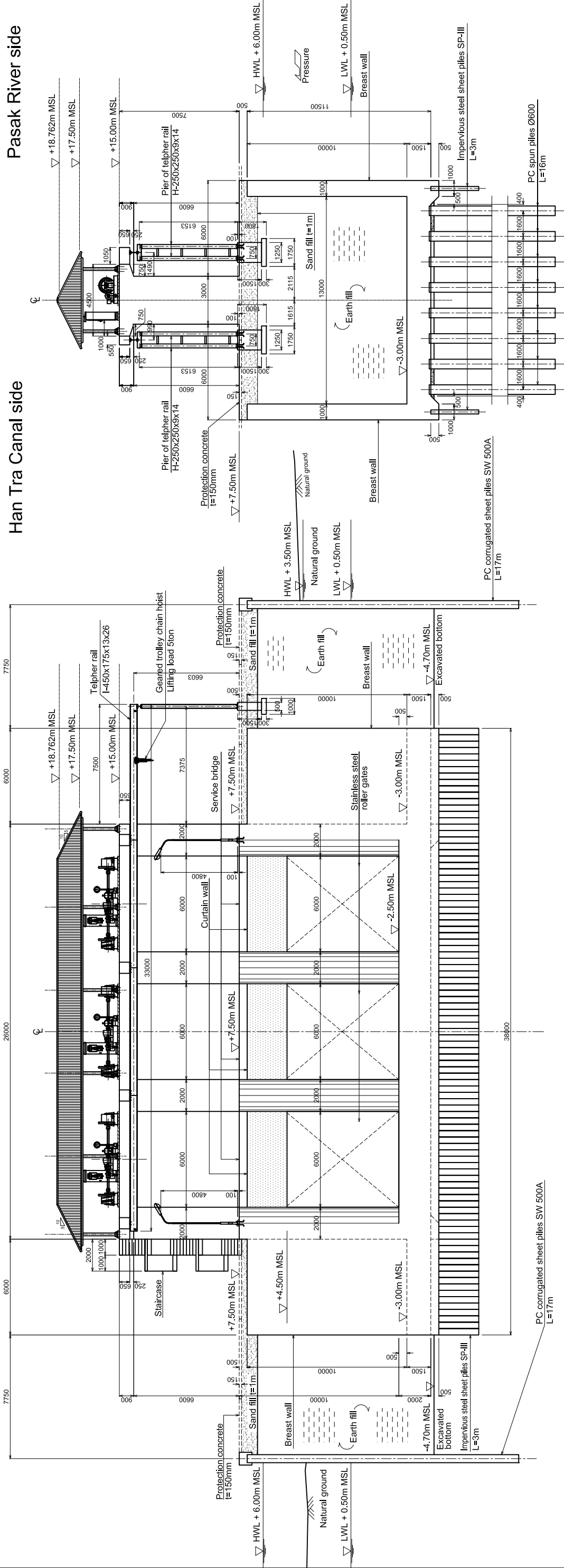


Left Bank of Canal Right Bank of Canal



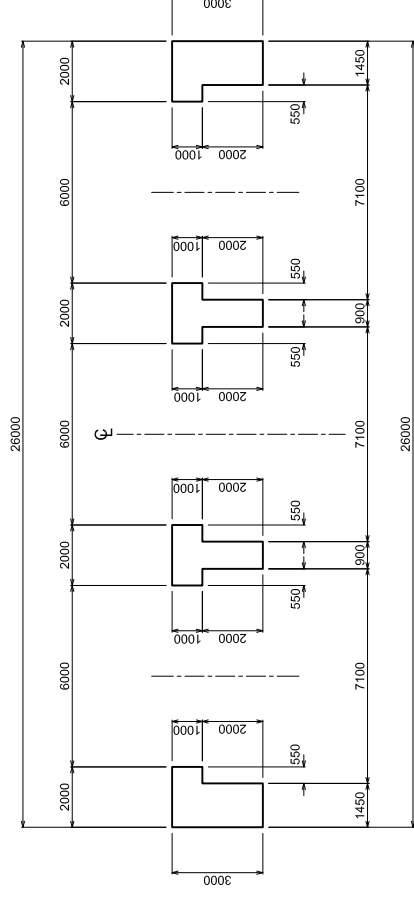
SECTION B-B

SECTION D-D

MAIN STRUCTURE OF HAN TRA FLOOD GATE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	RID CHECKED	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) HAN TRA FLOODGATE MAIN STRUCTURE SECTIONS	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE:

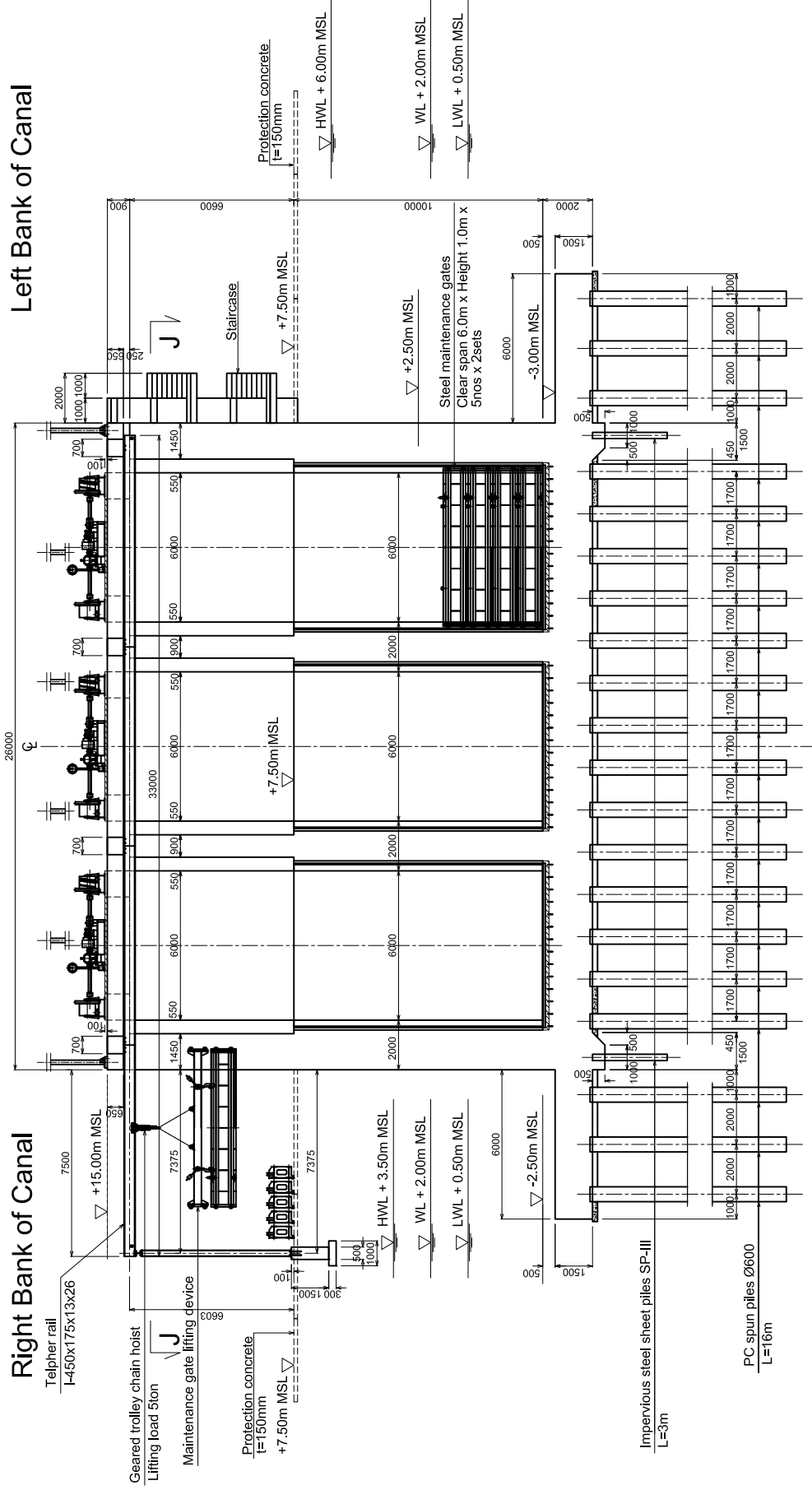
Han Tra Canal side



Pasak River side



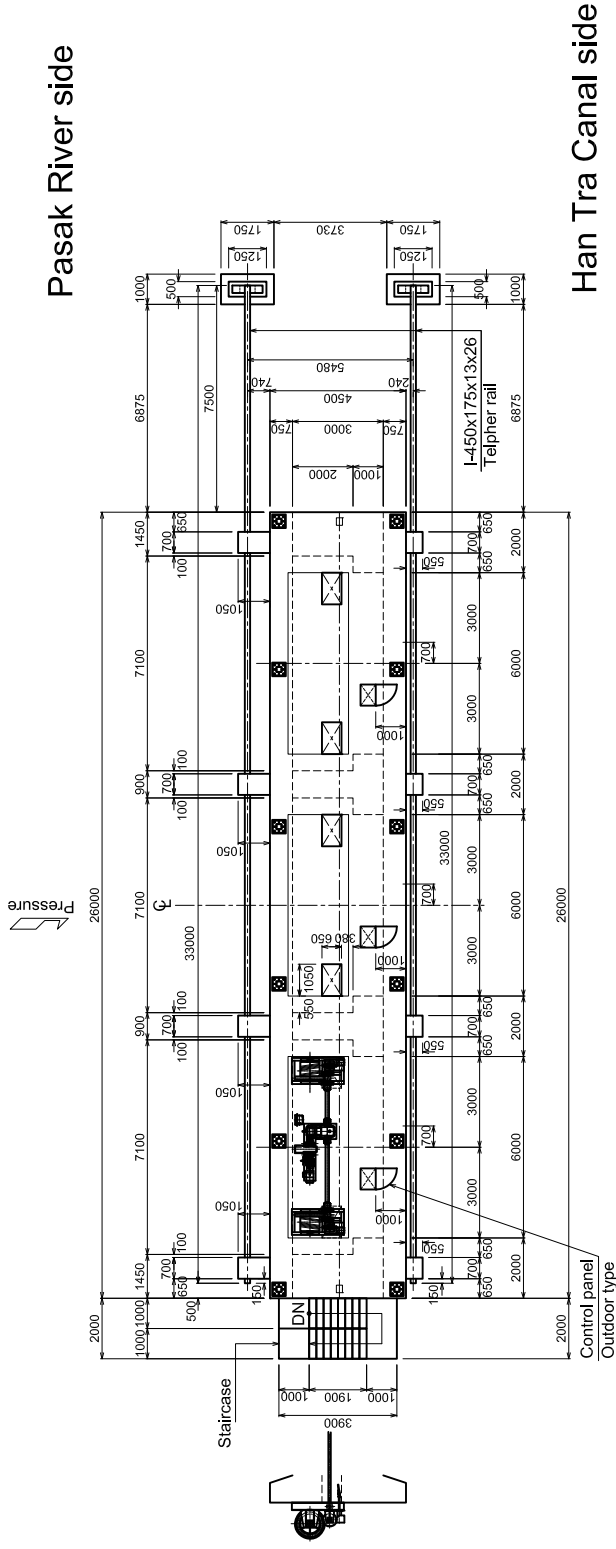
SECTION J-J



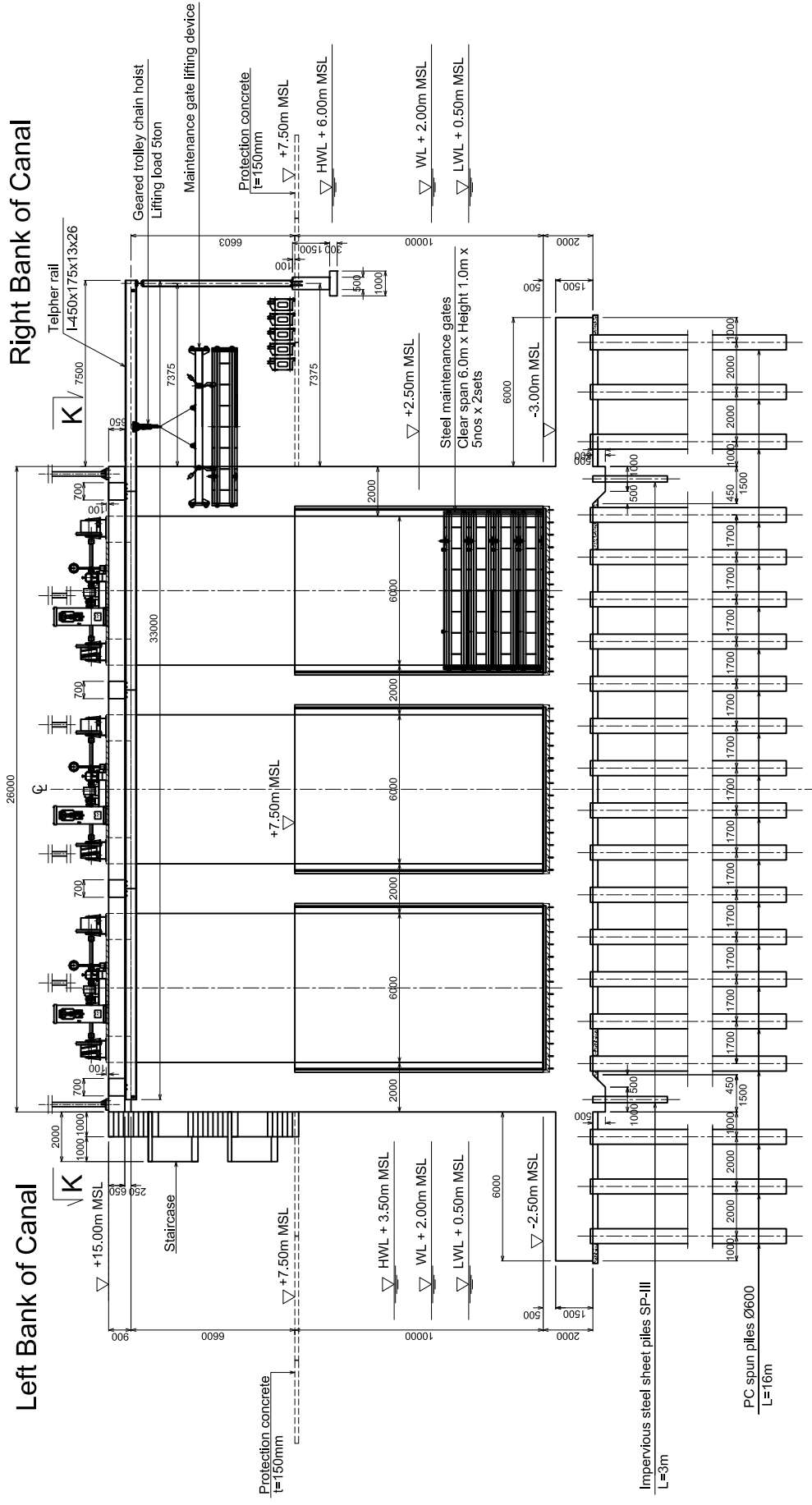
SECTION F-F

MAIN STRUCTURE OF
HAN TRA FLOOD GATE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	APPROVED BY	REV. NO.	DATE	DESIGNED BY	CHECKED BY	DATE	SCALE:
									JSHII Masahiro STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	
<p>KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT</p>							<p>PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand</p>			<p>OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives</p>		
<p>SHEET CONTENTS (CIVIL WORKS) HAN TRA FLOODGATE MAIN STRUCTURE SECTIONS</p>							<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>			<p>DWG. NO. HT-FG-005</p>		
										<p>SHEET NO.</p>		



SECTION K-K



SECTION H-H

Pasak River side

Han Tra Canal side

Right Bank of Canal

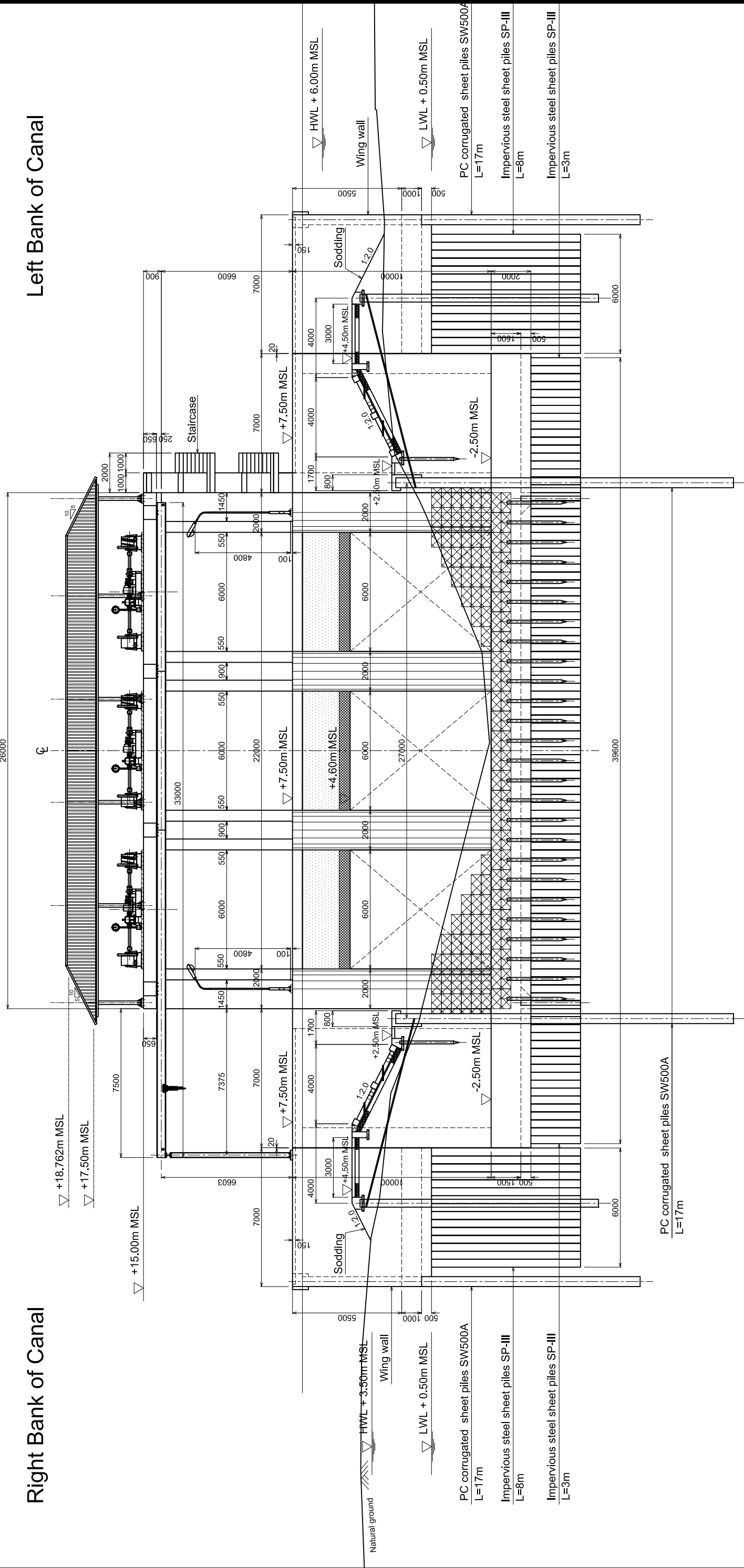
Left Bank of Canal

MAIN STRUCTURE OF HAN TRA FLOOD GATE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) HAN TRA FLOODGATE MAIN STRUCTURE SECTIONS	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: DWG. NO. HT-FG-006	SHEET NO.

Right Bank of Canal

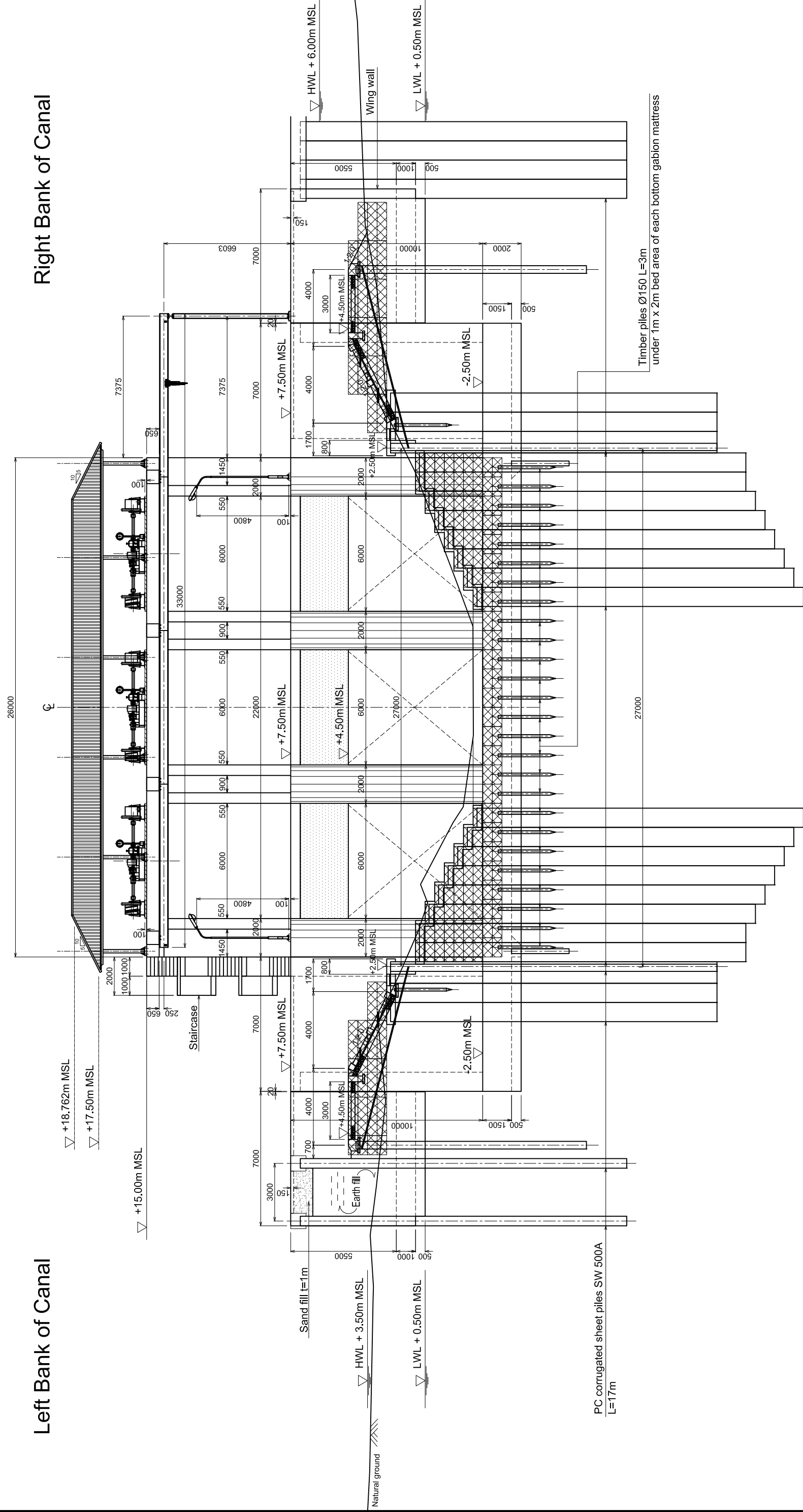
Left Bank of Canal



REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) HAN TRA FLOODGATE FRONT VIEW	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: DWG. NO. HT-FG-007	SHEET NO.

Left Bank of Canal

Right Bank of Canal

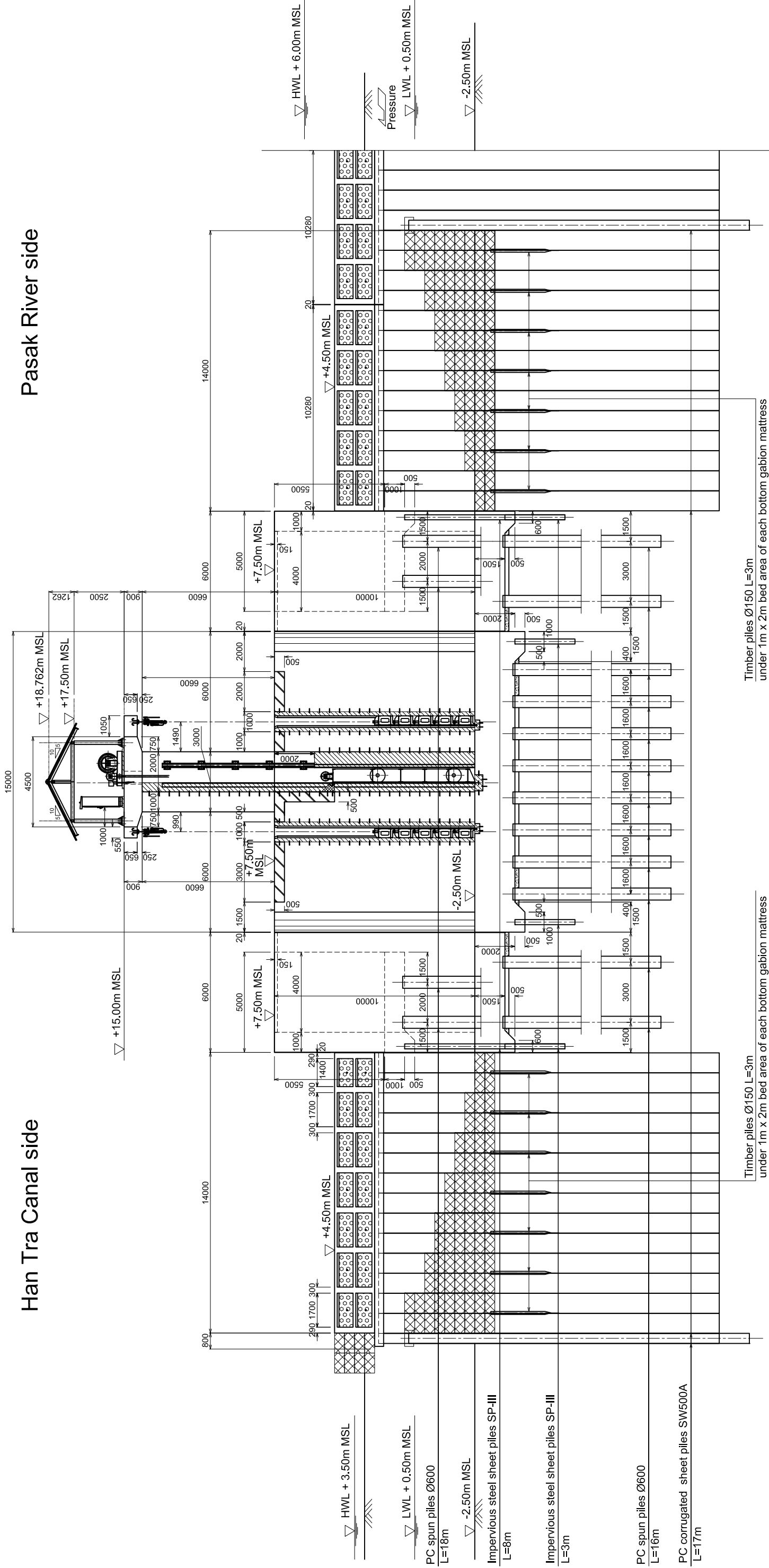


FRONT VIEW FROM HAN TRA CANAL SIDE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	R/D CHECKED	DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) HAN TRA FLOODGATE FRONT VIEW	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: SHEET NO. HT-FG-008

Han Tra Canal side

Pasak River side

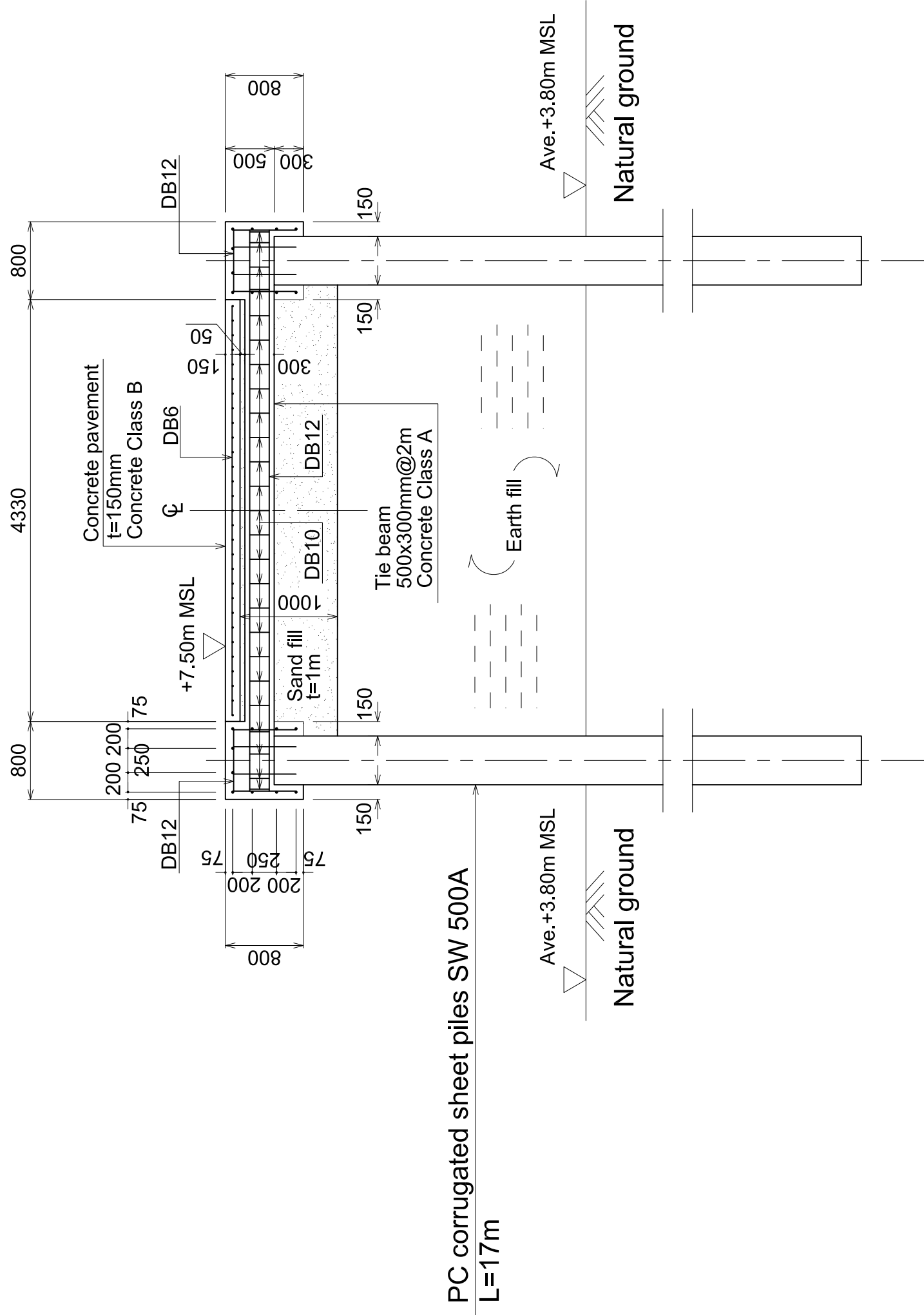


Timber piles Ø150 L=3m
under 1m x 2m bed area of each bottom gabion mattress

Timber piles Ø150 L=3m
under 1m x 2m bed area of each bottom gabion mattress

LONGITUDINAL SECTION VIEWING LEFT BANK

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	APPROVED BY	REV. NO.	DATE	PROJECT TITLE	OWNER	SHEET CONTENTS	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE:	SCALE:
							KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	Royal Irrigation Department Ministry of Agriculture and Cooperatives	(CIVIL WORKS) HAN TRA FLOODGATE LONGITUDINAL SECTION	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	JSHI Masahiro STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	
													DWG. NO. HT-FG-008	SHEET NO.



PC corrugated sheet piles SW 500A
L=17m

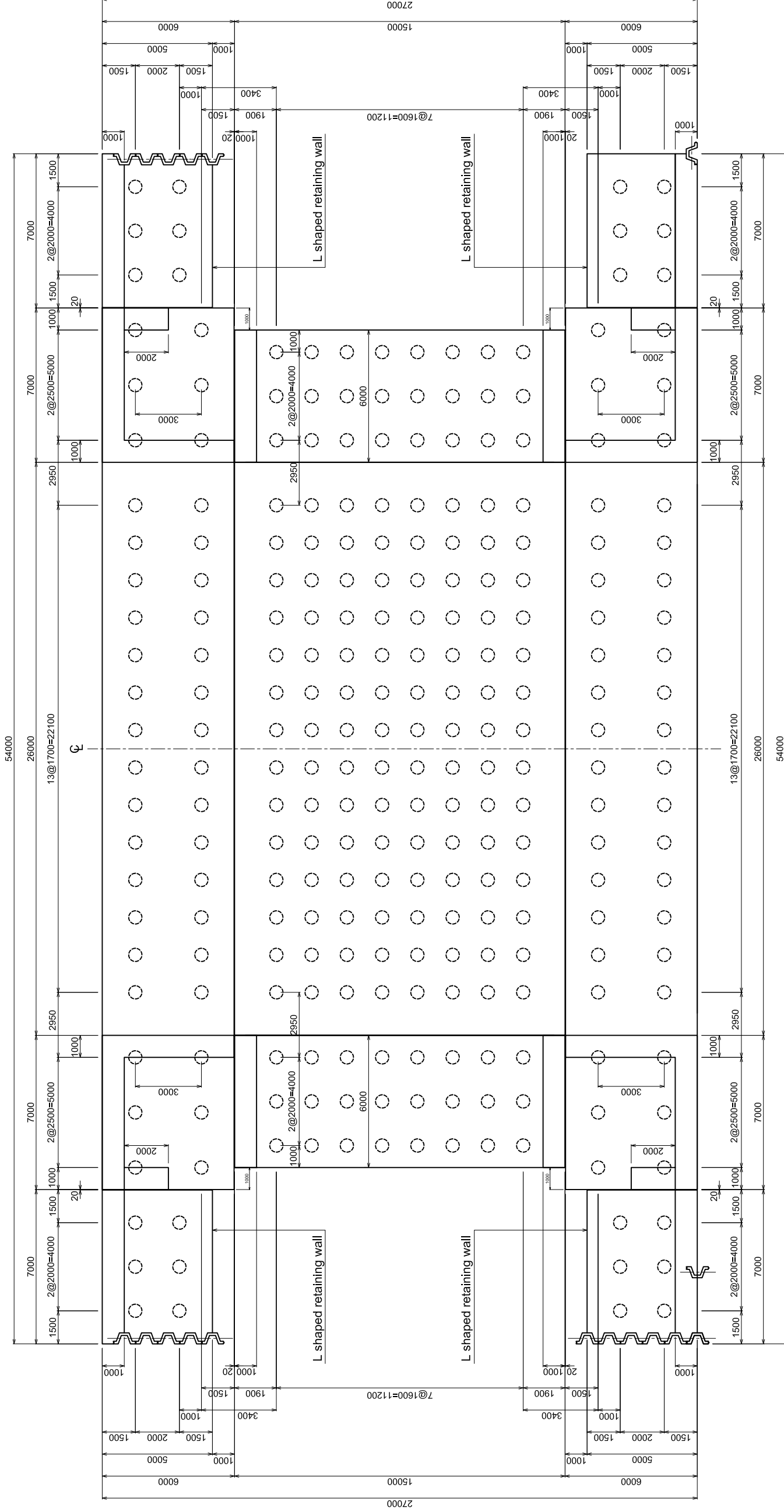
FLOOD WALL OF HAN TRA FLOODGATE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED DATE	RID CHECKED DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) HAN TRA FLOODGATE FLOOD WALL	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012 DWG. NO. HT-FG-010	SCALE: SHEET NO.

Pasak River side

Left Bank of Canal

Right Bank of Canal



The foundation piles are to be PRESTRESSED CONCRETE SPUN PILE Ø600 which is in conformity with the accredited technical standards in Thai construction market.

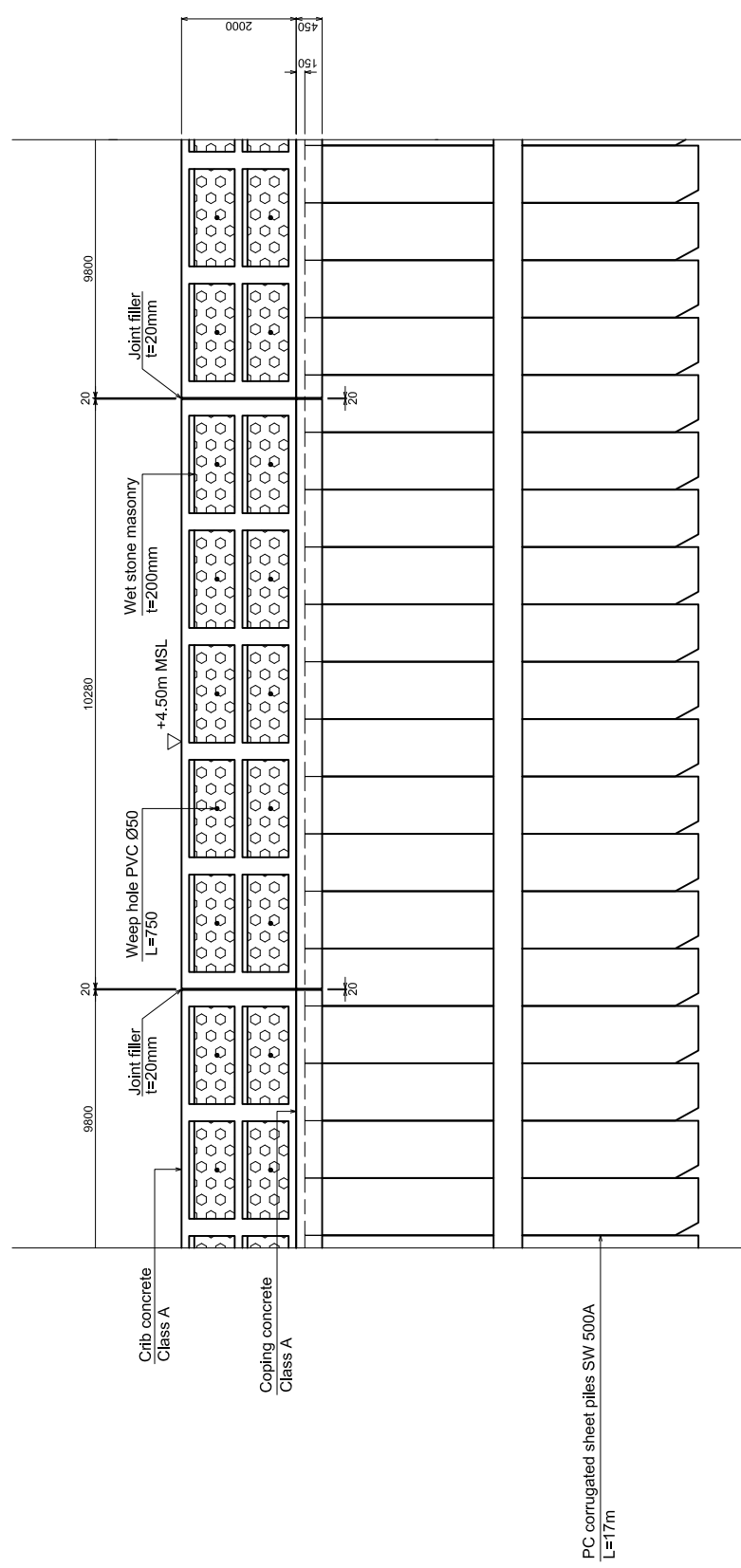
Han Tra Canal side

AMOUNT OF PC SPUN PILE Ø600

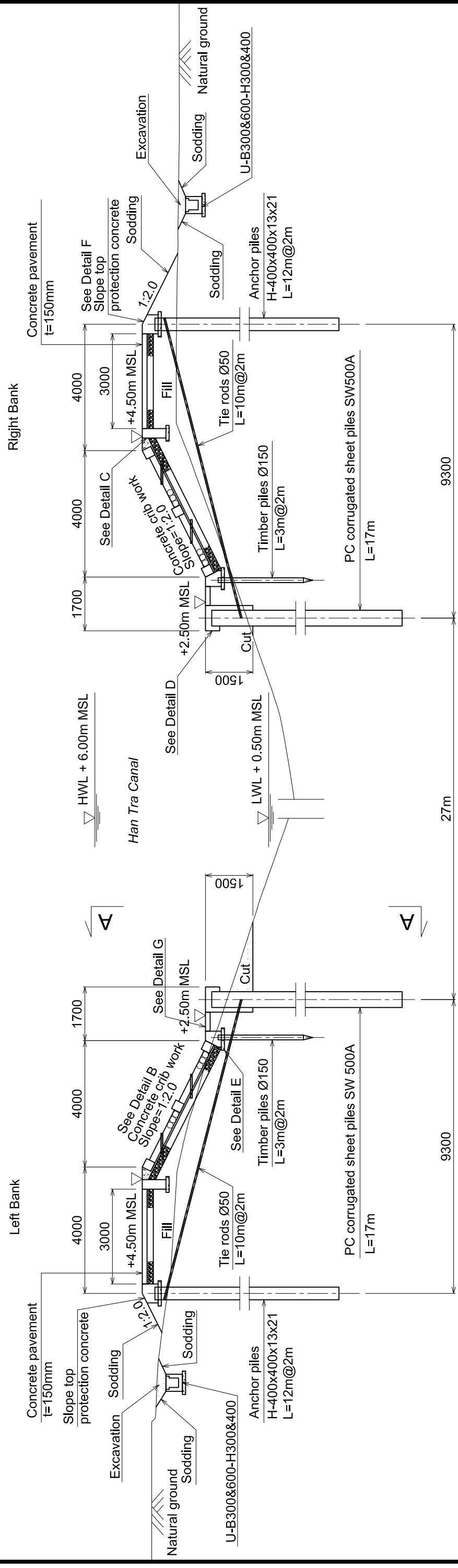
Structures	Length/piece	Numbers
L shaped retaining walls	18m	24
The others	16m	240

FOUNDATION PILE CONFIGURATION OF HAN TRA FLOOD GATE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED DATE	RID CHECKED DATE	REV. NO.	APPROVED BY	PROJECT TITLE	OWNER	SHEET CONTENTS	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE:	SCALE:
						Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	Royal Irrigation Department Ministry of Agriculture and Cooperatives	(CIVIL WORKS) HAN TRA FLOODGATE FOUNDATION PILE CONFIGURATION	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	JSHI Masahiro STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	
												HT-FG-011	SHEET NO.

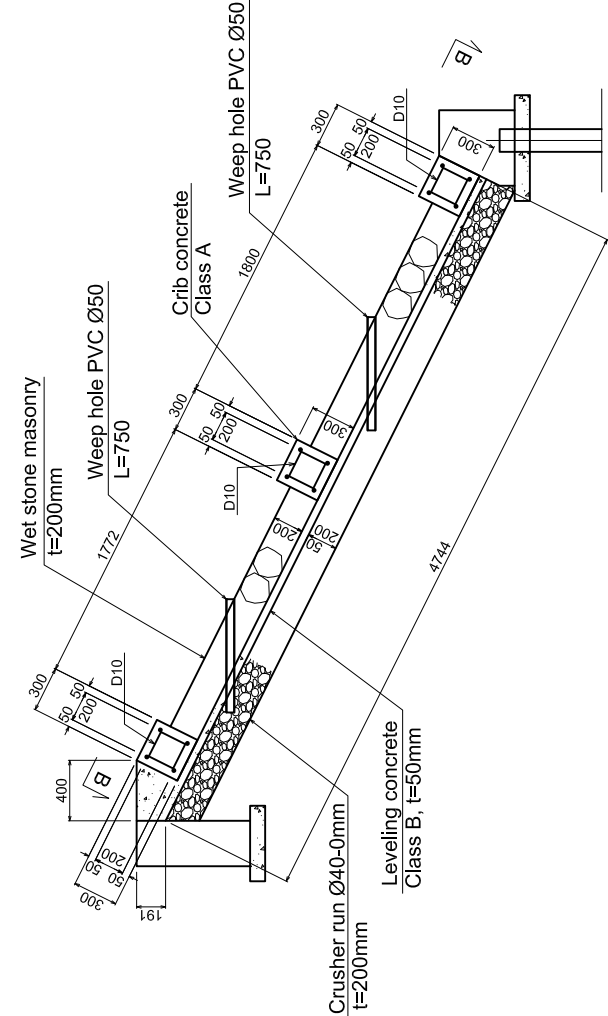
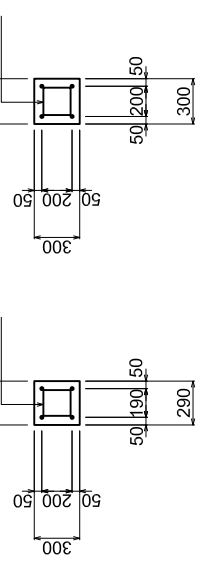
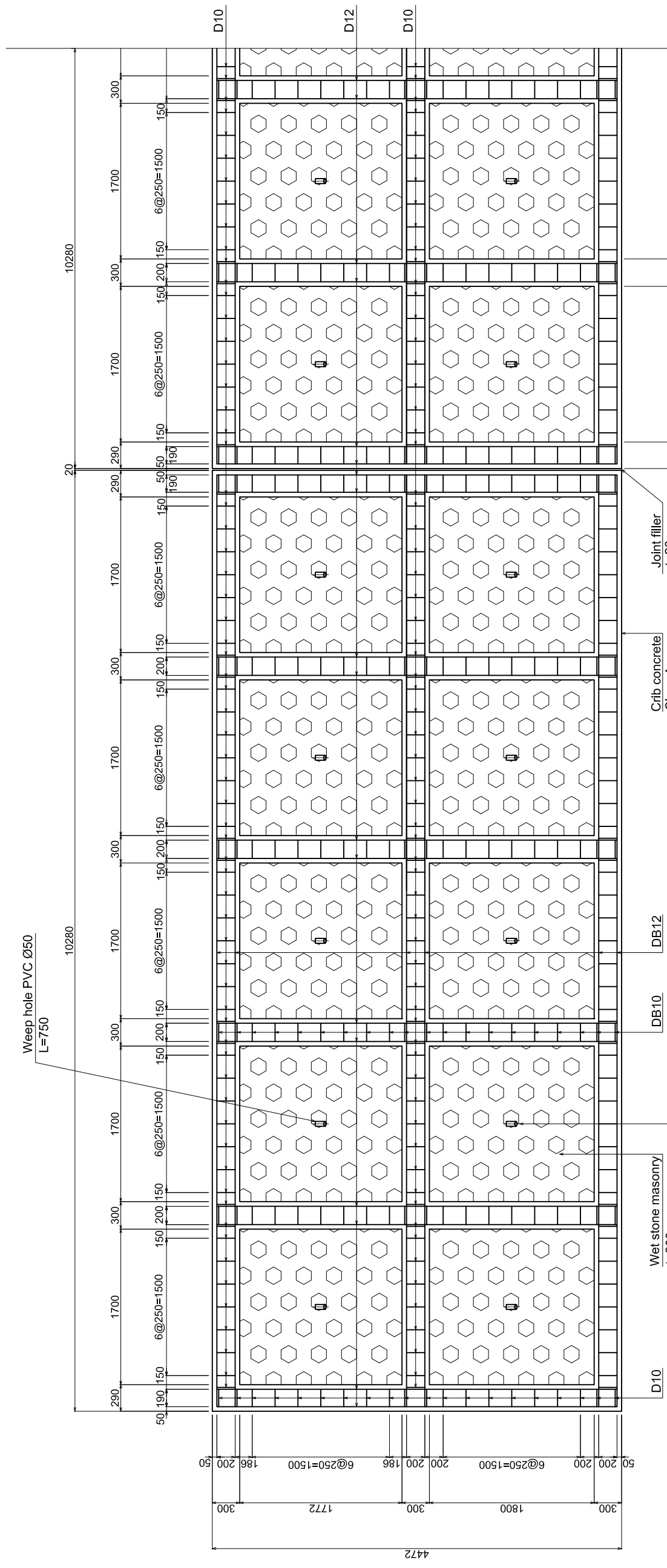


LONGITUDINAL SECTION A-A



TYPICAL CROSS SECTION OF BANK PROTECTION

REV. NO.	DESCRIPTION	CONSULTANT CHECKED DATE	R/D CHECKED DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT		SHEET CONTENTS (CIVIL WORKS) BANK PROTECTION OF HAN TRA CANAL TYPICAL CROSS SECTION		OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives		PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand		DESIGNED BY JSHI Masahito STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE:



DETAIL B: CONCRETE CRIB WORK

CROSS SECTION

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	BANK PROTECTION OF HAN TRA CANAL DETAILS	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: SHEET NO.