	20	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
10	CONVENIENCE OUTLET (SECOND FLOOR)	13	2340			10.17	20	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
11	FIRE ALARM CONTROL PANEL	1	1500			6.52	20	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
12	SPARE	1	1500			6.52	20	50	2	2 - 3.5 mm²	TWIN/THHN	1 - 3.5 mm²	1 1/2" Ø PVC	
COMPUTATION														
TOTAL CONNECTED LOADS PER PHASE (A)				2835	21.05	29.06	21.61	Phase Multiplier			1.732	Voltage (V)	230	
TOTAL LOAD CURRENT (A)					59.33			Demand Factor Applied			90%			
TOTAL DEMAND LOAD CURRENT (A)					40.27			50	100	3	3 - 8.0 mm²	TWIN/THHN	1 - 8.0 mm²	1" Ø PVC
ENCLOSURE NEMA 1 MOUNTING RECEDED MOUNTED														

PANEL BOARD FROM		PB-B SERVICE ENTRANCE		LOCATION SYSTEM VOLTAGE					ELECTRICAL ROOM (GROUND FLOOR)					
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VOLT-AMPERE	AMPERE PER PHASE			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	
				AB	BC	CA	ABC	AT	AF					POLE
1	ACCU	1	2760	12.00			30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
2	ACCU	1	2760	12.00			30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
3	ACCU	1	2760		12.00		30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
4	ACCU	1	2760		12.00		30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
5	ACCU	1	2760			12.00	30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
6	MOTORIZED ROLL UP DOORS	6	5175			22.50	30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
7	MOTORIZED ROLL UP DOORS	9	7327		26.1		30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
8	MOTORIZED ROLL UP DOORS	5	6003			14.5	30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
9	2.0 HP BOOSTER PUMP	1	2760			12.00	30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
10	SPARE	1	1500			6.52	30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
11	SPARE	1	1500			6.52	30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
12	SPARE	1	1500			12.00	30	50	2	2 - 5.5 mm²	TWIN/THHN	1 - 3.5 mm²	1" Ø PVC	
COMPUTATION														
TOTAL CONNECTED LOADS PER PHASE (A)				6854	56.62	45.02	38.50	Phase Multiplier			1.732	Voltage (V)	230	
TOTAL LOAD CURRENT (A)					98.97			Demand Factor Applied			90%			
TOTAL DEMAND LOAD CURRENT (A)					78.45			100	100	3	3 - 10 mm²	TWIN/THHN	1 - 8.0 mm²	1 1/2" Ø PVC
ENCLOSURE NEMA 1 MOUNTING RECEDED MOUNTED														

PANEL BOARD FROM		CARGO LIFT SERVICE ENTRANCE		LOCATION SYSTEM VOLTAGE					ELECTRICAL ROOM (GROUND FLOOR)					
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VOLT-AMPERE	AMPERE PER PHASE			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	
				AB	BC	CA	ABC	AT	AF					POLE
1	2 x 1.5W CARGO LIFT	1	11000				27.61	70	100	3	3 - 14 mm²	TWIN/THHN	1 - 8.0 mm²	1 1/2" Ø PVC
COMPUTATION														
TOTAL CONNECTED LOADS PER PHASE (A)				11000			27.61	Phase Multiplier			1.732	Voltage (V)	230	
TOTAL LOAD CURRENT (A)					27.61			Demand Factor Applied			90%			
TOTAL DEMAND LOAD CURRENT (A)					27.61			ENCLOSURE NEMA 1 MOUNTING RECEDED MOUNTED						

PANEL BOARD FROM		FIRE PRO SERVICE ENTRANCE		LOCATION SYSTEM VOLTAGE					FIRE PUMP ROOM (GROUND FLOOR)					
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VOLT-AMPERE	AMPERE PER PHASE			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	
				AB	BC	CA	ABC	AT	AF					POLE
1	30 HP FIRE PUMP + 3 HP JOCKEY PUMP	1	20668				89.68	500	500	3	1 - 38 mm²	TWIN/THHN	1 - 14 mm²	1 1/2" Ø PVC IN CONCRETE ENCASUREMENT
COMPUTATION														
TOTAL CONNECTED LOADS PER PHASE (A)							89.68	Phase Multiplier			1.732	Voltage (V)	230	
TOTAL LOAD CURRENT (A)							89.68	ENCLOSURE NEMA 1R MOUNTING RECEDED MOUNTED						

## SCHEDULE OF LOADS

SCALE NTS



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

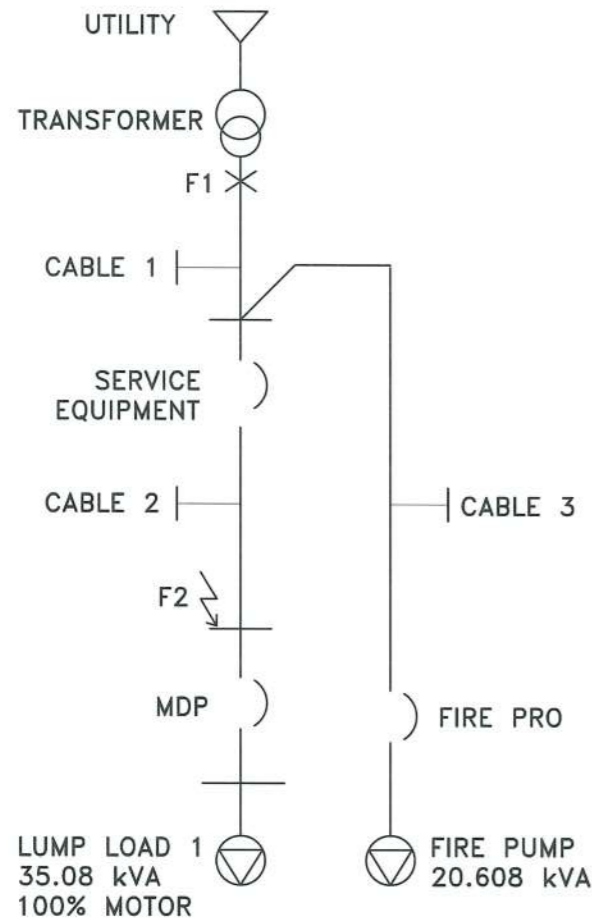
ELECTRICAL ENGINEER: *[Signature]*

PRC NO. NATHANIEL S. ACOSTA  
PTR NO. PROFESSIONAL ELECTRICAL ENGINEER  
ISSUED AT: PRC-3758  
MOBILE: 09175932014  
TIN: 248470077000

OWNER: DR. ARNOLD E. VELASCO

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**SINGLE LINE DIAGRAM**



⊙ 3 - 50 KVA TRANSFORMER, 1PHASE, 230V, 60HZ  
 BASE KVA : 150 KVA

A. IMPEDANCE OF UTILITY ⊙ (ASSUME 1,000,000 KVA)  
 $Z_s = 150 \text{ KVA} / 1,000,000 \text{ KVA} = 0.00015 \text{ pu}$

B. TRANSFORMER IMPEDANCE %Z= 1.07  
 $Z_{TR} = 1.07 / 100 = 0.0107 \text{ pu}$

C. SERVICE ENTRANCE (COPPER CONDUCTOR)

FOR CABLE 1  
 3 - 50 mm<sup>2</sup> THHN/TWHN Copper Wire  
 $Z = \text{SQRT}(0.12^2 + 0.044^2) = 0.1278 \text{ ohms per } 305 \text{ m}$   
 LENGTH: 6 meters  
 $Z = 0.1278 \times 6 / 305 = 0.002514 \text{ ohms}$   
 $Z_w = (\text{OHMIC IMPEDANCE} \times \text{KVA}_{\text{BASE}}) / (\text{kV}^2 \times 1000)$   
 $Z_w = (0.002514 \times 150) / (0.23^2 \times 1000) = 0.00713 \text{ pu}$

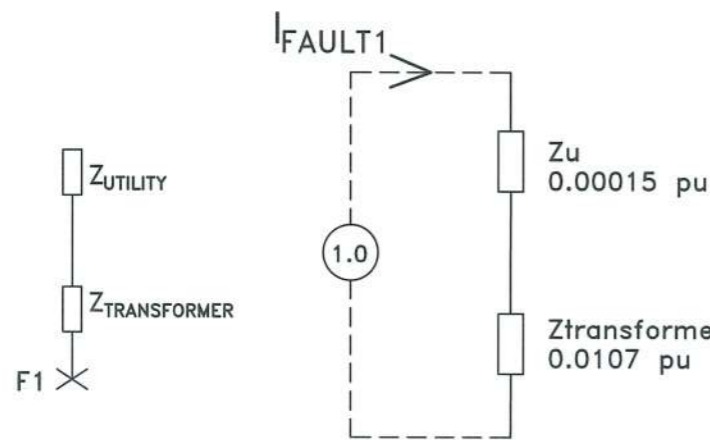
FOR CABLE 2  
 3 - 50 mm<sup>2</sup> THHN/TWHN Copper Wire  
 LENGTH: 44 meters  
 $Z = 0.1278 \times 44 / 305 = 0.01844 \text{ ohms}$   
 $Z_w = (\text{OHMIC IMPEDANCE} \times \text{KVA}_{\text{BASE}}) / (\text{kV}^2 \times 1000)$   
 $Z_w = (0.01844 \times 150) / (0.23^2 \times 1000) = 0.05228 \text{ pu}$

FOR CABLE 3  
 3 - 38 mm<sup>2</sup> THHN/TWHN Copper Wire  
 $Z = \text{SQRT}(0.15^2 + 0.046^2) = 0.1569 \text{ ohms per } 305 \text{ m}$   
 LENGTH: 57 meters  
 $Z = 0.1569 \times 57 / 305 = 0.02932 \text{ ohms}$   
 $Z_w = (\text{OHMIC IMPEDANCE} \times \text{KVA}_{\text{BASE}}) / (\text{kV}^2 \times 1000)$   
 $Z_w = (0.02932 \times 150) / (0.23^2 \times 1000) = 0.08314 \text{ pu}$

D. MOTOR CONTRIBUTION (pu)

$Z_M = (0.278 \times \text{kVA}_{\text{base}} / \text{kVA}_{\text{actual}})$   
 $Z_{LL1} = (0.278 \times 150 / 35.08) = 1.1889 \text{ pu}$   
 $Z_{FP} = (0.278 \times 150 / 20.608) = 2.0235 \text{ pu}$

**IMPEDANCE DIAGRAM**



⊙ FAULT 1

$Z_{F1} = 0.00015 + 0.0107 = 0.01085 \text{ PU}$

$I_{sc} = (1 / Z_{F1}) \times [\text{TX RATING} / (1.732 \times 230)]$

$I_{sc} = (1 / 0.01085) \times [150 \times 10^3 / (1.732 \times 230)]$

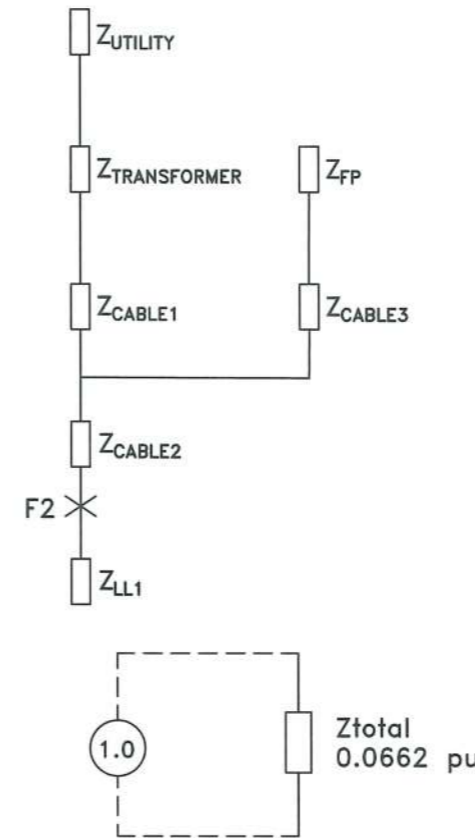
$I_{sc} = 34.7035 \text{ KAIC}$

SAY ~ 35 KAIC

**SHORT CIRCUIT CALCULATION**

SCALE NTS

**IMPEDANCE DIAGRAM**



⊙ FAULT 2

$I_{sc} = (1 / Z_{\text{total}}) \times [\text{TX RATING} / (1.732 \times 230)]$

$I_{sc} = (1 / 0.0662) \times [150 \times 10^3 / (1.732 \times 230)]$

$I_{sc} = 5.6875 \text{ KAIC}$

SAY ~ 6 KAIC

**FOR NORMAL LOADS**

SERVICE DROP TO MDP:  $VD = (1.732 \times 137.3 \times 50 \times 0.13) / 305 = 5.068 \text{ V}$

EFF. Z AT 85% PF: 0.13

MDP TO PB-B:  $VD = (1.732 \times 78.45 \times 2 \times 0.19) / 305 = 0.169 \text{ V}$

EFF. Z AT 85% PF: 0.19

MDP TO FARTHEST MOTOR LOAD:  $VD = (2 \times 12 \times 36 \times 1.1) / 305 = 3.116 \text{ V}$

EFF. Z AT 85% PF: 1.1

TOTAL %VD =  $(5.068 + 0.169 + 3.116) / 230 \times 100 = 3.632\%$

**FOR FIRE PUMP**

SERVICE DROP TO SERVICE EQUIPMENT:  $VD = (1.732 \times 89.6 \times 1.15 \times 6 \times 0.13) / 305 = 0.456 \text{ V}$

EFF. Z AT 85% PF: 0.13

SERVICE EQUIPMENT TO FIRE PRO:  $VD = (1.732 \times 89.6 \times 1.15 \times 57 \times 0.16) / 305 = 5.336 \text{ V}$

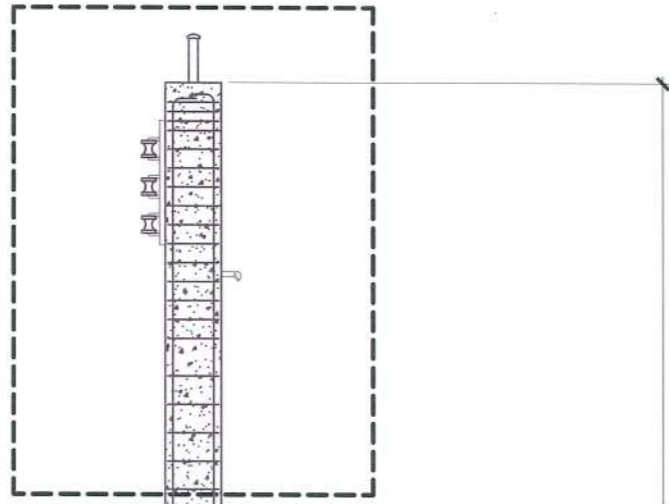
EFF. Z AT 85% PF: 0.16

TOTAL %VD =  $(0.456 + 5.336) / 230 \times 100 = 2.519\%$

**VOLTAGE DROP CALCULATION**

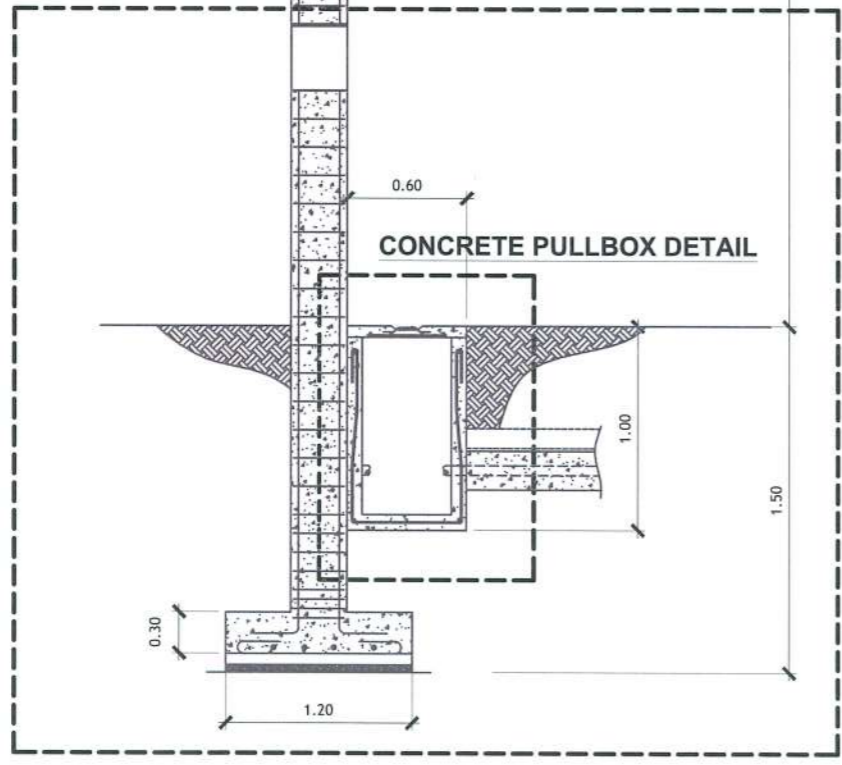
SCALE NTS

**UPPER PEDESTAL DETAIL**



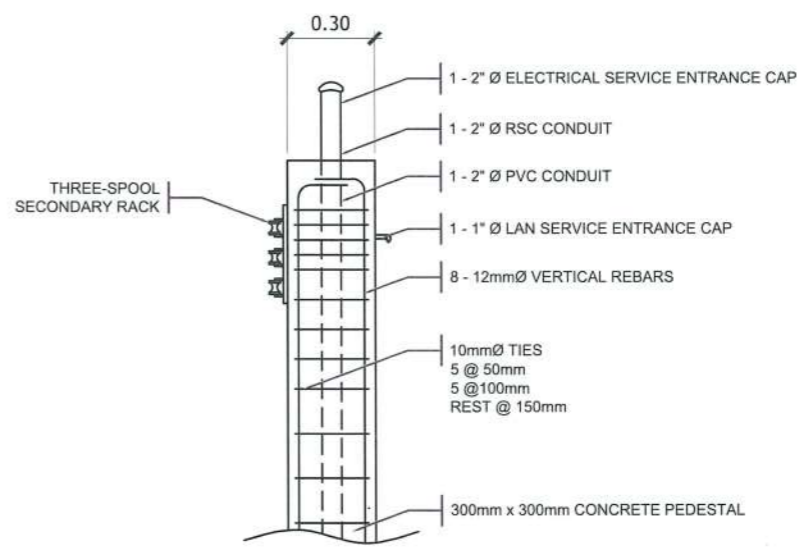
7.50

**LOWER PEDESTAL DETAIL**



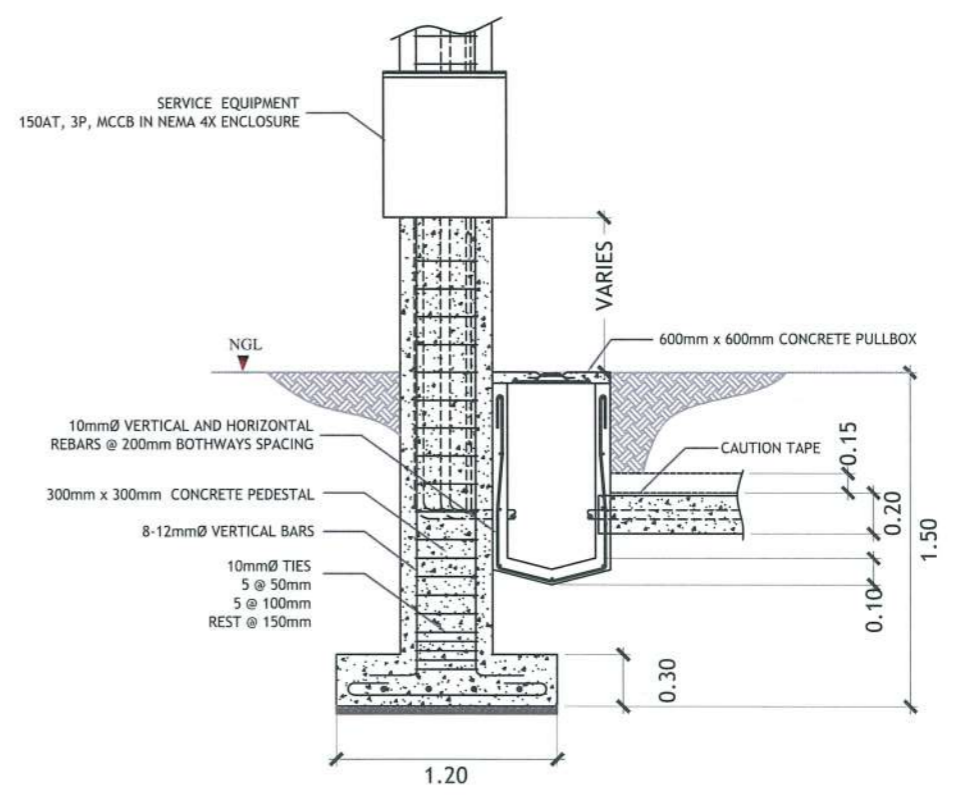
**SERVICE ENTRANCE PEDESTAL DETAIL**

SCALE NTS.



**UPPER PEDESTAL DETAIL**

SCALE NTS.



**LOWER PEDESTAL DETAIL**

SCALE NTS.



PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ELECTRICAL ENGINEER:  
*[Signature]*

PRC NO.:  
PTR NO.:  
ISSUED AT:  
TIN 248470077000

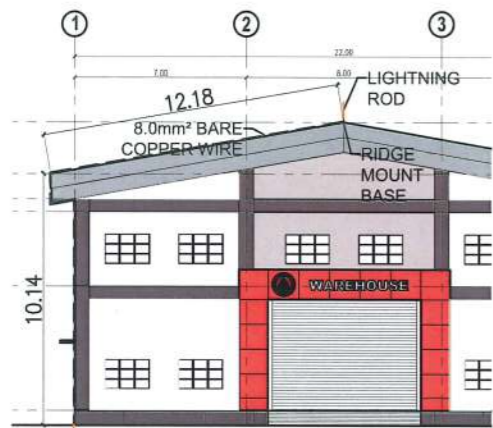
**NATHANIEL S. ACOSTA**  
PROFESSIONAL ELECTRICAL ENGINEER

VALIDITY:  
DATE ISSUED:  
TIN:

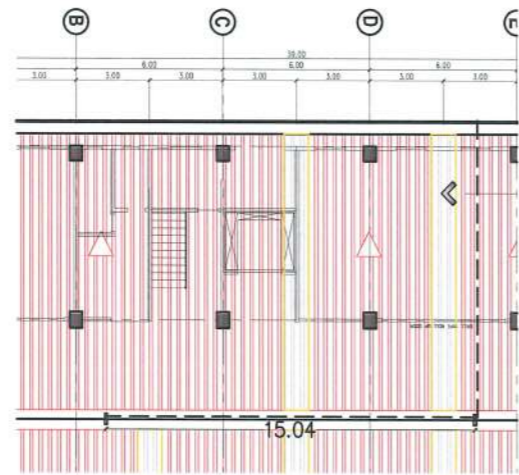
PRC. 3758  
MOBILE: 09175932014  
DATE: JAN 03, 2023

OWNER:  
*[Signature]* DR. ARNOLD E. VELASCO

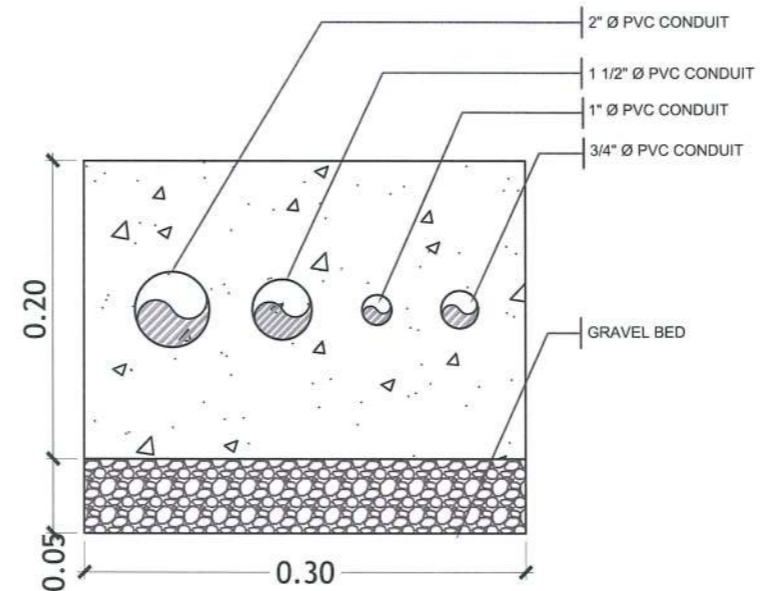
SHEET CONTENTS:	AS SHOWN
SHEET NO.:	E - 07
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DATE:	SEPTEMBER, 2023



FRONT ELEVATION

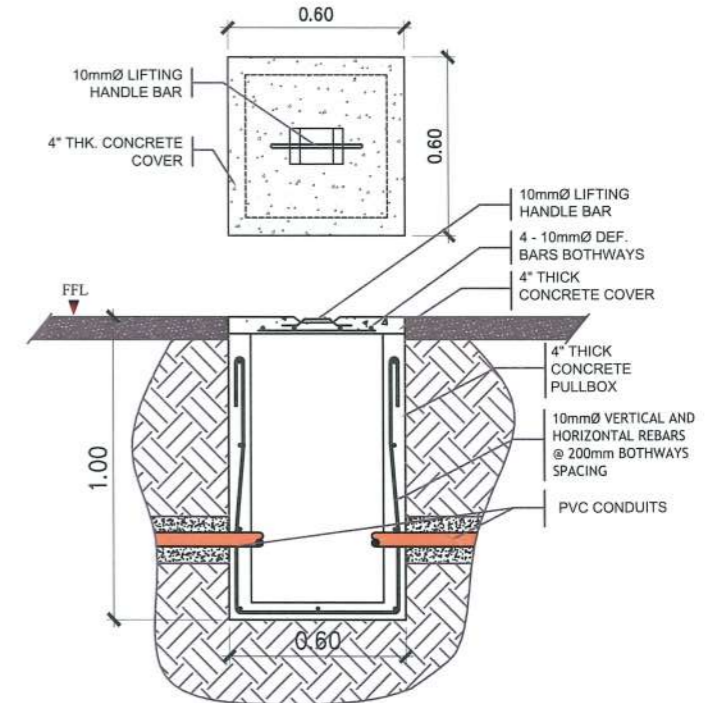


ROOF PLAN



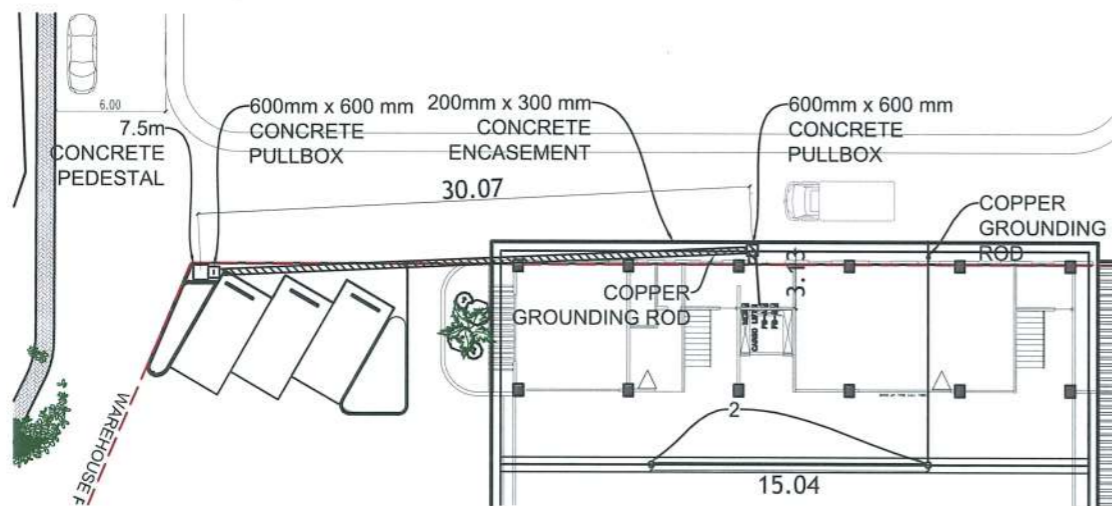
CONCRETE ENCASEMENT DETAIL

SCALE 1:5 MTS.



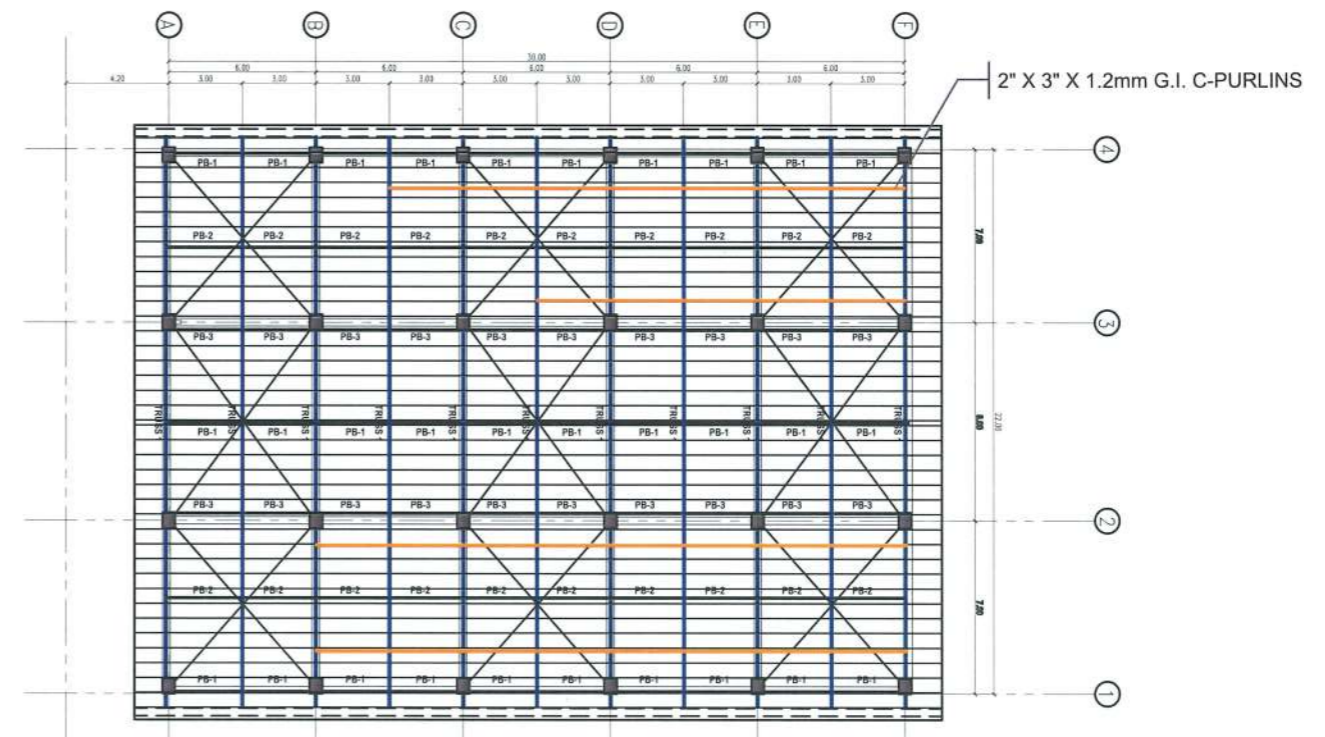
CONCRETE PULLBOX DETAIL

SCALE 1:25 MTS.



MAIN DISTRIBUTION LINE

SCALE 1:400 MTS.



FRAMING FOR LIGHTING FIXTURES AT SECOND FLOOR

SCALE 1:250 MTS.



TARLAC STATE UNIVERSITY  
Facilities Development and Management Office  
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
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ELECTRICAL ENGINEER  
*[Signature]*

**NATHANIEL S. ACOSTA**  
PROFESSIONAL ELECTRICAL ENGINEER  
PRC. 3758  
ISSUED AT: PTR NO. 09269813  
MOBILE: 09175932014 ISSUED: TARLAC CITY  
HR 245470077000 DATE: JAN 03 2023

OWNER:  
*[Signature]* DR. ARMOUD E. VELASCO

SHEET CONTENTS:	AS SHOWN
SHEET NO.:	E - 08
PAGE NO.:	64/91
DATE:	SEPTEMBER, 2023



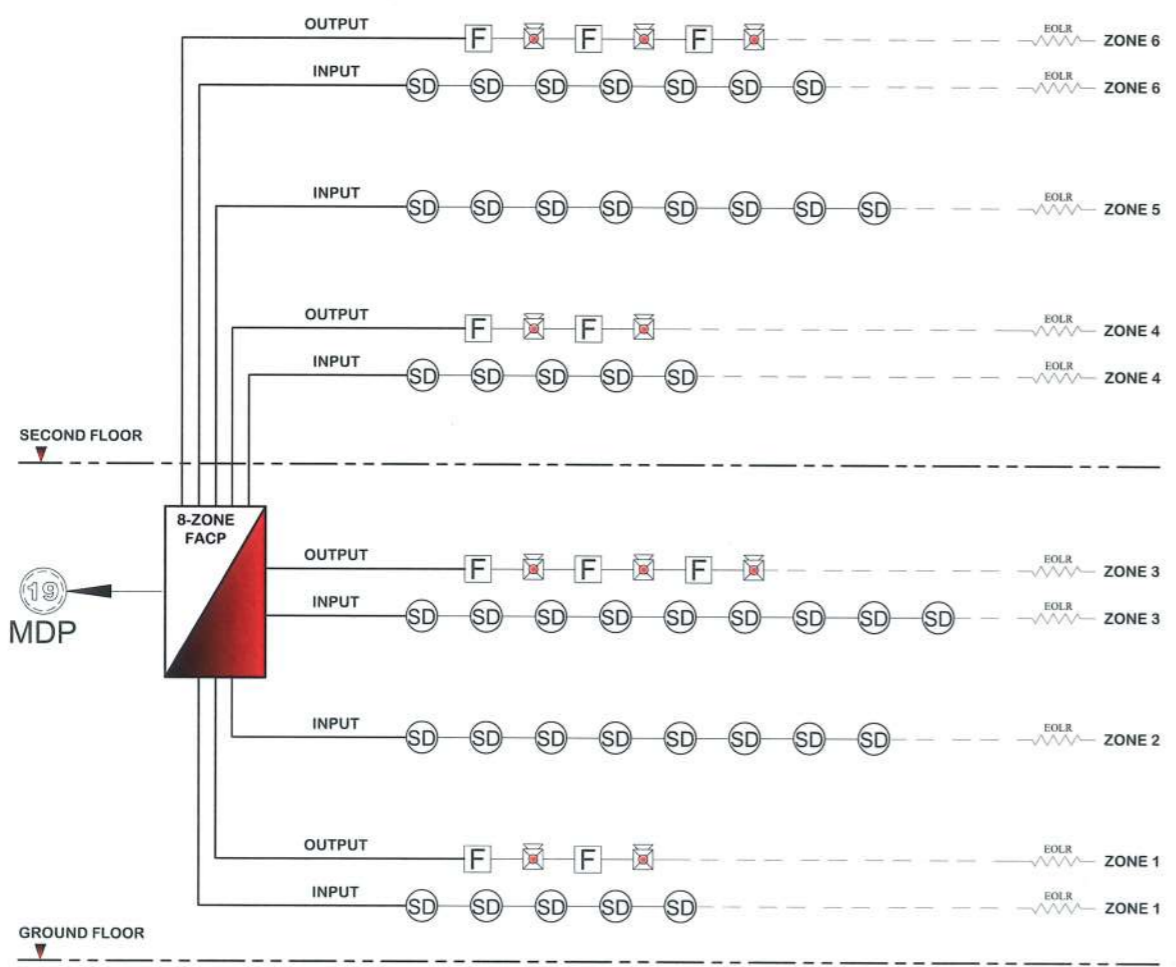


# FIRE DETECTION AND ALARM SYSTEM LAYOUT

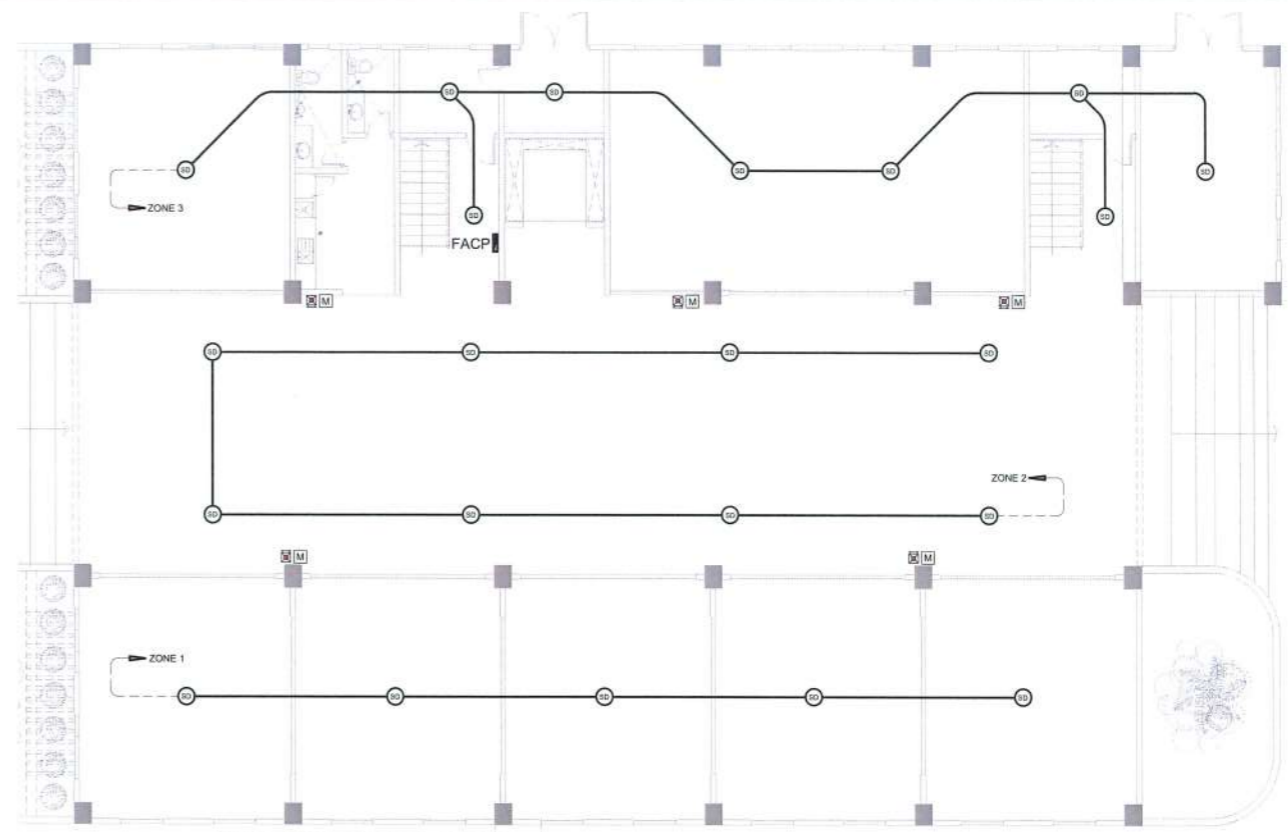
1:210 MTS

	Smoke Detector		Red Flash Light with Bell
	Fire Alarm Control Panel		Manual Call Point
	End Of The Line Resistor		

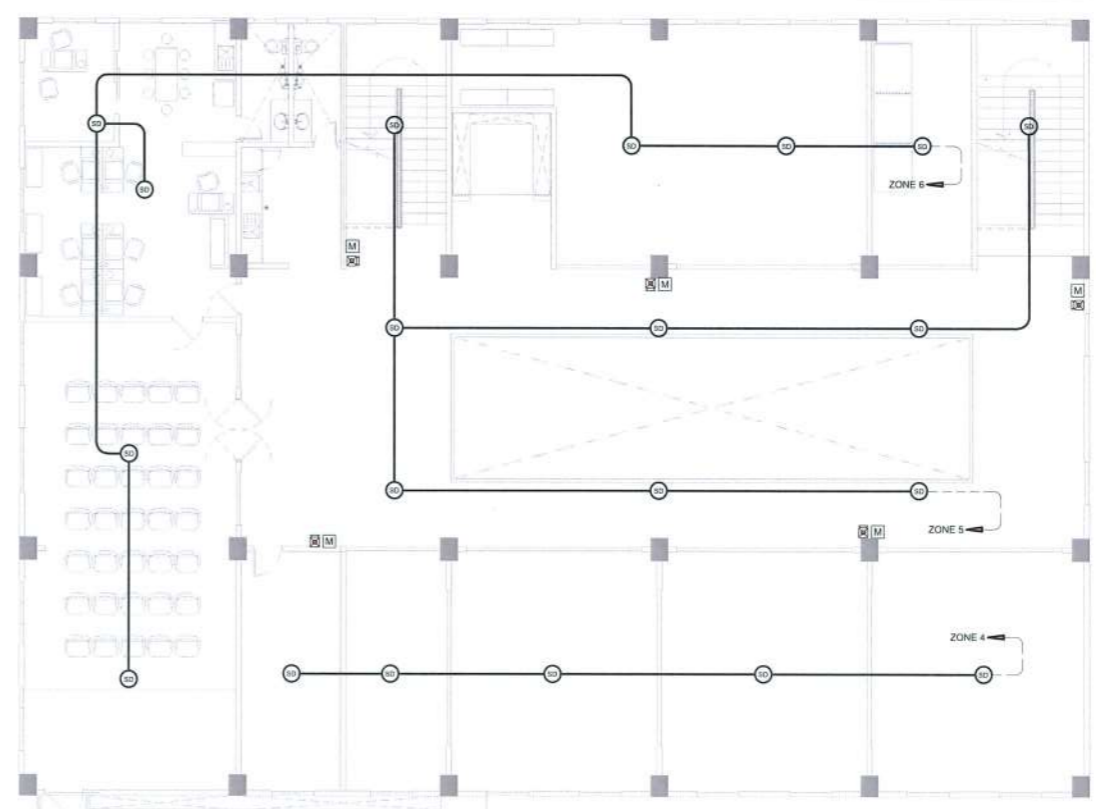
## FDAS SYMBOLS & LEGEND



## FDAS RISER DIAGRAM LAYOUT



## GROUND FLOOR FDAS LAYOUT



## SECOND FLOOR FDAS LAYOUT



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ELECTRICAL ENGINEER: *[Signature]*

**NATHANIEL S. ACOSTA**  
 PROFESSIONAL ELECTRICAL ENGINEER  
 PRC NO. 3758  
 MOBILE: 09175932014  
 DATE ISSUED: JAN 03, 2023

OWNER: DR. ARNOLD E. VELASCO  
*[Signature]*

SHEET CONTENTS: AS SHOWN  
 SHEET NO: E-09  
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 DATE: SEPTEMBER, 2023



# CLOSED-CIRCUIT TELEVISION SYSTEM LAYOUT

SCALE

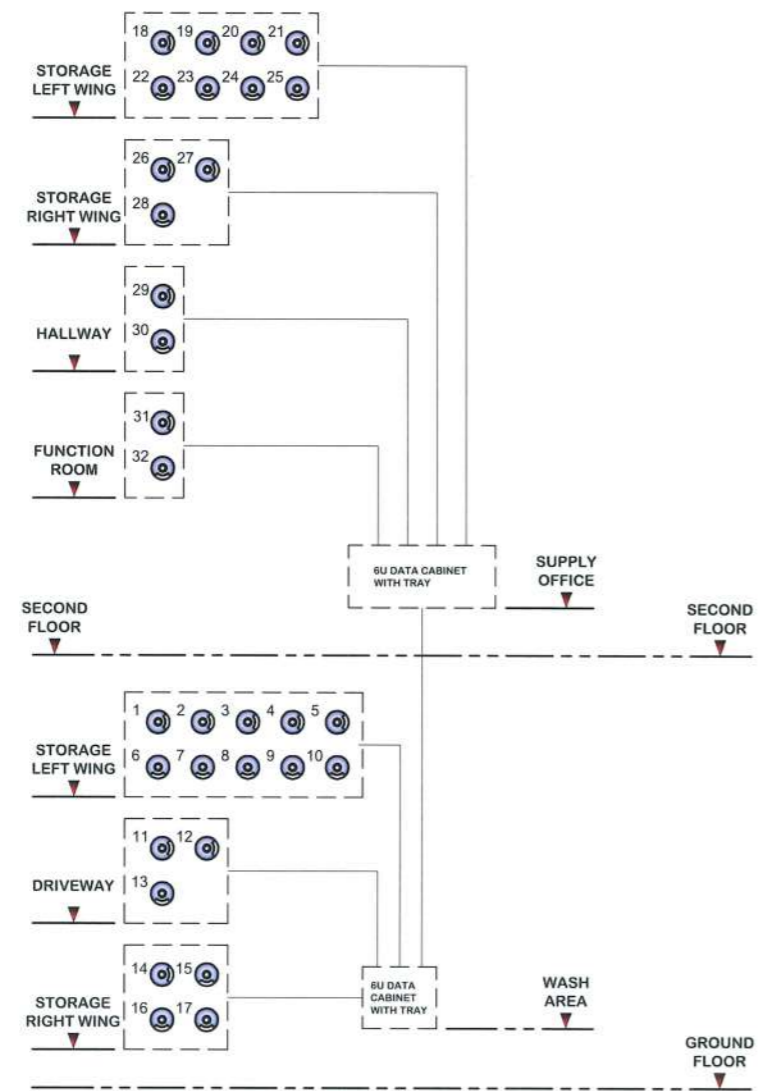
1:210 MTS

	Square Pullbox		6U Data Cabinet with Tray
	4MP Closed-Circuit Television Camera		

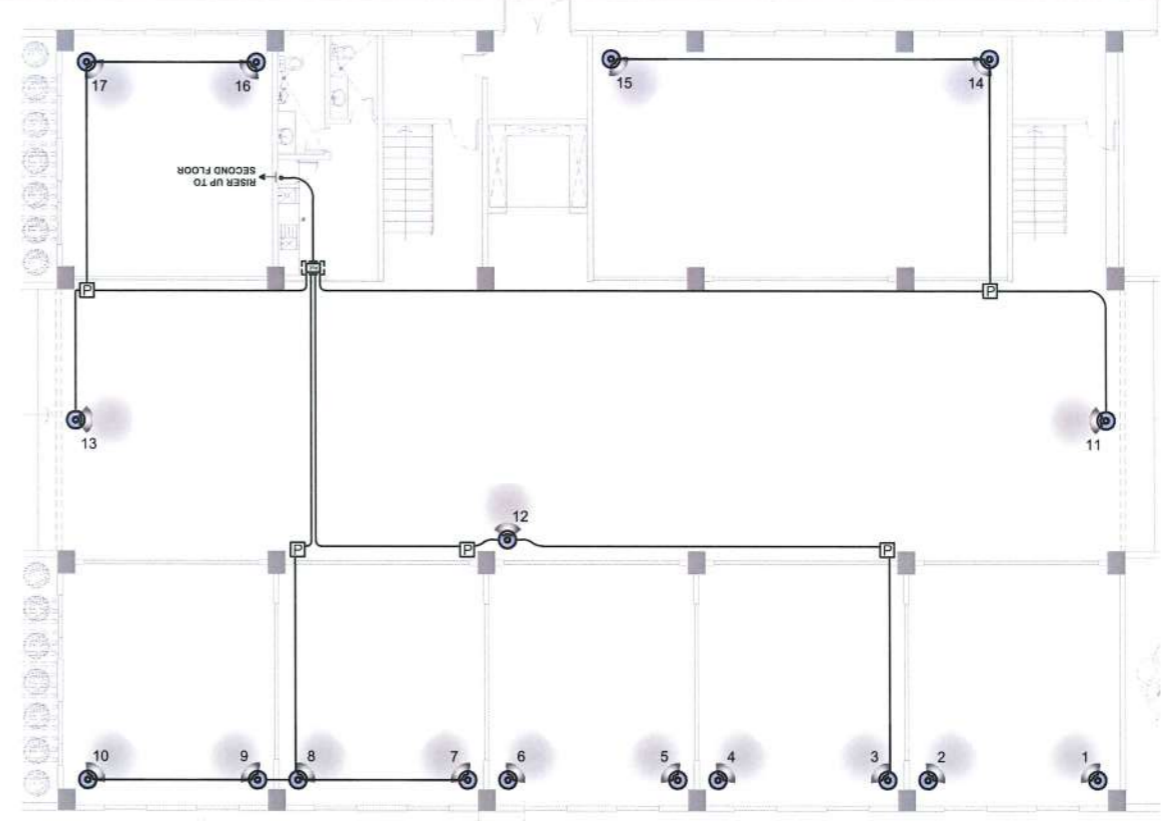
## CCTV SYMBOLS & LEGEND

### NOTE:

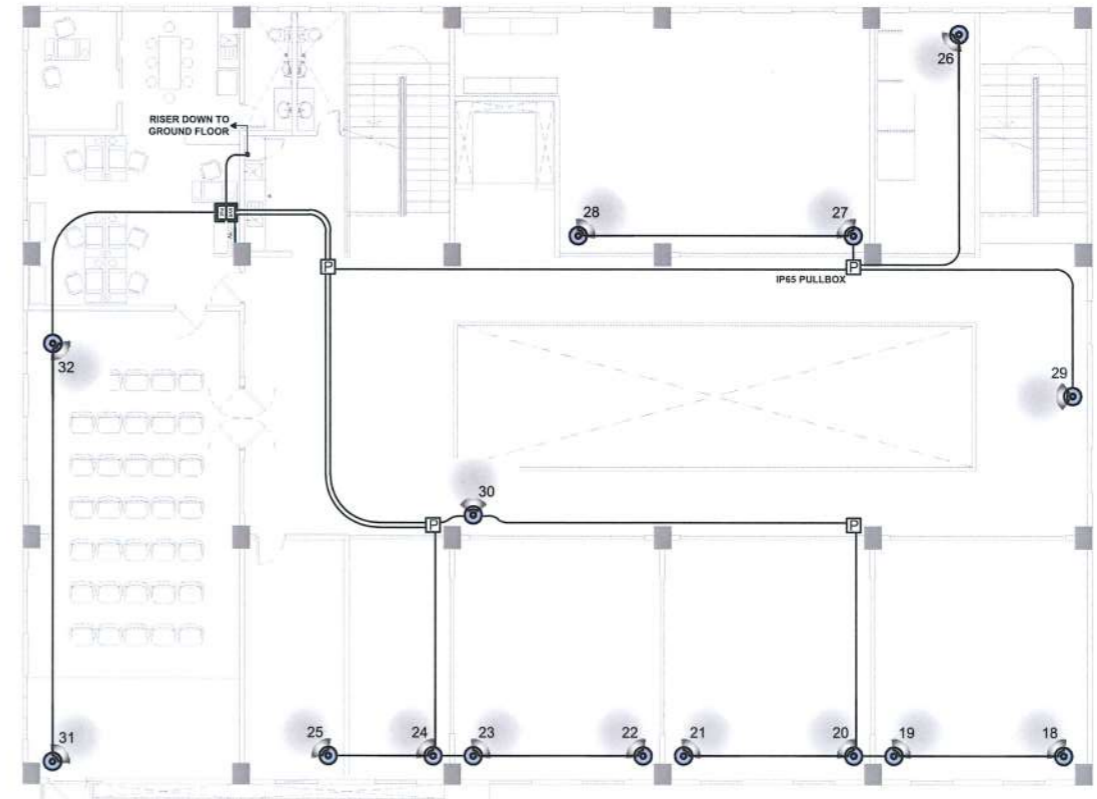
- All CCTV cameras shall be unpowered, hence, stub-out for all locations shown on the CCTV layouts shall be provided for future installation the devices.
- 1" dia. PVC pipe with G.I. wire inside it shall be provided as a conduit for future installation of Category 6 cables.
- 5" x 5" PVC square box shall be used for the future pulling and termination of Category 6 cables.



## CCTV DIAGRAM LAYOUT



## GROUND FLOOR CCTV LAYOUT



## SECOND FLOOR CCTV LAYOUT



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ELECTRICAL ENGINEER  
*(Signature)*

PRC NO: PTRND  
**NATHANIEL S. ACOSTA**  
 PROFESSIONAL ELECTRICAL ENGINEER  
 ISSUED AT: PRC. 3758  
 MOBILE: 09175939014  
 TIN: 248470077000

VALIDITY: DATE ISSUED:  
 PTR NO. 05269813  
 ISSUED: TARLAC CITY  
 DATE: JAN 03, 2023

OWNER: DR. ARNOLD E. VELASCO  
*(Signature)*

SHEET CONTENTS: AS SHOWN  
 SHEET NO: E-10  
 PAGE NO: 66/91  
 DATE: SEPTEMBER, 2023



# STRUCTURED CABLING SYSTEM LAYOUT

SCALE

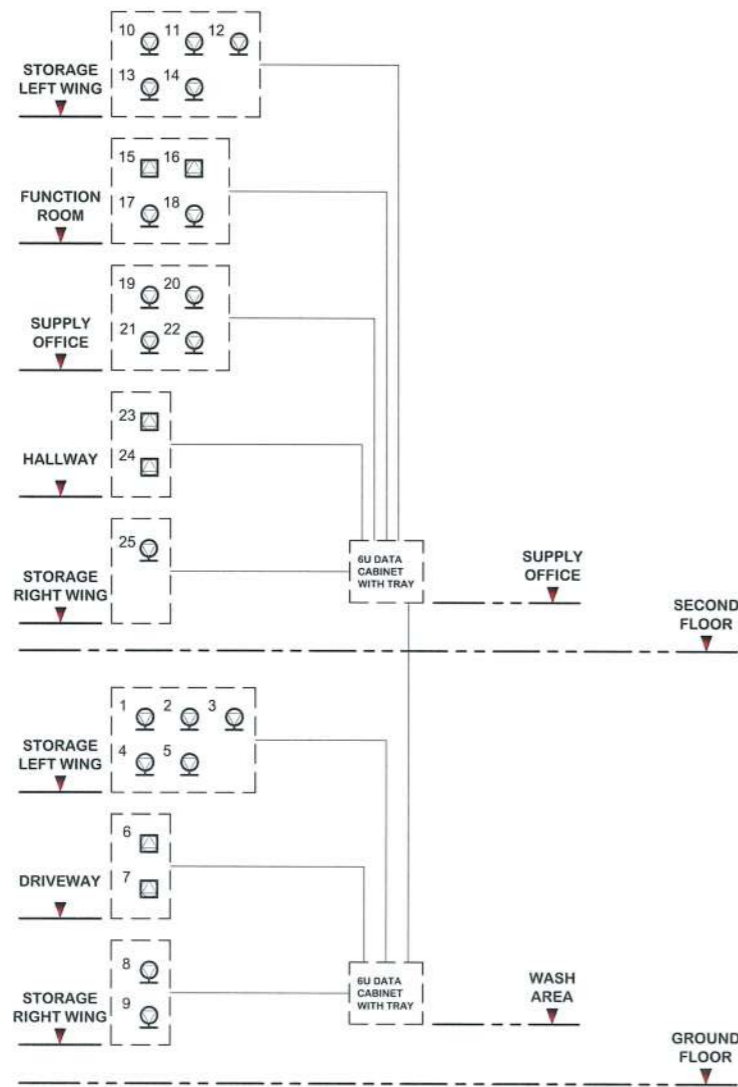
1:210 MTS

	Single CAT6 Lan Outlet (Ceiling Mounted)		6U Data Cabinet with Tray
	Duplex CAT6 Lan Outlet (Wall Mounted)		16-Port Gigabit Network Switch
	Structured Cabling Service Entrance		Square Pullbox

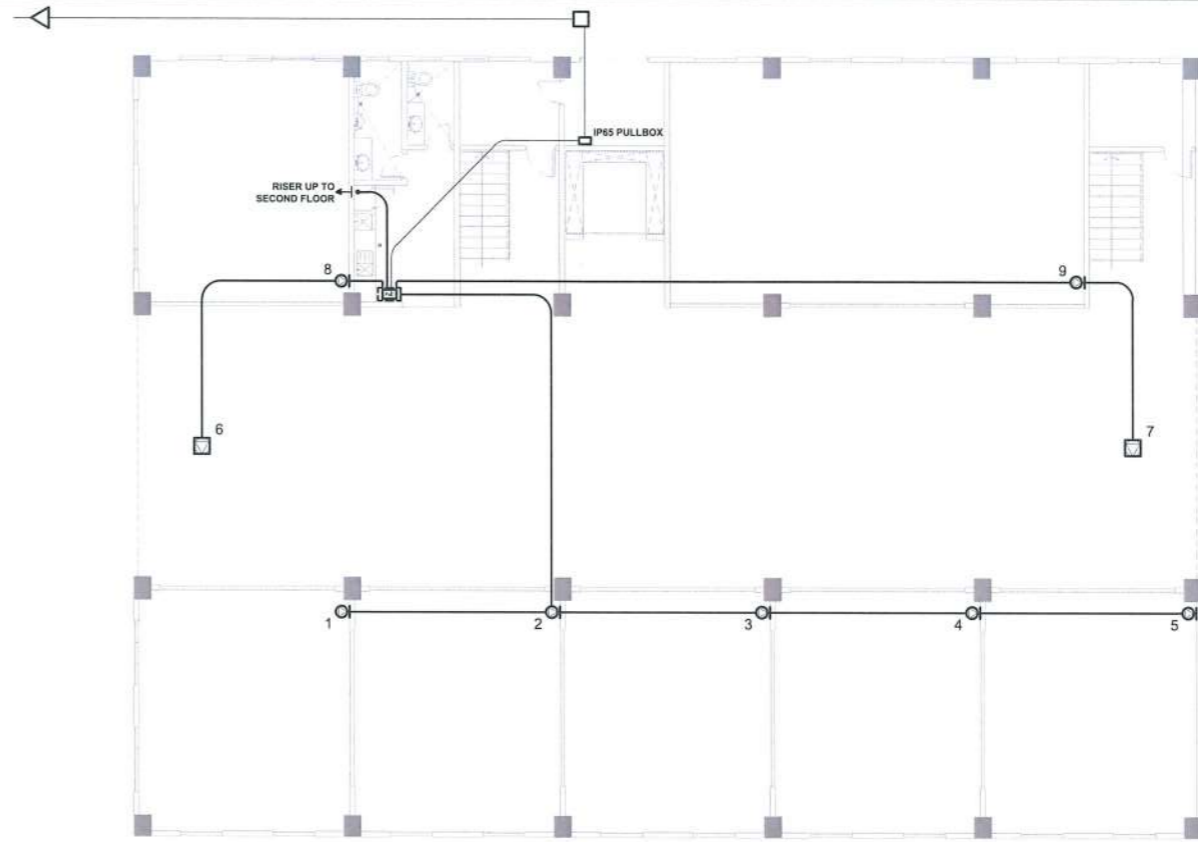
## SC SYMBOLS & LEGEND

### NOTE:

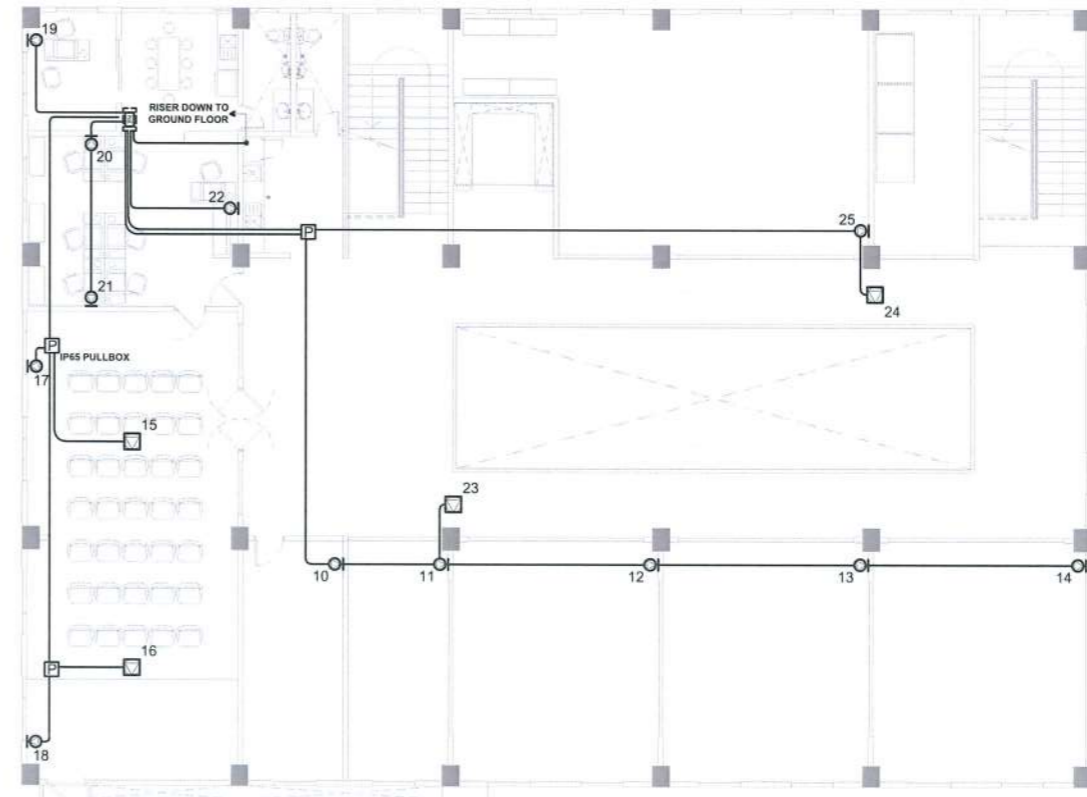
1. All Structured cabling devices shall be unsupplied, hence, stub-out for all locations shown on the CCTV layouts shall be provided for future installation the devices.
2. 1" dia. PVC pipe with G.I. wire inside it shall be provided as a conduit for future installation of Category 6 cables.
3. 5" x 5" PVC square box shall be used for the future pulling and termination of Category 6 cables.



## SC DIAGRAM LAYOUT



## GROUND FLOOR SC LAYOUT



## SECOND FLOOR SC LAYOUT



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ELECTRICAL ENGINEER: *[Signature]*

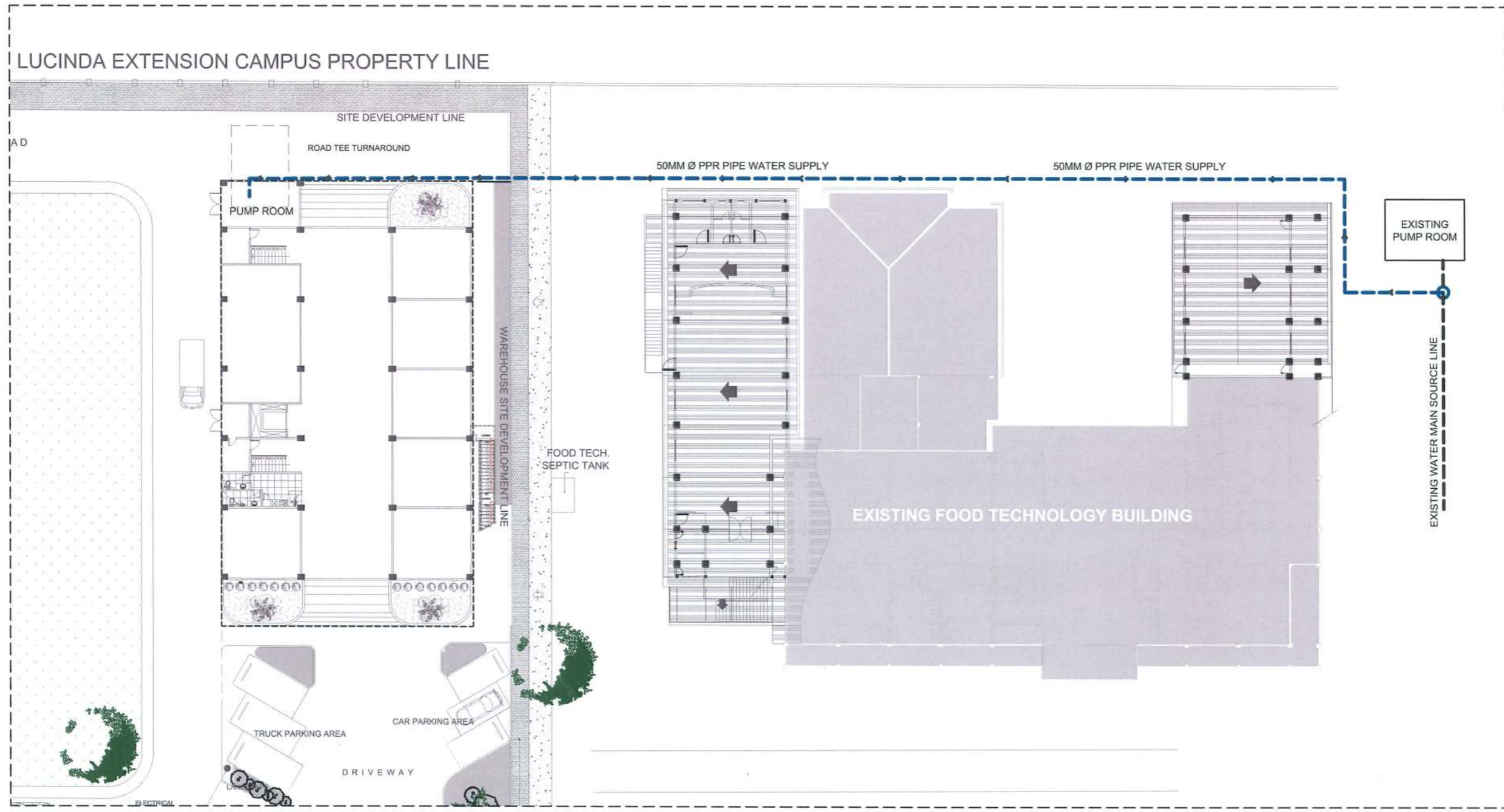
PRC NO. **NATHANIEL S. ACOSTA**  
 PTR NO. **PROFESSIONAL ELECTRICAL ENGINEER**  
 ISSUED AT: PRC. 3758  
 MOBILE: 09175932014  
 TIN 248470077000

VALIDITY: **DR. ARNOLD E. VELASCO**  
 DATE ISSUED: **DR. ARNOLD E. VELASCO**  
 PTR NO. 05269813  
 ISSUED: TARLAC CITY  
 DATE: JAN 03, 2023

OWNER: **DR. ARNOLD E. VELASCO**

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 DATE: SEPTEMBER, 2023

SHEET NO: **E-11**  
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# S I T E   D E V E L O P M E N T   P L A N

SCALE 1: 400M

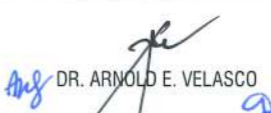
  
**AR. MIYELLE ANNE BARCE**  
 REGISTERED MASTER PLUMBER  
 PRC NO. 12945    TIN: 487-615-703  
 PTR NO. 4499843    DATE: 16/2023  
 ISSUED AT TARIAC CITY



PROJECT TITLE:  
CONSTRUCTION OF TSU WAREHOUSE

PROJECT LOCATION:  
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PRC NO :	VALIDITY:
PTR NO :	DATE ISSUED:
ISSUED AT :	TIN :

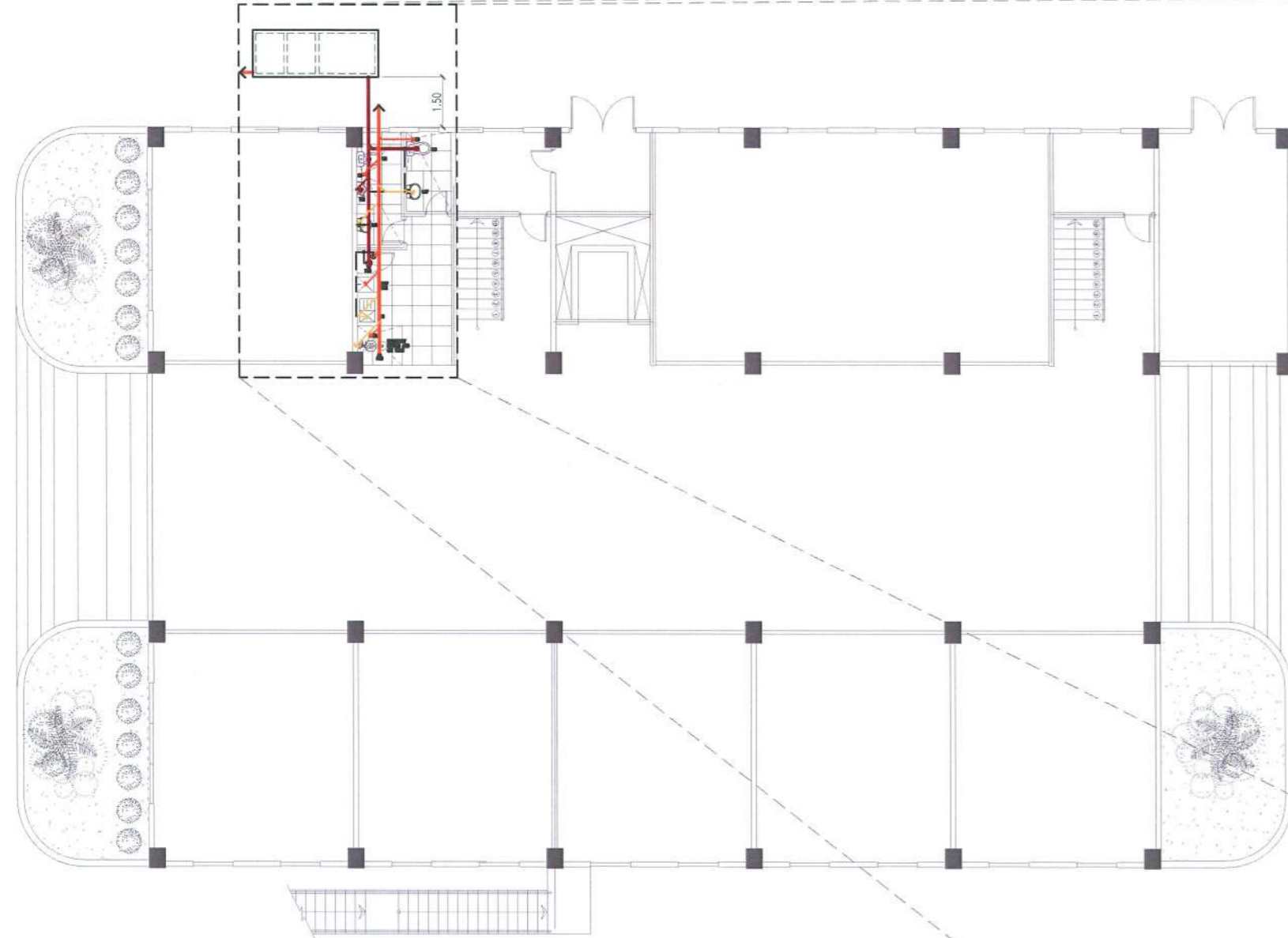
OWNER:  
 DR. ARNOLD E. VELASCO

SHEET CONTENTS:  
AS SHOWN

DATE: SEPTEMBER, 2023

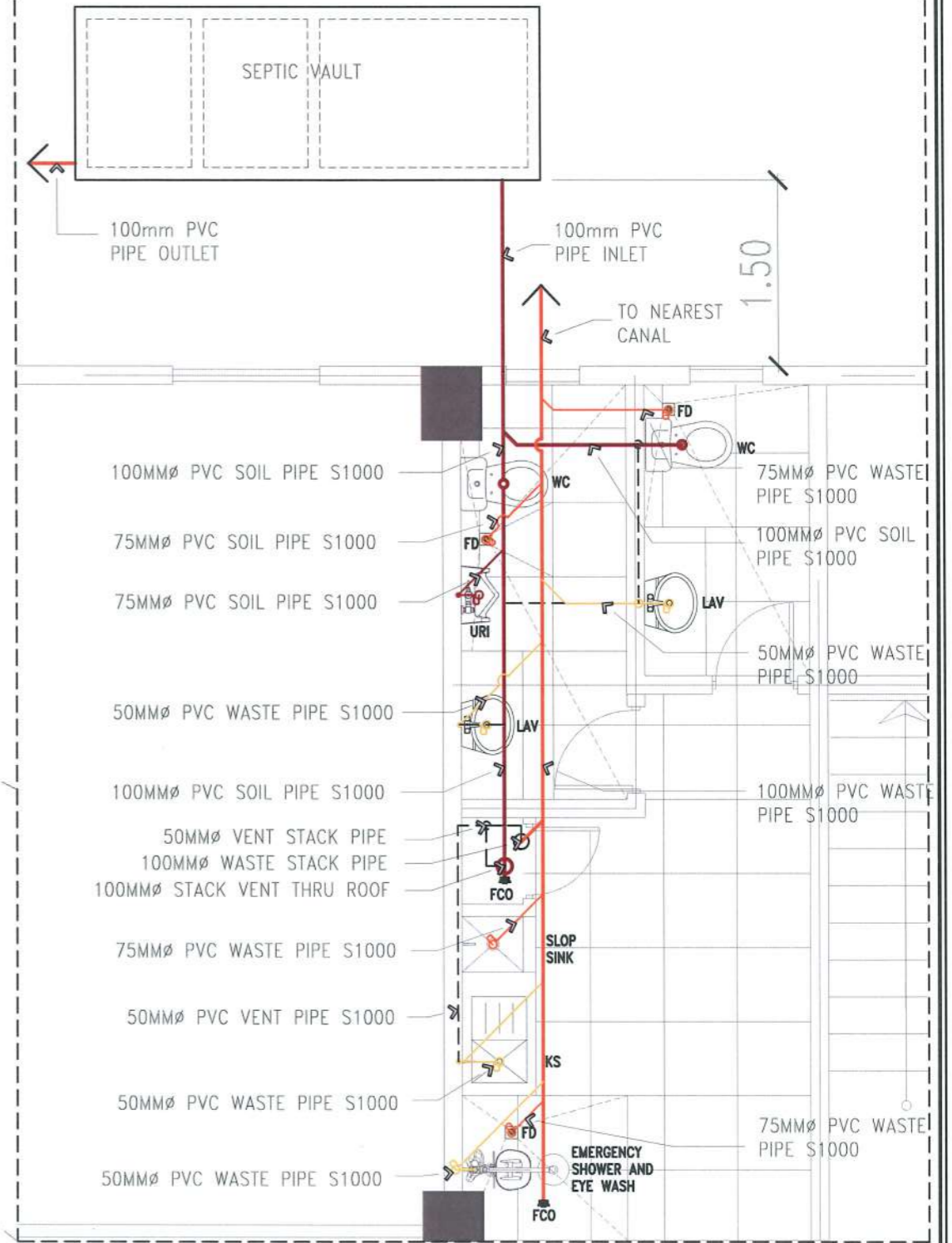
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### GROUND FLOOR SANITARY LINE LAYOUT

SCALE 1: 175 M



### BLOW UP PLAN OF GROUND FLOOR SANITARY LINE LAYOUT

SCALE 1: 50 M

*AR. MIYELLE ANNE E. BARCE*  
 REGISTERED MASTER PLUMBER  
 PRC NO. 12945 TIN: 487-615-703  
 PTR NO. 4499843 DATE: 7/8/2023  
 ISSUED AT TARLAC CITY

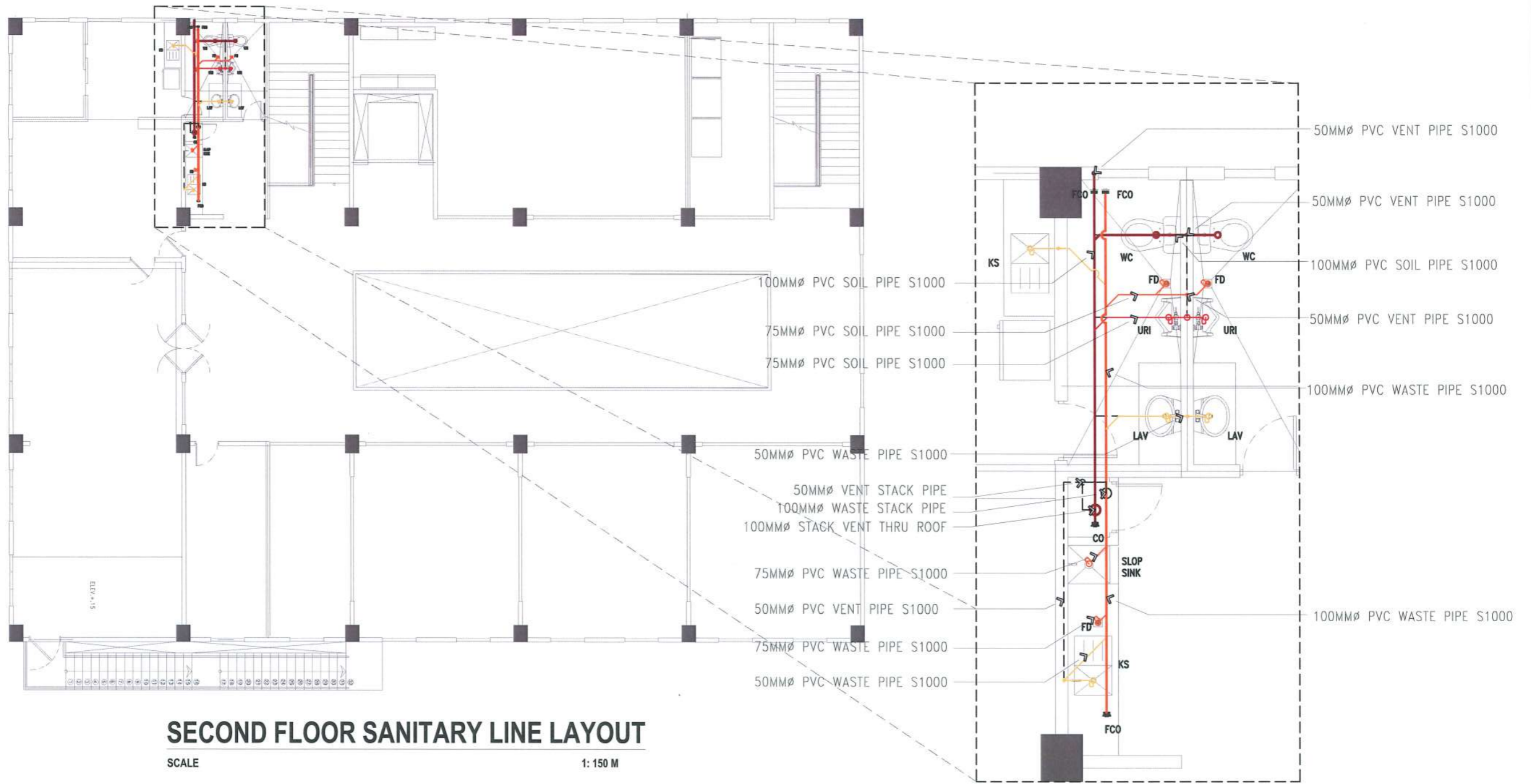


PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PRC NO: VALIDITY:  
 PTR NO: DATE ISSUED:  
 ISSUED AT: TIN:

OWNER: DR. ARNOLD E. VELASCO

SHEET CONTENTS: AS SHOWN  
 SHEET NO: P-02  
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**SECOND FLOOR SANITARY LINE LAYOUT**

SCALE

1: 150 M

**BLOW UP PLAN OF  
SECOND FLOOR SANITARY LINE LAYOUT**

SCALE

1: 50 M

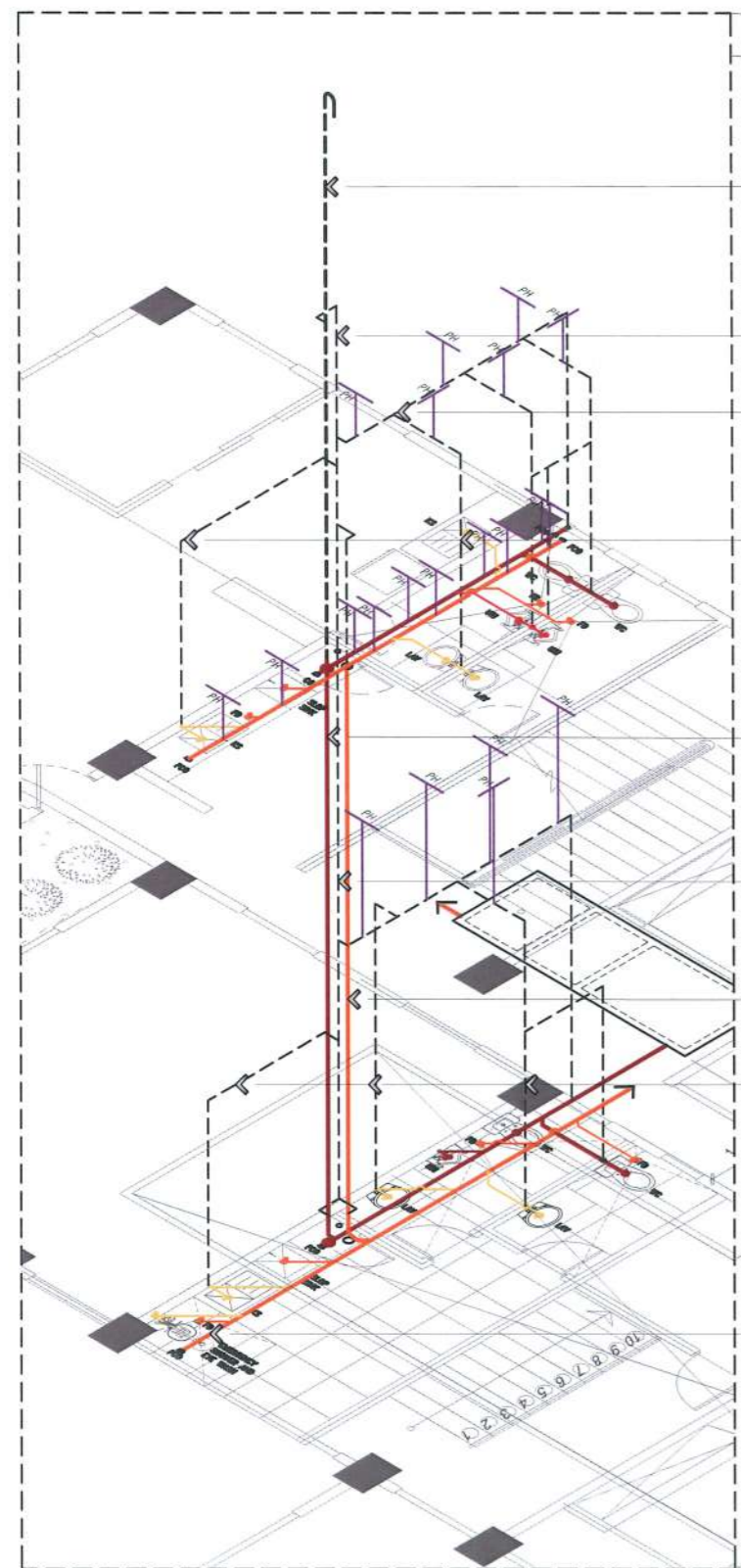
*(Signature)*  
**AR MIYELLE ANNE E. BARCE**  
 REGISTERED MASTER PLUMBER  
 REGISTERED MASTER PLUMBER  
 PRC NO. 42945 TIN: 487-615-703  
 PTR NO. 4499843 DATE: /6/2023  
 ISSUED AT TARLAC CITY



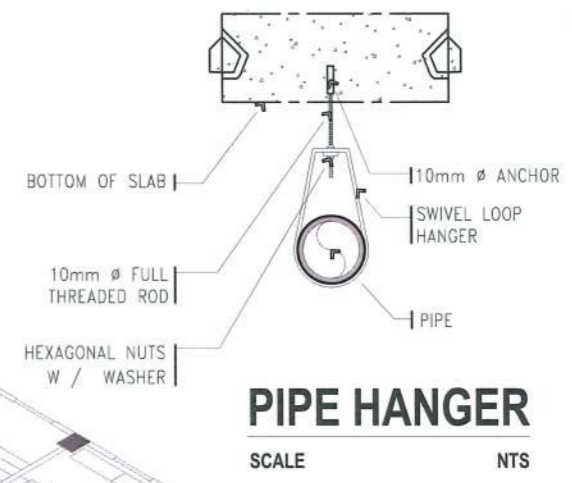
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PRC NO: VALIDITY:  
 PTR NO: DATE ISSUED:  
 ISSUED AT: TIN:

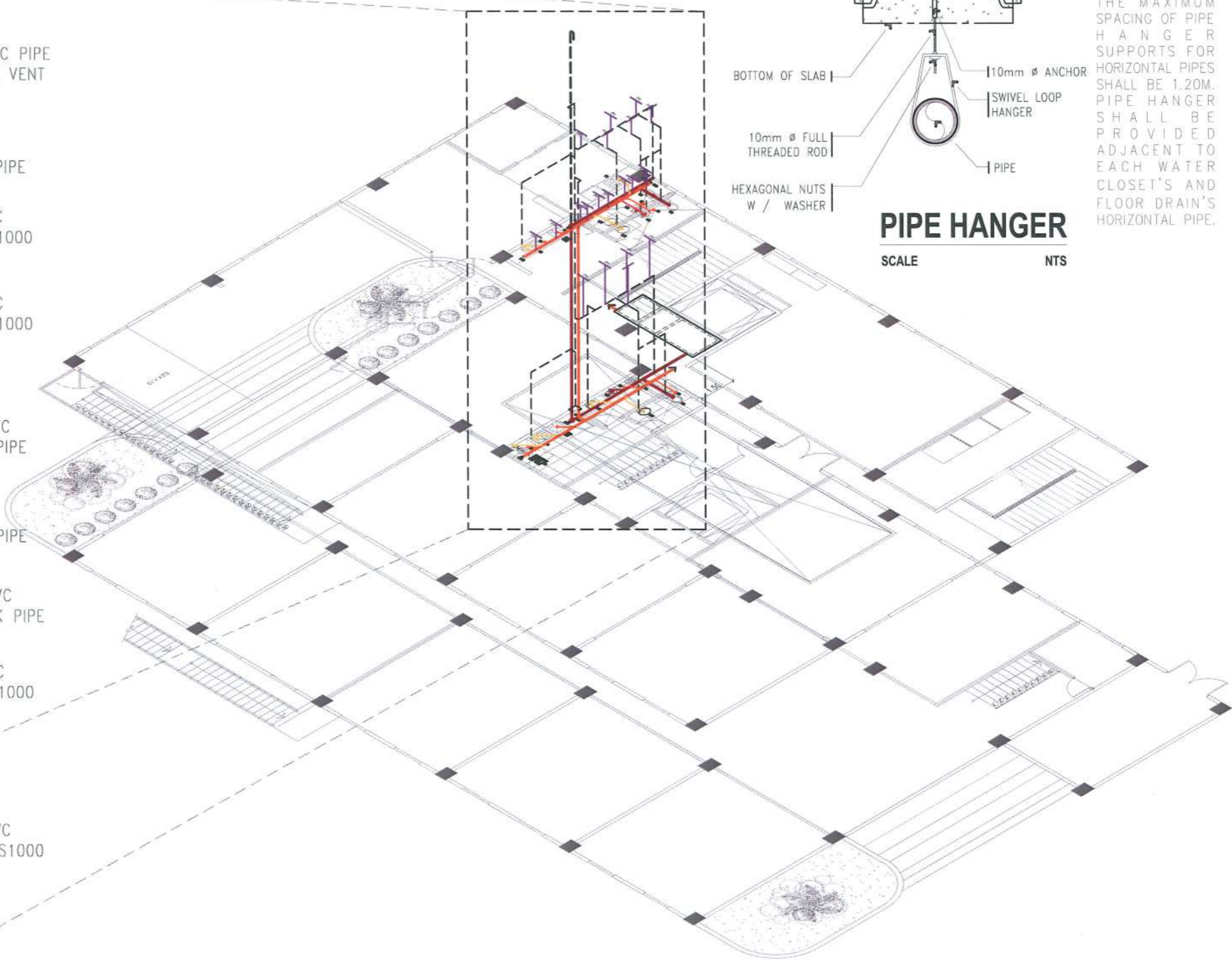
OWNER: DR. ARNOLD E. VELASCO  
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 SHEET NO: P -03  
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- 100mm  $\phi$  PVC PIPE  
S1000 STACK VENT  
THRU ROOF
- 50mm  $\phi$  PVC  
VENT STACK PIPE  
S1000
- 50mm  $\phi$  PVC  
VENT PIPE S1000
- 50mm  $\phi$  PVC  
VENT PIPE S1000
- 100mm  $\phi$  PVC  
SOIL STACK PIPE  
S1000
- 50mm  $\phi$  PVC  
VENT STACK PIPE  
S1000
- 100mm  $\phi$  PVC  
WASTE STACK PIPE  
S1000
- 50mm  $\phi$  PVC  
VENT PIPE S1000
- 100mm  $\phi$  PVC  
WASTE PIPE S1000



NOTE:  
THE MAXIMUM SPACING OF PIPE HANGER SUPPORTS FOR HORIZONTAL PIPES SHALL BE 1.20M. PIPE HANGER SHALL BE PROVIDED ADJACENT TO EACH WATER CLOSET'S AND FLOOR DRAIN'S HORIZONTAL PIPE.



**BLOW UP PLAN OF  
SANITARY LINE ISOMETRIC LAYOUT**  
SCALE 1: 100 M

**SANITARY LINE ISOMETRIC LAYOUT**  
SCALE 1: 125 M

*AR. MIYELLE ANNE E. BARCE*  
REGISTERED MASTER PLUMBER  
PRC NO. 12945 TIN: 487-815-703  
PTR NO. 4499843 DATE: 7/6/2023  
ISSUED AT TARLAC CITY

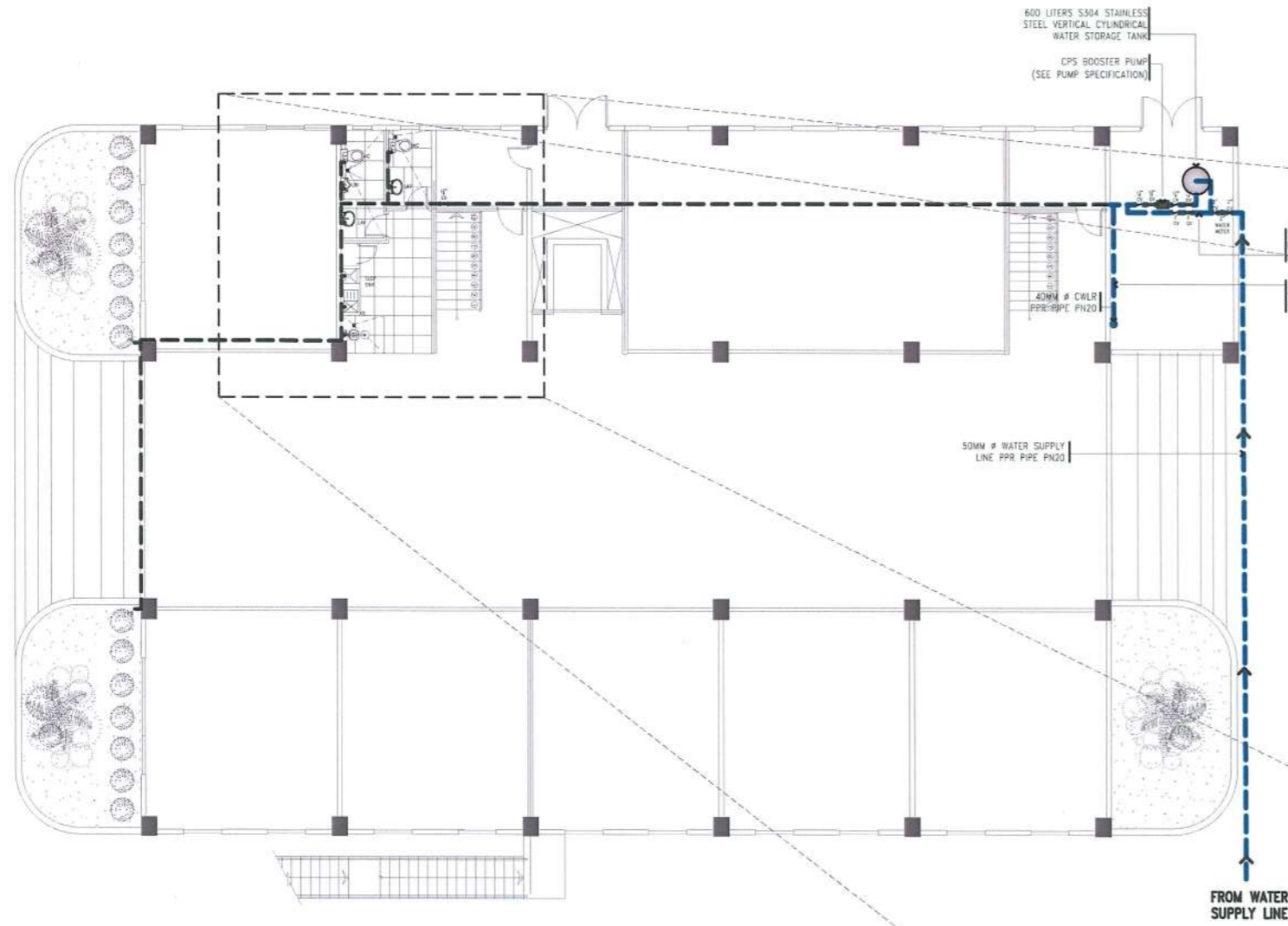


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ISSUED AT :	TIN :

OWNER:	SHEET CONTENTS:
<i>DR. ARNOLD E. VELASCO</i>	AS SHOWN
	DATE: SEPTEMBER, 2023

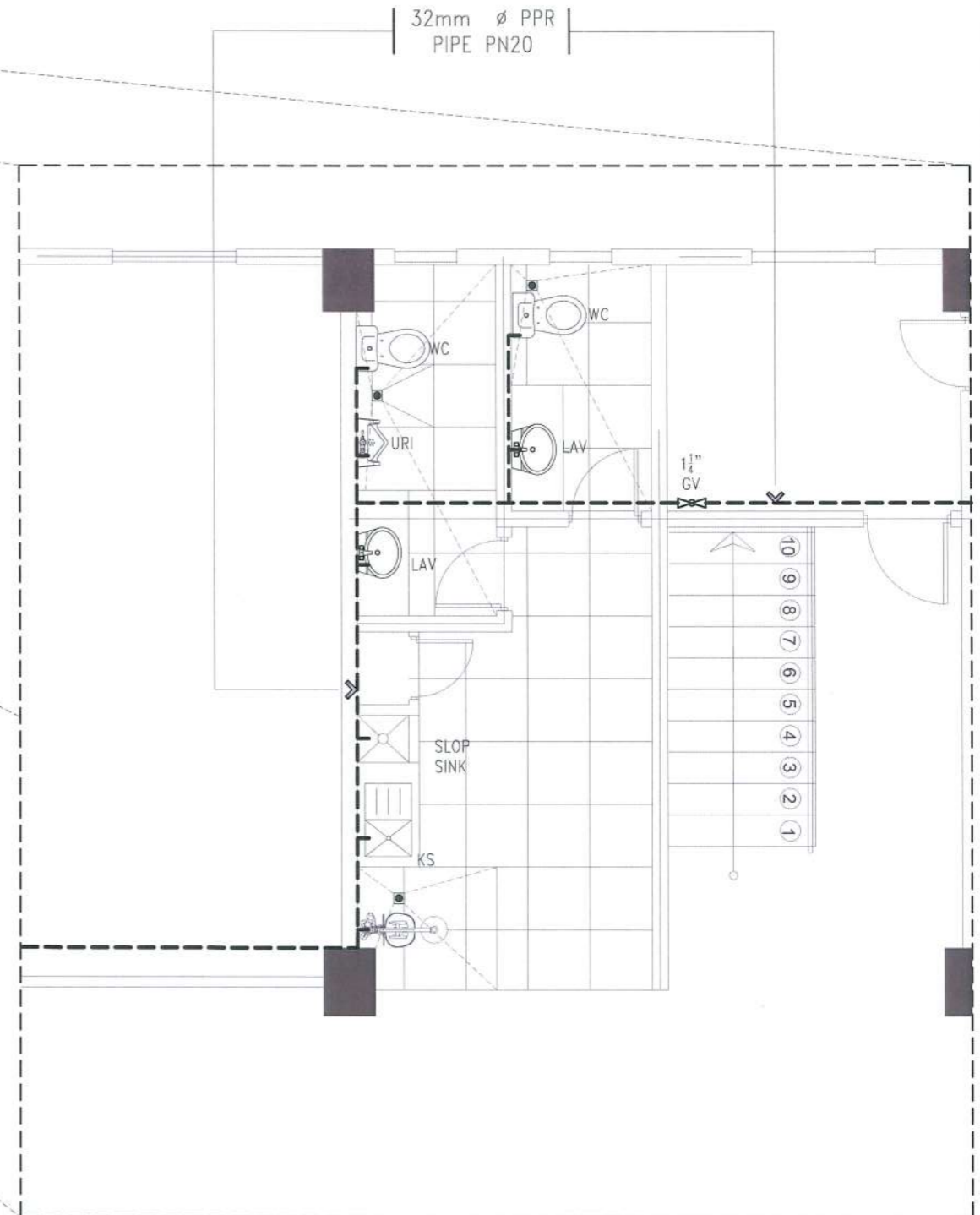
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### GROUND FLOOR WATER LINE LAYOUT

SCALE

1: 200 M



### BLOW UP PLAN OF GROUND FLOOR WATER LINE LAYOUT

SCALE

1: 60 M

PPR PIPE PROPERTIES			
NOMINAL SIZE	OUTSIDE DIAMETER	THICKNESS	SPECIFICATIONS
1"	32mm	5.4mm	PN20
1 1/4"	40mm	6.7mm	PN20
1 1/2"	50mm	8.4mm	PN20
2"	63mm	10.50mm	PN20

**DR. ARNOLD E. VELASCO**  
 REGISTERED MASTER PLUMBER  
 PRC NO. 12945 TIN: 487-615-703  
 PTR NO. 4439843 DATE: 1/6/2023  
 ISSUED AT TARLAC CITY

PRC NO: VALIDITY:  
 PTR NO: DATE ISSUED:  
 ISSUED AT: TIN:

OWNER:  
**DR. ARNOLD E. VELASCO**

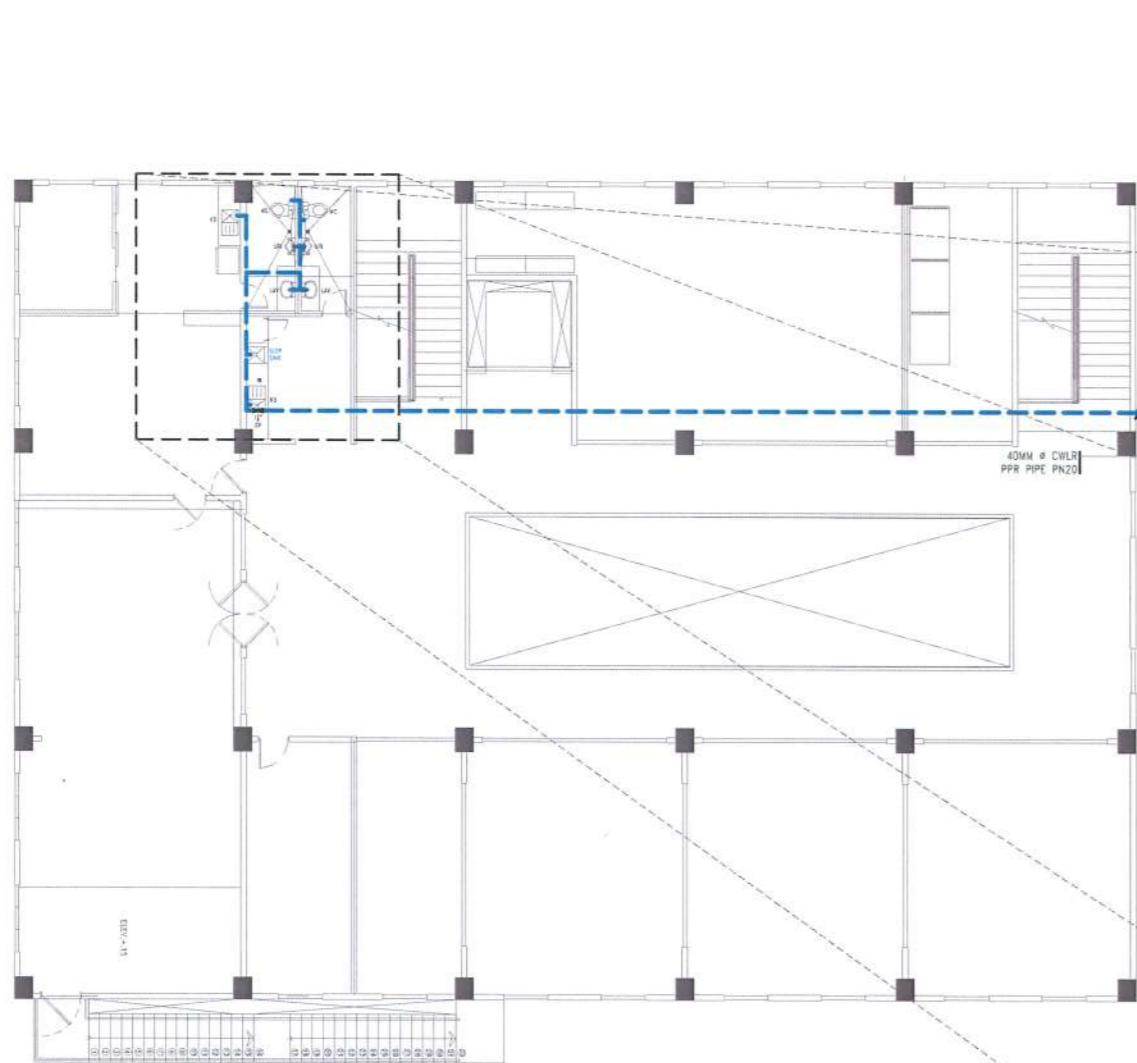
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 AS SHOWN  
 DATE: SEPTEMBER, 2023

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PROJECT TITLE:  
**CONSTRUCTION OF TSU WAREHOUSE**  
 PROJECT LOCATION:  
**LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY**





### SECOND FLOOR WATER LINE LAYOUT

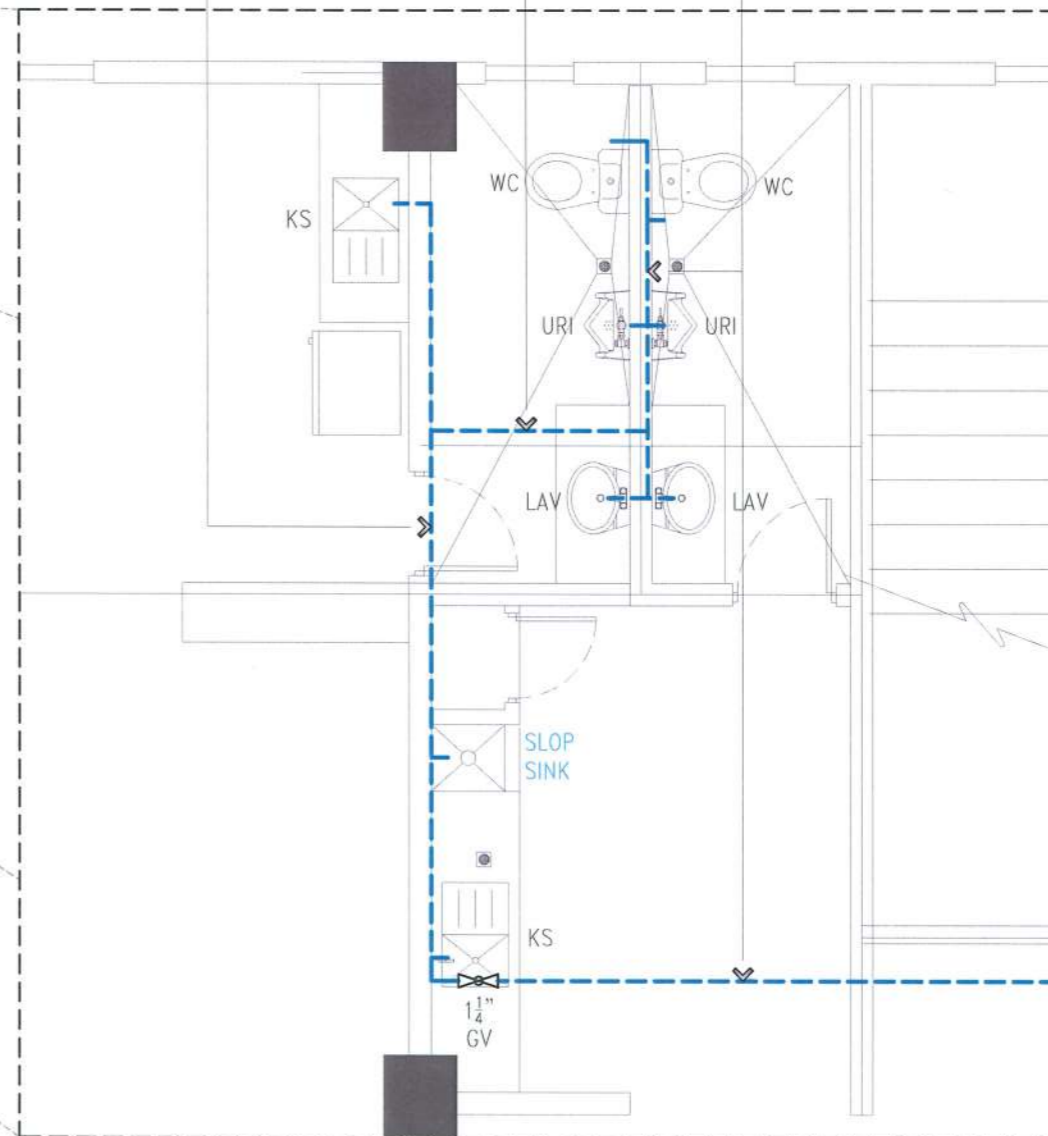
SCALE

1: 200 M

32mm  $\phi$  PPR  
PIPE PN20

32mm  $\phi$  PPR  
PIPE PN20

32mm  $\phi$  PPR  
PIPE PN20



### BLOW UP PLAN OF SECOND FLOOR WATER LINE LAYOUT

SCALE

1: 50 M

**DR. ARNOLD E. VELASCO**  
REGISTERED MASTER PLUMBER

PRC NO. 12945 TIN: 487-615-703  
PTR NO. 4499843 DATE: 1/6/2023

ISSUED AT TARLAC CITY

PRC NO:	VALIDITY:
PTR NO:	DATE ISSUED:
ISSUED AT:	TIN:

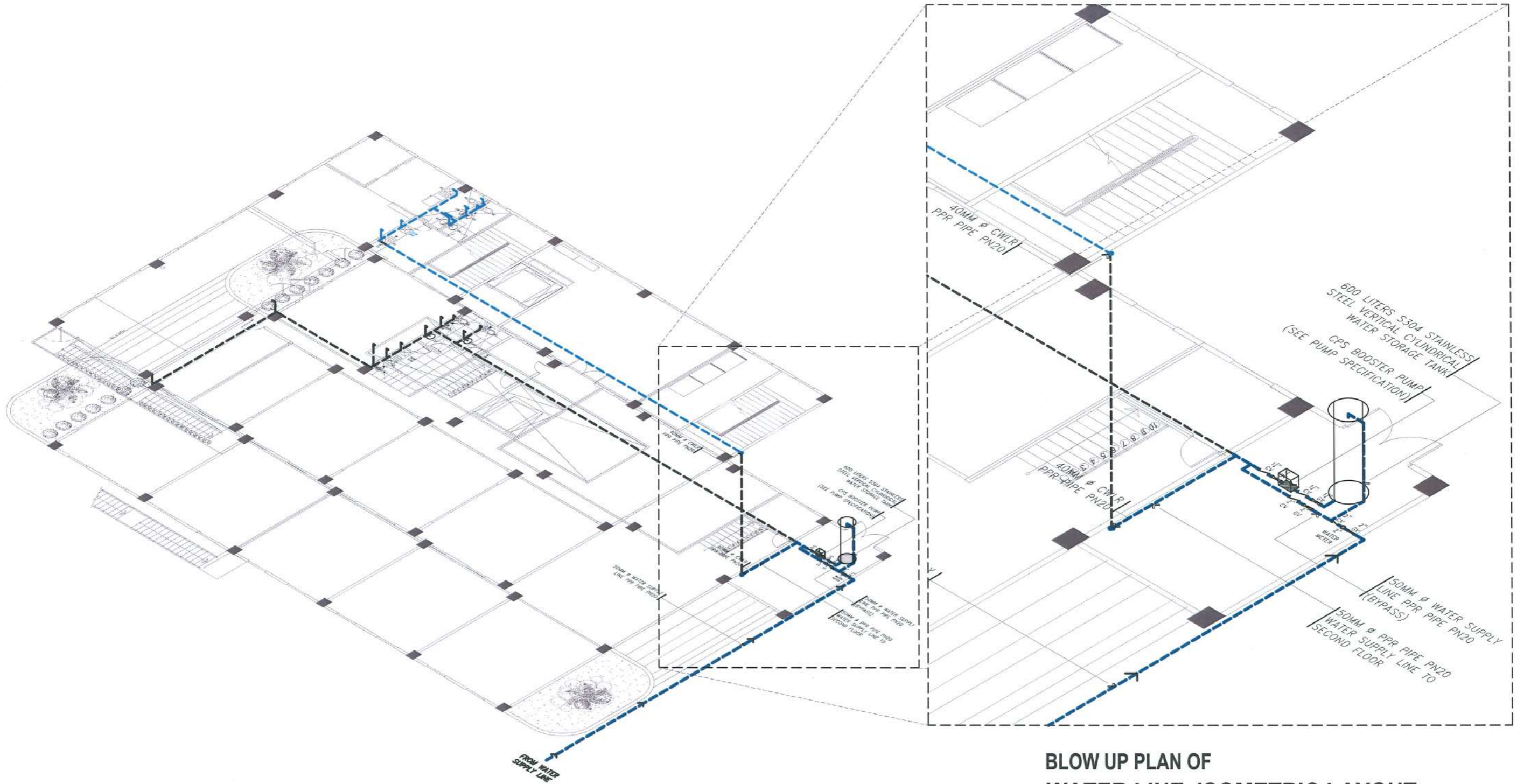
OWNER:  
*Ans* DR. ARNOLD E. VELASCO

SHEET CONTENTS:	SHEET NO:
AS SHOWN	P-06
DATE: SEPTEMBER, 2023	PAGE NO:
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PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY





**WATER LINE ISOMETRIC LAYOUT**

SCALE 1: 225 M

**BLOW UP PLAN OF WATER LINE ISOMETRIC LAYOUT**

SCALE 1: 100 M

*AR. MIYELLE ANNE E. BARCE*  
 REGISTERED MASTER PLUMBER  
 PRC NO. 12945 TIN: 487-615-703  
 PTR NO. 4493043 DATE: 7/6/2023  
 ISSUED AT TARLAC CITY

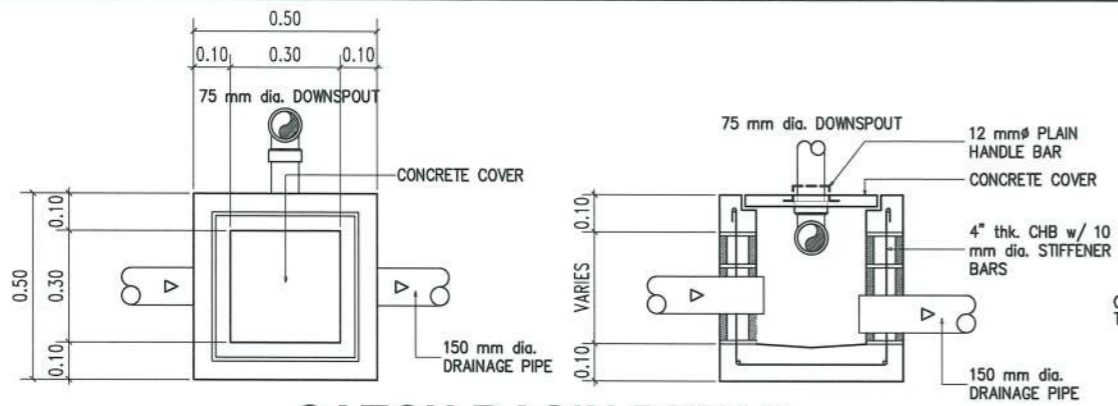


PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PRC NO: VALIDITY:  
 PTR NO: DATE ISSUED:  
 ISSUED AT: TIN:

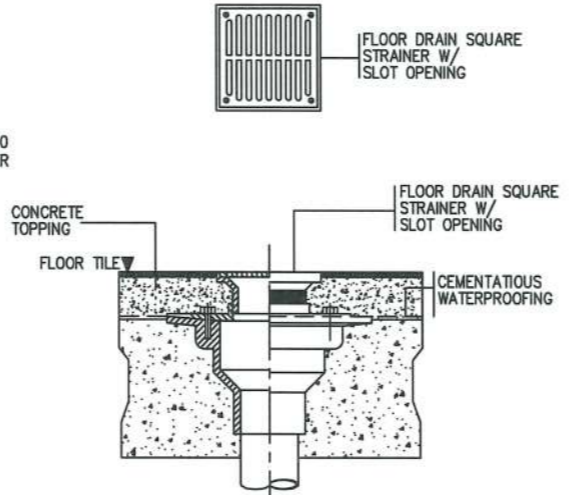
OWNER: DR. ARNOLD E. VELASCO

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 SHEET NO: P-08  
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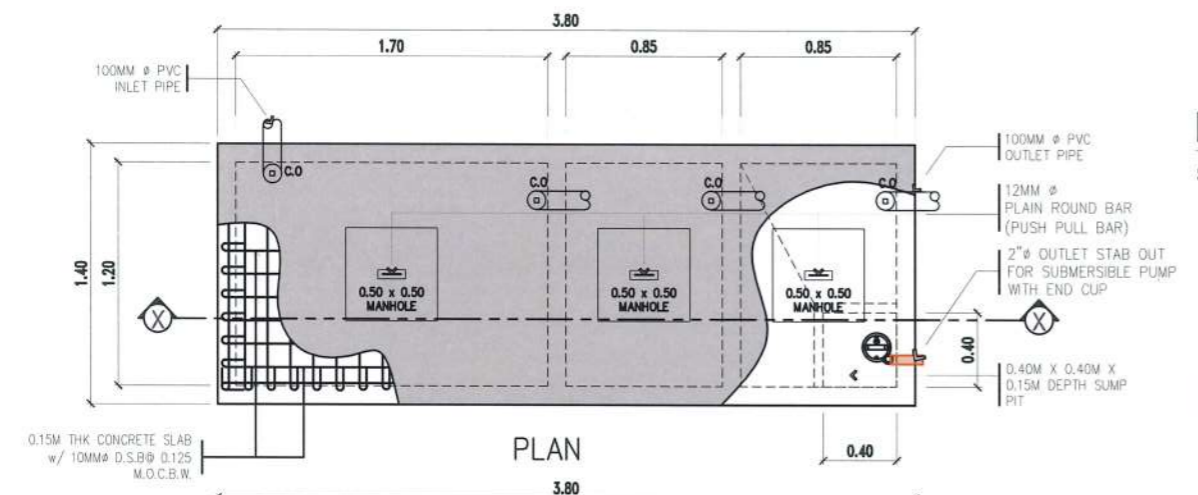
### CATCH BASIN DETAIL

SCALE : 1:20M



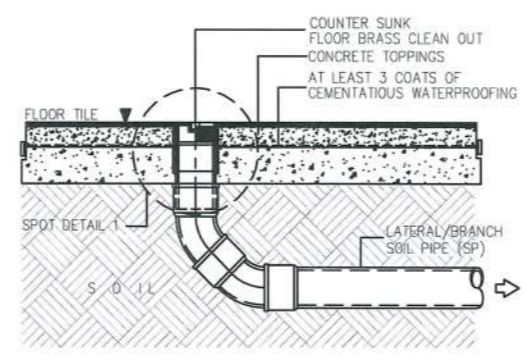
### FLOOR DRAIN DETAIL

SCALE : NTS



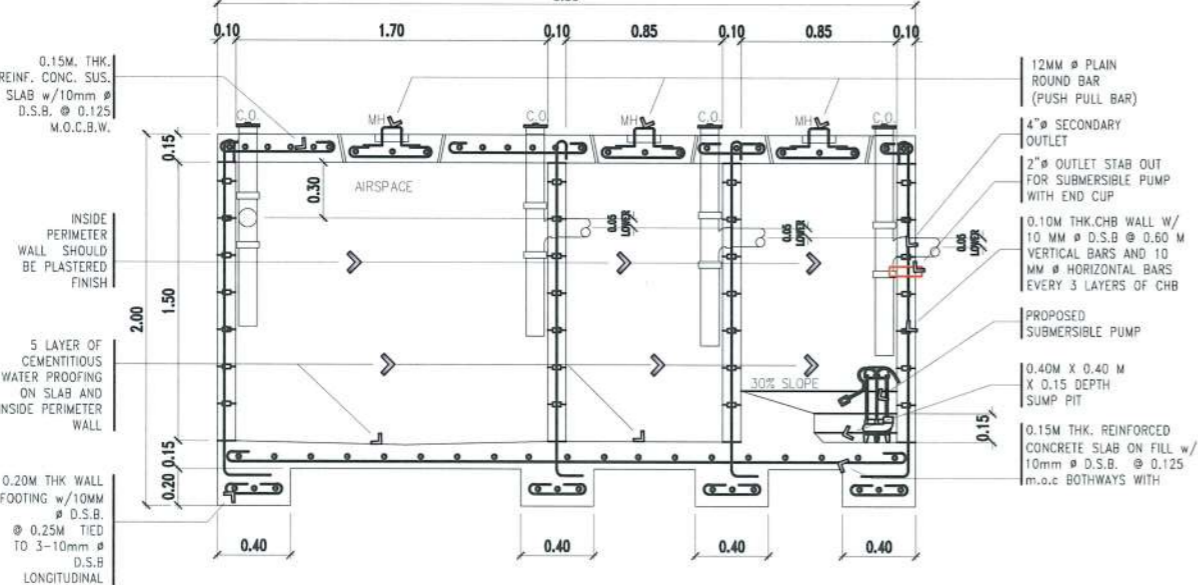
### SEPTIC TANK DETAIL

SCALE : 1:40M



### CLEANOUT WITH BRASS COVER DETAIL

SCALE : 1:100



SECTION THRU X-X

### GENERAL NOTES

1. ALL PLUMBING WORKS SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE AND NATIONAL PLUMBING CODE.
2. PIPES SHALL BE INSTALLED AS LOCATED IN THE WORKING DRAWINGS. ANY RELOCATION REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE UPON THE APPROVAL OF MASTER PLUMBER.
3. ALL HORIZONTAL DRAINAGE PIPES SHALL MAINTAIN BETWEEN 1% TO 2% SLOPE.
4. ALL SANITARY LINES SHALL BE MADE OF POLYVINYL CHLORIDE (PVC) PIPES S1000.
5. VERTICAL PIPES SHALL BE SECURED STRONGLY BY HOOKS TO BUILDING FRAMES/FRAMING. PROVIDE SUITABLE BRACKET OR CHAIRS AT THE FLOORS WHICH THEY START.
6. ALL CHANGE IN DIRECTIONS SHALL BE MADE BY THE APPROPRIATE USE OF FORTY-FIVE WYE, LONG SWEEP QUARTER BEND, SIXTH, EIGHT, SIXTEENTH BENDS, WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL, A SINGLE ONE-EIGHT BEND COMBINATION MAY BE USED ON WASTE LINES, TEES AND CROSSES MAY BE USED ON VENT PIPES.
7. ALL PLUMBING WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF DULY LICENSED MASTER PLUMBER.

### LEGEND

	100mm SOIL PIPE	CO	PVC CLEANOUT
	75mm WASTE PIPE	FCO	BRASS FLOOR CLEANOUT
	50mm WASTE PIPE	LAV	LAVATORY
	50mm VENT PIPE	SS	SOIL STACK
	50mm PPR PN20	ST	SEPTIC TANK
	40mm PPR PN20	VS	VENT STACK
	32mm PPR PN20	WC	WATER CLOSET
	GATE VALVE	FD	FLOOR DRAIN
	CHECK VALVE	VSTR	VENT STACK THRU ROOF
	WATER METER	PH	PIPE HANGER

**AR. MIYELLE ANNE E. BARCE**  
REGISTERED MASTER PLUMBER  
PRC NO. 12945 TIN: 487-815-703  
PTR NO. 4499843 DATE: 1/6/2023  
ISSUED AT TARLAC CITY



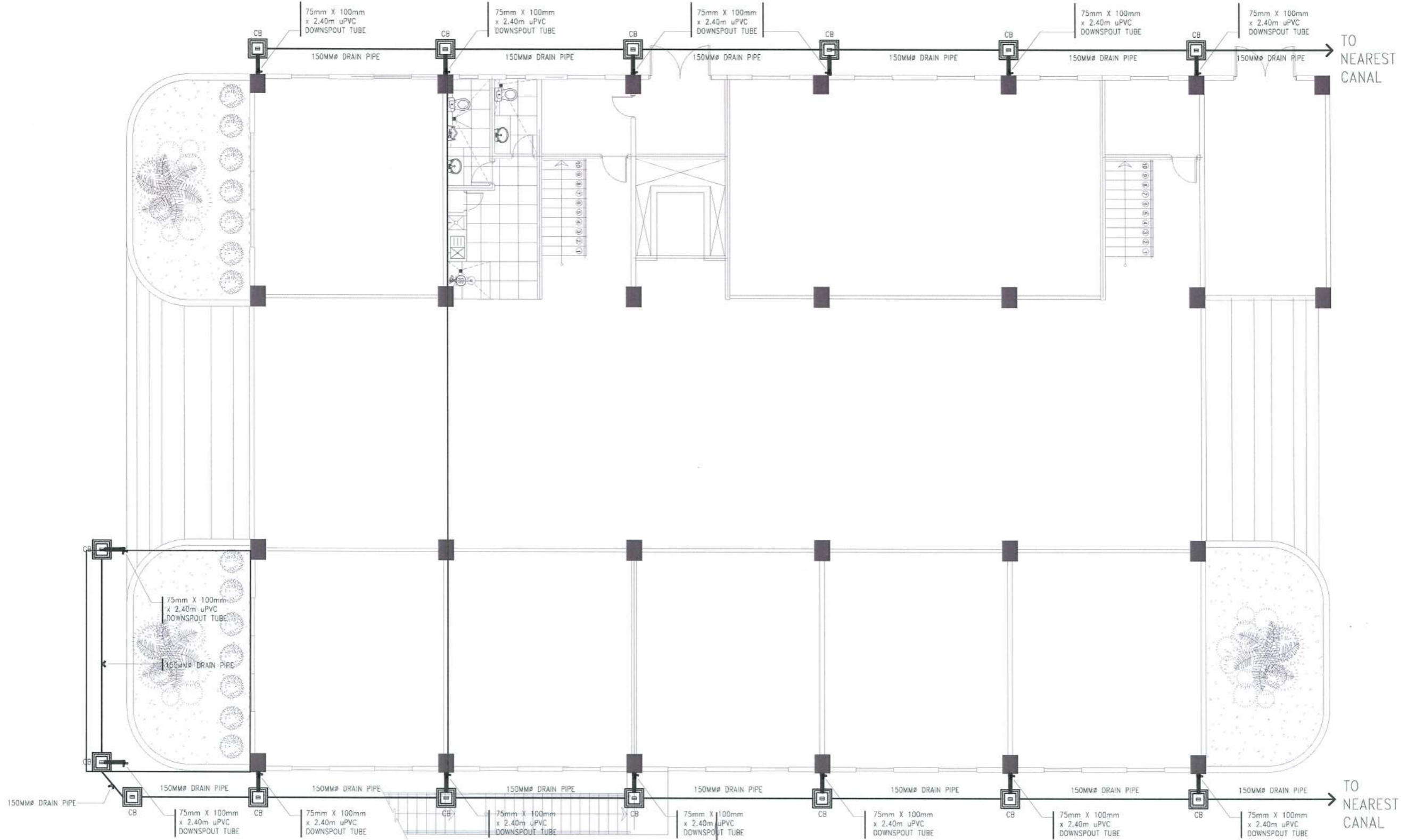
PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

REGISTERED MASTER PLUMBER  
PRC NO. 12945 TIN: 487-815-703  
PTR NO. 4499843 DATE: 1/6/2023  
ISSUED AT TARLAC CITY

PRC NO: VALIDITY:  
PTR NO: DATE ISSUED:  
ISSUED AT: TIN:

OWNER: DR. ARNOLD E. VELASCO

SHEET CONTENTS: AS SHOWN  
SHEET NO: P-09  
PAGE NO: 76/91  
DATE: SEPTEMBER, 2023



**AR. MIYELIA ANNE BARCE**  
 REGISTERED MASTER PLUMBER  
 PRC NO. 42945 TIN: 487-615-703  
 PTR NO. 4499843 DATE: 1/6/2023  
 ISSUED AT TARLAC CITY



PROJECT TITLE:  
**CONSTRUCTION OF TSU WAREHOUSE**

PROJECT LOCATION:  
**LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY**

REGISTERED MASTER PLUMBER

PRC NO: \_\_\_\_\_ VALIDITY: \_\_\_\_\_  
 PTR NO: \_\_\_\_\_ DATE ISSUED: \_\_\_\_\_  
 ISSUED AT: \_\_\_\_\_ TIN: \_\_\_\_\_

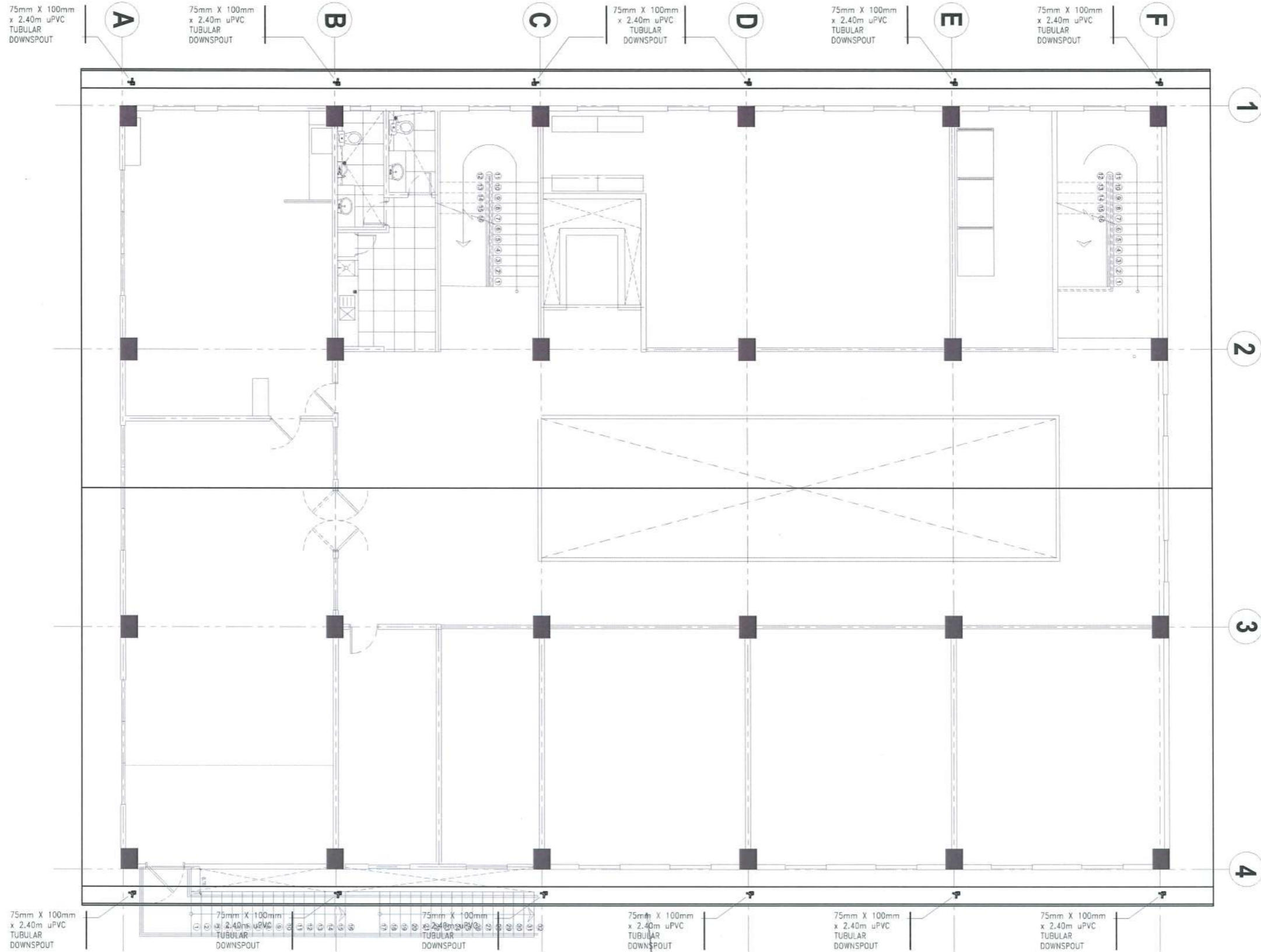
OWNER:  
*Ans* DR. ARNOLD E. VELASCO

SHEET CONTENTS:  
 AS SHOWN

SHEET NO:  
**P-10**

PAGE NO:  
**77/91**

DATE: SEPTEMBER, 2023



# STORM DRAIN LAYOUT

SCALE 1: 225 M

**DR. MYELLE ANNE E. BARCE**  
 REGISTERED MASTER PLUMBER  
 PRC NO. 12945 TIN: 487-615-703  
 PTR NO. 4499843 DATE: /6/2023

PRC NO: VALIDITY:  
 PTR NO: DATE ISSUED:  
 ISSUED AT: TIN:

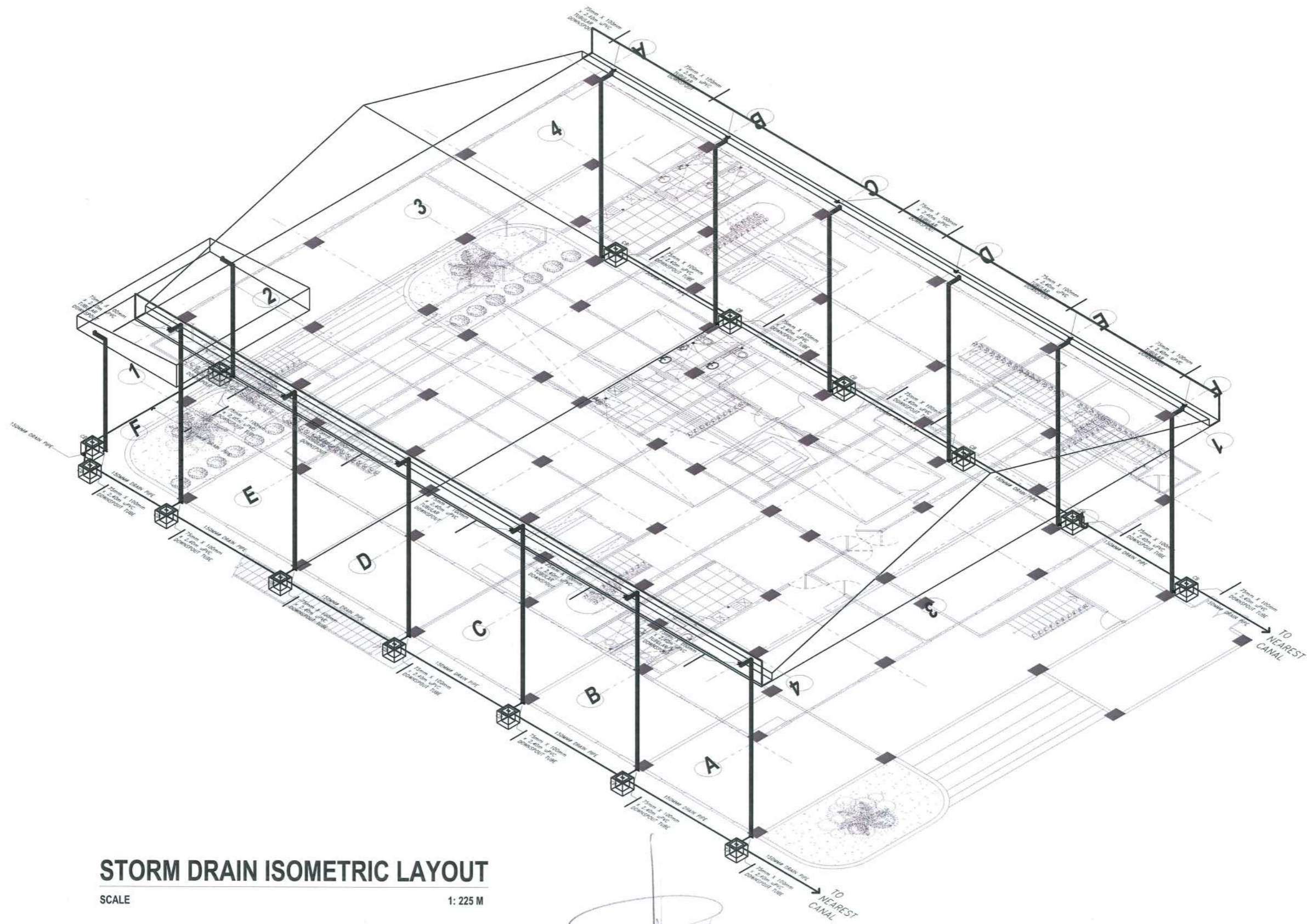
OWNER:  
 DR. ARNOLD E. VELASCO

SHEET CONTENTS:  
 AS SHOWN  
 DATE: SEPTEMBER, 2023

SHEET NO:  
**P-11**  
 PAGE NO:  
**78/91**



PROJECT TITLE:  
**CONSTRUCTION OF TSU WAREHOUSE**  
 PROJECT LOCATION:  
**LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY**



# STORM DRAIN ISOMETRIC LAYOUT

SCALE

1: 225 M

**AR MIYELLE ANNE E. BARCE**  
 REGISTERED MASTER PLUMBER  
 PRC NO. 12945 TIN: 487-615-703  
 PTR NO. 4499843 DATE: 16/2023  
 ISSUED AT TARLAC CITY

PRC NO: VALIDITY:  
 PTR NO: DATE ISSUED:  
 ISSUED AT: TIN:

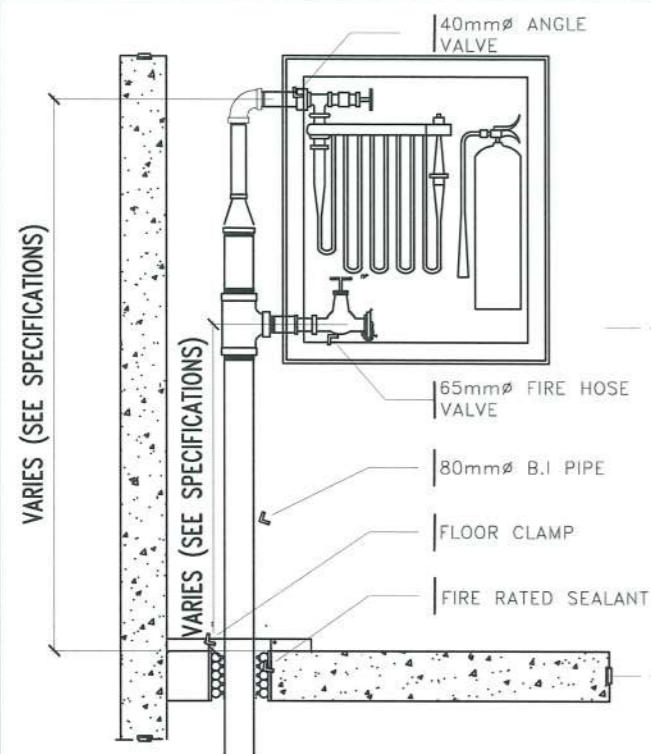
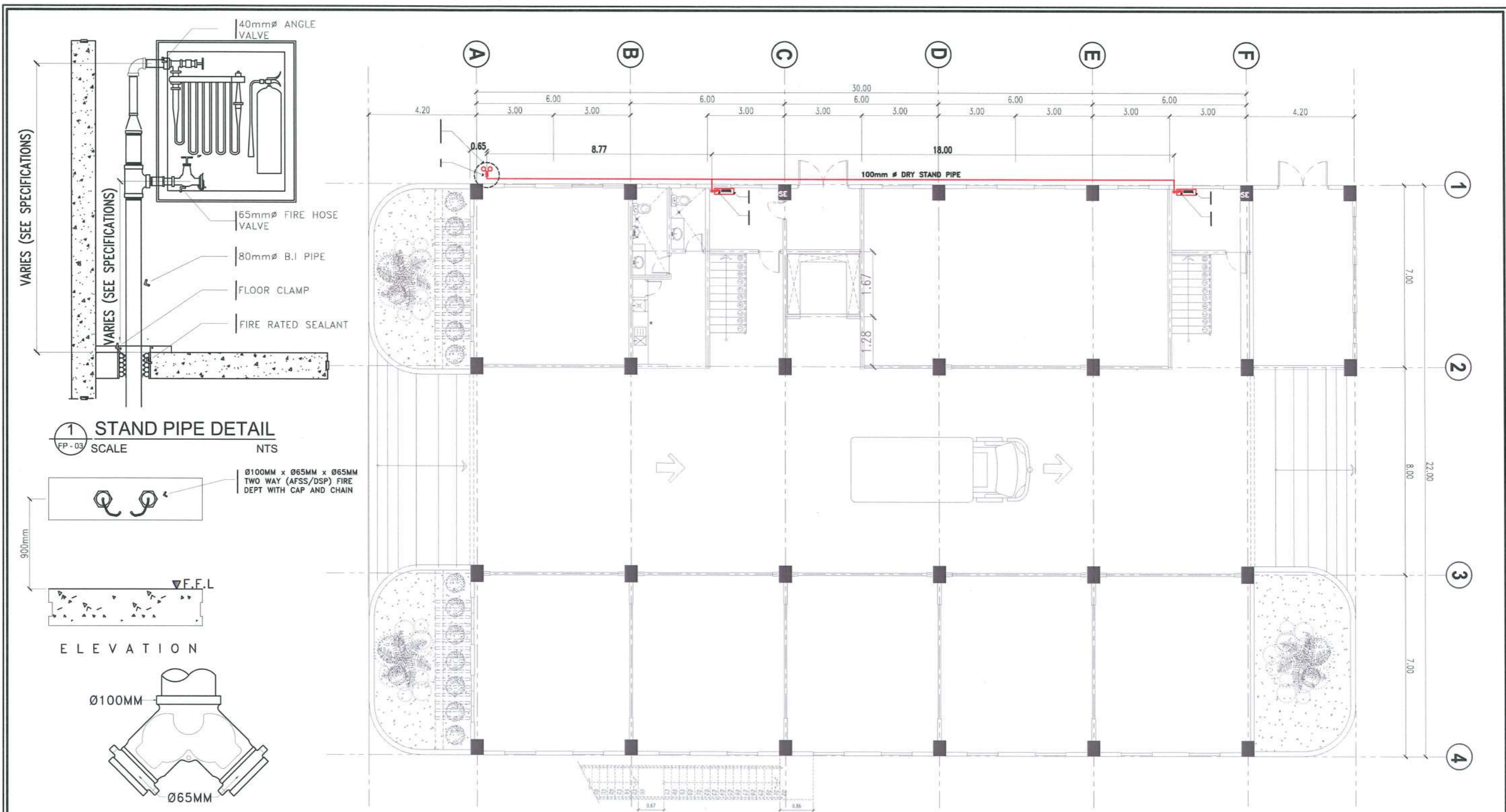
OWNER:  
*AR* DR. ARNOLD E. VELASCO

SHEET CONTENTS:  
 AS SHOWN  
 DATE: SEPTEMBER, 2023

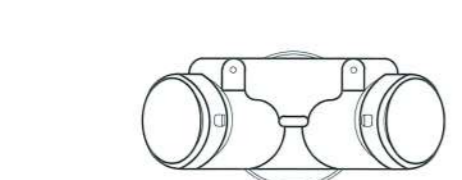
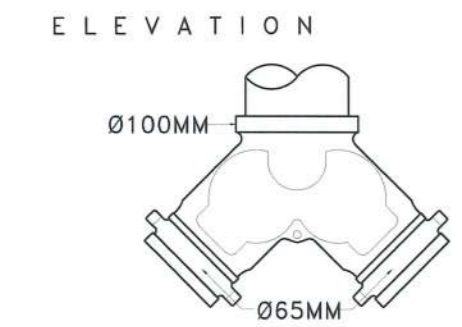
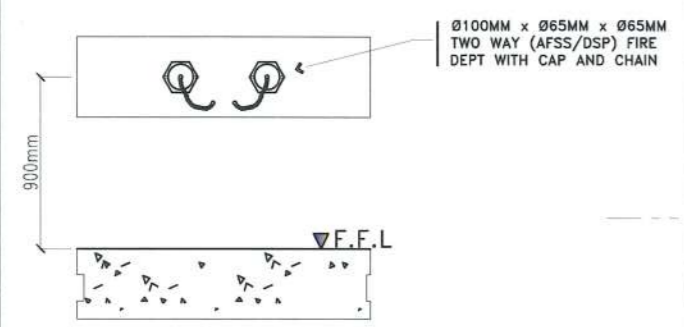
SHEET NO:  
**P-12**  
 PAGE NO:  
**79/91**



PROJECT TITLE:  
**CONSTRUCTION OF TSU WAREHOUSE**  
 PROJECT LOCATION:  
**LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY**




**1 STAND PIPE DETAIL**  
 FP-03 SCALE NTS

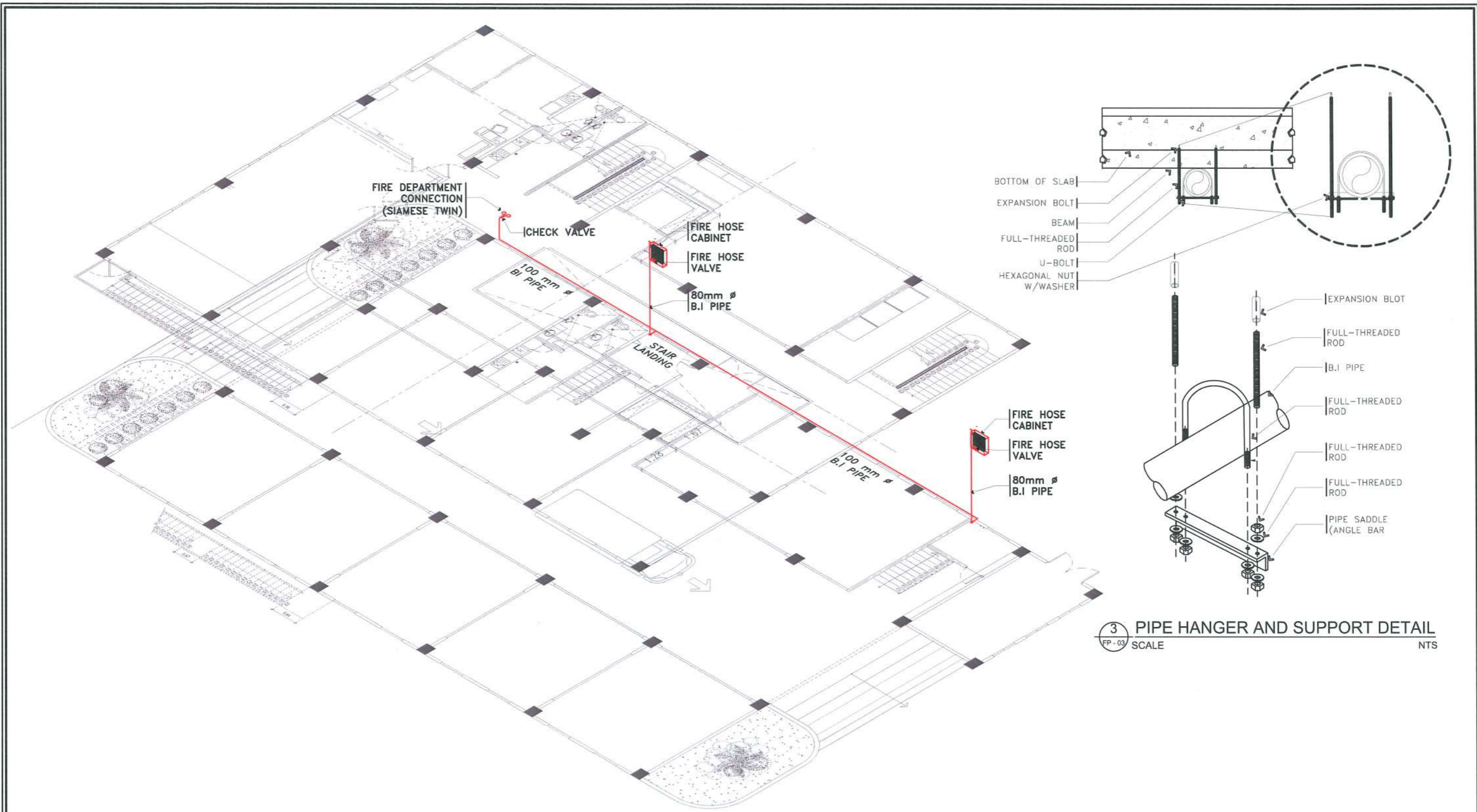


**2 FIRE DEPT. CONNECTION DETAIL**  
 FP-03 SCALE NTS

**1 STANDPIPE LAYOUT**  
 FP-01 SCALE 1:150MTS

 <b>TARLAC STATE UNIVERSITY</b> Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	MECHANICAL ENGINEER:	PRC NO.:	VALIDITY:	OWNER:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF TSU WAREHOUSE	<i>Jimmy M. Viroy</i> PROFESSIONAL MECHANICAL ENGINEER				DR. ARNOLD E. VELASCO	AS SHOWN
PROJECT LOCATION:	DATE ISSUED:	PRC LICENSE NO. : 4983	ISSUED AT:	DATE ISSUED:	TIN:	DATE: SEPTEMBER, 2023	PAGE NO.:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	JANUARY 3, 2023	PTR NO. : 4488877	TARLAC CITY				80/91
		ADDRESS: NHA BRGY: BUROT TARLAC CITY					





**1** STANDPIPE ISOMETRIC LAYOUT  
 FP - 02 SCALE 1:150MTS

**3** PIPE HANGER AND SUPPORT DETAIL  
 FP - 03 SCALE NTS

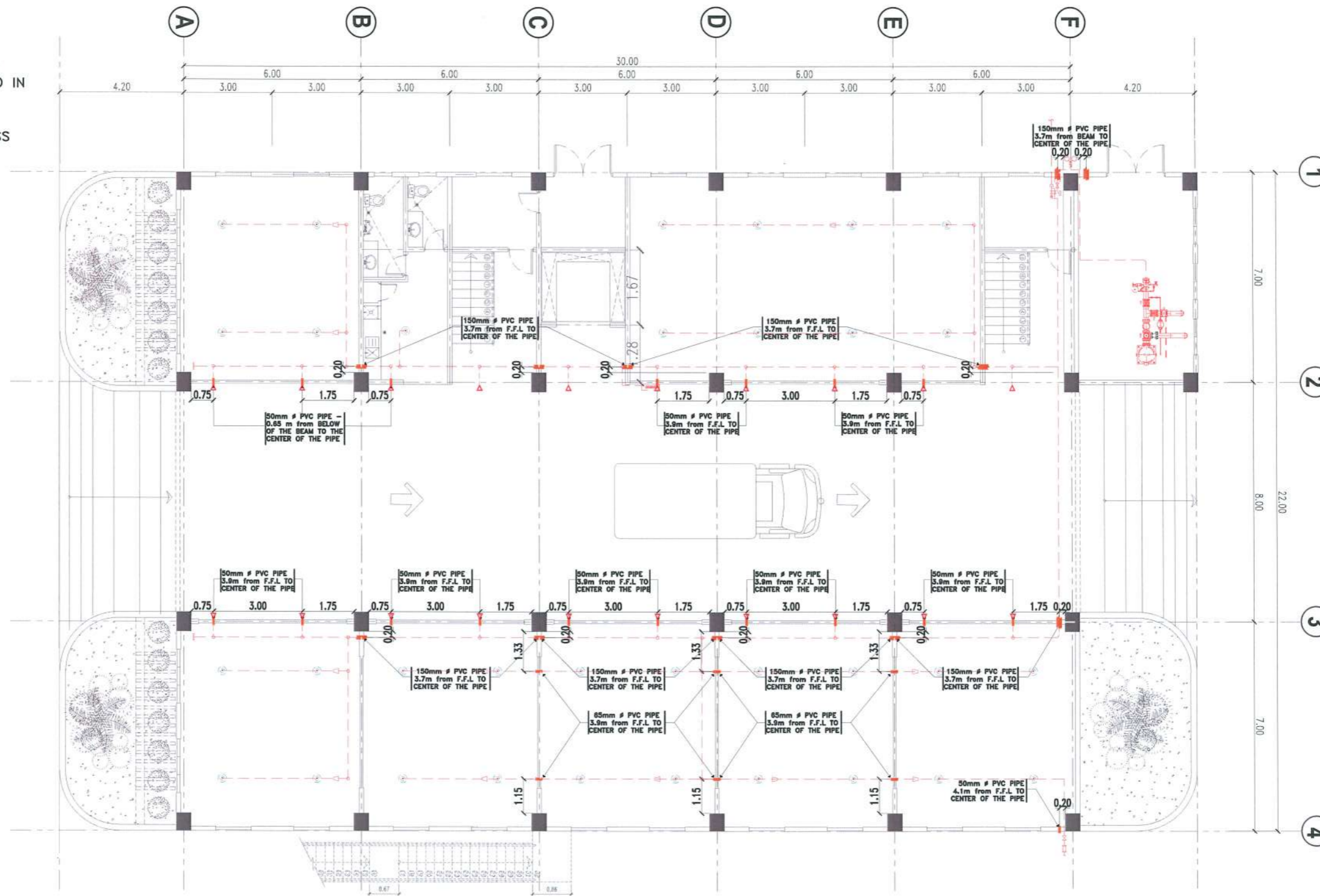


**TARLAC STATE UNIVERSITY**  
 Facilities Development and Management Office  
 Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE	MECHANICAL ENGINEER: <i>JIMMY M. VIRLO</i> PROFESSIONAL MECHANICAL ENGINEER	PRC NO.:	VALIDITY:	OWNER:	SHEET CONTENTS:	SHEET NO.:
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	PRC LICENSE NO. : 4983 PTR NO. : 4488877 DATE ISSUED: JANUARY 3, 2023	ISSUED AT:	DATE ISSUED:	<i>As</i> DR. ARNOLD E. VELASCO	AS SHOWN	M -02
	ISSUED AT: TARLAC CITY TIN: 148900609000 ADDRESS: NHA BRGY: BUROT TARLAC CITY		TIN:		DATE: SEPTEMBER, 2023	PAGE NO: 81/91

NOTE: AUTOMATIC FIRE SPRINKLER SYSTEM ARE NOT INCLUDED IN BOQ

ROUGH-INS SHALL BE PROVIDED FOR FUTURE AFSS INSTALLATION



**1** GROUND FLOOR AFSS ROUGH-IN LAYOUT  
 FP - 03 SCALE 1:150MTS



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

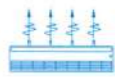

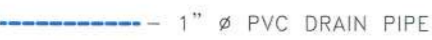
MECHANICAL ENGINEER: JIMMY M. VIROY  
 PROFESSIONAL MECHANICAL ENGINEER  
 PRC LICENSE NO. : 4983  
 PTR NO. : 4488877  
 DATE ISSUED: JANUARY 3, 2023  
 ISSUED AT: TARLAC CITY  
 TIN: 148900609000  
 ADDRESS: NHA BRGY: BUROT TARLAC CITY

PROJ NO: \_\_\_\_\_ VALIDITY: \_\_\_\_\_  
 DATE ISSUED: \_\_\_\_\_  
 ISSUED AT: \_\_\_\_\_ TIN: \_\_\_\_\_

OWNER: DR. ARNOLD E. VELASCO  
 (Signature)

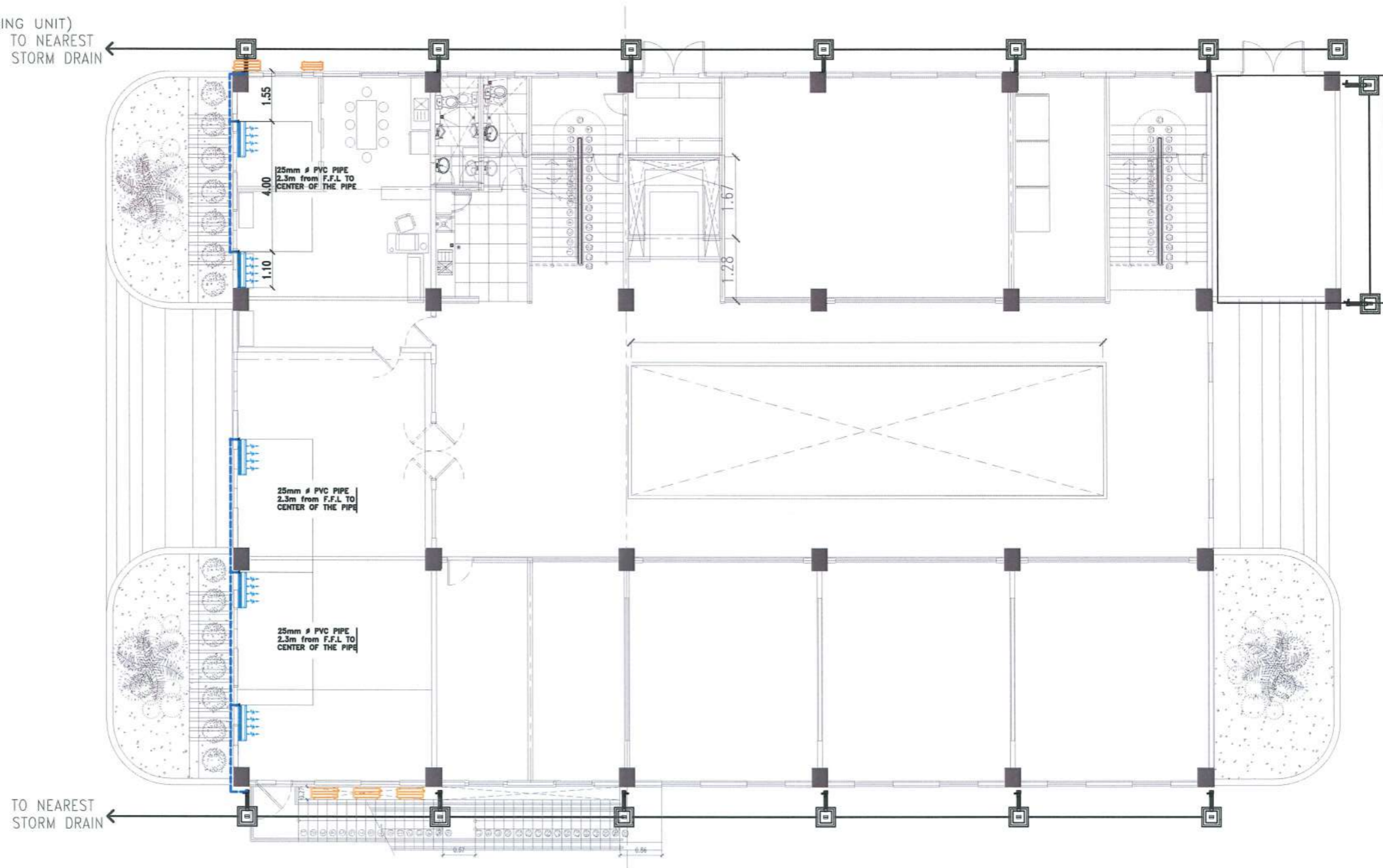
SHEET CONTENTS: AS SHOWN  
 SHEET NO: M -03  
 PAGE NO: 82/91  
 DATE: SEPTEMBER, 2023

**LEGENDS & SYMBOLS:**

-  - AC INDOOR UNIT (FCU - FAN COIL UNIT)
-  - AC OUTDOOR UNIT (ACCU - AIR COOLED CONDENSING UNIT)
-  - 1" Ø PVC DRAIN PIPE

**NOTE:**

CONDENSATE DRAIN PIPES FOR AIR CONDITIONING UNITS SHALL BE MADE OF 25mm (1") Ø PVC (BLUE) AND ALL HORIZONTAL DRAIN SHALL MAINTAIN 2% SLOPE AND MUST BE CONCEALED ON WALL.



# CONDENSATE DRAIN PIPE LAYOUT

SCALE 1:150 M



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

MECHANICAL ENGINEER: **JIMMY M. VIROY**  
 PROFESSIONAL MECHANICAL ENGINEER  
 PRC LICENSE NO. : 4983  
 PTR NO. : 4488877  
 DATE ISSUED: JANUARY 3, 2023  
 ISSUED AT: TARLAC CITY  
 TIN: 148900609000  
 ADDRESS: NHA BRGY: BUROT TARLAC CITY

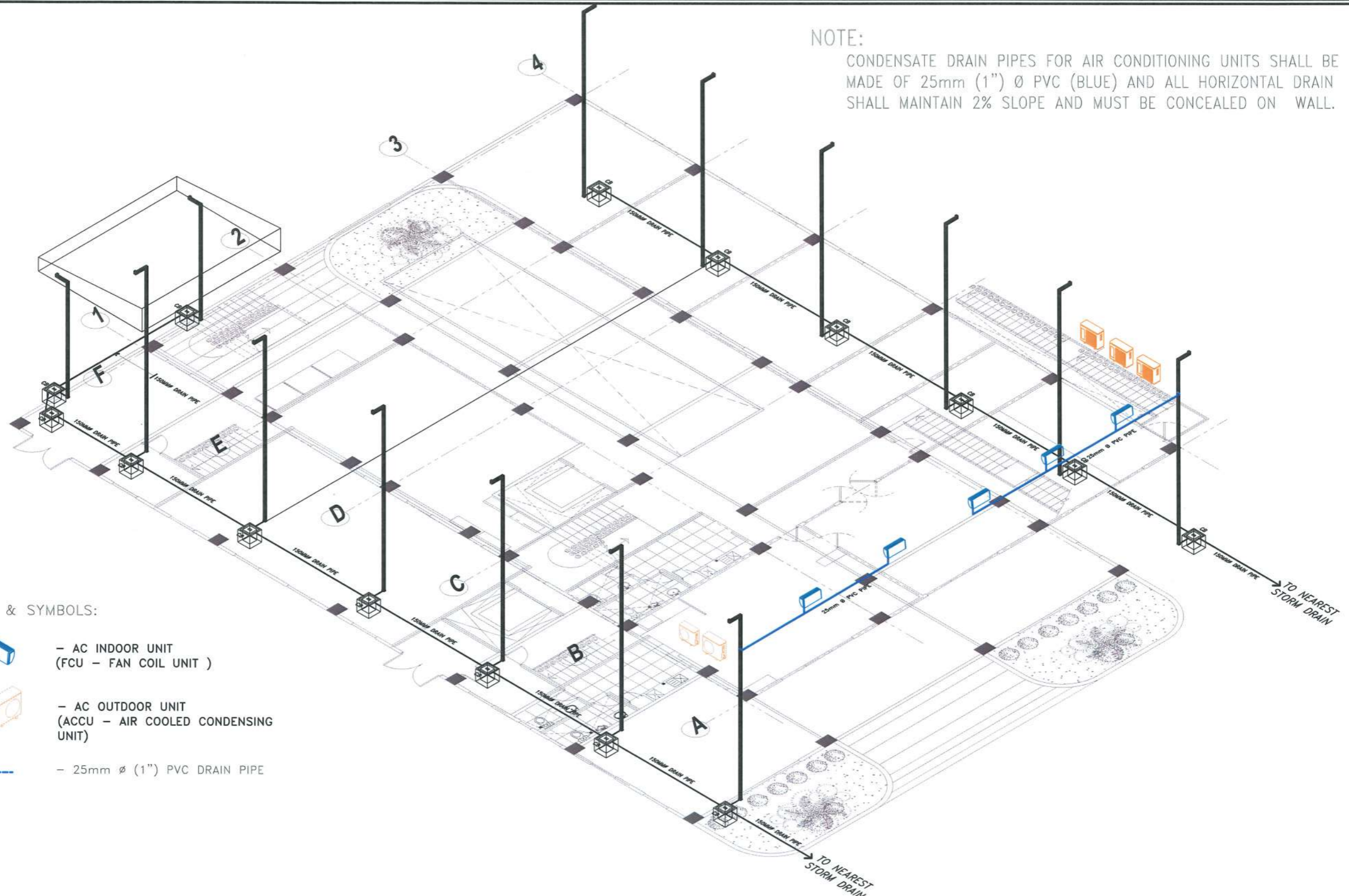
PRC NO :  
 PTR NO :  
 ISSUED AT :  
 VALIDITY:  
 DATE ISSUED:  
 TIN :

OWNER: **DR. ARNOLD E. VELASCO**




SHEET CONTENTS: AS SHOWN  
 SHEET NO: M-04  
 PAGE NO: 83/91  
 DATE: SEPTEMBER, 2023

**NOTE:**

CONDENSATE DRAIN PIPES FOR AIR CONDITIONING UNITS SHALL BE MADE OF 25mm (1") Ø PVC (BLUE) AND ALL HORIZONTAL DRAIN SHALL MAINTAIN 2% SLOPE AND MUST BE CONCEALED ON WALL.



**LEGENDS & SYMBOLS:**

-  - AC INDOOR UNIT (FCU - FAN COIL UNIT)
-  - AC OUTDOOR UNIT (ACCU - AIR COOLED CONDENSING UNIT)
-  - 25mm Ø (1") PVC DRAIN PIPE

# CONDENSATE DRAIN PIPE ISOMETRIC DIAGRAM


SCALE 1:140 M



PROJECT TITLE:	CONSTRUCTION OF TSU WAREHOUSE
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

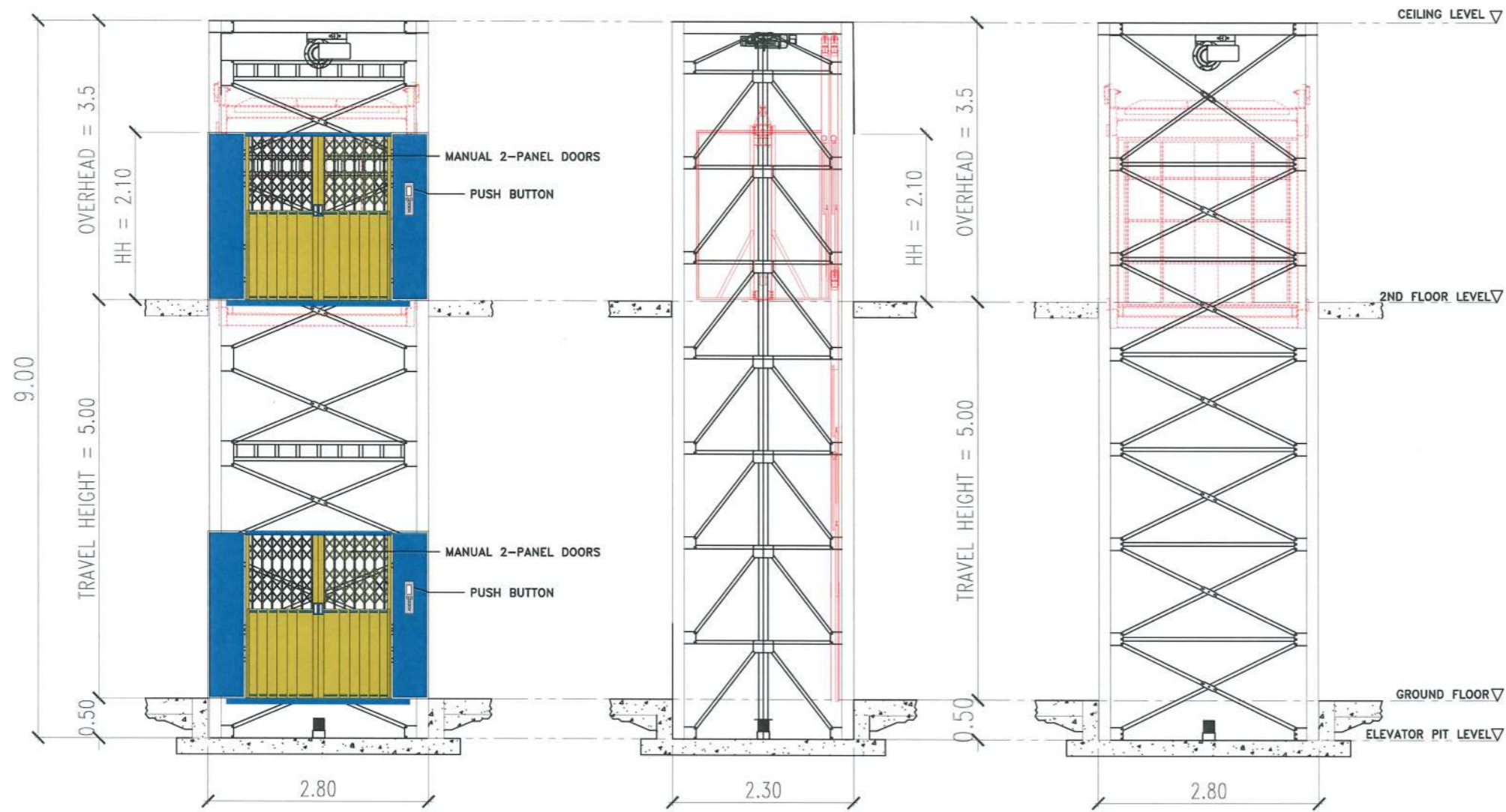
MECHANICAL ENGINEER: **JIMMY M. VIROY**  
 PROFESSIONAL MECHANICAL ENGINEER  
 PRC LICENSE NO. : 4983  
 PTR NO. : 4488877  
 DATE ISSUED: JANUARY 3, 2023  
 ISSUED AT: TARLAC CITY  
 TIN: 148900609000  
 ADDRESS: NHA BRGY: BUROT TARLAC CITY

PRC NO:	VALIDITY:
PTR NO:	DATE ISSUED:
ISSUED AT:	TIN:

OWNER:  DR. ARNOLD E. VELASCO

SHEET CONTENTS:	SHEET NO:
AS SHOWN	M - 5
DATE: SEPTEMBER, 2023	PAGE NO:
	84/91

SPECIFICATION					
RATED LOAD	2000 KGS.				
HOIST CAPACITY	3000 KGS.				
SHAFT OPENING	2800mmW x 2300mmD				
CABIN INSIDE SIZE	1800mmW x 1500mmD				
DOOR OPENING	1800mmW x 2100mmH				
LIFT	5000mm				
DOOR OPERATION	ACCORDION DOOR				
MOTOR	SPEED, mpm	MOTOR			BRAKE
		kW-PCE	POLE	RATING	
HOIST	7.2	4.0x2	4	25% ED	MAGNET
WIRE ROPE HOIST	Ø12mm x 2/1 FALLS				
NO. OF STOP	2 STOPS				
OPERATION	PUSH BUTTON CONTROL @ FLOORS				
POWER SOURCE	220 VAC, 3PHASE, 60Hz				



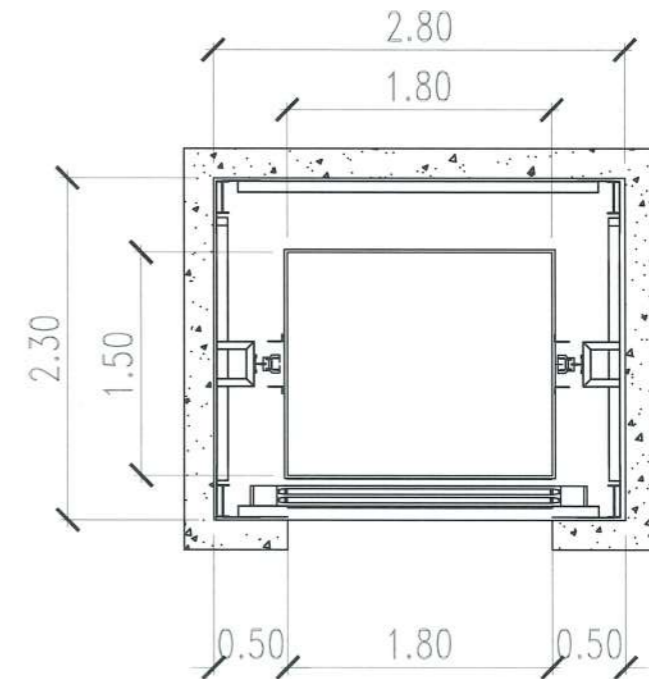
FRONT ELEVATION

SIDE ELEVATION

BACK ELEVATION

# SHAFT ELEVATION

SCALE 1:70 M



# CARGO SHAFT PLAN

SCALE 1:50 M



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

MECHANICAL ENGINEER: **JEMMY M. VIROY**  
 PROFESSIONAL MECHANICAL ENGINEER  
 PRC LICENSE NO.: 4983  
 PTR NO.: 4488877  
 DATE ISSUED: JANUARY 3, 2023  
 ISSUED AT: TARLAC CITY  
 TIN: 148900609000  
 ADDRESS: NHA BRGY: BUROT TARLAC CITY

PRC NO: \_\_\_\_\_ VALIDITY: \_\_\_\_\_  
 PTR NO: \_\_\_\_\_ DATE ISSUED: \_\_\_\_\_  
 ISSUED AT: \_\_\_\_\_ TIN: \_\_\_\_\_

OWNER: **DR. ARNOLD E. VELASCO**

SHEET CONTENTS: AS SHOWN  
 SHEET NO: M-06  
 PAGE NO: 85/91  
 DATE: SEPTEMBER, 2023

# GENERAL NOTES

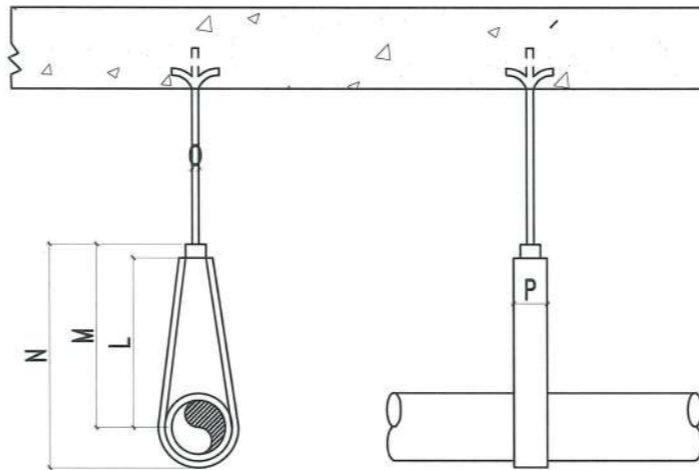
- ALL FIRE PROTECTION WORKS SHALL CONFORM WITH THE LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES NO. 10, 13, 14, AND 20.
- READ THE DRAWING IN CONNECTION WITH OTHER RELATED DRAWINGS AND SPECIFICATIONS. THE ARCHITECT AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES FOUND HEREIN.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF SPRINKLER IN COORDINATION WITH THE ARCHITECTURAL CEILING LAYOUT. ANY RELOCATION SHALL BE SUBJECT TO ARCHITECT'S AND ENGINEER'S APPROVAL.
- ALL DRAIN PIPES FOR INSPECTORS TEST CONNECTION AND DRAIN VALVES SHALL BE PIPED TO THE NEAREST FLOOR DRAIN PROVIDED BY THE PLUMBING CONTRACTOR.
- FIRE / JOCKEY PUMPS ELECTRICAL CONNECTIONS SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR.
- PIPES SLEEVES SHALL BE PROVIDED FOR ALL PIPES PASSING THRU SLABS, WALL, GIRDER AND BEAMS.
- MINIMUM PIPE SIZE FOR ALL SPRINKLER SHALL BE 25Ø UNLESS OTHERWISE NOTED.
- ALL PIPE SIZES ARE IN MILLIMETER (MM), DIAMETER, UNLESS OTHERWISE NOTED.
- ALL FEEDMAINS AND CROSSMAINS SHALL HAVE WELDED JOINTS AND ALL BRANCHLINES SHALL BE OF THREADED JOINTS, UNLESS OTHERWISE NOTED.
- TAP SPRINKLER ALARM PANEL TO FIRE ALARM PANEL. SUBMIT SHOP DRAWING OF SPRINKLER ALARM SYSTEM FOR APPROVAL PRIOR TO INSTALLATION.
- ALL SPRINKLER PIPES SHALL BE HYDROSTATICALLY TESTED TO A PRESSURE OF 1380 KPa FOR TWO (2) HOURS.
- WORKMANSHIP: THE WORK THROUGHOUT SHALL BE EXECUTED IN THE BEST AND MOST THOROUGH MANNER KNOWN TO TRADE AND TO THE SATISFACTION OF THE ARCHITECT AND THE ENGINEER.

# LEGENDS AND SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
---	CROSS MAIN		FIRE DEPARTMENT (SIAMESE) CONNECTION
---	BRANCH LINE		FM - FLOW METER
---	DRAIN LINE		PENDENT SPRINKLER HEAD
	PENDENT SPRINKLER HEAD		UPRIGHT SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD		SIDEWALL SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD		FP - FIRE PUMP
	GV - GATE VALVE		JP - JOCKEY PUMP
	CV - CHECK VALVE		REDUCER
	OS & Y GATE VALVE	RN	RISER NIPPLE
	FCV - FIRE CONNECTION VALVE		FIRE HOSE CABINET
	FIRE ALARM CHECK VALVE		PIPE END CAP
	PRV - PRESSURE RELIEF VALVE		

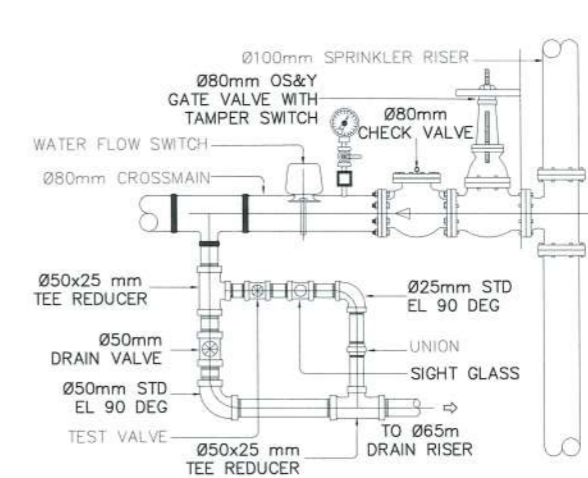
# EQUIPMENT SCHEDULE (PUMP)

UNIT	QTY.	AREA SERVED	FLOW (GPM)	PRESSURE (PSI)	TYPE	MOTOR (HP)	DRIVE	ELECTRICAL DATA			REMARKS
								VOLTS	PH	HZ	
FP	1	AS SHOWN	400	70	VERTICAL TURBINE FIRE PUMP COMPLETE W/ CONTROLLER	30	ELECTRIC	220	3	60	UNIT AND ALL ACCESSORIES SHALL BE UL/FM APPROVED.
JP	1	AS SHOWN	40	80	SUBMERSIBLE JOCKEY PUMP COMPLETE W/ CONTROLLER	3	ELECTRIC	220	3	60	UNIT AND ALL ACCESSORIES SHALL BE UL/FM APPROVED.

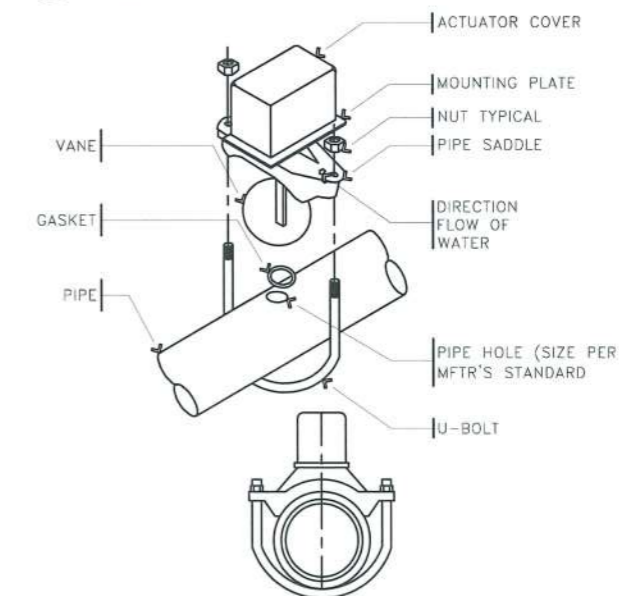


PIPE SIZE	25	32	40	50	65	80	100
L	1	1-1/4	1-1/2	2	2-1/2	3	4
M	54	57	57	65	75	79	89
N	2-1/8	2-1/4	2-1/4	2-1/2	3	3-1/8	3-1/2
M	70	73	79	89	108	121	130
N	2-3/4	2-7/8	3-1/8	3-1/2	4-1/4	4-3/4	5-1/8
N	83	95	110	121	143	146	191
O	3-1/4	3-3/4	4-1/4	4-3/4	5-5/8	5-3/4	7-1/2
O	10	10	10	10	13	13	16
P	1.6x16	1.6x16	1.6x16	1.6x16	2.4x19	2.4x19	3.2x19
P	1/8 x 5/8	1/8 x 5/8	1/8 x 5/8	1/8 x 5/8	3/2 - 3/4	3/2 - 3/4	1 - 3/4

1 PIPE HANGER DETAIL AND SCHED. SCALE NTS

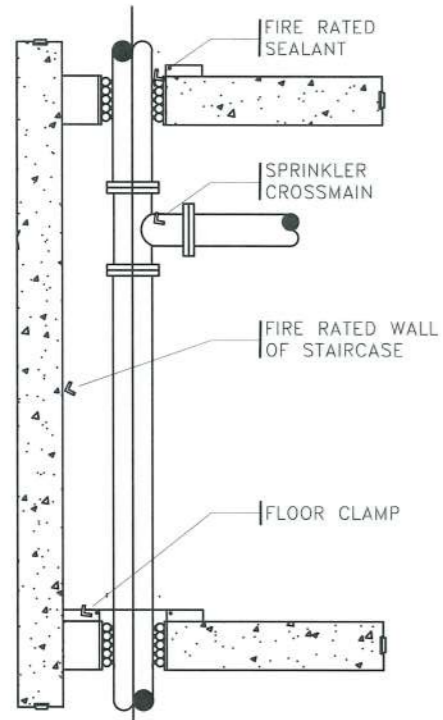


2 FLOW CONTROL VALVE DETAILS SCALE NTS

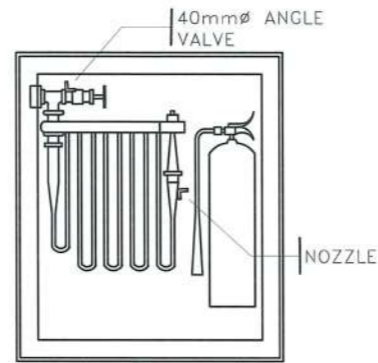


3 WATERFLOW SWITCH DETAIL SCALE NTS

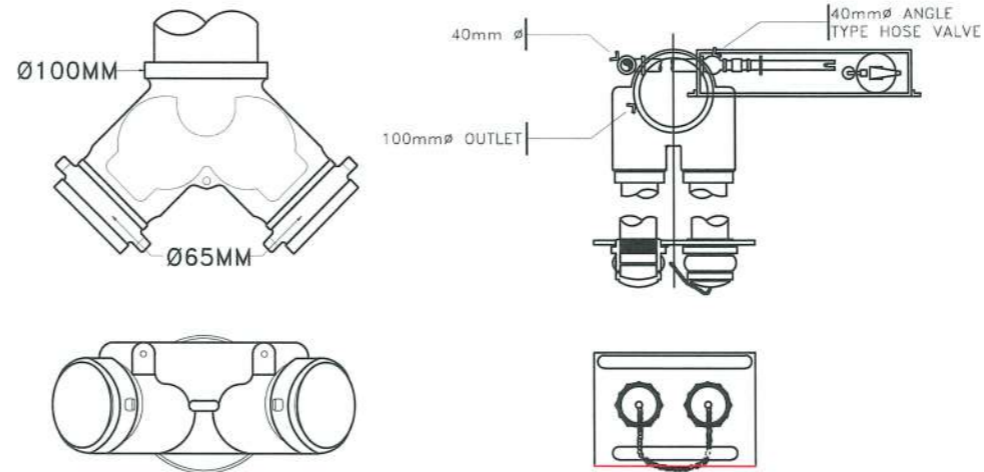
<b>TARLAC STATE UNIVERSITY</b> Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	MECHANICAL ENGINEER:	PRC NO.:	VALIDITY:	OWNER:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF TSU WAREHOUSE		PROFESSIONAL MECHANICAL ENGINEER			DR. ARNOLD E. VELASCO	AS SHOWN
PROJECT LOCATION:	PRC LICENSE NO. : 4983	ISSUED AT:	DATE ISSUED:	TIN:			PAGE NO.:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	PR NO. : 4488877						86/91
	DATE ISSUED: JANUARY 3, 2023						
	ISSUED AT: TARLAC CITY						
	TIN: 148900609000						
	ADDRESS: NHA BRGY: BUROT TARLAC CITY						



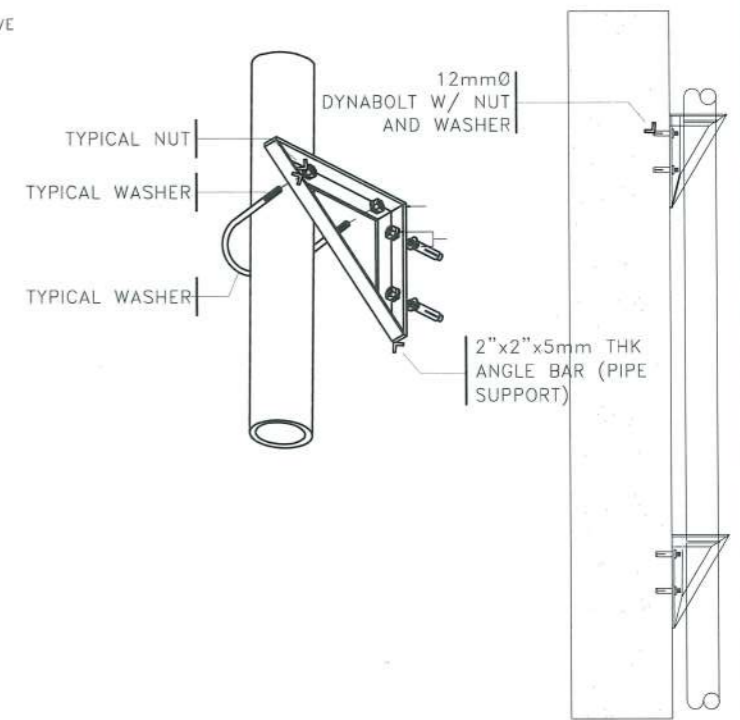
4 PIPE RISER DETAIL  
FP-04 SCALE NTS



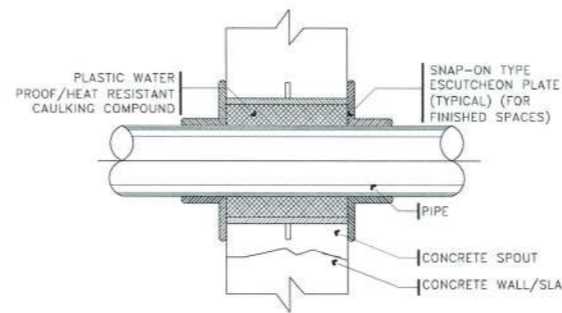
5 FIRE HOSE CABINET  
FP-04 SCALE NTS



6 FIRE DEPT. CONNECTION DETAIL  
FP-04 SCALE NTS

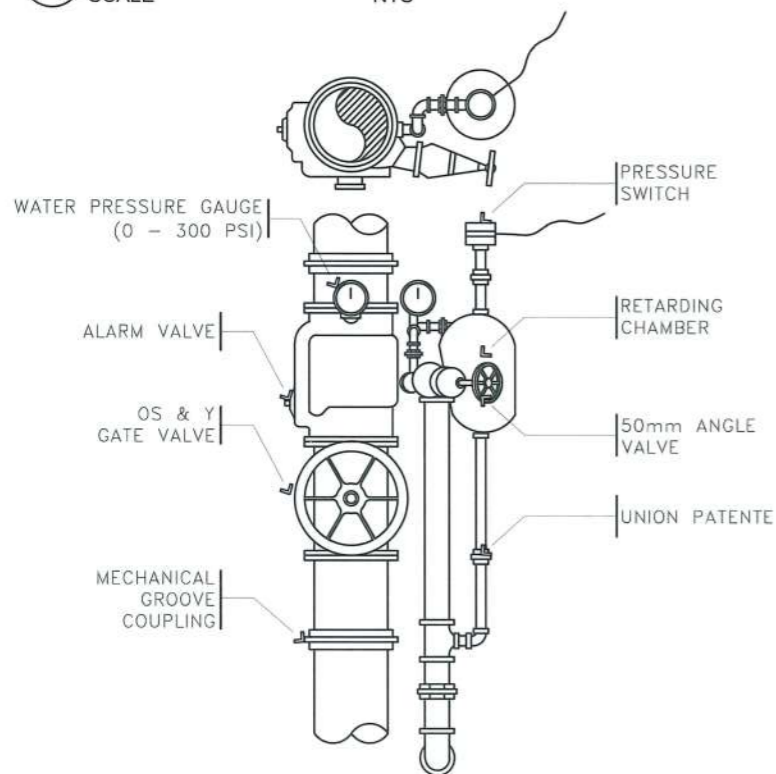


7 PIPE RISER SUPPORT DETAIL  
FP-04 SCALE NTS

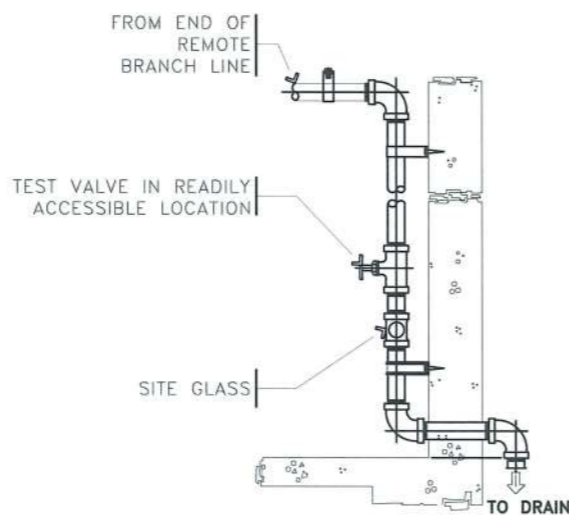


10 PIPE THRU WALL/SLAB DETAIL  
FP-04 SCALE NTS

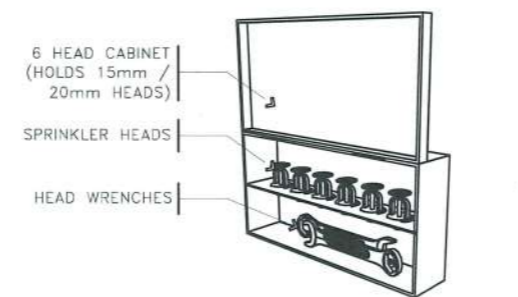
SCHEDULE OF PIPE SLEEVE			
PIPE SIZE		PIPE SLEEVE	
mm.	in.	mm.	in.
25	1	50	2
32	1.25	50	2
40	1.50	65	2.50
50	2	75	3
80	3	100	4
100	4	150	6
150	6	200	7



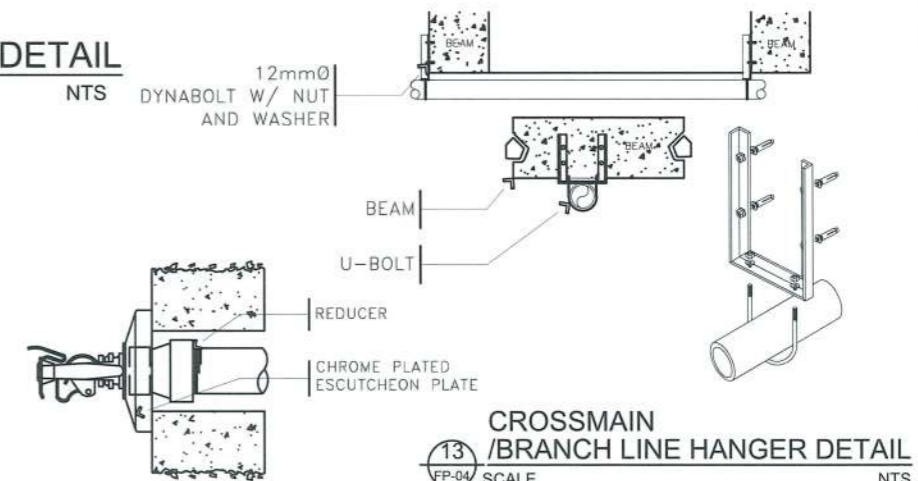
8 ALARM CHECK VALVE DETAILS  
FP-04 SCALE NTS



9 INSPECTOR'S TEST CONN. DETAILS  
FP-04 SCALE NTS



11 SPARE SPRINKLER CABINET  
FP-04 SCALE NTS



13 CROSSMAIN / BRANCH LINE HANGER DETAIL  
FP-04 SCALE NTS

12 SIDEWALL TYPE DETAIL  
FP-04 SCALE NTS



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

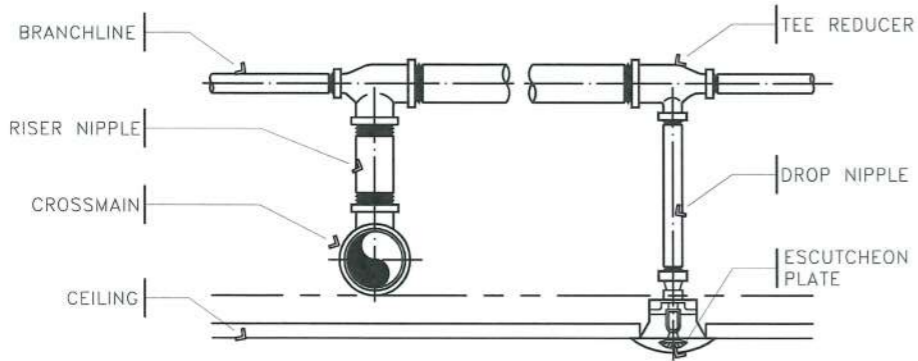
MECHANICAL ENGINEER: **IMMY M. VIROY**  
PROFESSIONAL MECHANICAL ENGINEER  
PRC LICENSE NO.: 4983  
PTR NO.: 4488877

PRC NO: VALIDITY:  
DATE ISSUED:  
ISSUED AT: TIN:

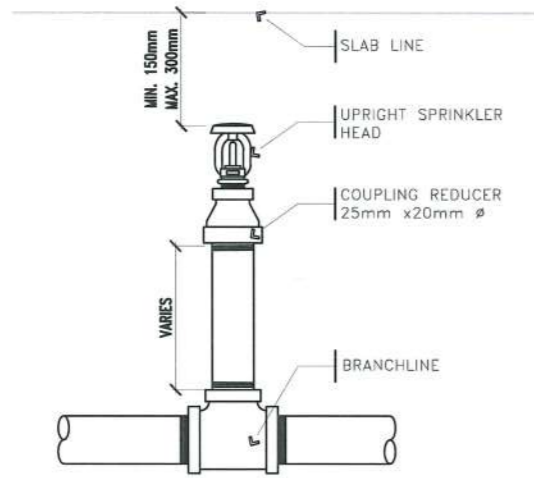
OWNER: DR. ARNOLD E. VELASCO

SHEET CONTENTS: AS SHOWN  
SHEET NO: M-08  
PAGE NO: 87/91  
DATE: SEPTEMBER, 2023

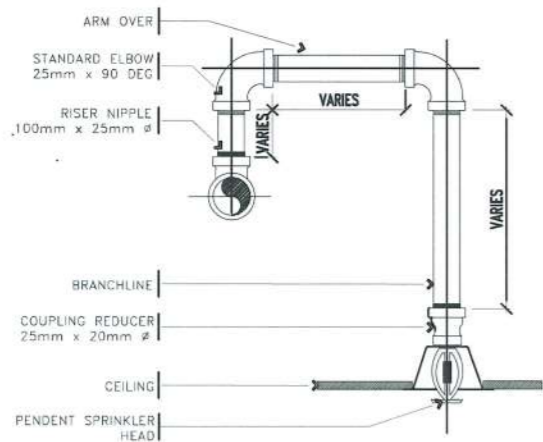
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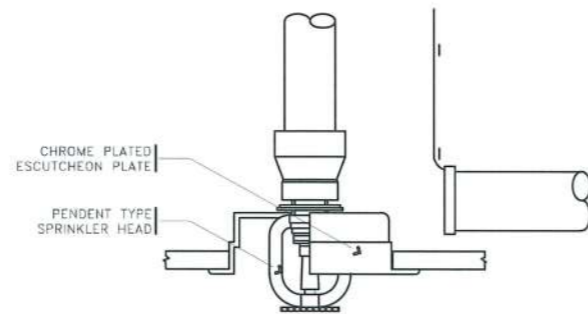
14 TYPICAL FIRE FIGHTING CROSSMAIN / BRANCH LINE CONNECTION  
 FP-04 SCALE NTS



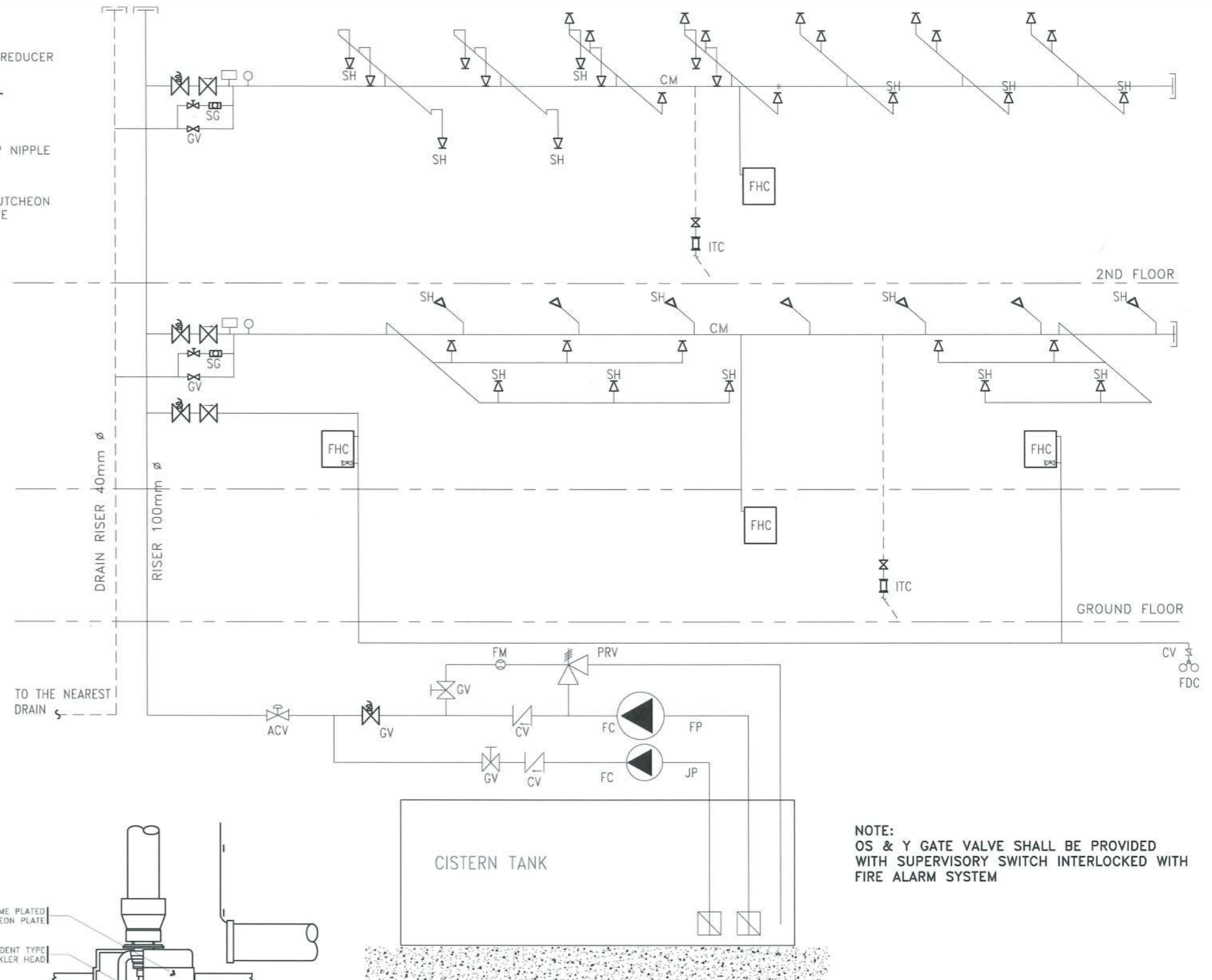
15 UPRIGHT TYPE SPRINKLER HEAD DETAIL  
 FP-04 SCALE NTS



16 PENDENT SPRINKLER CONNECTION DETAIL  
 FP-04 SCALE NTS



17 PENDENT TYPE SPRINKLER HEAD DETAIL  
 FP-04 SCALE NTS



NOTE:  
 OS & Y GATE VALVE SHALL BE PROVIDED  
 WITH SUPERVISORY SWITCH INTERLOCKED WITH  
 FIRE ALARM SYSTEM

1 AFSS RISER DIAGRAM  
 FP-05 SCALE NTS



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

MECHANICAL ENGINEER: **M. VIRIOY**  
 PROFESSIONAL MECHANICAL ENGINEER  
 PRC LICENSE NO.: 4983  
 PTR NO.: 4488877

PRC NO: VALIDITY:  
 DATE ISSUED:  
 ISSUED AT: TIN:

OWNER: DR. ARNOLD E. VELASCO

SHEET CONTENTS: AS SHOWN  
 SHEET NO: M-09  
 PAGE NO: 88/91  
 DATE: SEPTEMBER, 2023

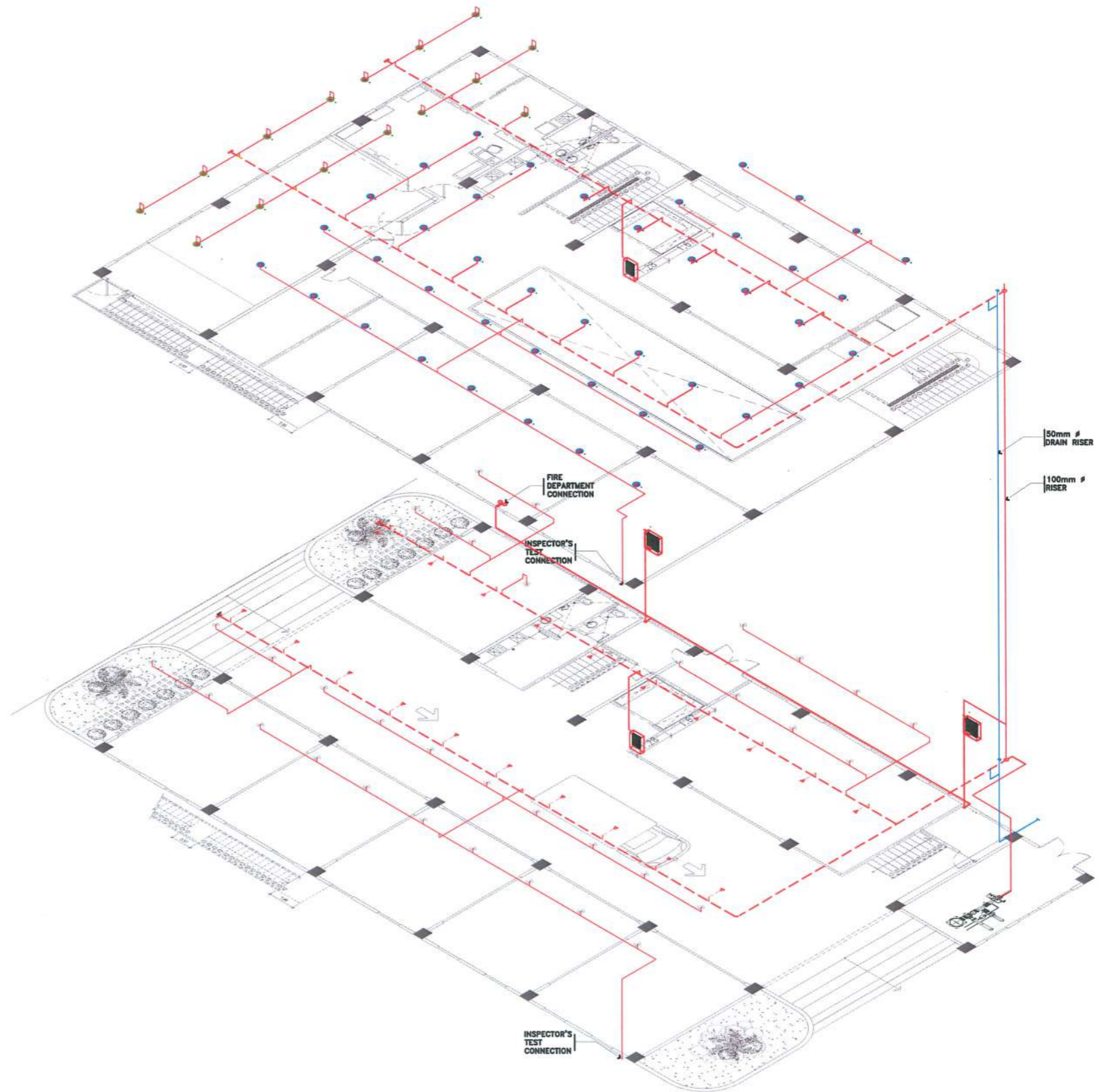
DATE ISSUED: JANUARY 3, 2023  
 ISSUED AT: TARLAC CITY  
 TIN: 148900609000  
 ADDRESS: NHA BRGY: BUROT TARLAC CITY




**GENERAL NOTES:**

**AUTOMATIC FIRE SPRINKLER SYSTEM**

- 1.0 THE FIRE PROTECTION SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES & REGULATIONS:  
 THE FIRE CODE OF THE PHILIPPINES & REGULATIONS  
 NATIONAL BUILDING CODE OF THE PHILIPPINES  
 PMC – PHILIPPINE MECHANICAL CODE 2003  
 NFPA 10 – STANDARD FOR PORTABLE FIRE EXTINGUISHER  
 NFPA 13 – STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEM  
 NFPA 14 – STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEM  
 NFPA 20 – STANDARD FOR THE INSTALLATION OF CENTRIFUGAL FIRE PUMP  
 NFPA 101 – LIFE SAFETY CODE  
 NFPA 5000 – BUILDING CONSTRUCTION AND SAFETY CODE  
 UNDERWRITERS LABORATORIES, INC. (UL)  
 FACTORY MUTUAL (FM)  
 ASTM – AMERICAN SOCIETY FOR TESTING AND MATERIALS  
 NEMA – NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- 2.0 DESIGN CRITERIA:  
 TYPE OF OCCUPANCY : ORDINARY GROUP 1 HAZARD  
 SYSTEM CLASS : MISCELLANEOUS WAREHOUSE  
 DESIGN DENSITY : 0.15 gpm/ft (6.1 Lpm/m)  
 AREA OF SPRINKLER OPERATION : 915.5 ft<sup>2</sup> (85.1 m<sup>2</sup>)  
 DURATION OF WATER SUPPLY : 60 – 90 MINUTES  
 SPRINKLER TEMPERATURE : 165 °F (RED)(GLASS BULB)(STANDARD RESPONSE)  
 SPRINKLER K-FACTOR : 8 (115 Lpm/kPa<sup>1/2</sup>)  
 HOSE STREAM ALLOWANCE : 100 gpm
- 3.0 ALL FIRE PROTECTION WORKS SHALL CONFORM WITH THE LATEST EDITION OF THE FIRE CODE OF THE PHILIPPINES, NFPA AND LOCAL ORDINANCES, AND ALL INSTALLATION SHALL BE SUPERVISED BY A LICENSED MECHANICAL ENGINEER.
- 4.0 PIPING TO BE SCH.#40 BLACK IRON PIPE.
- 5.0 SCREWED UNIONS SHALL NOT USED ON PIPE LARGER THAN 50mm.
- 6.0 ALL THREADED PIPE AND FITTINGS SHALL HAVE THREAD CUT TO ASME B1.20.1. (PIPE THREADS, GENERAL PURPOSE).
- 7.0 HEXAGONAL BUSHING OR FACE BUSHING SHALL BE PERMITTED IN REDUCING THE SIZE OF OPENING OF FITTING WHEN THE STANDARD FITTINGS OF THE REQUIRED SIZE ARE NOT AVAILABLE.
- 8.0 ALL PIPES SIZES ARE IN MILLIMETERS, DIAMETER, UNLESS OTHERWISE SPECIFIED.
- 9.0 CONTRACTOR TO VERIFY ACTUAL TAPPING POINTS(POINT OF CONNECTIONS), PIPE SIZES & OTHER DATA REQUIRED FOR THE COMPLETE OPERATION OF THE SYSTEM.
- 10.0 THE SUCTION PIPE AND PUMP SUCTION FLANGE ARE NOT OF THE SAME SIZE, THEY SHALL BE CONNECTED WITH AN ECCENTRIC TAPERED REDUCER OR INCREASER INSTALLED IN SUCH A WAY AS TO AVOID AIR POCKET.
- 11.0 THE USE OF THREDOLET OR WELDOLET IS ACCEPTABLE PROVIDED THAT HOLE SAW IS USED IN CUTTING HOLE THRU.
- 12.0 ALL PIPES PASSING THRU WALLS AND SLAB SHALL BE PROVIDED W/ PIPE SLEEVE AND FIRE RATED SEALANT.
- 13.0 THE USE OF SCREWED CROSS FITTING IS NOT ACCEPTABLE
- 14.0 ALL SPRINKLER HEADS SHALL BE STANDARD RESPONSE TYPE.
- 15.0 THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF SPRINKLER IN COORDINATION WITH THE ARCHITECTURAL CEILING LAYOUT. ANY RELOCATION SHALL BE SUBJECT TO ARCHITECT'S AND ENGINEER'S APPROVAL.
- 16.0 ALL DRAIN PIPES FOR INSPECTOR'S TEST CONNECTION AND DRAIN VALVES SHALL BE PIPED TO THE NEAREST FLOOR DRAIN/STORM DRAIN.



**1 AFSS ISOMETRIC PLAN**  
 SCALE 1:200MTS

 <b>TARLAC STATE UNIVERSITY</b> Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	MECHANICAL ENGINEER:	PRC NO.:	VALIDITY:	OWNER:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF TSU WAREHOUSE	<i>Armin M. Vinoy</i>	PROFESSIONAL MECHANICAL ENGINEER			DR. ARNOLD E. VELASCO	AS SHOWN
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	PRC LICENSE NO.: 4983	ISSUED AT:	DATE ISSUED:		DATE: SEPTEMBER, 2023	PAGE NO.:
		PR NO.: 4488877		TIN:			89/91
		DATE ISSUED: JANUARY 3, 2023					
		ISSUED AT: TARLAC CITY					
		TIN: 14890609000					
		ADDRESS: NHA BRGY: BUROT TARLAC CITY					

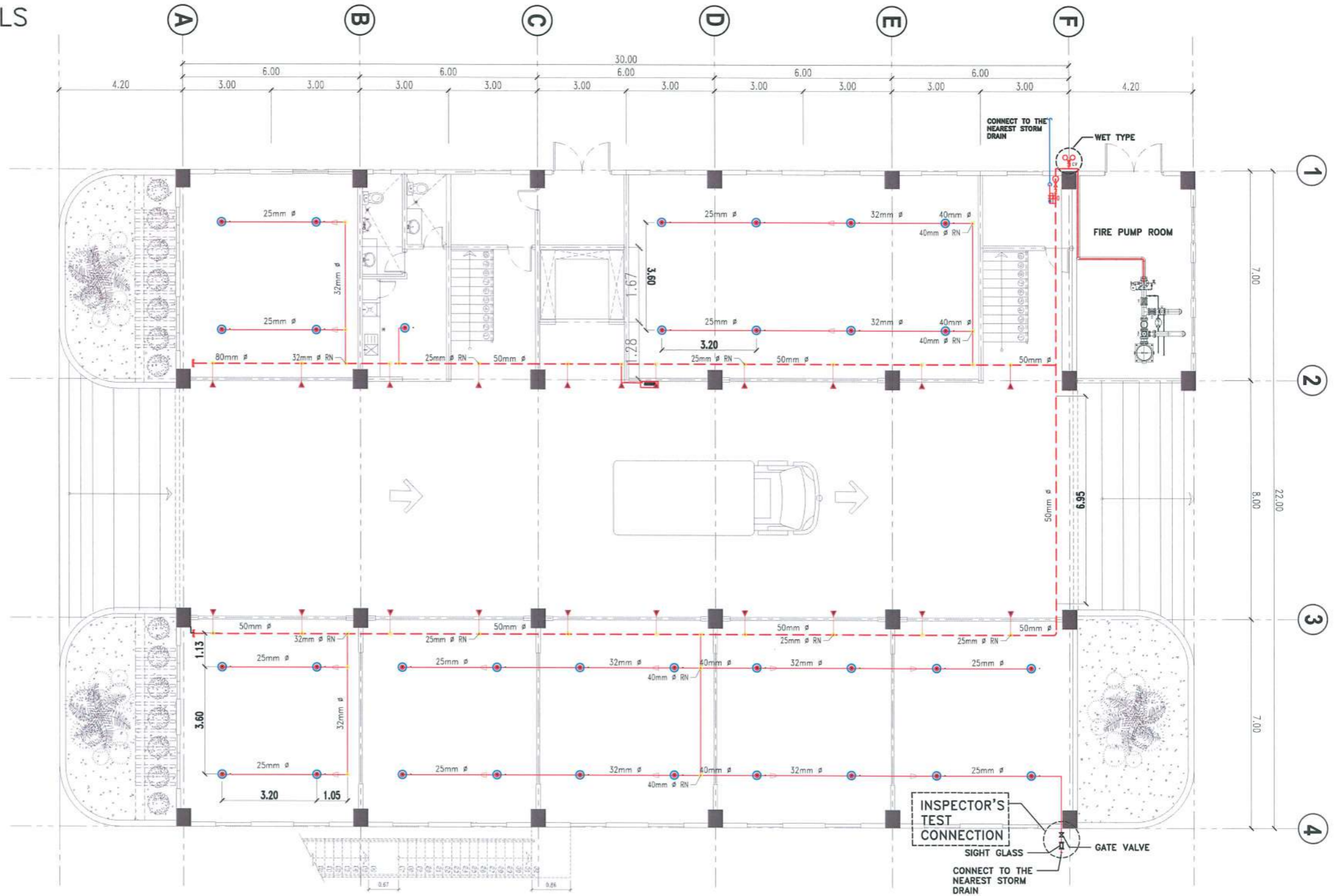
LEGENDS AND SYMBOLS

SYMBOL	DESCRIPTION
---	CROSS MAIN
---	BRANCH LINE
---	DRAIN LINE
●	PENDENT SPRINKLER HEAD
○	UPRIGHT SPRINKLER HEAD
▽	SIDEWALL SPRINKLER HEAD
GV	GATE VALVE
CV	CHECK VALVE
OS & Y	OS & Y GATE VALVE
FCV	FIRE CONNECTION VALVE
FACV	FIRE ALARM CHECK VALVE
PRV	PRESSURE RELIEF VALVE
FD	FIRE DEPARTMENT (SIAMESE) CONNECTION
FM	FLOW METER
●	PENDENT SPRINKLER HEAD
○	UPRIGHT SPRINKLER HEAD
▽	SIDEWALL SPRINKLER HEAD
FP	FIRE PUMP
JP	JOCKEY PUMP
○	REDUCER
RN	RISER NIPPLE
HC	FIRE HOSE CABINET
┘	PIPE END CAP

NOTE:

PROVIDE HANGERS SUPPORT @ EVERY 1.5M OF FIRE PRO LINE.

OS & Y GATE VALVE AT GROUND FLOOR AND SECOND FLOOR CROSS MAIN SHALL BE PROVIDED WITH SUPERVISORY SWITCH INTERLOCKED WITH FIRE ALARM SYSTEM



**1** GROUND FLOOR FIRE PROTECTION LAYOUT  
 FP - 07 SCALE 1:150MTS



PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE  
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

MECHANICAL ENGINEER: *Jimm M. Viro*  
 PROFESSIONAL MECHANICAL ENGINEER  
 PRC LICENSE NO. : 4983  
 PTR NO. : 4488877  
 DATE ISSUED: JANUARY 3, 2023  
 ISSUED AT: TARLAC CITY  
 TIN: 148900609000  
 ADDRESS: NHA BRGY: BUROT TARLAC CITY

PRC NO: \_\_\_\_\_ VALIDITY: \_\_\_\_\_  
 DATE ISSUED: \_\_\_\_\_  
 ISSUED AT: \_\_\_\_\_ TIN: \_\_\_\_\_

OWNER: DR. ARNOLD E. VELASCO  
*Ang*

SHEET CONTENTS: AS SHOWN  
 SHEET NO: M-11  
 PAGE NO: 90/91  
 DATE: SEPTEMBER, 2023

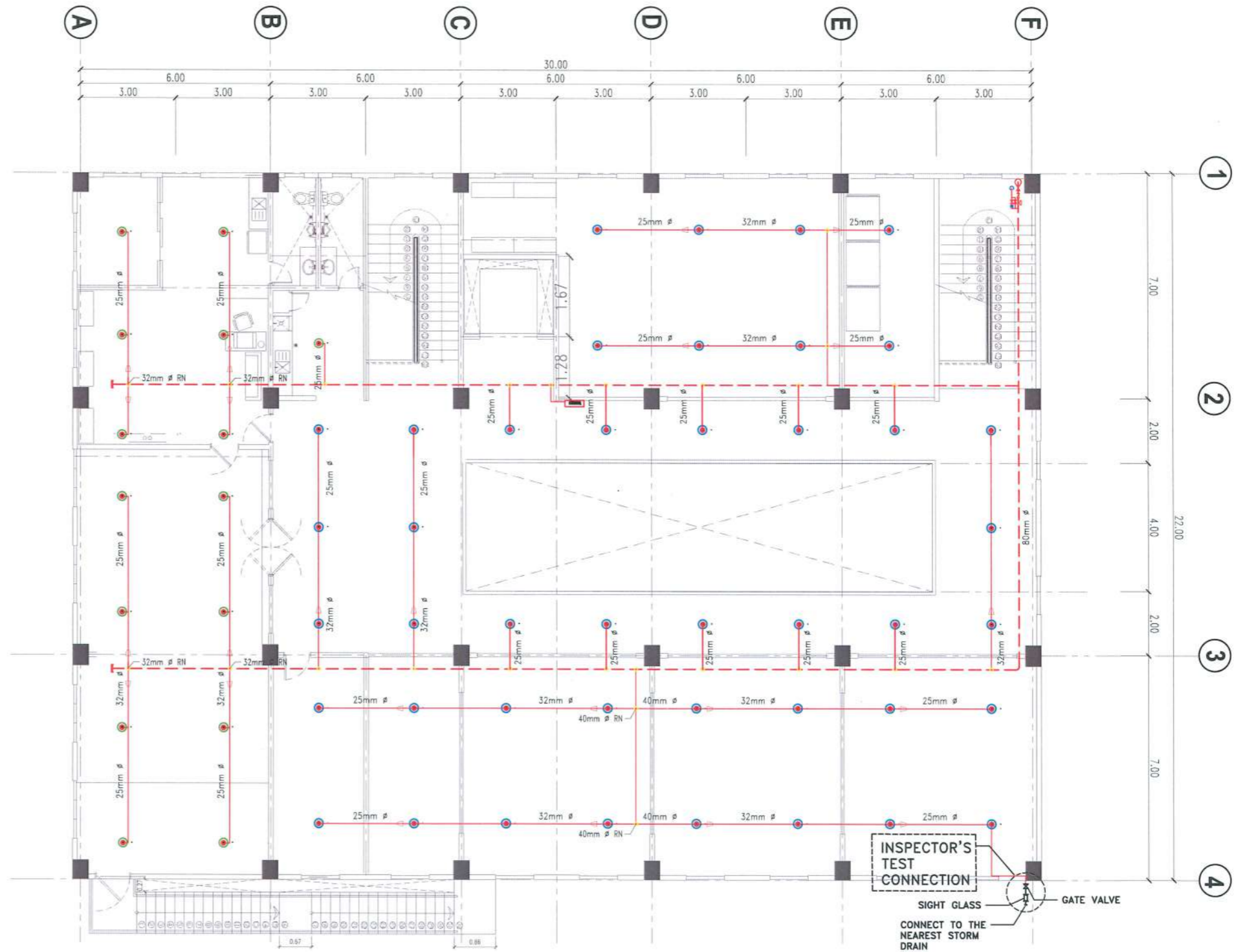
# LEGENDS AND SYMBOLS

SYMBOL	DESCRIPTION
	CROSS MAIN
	BRANCH LINE
	DRAIN LINE
	PENDENT SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD
	GV - GATE VALVE
	CV - CHECK VALVE
	OS & Y GATE VALVE
	FCV - FIRE CONNECTION VALVE
	FIRE ALARM CHECK VALVE
	PRV - PRESSURE RELIEF VALVE
	FIRE DEPARTMENT (SIAMESE) CONNECTION
	FM - FLOW METER
	PENDENT SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD
	FP - FIRE PUMP
	JP - JOCKEY PUMP
	REDUCER
	RISER NIPLLE
	FIRE HOSE CABINET
	PIPE END CAP

**NOTE:**

PROVIDE HANGERS SUPPORT @ EVERY 1.5M OF FIRE PRO LINE

OS & Y GATE VALVE AT GROUND FLOOR AND SECOND FLOOR CROSS MAIN SHALL BE PROVIDED WITH SUPERVISORY SWITCH INTERLOCKED WITH FIRE ALARM SYSTEM



**1 SECOND FLOOR FIRE PROTECTION LAYOUT**  
 FP - 08 SCALE 1:150MTS

<p><b>TARLAC STATE UNIVERSITY</b>          Facilities Development and Management Office          Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE: CONSTRUCTION OF TSU WAREHOUSE	MECHANICAL ENGINEER: <i>MIMM VIRON</i>	PRC NO.: VALIDITY:	OWNER: DR. ARNOLD E. VELASCO	SHEET CONTENTS: AS SHOWN	SHEET NO.: M-12
	PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	PROFESSIONAL MECHANICAL ENGINEER PRC LICENSE NO. : 4983 PTR NO. : 4488877 DATE ISSUED: JANUARY 3, 2023 ISSUED AT: TARLAC CITY TIN: 148900609000 ADDRESS: NHA BRGY: BUROT TARLAC CITY	DATE ISSUED: ISSUED AT: TIN:	DR. ARNOLD E. VELASCO	DATE: SEPTEMBER, 2023	PAGE NO.: 91/91