

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF SETTLEMENT AND REGIONAL DEVELOPMENT  
THE REPUBLIC OF INDONESIA

**THE DETAILED DESIGN  
OF  
FLOOD CONTROL, URBAN DRAINAGE AND  
WATER RESOURCES DEVELOPMENT IN  
SEMARANG IN THE REPUBLIC OF INDONESIA**

**FINAL REPORT**

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MINISTRY OF SETTLEMENT AND REGIONAL DEVELOPMENT  
THE REPUBLIC OF INDONESIA

FLOOD CONTROL, URBAN DRAINAGE AND  
WATER RESOURCES DEVELOPMENT IN SEMARANG

COMPONENT C: URBAN DRAINAGE SYSTEM IMPROVEMENT

**BIDDING DOCUMENTS**

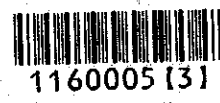
**PACKAGE 2:**

**ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT**

**VOLUME 3**

**DRAWINGS**

**AUGUST 2000**



1160005 (3)

PACKAGE - 2 : ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT

LIST OF DRAWINGS ( 1/3 )

SHEET No	DRAWING No	1 <sup>st</sup> LINE	2 <sup>nd</sup> LINE	3 <sup>rd</sup> LINE
<b>GENERAL (G)</b>				
1	UP2-G-1	PLAN OF THE WORKS		
<b>SEMARANG RIVER IMPROVEMENT (S)</b>				
2	UP2-S-P-1	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	KEY PLAN	
3	UP2-S-P-2	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	PLAN (1/2)	
4	UP2-S-P-3	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	PLAN (2/2)	
5	UP2-S-C-1	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	LONGITUDINAL PROFILE	
6	UP2-S-C-1	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (1/15)	
7	UP2-S-C-2	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (2/15)	
8	UP2-S-C-3	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (3/15)	
9	UP2-S-C-4	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (4/15)	
10	UP2-S-C-5	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (5/15)	
11	UP2-S-C-6	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (6/15)	
12	UP2-S-C-7	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (7/15)	
13	UP2-S-C-8	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (8/15)	
14	UP2-S-C-9	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (9/15)	
15	UP2-S-C-10	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (10/15)	
16	UP2-S-C-11	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (11/15)	
17	UP2-S-C-12	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (12/15)	
18	UP2-S-C-13	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (13/15)	
19	UP2-S-C-14	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (14/15)	
20	UP2-S-C-15	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	CROSS SECTION (15/15)	
21	UP2-S-Rv-1	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	REVETMENT (1/5) LOCATION OF REVETMENT	
22	UP2-S-Rv-2	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	REVETMENT (2/5) SECTION A, B AND C	
23	UP2-S-Rv-3	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	REVETMENT (3/5) SECTION D, E AND F	
24	UP2-S-Rv-4	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	REVETMENT (4/5) SECTION G, H AND I	
25	UP2-S-Rv-5	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	REVETMENT (5/5) SECTION J AND K	
26	UP2-S-Rv-6	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	REVETMENT (6/6) DETAIL OF TRANSITION	
27	UP2-S-Rd-1	SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)	INSPECTION ROAD	
<b>ASIN RIVER IMPROVEMENT (A)</b>				
28	UP2-A-P-1	ASIN RIVER	PLAN (1/2)	
29	UP2-A-P-1	ASIN RIVER	PLAN (2/2)	
30	UP2-A-C-1	ASIN RIVER	LONGITUDINAL PROFILE	
31	UP2-A-C-1	ASIN RIVER	CROSS SECTION (1/10)	
32	UP2-A-C-2	ASIN RIVER	CROSS SECTION (2/10)	
33	UP2-A-C-3	ASIN RIVER	CROSS SECTION (3/10)	
34	UP2-A-C-4	ASIN RIVER	CROSS SECTION (4/10)	
35	UP2-A-C-5	ASIN RIVER	CROSS SECTION (5/10)	
36	UP2-A-C-6	ASIN RIVER	CROSS SECTION (6/10)	
37	UP2-A-C-7	ASIN RIVER	CROSS SECTION (7/10)	
38	UP2-A-C-8	ASIN RIVER	CROSS SECTION (8/10)	
39	UP2-A-C-9	ASIN RIVER	CROSS SECTION (9/10)	
40	UP2-A-C-10	ASIN RIVER	CROSS SECTION (10/10)	
41	UP2-A-Rv-1	ASIN RIVER	REVETMENT	
42	UP2-A-Rd-1	ASIN RIVER	INSPECTION ROAD	
43	UP2-A-B-1	ASIN BOX CULVERT	PLAN, PROFILE AND STANDARD SECTION	
44	UP2-A-B-2	ASIN BOX CULVERT	CROSS SECTIONS	
45	UP2-A-B-3	ASIN BOX CULVERT	REINFORCING BAR ARRANGEMENT	
46	UP2-A-B-4	ASIN BOX CULVERT	MANHOLE REINFORCING BAR ARRANGEMENT	
47	UP2-A-B-5	ASIN BOX CULVERT	INLET STRUCTURE (1/2)	PLAN AND SECTIONS
48	UP2-A-B-6	ASIN BOX CULVERT	INLET STRUCTURE (2/2)	REINFORCING BAR ARRANGEMENT OF WING WALL
49	UP2-A-B-7	ASIN BOX CULVERT	OUTLET STRUCTURE (1/3)	PLAN
50	UP2-A-B-8	ASIN BOX CULVERT	OUTLET STRUCTURE (2/3)	SECTIONS
51	UP2-A-B-9	ASIN BOX CULVERT	OUTLET STRUCTURE (3/3)	REINFORCING BAR ARRANGEMENT OF WING WALL
52	UP2-A-B-1	ASIN NO. 1 BRIDGE	SUPER STRUCTURE	DIMENSION OF SUPER STRUCTURE
53	UP2-A-B-2	ASIN NO. 1 BRIDGE	SUPER STRUCTURE	CABLE AND REINFORCING BAR ARRANGEMENT OF GIRDER
54	UP2-A-B-3	ASIN NO. 1 BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF PANEL PLATE
55	UP2-A-B-4	ASIN NO. 1 BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF DECK SLAB
56	UP2-A-B-5	ASIN NO. 1 BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF DIAPHRAGM AND SIDE WALK
57	UP2-A-B-6	ASIN NO. 1 BRIDGE	SUPER STRUCTURE	EXPANSION JOINT AND BEARING SHOE
58	UP2-A-B-7	ASIN NO. 1 BRIDGE	SUB STRUCTURE	GENERAL ARRANGEMENT
59	UP2-A-B-8	ASIN NO. 1 BRIDGE	SUB STRUCTURE	DIMENSION OF ARRANGEMENT
60	UP2-A-B-9	ASIN NO. 1 BRIDGE	SUB STRUCTURE	DIMENSION AND REINFORCING BAR ARRANGEMENT OF PC PILES
61	UP2-A-B-10	ASIN NO. 1 BRIDGE	SUB STRUCTURE	REINFORCING BAR ARRANGEMENT OF ABUTMENT (1/2)
62	UP2-A-B-11	ASIN NO. 1 BRIDGE	SUB STRUCTURE	REINFORCING BAR ARRANGEMENT OF ABUTMENT (2/2)
63	UP2-A-B-12	ASIN NO. 1 BRIDGE	APPROACH ROAD	
64	UP2-A-B-13	ASIN NO. 2 BRIDGE	SUPER STRUCTURE	DIMENSION OF SUPER STRUCTURE
65	UP2-A-B-14	ASIN NO. 2 BRIDGE	SUPER STRUCTURE	CABLE AND REINFORCING BAR ARRANGEMENT OF GIRDER
66	UP2-A-B-15	ASIN NO. 2 BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF PANEL PLATE
67	UP2-A-B-16	ASIN NO. 2 BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF DECK SLAB
68	UP2-A-B-17	ASIN NO. 2 BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF DIAPHRAGM AND HAND RAIL
69	UP2-A-B-18	ASIN NO. 2 BRIDGE	SUPER STRUCTURE	EXPANSION JOINT AND BEARING SHOE

PACKAGE - 2: ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT

LIST OF DRAWINGS (2/3)

SHEET No	DRAWING No	TITLE OF DRAWING		
		1 <sup>st</sup> LINE	2 <sup>nd</sup> LINE	3 <sup>rd</sup> LINE
70	U-P2-A-B-19	ASIN NO 2 BRIDGE	SUB STRUCTURE	GENERAL ARRANGEMENT
71	U-P2-A-B-20	ASIN NO 2 BRIDGE	SUB STRUCTURE	DIMENSION OF ABUTMENT
72	U-P2-A-B-21	ASIN NO 2 BRIDGE	SUB STRUCTURE	DIMENSION AND REINFORCING BAR ARRANGEMENT OF PC PILES
73	U-P2-A-B-22	ASIN NO 2 BRIDGE	SUB STRUCTURE	REINFORCING BAR ARRANGEMENT OF ABUTMENT (1/2)
74	U-P2-A-B-23	ASIN NO 2 BRIDGE	SUB STRUCTURE	REINFORCING BAR ARRANGEMENT OF ABUTMENT (2/2)
75	U-P2-A-B-24	ASIN NO 2 BRIDGE	APPROACH ROAD	
76	U-P2-A-M-1	ASIN RIVER	WATER SUPPLY PIPE RE-INSTALLATION	PLAN AND SECTION
77	U-P2-A-M-2	ASIN RIVER	WATER SUPPLY PIPE RE-INSTALLATION	DETAILS
78	U-P2-A-M-3	ASIN RIVER	TEL. CABLE DUCT RE-INSTALLATION	
79	U-P2-A-M-4	ASIN RIVER	SECONDARY CHANNEL OUTLET RECONSTRUCTION (1/2)	
80	U-P2-A-M-5	ASIN RIVER	SECONDARY CHANNEL OUTLET RECONSTRUCTION (2/2)	
<b>ASIN PUMPING STATION (P)</b>				
81	U-P2-P-C-1	ASIN PUMPING STATION	GENERAL LAYOUT	
82	U-P2-P-C-1	ASIN PUMPING STATION	GENERAL ARRANGEMENT	PLAN AND SECTION
83	U-P2-P-C-2	ASIN PUMPING STATION	GENERAL ARRANGEMENT	PROFILE AND WATER LEVEL
84	U-P2-P-C-3	ASIN PUMPING STATION	PILE ARRANGEMENT AND DETAILS	
85	U-P2-P-C-4	ASIN PUMPING STATION	STAFF GAUGE	
86	U-P2-P-C-5	ASIN PUMPING STATION	SAFETY HANDRAIL OF PUMPING STATION	
87	U-P2-P-C-6	ASIN PUMPING STATION	SAFETY HANDRAIL OF INSPECTION BRIDGE	
88	U-P2-P-C-7	ASIN PUMPING STATION	REINFORCING BAR ARRANGEMENT	INTAKE, PUMP WELL, TROUGH AND OUTLET (1/3)
89	U-P2-P-C-8	ASIN PUMPING STATION	REINFORCING BAR ARRANGEMENT	INTAKE, PUMP WELL, TROUGH AND OUTLET (2/3)
90	U-P2-P-C-9	ASIN PUMPING STATION	REINFORCING BAR ARRANGEMENT	INTAKE, PUMP WELL, TROUGH AND OUTLET (3/3) - REINFORCING BAR BENDING SCHEDULE
91	U-P2-P-C-10	ASIN PUMPING STATION	REINFORCING BAR ARRANGEMENT	CONNECTION BARS FOR BUILDING
92	U-P2-P-C-11	ASIN PUMPING STATION	REINFORCING BAR ARRANGEMENT	INSPECTION BRIDGE NO.1
93	U-P2-P-C-12	ASIN PUMPING STATION	REINFORCING BAR ARRANGEMENT	INSPECTION BRIDGE NO.2
94	U-P2-P-M-1	ASIN PUMPING STATION	SCREW PUMP	GENERAL ARRANGEMENT
95	U-P2-P-M-2	ASIN PUMPING STATION	SCREW PUMP	MAIN PUMP INSTALLATION
96	U-P2-P-M-3	ASIN PUMPING STATION	AUXILIARY PUMP	
97	U-P2-P-M-4	ASIN PUMPING STATION	DIESEL ENGINE	
98	U-P2-P-M-5	ASIN PUMPING STATION	FUEL SUPPLY SYSTEM	
99	U-P2-P-M-6	ASIN PUMPING STATION	STOP LOGS	
100	U-P2-P-E-1	ASIN PUMPING STATION	ELECTRIC WIRING PLAN	
101	U-P2-P-E-2	ASIN PUMPING STATION	POWER SUPPLY AND CONTROL SYSTEM DIAGRAM - 1	
102	U-P2-P-E-3	ASIN PUMPING STATION	POWER SUPPLY AND CONTROL SYSTEM DIAGRAM - 2	
103	U-P2-P-B-1	ASIN PUMPING STATION BRIDGE	SUPER STRUCTURE	DIMENSION OF SUPER STRUCTURE
104	U-P2-P-B-2	ASIN PUMPING STATION BRIDGE	SUPER STRUCTURE	CABLE AND REINFORCING BAR ARRANGEMENT OF GIRDER
105	U-P2-P-B-3	ASIN PUMPING STATION BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF PANEL SLAB
106	U-P2-P-B-4	ASIN PUMPING STATION BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF DECK SLAB
107	U-P2-P-B-5	ASIN PUMPING STATION BRIDGE	SUPER STRUCTURE	REINFORCING BAR ARRANGEMENT OF DIAPHRAGM AND SIDE WALK
108	U-P2-P-B-6	ASIN PUMPING STATION BRIDGE	SUPER STRUCTURE	EXPANSION JOINT AND BEARING SHOE
109	U-P2-P-B-1	ASIN PUMPING STATION BRIDGE	SUB STRUCTURE	GENERAL ARRANGEMENT
110	U-P2-P-B-2	ASIN PUMPING STATION BRIDGE	SUB STRUCTURE	DIMENSION OF ABUTMENT
111	U-P2-P-B-3	ASIN PUMPING STATION BRIDGE	SUB STRUCTURE	DIMENSION AND REINFORCING BAR ARRANGEMENT OF PC PILES
112	U-P2-P-B-4	ASIN PUMPING STATION BRIDGE	SUB STRUCTURE	REINFORCING BAR ARRANGEMENT OF ABUTMENT (1/2)
113	U-P2-P-B-5	ASIN PUMPING STATION BRIDGE	SUB STRUCTURE	REINFORCING BAR ARRANGEMENT OF ABUTMENT (2/2)
114	U-P2-P-M-1	FUEL TANK	PLAN AND SECTIONS	
115	U-P2-P-M-2	FUEL TANK	REINFORCING BAR ARRANGEMENT (1/4)	
116	U-P2-P-M-3	FUEL TANK	REINFORCING BAR ARRANGEMENT (2/4)	
117	U-P2-P-M-4	FUEL TANK	REINFORCING BAR ARRANGEMENT (3/4)	
118	U-P2-P-M-5	FUEL TANK	REINFORCING BAR ARRANGEMENT (4/4)	
119	U-P2-P-M-6	FUEL TANK	BAR BENDING SCHEDULE AND BAR WEIGHT	
120	U-P2-P-B-1	ASIN PUMPING STATION COMPLEX	DRAWING LIST	
121	U-P2-P-B-2	ASIN PUMPING STATION COMPLEX	GENERAL ABBREVIATION AND SYMBOL	
122	U-P2-P-B-3	ASIN PUMPING STATION COMPLEX	EXTERIOR FINISH SCHEDULE	
123	U-P2-P-B-4	ASIN PUMPING STATION COMPLEX	INTERIOR FINISH SCHEDULE	
124	U-P2-P-B-5	ASIN PUMPING STATION COMPLEX	FLOOR AREA TABLE	
125	U-P2-P-B-6	ASIN PUMPING STATION COMPLEX	SITE PLAN	
126	U-P2-P-B-7	ASIN PUMPING STATION COMPLEX	FLOOR PLAN, ROOF PLAN, CEILING PLAN AND DETAIL	PUMP CONTROL BUILDING
127	U-P2-P-B-8	ASIN PUMPING STATION COMPLEX	ELEVATION	PUMP CONTROL BUILDING
128	U-P2-P-B-9	ASIN PUMPING STATION COMPLEX	SECTION I-I AND DETAIL SECTION	PUMP CONTROL BUILDING
129	U-P2-P-B-10	ASIN PUMPING STATION COMPLEX	SECTION II-II, INTERIOR ELEVATION AND DETAIL	PUMP CONTROL BUILDING
130	U-P2-P-B-11	ASIN PUMPING STATION COMPLEX	MISCELLANEOUS DETAIL 1	PUMP CONTROL BUILDING
131	U-P2-P-B-12	ASIN PUMPING STATION COMPLEX	MISCELLANEOUS DETAIL 2	PUMP CONTROL BUILDING
132	U-P2-P-B-13	ASIN PUMPING STATION COMPLEX	MISCELLANEOUS DETAIL 3	PUMP CONTROL BUILDING
133	U-P2-P-B-14	ASIN PUMPING STATION COMPLEX	KEY PLAN, DOOR WINDOW SCHEDULE	PUMP CONTROL BUILDING
134	U-P2-P-B-15	ASIN PUMPING STATION COMPLEX	DRAINAGE PLAN AND DETAIL	
135	U-P2-P-B-16	ASIN PUMPING STATION COMPLEX	COLUMN, BEAM AND FRAMING ELEVATION	PUMP CONTROL BUILDING
136	U-P2-P-B-17	ASIN PUMPING STATION COMPLEX	SECTION AND DETAIL OF COLUMN AND BEAM	PUMP CONTROL BUILDING
137	U-P2-P-B-18	ASIN PUMPING STATION COMPLEX	ROOF STRUCTURE PLAN AND TYPICAL	PUMP CONTROL BUILDING
138	U-P2-P-B-19	ASIN PUMPING STATION COMPLEX	TYPICAL ROOF TRUSS	PUMP CONTROL BUILDING
139	U-P2-P-B-20	ASIN PUMPING STATION COMPLEX	DETAIL ROOF STRUCTURE	PUMP CONTROL BUILDING
140	U-P2-P-B-21	ASIN PUMPING STATION COMPLEX	LIGHTNING CONDUCTOR AND DETAIL	
141	U-P2-P-B-22	ASIN PUMPING STATION COMPLEX	LIGHTING PLAN AND ONE LINE ELECTRICAL DIAGRAM	

PACKAGE - 2 : ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT

LIST OF DRAWINGS ( 3/3 )

SHEET		DRAWING		TITLE OF DRAWING	
No	No	1ST LINE	2ND LINE	3RD LINE	
142	U-P2-P-Bj-23	ASIN PUMPING STATION COMPLEX	GENERAL LIGHTING PLAN AND DETAIL		
143	U-P2-P-Bj-24	ASIN PUMPING STATION COMPLEX	ISOMETRIC WATER SUPPLY DIAGRAM		
144	U-P2-P-Bj-25	ASIN PUMPING STATION COMPLEX	BEERPUL, GROUND RESERVOIR		
145	U-P2-P-Bj-26	ASIN PUMPING STATION COMPLEX	FLOOR PLAN, ROOF PLAN, CEILING PLAN	MANAGEMENT OFFICE	
146	U-P2-P-Bj-27	ASIN PUMPING STATION COMPLEX	ELEVATION	MANAGEMENT OFFICE	
147	U-P2-P-Bj-28	ASIN PUMPING STATION COMPLEX	SECTION AND DETAIL SECTION	MANAGEMENT OFFICE	
148	U-P2-P-Bj-29	ASIN PUMPING STATION COMPLEX	INTERIOR ELEVATION AND DETAIL	MANAGEMENT OFFICE	
149	U-P2-P-Bj-30	ASIN PUMPING STATION COMPLEX	DETAIL PLAN AND DETAIL SECTION	MANAGEMENT OFFICE	
150	U-P2-P-Bj-31	ASIN PUMPING STATION COMPLEX	KEYPLAN AND DOOR WINDOW SCHEDULE	MANAGEMENT OFFICE	
151	U-P2-P-Bj-32	ASIN PUMPING STATION COMPLEX	FOUNDATION PLAN AND DETAIL	MANAGEMENT OFFICE	
152	U-P2-P-Bj-33	ASIN PUMPING STATION COMPLEX	COLUMN, TIE BEAM AND FRAMING ELEVATION	MANAGEMENT OFFICE	
153	U-P2-P-Bj-34	ASIN PUMPING STATION COMPLEX	ROOF STRUCTURE PLAN AND TYPICAL	MANAGEMENT OFFICE	
154	U-P2-P-Bj-35	ASIN PUMPING STATION COMPLEX	DETAIL TRUSS STRUCTURE	MANAGEMENT OFFICE	
155	U-P2-P-Bj-36	ASIN PUMPING STATION COMPLEX	FLOOR PLAN, ROOF PLAN, CEILING PLAN AND ELEVATION	STAFF HOUSE	
156	U-P2-P-Bj-37	ASIN PUMPING STATION COMPLEX	SECTION	STAFF HOUSE	
157	U-P2-P-Bj-38	ASIN PUMPING STATION COMPLEX	INTERIOR ELEVATION AND DETAIL PLAN	STAFF HOUSE	
158	U-P2-P-Bj-39	ASIN PUMPING STATION COMPLEX	KEYPLAN, DOOR WINDOW SCHEDULE	STAFF HOUSE	
159	U-P2-P-Bj-40	ASIN PUMPING STATION COMPLEX	FOUNDATION PLAN AND DETAIL	STAFF HOUSE	
160	U-P2-P-Bj-41	ASIN PUMPING STATION COMPLEX	COLUMN, TIE BEAM AND FRAMING ELEVATION	STAFF HOUSE	
161	U-P2-P-Bj-42	ASIN PUMPING STATION COMPLEX	ROOF STRUCTURE PLAN AND TYPICAL	STAFF HOUSE	
162	U-P2-P-Bj-43	ASIN PUMPING STATION COMPLEX	DETAIL TRUSS STRUCTURE	STAFF HOUSE	
163	U-P2-P-Bj-44	ASIN PUMPING STATION COMPLEX	FLOOR PLAN, ROOF PLAN, CEILING PLAN	GARAGE	
164	U-P2-P-Bj-45	ASIN PUMPING STATION COMPLEX	ELEVATION	GARAGE	
165	U-P2-P-Bj-46	ASIN PUMPING STATION COMPLEX	SECTION AND DETAIL SECTION	GARAGE	
166	U-P2-P-Bj-47	ASIN PUMPING STATION COMPLEX	INTERIOR ELEVATION AND DETAIL	GARAGE	
167	U-P2-P-Bj-48	ASIN PUMPING STATION COMPLEX	KEYPLAN, DOOR WINDOW SCHEDULE	GARAGE	
168	U-P2-P-Bj-49	ASIN PUMPING STATION COMPLEX	FOUNDATION PLAN AND DETAIL	GARAGE	
169	U-P2-P-Bj-50	ASIN PUMPING STATION COMPLEX	COLUMN, TIE BEAM AND FRAMING ELEVATION	GARAGE	
170	U-P2-P-Bj-51	ASIN PUMPING STATION COMPLEX	ROOF STRUCTURE PLAN AND TYPICAL	GARAGE	
171	U-P2-P-Bj-52	ASIN PUMPING STATION COMPLEX	ROOF STRUCTURE TYPICAL AND DETAIL	GARAGE	
<b>ASIN PUMPING STATION GATE ( G )</b>					
172	U-P2-G-Cj-1	ASIN PUMPING STATION GATE	PLAN AND SECTION		
173	U-P2-G-Cj-2	ASIN PUMPING STATION GATE	PLAN AND ELEVATION OF CONTROL HOUSE		
174	U-P2-G-Cj-3	ASIN PUMPING STATION GATE	DETAIL OF WINDOW AND ROOF SEALING		
175	U-P2-G-Cj-4	ASIN PUMPING STATION GATE	PHC-PILE AND STEEL SHEET PILE LAYOUT, AND DETAILS		
176	U-P2-G-Cj-5	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	FOUNDATION AND PIER ( 1/4 )	
177	U-P2-G-Cj-6	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	FOUNDATION AND PIER ( 2/4 )	
178	U-P2-G-Cj-7	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	FOUNDATION AND PIER ( 3/4 )	
179	U-P2-G-Cj-8	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	FOUNDATION AND PIER ( 4/4 ) - REINFORCING BAR BENDING SCHEDULE	
180	U-P2-G-Cj-9	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	GATE CONTROL HOUSE ( 1/4 )	
181	U-P2-G-Cj-10	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	GATE CONTROL HOUSE ( 2/4 )	
182	U-P2-G-Cj-11	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	GATE CONTROL HOUSE ( 3/4 )	
183	U-P2-G-Cj-12	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	GATE CONTROL HOUSE ( 4/4 ) - REINFORCING BAR BENDING SCHEDULE	
184	U-P2-G-Cj-13	ASIN PUMPING STATION GATE	REINFORCING BAR ARRANGEMENT	INSPECTION BRIDGE	
185	U-P2-G-Mj-1	ASIN PUMPING STATION GATE	GENERAL ARRANGEMENT	GATE	
186	U-P2-G-Mj-2	ASIN PUMPING STATION GATE	DETAIL OF GATE LEAF		
187	U-P2-G-Mj-3	ASIN PUMPING STATION GATE	DETAIL OF GUIDE FRAME / LAYOUT OF HOIST		
188	U-P2-G-Mj-4	ASIN PUMPING STATION GATE	STOP LOGS		
189	U-P2-G-Mj-1	ASIN PUMPING STATION GATE	DETAIL OF STAIRWAY		
<b>ASIN RETARDING POND ( RP )</b>					
190	U-P2-RP-Ge-1	ASIN RETARDING POND	PLAN, SECTION AND REVETMENT		
191	U-P2-RP-Rd-1	ASIN RETARDING POND	INSPECTION ROAD		



KEL. BANDAR HARJO  
KEC. SEMARANG BARAT

KEL. BANDAR HARJO  
KEC. SEMARANG UTARA

No. 45 SEMARANG RIVER DRAINAGE SYSTEM IMPROVEMENT  
PACKAGE 1

REVTMENT TYPE C  
CONCRETE SHEET PILE

REVTMENT TYPE A-1

REVTMENT TYPE A-1

REVTMENT TYPE B

WET STONE MASONRY

REVTMENT TYPE A-1

INSPECTION ROAD

INSPECTION ROAD

MANAGEMENT OFFICE

STAFF HOUSE

GARAGE

REVTMENT TYPE C  
(CONCRETE SHEET PILE)

No. 10

ASIN No. 2 BRIDGE RECONSTRUCTION  
TELEPHONE CABLE DUCT AND WATER SUPPLY PIPE REINSTALLATION

INSPECTION ROAD  
(EXISTING)

No. 30

REVTMENT TYPE A-2  
WET STONE MASONRY

No. 20

INSPECTION ROAD  
(EXISTING)

ASIN RIVER IMPROVEMENT L=

SEMARANG IMPROVEMENT PACKAGE 2  
L = 1,375M

REVTMENT TYPE A-1

No. 20

INSPECTION ROAD

No. 10

INSPECTION ROAD

ASIN PUMPING STATION BRIDGE  
ASIN PUMPING STATION  
ASIN PUMPING STATION GATE

REVTMENT TYPE B  
WET STONE MASONRY

REVTMENT TYPE C  
CONCRETE SHEET PILE

DYKE WET STONE MASONRY

REVTMENT TYPE A-1

ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT  
PAKAGE 2

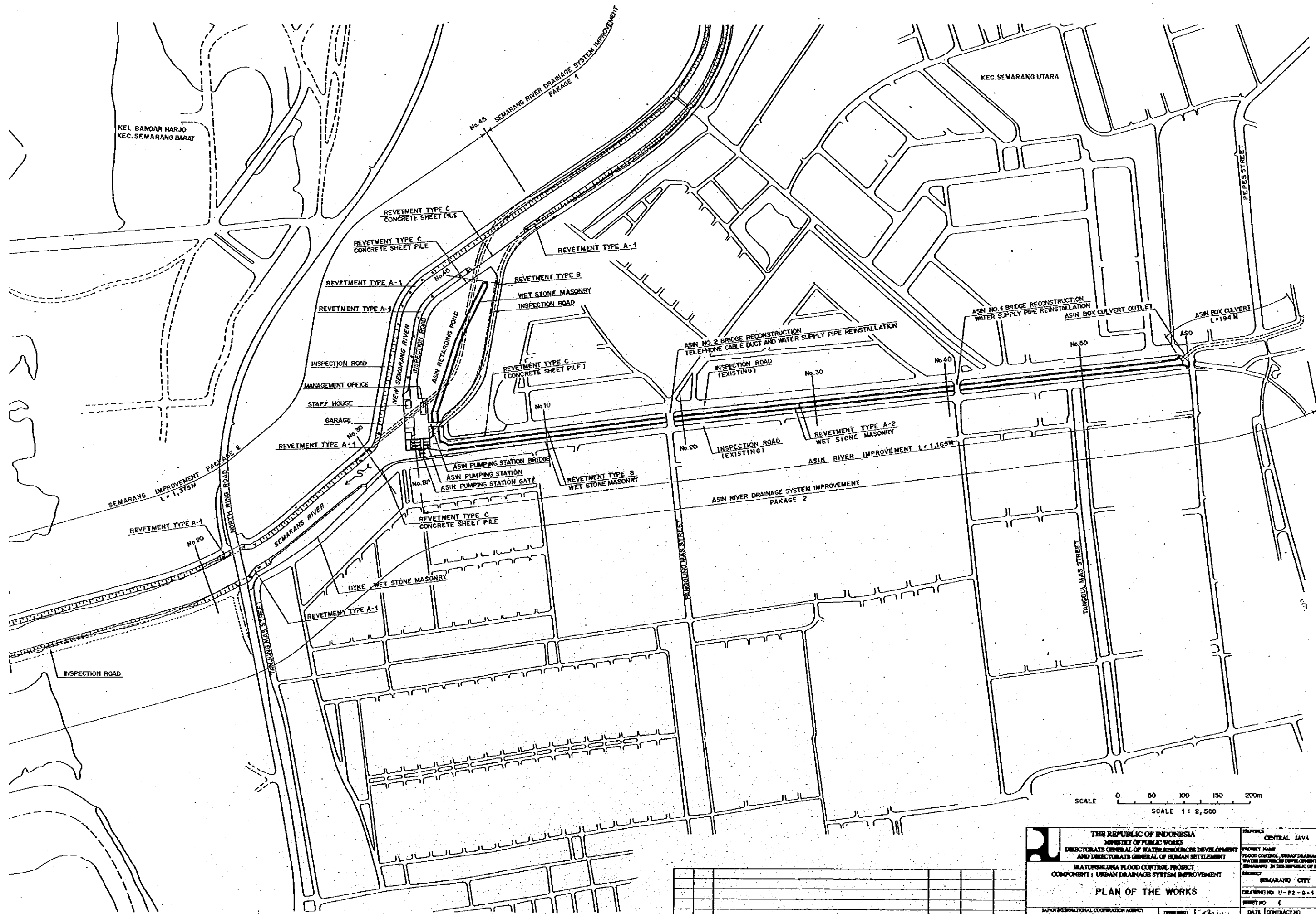
BANGUNG MAS STREET

TELUK MAS STREET

NORTH RING ROAD

SEMARANG RIVER

NO.	DATE	REVISIONS



SCALE 0 50 100 150 200m  
SCALE 1 : 2,500

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT SURABAYA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT		PROVINCE CENTRAL JAVA DISTRICT SEMARANG CITY DRAWING NO. U-P2-0-1 SHEET NO. 4 DATE CONTRACT NO.
JAPAN INTERNATIONAL COOPERATION AGENCY CEI ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PACO INTERNATIONAL INC.	DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	APPROVED 



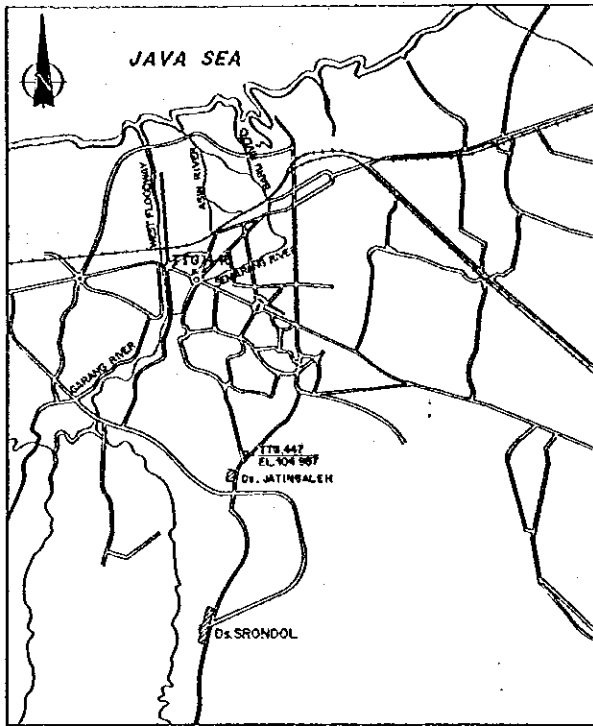
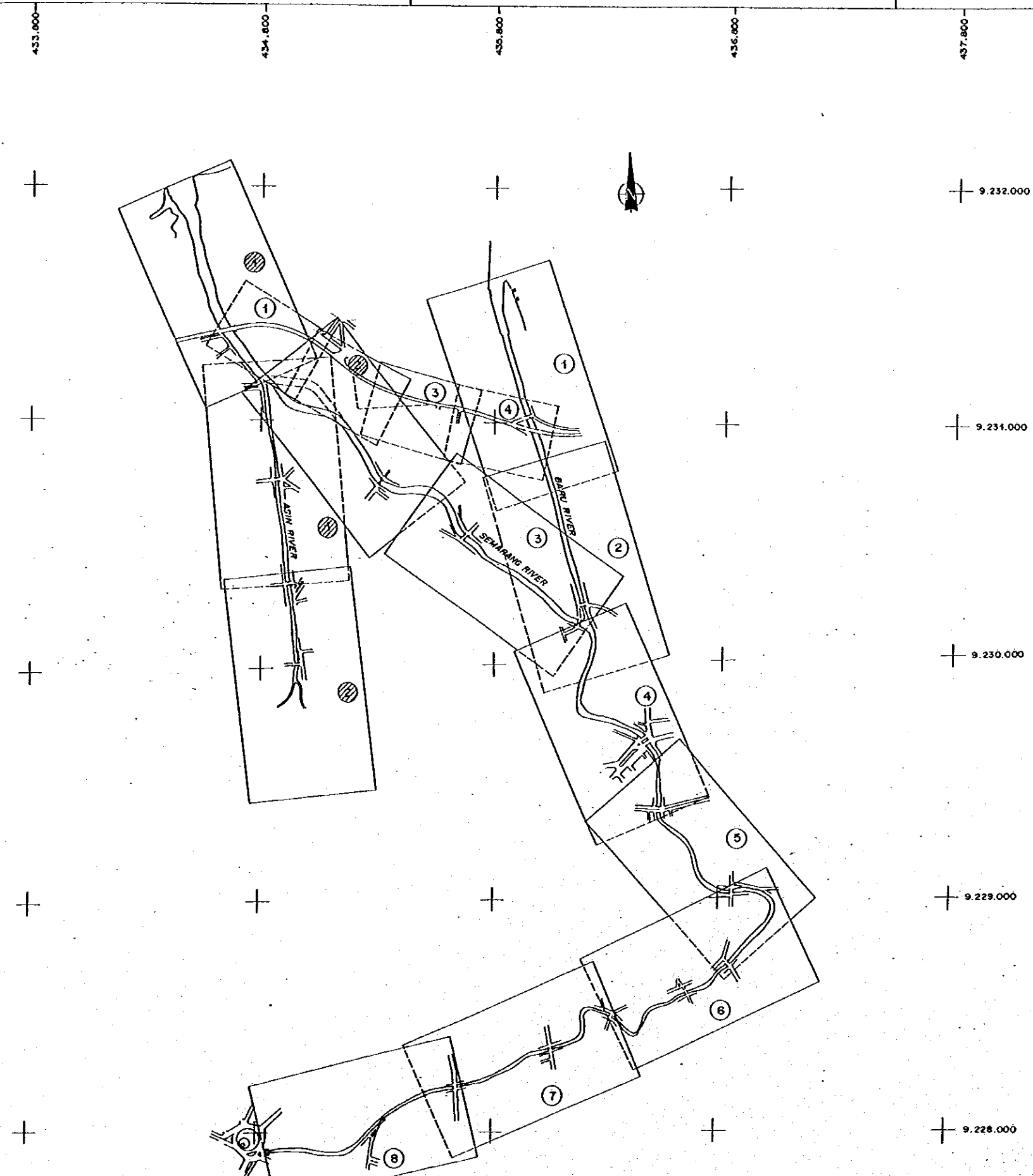


TABLE OF LOCATION AND ELEVATION OF BENCH MARK

STATION	LATITUDE	LONGITUDE	ELEVATION
TTG. 446	9,228,004.682	434,777.817	-
TTG. 447	-	-	104.987



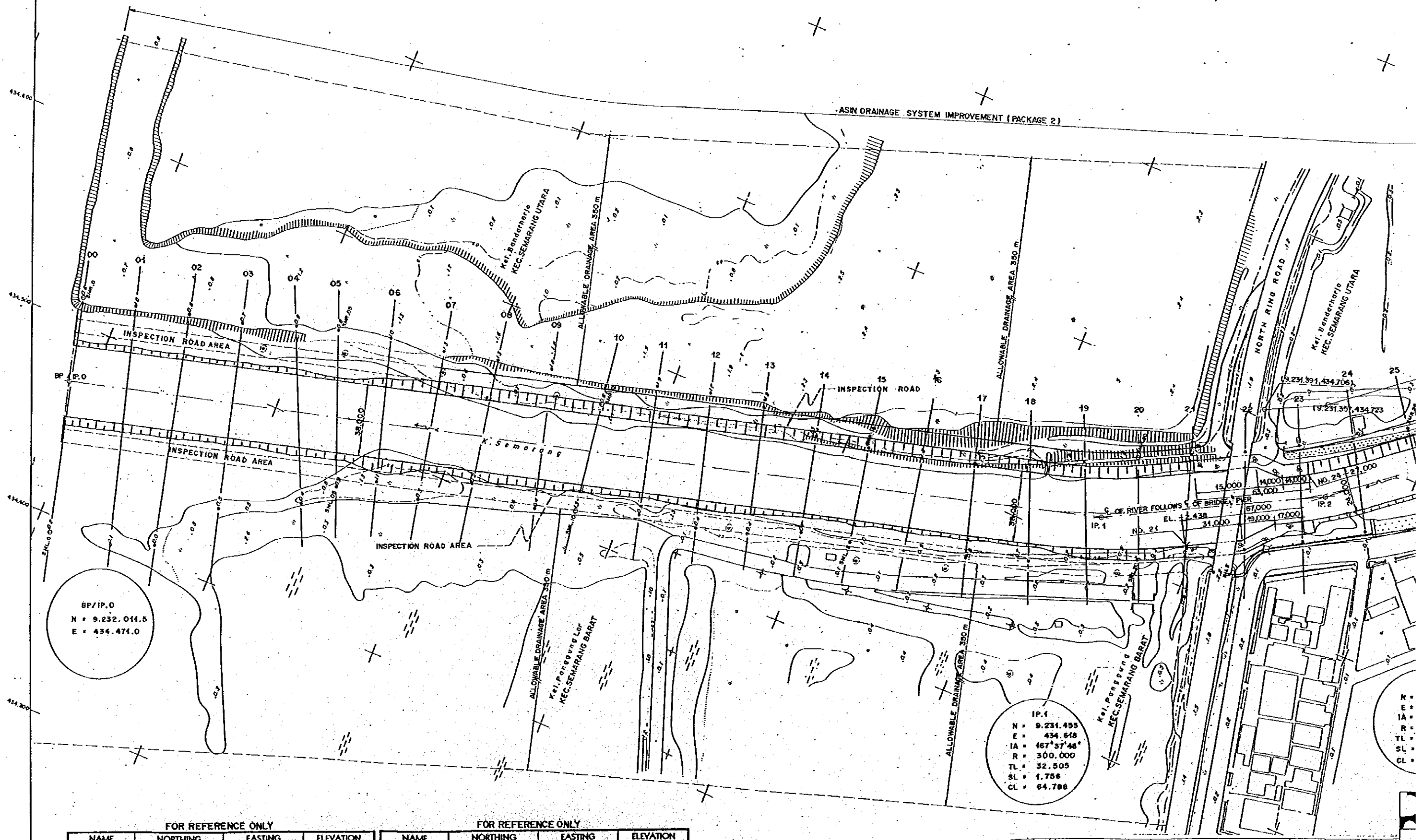
NOTE  
 THE AREA TO BE COVERED BY PACKAGE 2.

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
JATUNGBLUNA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT KEY MAP OF PLAN PACKAGE 2		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY CITI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL S.S.C. PAKCO INTERNATIONAL INC. CHIEF OF PLANNING AND DESIGN		DISTRICT SEMARANG CITY
DESIGNED CHECKED APPROVED		DRAWING NO. U - P2 - 8 - P1 - 1 SHEET NO. 2
PROJECT MANAGER		DATE CONTRACT NO.

1

ASN DRAINAGE SYSTEM IMPROVEMENT (PACKAGE 2)



BP/IP.0  
 N = 9.232.011.5  
 E = 434.471.0

IP.1  
 N = 9.231.455  
 E = 434.618  
 IA = 167°37'48"  
 R = 300.000  
 TL = 32.505  
 SL = 1.756  
 CL = 64.788

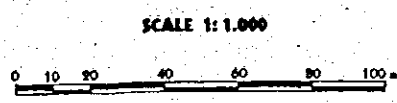
N =  
 E =  
 IA =  
 R =  
 TL =  
 SL =  
 CL =

FOR REFERENCE ONLY

NAME	NORTHING	EASTING	ELEVATION
SML-0	9,231,990.906	434,391.309	0.189
SML-10	9,231,785.021	434,512.362	1.304
SML-20	9,231,426.379	434,603.674	0.473
BM-2			2.509
SML-30	9,231,172.615	434,784.882	1.386

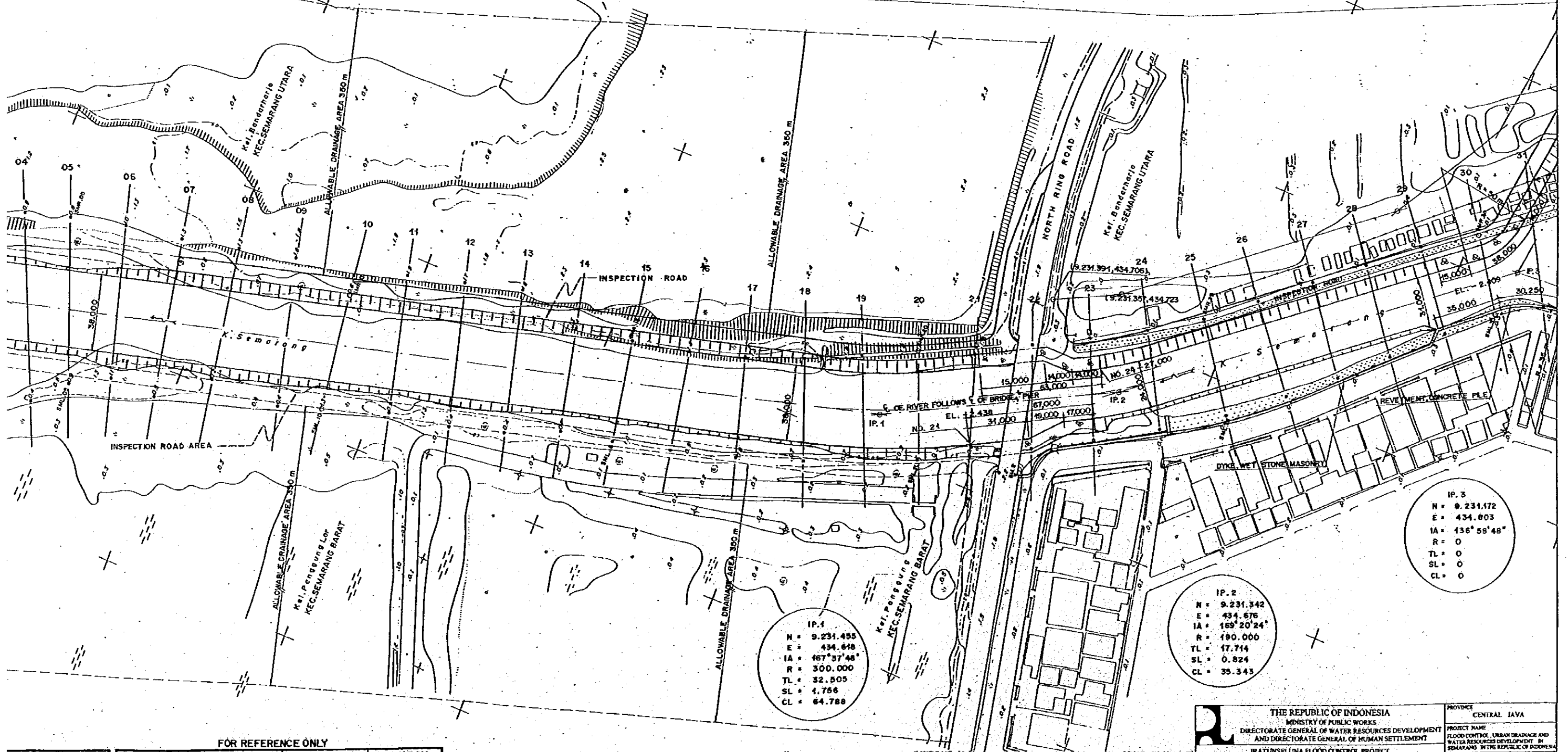
FOR REFERENCE ONLY

NAME	NORTHING	EASTING	ELEVATION
SMR-0	9,232,021.922	434,513.780	0.619
SMR-10	9,231,732.929	434,569.675	0.571
SMR-20	9,231,447.139	434,654.089	1.853
SMR-30	9,231,196.299	434,817.849	0.112



NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT (PACKAGE 2)



IP.3  
 N = 9.231.172  
 E = 434.803  
 IA = 136° 58' 48"  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

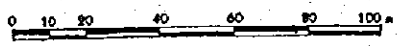
IP.2  
 N = 9.231.342  
 E = 434.676  
 IA = 169° 20' 24"  
 R = 190.000  
 TL = 17.714  
 SL = 0.824  
 CL = 35.343

IP.1  
 N = 9.231.455  
 E = 434.648  
 IA = 167° 37' 48"  
 R = 300.000  
 TL = 32.505  
 SL = 1.786  
 CL = 64.788

FOR REFERENCE ONLY

	ELEVATION	NAME	NORTHING	EASTING	ELEVATION
09	0.189	SMR-0	9,232,081.922	434,513.780	0.619
62	1.304	SMR-10	9,231,732.929	434,569.675	0.571
74	0.475	SMR-20	9,231,447.139	434,654.089	1.853
	2.509	SMR-30	9,231,196.299	434,817.849	0.112
88	1.386				

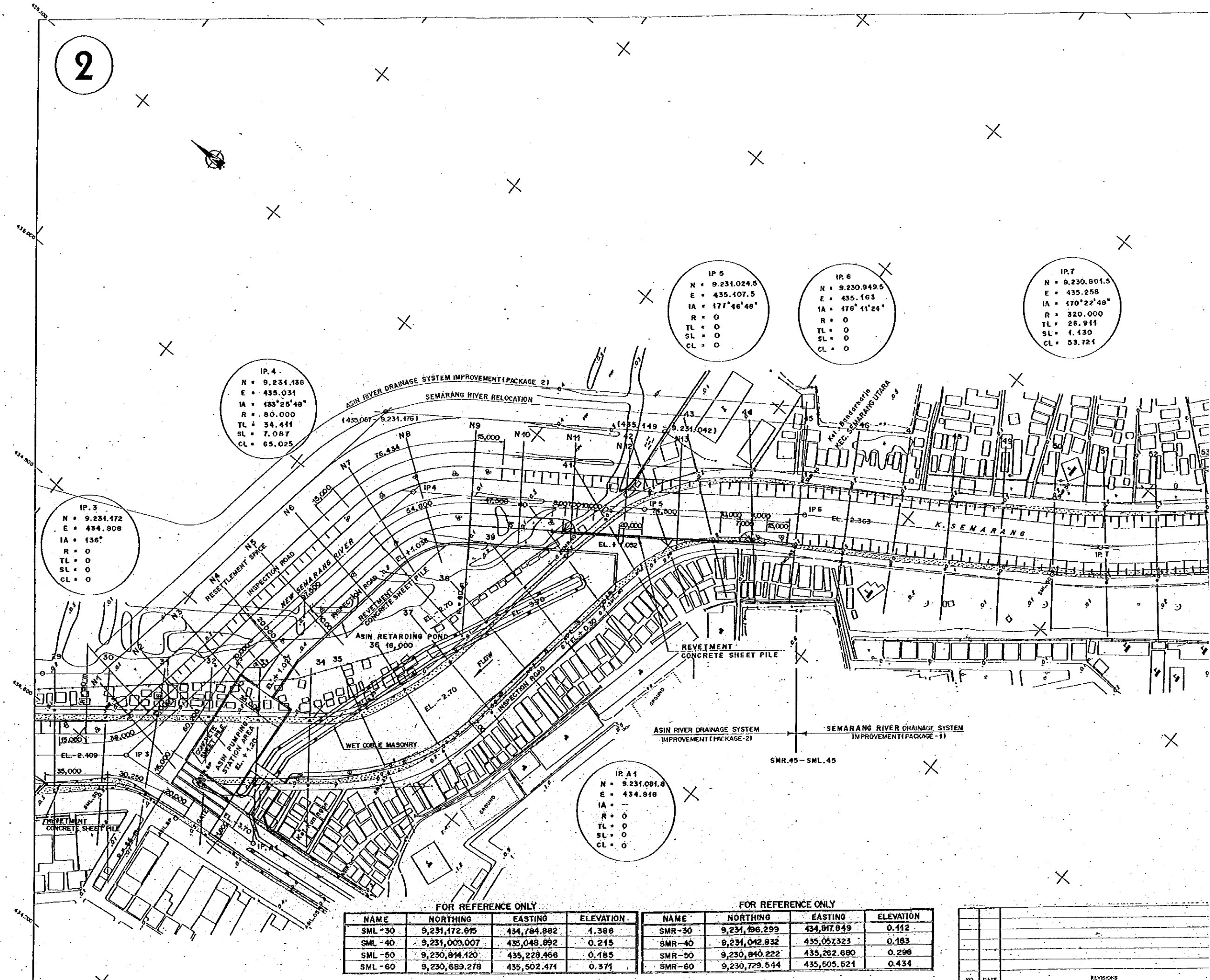
SCALE 1:1,000



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT PLAN (1/2))		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DRAWING NO. U-P2-B-P1-2 SHEET NO. 3		DISTRICT SEMARANG CITY
DESIGNED CHECKED	DATE	CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

2



IP. 4  
 N = 9.231.136  
 E = 435.031  
 IA = 133°25'48"  
 R = 80.000  
 TL = 34.411  
 SL = 7.087  
 CL = 65.025

IP. 3  
 N = 9.231.172  
 E = 434.808  
 IA = 136°  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

IP. 5  
 N = 9.231.024.5  
 E = 435.107.5  
 IA = 177°46'49"  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

IP. 6  
 N = 9.230.949.5  
 E = 435.163  
 IA = 176°11'24"  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

IP. 7  
 N = 9.230.801.5  
 E = 435.258  
 IA = 170°22'48"  
 R = 320.000  
 TL = 28.911  
 SL = 1.130  
 CL = 53.721

IP. A 4  
 N = 9.231.081.8  
 E = 434.816  
 IA = -  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

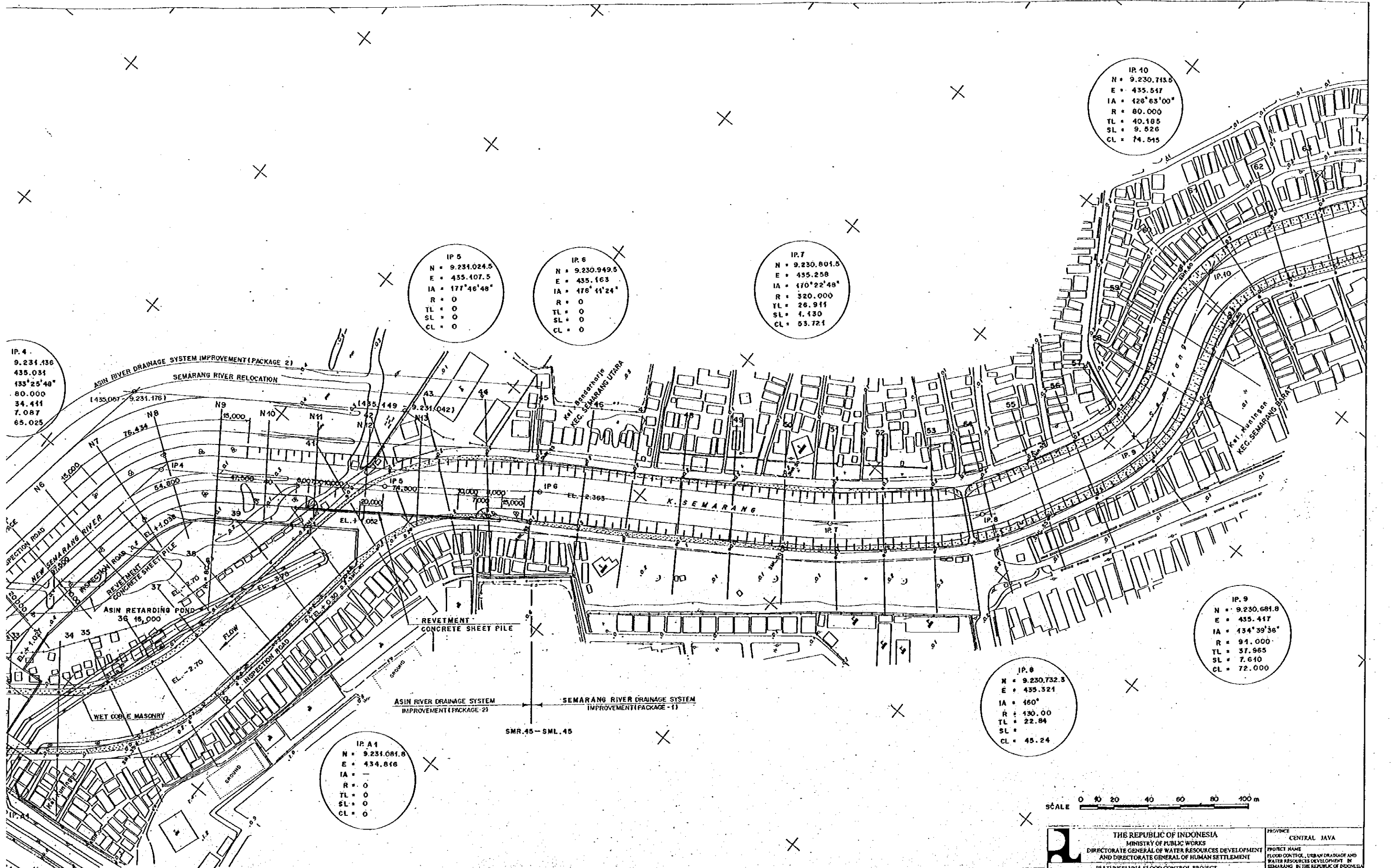
FOR REFERENCE ONLY

NAME	NORTHING	EASTING	ELEVATION
SML-30	9,231,172.815	434,784.882	1.386
SML-40	9,231,009.007	435,048.892	0.215
SML-50	9,230,814.120	435,228.466	0.185
SML-60	9,230,689.278	435,502.471	0.371

FOR REFERENCE ONLY

NAME	NORTHING	EASTING	ELEVATION
SMR-30	9,231,196.299	434,817.849	0.112
SMR-40	9,231,042.832	435,057.323	0.183
SMR-50	9,230,840.222	435,262.680	0.298
SMR-60	9,230,729.544	435,505.521	0.434

NO.	DATE	REVISIONS



IP. 4  
 N = 9.231.136  
 E = 435.031  
 IA = 133°25'48"  
 R = 80.000  
 TL = 34.411  
 SL = 7.087  
 CL = 65.025

IP. 5  
 N = 9.231.024.5  
 E = 435.107.5  
 IA = 177°46'48"  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

IP. 6  
 N = 9.230.949.5  
 E = 435.163  
 IA = 176°11'24"  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

IP. 7  
 N = 9.230.801.5  
 E = 435.258  
 IA = 170°22'48"  
 R = 320.000  
 TL = 26.911  
 SL = 1.430  
 CL = 53.721

IP. 10  
 N = 9.230.713.5  
 E = 435.517  
 IA = 126°53'00"  
 R = 80.000  
 TL = 40.185  
 SL = 9.826  
 CL = 74.515

IP. 9  
 N = 9.230.681.8  
 E = 435.417  
 IA = 134°39'36"  
 R = 91.000  
 TL = 37.965  
 SL = 7.610  
 CL = 72.000

IP. 8  
 N = 9.230.732.3  
 E = 435.321  
 IA = 160°  
 R = 130.00  
 TL = 22.84  
 SL =  
 CL = 45.24

IP. A1  
 N = 9.231.081.8  
 E = 434.816  
 IA = -  
 R = 0  
 TL = 0  
 SL = 0  
 CL = 0

FOR REFERENCE ONLY

NAME	NORTHING	EASTING	ELEVATION
SML-30	9,231,172.815	434,784.882	1.386
SML-40	9,231,009.007	435,048.892	0.215
SML-50	9,230,814.120	435,228.466	0.185
SML-60	9,230,689.278	435,502.471	0.371

FOR REFERENCE ONLY

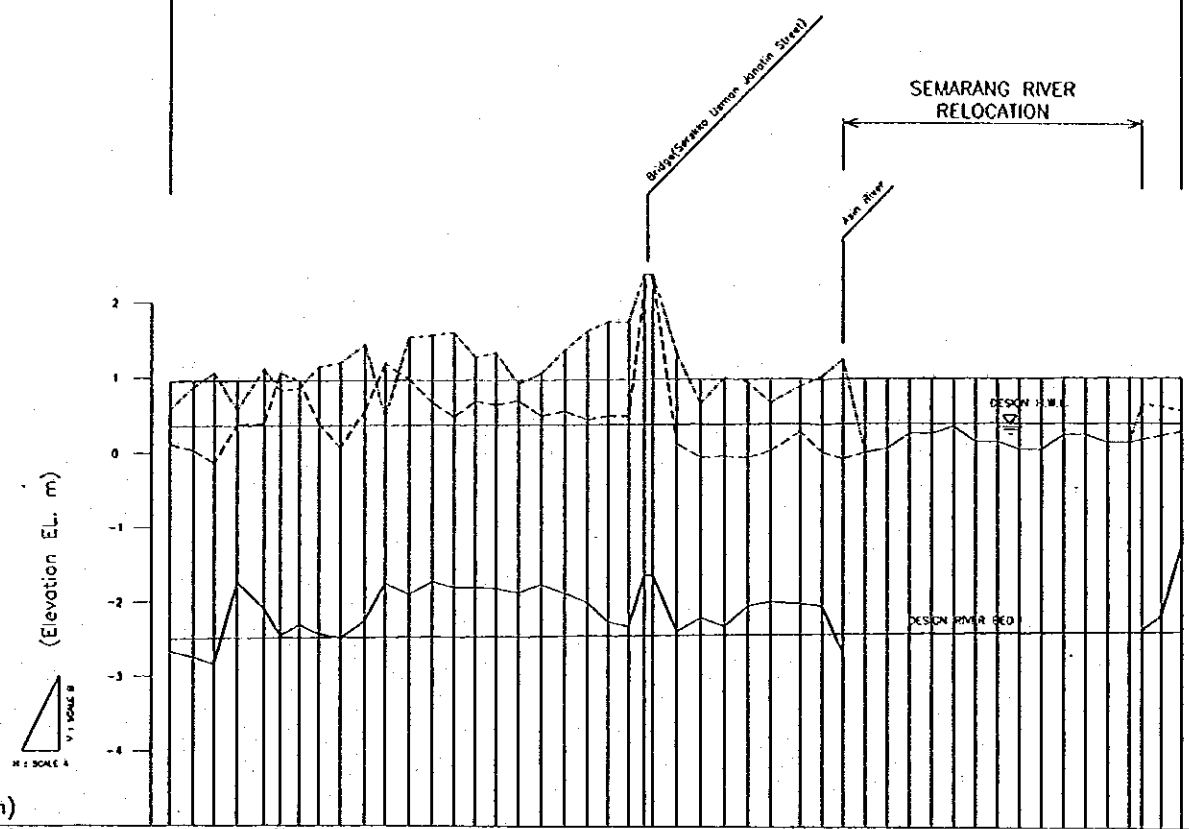
NAME	NORTHING	EASTING	ELEVATION
SMR-30	9,231,196.299	434,817.849	0.112
SMR-40	9,231,042.832	435,057.323	0.183
SMR-50	9,230,840.222	435,262.680	0.298
SMR-60	9,230,729.544	435,505.621	0.434

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

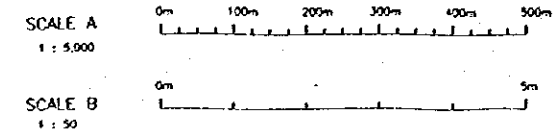
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THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: URBAN DRAINAGE SYSTEM IMPROVEMENT <b>SEMARANG RIVER</b> <b>(ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)</b> PLAN 2/2		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) PT. ENGINEERING CONSULTANTS INTERNATIONAL AND PACIFIC CONSULTANTS INTERNATIONAL, INC. (PACIFIC CONSULTANTS INTERNATIONAL, INC.)		DRAWING NO. U-P2-S-P1-5 SHEET NO. 4 DATE CONTRACT NO.
DESIGNED CHECKED APPROVED	PROJECT MANAGER	PROJECT MANAGER

ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT PROJECT



GRADIENT OF DESIGN RIVER BED		1:10,000	
DESIGN ELEVATION (EL. m)	DIKE CROWN	0.950	1.060
	HIGH WATER LEVEL (H.W.L.)	0.350	0.460
	RIVER BED	-2.500	-2.363
EXISTING ELEVATION (EL. m)	RIGHT BANK	0.580	0.350
	LEFT BANK	0.110	0.200
	LOWEST RIVER BED	-2.870	-1.200
DISTANCE (m)	ACCUMULATED	0.000	1374.71
	PARTIAL	31.846	27.230
STATION NO (SMR-)		0	45



NO.	DATE	REVISIONS	COORDINATED	DESIGNED	APPROVED

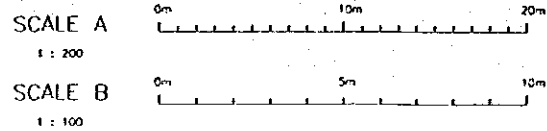
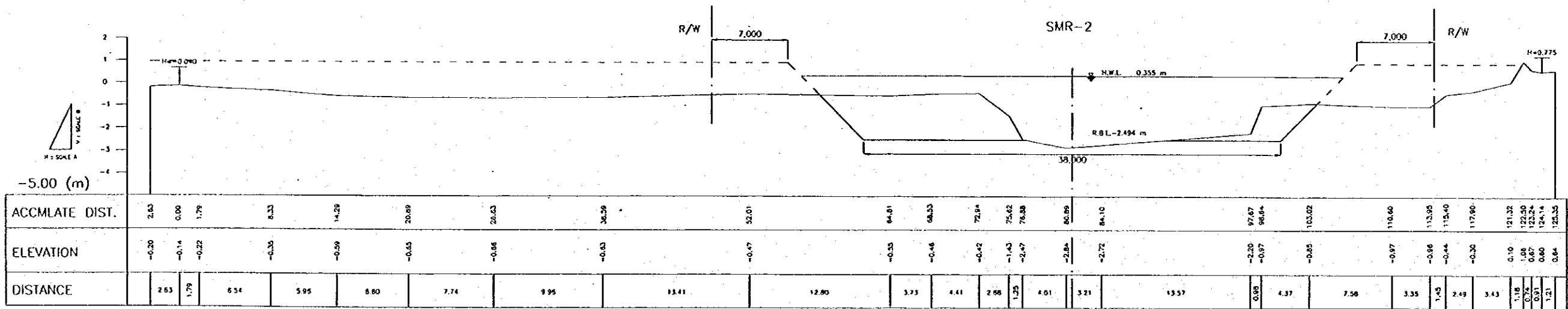
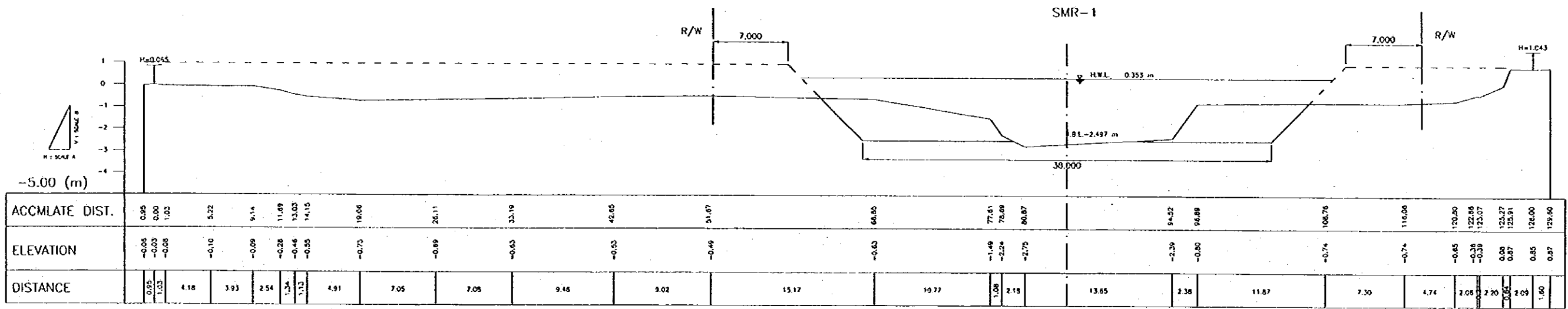
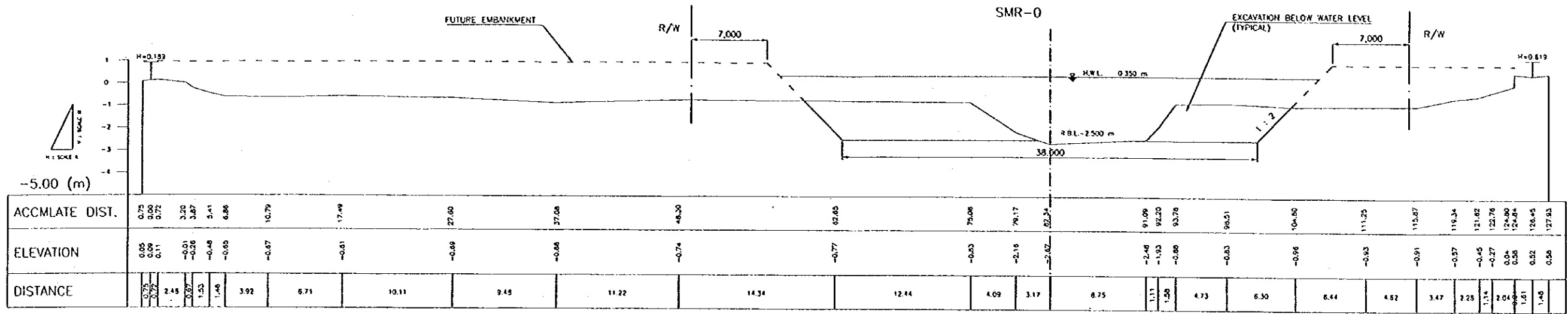
THE REPUBLIC OF INDONESIA  
 MINISTRY OF PUBLIC WORKS  
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JAKARTA INTERNATIONAL COOPERATION AGENCY  
 CITY ENGINEERING CO., LTD. IN ASSOCIATION WITH  
 PACIFIC CONSULTANTS INDONESIA (PACCONS) AND  
 PARCO INTERNATIONAL INC.

SEMARANG RIVER (ASIN DRAINAGE SYSTEM IMPROVEMENT) LONGITUDINAL PROFILE

PROVINCE: CENTRAL JAWA  
 PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG BY THE REPUBLIC OF INDONESIA  
 DISTRICT: SEMARANG CITY  
 DRAWING NO.: U-P2-S-Lo-1  
 SHEET NO.: 5  
 DATE: CONTRACT NO.:

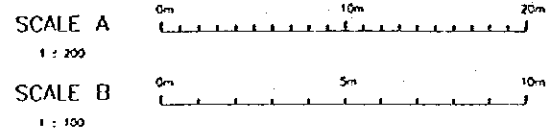
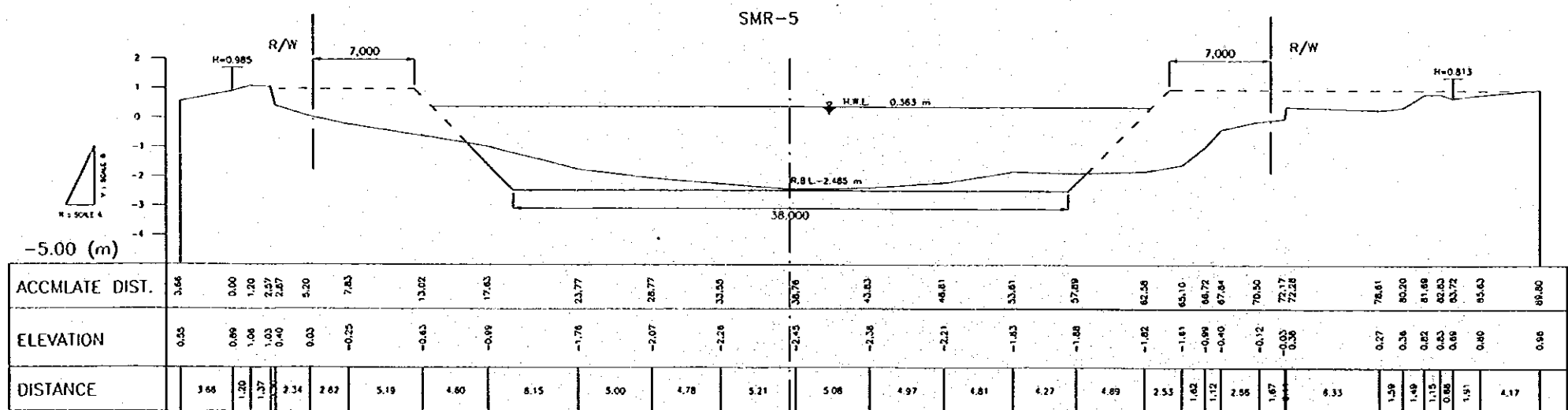
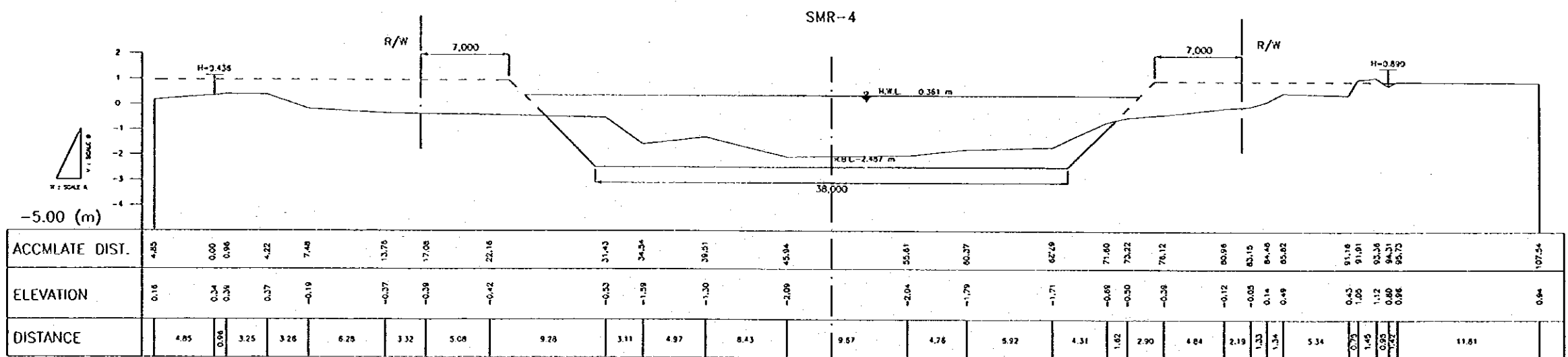
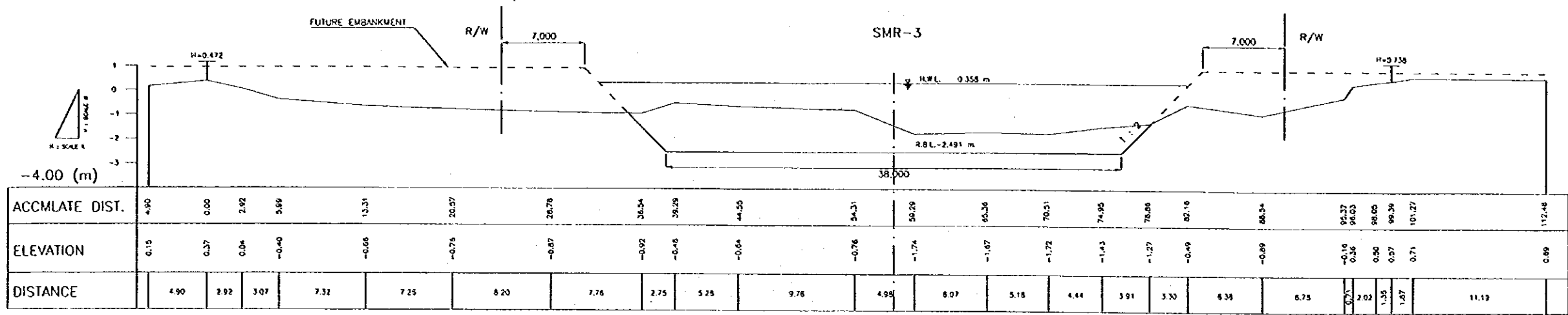
DESIGNED: [Signature]  
 CHECKED: [Signature]  
 CHIEF OF PLANNING AND DESIGN: [Signature]  
 PROJECT MANAGER: [Signature]



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
RAJUNSELINA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (1/15)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
WAJAN INTERNATIONAL COOPERATION AGENCY CTE ENGINEERING CO., LTD. in association with PACIFIC CONSULTANTS INTERNATIONAL and TAMECO INTERNATIONAL INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED CLEAR OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. U-P2-S-Cr-1 SHEET NO. 6
APPROVED PROJECT MANAGER		DATE CONTRACT NO.

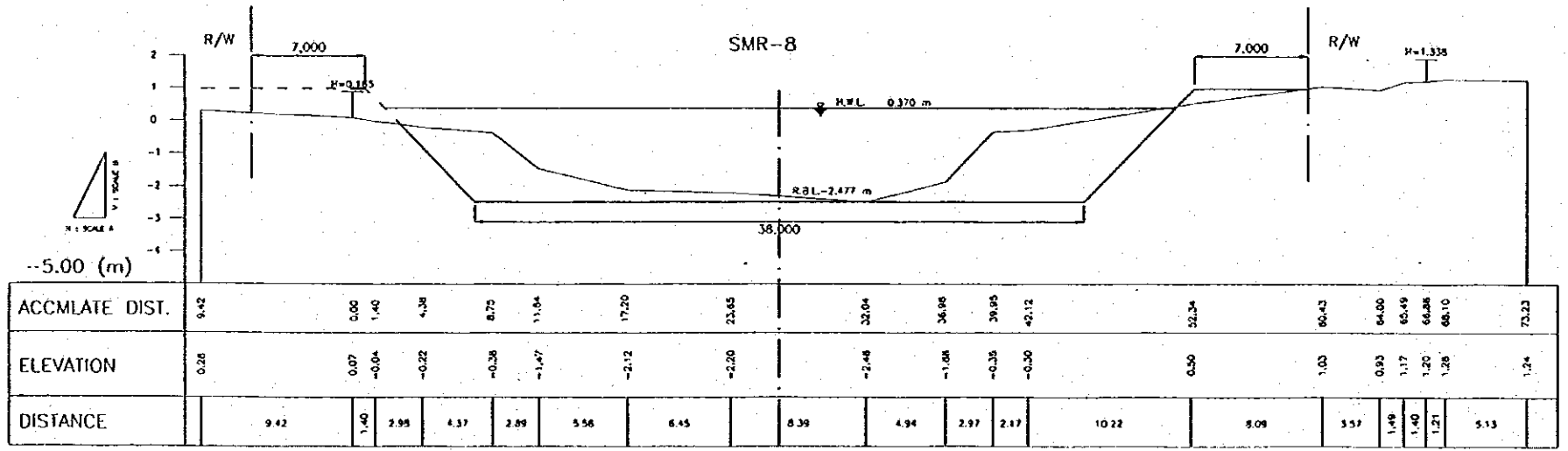
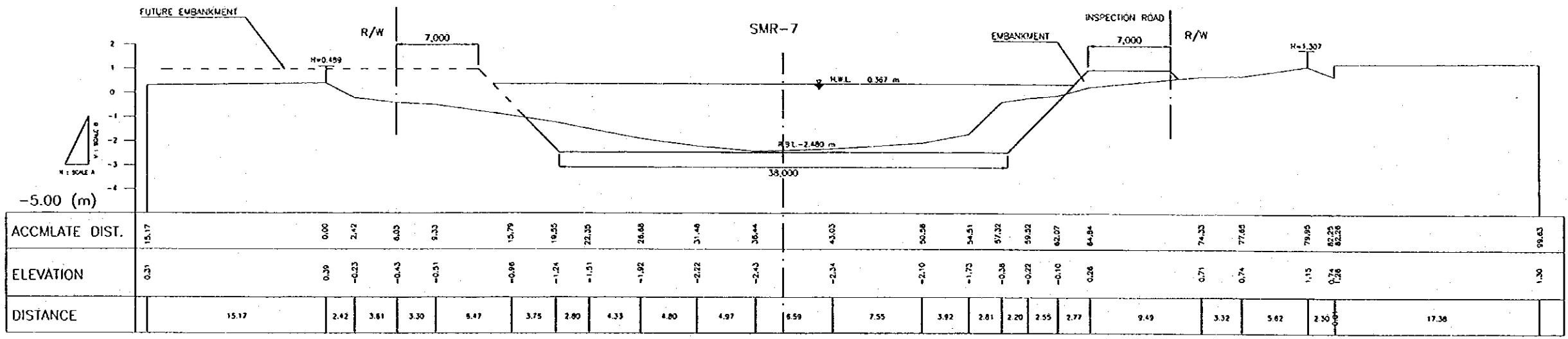
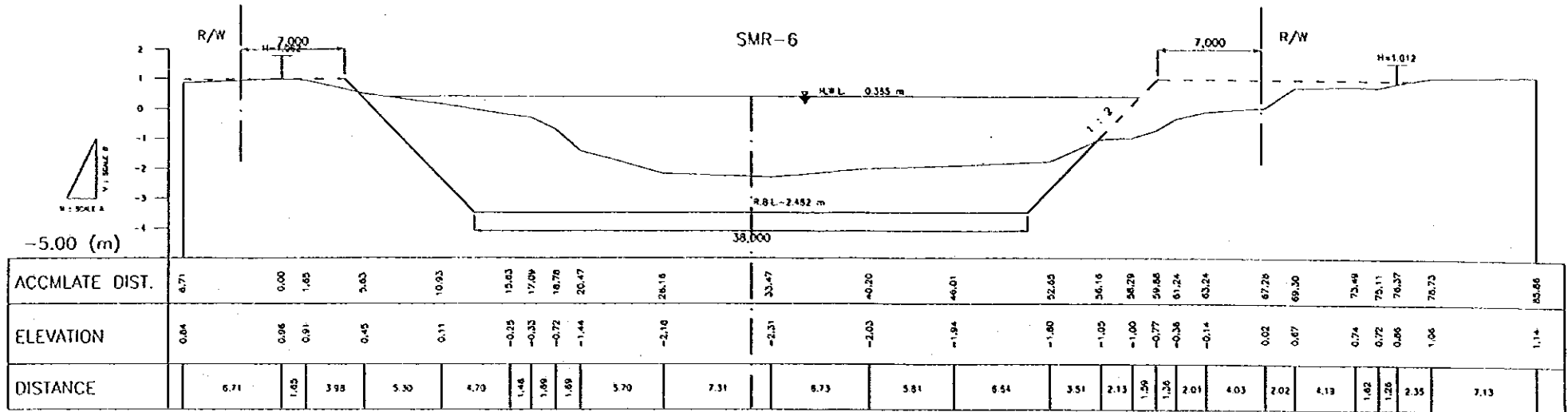


H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISION	DESIGNED	APPROVED

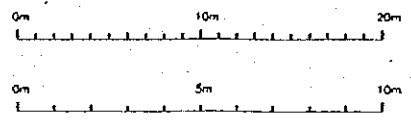
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE <b>CENTRAL JAWA</b>
RIATUNUSILANA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (1/15)		PROJECT NAME <b>RIATUNUSILANA FLOOD CONTROL AND URBAN DRAINAGE SYSTEM IMPROVEMENT PROJECT</b> CONTRACT <b>SEMARANG CITY</b> DRAWING NO. <b>U.P2-S-Cr-2</b> SHEET NO. <b>7</b>
JAPAN INTERNATIONAL ORGANIZATION OF COOPERATION AND ASSISTANCE CTI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JACOBS INTERNATIONAL INC.	CHECKED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	DATE CONTRACT NO.





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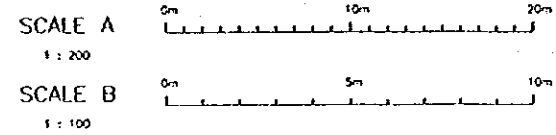
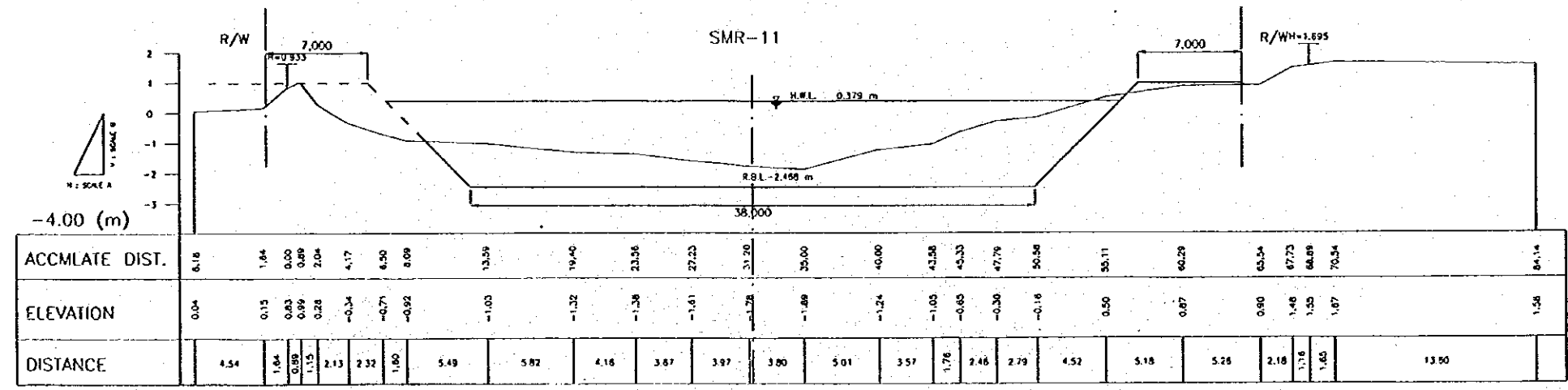
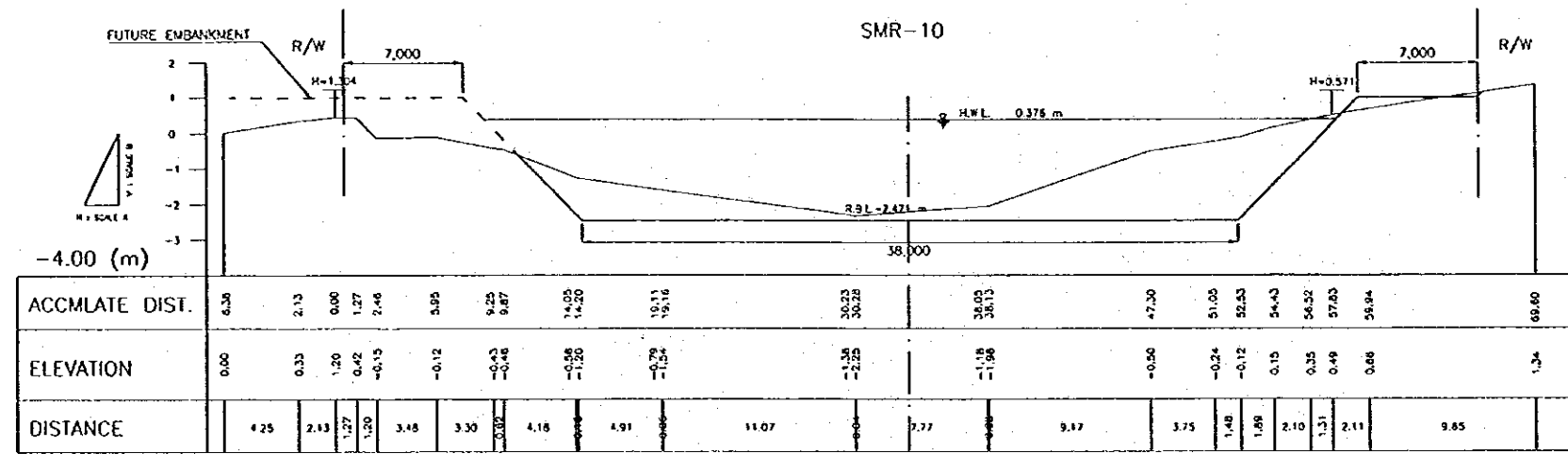
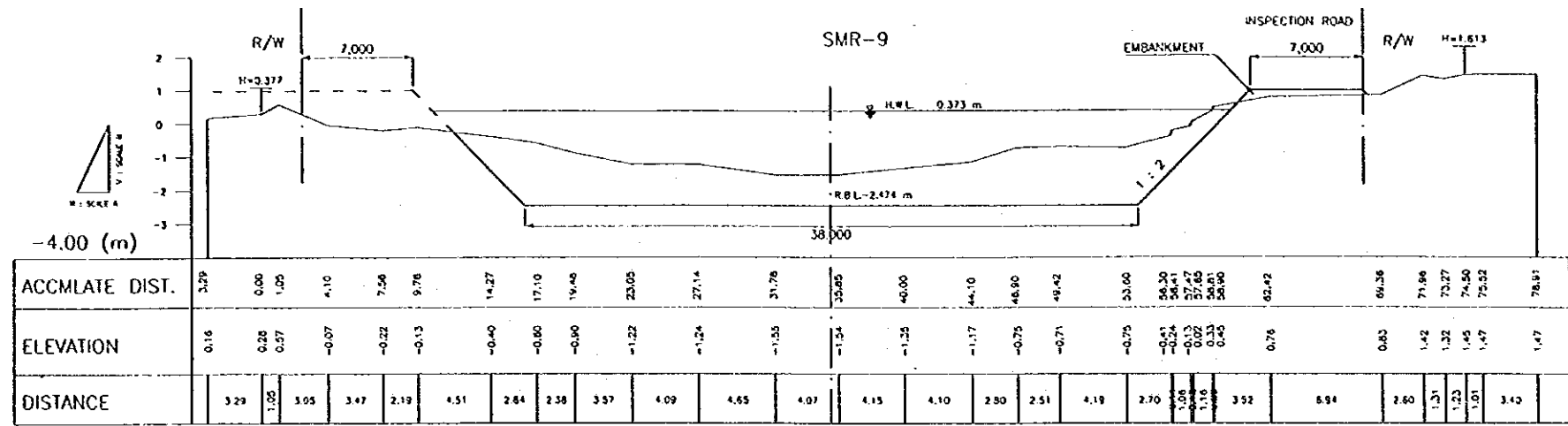
SCALE B  
1 : 100



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	PREPARED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
PEJABEN RIVER FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SIMARANG RIVER (ASB RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (3/15)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SIMARANG IN THE REPUBLIC OF INDONESIA
ESIAN INTERNATIONAL COOPERATION AGENCY CITI ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND FARO INTERNATIONAL PCL		DISTRICT SIMARANG CITY
DESIGNED CHECKED APPROVED		DRAWING NO. U-P2-S-Cr-3 SHEET NO. 8 DATE / CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		[Signature]



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

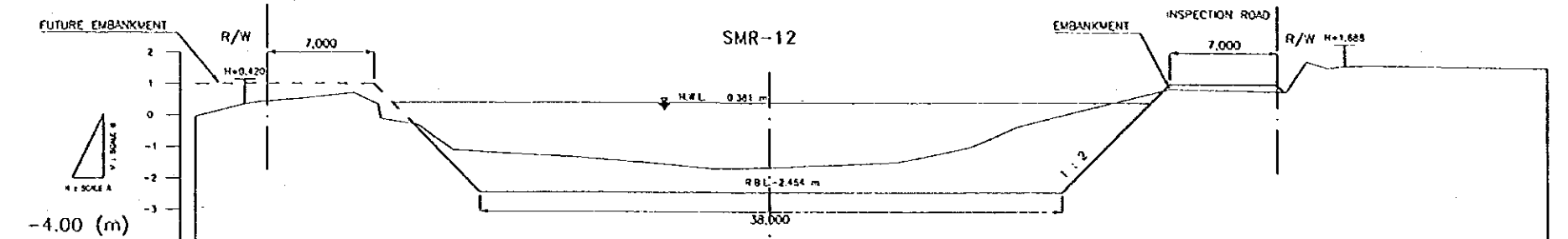
THE REPUBLIC OF INDONESIA  
MINISTRY OF PUBLIC WORKS  
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

IRATUNBELUNA FLOOD CONTROL PROJECT  
COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT  
SIDARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT)  
CROSS SECTION (413)

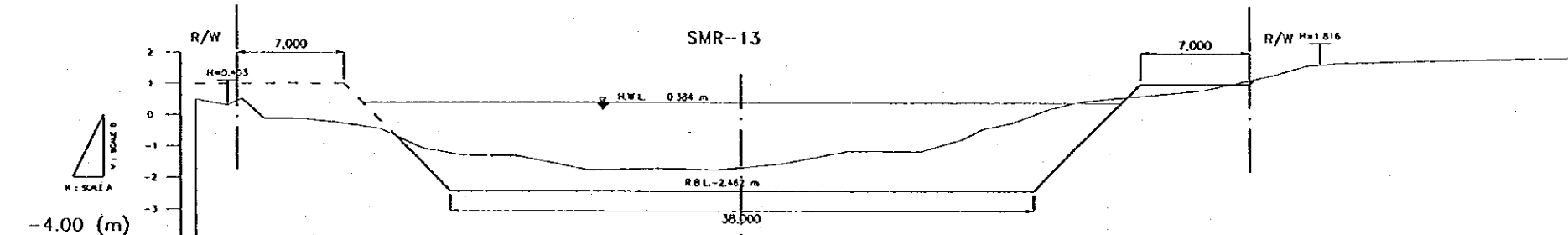
PROVINCE: CENTRAL JAWA  
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SIDARANG BY THE REPUBLIC OF INDONESIA  
DISTRICT: SIDARANG CITY  
DRAWING NO. U-P2-S-Cr-4  
SHEET NO. 9

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTS ENGINEERING CO., LTD. IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL AND  
INDO-INTERNATIONAL INC.

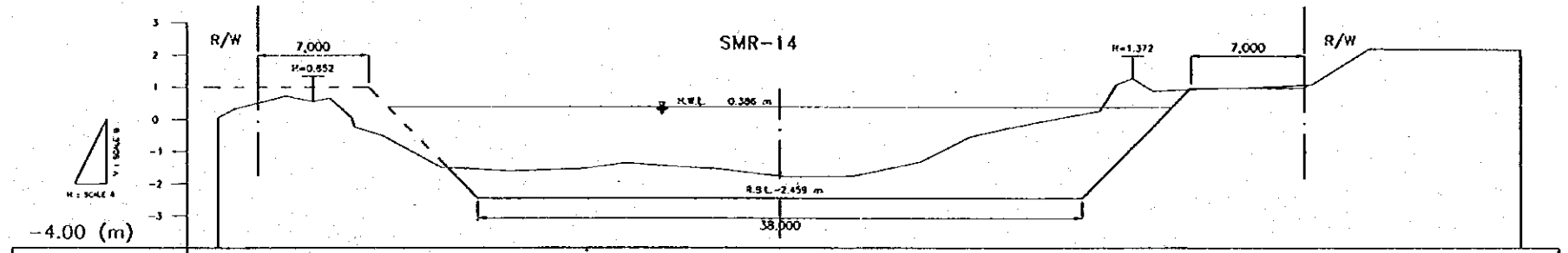
DESIGNED: [Signature]  
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DATE: [ ] CONTRACT NO. [ ]



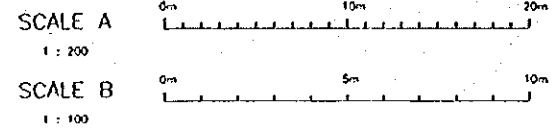
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ELEVATION	-0.08	0.32	0.41	0.52	0.69	0.73	-0.13	-0.33	-1.13	-1.21	-1.33	-1.52	-1.72	-1.66	-1.58	-1.51	-1.64	-0.38	-0.07	0.82	0.75	1.72	0.816	1.02	1.56	1.61	1.56
DISTANCE	3.19	1.17	2.79	3.19	1.26	2.44	2.27	3.10	4.47	5.04	4.43	4.77	3.78	3.29	4.90	3.18	2.58	7.16	7.60	1.34	1.29	1.10	1.50	11.73			



ACCMLATE DIST.	2.08	0.00	0.83	2.34	3.00	5.89	9.97	12.72	15.35	18.93	23.61	27.98	31.87	36.24	40.48	45.12	47.83	49.10	51.08	53.37	55.85	63.26	68.04	70.21	71.05	72.30	87.46
ELEVATION	0.48	0.30	0.50	-0.14	-0.16	-0.25	-0.47	-1.10	-1.33	-1.35	-1.56	-1.75	-1.78	-1.59	-1.16	-1.19	-0.81	-0.48	-0.28	0.16	0.43	0.79	1.29	1.59	1.62	1.65	1.66
DISTANCE	2.08	0.93	1.41	2.65	1.86	3.08	2.75	2.63	3.58	4.69	4.37	3.89	3.7	4.22	4.65	2.72	1.37	1.88	2.50	2.07	7.71	4.58	2.18	0.85	1.25	15.16	



ACCMLATE DIST.	0.00	4.99	1.09	0.00	1.08	2.40	2.35	4.36	6.04	12.34	16.43	18.99	23.50	26.76	33.83	36.28	41.37	43.71	46.23	49.48	50.53	51.57	52.85	62.78	64.23	75.85
ELEVATION	0.22	0.32	0.71	0.55	0.64	0.65	-0.24	-0.51	-1.50	-1.61	-1.56	-1.37	-1.35	-1.50	-1.78	-1.34	-0.54	-0.27	-0.03	0.26	1.09	1.29	0.85	1.10	2.20	2.17
DISTANCE	0.00	3.30	1.99	1.08	1.34	1.80	3.68	4.51	4.28	3.06	5.86	4.23	4.15	4.35	3.09	2.35	2.52	3.25	1.05	1.04	1.28	9.93	3.47	9.60		



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	PREPARED	DESIGNED	APPROVED

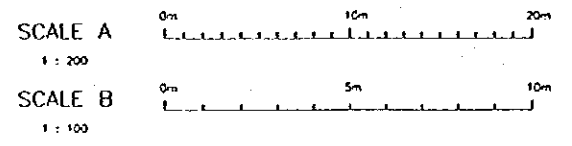
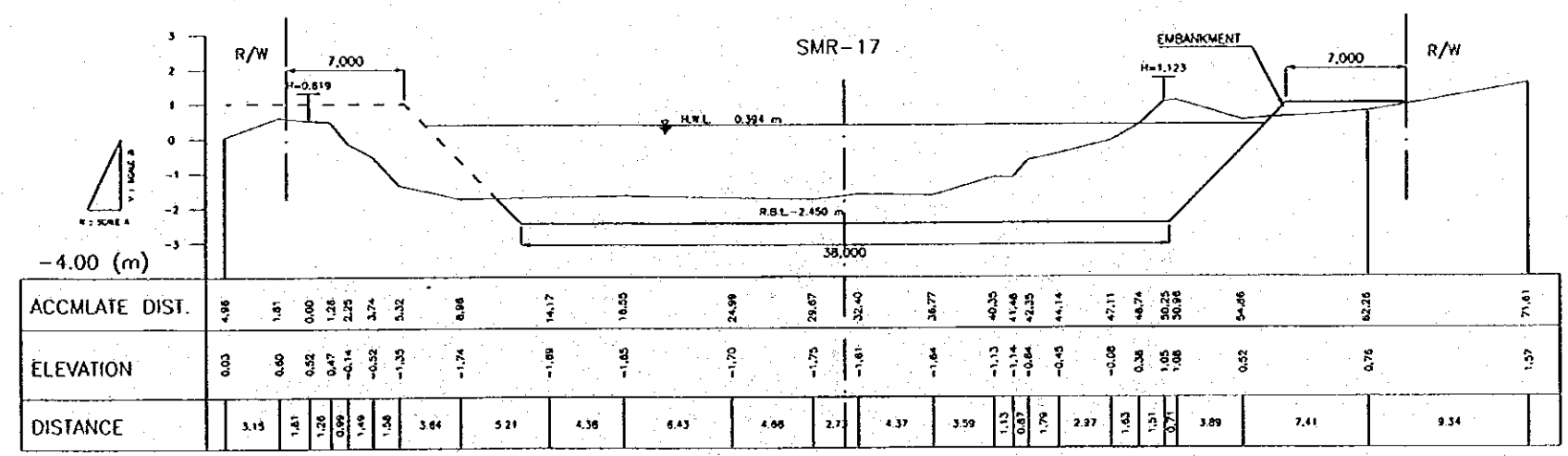
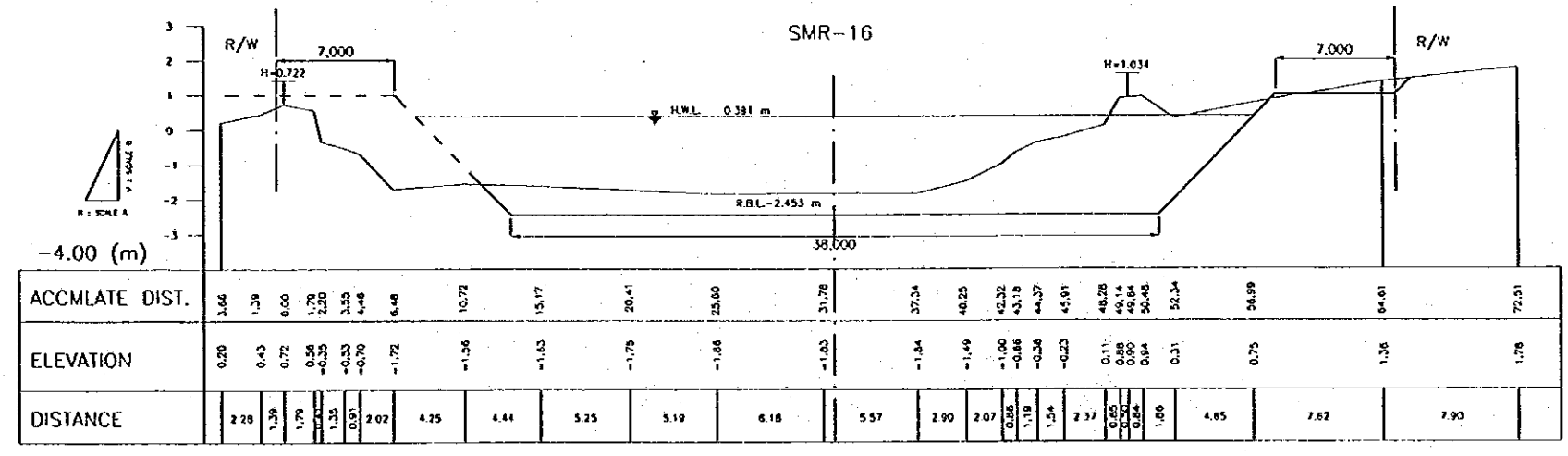
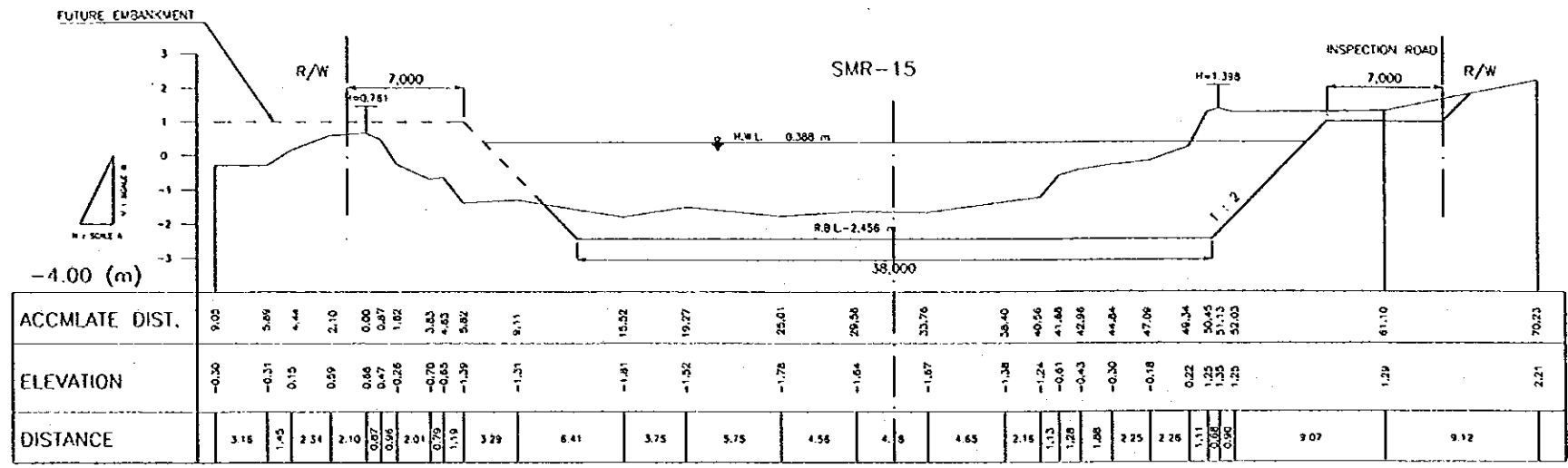
THE REPUBLIC OF INDONESIA  
MINISTRY OF PUBLIC WORKS  
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNGSILUNA FLOOD CONTROL PROJECT  
COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT  
SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (S/15)

PROVINCE: CENTRAL JAWA  
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA  
DISTRICT: SEMARANG CITY  
DRAWING NO. U.P2-S-Cr-5  
SHEET NO. 10  
DATE:      CONTRACT NO.:

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI (KORSENGO) CO., LTD. IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL LTD.  
PACIFIC ENGINEERING INC.

DESIGNED: [Signature]  
CHECKED: [Signature]  
PROJECT MANAGER: [Signature]



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

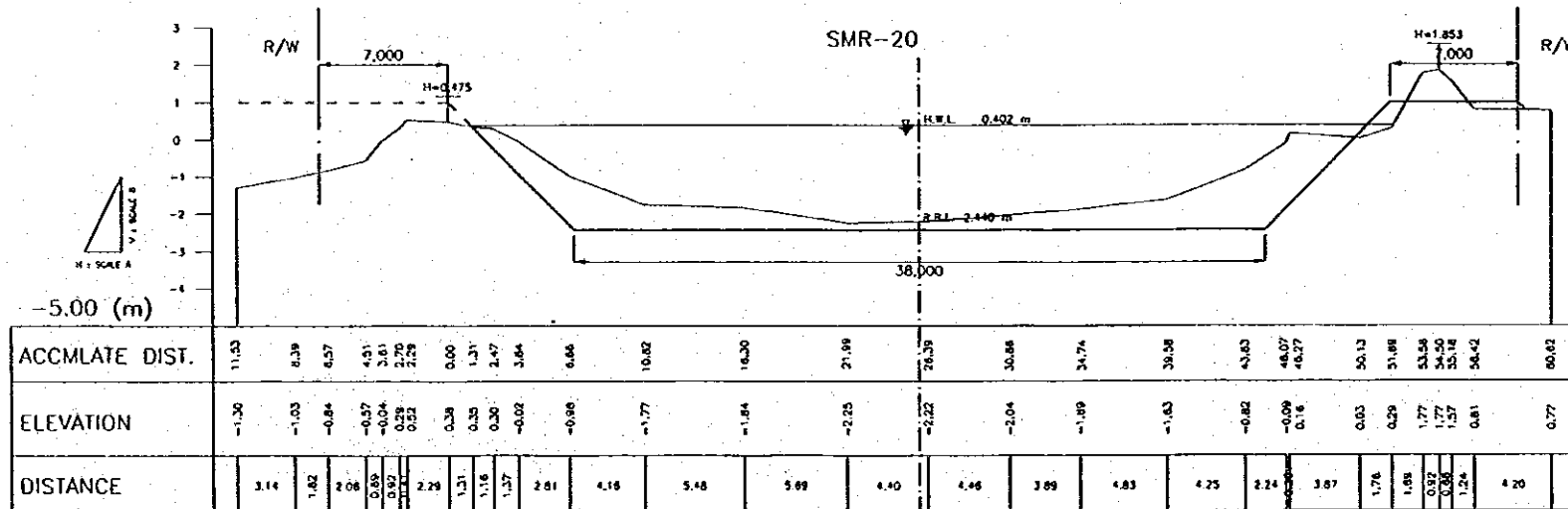
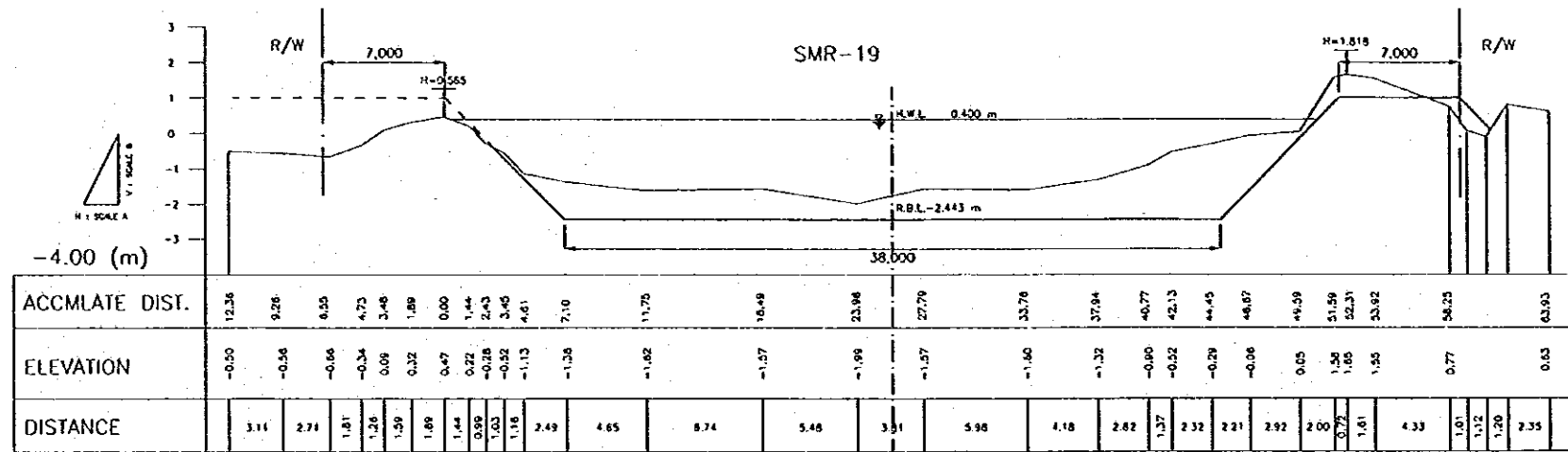
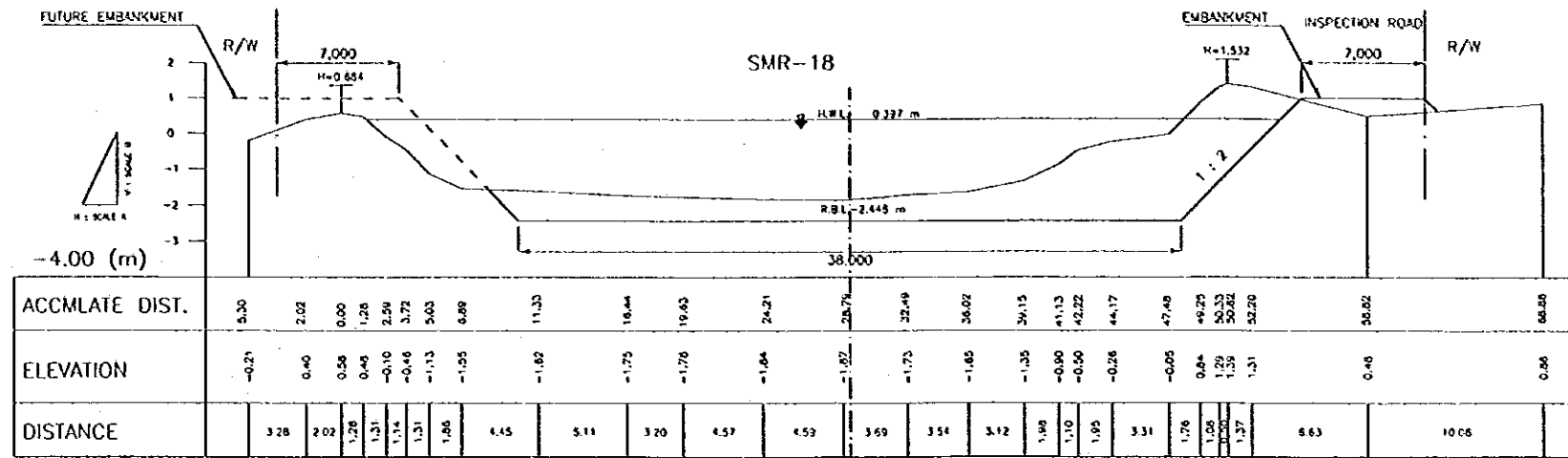
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA  
MINISTRY OF PUBLIC WORKS  
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENTS  
BRATUNGGALA FLOOD CONTROL PROJECT  
COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT  
SEMARANG RIVER (ASHI RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (615)

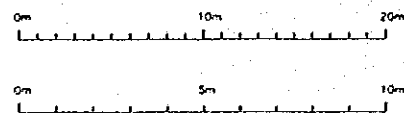
PROVINCE: CENTRAL JAWA  
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA  
DISTRICT: SEMARANG CITY  
DRAWING NO. U.P2.S-Cr-6  
SHEET NO. 11  
CONTRACT NO.

DEAN INTERNATIONAL CONSULTING AGENCY  
PT. SURABAYA CO., LTD. IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL AND  
TAHOI INTERNATIONAL INC.

APPROVED: [Signature]  
CHECKED: [Signature]  
DESIGNED: [Signature]  
PROJECT MANAGER



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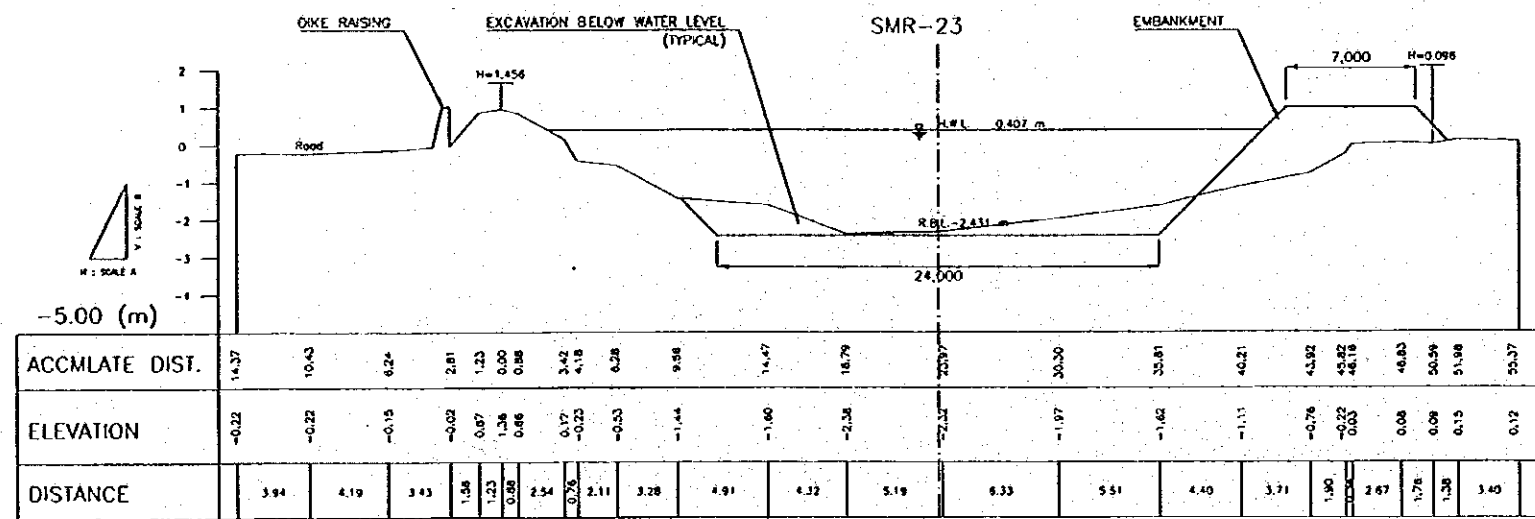
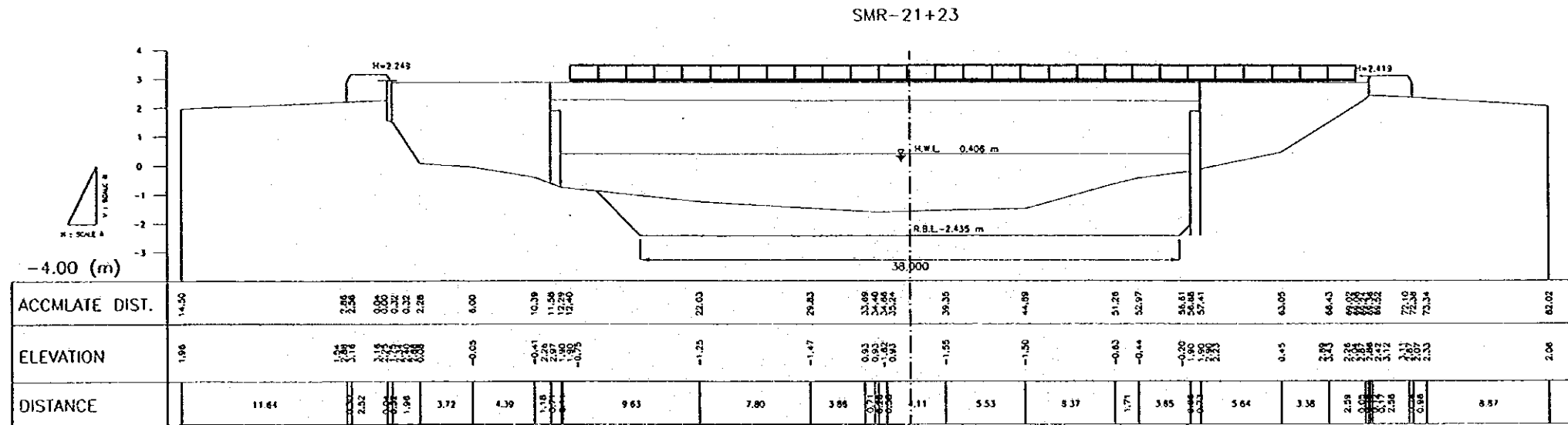
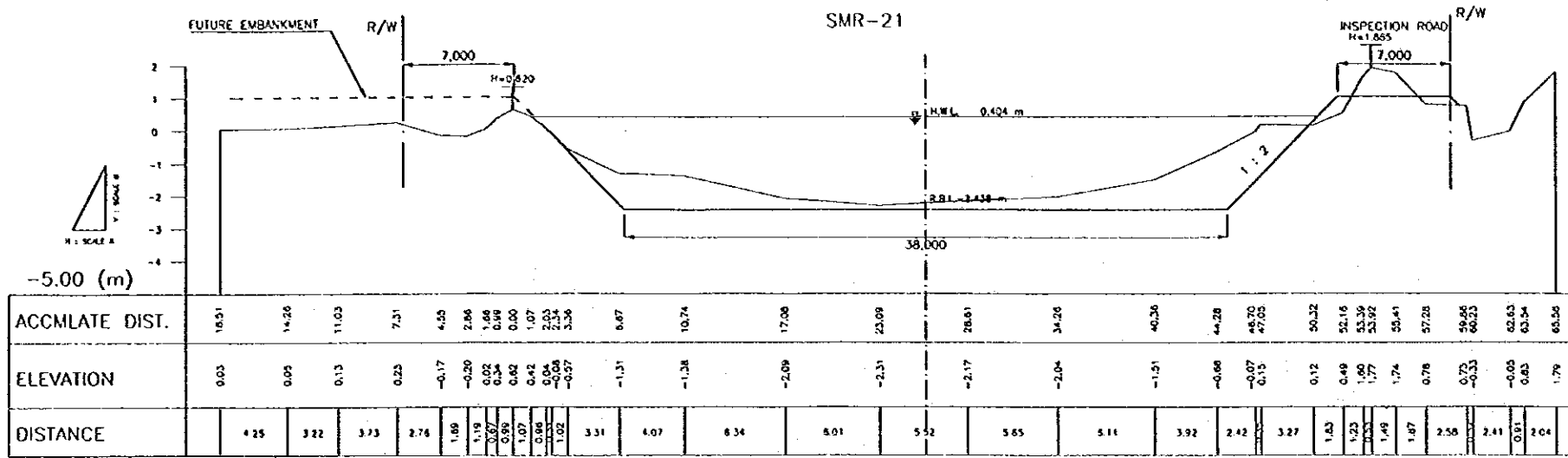


SCALE B  
1 : 100

H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

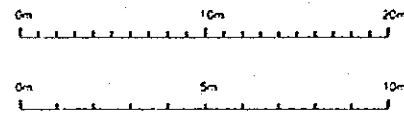
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
RATUNBELUMA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (1/15)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAWA INTERNATIONAL COOPERATION AGENCY CTE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PABO SURTELL/MALLIN INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED CHOICE OF PLANNING AND DESIGN		DRAWING NO. U-P2-S-Cr-7 SHEET NO. 12 CONTRACT NO.
APPROVED PROJECT MANAGER		DATE



SCALE A  
1 : 200

SCALE B  
1 : 100



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

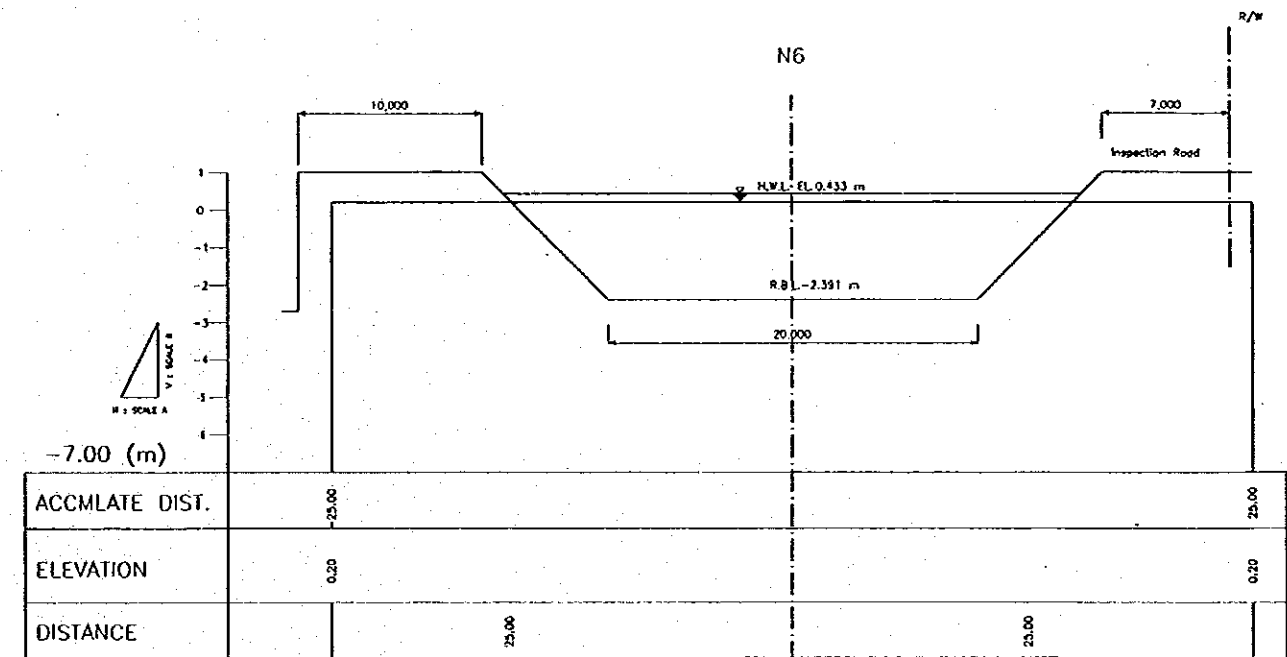
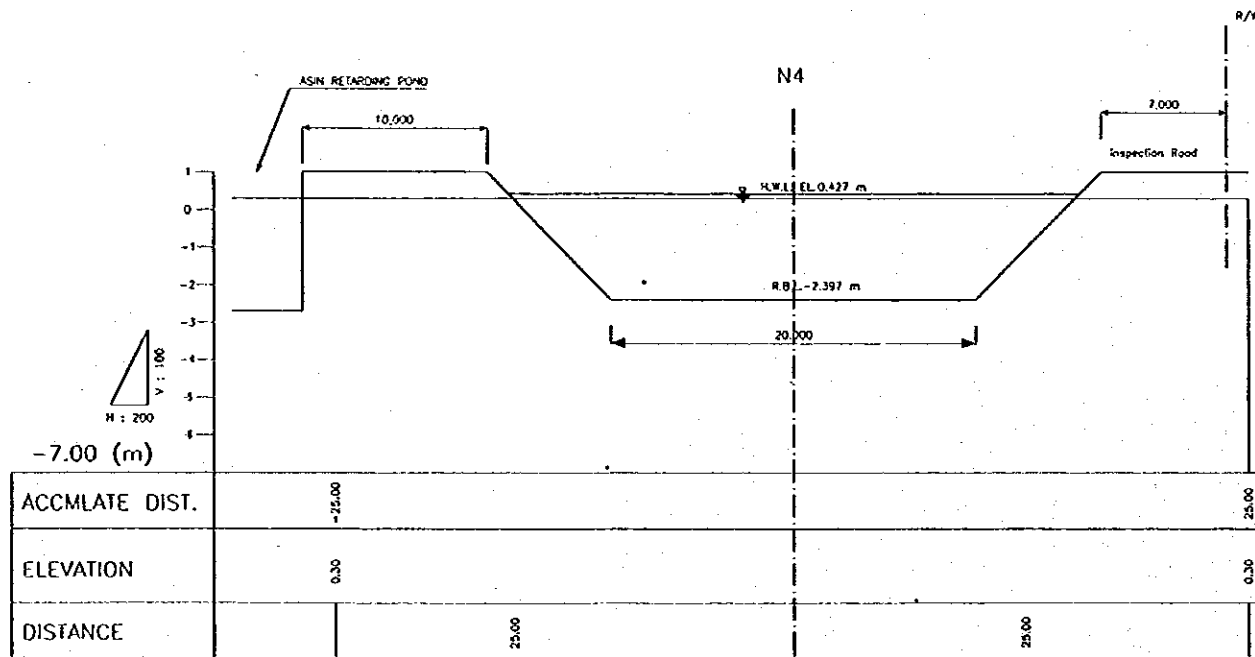
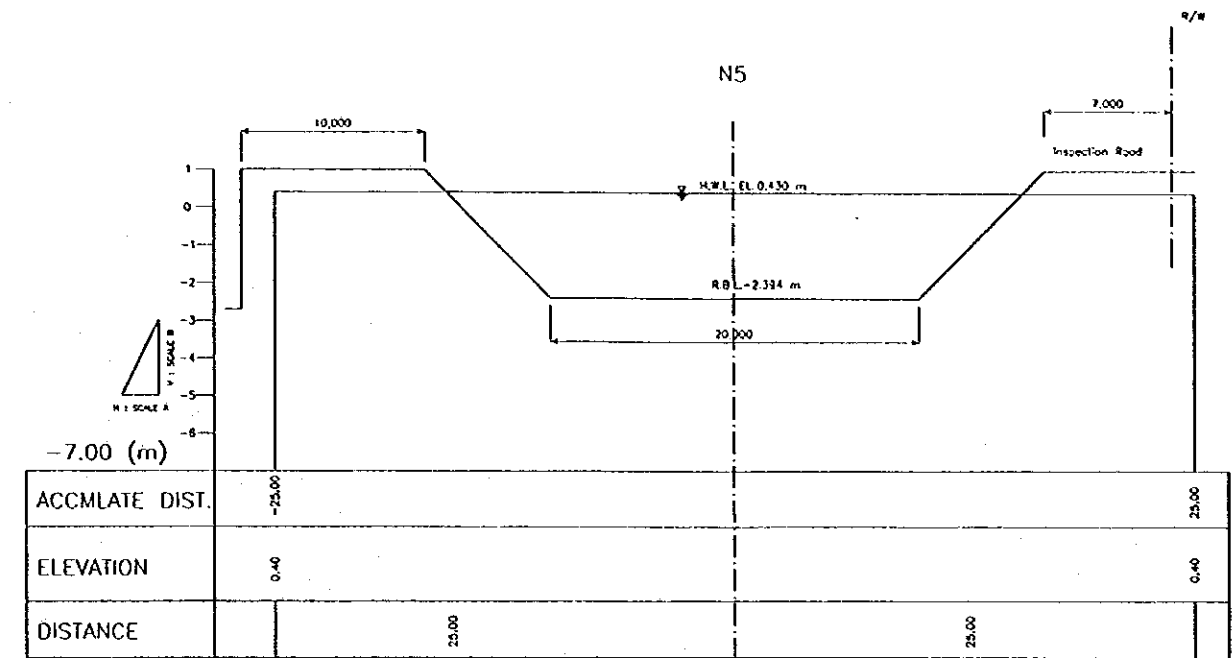
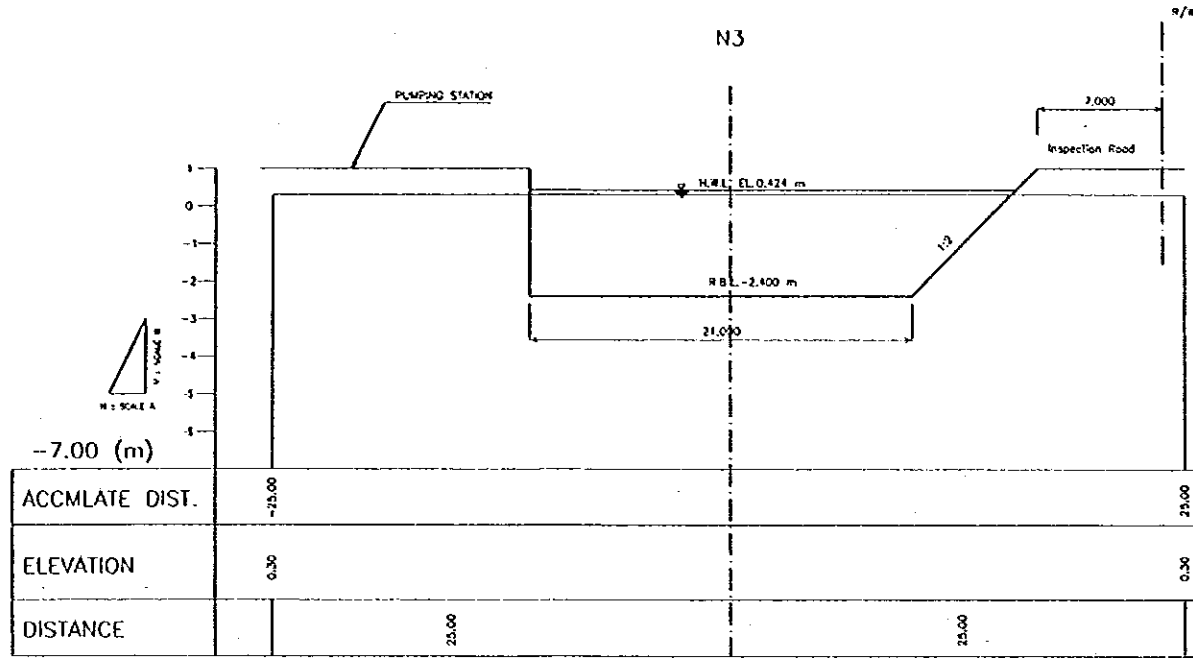
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ARSI RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (S13)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISAPPROVED CHECKED PROJECT MANAGER		DISTRICT SEMARANG CITY
DATE		DRAWING NO. U.P2-S-Cr-8 SHEET NO. 13
APPROVED		CONTRACT NO.



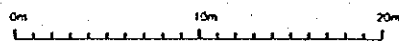




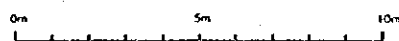




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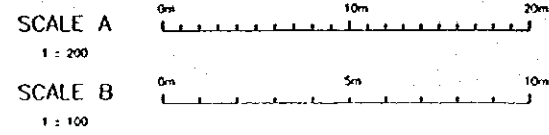
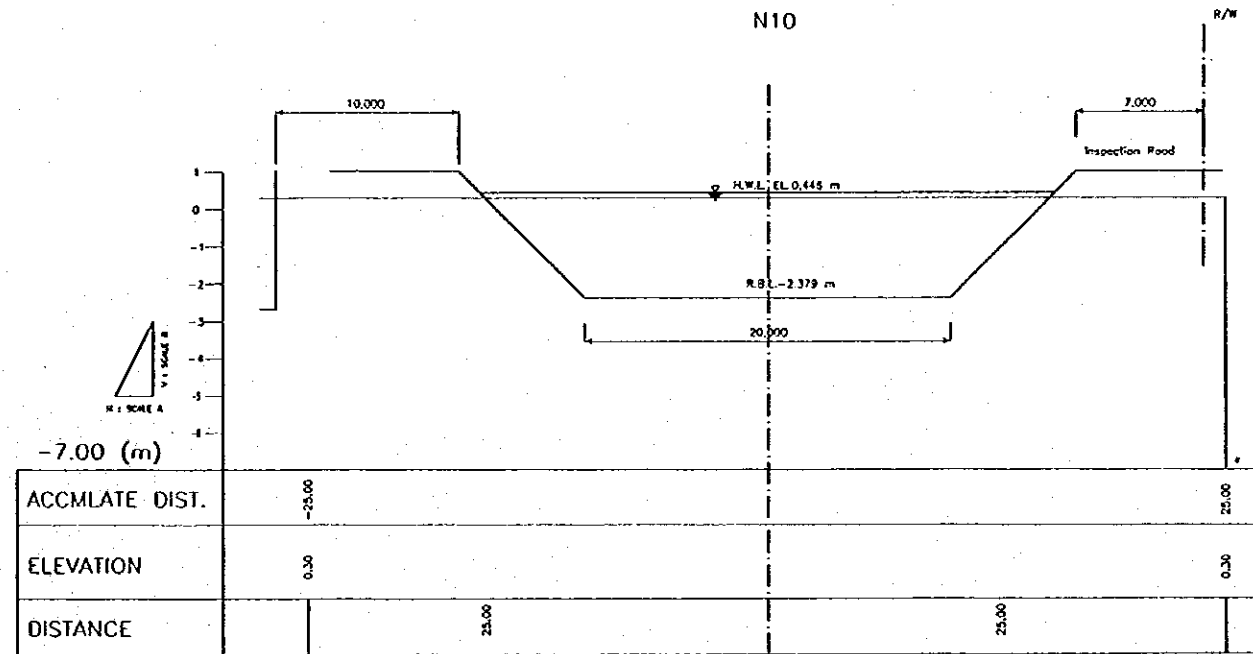
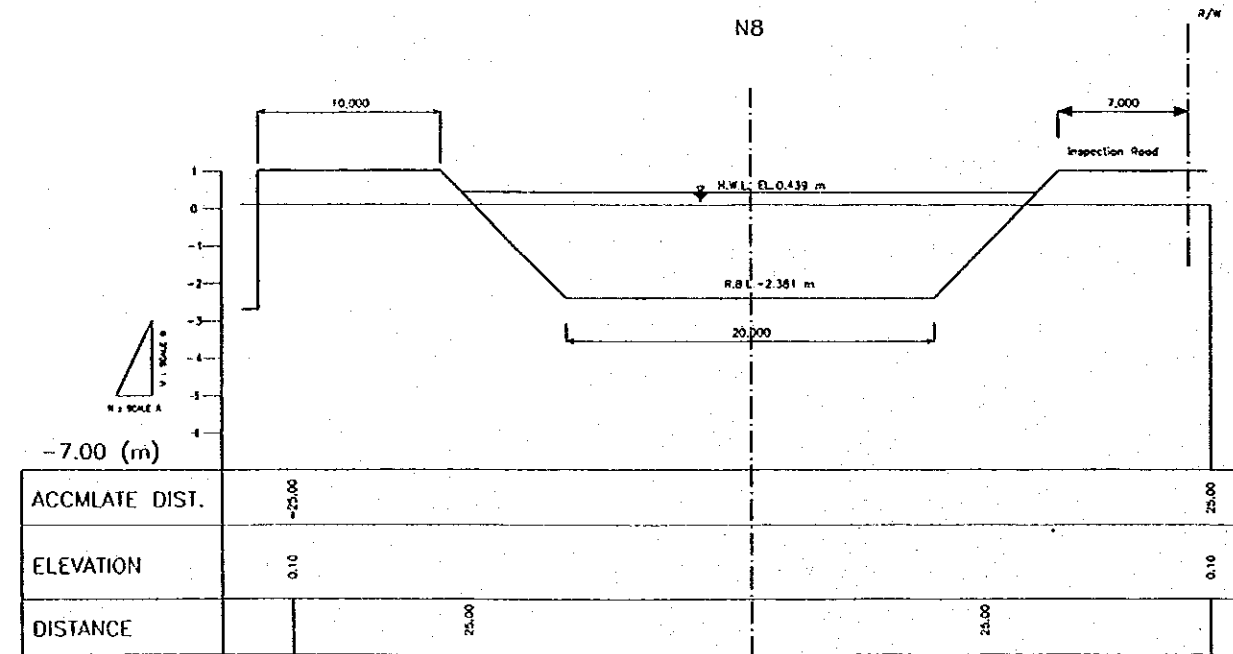
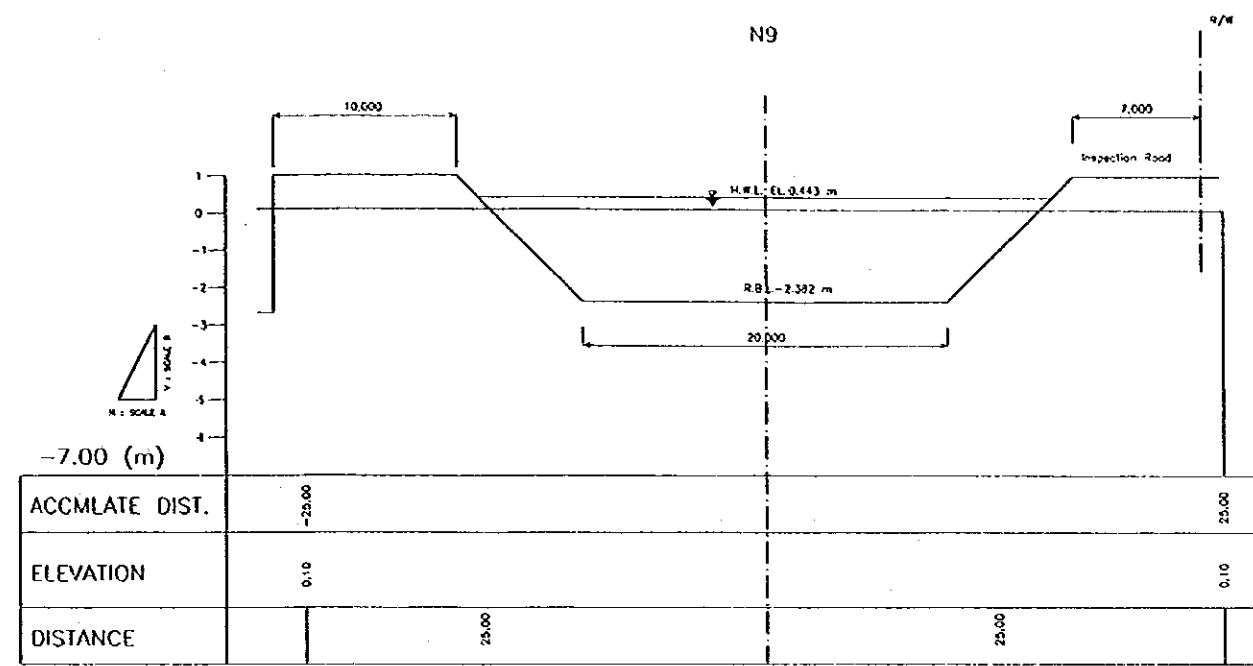
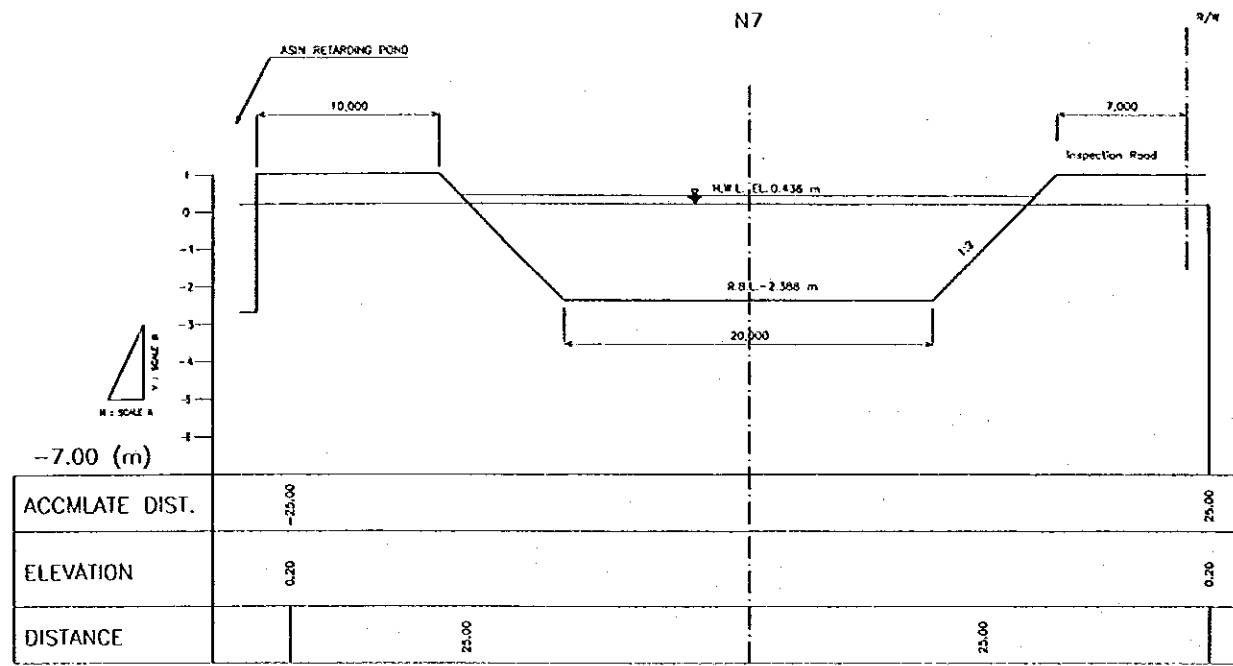
SCALE B  
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H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

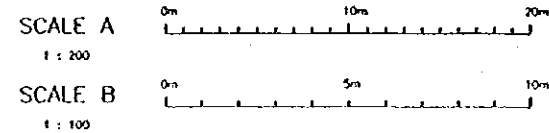
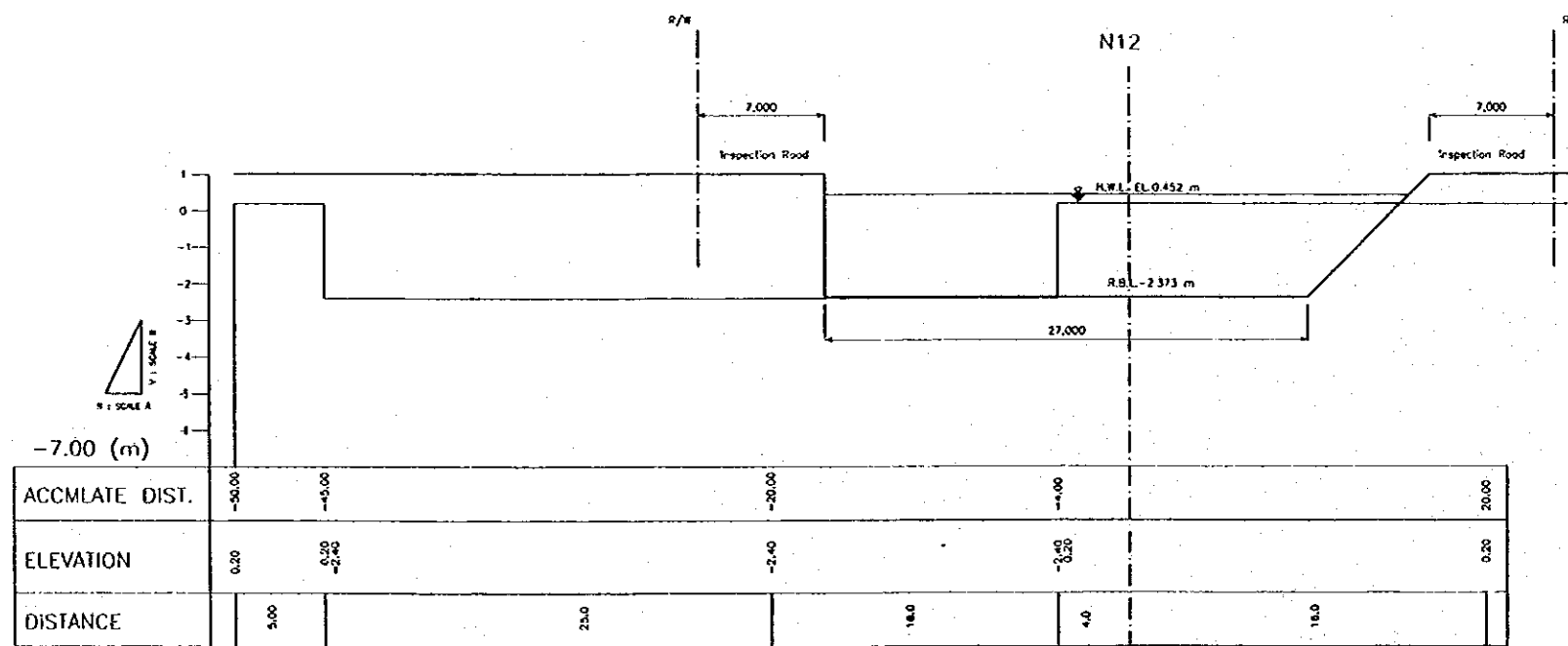
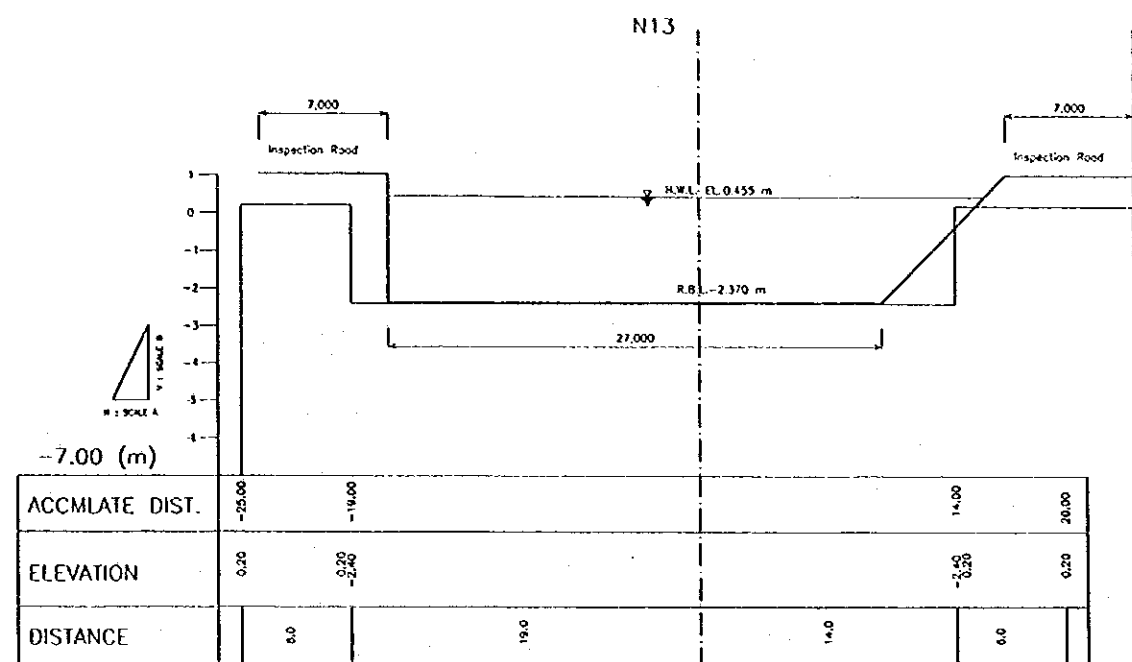
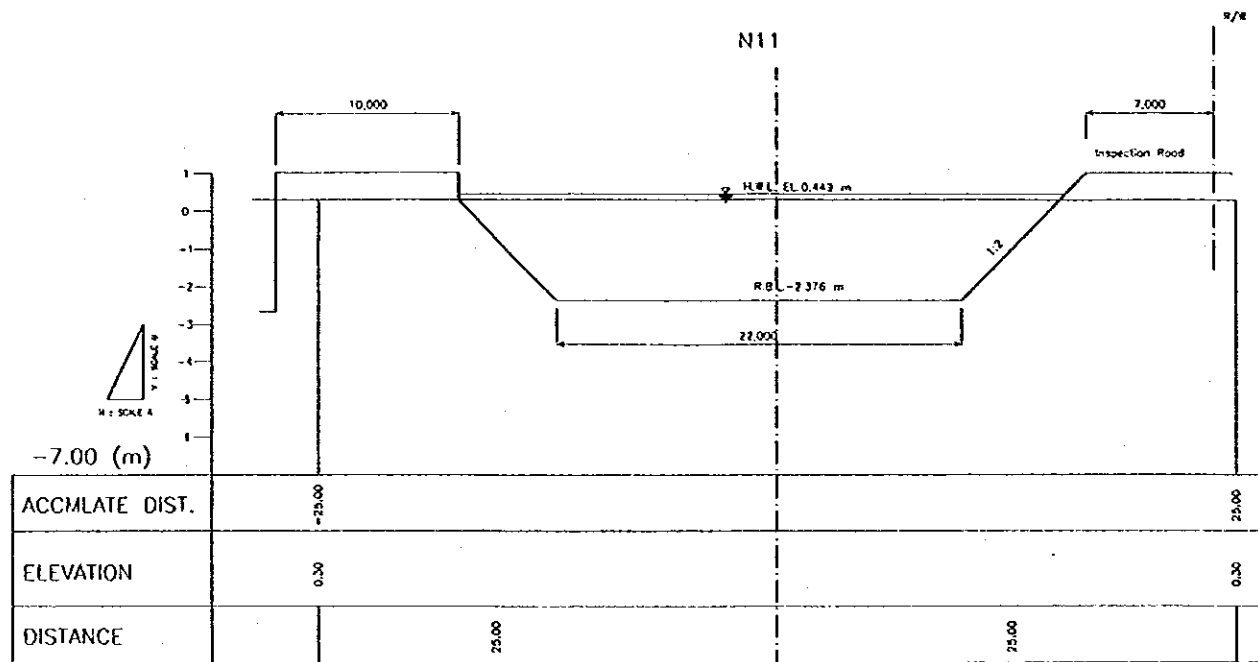
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF URBAN SETTLEMENT		PROVINCE CENTRAL JAWA
BATURUMBUN FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (12/15)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT OF SEMARANG IN THE REPUBLIC OF INDONESIA
LEAN INTERNATIONAL COOPERATION AGENCY CIL ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PAKO PERKONSULTANSI, PRL		DISTRICT SEMARANG CITY
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. U-P2-S-Cr-12 SHEET NO. 17 DATE CONTRACT NO.



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	ORIGINATOR	DESIGNED	APPROVED

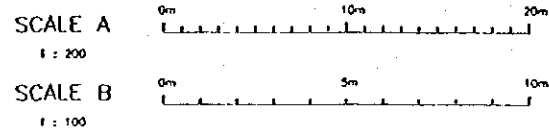
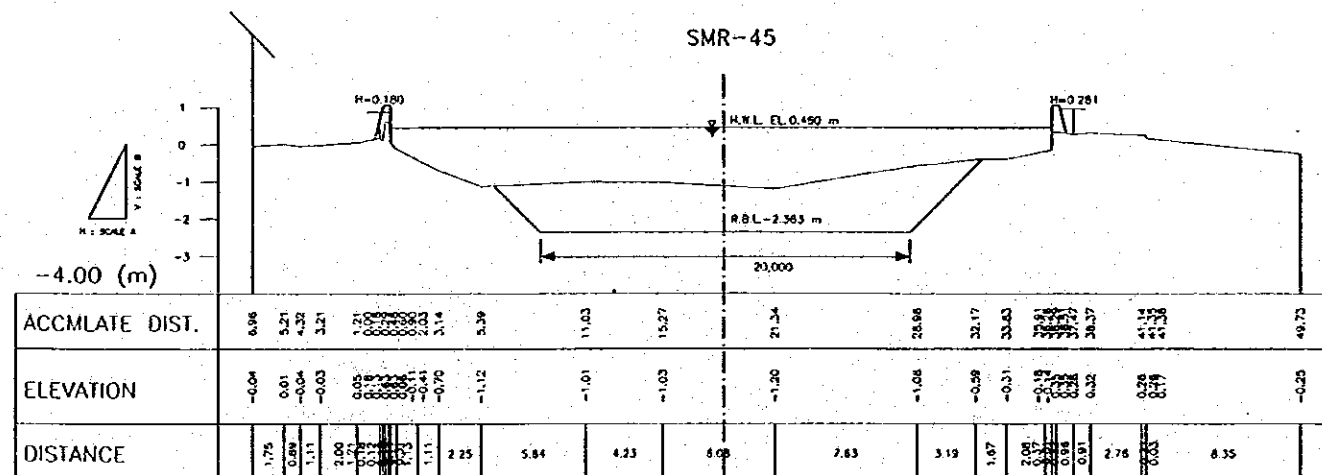
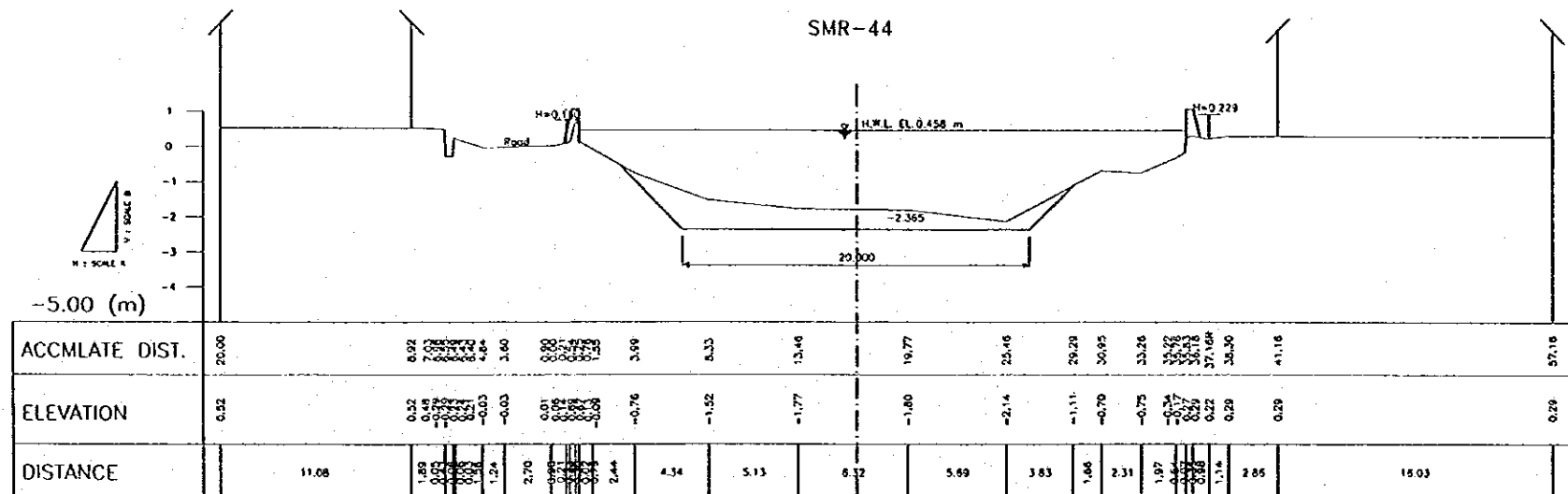
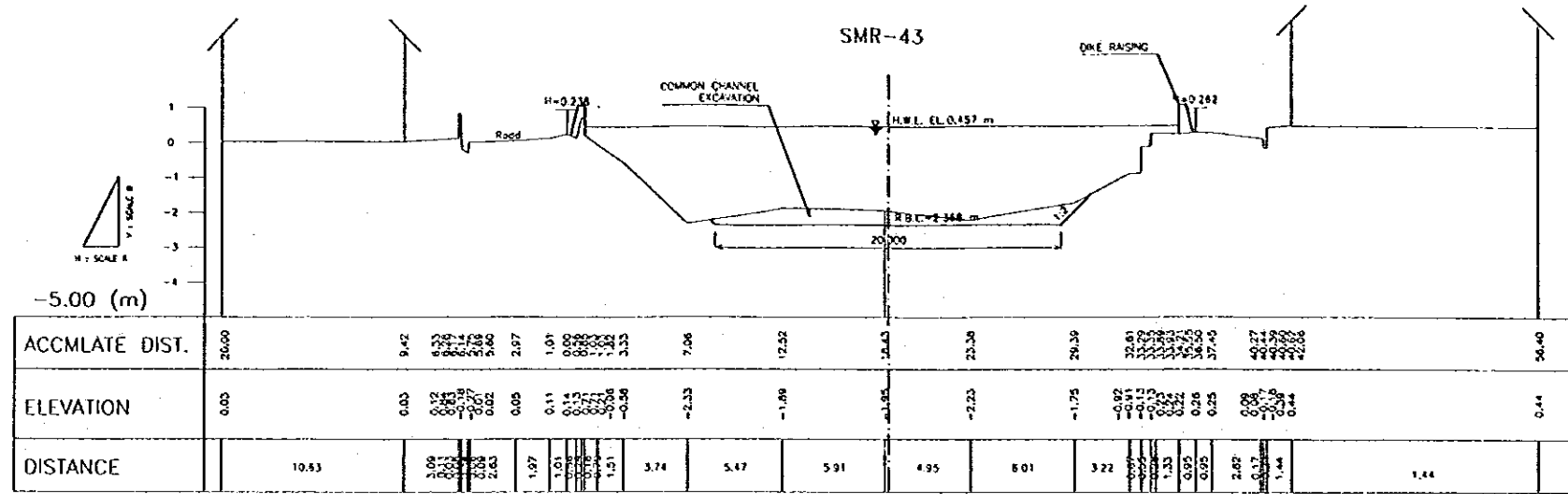
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF RURAL SETTLEMENT		PROVINCE CENTRAL JAYA
MATURMELUKA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASH RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (1/1/1)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT OF SEMARANG IN THE REPUBLIC OF INDONESIA
SAHAT INTERNATIONAL COOPERATION AGENCY CIL INVESTMENT CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PANCO KONSULTING/TERVAL INS.		DISTRICT SEMARANG CITY
DESIGNED CHECKED DATE		DRAWING NO. U-P2-S-Cr-13 SHEET NO. 18
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		CONTRACT NO.



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	PREPARED	DESIGNED	APPROVED

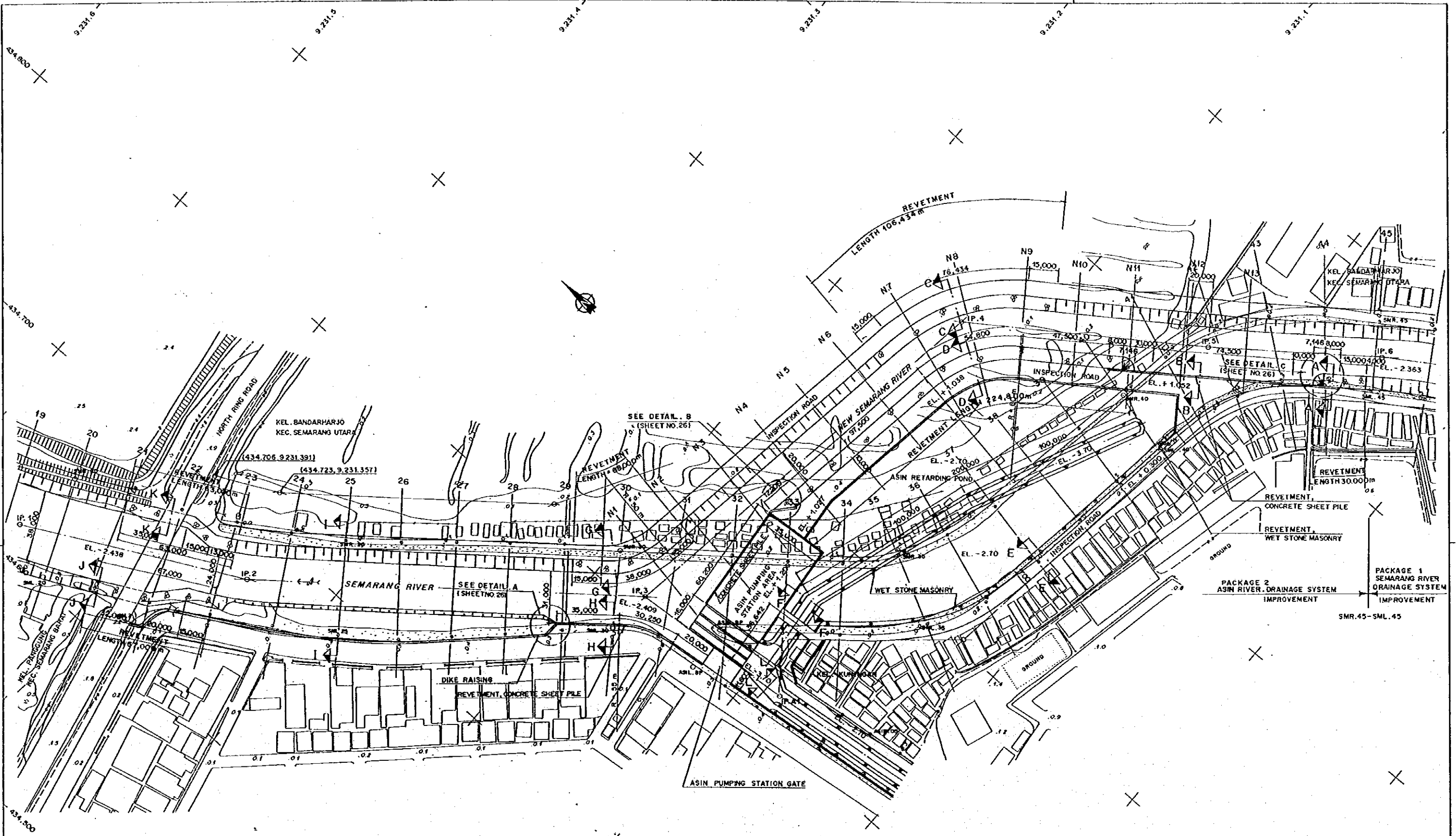
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
SEWERSURUKA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (14/15)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
IAIN INTERNATIONAL COOPERATION AGENCY CTE ENGINEERING CO., LTD. in association with PACIFIC CONSULTANTS INTERNATIONAL and TARIK INTERNATIONAL INC.		DISTRICT SEMARANG CITY
CHECKED [Signature] CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. U-P2-S-Cr-14 SHEET NO. 19 DATE CONTRACT NO.



H.W.L. : DESIGN HIGH WATER LEVEL  
R.B.L. : DESIGN RIVER BED LEVEL

NO.	DATE	REVISIONS	DESIGNED	CHECKED	APPROVED

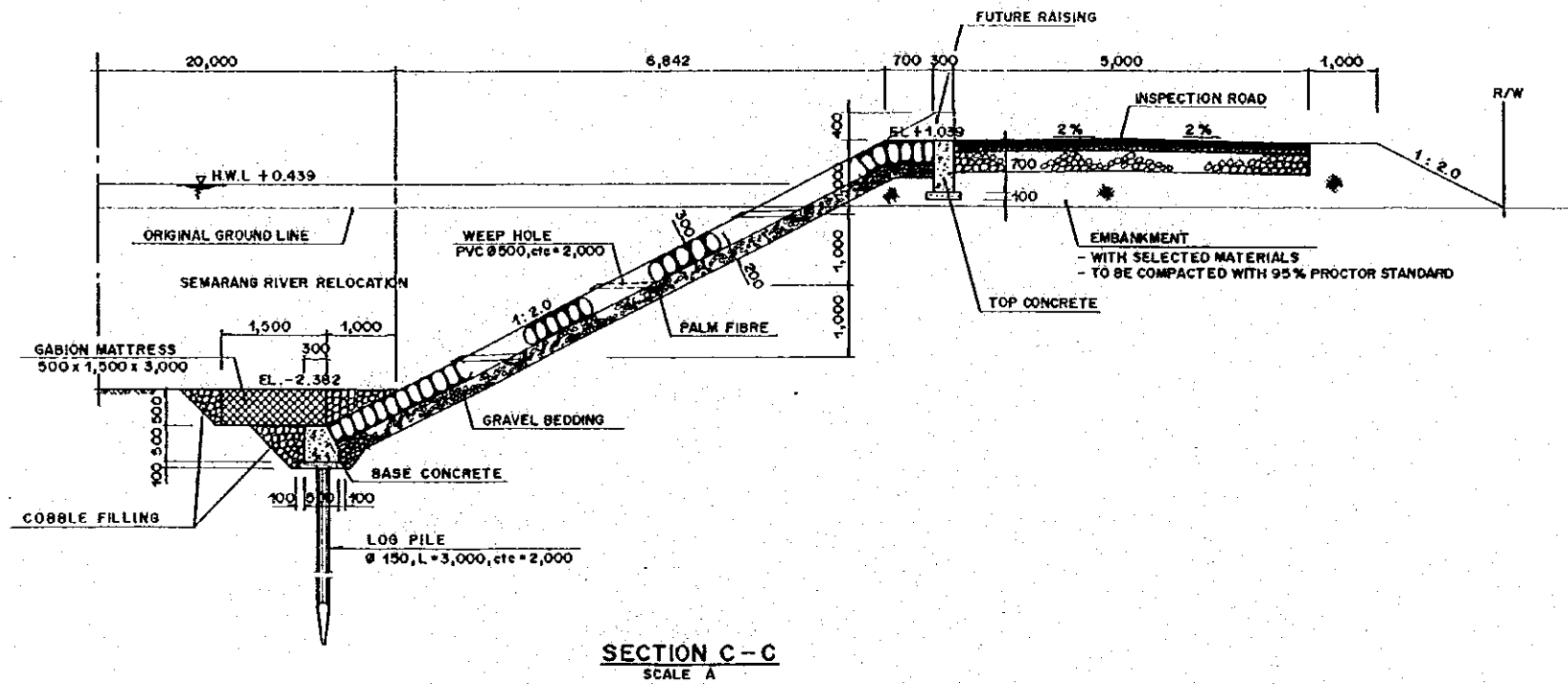
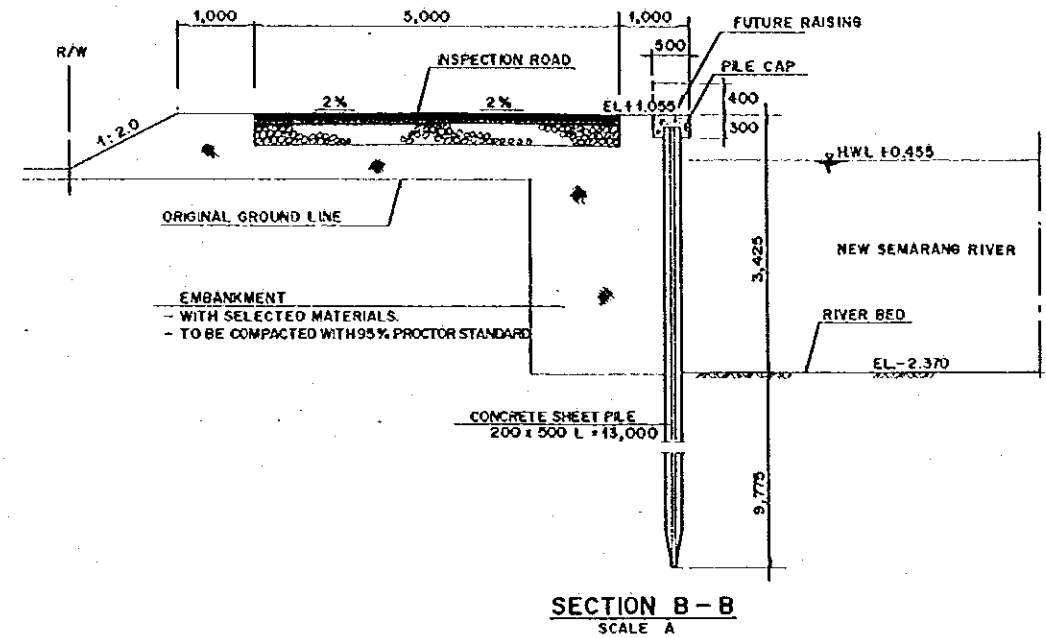
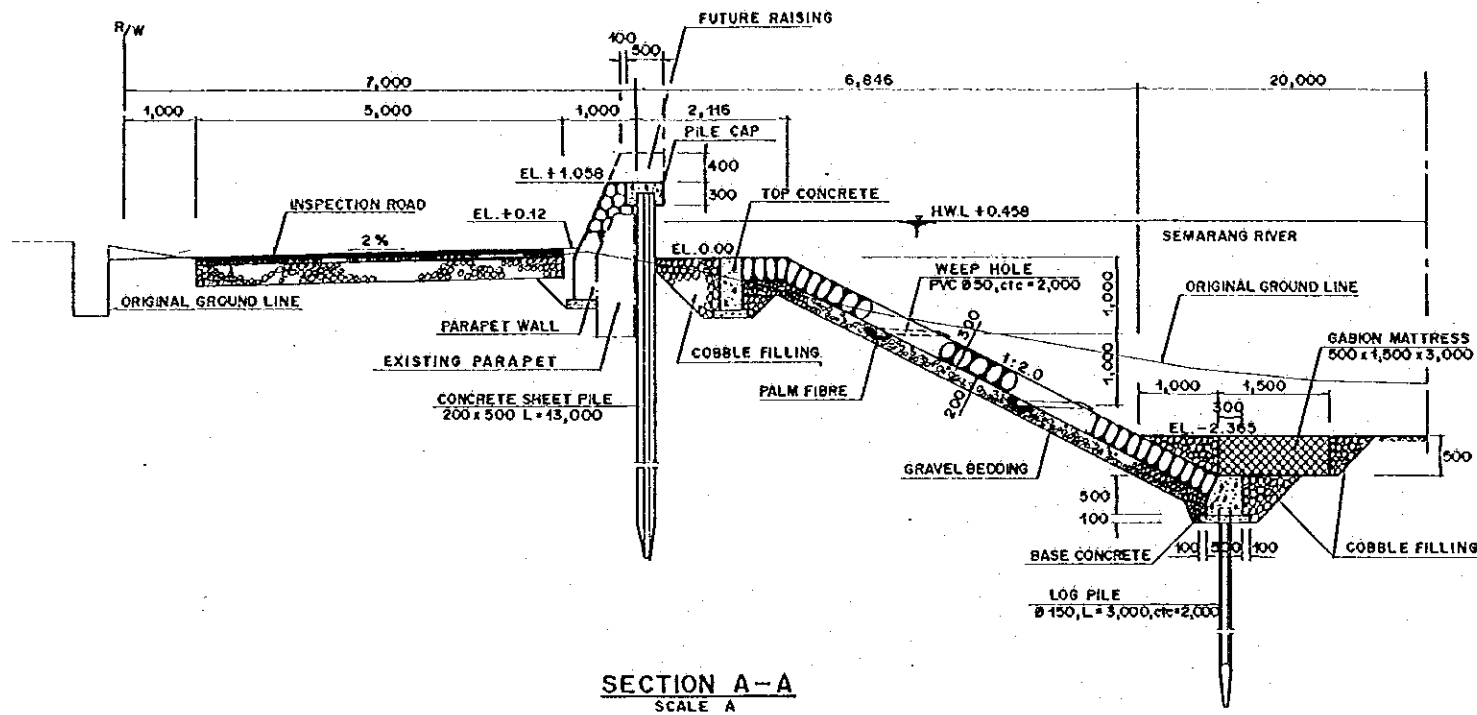
<b>THE REPUBLIC OF INDONESIA</b> DEPARTMENT OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE <b>CENTRAL JAWA</b>	
PROJECT NAME <b>WATUHILUMA FLOOD CONTROL PROJECT</b> COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT <b>SEGARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) CROSS SECTION (15/1)</b>		DISTRICT <b>SEGARANG CITY</b>	
DRAWING NO. <b>U-P2-S-Cr-15</b>		SHEET NO. <b>20</b>	
JAPAN INTERNATIONAL COOPERATION AGENCY CIL CONSULTANTS CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL INC. JAWA INTERNATIONAL INC.		DESIGNED 	CHECKED 
OFFICE OF PLANNING AND DESIGN PROJECT MANAGER		DATE	CONTRACT NO.



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NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

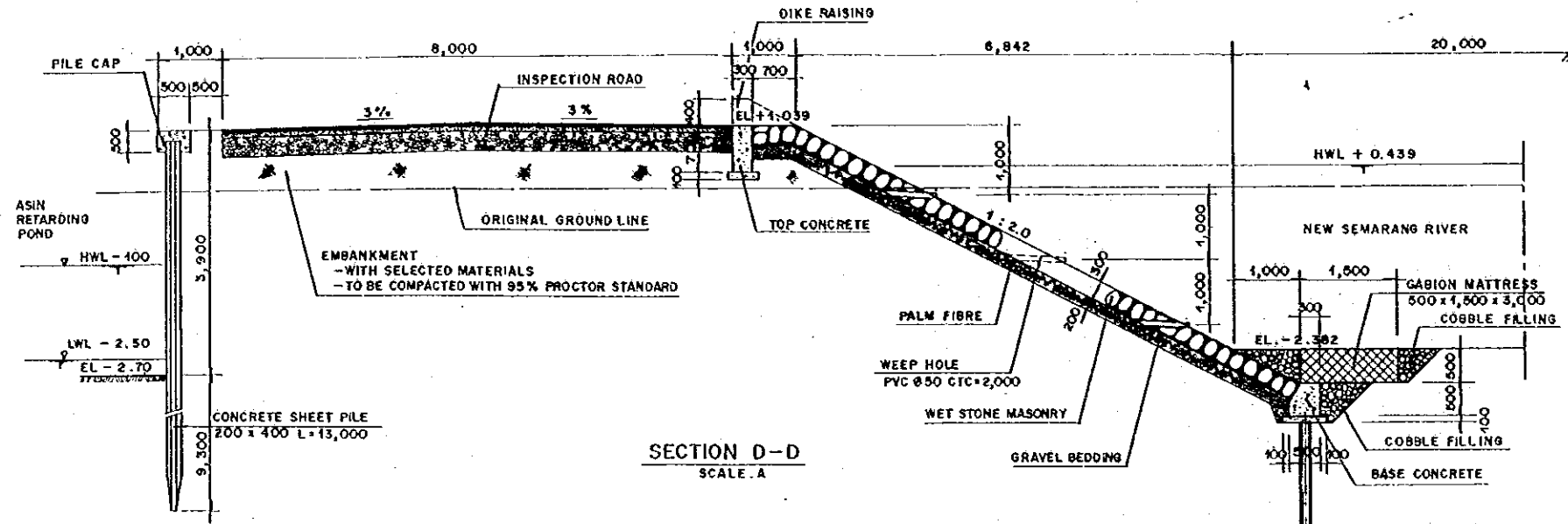
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
PRATUNJELUNA FLOOD CONTROL PROJECT COMPONENT: URBAN DRAINAGE SYSTEM IMPROVEMENT		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
<b>SEMARANG RIVER IMPROVEMENT</b> <b>REVIETMENT (1/6) LOCATION OF REVIETMENT</b>		DISTRICT SEMARANG CITY
DESIGNED CHECKED CUSTODIAN OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. U-P2-S-AV-1 SHEET NO. 21 DATE CONTRACT NO.



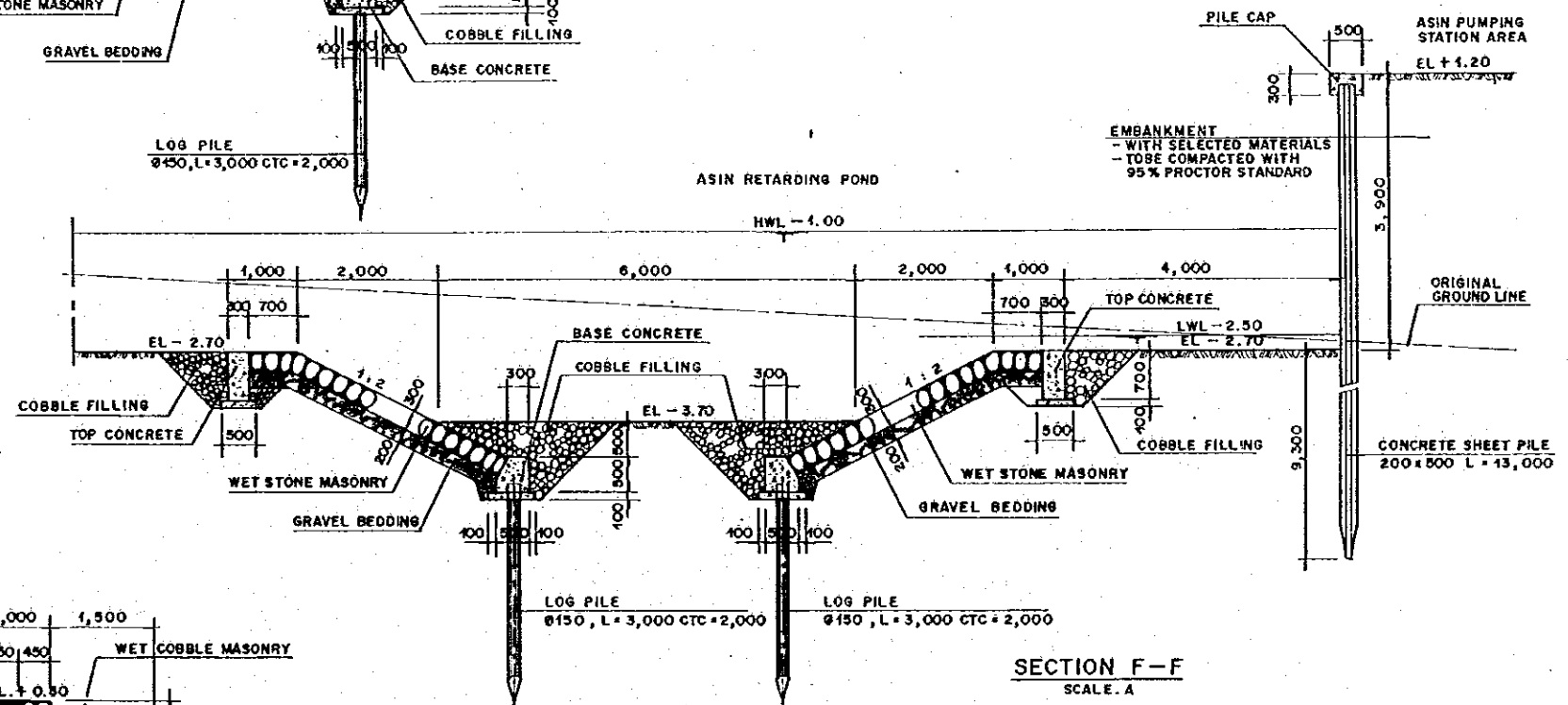
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NO.	DATE	REVISION	ORIGINATED	DESIGNED	APPROVED

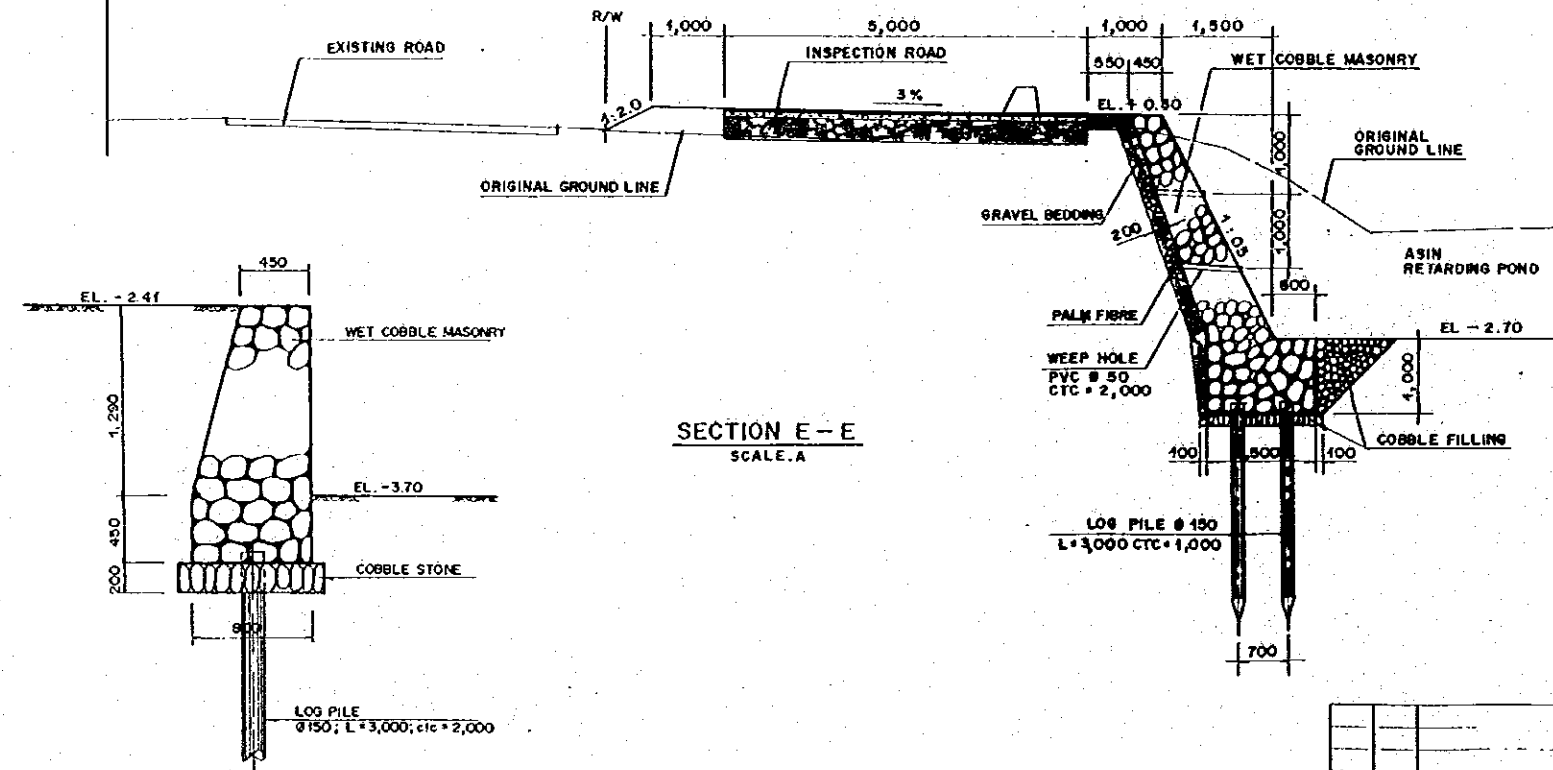
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF URBAN SETTLEMENT		PROVINCE CENTRAL JAVA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) REVETMENT(2/6) SECTION A, B AND C		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY CTE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND TARGO INTERNATIONAL INC.		DISTRICT SEMARANG CITY
CHECKED DATE		DRAWING NO. U-P2-3-A-2 SHEET NO. 22
APPROVED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		CONTRACT NO.



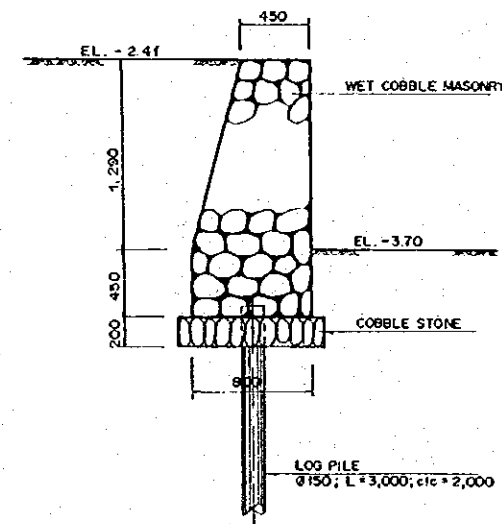
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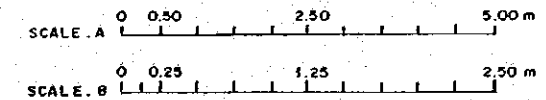
SECTION F-F  
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SECTION E-E  
SCALE A



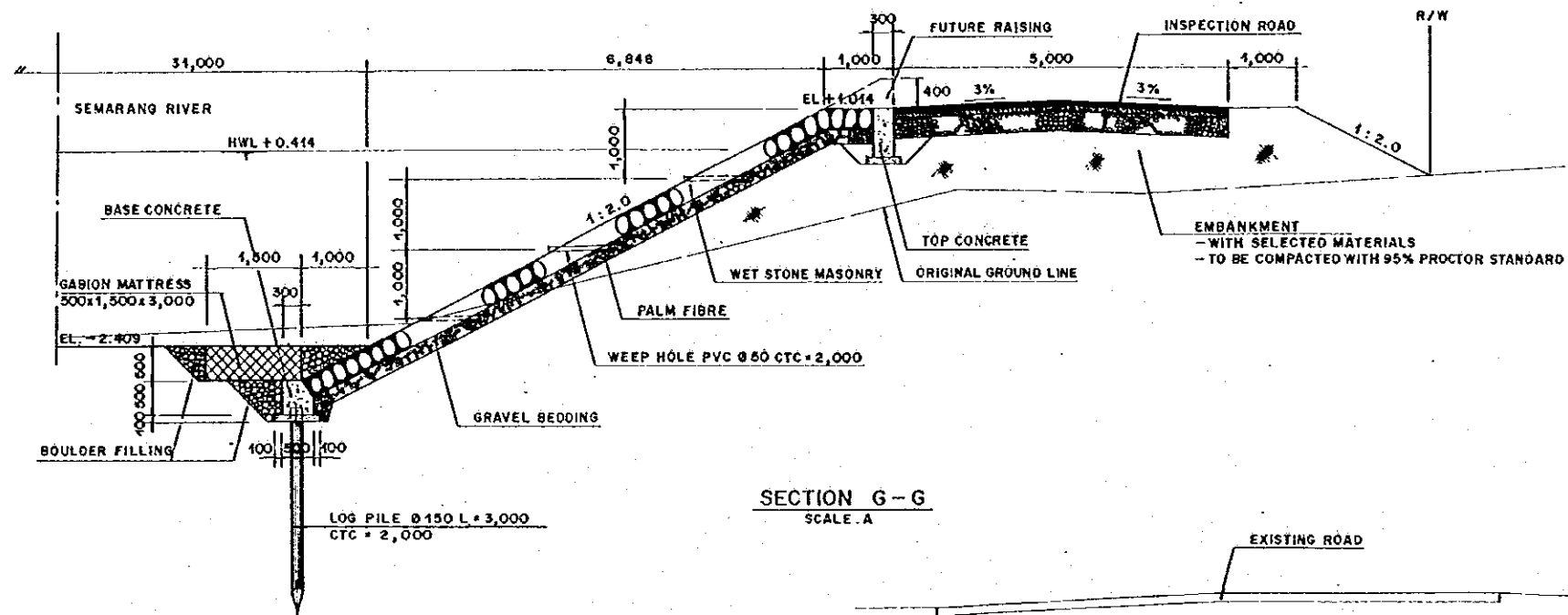
SECTION L-L  
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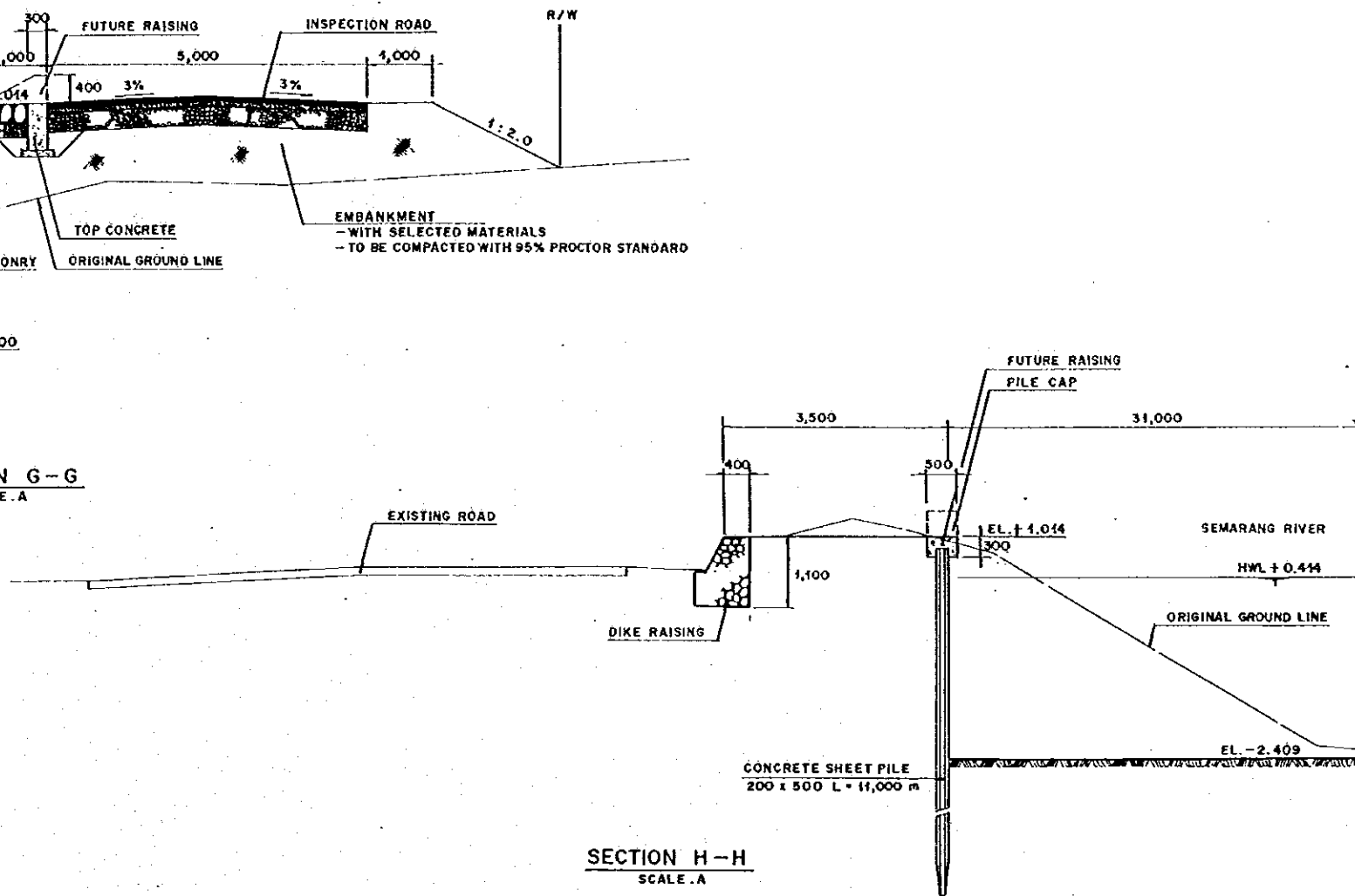
NO.	DATE	REVISIONS	ORGANIZED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT JATUNGLUNA FLOOD CONTROL PROJECT COMPONENT: URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) REVETMENT (3/6) SECTION D, E AND F		PROVINCE CENTRAL JAWA PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. U - P2 - S - Rv - 3 SHEET NO. 23 DATE CONTRACT NO.
DESIGNED CHECKED APPROVED PROJECT MANAGER	[Signatures]	APPROVED PROJECT MANAGER

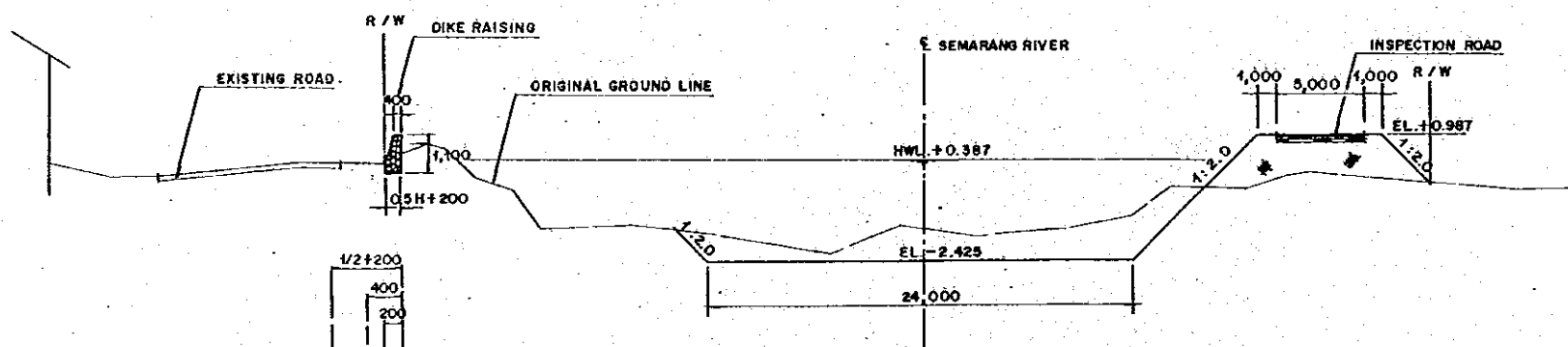




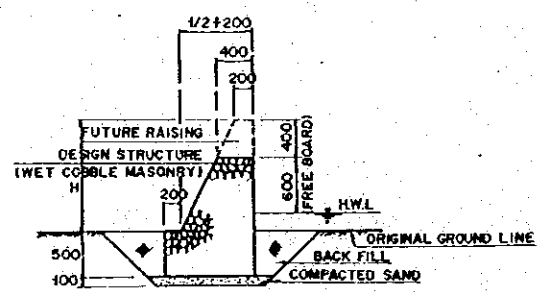
SECTION G-G  
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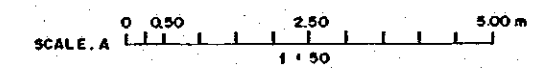
SECTION H-H  
SCALE A



SECTION I-I  
SCALE - V 1:400  
- H 1:200



DIKE RAISING DETAIL  
SCALE A



NO.	DATE	REVISIONS	QUOTED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT BRATUNGGAL FLOOD CONTROL PROJECT COMPONENT : URBAN DRAINAGE SYSTEM IMPROVEMENT SEMARANG RIVER (ASIN RIVER DRAINAGE SYSTEM IMPROVEMENT) REVETMENT (4/6) SECTION G, H AND I		PROVINCE CENTRAL JAWA PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. U - P2 - S - R1 - 4 SHEET NO. 24
LOCAL INSTITUTIONAL COORDINATION AGENCY PT. INDORENTI CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JASCO INTERNATIONAL INC.	DESIGNED CHECKED DATE	DATE CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	APPROVED	