



Republic of the Philippines
Benguet State University
 La Trinidad, 2601, Benguet Province
 Tel/Fax No. 619-1839



Bids and Awards Committee (BAC) - Infrastructure

INVITATION TO SUBMIT QUOTATION

August 12, 2026

Reference Number: **2026-1259**

Name of the Project: **Construction of a Rainwater Harvesting Facility for Buguias Administration Building and Buguias Cymbidium Building**

Project Location: **BSU Buguias Campus, Loo, Buguias, Benguet**

Approved Budget for the Contract (ABC): **PhP1,500,000.00**

Contract Duration: **45 calendar days**

Source of Fund: **2026-IGF-Reserved Fund**

I. Introduction:

A. The Benguet State University, through the Bids and Awards Committee (BAC), will undertake Small Value Procurement for the above stated project, thus, inviting registered contractors with valid license issued and classified by the Philippine Contractors Accreditation Board (PCAB). The project is the construction of a rainwater harvesting facility for the Buguias Administration Building and Buguias Cymbidium Building.

B. Prospective Bidders must have key personnel and equipment (owned/leased/under leased agreement) available for the prosecution of the project.

II. Scope of Work

I.	<i>General Requirements. Occupational Safety and Health Program, Temporary Facility, Project billboard/ signboard, and Mobilization-Demobilization- Turnover</i>
II.	<i>Site Works. Cleaning-Grubbing-Cleaning-Staking, Excavation-Embankment and backfilling, Gravel Bedding (w/ base coarse tampering)</i>
III.	<i>Structural Works. Reinforced concrete works (3,500 psi @28 days), Reinforcing steel of reinforced concrete works, Structural steel works, and Formworks and falseworks</i>
IV.	<i>Roofing Works. Roofing Accessories</i>
V.	<i>Architectural Finishings. Water tank tower railings and steel ladder, Plastering, and Painting works</i>
VI.	<i>Plumbing – Sanitary Works & Ancillary Items. Water Supply & distribution Pipeline, Sanitary and wastewater pipeline, and Plumbing fixtures and accessories</i>

III. Technical Personnel Required

- a. 1- Site Architect/ Engineer
 - b. 1- Master Plumber
 - c. 1- Construction Foreman
 - d. 1 - Safety Officer- Part time
- IV. List of Equipment Required–** must be functional, in-good, and safe working condition with updated registration
- a. 1 Dump Truck
 - b. 1 bagger Concrete Mixer
 - c. 2 Bar Benders
 - d. 1 Bar Cutter/ speed cutter
 - e. 1 lot Power tools
 - f. 2 Welding machines
 - g. 1 lot Scaffolding w/ clamps
 - h. 1 lot H-Frames w/accessories

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V. **Eligibility and Technical Requirements** (must be updated)- All eligibility requirements will be used for procurement purposes only.

- a. PhilGEPS Organization ID
- b. Mayor's Permit
- c. PCAB License
- d. Income/Business Tax Returns
- e. Notarized Omnibus Sworn Statement
- f. List of Technical Personnel with their corresponding Curriculum Vitae
- g. List of Equipment with proof of ownership/affidavit of availability

VI. **Financial Documents**

- a. Accomplished and signed Bill of Quantities and Detailed Cost Estimates

VII. **Procurement Activities:**

- a. Issuance of bid documents:

Interested bidders/ contractors can get a copy of the plans and designs, bill of quantities of the project starting **August 13, 2026** during office hours at the Procurement Management Office (PMO), 1st Floor, Administration Building, BSU, La Trinidad, Benguet

- b. Deadline for Submission of Quotation

Quotation is to be submitted in a sealed envelope with the eligibility and technical requirements, and financial documents through *manual submission* on or before **August 20, 2026 at 12:00 noon** at the Procurement Management Office (PMO), 1st Floor, Administration Building, BSU, La Trinidad, Benguet. Quotation submitted after the deadline shall not be accepted by the BAC. The BAC shall record in the minutes of the meeting of the submission and opening of bids, the bidder's name, its representative, and the time the late bid was submitted.

- c. Opening of Quotation

August 20, 2026 at 1:00 PM at the RDC Conference Hall, 2nd Floor, Administration Building, Benguet State University, Km. 5, La Trinidad, Benguet.

VIII. **Criteria for award**

Lowest Calculated Responsive Quotation (LCRQ).

- IX. **For further information**, please refer to:

BAC Secretariat
Procurement Management Office
Benguet State University-La Trinidad Campus
1/F Administration Building
Tel No. 661-1839; 0950-603-2749
Email: procurement@bsu.edu.ph

- X. You may visit the following websites:

For downloading of Bidding Documents: <https://bsu.edu.ph/request-for-quotation-la-trinidad-campus/>


JANET P. PABLO
Chairperson

Bids and Awards Committee

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FB Page: Pmo Bsu



(Contractor's Letter Head with Logo)

BILL OF QUANTITIES

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING

BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET

Date:

Proponent – End-user: LEILA P. BULOQUEY

ABC: 1,500,000.00

Fund Source: Reserved Fund

P-Duration: 45 CD

Project Brief: THE PROJECT IS A CONSTRUCTION OF A RAINWATER HARVESTING FACILITY AT BSU BUGUIAS CAMPUS.

ITEM	SCOPE OF WORKS - DESCRIPTION	QTY.	UNIT	REL. WT.	AMOUNT	ITEM COST
I.	GENERAL REQUIREMENTS					
a.	Safety and Health Program	1	L.s.			-
b.	Temporary Facility	1	lot			-
c.	Project Billboard	1	lot			-
d.	Mobilization-Demobilization-Turnover	1	L.s.			-
II.	SITE WORKS					
a.	Cleaning-Grubbing-Cleaning-Staking	12.25	sq.m.			-
b.	Excavation-Embankment and Backfill	18	cu.m.			-
c.	Gravel Bedding (w/ base coarse tampering)	1.8	cu.m.			-
III.	STRUCTURAL WORKS					
a.	Reinforced Concrete Works (3,500 psi @ 28 days)	6.12	cu.m.			-
b.	Reinforcing Steel of Reinforced Concrete Works	637.28	kgs.			-
c.	Structural Steel Works	94.47	sq.m.			-
d.	Formworks and Falseworks	38.32	sq.m.			-
IV.	ROOFING WORKS					
a.	Roofing Accessories	148	L.m.			-
V.	ARCHITECTURAL FINISHINGS					
a.	Water tank tower Railings and steel ladder	6.12	Sq.m.			-
b.	Plastering	2.88	Sq.m.			-
c.	Painting Works	94.47	sq.m.			-
VI.	PLUMBING - SANITARY WORKS & ANCILLARY ITEMS					
a.	Water Supply & Distribution Pipeline	25	l.m.			-
b.	Sanitary and Wastewater Pipeline	210	L.m.			-
c.	Plumbing Fixtures and Accessories	4	units			-
					0.00	
BREAKDOWN OF ESTIMATED EXPENDITURES						
Description - Particulars						
Direct Cost	Materials	Relative Weight		Amount		Sub-total
	General Requirements					0.00
	Supply and Delivery					
	Testing of Materials					
	Labor					
In-Direct Cost	Equipment Rental					0.00
	OCM					0.00
	Contractor's Profit					0.00
	Tax					0.00
	Total Project Cost (TPC)	100%		0.00		

MINIMUM TECHNICAL PERSONNEL REQUIRED FOR THE		MINIMUM EQUIPMENT REQUIRED FOR THE PROJECT				
1	Site Architect	1	Excavator, 8 cu.m. cap.	2	Power tools	Must be functional, in-good, safe working condition and with updated registration.
1	Site Engineer (civil)	1	Dump Truck	1	Scaffoldings w/ clams	
1	Electrical Engineer	1	One-bagger Concrete Mixer	1	H-Frames w/ accessories	
1	Master Electrician	1	Portalift, 10hp, 12mhtg, 7cuft.			
1	Sanitary Engineer	1	Plate Compactor			
1	Master Plumber	1	Concrete Vibrator			
1	Construction Foreman	2	Bar Bender, mechanical			
1	Safety Officer – Part time	1	Bar Cutter/ speed cutter			
Total Bid Cost (In figures) :						
Total Bid Cost (In words) :						
I hereby submit the foregoing, and that I understand the terms, conditions and the content.						
Name of Bidder:						
Name of Firm:						
Date:						

DETAILED UNIT PRICE ANALYSIS- DUPA

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING										Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET										Date:	
LEILA P. BULOQUEY										Fund Source: RESERVED FUND										P-Duration: 45 CD	
Proponent – End-user:										ABC: 1,500,000.00											
I. GENERAL REQUIREMENTS																					
a. Safety and Health Program																					
1 Labor																					
2 Equipment (ACEL Rate)																					
3 Materials & Description																					
Safety Helmet																					
Safety Shoes																					
Safety Gloves																					
Reflectorized Vest																					
Rain Coats																					
Dust Mask																					
Eye Goggles																					
Body Harness and Lanyard																					
Rubber Boots																					
Safety First Signage (2' x 3')																					
Warning Signs (2' x 3')																					
Caution Tape, 100ft																					
First Aid Medical Kits(Sanitizers,Alcohol,Thermal Scanner,																					
Perimeter fence or Approved Equivalent																					
Fire Extinguisher, 10 lbs. (refill)																					
4 Total Direct Cost (1+2+3)																					
5 OCM (overhead, contingencies & miscellaneous expense)																					
6 Contractor's Profit																					
7 Tax (vat)																					
8 Total In-Direct Cost (5+6+7)																					
9 Total Unit Cost (4+8)																					
b. Temporary Facility																					
1 Labor																					
2 Equipment (ACEL Rate)																					
3 Materials & Description																					
assorted construction materials																					
assorted cwn																					
4 Total Direct Cost (1+2+3)																					
5 OCM (overhead, contingencies & miscellaneous expense)																					
6 Contractor's Profit																					
7 Tax (vat)																					
8 Total In-Direct Cost (5+6+7)																					
9 Total Unit Cost (4+8)																					
c. Project Billboard																					
1 Labor																					
2 Equipment (ACEL Rate)																					
3 Materials & Description																					
Printed Tarpulin (8ft x 8ft)																					
Good lumber																					
Assorted CWN																					

DETAILED UNIT PRICE ANALYSIS- DUPA

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING		Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET		Date:
Proponent – End-user: LEILA P. BULOQUEY		Fund Source: RESERVED FUND		P-Duration: 45 CD
ABC: 1,500,000.00				
4 Total Direct Cost (1+2+3)		0.00		
5 OCM (overhead, contingencies & miscellaneous expense)		0.00		
6 Contractor's Profit		0.00		
7 Tax (vat)		0.00		
8 Total In-Direct Cost (5+6+7)		0.00		
9 Total Unit Cost (4+8)		Php		0.00

d. Mobilization-Demobilization-Turnover	1	l.s.			
1 Labor	qty	unit	daily rate	no. of days	amount
Leadman	1			1	0.00
Skilled	1			1	0.00
Un-skilled	1			1	0.00
2 Equipment (ACEL Rate)	qty	unit	rate	unit cost	amount
Truck (2-5 MT)	1				0.00
minor tools (10% labor cost)				0	0
3 Materials & Description	qty	unit	rate	unit cost	amount
4 Total Direct Cost (1+2+3)	0.00				
5 OCM (overhead, contingencies & miscellaneous expense)	0.00				
6 Contractor's Profit	0.00				
7 Tax (vat)	0.00				
8 Total In-Direct Cost (5+6+7)	0.00				
9 Total Unit Cost (4+8)	Php 0.00				

II. SITE WORKS	12.25	sq.m.			
a. Cleaning-Grubbing-Cleaning-Staking	qty	unit	daily rate	no. of days	amount
1 Labor	1			1	0.00
Leadman	1			1	0.00
Skilled	1			1	0.00
Un-skilled	2			1	0.00
2 Equipment (ACEL Rate)	qty	unit	rate	unit cost	amount
					0.00
3 Materials & Description	qty	unit	rate	unit cost	amount
minor tools (10% labor cost)				0.00	0.00
4 Total Direct Cost (1+2+3)	0.00				
5 OCM (overhead, contingencies & miscellaneous expense)	0.00				
6 Contractor's Profit	0.00				
7 Tax (vat)	0.00				
8 Total In-Direct Cost (5+6+7)	0.00				
9 Total Unit Cost (4+8)	Php 0.00				

b. Excavation-Embankment and Backfill	18	cu.m.			
1 Labor	qty	unit	daily rate	no. of days	amount
Leadman	1			1	0.00
Skilled	1			1	0.00
Un-skilled	1			1	0.00
2 Equipment (ACEL Rate)	qty	unit	rate	unit cost	amount
back hoe (.80 sq.m.)	1			/hr	0.00
minor tools (10% labor cost)				0	0
3 Materials & Description	qty	unit	rate	unit cost	amount
4 Total Direct Cost (1+2+3)	0.00				
5 OCM (overhead, contingencies & miscellaneous expense)	0.00				
6 Contractor's Profit	0.00				
7 Tax (vat)	0.00				
8 Total In-Direct Cost (5+6+7)	0.00				
9 Total Unit Cost (4+8)	Php 0.00				

c. Gravel Bedding (w/ base coarse tampering)	1.8	cu.m.			
1 Labor	qty	unit	daily rate	no. of days	amount
Leadman	1			0.5	0.00
Skilled	1			0.5	0.00
Un-skilled	1			0.5	0.00
2 Equipment (ACEL Rate)	qty	unit	rate	unit cost	amount
minor tools (10% labor cost)				0	0
					0.00

DETAILED UNIT PRICE ANALYSIS- DUPA

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING			Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET		Date:
Proponent – End-user: LEILA P. BULOGUEY			Fund Source: RESERVED FUND		P-Duration: 45 CD
			ABC: 1,500,000.00		
			qty	unit	rate
3 Materials & Description					amount
gravel bedding (100 mm thick compacted)			1.8	cu.m.	
4 Total Direct Cost (1+2-3)					0.00
5 OCM (overhead, contingencies & miscellaneous expense)					0.00
6 Contractor's Profit					0.00
7 Tax (vat)					0.00
8 Total In-Direct Cost (5+6+7)					0.00
9 Total Unit Cost (4+8)				Php	0.00
III. STRUCTURAL WORKS					
a Reinforced Concrete Works (3,500 psi @ 28 days)			6.12	cu.m.	
1 Labor				unit	amount
Leadman			1		0.00
Skilled			2		0.00
Un-skilled			4		0.00
2 Equipment (ACEL Rate)			qty	unit	amount
one-bagger mixer			1		0.00
Minor Tools (10% of Labor)					0.00
3 Materials & Description			qty	unit	amount
					0.00
cement			68	bag	0.00
sand			3.1	cu.m.	0.00
gravel			6.1	cu.m.	0.00
4 Total Direct Cost (1+2+3)					
5 OCM (overhead, contingencies & miscellaneous expense)					
6 Contractor's Profit					
7 Tax (vat)					
8 Total In-Direct Cost (5+6+7)					
9 Total Unit Cost (4+8)				Php	0.00
b. Reinforcing Steel of Reinforced Concrete Works			637.28	kgs.	
1 Labor			qty	unit	amount
Leadman			1		0.00
Skilled			2		0.00
Un-skilled			6		0.00
2 Equipment (ACEL Rate)			qty	unit	amount
Welding Machine			1		0.00
Steel Cutter			1		0.00
Chain Block			1		0.00
Minor Tools (10% of Labor)					0.00
3 Materials & Description			qty	unit	amount
					0.00
16mm dia RSB, grade 40			518.88	kgs.	0.00
10mm dia, RSB grade 40			118.4	kgs.	0.00
#16 Galvanized Iron Wire			24	kgs.	0.00
Consumables (cutting disks, etc.)			1	I.s.	0.00
4 Total Direct Cost (1+2+3)					
5 OCM (overhead, contingencies & miscellaneous expense)					
6 Contractor's Profit					
7 Tax (vat)					
8 Total In-Direct Cost (5+6+7)					
9 Total Unit Cost (4+8)				Php	0.00
c. Structural Steel Works			94.47	sq.m.	
1 Labor			qty	unit	amount
Leadman			1		0.00
Skilled			2		0.00
Un-skilled			4		0.00
2 Equipment (ACEL Rate)			qty	unit	amount
Welding Machine			2		0.00
Steel Cutter			2		0.00
Chain Block			2		0.00
Minor Tools (10% of Labor)					0.00

(Contractor's Letter Head with Logo)	
DETAILED UNIT PRICE ANALYSIS- DIPA	
Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING	Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET
Proponent – End-user: LEILA P. BULOQUEY	ABC: 1,500,000.00
Fund Source: RESERVED FUND	P-Duration: 45 CD

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING	Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET	Date:
Proponent – End-user: LEILA P. BULOQUEY	ABC: 1,500,000.00	Fund Source: RESERVED FUND
		P-Duration: 45 CD

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(Contractor's Letter Head with Logo)

DETAILED UNIT PRICE ANALYSIS- DUPA

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING				Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET				Date:			
Proponent – End-user: LEILA P. BULOQUEY				ABC: 1,500,000.00				Fund Source: Reserved Fund		P-Duration: 45 CD	
4 Total Direct Cost (1+2+3)											
5 OCM (overhead, contingencies & miscellaneous expense)											
6 Contractor's Profit											
7 Tax (vat)											
8 Total In-Direct Cost (5+6+7)											
9 Total Unit Cost (4+8)				Php				0.00			
V. ARCHITECTURAL FINISHINGS											
a Water tank tower Railings and steel ladder				6.12							
1 Labor		/hour		qty	unit	daily rate	no. of days	amount			
	Leadman			1			2	0.00			
	Skilled			2			2	0.00			
	Un-skilled			4			2	0.00			
2 Equipment (ACEL Rate)		/hour		qty	unit	rate	unit cost	amount			
	minor tools (10% labor cost)						0	0			
3 Materials & Description				qty	unit	rate	unit cost	amount		0.00	
	16mm dia. Plain Round bars			25	pcs.						
	6m x 1" diameter g.i. pipe sched-40			8	pcs.						
	welding rod			25	kgs.						
	Consumables (5% of material cost)			1	l.s.						
4 Total Direct Cost (1+2+3)											
5 OCM (overhead, contingencies & miscellaneous expense)											
6 Contractor's Profit											
7 Tax (vat)											
8 Total In-Direct Cost (5+6+7)											
9 Total Unit Cost (4+8)								Php			
								0.00			
b. Plastering				2.88							
1 Labor		/hour		qty	unit	daily rate	no. of days	amount		0.00	
	Leadman			1			1.5	0.00			
	Skilled			1			1.5	0.00			
	Un-skilled			4			1.5	0.00			
2 Equipment (ACEL Rate)		/hour		qty	unit	rate	unit cost	amount		0.00	
	minor tools (10% labor cost)										
3 Materials & Description		/hour		qty	unit	rate	unit cost	amount		0.00	
	Cement			0.73	bag/s						
	Sand			0.0062	cu.m.						
	Consumables (5% of material cost)			1	l.s.						
4 Total Direct Cost (1+2+3)											
5 OCM (overhead, contingencies & miscellaneous expense)											
6 Contractor's Profit											
7 Tax (vat)											
8 Total In-Direct Cost (5+6+7)											
9 Total Unit Cost (4+8)								Php			
								0.00			
c. Painting Works				94.47							
1 Labor		/hour		qty	unit	daily rate	no. of days	amount		0.00	
	Leadman			1			3	0.00			
	Skilled			2			3	0.00			
	Un-skilled			4			3	0.00			
2 Equipment (ACEL Rate)		/hour			unit	rate	unit cost	amount		0.00	
	minor tools (10% labor cost)										
3 Materials & Description		/hour		qty	unit	rate	unit cost	amount		0.00	
	Pedestal and Concrete gutter										
	Concrete Neutralizer			2	liters						
	Acrylic Concrete Primer and Sealer			2	liters						
	Skim Coat or Approved Equivalent			2	kg.						
	Megacryl Latex - Semi-gloss			2	liters						
	Acrylic-Based Elastomeric Coating (water proofing for concrete			5	gals.						
	Steel Works										
	Epoxy Red Oxide Primer			7	gals.						
	Polyurethane (PU) Topcoat Paint			9	gal.						
	Consumables (5% of material cost)			1	l.s.						
4 Total Direct Cost (1+2+3)											
5 OCM (overhead, contingencies & miscellaneous expense)											
6 Contractor's Profit											
7 Tax (vat)											
8 Total In-Direct Cost (5+6+7)											
9 Total Unit Cost (4+8)											

DETAILED UNIT PRICE ANALYSIS- DUPA

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING			Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET		Date:
Proponent - End-user: LEILA P. BULOQUEY			ABC: 1,500,000.00		P-Duration: 45 CD
6 Contractor's Profit			Fund Source: Reserved Fund		
7 Tax (vat)					
8 Total In-Direct Cost (5+6+7)					
9 Total Unit Cost (4+8)			Php		0.00

VI. PLUMBING – SANITARY WORKS & ANCILLARY ITEMS									
a	Water Supply & Distribution Pipeline			25	l.m.	unit	daily rate	no. of days	amount
1	Labor		/hour	Leadman				4	0.00
				Skilled				4	0.00
				Un-skilled				4	0.00
2	Equipment (ACEL Rate)		/hour			unit	rate	unit cost	amount
				minor tools (10% labor cost)				0	0
3	Materials & Description					unit	rate	unit cost	amount
				25mm Dia. PPR-C Pipes- PN 20 (3 m length)	l.m				0.00
				Solvent Cement	liters				
				Assorted PPR Pipe Fittings of various Diameter	lot				
				Fasteners and brackets	lot				
				Consumables (Teflon tape, etc...)	l.s.				
4	Total Direct Cost (1+2+3)								
5	OCM (overhead, contingencies & miscellaneous expense)								
6	Contractor's Profit								
7	Tax (vat)								
8	Total In-Direct Cost (5+6+7)								
9	Total Unit Cost (4+8)							Php	0.00

b	Sanitary and Wastewater Pipeline			210	l.m.	unit	daily rate	no. of days	amount
1	Labor		/hour	Leadman				4	0.00
				Skilled				4	0.00
				Un-skilled				4	0.00
2	Equipment (ACEL Rate)		/hour			unit	rate	unit cost	amount
				minor tools (10% labor cost)					0.00
3	Materials & Description					unit	rate	unit cost	amount
				75mm Dia. x 3m PVC Pipe-s1000	pcs.				0.00
				110mm Dia. x 3m PVC Pipe-s1000	pcs.				
				Assorted Fittings and brackets	l.s.				
				Solvent Cement	liters				
				Consumables	l.s.				

(Contractor's Letter Head with Logo)

DETAILED UNIT PRICE ANALYSIS- DUPA

Project Title: CONSTRUCTION OF RAINWATER HARVESTING FACILITY FOR THE BUGUIAS ADMINISTRATION BUILDING AND BUGUIAS CYMBIDIUM BUILDING										Location: BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET		Date:	
Proprietor— End-user: LEILA P. BULOQUEY										ABC: 1,500,000.00		Fund Source: Reserved Fund	P-Duration: 45 CD
4 Total Direct Cost (1+2+3)													
5 OCM (overhead, contingencies & miscellaneous expense)													
6 Contractor's Profit													
7 Tax (vat)													
8 Total In-Direct Cost (5+6+7)													
9 Total Unit Cost (4+8)													
c	Plumbing Fixtures and Accessories						4	units		daily rate	no. of days	amount	0.00
1	Labor				hour			unit					
						Leadman	1			3	0.00		
						Skilled	2			3	0.00		
						Un-skilled	6			3	0.00		
2	Equipment (ACEL Rate)				hour		qty	unit	rate	unit cost	amount	0.00	
	minor tools (10% labor cost)										0		
3	Materials & Description						qty	unit	rate	unit cost	amount	0.00	
	1500L capacity premium grade rotationally molded Polyethylene						4	units		-			
	Gate Valve						2	sets		-			
	Drain valve						2	pcs.		-			
	Consumables (Teflon tape, etc...)						1	l.s.		-			
4 Total Direct Cost (1+2+3)													
5 OCM (overhead, contingencies & miscellaneous expense)													
6 Contractor's Profit													
7 Tax (vat)													
8 Total In-Direct Cost (5+6+7)													
9 Total Unit Cost (4+8)													
TOTAL PROJECT COST ESTIMATE													
										Php	0.00		
										Php	0.00		

Prepared by:

Name of Contractor/ Bidder)

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STRUCTURAL

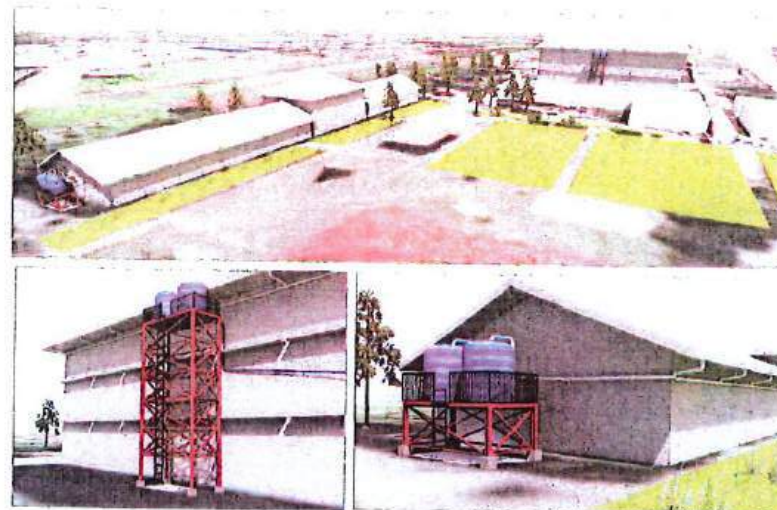
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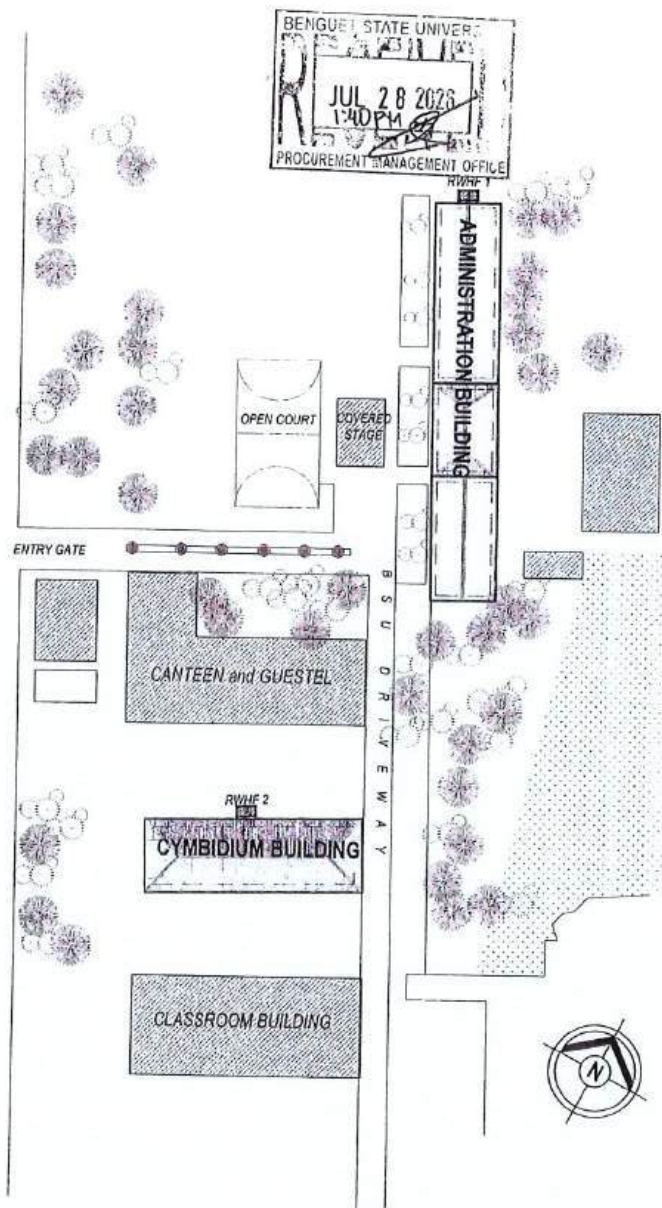
OTHERS



PERSPECTIVES
 SCALE N.T.S.



VICINITY MAP
 SCALE N.T.S.



SITE DEVELOPMENT PLAN
 SCALE 1:1000 MTS.

ARCH. HAZELINE N. TIBANGAY,
 UAP

PRC LIC. NO. 028540 VALID UNTIL: NOV. 18, 2027
 PTR: 9257354 ISSUED 01-25-2024
 PLACE LA TRINIDAD, BENGUET

ENGINEER

PRC LIC. NO.

PTR

LA TRINIDAD

Republic of the Philippines
 Benguet State University
 La Trinidad, Benguet
 PROJECT MANAGEMENT UNIT

PREPARED BY: MADV
 DATE: JUNE 2026

PROJECT TITLE/ LOCATION
 "CONSTRUCTION OF
 BSU-BUGUIAS CAMPUS RAIN
 WATER HARVESTING
 FACILITY"

BSU BUGUIAS CAMPUS, LEO, BUGUIAS
 BENGUET

CONFORME:

LEILA P. BLOQUEY

END-USER/ EXECUTIVE DEAN

RECOMMENDING APPROVAL:

RICHARD H. KINNOD

SECTOR VICE PRESIDENT

APPROVED:

KENNETH ALIP LARUAN

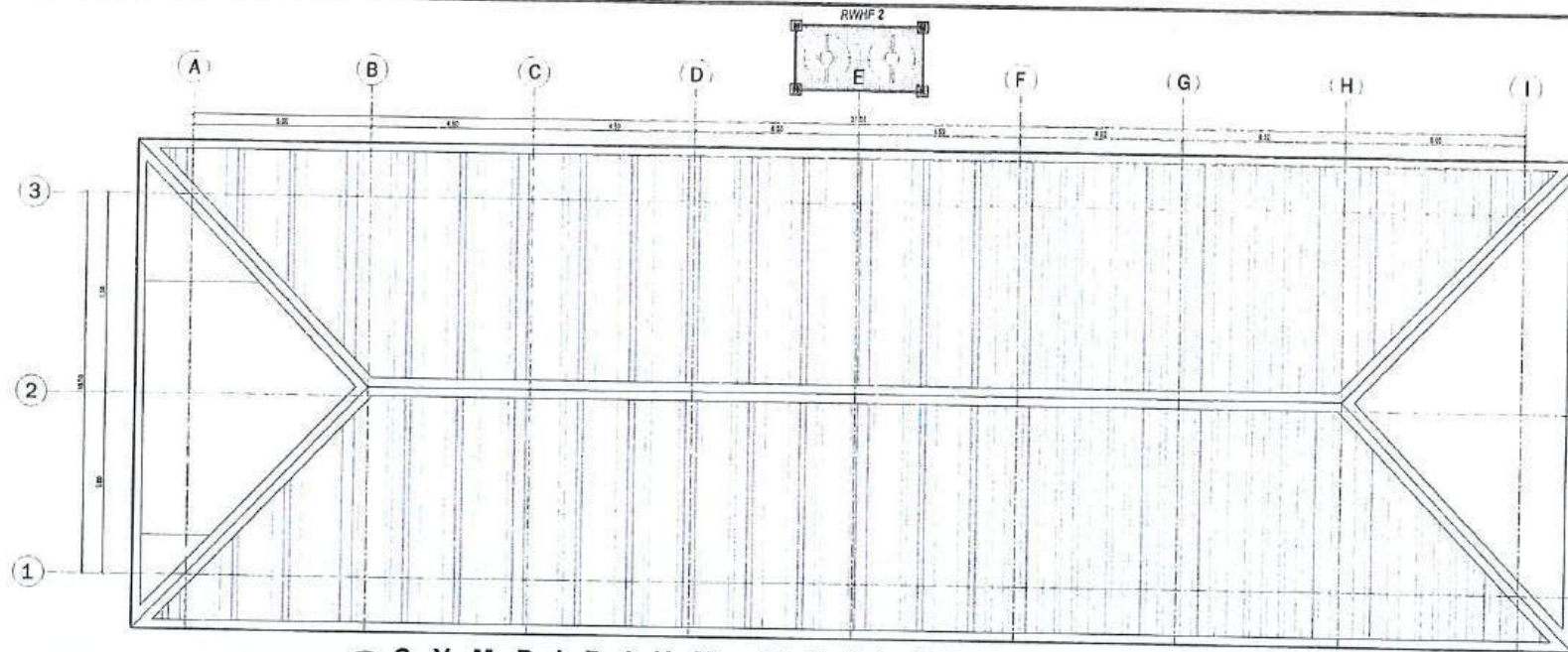
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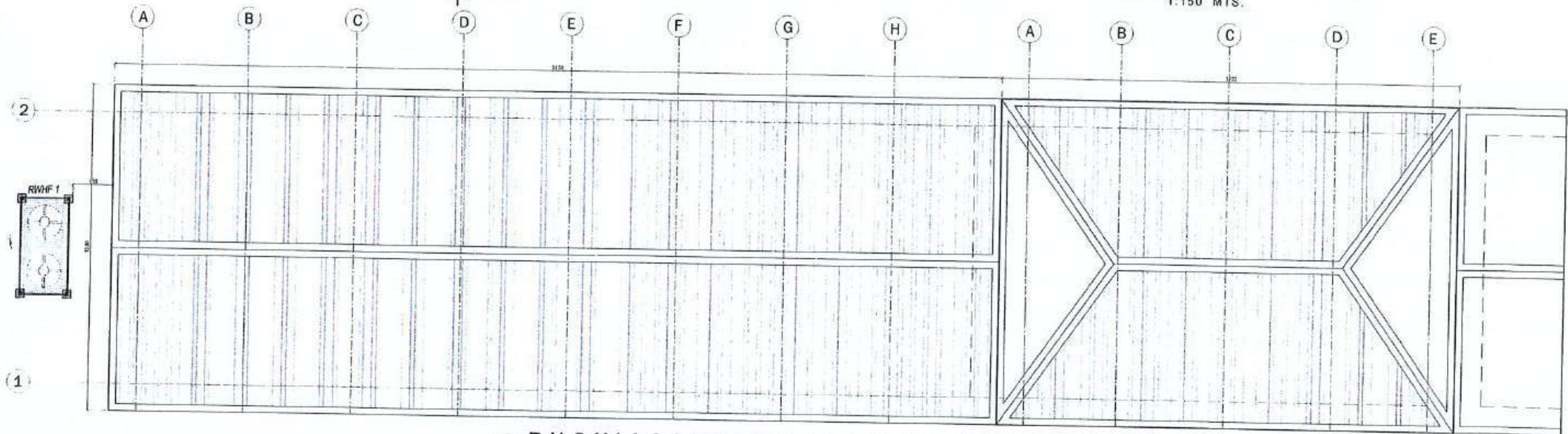
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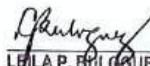
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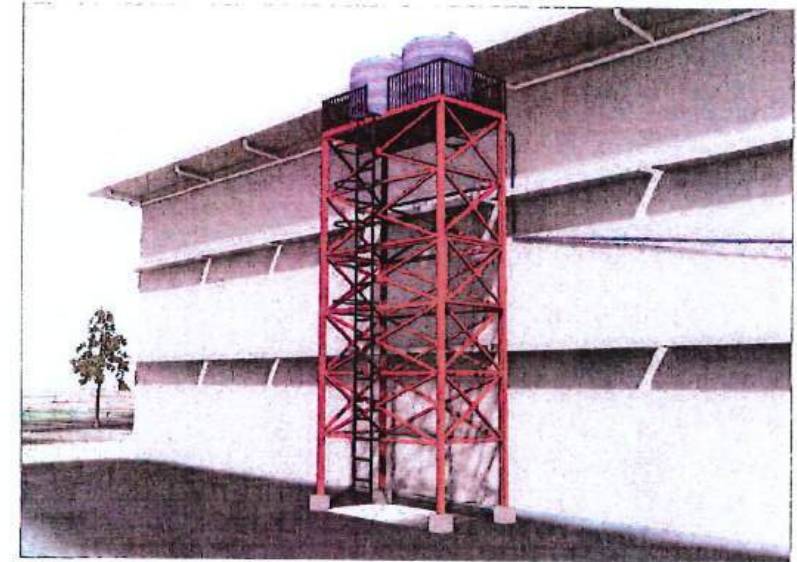
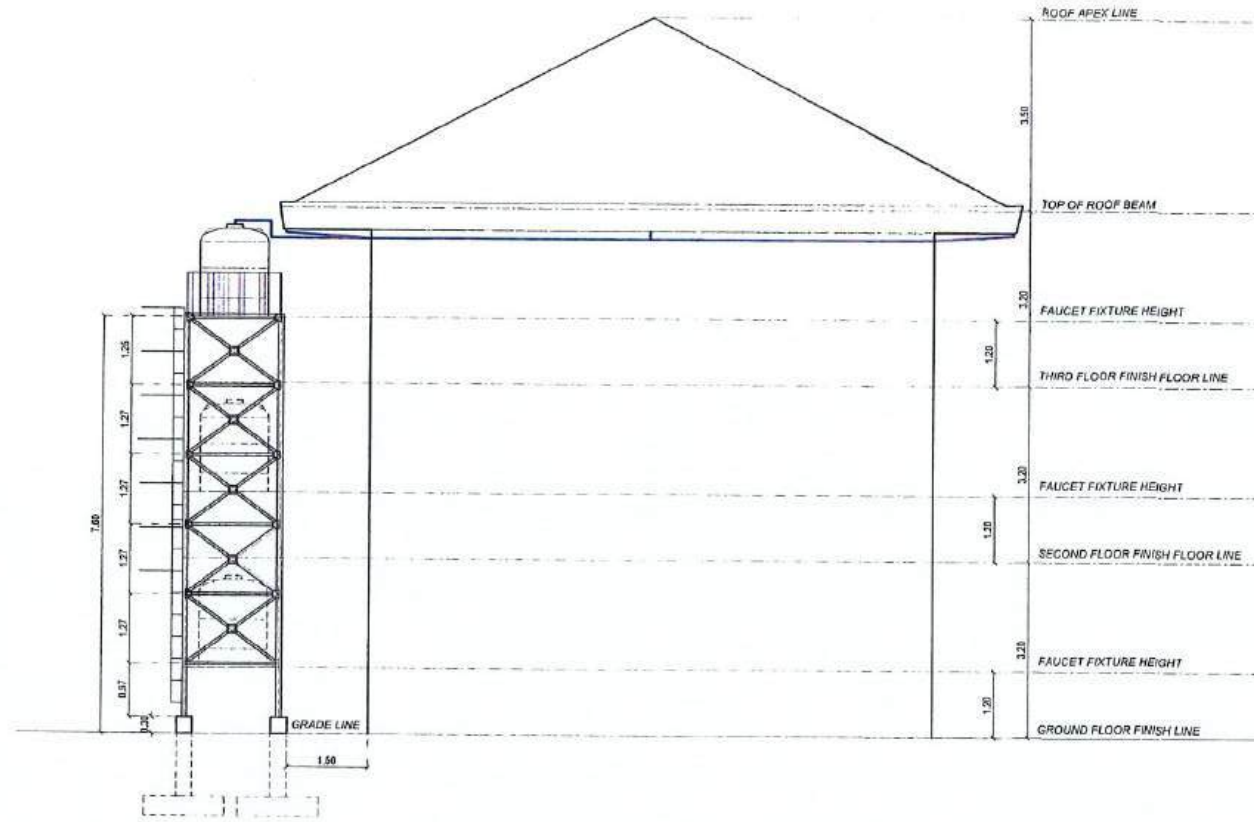


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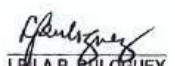


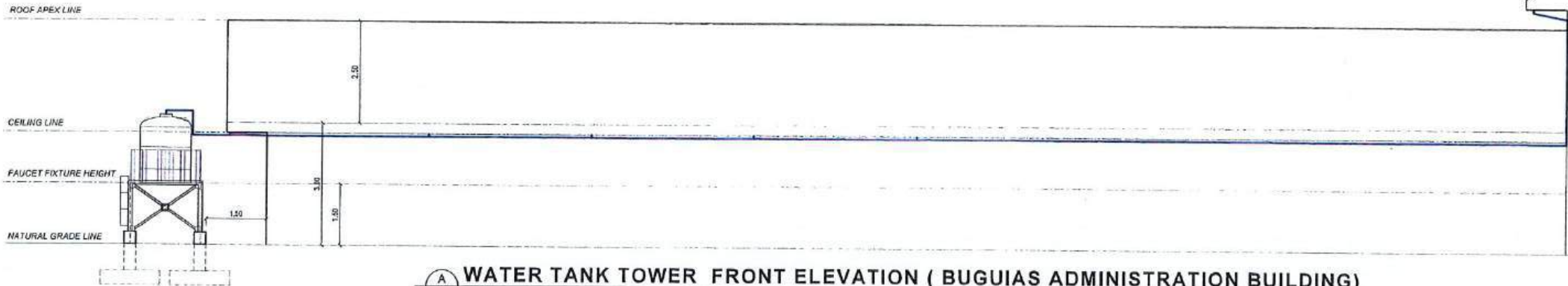
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ARCH. HAZELINE N. TIBANGAY, U.A. PRC LIC. NO. 028540 VALID UNTIL: NOV. 18, 2027 PTR: 9257354 ISSUED 01-09-2024 PLACERIA TUNGGAD BENGUET	SHERIFF JOHN C. LA MADRID ENGINEER PRC LIC. NO. 0128359 VALID UNTIL: JULY 17, 2028 PTR: 9257287 ISSUED 01-09-2024 PLACERIA TUNGGAD BENGUET	 Benguet State University La Trinidad, Benguet PROJECT MANAGEMENT UNIT PREPARED BY: MADV, JS DATE: JUNE 2026	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, L.O.O, BUGUIAS BENGUET	CONFORME:  LEILA P. BULOGBUEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL:  RICHARD H. KINNUD SECTOR VICE PRESIDENT	APPROVED:  KENNETH ALIP LARUAN PRESIDENT	SHEET CONTENT: AS SHOWN	SHEET A-2 05-12
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WATER TANK TOWER ELEVATION (CYMBIDIUM BUILDING)
SCALE 1:100 MTS.

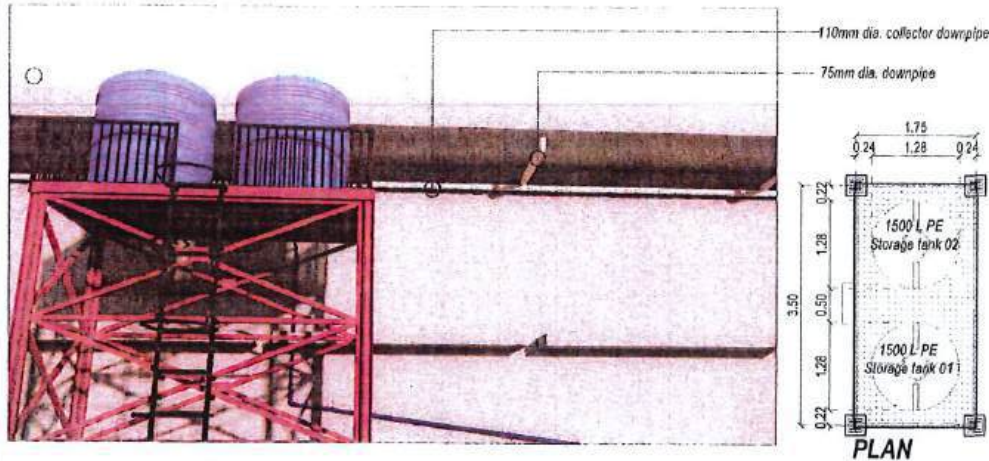
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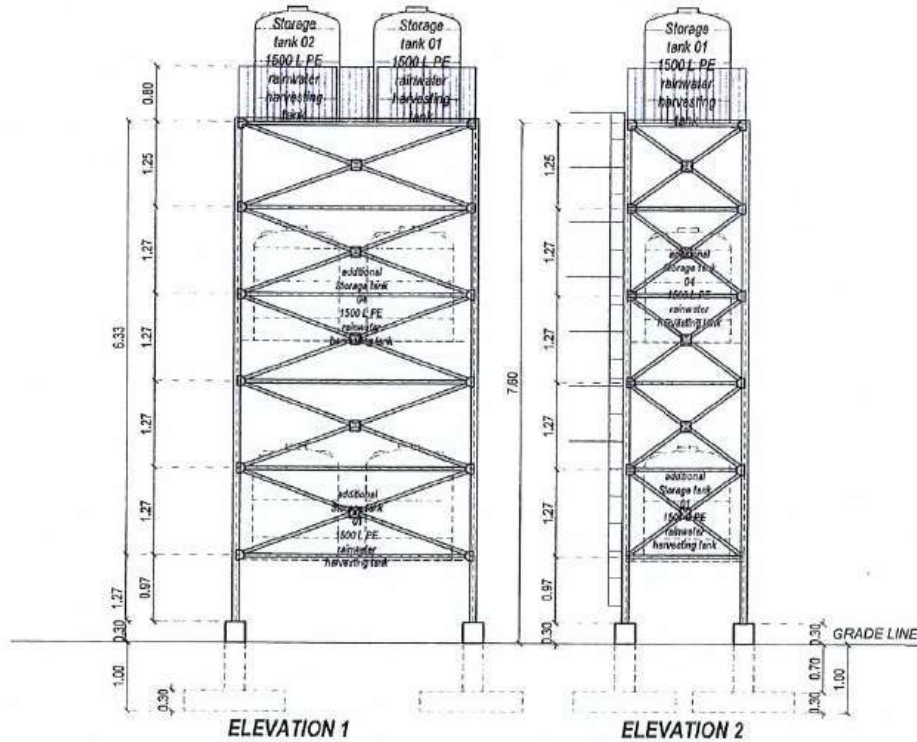
WATER TANK TOWER FRONT ELEVATION (BUGUIAS ADMINISTRATION BUILDING)
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ARCH. HAZELINE N. TIBANGAY, L.P. PRC LIC. NO. 028540 VALID UNTIL: NOV. 18, 2027 PTR: 8257354 ISSUED 01-03-2028 PLACER LA TRINIDAD, BENGUET	ENGINEER PRC LIC. NO: PTR: LA TRINIDAD	 Benguet State University La Trinidad, Benguet PROJECT MANAGEMENT UNIT PREPARED BY: MADY [Signature] DATE: JUNE 2026	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, L.O.O, BUGUIAS BENGUET	CONFORME: [Signature] LEILA P. BULOQUEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL: [Signature] RICHARD H. KINNUD SECTOR VICE PRESIDENT	APPROVED: [Signature] KENNETH ALIP LARUAN PRESIDENT	SHEET CONTENT: AS SHOWN	SHEET A-4 03-22
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PLAN



ELEVATION 1

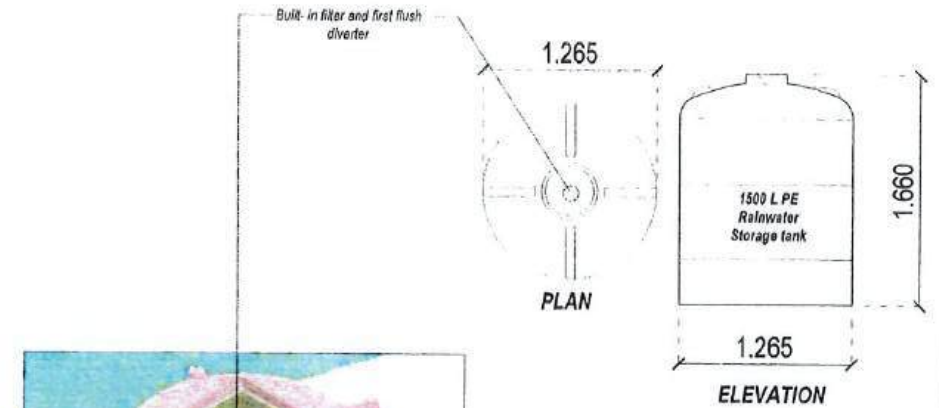
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WATER TANK TOWER DETAILS



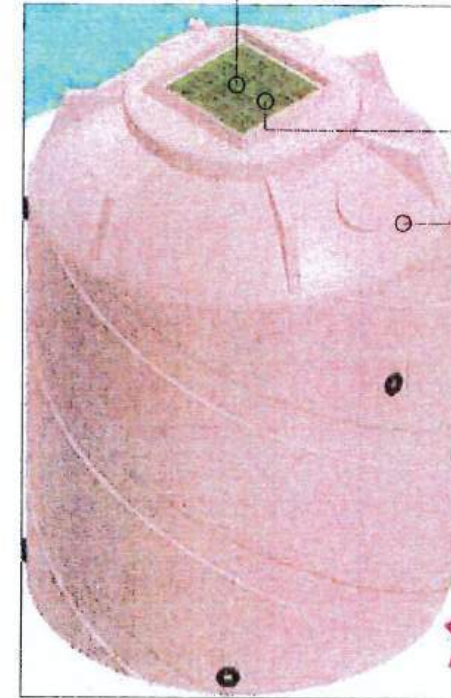
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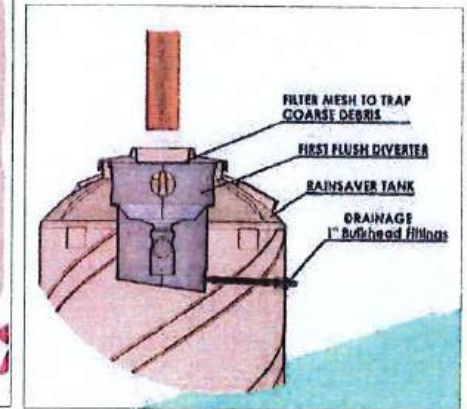
PLAN

ELEVATION



Anti-mosquito screen mesh

coated with double layer UV protection



Built-in filter and first flush diverter

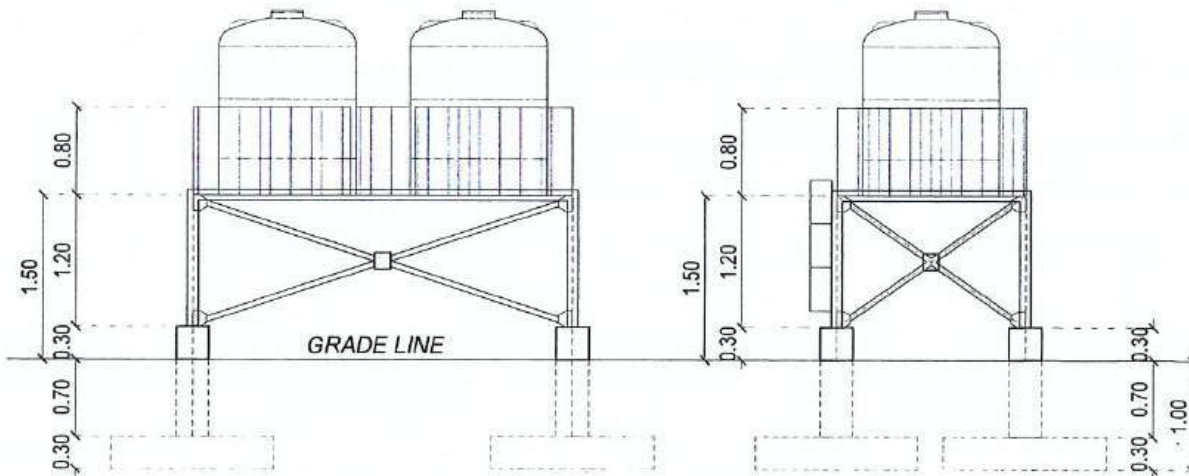
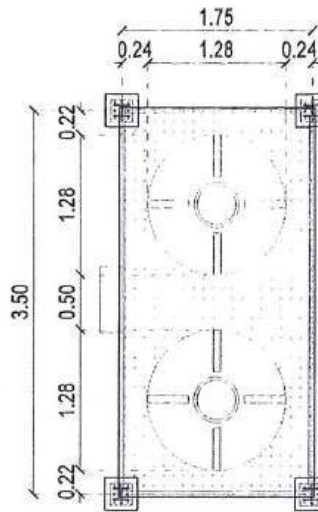
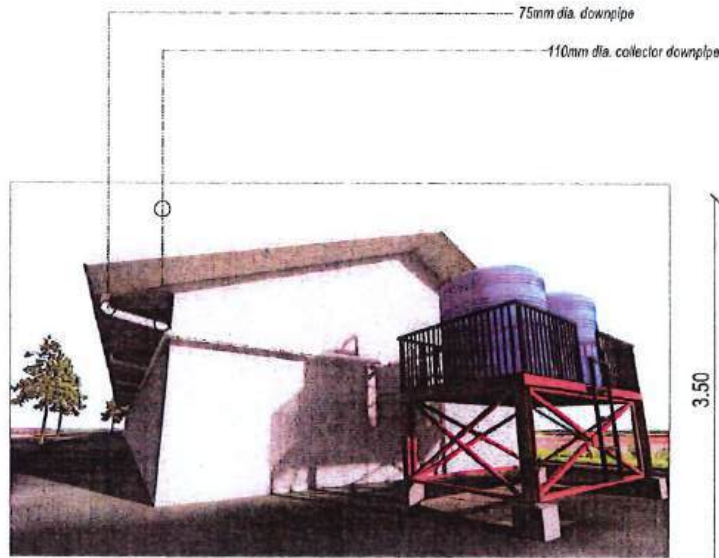


RAINWATER SAVER TANK DETAILS

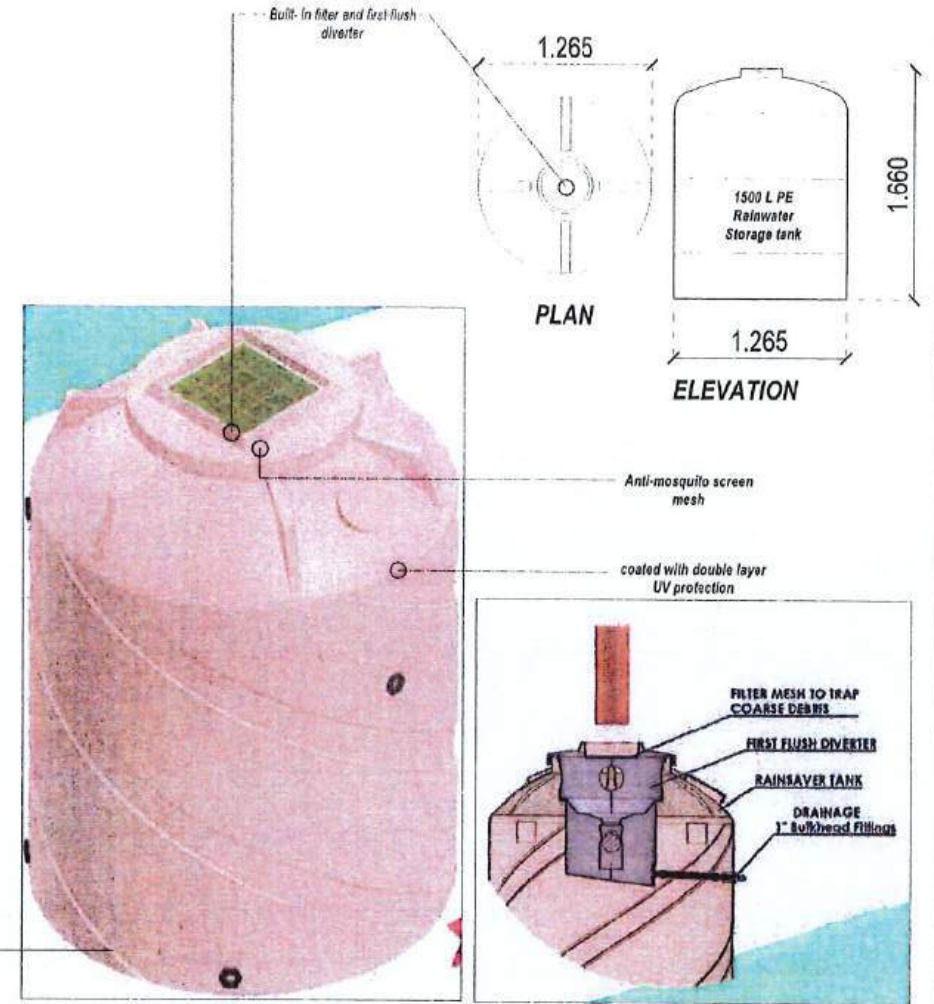
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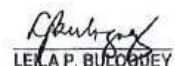
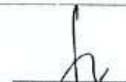
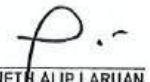
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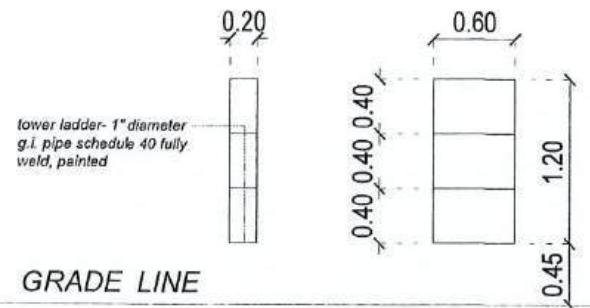


WATER TANK TOWER DETAILS
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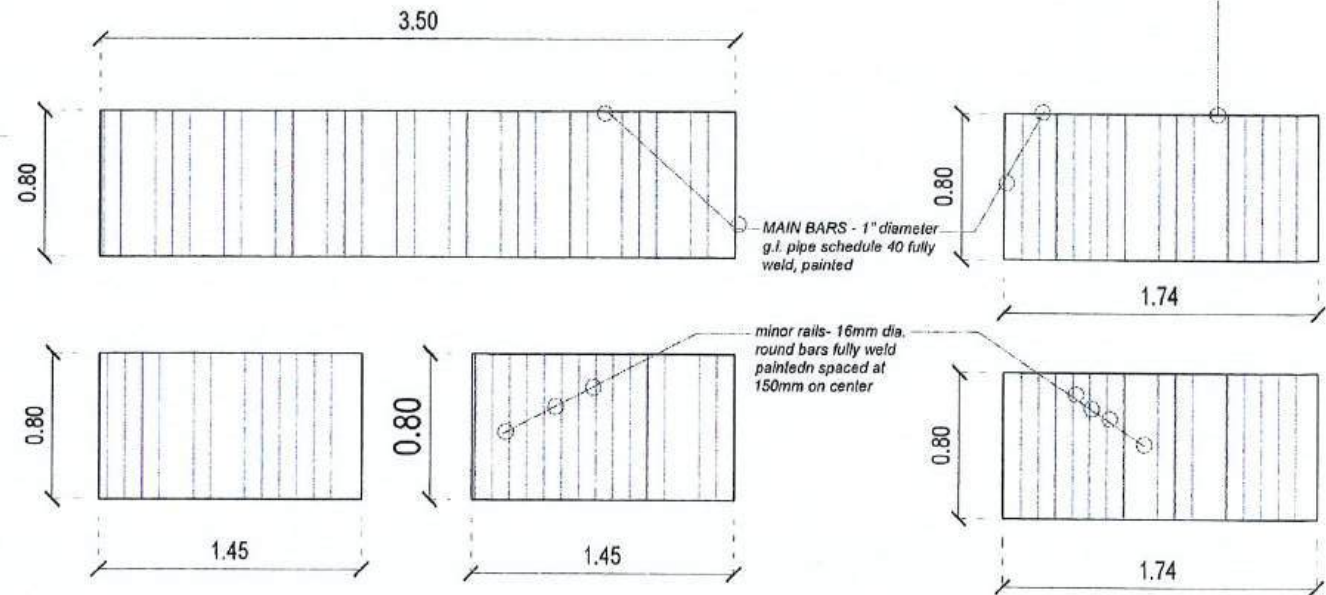


RAINWATER SAVER TANK DETAILS
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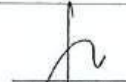
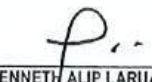
ARCH. HAZELINE N. TIBANGAY, UP PRC LIC. NO. 028540 VALID UNTIL: NOV. 18, 2027 PTR: 9257354 ISSUED 01-09-2019 PLACE LA TRINIDAD, BENGUET	ENGINEER PRC LIC. NO. PTR: LA TRINIDAD	 Benguet State University La Trinidad, Benguet PROJECT MANAGEMENT UNIT PREPARED BY: MADV  DATE: JUNE 2026	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, LGO. BUGUIAS BENGUET	CONFORME:  LEILA P. BULOQUEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL:  RICHARD H. KINNUD SECTOR VICE PRESIDENT	APPROVED:  KENNETH ALIP LARUAN PRESIDENT	SHEET CONTENT: AS SHOWN	SHEET A-7 04-12
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WATER TANK TOWER LADDER DETAILS
SCALE 1:30 MTS.



WATER TANK TOWER RAILINGS DETAILS
SCALE 1:30 MTS.

ARCH. HAZELINE N. TIBANGAY, UAP PRC LIC. NO. 020540 VALID UNTIL NOV. 18, 2027 PTR: 9257354 ISSUED 01-01-2023 PLACE LA TRINIDAD, BENGUET	SHERIFF JOHN C. LA MADRID ENGINEER PRC LIC. NO. 0126399 VALID UNTIL JULY 17, 2026 PTR: 9257287 ISSUED 01-01-2023 PLACE LA TRINIDAD, BENGUET	 Benguet State University 1st Street, Benguet PROJECT MANAGEMENT UNIT PREPARED BY: MADY DATE: JUNE 2025	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, L.O.O, BUGUIAS BENGUET	CONFORME:  LEILA P. BULOGEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL:  RICHARD H. KINNUD SECTOR ACE PRESIDENT	APPROVED:  KENNETH ALIP LARUAN PRESIDENT	SHEET CONTENT: AS SHOWN	SHEET A-8 05-12
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GENERAL CONSTRUCTION NOTES

1. IN THE INTERPRETATION OF THE DRAWING, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.

2. IN REFERENCE TO THE OTHER DRAWINGS, SEE ARCHITECTURAL DRAWINGS FOR DEPRESSIONS IN FLOOR SLABS, OPENING IN THE WALLS AND SLABS, INTERIOR PARTITIONS, LOCATION OF DRAINS, ETC.

3. IN CASE OF DISCREPANCIES AS TO THE LAYOUT, DIMENSIONS, AND ELEVATIONS BETWEEN THE STRUCTURAL PLANS, AND ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY BOTH THE STRUCTURAL ENGINEER AND ARCHITECT.

4. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE ACI 318-95 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND ALL STRUCTURAL STEEL WORK ACCORDING WITH AISC SPECIFICATION (9th EDITION) IN SO FAR AS THEY DO NOT CONFLICT WITH THE LOCAL BUILDING CODE REQUIREMENT.

5. ACI REFERS TO AMERICAN CONCRETE INSTITUTE, AISC TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AND ASTM TO AMERICAN SOCIETY FOR TESTING MATERIALS.

6. CONSTRUCTION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.

7. SHOP DRAWINGS WITH ERECTION AND PLACING DIAGRAMS OF ALL STRUCTURAL STEELS, MISCELLANEOUS IRON, PRE-CAST CONCRETE, ETC. SHALL BE SUBMITTED FOR ENGINEERS APPROVAL BEFORE FABRICATION.

8. CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, STOOLS, EQUIPMENTS AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.

9. ALL RESULTS OF MATERIAL TESTING FOR CONCRETE, REINFORCING BARS, AND STRUCTURAL STEEL MUST BE NOTED AND APPROVED BY THE STRUCTURAL DESIGNER.

NOTES ON CONCRETE MIXES & PLACING

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT THE END OF THE TWENTY EIGHT (28) DAYS WITH CORRESPONDING MAXIMUM SIZE AGGREGATE AND SLUMPS AS FOLLOWS.

28 DAYS STRENGTH MAX. SIZE OF AGG. MAX. SLUMP

COLUMNS	3500 PSI (24 MPa)	20 mm	100 mm
FOOTING	3500 PSI (24 MPa)	20 mm	100 mm

2. MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS.

BEAM STIRRUPS AND COLUMN TIES — 40mm

WHERE CONCRETE IS EXPOSED

TO EARTH BUT POURED AGAINST FORMS — 50mm

WHERE CONCRETE IS DEPOSITED

DIRECTLY AGAINST EARTH — 75mm

3. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION. RE-HANDLING OR PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKETS OR WHEELBORROWS, NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEELBORROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX (6) METERS IN AGGREGATE LENGTH.

4. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING BY THE DESIGNERS AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATIONS ARE EXTREMELY DIFFICULT TO ACCOMPLISH.

5. ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS, SHALL BE PROPERLY POSITIONED & SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.

6. ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN (7) CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.

7. STRIPPING OF FORMS AND SHORES:

FOUNDATION — 24 HRS.

SUSPENDED SLAB EXCEPT WHEN

ADDITIONAL LOADS ARE IMPOSED — 8 DAYS

WALLS — 21 DAYS

BEAMS — 14 DAYS

COLUMNS — 21 DAYS

8. THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND THE LOCATION OF THE CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER AT LEAST FOUR (4) DAYS PRIOR TO THE POURING FOR APPROVAL.

9. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE FORMS AND SHORING UNTIL THE CONCRETE MEMBERS HAVE ATTAINED THEIR WORKING CONDITION AND STRENGTH.

NOTES ON FOOTINGS

1. FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 70 KPA. THE CONTRACTOR SHALL REPORT TO THE ENGINEER, IN WRITING, THE ACTUAL SOIL CONDITIONS UNCOVERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DEPOSITING CONCRETE.

2. FOOTING SHALL REST AT LEAST 250MM BELOW NATURAL GRADE LINES UNLESS OTHERWISE INDICATED IN THE PLANS. NO FOOTING SHALL REST ON FILL.

3. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENTS SHALL BE 75MM CLEAR FOR CONCRETE DEPOSITED THE GROUND AND 50MM FOR CONCRETE DEPOSITED AGAINST A FORMWORK.

NOTES ON REINFORCEMENT

1. UNLESS OTHERWISE NOTED IN THE PLANS, THE YIELD STRENGTH OF REINFORCING BARS SHALL BE:

A. FOOTINGS — FY = 276 MPA (40,000 PSI)

B. COLUMNS — FY = 276 MPA (60,000 PSI)

C. BEAMS AND GIRDERS — FY = 276 MPA (60,000 PSI)

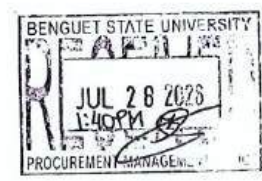
ALL REINFORCING BARS SIZE 10MM OR LARGER SHALL BE DEFORMED IN ACCORDANCE WITH ASTM A 706. BARS SMALLER THAN 10MM MAY BE PLAIN.

2. SPLICES SHALL BE SECURELY WIRED TOGETHER & SHALL LAP OR EXTEND IN ACCORDANCE WITH TABLE A AND TABLE B (TABLE OF LAP SPLICE & ANCHORAGE LENGTH) UNLESS OTHERWISE SHOWN ON DRAWINGS, SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.

NOTES ON CONCRETE SLABS

1. ALL SLAB REINFORCEMENTS SHALL BE 20MM CLEAR MINIMUM FROM BOTTOM AND FROM THE TOP OF SLAB.

2. UNLESS OTHERWISE SHOWN, REINFORCEMENT IN CONTINUOUS ELEVATED SLAB SHALL BE CUT AS FOLLOWS:



TYPICAL BAR BENDING AND CUTTING DETAILS FOR SLABS

3. IF SLABS ARE REINFORCED BOTH WAYS BARS ALONG THE SHORTER SPAN SHALL BE PLACED BELOW THOSE ALONG THE LONG SPAN AT THE CENTER AND OVER THE LONGER SPAN FOR REINFORCING BARS NEAR THE SUPPORTS. THE SPACING OF THE BARS AT THE COLUMN STRIPS SHALL NOT BE MORE THAN ONE AND A HALF (1 1/2) SLAB THICKNESS.

4. TEMPERATURE BARS FOR SLAB SHALL BE GENERALLY PLACED NEAR THE FACE IN TENSION AND SHALL NOT BE LESS THAN 0.0025 X GROSS CROSS-SECTIONAL AREA (A_G) OF THE SLAB (SEE SCHEDULE BELOW):

THICKNESS	MINIMUM TEMPERATURE BARS
100 mm	10 mm # 250mm EACH WAY
125 mm	10 mm # 225mm EACH WAY
150 mm	10 mm # 185mm EACH WAY
175 mm	10 mm # 150mm EACH WAY
200 mm	10 mm # 140mm EACH WAY

5. UNLESS OTHERWISE NOTED IN THE PLANS, ALL BEDDED SLABS SHALL BE REINFORCED WITH 10mm Ø AT 250mm O.C. EACH WAY TO CENTER OF SLAB AND CONSTRUCTION JOINTS FOR SAME SHALL NOT BE LESS THAN 3.65 METERS APART.

6. PROVIDE EXTRA REINFORCEMENTS FOR CORNER SLAB (TWO ADJACENT DISCONTINUOUS EDGES) AS SHOWN BELOW.

7. CONCRETE SLAB REINFORCEMENTS SHALL BE PROPERLY SUPPORTED WITH 10MM Ø STEEL CHAIR OR APPROVED EQUIVALENT SPACED AT 1.0 METER ON CENTER BOTH WAYS.

NOTES ON BEAMS AND GIRDERS

1. UNLESS, OTHERWISE NOTED IN PLANS, CAMBER ALL BEAMS AND GIRDER AT LEAST 6MM Ø FOR EVERY 4.5M OF SPAN. EXCEPT CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN PLANS OR AS ORDERED BY THE ENGINEER BUT IN NO CASE LESS THAN 20MM FOR EVERY 3.0M OF FREE SPAN.

2. TYPICAL BARS BENDING AND CUTTING DETAILS FOR BEAMS SHALL BE AS SHOWN IN FIGURE B-2.

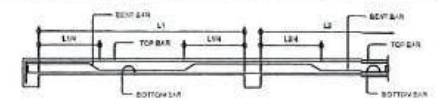
3. IF THE BEAM REINFORCING BARS END IN A WALL, THE CLEAR DISTANCE FROM THE BAR TO THE FARTHER FACE OF THE WALL NOT BE LESS THAN 25MM. EMBEDMENT LENGTH SHALL BE AS SHOWN IN TABLE 'A' FOR TENSION BARS AND TABLE 'B' FOR COMPRESSION BARS UNLESS SPECIFIED IN PLAN. TOP BAR SHALL NOT BE SPLICED WITHIN THE COLUMN OR WITHIN A DISTANCE TWICE THE MEMBER DEPTH FROM THE FACE OF THE COLUMN. AT LEAST TWO STIRRUPS SHALL BE PROVIDED AT ALL SPLICES.

4. IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS, USE 25MM Ø BAR SEPARATORS SPACED AT 1.0M ON CENTER. IN NO CASE SHALL THERE BE LESS THAN TWO (2) SEPARATORS BETWEEN TWO LAYERS OF BARS.

5. MINIMUM CONCRETE PROTECTION FOR REINFORCING BARS OR STEEL SHAPES SHALL BE AS SHOWN IN FIGURE B-1 UNLESS SPECIFIED ELSEWHERE.

6. WHEN A BEAM CROSSES A GIRDER, REST BEAM ON TOP OF GIRDER BARS. BEAM REINFORCING BAR SHALL BE SYMMETRICAL ABOUT CENTER LINE WHENEVER POSSIBLE.

7. GENERALLY, NO SPLICE SHALL BE PERMITTED AT POINTS WHERE CRITICAL BENDING STRESSES OCCUR. SPLICES WHERE SO PERMITTED SHALL BE INDICATED IN THE TABLE 'A' AND 'B'. WELDED SPLICES SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR, NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTION IS ALLOWED TO BE SPLICED THEREIN.



NOTES ON COLUMNS

1. PROVIDE EXTRA SETS OF TIES AT 100MM O.C. FOR TIED COLUMN REINFORCEMENT ABOVE AND BELOW BEAM-COLUMN CONNECTIONS FOR A DISTANCE FROM FACE OF CONNECTION EQUAL TO THE GREATER OF THE OVERALL THICKNESS OF COLUMN & THE CLEAR HEIGHT OF COLUMN OR 450MM.

2. COLUMN TIES SHALL BE PROTECTED EVERYWHERE BY A COVERING OF CONCRETE CAST MONOLITHICALLY WITH THE CORE WITH THE MINIMUM THICKNESS OF 40MM AND NOT LESS THAN 40 TIMES THE MAXIMUM SIZE OF COARSE AGGREGATE IN MILLIMETERS.

3. WHERE COLUMNS CHANGE IN SIZE, VERTICAL REINFORCEMENTS SHALL BE OFFSET AT A SLOPE OF NOT MORE THAN 1 IN 6 AND EXTRA 10MM TIES AT 100MM SHALL BE PROVIDED THROUGHOUT THE OFFSET REGION.

4. UNLESS OTHERWISE INDICATED IN THE PLANS, LAP SPLICES FOR VERTICAL COLUMN REINFORCEMENT SHALL BE MADE WITHIN THE CENTER HALF OF COLUMN HEIGHT, AND THE SPLICE LENGTH SHALL NOT BE LESS THAN 40 BAR DIAMETERS, WELDING OR APPROVED MECHANICAL DEVICES MAY BE USED PROVIDED THAT NOT MORE THAN ALTERNATE BARS ARE WELDED OR MECHANICALLY SPLICED AT ANY LEVEL AND THE VERTICAL DISTANCES BETWEEN THESE WELDS OR SPLICES OF ADJACENT BARS IS NOT LESS THAN 600mm.

TYPICAL COLUMN ELEVATION SHOWING DOWELS AND TIES SPACING

NOTES ON STIRRUPS

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

2. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FILLED BENT, EXCEPT AS SHOWN IN THE DESIGN DRAWINGS OR PERMITTED BY THE STRUCTURAL ENGINEER.

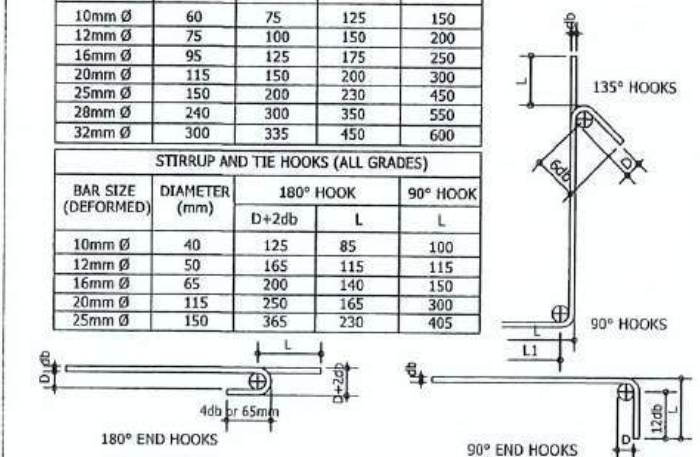
3. TIES AND CLOSE STIRRUPS MUST BE BENT AT 135°.

BAR SIZE (DEFORMED)	DIAMETER (mm)	180° HOOK		90° HOOK	
		D+2db	L	L	L
10mm Ø	60	75	125	150	
12mm Ø	75	100	150	200	
16mm Ø	95	125	175	250	
20mm Ø	115	150	200	300	
25mm Ø	150	200	230	450	
28mm Ø	240	300	350	550	
32mm Ø	300	335	450	600	

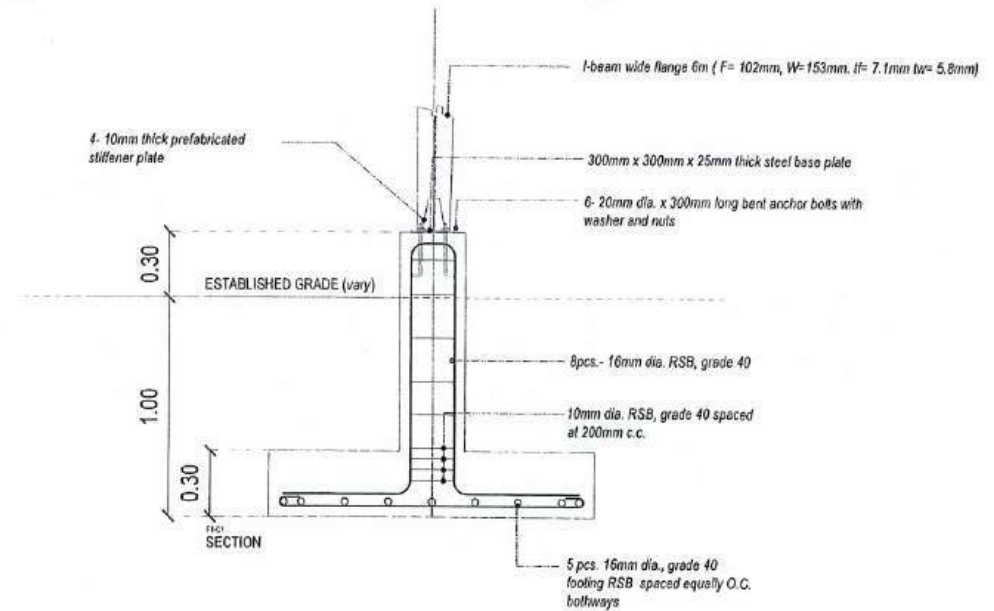
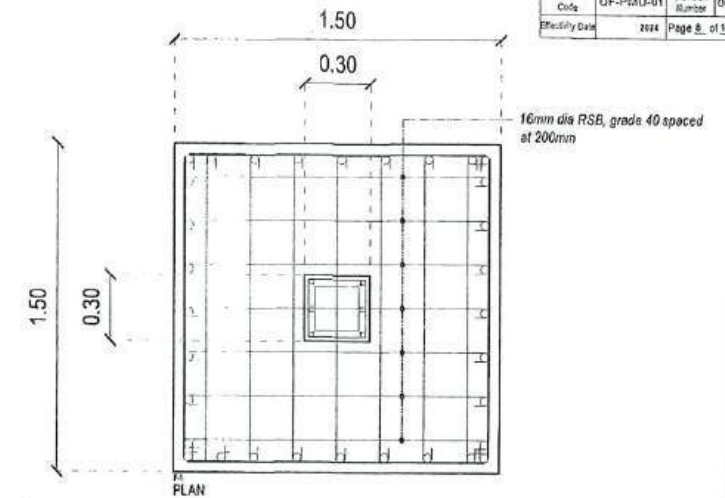
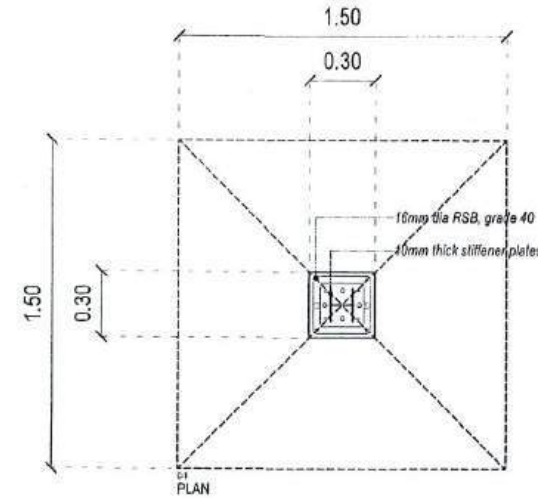
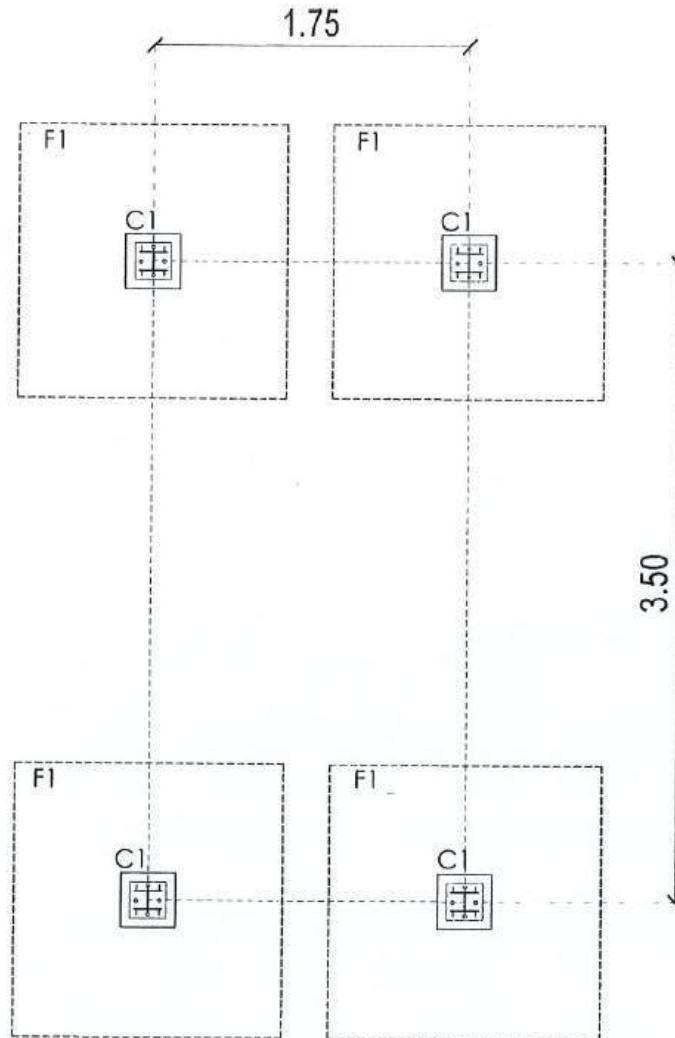
BAR SIZE (DEFORMED)	DIAMETER (mm)	180° HOOK		90° HOOK	
		D+2db	L	L	L
10mm Ø	40	125	85	100	
12mm Ø	50	165	115	115	
16mm Ø	65	200	140	150	
20mm Ø	115	250	165	300	
25mm Ø	150	365	230	405	

180° END HOOKS

90° END HOOKS



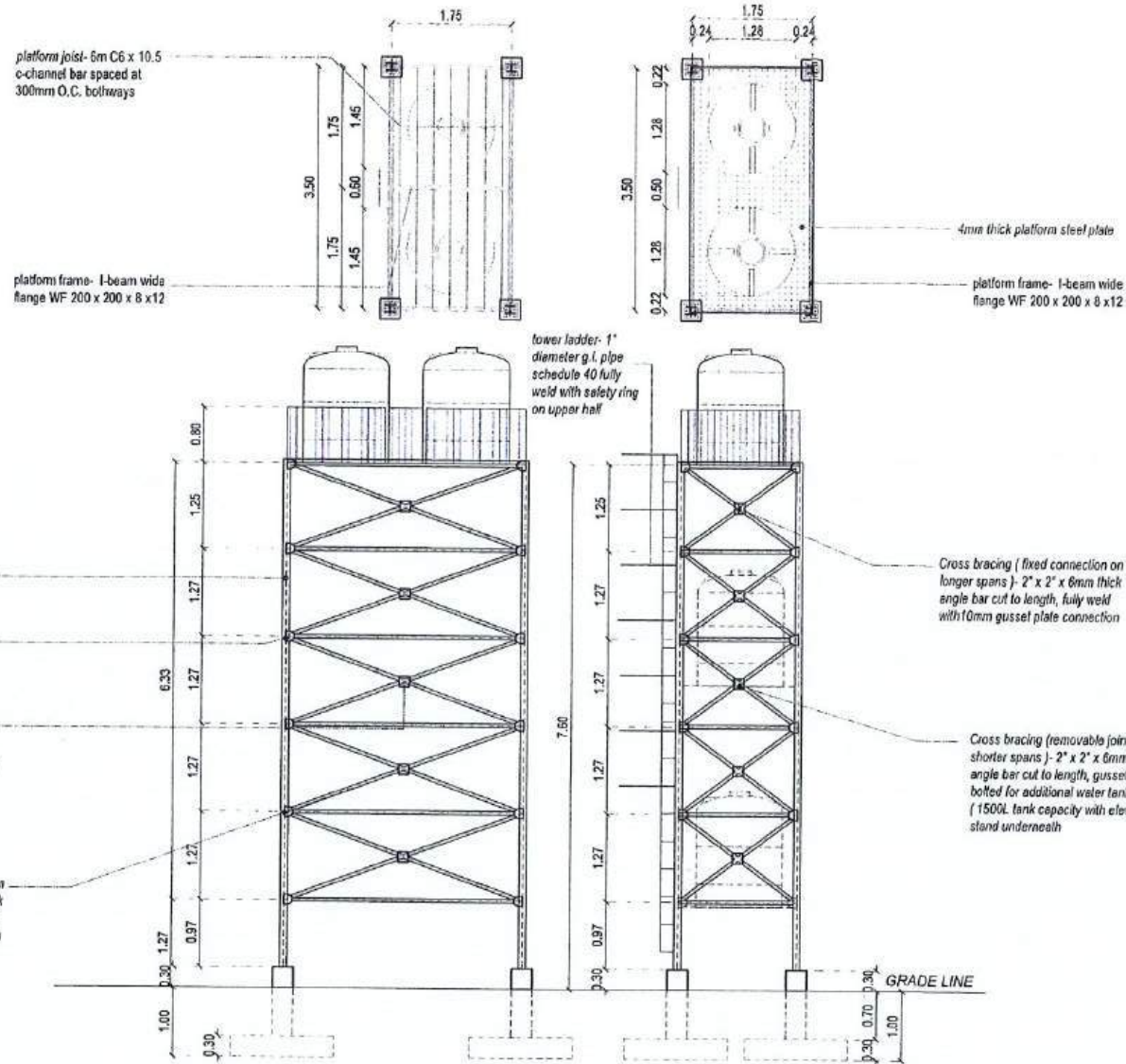
ARCH. HAZELINE N. TIBANGAY, UAP		SHERIFF JOHN C. LA MADRID ENGINEER		PROJECT TITLE/ LOCATION "CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY"		CONFORME: LOLA P. BLOQUEY		RECOMMENDING APPROVAL: RICHARD H. KINNUD		APPROVED: KENNETH ALIP LARUAN		SHEET CONTENT: AS SHOWN		SHEET S-1 06-12	
PRC LIC. NO. 028540 VALID UNTIL NOV. 18, 2027 PTR: 0257354 ISSUED 01-01-2025 PLACE LA TRINIDAD, BENGUET		PRC LIC. NO. 0126355 VALID UNTIL JULY 17, 2026 PTR: 0257287 ISSUED 01-01-2025 PLACE LA TRINIDAD, BENGUET		PREPARED BY: MADY DATE: JUNE 2025		BSU BUGUIAS CAMPUS, LOD, BUGUIAS BENGUET		END USER/ EXECUTIVE DEAN		SECTOR VICE PRESIDENT		PRESIDENT			



WATER TANK TOWER FOOTING AND COLUMN PLAN
SCALE 1:30 MTS.

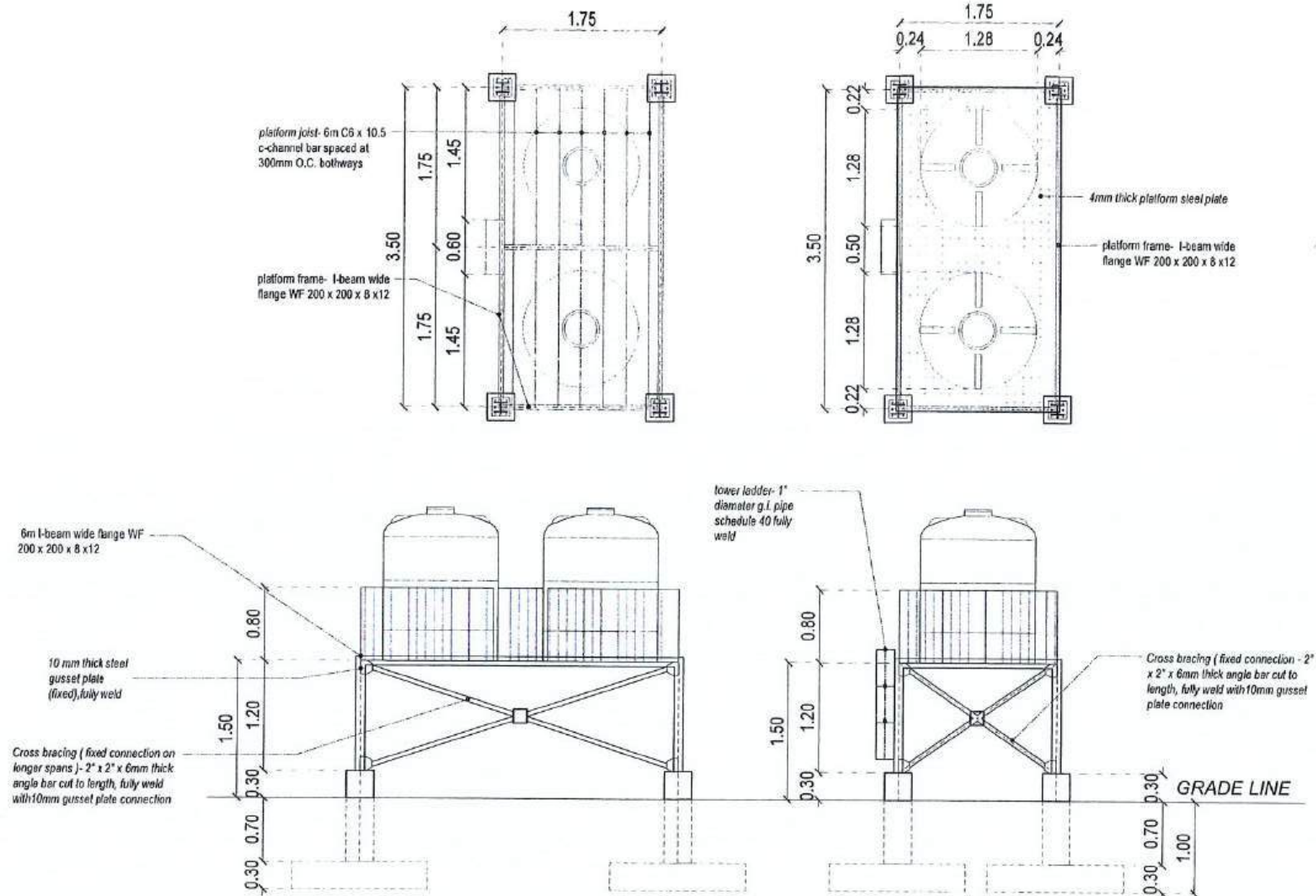
WATER TANK TOWER COLUMN AND FOOTING DETAILS
SCALE 1:50 MTS.

ARCH. HAZELINE N. TIBANGAY, UAP PRC LIC. NO. 028540 VALID UNTIL: NOV.18, 2027 PTR: 0257354	SHERIFF JOHN C. LA MADRID ENGINEER PRC LIC. NO. 0128359 VALID UNTIL: JULY 17, 2028 PTR: 0257287	Republic of the Philippines Benguet State University La Trinidad, Benguet PROJECT MANAGEMENT UNIT PREPARED BY: MADRID DATE: JUNE 2026	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, LOO, BUGUIAS BENGUET	CONFORME: LEILA P. BOLOGUEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL: RICHARD H. KINNOD SECTOR VICE PRESIDENT	APPROVED: KENNETH ALIP LARUAN PRESIDENT	SHEET CONTENT: AS SHOWN	SHEET S-2 07-12
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WATER TANK TOWER FRAMING DETAILS (CYMBIDIUM)
 SCALE 1:75 MTS.

ARCH. HAZELINE N. TIBANGAY, UAP	 SHERIFF JOHN C. LA MADRID ENGINEER	 Republic of the Philippines Benguet State University Benguet, Benguet PROJECT MANAGEMENT UNIT	PROJECT TITLE/LOCATION "CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY"	CONFORME:  LEILA P. BUZOGUES	RECOMMENDING APPROVAL:  RICHARD H. KINNUD	APPROVED:  KENNETH ALIP LARUAN	SHEET CONTENT: AS SHOWN	SHEET S-3 08-12
PRC LIC. NO. 026540 VALID UNTIL: NOV. 18, 2027 PTR: 9257354	PRC LIC. NO. 0126359 VALID UNTIL: JULY 17, 2026 PTR: 9257287	PREPARED BY: MADYVA DATE: JUNE 2026	BSU BUGUIAS CAMPUS, LOO, BUGUIAS, BENGUET	END-USER/ EXECUTIVE DEAN	SECTOR VICE PRESIDENT	RESIDENT		



WATER TANK TOWER FRAMING DETAILS(BUGUIAS ADMIN. BUILDING)
SCALE 1:50 MTS.

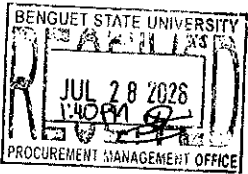
ARCH. HAZELINE N. TIBANGAY, UAP PRC LIC. NO. 028540 VALID UNTIL: NOV.18, 2027 PTR: 9257354 ISSUED 01-05-2016 PLACE LA TRINIDAD, BENGUET	<i>Sheriff John C. La Madrid</i> SHERIFF JOHN C. LA MADRID ENGINEER PTR: 9257287 ISSUED 01-05-2016 PLACE LA TRINIDAD, BENGUET	<i>Project Management Unit</i> PROJECT MANAGEMENT UNIT PREPARED BY: MADV DATE: JUNE 2026	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, LOO, BUGUIAS BENGUET	CONFORME: <i>Lea P. Blosuey</i> LEA P. BLOSUEY END-USER EXECUTIVE DEAN	RECOMMENDING APPROVAL: <i>Richard H. Kinnud</i> RICHARD H. KINNUD SECTOR VICE PRESIDENT	APPROVED: <i>Kenneth Alip Laruan</i> KENNETH ALIP LARUAN PRESIDENT	SHEET CONTENT: AS SHOWN	SHEET S-4 08-12
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PLUMBING GENERAL NOTES:

1. ALL PLUMBING WORKS TO BE DONE AND SIZES OF PIPES TO BE USED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL PLUMBING CODE OF THE PHILIPPINES AND LOCAL REGULATIONS AND ORDINANCES.
2. ALL PIPES SHALL BE INSTALLED AS INDICATED IN THE WORKING DRAWINGS. ANY RELOCATION REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE UPON THE APPROVAL OF THE SANITARY ENGINEER.
3. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
4. ALL PIPES SHALL BE PROVIDED W/ PROPER HANGER AND SUPPORT.
5. ALL FIXTURES SHALL BE VENTED INDIVIDUALLY AND WATERLINES SHALL BE VALVE BY GROUP.
6. UNLESS OTHERWISE SPECIFIED, ALL PLUMBING FIXTURES SHALL BE PROPERLY VENTED. MAXIMUM DISTANCE OF VENTILATION FROM FIXTURES SHALL BE 1.50m MEASURED ALONG THE LENGTH OF PIPE.
7. ALL PLUMBING FITTINGS SHALL BE ACCESSIBLE FOR MAINTENANCE. PROVIDE MANHOLE IF SUCH INSTALLATIONS ARE INSIDE THE CEILING.
8. ALL CHANGES IN DIRECTION SHALL BE MADE BY APPROPRIATE USE OF FORTY-FIVE DEGREES (45°) WYES, LONG SWEEP QUARTER BEND, ONE EIGHT WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL A SINGLE BEND COMBINATION MAY BE USED ONLY ON VENT PIPE.
9. NO DOUBLE HUB OR DOUBLE TEE BRANCH SHALL BE USED ON HORIZONTAL SOIL OR WASTE LINES.
10. PROVIDE PIPE SLEEVES AT WALL, COLUMNS OR SLAB TO PROTECT FROM BREAKAGE.
11. ALL EXPOSED PIPINGS AND FITTINGS IN THE AREAS SHALL BE CHROME PLATED.
12. THE BRAND AND OTHER DETAILED PLUMBING FIXTURES SHALL BE IN ACCORDANCE WITH THE SCHEDULE FURNISHED BY THE ARCHITECT.
13. GATE VALVE SHALL BE BRONZE BODY, SOLID WEDGE TYPE, SCREWED OR FLANGE END.
14. USE POLYPROPYLENE RANDOM, TYPE 3, PN20 FOR ALL WATER PIPING SYSTEM.
15. USE uPVC SANITARY PIPING SYSTEM SERIES 1000 FOR 100 Ø AND SMALLER AND GRAVITY SEWER MAIN uPVC PIPING SYSTEM FOR 150 Ø AND BIGGER.
16. ENGINEER-IN-CHARGE TO VERIFY ACTUAL LOCATION AND ELEVATION OF STREET DRAINAGE, STREET SEWER AND STREET WATER MAINS FOR CONNECTION BEFORE CONSTRUCTION.

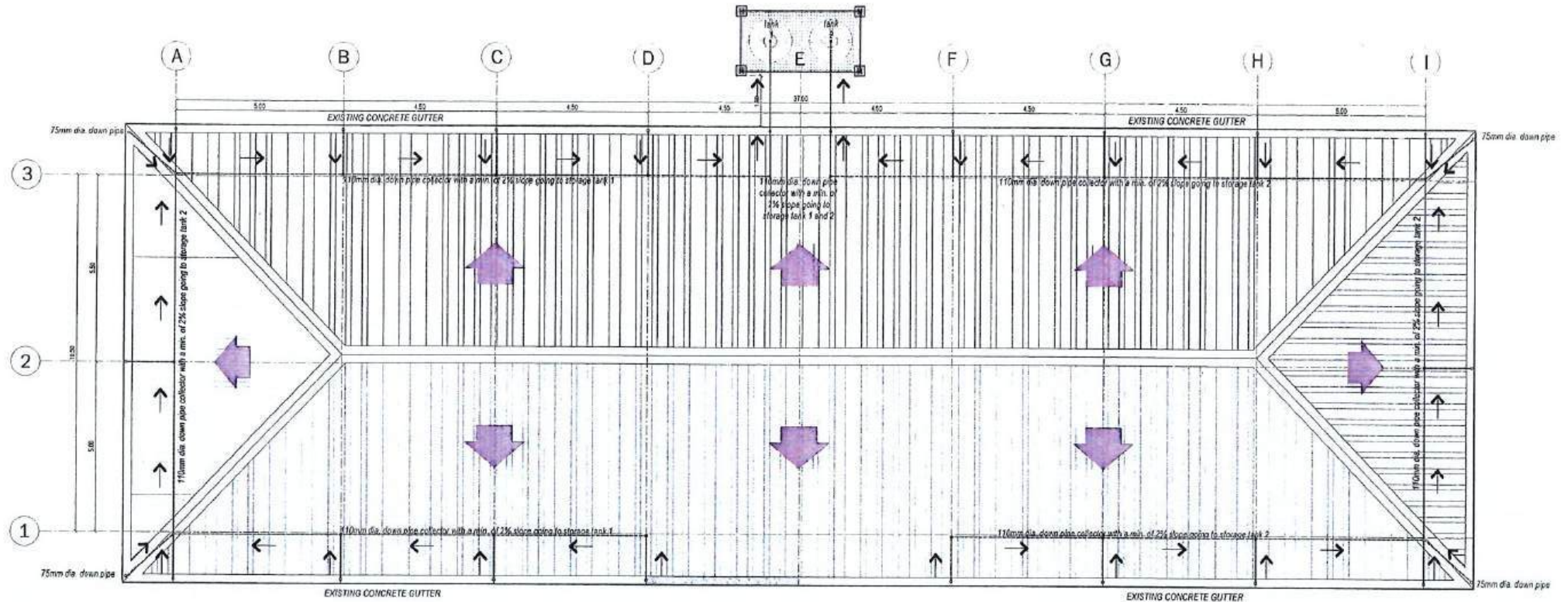
MATERIAL SPECIFICATIONS

- COLD WATER LINE - POLYPROPYLENE BY VESBO, UNITEC, (FOR INTERIOR PIPES) WIRSBO & REHAU, OR APPROVED EQUIVALENT.
- VENT & DOWNSPOUT - 50 TO 150mm. Ø SHALL BE POLYVINYL CHLORIDE (PVC) PIPE. SERIES 1000. (FOR EXTERIOR AND EXPOSED PIPES) PNS/SAO 374. MANUFACTURED ACCORDING TO ASTIA 2729.
- DRAINAGE LINE - 50 TO 150mm. Ø SHALL BE POLYVINYL CHLORIDE (PVC) PIPE. SERIES 1000. MANUFACTURED ACCORDING TO ASTM 2729.
- 300mm. Ø LARGER SHALL BE REINFORCED CONCRETE PIPE. CONFORMING TO ASTM-76 & NON-REINFORCED CONCRETE PIPE 200mm. TO 350mm. Ø TO ASTM-C14.
- SEWER LINE - 50 TO 150mm. Ø SHALL BE POLYVINYL CHLORIDE (PVC) PIPE. SDR-35 MANUFACTURED ACCORDING TO ASTM 3034.
- PIPE DIAMETER - ALL PIPE DIAMETERS INDICATED IN THE DRAWINGS ARE INSIDE DIAMETERS.



PLUMBING LEGENDS:	
SYMBOL	DESCRIPTION
	GATE VALVE
	CHECK VALVE
	WYE PIPE FITTING
	ELBOW PIPE FITTING
	P-TRAP PIPE FITTING
	DOWN SPOUT PIPE
	STACK PIPE
	FLOOR DRAIN
	LAVATORY
	WATER CLOSET
	URINAL
	KITCHEN COUNTER SINK
	CLEAN-OUT
	WATER TAP
	SANITARY LINE
	WATER LINE

ARCH. HAZELINE N. TIBANGAY, UAP	ENGINEER		PROJECT TITLE/LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY"	CONFORME: LEILA P. BUCOGUEY	RECOMMENDING APPROVAL: RICHARD H. KINNUD	APPROVED: KENNETH ALIP LARUAN	SHEET CONTENT: AS SHOWN	SHEET P-1 09-12
PRC LIC. NO: 028540 VALID UNTIL: NOV. 18, 2027 PTR: 9257354	PRC LIC. NO: PTR:	PREPARED BY: MADY DATE: JUNE 2026	BSU BUGUIAS CAMPUS, LOO, BUGUIAS BENGUET	END-USER/ EXECUTIVE DEAN	SECTOR VICE PRESIDENT	PRESIDENT		

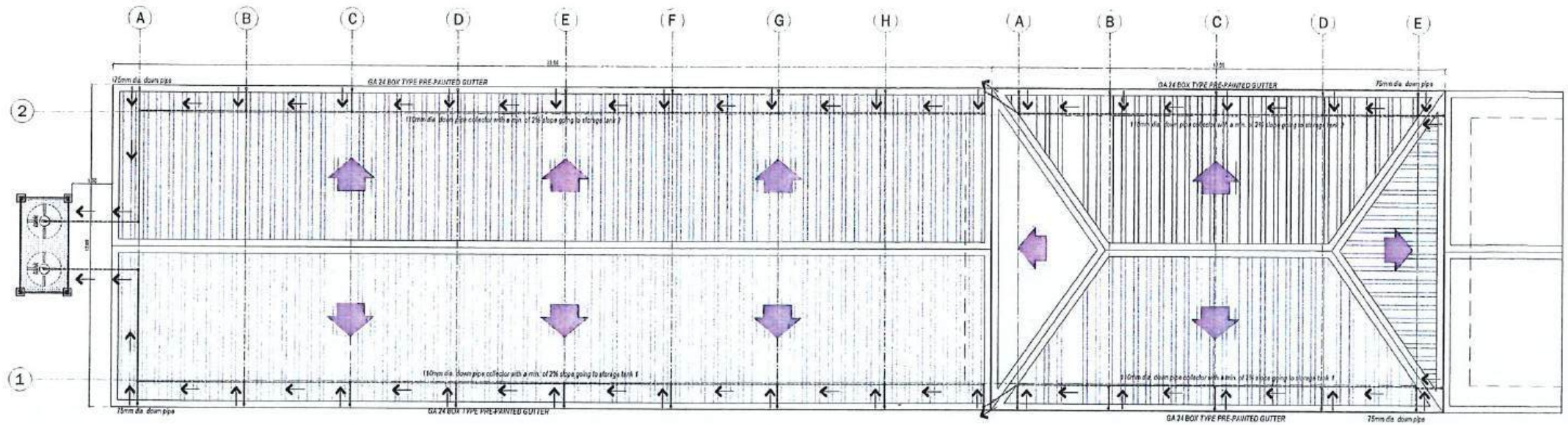


CYMBIDIUM BUILDING RAINWATER CATCHMENT PLAN

SCALE

1:125 MTS.

ARCH. HAZELINE NTIBANGAY, UAP PRC LIC. NO. 028540 VALID UNTIL NOV. 18, 2027 PTR: 9257354 ISSUED 01-03-2028 PLACE LA TRINIDAD, BENGUET	ENGINEER PRC LIC. NO: PTR: LA TRINIDAD	Republic of the Philippines Brigida State University LA TRINIDAD, BENGUET PROJECT MANAGEMENT UNIT PREPARED BY: MADV DATE: JUNE 2026	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, L.O.O, BUGUIAS, BENGUET	CONFORME: LEILA P. BULOQUEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL: RICHARD H. KINNOD SECTOR VICE PRESIDENT	APPROVED: KENNETH ALIP LARUAN RESIDENT	SHEET CONTENT: AS SHOWN	SHEET P-2 10-12
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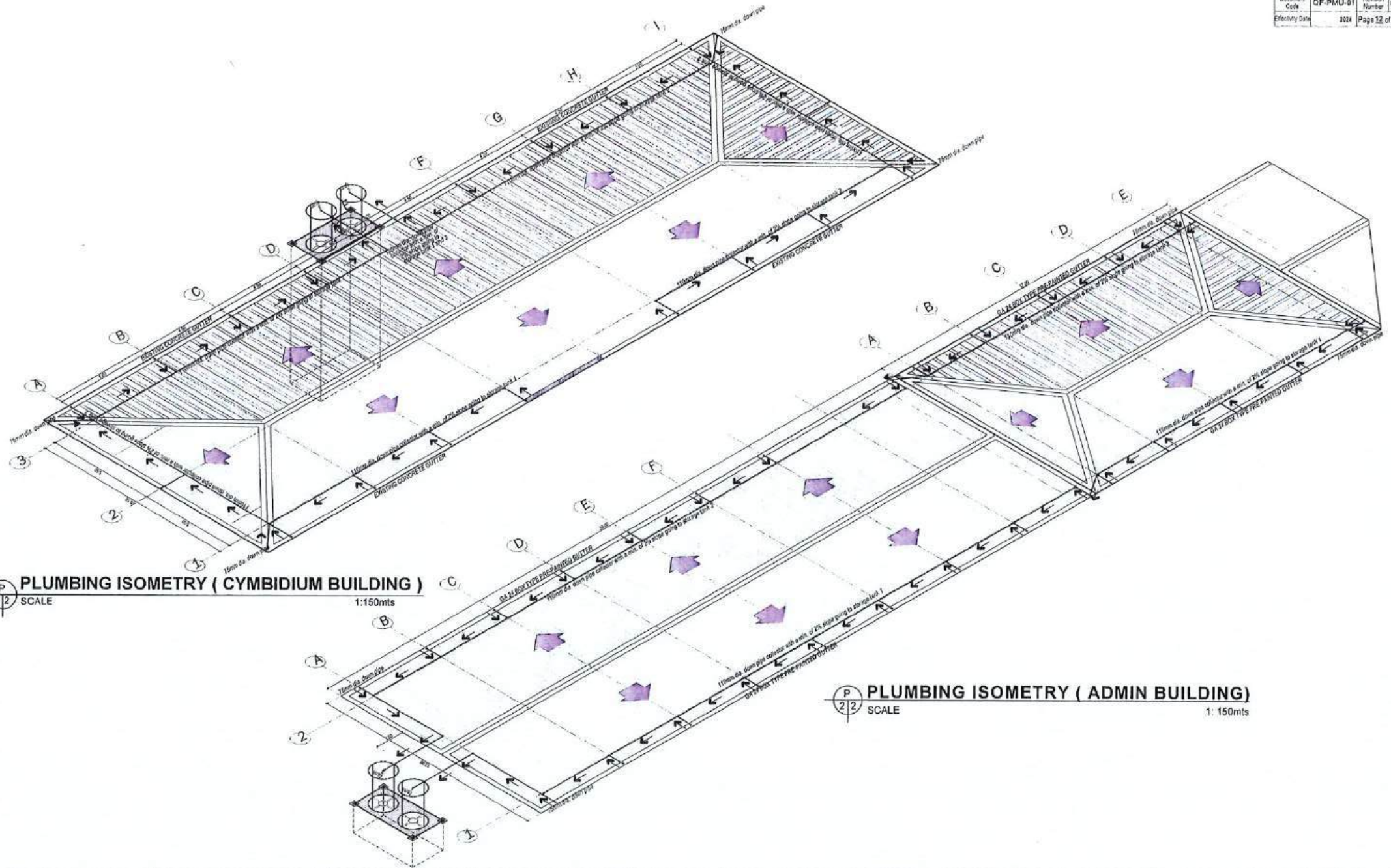


BUGUIAS ADMINISTRATION BUILDING RAINWATER CATCHMENT PLAN

SCALE

1:150 MTS.

 ARCH. HAZELINE N. TIBANGAY, UAP PRC LIC. NO. 028540 VALID UNTIL: NOV. 18, 2027 PTR: 6257354 ISSUE 01-08-2026 PLACE (ATTENTION: REVIEWER)	ENGINEER PRC LIC. NO.: PTR: LA TRINIDAD	 Benguet State University La Trinidad, Benguet PROJECT MANAGEMENT UNIT PREPARED BY: MADV DATE: JUNE 2026	PROJECT TITLE/ LOCATION "CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU-BUGUIAS CAMPUS, L.O.O. BUGUIAS BENGUET	CONFORME: LAILA P. BULOONEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL: RICHARD H. KINNUD SECTOR VICE PRESIDENT	APPROVED: KENNETH ALIP LARUAN RESIDENT	SHEET CONTENT: AS SHOWN	SHEET P-3 11-12
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PLUMBING ISOMETRY (CYMBIDIUM BUILDING)
 SCALE 1:150mts

PLUMBING ISOMETRY (ADMIN BUILDING)
 SCALE 1: 150mts

ARCH. HAZELINE N. TIBANGAY, UAP PRC LIC. NO. 028540 VALID UNTIL: NOV. 16, 2027 PTR: 9257354 ISSUED 05-09-2026 PLACILLA TRINIDAD BENGUET	ENGINEER PRC LIC. NO. PTR: LA TRINIDAD	Republic of the Philippines Benguet State University La Trinidad, Benguet PROJECT MANAGEMENT UNIT PREPARED BY: MADV DATE: JUNE 2026	PROJECT TITLE/ LOCATION " CONSTRUCTION OF BSU-BUGUIAS CAMPUS RAIN WATER HARVESTING FACILITY" BSU BUGUIAS CAMPUS, LDO, BUGUIAS BENGUET	CONFORME: LEILA P. BULOQUEY END-USER/ EXECUTIVE DEAN	RECOMMENDING APPROVAL: RICHARD H. KINNUD SECTOR VICE PRESIDENT	APPROVED: KENNETH ALIP LARUAN PRESIDENT	SHEET CONTENT: AS SHOWN	SHEET P-4 12-12
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