

STA.	N (m)	E (m)	ELEV.(m)
GPS100	1587513.898	670558.084	4.355
GPS101	1587525.306	670674.402	6.655
GPS102	1587564.291	670718.355	5.498
GPS103	1587566.739	670742.638	5.902
GPS319	1587494.919	670675.064	6.652
BM-KM6	1587564.145	670722.610	6.303
BM-RID-10-01132	1587498.905	670579.969	4.424



Reference Only

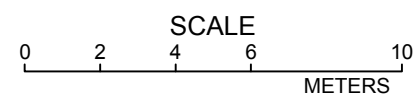
ROYAL IRRIGATION DEPARTMENT
 The Flood Prevention Project of
 East Side of the Pasak River in Ayutthaya
 in the Kingdom of Thailand
 (TEMPORARY WORKS)
 TEMPORARY WORKS OF
 KRA MANG FLOODGATE
 LAYOUT PLAN

CONSULTING FIRMS :
CTI CTI ENGINEERING INTERNATIONAL CO., LTD.

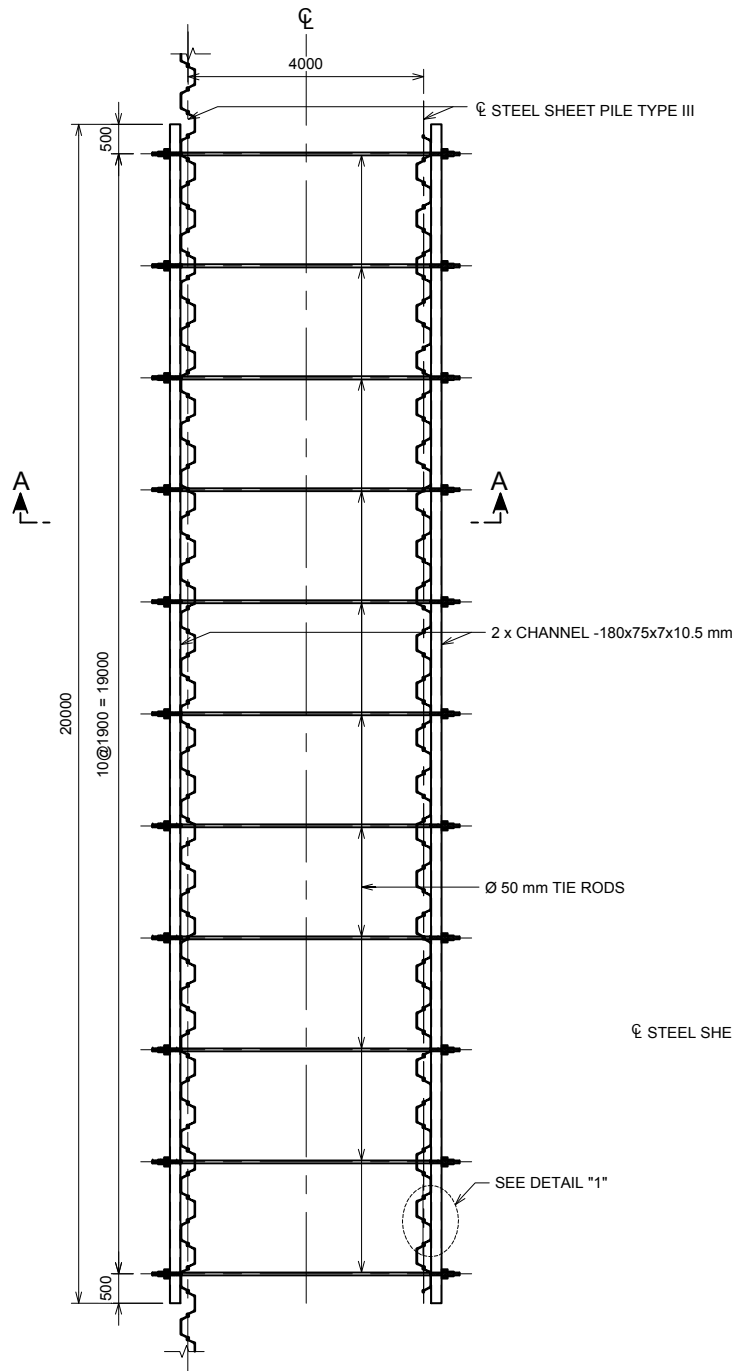
DESIGNED	Tatsuji ITO	ROYAL IRRIGATION DEPARTMENT		
DRAWN	Tatsuji ITO	PROPOSED	P. SIRION	CHIEF
CHECKED	Akio SHICHIJUGARI	VERIFIED	S. INTARAPRACHA	DIRECTOR
APPROVED	T. MISHINA DATE _____	APPROVED	L. KOWATTANA	D.G.

OFFICE OF ENGINEERING DESIGN & ARCHITECTURE
 IRRIGATION SYSTEM DESIGN GROUP
 DATE _____

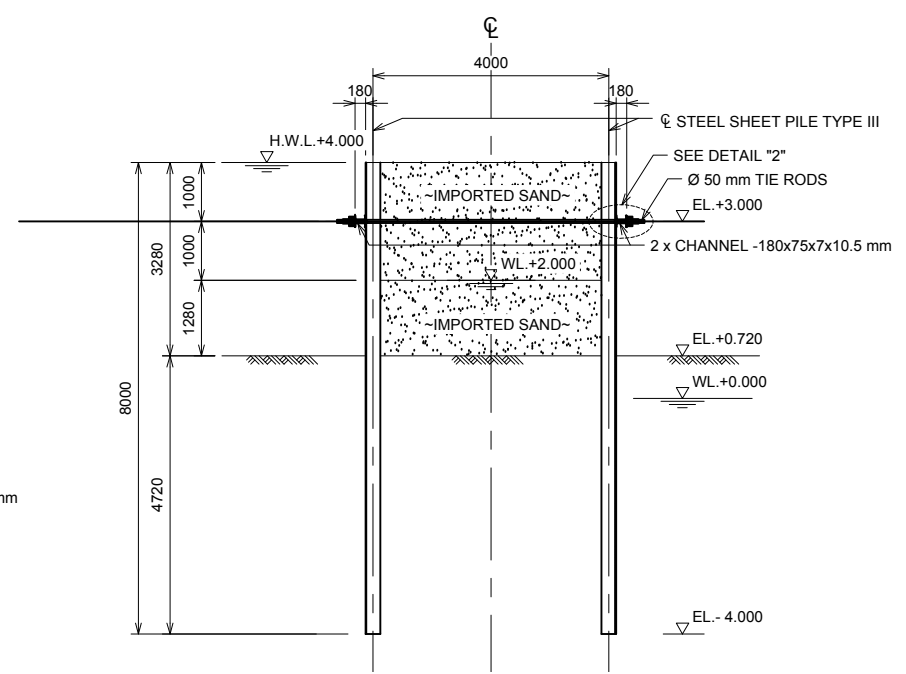
KM-TW-001



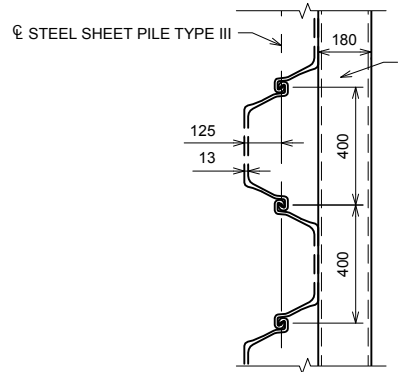
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				PRESENT	APPROVED	



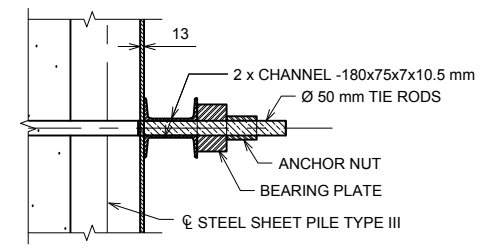
PLAN
SCALE A



SECTION A-A
SCALE A



DETAIL "1"
SCALE B



DETAIL "2"
SCALE B

BORING LOG [DH-KM-4]

DEPTH (m)	ENDED DEPTH (m)	GRAPHIC LOG	SYMBOL	DESCRIPTION OF SOIL	STANDARD PENETRATION TEST							
					N-VALUE	PENETRATION DEPTH, ft.					WATER LEVEL	
						0	10	20	30	40	50	
		+0.72 m MSL										-1.0
-2	3.00	CH	CH	MEDIUM FAT CLAY, BROWN	8							
-4		CL	CL	VERY STIFF TO HARD LEAN CLAY, BROWN	17							
-6					10							
-8					17							
-10					18							
-12					20							
-14					22							
-16					20							
-18	18.00				20							
-20	20.00	SM	SM	DENSE TO VERY DENSE SILTY SAND, BROWN	27							
-22					44							
-24					46							
-26					37							
-28					50/9"							
-30	29.00				40							
	30.45	SM	SM	VERY DENSE POORLY GRADED SAND WITH SILT, BROWN	36							
					50/4"							
					45							
					50/3"							
					50/3"							
					50/2"							
					50/9"							
					50/1"							
					50/1"							
					50/8"							
					50/5"							
					50/3"							
					50/2"							
					50/1"							

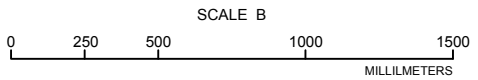
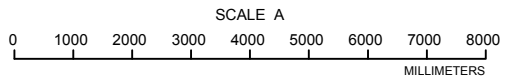
Reference Only

DESIGN CONDITIONS

PARTS NAME	DESIGN CONDITIONS
WALL LENGTH	20.000 m
HIGH WATER LEVEL	EL.+4.000 m
SOIL PRESSURE	COULOMB'S
SURECHARGE	0.00 kN/m ²
FILLED MATERIAL	IMPORTED SAND

DETAIL OF ASSEMBLED PARTS

PARTS NAME	MATERIAL	TYPE, DIMENSIONS	UNIT	Q'ty	UNIT WEIGHT	MASS	REMARKS
STEEL SHEET PILE	SY 295	TYPE III	m	800.00	60.0 kg/m	48.000 t	
TIE ROD	SS400 (< 40 mm)	Ø 50 mm	m	50.82			
CHANNEL	SS400	180x75x7x10.5	m	80.00	21.4 kg/m	1.712 t	



REMARKS :
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.

REV. NO.	LOCATION	DESCRIPTION	DATE	CHECKED	APPROVED	APPROVED	OFFICE OF ENGINEERING DESIGN & ARCHITECTURE IRRIGATION SYSTEM DESIGN GROUP	DATE	KM-TW-002

ROYAL IRRIGATION DEPARTMENT
The Flood Prevention Project of
East Side of the Pasak River in Ayutthaya
in the Kingdom of Thailand
(TEMPORARY WORKS)
TEMPORARY WORKS OF
KRA MANG FLOODGATE
DETAIL OF TEMPORARY DAM 2

CONSULTING FIRMS :
CTI ENGINEERING INTERNATIONAL CO., LTD.

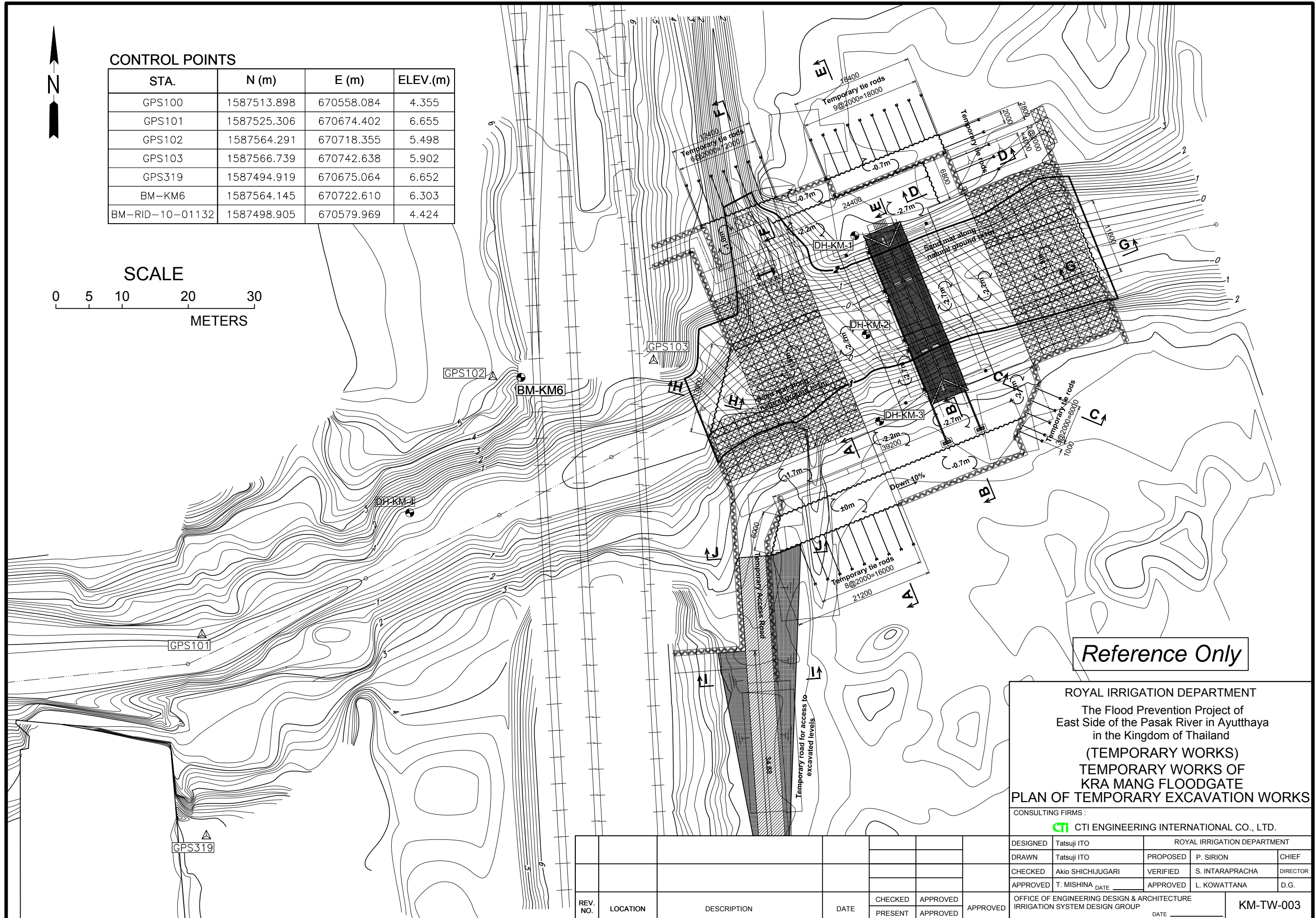
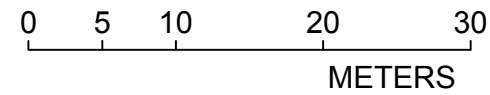
DESIGNED	Tatsuji ITO	ROYAL IRRIGATION DEPARTMENT		
DRAWN	Tatsuji ITO	PROPOSED	P. SIRION	CHIEF
CHECKED	Akio SHICHIJUGARI	VERIFIED	S. INTARAPRACHA	DIRECTOR
APPROVED	T. MISHINA	APPROVED	L. KOWATTANA	D.G.



CONTROL POINTS

STA.	N (m)	E (m)	ELEV.(m)
GPS100	1587513.898	670558.084	4.355
GPS101	1587525.306	670674.402	6.655
GPS102	1587564.291	670718.355	5.498
GPS103	1587566.739	670742.638	5.902
GPS319	1587494.919	670675.064	6.652
BM-KM6	1587564.145	670722.610	6.303
BM-RID-10-01132	1587498.905	670579.969	4.424

SCALE



Reference Only

ROYAL IRRIGATION DEPARTMENT
 The Flood Prevention Project of
 East Side of the Pasak River in Ayutthaya
 in the Kingdom of Thailand
 (TEMPORARY WORKS)
 TEMPORARY WORKS OF
 KRA MANG FLOODGATE
 PLAN OF TEMPORARY EXCAVATION WORKS

CONSULTING FIRMS :

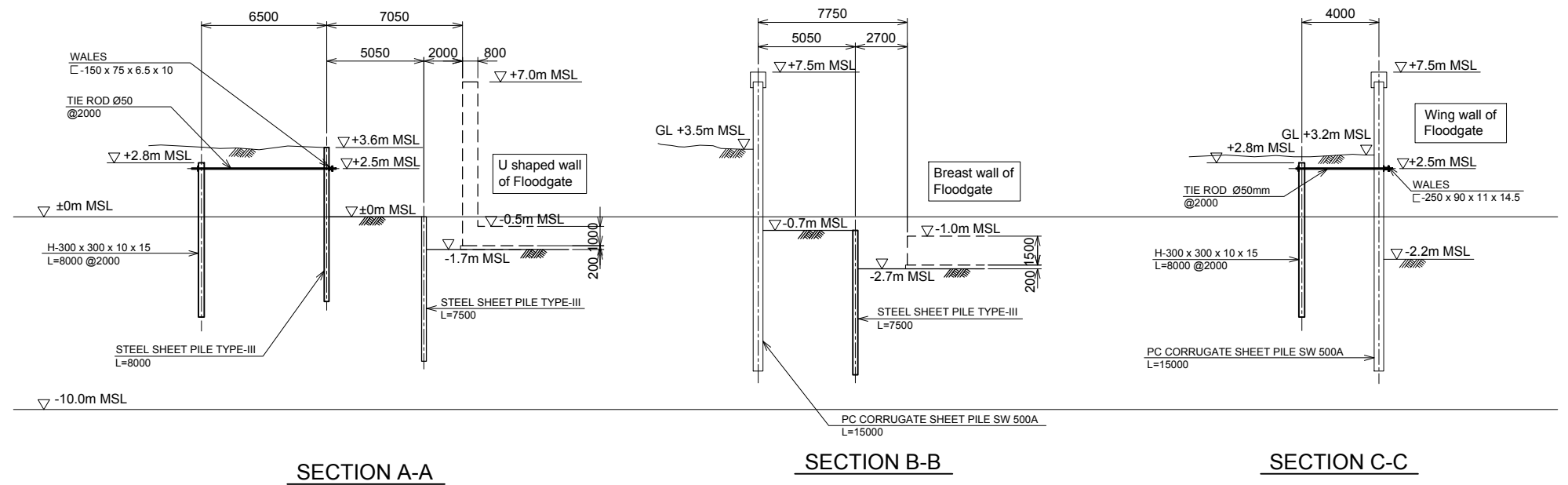
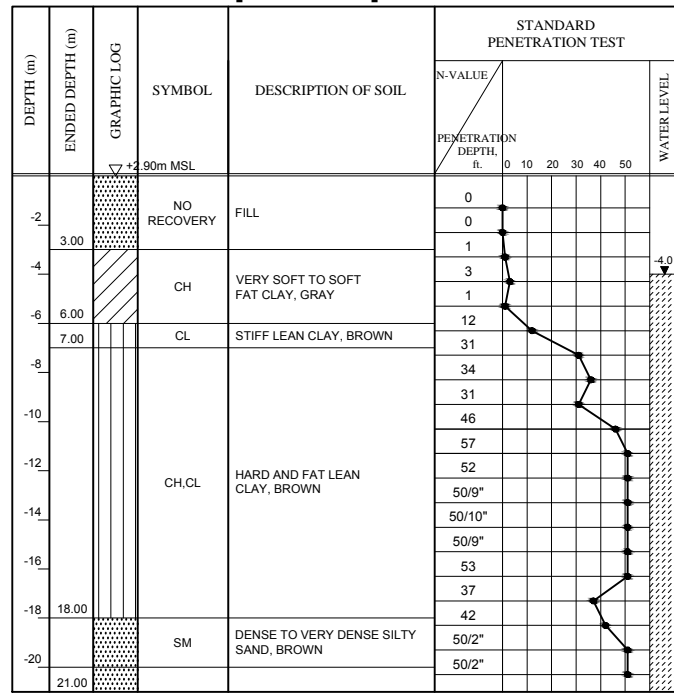
DESIGNED	Tatsuji ITO	ROYAL IRRIGATION DEPARTMENT		
DRAWN	Tatsuji ITO	PROPOSED	P. SIRION	CHIEF
CHECKED	Akio SHICHIJUGARI	VERIFIED	S. INTARAPRACHA	DIRECTOR
APPROVED	T. MISHINA DATE _____	APPROVED	L. KOWATTANA	D.G.

REV. NO.	LOCATION	DESCRIPTION	DATE	CHECKED PRESENT	APPROVED APPROVED	APPROVED

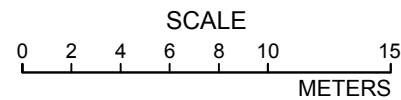
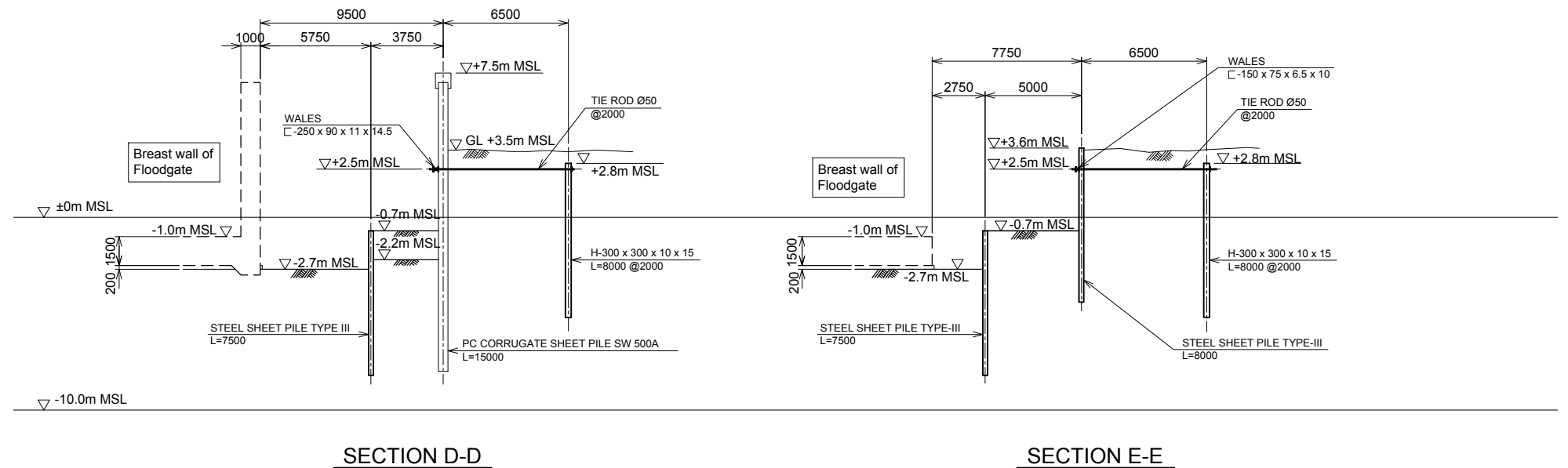
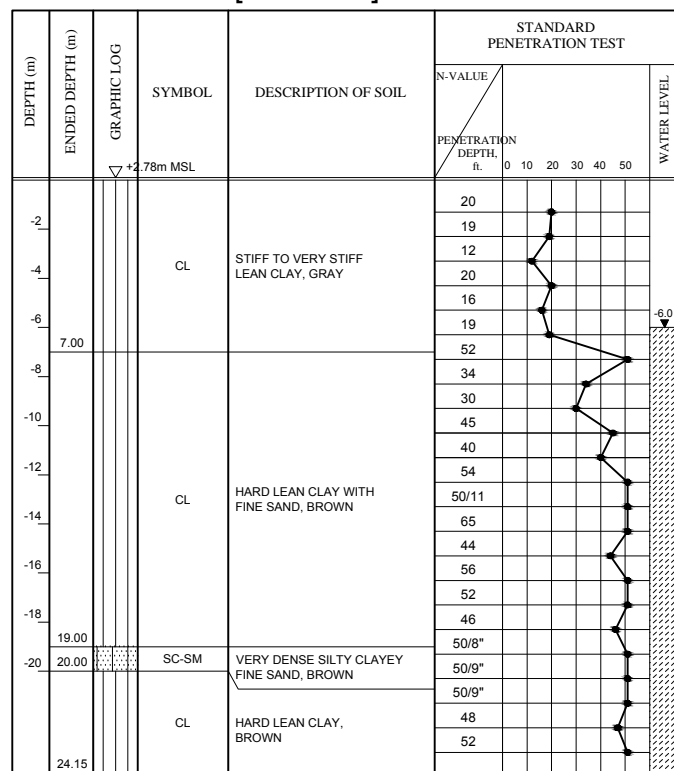
OFFICE OF ENGINEERING DESIGN & ARCHITECTURE
 IRRIGATION SYSTEM DESIGN GROUP
 DATE _____

KM-TW-003

BORING LOG [DH-KM-3]



BORING LOG [DH-KM-1]



Reference Only

ROYAL IRRIGATION DEPARTMENT
 The Flood Prevention Project of
 East Side of the Pasak River in Ayutthaya
 in the Kingdom of Thailand
 (TEMPORARY WORKS)
 TEMPORARY WORKS OF
 KRA MANG FLOODGATE
 DETAIL OF TEMPORARY WORKS (1/2)

CONSULTING FIRMS :
CTI ENGINEERING INTERNATIONAL CO., LTD.

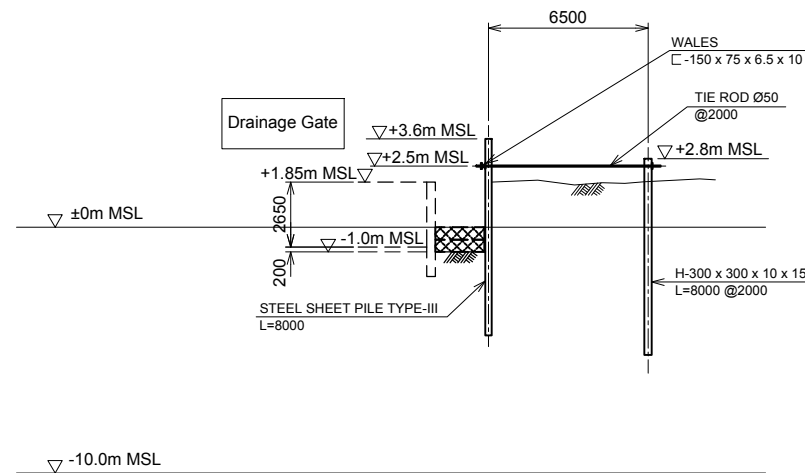
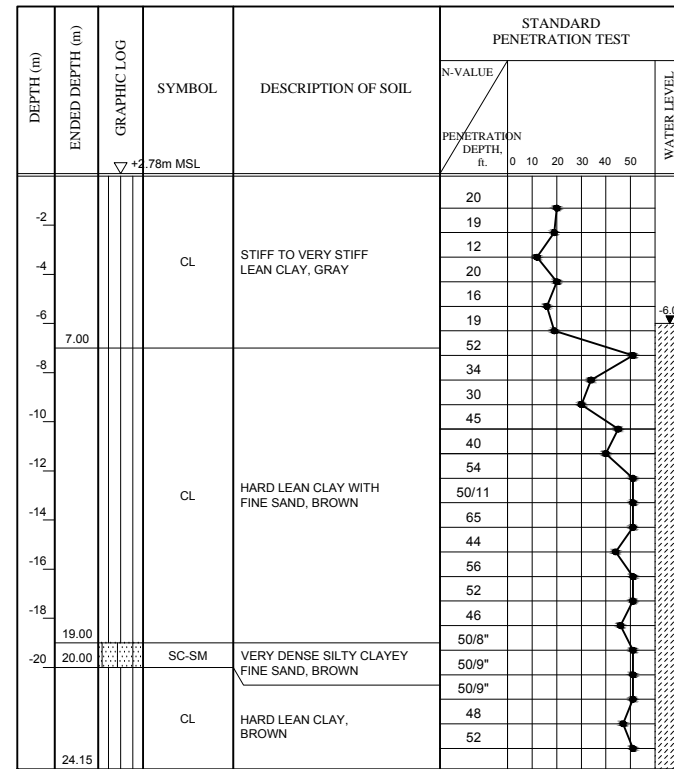
DESIGNED	Tatsuji ITO	ROYAL IRRIGATION DEPARTMENT
DRAWN	Tatsuji ITO	PROPOSED P. SIRION CHIEF
CHECKED	Akio SHICHIJUGARI	VERIFIED S. INTARAPRACHA DIRECTOR
APPROVED	T. MISHINA DATE _____	APPROVED L. KOWATTANA D.G.

OFFICE OF ENGINEERING DESIGN & ARCHITECTURE
 IRRIGATION SYSTEM DESIGN GROUP
 DATE _____

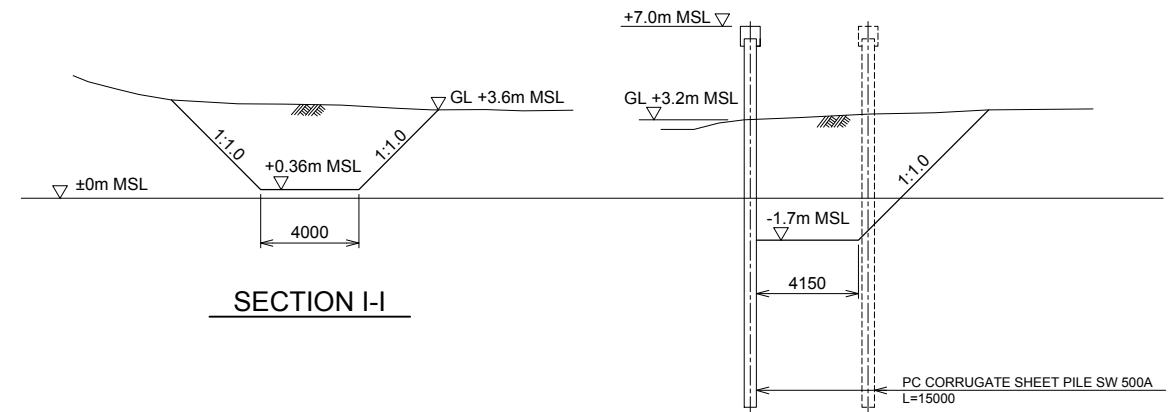
KM-TW-004

REV. NO.	LOCATION	DESCRIPTION	DATE	CHECKED PRESENT	APPROVED APPROVED	APPROVED

BORING LOG [DH-KM-1]



SECTION F-F

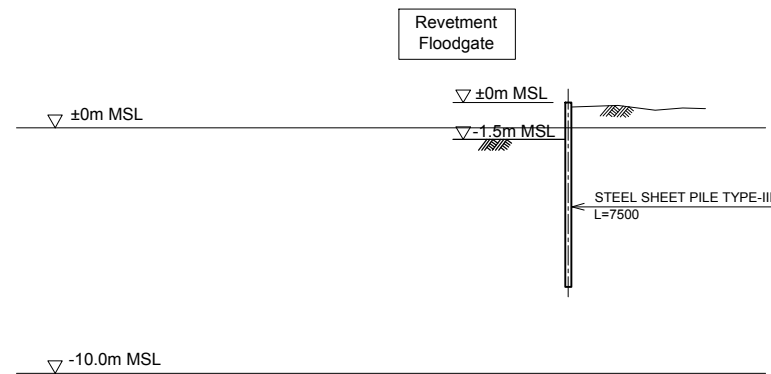
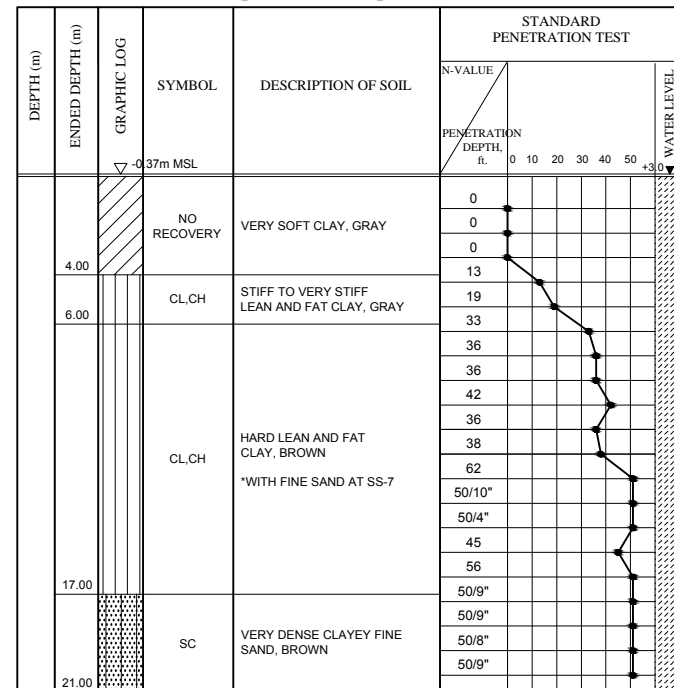


SECTION I-I

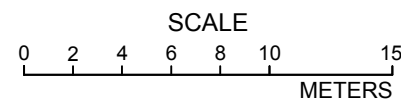
SECTION J-J

CROSS SECTION OF TEMPORARY ROAD

BORING LOG [DH-KM-2]



SECTION G-G, H-H



Reference Only

ROYAL IRRIGATION DEPARTMENT
 The Flood Prevention Project of
 East Side of the Pasak River in Ayutthaya
 in the Kingdom of Thailand
 (TEMPORARY WORKS)
 TEMPORARY WORKS OF
 KRA MANG FLOODGATE
 DETAIL OF TEMPORARY WORKS (2/2)

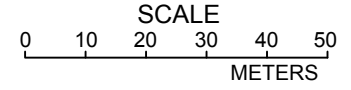
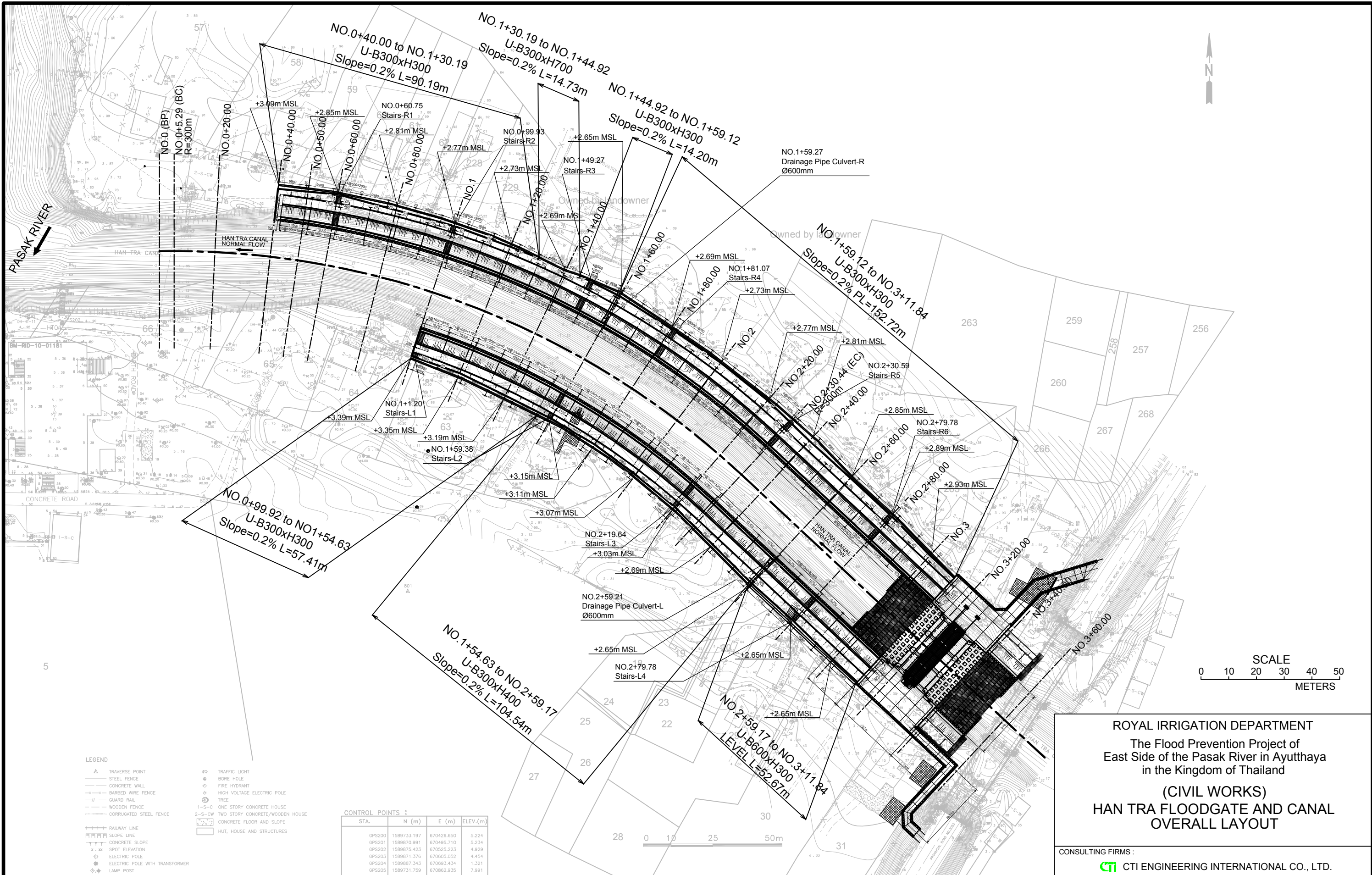
CONSULTING FIRMS :
CTI CTI ENGINEERING INTERNATIONAL CO., LTD.

DESIGNED	Tatsuji ITO	ROYAL IRRIGATION DEPARTMENT		
DRAWN	Tatsuji ITO	PROPOSED	P. SIRION	CHIEF
CHECKED	Akio SHICHIJUGARI	VERIFIED	S. INTARAPRACHA	DIRECTOR
APPROVED	T. MISHINA DATE _____	APPROVED	L. KOWATTANA	D.G.

OFFICE OF ENGINEERING DESIGN & ARCHITECTURE
 IRRIGATION SYSTEM DESIGN GROUP
 DATE _____

KM-TW-005

REV. NO.	LOCATION	DESCRIPTION	DATE	CHECKED	APPROVED	APPROVED
				PRESENT	APPROVED	



- LEGEND**
- ▲ TRAVERSE POINT
 - STEEL FENCE
 - CONCRETE WALL
 - x-x- BARBED WIRE FENCE
 - GUARD RAIL
 - WOODEN FENCE
 - CORRUGATED STEEL FENCE
 - RAILWAY LINE
 - SLOPE LINE
 - CONCRETE SLOPE
 - SPOT ELEVATION
 - ELECTRIC POLE
 - ELECTRIC POLE WITH TRANSFORMER
 - LAMP POST
 - MANHOLE, CONCRETE COVER
 - MANHOLE, GRATING COVER
 - MANHOLE, STEEL COVER
 - CROSS-SECTION POST
 - △ TRAFFIC SIGN
 - TRAFFIC LIGHT
 - BORE HOLE
 - FIRE HYDRANT
 - HIGH VOLTAGE ELECTRIC POLE
 - TREE
 - 1-S-C ONE STORY CONCRETE HOUSE
 - 2-S-CW TWO STORY CONCRETE/WOODEN HOUSE
 - CONCRETE FLOOR AND SLOPE
 - HUT, HOUSE AND STRUCTURES

CONTROL POINTS :

STA.	N (m)	E (m)	ELEV.(m)
GPS200	1589733.197	870426.650	5.224
GPS201	1589870.991	870495.710	5.234
GPS202	1589875.423	870525.223	4.929
GPS203	1589871.376	870605.052	4.454
GPS204	1589887.343	870693.434	1.321
GPS205	1589731.759	870862.935	7.991
GPS206	1589767.187	870885.901	7.852
GPS303	1589700.168	870841.551	7.994
GPS321	1589814.554	870813.833	2.987
GPS322	1589849.029	870785.182	3.779
GPS323	1589868.938	870745.288	2.995
BM-RID-10-01181	1589870.891	870504.827	5.040

ROYAL IRRIGATION DEPARTMENT
 The Flood Prevention Project of
 East Side of the Pasak River in Ayutthaya
 in the Kingdom of Thailand
(CIVIL WORKS)
HAN TRA FLOODGATE AND CANAL
OVERALL LAYOUT

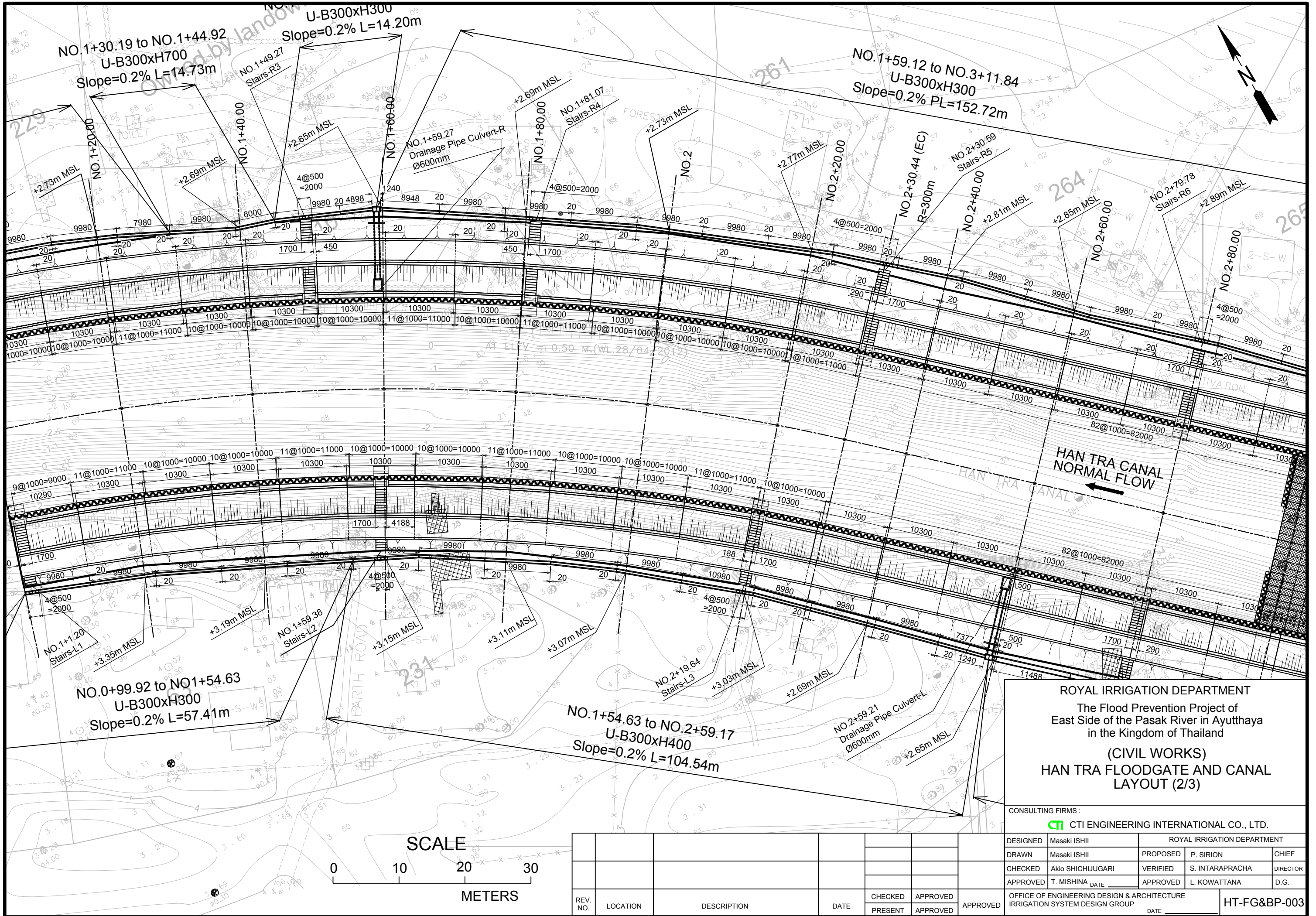
CONSULTING FIRMS :
CTI ENGINEERING INTERNATIONAL CO., LTD.

DESIGNED		ROYAL IRRIGATION DEPARTMENT		
Masaki ISHII		PROPOSED	P. SIRION	CHIEF
Masaki ISHII		VERIFIED	S. INTARAPRACHA	DIRECTOR
Akio SHICHIJUGARI		APPROVED	L. KOWATTANA	D.G.
T. MISHINA	DATE _____			

REV. NO.	LOCATION	DESCRIPTION	DATE	CHECKED	APPROVED	APPROVED
				PRESENT	APPROVED	

OFFICE OF ENGINEERING DESIGN & ARCHITECTURE
 IRRIGATION SYSTEM DESIGN GROUP
 DATE _____

HT-FG&BP-001

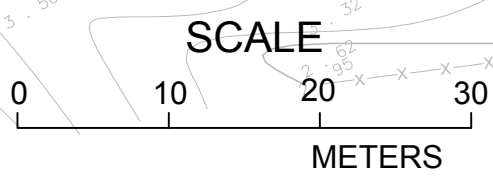


ROYAL IRRIGATION DEPARTMENT
 The Flood Prevention Project of
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 in the Kingdom of Thailand
 (CIVIL WORKS)
**HAN TRA FLOODGATE AND CANAL
 LAYOUT (2/3)**

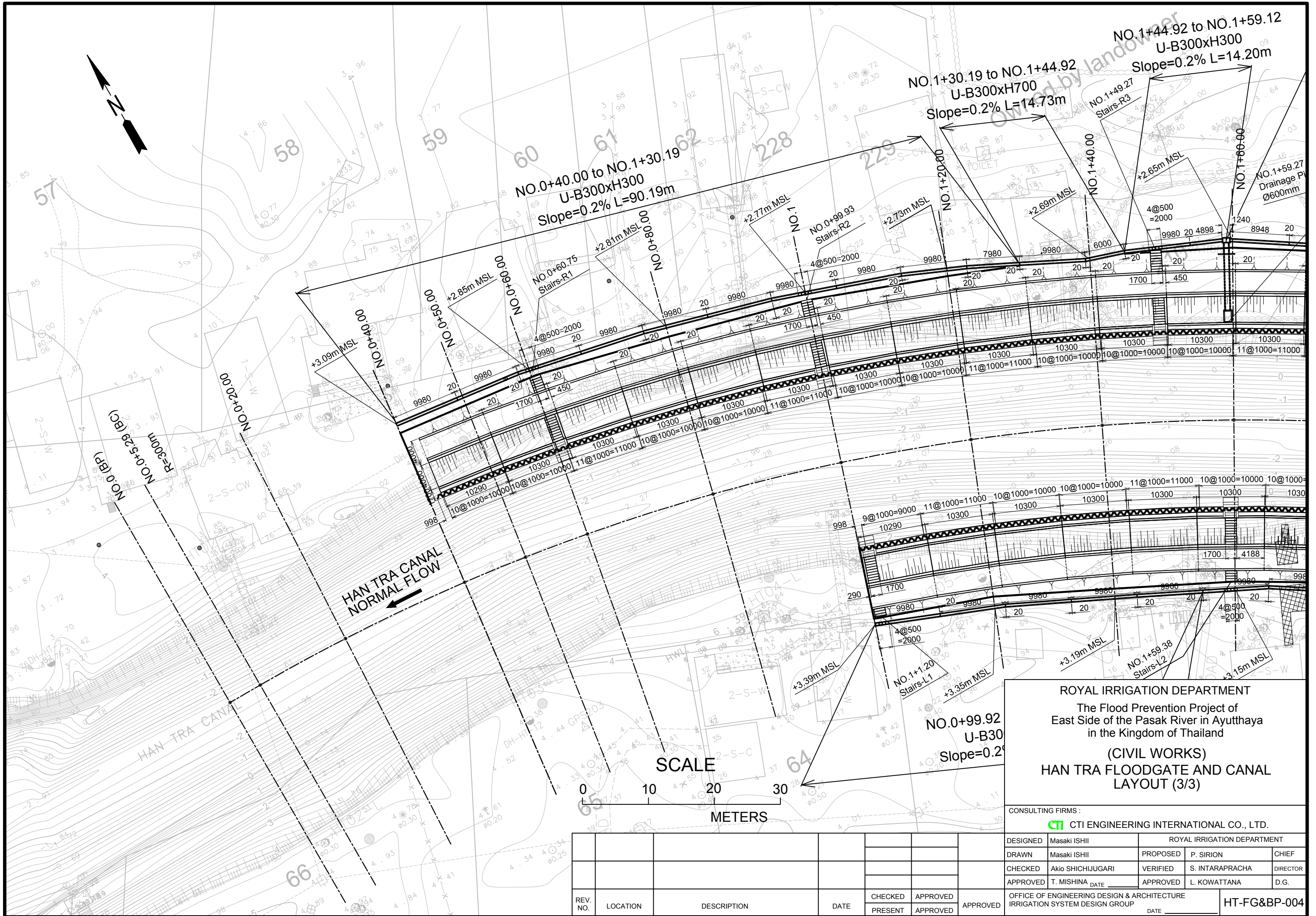
CONSULTING FIRMS:
CTI ENGINEERING INTERNATIONAL CO., LTD.

DESIGNED	Masaki ISHII	ROYAL IRRIGATION DEPARTMENT		
DRAWN	Masaki ISHII	PROPOSED	P. SIRION	CHIEF
CHECKED	Akio SHICHIJUGARI	VERIFIED	S. INTARAPRACHA	DIRECTOR
APPROVED	T. MISHINA DATE _____	APPROVED	L. KOWATTANA	D.G.

OFFICE OF ENGINEERING DESIGN & ARCHITECTURE
 IRRIGATION SYSTEM DESIGN GROUP
 HT-FG&BP-003



REV. NO.	LOCATION	DESCRIPTION	DATE	CHECKED PRESENT	APPROVED APPROVED	APPROVED



ROYAL IRRIGATION DEPARTMENT
 The Flood Prevention Project of
 East Side of the Pasak River in Ayutthaya
 in the Kingdom of Thailand
 (CIVIL WORKS)
**HAN TRA FLOODGATE AND CANAL
 LAYOUT (3/3)**

CONSULTING FIRMS:				
CTI ENGINEERING INTERNATIONAL CO., LTD.				
DESIGNED	Masaki ISHII	ROYAL IRRIGATION DEPARTMENT		
DRAWN	Masaki ISHII	PROPOSED	P. SIRION	CHIEF
CHECKED	Akio SHICHIJUGARI	VERIFIED	S. INTARAPRACHA	DIRECTOR
APPROVED	T. MISHINA DATE _____	APPROVED	L. KOWATTANA	D.G.
OFFICE OF ENGINEERING DESIGN & ARCHITECTURE IRRIGATION SYSTEM DESIGN GROUP				
				HT-FG&BP-004

REV. NO.	LOCATION	DESCRIPTION	DATE	CHECKED PRESENT	APPROVED APPROVED	APPROVED