

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

PEOPLE'S COMMITTEE OF HO CHI MINH CITY (PCHCMC)

MINISTRY OF PLANNING AND INVESTMENT (MPI)

THE SOCIALIST REPUBLIC OF VIET NAM

THE DETAILED DESIGN STUDY

ON

HO CHI MINH CITY WATER ENVIRONMENT IMPROVEMENT PROJECT

IN

THE SOCIALIST REPUBLIC OF VIET NAM

FINAL REPORT

DRAFT BIDDING DOCUMENTS

PACKAGE E :

WASTEWATER TREATMENT PLANT CONSTRUCTION

VOLUME 3 :

DRAFT TENDER DRAWINGS (2/3)

[ARCHITECT]

JUNE 2001

PACIFIC CONSULTANTS INTERNATIONAL

**LIST OF DRAWINGS ON PACKAGE E
WASTEWATER TREATMENT PLANT- ARCHITECTURAL WORK**

DRAWING NO.	TITLE	SCALE	DRAWING NO.	TITLE	SCALE
	GENERAL INFORMATION				
PE-WWTP-310-01	LOUVER AND WINDOW DETAILS	AS SHOWN	PE-WWTP-302-05	SECTION A-A (FUTURE)	1/100
PE-WWTP-310-02	DOOR DETAILS	AS SHOWN	PE-WWTP-302-06	ELEVATION LINE A & D (FIRST STAGE)	1/100
PE-WWTP-310-03	DOOR AND WINDOW SCHEDULE	AS SHOWN	PE-WWTP-302-07	ELEVATION LINE A & D (FUTURE)	1/100
PE-WWTP-310-04	FINISH SCHEDULE	N.T.S	PE-WWTP-302-08	ELEVATION LINE 1	1/100
PE-WWTP-310-05(1)	GENERAL INFORMATION (1/2)	N.T.S	PE-WWTP-302-09	ROOF PLAN	1/100
PE-WWTP-310-05(2)	GENERAL INFORMATION (2/2)	N.T.S	PE-WWTP-302-10	BUILDING DETAILS	AS SHOWN
PE-WWTP-310-06	DETAILS OF PILE 300X300, L = 35M	AS SHOWN	PE-WWTP-302-11	STAIR DETAILS	AS SHOWN
PE-WWTP-310-07	GROUND FLOOR SLAB DETAILS	AS SHOWN	PE-WWTP-302-12	RC WALL, COLUMN & ROOF WALL DETAILS	AS SHOWN
PE-WWTP-310-08	LINTEL SCHEDULE	AS SHOWN	PE-WWTP-302-13	ROOF FRAMING PLAN	AS SHOWN
PE-WWTP-310-09	VENTILATION & A/C SYSTEM – LEGENDS & INSTALLATION DETAILS	AS SHOWN	PE-WWTP-302-14	PIER, STAIR PLAN AND DETAILS	AS SHOWN
PE-WWTP-310-10	VENTILATION & A/C SYSTEM – DUCTWORK DETAILS	AS SHOWN	PE-WWTP-302-15	MECHANICAL PLAN (FIRST STAGE)	AS SHOWN
PE-WWTP-310-11	PLUMBING & DRAINAGE SYSTEM – LEGEND, GENERAL NOTES & DETAILS	AS SHOWN	PE-WWTP-302-16	MECHANICAL PLAN (FUTURE)	AS SHOWN
PE-WWTP-310-12	PLUMBING & DRAINAGE SYSTEM – GENERAL DETAILS	AS SHOWN	PE-WWTP-302-17	MECHANICAL SECTION	AS SHOWN
PE-WWTP-310-13	PLUMBING & DRAINAGE SYSTEM – TYPICAL DETAILS	AS SHOWN	PE-WWTP-302-18	ELECTRICAL PLAN (FIRST STAGE)	AS SHOWN
PE-WWTP-310-14	ELECTRICAL DETAILS (1/2)	AS SHOWN	PE-WWTP-302-19	ELECTRICAL PLAN (FUTURE)	AS SHOWN
PE-WWTP-310-15	ELECTRICAL DETAILS (2/2)	AS SHOWN	PE-WWTP-302-20	ELECTRICAL DIAGRAM	AS SHOWN
			PE-WWTP-302-21	FIRE ALARM PLAN	AS SHOWN
			PE-WWTP-302-22	PLUMBING AND DRAINAGE PLAN	AS SHOWN
	LIFT PUMPING STATION			MAIN OFFICE BUILDING	
PE-WWTP-300-01	FIRST FLOOR PLAN	1/100	PE-WWTP-303-01	FIRST FLOOR PLAN	1/100
PE-WWTP-300-02	ROOF PLAN	1/100	PE-WWTP-303-02	SECOND FLOOR PLAN	1/100
PE-WWTP-300-03	SECTION A-A & B-B	1/100	PE-WWTP-303-03	ROOF PLAN	1/100
PE-WWTP-300-04	ELEVATION LINE 1 & 5	1/100	PE-WWTP-303-04	SECTION A-A, B-B	1/100
PE-WWTP-300-05	ELEVATION LINE A & D	1/100	PE-WWTP-303-05	SECTION C-C, D-D	1/100
PE-WWTP-300-06	BUILDING DETAILS	AS SHOWN	PE-WWTP-303-06	ELEVATION LINE A & D	1/100
PE-WWTP-300-07	STRUCTURE PLAN AND DETAILS	AS SHOWN	PE-WWTP-303-07	ELEVATION LINE 1 & 6	1/100
PE-WWTP-300-08	MECHANICAL PLAN	AS SHOWN	PE-WWTP-303-08	CEILING PLAN – FIRST FLOOR	1/100
PE-WWTP-300-09	ELECTRICAL PLAN	AS SHOWN	PE-WWTP-303-09	CEILING PLAN – SECOND FLOOR	1/100
PE-WWTP-300-10	ELECTRICAL DIAGRAM	AS SHOWN	PE-WWTP-303-10	STAIR DETAILS	AS SHOWN
PE-WWTP-300-11	FIRE ALARM PLAN	AS SHOWN	PE-WWTP-303-11	BUILDING DETAILS	AS SHOWN
PE-WWTP-300-12	LIGHTING OF LIFT PUMPING STATION PLAN (No. 2) B1F	1/100	PE-WWTP-303-12	TOILET DETAILS – WC01	AS SHOWN
			PE-WWTP-303-13	TOILET DETAILS – WC02	AS SHOWN
	CHLORINE STORAGE BUILDING		PE-WWTP-303-14	STRUCTURE PLAN OF SLAB & BEAMS (SECOND FLOOR)	AS SHOWN
PE-WWTP-301-01	FIRST FLOOR PLAN	1/100	PE-WWTP-303-15	DETAILS OF COLUMN AND BEAMS (SECOND FLOOR)	AS SHOWN
PE-WWTP-301-02	ROOF PLAN	1/100	PE-WWTP-303-16	DETAILS OF BEAMS (SECOND FLOOR)	AS SHOWN
PE-WWTP-301-03	SECTION A-A, B-B & C-C	1/100	PE-WWTP-303-17	STRUCTURE PLAN OF ROOF SLAB AND BEAMS	AS SHOWN
PE-WWTP-301-04	ELEVATION LINE 1 & 6	1/100	PE-WWTP-303-18	DETAILS OF ROOF BEAMS	AS SHOWN
PE-WWTP-301-05	ELEVATION LINE A & D	1/100	PE-WWTP-303-19	DETAILS OF ROOF WALL	AS SHOWN
PE-WWTP-301-06	STAIR DETAILS	AS SHOWN	PE-WWTP-303-20	STRUCTURE PLAN AND DETAIL OF STAIRCASE	AS SHOWN
PE-WWTP-301-07	BUILDING DETAILS	AS SHOWN	PE-WWTP-303-21	STRUCTURE PLAN AND DETAIL OF SUB-COLUMNS	AS SHOWN
PE-WWTP-301-08	STRUCTURE PLAN AND DETAILS OF ROOF BEAMS	AS SHOWN	PE-WWTP-303-22	MECHANICAL PLAN – FIRST FLOOR	AS SHOWN
PE-WWTP-301-09	DETAILS OF BRACING BEAMS AND STAIR	AS SHOWN	PE-WWTP-303-23	MECHANICAL PLAN – SECOND FLOOR	AS SHOWN
PE-WWTP-301-10	MECHANICAL PLAN	AS SHOWN	PE-WWTP-303-24	MECHANICAL SECTION	AS SHOWN
PE-WWTP-301-11	MECHANICAL SECTION	AS SHOWN	PE-WWTP-303-25	LIGHTING LAYOUT PLAN – FIRST FLOOR	AS SHOWN
PE-WWTP-301-12	ELECTRICAL PLAN AND DIAGRAM	AS SHOWN	PE-WWTP-303-26	LIGHTING LAYOUT PLAN – SECOND FLOOR	AS SHOWN
PE-WWTP-301-13	FIRE ALARM PLAN	AS SHOWN	PE-WWTP-303-27	SOCKET LAYOUT – FIRST FLOOR	AS SHOWN
PE-WWTP-301-14	PLUMBING AND DRAINAGE PLAN	AS SHOWN	PE-WWTP-303-28	SOCKET LAYOUT – SECOND FLOOR	AS SHOWN
			PE-WWTP-303-29	ELECTRICAL DIAGRAM	AS SHOWN
	BLOWER BUILDING		PE-WWTP-303-30	FIRE ALARM PLAN – FIRST FLOOR	AS SHOWN
PE-WWTP-302-01	FIRST FLOOR PLAN (FIRST STAGE)	1/100	PE-WWTP-303-31	FIRE ALARM PLAN – SECOND FLOOR	AS SHOWN
PE-WWTP-302-02	FIRST FLOOR PLAN (FUTURE)	1/100	PE-WWTP-303-32	PLUMBING AND DRAINAGE PLAN – FIRST FLOOR	AS SHOWN
PE-WWTP-302-03	SECTION B-B	1/100	PE-WWTP-303-33	PLUMBING AND DRAINAGE PLAN – SECOND FLOOR	AS SHOWN
PE-WWTP-302-04	SECTION A-A (FIRST STAGE)	1/100			

DRAWING NO.	TITLE	SCALE
DEWATERING BUILDING		
PE-WWTP-304-01	FIRST FLOOR PLAN (1/2)	1/100
PE-WWTP-304-02	FIRST FLOOR PLAN (2/2)	1/100
PE-WWTP-304-03	FIRST FLOOR PLAN (UPPER-1/2)	1/100
PE-WWTP-304-04	FIRST FLOOR PLAN (UPPER-2/2)	1/100
PE-WWTP-304-05	SECOND FLOOR PLAN (1/2)	1/100
PE-WWTP-304-06	SECOND FLOOR PLAN (2/2)	1/100
PE-WWTP-304-07	SECTION A-A	1/100
PE-WWTP-304-08	SECTION B-B	1/100
PE-WWTP-304-09	SECTION C-C (1/2)	1/100
PE-WWTP-304-10	SECTION C-C (2/2)	1/100
PE-WWTP-304-11	ELEVATION LINE E (1/2)	1/100
PE-WWTP-304-12	ELEVATION LINE E (2/2)	1/100
PE-WWTP-304-13	ELEVATION LINE A (1/2)	1/100
PE-WWTP-304-14	ELEVATION LINE A (2/2)	1/100
PE-WWTP-304-15	ELEVATION LINE I	AS SHOWN
PE-WWTP-304-16	ROOF PLAN	AS SHOWN
PE-WWTP-304-17	STAIR DETAILS (1/2)	AS SHOWN
PE-WWTP-304-18	STAIR DETAILS (2/2)	AS SHOWN
PE-WWTP-304-19	TOILET DETAILS	AS SHOWN
PE-WWTP-304-20	TANK DETAILS	AS SHOWN
PE-WWTP-304-21	SECOND FLOOR FRAMING PLAN	AS SHOWN
PE-WWTP-304-22	LEVEL 2 BEAM DETAILS	AS SHOWN
PE-WWTP-304-23	DETAIL OF COLUMN & ROOF	AS SHOWN
PE-WWTP-304-24	MISCELLANEOUS DETAILS	AS SHOWN
PE-WWTP-304-25	STAIR DETAILS (STRUCTURE)	AS SHOWN
PE-WWTP-304-26	MECHANICAL PLAN (1/2) – FIRST FLOOR	AS SHOWN
PE-WWTP-304-27	MECHANICAL PLAN (2/2) – FIRST FLOOR	AS SHOWN
PE-WWTP-304-28	MECHANICAL PLAN (1/2) – SECOND FLOOR	AS SHOWN
PE-WWTP-304-29	MECHANICAL PLAN (2/2) – SECOND FLOOR	AS SHOWN
PE-WWTP-304-30	MECHANICAL SECTION A-A	AS SHOWN
PE-WWTP-304-31	MECHANICAL SECTION B-B	AS SHOWN
PE-WWTP-304-32	ELECTRICAL DIAGRAM (1/2)	AS SHOWN
PE-WWTP-304-33	ELECTRICAL DIAGRAM (2/2)	AS SHOWN
PE-WWTP-304-34	ELECTRICAL PLAN – FIRST FLOOR	AS SHOWN
PE-WWTP-304-35	ELECTRICAL PLAN – SECOND FLOOR	AS SHOWN
PE-WWTP-304-36	FIRE ALARM PLAN (1/2) – FIRST FLOOR	AS SHOWN
PE-WWTP-304-37	FIRE ALARM PLAN (2/2) – FIRST FLOOR	AS SHOWN
PE-WWTP-304-38	FIRE ALARM PLAN – SECOND FLOOR	AS SHOWN
PE-WWTP-304-39	PLUMBING AND DRAINAGE PLAN – FIRST FLOOR	AS SHOWN
PE-WWTP-304-40	PLUMBING AND DRAINAGE PLAN – SECOND FLOOR	AS SHOWN
FIRST FERMENTATION TANK		
PE-WWTP-305-01	PARTIAL FIRST FLOOR PLAN (1/2)	1/100
PE-WWTP-305-02	PARTIAL FIRST FLOOR PLAN (2/2)	1/100
PE-WWTP-305-03	PARTIAL ELEVATION LINE A	1/100
PE-WWTP-305-04	PARTIAL ELEVATION LINE 1	1/100
PE-WWTP-305-05	CROSS SECTION	1/100
PE-WWTP-305-06	LONGITUDINAL SECTION	1/100
PE-WWTP-305-07	ROOF PLAN	1/100
PE-WWTP-305-08	STEEL COLUMN PLAN & COLUMN DETAILS	AS SHOWN
PE-WWTP-305-09	ROOF FRAMING PLAN & ROOF DETAILS	AS SHOWN
PE-WWTP-305-10	CROSS SECTION, END WALL ELEVATION, CANOPY DETAILS	AS SHOWN
PE-WWTP-305-11	SIDE WALL ELEVATION & FRAMINGS	AS SHOWN
PE-WWTP-305-12	LIGHTING LAYOUT PLAN	AS SHOWN

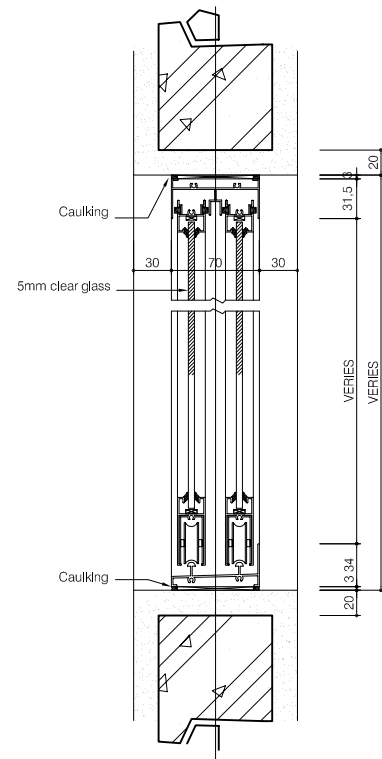
DRAWING NO.	TITLE	SCALE
SECOND FERMENTATION TANK		
PE-WWTP-305-21	PARTIAL FLOOR PLAN (1/2)	1/100
PE-WWTP-305-22	PARTIAL FLOOR PLAN (2/2)	1/100
PE-WWTP-305-23	ELEVATION LINE A	1/100
PE-WWTP-305-24	ELEVATION LINE 1	1/100
PE-WWTP-305-25	LONGITUDINAL SECTION	1/100
PE-WWTP-305-26	CROSS SECTION	1/100
PE-WWTP-305-27	ROOF PLAN	1/100
PE-WWTP-305-28	STEEL COLUMN PLAN & COLUMN DETAILS	AS SHOWN
PE-WWTP-305-29	ROOF FRAMING PLAN & ROOF DETAILS	AS SHOWN
PE-WWTP-305-30	CROSS SECTION, END WALL ELEVATION, CANOPY DETAILS	AS SHOWN
PE-WWTP-305-31	SIDE WALL ELEVATION & FRAMINGS	AS SHOWN
PE-WWTP-305-32	PLAN OF FOUNDATION, COLUMNS, GROUND BEAMS	AS SHOWN
PE-WWTP-305-33	DETAILS OF FOUNDATION, COLUMNS, GROUND BEAMS	AS SHOWN
PE-WWTP-305-34	PLAN OF RC. WALL	AS SHOWN
PE-WWTP-305-35	DETAILS OF GROUND FLOOR SLAB, BEAMS	AS SHOWN
PE-WWTP-305-36	LIGHTING LAYOUT PLAN (1/2)	AS SHOWN
PE-WWTP-305-37	LIGHTING LAYOUT PLAN (2/2)	AS SHOWN
PE-WWTP-305-38	PLUMBING PLAN	AS SHOWN
STORAGE VESSEL		
PE-WWTP-305-41	PARTIAL FLOOR PLAN (1/2), PARTIAL ELEVATION (1/2)	1/100
PE-WWTP-305-42	PARTIAL FLOOR PLAN (2/2), PARTIAL ELEVATION (2/2)	1/100
PE-WWTP-305-43	SECTION A-A, ELEVATION LINE 9	1/100
PE-WWTP-305-44	SECTION B-B	1/100
PE-WWTP-305-45	PLAN OF FOUNDATION, COLUMNS, GROUND BEAMS	AS SHOWN
PE-WWTP-305-46	DETAILS OF FOUNDATION, COLUMNS, GROUND BEAMS	AS SHOWN
PE-WWTP-305-47	PLAN & DETAIL OF RC. WALL, DETAIL OF GROUND BEAMS	AS SHOWN
PE-WWTP-305-48	PLAN AND DETAIL OF ROOF BEAMS	AS SHOWN
PE-WWTP-305-49	LIGHTING LAYOUT PLAN	AS SHOWN
PE-WWTP-305-50	PLUMBING PLAN	AS SHOWN
SUB-STORAGE VESSEL		
PE-WWTP-305-61	FLOOR PLAN, ROOF PLAN, SECTIONS AND ELEVATIONS	1/100
PE-WWTP-305-62	STEEL COLUMN PLAN, SECTIONS & DETAILS	AS SHOWN
PE-WWTP-305-63	PLANS & DETAILS OF FOUNDATION, COLUMNS, GROUND BEAMS & RC WALL	AS SHOWN
PE-WWTP-305-64	DETAIL OF FOUNDATION, COLUMNS	AS SHOWN
PE-WWTP-305-65	LIGHTING LAYOUT PLAN AND PLUMBING PLAN	AS SHOWN
COMPOST CONTROL BUILDING		
PE-WWTP-305-81	FIRST FLOOR PLAN, ROOF PLAN	1/100
PE-WWTP-305-82	SECTION A-A, B-B & C-C	1/100
PE-WWTP-305-83	ELEVATION LINE 1 & 11	1/100
PE-WWTP-305-84	ELEVATION LINE A & C	1/100
PE-WWTP-305-85	BUILDING AND STAIR DETAILS	1/100
PE-WWTP-305-86	TOILET DETAILS, WC01	AS SHOWN
PE-WWTP-305-87	PLAN OF FOUNDATION, COLUMNS AND GROUND BEAMS	AS SHOWN
PE-WWTP-305-88	DETAIL OF FOUNDATION, COLUMNS AND GROUND BEAMS	AS SHOWN
PE-WWTP-305-89	DETAILS OF FOUNDATION M2	AS SHOWN
PE-WWTP-305-90	PLAN AND DETAILS OF ROOF BEAMS	AS SHOWN
PE-WWTP-305-91	MECHANICAL PLAN	AS SHOWN
PE-WWTP-305-92	ELECTRICAL PLAN	AS SHOWN
PE-WWTP-305-93	FIRE ALARM PLAN	AS SHOWN
PE-WWTP-305-94	PLUMBING AND DRAINAGE PLAN	AS SHOWN

DRAWING NO.	TITLE	SCALE
GUARD HOUSE		
PE-WWTP-306-01	PLANS, ELEVATIONS, SECTIONS	1/100
PE-WWTP-306-02	BUILDING & STAIR DETAILS	AS SHOWN
PE-WWTP-306-03	PLAN & DETAILS OF FOUNDATION	AS SHOWN
PE-WWTP-306-04	PLAN & DETAILS OF ROOF BEAMS, GROUND BEAMS AND COLUMNS	AS SHOWN
PE-WWTP-306-05	ELECTRICAL AND A/C LAYOUT PLAN	AS SHOWN
PE-WWTP-306-06	PLUMBING AND DRAINAGE PLAN	AS SHOWN
STAIRCASE A		
PE-WWTP-306-21	PLANS, ELEVATIONS, SECTIONS	1/100
PE-WWTP-306-22	BUILDING & STAIR DETAILS	AS SHOWN
PE-WWTP-306-23	PLANS & DETAILS OF SECOND FLOOR & ROOF SLAB, BEAMS, COLUMNS	AS SHOWN
PE-WWTP-306-24	DETAILS OF SECOND FLOOR & ROOF BEAMS	AS SHOWN
PE-WWTP-306-25	STRUCTURE PLAN & DETAILS OF STAIRCASE	AS SHOWN
PE-WWTP-306-26	ELECTRICAL PLAN	AS SHOWN
STAIRCASE B		
PE-WWTP-306-41	PLANS, SECTION A-A	1/100
PE-WWTP-306-42	ROOF PLAN, ELEVATION LINE B & 5	1/100
PE-WWTP-306-43	BUILDING AND STAIR DETAILS	AS SHOWN
PE-WWTP-306-44	PLANS & DETAILS OF SECOND FLOOR & ROOF SLAB, BEAMS, COLUMNS	AS SHOWN
PE-WWTP-306-45	DETAILS OF SECOND FLOOR & ROOF BEAMS	AS SHOWN
PE-WWTP-306-46	STRUCTURE PLAN & DETAILS OF STAIRCASE	AS SHOWN
PE-WWTP-306-47	ELECTRICAL PLAN	AS SHOWN
STAIRCASE C		
PE-WWTP-306-61	PLANS, ELEVATIONS, SECTIONS	1/100
PE-WWTP-306-62	BUILDING & STAIR DETAILS	AS SHOWN
PE-WWTP-306-63	PLANS & DETAILS OF FIRST FLOOR & ROOF SLAB, BEAMS, COLUMNS	AS SHOWN
PE-WWTP-306-64	DETAILS OF FIRST FLOOR & ROOF BEAMS	AS SHOWN
PE-WWTP-306-65	STRUCTURE PLAN & DETAILS OF STAIRCASE	AS SHOWN
PE-WWTP-306-66	ELECTRICAL PLAN	AS SHOWN

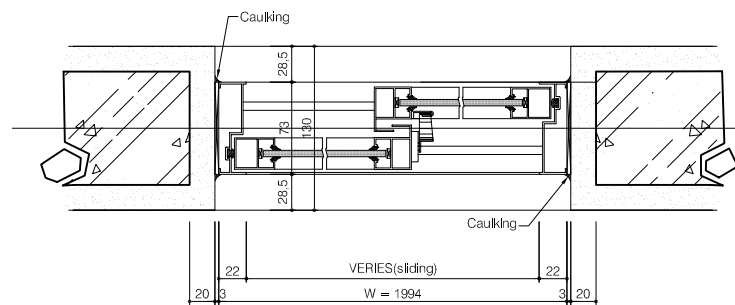
DRAWING NO.	TITLE	SCALE
VENTILATION FACILITY		
PE-WWTP-307-01	VENTILATION FACILITY (1/27) PIPE GALLERY PLAN	1/1000
PE-WWTP-307-02	VENTILATION FACILITY (2/27) VENTILATION AIR FLOW SHEET	
PE-WWTP-307-03	VENTILATION FACILITY (3/27) SEDIMENTATION TANK and AERATION TANK PLAN (1/2)	1/200
PE-WWTP-307-04	VENTILATION FACILITY (4/27) SEDIMENTATION TANK and AERATION TANK PLAN (2/2)	1/200
PE-WWTP-307-05	VENTILATION FACILITY (5/27) SEDIMENTATION TANK and AERATION TANK SECTION	1/200
PE-WWTP-307-06	VENTILATION FACILITY (6/27) CHLORINE STORAGE BUILDING PLAN (1/4)	1/100
PE-WWTP-307-07	VENTILATION FACILITY (7/27) CHLORINE STORAGE BUILDING PLAN (2/4)	1/100
PE-WWTP-307-08	VENTILATION FACILITY (8/27) CHLORINE STORAGE BUILDING PLAN (3/4)	1/100
PE-WWTP-307-09	VENTILATION FACILITY (9/27) CHLORINE STORAGE BUILDING PLAN (4/4)	1/100
PE-WWTP-307-10	VENTILATION FACILITY (10/27) CHLORINE STORAGE BUILDING SECTION	1/100
PE-WWTP-307-11	VENTILATION FACILITY (11/27) BLOWER BUILDING PLAN (1/3)	1/100
PE-WWTP-307-12	VENTILATION FACILITY (12/27) BLOWER BUILDING PLAN (2/3)	1/100
PE-WWTP-307-13	VENTILATION FACILITY (13/27) BLOWER BUILDING PLAN (3/3)	1/100
PE-WWTP-307-14	VENTILATION FACILITY (14/27) BLOWER BUILDING SECTION	1/100
PE-WWTP-307-15	VENTILATION FACILITY (15/27) MAIN BUILDING PLAN	1/100
PE-WWTP-307-16	VENTILATION FACILITY (16/27) MAIN BUILDING SECTION	1/100
PE-WWTP-307-17	VENTILATION FACILITY (17/27) DEWATERING and CENTRIFUGAL THICKENER BUILDING PLAN (1/2)	1/200
PE-WWTP-307-18	VENTILATION FACILITY (18/27) DEWATERING and CENTRIFUGAL THICKENER BUILDING PLAN (2/2)	1/200
PE-WWTP-307-19	VENTILATION FACILITY (19/27) DEWATERING and CENTRIFUGAL THICKENER BUILDING SECTION (1/2)	1/100
PE-WWTP-307-20	VENTILATION FACILITY (20/27) DEWATERING and CENTRIFUGAL THICKENER BUILDING SECTION (2/2)	1/100
PE-WWTP-307-21	VENTILATION FACILITY (21/27) COMPOST PLANT BUILDING PLAN (1/2)	1/100
PE-WWTP-307-22	VENTILATION FACILITY (22/27) COMPOST PLANT BUILDING PLAN (2/2)	1/100
PE-WWTP-307-23	VENTILATION FACILITY (23/27) LIFT PUMPING STATION PLAN (1/2)	1/200
PE-WWTP-307-24	VENTILATION FACILITY (24/27) LIFT PUMPING STATION PLAN (2/2)	1/100, 1/200
PE-WWTP-307-25	VENTILATION FACILITY (25/27) LIFT PUMPING STATION SECTION	1/100
PE-WWTP-307-26	VENTILATION FACILITY (26/27) MISCELLANEOUS DETAIL (1/2)	N.T.S
PE-WWTP-307-27	VENTILATION FACILITY (27/27) MISCELLANEOUS DETAIL (2/2)	N.T.S

General information

ALUMINUM WINDOW

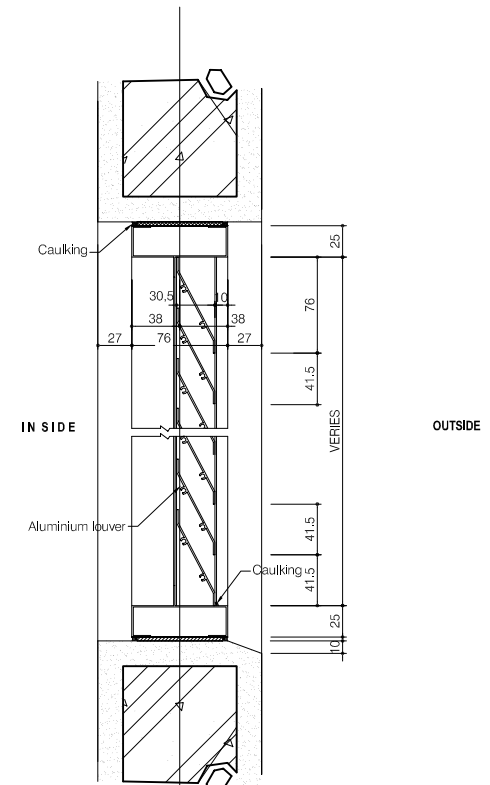


VERTICAL SECTION
SCALE: 1/3

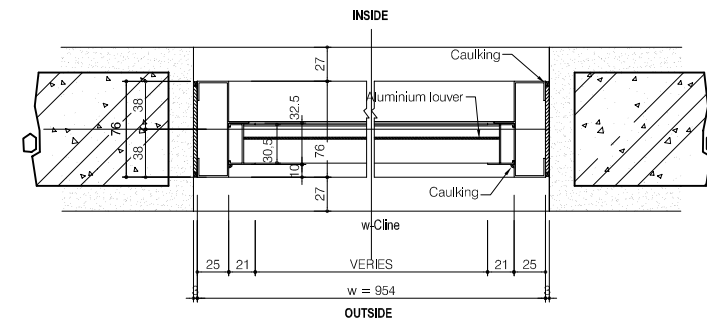


HORIZONTAL SECTION
SCALE: 1/3

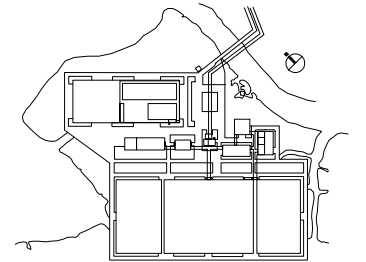
ALUMINUM LOUVER



VERTICAL SECTION
SCALE: 1/3



HORIZONTAL SECTION
SCALE: 1/3



NO.	DATE	DESCRIPTIONS	BY	APRO.
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REVISIONS

PROJECT MANAGEMENT UNIT FOR
HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT

THE DETAILED DESIGN STUDY ON HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
IN THE SOCIALIST REPUBLIC OF VIET NAM

PACKAGE E
WASTEWATER TREATMENT PLANT
LOUVRE & WINDOW DETAILS

SCALE : AS SHOWN

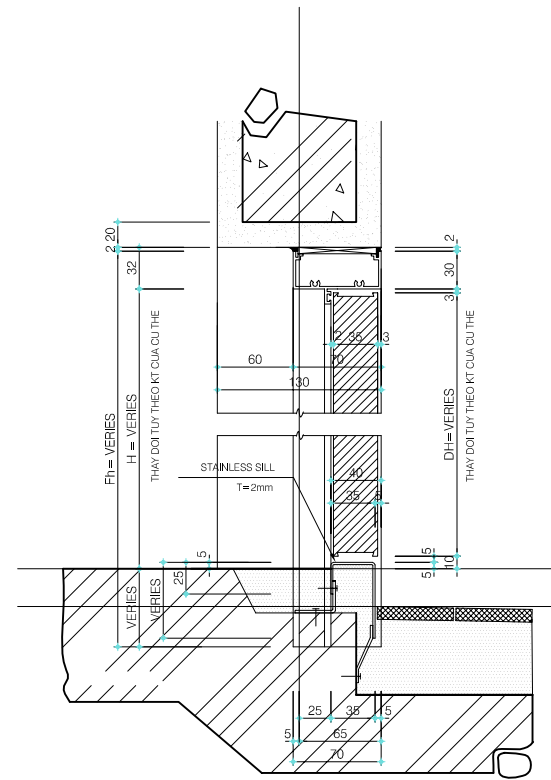
JAPAN INTERNATIONAL COOPERATION
AGENCY (JICA)

PACIFIC CONSULTANTS INTERNATIONAL

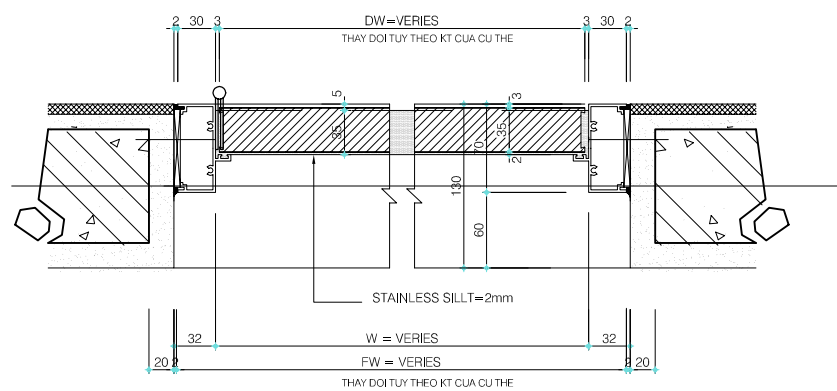
DESIGNED KIKUTA HIROSHI	CHECKED KONDO MASAMI
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DATE : JUNE 2001 DWG. No. PE-WWTP-310-01

ALUMINUM DOOR

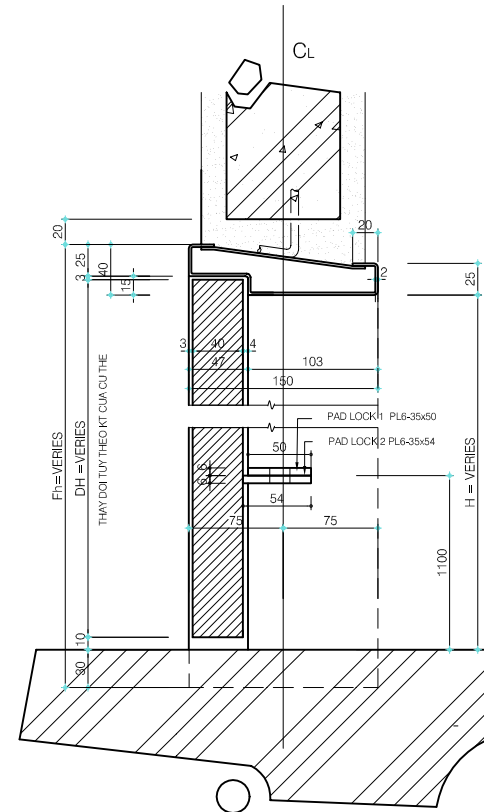


VERTICAL SECTION
SCALE: 1/3

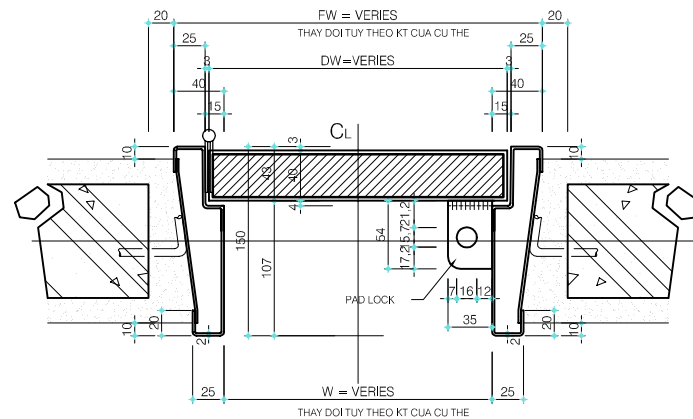


HORIZONTAL SECTION
SCALE: 1/3

STEEL DOOR

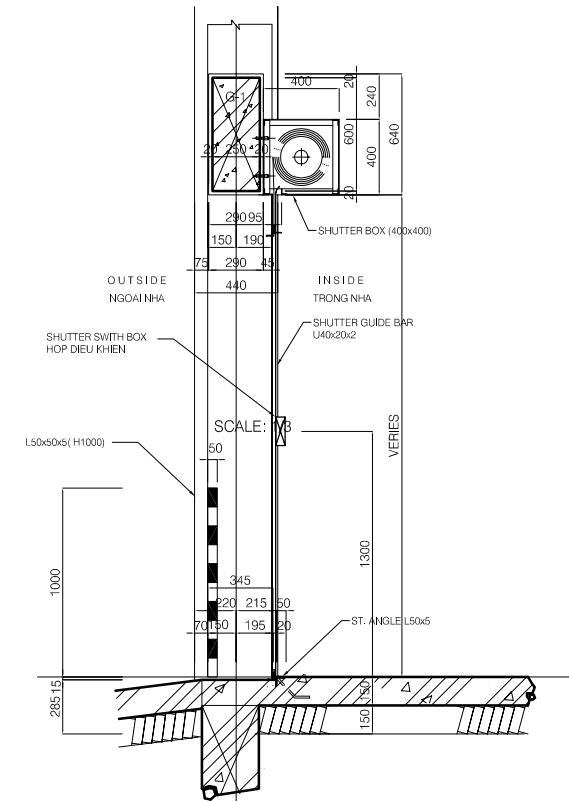


VERTICAL SECTION
SCALE: 1/3

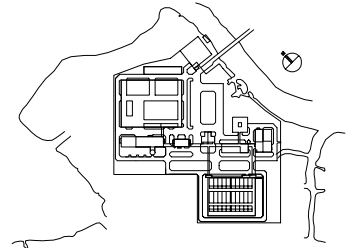


HORIZONTAL SECTION
SCALE: 1/3

ROLLER SHUTTER DOOR



VERTICAL SECTION
SCALE: 1/2



NO.	DATE	DESCRIPTIONS	BY	APRO.

REVISIONS

PROJECT MANAGEMENT UNIT FOR
HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT

THE DETAILED DESIGN STUDY ON HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
IN THE SOCIALIST REPUBLIC OF VIET NAM

PACKAGE E
WASTEWATER TREATMENT PLANT
DOOR DETAILS

SCALE : AS SHOWN

JICA JAPAN INTERNATIONAL COOPERATION
AGENCY (JICA)

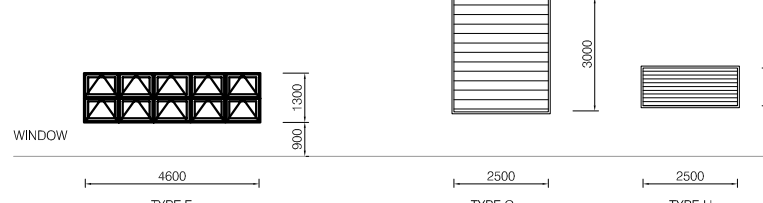
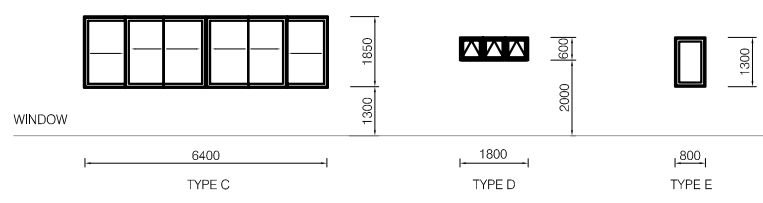
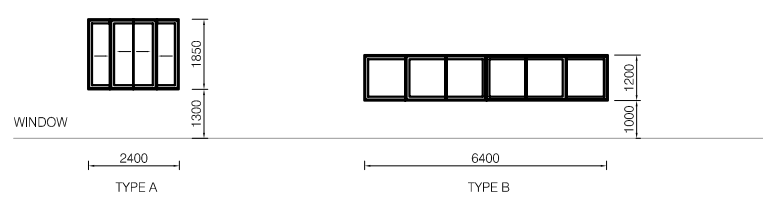
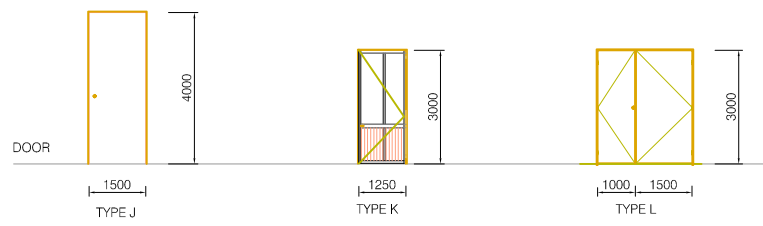
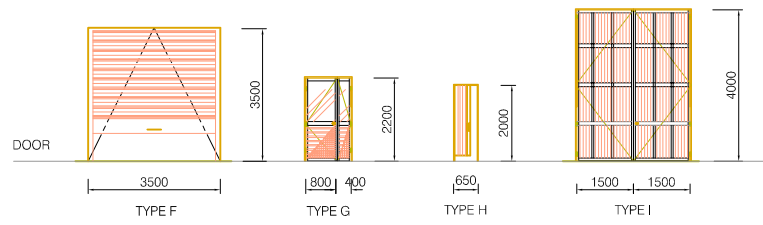
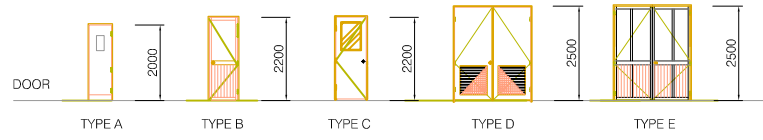
PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED
KIKUTA HIROSHI

CHECKED
KONDO MASAMI

DATE : JUNE 2001 DWG. No. PE-WWTP-310-02

DESCRIPTION

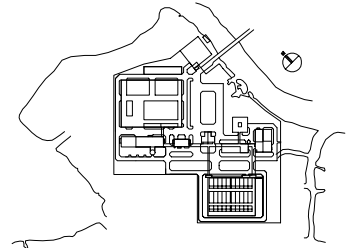


No	MARKS	SIZE (IN / IN)		TYPE	QUANTITY	REMARK
		WIDTH	HEIGHT			
1	D01	650	2000	A	08	PLASTIC NHUA
	D24					
	D41					
	D51					
	D71					
	D103					
2	D02	750	2200	B	07	ALUMINUM 5MM THK FROST GLASS KHUNG NHOM KINH MAI MO 5MM
	D23					
	D42					
	D52					
	D72					
	D102					
3	D03	800	2200	B	06	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
	D21					
	D53					
4	D04	850	2200	C	04	STEEL 5MM THK CLEAR GLASS KHUNG SAT KINH TRONG 5MM
	D22					
	D92					
	D94					
	D82					
D45						
5	D05	2000	2500	D	02	STEEL KHUNG SAT
6	D06	2000	2500	E	07	STEEL 5MM THK CLEAR GLASS KHUNG SAT KINH TRONG 5MM
7	D07	1800	2400	E	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
8	D08	3500	3500	F	01	STEEL ROLLER SHUTTER CUA CUON SAT
9	D09	3500	3500	F	01	STEEL ROLLER SHUTTER CUA CUON
10	D10	1200	2200	G	09	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
11	D11	650	2000	H	06	PLASTIC NHUA
12	D43	1500	2200	E	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
13	D44	4000	4000	F	04	STEEL ROLLER SHUTTER CUA CUON
	D54					
	D39					
	D74					
14	D55	900	2200	C	05	STEEL 5MM THK CLEAR GLASS KHUNG SAT KINH TRONG 5MM
	D75					
	D100					
15	D56	3000	4000	I	02	ALUMINUM KHUNG NHOM
16	D57	1800	2500	E	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
17	D91	2500	2200	D	01	STEEL KHUNG SAT
	D93					
18	D37	1500	4000	J	02	STEEL KHUNG SAT

WINDOWS

DOORS

No	MARKS	SIZE (IN / IN)		TYPE	QUANTITY	REMARK
		WIDTH	HEIGHT			
1	W01	2400	1850	A	15	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
	W53					
2	W02	3200	1200	B	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
3	W03	6400	1200	B	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
4	W04	6400	1850	C	02	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
5	W05	600	600	D	03	ALUMINUM 5MM THK FROST GLASS KHUNG NHOM KINH MAI MO 5MM
	W23					
	W71					
6	W06	1800	600	D	01	ALUMINUM 5MM THK FROST GLASS KHUNG NHOM KINH MAI MO 5MM
7	W07	800	1300	E	04	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
8	W21	2400	1300	A	03	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
9	W22	4600	1300	F	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
10	W41	2500	3000	G	18	ALUMINUM LOUVER LAM NHOM
11	W42	3600	600	H	10	ALUMINUM LOUVER LAM NHOM
12	W43	2400	600	H	02	ALUMINUM LOUVER LAM NHOM
13	W44	2500	1000	H	03	ALUMINUM LOUVER LAM NHOM
14	W45	1300	1000	H	01	ALUMINUM LOUVER LAM NHOM
15	W46	1800	1000	H	01	ALUMINUM LOUVER LAM NHOM
16	W55	2000	1000	H	69	ALUMINUM LOUVER LAM NHOM
17	W72	1000	1200	A	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
18	W73	4000	1200	A	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
19	W74	1000	1200	E	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
20	W101	1200	600	D	06	ALUMINUM 5MM THK FROST GLASS KHUNG NHOM KINH MAI MO 5MM
21	W102	2400	1800	A	10	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
19	D73	1250	3000	K	01	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
20	D70	2500	3000	L	01	STEEL 5MM THK CLEAR GLASS KHUNG SAT KINH TRONG 5MM
21	D101	900	2200	B	05	ALUMINUM 5MM THK CLEAR GLASS KHUNG NHOM KINH TRONG 5MM
22	D104	3000	4000	M	04	STEEL 5MM THK CLEAR GLASS KHUNG SAT KINH TRONG 5MM



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WATER ENVIRONMENT IMPROVEMENT PROJECT
IN THE SOCIALIST REPUBLIC OF VIET NAM

PACKAGE E
WASTEWATER TREATMENT PLANT
DOOR & WINDOW SCHEDULE

SCALE : N.T.S.

JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED
KIKUTA HIROSHI

CHECKED
KONDO MASAMI

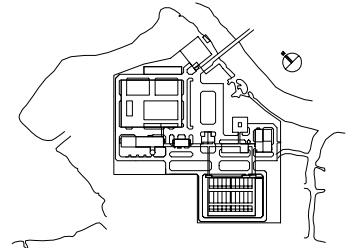
DATE : JUNE 2001 DWG. No. PE-WWTP-310-03

NOTE:

1. ALL EXTERNAL WALL WILL BE FINISHED BY ONE LAYER OF WATERPROOFING MATERIAL AS INDICATED IN THE TECHNICAL SPECIFICATION AND PAINTING FINISHED. COLOUR WILL BE SELECTED BY THE PROJECT MANAGER. TAT CA TUONG NGOAI NHA DEU DUOC SON CHONG THAM THEO CHI DINH TRONG "DIEU KIEN SACH" VA SON NUOC 2 LOP HOAN THIEN. MAU SON SE DUOC CHON BOI NHA QUAN LY DU AN.
2. ROOFING WILL BE MADE OF SPANDEK HI-TEN ZINCALUME ROOFSHEET. ALL TRIMS AND FLASHINGS NECESSARY FOR A PERFECT COMPLETION ARE INCLUDED & FINISHED AS INDICATED IN THE TECHNICAL SPECIFICATION. COLOUR WILL BE SELECTED BY THE PROJECT MANAGER. TOAN BO MAI NHA DUOC LOP BANG TAM LOP LOAI SPANDEK HI-TEN ZINCALUME, KE CA CAC GO VA MU CHE DEU DUOC HOAN THIEN THEO CHI DINH TRONG "DIEU KIEN SACH". MAU SON SE DUOC CHON BOI NHA QUAN LY DU AN.

INTERIOR FINISH SCHEDULE

BUILDING	ROOM NAME	ROOM No.	FLOOR		WALL		CEILING		BUILDING	ROOM NAME	ROOM No.	FLOOR		WALL		CEILING		
			FINISHED BY EPOXY PAINT QUART TILE (TIEGERA)	CERAMIC FLOOR TILE	FINISHED BY EPOXY PAINT	FINISHED BY PAINT	CERAMIC WALL TILE	PLASTERBOARD PANEL				VILLBOARD CEILING	NON	FINISHED BY EPOXY PAINT QUART TILE (TIEGERA)	CERAMIC FLOOR TILE	FINISHED BY EPOXY PAINT	FINISHED BY PAINT	CERAMIC WALL TILE
MAIN OFFICE BUILDING	LOBBY	01	X		X		X		DEWATER BUILDING (CONC.)	STORAGE	60	X		X	X			
	STORAGE	02	X		X		X			WORKER ROOM	61	X		X	X			
	LABORATORY	03	X		X		X			ELECTRIC ROOM	62	X		X				X
	ELECTRIC ROOM	04	X		X			X		CONTROL ROOM	63	X		X				X
	GENERATOR ROOM	05	X		X			X		CHEMICAL FITTING ROOM	64	X		X				X
	FEMALE	06		X		X		X		CENTRIFUGAL THICKENER	65	X		X				X
	MALE	07		X		X		X		CENTRIFUGAL DEHYDRATOR	66	X		X				X
	CONTROL ROOM	08	X		X			X		PUMP ROOM	68	X		X				X
	LIBRARY	09	X		X		X			STAIRCASE	69	X		X				X
	NIGHT DUTY	10	X		X		X											
	TEA ROOM	11	X		X		X			STAIRCASE	70	X		X				X
	FEMALE LOCKER	12		X		X		X		CHLORINATION STORAGE	71	X		X				X
	MALE LOCKER	13		X		X		X		ELECTRIC ROOM	72	X		X				X
	MALE	14		X		X		X		WORKER ROOM	73	X		X	X			
	FEMALE	15		X		X		X		WC	74		X		X	X		X
	MEETING ROOM	16	X		X		X			PANTRY	75	X		X	X	X		
	WORKER ROOM	17	X		X		X											
	OFFICE	18	X		X		X			STORAGE 80	80	X		X				X
	STAIRCASE 1	19	X		X		X			STORAGE 81	81	X		X				X
	STAIRCASE 2	20	X		X		X			STORAGE 82	82	X		X				X
GUARD HOUSE	NIGHT DUTY	21	X		X		X		STORAGE 83	83	X		X				X	
	LOCKER	22	X		X		X		STORAGE 84	84	X		X				X	
	PANTRY	23	X		X		X		STORAGE 85	85	X		X				X	
	SECURITY	24	X		X		X		STORAGE 86	86	X		X				X	
	WC	25		X		X		X	STORAGE 87	87	X		X				X	
GEN. BLDG.	GENERATOR ROOM	31	X		X			X	STAIRCASE	91	X		X				X	
									STAIRCASE	92	X		X				X	
BLOWER BUILDING	BLOWER ROOM	41	X		X			X	STAIRCASE	93	X		X				X	
	AIR CORRIDOR	42	X		X			X	STAIRCASE	94	X		X				X	
	AIR CORRIDOR	43	X		X			X	ELECTRIC ROOM	95	X		X				X	
	MALE	44		X		X		X	COMPOST ELECTRIC ROOM	100	X		X		X			
	FEMALE	45		X		X		X	OFFICE & CONTROL ROOM	101	X		X	X	X			
DEWATER BUILDING	PUMP ROOM	51	X		X			X	STRAGE AND WORKSHOP ROOM	102	X		X	X	X			
	MIXED SLUDGE TANK	52	X		X			X	WORKER ROOM	103	X		X	X	X			
	HOPPER ROOM	53	X		X			X	KITCHEN	104	X		X			X		
	SLUDGE TANK	54	X		X			X	FEMALE LOCKER	105		X		X	X			
	RECYCLE FLOW TANK	55	X		X			X	MALE LOCKER	106		X		X	X			
	TREATED WATER TANK	56	X		X			X	FEMALE	107		X		X	X			
	WC01	57		X		X		X	MALE	108		X		X	X			
	STAIRCASE 01	58	X		X			X	STAIRCASE	109	X		X				X	
	WC02	59		X		X		X										



NO.	DATE	DESCRIPTIONS	BY	APRO.
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HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT

THE DETAILED DESIGN STUDY ON HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
IN THE SOCIALIST REPUBLIC OF VIET NAM

PACKAGE E
WASTEWATER TREATMENT PLANT

FINISH SCHEDULE

SCALE : N.T.S.

JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

PC PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED KIKUTA HIROSHI CHECKED KONDO MASAMI

DATE : JUNE 2001 DWG. No. PE-WWTP-310-04

GENERAL INFORMATION

I. GENERAL

- THESE NOTES SHALL APPLY UNLESS SPECIFICALLY OTHERWISE INDICATED IN THE PLANS. IN CASE OF CONFLICT BETWEEN PLANS AND SPECIFICATION, SPECIFICATIONS SHALL GOVERN.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED IN PLANS.
- ALL ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED IN PLANS.
- VERTICAL DATUM IS BASED ON THE MEAN LOWER LOW WATER (MLLW) AS ESTABLISHED BY THE BUREAU OF CAST AND GEODETIC SURVEY (BCGS), THE 0.00 ELEVATION IN THE PLANS SHALL BE RECKONED FROM THE DATUM PLANS 10.00 METERS BELOW MLLW.
- ALL DIMENSIONS AND ELEVATIONS SHOWN IN THE PLANS SHALL BE VERIFIED BEFORE COMMENCEMENT OF THE WORKS.
- ALL DIMENSIONS, ELEVATIONS AND LOCATIONS OF OPENING RELATING TO THE EQUIPMENT ARE TENTATIVE AND SUBJECT TO CHANGE AFTER THE EQUIPMENT DIMENSIONS HAVE BEEN ESTABLISHED.

II. CODES AND REFERENCES

- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
- BRITISH STANDARD (B.S)
- AUSTRALIAN STANDARD (A.S)
- SWEDISH STANDARD (SIS)
- VIETNAMESE STANDARD (TCVN)
- DESIGN CRITERIA OF EXTERIOR AND PROJECT DRAINAGE NETWORKS NO. 20 TCN-51-84, MINISTRY OF CONSTRUCTION.
- PROCEEDINGS OF VIETNAM CONSTRUCTION STANDARDS, VOLUME III (MINISTRY OF CONSTRUCTION 1997)
- HAND BOOK FOR DESIGN OF ROAD AND BRIDGE (VIETNAM).
- SEWERAGE FACILITIES PLANNING AND DESIGN MANUAL, JAPAN SEWERAGE WORKS AGENCY STANDARDS (JSWAS), 1994
- JAPANESE INDUSTRIAL STANDARD (JIS).
- REINFORCED CONCRETE SEWER PIPE, JAPAN SEWERAGE WORKS AGENCY STANDARDS (JSWAS), 1999
- REINFORCED CONCRETE PIPE JACKING SEWER PIPE, JAPAN SEWERAGE WORKS AGENCY STANDARDS (JSWAS), 1999
- SPECIFICATION OF HIGHWAY BRIDGES; PART 4 (JAPAN ROAD ASSOCIATION 1994)
- STANDARD SPECIFICATION FOR DESIGN AND COSTRUCTION OF CONCRETE STRUCTURE (THE JAPAN SOCIETY OF CIVIL ENGINEERS 1996)
- PROCEEDINGS OF COST ESTIMATE FOR SEWERAGE DESIGN (JAPAN SEWERAGE ASSOCIATION)
- ROAD BRIDGE SUBSTRUCTURE DESIGN STANDARD (JAPAN ROAD ASSOCIATION 1994)
- STANDARD SPECIFICATION FOR DESIGN AND CONSTRUCTION OF CONCRETE STRUCTURE (THE JAPAN SOCIETY OF CIVIL ENGINEERS 1996)
- STRUCTURE DESIGN INDEX (JAPAN SEWAGE WORKS AGENCY 1998)
- TEMPORARY STRUCTURE DESIGN INDEX (JAPAN SEWAGE WORKS AGENCY 1998).
- SPECIFICATION FOR HIGHWAY BRIDGES; PART 4 (JAPAN ROAD ASSOCIATION 1990).
- STANDARD SPECIFICATION FOR DESIGN AND CONSTRUCTION OF TUNNELING; OPEN CUT METHOD (THE JAPAN SOCIETY OF CIVIL ENGINEER 1996)
- TEMPORARY STRUCTURE INDEX FOR EARTH WORKS OF ROAD (JAPAN ROAD ASSOCIATION 1990)
- TEMPORARY STRUCTURE DESIGN INDEX (JAPAN SEWAGE WORKS AGENCY 1998).

III. CIVIL AND STRUCTURAL DESIGN

1. DESIGN LOAD:

1.1 DEAD LOAD

- STEEL	7850 Kg/m ³
- PLAIN CONCRETE	2350 Kg/m ³
- REINFORCE CONCRETE	2500 Kg/m ³

1.2 LIVE LOAD

- CROWD LOAD	500 Kg/m ²
- SURCHARGE	1000 Kg/m ² (500Kg/cm ²)
- TRUCK LOAD	H30

1.3 SEISMIC LOAD

- SEISMIC COEFFICIENT	0.00
-----------------------	------

2. CONCRETE:

- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f_c) AFTER 28 DAYS BASED ON THE STANDARD CYLINDER TESTS AS FOLLOWS:

CLASS	USE OF EACH CLASS OF CONCRETE	STRENGTH*(kg/cm ²)
A	JACKING PIPES	500
B	PRESTRESSED CONCRETE FOR BRIDGE GIRDERS	420
C	DIAPHRAGM WALL	300
D	PRECAST CONCRETE	250
E	GENERAL USE REINFORCED CONCRETE	210
F	PLAIN (UNREINFORCED) CONCRETE	180
G	LEVELLING CONCRETE	100

* NOTE: Minimum 28-day compressive strength by cylinder test (300mm x150mm diameter).

3. REINFORCING BARS:

3.1 REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING SPECIFICATIONS EXCEPT THAT THE WEIGHTS OF THE STANDARD BAR SIZES WILL BE TAKEN AS PER TABLE 4.4.2.a AND TABLE 4.4.2.b, IRRESPECTIVE OF THE SPECIFICATION USED IN MANUFACTURE.

- ROUND BAR:

A-I (CT-3) 22TCN 18-79; OR
JIS G 3112 (GRADE SR 235); OR
ASTM A615

- DEFORMED BARS:

A-II (CT-5) 22TCN 18-79; OR
JIS G 3112 (GRADE SD 295A); OR
JIS G 3112 (GRADE SD 345); OR
ASTM A615

REINFORCING BARS SHALL BE KEPT OFF THE GROUND AND STORED WITHIN A BUILDING OR PROVIDED WITH SUITABLE COVER.

3.2 UNLESS OTHERWISE SHOWN ON THE PLANS, SPACING OF REINFORCING BARS SHALL BE FROM OR TO THE CENTERLINES OF THE BARS.

4. STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 OR JIS G3101 OR EQUIVALENT WITH A MINIMUM YIELD STRENGTH OF 2,500 Kg/cm²

5. FALSE WORKS

ALL FALSE WORKS AND CENTERING SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER, IN A MANNER AS PRESCRIBED BY THE SPECIFICATIONS. THE REMONAL OF FALSE WORKS SHALL BE AS DIRECTED BY THE ENGINEER.

6. PILE

6.1 REINFORCED CONCRETE PILES SHALL HAVE A MINIMUM WORKING VERTICAL LOAD BEARING CAPACITY OF 30,000 Kg.

6.2 FINAL PIPE LENGTH SHALL BE DETERMINED AS PROVIDED IN THE SPECIFICATIONS.

6.3 SPLICING OF PILES IS NOT ANTICIPATED. HOWEVER, IF AND WHEN THE NECESSITY OCCURS, SPLICING SHALL BE MADE BY STANDARD PILE SPLICING METHOD SUBJECT TO PRIOR APPROVAL OF THE ENGINEER.

6.4 PILES SHALL BE SECURELY EMBEDDED AND ANCHORED INTO THE PILE CAPS AND PILE FOOTING BY STANDARD METHOD AS SHOWN IN THE DRAWINGS.

IV. MECHANICAL / ELECTRICAL DESIGN:

GENERAL NOTES ON MECHANICAL/ ELECTRICAL WORKS SHALL BE REFERRED TO THOSE OF RESPECTIVE DRAWINGS.

V. ABBREVIATIONS AND SYMBOLS:

ABBREVIATIONS

ALUM	ALUMINUM	GRD, GRND	GROUND
BH	BOREHOLE	HOR	HORIZONTAL
BM	BENCHMARK	H.W.L.	HIGH WATER LEVEL
Bm, B	BEAM	L	LENGTH
B.W.	BOTHWAYS	LN	LINE
B.B.	BOTTOM BARS	L.W.L.	LOW WATER LEVEL
B.I.	BLACK IRON	LVL	LEVEL
BR.	BRIDGE	m	METER
C	COLUMN	mm	MILLIMETER
C.I.	CAST IRON	M.S.L	MEAN SEA LEVEL
C.H.B.	CONCRETE HOLLOW BLOCK	MLLW	MEAN LOWER-LOW WATER
CONC.	CONCRETE	N	NORTH
cm	CENTIMETER	N.T.S	NOT TO SCALE
DWG	DRAWING	O.C.	ON CENTER
D	DOOR	OPN	OPERATION
D.E.G.	DIESEL ENGINE GENERATOR	P.F.	PILE FOOTING
DECOR	DECORATIVE	REQ'D	REQUIRED
DS	DOWNSPOUT	R.C.	REINFORCED CONCRETE
EA	EACH	ST	STREET
E.F.	EACH FACE	SYN	SYNTHETIC
EPPCF	ELECTROSTATIC POLYESTER	STL	STEEL
	POWDER COATED FINISH	t, THK	THICKNESS
EL, ELEV	ELEVATION	TYP	TYPICAL
EQ	EQUAL	T.B.	TOP BAR
FLR	FLOOR	TEMP	TEMPERATURE
F.T.B.	FOOTING TIE BEAM	VERT	VERTICAL
GA	GAUGE	VIT	VITRIFIED
GALV	GALVANIZED	W/	WITH
G.L.	GROUND LEVEL	W/O	WITHOUT
G.I.	GALVANIZED IRON	W.P.	WATERPROOFING

NO.	DATE	DESCRIPTIONS	BY	APRO.

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PROJECT MANAGEMENT UNIT FOR
HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT

THE DETAILED DESIGN ON HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
IN THE SOCIALIST REPUBLIC OF VIET NAM

PACKAGE E
WASTEWATER TREATMENT PLANT

GENERAL INFORMATION (1/2)

SCALE : N.T.S

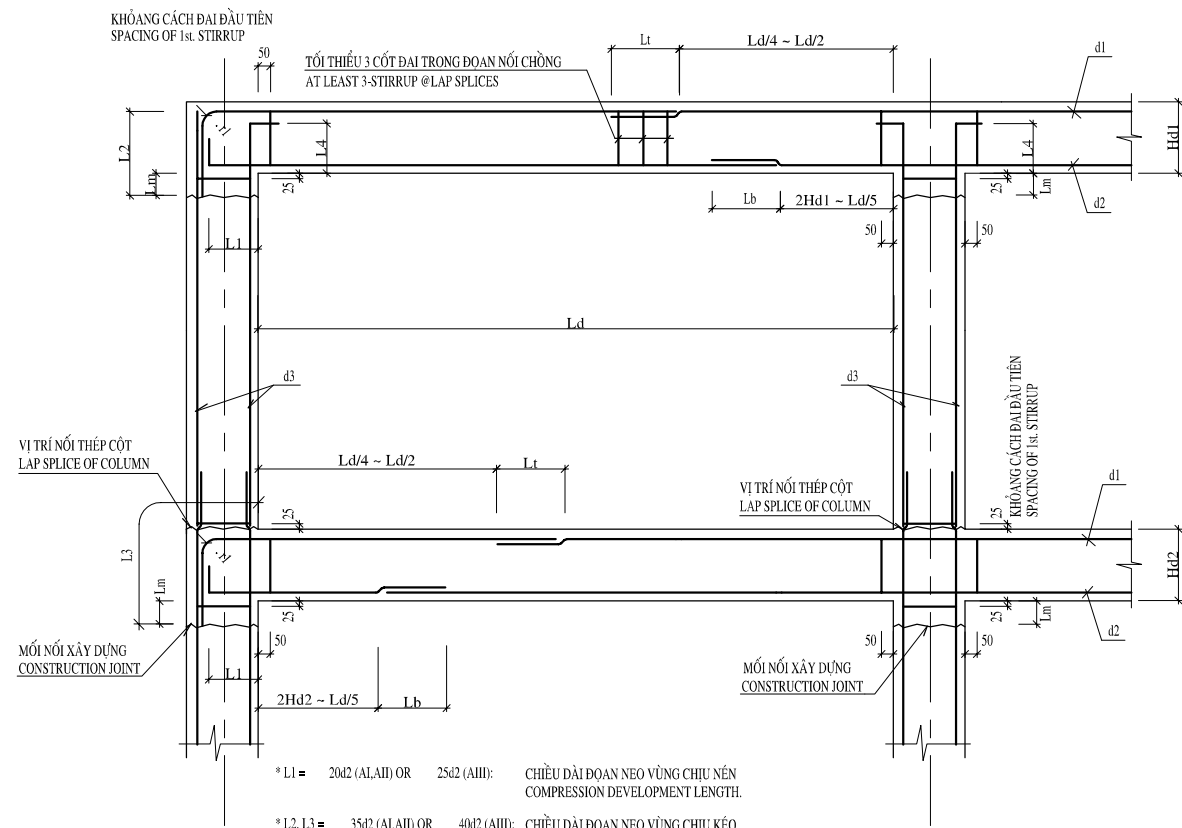
 JAPAN INTERNATIONAL COOPERATION
AGENCY (JICA)

 PACIFIC CONSULTANTS INTERNATIONAL

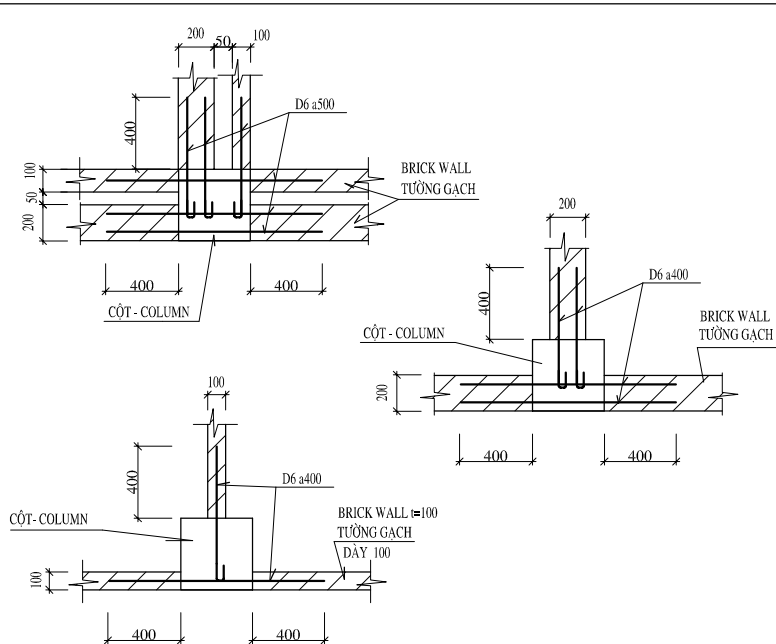
DESIGNED KIKUTA HIROSHI	CHECKED KONDO MASAMI
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DATE : JUNE 2001 DWG.No. PE - WWTP - 310 - 05(1)

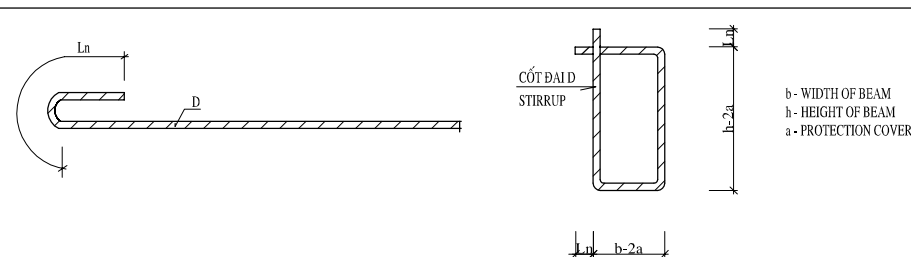
CHI TIẾT ĐOẠN NEO VÀ ĐOẠN NỐI CHỖNG CỐT THÉP
DEVELOPMENT & LAP SPLICE LENGTH OF BEAMS



- * L1 = 20d1 (A,II) OR 25d2 (A,III): CHIỀU DÀI ĐOẠN NEO VÙNG CHỊU NÉN COMPRESSION DEVELOPMENT LENGTH.
- * L2, L3 = 35d2 (A,II) OR 40d2 (A,III): CHIỀU DÀI ĐOẠN NEO VÙNG CHỊU KÉO TENSION DEVELOPMENT LENGTH.
- * L4 >= 25d3.
- * Ld = 20d1 (A,II) OR 30d1 (A,III): CHIỀU DÀI ĐOẠN NỐI CHỖNG VÙNG CHỊU NÉN, NHƯNG KHÔNG NHỎ HƠN 200mm COMPRESSION LAP SPLICE LENGTH, BUT NOT LESS THAN 200mm.
- * Lb = 30d2 (A,II) OR 40d2 (A,III): CHIỀU DÀI ĐOẠN NỐI CHỖNG VÙNG CHỊU KÉO, NHƯNG KHÔNG NHỎ HƠN 250mm TENSION LAP SPLICE LENGTH, BUT NOT LESS THAN 250mm.
- * Lm = ĐẢM BẢO 1 KHOẢNG CÁCH TỐI THIỂU ĐỂ NEO CỐT THÉP VÙNG CHỊU KÉO (L2, L3), NHƯNG KHÔNG NHỎ HƠN 200mm PROVIDING MIN. 1 SPACE DISTANCE L2 OR L3 FOR TENSION, BUT NOT LESS THAN 200mm.



CHI TIẾT LIÊN KẾT TƯỜNG GẠCH & CỘT, TRỤ BTCT
CONNECTION OF BRICK WALL & RC. COLUMN

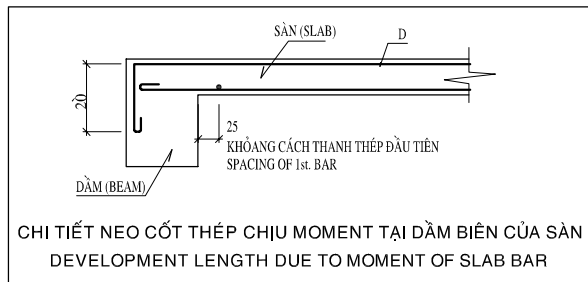
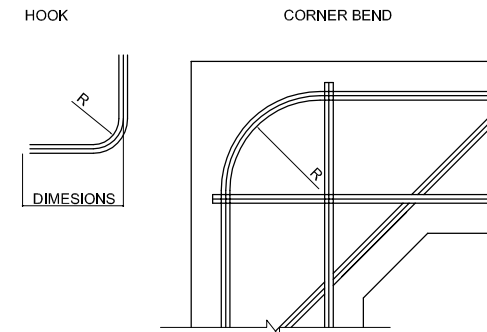


CHIỀU DÀI ĐOẠN UỐN MÓC CỦA THÉP AI & CỐT ĐAI
STANDARD & STIRRUP HOOK
(THÉP CÓ GỖ AII, AIII: KHÔNG CẦN UỐN MÓC)

D	6	8	10	12	14	16	18	20	22	24	25	28
Ln	50	60	80	90	110	120	140	150	170	190	200	220

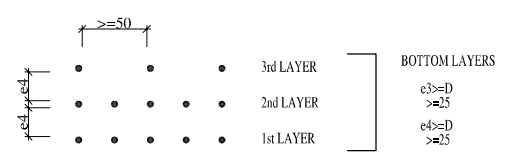
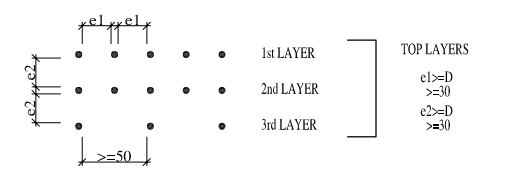
3.3 ALL BAR SPLICE LAPS AND BENDS SHALL CONFORM TO THE MINIMUM REQUIREMENT AS FOLLOWS:

BAR SIZE	LAP 35d (mm)	HOOK (mm) (3d): R	BEND (10.5d): R	L	UNIT WEIGHT (kg/m)	UNIT AREA (cm ²)
D10	350	30	110	173	0.617	0.785
D12	420	36	130	204	0.888	1.131
D14	490	42	150	236	1.21	1.540
D16	560	48	170	267	1.58	2.010
D18	630	54	190	300	2.00	2.545
D20	700	60	210	330	2.47	3.140
D22	770	66	240	377	2.98	3.800
D25	875	75	270	424	3.85	4.910
D28	980	84	300	471	4.83	6.160
D30	1050	90	320	503	5.55	7.070
D32	1120	96	340	534	6.31	8.040
D36	1260	108	380	597	7.99	10.180
D40	1400	120	420	660	9.89	12.570

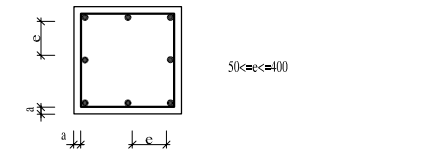


CHI TIẾT NEO CỐT THÉP CHỊU MOMENT TẠI DẦM BIÊN CỦA SÀN
DEVELOPMENT LENGTH DUE TO MOMENT OF SLAB BAR

KHOẢNG CÁCH TỐI THIỂU GIỮA CÁC CỐT THÉP
REINFORCEMENT MINIMUM CLEAR DISTANCE



(D - ĐƯỜNG KÍNH CỐT THÉP) BEAM



COLUMN

NO.	DATE	DESCRIPTIONS	BY	APRO.

REVISIONS

PROJECT MANAGEMENT UNIT FOR
HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT

THE DETAILED DESIGN STUDY ON HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
IN THE SOCIALIST REPUBLIC OF VIET NAM

PACKAGE E
WASTEWATER TREATMENT PLANT

GENERAL INFORMATION (2/2)

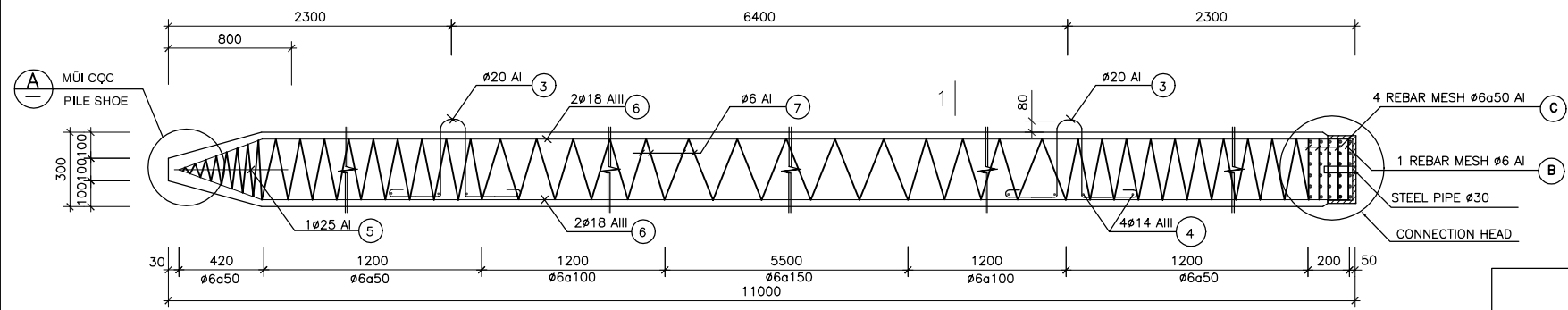
SCALE : AS SHOW

JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

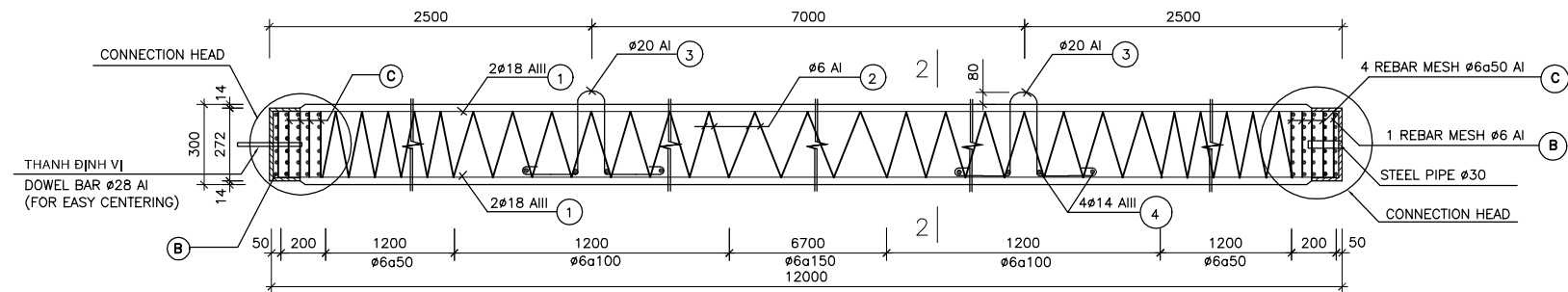
PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED: KIKUTA HIROSHI
CHECKED: KONDO MASAMI

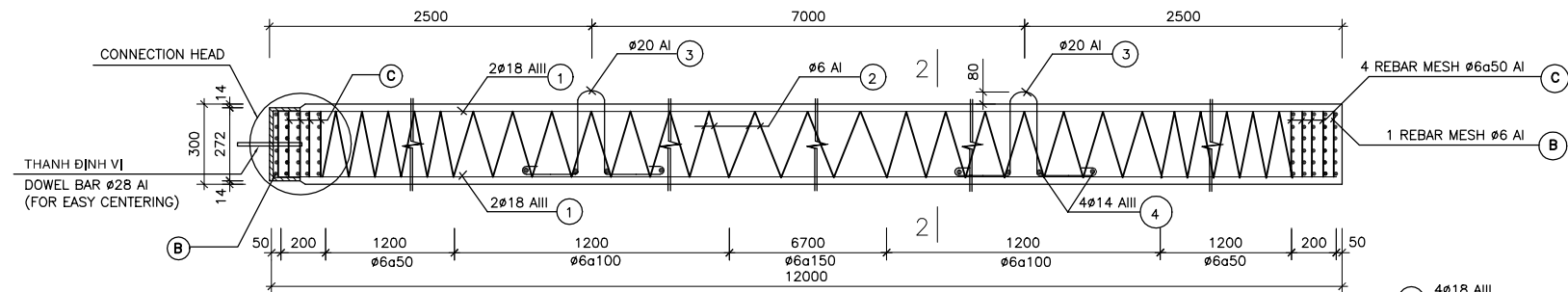
DATE : JUNE 2001 DWG.No. PE - WWTP - 310 -05(2)



CHI TIẾT CỌC BTCT CBT-1 (1 ĐOẠN)
DETAILS OF PILE CBT-1 (1 PORTION)



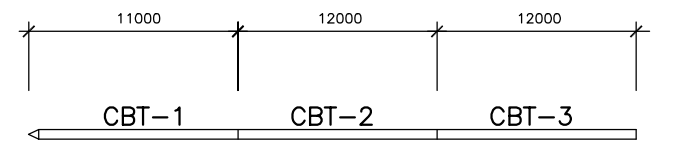
CHI TIẾT CỌC BTCT CBT-2 (1 ĐOẠN)
DETAILS OF PILE CBT-2 (1 PORTION)



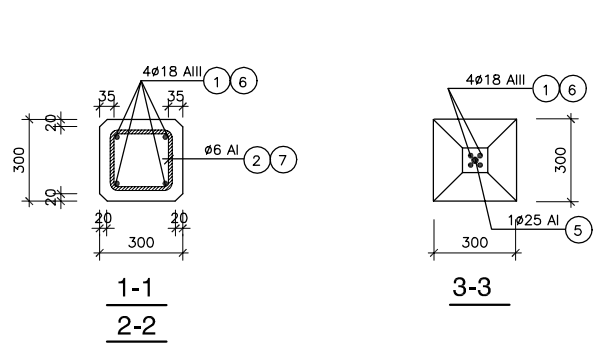
CHI TIẾT CỌC BTCT CBT-3 (1 ĐOẠN)
DETAILS OF PILE CBT-3 (1 PORTION)

GHI CHÚ:
 * SỨC CHỊU TẢI TÍNH TOÁN CỦA CỌC (L=35m) LÀ 40 TẤN
 * CHIỀU CAO ĐƯỜNG HÀN LÀ 6mm
 TRỪ NHỮNG VỊ TRÍ ĐÃ CHỈ RÕ
 * BÊ TÔNG MÁC 300, ĐÁ 10X20, Rn=130 Kg/cm2
 * CỐT THÉP:
 Al : R_a = R_a' = 2100 KG/cm2
 AIII: R_a = R_a' = 3400 KG/cm2

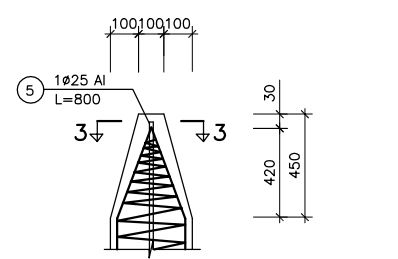
NOTES
 * DESIGN BEARING CAPACITY OF A SINGLE PILE (L=35m) IS 40 TON
 * WELD THICKNESS = 6 mm , EXCEPT AS-SHOWN LOCATIONS
 * CONCRETE GRADE 300 , STONE 10x20 , Rn=130 kg/cm2
 * REINFORCEMENT :
 Al : R_a = R_a' = 2100 KG/cm2 (PLAIN BAR)
 AIII: R_a = R_a' = 3400 KG/cm2 (DEFORMED BAR)



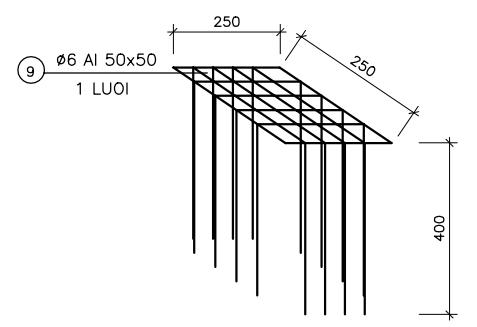
SƠ ĐỒ NỐI CỌC (3 ĐOẠN L=35m)
PILE CONNECTING LAYOUT (3 PORTION L=35m)



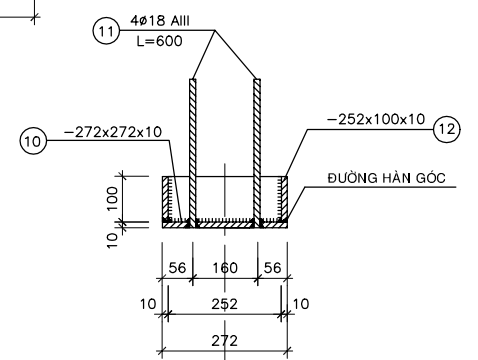
CHI TIẾT LƯỚI THÉP
DETAIL OF RE-BAR MESH (C)



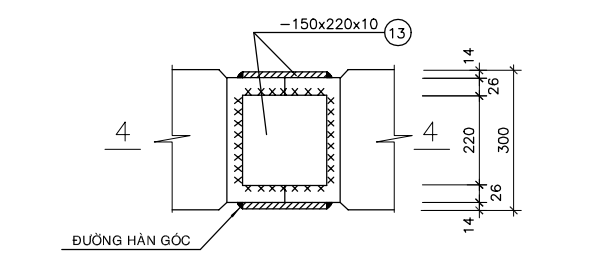
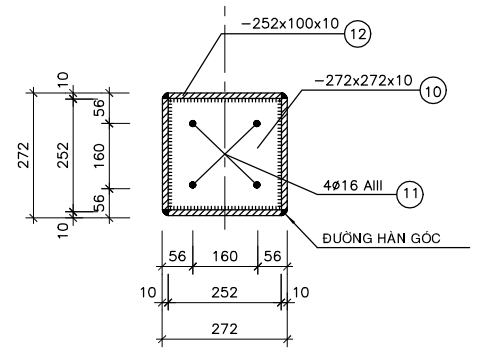
CHI TIẾT MŨI CỌC
DETAIL OF PILE SHOE (A)



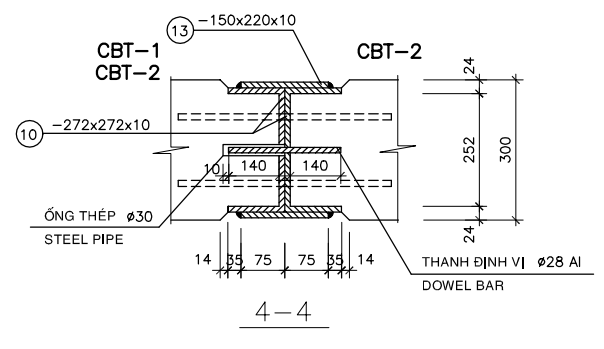
CHI TIẾT LƯỚI THÉP
DETAIL OF RE-BAR MESH (B)



CHI TIẾT BÀN THÉP ĐẦU CỌC
DETAIL OF STEEL PLATE AT PILE HEAD



CHI TIẾT NỐI CỌC
DETAIL OF PILE CONNECTION



NO.	DATE	DESCRIPTIONS	BY	APRO.
REVISIONS				
PROJECT MANAGEMENT UNIT FOR HO CHI MINH CITY WATER ENVIRONMENT IMPROVEMENT				
THE DETAILED DESIGN STUDY ON HO CHI MINH CITY WATER ENVIRONMENT IMPROVEMENT PROJECT IN THE SOCIALIST REPUBLIC OF VIET NAM				
PACKAGE E WASTE WATER TREATMENT PLANT				
DETAIL OF PILE 300X300, L=35m				
SCALE : AS SHOW				
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)				
PACIFIC CONSULTANTS INTERNATIONAL				
DESIGNED KIKUTA HIROSHI		CHECKED KONDO MASAMI		
DATE : JUNE 2001		DWG. No. PE-WWTP-310-06		