



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

DETAILED ENGINEERING DESIGN PLAN

**ESTABLISHMENT OF MARAPAL SOLAR POWERED  
IRRIGATION SYSTEM**  
BRGY. MARAPAL, LEMERY, ILOILO

**HIGH VALUE CROPS DEVELOPMENT PROGRAM 2025**

SUBMITTED BY:

RECOMMENDING APPROVAL:

APPROVED BY:

**MOISES B. MANA-AY, ABE, MEE**

Engineer / ABE NO. 00060771

CE, RABD

**MARIA TERESA T. SOLIS**

Director of Operations & Extension

**DEAN R. ARPIA**

Regional Director



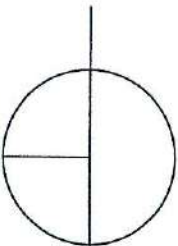
Item No.	Scope of Works	Quantity	Unit
<b>A. GENERAL ITEM</b>			
1	TEMPORARY FACILITY	1	lot
2	ICT EQUIPMENT	1	lot
3	MOBILIZATION AND DEMOBILIZATION	1	lot
4	OCCUPATIONAL HEALTH AND SAFETY STANDARDS	1	lot
5	PROJECT SIGNBOARD (1-4'x8'), COA BILLBOARD (1-8'x8'), AND PROJECT MARKER	1.00	lot
<b>B. SOLAR PUMP/ARRAY/MOUNTING STRUCTURE/PIPING</b>			
1	CLEARING, GRUBBING AND LAYOUT	100.00	sq.m.
2	EXCAVATION	53.00	cu.m.
3	STRUCTURAL BACKFILL	60.00	cu.m.
4	LEVELING COURSE	1.00	cu.m.
5	CONCRETE WORKS (CLASS A)	6.00	cu.m.
6	REINFORCING STEEL BARS	94.91	kgs
7	FORMWORKS	5.76	sq.m.
8	SOLAR POWER MODULE MOUNTING STRUCTURE	1.00	lot
9	SOLAR POWER MODULE -5500 Wp	1.00	lot
10	INVERTER AND CONTROLLER 4 Kw WITH ENCLOSURE BOX	1.00	lot
11	PUMP (SUBMERSIBLE) - 3 Hp	1.00	unit
12	DISCHARGE PIPE AND FITTINGS	1.00	lot
<b>C. CONSTRUCTION OF WELL (10 LM)</b>			
1	CONSTRUCTION OF WELL (10 LM)	1.00	lot
<b>D. ELEVATED TANK &amp; DISTRIBUTION PIPES, FITTINGS, AND OTHER</b>			
1	STRUCTURAL EXCAVATION	6.00	cum
2	STRUCTURAL BACKFILL	3.00	cum
3	LEVELING COURSE	1.00	cum
4	FORMWORKS & SCAFFOLDINGS	2.00	sq.m.
5	CONCRETE WORKS (CLASS A)	9.00	cum
6	REINFORCING STEEL BARS	170.49	kgs
7	TANK FRAMES AND SUPPORTS	1.00	lot
8	PE TANK-2000 ii	1.00	lot
9	MAIN PIPES, LATERAL PIPES AND FITTINGS	1.00	lot
E.	SOLAR LIGHTS (1000 WP)	1.00	lot

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Project Signboard/ COA Billboard/ & Project Marker Detail	8/8

TECHNICAL SPECIFICATION	
PUMP:	1 unit 2.2 Kw or 3 HP Submersible groundwater pump (minimum)
INVERTER / CONTROLLER:	1 unit 4Kw (minimum)
SOLAR ARRAY:	10 Monocrystalline solar panel, minimum
TOTAL POWER:	5500 Wp-minimum
CONVEYANCE:	2" dia. discharge pipe and 1 ¼ dia. hdpe sdr11 distribution pipes
SERVICE AREA:	3 ha.
DESIGN DISCHARGE:	13.86 cu.m/hr., 62 gpm



## PERSPECTIVE

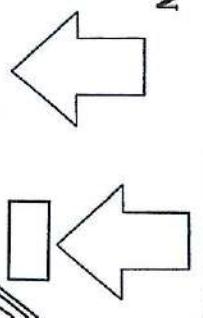


 <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF AGRICULTURE WESTERN VISAYAS ILOILO CITY</p>		<p>PROJECT NAME &amp; LOCATION</p> <p>ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM BPO, MARAPAL, LEYTE, ILOILO</p>		<p>SHEET CONTENT</p> <p>TABLE OF CONTENT, BILLS OF QUANTITY, TECHNICAL SPECIFICATION AND PERSPECTIVE</p>		<p>PREPARED BY</p> <p>SECRETARY DEPUTY ABE</p>		<p>REVIEWED BY</p> <p>YVONNE L. ABRA, ABE</p>		<p>CHECKED/ SUBMITTED BY</p> <p>MOISES D. MANALAY, ABE, MEE</p>		<p>RECOMMENDING APPROVAL</p> <p>MARIA TERESA T. SOLIS</p>		<p>APPROVED BY</p> <p>DANIEL R. ABRA</p>		<p>PAGE NO.</p> <p>02</p>	<p>OF</p> <p>08</p>
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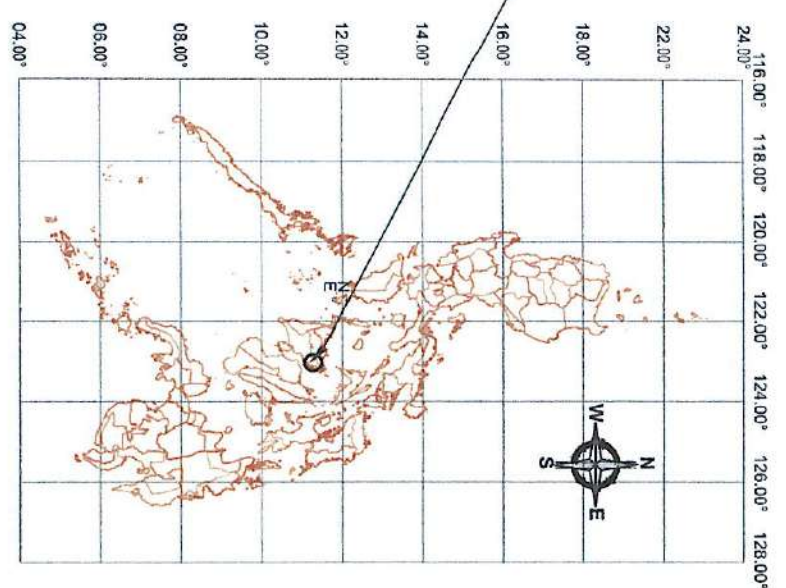


SITE LOCATION

MARAPAL BRGY. HALL

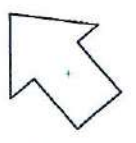


MARAPAL, LEMERY, ILOILO



LOCATION MAP

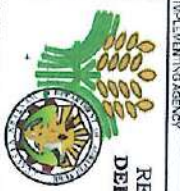
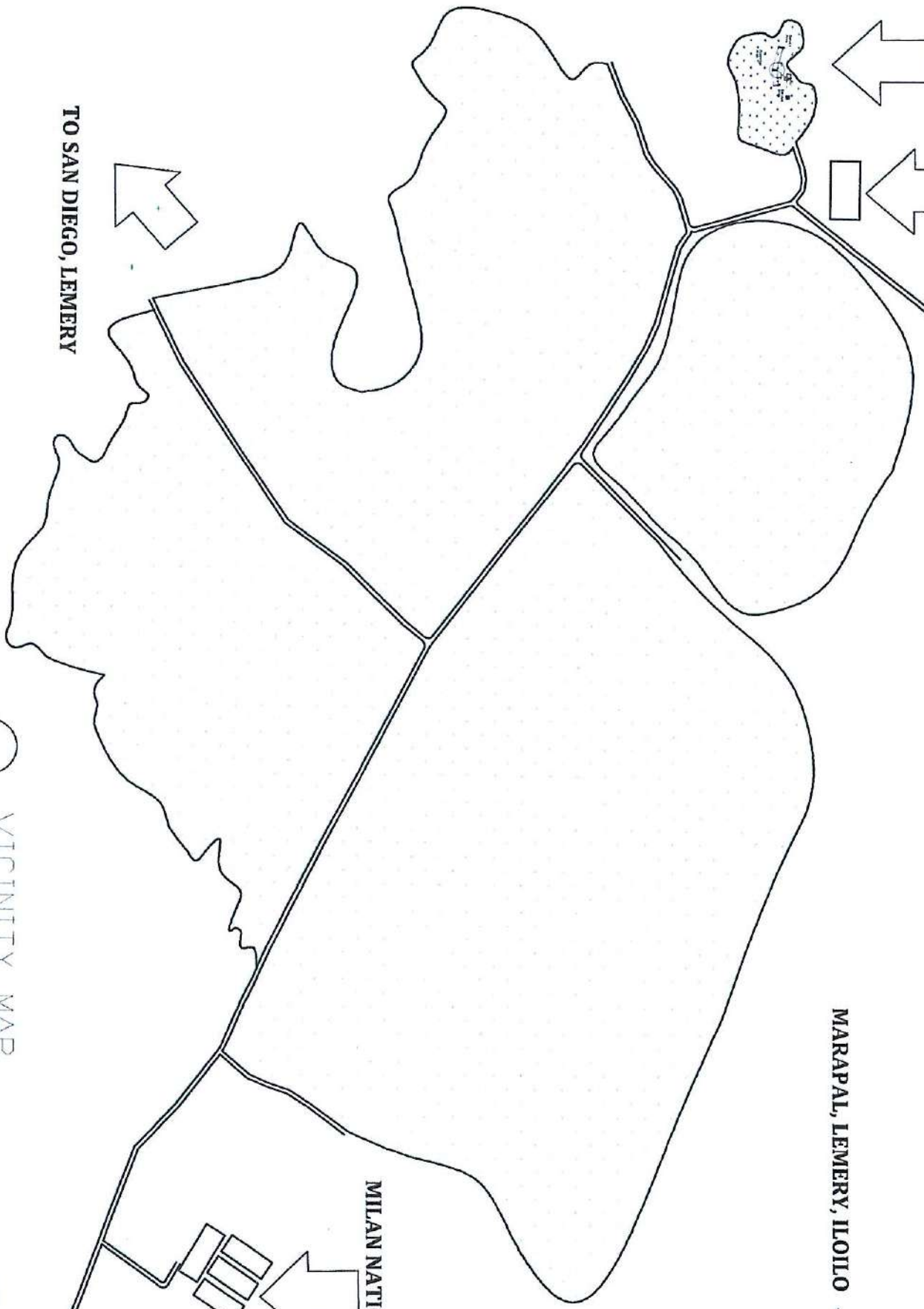
MILAN NATIONAL HIGH SCHOOL



TO SAN DIEGO, LEMERY

VICINITY MAP  
SCALE 1:10000M

TO TOWN OF LEMERY



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE

WESTERN VISAYAS  
PAROLA, ILOILO CITY

ESTABLISHMENT OF MARAPAL  
SOLAR POWERED IRRIGATION  
SYSTEM

BRGY. MARAPAL, LEMERY,  
ILOILO

VICINITY MAP

PREPARED BY

*Albert P. Delano, ABE*  
Engineer (License No. 0011370)

NOTED BY

*WYNNE S. SORIANO, SUR*  
Licensd Engineer (No. 0025970)  
Head Engineer/Design and  
Spec. Construction

SUBMITTED BY

*MOISES D. MANAY, ABE, MEE*  
Engineer (License No. 0006777)  
Chief, Field

REVIEWED AND APPROVED

*Martha Teresa T. Solis*  
Chief of Operations/Division

APPROVED BY

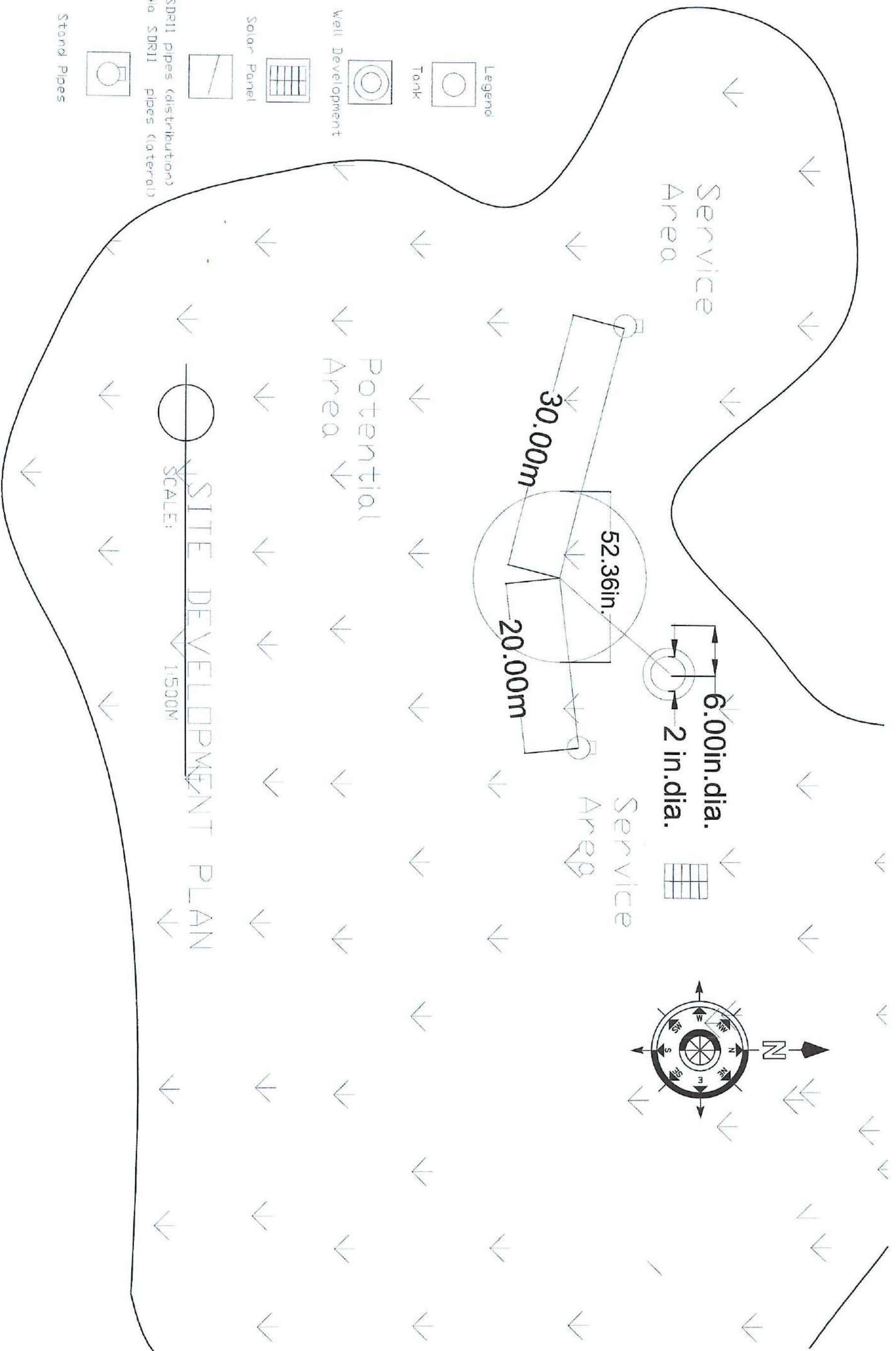
*DEAN R. ARPA*  
Regional Executive Director

DATE

03

PAGE NO. 1

03



Stand Pipes



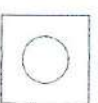
2" dia. SDR11 pipes (distribution)  
1 1/4" dia SDR11 pipes (lateral)



Solar Panel



Well Development



Tank

Legend



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

PROJECT NAME & LOCATION  
ESTABLISHMENT OF MARAPAL  
SOLAR POWERED IRRIGATION  
SYSTEM  
BRGY. MARAPAL, LEMERY,  
ILOILO

DESIGNER  
SITE DEVELOPMENT PLAN

PREPARED BY  
ERBERT P. DEATO, ABE  
Professional Engineer No. 0011121

NOTED BY  
WYONNE GRACE H. SDR  
Engineer III License No. 0003910  
Head Engineer & all Design and  
Submittal Section

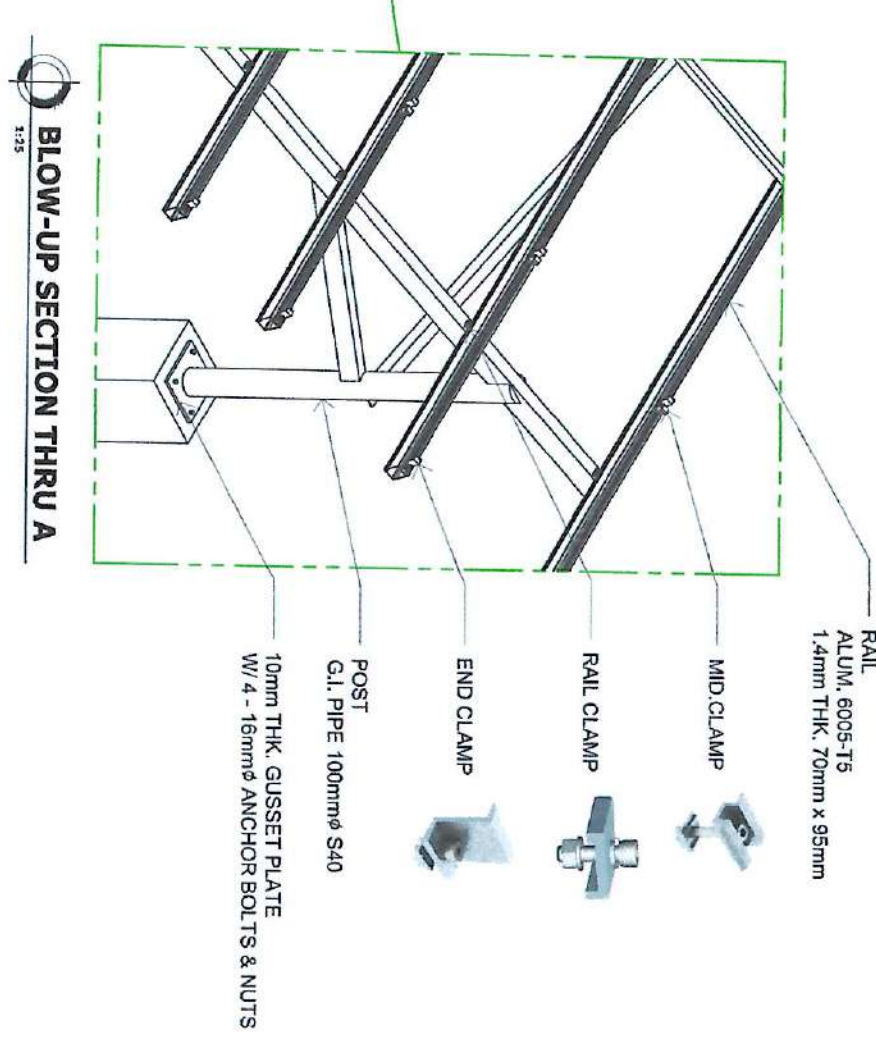
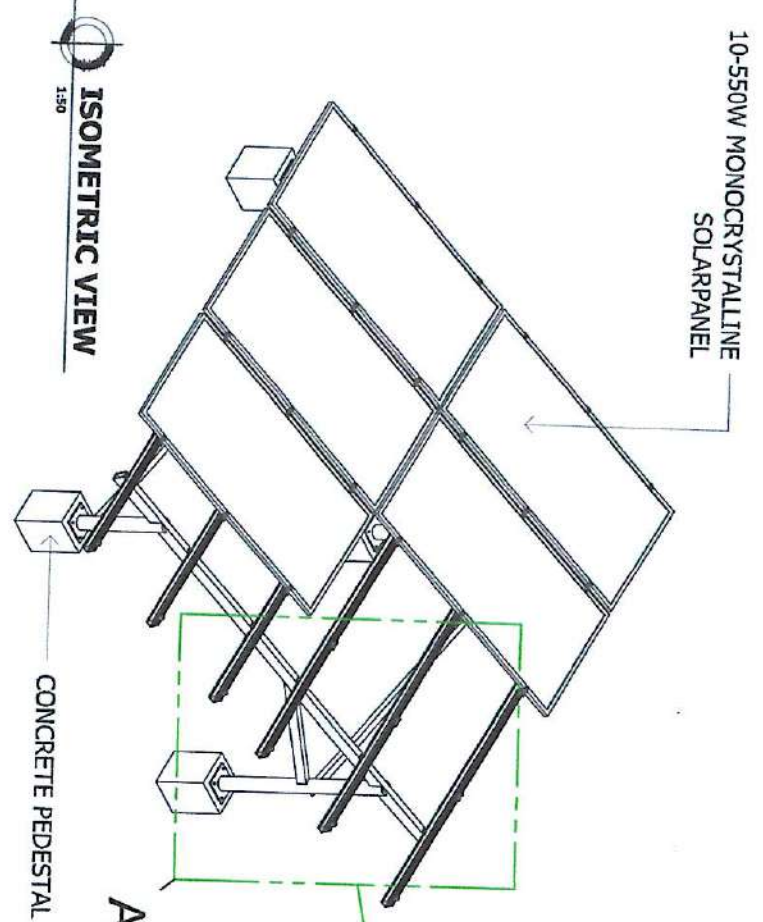
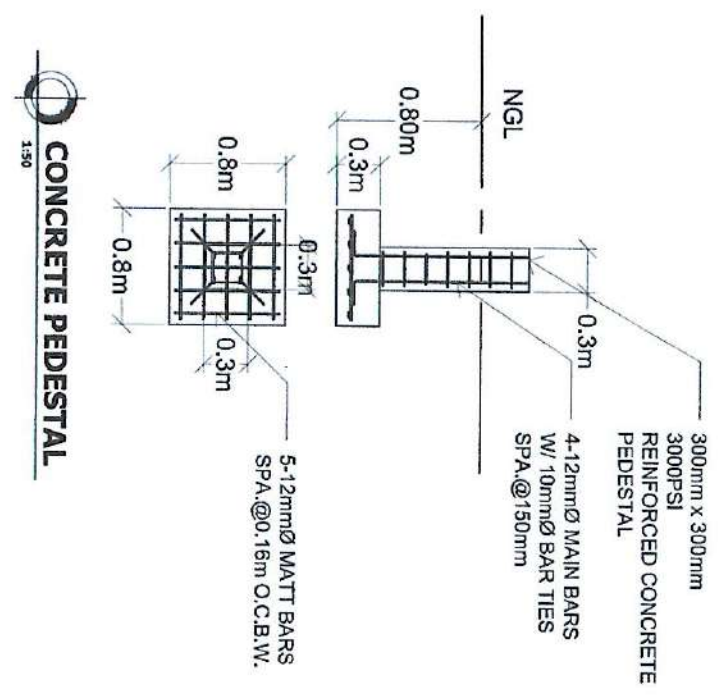
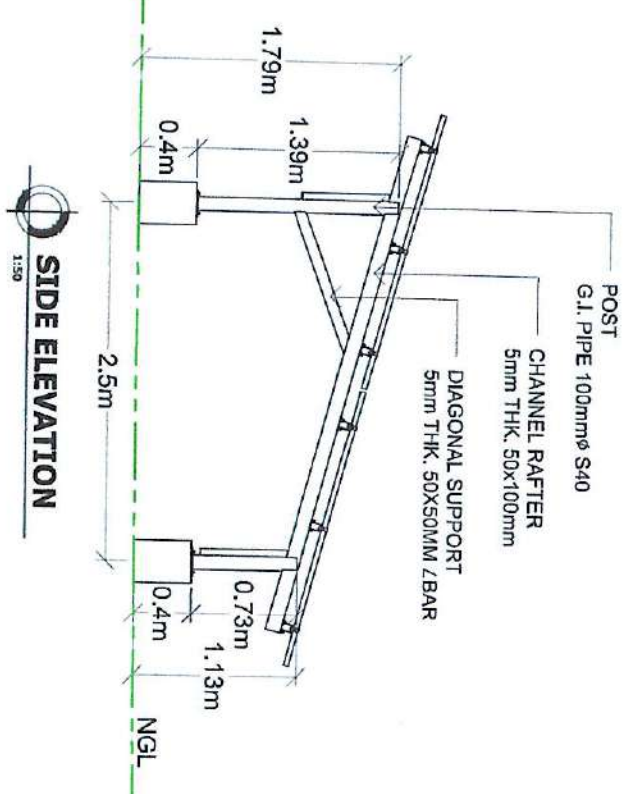
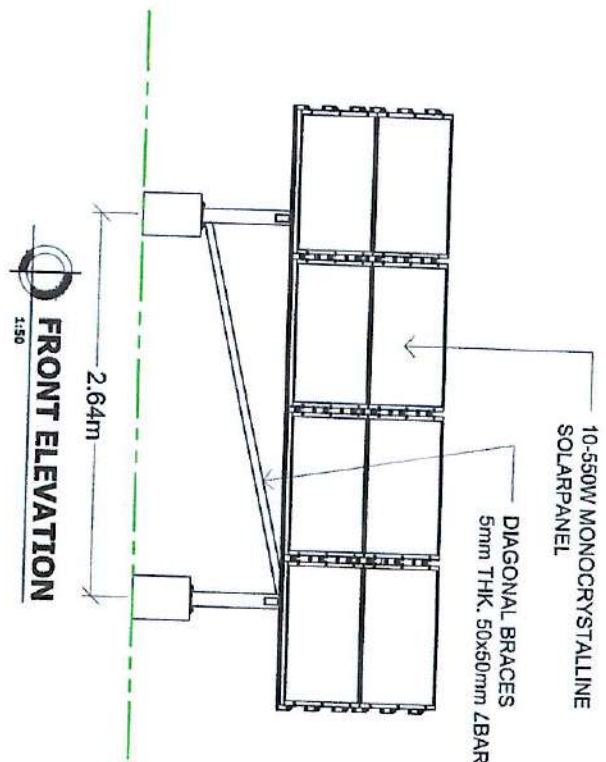
SUBMITTED BY  
MOISES D. MANA-AY, ABE, MEE  
Engineer III License No. 00030771  
Chief, R&D


REVIEWED BY  
MARIA TERESA T. SOLOS  
R&D Chief Officer and Engineer

APPROVED BY  
DENNIS R. ARRIA  
Regional Executive Director

PAGE NO.  
04  
08

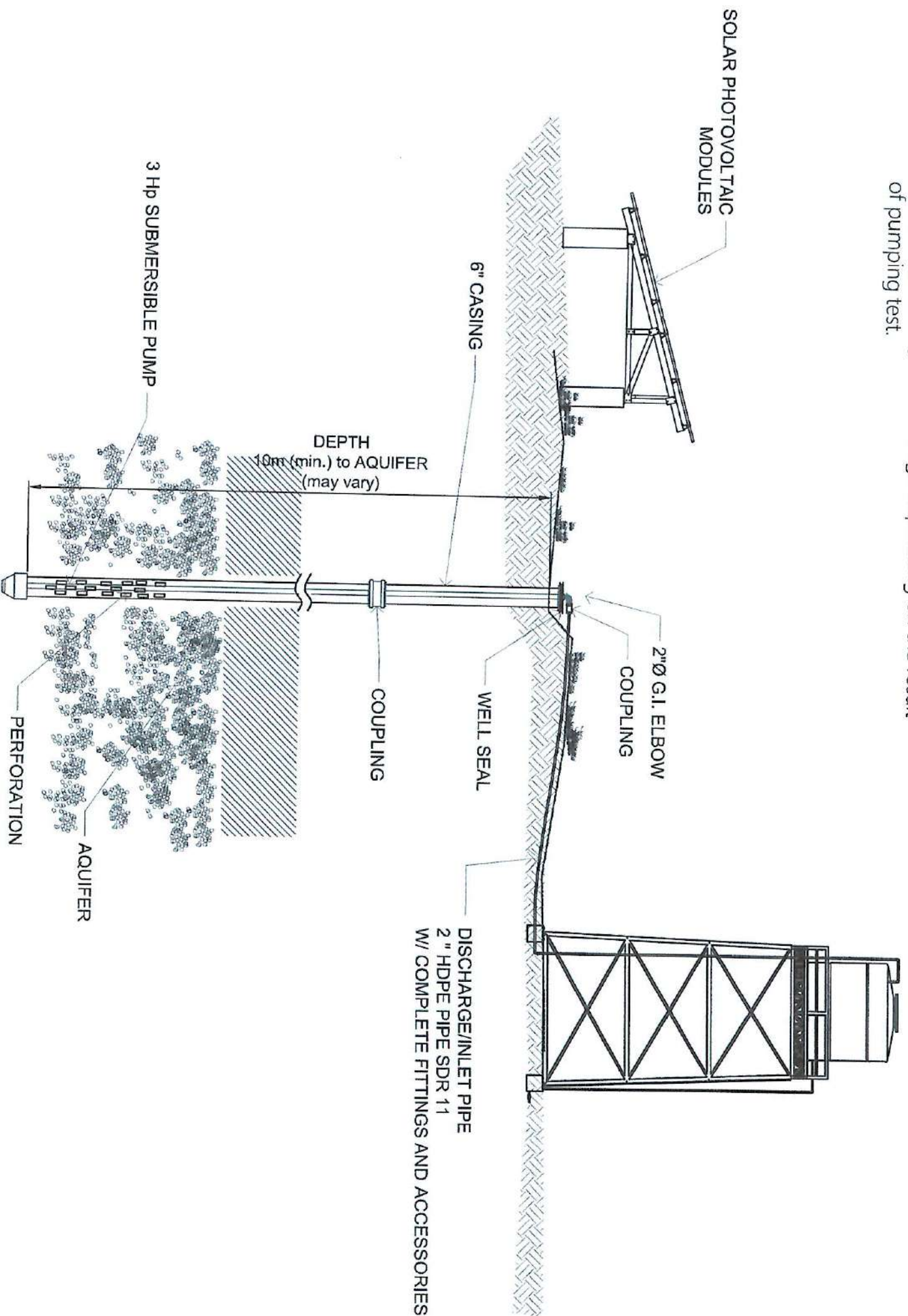










 <p>DEPARTMENT OF AGRICULTURE WESTERN VISAYAS ILOILO CITY</p>		<p>PROJECT NAME &amp; LOCATION</p> <p>ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM</p> <p>SIGN. MARAPAL, LARNEY, ILOILO</p>		<p>SHEET CONTENTS</p> <p>SOLAR PANEL AND MOUNTING STRUCTURE</p>		<p>PREPARED BY</p> <p>ROBERT P. DEAN, ABE</p>		<p>REVIEWED BY</p> <p>WYONNE GRACE H. SUR, ABE</p>		<p>CHECKED/REVIEWED BY</p> <p>MOISES D. MANA-AY, ABE, MEE</p>		<p>APPROVED BY</p> <p>MARIA TERESA I. SOLIS</p>		<p>DATE</p> <p>05/08</p>	
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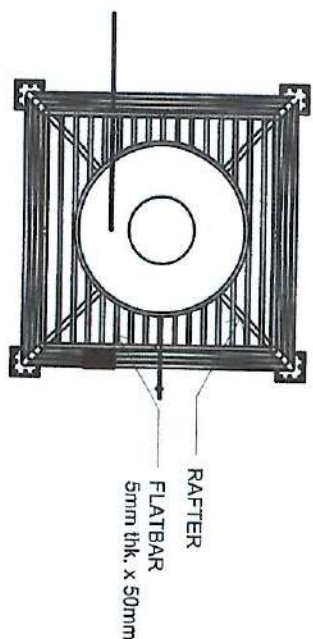
Note:  
 Pump testing shall be conducted to determine if the designed discharge is applicable the size of submersible pump may be subject to change depending on the result of pumping test.



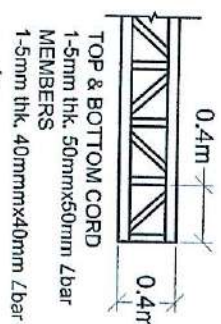
# **TYPICAL WELL DEVELOPMENT/PUMP INSTALLATION** NTS

 <p>REPUBLIC OF THE PHILIPPINES          DEPARTMENT OF AGRICULTURE          WESTERN VISayas          ILOILO CITY</p>	<p>PROJECT NAME &amp; LOCATION</p> <p><b>ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM</b></p> <p>3000 - MARAPAL, LIBERTY, ILOILO</p>	<p>SHEET COMMENTS</p> <p><b>TYPICAL WELL DEVELOPMENT/PUMP INSTALLATION</b></p>	<p>PREPARED BY</p> <p> ROBERT P. DEANA, ABE</p>	<p>REVIEWED BY</p> <p> YVONNE GRACE H. SUFRIBABE</p>	<p>CHECKED/SUBMITTED BY</p> <p> MOISES D. MANANAY, ABE, MEE</p>	<p>RECOMMENDING APPROVAL</p> <p> MARIA TERESA T. SOTIS</p>	<p>APPROVED BY</p> <p> DENNIS R. ARRIA</p>	<p>C.D. BY</p> <p>06 08</p>
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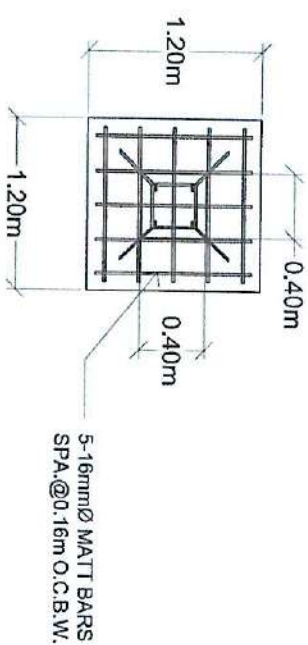
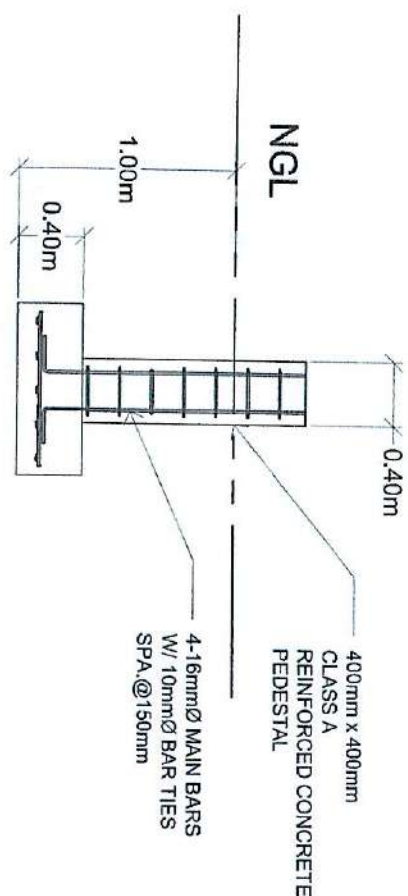




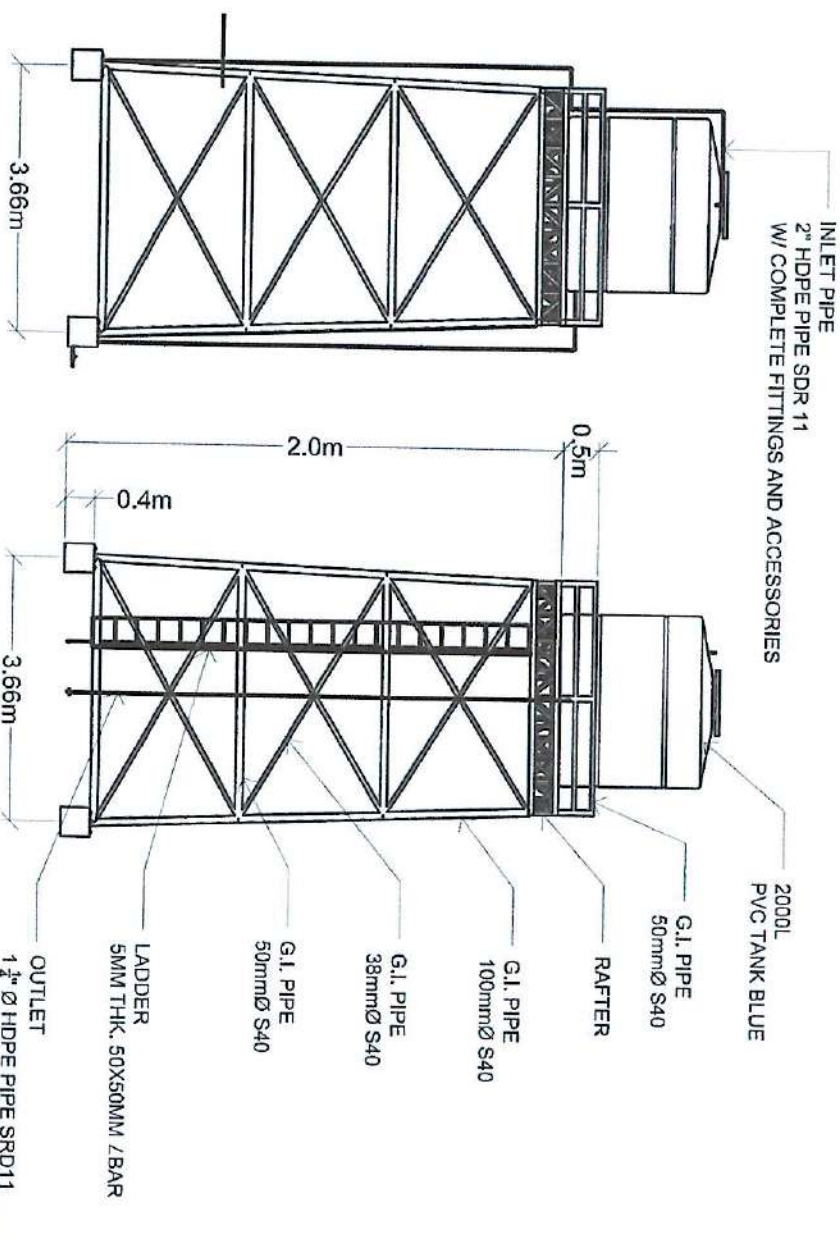
**TOP ELEVATIONS**  
1:100



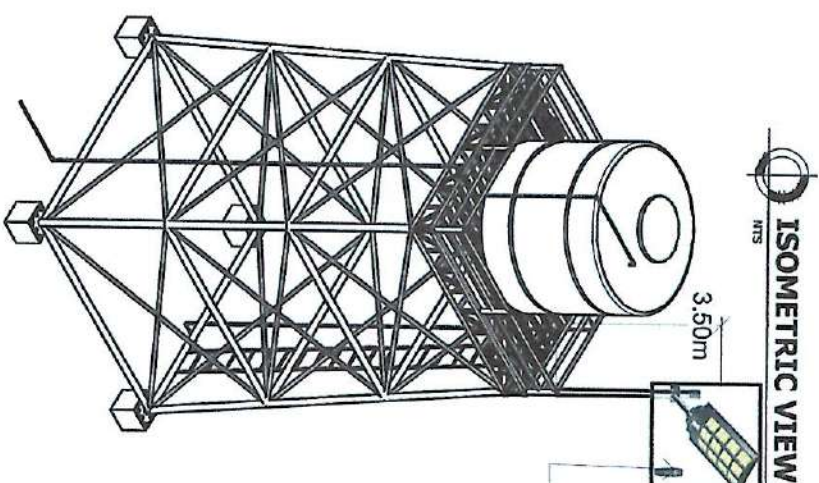
**RAFTER**  
1:50



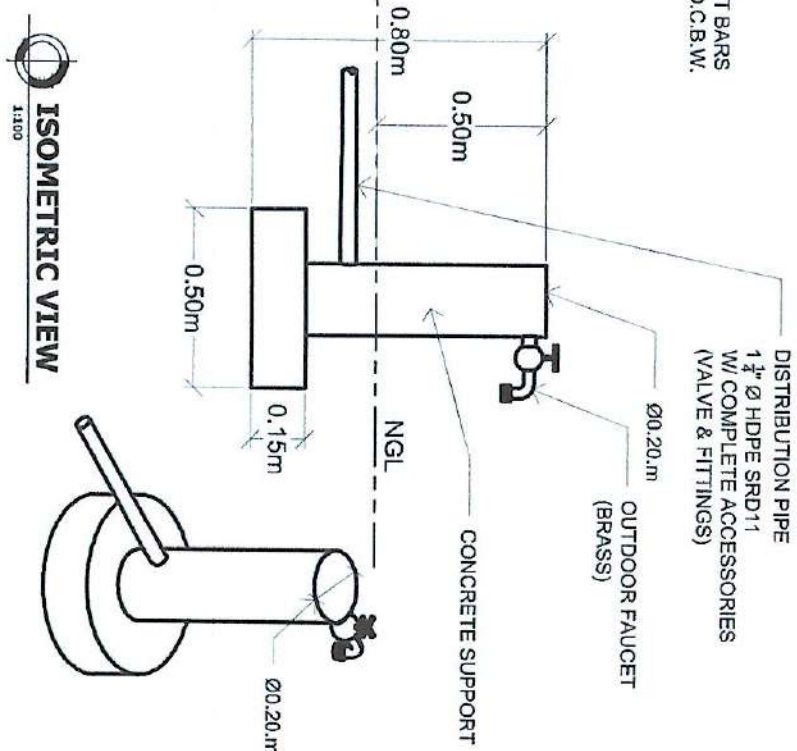
**ISOMETRIC VIEW**  
1:100



**SIDE ELEVATIONS**  
1:100



**ISOMETRIC VIEW**  
1:100



**ISOMETRIC VIEW**  
1:100

PROJECT NAME	SHEET NO.	DATE	BY	CHECKED BY	APPROVED BY	SCALE
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PROJECT NAME ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM Brg. Marapal, Lepena, Iloilo	SHEET NO. ELEVATED TANK DETAILS, DISTRIBUTION OUTLET	DATE 2024-01-15	BY YVONNE GRACE M. SUR, ABE	CHECKED BY MOISES D. MANA-AY, ABE, MEE	APPROVED BY MARIA TERESA T. SOLIS	SCALE 07/08
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REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
WESTERN VISAYAS  
ILOILO CITY

PROJECT : ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM  
LOCATION : BRGY. VASAPAL, LEMERY, ILOILO

COST :  
FUND SOURCES : HICDP (2025)  
IMPLEMENTING AGENCY : DEPARTMENT OF AGRICULTURE - WESTERN VISAYAS  
CONTRACTOR PARTNER :  
CONTRACTOR SUPPLIER :  
BRIEF DESCRIPTION OF PROJECT :

PROJECT DETAILS:

PROJECT DATE		PROJECT STATUS		REMARKS
DURATION	STARTED	TARGET DATE OF COMPLETION	PERCENTAGE OF COMPLETION	

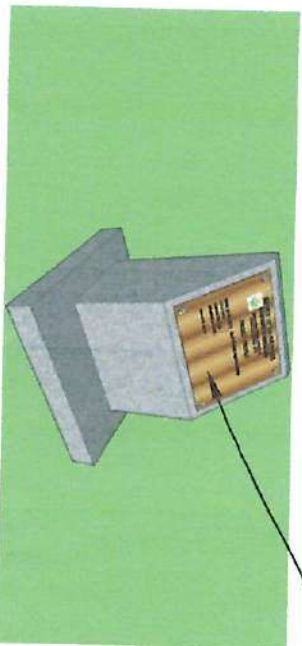
FOR PARTICULARS OR COMPLAINTS ABOUT THIS PROJECT, PLEASE CONTACT THE REGIONAL OFFICE OR CLUSTER WHICH HAS AUDIT JURISDICTION ON THIS PROJECT:

COA REGIONAL OFFICE NO. CLUSTER :  
ADDRESS :  
CONTACT NO. : OR TEXT COA CITIZEN'S DESK AT 0915-5591957

TARPAULIN, WHITE, 8 FT x 8 FT  
RESOLUTION: 70 DPI  
FONT: HELVETICA  
FONT SIZE: MAIN INFORMATION - 3"  
SUB INFORMATION - 1"  
FONT COLOR: BLACK



COA BILLBOARD  
NTS



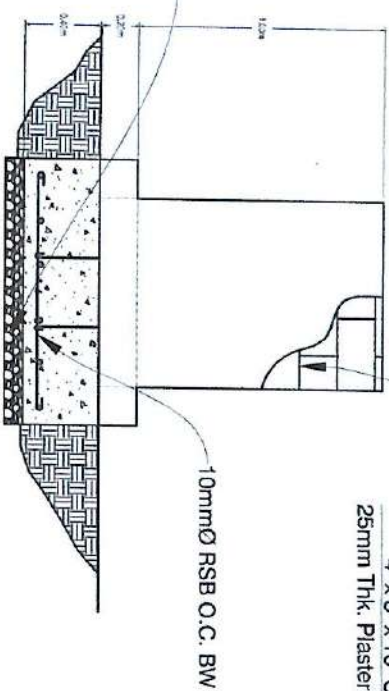
PERSPECTIVE  
NTS



0.10m Thk.  
Leveling Course



FRONT ELEVATION  
NTS



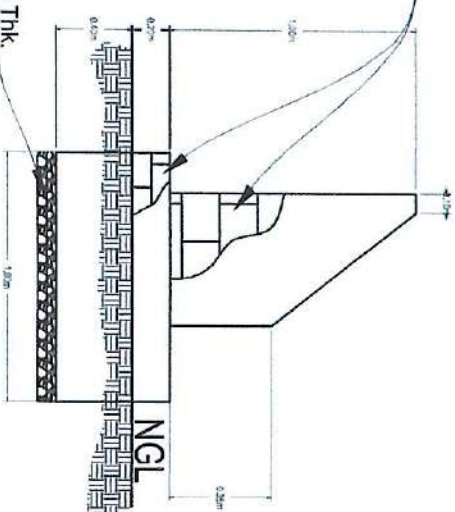
CHB w/ 10mmØ RSB  
Vertical and Horizontal Bars  
spaced @ 0.40m

4" x 8" x 16" CHB w/  
25mm Thk. Plaster Finish  
10mmØ RSB O.C. BW

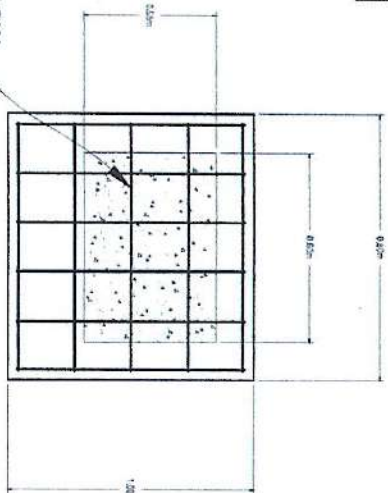
0.10m Thk.  
Leveling Course



SIDE ELEVATION  
NTS



PLAN VIEW  
NTS



PROJECT SIGNBOARD  
NTS

- THE BILLBOARD DESIGN LAYOUT AND DIMENSION SHALL BE ON A STANDARD BILLBOARD MEASURING 1200 mm x 2400 mm (4FT x 8FT ) USING 12 mm (½ INCH) THICK MARINE PLYWOOD OR TARPAULIN POSTED ON 5 mm (½ INCH) MARINE PLYWOOD.  
- THE BILLBOARD SHALL BE INSTALLED IN FRONT OF THE PROJECT SITE.



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
WESTERN VISAYAS  
ILOILO CITY

ESTABLISHMENT OF SALACAY SOLAR  
POWERED IRRIGATION SYSTEM  
BRGY. MARAPAL, LEMERY, ILOILO  
CONTRACTOR :  
DATE STARTED :  
CONTRACT COMPLETION DATE :  
CONTRACT COST :  
CONSTRUCTION CONSULTANT :  
IMPLEMENTING OFFICE :  
SOURCE OF FUND :  
DEPARTMENT OF AGRICULTURE - WESTERN VISAYAS

IMPLEMENTING AGENCY



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
WESTERN VISAYAS  
ILOILO CITY

PROJECT NAME/LOCATION

ESTABLISHMENT OF MARAPAL  
SOLAR POWERED IRRIGATION  
SYSTEM  
BRGY. MARAPAL, LEMERY, ILOILO

SHEET CONTENTS

PROJECT SIGNBOARD, COA  
BILLBOARD, PROJECT MARKER

PREPARED BY

ALBERT P. DEANO, ABE

REVIEWED BY

WYONNE GRADE H. SUR, ABE

CHECKED/SUBMITTED BY

MOISES D. MANALAY, ABE, MEE

RECOMMENDED APPROVAL

MARIA TERESA T. SOLIS

APPROVED BY

DENNIS R. ARPIA

DATE

08/08/2025