



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
WESTERN VISAYAS
PAROLA, ILOILO CITY

DETAILED ENGINEERING DESIGN PLAN

**ESTABLISHMENT OF BRGY. GENERAL MALVAR
SOLAR POWERED IRRIGATION SYSTEM (SPIS)**

BRGY. GENERAL MALVAR, PONTEVEDRA, NEGROS OCCIDENTAL

FY 2025 HVCDP

Submitted by:


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Recommending Approval:


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OIC- RTD for Operations

Approved by:


DENNIS R. ARPJA
Regional Executive Director



GENERAL NOTES:

1. ALL DIMENSIONS & ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. METAL STEEL CONNECTIONS MUST BE FULLY WELDED.
3. ALL EXPOSED STEEL MATERIALS MUST BE APPLIED WITH TWO COATS OF EPOXY PRIMER (GRAY) AND PAINTED WITH TWO COATS OF ALUMINUM PAINT (SILVER).
4. REINFORCING BARS SHALL BE DEFORMED BILLET- STEEL OF INTERMEDIATE GRADE (ASTM 615 OR PS 275 GRADE 40).
5. ALL CONCRETE WORKS SHALL HAVE A MINIMUM OF 3000 PSI COMPRESSIVE STRENGTH.
6. CONCRETE COVER FOR REINFORCEMENT SHALL NOT BE LESS THAN THE FOLLOWING:
A. FROM THE GROUND CONTACT SURFACE OF CONCRETE FOOTINGS AND OTHER MEMBERS IN WHICH CONCRETE IS DEPOSITED AGAINST THE GROUND, USE 7.50CM.
B. FROM CONCRETE SURFACE EXPOSED TO WATER FLOW OR BE IN CONTACT WITH THE GROUND AFTER REMOVAL OF FORMS, USE MINIMUM 7.50CM.

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THIS SITE

LOCATION MAP

SCALE: 1:10,000

TECHNICAL DATA

PUMP:	1 UNIT - 2 HP SUBMERSIBLE PUMP
INVERTER/CONTROLLER:	1 UNIT - 4KW MPPT
SOLAR PANEL:	6 MONOCRYSTALLINE SOLAR PANELS - 650W PER PANEL
TOTAL POWER:	3,300 WATT-PEAK
CONVEYANCE	
DISCHARGE PIPE:	2" Ø GI PIPE S40-25 METERS
DELIVERY PIPE:	2" Ø HDPE PIPE SDR 17-150 LINEAR METERS
SERVICE AREA:	3 HECTARES
DISCHARGE (Q):	73.20 M ³ /DAY

TECHNICAL DATA

SCALE: 1:10,000

SCOPE OF WORKS

SCALE: 1:10,000

ITEM NO.	GENERAL REQUIREMENTS	SCOPE OF WORKS	QUANTITY	UNIT
I.	GENERAL REQUIREMENTS			
A.1.1 (a)	Provision of Temporary Facility (Paving Base)		1.00	kg
B.5	COA/Balboard Project Signboard and Project Marker		1.00	kg
B.6	Mobilization and Demobilization		1.00	kg
SPL 1	Well Construction (with Pumping Test)		1.00	kg
II.	SOLAR PUMP, SOLAR ARRAY, MOUNTING STRUCTURE			
800 (1)	INVERTER ENCLOSURE & STANDPIPE			
800 (1)	Cleaning, Grubbing, and Layout		180.00	sqm
800 (1)a	Structure Excavation		14.00	cum
804 (1)a	Embankment (Backfill from Structure Excavation)		7.00	cum
804 (4)	Gravel Fill (Gravel Bedding)		1.00	cum
900 (1)a	Structural Concrete (Class A, 28 days)		1.80	cum
902 (1)a	Reinforcing Steel (Deformed, Grade 40)		63.00	kg
903 (2)	Formworks		14.00	sqm
SPL 2	Solar Power Module Mounting Structure & Inverter Enclosure (including painting works)		1.00	kg
SPL 3	Solar Power Modules (3,300 WP, Minimum)		1.00	kg
SPL 4	Inverter and Controller (4KW, minimum w/ Accessories (Inverter, Wiring, Fuses & Cables))		1.00	kg
SPL 5	Submersible Pump (2HP, Minimum)		1.00	kg
SPL 6	Valves, Pipes, Fittings & other Accessories		1.00	kg
III.	ELEVATED STORAGE TANK			
803 (1)a	Structure Excavation		4.00	cum
804 (1)a	Embankment (Backfill from Structure Excavation)		2.00	cum
804 (4)	Gravel Fill (Gravel Bedding)		0.30	cum
800 (1)a	Structural Concrete (Class A, 28 days)		1.24	cum
902 (1)a	Reinforcing Steel (Deformed, Grade 40)		167.00	kg
903 (2)	Formworks		7.00	sqm
1201 (3)a	Installation of Overhead Storage Tank (Polyethylene, 2000 Liter Capacity, Vertical Type)		1.00	kg
SPL 7	Elevated Storage Tank Metal Stand (including painting works)		1.00	kg

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SOLAR POWERED IRRIGATION SYSTEM (SPIS)

SPIS 2000 LITER CAPACITY, 2000 LITER CAPACITY

SCOPE OF WORKS

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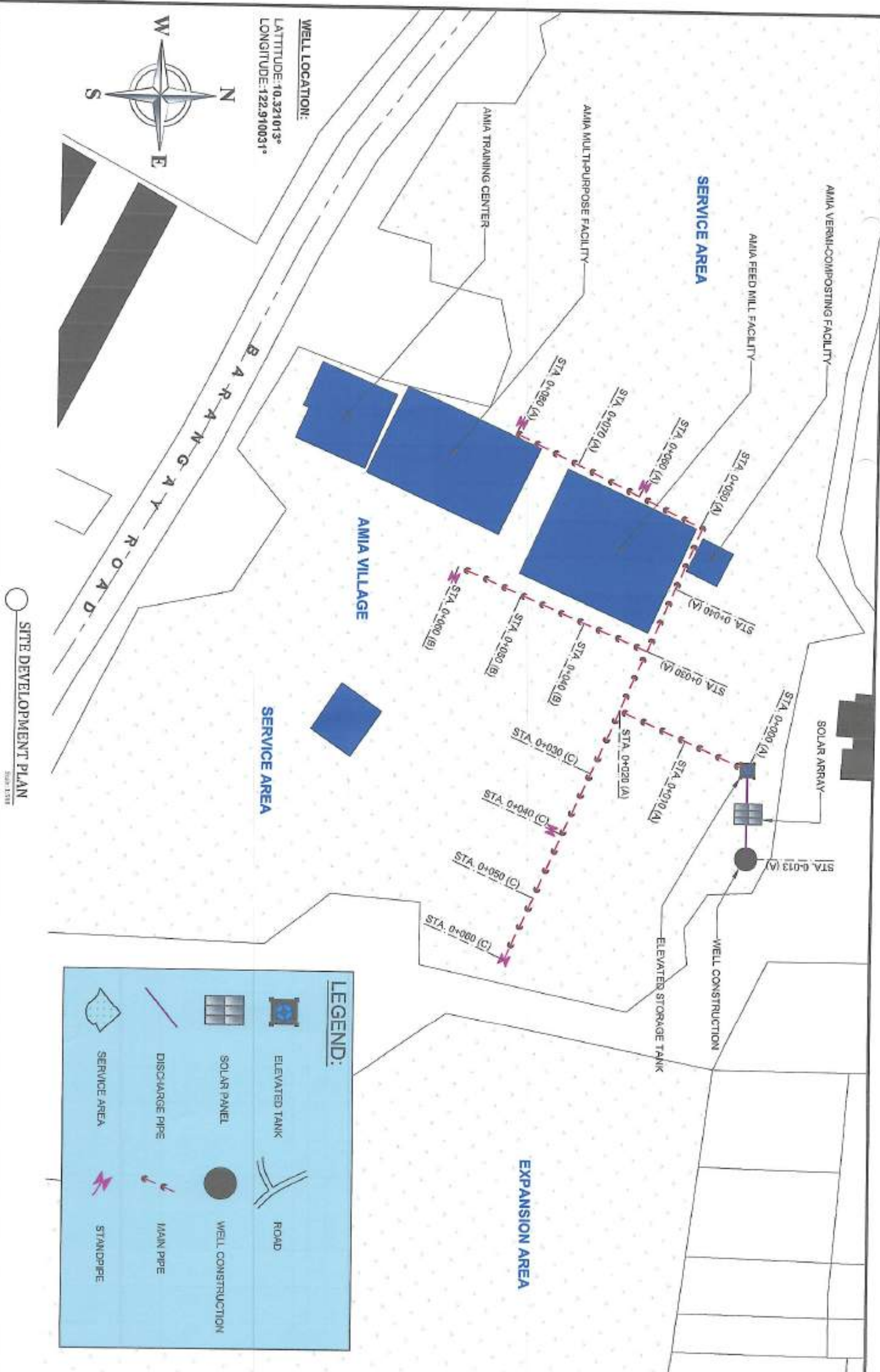
SCOPE OF WORKS

SCOPE OF WORKS

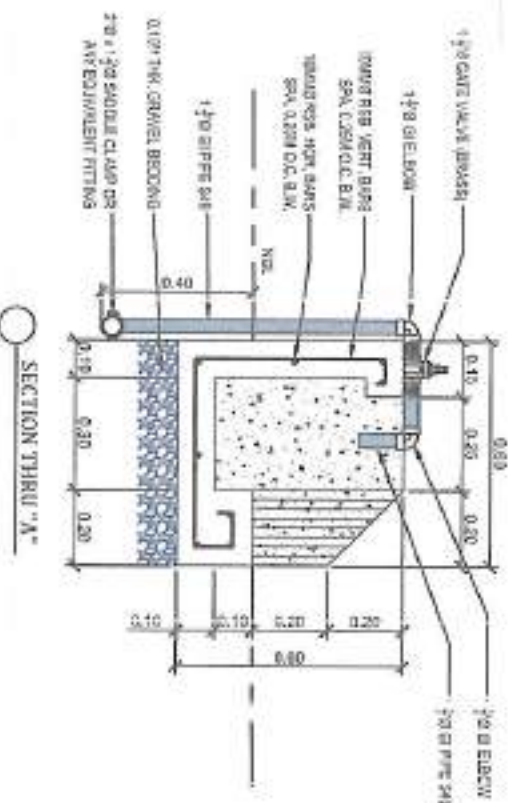
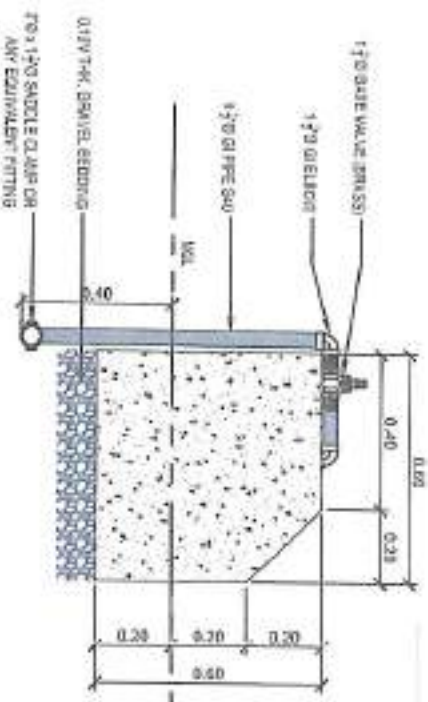
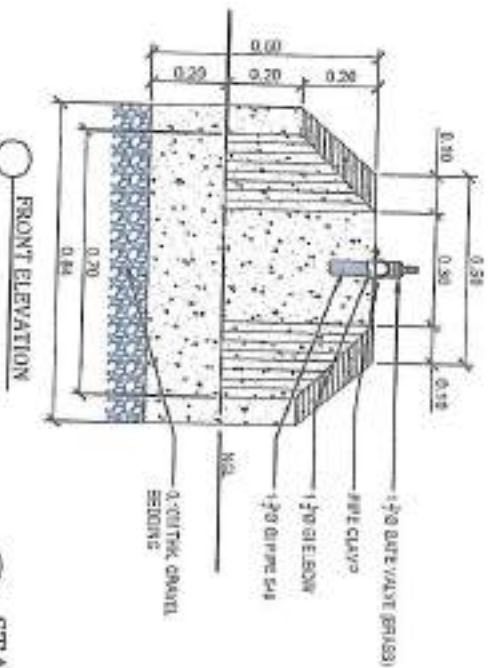
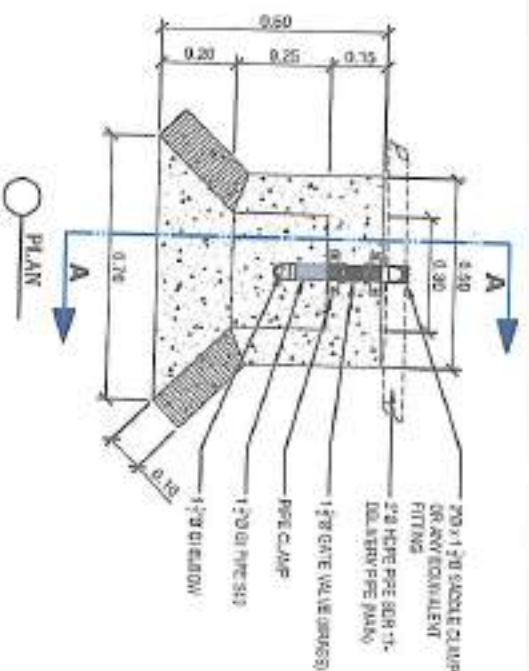
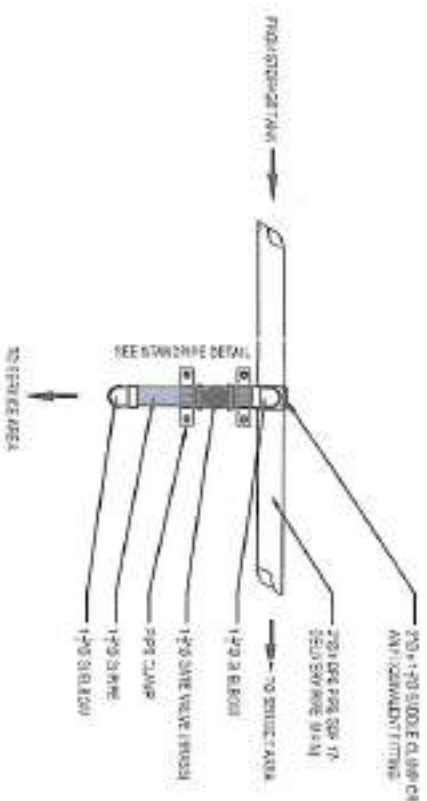
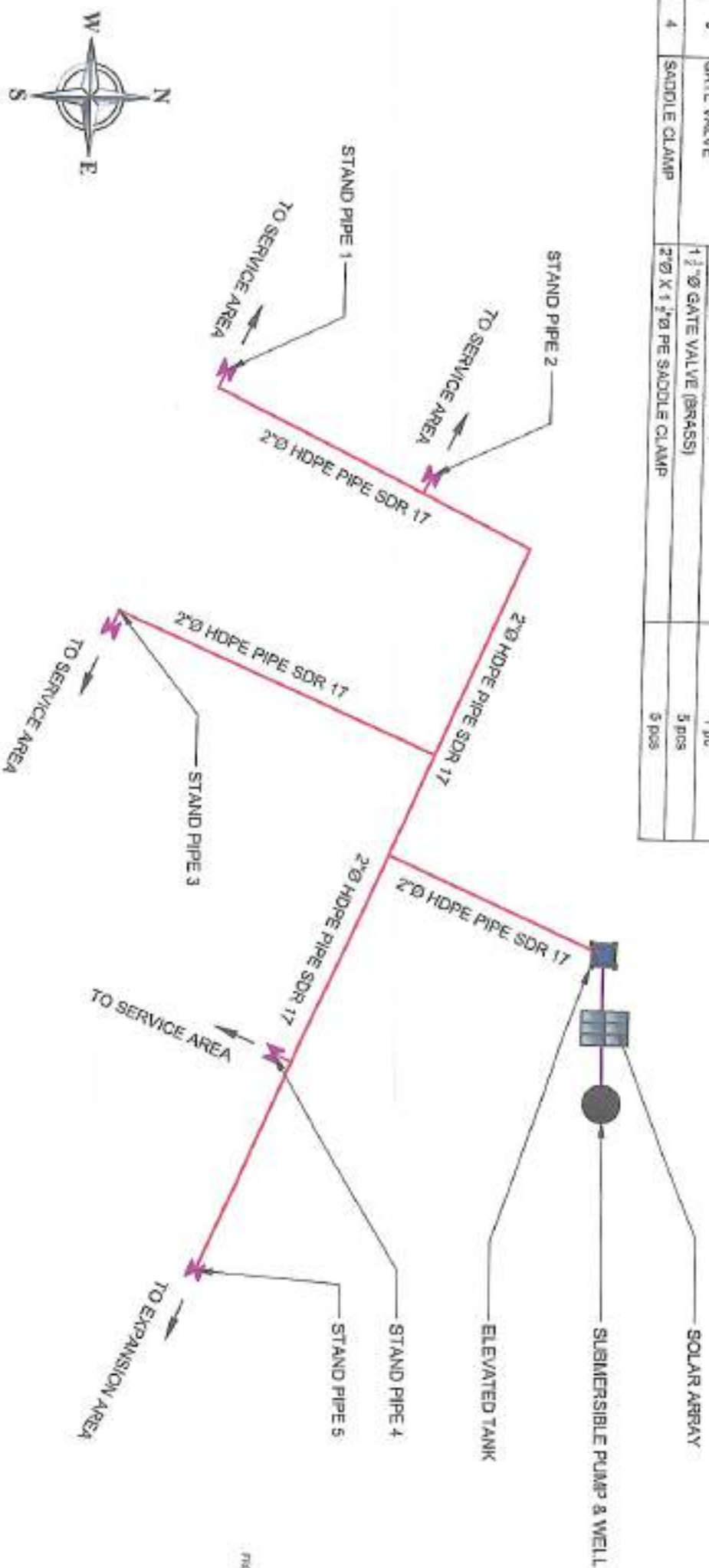
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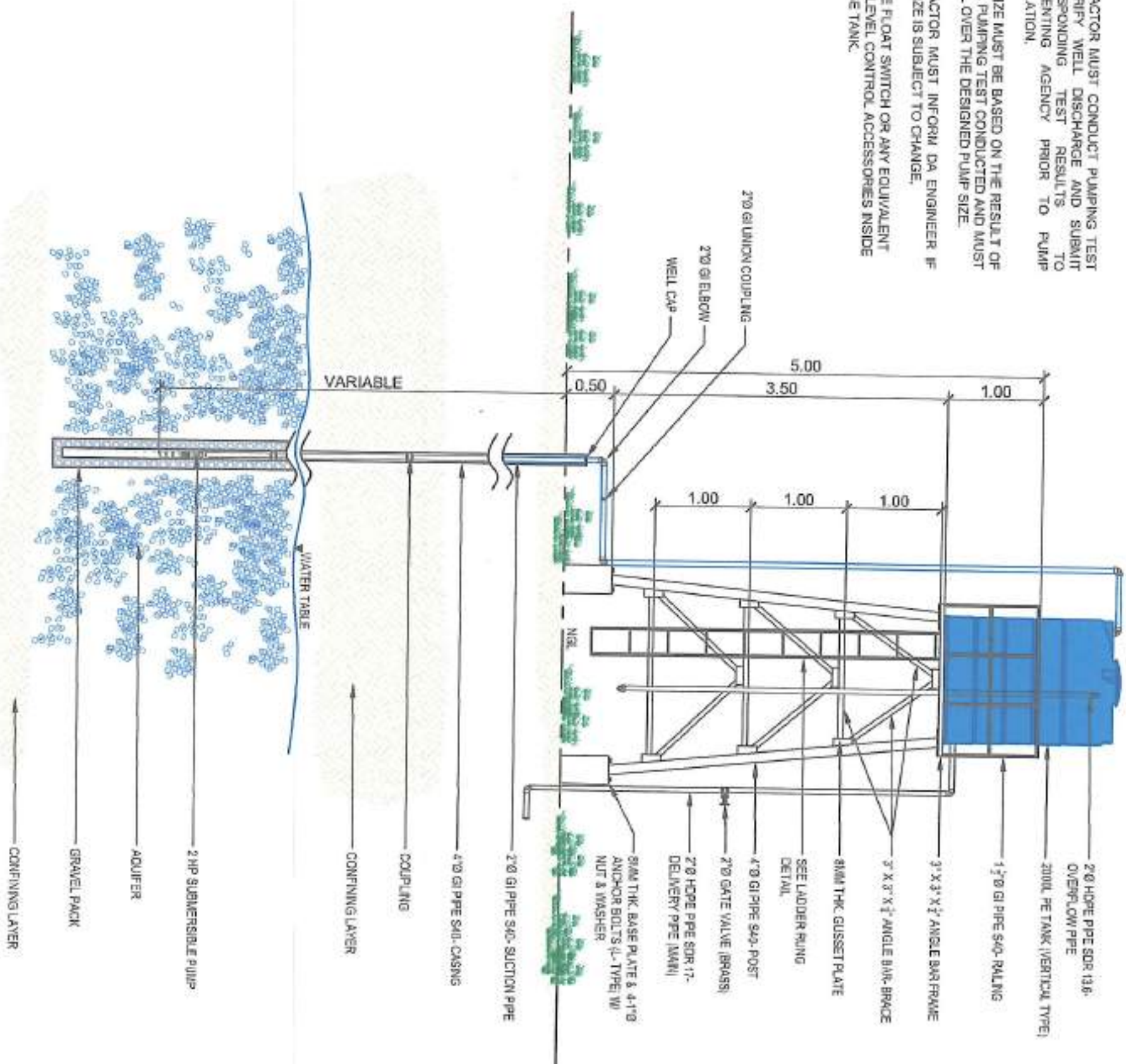




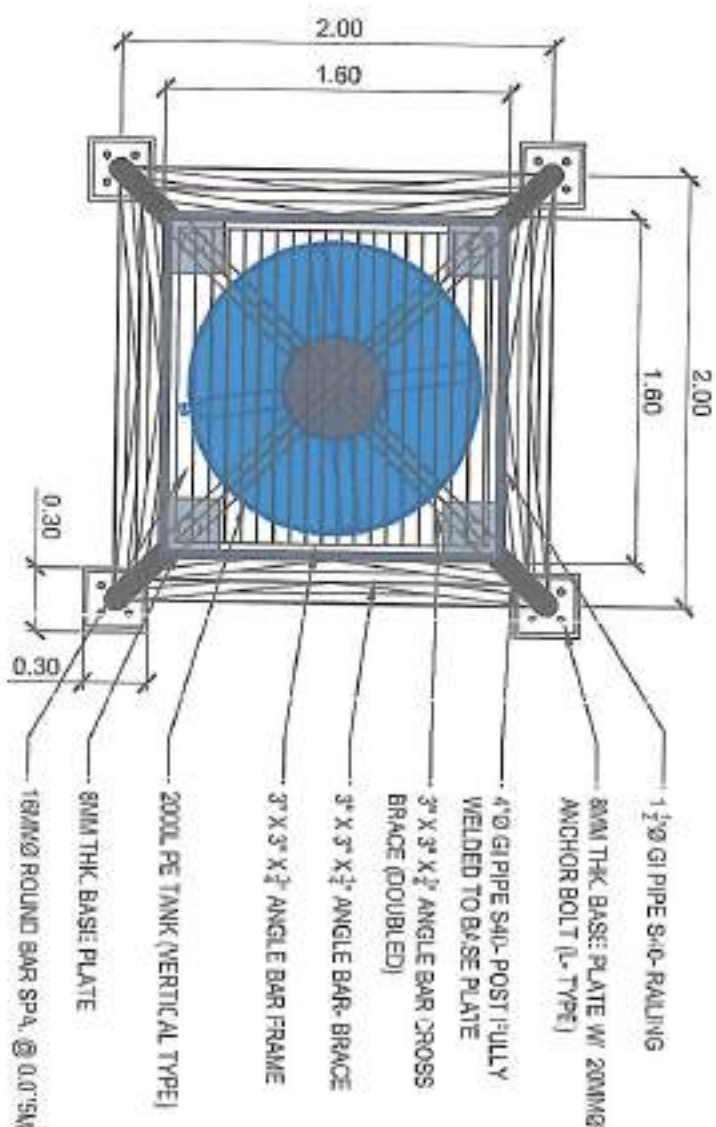
DISTRIBUTION LINE SCHEDULE		
NO.	ITEM DESCRIPTION	LENGTH/ NO. UNITS
1	DISCHARGE PIPE	2" Ø GI PIPE S40
2	DELIVERY PIPE	2" Ø HDPE PIPE SDR 17
3	STANDPIPE	1 1/2" Ø GI PIPE S40
3	GATE VALVE	2" Ø GATE VALVE (BRASS)
4	SADDLE CLAMP	2" Ø X 1 1/2" Ø PE SADDLE CLAMP
		5 pcs



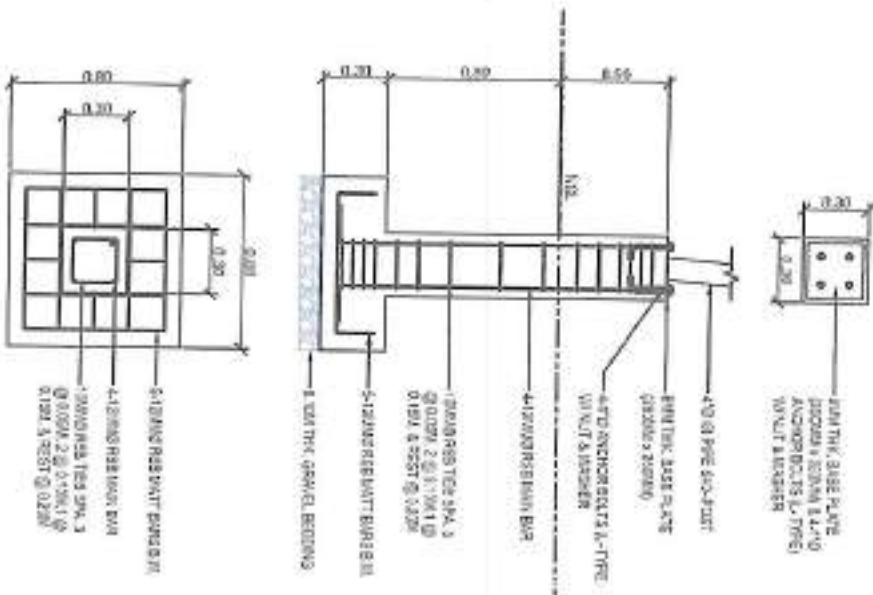
- NOTE:**
1. CONTRACTOR MUST CONDUCT PUMPING TEST TO VERIFY WELL DISCHARGE AND SUBMIT CORRESPONDING TEST RESULTS TO IMPLEMENTING AGENCY PRIOR TO PUMP INSTALLATION.
 2. PUMP SIZE MUST BE BASED ON THE RESULT OF ACTUAL PUMPING TEST CONDUCTED AND MUST PREVAIL OVER THE DESIGNED PUMP SIZE.
 3. CONTRACTOR MUST INFORM DA ENGINEER IF PUMP SIZE IS SUBJECT TO CHANGE.
 4. PROVIDE FLOAT SWITCH OR ANY EQUIVALENT WATER LEVEL CONTROL ACCESSORIES INSIDE STORAGE TANK.



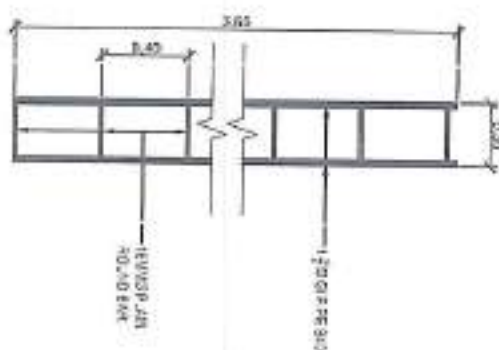
WELL CONSTRUCTION & STORAGE TANK ELEVATION
Scale: 1:10



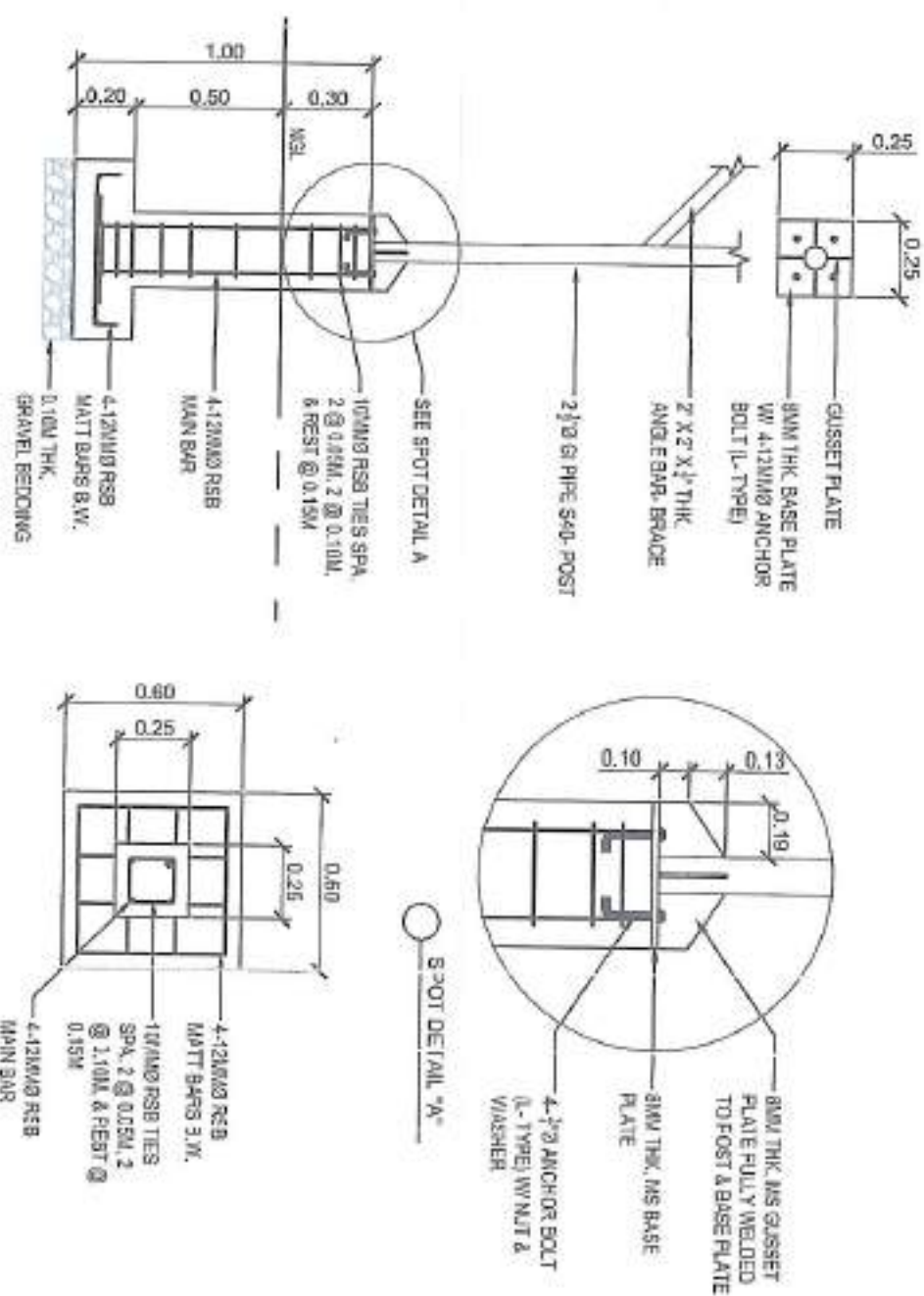
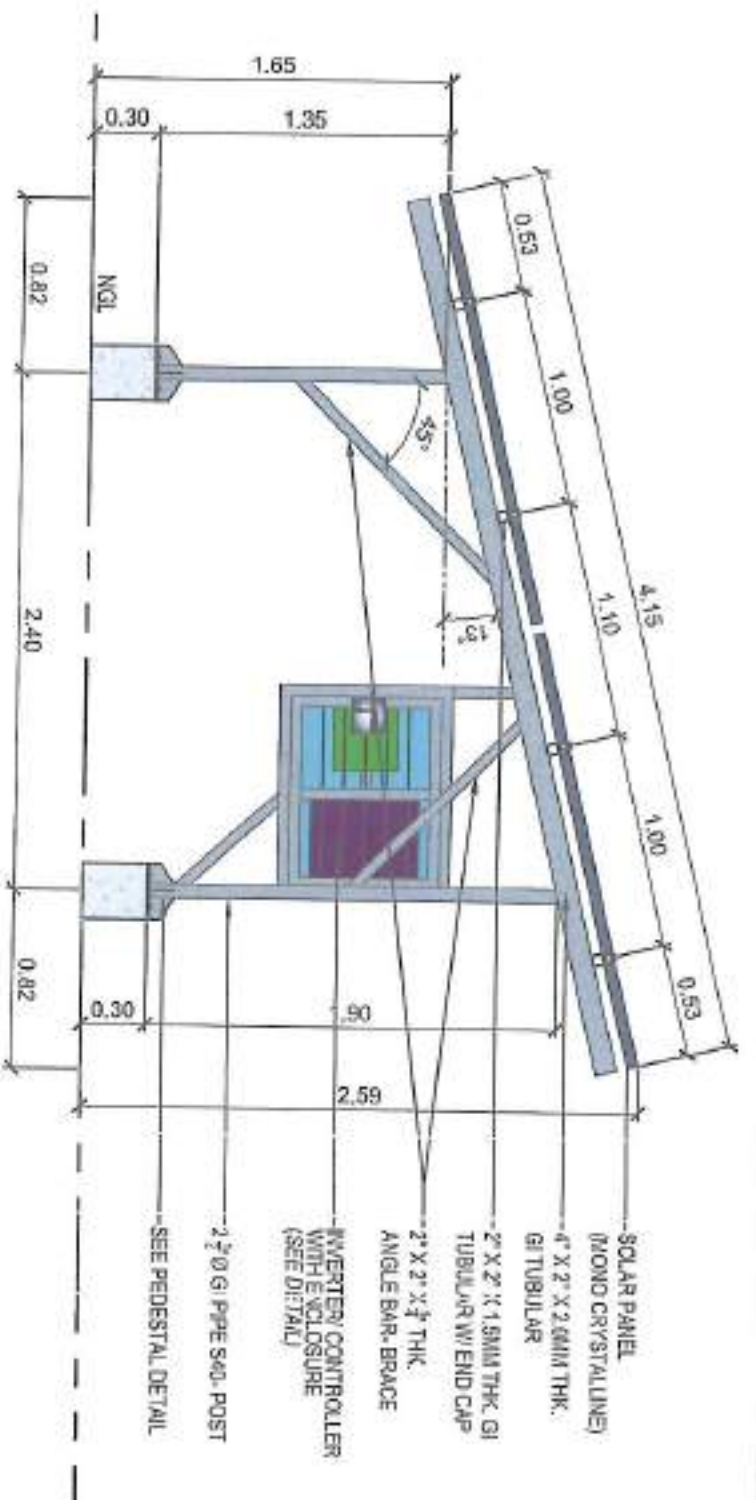
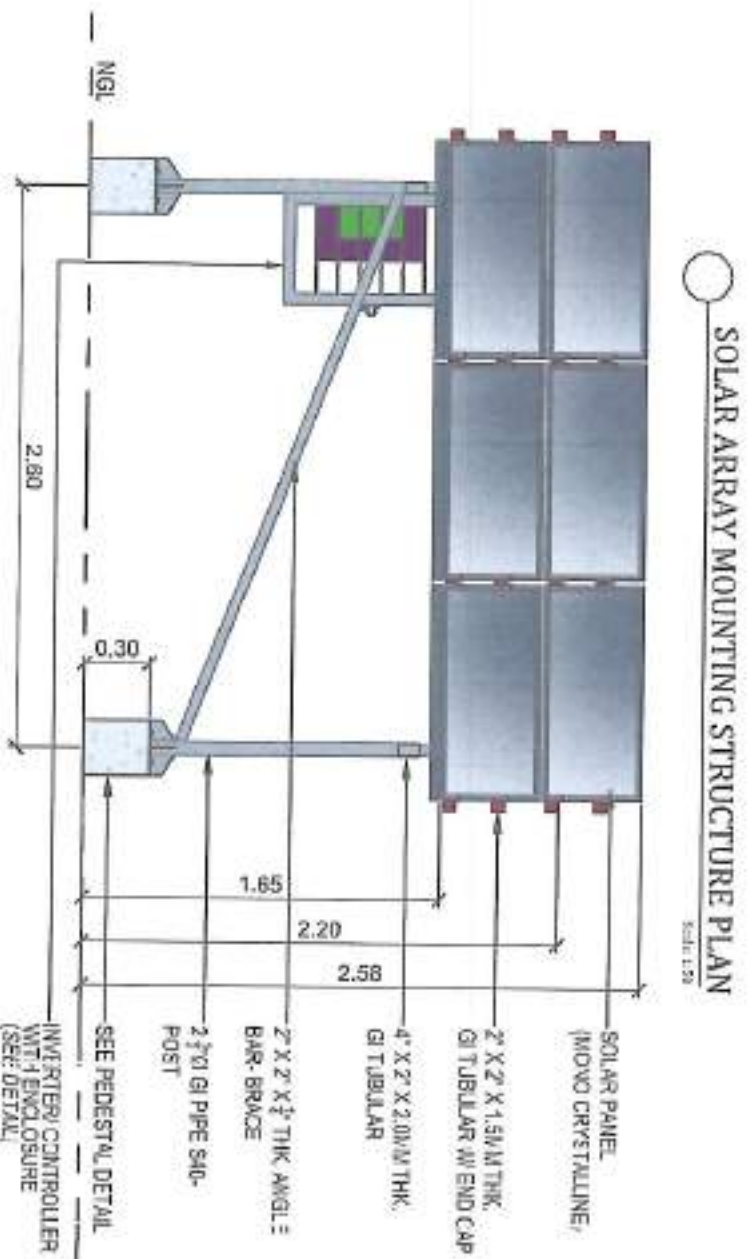
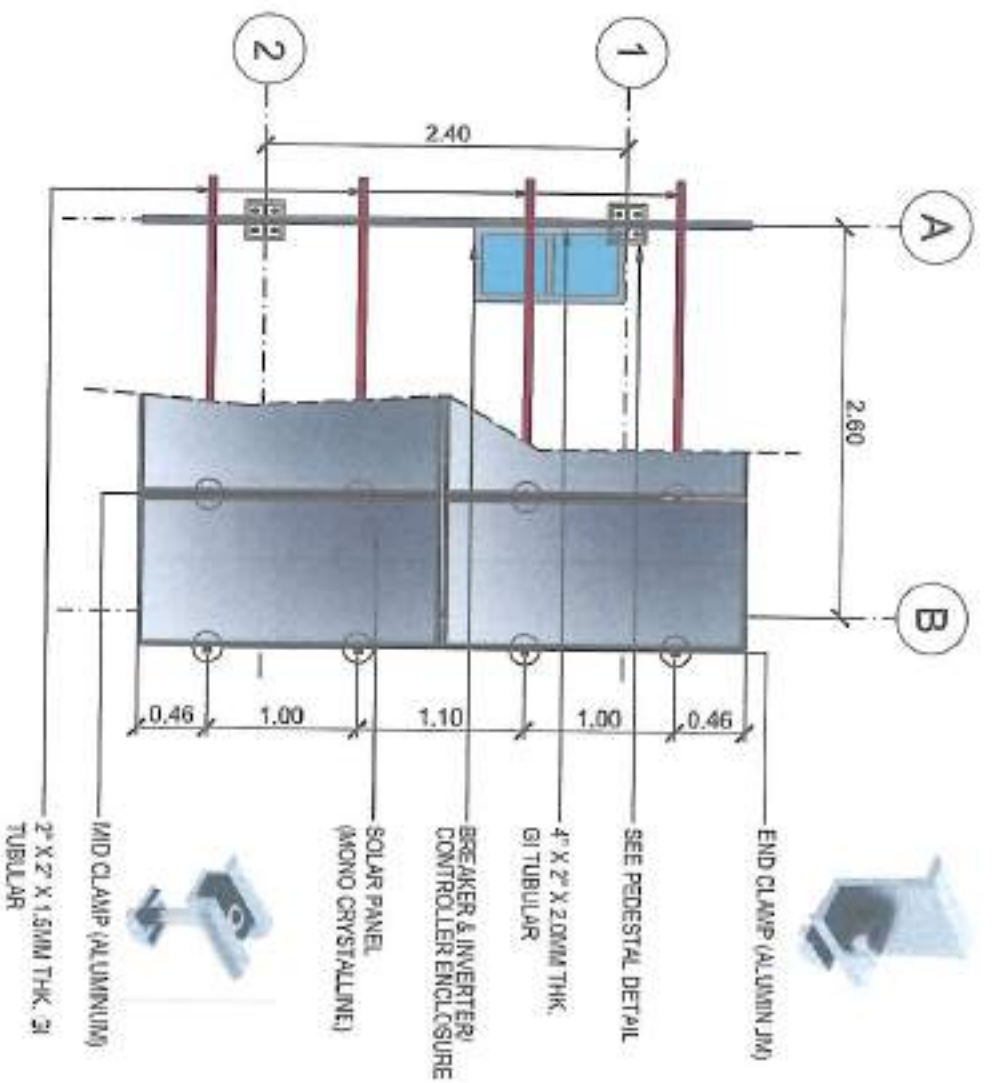
STORAGE TANK TOP VIEW
Scale: 1:10



STORAGE TANK PEDESTAL DETAIL
Scale: 1:10



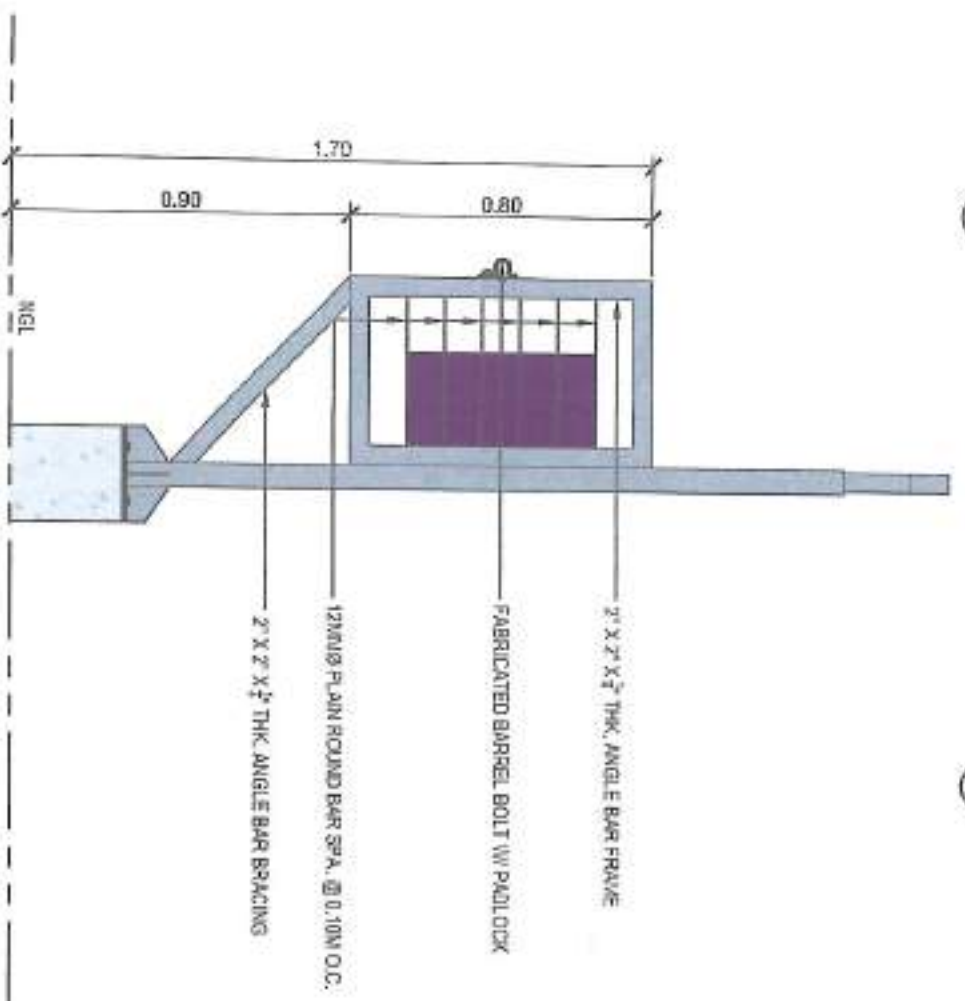
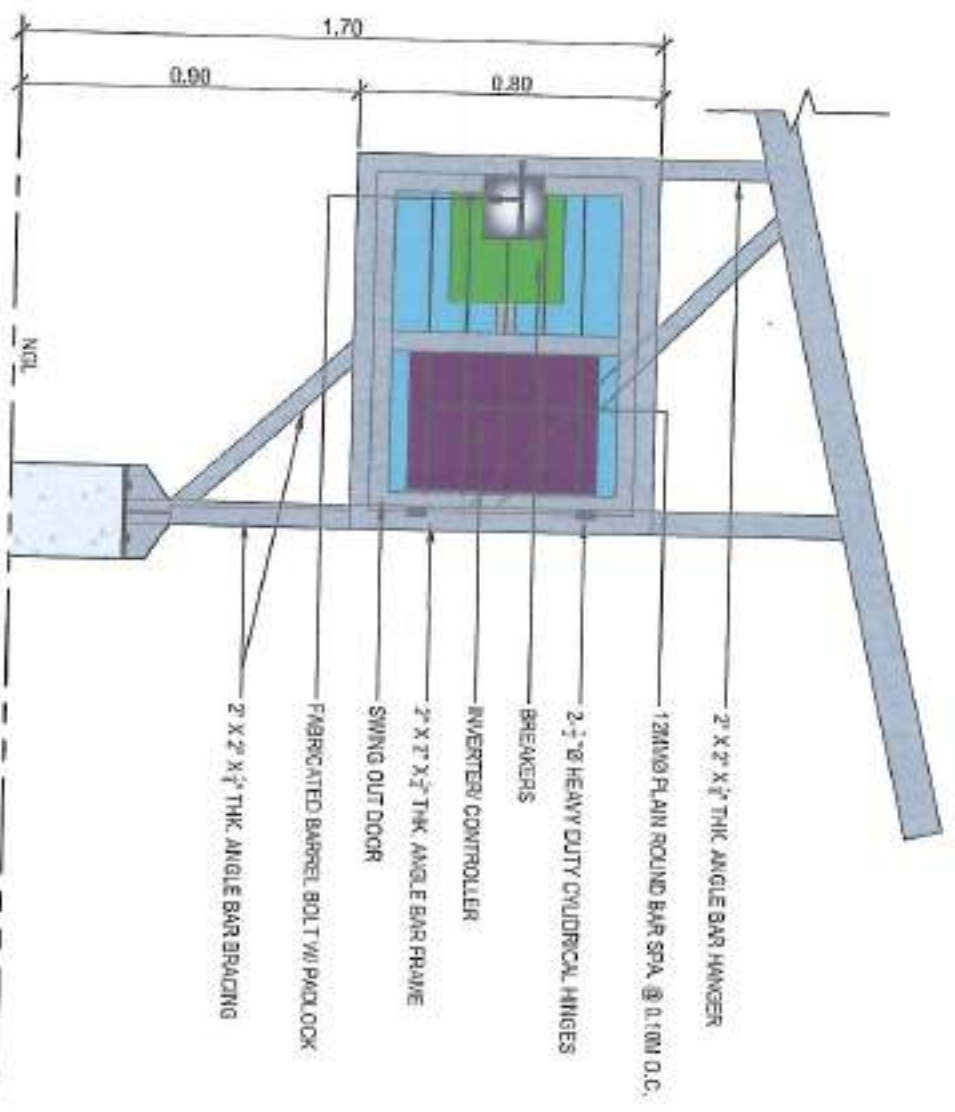
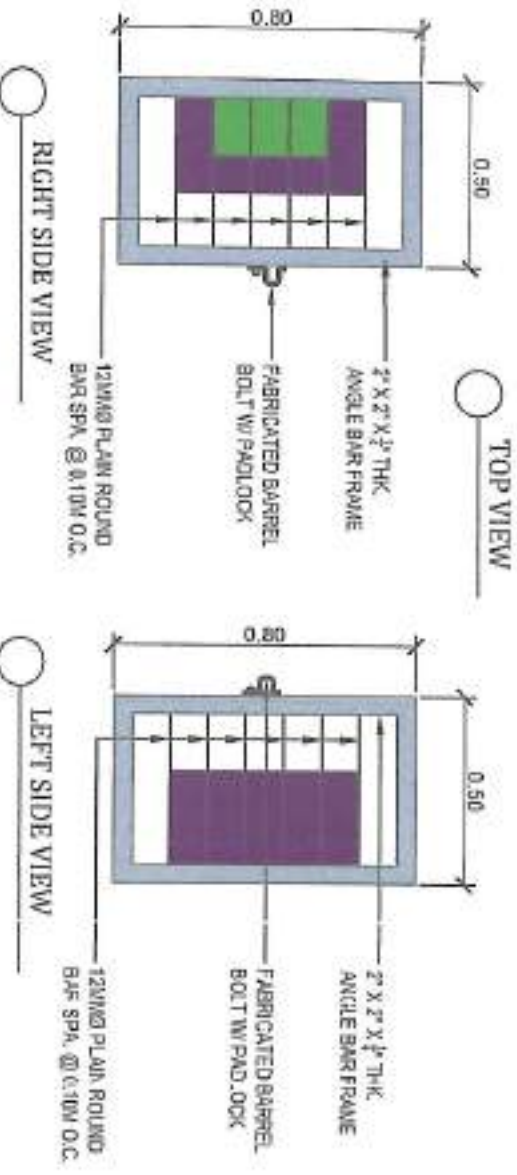
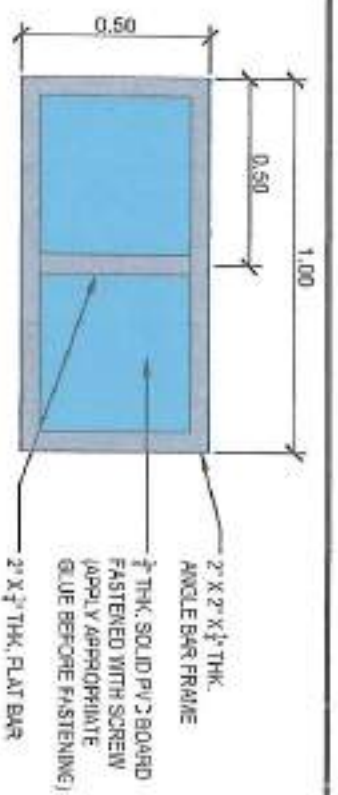
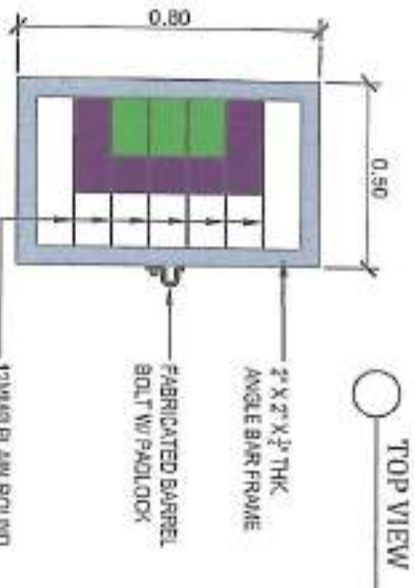
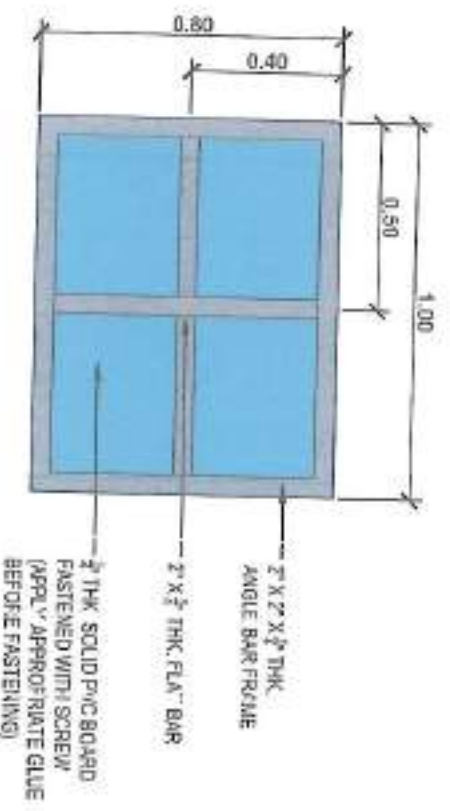
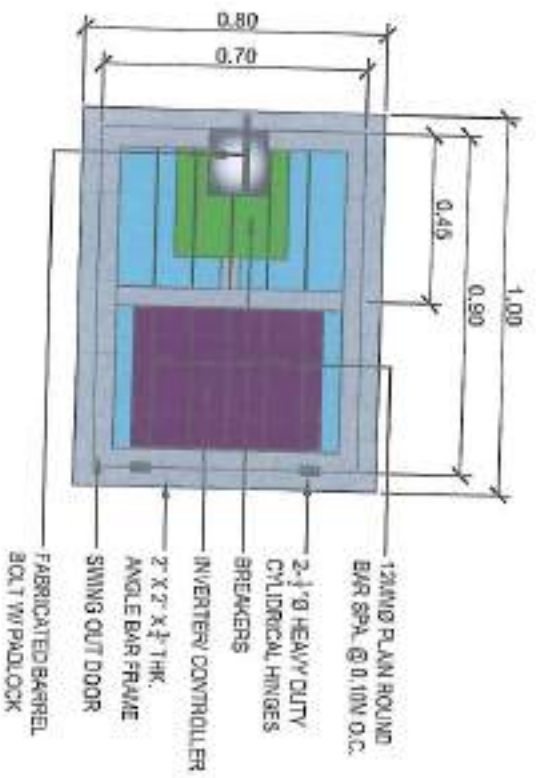
LADDER RUNG DETAIL
Scale: 1:10



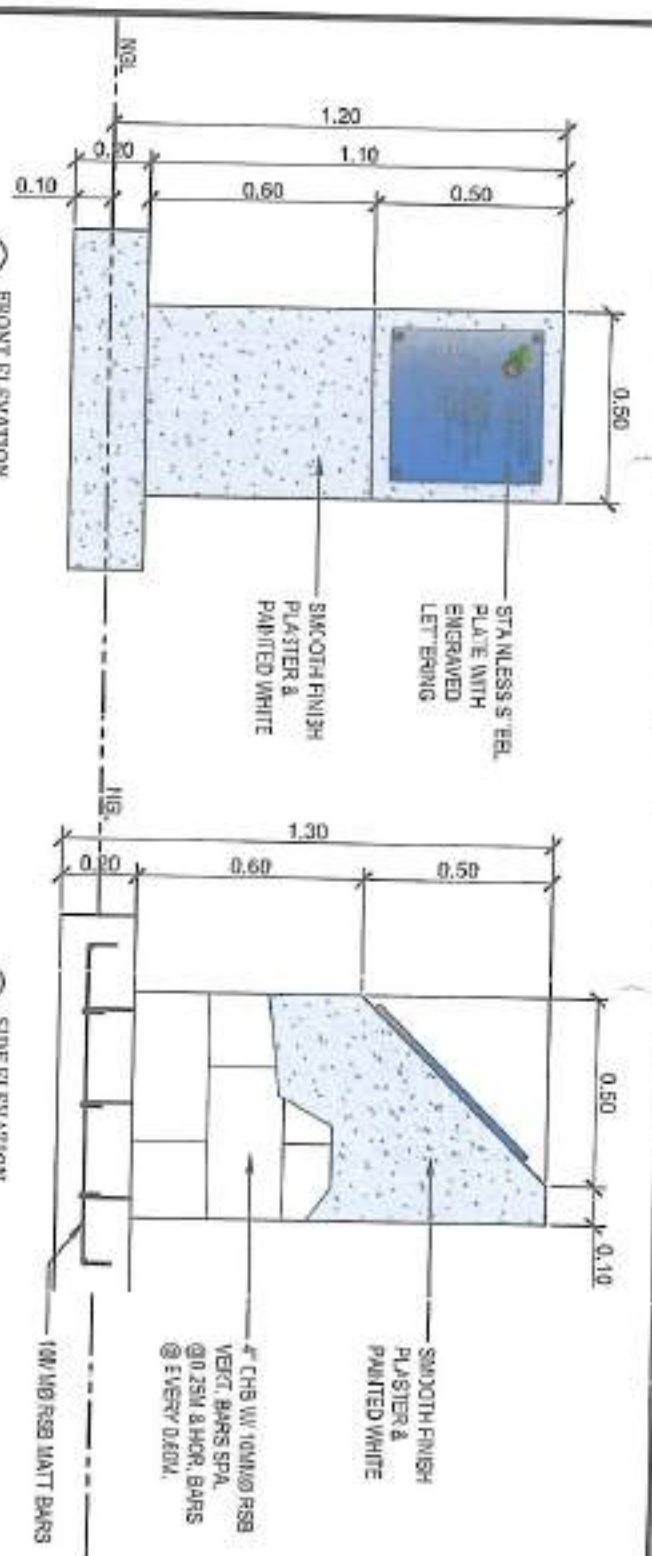
SOLAR ARRAY MOUNTING STRUCTURE FRONT ELEVATION

SOLAR ARRAY MOUNTING STRUCTURE PEDESTAL DETAIL

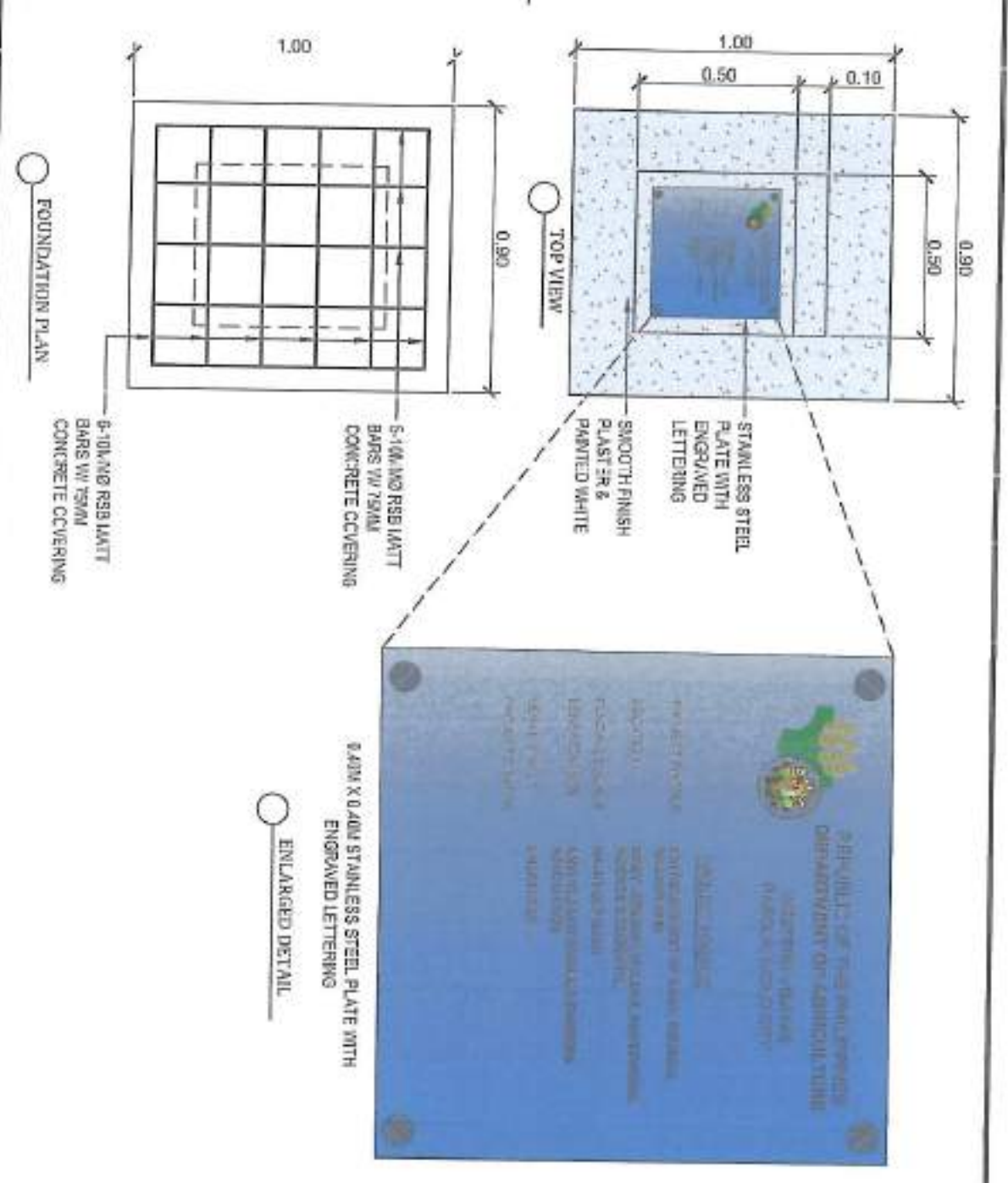
SOLAR ARRAY MOUNTING STRUCTURE SIDE ELEVATION



INVERTER ENCLOSURE PLAN & DETAIL



PROJECT MARKER DETAIL
Scale 1:25



ENLARGED DETAIL

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ILOILO CITY

PROJECT : ESTABLISHMENT OF BRGY. GENERAL MALVAR SOLAR POWERED IRRIGATION SYSTEM (SPIS)

LOCATION : BRGY. GENERAL MALVAR, PONTEVEDRA, NEGROS OCCIDENTAL

IMPLEMENTING AGENCY : DEPARTMENT OF AGRICULTURE - WESTERN VISAYAS

DEVELOPMENT PARTNERS :

CONTRACTOR SUPPLIER :

BRIEF DESCRIPTION OF PROJECT :

PROJECT DETAILS :

PROJECT DATE	TARGET DATE OF COMPLETION	PERCENTAGE OF COMPLETION	AS OF DATE	DATE COMPLETED	REMARKS

FOR PARTICULARS OR COMPLAINTS ABOUT THIS PROJECT, PLEASE CONTACT THE REGIONAL OFFICE OR CLUSTER WHICH HAS JURISDICTION ON THIS PROJECT:

COA REGIONAL OFFICE NO. CLUSTER :

ADDRESS :

CONTACT NO. :

OR TEXT COA CITIZENS DESK AT 0911-5391867

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RESOLUTION: 70 DPI
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COA BILLBOARD
Scale 1:5

ESTABLISHMENT OF BRGY. GENERAL MALVAR SOLAR POWERED IRRIGATION SYSTEM (SPIS)

BRGY. GENERAL MALVAR, PONTEVEDRA, NEGROS OCCIDENTAL

CONTRACTOR :

DATE STARTED :

CONTRACT COMPLETION DATE :

CONTRACT COST :

CONSTRUCTION CONSULTANT :

IMPLEMENTING OFFICE :

SOURCE OF FUND :

PHIP

DEPARTMENT OF AGRICULTURE - WESTERN VISAYAS

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PROJECT SIGNBOARD
Scale 1:15

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HVCOP (2025)

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PROJECT NO. :

DATE :

SCALE :

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