




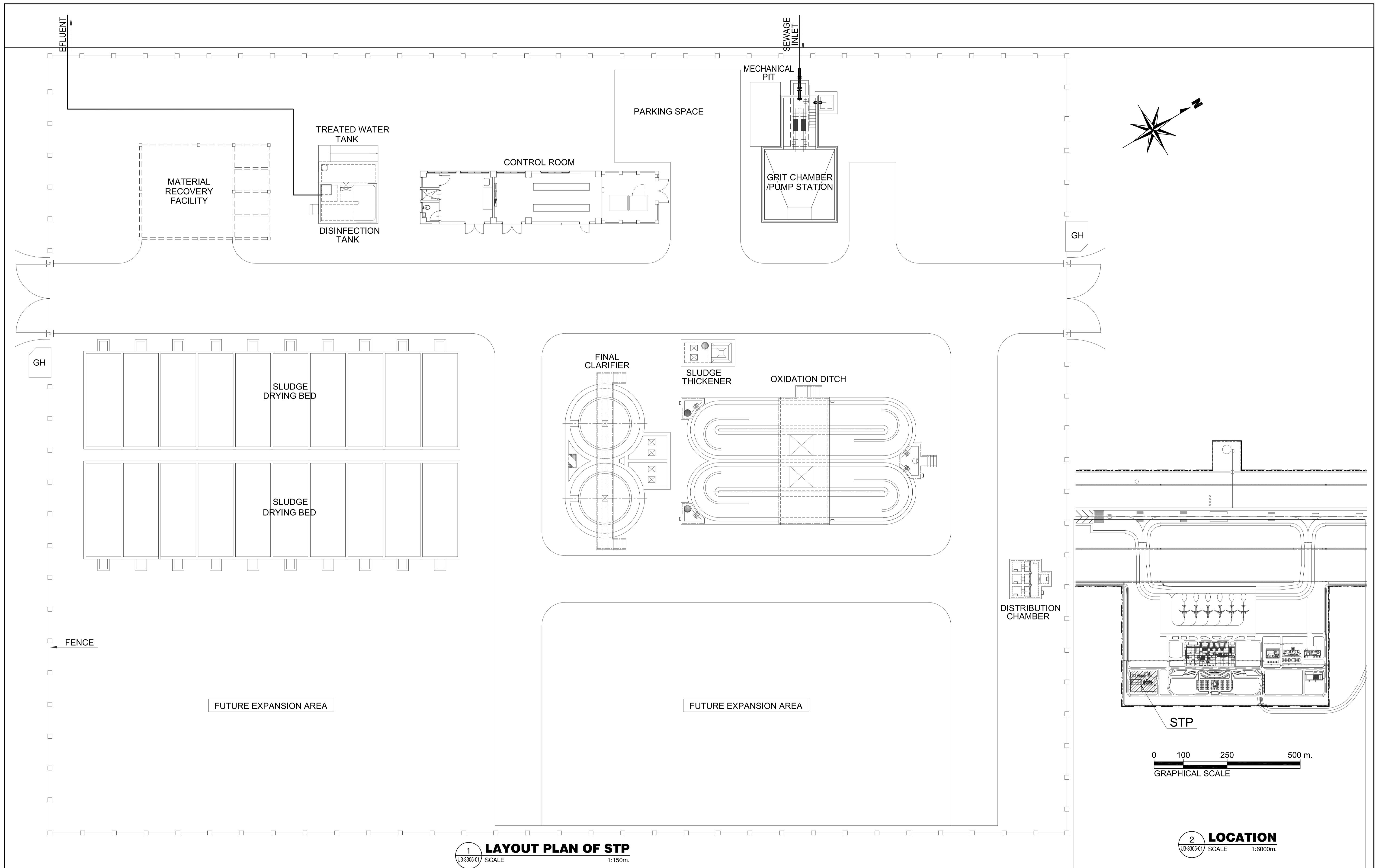


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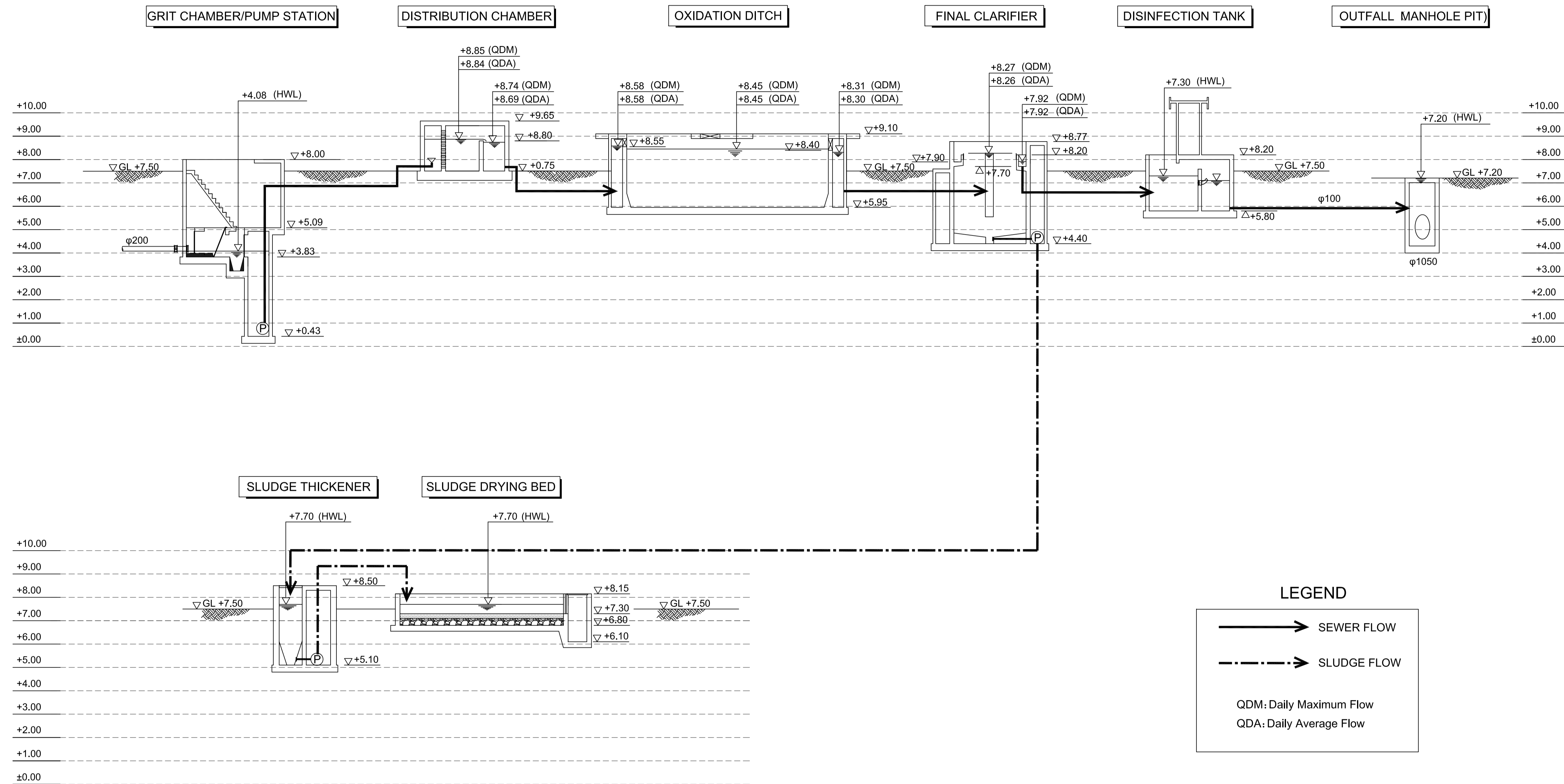
**COMPONENT-3 UTILITY WORKS (U)
SUBCOMPONENT-3-3
(U3) SEWAGE TREATMENT SYSTEM**

SHEET No.	SHEET CONTENTS	SHEET No.	SHEET CONTENTS
U3-3305	GENERAL	U3-3310-37	GRIT CHAMBER/ PUMP STATION RE-BAR ARRANGEMENT (3)
U3-3305-01	LAYOUT PLAN OF STP	U3-3310-38	GRIT CHAMBER/ PUMP STATION RE-BAR ARRANGEMENT (4)
U3-3305-02	HYDRAULIC PROFILE	U3-3310-39	DISTRIBUTION CHAMBER RE-BAR ARRANGEMENT
U3-3305-03	GENERAL FLOW DIAGRAM	U3-3310-40	OXIDATION DITCH RE-BAR ARRANGEMENT (1)
		U3-3310-41	OXIDATION DITCH RE-BAR ARRANGEMENT (2)
		U3-3310-42	OXIDATION DITCH RE-BAR ARRANGEMENT (3)
U3-3310	CIVIL WORK	U3-3310-43	FINAL CLARIFIER RE-BAR ARRANGEMENT (1)
<FACILITY>		U3-3310-44	FINAL CLARIFIER RE-BAR ARRANGEMENT (2)
U3-3310-01	GRIT CHAMBER/ PUMP STATION (1)	U3-3310-45	DISINFECTION TANK RE-BAR ARRANGEMENT (1)
U3-3310-02	GRIT CHAMBER/ PUMP STATION (2)	U3-3310-46	DISINFECTION TANK RE-BAR ARRANGEMENT (2)
U3-3310-03	GRIT CHAMBER/ PUMP STATION (3)	U3-3310-47	DISINFECTION TANK RE-BAR ARRANGEMENT (3)
U3-3310-04	DISTRIBUTION CHAMBER (1)	U3-3310-48	SLUDGE THICKENER RE-BAR ARRANGEMENT
U3-3310-05	DISTRIBUTION CHAMBER (2)	U3-3310-49	SLUDGE DRYING BED RE-BAR ARRANGEMENT
U3-3310-06	OXIDATION DITCH (1)	U3-3310-50	MECHANICAL PIT RE-BAR ARRANGEMENT
U3-3310-07	OXIDATION DITCH (2)		
U3-3310-08	OXIDATION DITCH (3)		
U3-3310-09	FINAL CLARIFIER (1)	<SEWER LINE WORK>	
U3-3310-10	FINAL CLARIFIER (2)	U3-3310-51	SEWER LINE (1)
U3-3310-11	DISINFECTION TANK (1)	U3-3310-52	SEWER LINE (2)
U3-3310-12	DISINFECTION TANK (2)	U3-3310-53	SEWER LINE (3)
U3-3310-13	SLUDGE THICKENER (1)	U3-3310-54	SEWER LINE (4)
U3-3310-14	SLUDGE THICKENER (2)		
U3-3310-15	SLUDGE DRYING BED (1)	U3-3350	MECHANICAL WORK
U3-3310-16	SLUDGE DRYING BED (2)	U3-3350-01	MECHANICAL EQUIPMENT FLOW DIAGRAM
U3-3310-17	MECHANICAL PIT (1)	U3-3350-02	MECHANICAL EQUIPMENT SCHEDULE
U3-3310-18	MECHANICAL PIT (2)	U3-3350-03	GRIT CHAMBER/ PUMP STATION (1)
U3-3310-19	STANDARD/DETAIL DRAWING (1)	U3-3350-04	GRIT CHAMBER/ PUMP STATION (2)
U3-3310-20	STANDARD/DETAIL DRAWING (2)	U3-3350-05	GRIT CHAMBER/ PUMP STATION (3)
U3-3310-21	STANDARD/DETAIL DRAWING (3)	U3-3350-06	DISTRIBUTION CHAMBER (1)
U3-3310-22	STANDARD/DETAIL DRAWING (4)	U3-3350-07	DISTRIBUTION CHAMBER (2)
U3-3310-23	STANDARD/DETAIL DRAWING (5)	U3-3350-08	OXIDATION DITCH (1)
U3-3310-24	STANDARD/DETAIL DRAWING (6)	U3-3350-09	OXIDATION DITCH (2)
U3-3310-25	YARD PIPE (1)	U3-3350-10	FINAL CLARIFIER (1)
U3-3310-26	YARD PIPE (2)	U3-3350-11	FINAL CLARIFIER (2)
U3-3310-27	YARD PIPE (3)	U3-3350-12	DISINFECTION TANK (1)
U3-3310-28	YARD PIPE (4)	U3-3350-13	DISINFECTION TANK (2)
U3-3310-29	YARD PIPE (5)	U3-3350-14	SLUDGE THICKENER (1)
U3-3310-30	YARD PIPE (6)	U3-3350-15	SLUDGE THICKENER (2)
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U3-3310-32	YARD PIPE (8)	U3-3370	ELECTRICAL WORK
U3-3310-33	IRRIGATION PIPE	U3-3370-01	STP SINGLE LINE DIAGRAM
		U3-3370-02	ELECTRICAL EQUIPMENT & CABLE TRENCH LAYOUT PLAN
		U3-3370-03	ELECTRICAL LOAD SCHEDULE
<STRUCTURE>			
U3-3310-34	CONSTRUCTION NOTE		
U3-3310-35	GRIT CHAMBER/ PUMP STATION RE-BAR ARRANGEMENT (1)		
U3-3310-36	GRIT CHAMBER/ PUMP STATION RE-BAR ARRANGEMENT (2)		

 Republic of the Philippines DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS	 JAPAN INTERNATIONAL COOPERATION AGENCY	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TIN: 245-779-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM DRAWING LIST	SHEET NO: U3-LIST DRAWING SCALE:
JICA DESIGN CONSULTANT JOINT VENTURE  JAPAN AIRPORT CONSULTANTS, INC.  NIPPON KOEI CO., LTD.  NIS CONSULTANTS CO., LTD.		TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	JUNE 2013 DATE INDEX AMENDMENTS Prepared by Checked by Validated by		



	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PTR: 8091754</small> <small>REG. NO.: 0000549 DATE: March 2013</small> <small>T.M.N. 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM GENERAL LAYOUT PLAN OF STP	SHEET NO: U3-3305-01
	JICA DESIGN CONSULTANT JOINT VENTURE <small>JAPAN AIRPORT CONSULTANTS, INC. NIPPON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.</small>	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX: [] AMENDMENTS: []	Prepared by: FRS Jr. Checked by: WIM Validated by: HC	DRAWING SCALE: 1:150, 1:6000



LEGEND

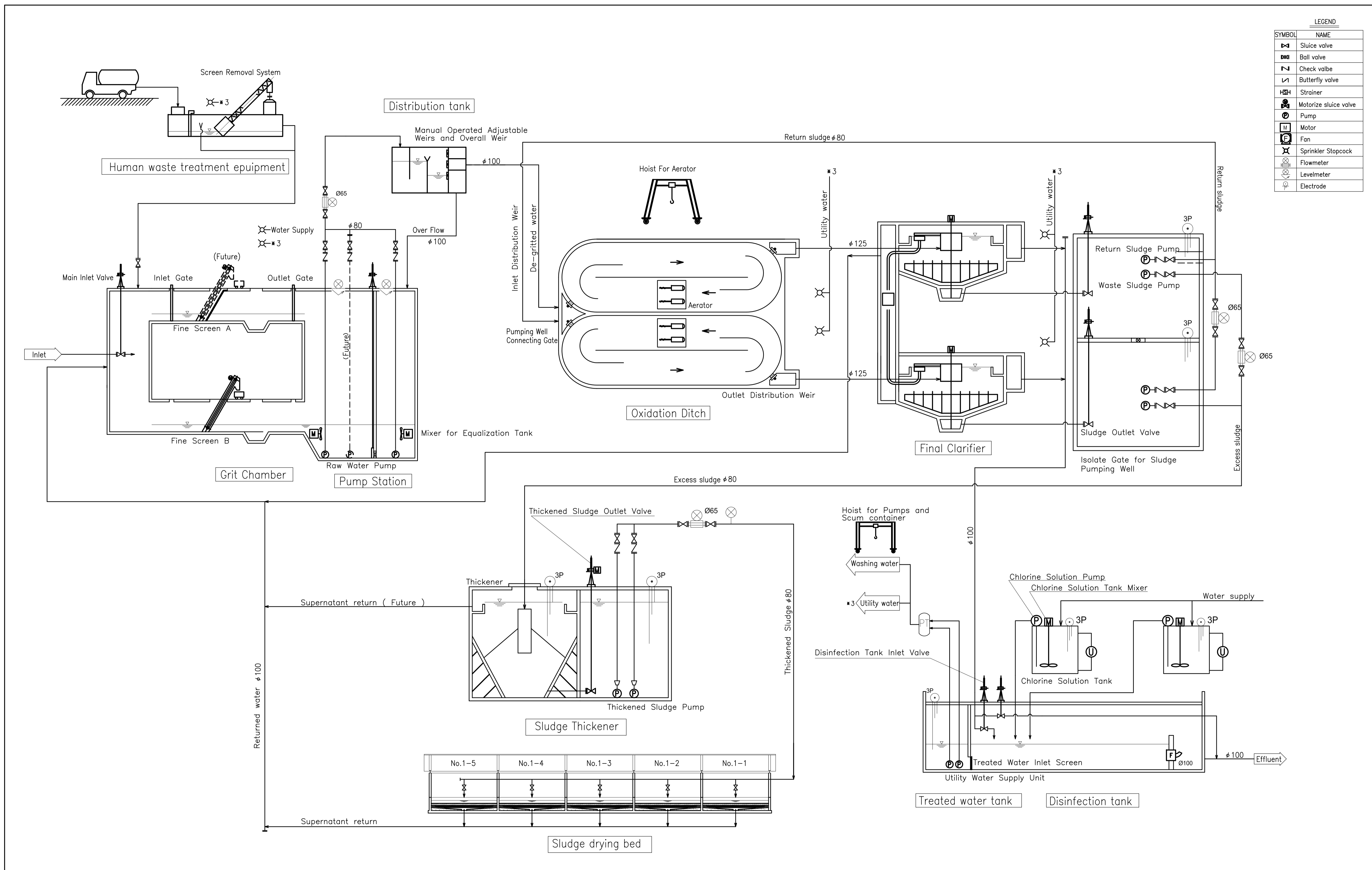
→ SEWER FLOW

- - - - -> SLUDGE FLOW

QDM: Daily Maximum Flow
QDA: Daily Average Flow

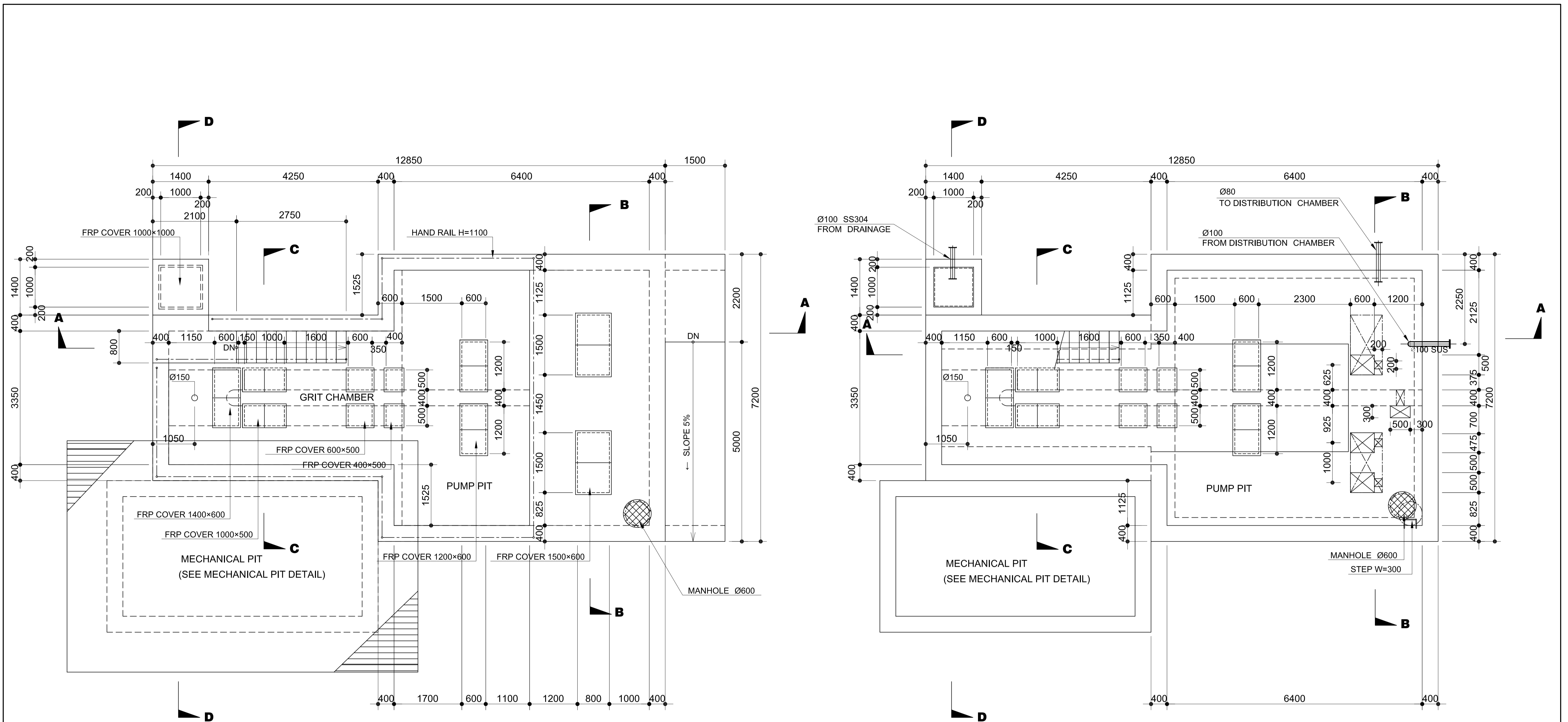
1 HYDRAULIC PROFILE
SCALE V = 1:200m.

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM GENERAL HYDRAULIC PROFILE	SHEET NO: U3-3305-02
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC. NIPPOON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX: AMENDMENTS: Prepared by: FRS Jr. Checked by: WIM Validated by: IIC	DRAWING SCALE: V=1:200		



LEGEND	
SYMBOL	NAME
	Sluice valve
	Ball valve
	Check valve
	Butterfly valve
	Strainer
	Motorized sluice valve
	Pump
	Motor
	Fan
	Sprinkler Stopcock
	Flowmeter
	Levelmeter
	Electrode

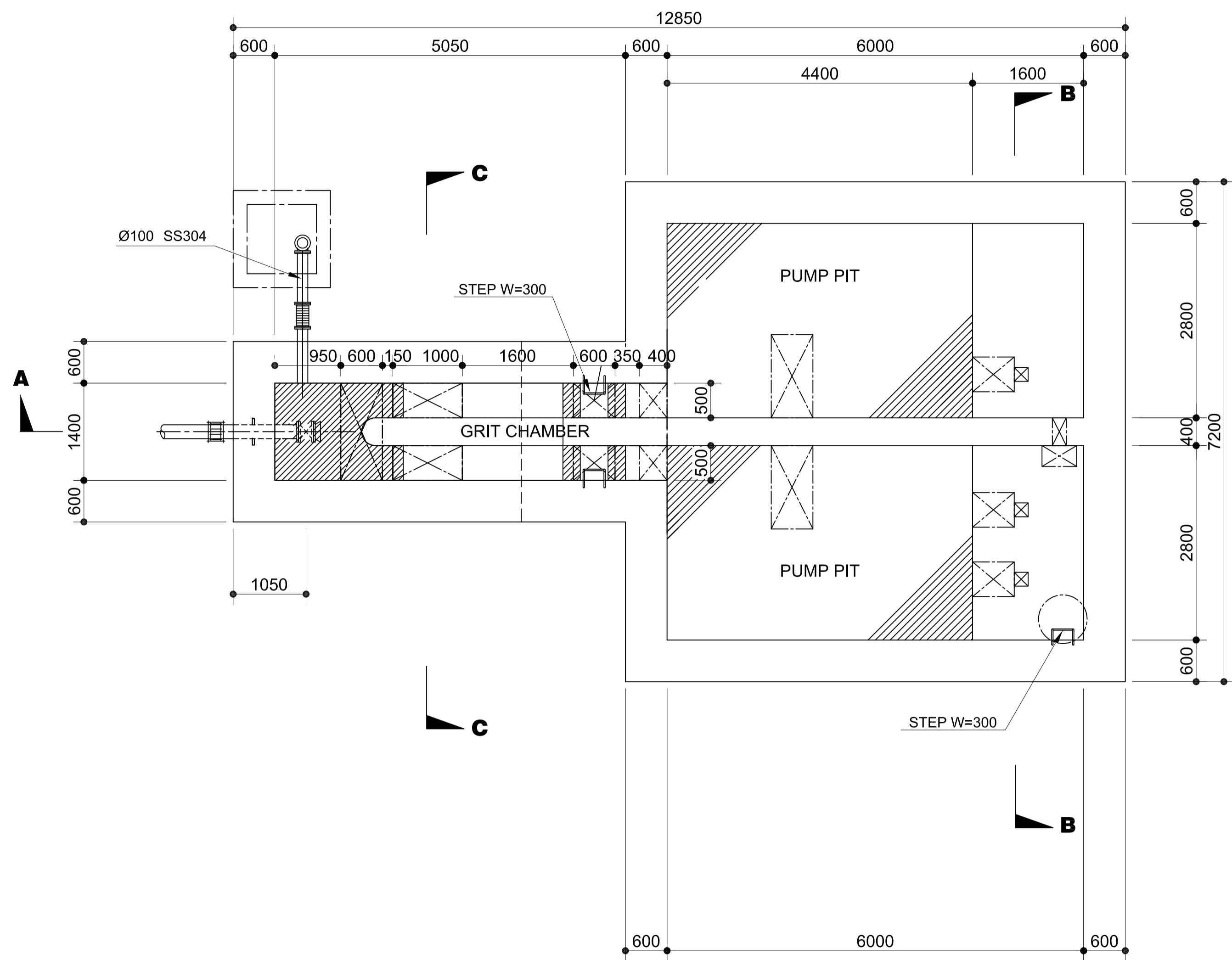
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754</small> <small>REG. NO.: 0000549 DATE: March 2013</small> <small>T.I.N: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM GENERAL FLOW DIAGRAM	SHEET NO: U3-3305-03
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013	INDEX:	AMENDMENTS:	Prepared by: FRS Jr. WIM IIC Checked by:



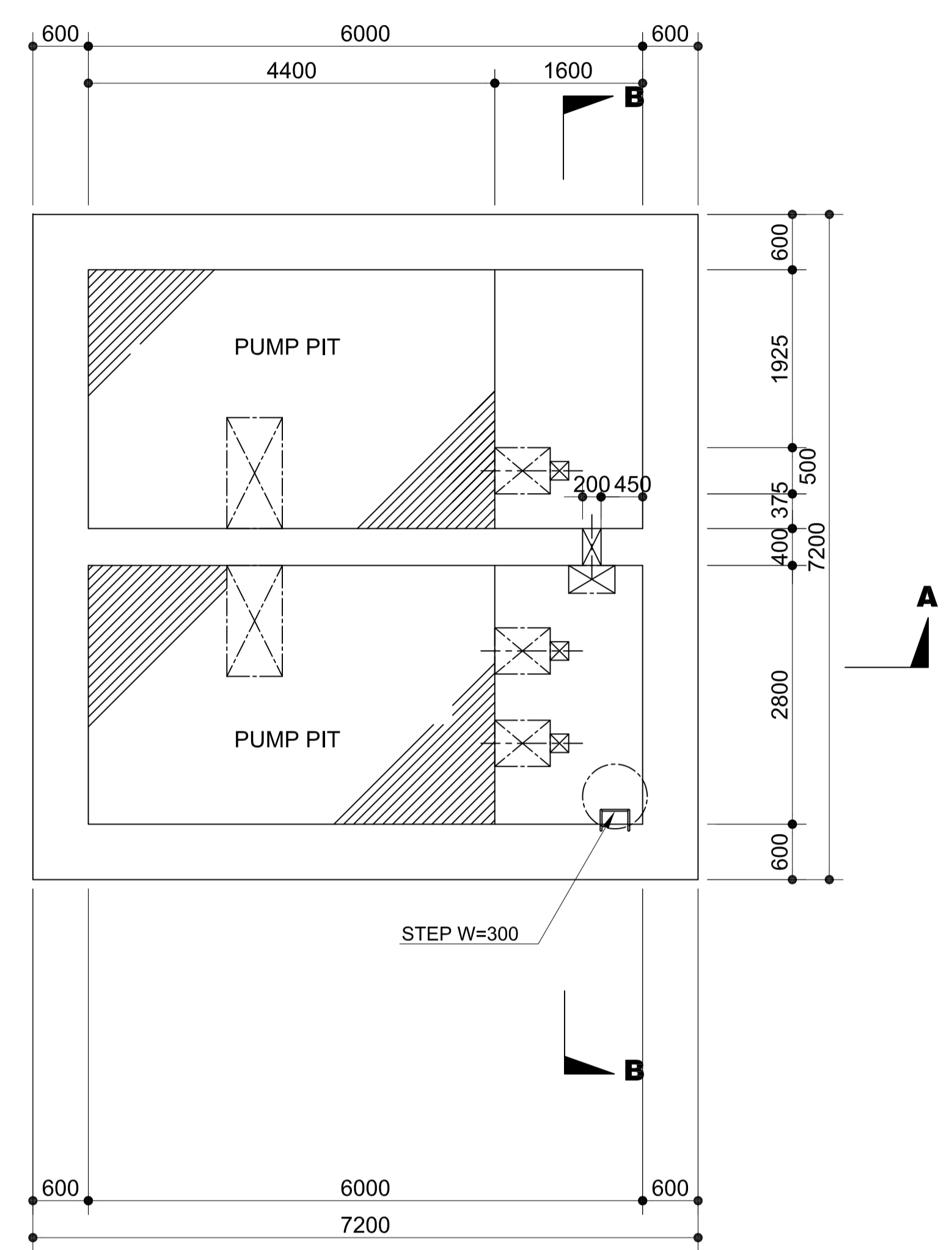
1 **PLAN 1-1**
U3-3310-01 SCALE 1:50m.

2 **PLAN 2-2**
U3-3310-01 SCALE 1:50m.

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PTR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK GRIT CHAMBER/PUMP STATION (1) PLAN 1-1 & 2-2	SHEET NO: U3-3310-01
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC. NK NIPPON KOEI CO., LTD. NJS NJS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX: AMENDMENTS: Prepared by: FRS Jr. WIM HC Checked by: Validated by:	DRAWING SCALE: 1:50	

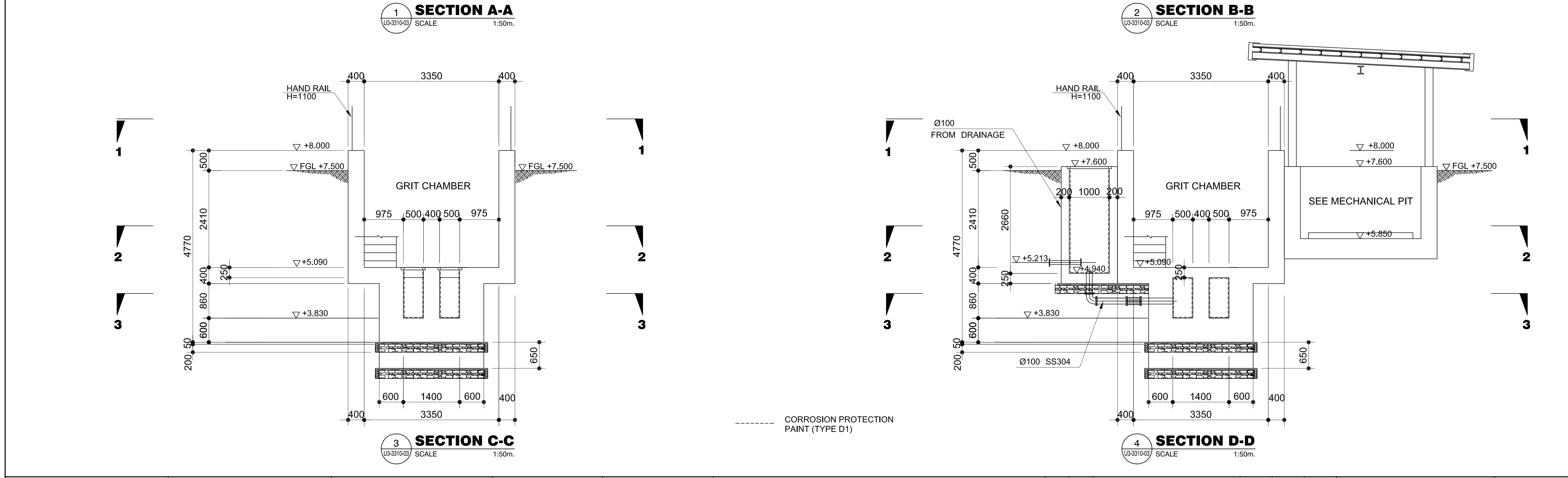
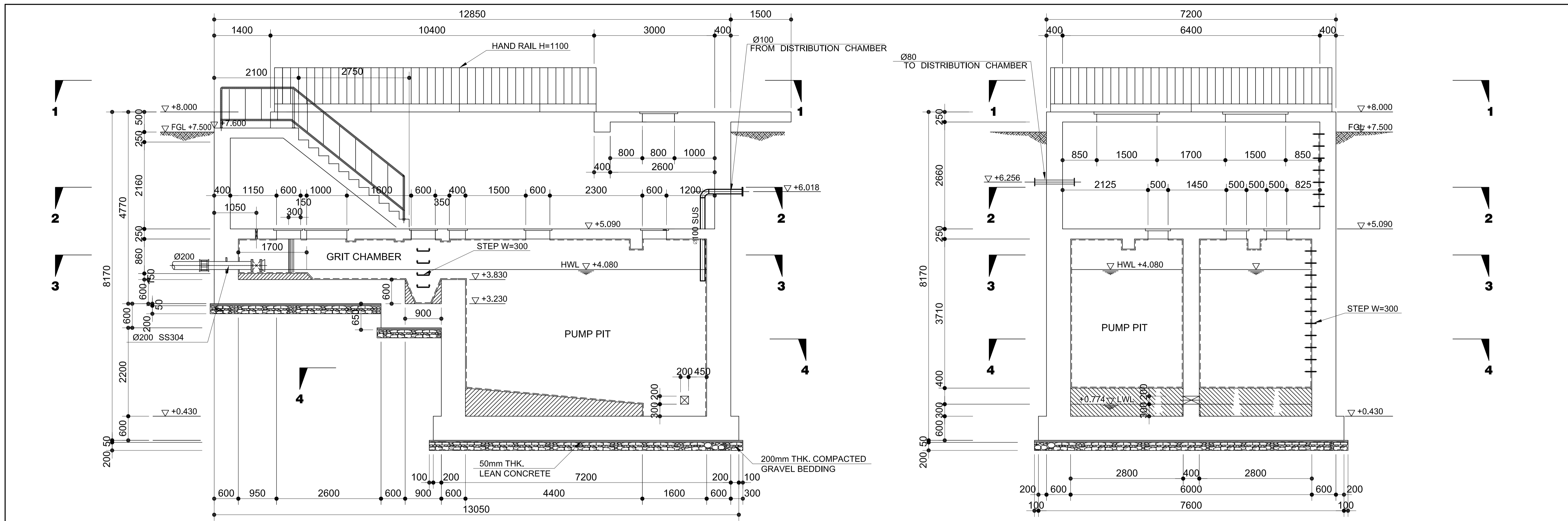


1 PLAN 3-3
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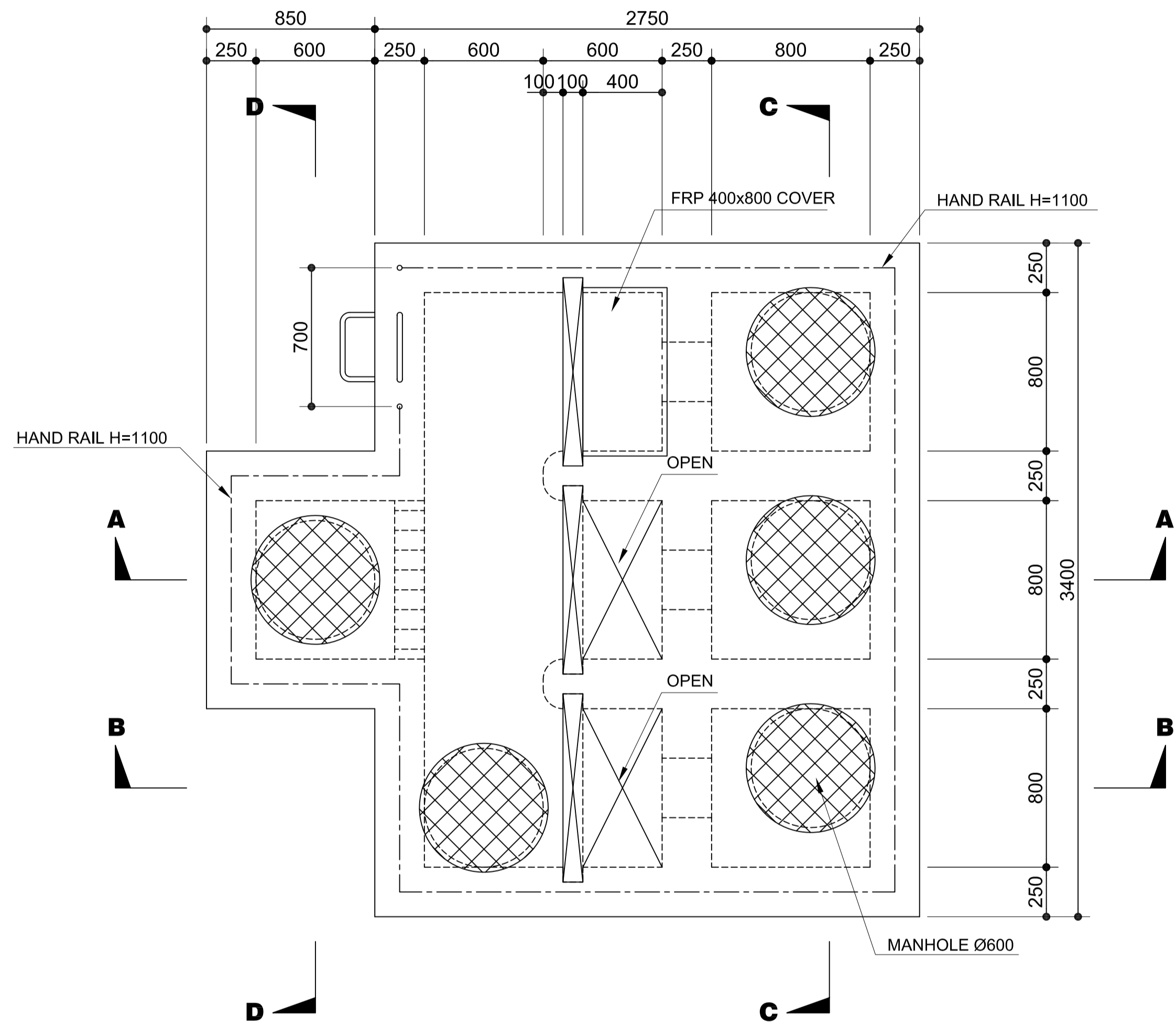


2 PLAN 4-4
SCALE 1:50m.

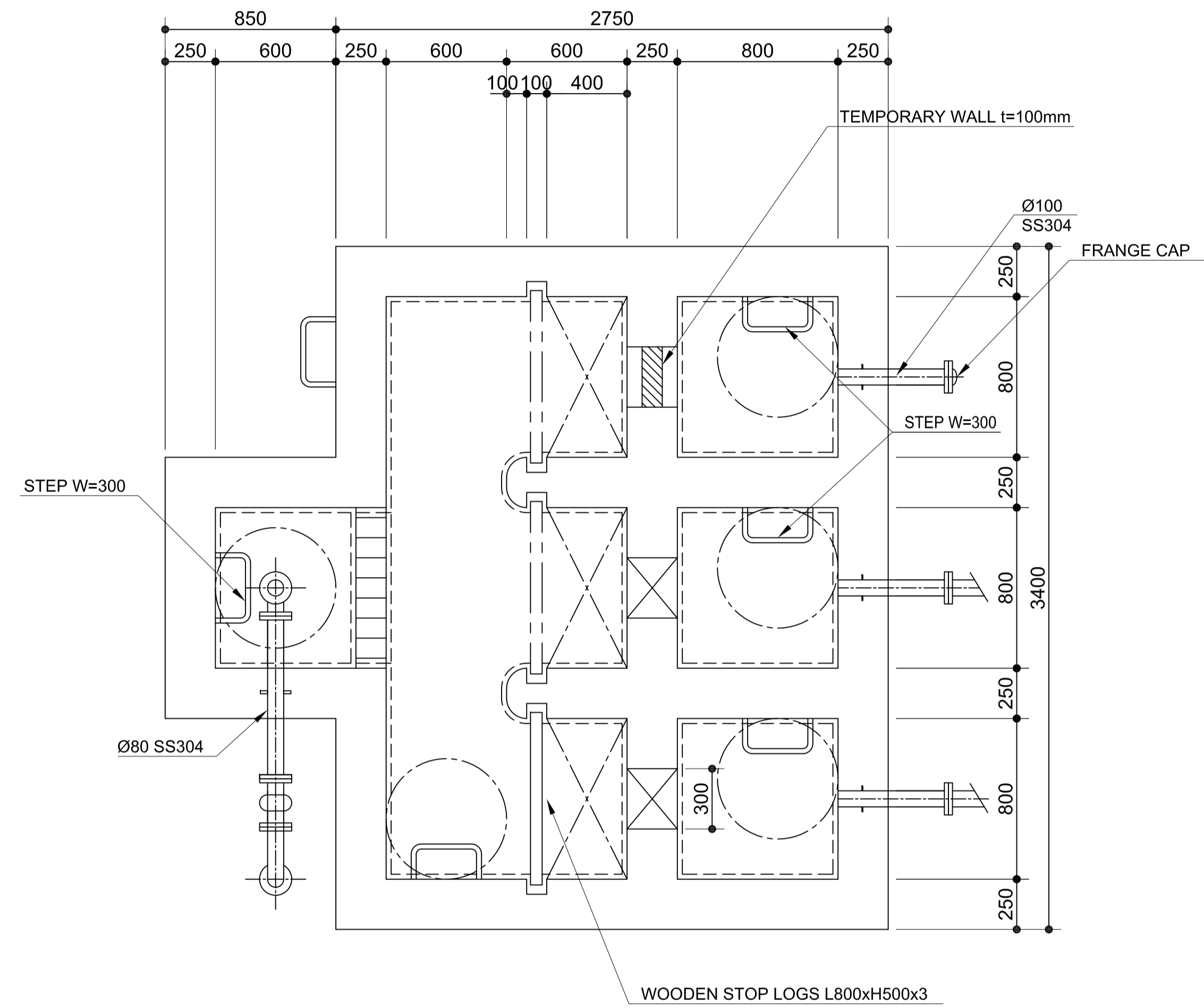
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK GRIT CHAMBER/PUMP STATION (2) PLAN 3-3 & 4-4	SHEET NO: U3-3310-02
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC. NIPPOON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX: AMENDMENTS: Prepared by: FRS Jr. WIM HIC Checked by: Validated by:	DRAWING SCALE: 1:50	



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	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC. NIPON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX: _____ AMENDMENTS: _____ Prepared by: FRS Jr. WIM IIC Checked by: _____ Validated by: _____	DRAWING SCALE: 1:50	



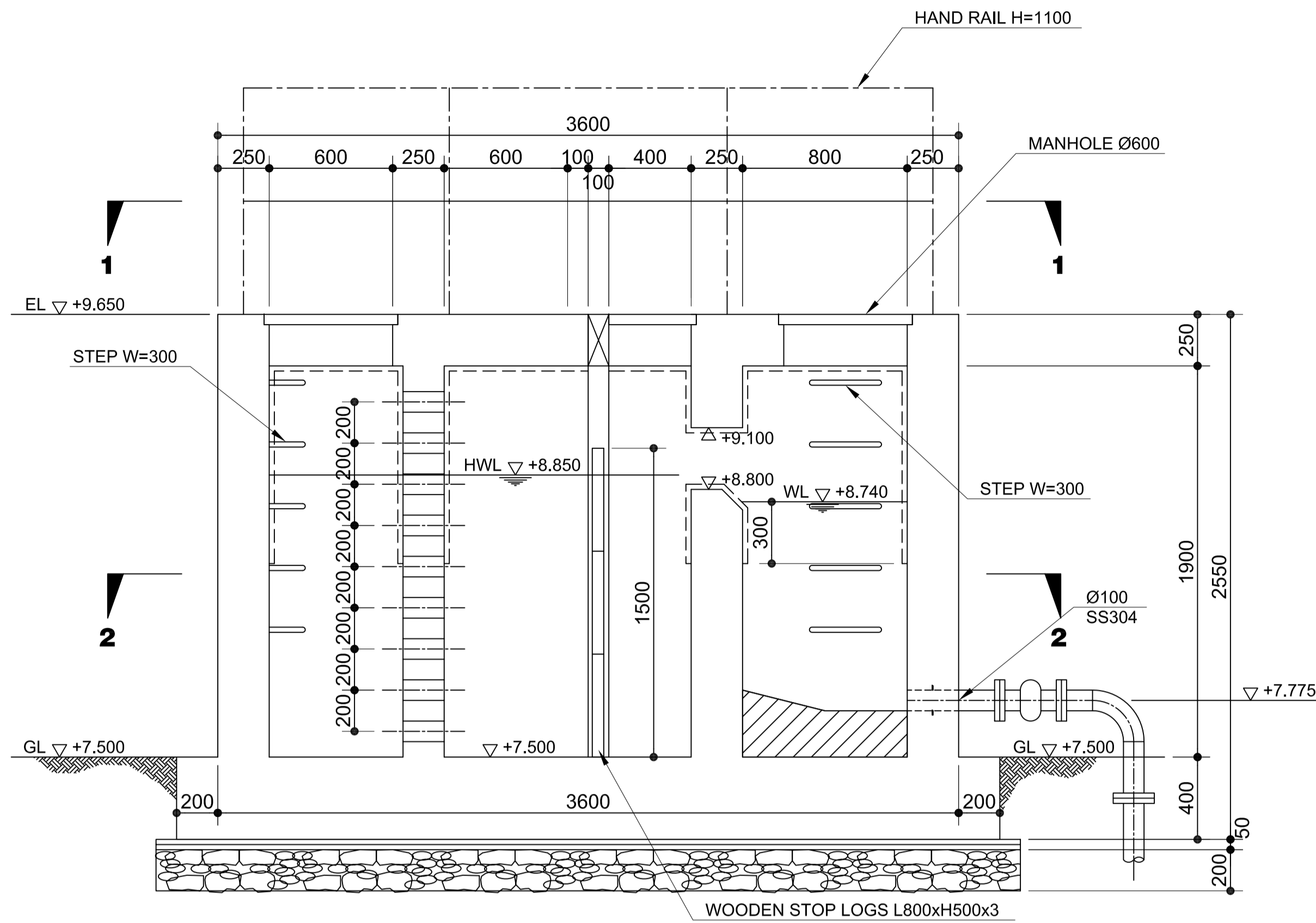
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SCALE 1:20m.



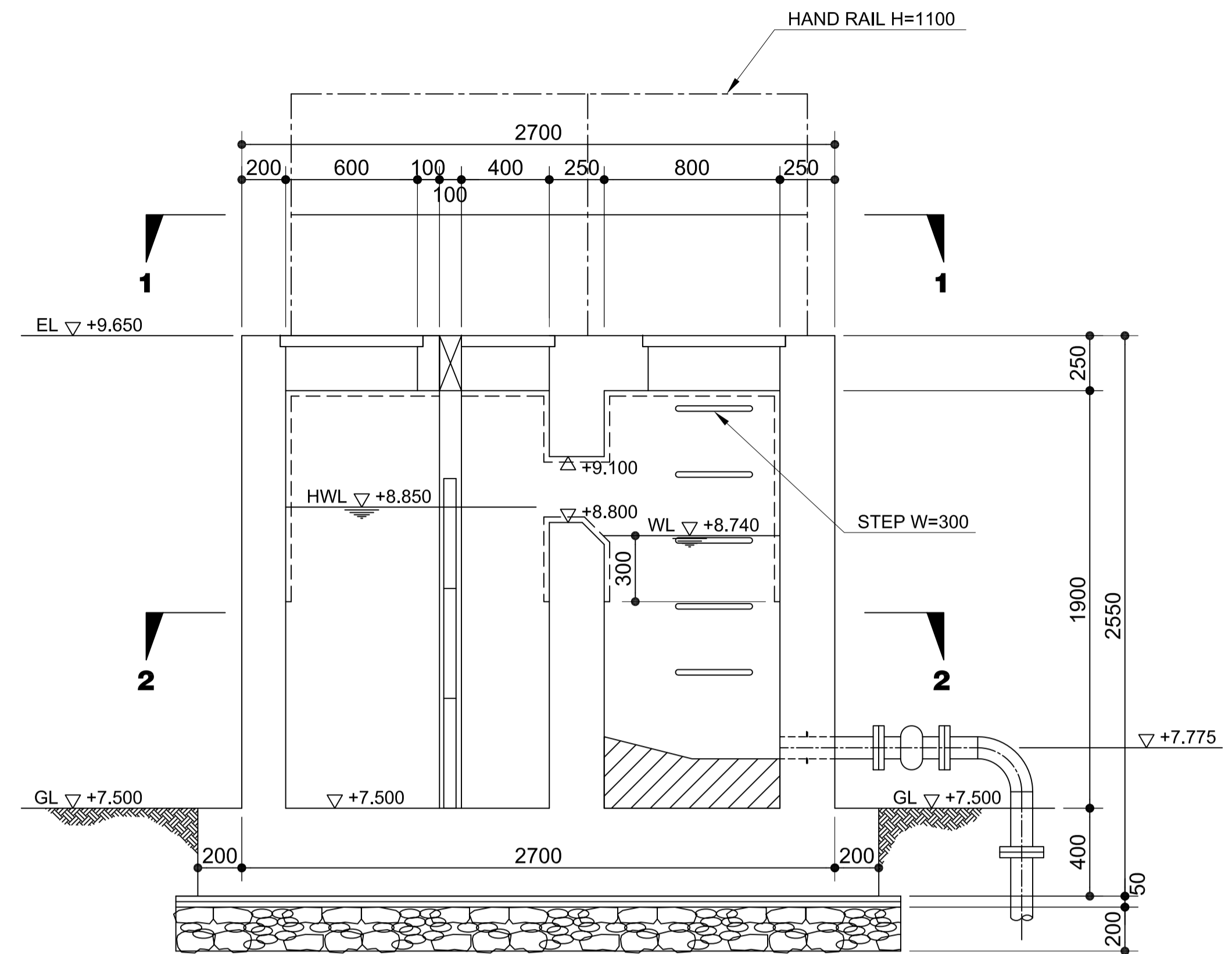
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NOTE:
----- CORROSION PROTECTION PAINT (TYPE D1)

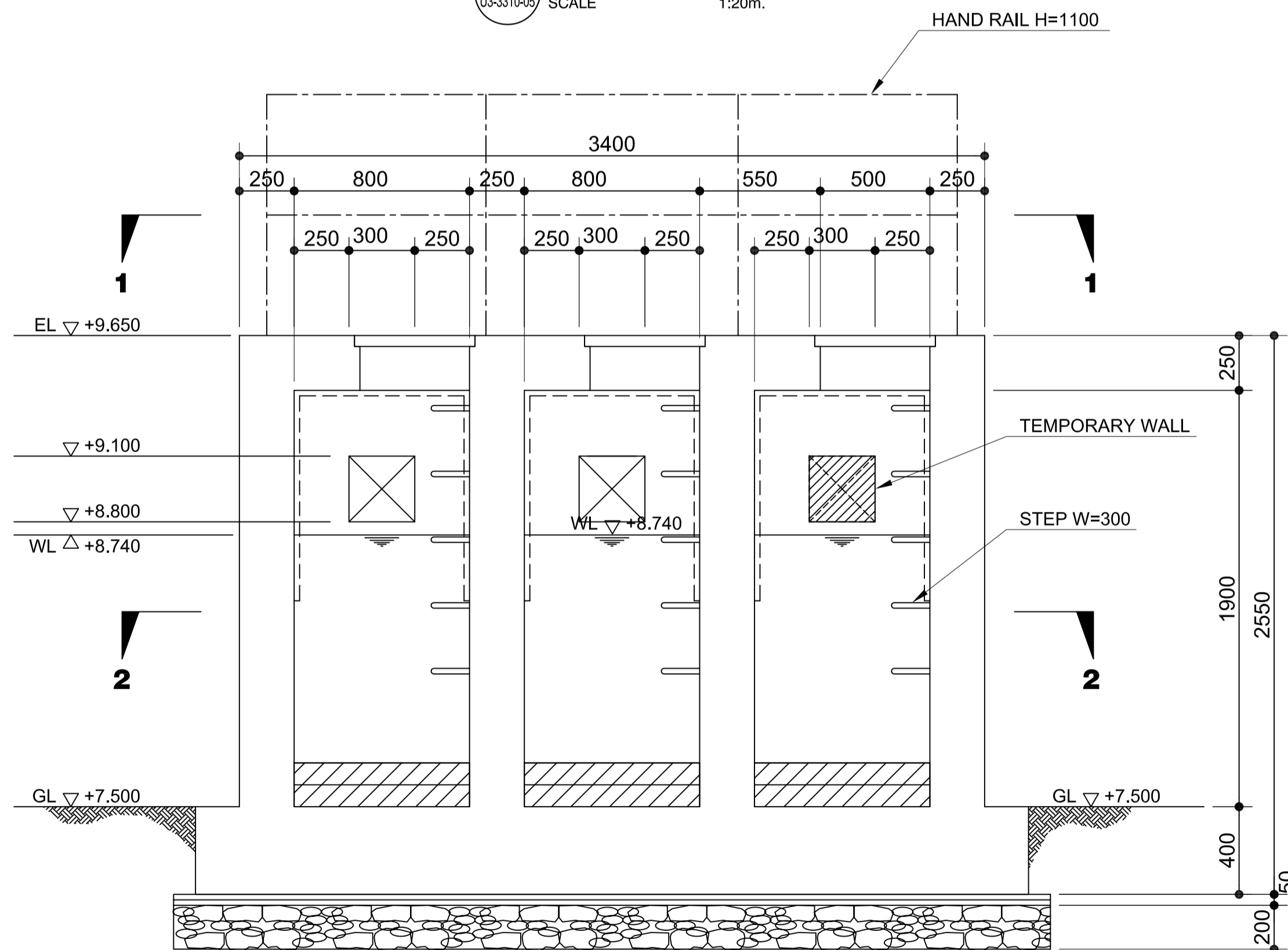
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK DISTRIBUTION CHAMBER (1) PLAN 1-1 & 2-2	SHEET NO: U3-3310-04
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC. NIPON KOEI CO., LTD. NIS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX: _____ AMENDMENTS: _____	Prepared by: FRS Jr. Checked by: WIM Validated by: HC	DRAWING SCALE: 1:20



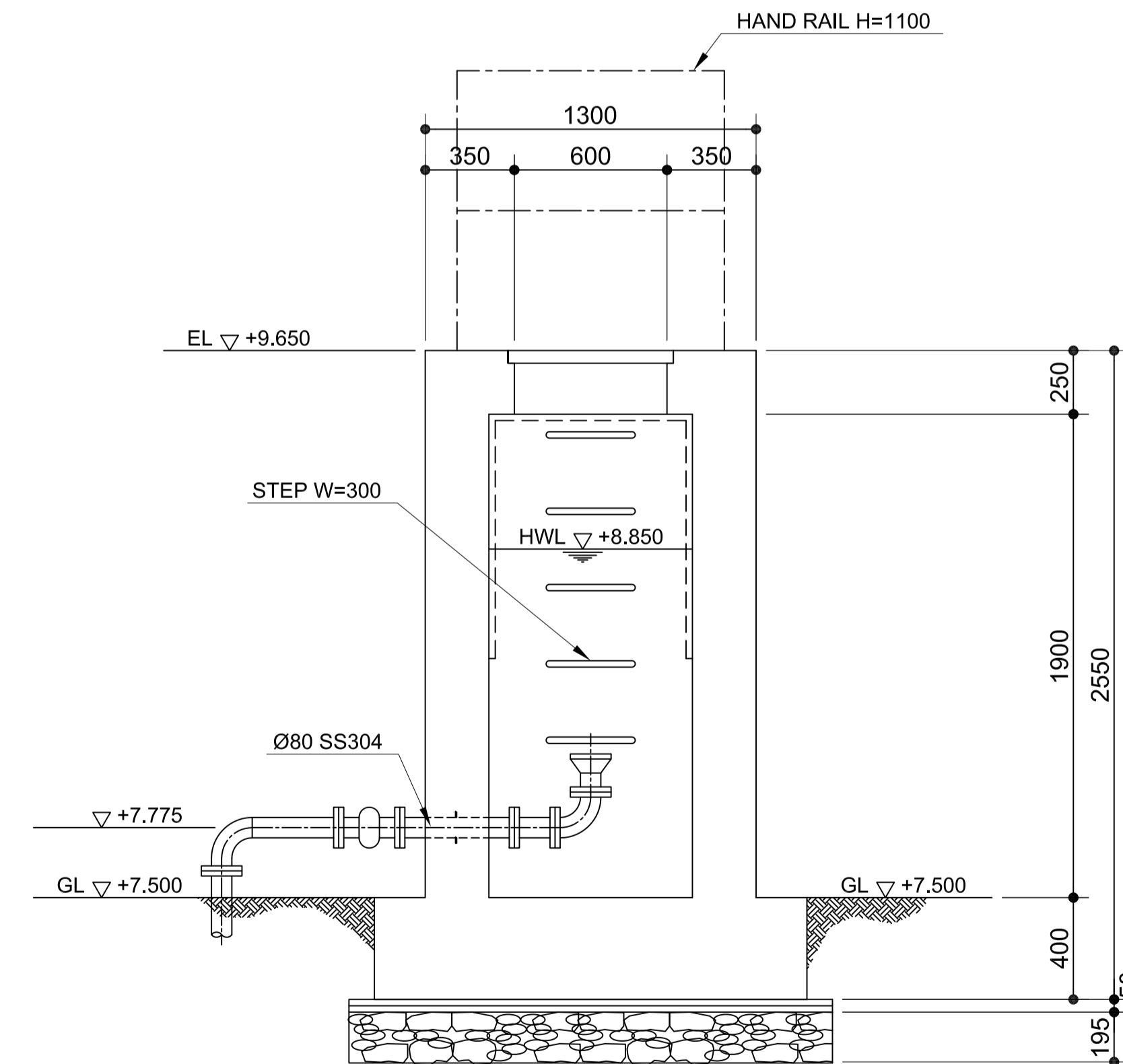
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U3-3310-05 SCALE 1:20m.



2 SECTION B-B
U3-3310-05 SCALE 1:20m.



3 SECTION C-C
U3-3310-05 SCALE 1:20m.



4 SECTION D-D
U3-3310-05 SCALE 1:20m.

NOTE: --- CORROSION PROTECTION PAINT (TYPE D1)

Republic of the Philippines
DEPARTMENT OF TRANSPORTATION
AND
COMMUNICATIONS

JICA
JAPAN
INTERNATIONAL
COOPERATION
AGENCY

JICA DESIGN CONSULTANT JOINT VENTURE

JAC JAPAN AIRPORT
CONSULTANTS,
INC.

NK NIPPON KOEI
CO., LTD.

NIS NIS CONSULTANTS
CO., LTD.

PREPARED BY:
BIENVENIDO S. SEVILLA
Sanitary Engineer
PTR. 8091754
REG. NO.: 0000549 DATE: March 2013
T.I.N. 245-772-657 PLACE: Quezon City

TADASHI AOI
Team Leader

RECOMMENDING APPROVAL:
ILDEFONSO T. PATDU, JR.
Assistant Secretary
for Project Implementation, DOTC

APPROVED:
JULIANITO G. BUCAYAN, JR.
Undersecretary
for Project Implementation, DOTC

PROJECT TITLE:
**NEW BOHOL AIRPORT CONSTRUCTION AND
SUSTAINABLE ENVIRONMENT PROTECTION PROJECT**

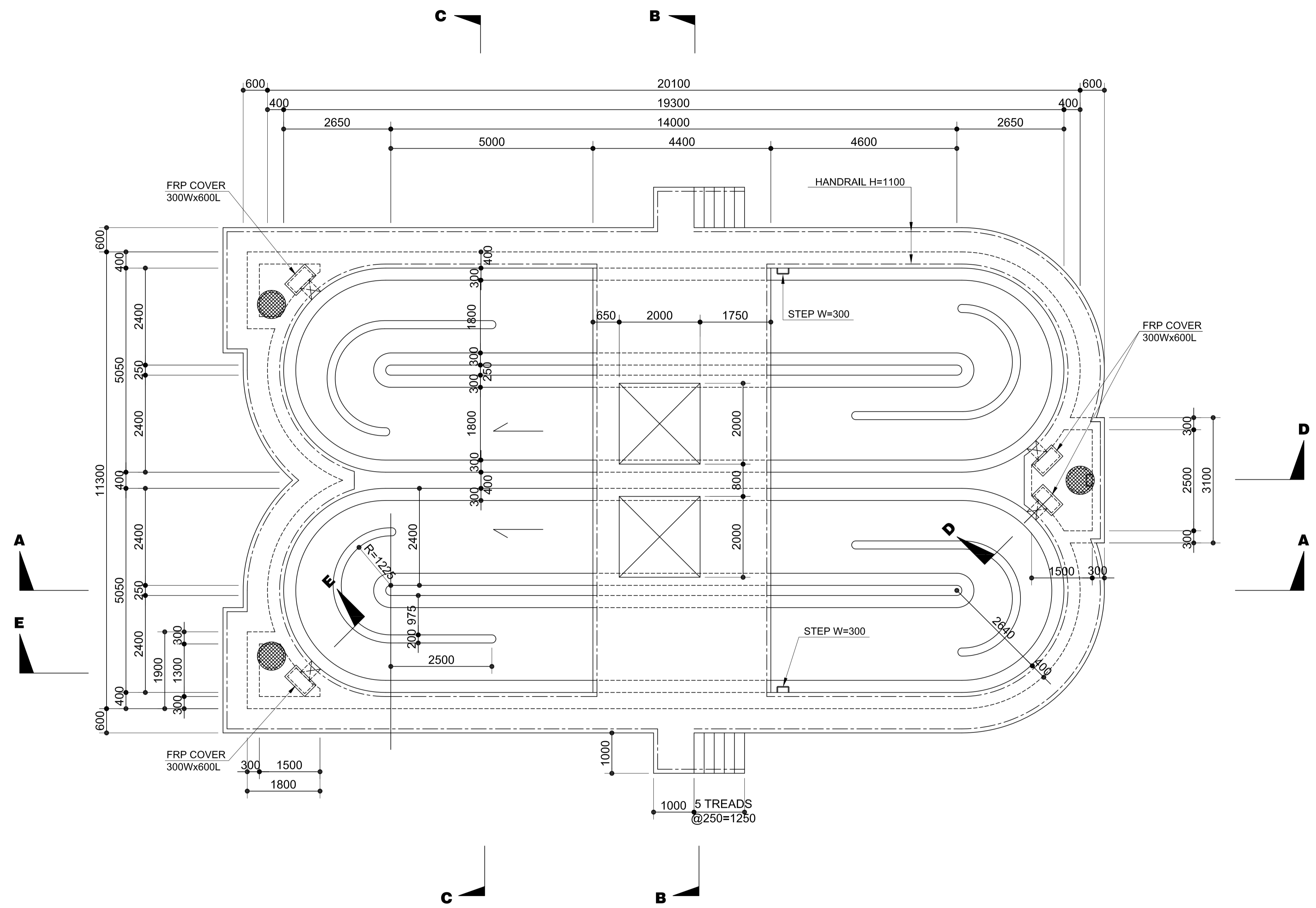
LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES

DATE	INDEX	AMENDMENTS	Prepared by	Checked by	Validated by
JUNE 2013			FRS Jr.	WIM	HC

SHEET CONTENTS:
COMPONENT-3 UTILITY WORKS (U)
SUBCOMPONENT-3-3
(U3) SEWAGE TREATMENT SYSTEM
CIVIL WORK
DISTRIBUTION CHAMBER (2)
SECTION A-A, B-B, C-C & D-D

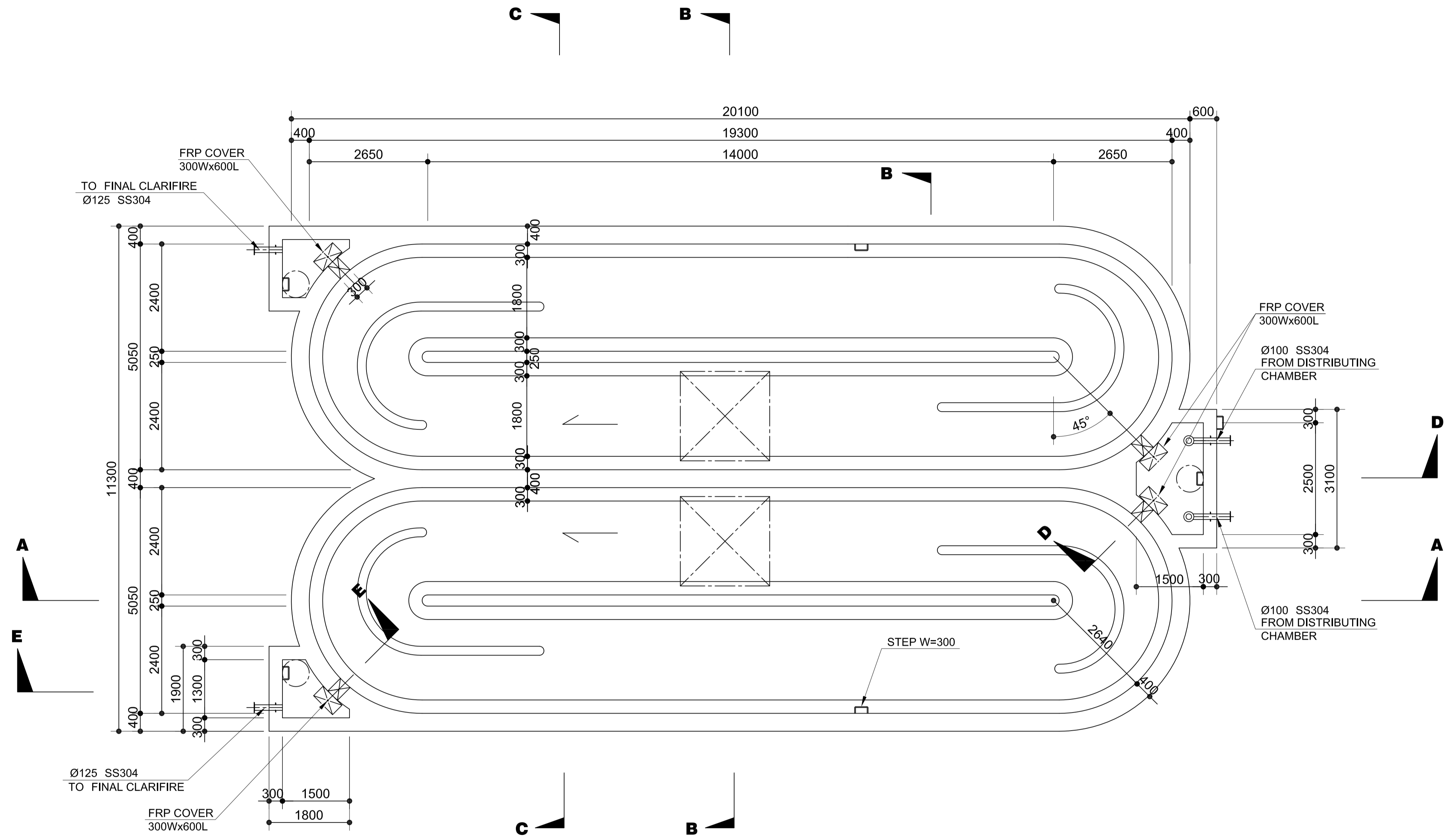
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U3-3310-05

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1:20



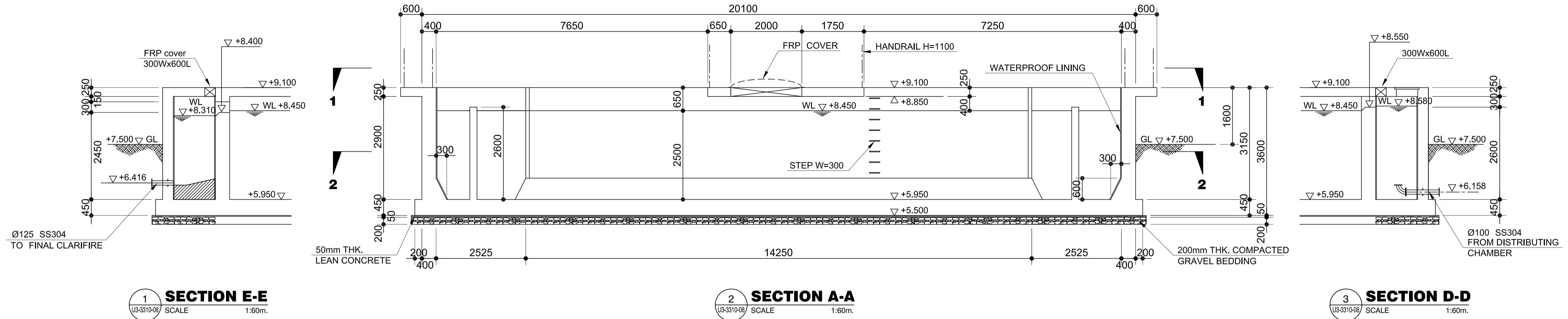
1 **PLAN 1-1**
 U3-3310-06 SCALE 1:60m.

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	JICA DESIGN CONSULTANT JOINT VENTURE TADASHI AOI <small>Team Leader</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX:	AMENDMENTS:	Prepared by: FRS Jr. Checked by: WIM Validated by: HC	DRAWING SCALE: 1:60	



1 **PLAN 2-2**
 U3-3310-07 SCALE 1:60m.

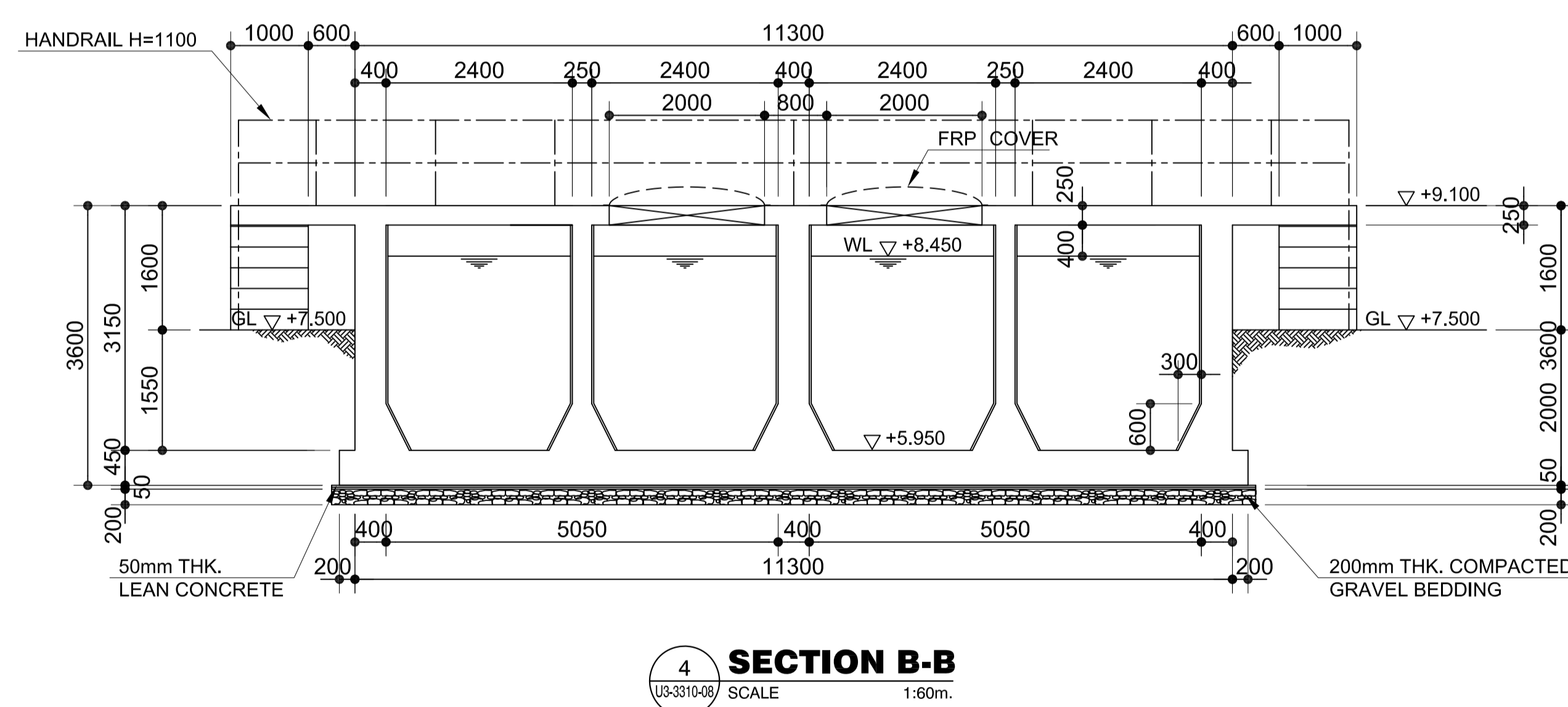
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TALK: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK OXIDATION DITCH (2) PLAN 2-2	SHEET NO: U3-3310-07
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>			DATE: JUNE 2013 INDEX:	AMENDMENTS:	Prepared by: FRS Jr. Checked by: WIM Validated by: HC



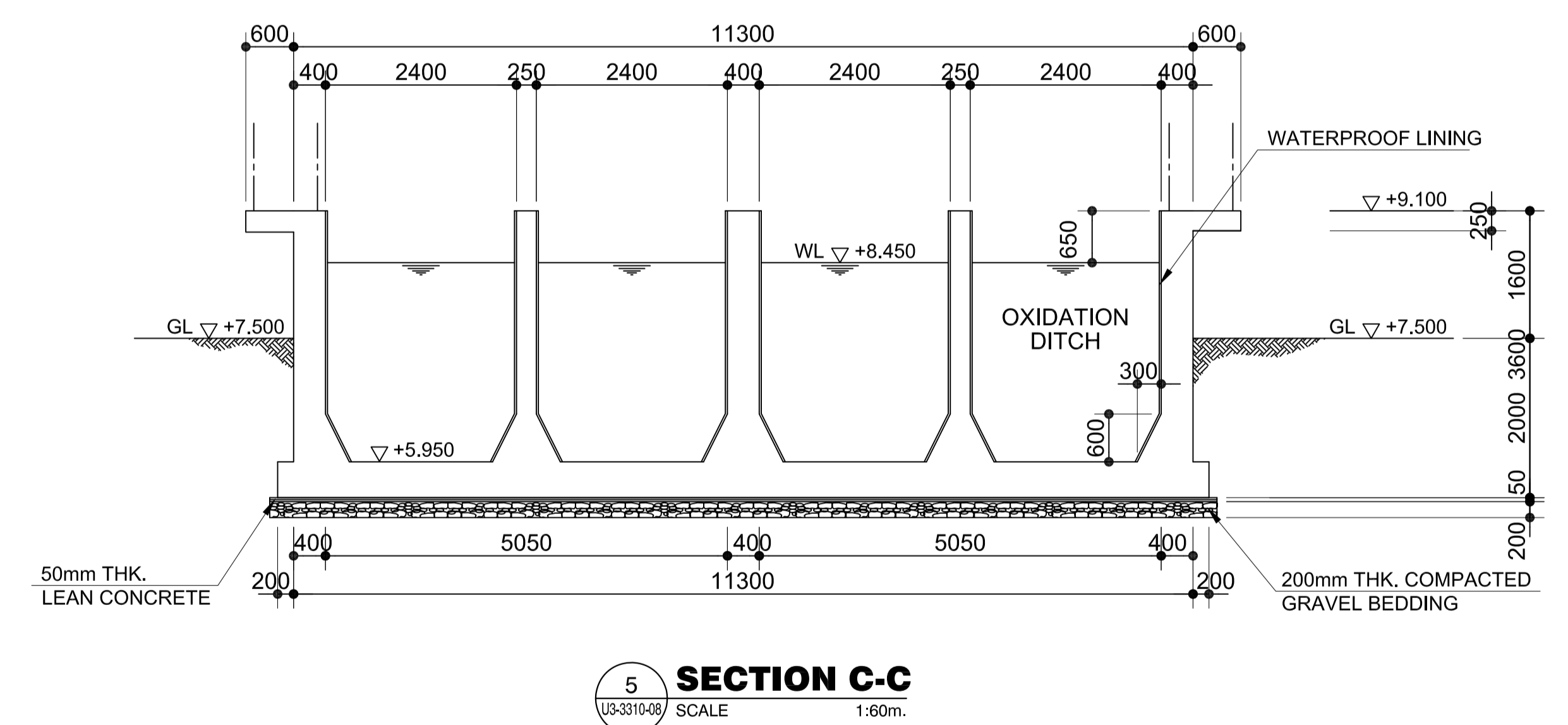
1 SECTION E-E
SCALE 1:60m.

2 SECTION A-A
SCALE 1:60m.

3 SECTION D-D
SCALE 1:60m.

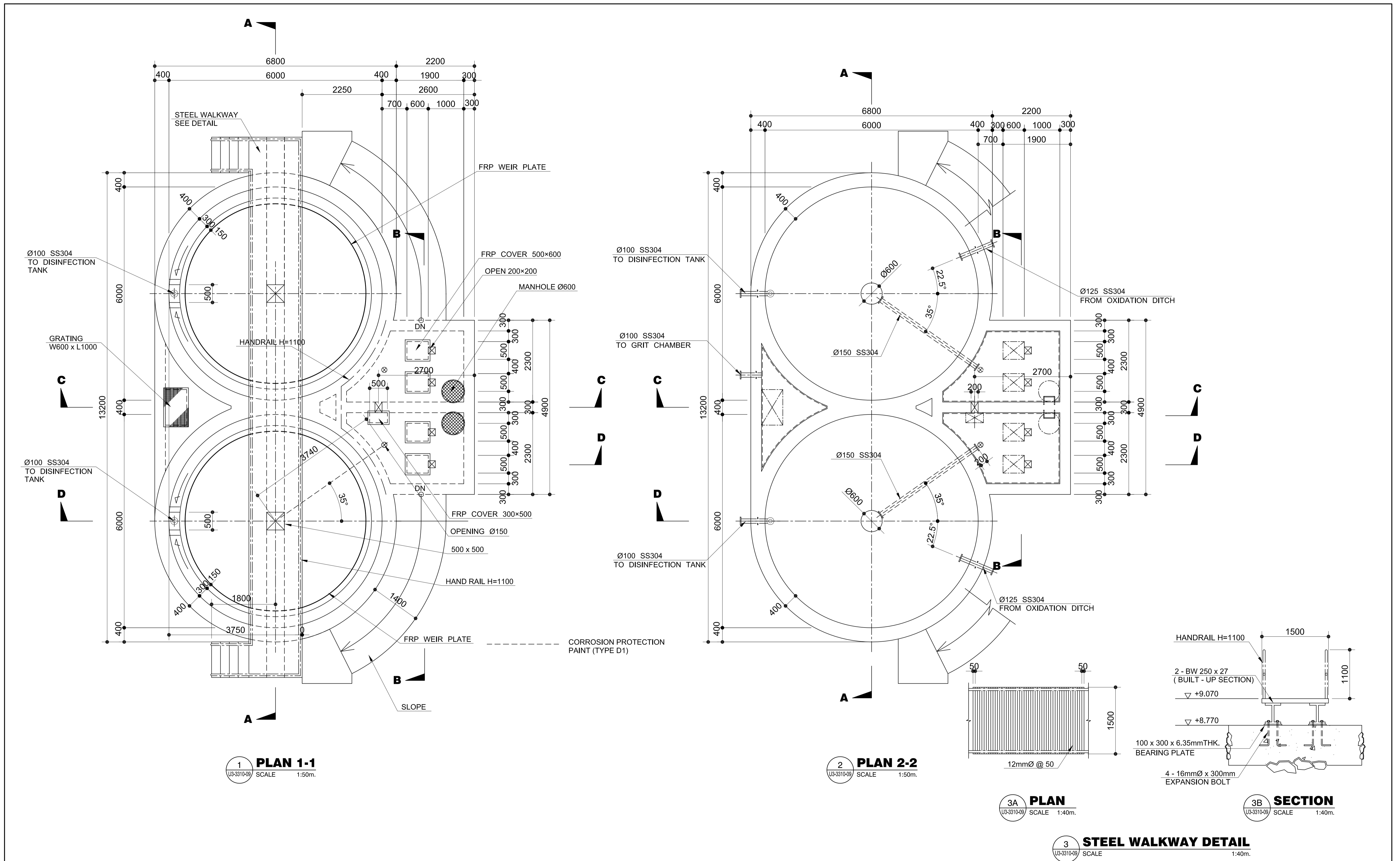


4 SECTION B-B
SCALE 1:60m.

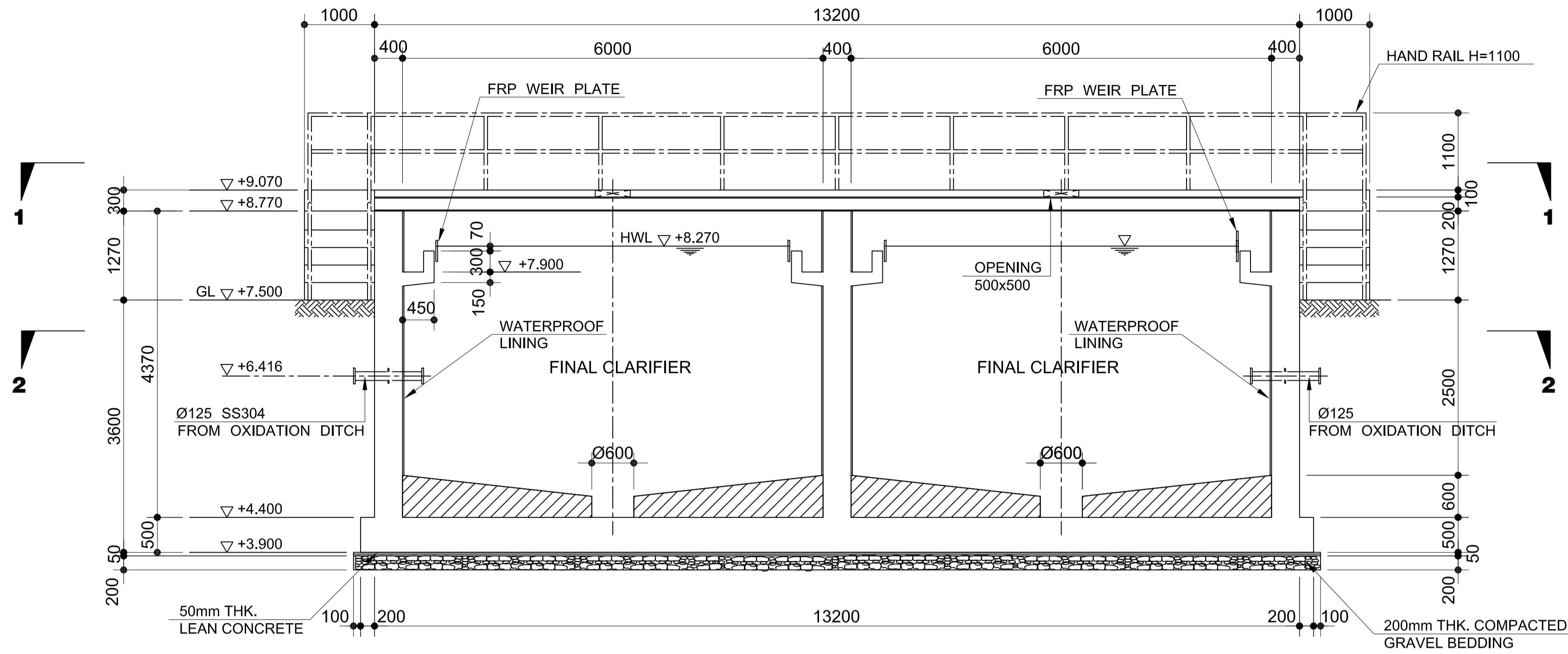


5 SECTION C-C
SCALE 1:60m.

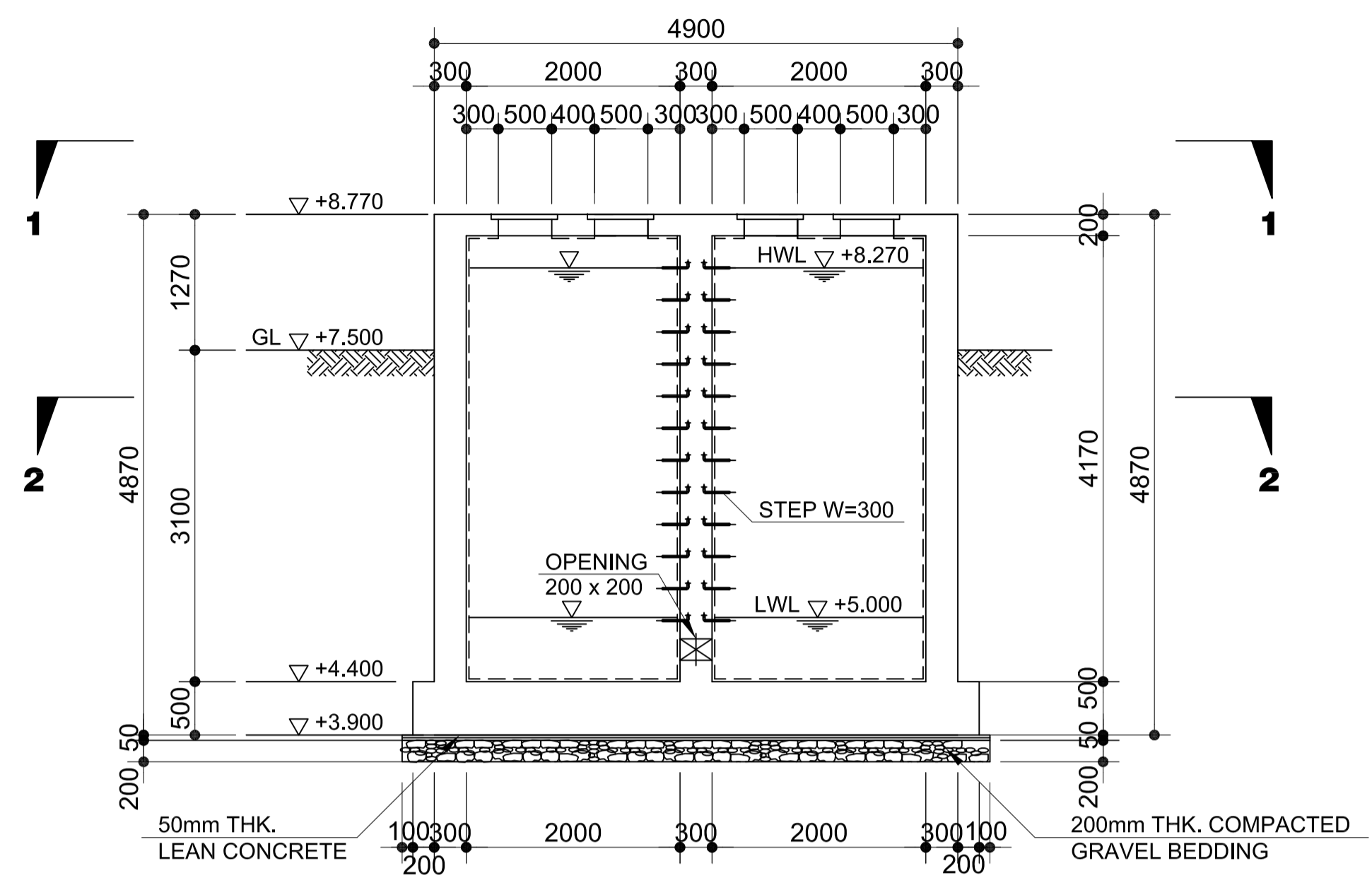
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEL: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK OXIDATION DITCH (3) SECTION A-A, B-B, C-C, D-D & E-E	SHEET NO: U3-3310-08 DRAWING SCALE: 1:60
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC.				DATE INDEX AMENDMENTS JUNE 2013	Prepared by: FRS Jr. WIM HC Checked by: Validated by:



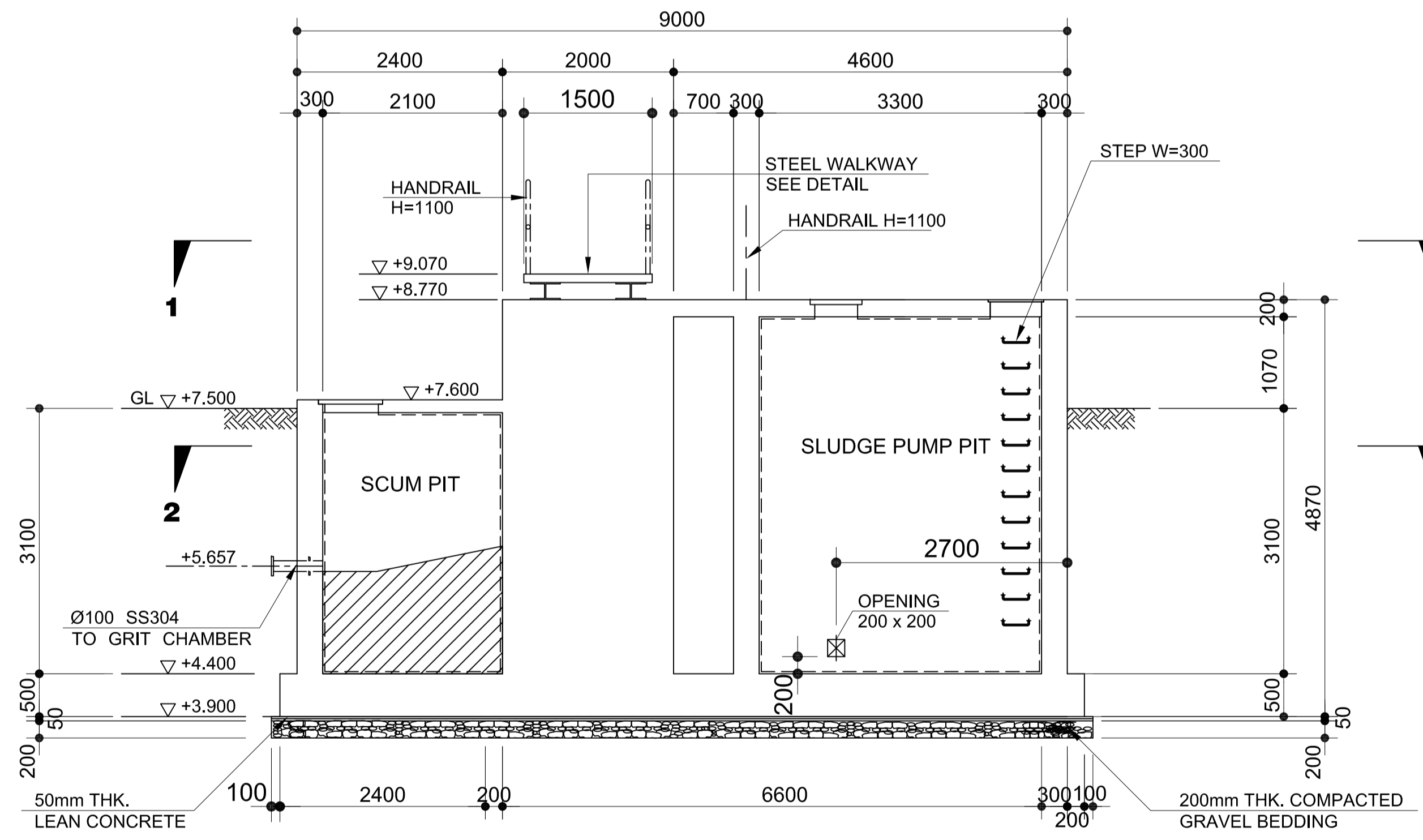
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 T.M.N. 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK FINAL CLARIFIER (1) PLAN 1-1, 2-2 & DETAILS	SHEET NO: U3-3310-09	
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013	INDEX:	AMENDMENTS:	PREPARED BY: FRS Jr. WIM HC CHECKED BY:



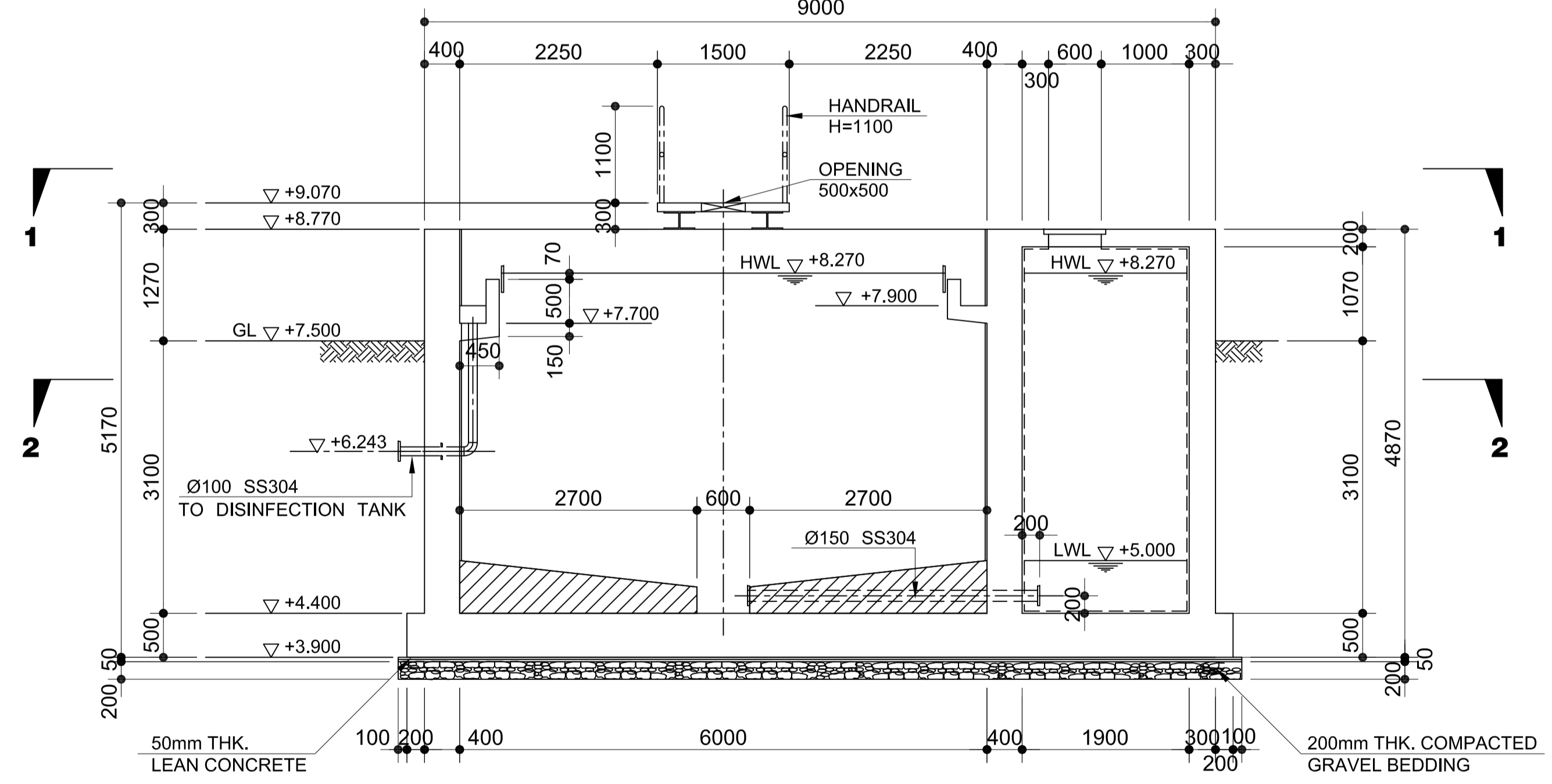
1 SECTION A-A
U3-3310-10 SCALE 1:50m.



2 SECTION B-B
U3-3310-10 SCALE 1:50m.



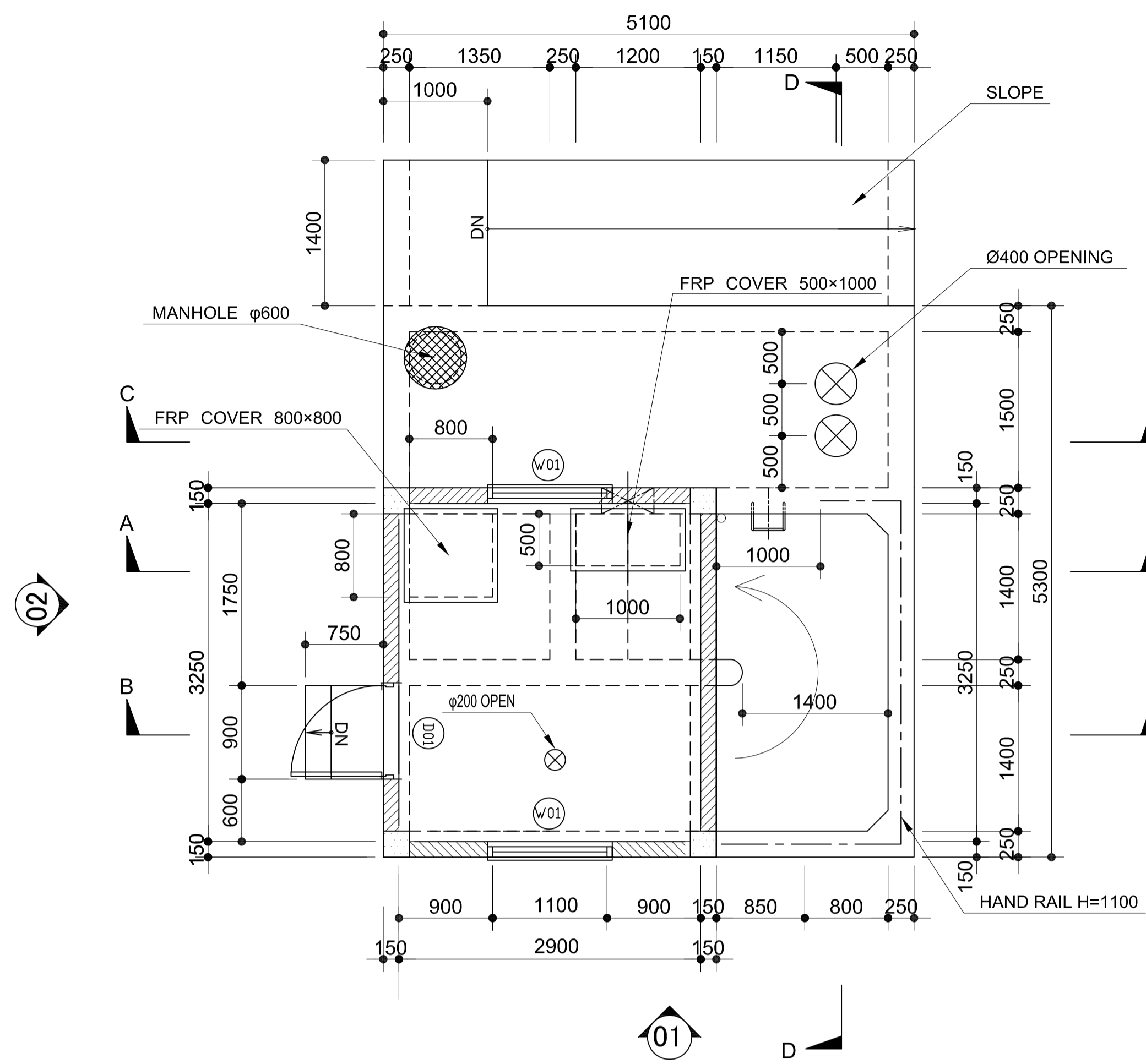
3 SECTION C-C
U3-3310-10 SCALE 1:50m.



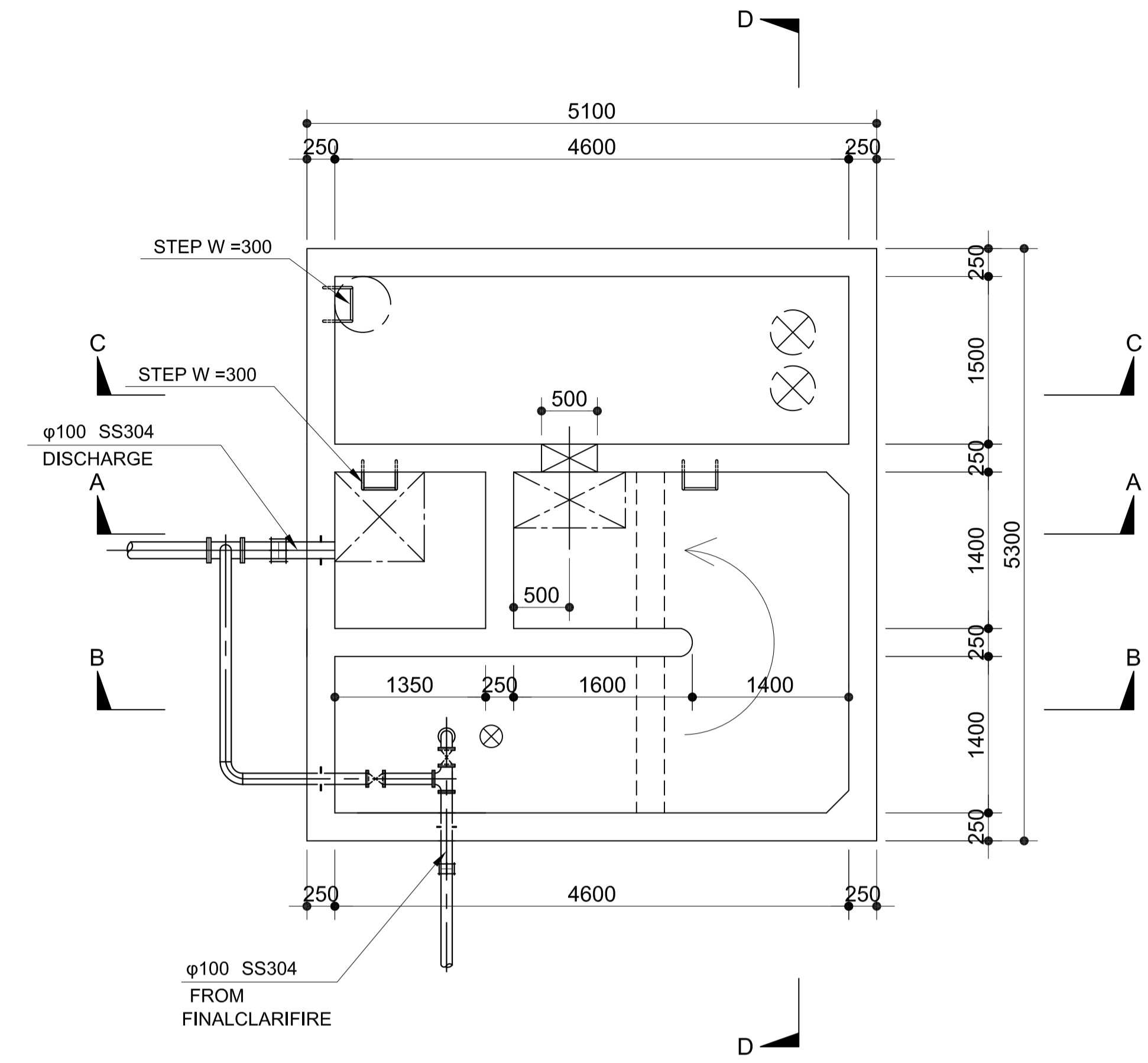
4 SECTION D-D
U3-3310-10 SCALE 1:50m.

----- CORROSION PROTECTION PAINT (TYPE D1)

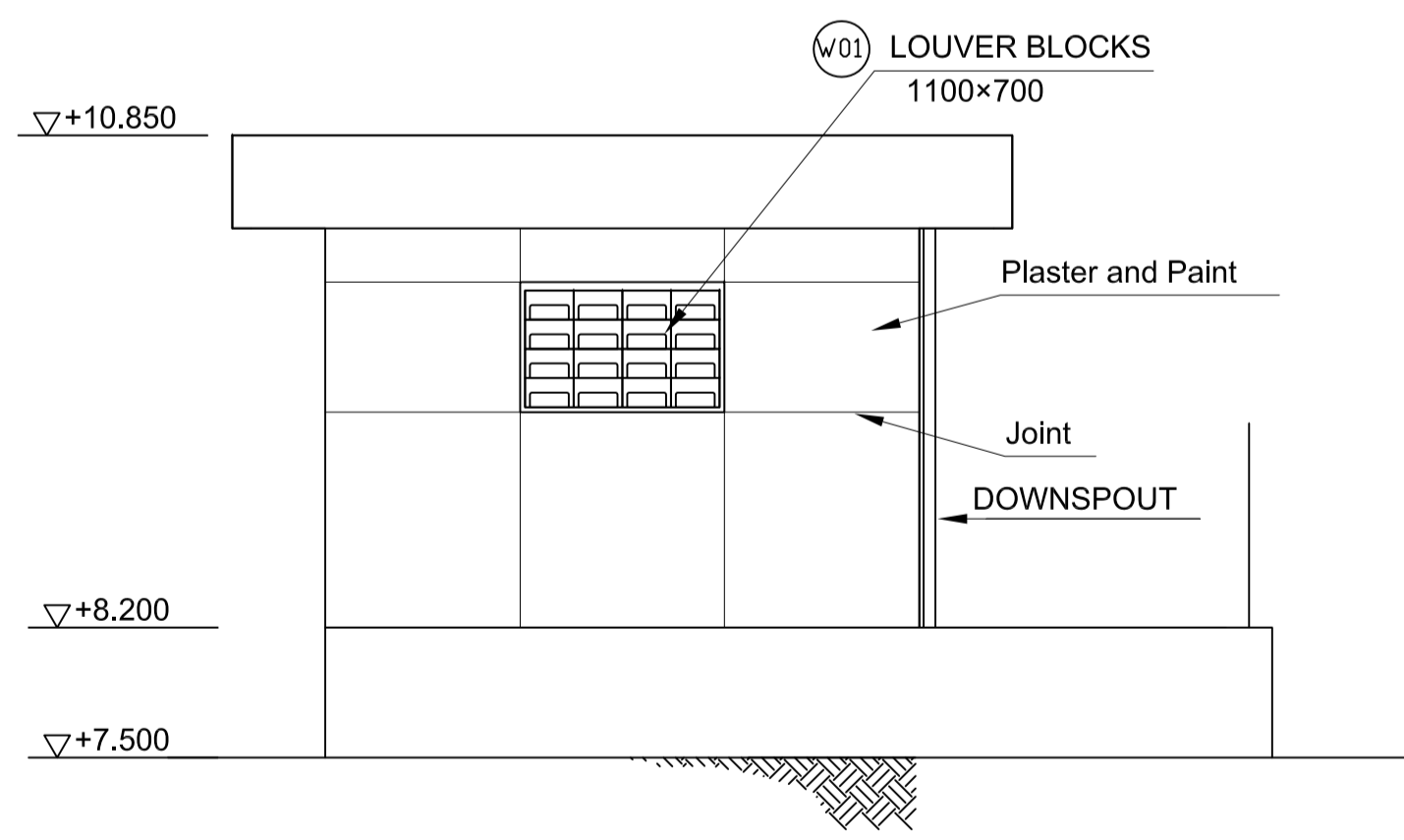
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 T.I.N: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK FINAL CLARIFIER (2) SECTION A-A, B-B, C-C & D-D	SHEET NO: U3-3310-10
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX:	AMENDMENTS:	SHEET SCALE: 1:50



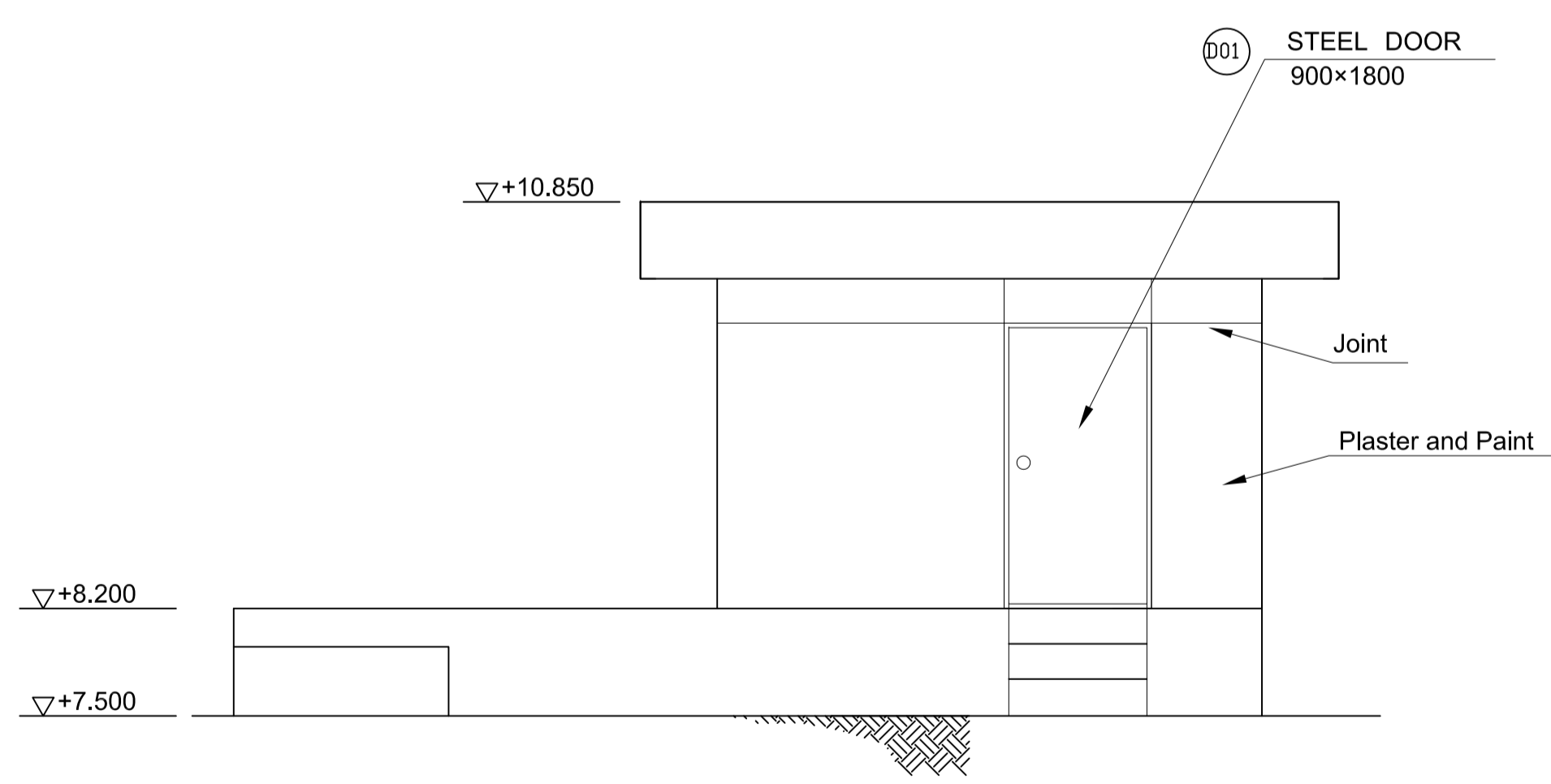
1 **PLAN 1-1**
U3-3310-11 SCALE 1:40m.



2 **PLAN 2-2**
U3-3310-11 SCALE 1:40m.

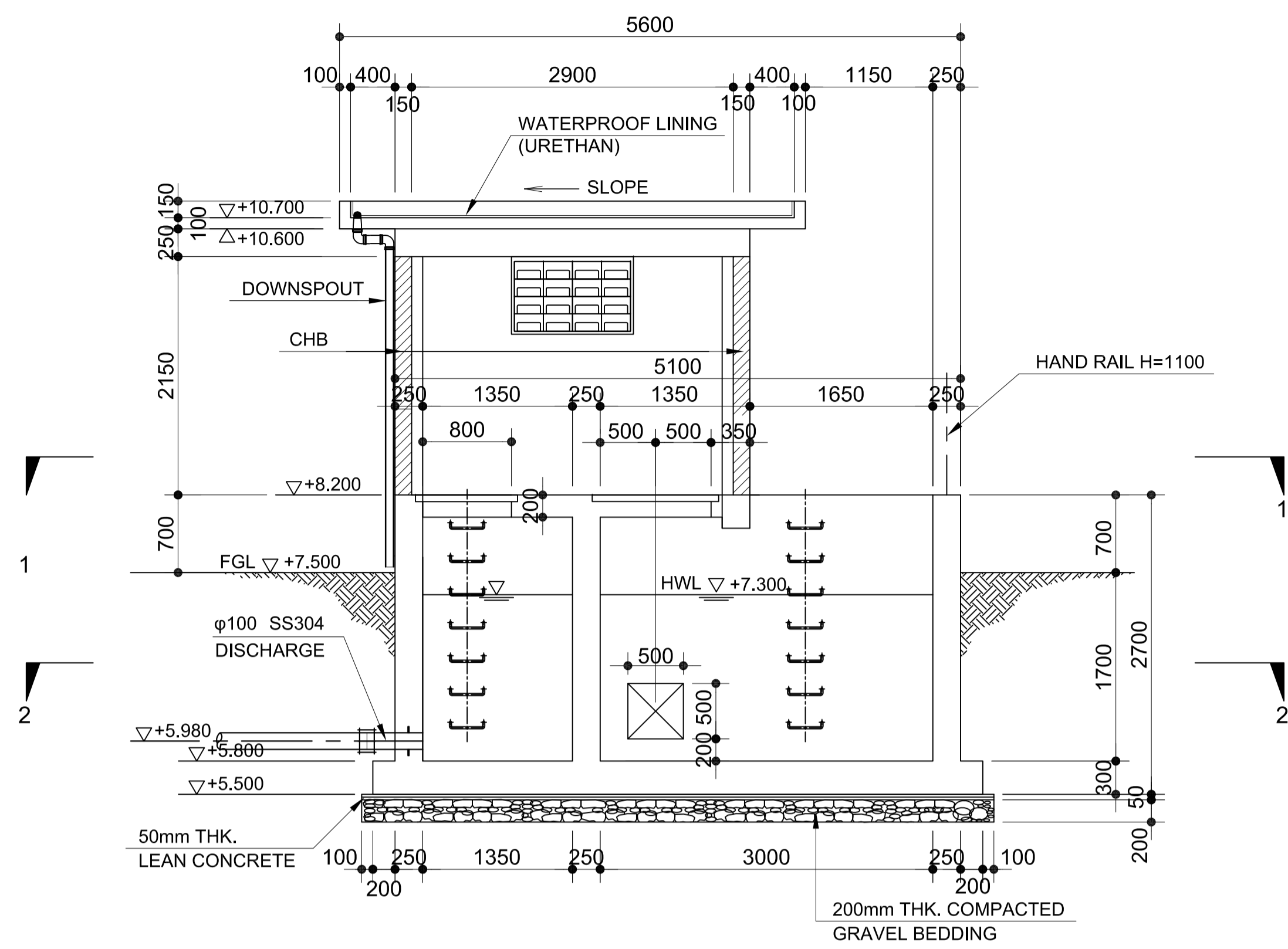


3 **ELEVATION 01**
U3-3310-11 SCALE 1:40m.

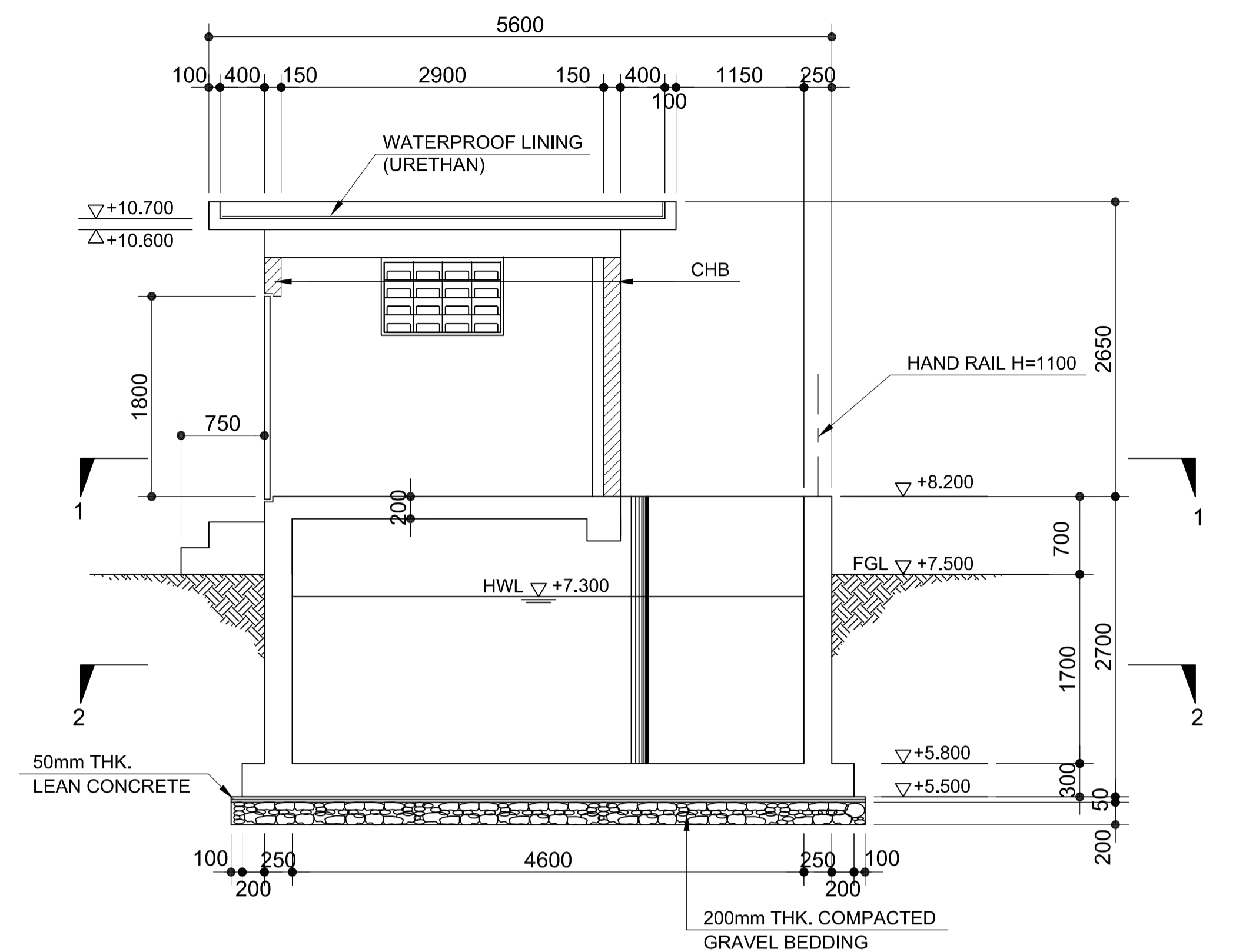


4 **ELEVATION 02**
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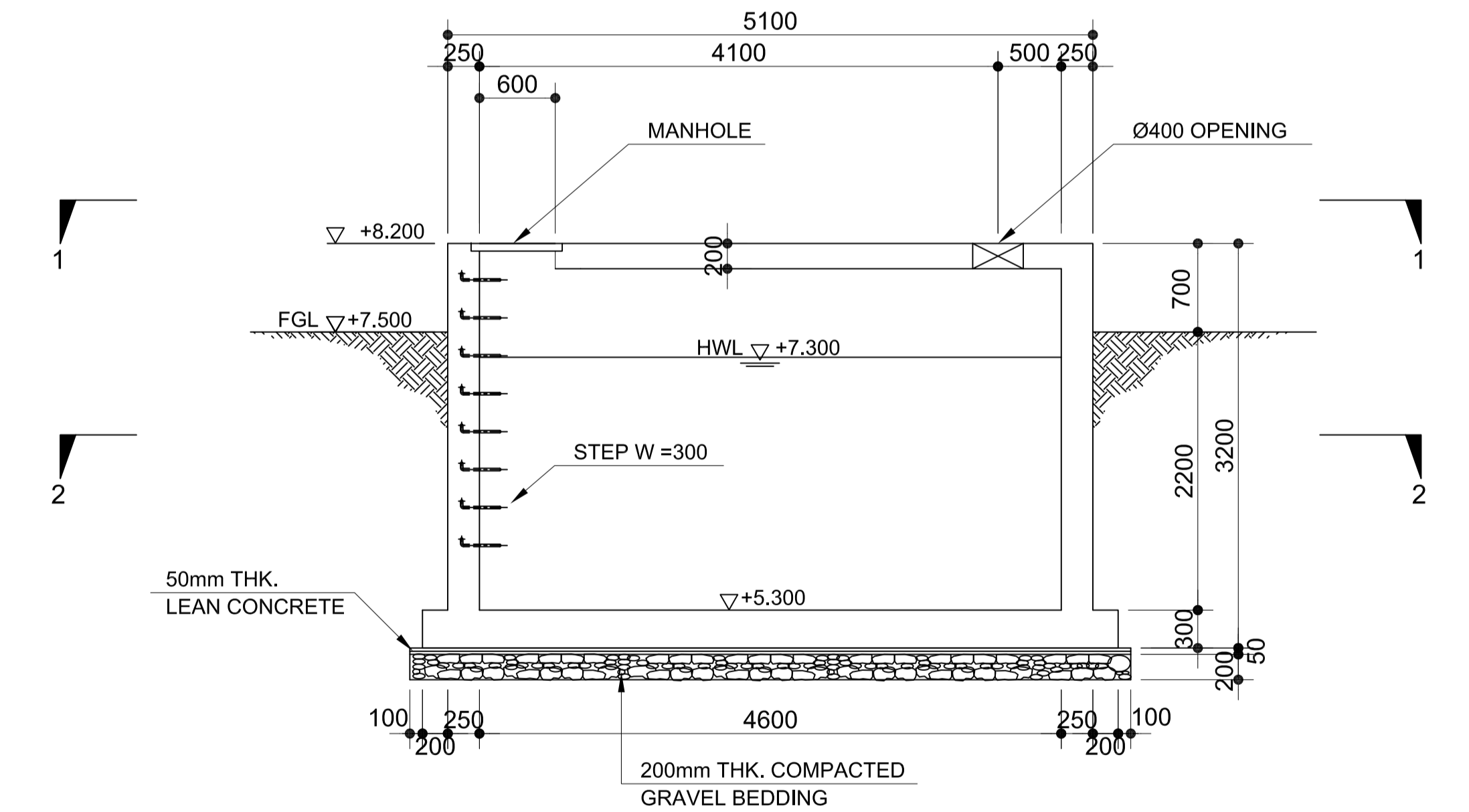
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR. 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK DISINFECTION TANK (1) PLAN 1-1, 2-2 & ELEVATION 01, 02	SHEET NO: U3-3310-11
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC. NIPON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX: AMENDMENTS: Prepared by: FRS Jr. WIM IIC Checked by: Validated by:	DRAWING SCALE: 1:40	



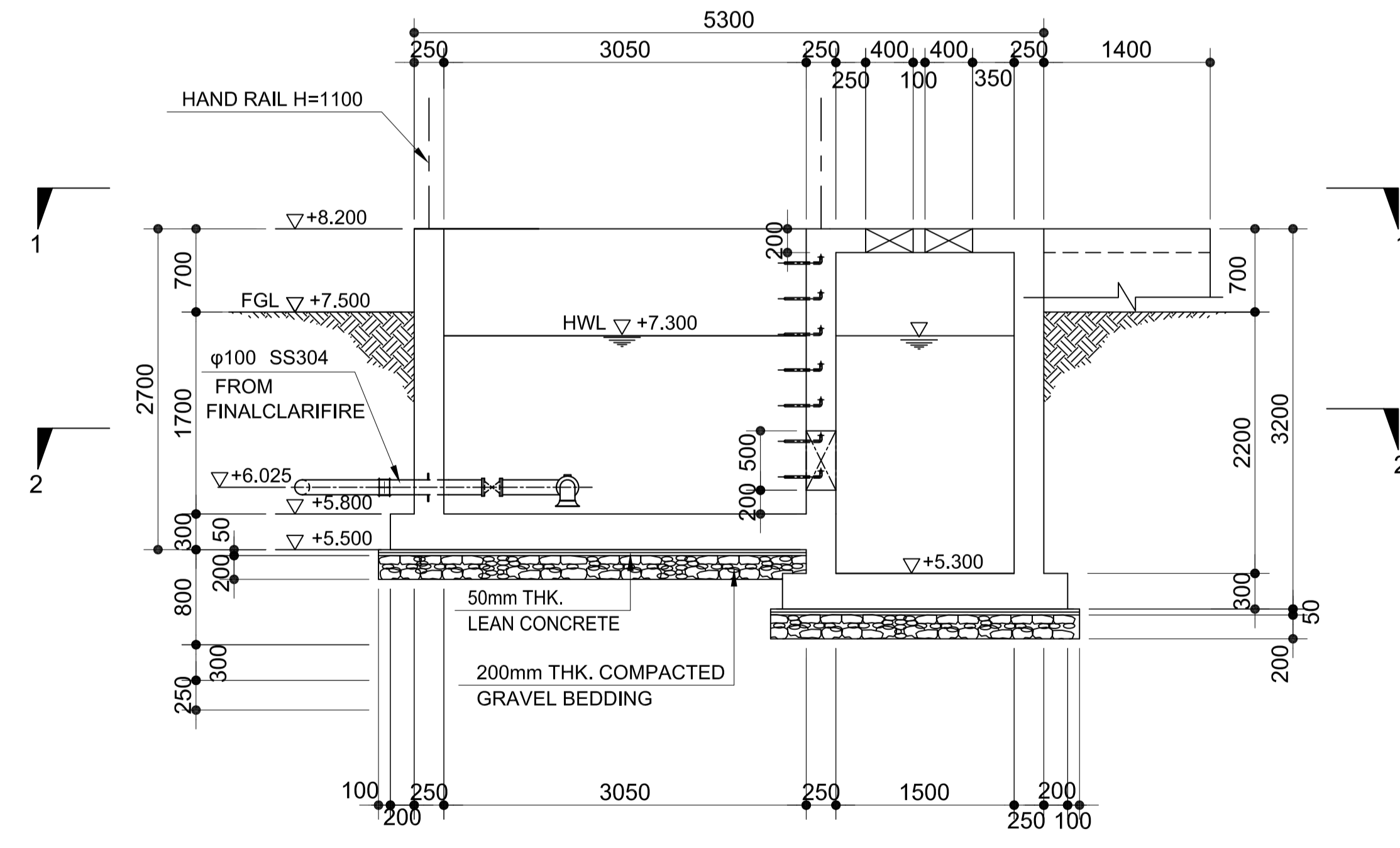
1 SECTION A-A
U3-3310-12 SCALE 1:40m.



2 SECTION B-B
U3-3310-12 SCALE 1:40m.

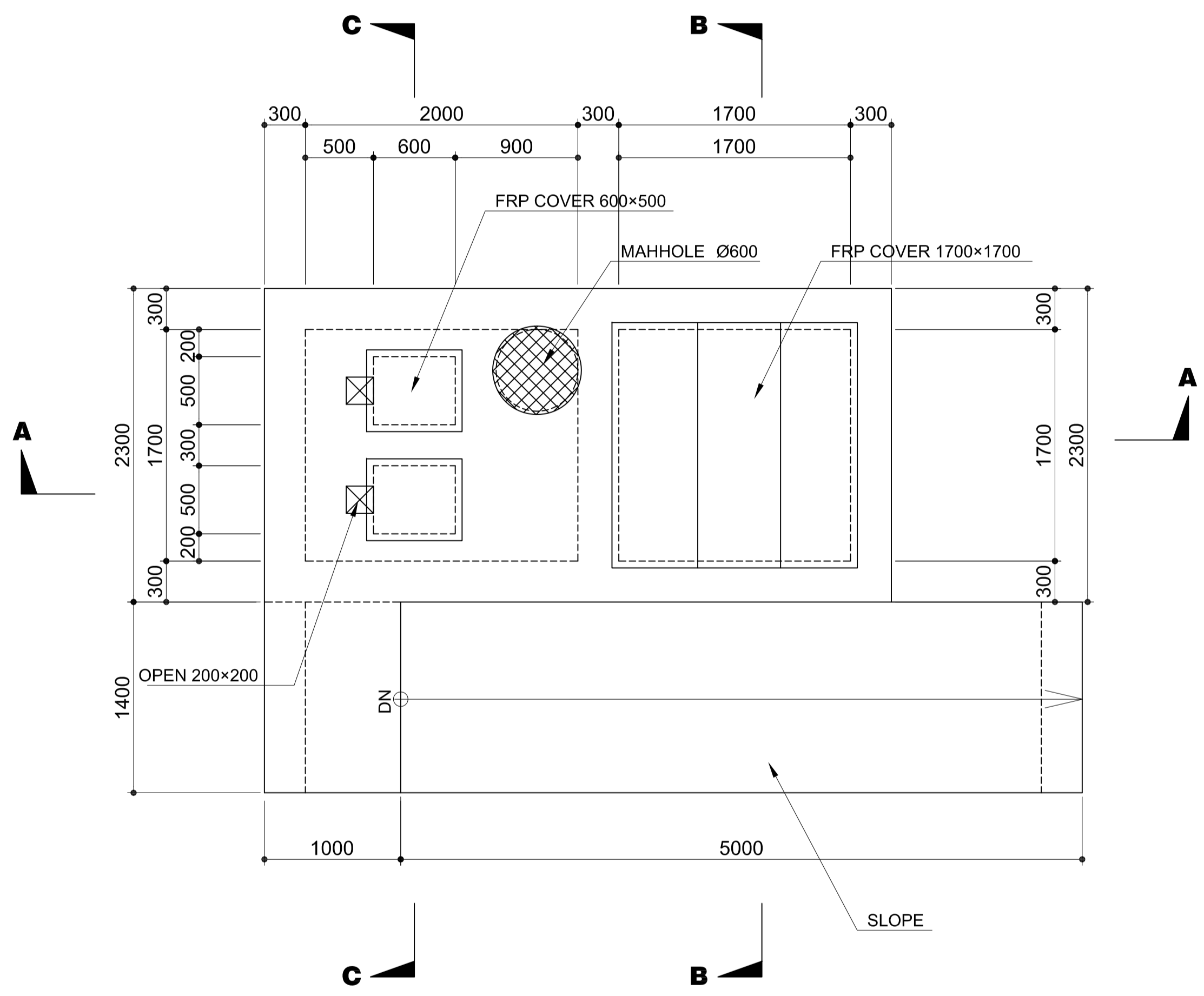


3 SECTION C-C
U3-3310-12 SCALE 1:40m.

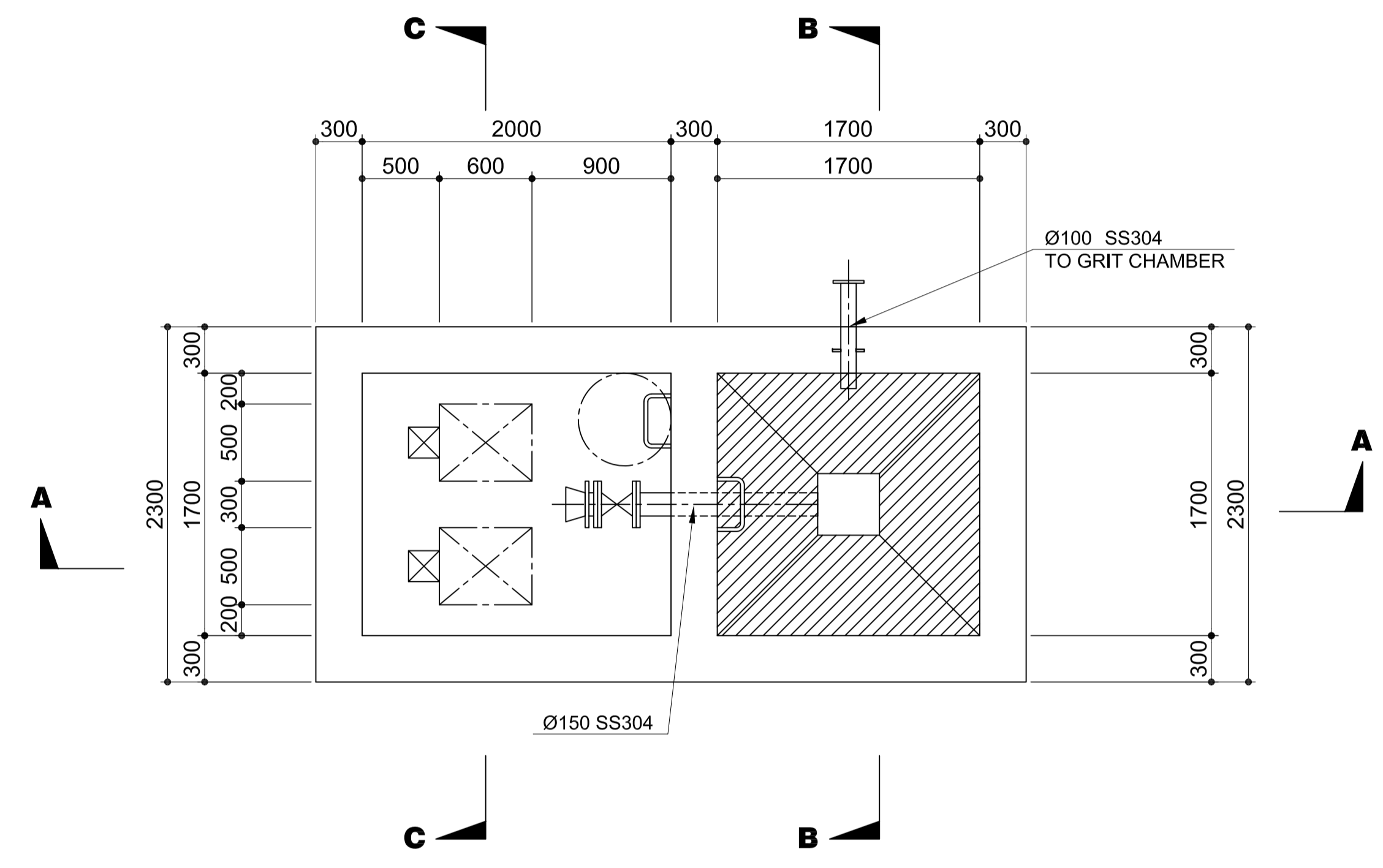


4 SECTION D-D
U3-3310-12 SCALE 1:40m.

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEL: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK DISINFECTION TANK (2) SECTION A-A, B-B, C-C & D-D	SHEET NO: U3-3310-12	
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013	INDEX:	AMENDMENTS:	Prepared by: FRS Jr. WIM IIC Checked by:



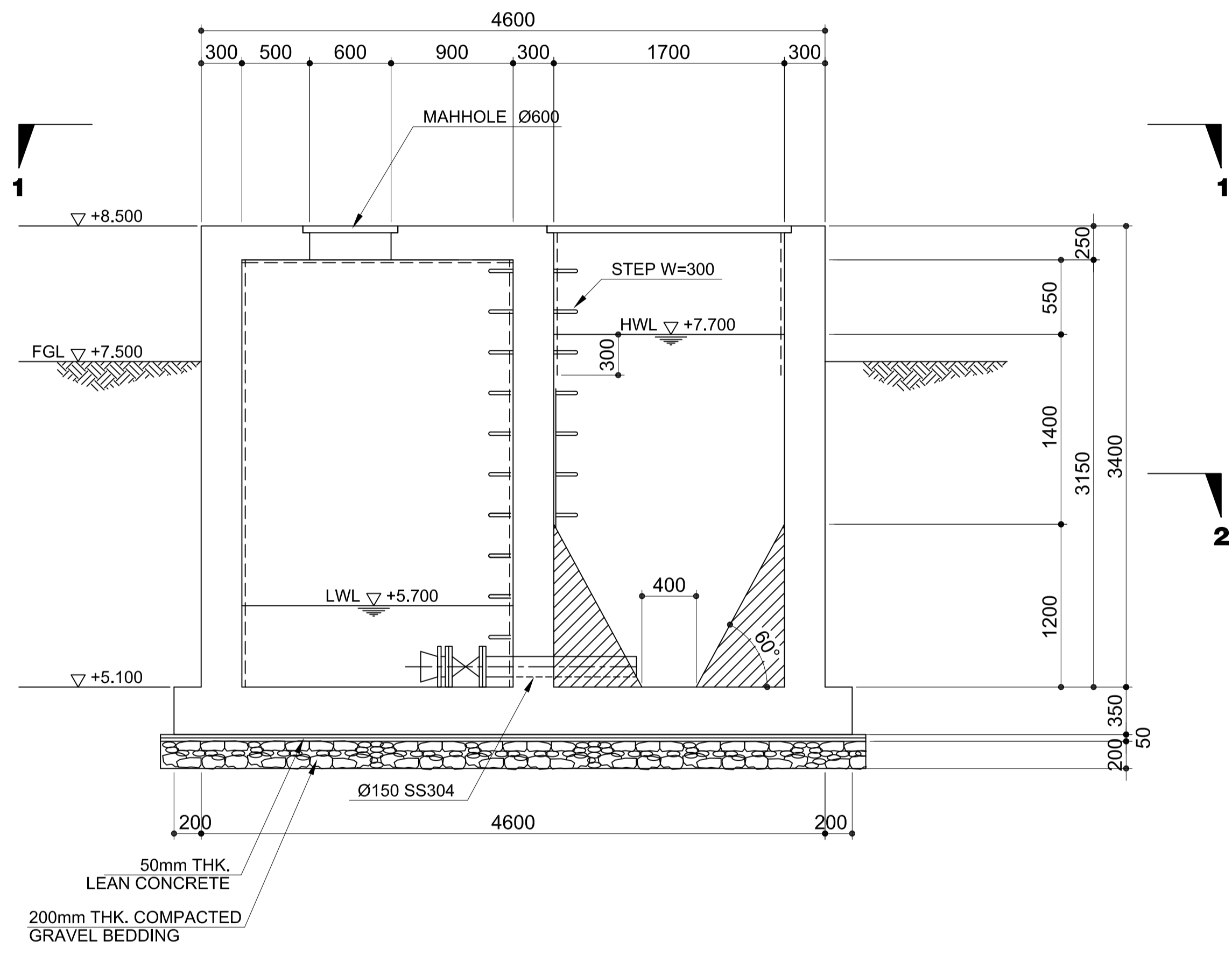
1 **PLAN 1-1**
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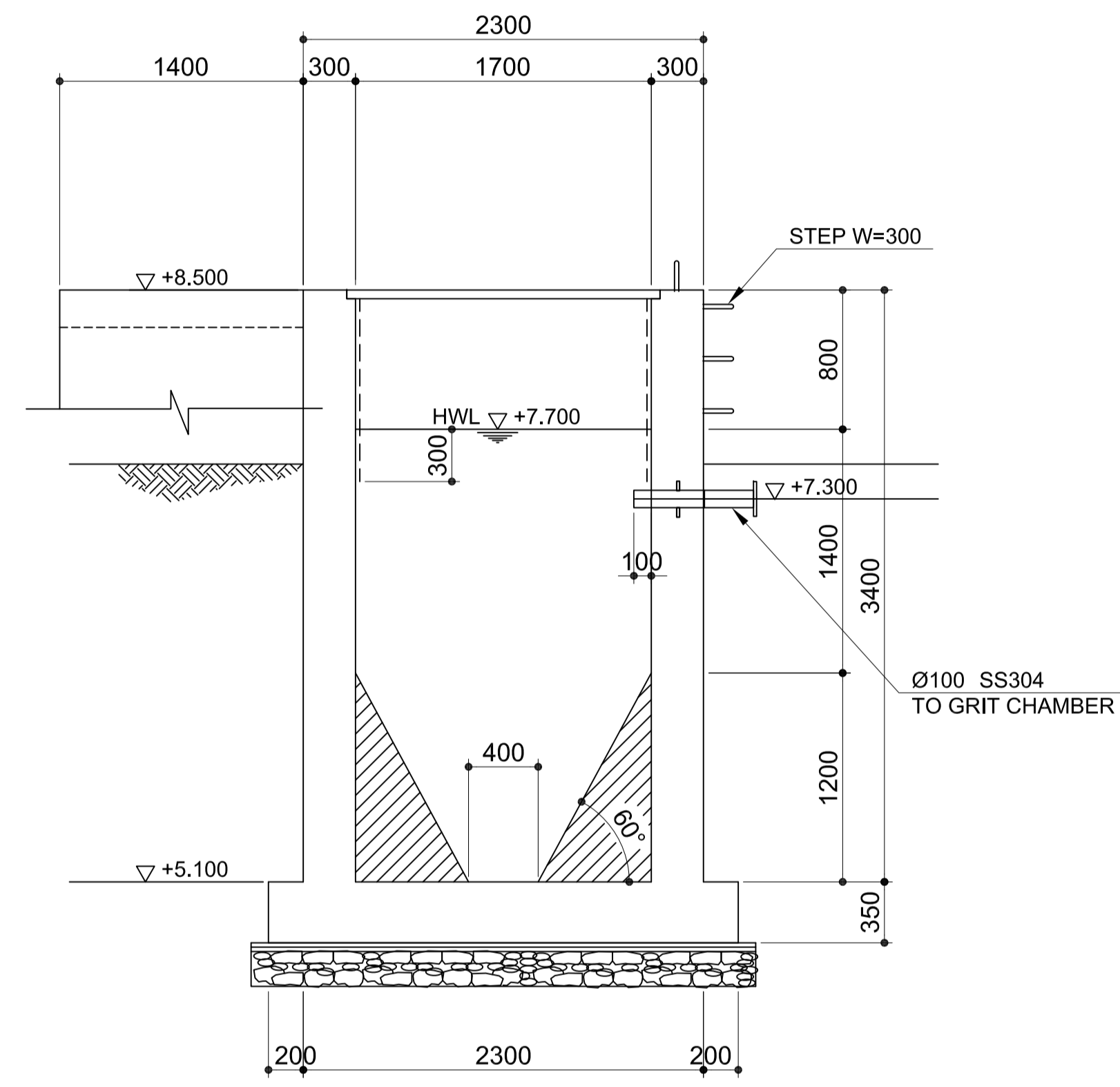
2 **PLAN 2-2**
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NOTE: - - - - CORROSION PROTECTION PAINT (TYPE D1)

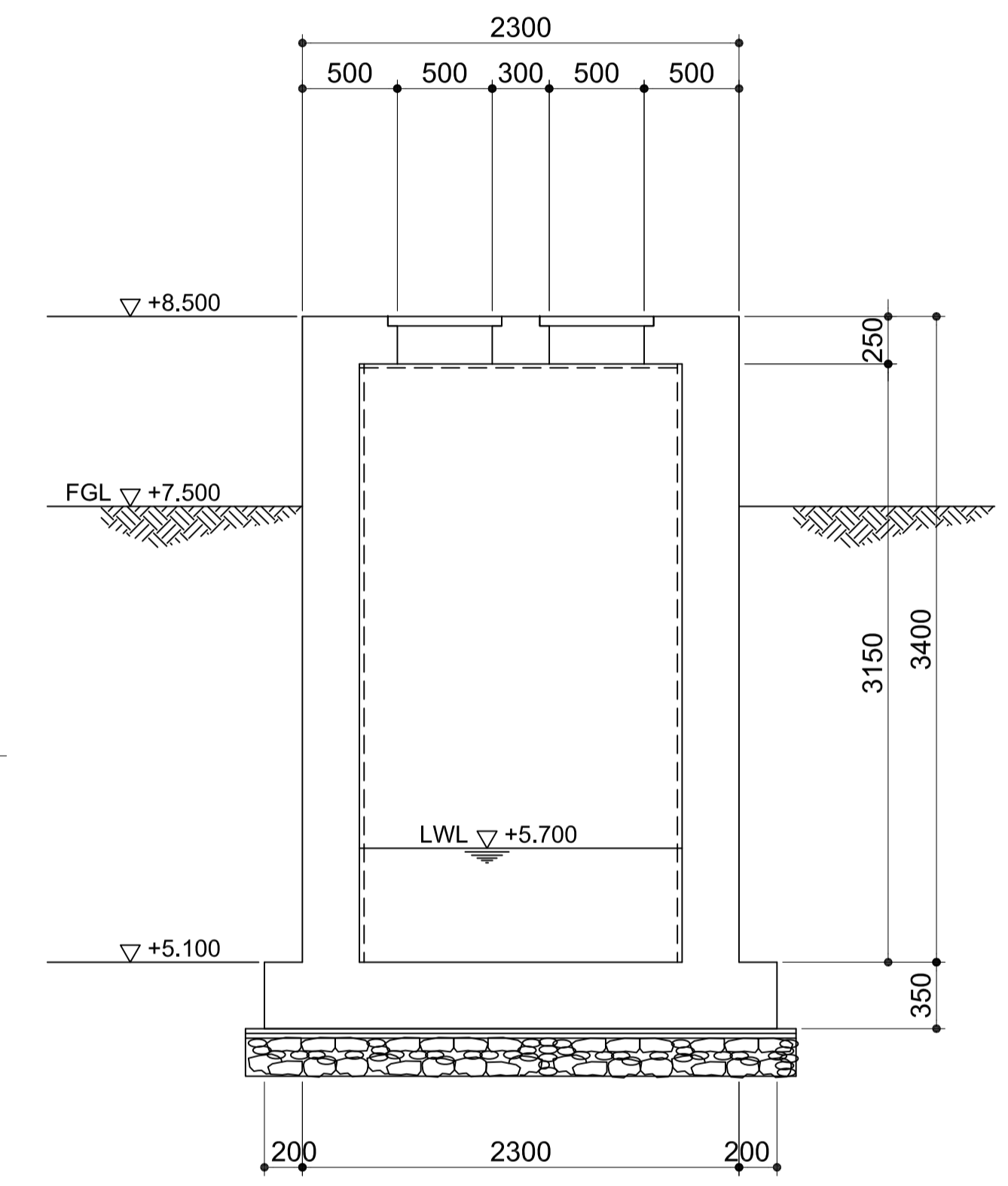
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR. 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK SLUDGE THICKENER (1) PLAN 1-1 & 2-2	SHEET NO: U3-3310-13
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX:	AMENDMENTS:	Prepared by: FRS Jr. Checked by: WIM Validated by: HC



1 SECTION A-A
U3-3310-14 SCALE 1:30m.



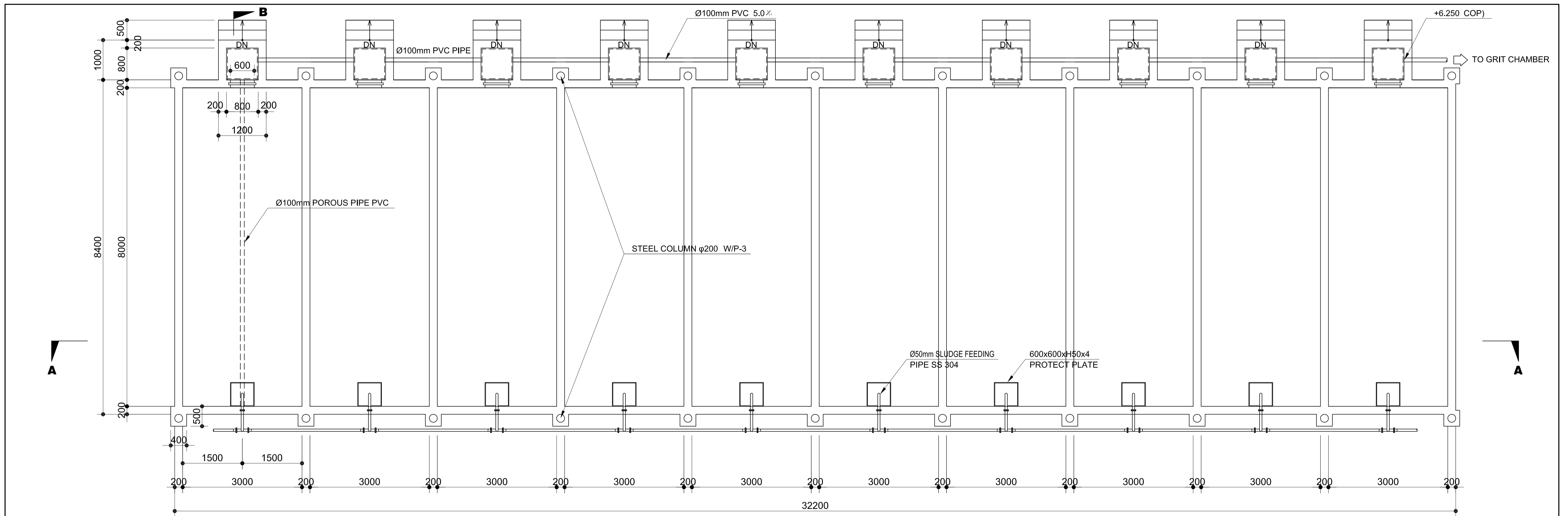
2 SECTION B-B
U3-3310-14 SCALE 1:30m.



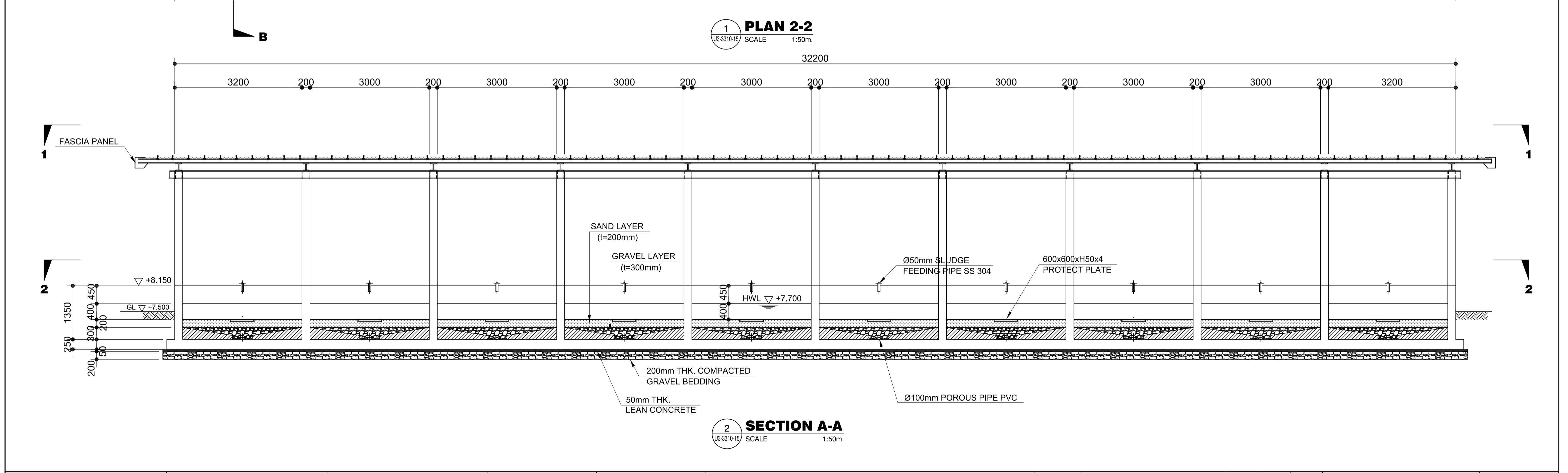
3 SECTION C-C
U3-3310-14 SCALE 1:30m.

NOTE:
- - - - - CORROSION PROTECTION PAINT (TYPE D1)

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEL: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK SLUDGE THICKENER (2) SECTION A-A, B-B & C-C	SHEET NO: U3-3310-14
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC.	NIPPON KOEI CO., LTD.	NJS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	DATE: JUNE 2013 INDEX:	AMENDMENTS:	Prepared by: FRS Jr. Checked by: WIM Validated by: IIC

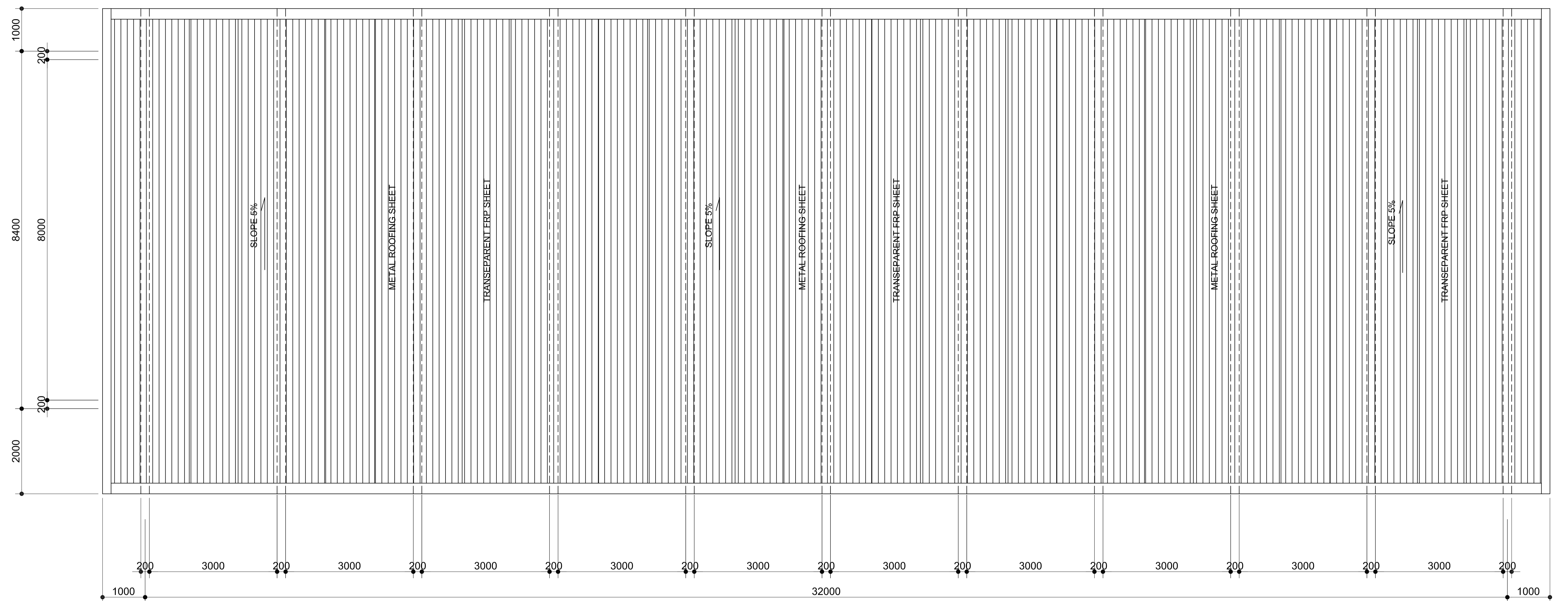


1 PLAN 2-2
SCALE 1:50m.

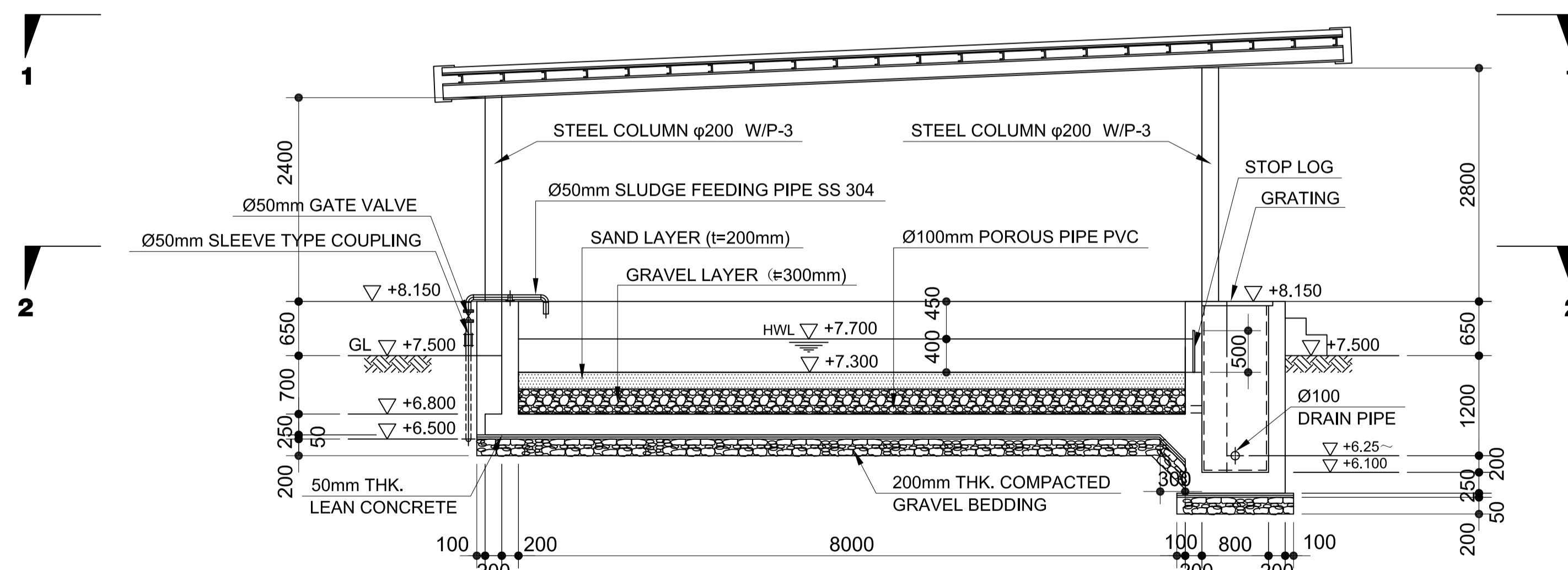


2 SECTION A-A
SCALE 1:50m.

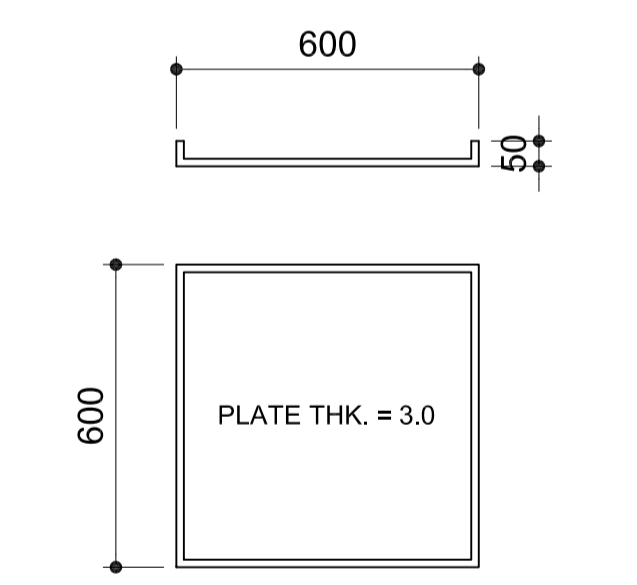
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF. Sanitary Engineer PIR. 8091754 REG. NO.: 0000549 DATE: March 2013 T.I.N. 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK SLUDGE DRYING BED (1) PLAN 2-2 & SECTION A-A	SHEET NO: U3-3310-15
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX:	AMENDMENTS:	Prepared by: FRS Jr. Checked by: WIM Validated by: IIC



1 **PLAN 1-1**
U3-3310-16 SCALE 1:50m.



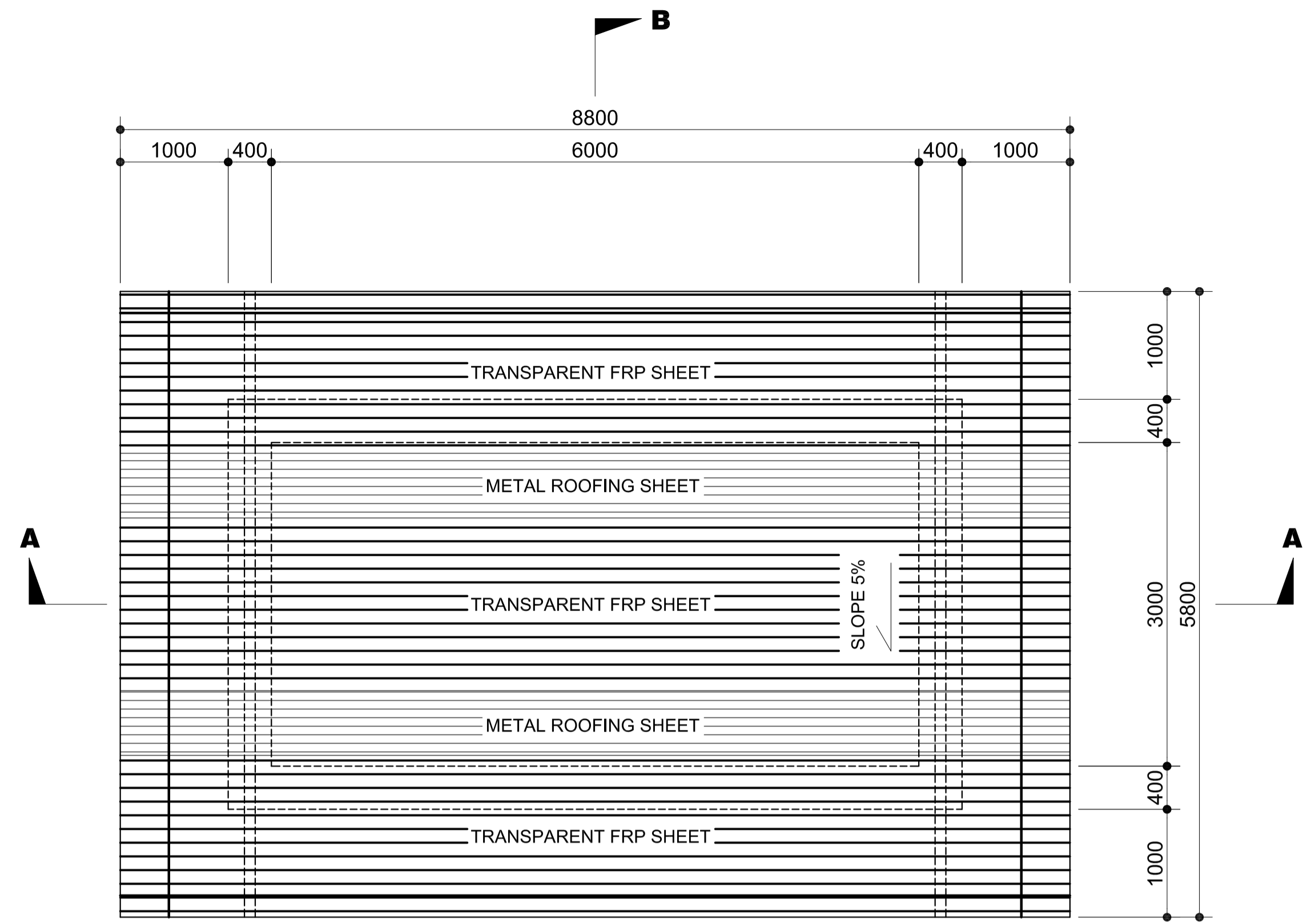
2 **SECTION B-B**
U3-3310-16 SCALE 1:50m.



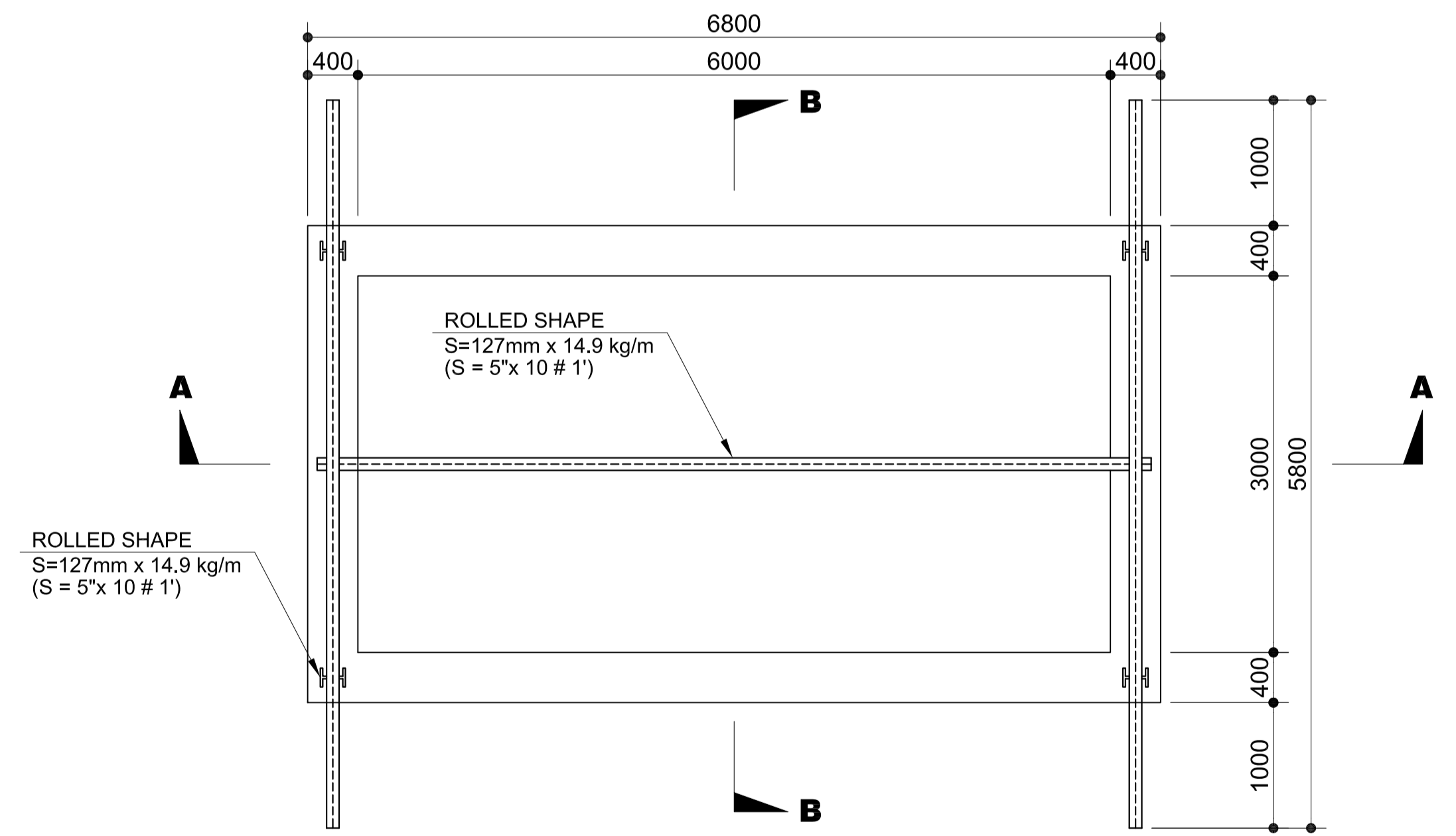
DETAIL A
3 **PROTECT PLATE**
U3-3310-16 SCALE 1:15m.

NOTE: - - - - - CORROSION PROTECTION PAINT (TYPE D1)

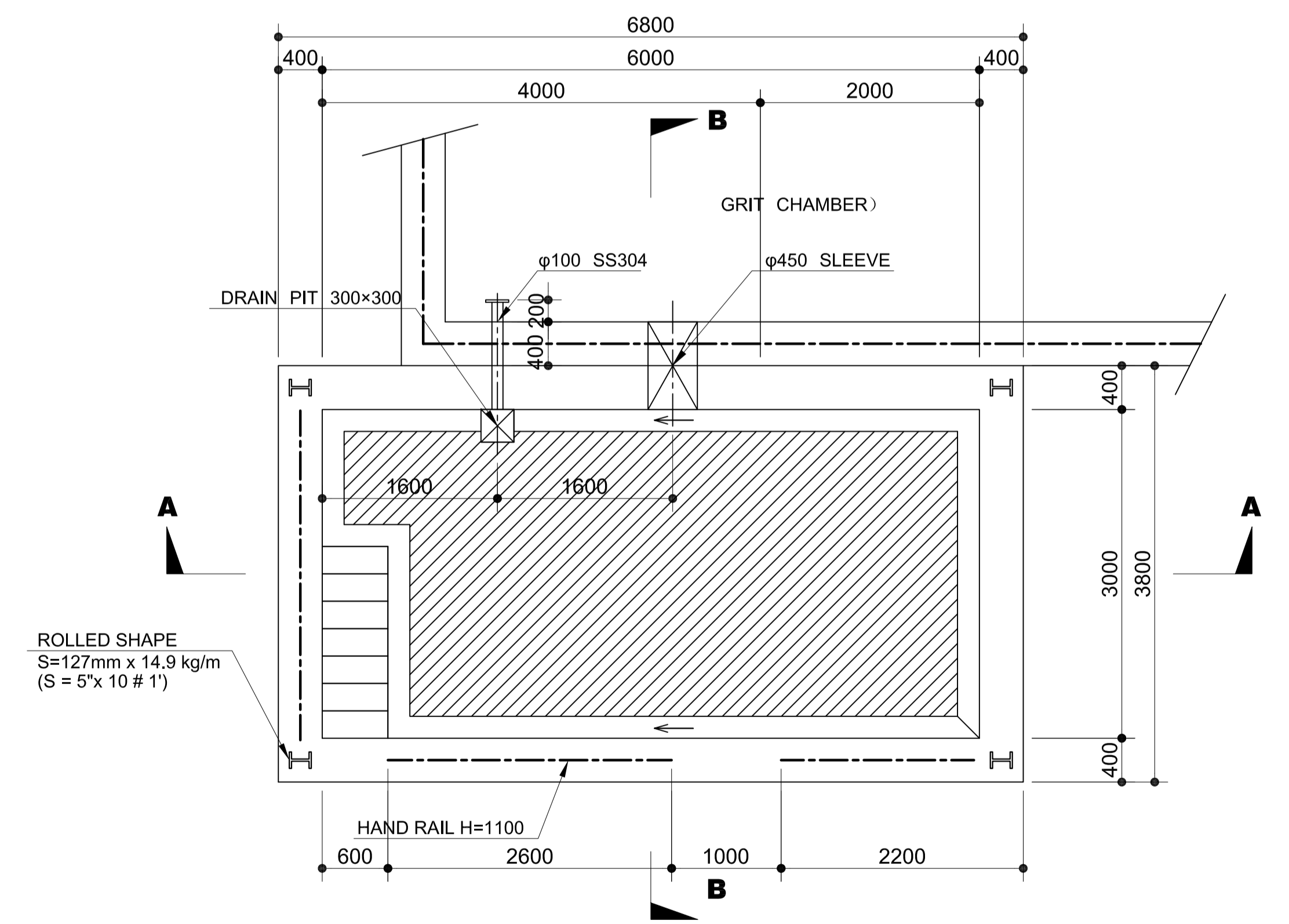
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR. 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK SLUDGE DRYING BED (2) PLAN 1-1, SECTION B-B & DETAILS	SHEET NO: U3-3310-16			
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013	INDEX:	AMENDMENTS:	PREPARED BY: FRS Jr.	CHECKED BY: WIM	VALIDATED BY: HC



1 PLAN 1-1
U3-3310-17 SCALE 1:40m.

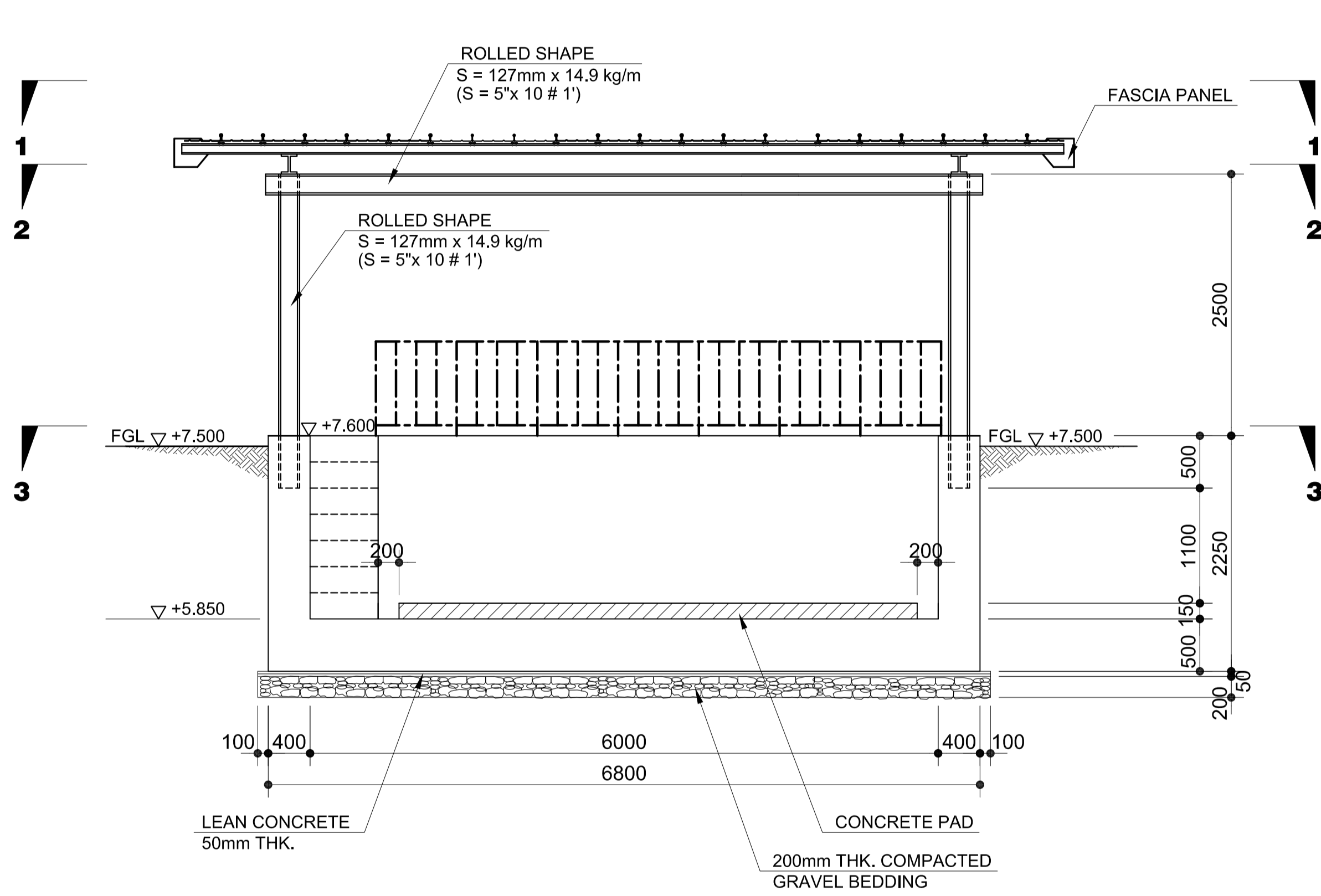


2 PLAN 2-2
U3-3310-17 SCALE 1:40m.

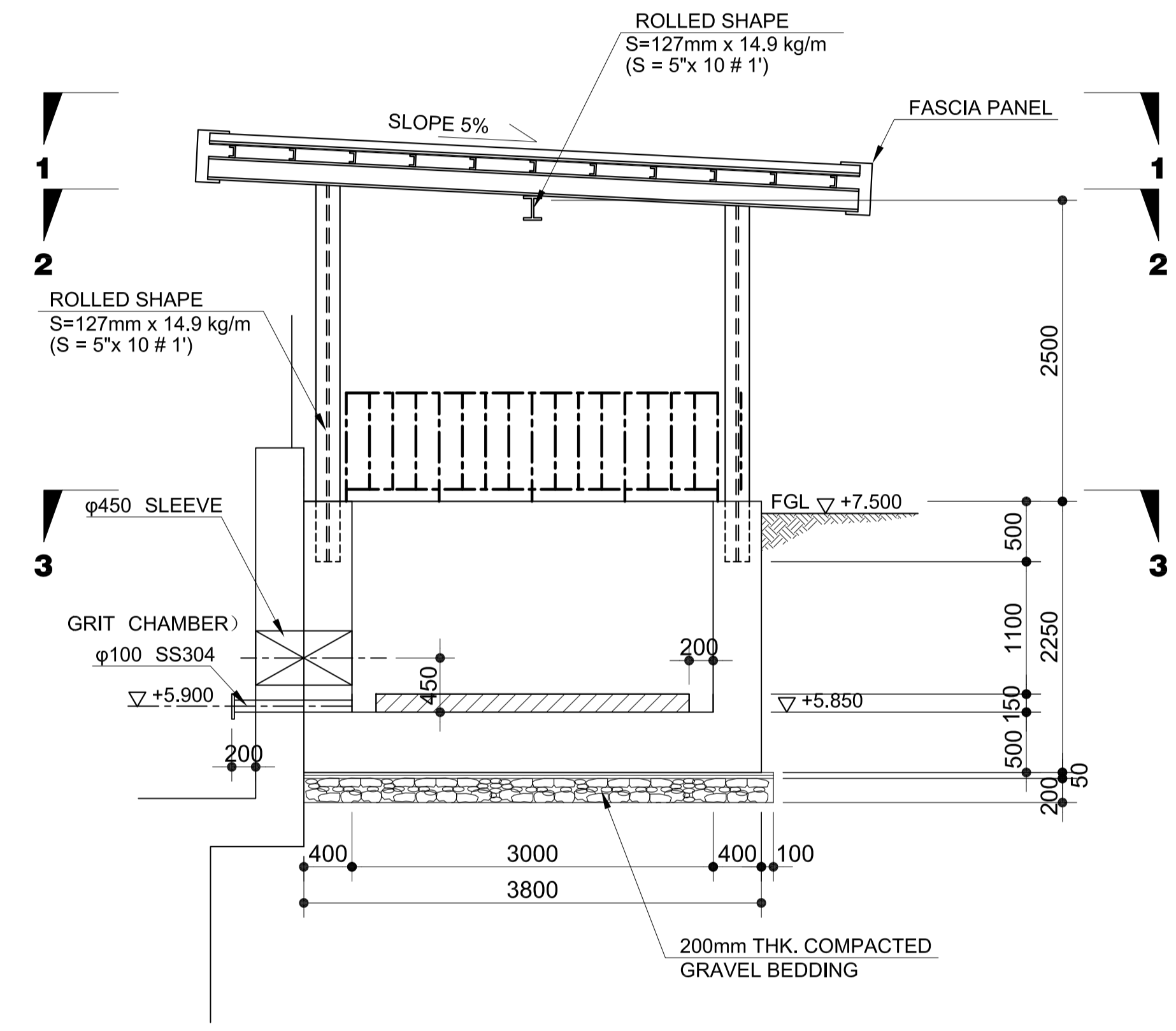


3 PLAN 3-3
U3-3310-17 SCALE 1:40m.

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK MECHANICAL PIT (1) PLAN 1-1, 2-2 & 3-3	SHEET NO: U3-3310-17
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>					DRAWING SCALE: 1:40



1 SECTION A-A
SCALE 1:40m.

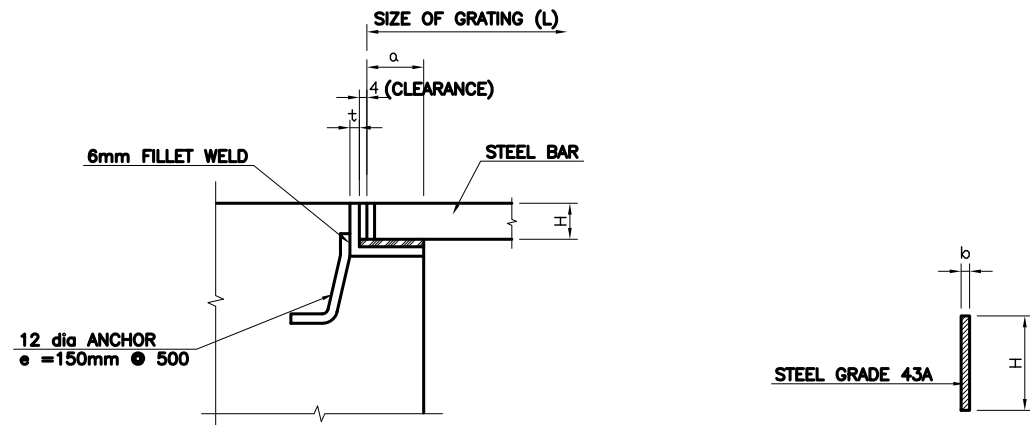


2 SECTION B-B
SCALE 1:40m.

	PREPARED BY: BIENVENIDO S. SEVILLA <small>Sanitary Engineer PIR. 8091754</small> <small>REG. NO.: 0000549 DATE: March 2013</small> <small>T.M.N. 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: 	APPROVED: 	PROJECT TITLE: 	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK MECHANICAL PIT (2) SECTION A-A & B-B	SHEET NO: U3-3310-18
	JICA DESIGN CONSULTANT JOINT VENTURE <small>JAPAN AIRPORT CONSULTANTS, INC. NIPPON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.</small>	TADASHI AOI Team Leader	ILDEFONSO T. PATDU, JR. Assistant Secretary for Project Implementation, DOTC	JULIANITO G. BUCAYAN, JR. Undersecretary for Project Implementation, DOTC	NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	DRAWING SCALE: 1:40

NOTES

1. CONTRACTOR SHALL SUBMIT A SHOP DRAWINGS FOR ENGINEER'S APPROVAL.

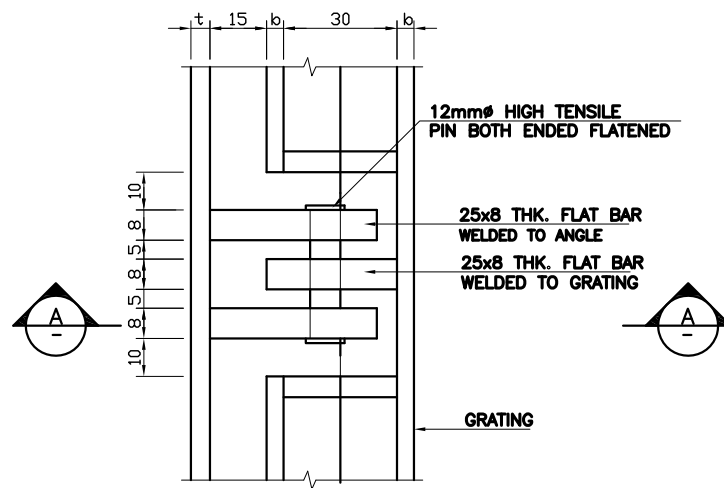


1A SEATING DETAILS
U3-3310-19 SCALE 1:4m.

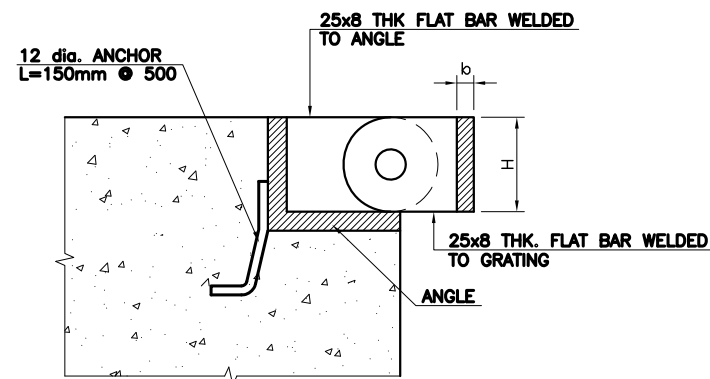
1B STEEL BAR DETAILS (NO ANTI SKID)
U3-3310-19 SCALE 1:4m.

L(mm)	pitch(mm)	H(mm)	a(mm)	t(mm)	H X b
~ 500	30	19	50	5	19 x 4.5
501 ~ 1200	30	25	50	6	25 x 4.5
1201 ~ 1500	30	32	50	6	32 x 4.5
1501 ~ 1700	30	38	50	6	38 x 4.5
1701 ~ 1900	30	44	50	6	44 x 4.5
1901 ~ 2100	30	50	50	6	50 x 4.5

1 GRATING STANDARD
U3-3310-19 SCALE 1:4m.

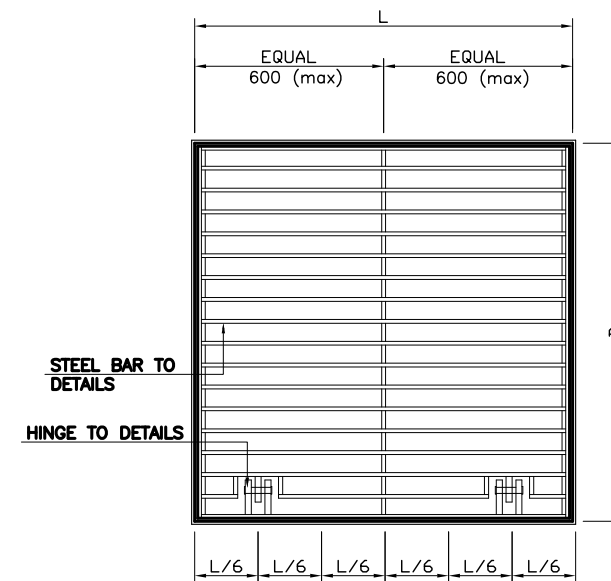
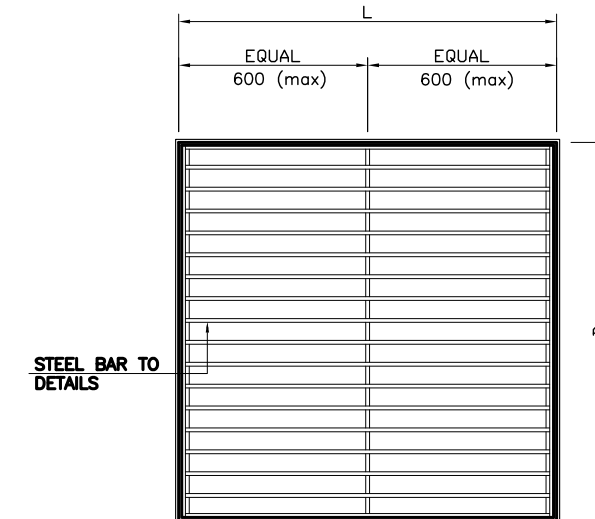


2A PLAN
U3-3310-19 SCALE 1:2m.



2B SECTION A-A
U3-3310-19 SCALE 1:2m.

2 M.S. HINGE DETAIL
U3-3310-19 SCALE 1:2m.

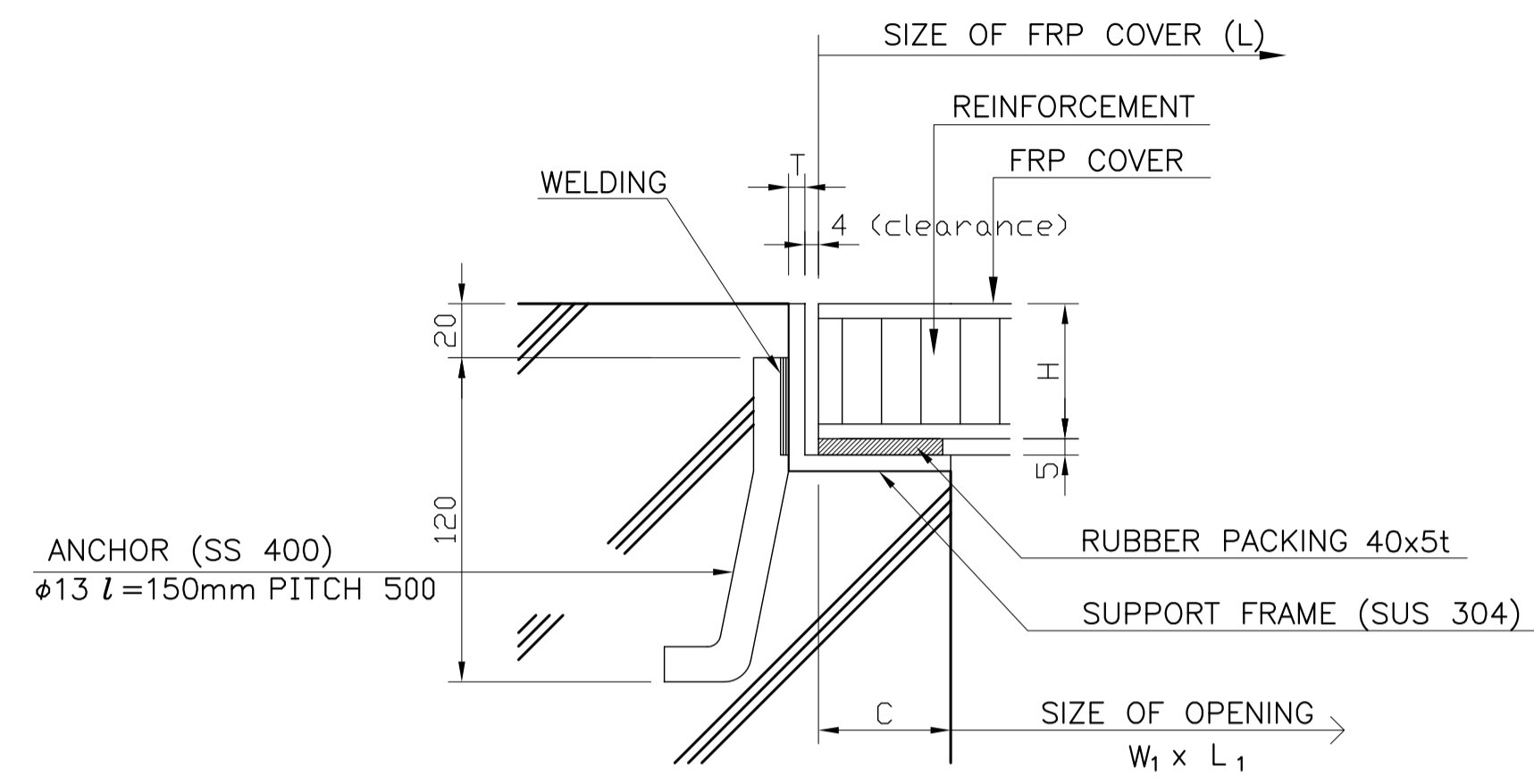


3 M.S GRATING
U3-3310-19 SCALE 1:10m.

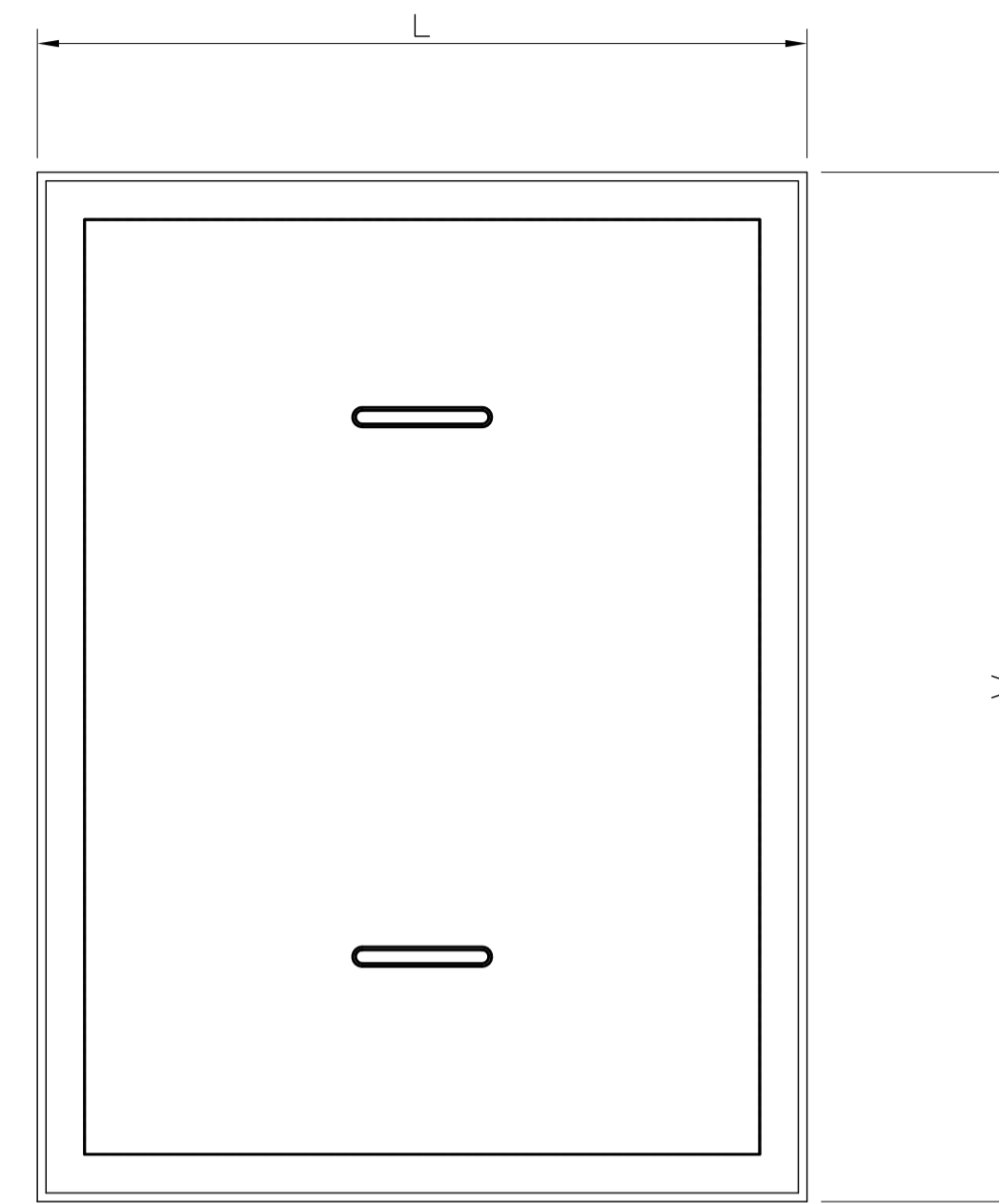
General Note:

1. GRATING SHALL BE HOT DIP GALVANISED STEEL
2. STEEL SHALL BE OF GRADE 43A
3. DESIGN LOSAD 3.5kN/m²
4. ALLOWABLE DEFLECTION L/200
5. MAXIMUM SIZE OF GRATING SHALL BE 1.5m
6. JOINT SHALL BE DONE BY 6mm²THK FILLET WELD UNLESS SHOWN OTHERWISE.

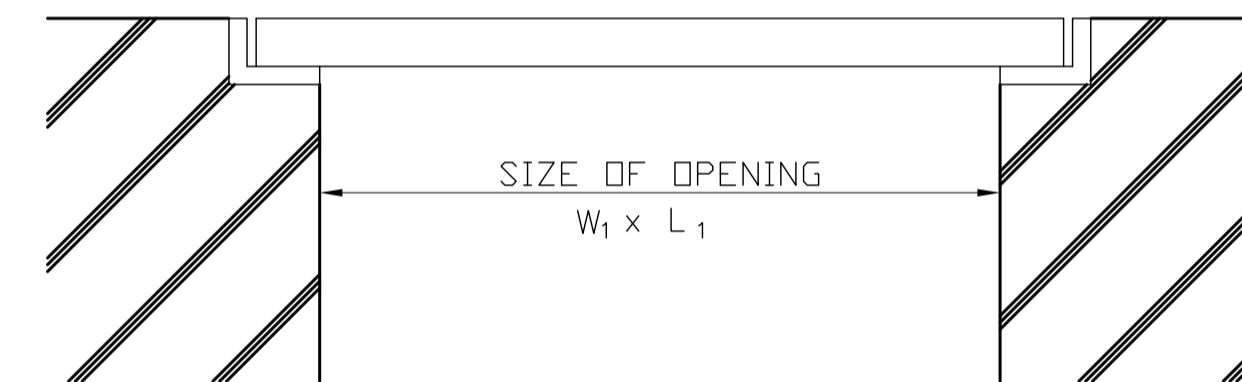
	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROJ. Sanitary Engineer PIR. 0291754 RES. NO. 020049 DATE: March 2013 TEL. 945-775-857 PLACE: Cebu City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK STANDARD/DETAIL DRAWING (1) GRATING DETAILS	SHEET NO: U3-3310-19	
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013	INDEX:	AMENDMENTS:	Prepared by: FRS Jr. WIM IIC Checked by:



1 SUPPORT DETAIL
SCALE 1:5m.



2 FRP COVER
SCALE 1:5m.



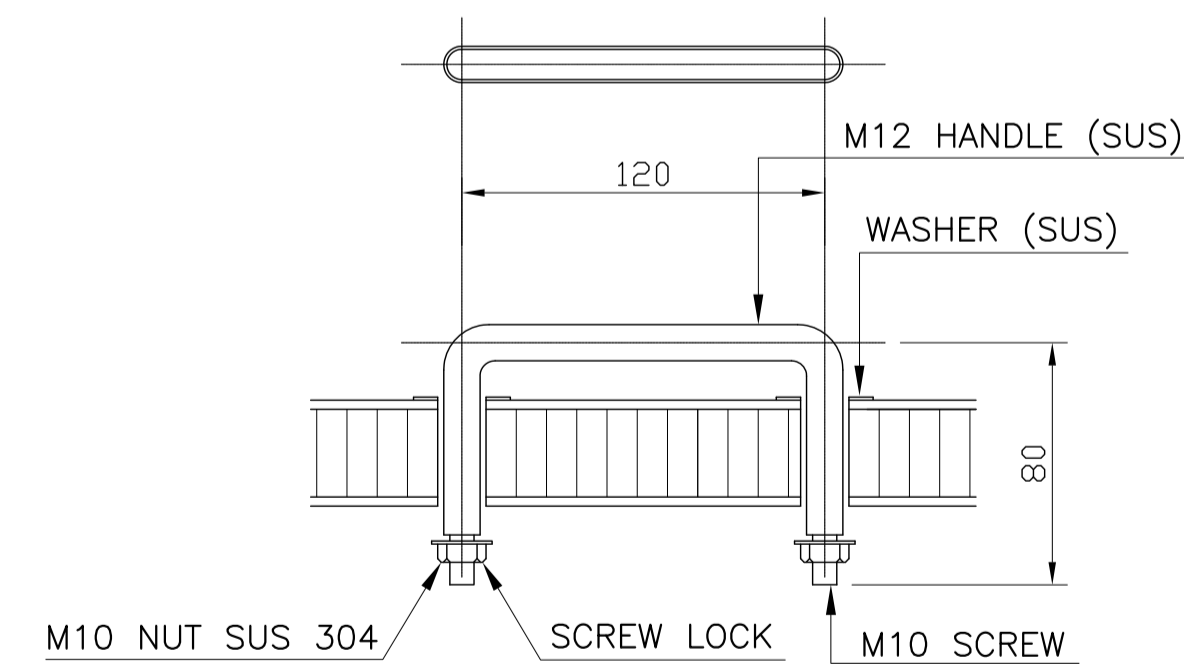
General Note

- SUPPORT FRAME SHALL BE MADE BY ROCESSING STEEL PLATE OR ANGLE STEEL. SUPPORT FRAME SHALL BE STICKED ANOHOR (13mm) BY WELDING. STICKING SHALL BE DONE AT INTERVALS OF 500mm
- COVER SHALL BE EQUIPPED TWO HANDLES FOR ONE COVER

FRP COVER STANDARD (FOR REFERENCE)

OPENING SIZE (L1)	SIZE OF COVER (mm)			FRAME THICKNESS (T mm)	WEIGHT of COVER (kg/m2)	NOTE
	L	H	C			
~ 800	OPENING +70	30	35	3	12.5	1. DESIGN LOAD: 3.5kN/m2 a). FOR SIDEWALK: 3.5kN/m2 b). FOR ROADWAY: LIVE LOAD FOR CAR AND DUMP TRUCK 2. ALLOWABLE DEFLECTION: L/200
~ 1000	OPENING +90	35	45	4	13.3	
1,001 ~ 1,300	OPENING +120	50	60	4	14.0	
1,301 ~ 1,800	OPENING +140	75	70	5	15.5	
1,801 ~ 2,300	OPENING +140	*75	70	5	20.5	
2,301 ~ 2,900	OPENING +140	*75	70	5	28.5	

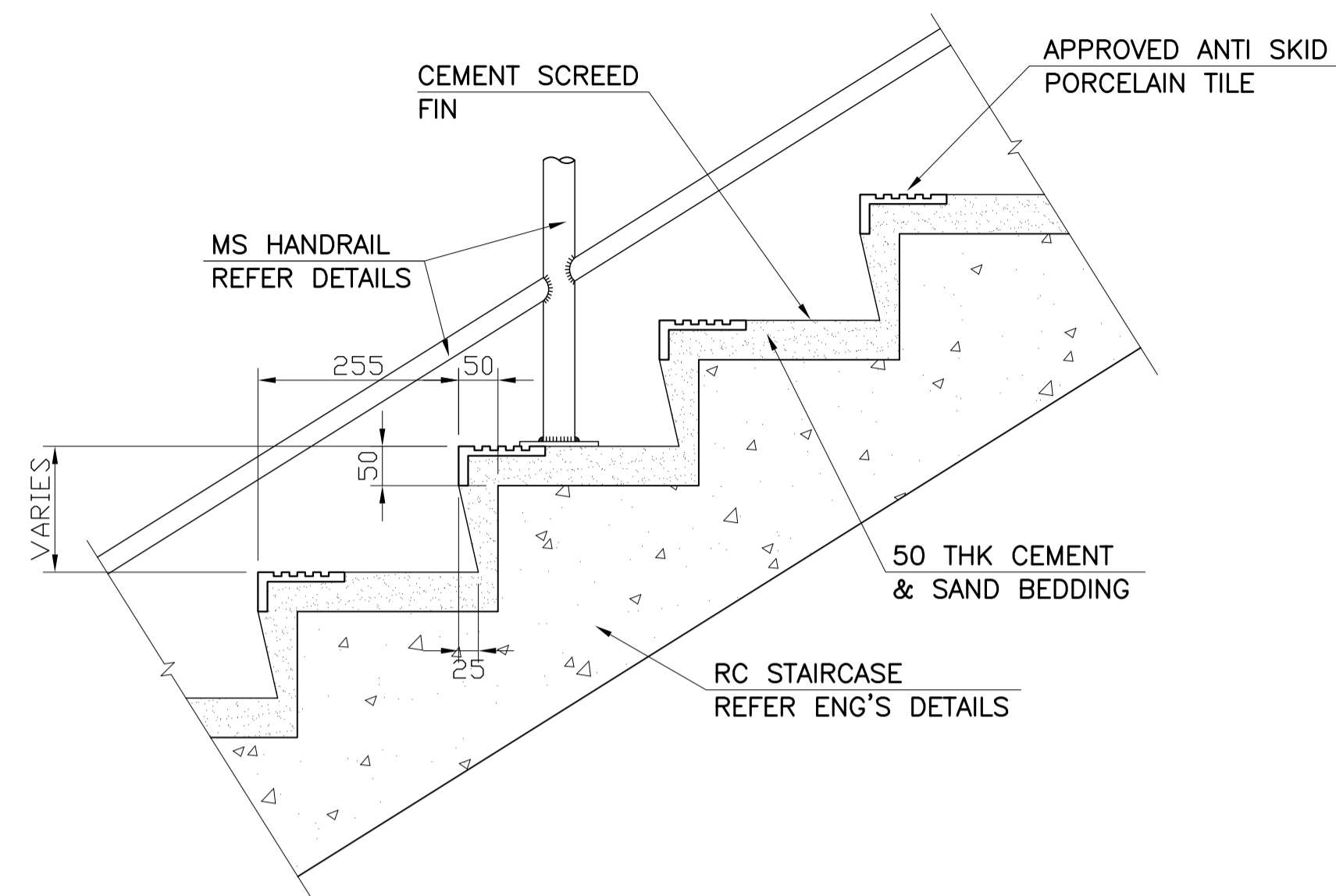
* REINFORCE SHALL BE NECESSARY



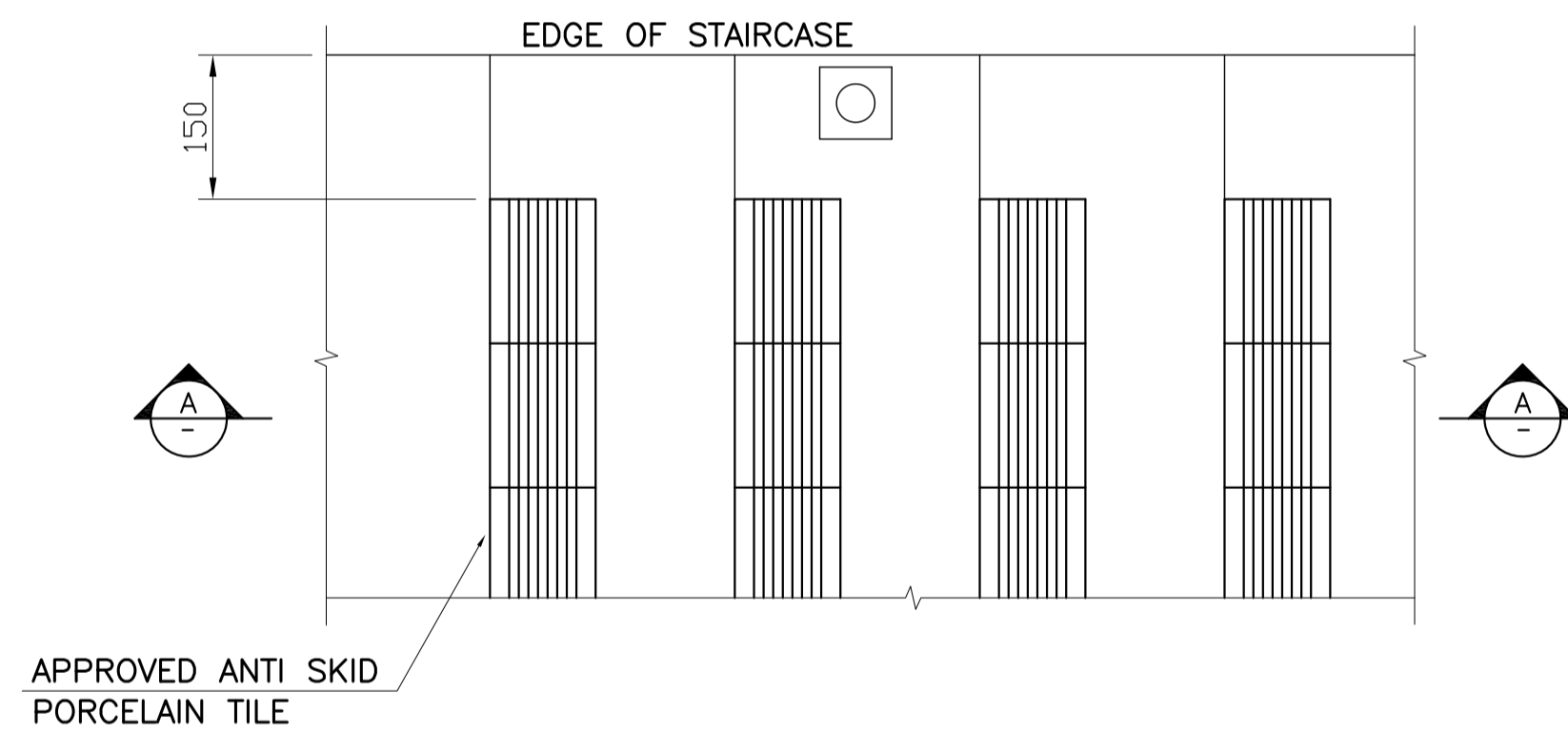
3 HANDLE DETAIL
SCALE 1:5m.

NOTES

- CONTRACTOR SHALL SUBMIT A SHOP DRAWINGS FOR ENGINEER'S APPROVAL.

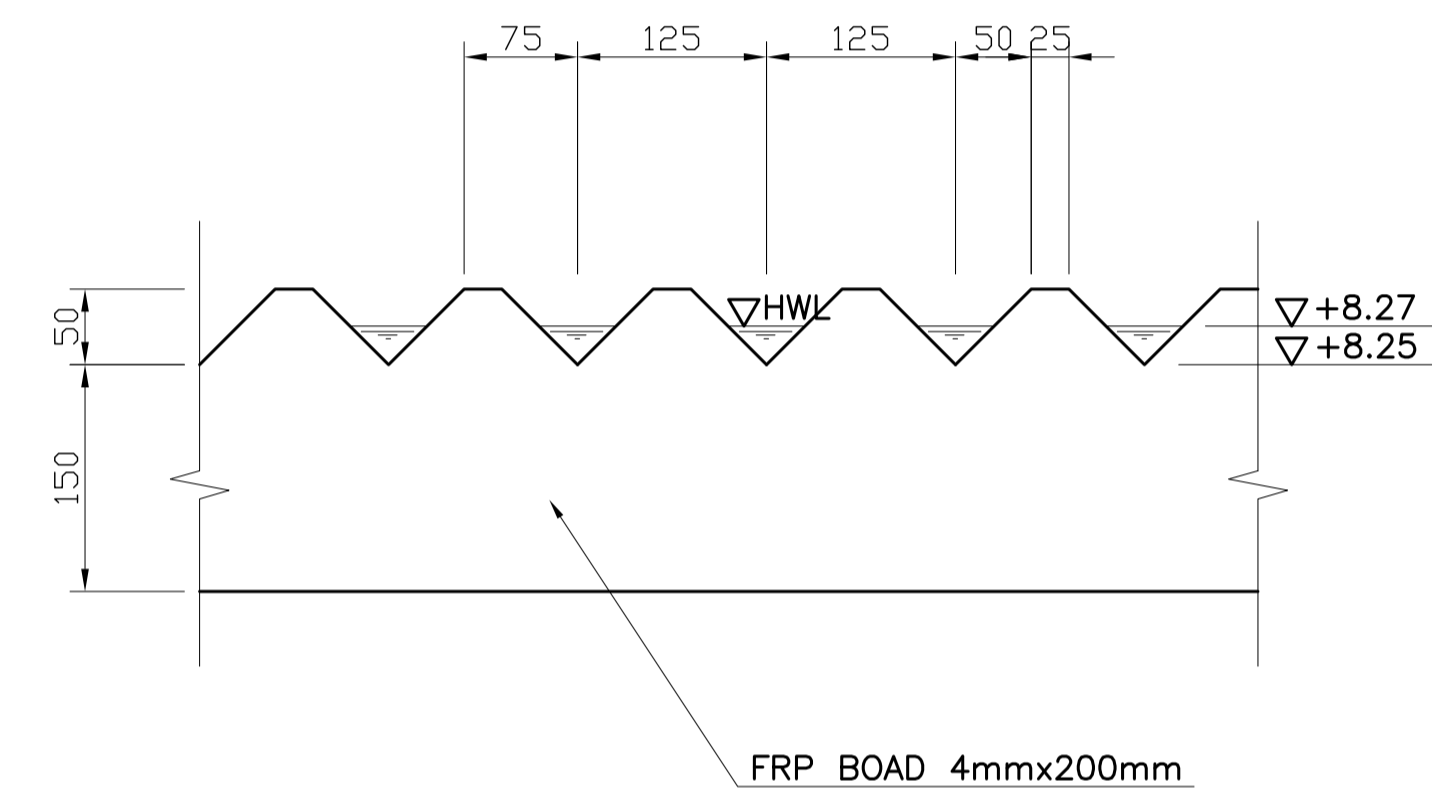


1B SECTION A-A
U3-3310-21 SCALE 1:15m.



1A PLAN
U3-3310-21 SCALE 1:15m.

1 STAIRCASE ANTI SKID DETAILS (INTERNAL STAIRCASE)
U3-3310-21 SCALE 1:15m.

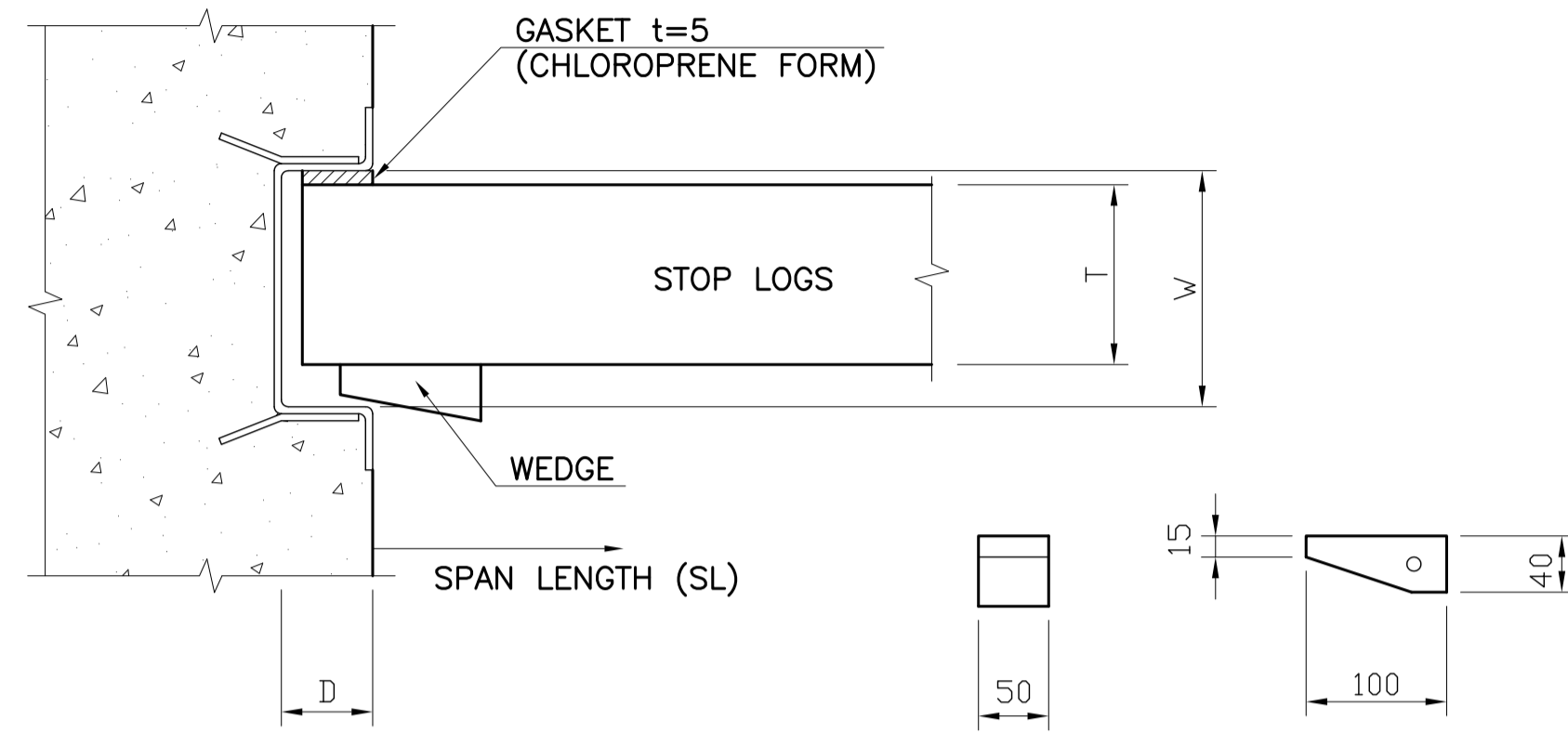


2 WEIR PLATE DETAIL
U3-3310-21 SCALE 1:10m.

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PTR. 8091754 REG. NO.: 0000549 DATE: March 2013 TEAM: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK STANDARD/DETAIL DRAWING (3) STAIRCASE, WEIR DETAILS	SHEET NO: U3-3310-21
	JICA DESIGN CONSULTANT JOINT VENTURE JAPAN AIRPORT CONSULTANTS, INC. NIPPON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.	DATE: JUNE 2013 INDEX:	AMENDMENTS:	Prepared by: FRS Jr. Checked by: WIM Validated by: HC	DRAWING SCALE: 1:10, 1:15		

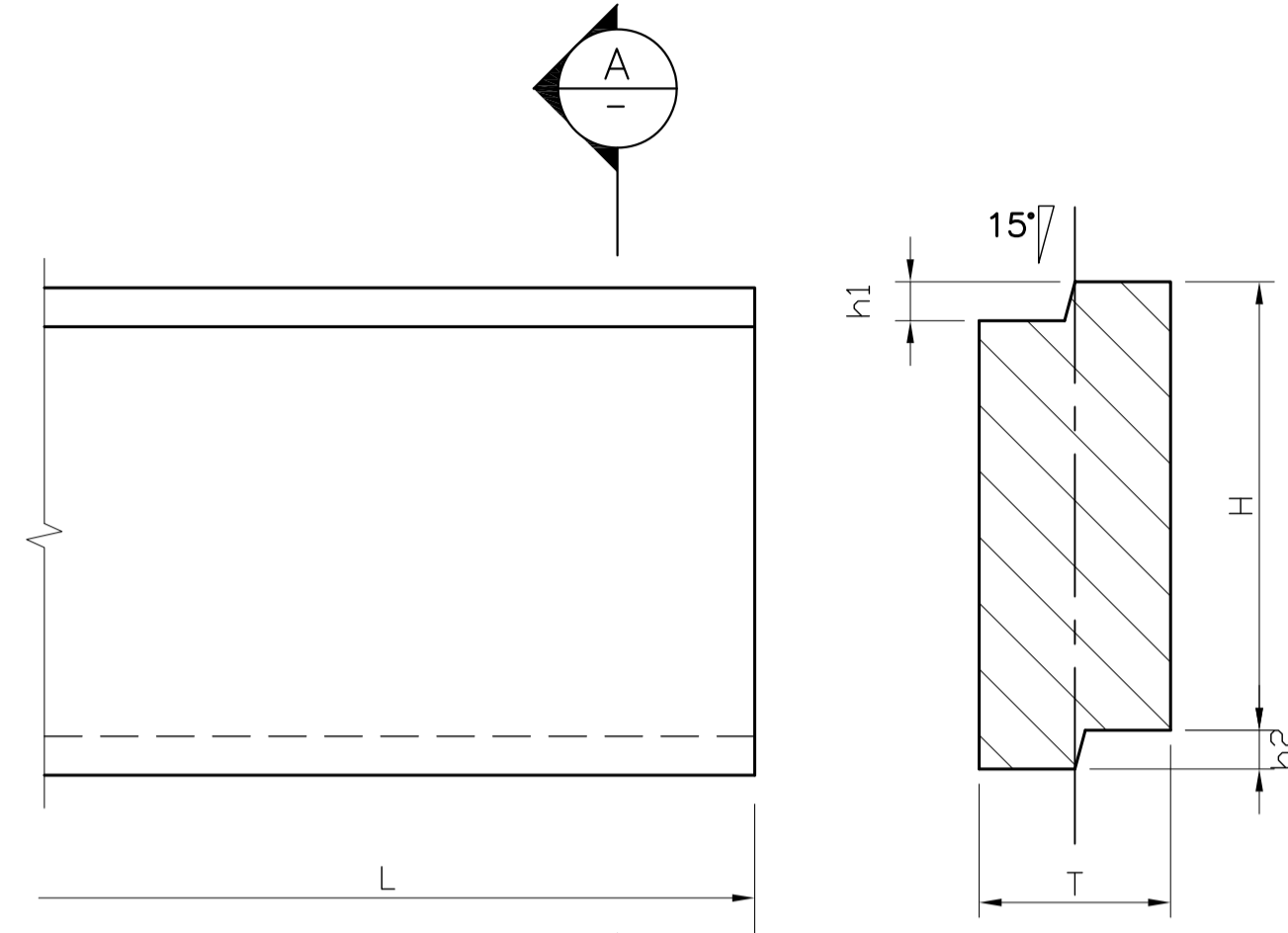
NOTES

- CONTRACTOR SHALL SUBMIT A SHOP DRAWINGS FOR ENGINEER'S APPROVAL.



1A WEDGE FORM
U3-3310-22 SCALE 1:10m.

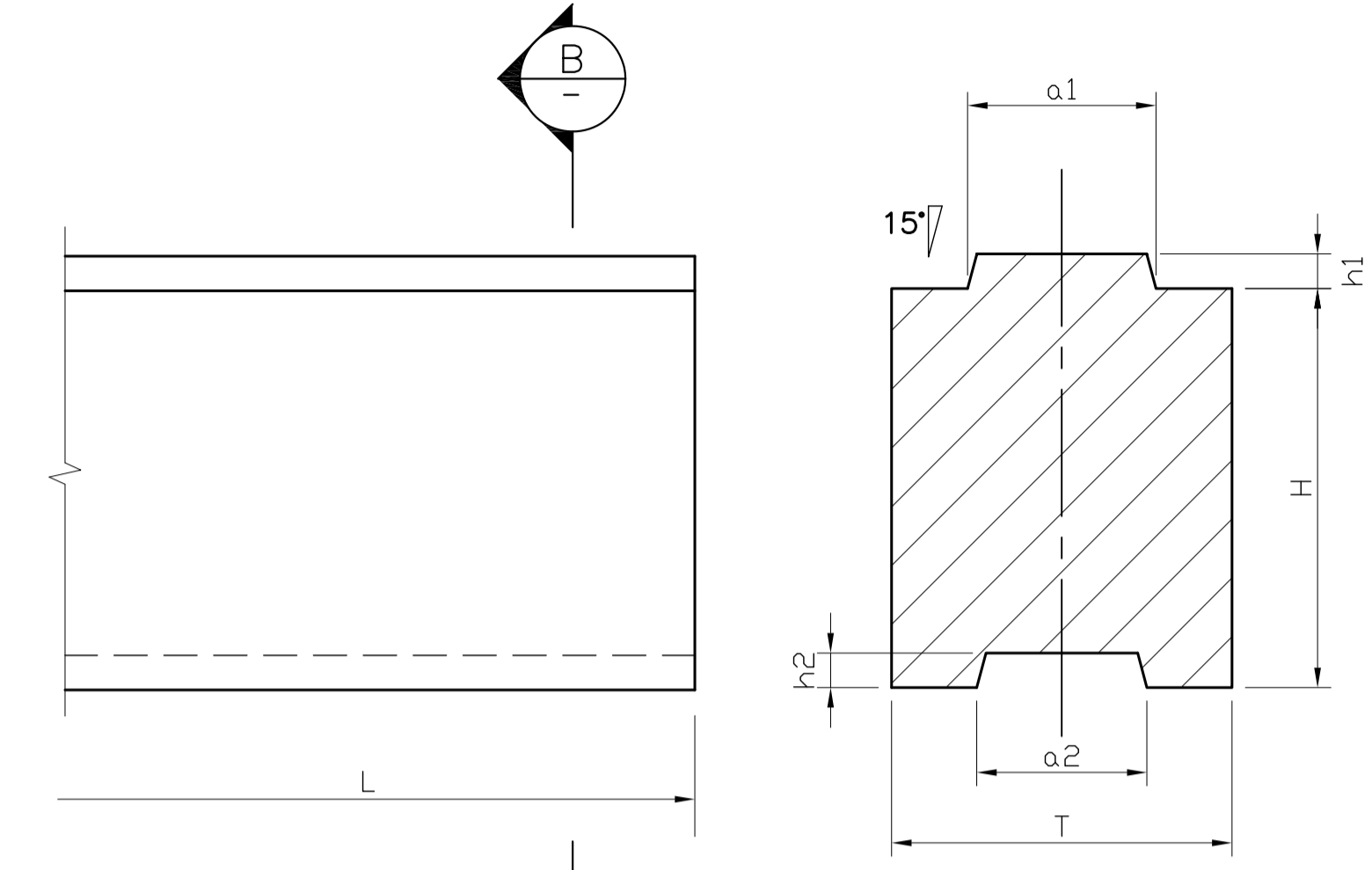
1 A WEDGE FOR THE BUOYANCY PREVENTION
U3-3310-22 SCALE 1:10m.



2A ELEVATION
U3-3310-22 SCALE 1:10m.

2B SECTION A-A
U3-3310-22 SCALE 1:10m.

2 t < 50mm (TYPE A)
U3-3310-22 SCALE 1:10m.



3A ELEVATION
U3-3310-22 SCALE 1:10m.

3B SECTION B-B
U3-3310-22 SCALE 1:10m.

3 t > 59mm (TYPE B)
U3-3310-22 SCALE 1:10m.

(UNIT : mm)

TYPE	NAME	LOG THICKNESS T	INSERT CHANNEL				AVAILABleness HEIGHT H	LENGTH L	REFERENCE WEIGHT (kg/m ²)		FRAME SIZE	
			a ₁	a ₂	h ₁	h ₂			SPECIFIC GRAVITY 0.5	SPECIFIC GRAVITY 0.74	W	D
A	50	49	-	-	20	21	170-600	SL + 160	25.0	37.0	75	100
B	60	59	20	20.5	20	21	170-600		30.0	44.4	85	100
	70	69	25	25.5	20	21	170-600		35.0	51.8	95	100
	80	78	25	25.5	20	21	170-600		39.0	57.7	105	100
	100	98	35	35.5	20	21	170-600		49.0	72.5	125	100
	120	118	40	40.5	20	21	170-600		59.0	87.3	145	100
	140	138	45	45.5	30	31	160-600		69.0	102.1	165	100
150	147	45	45.5	30	31	160-300	SL + 200		73.5	108.7	175	120

4 SELECTION TABLE FOR FORM AND DIMENSION
U3-3310-22

(UNIT : mm)

SL	750	1000	1500	2000	2500
H					
1000	49	49	59	78	98
1500	49	49	69	98	118
2000	49	49	69	98	118
2500	49	49	78	98	118
3000	49	59	78	118	138
3500	49	59	98	118	138
4000	49	59	98	118	138
4500	49	59	98	118	147
5000	49	69	98	138	147
MATERIAL	SPECIFIC GRAVITY = 0.74				
	SPECIFIC GRAVITY = 0.50				

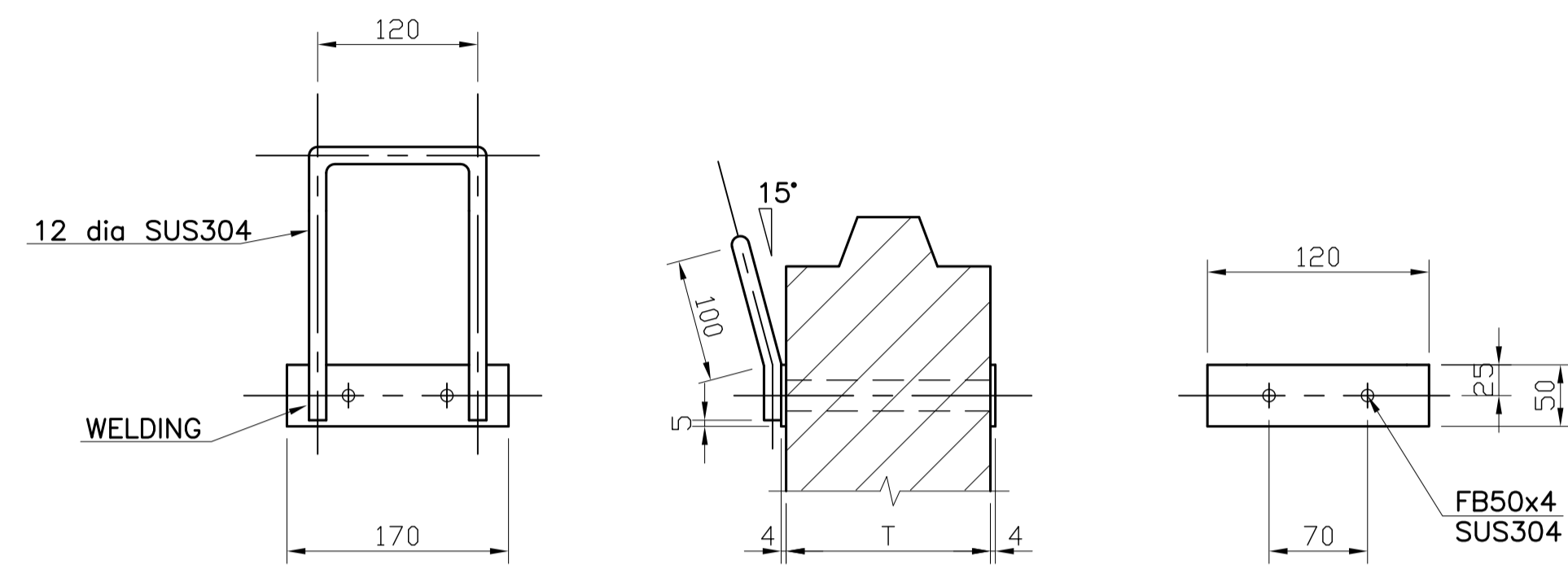
SL - SPAN LENGTH
H - WATER DEPTH

5 SELECTION TABLE FOR THICKNESS
U3-3310-22

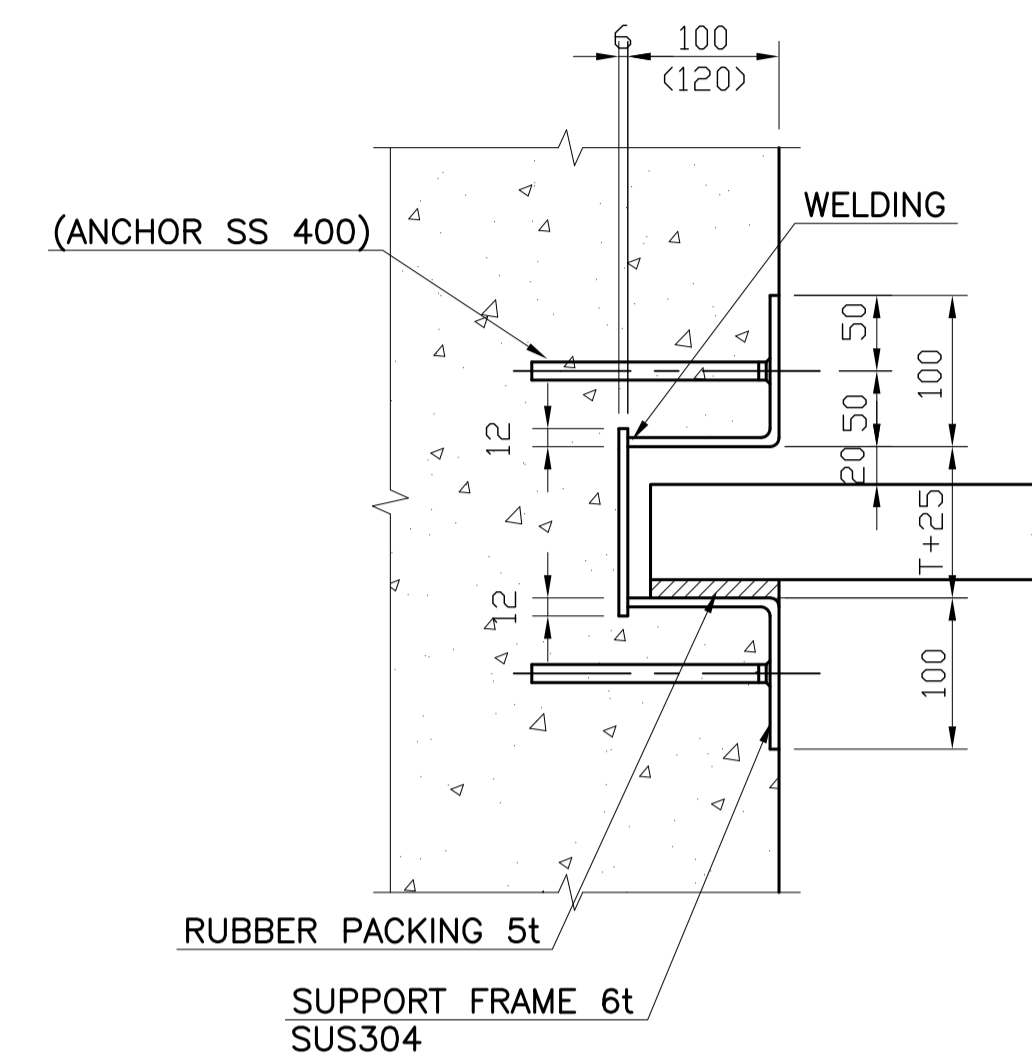
	PREPARED BY: BIENVENIDO S. SEVILLA <small>Sanitary Engineer PTR. 8091754</small> <small>REG. NO.: 0000549 DATE: March 2013</small> <small>T.M.N. 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK STANDARD/DETAIL DRAWING (4) STOP LOG DETAILS	SHEET NO: U3-3310-22
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI Team Leader	ILDEFONSO T. PATDU, JR. Assistant Secretary for Project Implementation, DOTC	JULIANITO G. BUCAYAN, JR. Undersecretary for Project Implementation, DOTC	DATE: JUNE 2013 INDEX:	AMENDMENTS:	Prepared by: FRS Jr. WIM IIC Checked by: Validated by:

NOTES

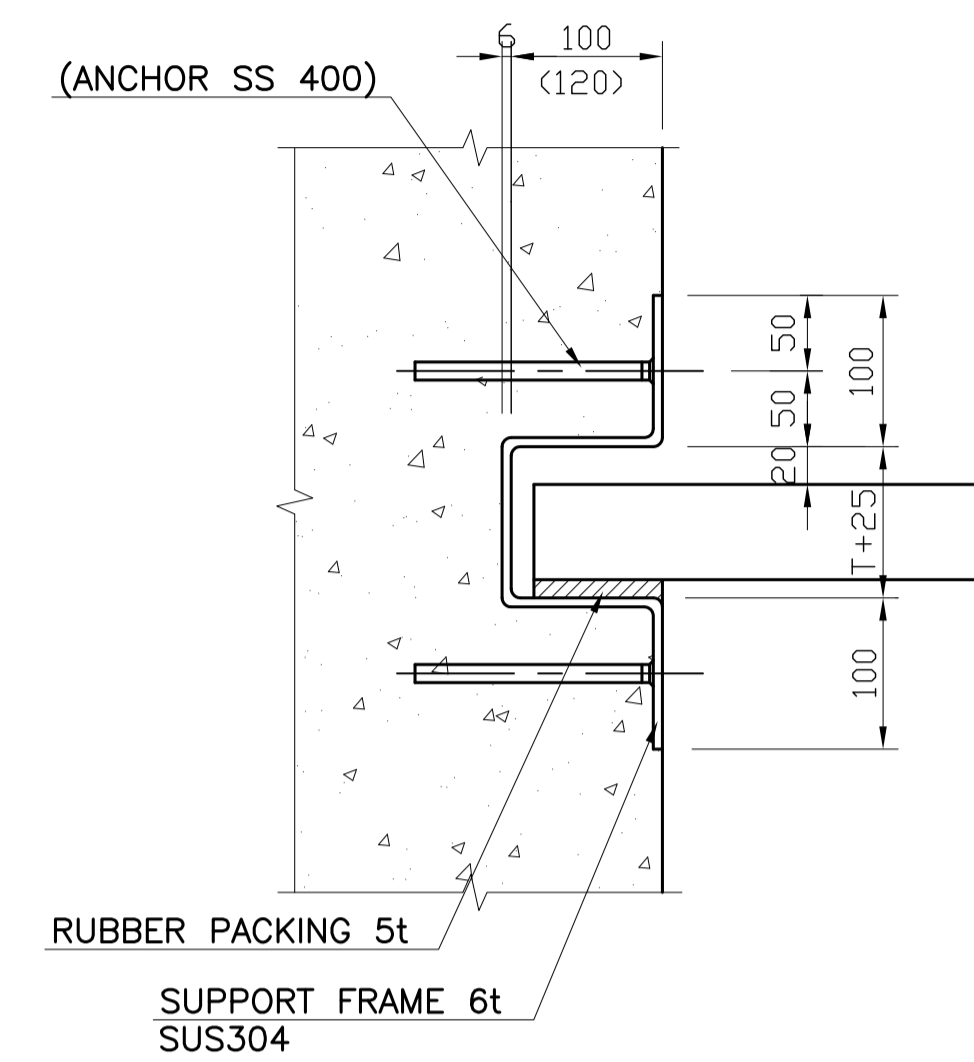
- CONTRACTOR SHALL SUBMIT A SHOP DRAWINGS FOR ENGINEER'S APPROVAL.



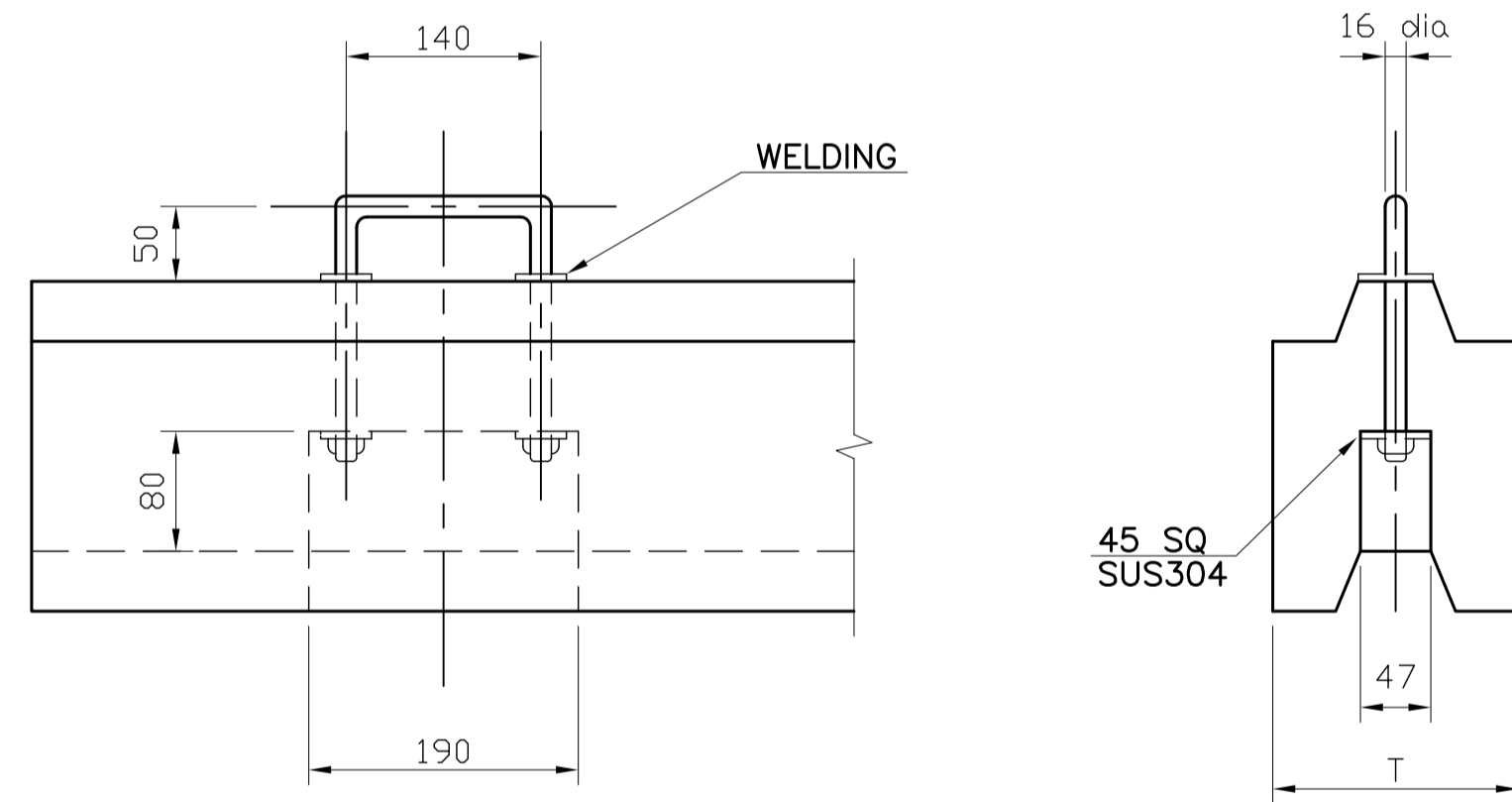
1 HANDLE DETAILS - (TYPE I) (FOR T < 100mm)
 U3-3310-23 SCALE 1:10m.



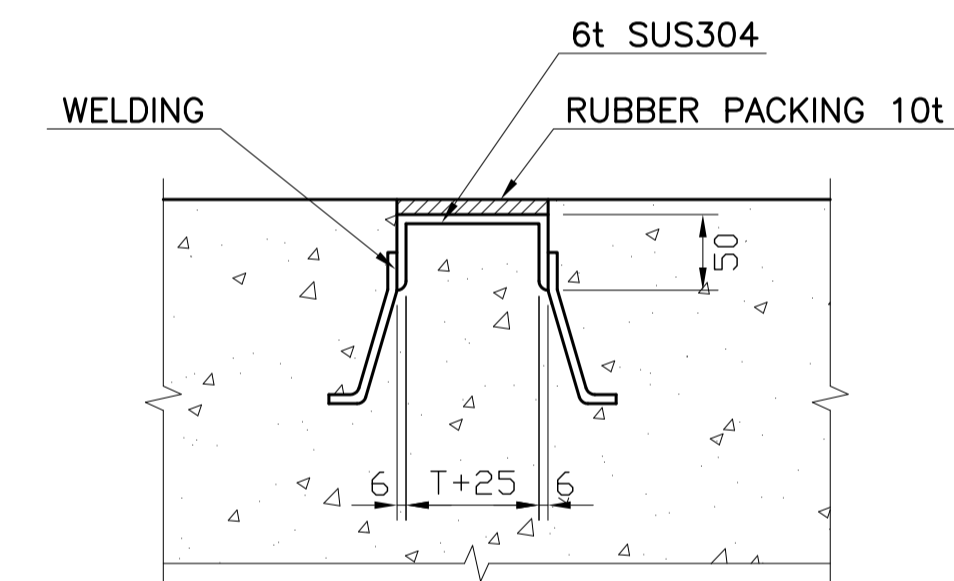
3A TYPE A
 U3-3310-23 SCALE 1:10m.



3B TYPE B
 U3-3310-23 SCALE 1:10m.



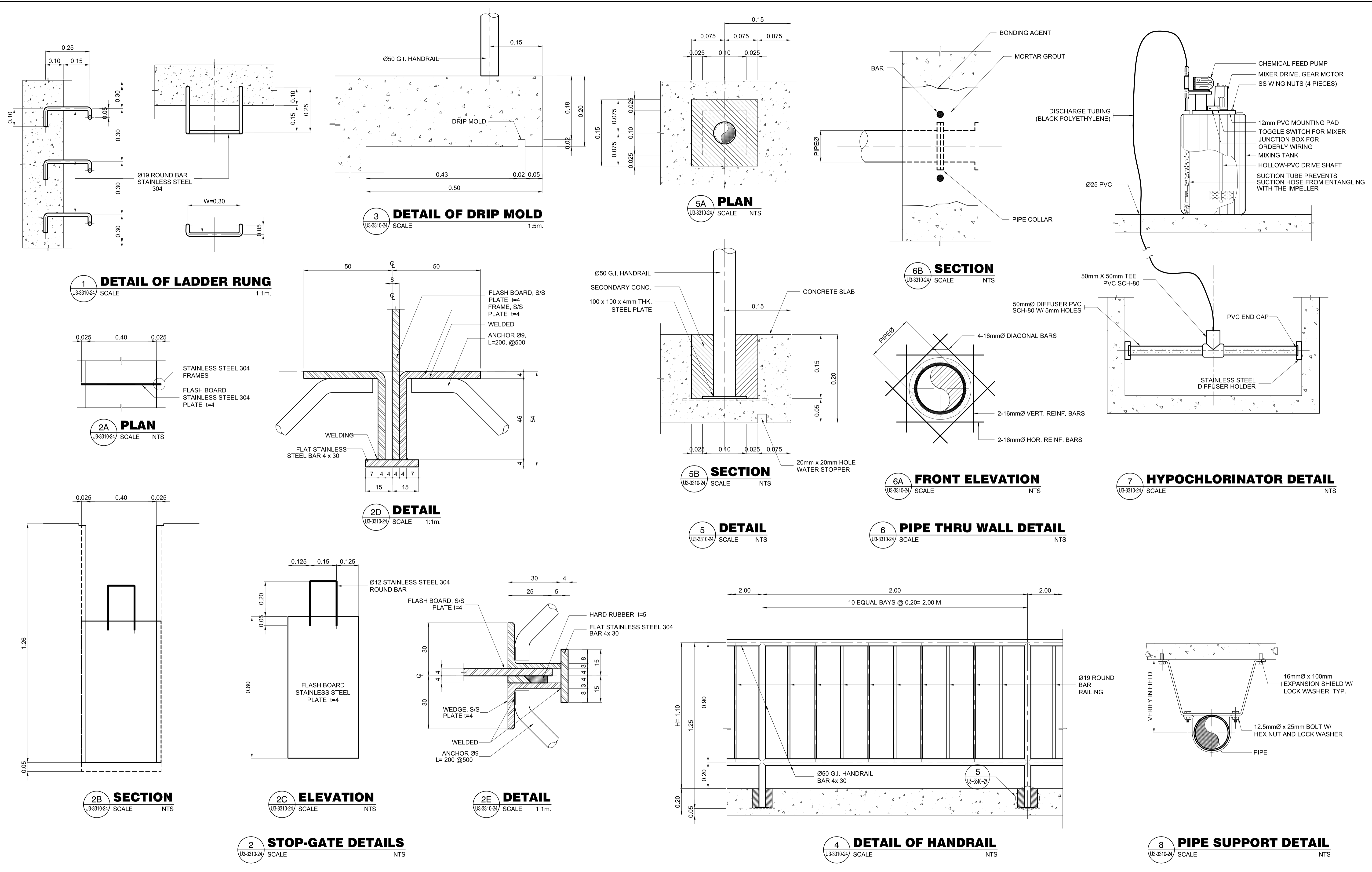
1 HANDLE DETAILS - (TYPE II) (FOR T < 100mm)
 U3-3310-23 SCALE 1:10m.



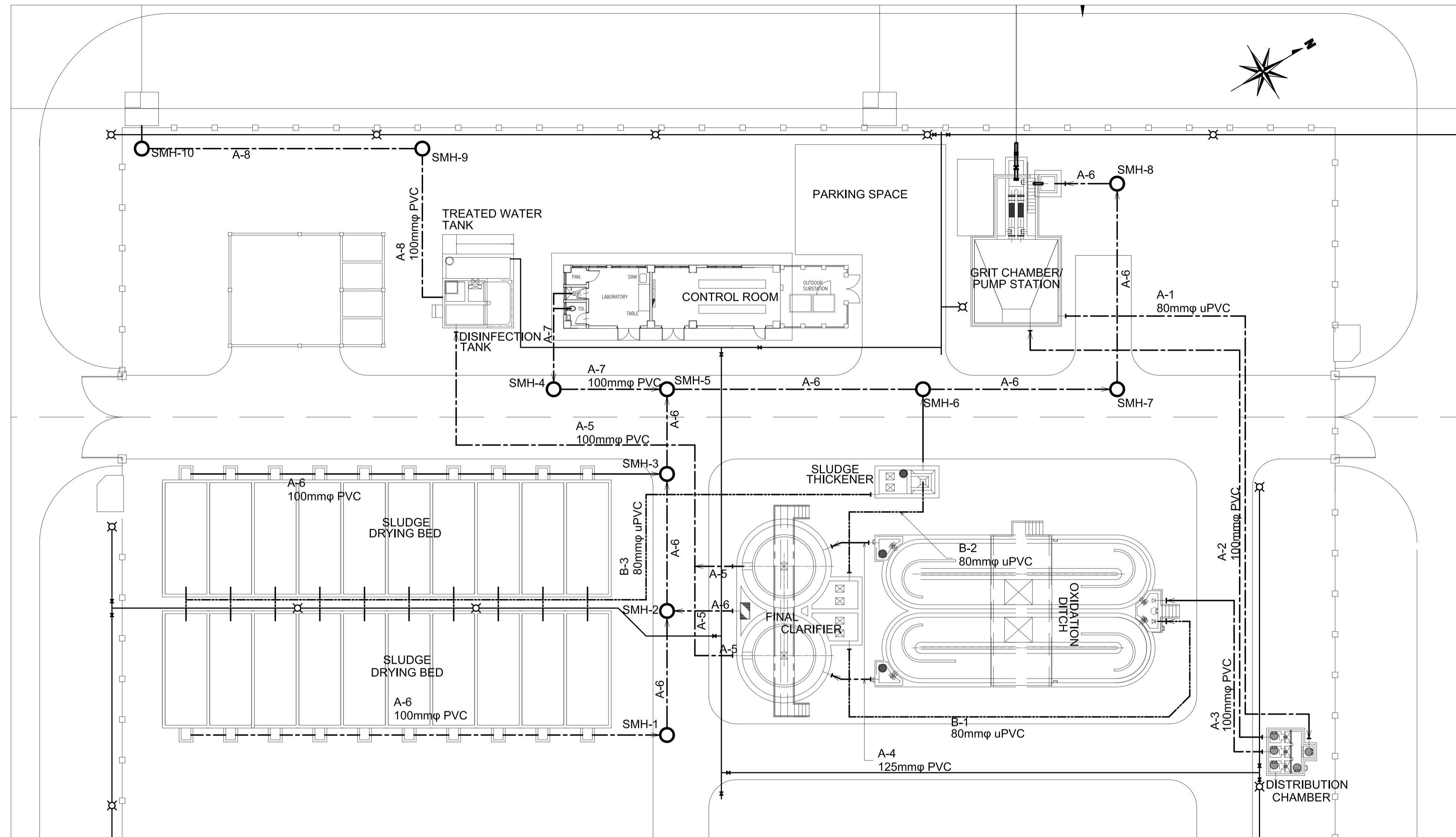
3C BOTTOM PAVING METAL
 U3-3310-23 SCALE 1:10m.

3 SUPPORT FRAME DETAILS
 U3-3310-23 SCALE 1:10m.

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 T.I.N: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK STANDARD/DETAIL DRAWING (5) HANDLE, SUPPORT FRAME	SHEET NO: U3-3310-23		
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI Team Leader	ILDEFONSO T. PATDU, JR. Assistant Secretary for Project Implementation, DOTC	JULIANITO G. BUCAYAN, JR. Undersecretary for Project Implementation, DOTC	DATE: JUNE 2013	INDEX:	AMENDMENTS:	Prepared by: FRS Jr. WIM HC Checked by:	Validated by:



	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR: 8091754 REG. NO.: 0000549 DATE: March 2013 T.I.N: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK STANDARD/DETAIL DRAWING-6 PIPE, HANDRAIL, STOP GATE	SHEET NO: U3-3310-24
	JICA DESIGN CONSULTANT JOINT VENTURE	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	JUNE 2013	DATE INDEX AMENDMENTS	Prepared by: FRS Jr. WIM IIC Checked by: Validated by:



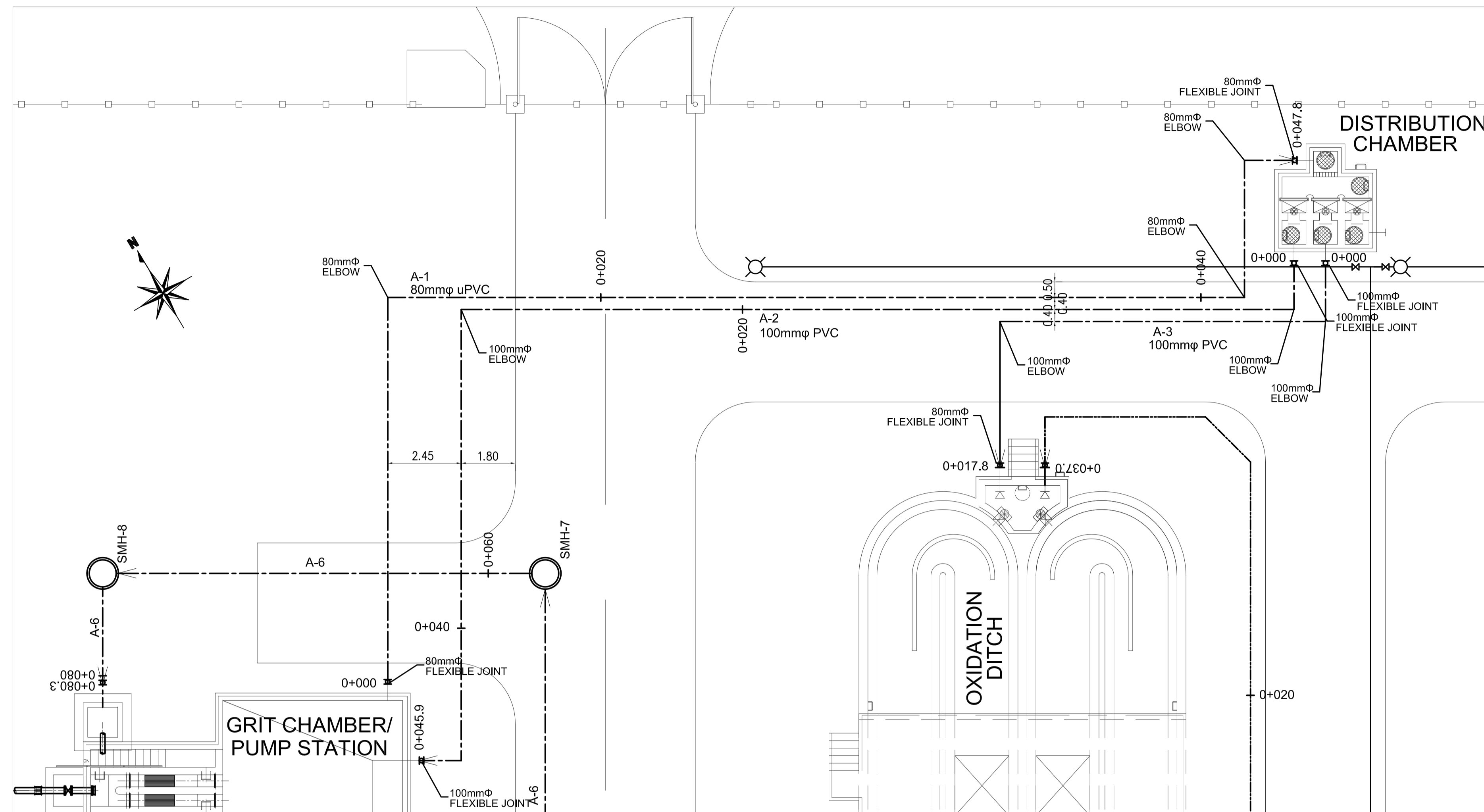
REGEND	
---	SEWAGE
----	SLUDGE
—	UTILITY WATER (TREATED EFFLUENT)
⊗	SPRINKLER HEAD

1 SEWERAGE AND SLUDGE PIPING PLAN
 U3-3310-25 SCALE 1:200m.

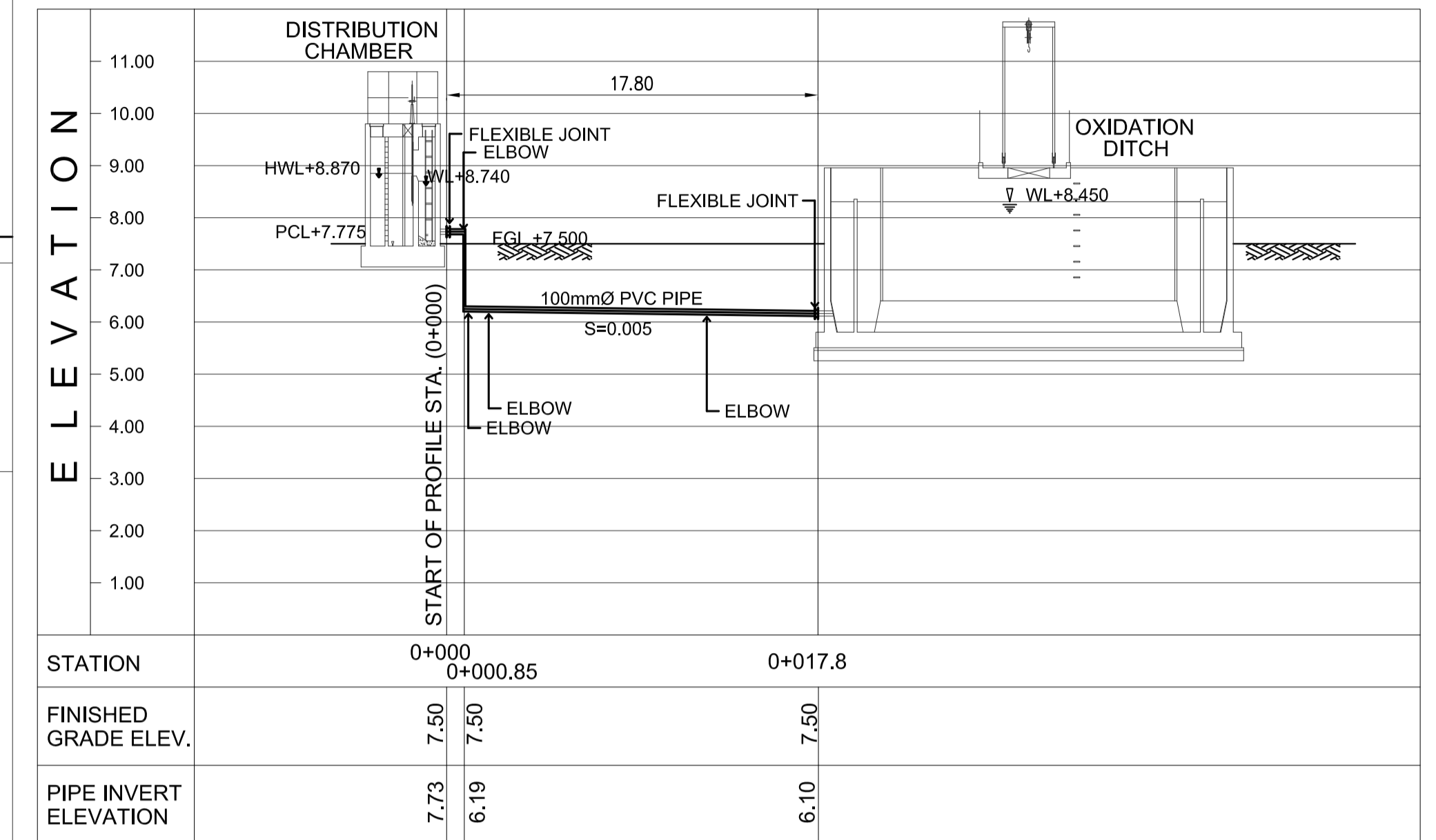
CATEGORY	NO.	DIAMETER (mm)	MATERIAL	TOTAL LENGTH (m)	NOS. OF LINE	BOTTOM LEVEL OF PIPE (BOP)		DESCRIPTION
						FROM	TO	
SEWAGE	A-1	80	uPVC	49.3	1	6.22	7.73	GRID CHAMBER PUMP STATION
						7.73	5.96	DISTRIBUTION CHAMBER
	A-2	100	PVC	47.4	1	7.73	5.96	DISTRIBUTION CHAMBER
						5.96	6.10	GRID CHAMBER PUMP STATION
	A-3	100	PVC	19.3	1	7.69	6.10	DISTRIBUTION CHAMBER
						6.10	6.77	OXIDATION DITCH
	A-4	125	PVC	5.6	2	6.77	6.76	OXIDATION DITCH
						6.76	6.19	SEDIMENTATION CLARIFIER
A-5	100	PVC	45.7	2	6.19	5.98	SEDIMENTATION CLARIFIER	
					5.98	5.61	DISINFECTION TANK	
A-6	100	PVC	89.9	2	5.61	5.59	S.LUDGE DRYING BED, SEDIMENTATION CLARIFIER	
					5.59	6.19	GRID CHAMBER PUMP STATION	
A-7	100	PVC	15.4	1	6.19	6.09	LABORATORY	
					6.09	5.98	GRID CHAMBER PUMP STATION	
A-8	100	PVC	33.1	1	5.98	5.77	DISINFECTION TANK	
					5.77	6.82	CANAL	
SLUDGE	B-1	80	uPVC	37.0	1	6.82	6.82	SEDIMENTATION CLARIFIER
						6.82	6.82	OXIDATION DITCH
	B-2	80	uPVC	11.3	1	6.82	6.82	SEDIMENTATION CLARIFIER
						6.82	6.21	THICKENED SLUDGE TANK
B-3	80	uPVC	56.7	1	6.21	6.21	THICKENED SLUDGE TANK	
					6.21		S.LUDGE DRYING BED	

2 SPECIFICATION OF PROCESS PIPELINE
 U3-3310-25 SCALE NTS

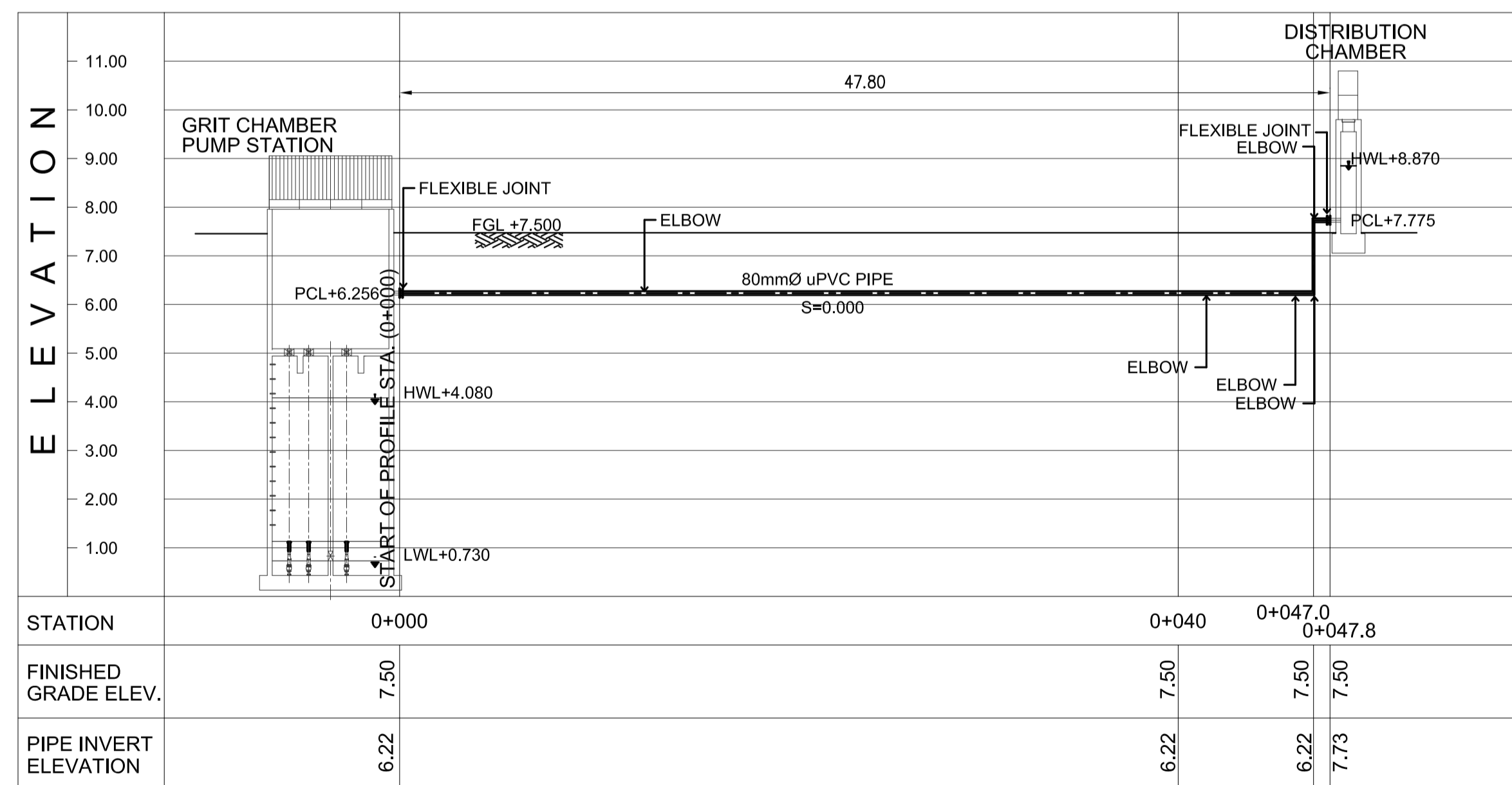
	PREPARED BY: BIENVENIDO S. SEVILLA <small>Sanitary Engineer PIR. 8091754</small> <small>REG. NO.: 000549 DATE: March 2013</small> <small>T.M.N. 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK YARD PIPE (1) SEWERAGE & SLUDGE PIPING PLAN	SHEET NO: U3-3310-25 DRAWING SCALE: 1:200
	JICA DESIGN CONSULTANT JOINT VENTURE JAPAN AIRPORT CONSULTANTS, INC. NIPPON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.	TADASHI AOI <small>Team Leader</small>	ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	JUNE 2013 DATE INDEX AMENDMENTS Prepared by: FRS Jr. WIM IIC Checked by: Validated by:	



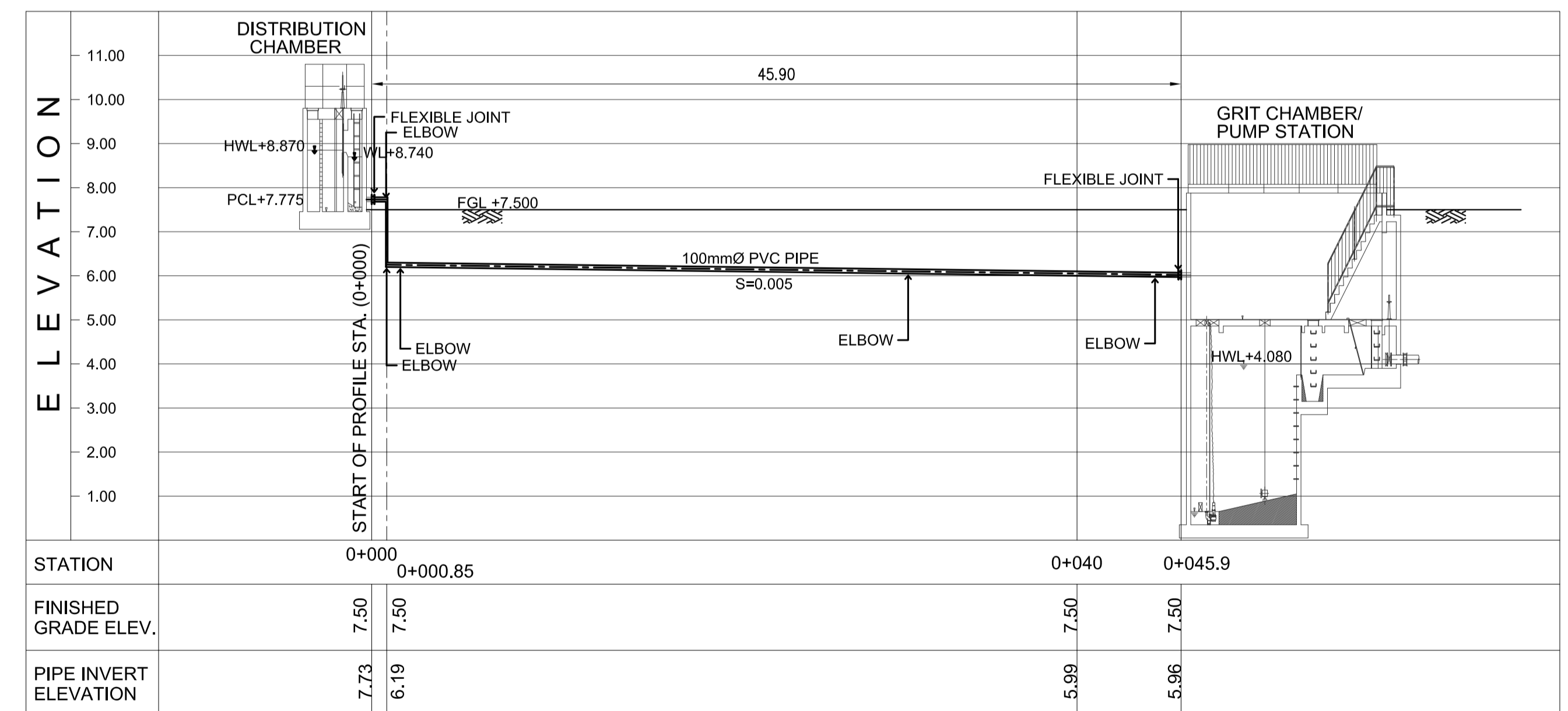
1 A-1,A-2,A-3 PLAN
 U3-3310-26 SCALE 1:100m.



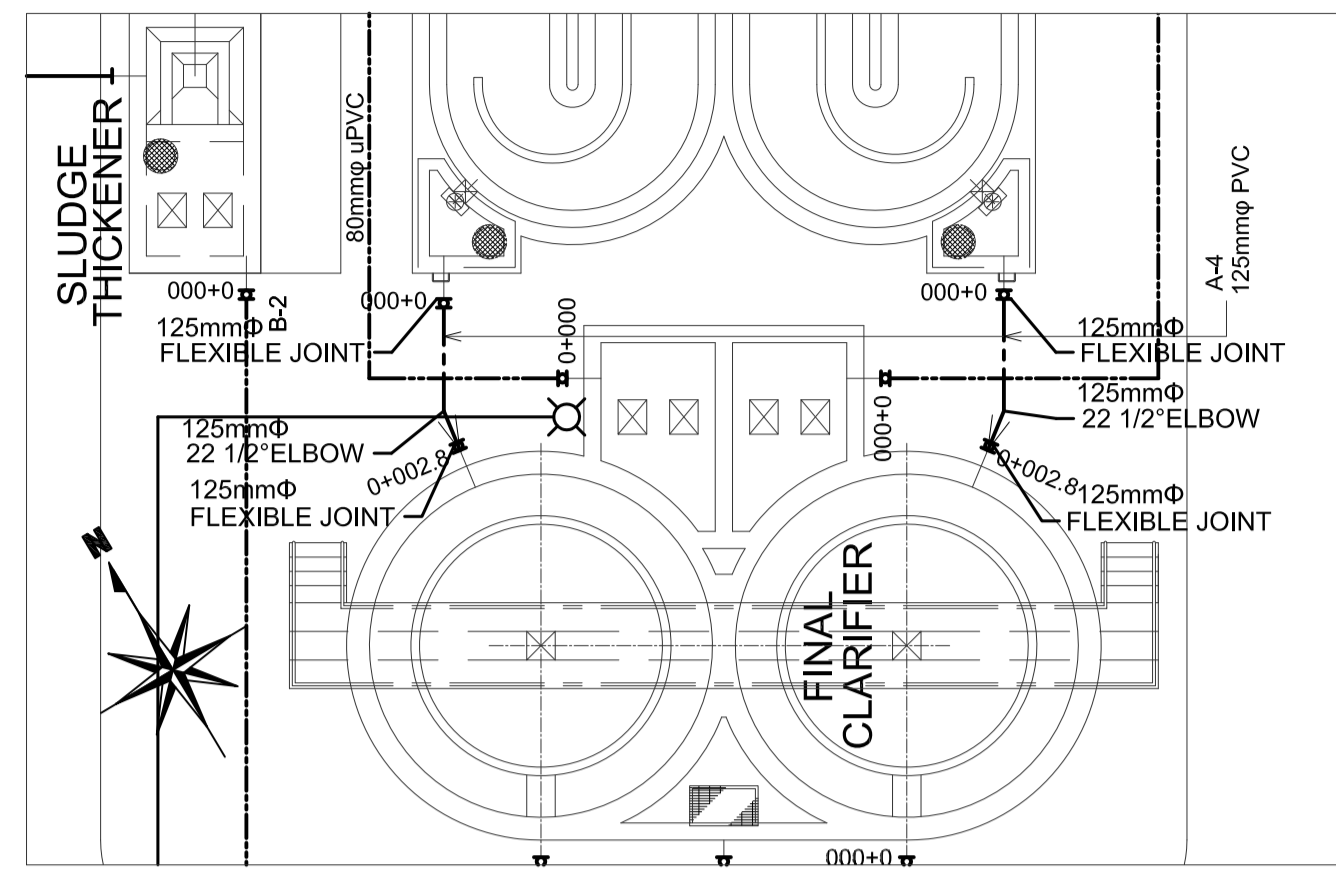
4 A-3 PROFILE
 U3-3310-26 SCALE VERTICAL 1:100 m. HORIZONTAL 1:250 m.



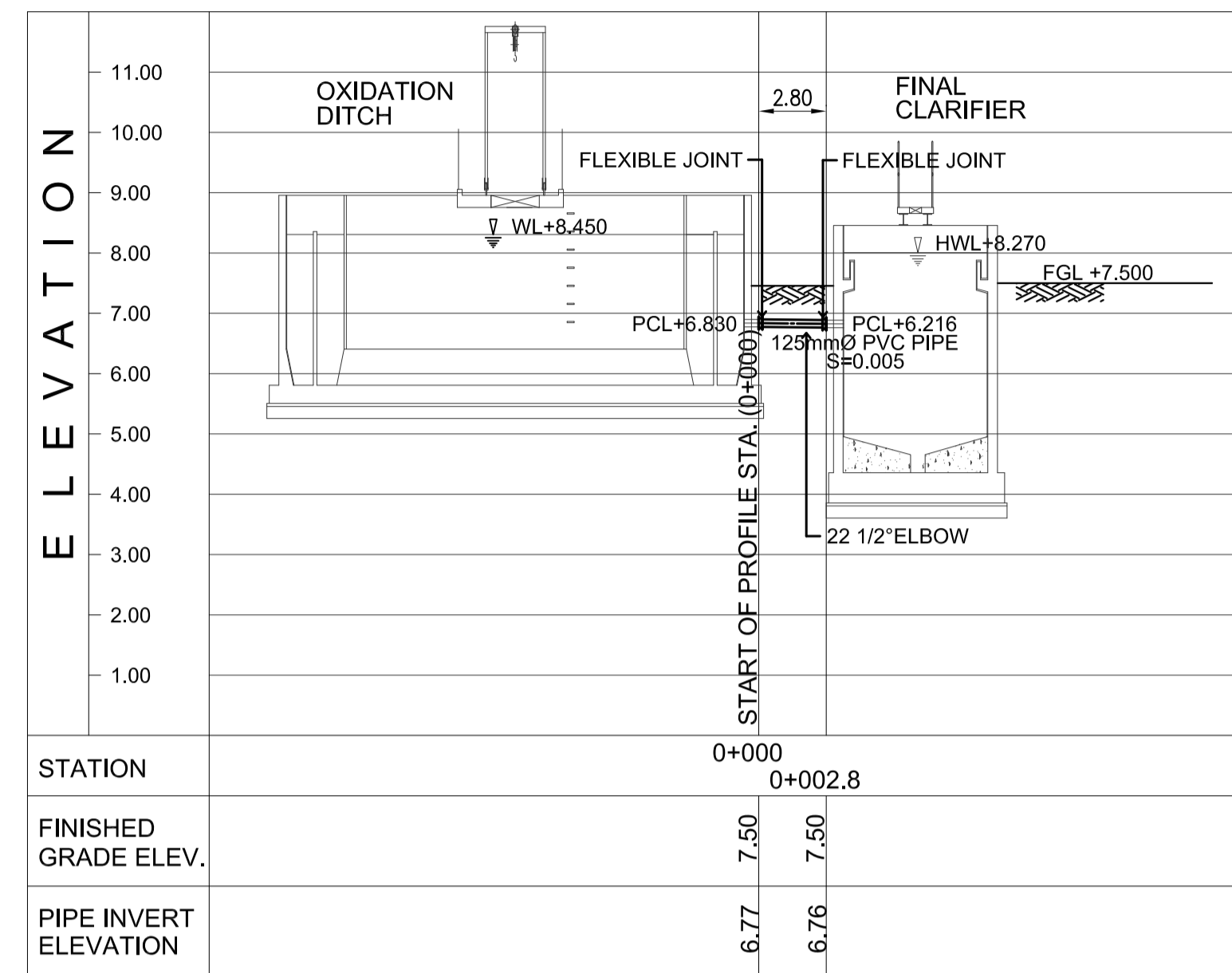
2 A-1 PROFILE
 U3-3310-26 SCALE VERTICAL 1:100 m. HORIZONTAL 1:500 m.



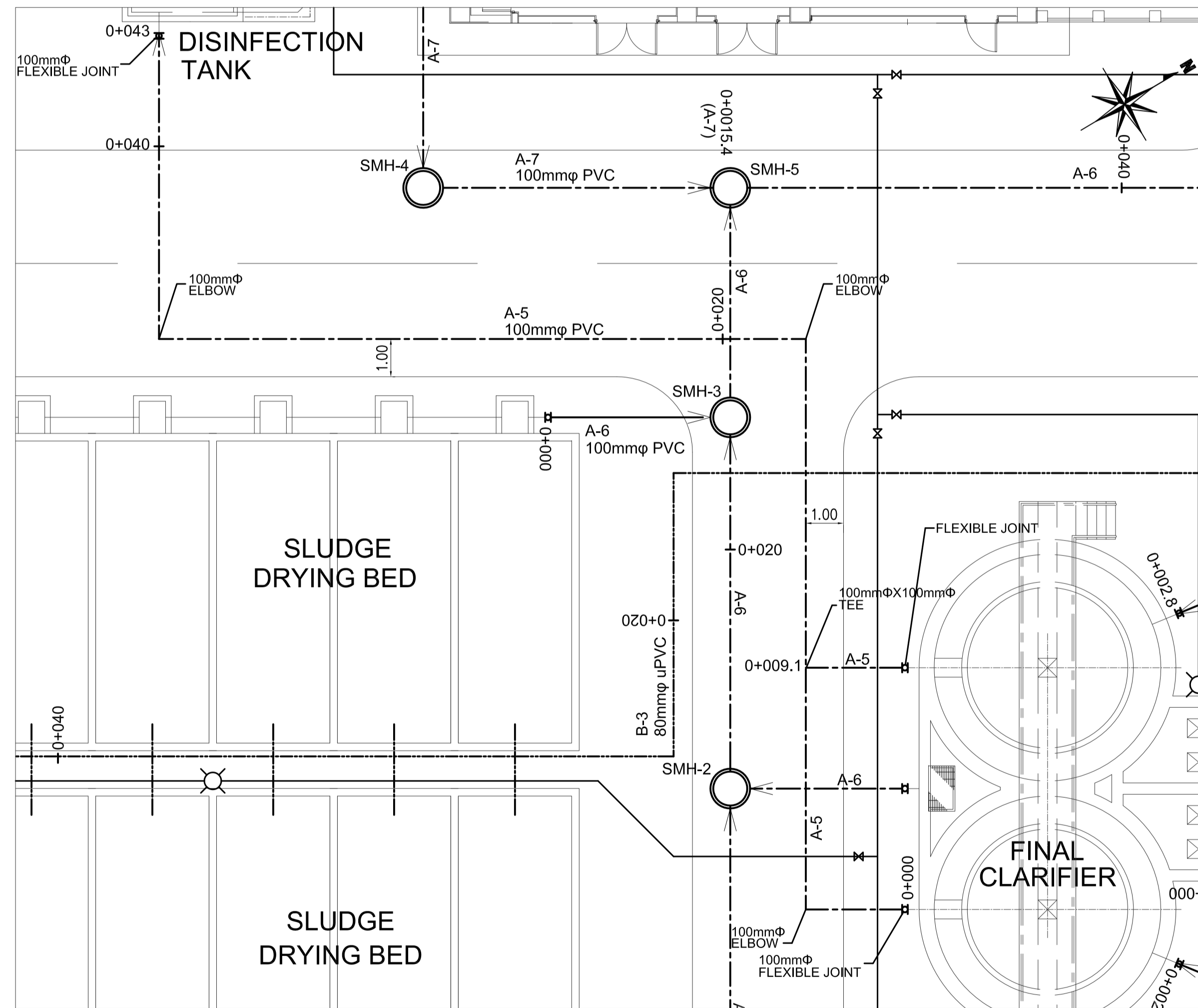
3 A-2 PROFILE
 U3-3310-26 SCALE VERTICAL 1:100 m. HORIZONTAL 1:500 m.



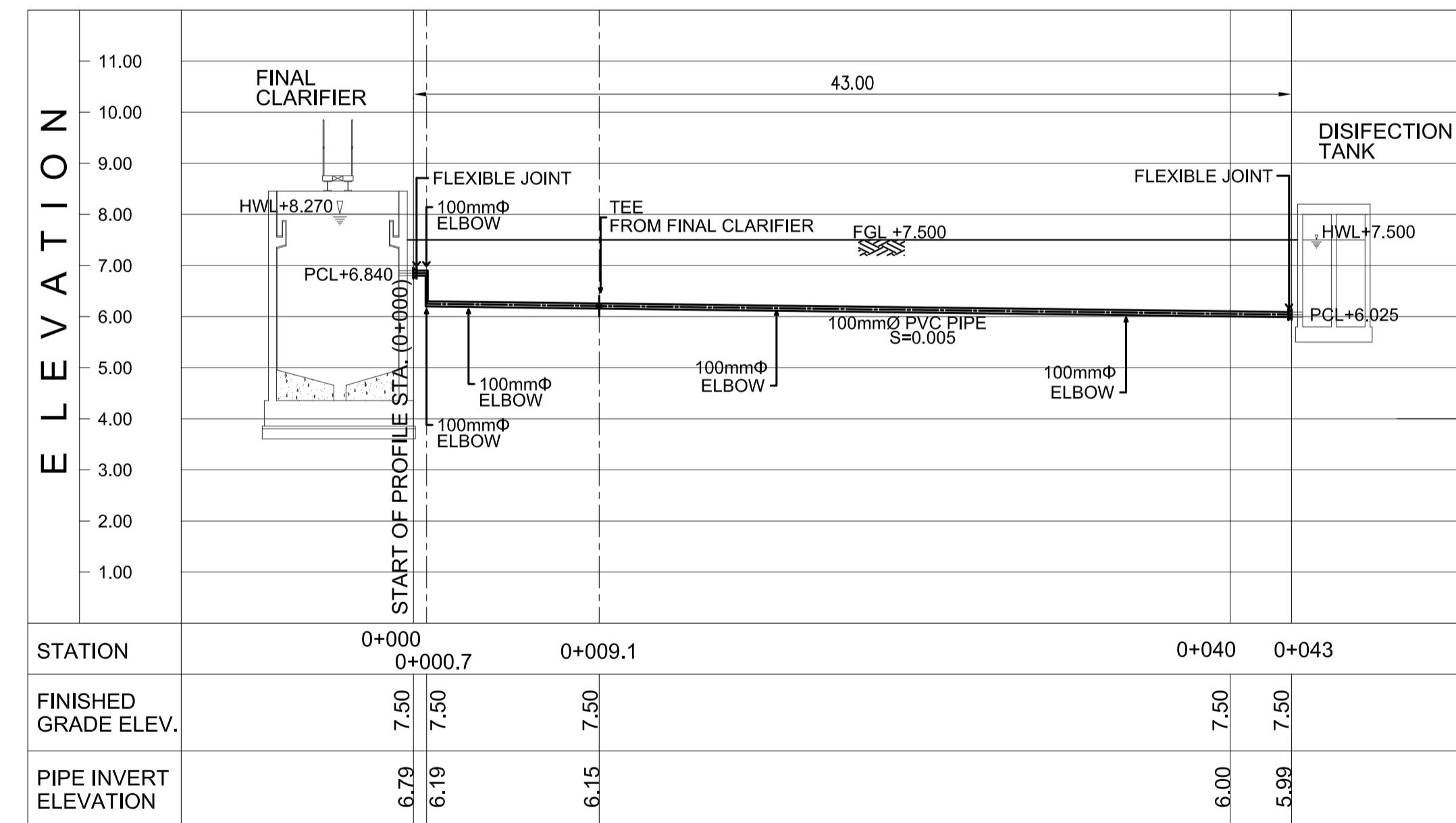
1 A-4 PLAN
U3-3310-27 SCALE 1:100m.



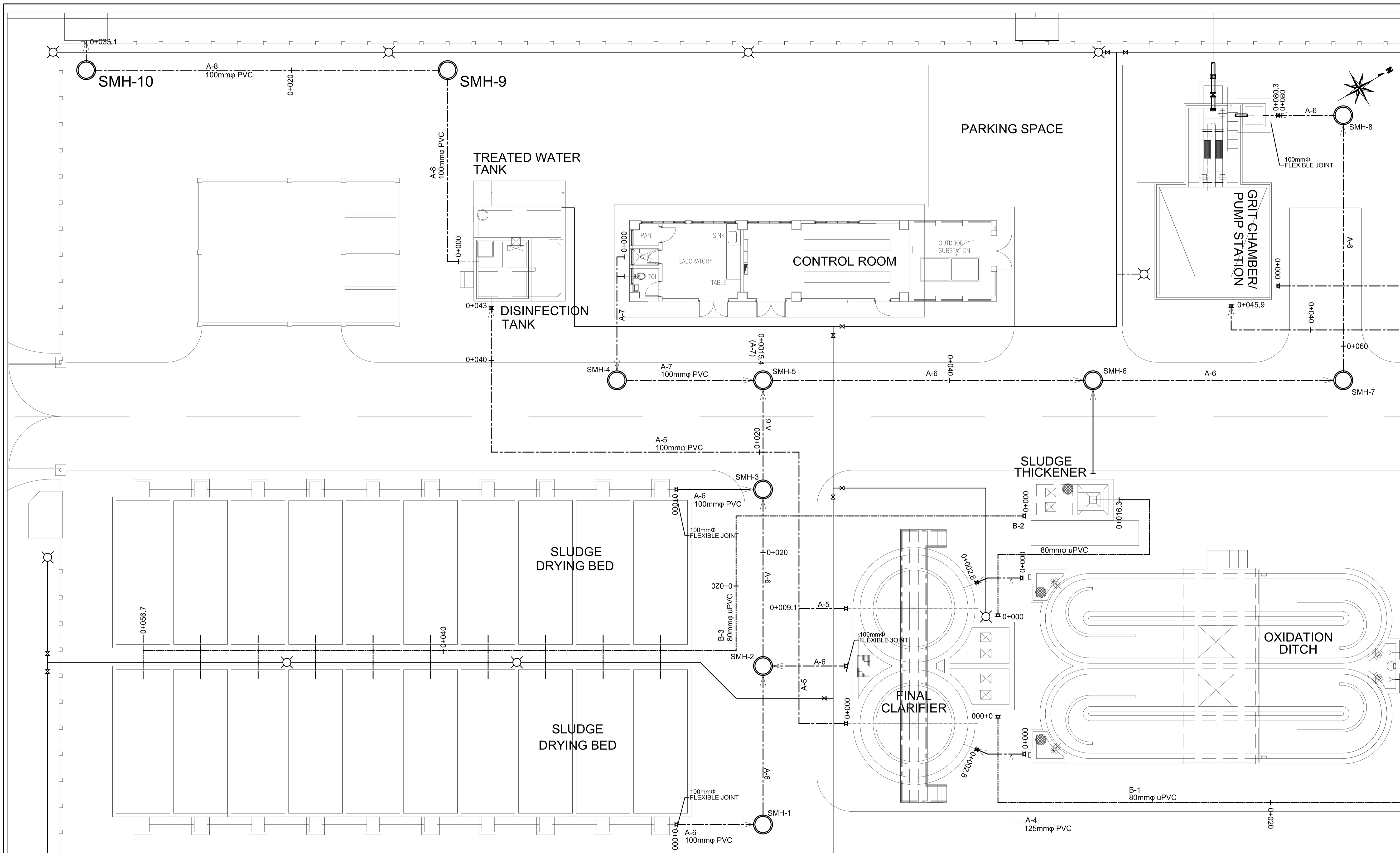
3 A-4 PROFILE
U3-3310-27 SCALE VERTICAL 1:100 m. HORIZONTAL 1:250 m.



2 A-5 PLAN
U3-3310-27 SCALE 1:100m.

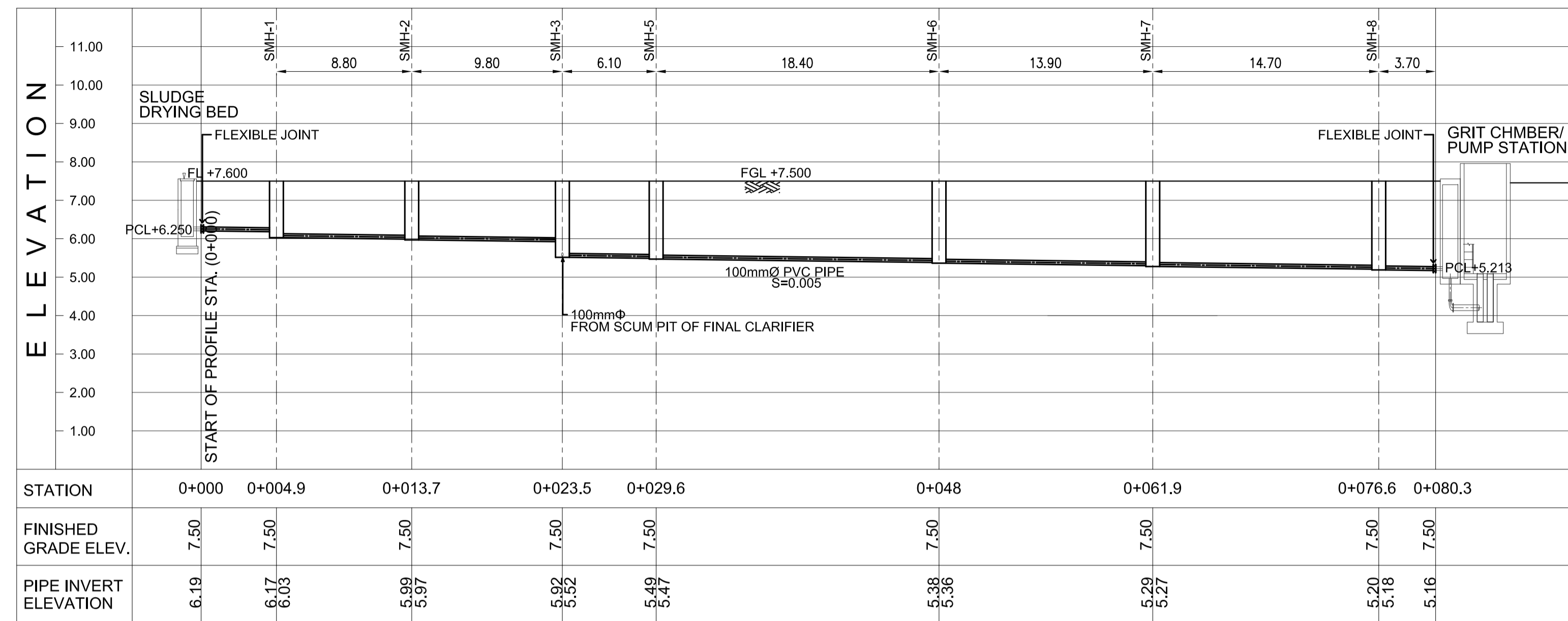


4 A-5 PROFILE
U3-3310-27 SCALE VERTICAL 1:100 m. HORIZONTAL 1:250 m.

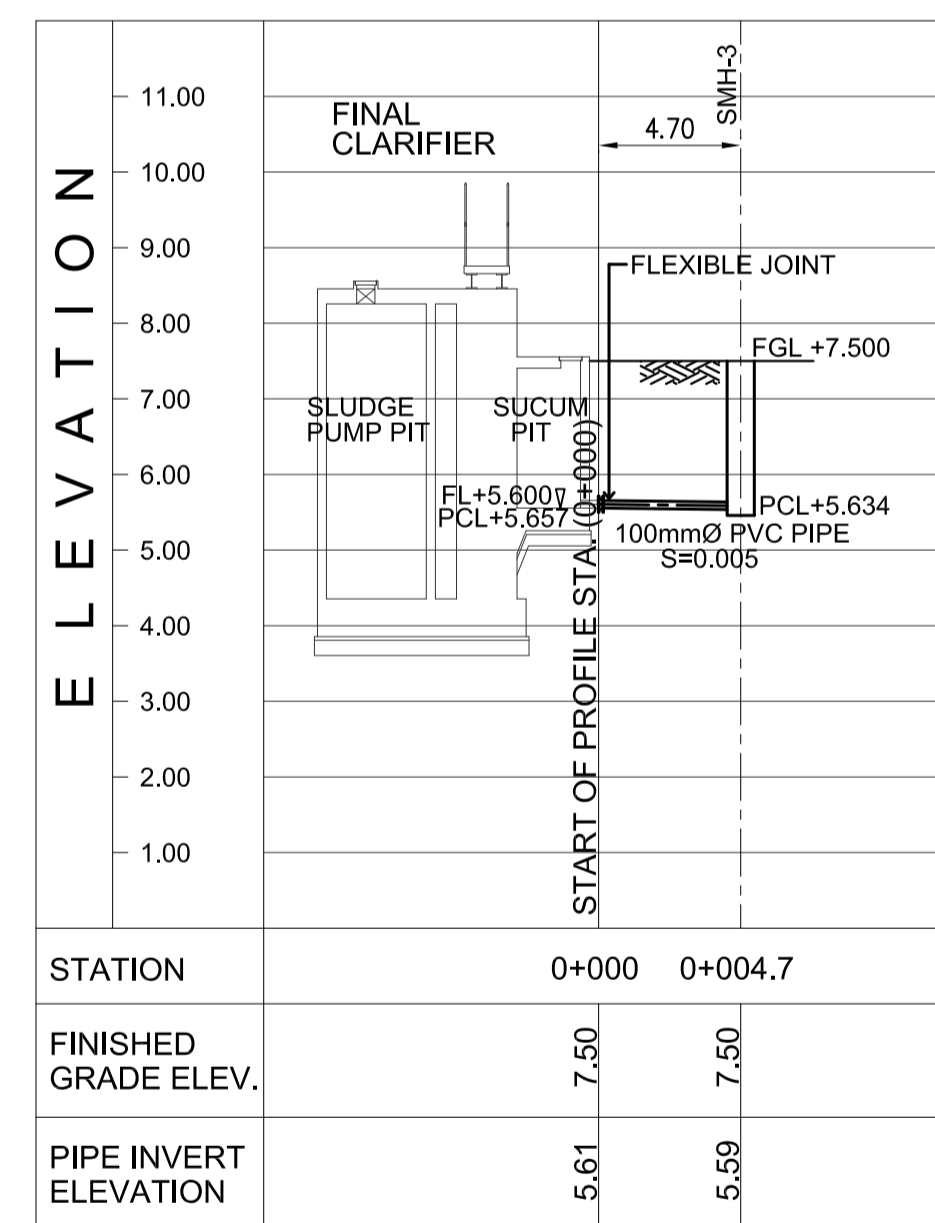


1 **A-6, A-7, A-8 PLAN**
 U3-3310-28 SCALE 1:100m.

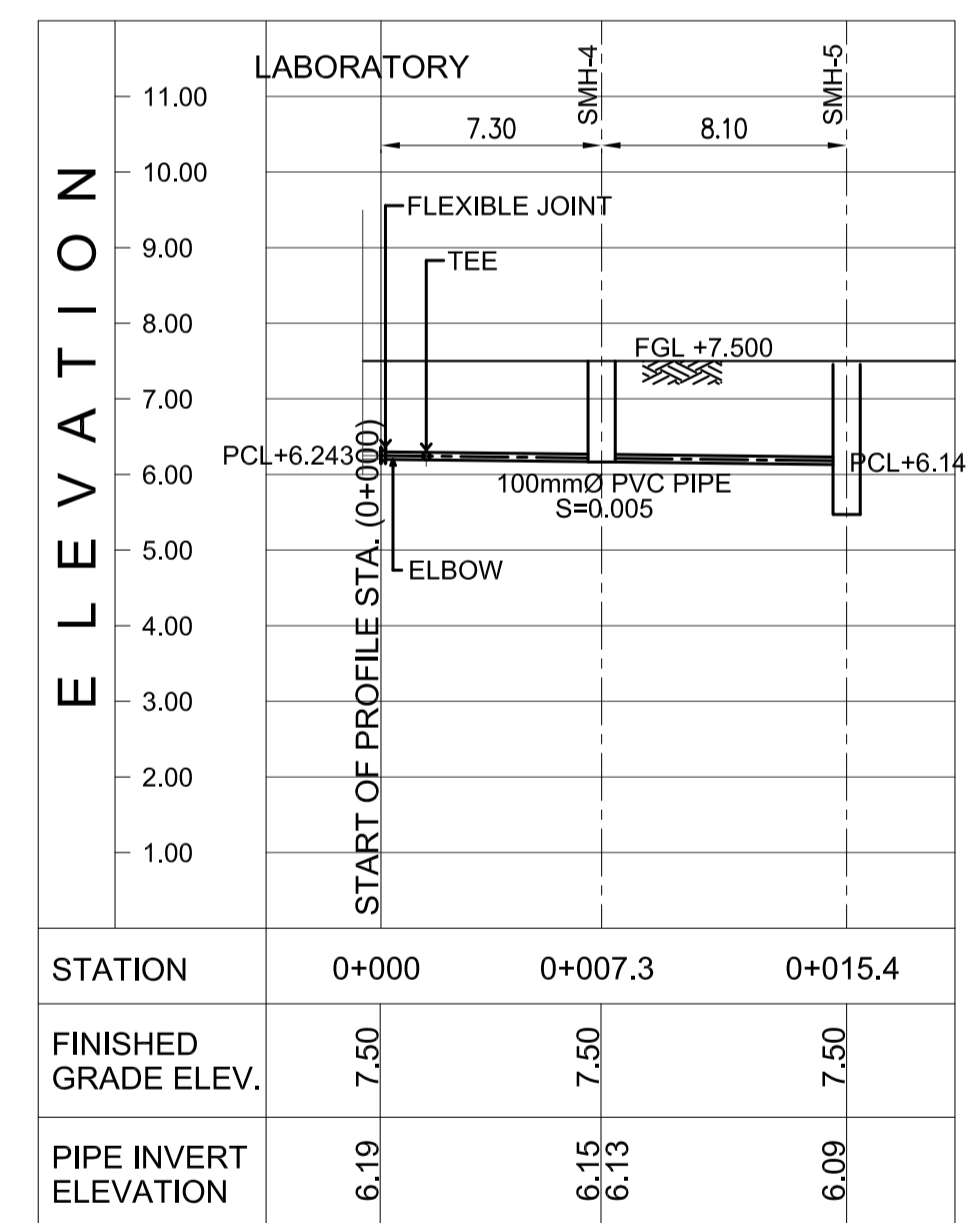
	PREPARED BY: BIENVENIDO S. SEVILLA <small>Sanitary Engineer</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK YARD PIPE (4) A-6, A-7, A-8 PLAN	SHEET NO: U3-3310-28
	PROF: <small>Sanitary Engineer</small> REG. NO.: <small>0000549</small> T.I.N: <small>245-772-657</small>	PTR: <small>6091754</small> DATE: <small>March 2013</small> PLACE: <small>Quezon City</small>	DATE: <small>JUNE 2013</small>	LOCATION: <small>MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES</small>	DATE INDEX AMENDMENTS Prepared by: <small>FRS Jr.</small> WIM HC Checked by: <small>WIM</small> Validated by: <small>HC</small>	DRAWING SCALE: V=1:100



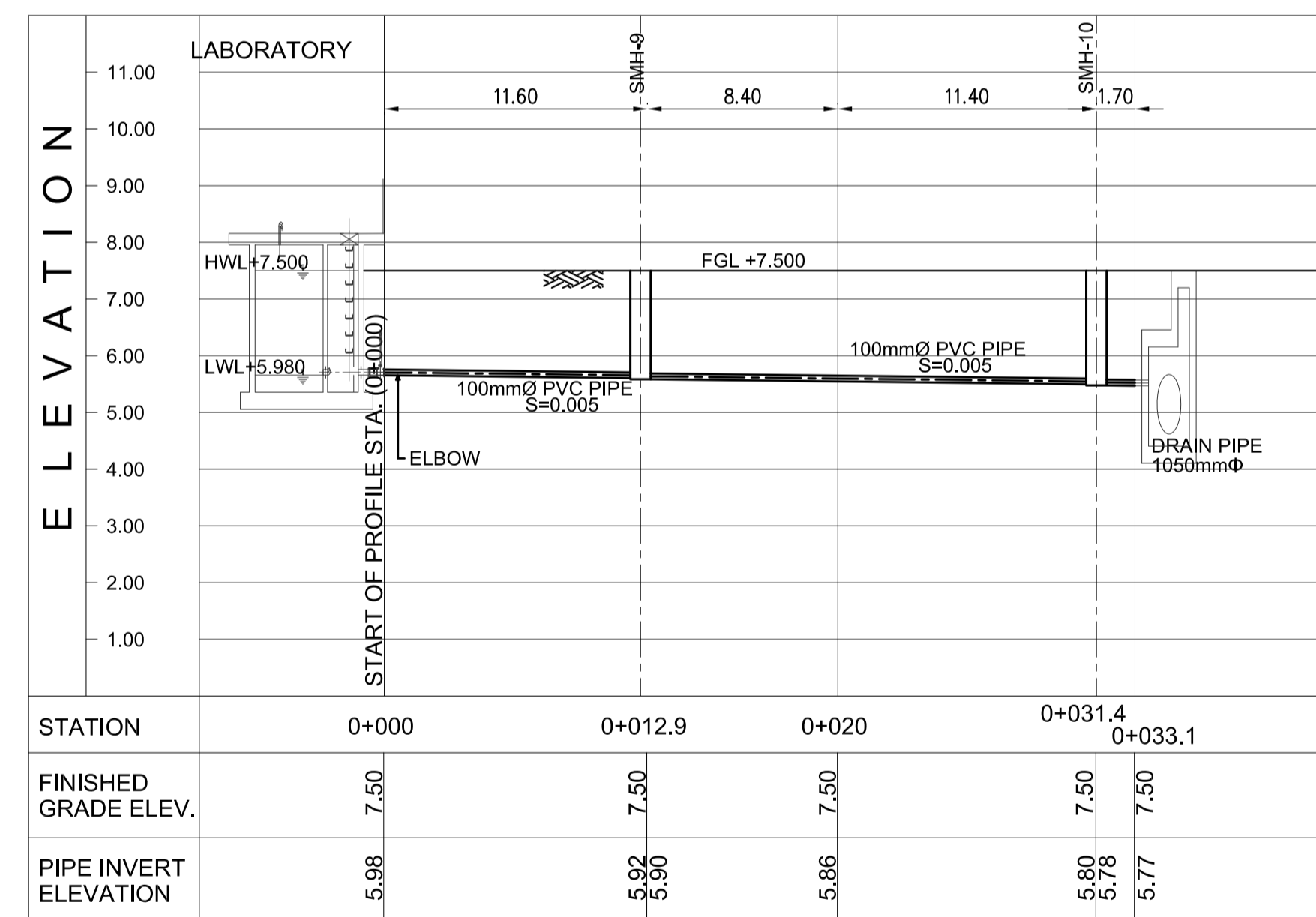
1 A-6 PROFILE(1)
 SCALE VERTICAL 1:100 m.
 HORIZONTAL 1:250 m.



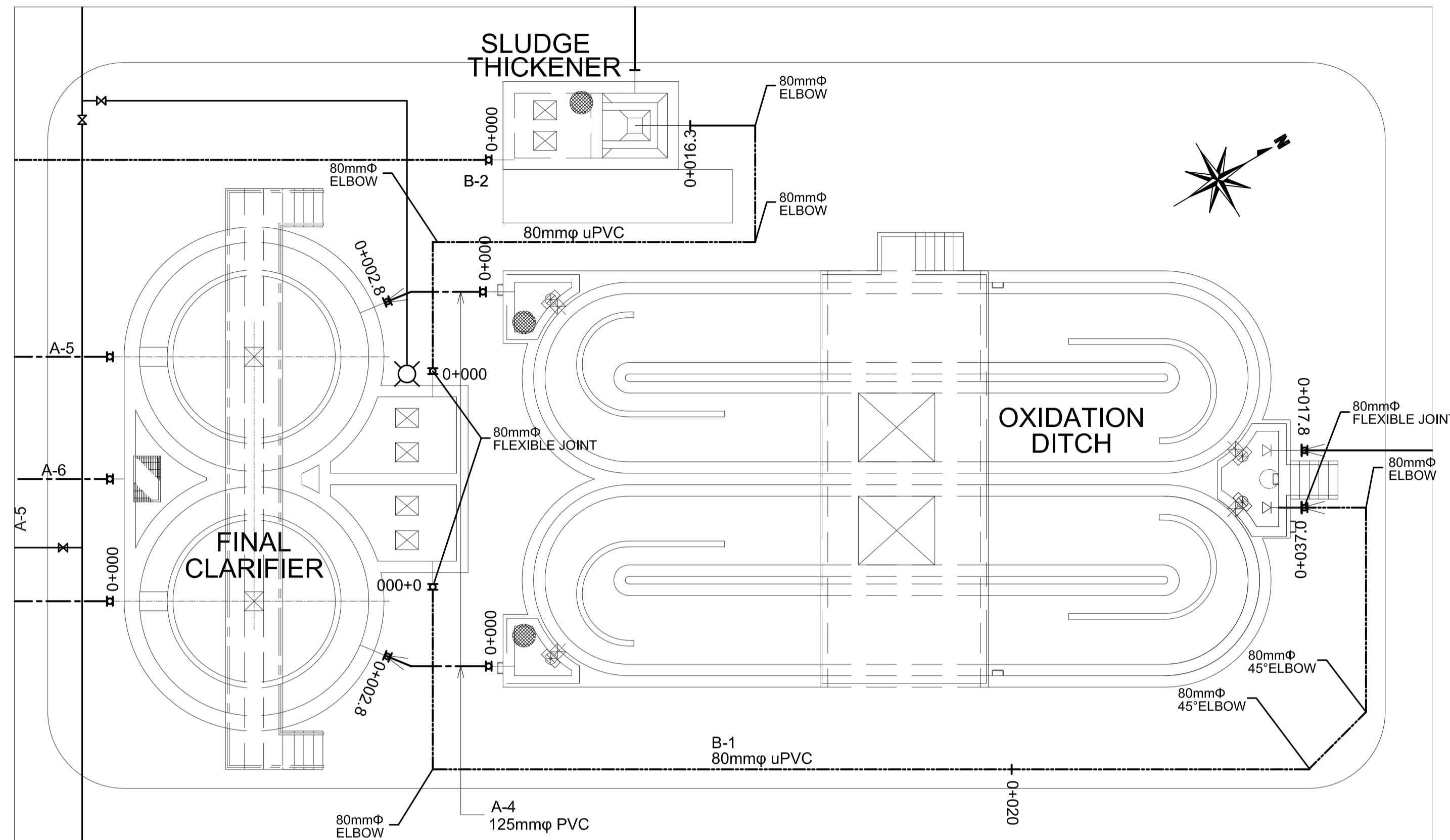
2 A-6 PROFILE
 SCALE VERTICAL 1:100 m.
 HORIZONTAL 1:250 m.



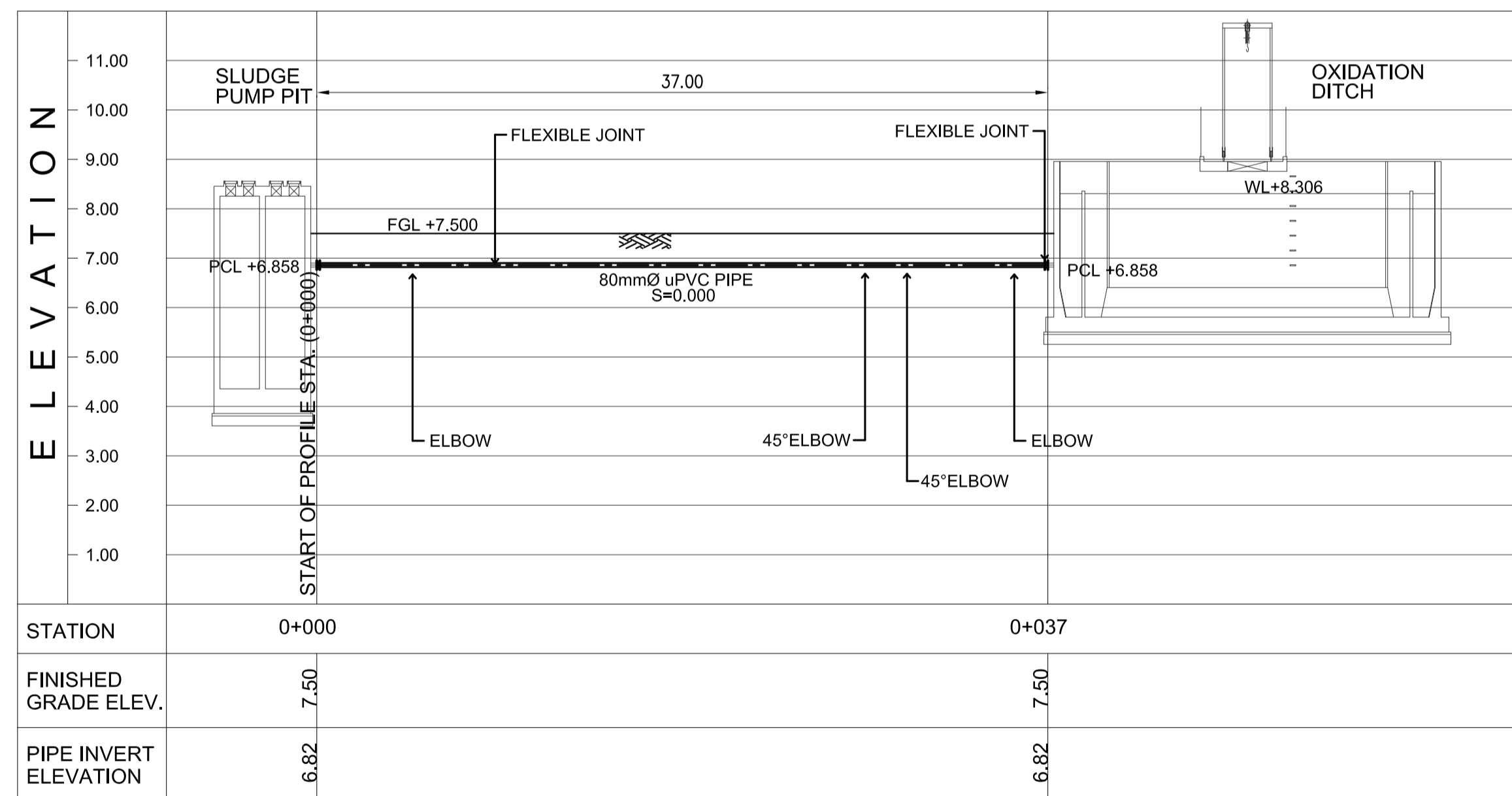
3 A-7 PROFILE
 SCALE VERTICAL 1:100 m.
 HORIZONTAL 1:250 m.



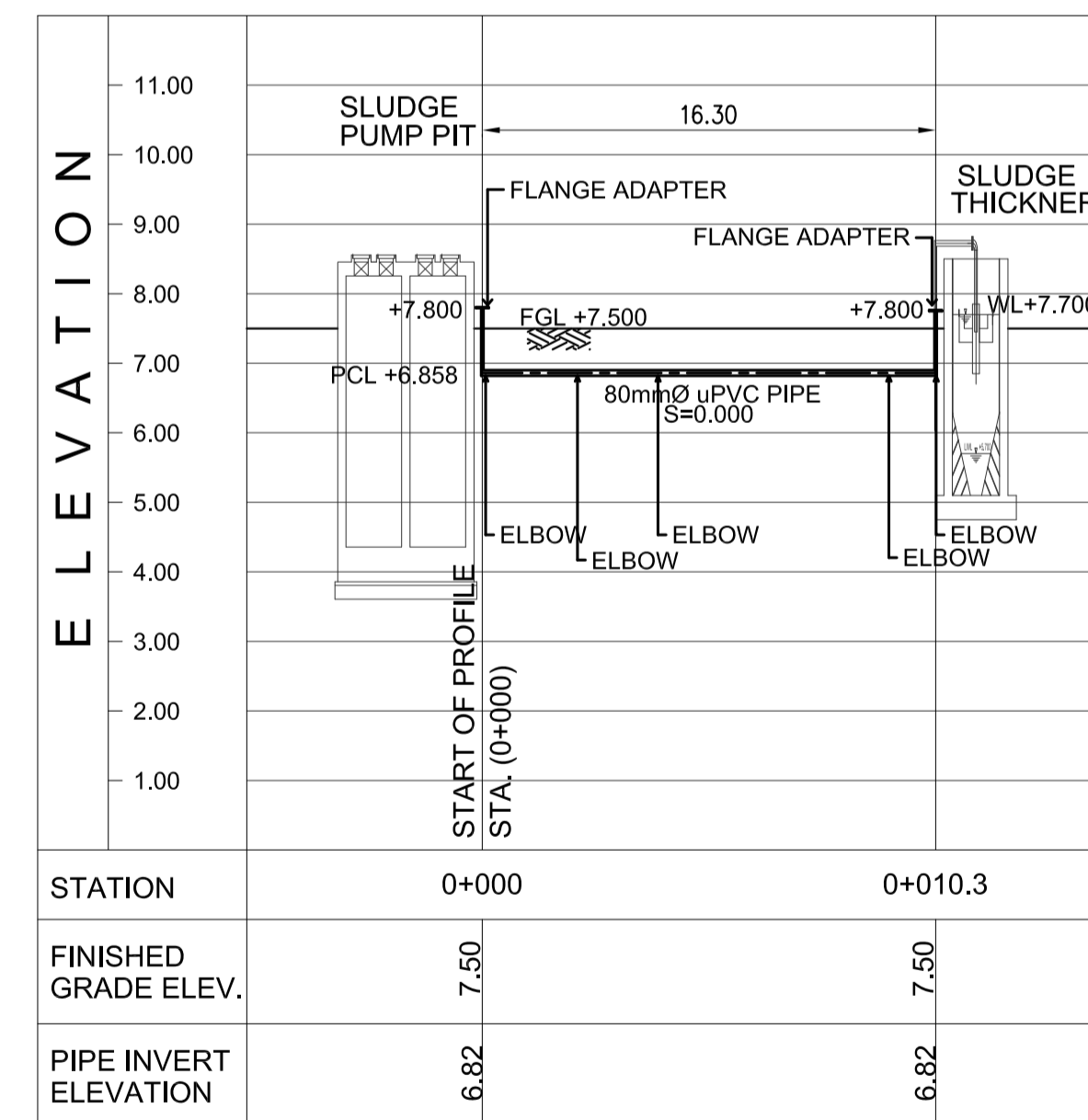
4 A-8 PROFILE
 SCALE VERTICAL 1:100 m.
 HORIZONTAL 1:250 m.



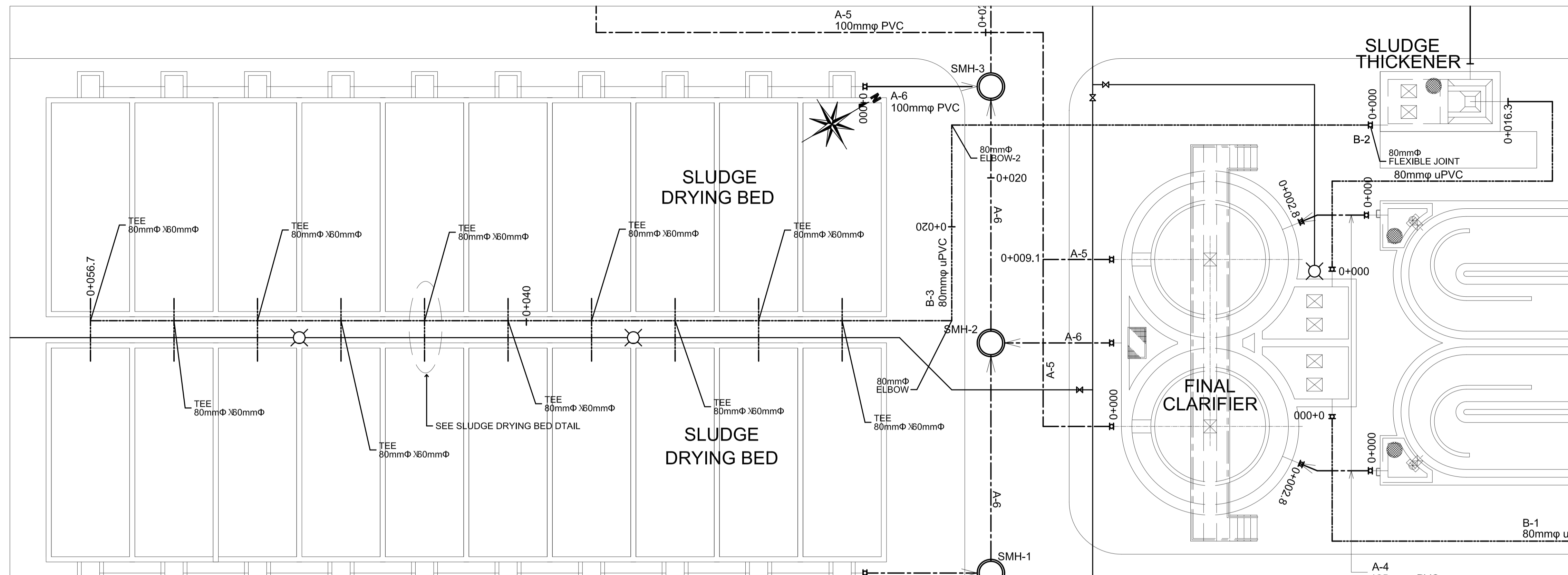
1 B-1, B-2 PLAN
 U3-3310-27 SCALE 1:100m.



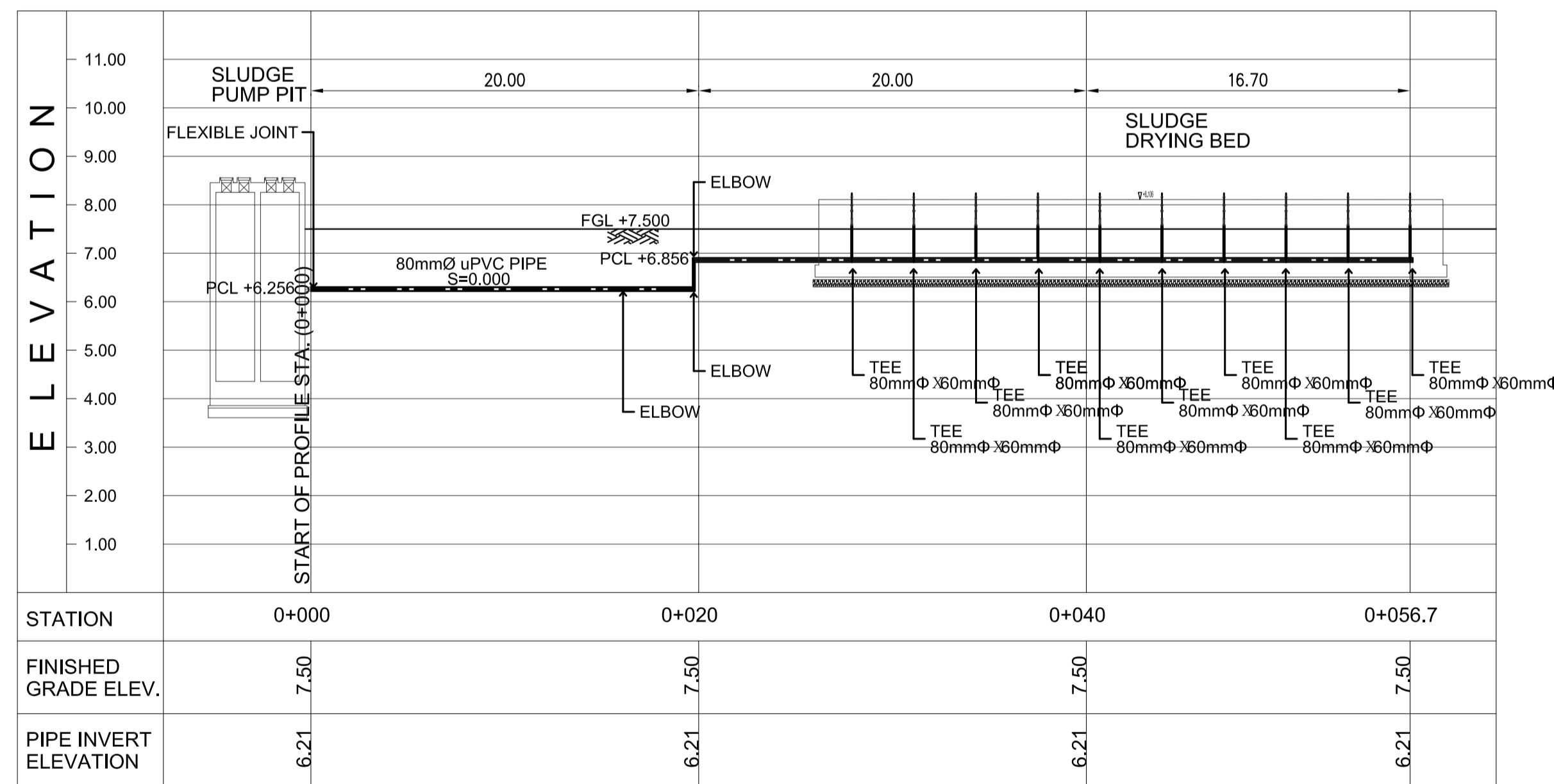
2 B-1 PROFILE
 U3-3310-30 SCALE VERTICAL 1:100 m.
 HORIZONTAL 1:250 m.



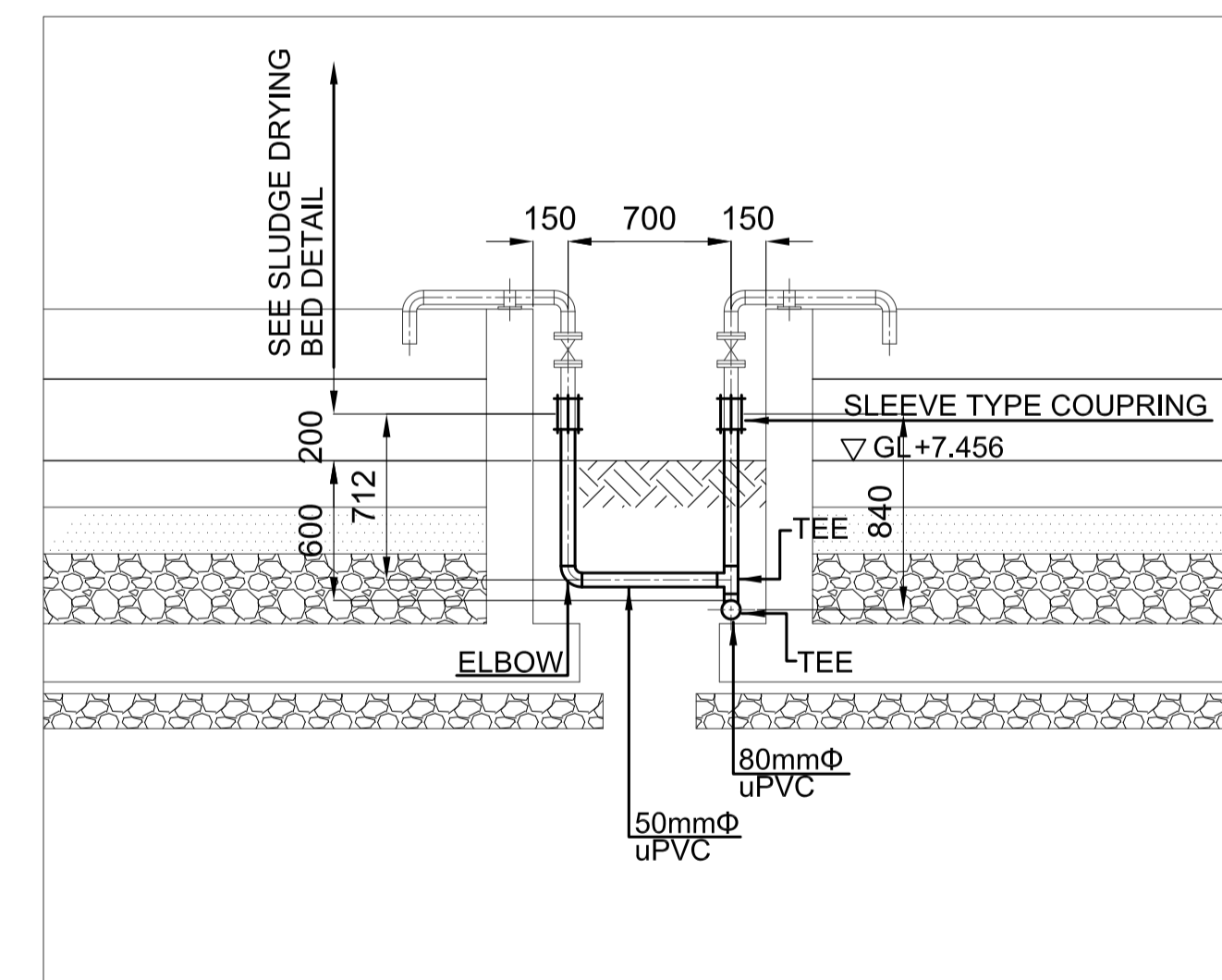
3 B-2 PROFILE
 U3-3310-30 SCALE VERTICAL 1:100 m.
 HORIZONTAL 1:250 m.



1 B-3 PLAN
U3-3310-31 SCALE 1:100m.

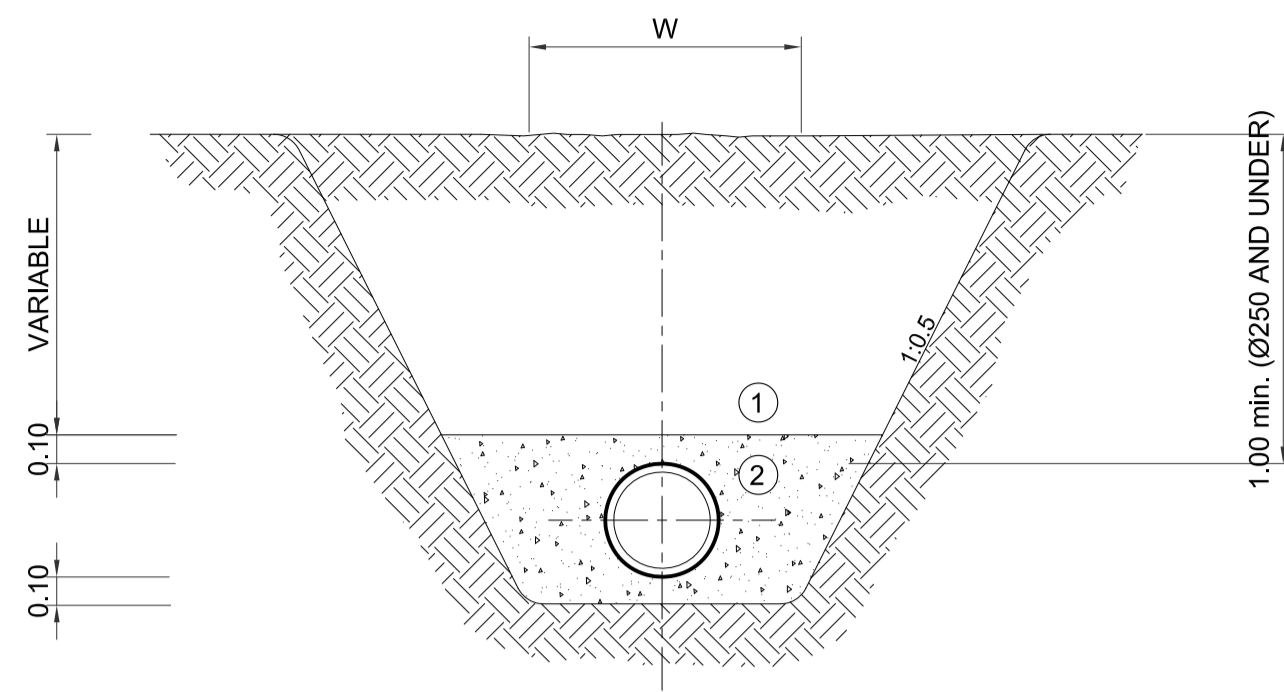


2 B-3 PROFILE
U3-3310-31 SCALE VERTICAL 1:100 m. HORIZONTAL 1:250 m.

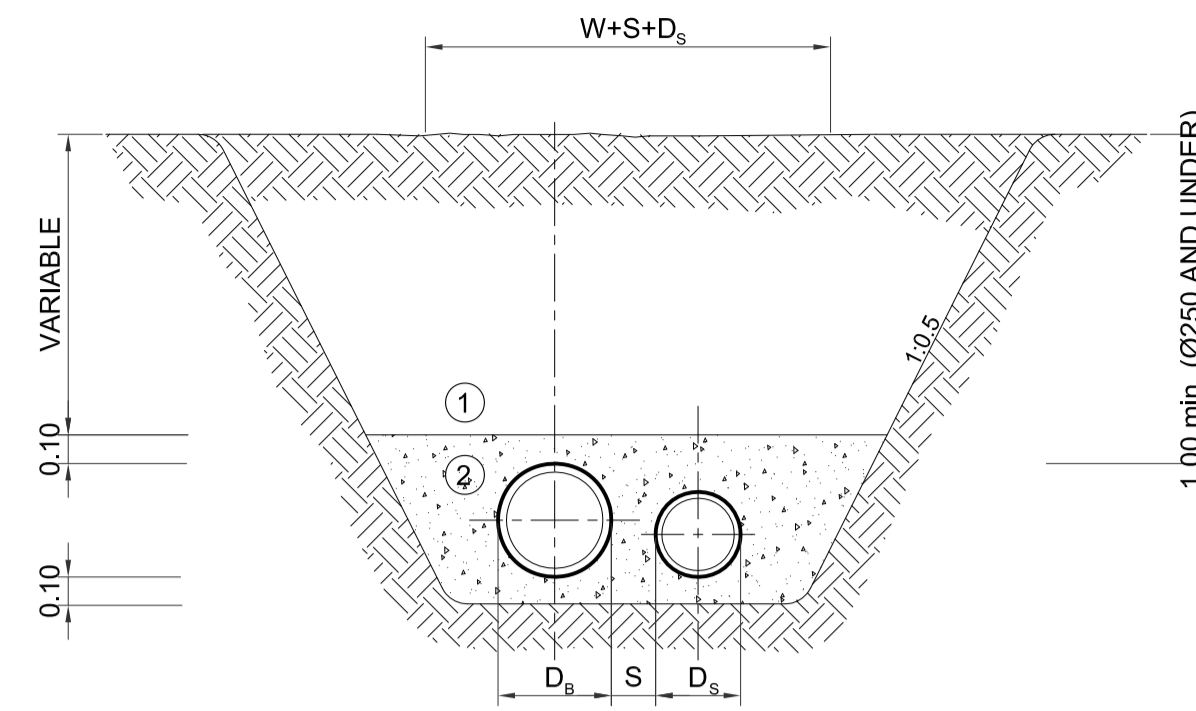


3 SLUDGE DRYING BED INLET PIPE DETAIL
U3-3310-31 SCALE 1:30m.

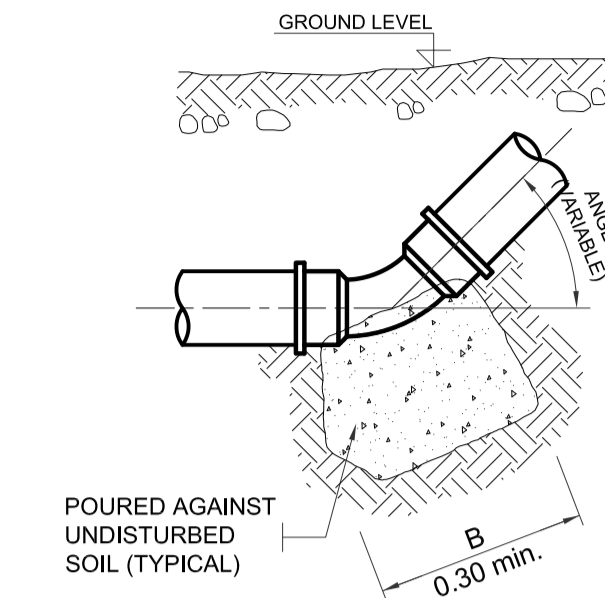
	PREPARED BY: BIENVENIDO S. SEVILLA <small>Sanitary Engineer PIR 6091754</small> <small>REG. NO.: 0000549 DATE: March 2013</small> <small>TIN: 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK YARD PIPE (7) B-3 PLAN, B-3 PROFILE & DETAIL	SHEET NO: U3-3310-31 DRAWING SCALE: 1:30, V=1:100, H=1:250
	JICA DESIGN CONSULTANT JOINT VENTURE JAC JAPAN AIRPORT CONSULTANTS, INC.	JAPAN INTERNATIONAL COOPERATION AGENCY JICA	TADASHI AOI <small>Team Leader</small>	JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	DATE: JUNE 2013 INDEX AMENDMENTS Prepared by: FRS Jr. WIM HC Checked by: Validated by:	



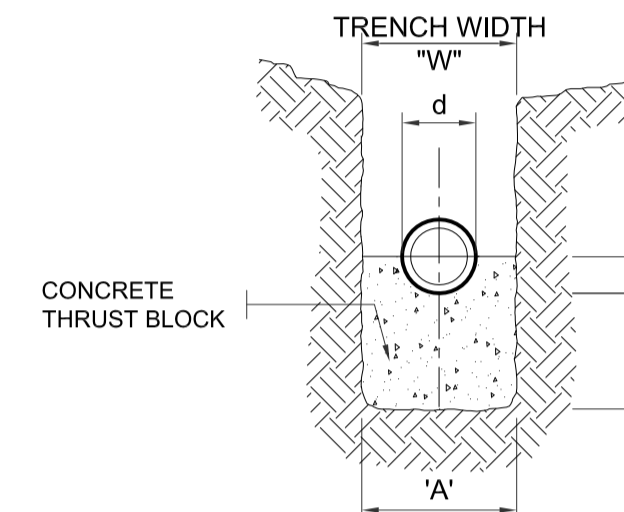
PVC INSTALLATION IN NON-GRANULAR SOIL AS DETERMINED BY ENGINEER



PVC INSTALLATION FOR TWO OR MORE PIPES



ELEVATION



BEARING AREA = A x B SECTION

PIPE SIZE	"C"	THRUST BLOCK BEARING AREAS IN SQUARE METERS		
		90° BEND	45° BEND	22 1/2° BEND
mm (in)	METERS			
Ø100(4") & UNDER	0.25	0.14	0.12	+
Ø150 (6")	0.25	0.31	0.17	0.12
Ø200 (8")	0.25	0.54	0.30	0.15
Ø250 (10")	0.25	0.85	0.46	0.24
Ø300 (12")	0.30	1.23	0.66	0.34

+ THRUST BLOCK NOT REQUIRED

NOTES:

- ABOVE AREAS ARE BASED ON AN ASSUMED SOIL BEARING PRESSURE 96 KPa (2000 psf)
- REDUCE OR INCREASE AREAS PROPORTIONATELY TO SUIT ACTUAL FIELD CONDITIONS UPON APPROVAL OF ENGINEER
- CONCRETE FOR THRUST BLOCK SHALL BE 13.8 MPa (2000 psi)
- THRUST BLOCK NOT REQUIRED ON THE STEEL PIPELINES WITH WELDED OR FLANGED JOINTS OR ON SOLVENT WELDED PVC PIPE
- WHERE PIPE CONNECTS TO A FITTING ON A STEEL PIPELINE, THE STEEL PIPELINE SHALL BE BLOCKED AS SHOWN HEREON
- BEARING AREAS ARE BASED ON INTERNAL PRESSURE OF 106m (150 psi)

LEGEND:

- COMPACTED SELECTED NATIVE MATERIAL BACKFILL (SEE SPECS.)
- APPROVED SAND BEDDING AND COMPACTED BACKFILL, HAND PLACED AND COMPACTED.

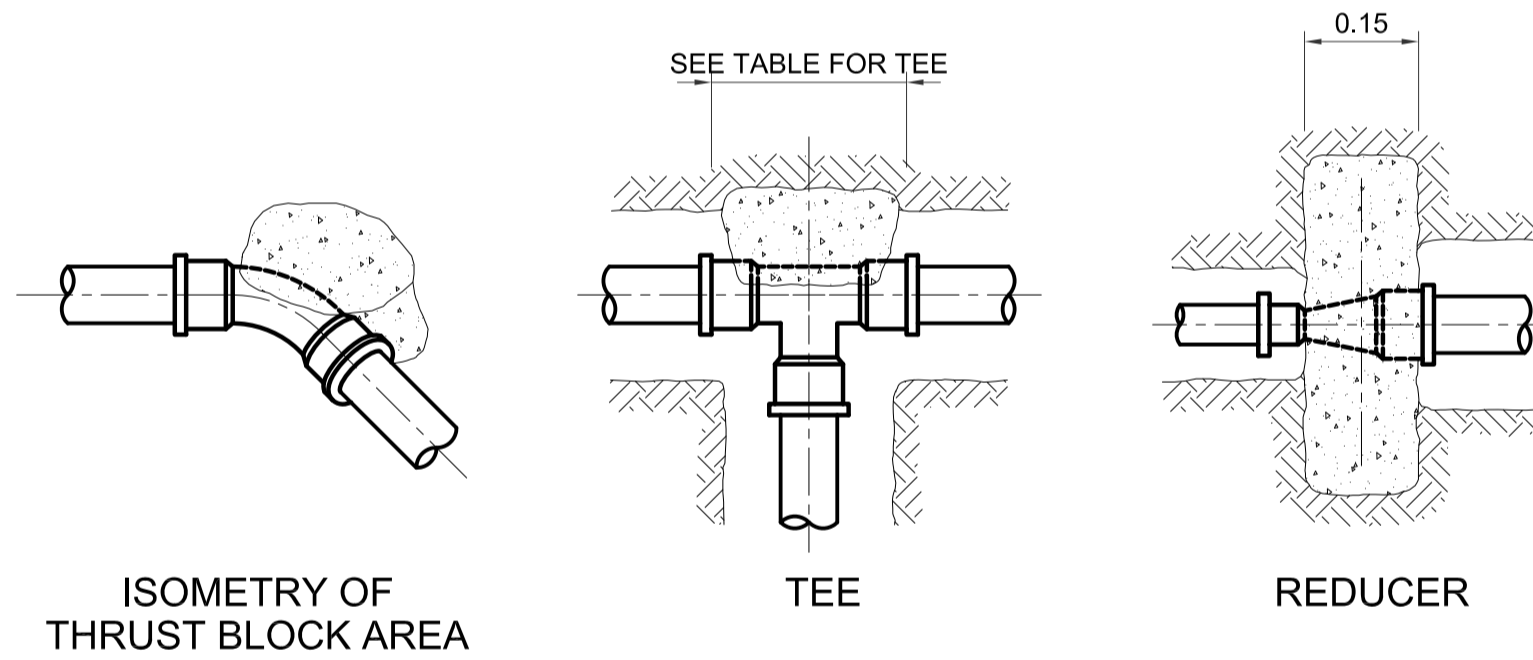
NOTES:

- FOR MULTIPLE PIPES IN ONE TRENCH, USE TRENCH WIDTH OF BIGGEST PIPE PLUS SPACES SPECIFIED IN ROAD SECTIONS AND DIAMETERS OF SMALLER PIPES.
- IF THE DEPTH OF EXCAVATION IS MORE THAN 1.5m, SLOPE GRADIENT OF EXCAVATION SHOULD BE 0.5 : 1.0.
- PAYMENT FOR ANY RESURFACING WILL BE BASED ON MAXIMUM TRENCH WIDTHS PER SIZE OF PIPE AS SHOWN ON TABLE OF TRENCH DIMENSION.

PIPE DIAMETER	mm	75 AND UNDER	100	125	150	200	250
	in	3" AND UNDER	4"	5"	6"	8"	10"
MINIMUM "W"		0.20	0.40	0.425	0.45	0.50	0.55
MAXIMUM "W"		0.30	0.70	0.725	0.75	0.80	0.85

1 TYPICAL TRENCH DETAIL SCALE NTS

3 VERTICAL CONCRETE THRUST BLOCKS SCALE NTS



ISOMETRY OF THRUST BLOCK AREA

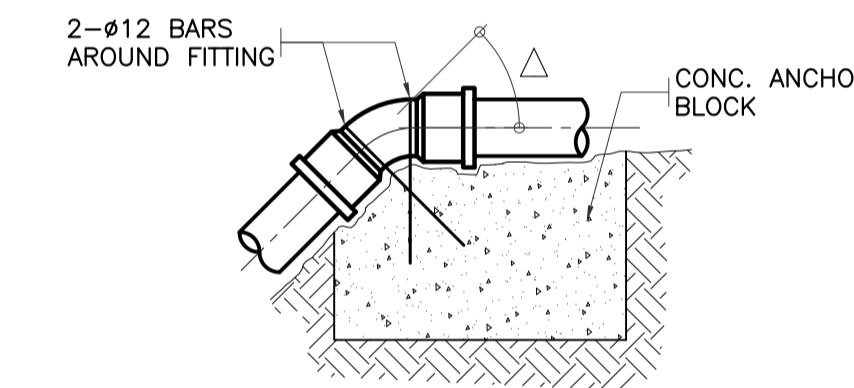
TEE

REDUCER

PIPE SIZE	TEE AND DEAD END	90° BEND	45° BEND	22 1/2° BEND
mm (in)				
Ø75 (3") & UNDER	0.05	0.07	0.04	0.02
Ø100 (4")	0.09	0.12	0.07	0.04
Ø150 (6")	0.20	0.28	0.15	0.08
Ø200 (8")	0.35	0.50	0.27	0.14
Ø250 (10")	0.55	0.77	0.42	0.21
Ø300 (12")	0.79	1.11	0.60	0.31

NOTES:

- ABOVE AREAS ARE BASED ON AN ASSUMED SOIL BEARING PRESSURE OF 96 KPa (2000 psf)
- REDUCE OR INCREASE AREA PROPORTIONATELY TO SUIT ACTUAL FIELD CONDITIONS UPON APPROVAL OF ENGINEER
- CONCRETE FOR THRUST BLOCK SHALL BE 13.8 MPa (2000 psi)
- ALL CONCRETE SHALL BE POURED TO AVOID INTERFERENCE WITH JOINTS
- THRUST BLOCKS NOT REQUIRED ON STEEL PIPELINE WITH WELDED OR FLANGED JOINTS OR ON SOLVENT WELDED PVC PIPE
- WHERE PIPE CONNECTS TO A FITTING IN A STEEL PIPELINE, THE STEEL PIPELINE SHALL BE BLOCKED AS SHOWN HEREON
- BEARING AREAS ARE BASED ON INTERNAL PRESSURE OF 106m (150 psi)



PIPE SIZE	PIPE DEPLETION (Δ)		
	45°	22 1/2°	11 1/4°
mm (in)			
Ø75 (3") & UNDER	0.23	0.12	0.06
Ø100 (4")	0.41	0.21	0.10
Ø150 (6")	0.92	0.47	0.23
Ø200 (8")	1.63	0.83	0.42
Ø250 (10")	2.55	1.30	0.65
Ø300 (12")	3.68	1.87	0.96

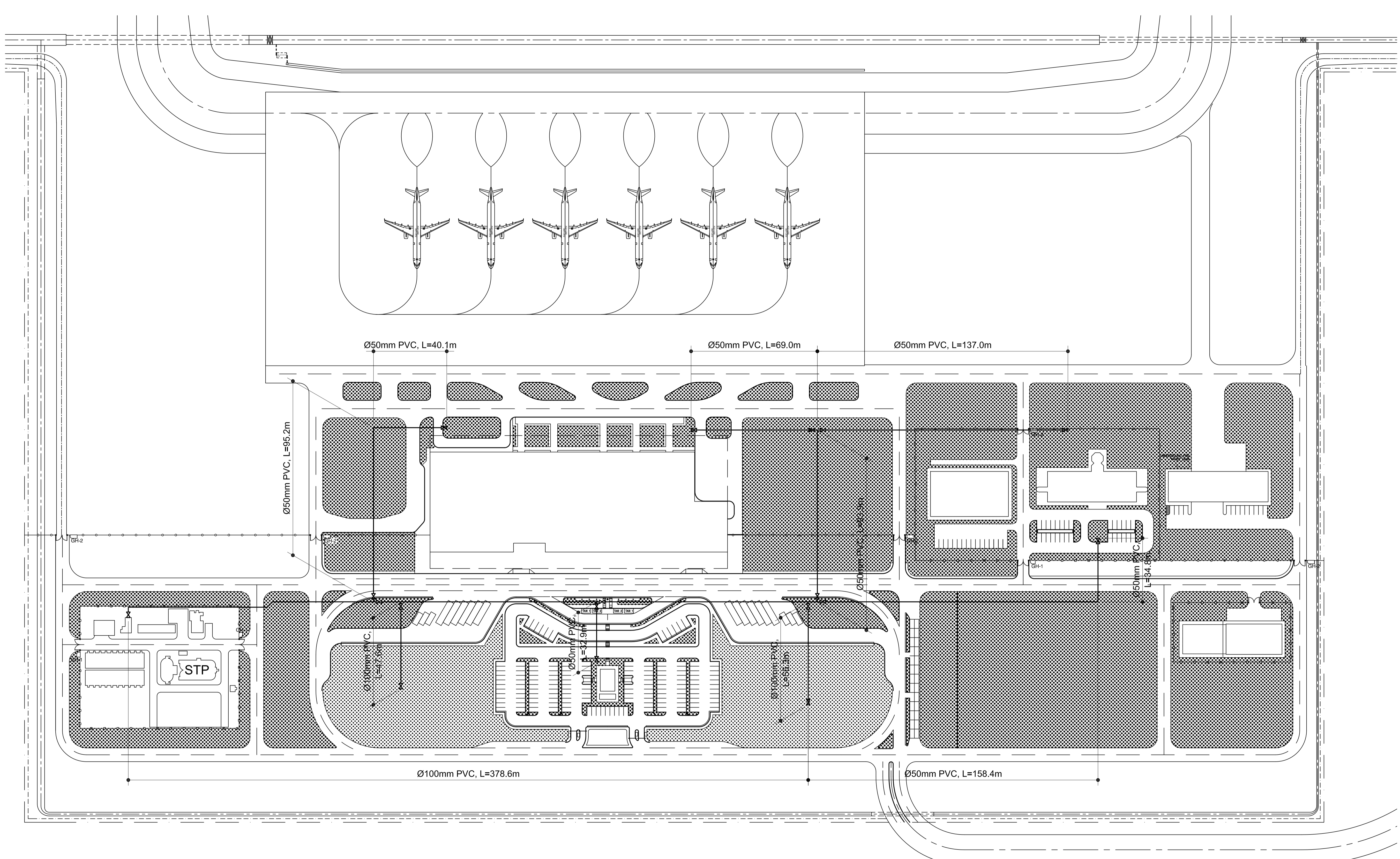
NOTES:

- EMBED END OF BARS TO A MINIMUM OF 0.30 METERS INTO CONCRETE
- CONCRETE FOR ANCHOR BLOCKS SHALL BE 13.8 MPa (2000 psi)
- ANCHOR BLOCKS DIMENSIONS ARE BASED ON INTERNAL PRESSURE OF 106 M (150 psi)
- THRUST BLOCKS NOT REQUIRED ON STEEL PIPELINES WITH WELDED OR FLANGED JOINTS OR ON SOLVENT WELDED PVC PIPE

2 HORIZONTAL CONCRETE THRUST BLOCKS SCALE NTS

3 CONCRETE ANCHOR BLOCKS SCALE NTS

	PREPARED BY: BIENVENIDO S. SEVILLA <small>PROF: Sanitary Engineer PIR. 8091754</small> <small>REG. NO.: 0000549 DATE: March 2013</small> <small>T.I.N. 245-772-657 PLACE: Quezon City</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK YARD PIPE (Ø) THRUST BLOCK STANDARD	SHEET NO: U3-3310-32 DRAWING SCALE: NONE
	JICA DESIGN CONSULTANT JOINT VENTURE JAPAN AIRPORT CONSULTANTS, INC. NIPPON KOEI CO., LTD. NJS CONSULTANTS CO., LTD.	DATE: JUNE 2013 INDEX AMENDMENTS Prepared by: FRS Jr. Checked by: WIM Validated by: HC	DATE: JUNE 2013 INDEX AMENDMENTS	SHEET NO: U3-3310-32 DRAWING SCALE: NONE			



1 **PLAN**
 US-3310-33 SCALE 1:1000m.

⊠ : VALVE (Ø50mm & Ø100mm)

	PREPARED BY: BIENVENIDO S. SEVILLA <small>Sanitary Engineer PIR: 6091754</small>	RECOMMENDING APPROVAL: ILDEFONSO T. PATDU, JR. <small>Assistant Secretary for Project Implementation, DOTC</small>	APPROVED: JULIANITO G. BUCAYAN, JR. <small>Undersecretary for Project Implementation, DOTC</small>	PROJECT TITLE: NEW BOHOL AIRPORT CONSTRUCTION AND SUSTAINABLE ENVIRONMENT PROTECTION PROJECT	SHEET CONTENTS: COMPONENT-3 UTILITY WORKS (U) SUBCOMPONENT-3-3 (U3) SEWAGE TREATMENT SYSTEM CIVIL WORK IRRIGATION PIPE PLAN	SHEET NO: U3-3310-33
	<small>PROJ: Sanitary Engineer PIR: 6091754</small> <small>REG. NO.: 0000549 DATE: March 2013</small> <small>T.I.N.: 245-778-857 PLACE: Quezon City</small>	<small>DATE: JUNE 2013</small> <small>DATE INDEX</small>	<small>AMENDMENTS</small>	<small>Prepared by: FRS J. WIM HC</small> <small>Checked by:</small> <small>Validated by:</small>	<small>LOCATION: MUNICIPALITY OF PANGLAO, PROVINCE OF BOHOL, PHILIPPINES</small>	DRAWING SCALE: 1:1000