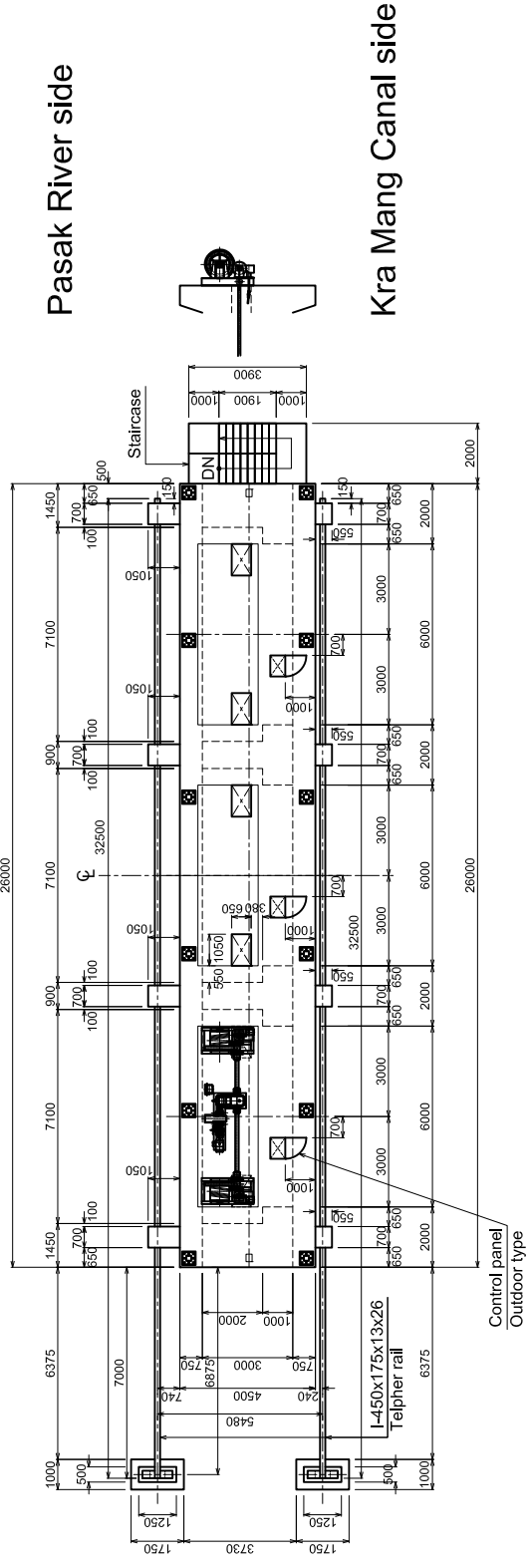


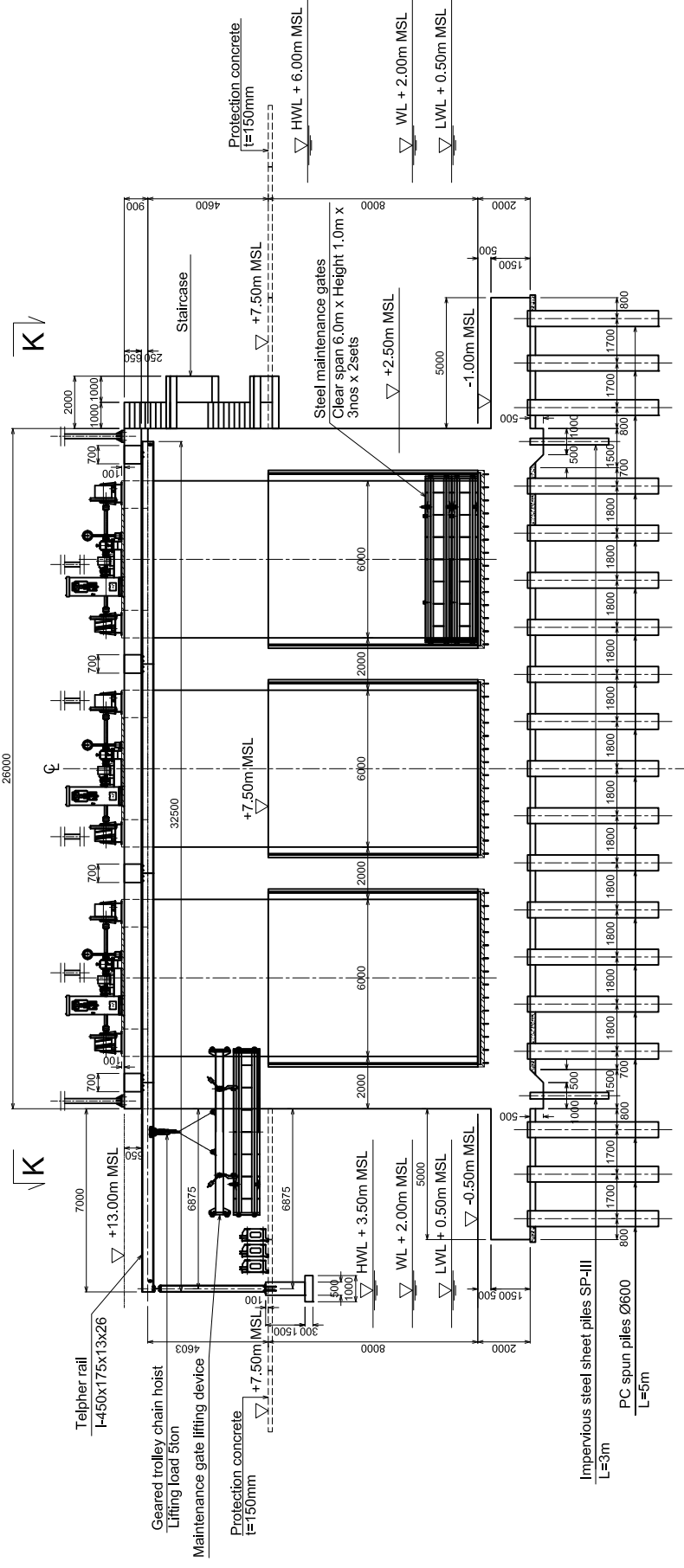
Pressure



SECTION K-K

Left Bank of Canal

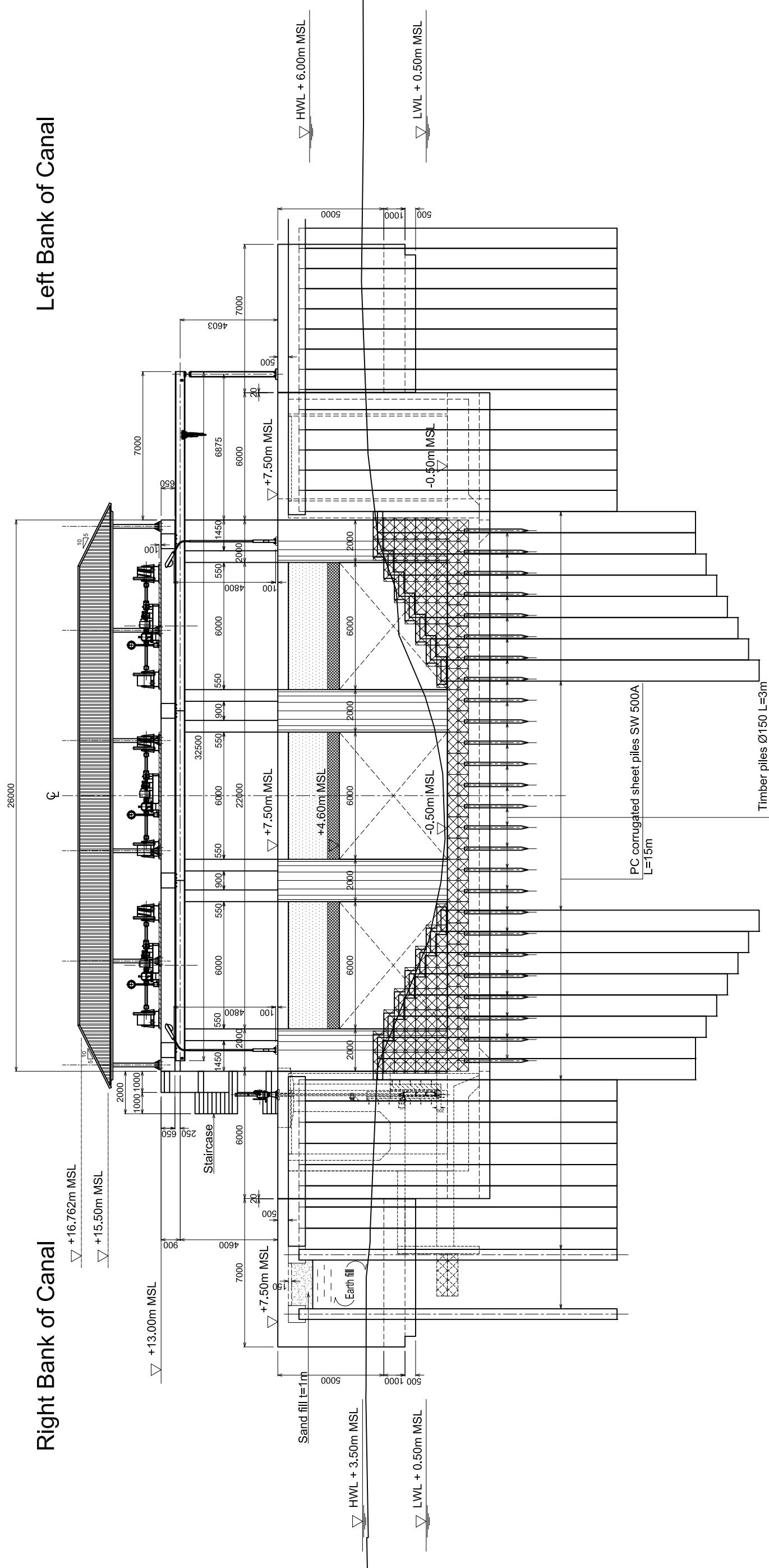
Right Bank of Canal



SECTION H-H

MAIN STRUCTURE OF KRA MANG FLOODGATE

REV. NO.	DESCRIPTION	CONSULTANT 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 JSHII Masaaki STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: SHEET NO. KMF-G-008

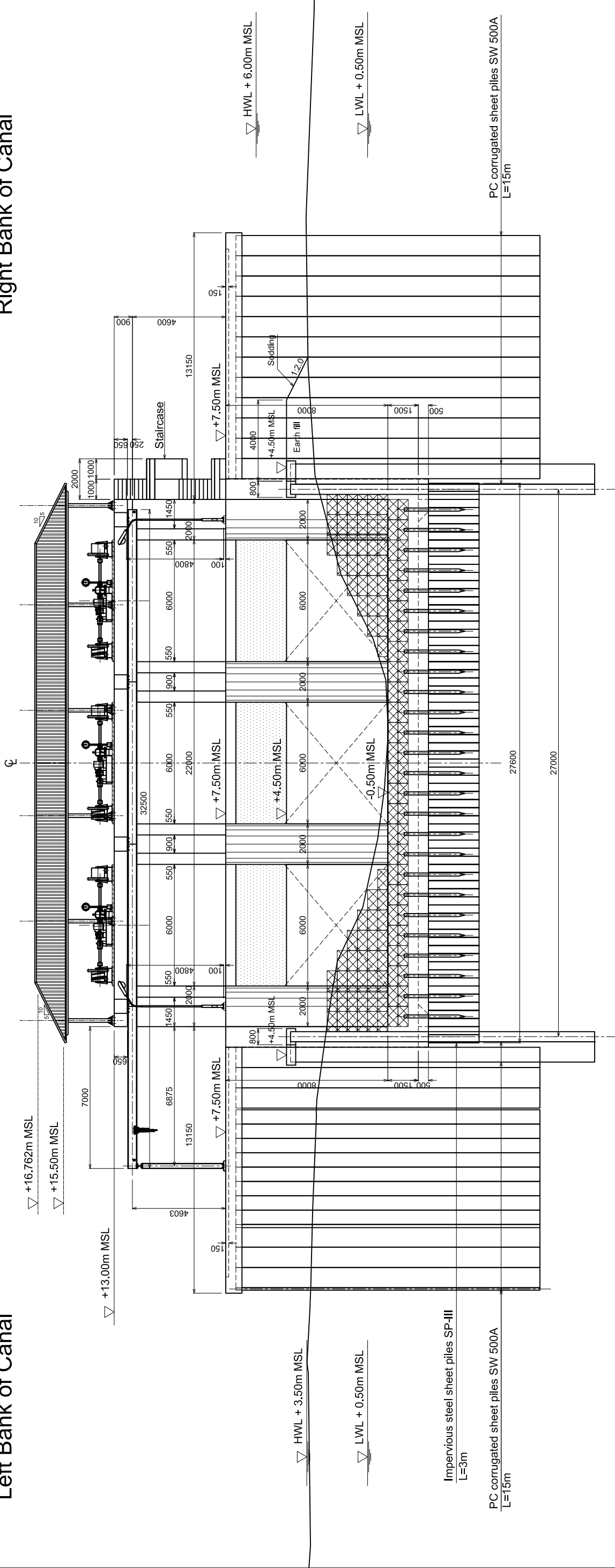


FRONT VIEW FROM PASAK RIVER SIDE

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) KRA MANG 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 Masaki STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: SHEET NO. KMF-G-007

Left Bank of Canal

Right Bank of Canal

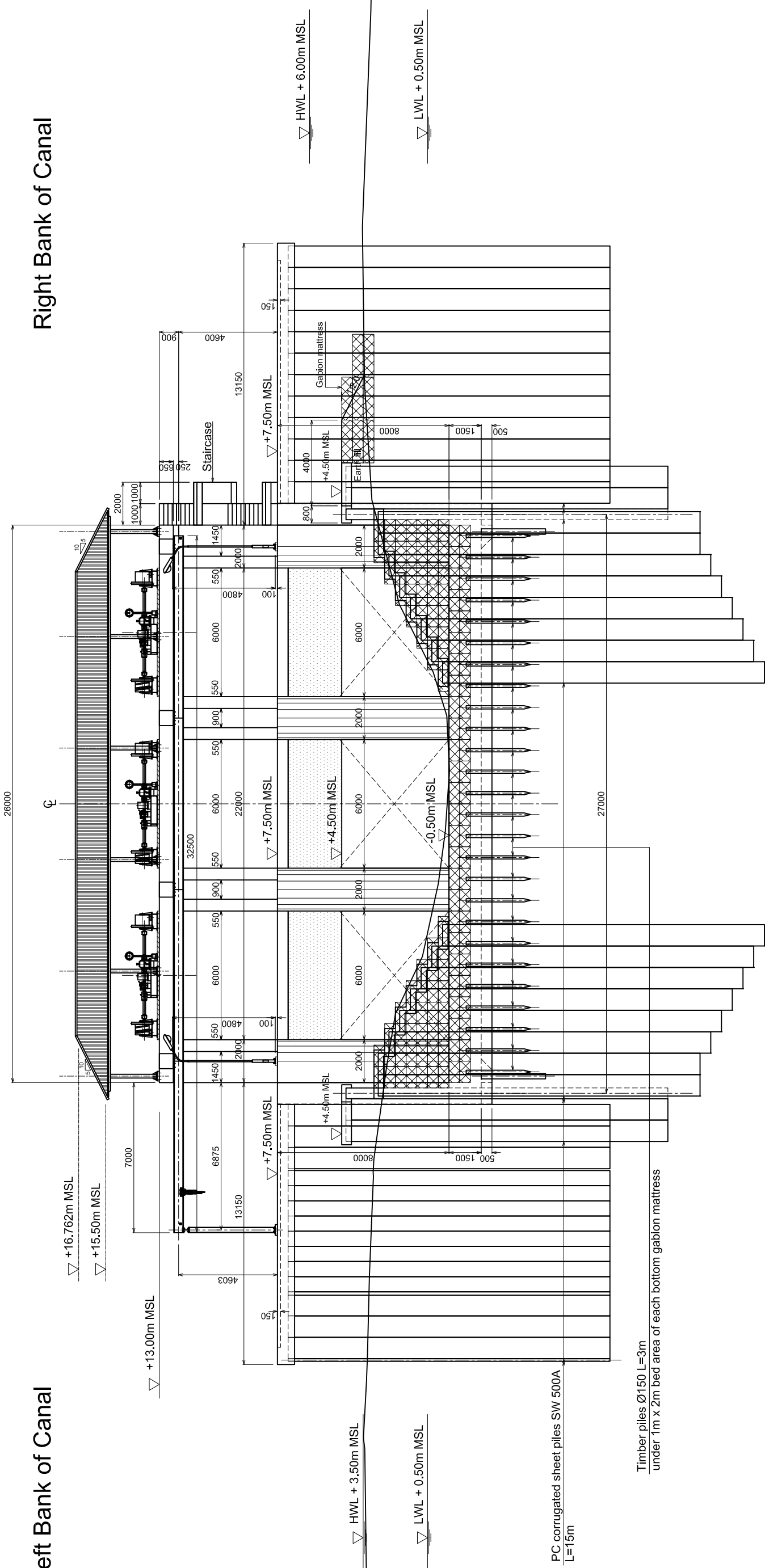


FRONT VIEW FROM REVETMENT OF KRA MANG CANAL SIDE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	APPROVED BY	REV. NO.	DATE	SCALE:
									AUGUST 2012
									DWG. NO. KMFG-008
									CHECKED BY MISHINA Takahiro TEAM LEADER
									DESIGNED BY JSHII Masahiro STRUCTURAL ENGINEER
<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) KRA MANG FLOODGATE FRONT VIEW</p> <p>KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT</p> <p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>									
									SHEET NO.

Left Bank of Canal

Right Bank of Canal

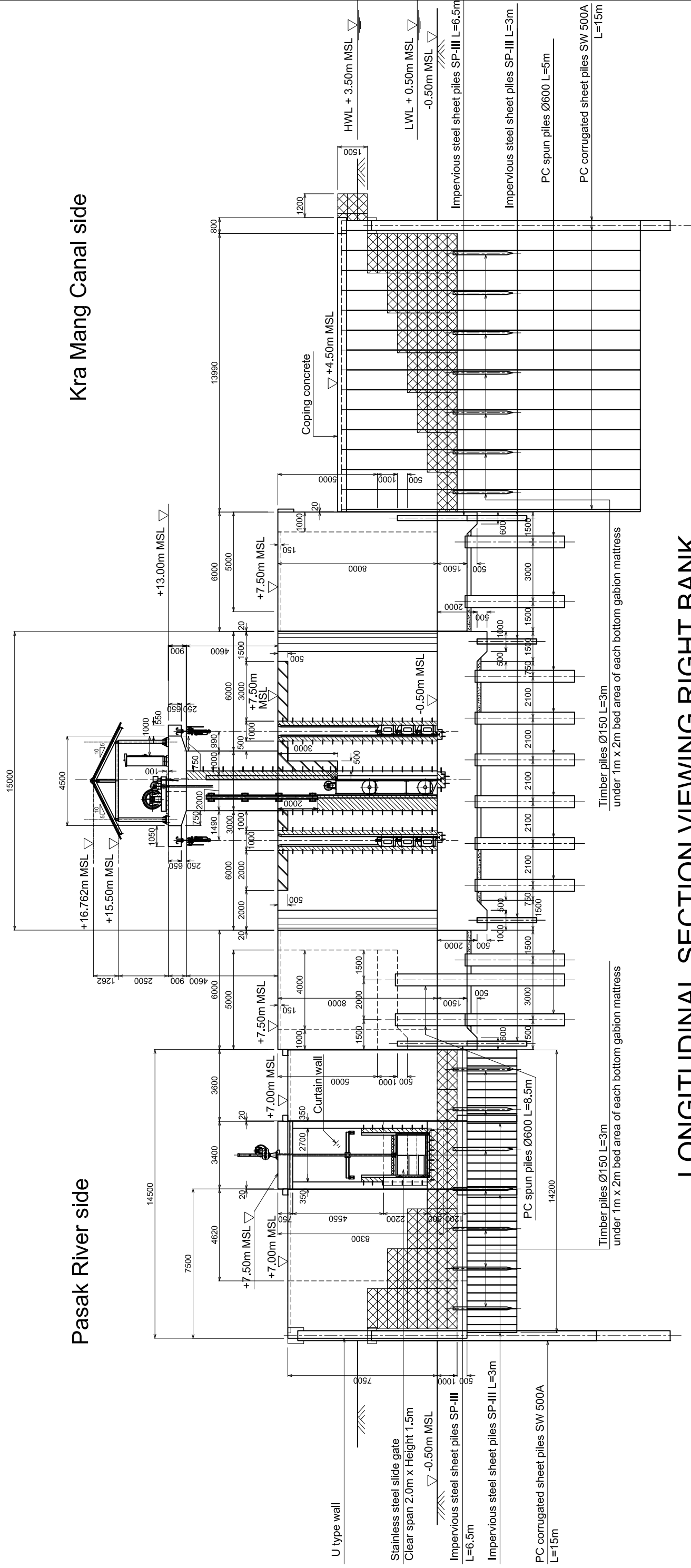


FRONT VIEW FROM KRA MANG CANAL SIDE

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) KRA MANG 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. KMF-G-009

Pasak River side

Kra Mang Canal side



LONGITUDINAL SECTION VIEWING RIGHT BANK

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	DATE	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) KRA MANG FLOODGATE LONGITUDINAL 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	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE:

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

Pasak River side

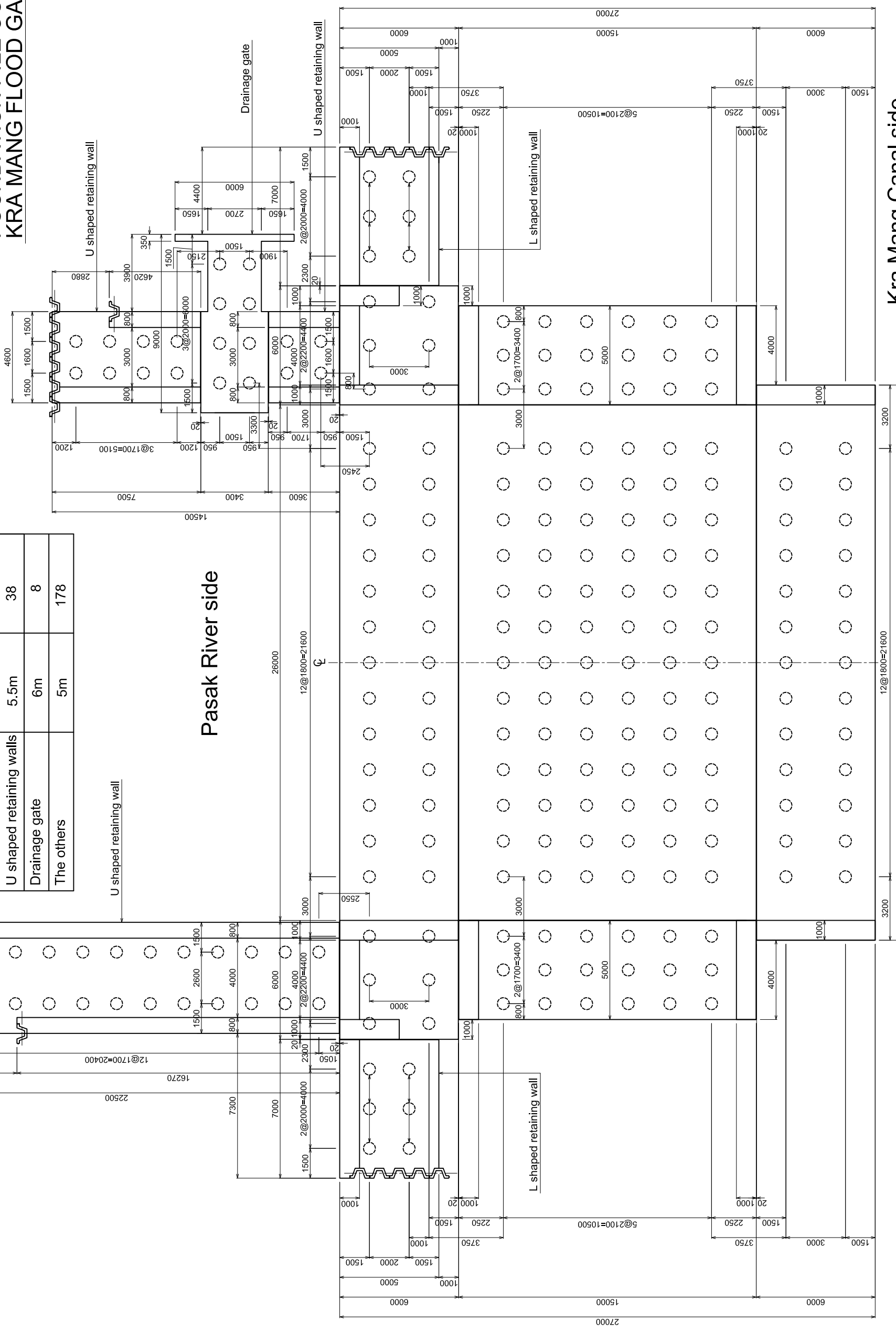
Right Bank of Canal

Left Bank of Canal

FOUNDATION PILE CONFIGURATION OF KRA MANG FLOOD GATE

Structures	Length/piece	Numbers
L shaped retaining walls	8.5m	12
U shaped retaining walls	5.5m	38
Drainage gate	6m	8
The others	5m	178

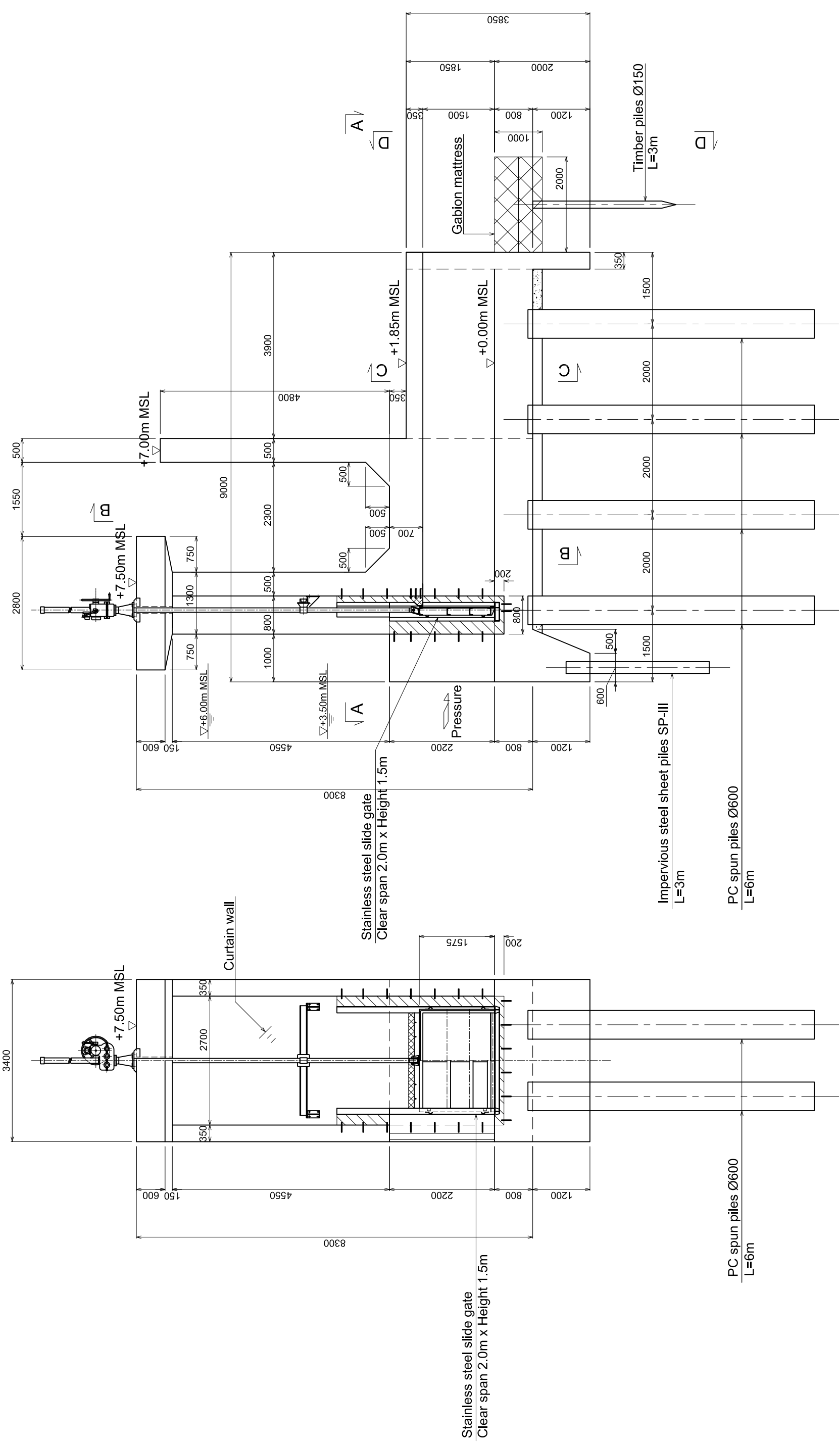
AMOUNT OF PC SPUN PILE Ø600



Kra Mang Canal side

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) KRA MANG FLOODGATE FOUNDATION PILE CONFIGURATION	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 Masahiko STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: DWG. NO. KMF-G-012	SHEET NO.

DRAINAGE GATE

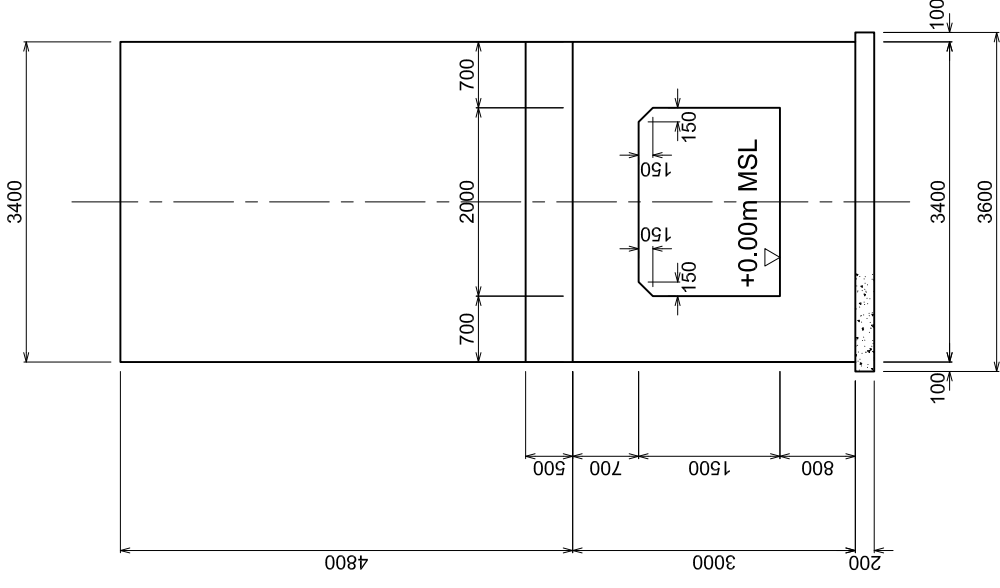


FRONT VIEW

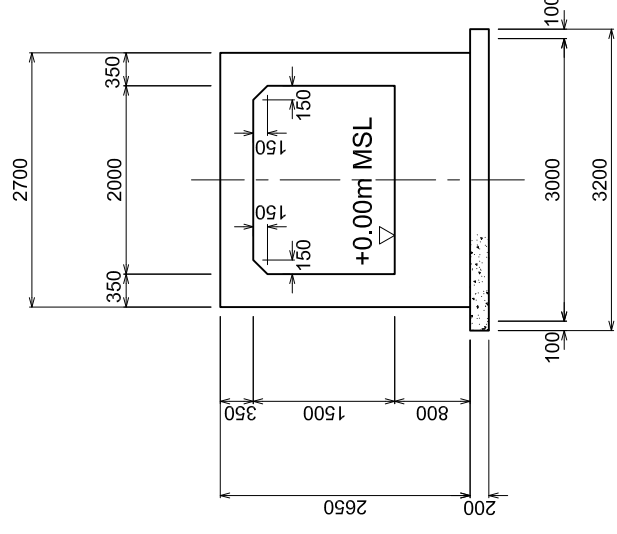
LONGITUDINAL SECTION

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY

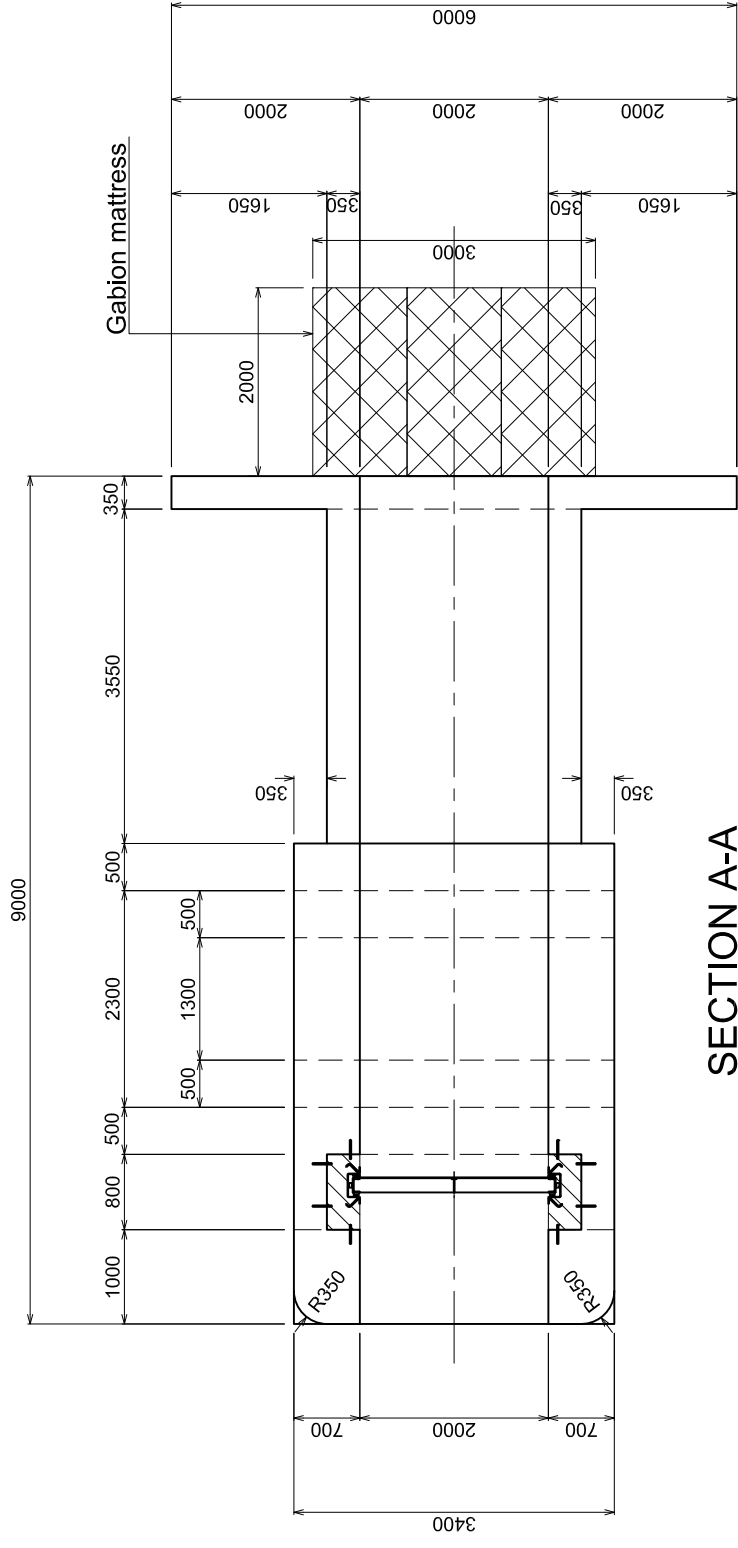
OWNER	Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand
OWNER	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	DESIGNED BY	JSHI Masahiro STRUCTURAL ENGINEER
SHEET CONTENTS	(CIVIL WORKS) KRA MANG FLOODGATE DRAINAGE GATE (1/3)	CHECKED BY	MISHIMA Takahiro TEAM LEADER
OWNER	Royal Irrigation Department Ministry of Agriculture and Cooperatives	DATE	AUGUST 2012
OWNER	Royal Irrigation Department Ministry of Agriculture and Cooperatives	SCALE	SHEET NO.
OWNER	Royal Irrigation Department Ministry of Agriculture and Cooperatives	DWG. NO.	KM-FG-013



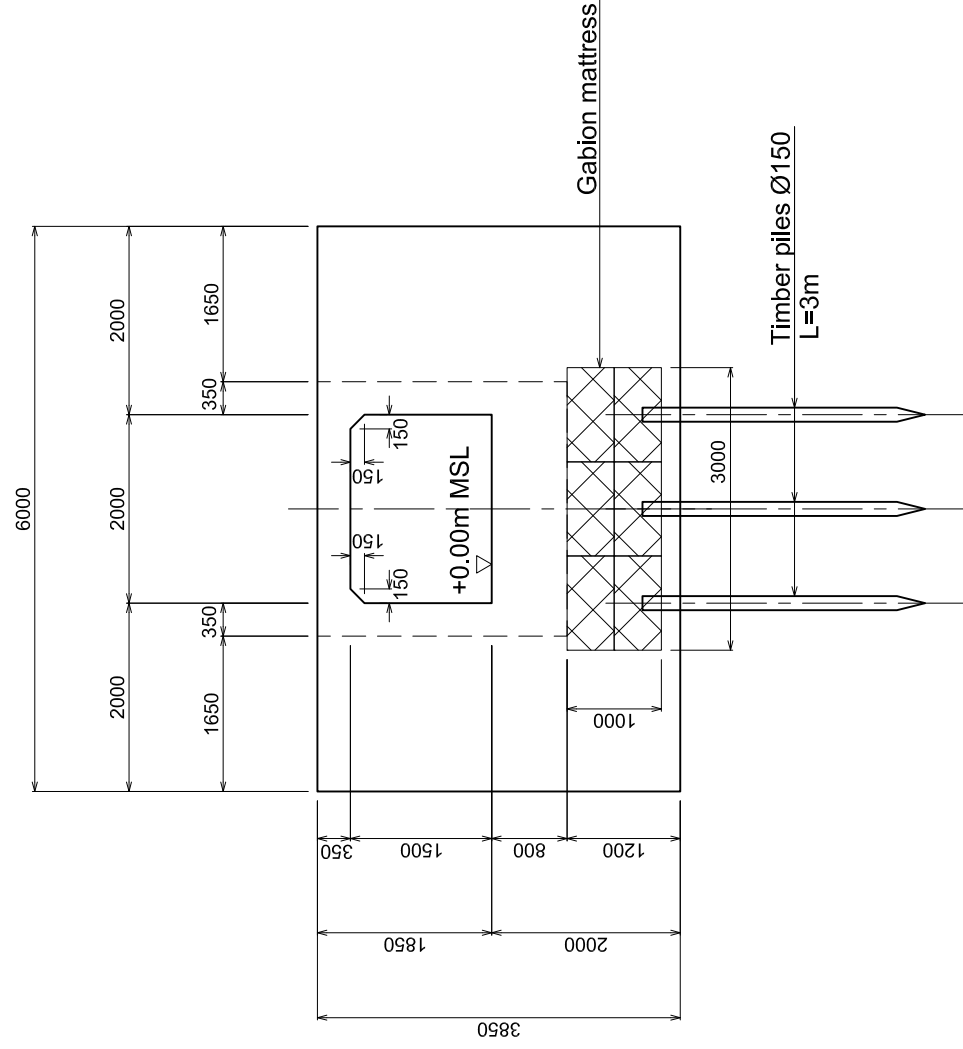
SECTION B-B



SECTION C-C

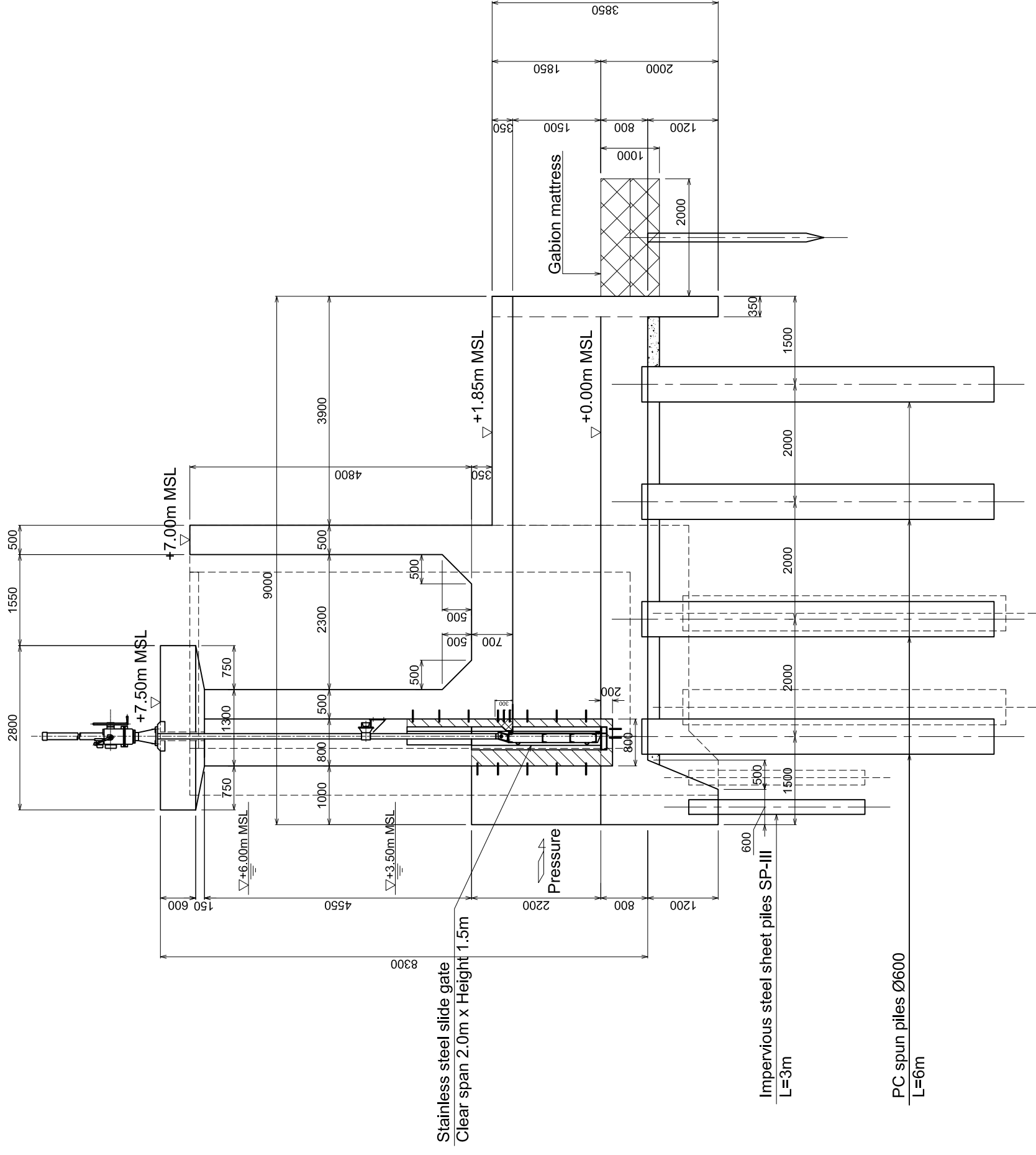


SECTION A-A



SECTION D-D

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) KRA MANG FLOODGATE DRAINAGE GATE (2/3)	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	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012	SCALE: SHEET NO. KMF-G-014



Stainless steel slide gate
Clear span 2.0m x Height 1.5m

Impervious steel sheet piles SP-III
L=3m

PC spun piles Ø600
L=6m

LONGITUDINAL 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	SHEET CONTENTS (CIVIL WORKS) KRA MANG FLOODGATE DRAINAGE GATE (3/3)	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	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY JSHI Masahiro STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE: AUGUST 2012 DWG. NO. KMFG-015	SCALE: SHEET NO.