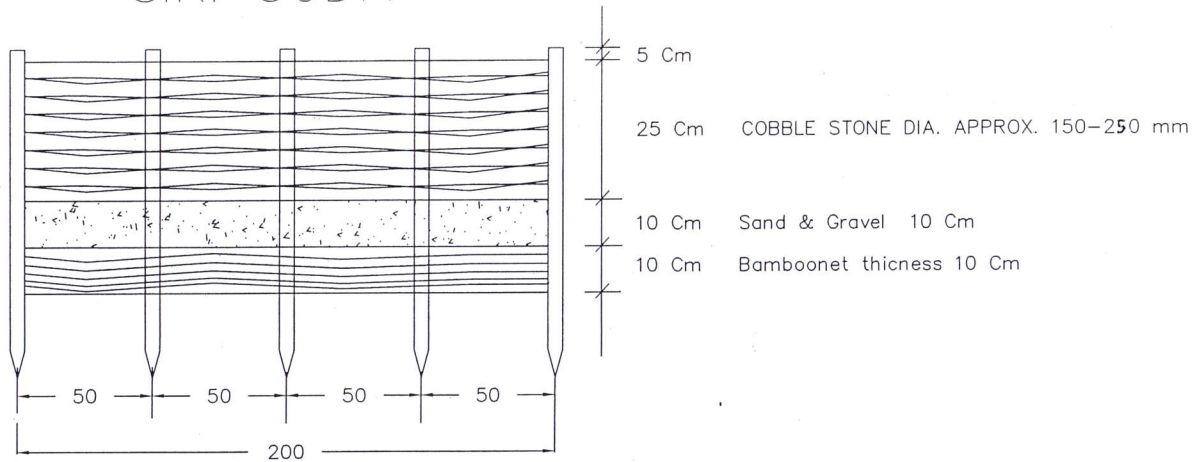


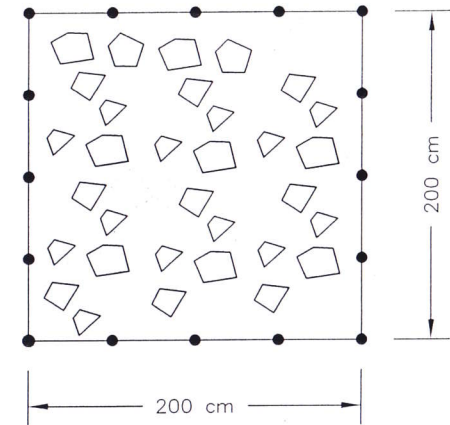
SECTION A-A

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SIKI SODA

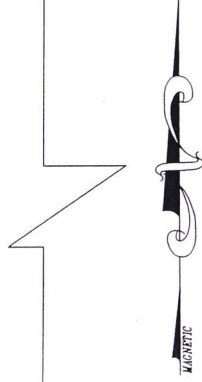
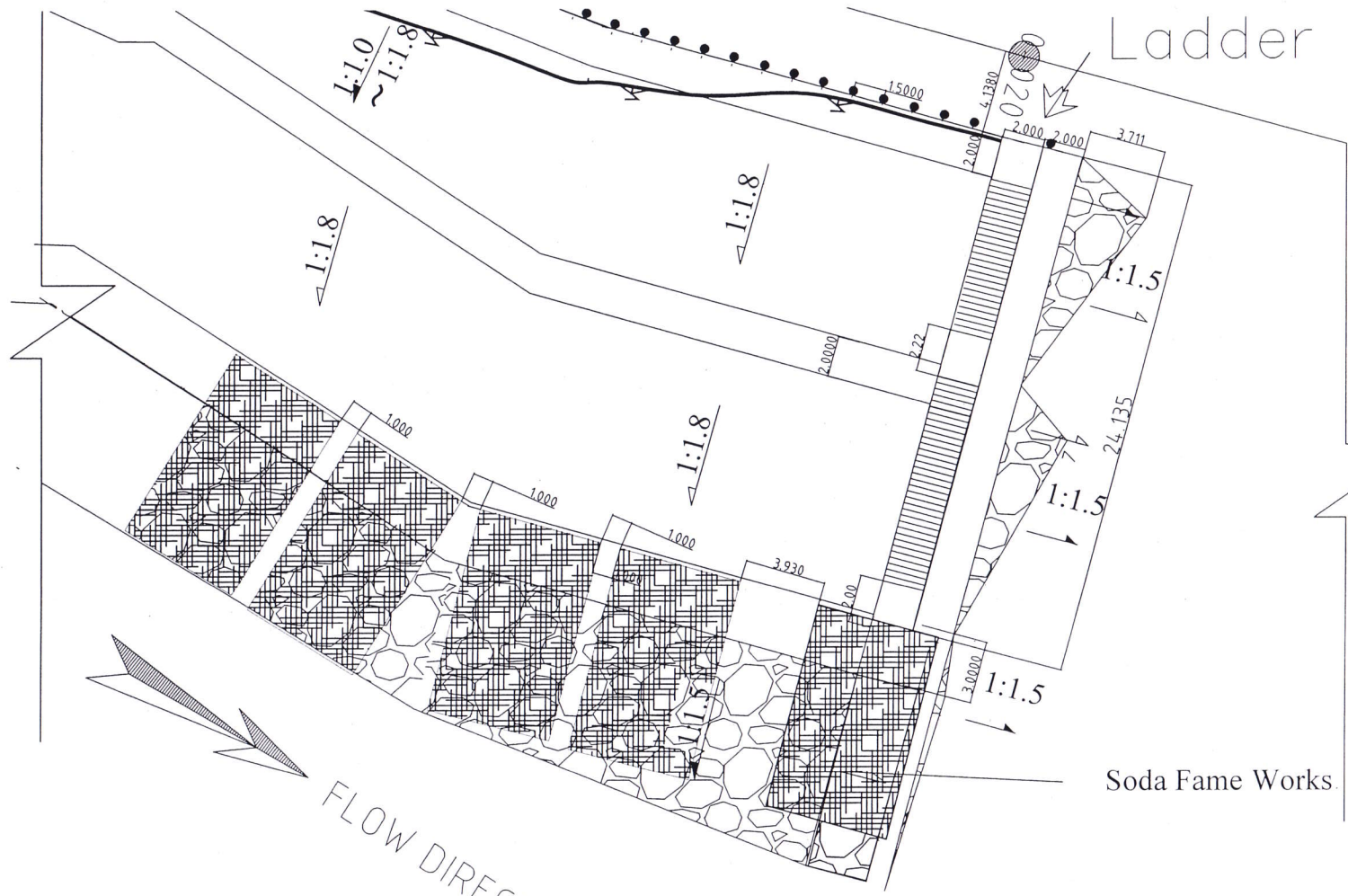


TOP VIEW SIKI SODA



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LAO PDR Peace Independence Democracy Unity Prosperity	Name:	Signature	Date
	Design by:	<i>[Signature]</i>	
Department of Public Works and Transport Balikhamxay Province	C/P	<i>[Signature]</i>	Dec. 18. 12.
	Check by:		
The project on riverbank protection works phase II Japan international Cooperation Agency	JICA Expert design	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
DETAIL	Chief Advisor	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
	Project Manager	<i>[Signature]</i>	Dec. 18. 12
	Drawing number	DT-05	Page: 24



FLOW DIRECTION

GRAPHIC SCALE

(IN METERS)

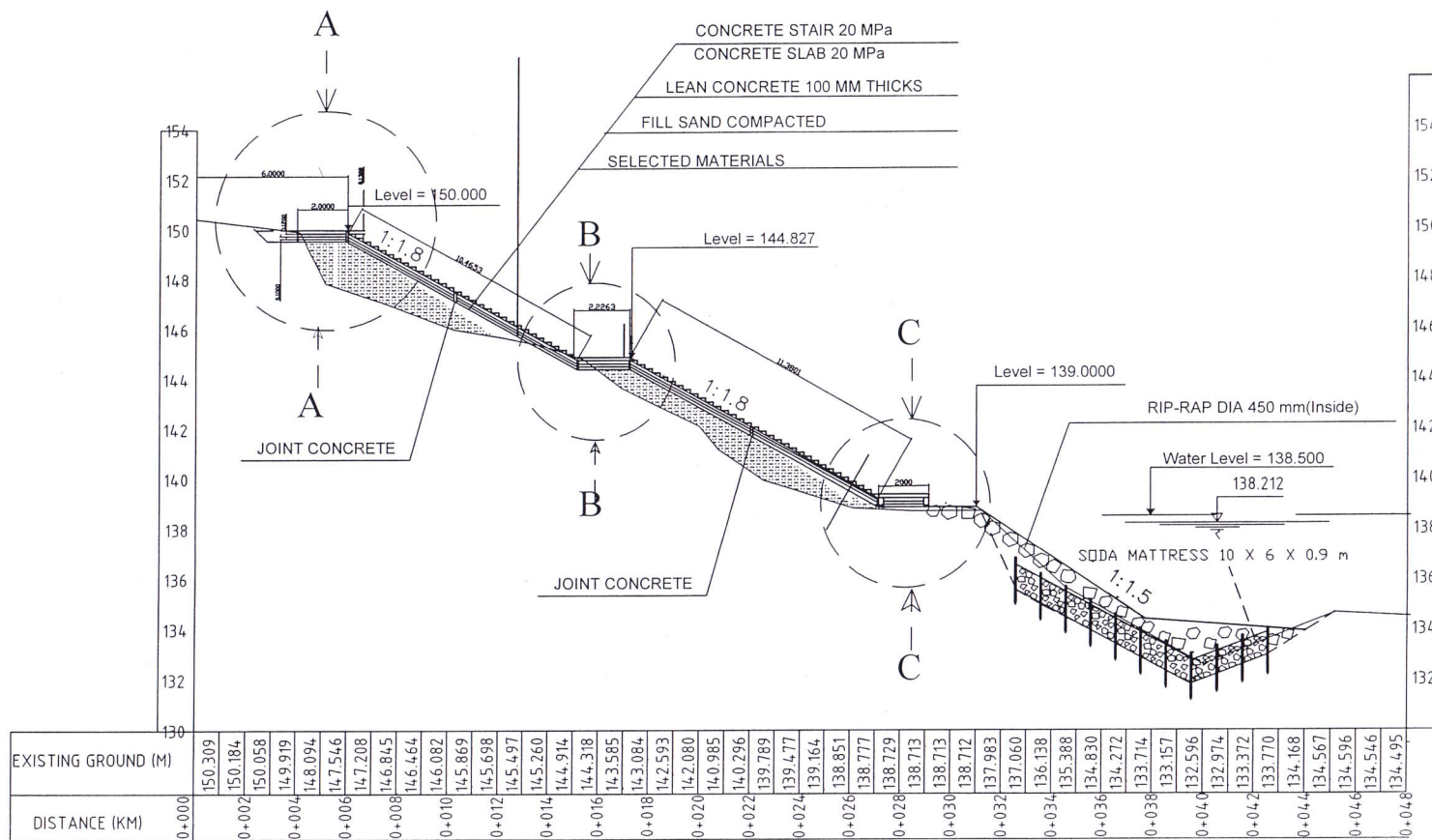


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LAO PDR Peace Independence Democracy Unity Prosperity Department of Public Works and Transport Balikhambxay Province	Name:	Signature	Date
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The project on riverbank protection works phase II Japan international Cooperation Agency	C/P	<i>[Signature]</i>	Dec. 18. 12.
	Check by:		
DETAIL DETAIL	JICA Expert design	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
DETAIL DETAIL	Chief Advisor	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
	Project Manager	<i>[Signature]</i>	Dec. 18. 12
	Drawing number	DT-06	Page: 25

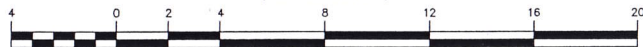
LADDER

Cross Section Km (0+020)



GRAPHIC SCALE

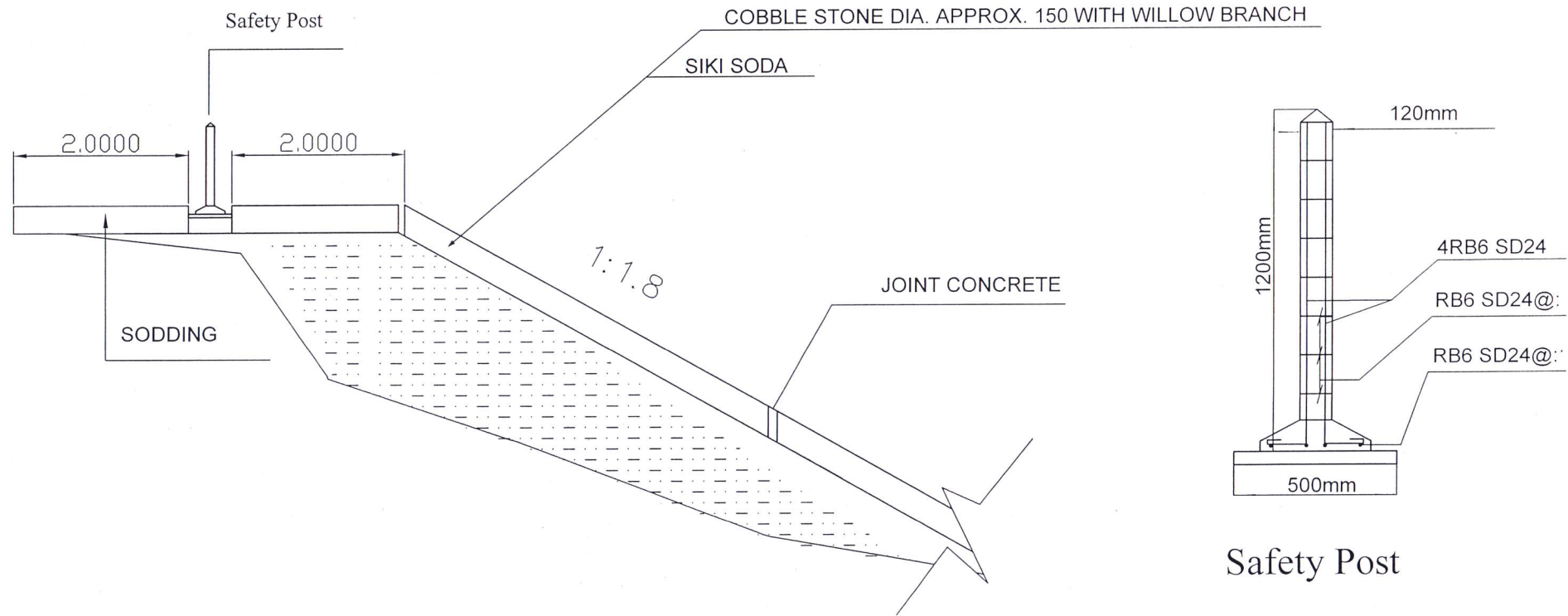
(IN METERS)



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LAO PDR Peace Independence Democracy Unity Prosperity Department of Public Works and Transport Bolikhamxay Province The project on riverbank protection works phase II Japan international Cooperation Agency	Name:		Signature	Date
	Design by:			
	C/P			Dec. 18. 12.
	Check by:			
	JICA Expert design			Dec 18. 12
Approved by:			Dec. 18. 12	
Chief Advisor			Dec. 18. 12	
Approved by:			Dec 18. 12	
Project Manager			Dec 18. 12	
Drawing number		DT-07		Page: 26

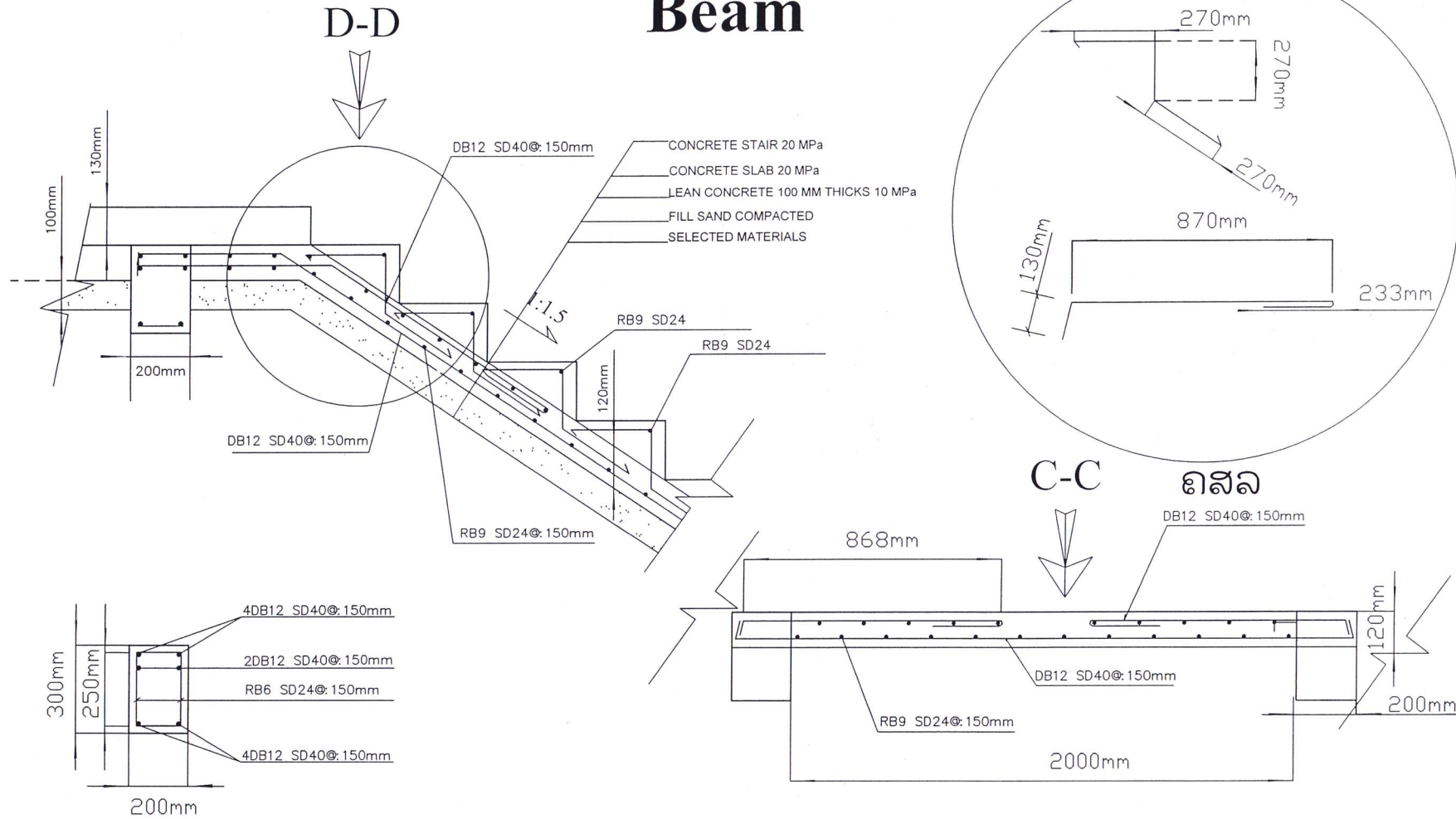
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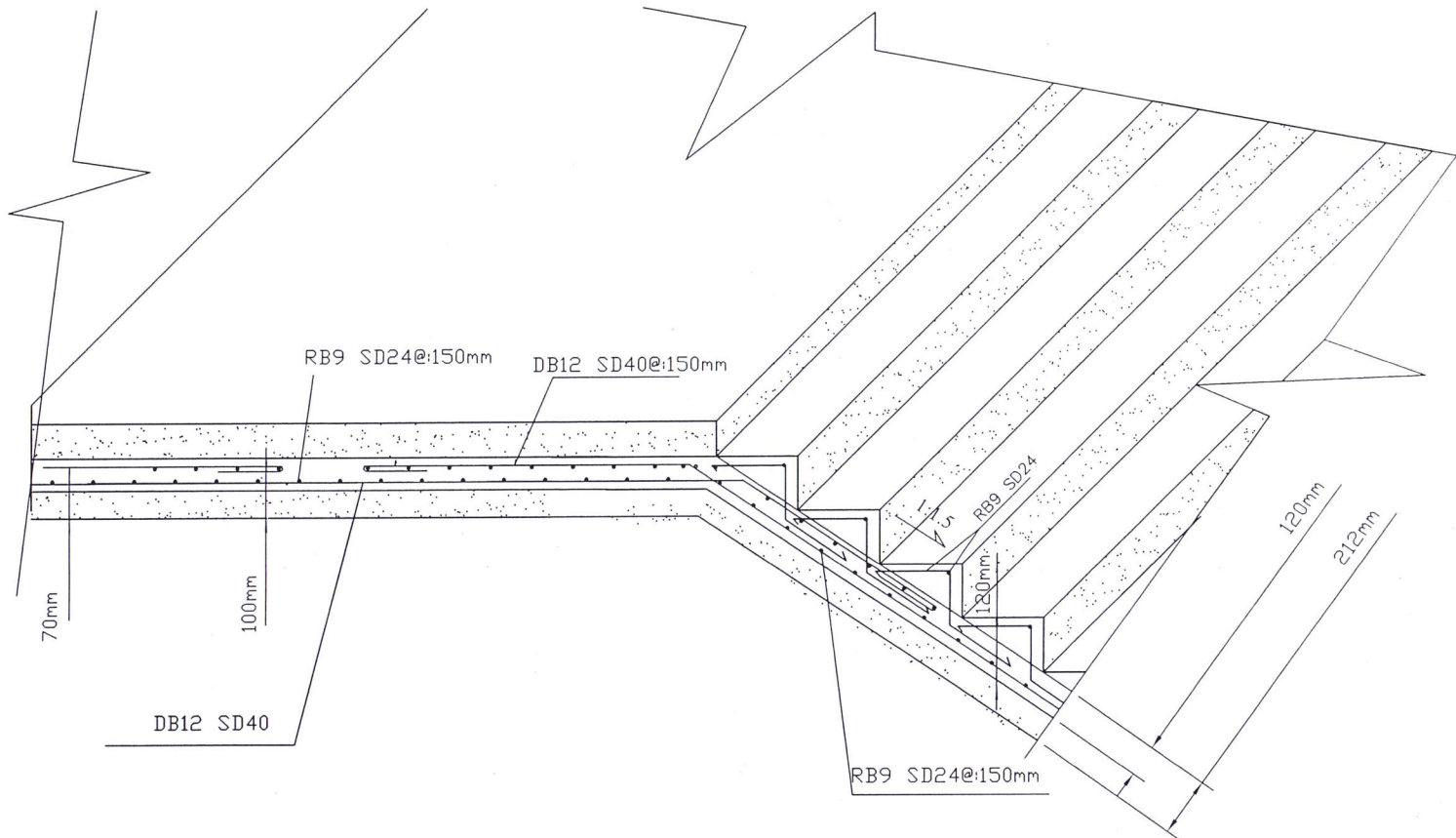
LAO PDR Peace Independence Democracy Unity Prosperity	Name:	Signature	Date
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Department of Public Works and Transport Bolikhamsay Province	C/P	<i>[Signature]</i>	Dec. 18. 12.
	Check by:		
The project on riverbank protection works phase II Japan international Cooperation Agency	JICA Expert design	Y.H.IWA	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
DETAIL	Chief Advisor	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec 18-12
	Project Manager	<i>[Signature]</i>	
Drawing number	DT-08		Page: 27

Beam



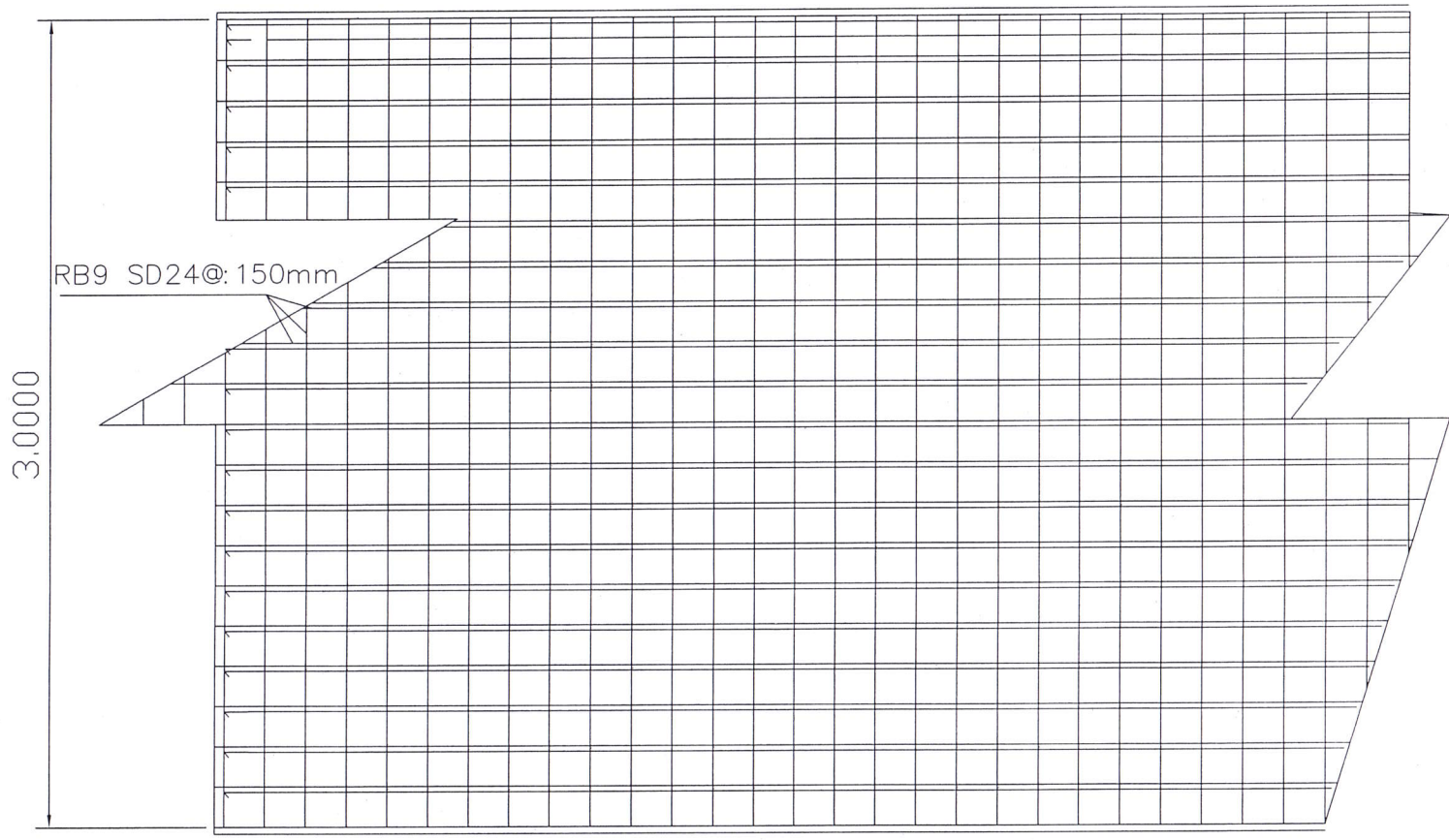
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LAO PDR Peace Independence Democracy Unity Proeperity	Name:	Signature	Date
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Department of Public Works and Transport Bolikhamsay Province	C/P	<i>[Signature]</i>	Dec. 18. 12
	Check by:		
The project on riverbank protection works phase II Japan international Cooperation Agency	JICA Expert design	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
DETAIL	Chief Advisor	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
	Project Manager	<i>[Signature]</i>	Dec. 18. 12
	Drawing numeber	DT-09	Page: 26



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	C/P	<i>[Signature]</i>	Dec. 18. 12
	Check by:		
	JICA Expert design	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
	Chief Advisor	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
	Project Manager	<i>[Signature]</i>	Dec. 18. 12
	Drawing number	DT-10	Page: 29

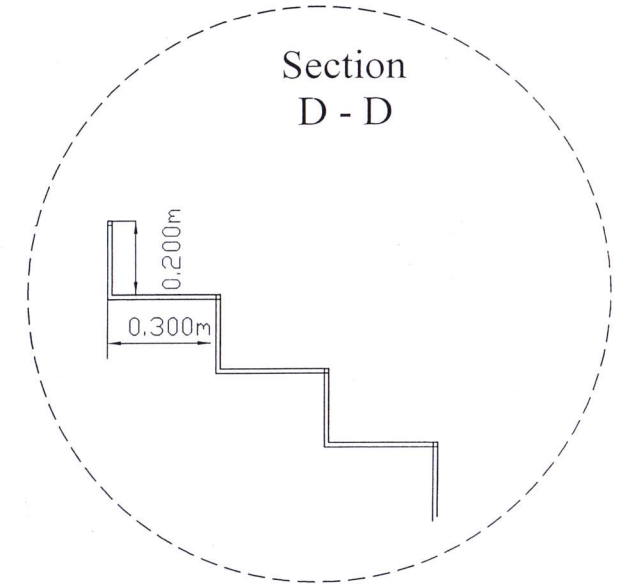
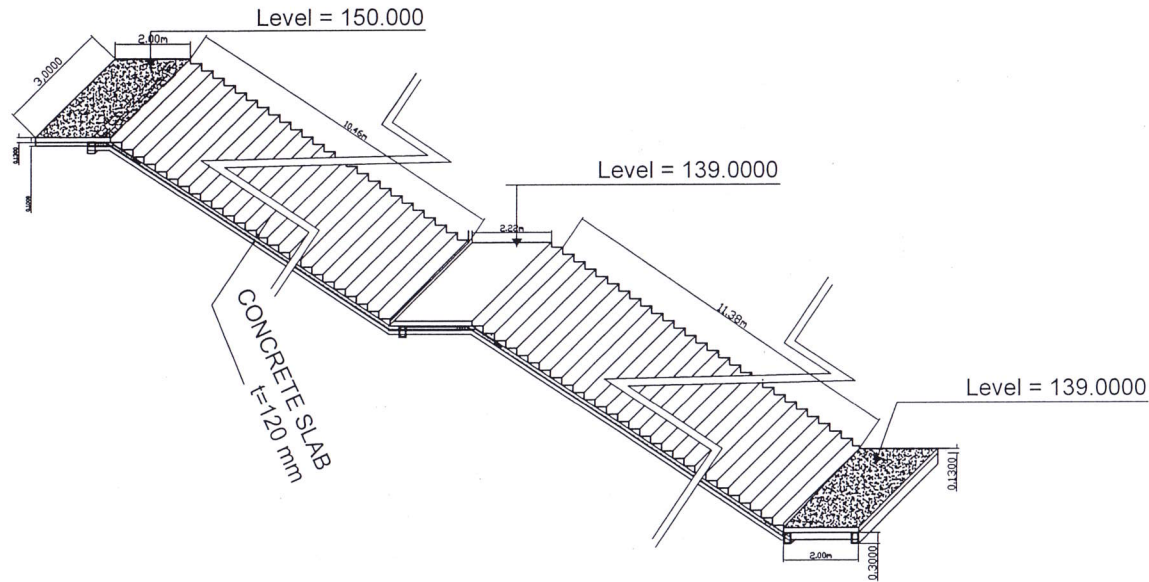


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LAO PDR Peace Independence Democracy Unity Prosperity	Name:	Signature	Date
	Design by:	<i>[Signature]</i>	
Department of Public Works and Transport Bolikhamxay Province	C/P	<i>[Signature]</i>	Dec. 18. 12
	Check by:		
The project on riverbank protection works phase II Japan international Cooperation Agency	JICA Expert design	<i>[Signature]</i>	Dec 18. 12
	Approved by:	<i>[Signature]</i>	Dec. 18. 12
DETAIL	Chief Advisor	<i>[Signature]</i>	Dec. 18. 12
	Approved by:	<i>[Signature]</i>	Dec 18. 12
	Project Manager	<i>[Signature]</i>	Dec 18. 12
	Drawing number	DT-11	Page: 30

LADDER

Section Km (0+020)



NO SCALE

LAO PDR Peace Independence Democracy Unity Prosperity	Name:	Signature	Date
	Design by:	<i>[Signature]</i>	
Department of Public Works and Transport Bolikhamsay Province	C/P	<i>[Signature]</i>	Dec. 18.12
	Check by:		
The project on riverbank protection works phase II Japan international Cooperation Agency	JICA Expert design	<i>[Signature]</i>	Dec. 18.12
	Approved by:		
	Chief Advisor	<i>[Signature]</i>	Dec. 18.12
	Approved by:		
	Project Manager	<i>[Signature]</i>	Dec. 18.12
DETAIL	Drawing number	DT-12	Page: 31



ເອກະສານຊ້ອນທ້າຍ 5-3 ແຜ່ນແຕ້ມ ແບບການກໍ່ສ້າງ
ໂຄງການຕົວແບບປ້ອງກັນຕະຝັງ
ເຂດບ້ານສວນຫຼວງ ເມືອງຊຽງເງິນ
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ສາລະບານ LIST OF DRAWING

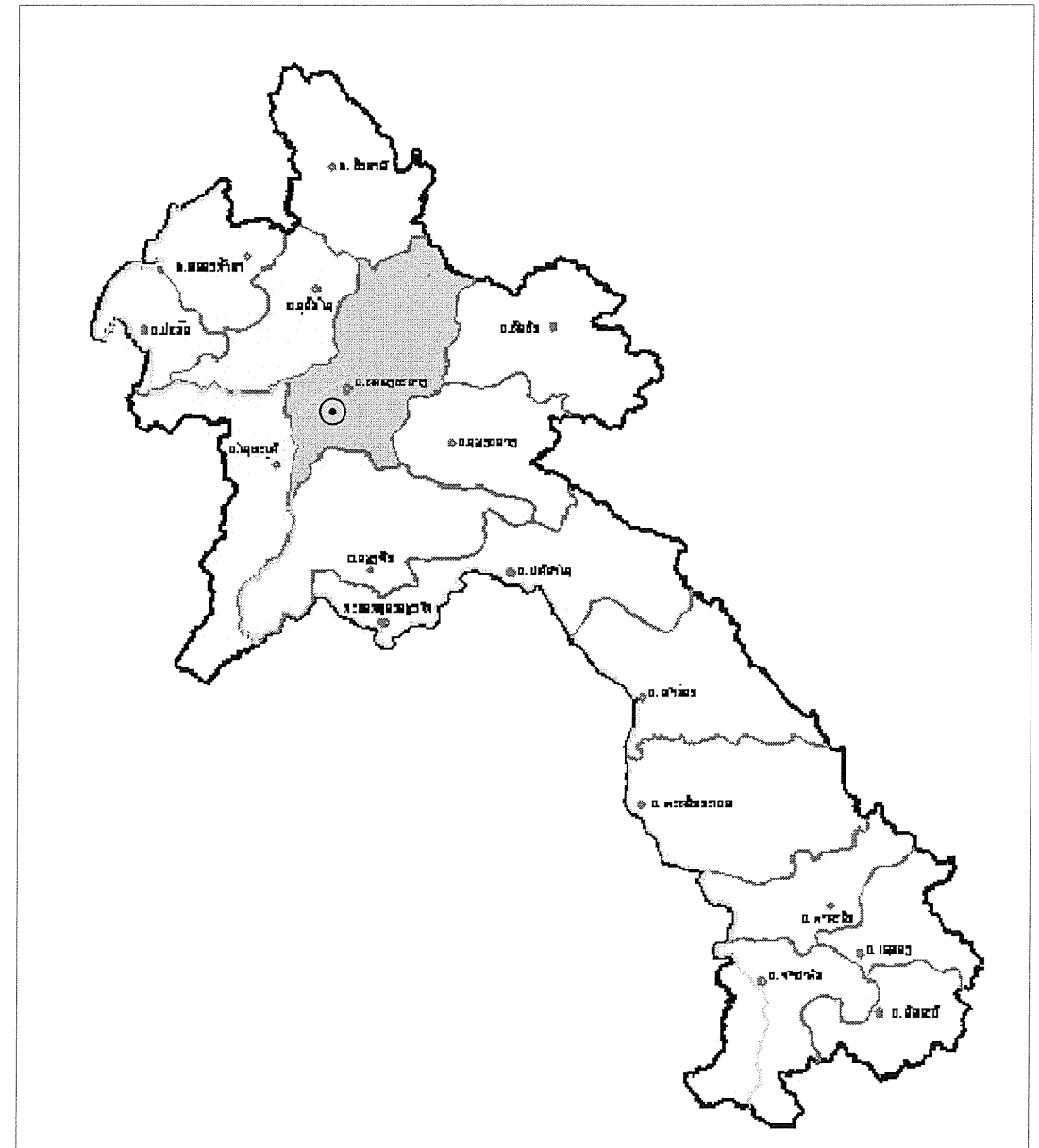
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I. GENERAL DRAWING			
1	LIST OF DRAWINGS	LDW-01	01
2	PROJECT LOCATION LOUANGPHABANG PROVINCE	PL-01	02
3	SYMBOLS AND ABBREVIATIONS	SB-01	03
4	PLAN	PL-01	04
II. CROSS-SECTIONS			
1	CROSS-SECTIONS KM 0 - 010	CR-01	05
2	CROSS-SECTIONS KM 0 - 002	CR-02	06
3	CROSS-SECTIONS KM 0 - 000	CR-03	07
4	CROSS-SECTIONS KM 0 + 000	CR-04	08
5	CROSS-SECTIONS KM 0 + 020	CR-05	09
6	CROSS-SECTIONS KM 0 + 040	CR-06	10
7	CROSS-SECTIONS KM 0 + 060	CR-07	11
8	CROSS-SECTIONS KM 0 + 080	CR-08	12
9	CROSS-SECTIONS KM 0 + 087.436 (D3-D2-D1)	CR-09	13
10	CROSS-SECTIONS KM 0 + 098.012 (IP1)	CR-10	14
11	CROSS-SECTIONS KM 0 + 098.012 (IP1)	CR-11	15
12	CROSS-SECTIONS KM 0 + 100	CR-12	16
13	CROSS-SECTIONS KM 0 + 114.5	CR-13	17
14	CROSS-SECTIONS KM 0 + 132.5	CR-14	18
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16	CROSS-SECTIONS KM 0 + 140	CR-16	20



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17	CROSS-SECTIONS KM 0 + 140	CR-17	21
18	CROSS-SECTIONS KM 0 + 160	CR-18	22
19	CROSS-SECTIONS KM 0 + 180	CR-19	23
20	CROSS-SECTIONS KM 0 + 200	CR-20	24
21	CROSS-SECTIONS KM 0 + 220	CR-21	25
22	CROSS-SECTIONS KM 0 + 240	CR-22	26
23	CROSS-SECTIONS KM 0 + 240	CR-23	27
24	CROSS-SECTIONS KM 0 + 242	CR-24	28
25	CROSS-SECTIONS KM 0 + 247	CR-25	29
III. DETAIL			
1	DETAIL (LADDER)	DT-06	30
2	DETAIL (LADDER)	DT-07	31
3	DETAIL (SAFETY POST)	DT-08	32
4	DETAIL (STAIR)	DT-09	33
5	DETAIL (STAIR)	DT-10	34
6	DETAIL (STAIR)	DT-11	35
7	DETAIL (STAIR)	DT-12	36



 Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/07
 Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	25/12/13
	Chief Advisor	<i>[Signature]</i>	
LIST OF DRAWING	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	LDW - 01	Page 01

ທີ່ຕັ້ງໂຄງການ PROJECT LOCATION



 Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
 Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
	JICA Expert Design	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	Approved by	<i>[Signature]</i>	25/12/13
	Chief Advisor	<i>[Signature]</i>	
PROJECT LOCATION	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	PL - 01	Page 02

ສັນຍາລັກ SYMBOLS AND ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
m ²	SQUARE METER
m ³	CUBIC METER
mm	MILLIMETER
mm ²	SQUARE MILLIMETER
MPa	MEGAPASCAL
Kg	KILOGRAM
KM	KILOMETER
KN	KILONEWTON
m	METER
Cm	CENTIMETER
L	LENGTH
No.	NUMBER
BH	BORE HOLE
BM	BENCH MARK
DWG	DRAWING
ELEV.	ELEVATION
HC	HIGH OF CUTTING
HF	HIGH OF FILLING
H.W.L	HIGH WATER LEVEL
L.W.L	LOW WATER LEVEL
REIN.	REINFORCEMENT
i	GRADIENT
EP	END POINT

SP	START POINT
PI	POINT OF INTERSECTION FOR HORIZONTAL ALIGNMENT
HA	HORIZONTAL ALIGNMENT
R	RADIUS OF HORIZONTAL CIRCULAR CURVE
T	TANGENT LENGTH OF CIRCULAR CURVE
E	EXTERNAL DISTANCE
Lc	LENGTH OF CURVE
BC	BEGINING OF CURVE
EC	END OF CURVE
PKT	CONNECTION POINT
PSC	PRESTRESS STEEL CONCRETE
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
Pw	EXTRA WIDENING IN HORIZONTAL CURVE
Lvc	LENGTH OF VERTICAL CREST CURVE
Lvs	LENGTH OF VERTICAL SAGCURVE
V	DESIGN SPEED
R.L	ROAD LEVEL
RV	RADIUS OF VERTICAL CURVE
Se	SUPERELEVATION
X/E	EASTING COORDINATE IN METER
Y/N	NORTHING COORDINATE IN METER
Z/LEV.	VERTICAL COORDINATE IN METER (OR LEVEL)
FL	FLAGE
	FLAGE
	MARSH
	PADDY FIELD












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	BORE HOLE (BH)		HOUSE, TWO STOREY BRICK AND WOOD
	STATION POINT		BUILDING, HOUSE, TWO STOREY CONCRETE / BRICK
	ROAD		BAMBOO
	EXISTING BRIDGE		TREE, EXISTING
	DETOUR		GUIDE POST
	CONTOUR LINE		ELEVATION
	PIPE CULVERT EXISTING		(HIGH) WATER LEVEL
	ELECTRICITY PYLON		BENCH MARK
	MANHOLE		GPS POINT
	CENTERLINE OF ROAD		FLOW
	EXISTING ROAD FILL SLOPE		TO M. TONPHEUNG
	TRAFFIC SIGNAL		SECTION A-A
	ROAD SIGN		SLOPE
	BOTTOM OF BANK		

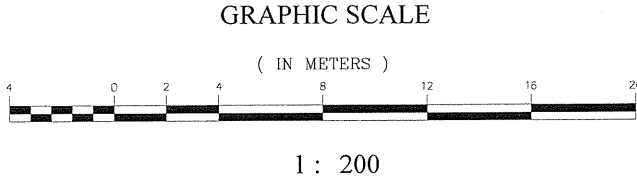
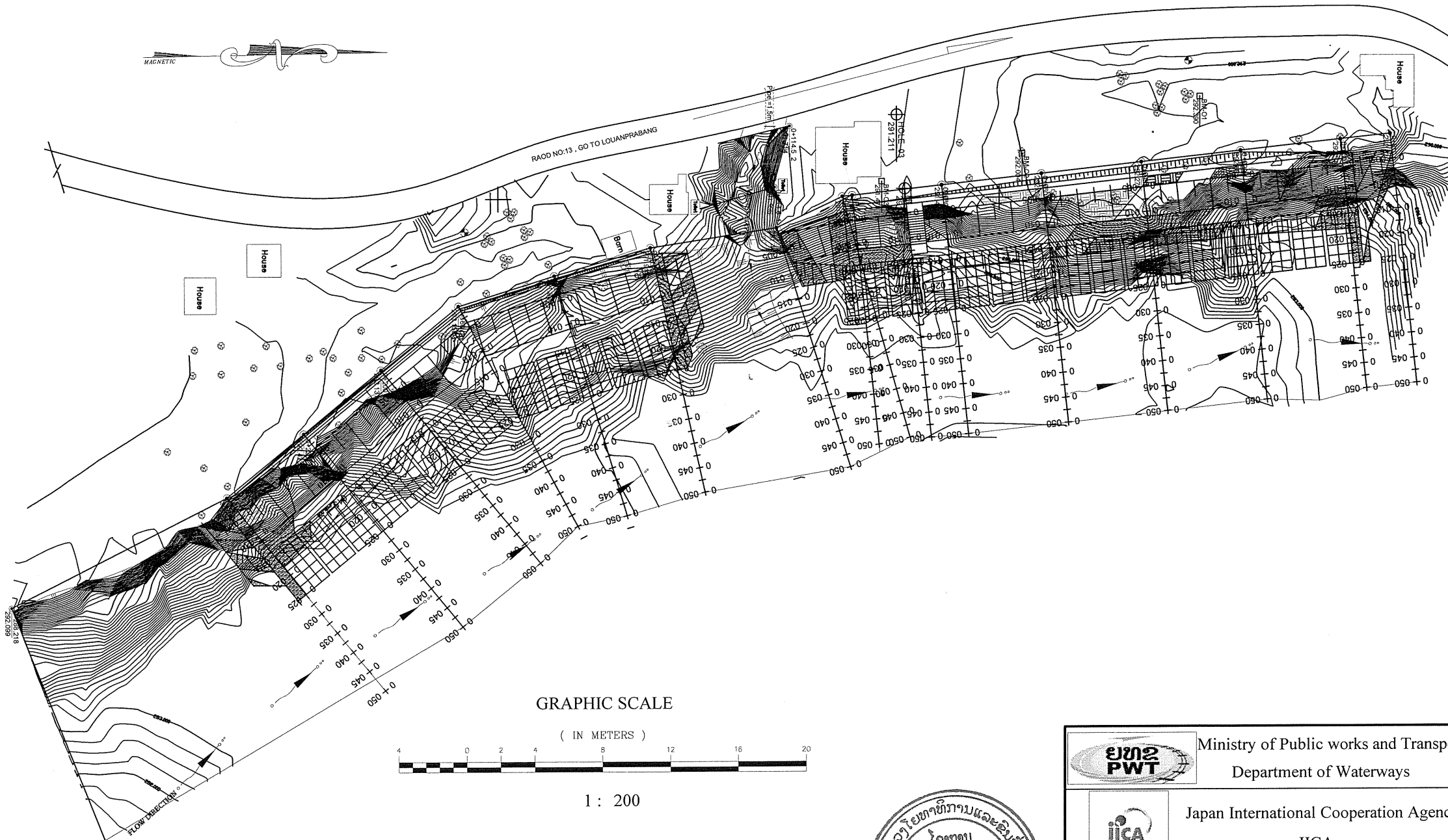




	Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
		Japan International Cooperation Agency JICA	Design by	
The Project on Riverbank Protection Works Phase II		Counterpart		
	Check by			
	JICA Expert Design	Y. Hiwa		25/12/13
	Approved by			25/12/13
SYMBOLS AND ABBREVIATION	Chief Advisor			
	Approved by			
	Project Manager			
	Drawing number	SB - 01		Page 03

ແຜນຜັງ PLAN

Legend

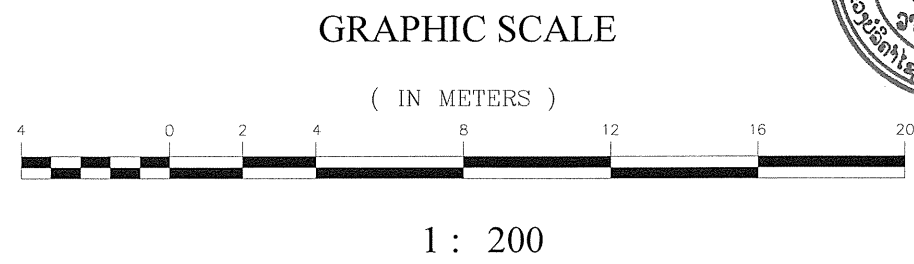
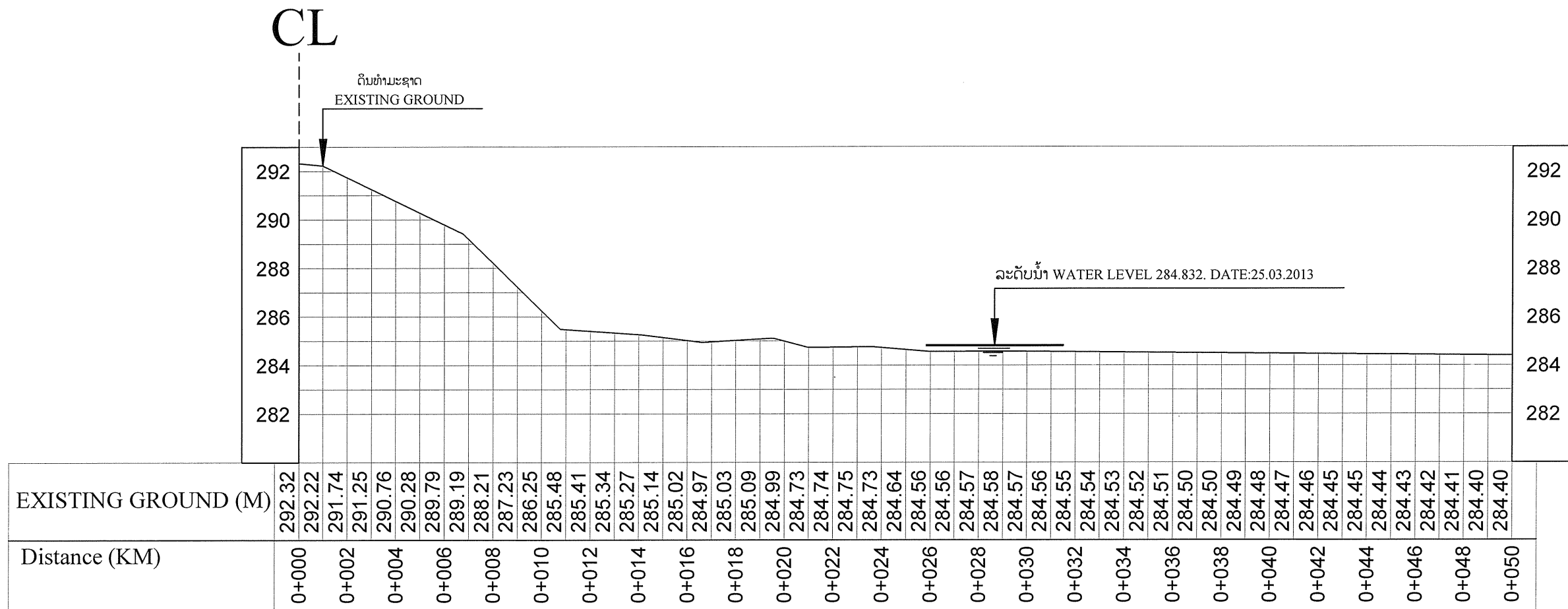
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292.390 CONCRETE BENCH MARK
-  TP-0+000
292.578 WOOD BENCH MARK
-  292.390 CONTOUR LINE
-  ROAD OR STREET
-  WALL OR FENCE
-  TREE
-  BAMBOO
-  SLOPE
-  ELEMENT
-  STRUCTURE
-  POSTS ELECTICIAN



 Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/13
 Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II PLAN	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	PL - 01	Page 04

ຮູບຕັດຂວາງ ໜ້າຕັດ 0-010

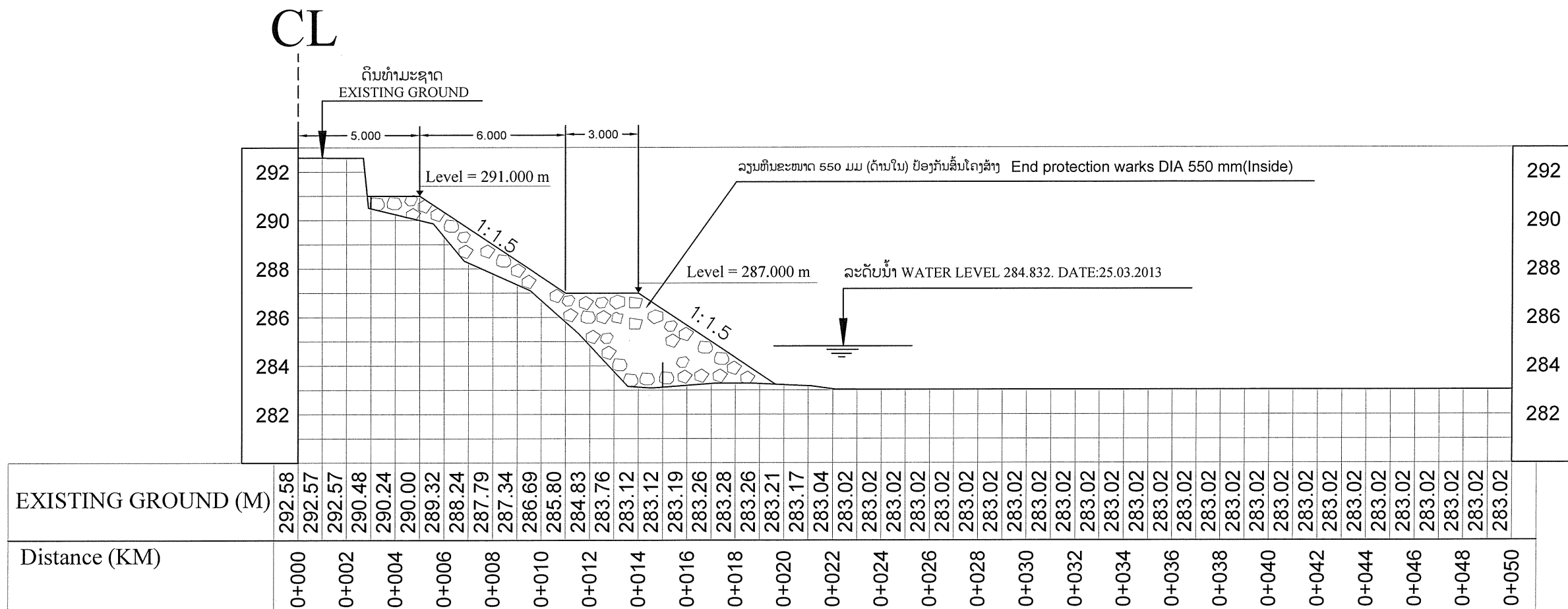
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/13
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 01	Page 05

ຮູບຕັດຂວາງ ໜ້າຕັດ 0-002

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GRAPHIC SCALE

(IN METERS)



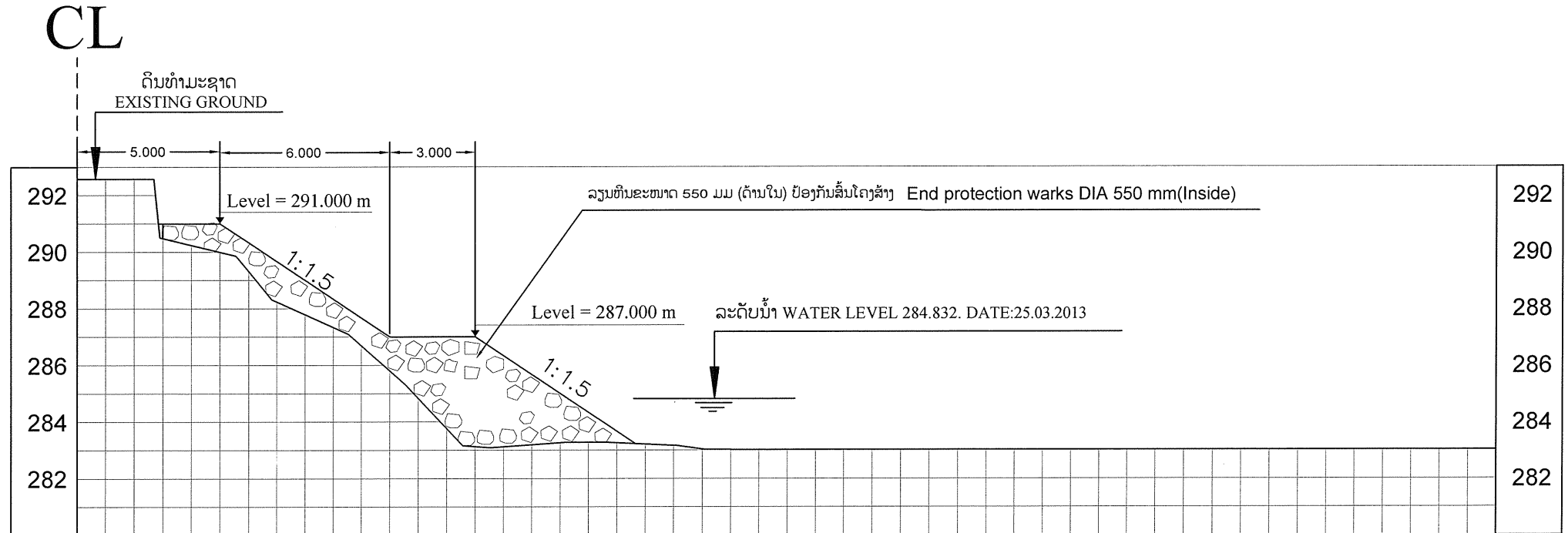
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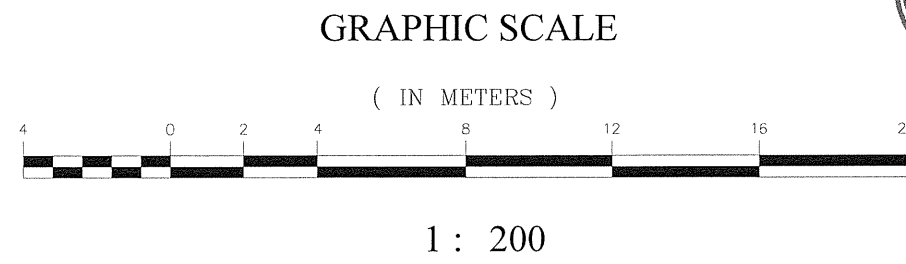
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	Design by	<i>[Signature]</i>	16/12/13
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	Y. Miwa	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 02	Page 06



ຮູບຕັດຂວາງ ໜ້າຕັດ 0+000

CROSS SECTION 0+000



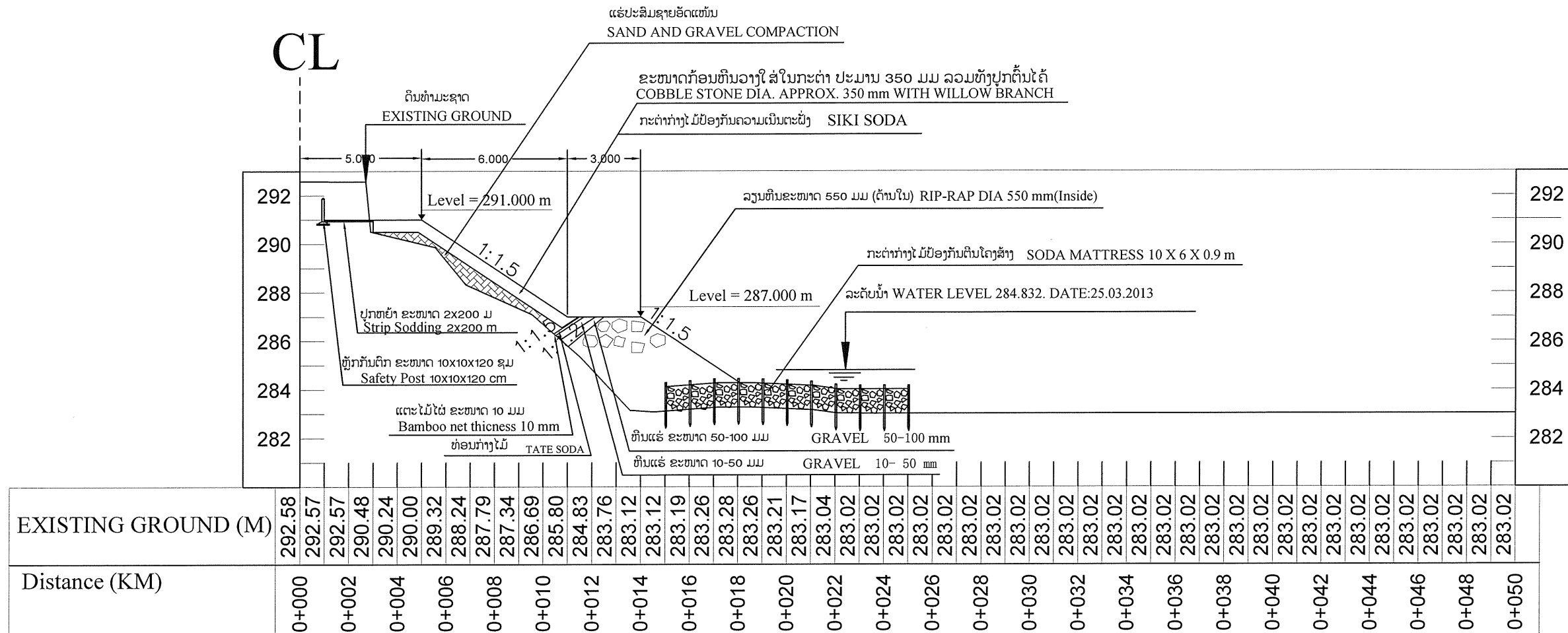
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Distance (KM)	0+000	0+002	0+004	0+006	0+008	0+010	0+012	0+014	0+016	0+018	0+020	0+022	0+024	0+026	0+028	0+030	0+032	0+034	0+036	0+038	0+040	0+042	0+044	0+046	0+048	0+050																									



 Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by		6/12/03
 Japan International Cooperation Agency JICA	Counterpart		
	Check by	Y. Miwa	25/12/13
The Project on Riverbank Protection Works Phase II		JICA Expert Design	
CROSS SECTION		Approved by	
		Chief Advisor	25/12/13
		Approved by	
		Project Manager	
		Drawing number	CR 03 Page 07

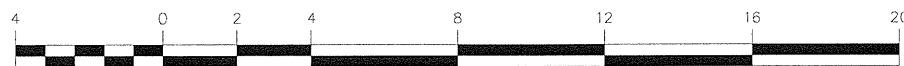
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CROSS SECTION 0+000



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(IN METERS)



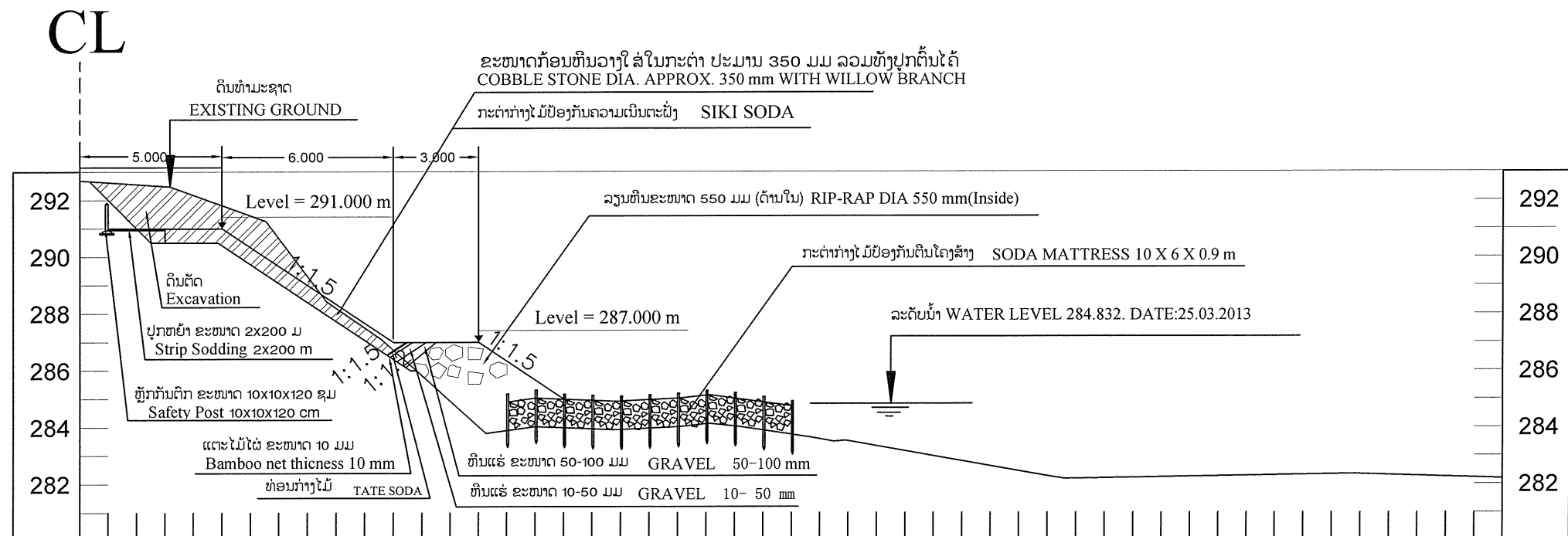
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
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ຮູບຕັດຂວາງ ໜ້າຕັດ 0+020

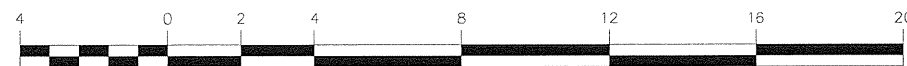
CROSS SECTION 0+020



EXISTING GROUND (M)	292.68	292.62	292.55	292.49	292.18	291.82	291.45	290.65	289.31	288.19	287.50	286.73	285.83	284.93	284.03	283.89	284.02	283.99	283.95	283.92	283.97	284.02	284.12	284.04	283.90	283.75	283.59	283.52	283.34	283.16	282.99	282.81	282.63	282.46	282.28	282.19	282.20	282.22	282.24	282.25	282.27	282.29	282.30	282.32	282.34	282.34	282.31	282.28	282.25	282.22	282.19
Distance (KM)	0+000	0+002	0+004	0+006	0+008	0+010	0+012	0+014	0+016	0+018	0+020	0+022	0+024	0+026	0+028	0+030	0+032	0+034	0+036	0+038	0+040	0+042	0+044	0+046	0+048	0+050																									

GRAPHIC SCALE

(IN METERS)



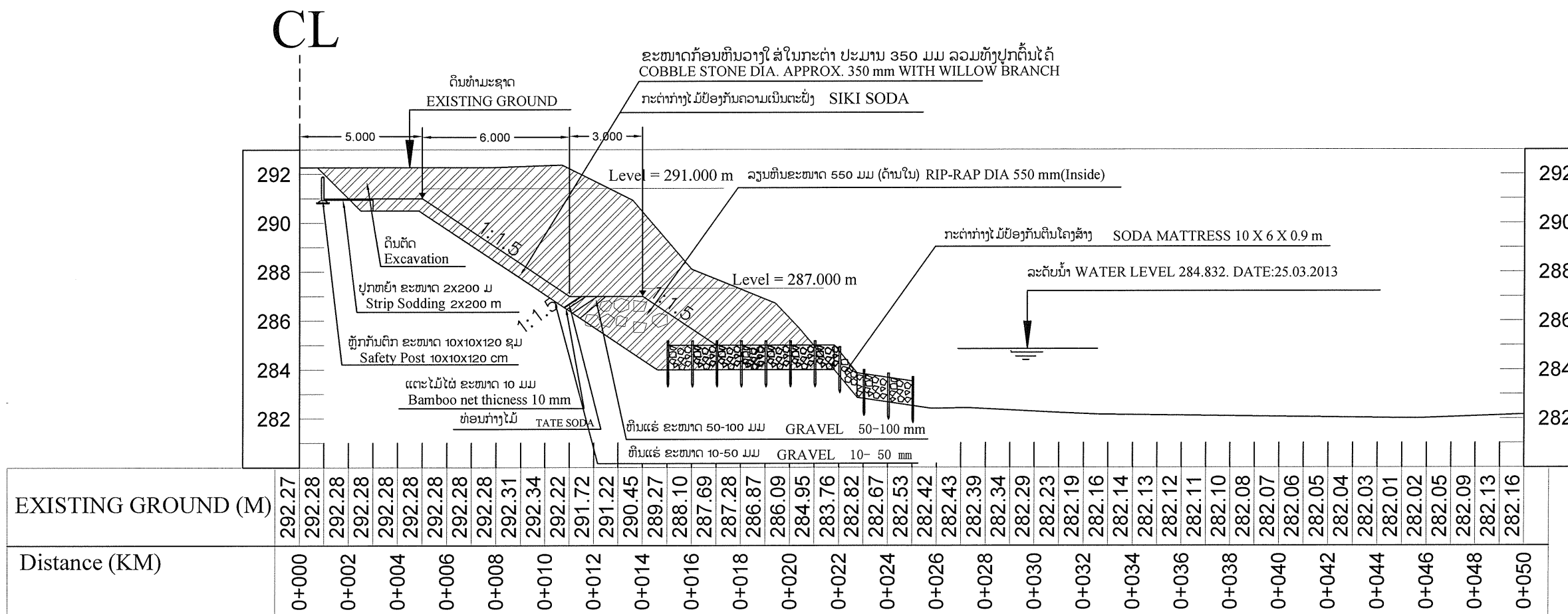
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 05	Page 09

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+040

CROSS SECTION 0+040



GRAPHIC SCALE

(IN METERS)



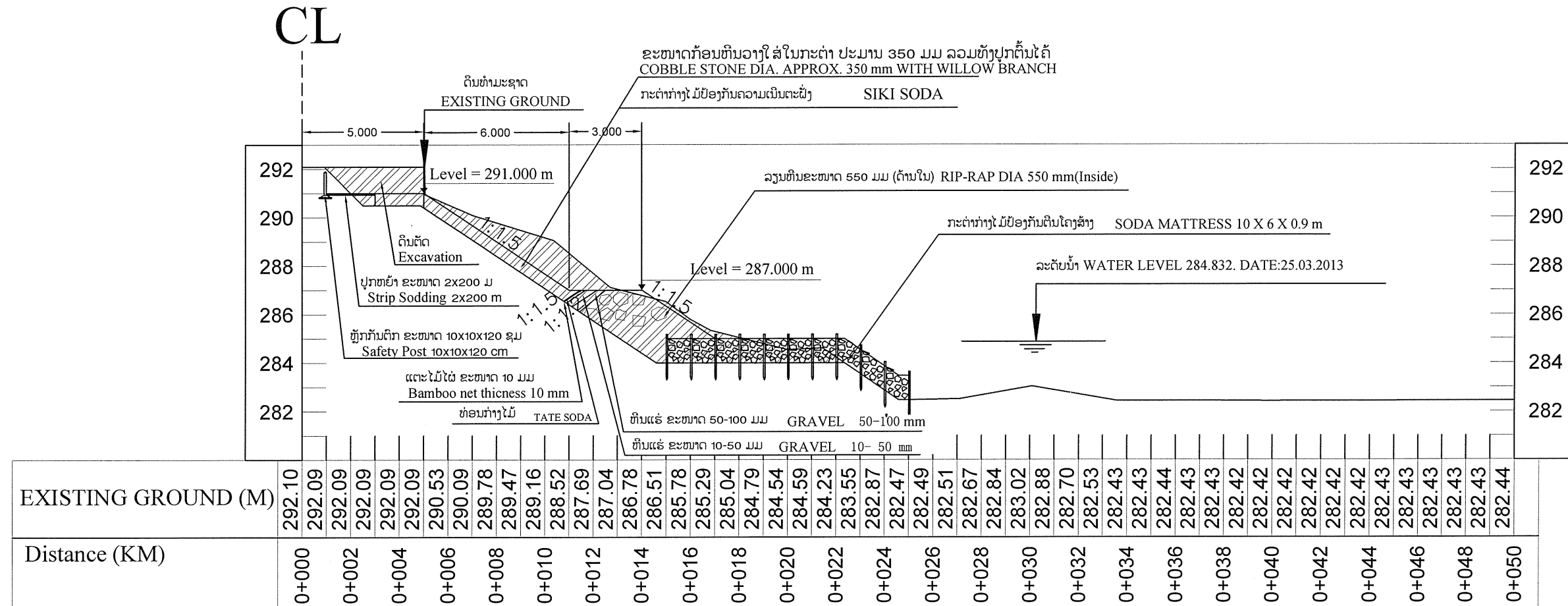
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Ministry of Public works and Transport Department of Waterways	Name		Date
	Design by		
Japan International Cooperation Agency JICA	Counterpart		16/12/03
	Check by		
The Project on Riverbank Protection Works		JICA Expert Design	25/12/13
Phase II		Approved by	
CROSS SECTION		Chief Advisor	25/12/13
		Approved by	
		Project Manager	
		Approved by	
		Project Manager	
		Drawing number	CR 06
			Page 10

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+060

CROSS SECTION 0+060



GRAPHIC SCALE

(IN METERS)



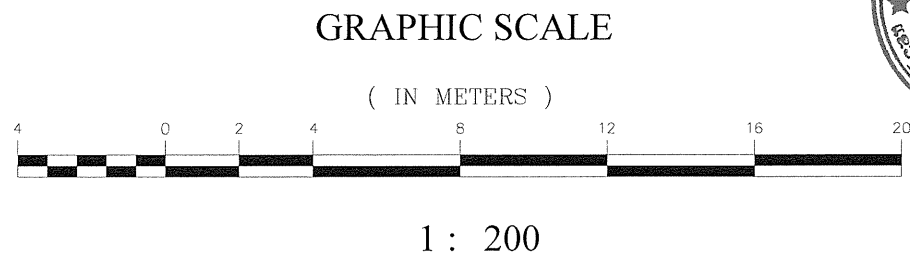
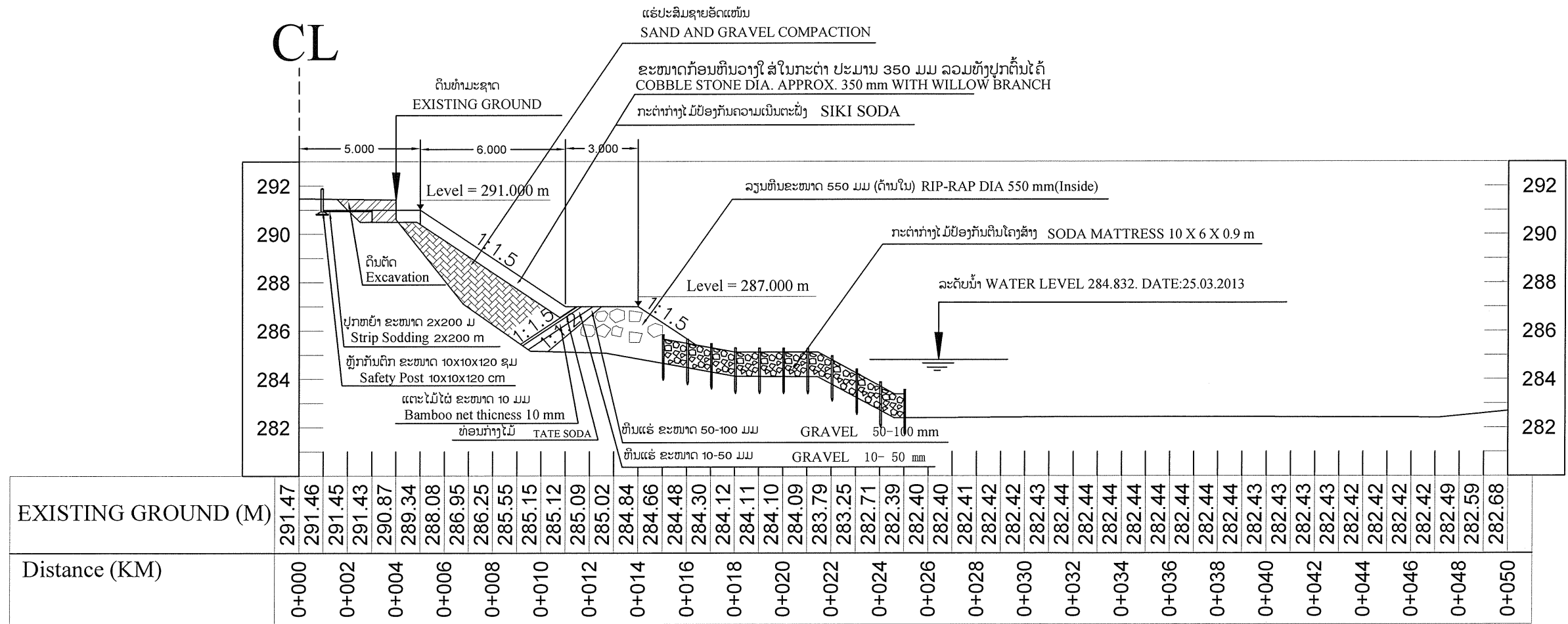
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 07	Page 11

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+080

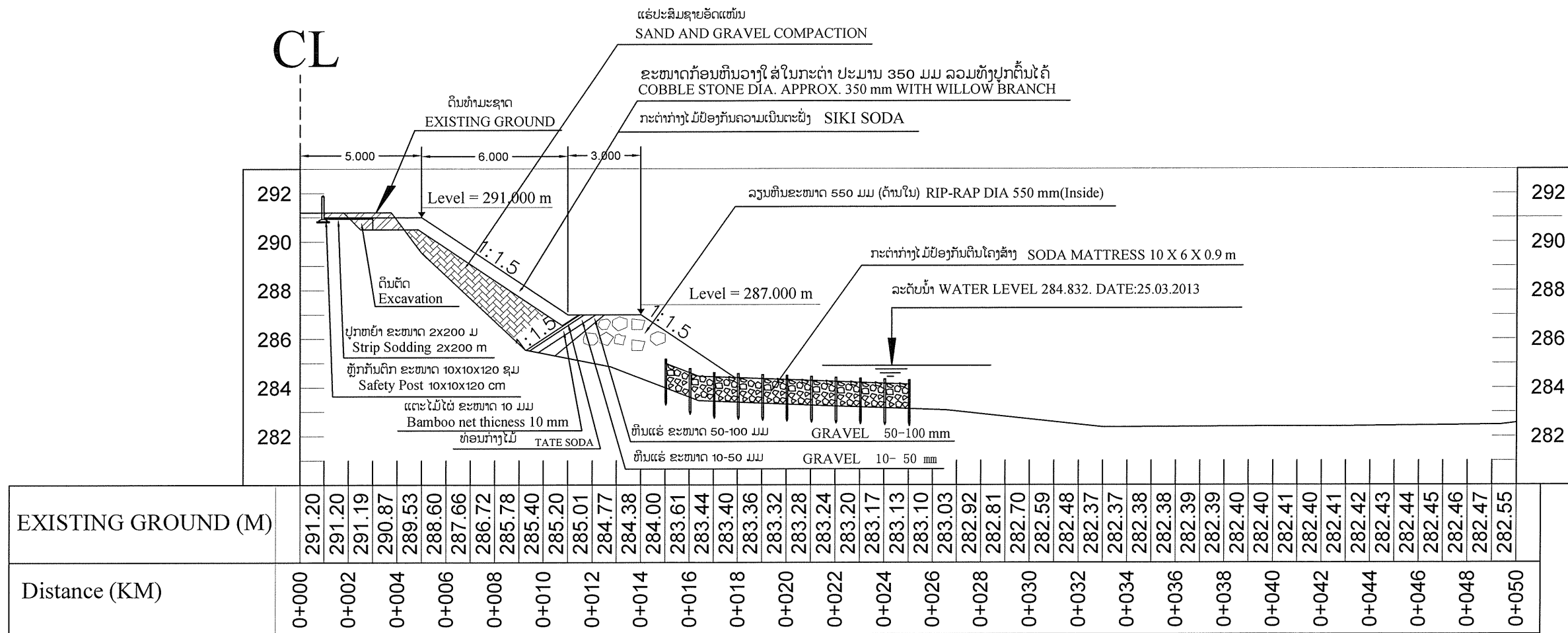
CROSS SECTION 0+080



	Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
		Japan International Cooperation Agency JICA	Design by	<i>[Signature]</i>
The Project on Riverbank Protection Works Phase II		Counterpart	Check by	<i>[Signature]</i>
	JICA Expert Design	Approved by	<i>[Signature]</i>	25/12/13
	Chief Advisor	Approved by	<i>[Signature]</i>	
CROSS SECTION		Project Manager	<i>[Signature]</i>	
		Drawing number	CR 08	Page 12

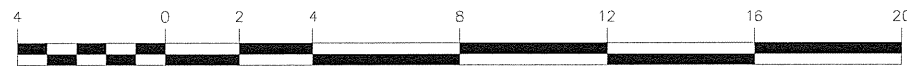
ຮູບຕັດຂວາງ ໜ້າຕັດ 0+087.436 (D3-D2-D1)

CROSS SECTION 0+087.436 (D3-D2-D1)



GRAPHIC SCALE

(IN METERS)



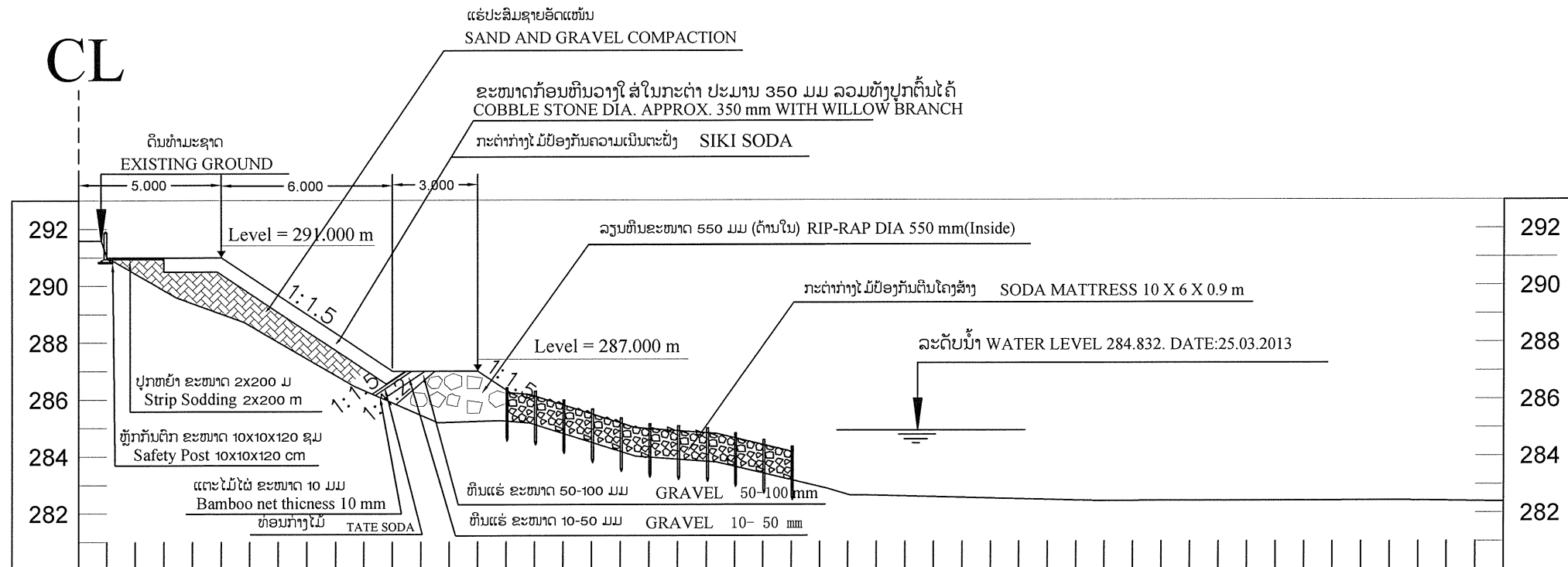
1 : 200



Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	6/12/05
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 09	Page 13

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+098.012(IP1)

CROSS SECTION 0+098.012(IP1)



EXISTING GROUND (M)	291.59	291.00	290.42	289.84	289.38	289.01	288.60	288.02	287.43	286.85	286.32	285.89	285.45	285.20	285.24	285.24	285.11	284.80	284.48	284.17	283.96	283.89	283.82	283.64	283.40	283.16	282.92	282.65	282.61	282.59	282.56	282.54	282.51	282.49	282.46	282.44	282.42	282.42	282.43	282.43	282.43	282.43	282.43	282.43	282.41	282.40	282.38
Distance (KM)	0+000	0+002	0+004	0+006	0+008	0+010	0+012	0+014	0+016	0+018	0+020	0+022	0+024	0+026	0+028	0+030	0+032	0+034	0+036	0+038	0+040	0+042	0+044	0+046	0+048	0+050																					

GRAPHIC SCALE

(IN METERS)



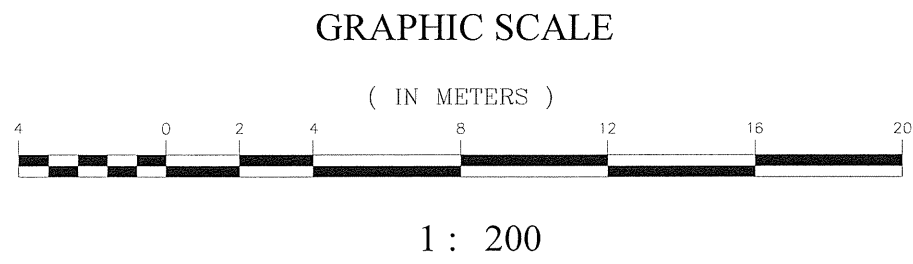
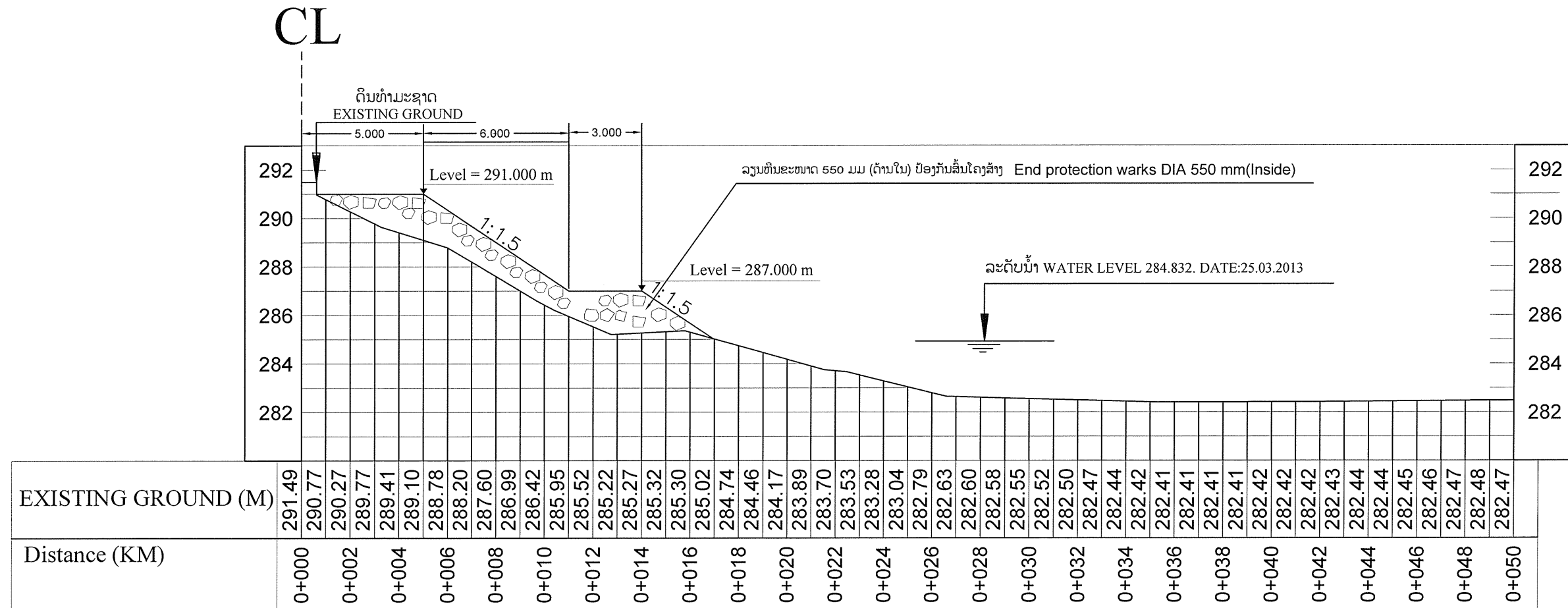
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 10	Page 14

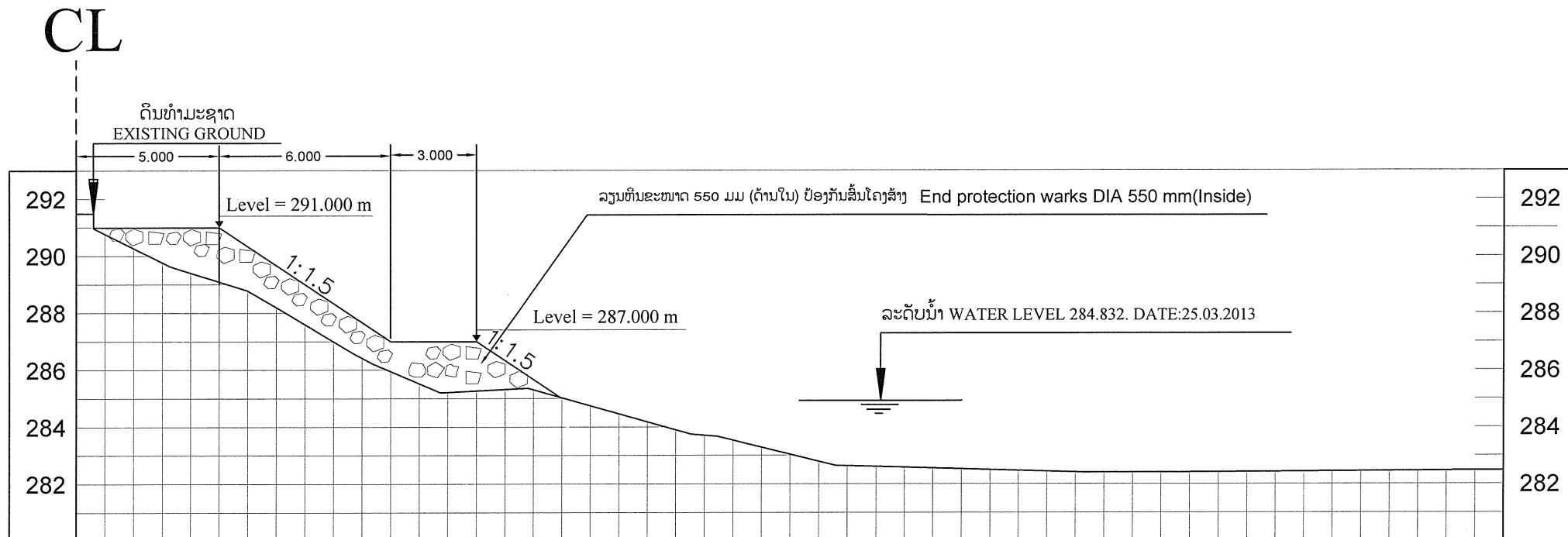
ຮູບຕັດຂວາງ ໜ້າຕັດ 0+098.012(IP1)

CROSS SECTION 0+098.012(IP1)

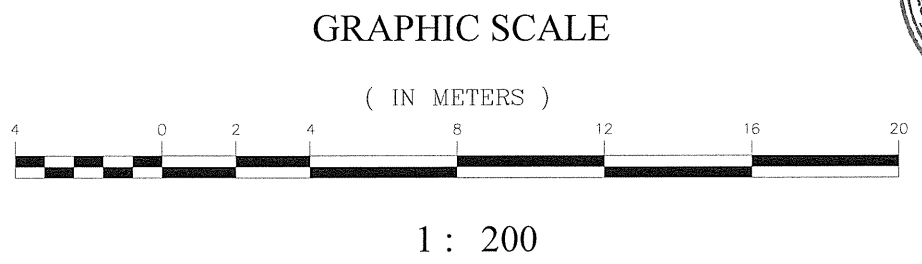


Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II		JICA Expert Design	
CROSS SECTION		Approved by	<i>[Signature]</i>
		Chief Advisor	25/12/13
CROSS SECTION		Approved by	<i>[Signature]</i>
		Project Manager	
Drawing number		CR 11	Page 15

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+100 CROSS SECTION 0+100



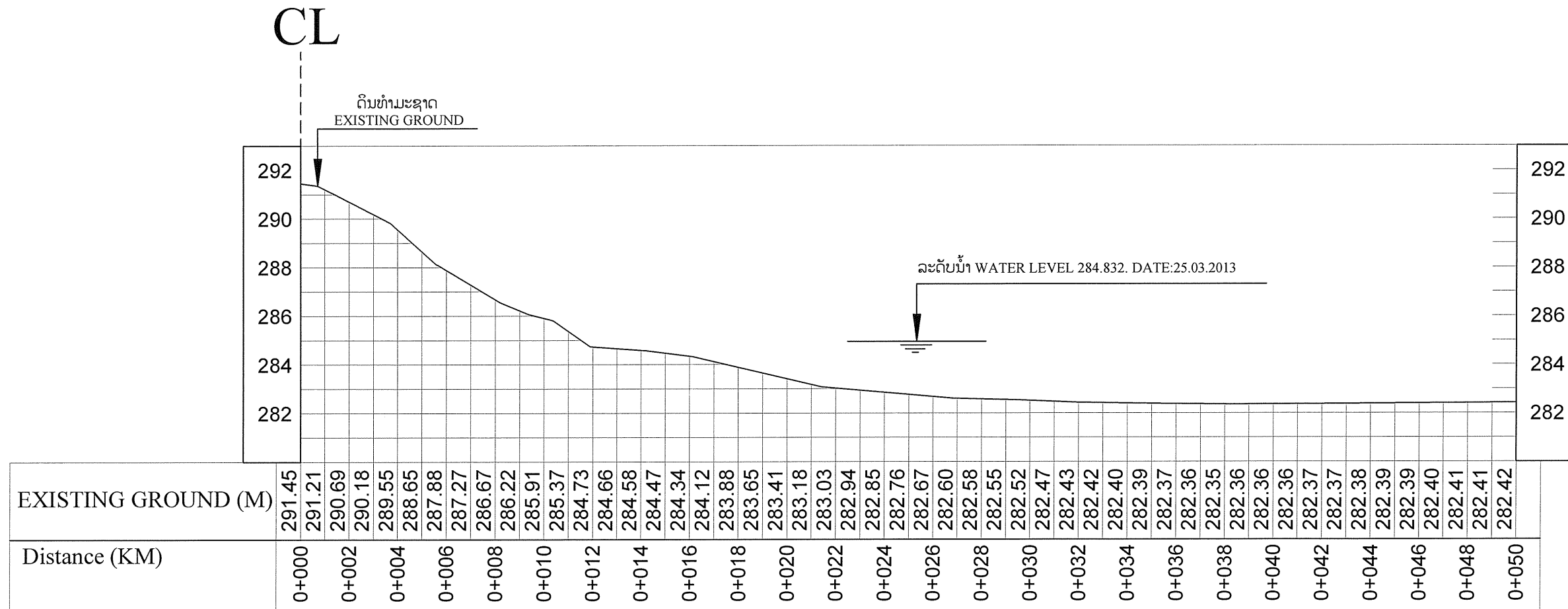
EXISTING GROUND (M)	291.49	290.77	290.27	289.77	289.41	289.10	288.78	288.20	287.60	286.99	286.42	285.95	285.52	285.22	285.27	285.32	285.30	285.02	284.74	284.46	284.17	283.89	283.70	283.53	283.28	283.04	282.79	282.63	282.60	282.58	282.55	282.52	282.50	282.47	282.44	282.42	282.41	282.41	282.41	282.41	282.42	282.42	282.42	282.43	282.44	282.44	282.45	282.46	282.47	282.48	282.47
Distance (KM)	0+000	0+002	0+004	0+006	0+008	0+010	0+012	0+014	0+016	0+018	0+020	0+022	0+024	0+026	0+028	0+030	0+032	0+034	0+036	0+038	0+040	0+042	0+044	0+046	0+048	0+050																									



Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	Y. Miwa	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design		
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 12	Page 16

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+114.5

CROSS SECTION 0+114.5



GRAPHIC SCALE

(IN METERS)



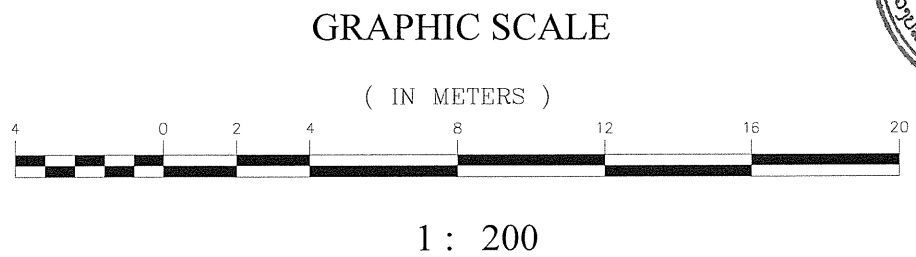
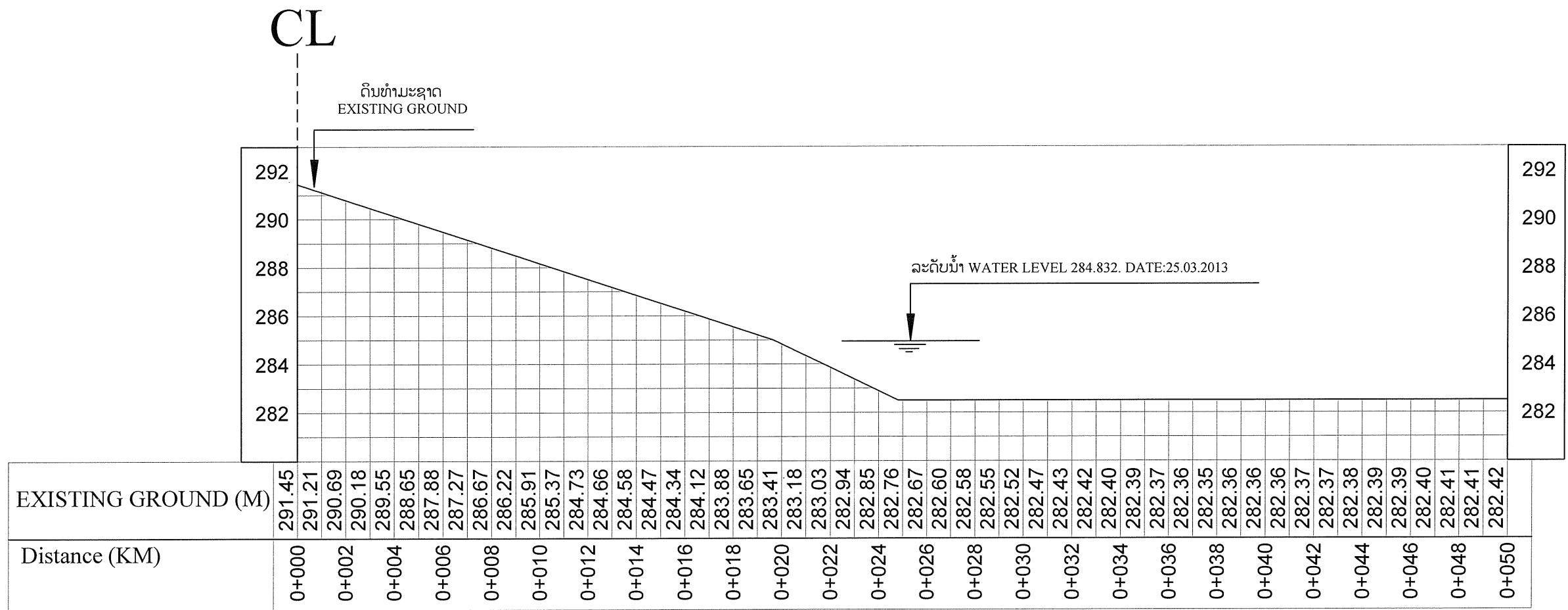
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	18/12/13
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 13	Page 17

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+132.5

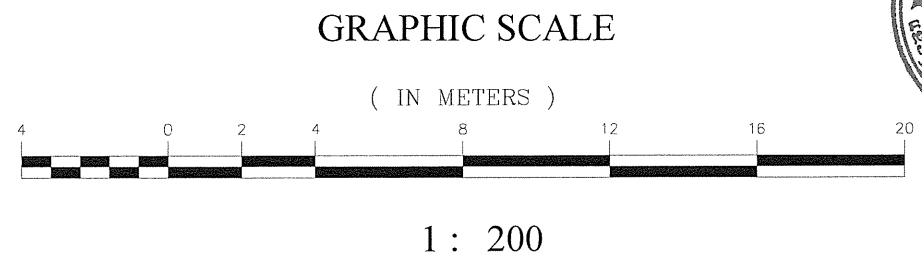
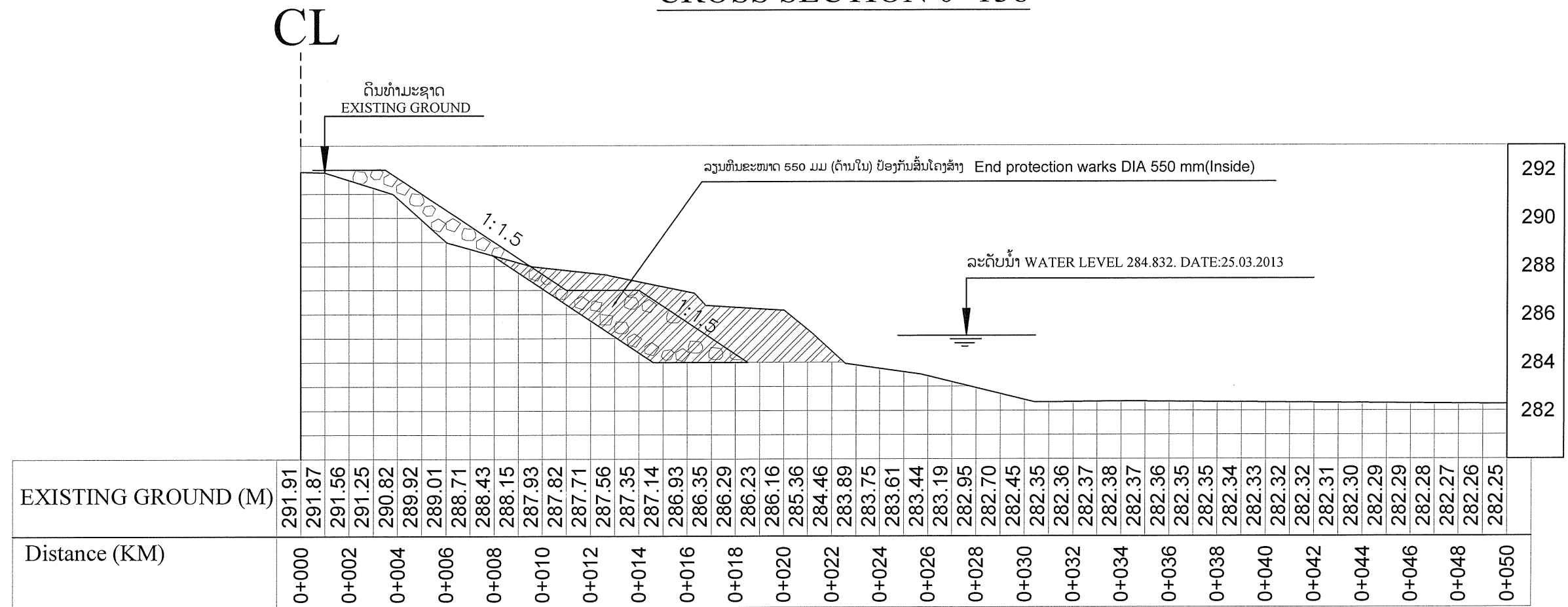
CROSS SECTION 0+132.5



Ministry of Public works and Transport Department of Waterways	Name		
	Design by	<i>Flambert</i>	16/12/09
Japan International Cooperation Agency JICA	Counterpart	<i>Grav. S.</i>	
	Check by	<i>Y. MIWA</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design		
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor		
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 14	Page 18

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+138

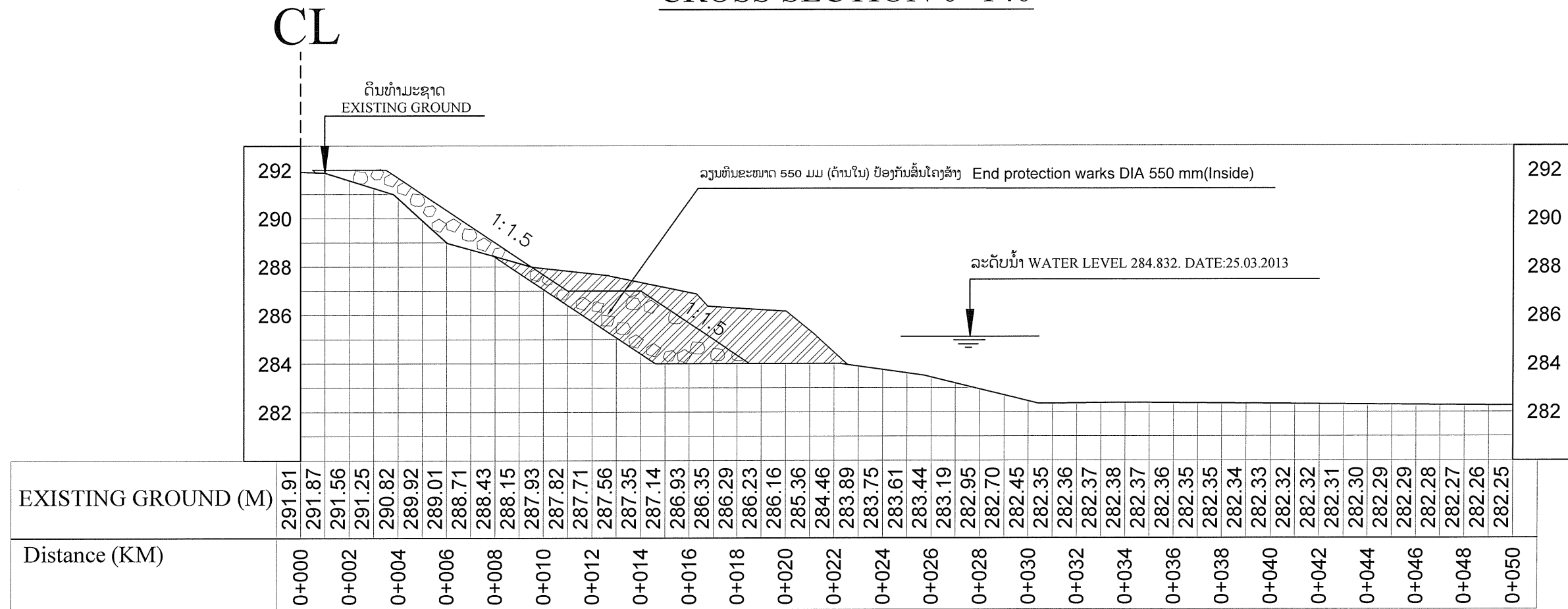
CROSS SECTION 0+138



Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/13
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	Y. Miwa	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design		
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 15	Page 19

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+140

CROSS SECTION 0+140



GRAPHIC SCALE

(IN METERS)



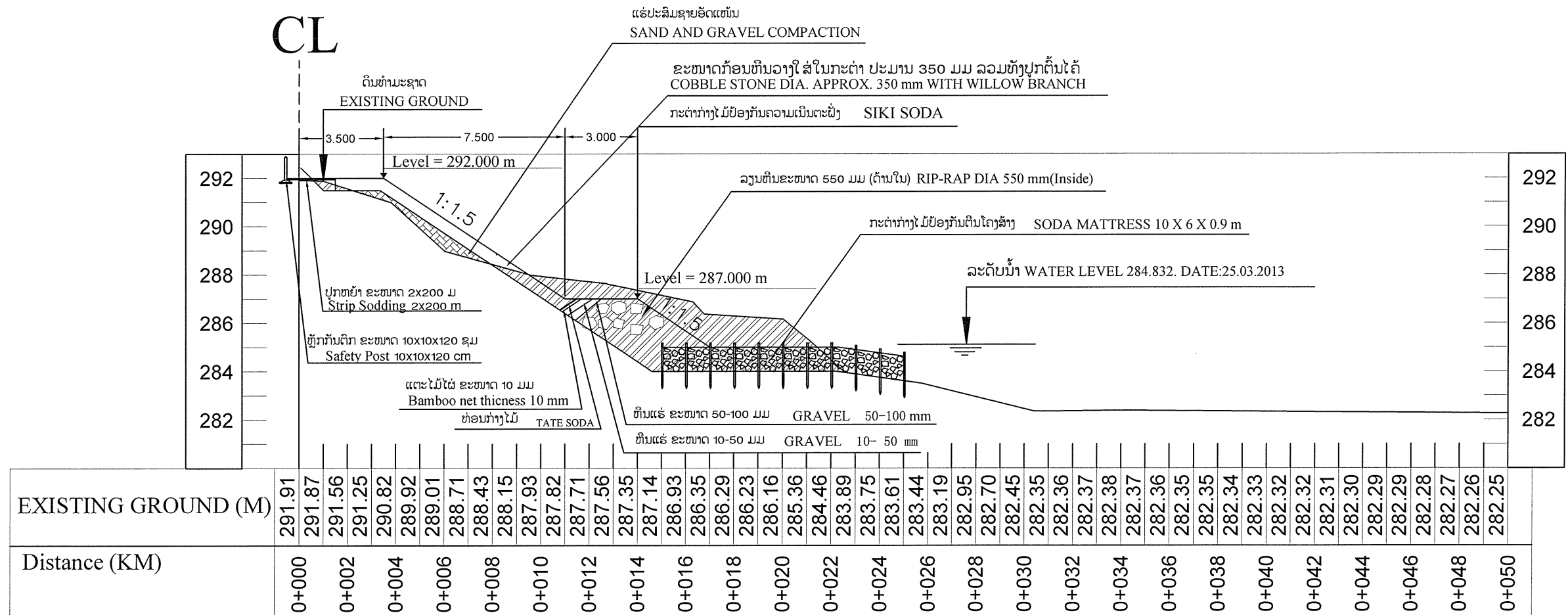
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 16	Page 20

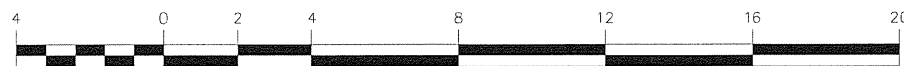
ຮູບຕັດຂວາງ ໜ້າຕັດ 0+140

CROSS SECTION 0+140



GRAPHIC SCALE

(IN METERS)



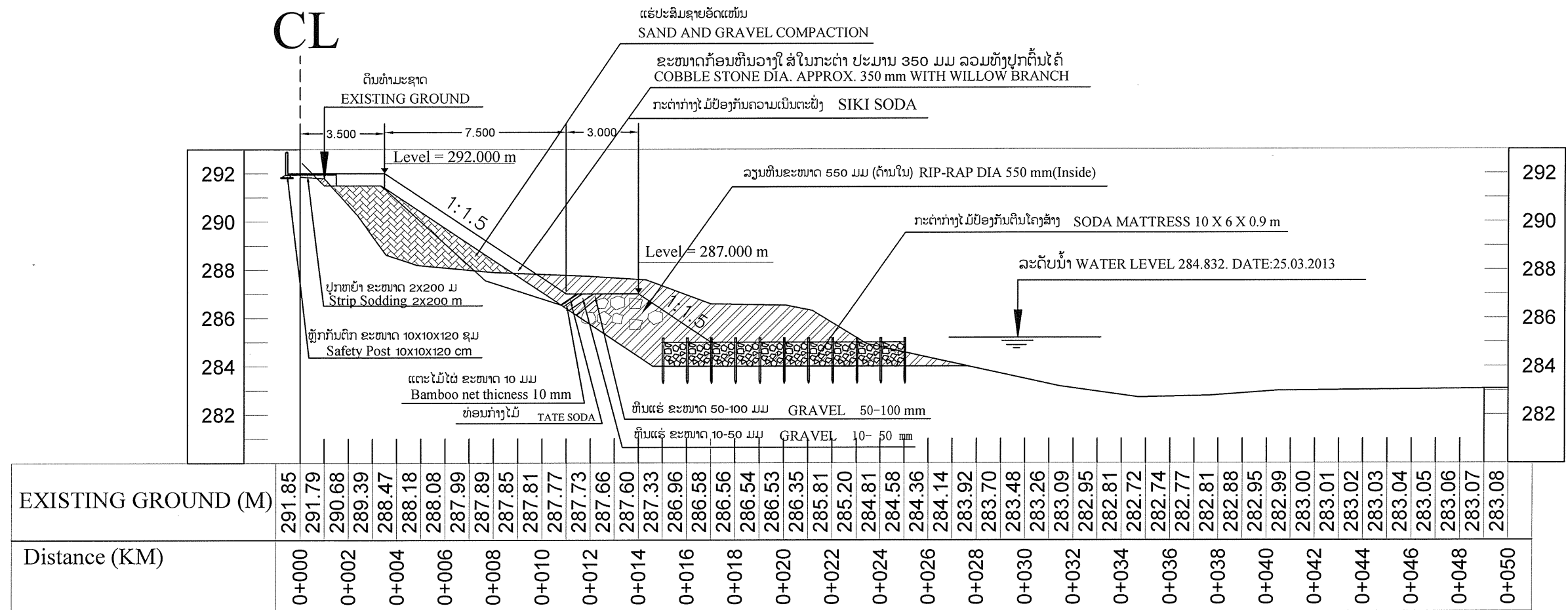
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/13
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 17	Page 21

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+160

CROSS SECTION 0+160



GRAPHIC SCALE

(IN METERS)



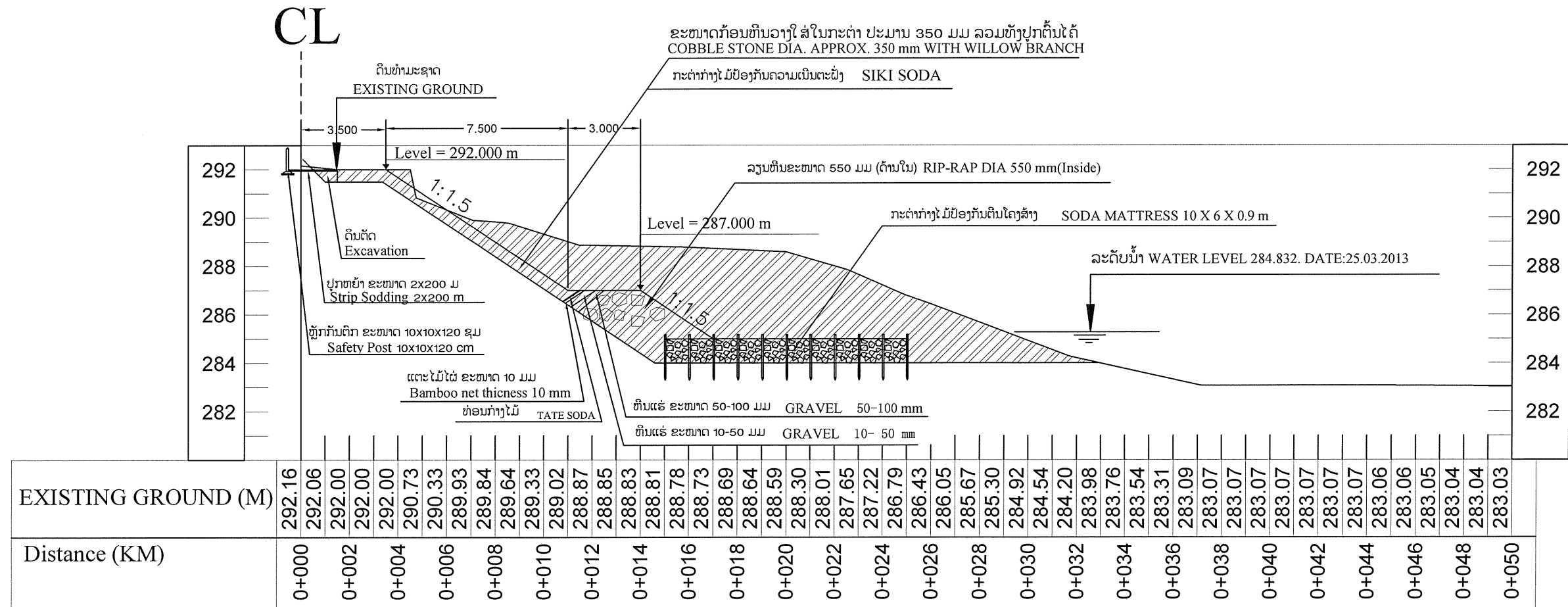
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Ministry of Public works and Transport Department of Waterways	Name		Date
	Design by		
Japan International Cooperation Agency JICA	Counterpart		Date
	Check by		
The Project on Riverbank Protection Works Phase II	JICA Expert Design		25/12/13
	Approved by		25/12/13
Chief Advisor			
CROSS SECTION	Approved by		
	Project Manager		
	Drawing number		

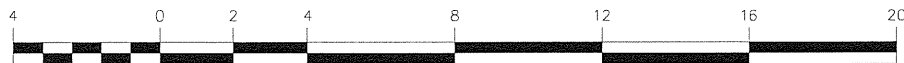
ຮູບຕັດຂວາງ ໜ້າຕັດ 0+180

CROSS SECTION 0+180



GRAPHIC SCALE

(IN METERS)



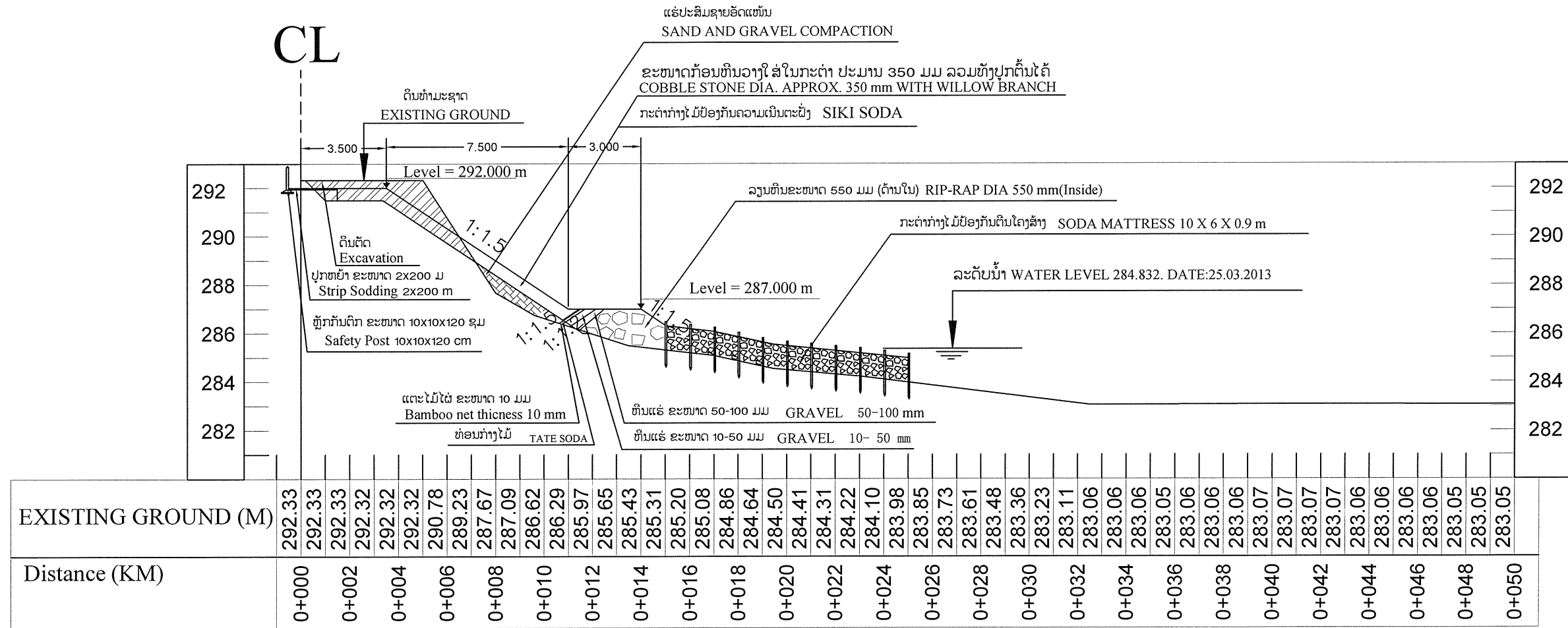
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/09
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 19	Page 23

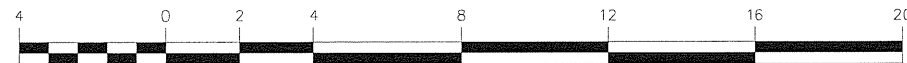
ຮູບຕັດຂວາງ ໜ້າຕັດ 0+200

CROSS SECTION 0+200



GRAPHIC SCALE

(IN METERS)



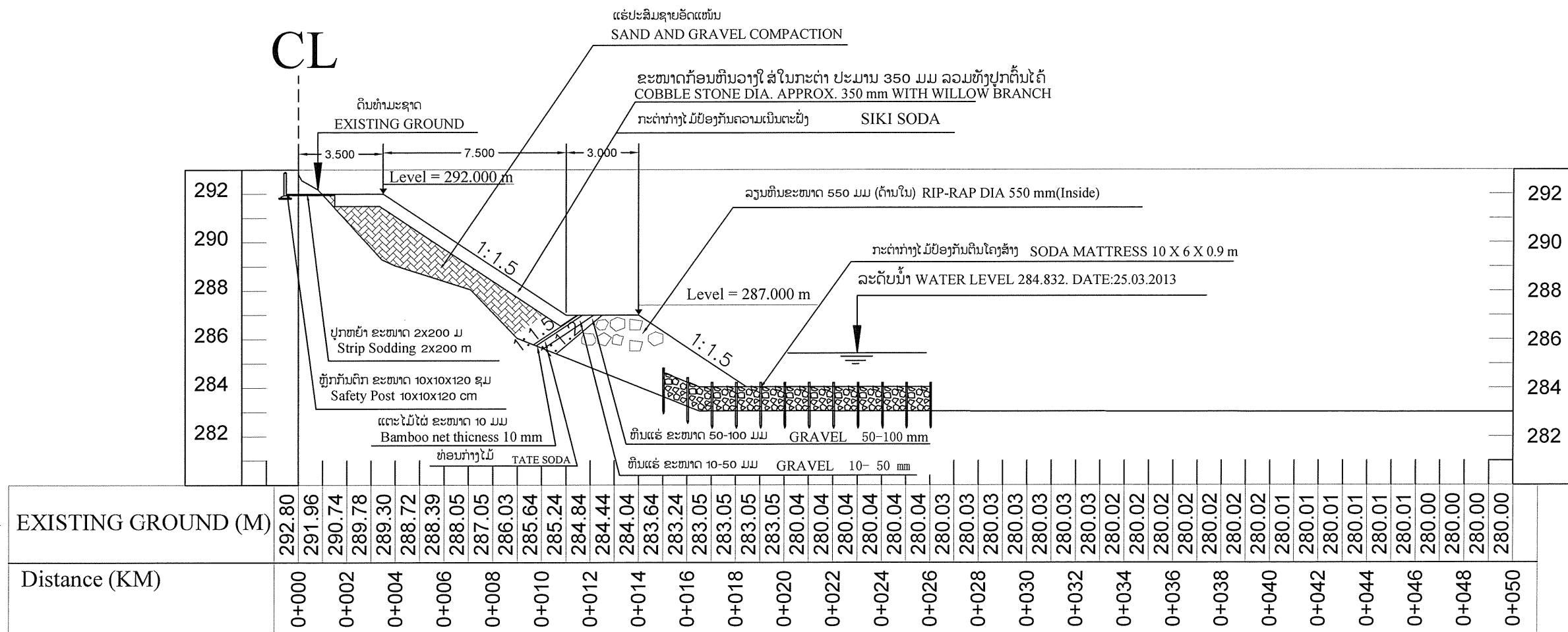
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Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/13
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 20	Page 24

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+240

CROSS SECTION 0+240



GRAPHIC SCALE

(IN METERS)



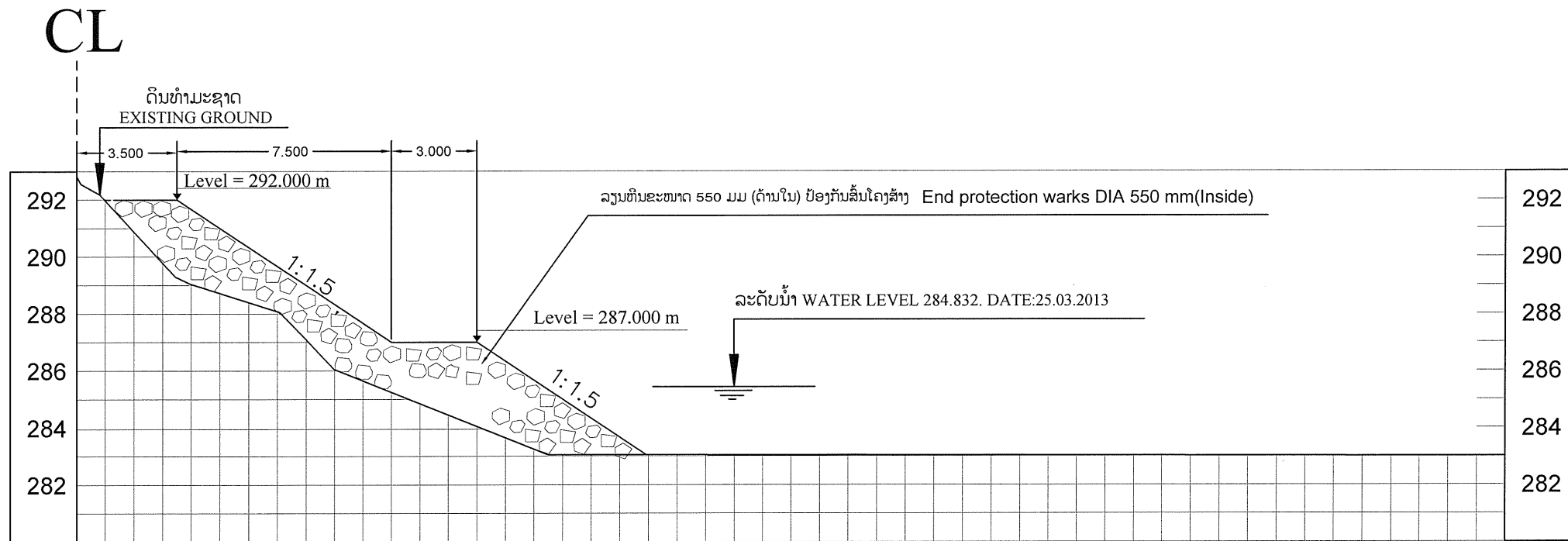
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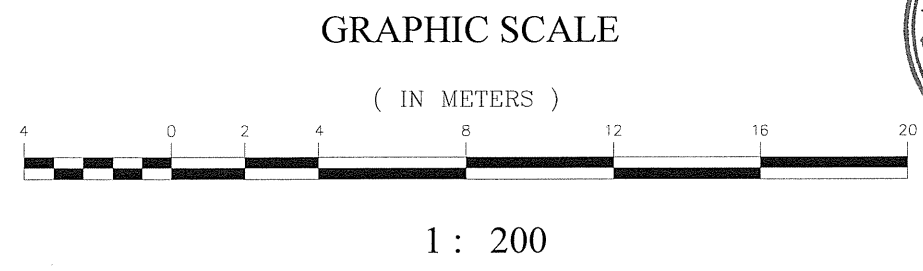
Ministry of Public works and Transport Department of Waterways	Name		Date
	Design by		
Japan International Cooperation Agency JICA	Counterpart		16/12/13
	Check by		
	JICA Expert Design		
The Project on Riverbank Protection Works Phase II	Approved by		25/12/13
	Chief Advisor		
CROSS SECTION	Approved by		
	Project Manager		
	Drawing number		
		CR 22	Page 26

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+240

CROSS SECTION 0+240



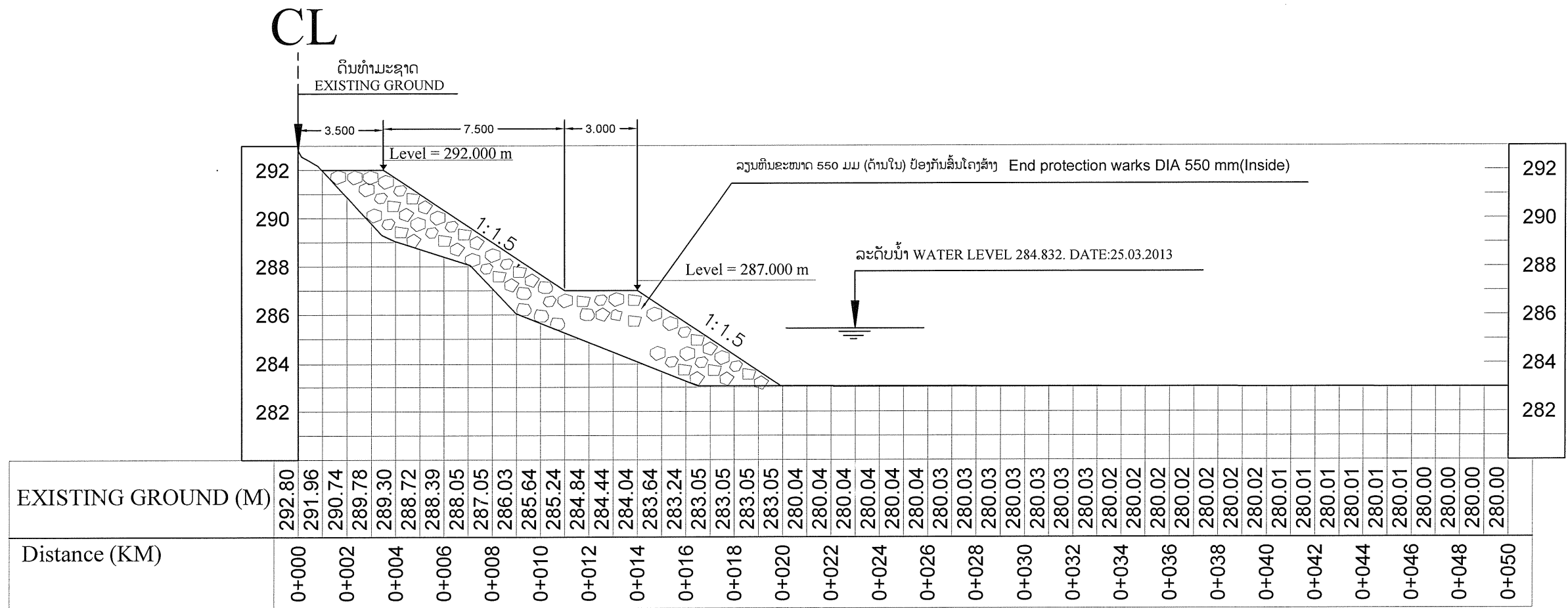
EXISTING GROUND (M)	292.80	291.96	290.74	289.78	289.30	288.72	288.39	288.05	287.05	286.03	285.64	285.24	284.84	284.44	284.04	283.64	283.24	283.05	283.05	283.05	283.05	280.04	280.04	280.04	280.04	280.04	280.04	280.03	280.03	280.03	280.03	280.03	280.03	280.03	280.02	280.02	280.02	280.02	280.02	280.02	280.01	280.01	280.01	280.01	280.01	280.00	280.00	280.00	280.00
Distance (KM)	0+000	0+002	0+004	0+006	0+008	0+010	0+012	0+014	0+016	0+018	0+020	0+022	0+024	0+026	0+028	0+030	0+032	0+034	0+036	0+038	0+040	0+042	0+044	0+046	0+048	0+050																							



Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 23	Page 27

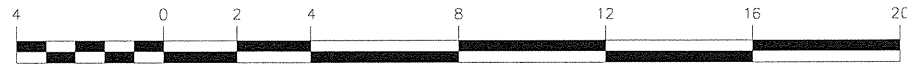
ຮູບຕັດຂວາງ ໜ້າຕັດ 0+242

CROSS SECTION 0+242



GRAPHIC SCALE

(IN METERS)



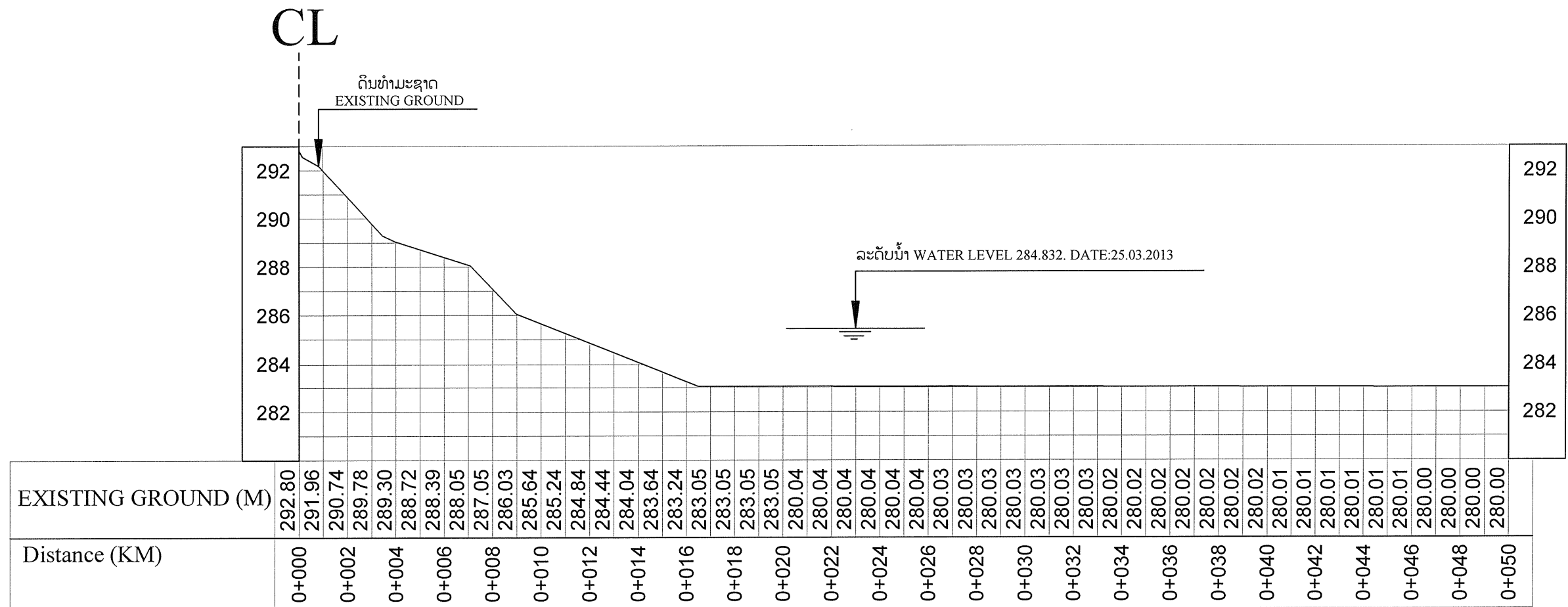
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Ministry of Public works and Transport Department of Waterways	Name		
	Design by	<i>Handwritten Signature</i>	16/12/13
Japan International Cooperation Agency JICA	Counterpart	<i>Handwritten Signature</i>	
	Check by	Y. Niwa	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design		
	Approved by	<i>Handwritten Signature</i>	25/12/13
CROSS SECTION	Chief Advisor	<i>Handwritten Signature</i>	
	Approved by	<i>Handwritten Signature</i>	
	Project Manager	<i>Handwritten Signature</i>	
	Drawing number	CR 24	Page 28

ຮູບຕັດຂວາງ ໜ້າຕັດ 0+247

CROSS SECTION 0+247





GRAPHIC SCALE

(IN METERS)



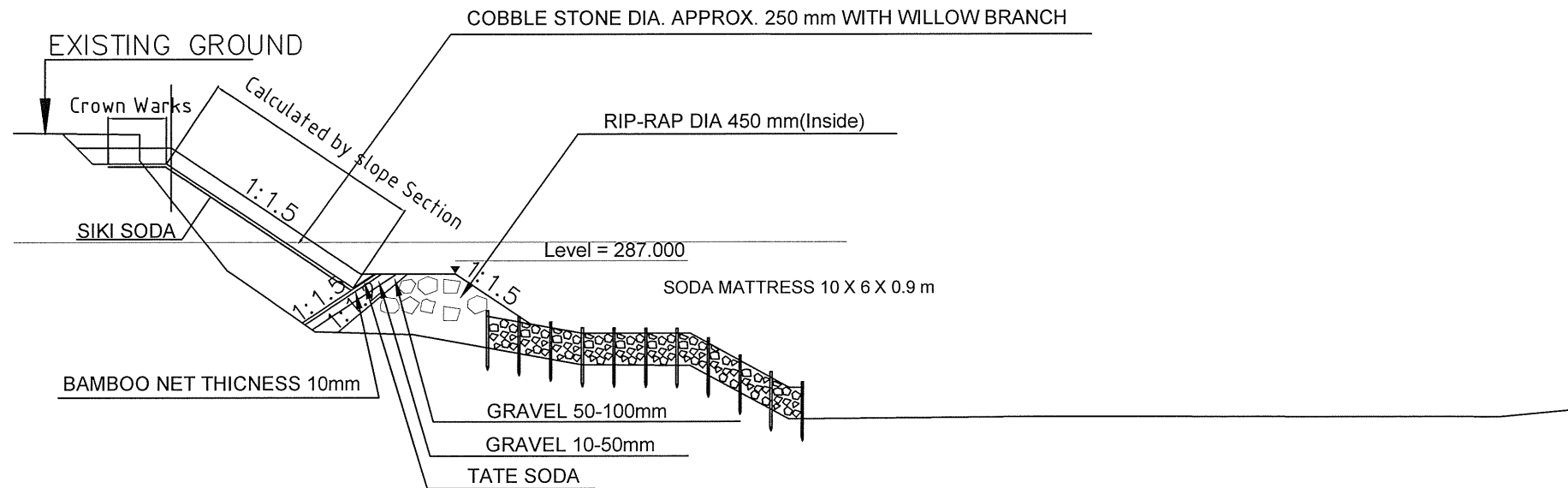
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 Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
 Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
CROSS SECTION	Chief Advisor	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	CR 25	Page 29

Slop protection Works and Foot protection Works

CROSS SECTION 0+080





Slope Protection Works

Work Type	Specification	Unit
COBBLE STONE DIA. APPROX. 250 mm WITH WILLOW BRANCH	Crown Section	m
COBBLE STONE DIA. APPROX. 250 mm WITH WILLOW BRANCH	slope section	m
BAMBOO NET THICKNESS 10mm		m
TATE SODA		m
GRAVEL 50-100mm		m ²
GRAVEL 10-50mm		m ²

Foot Protection Works

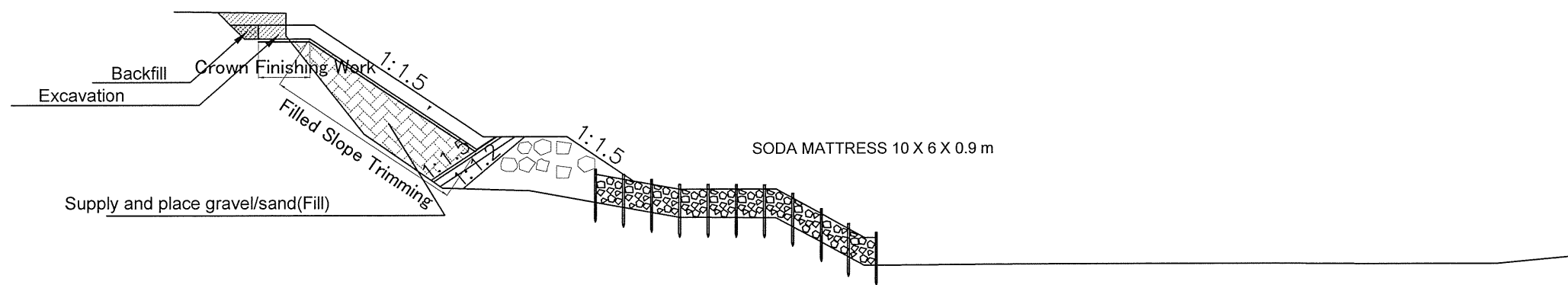
Work Type	Specification	Unit
RIP-RAP DIA 450 mm(Inside)		m ²



 Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
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	Approved by	<i>[Signature]</i>	25/12/13
DETAIL CROSS SECTION	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
Drawing number	DT 01		Page 30

ROADWAY DIAGRAPH

CROSS SECTION 0+080



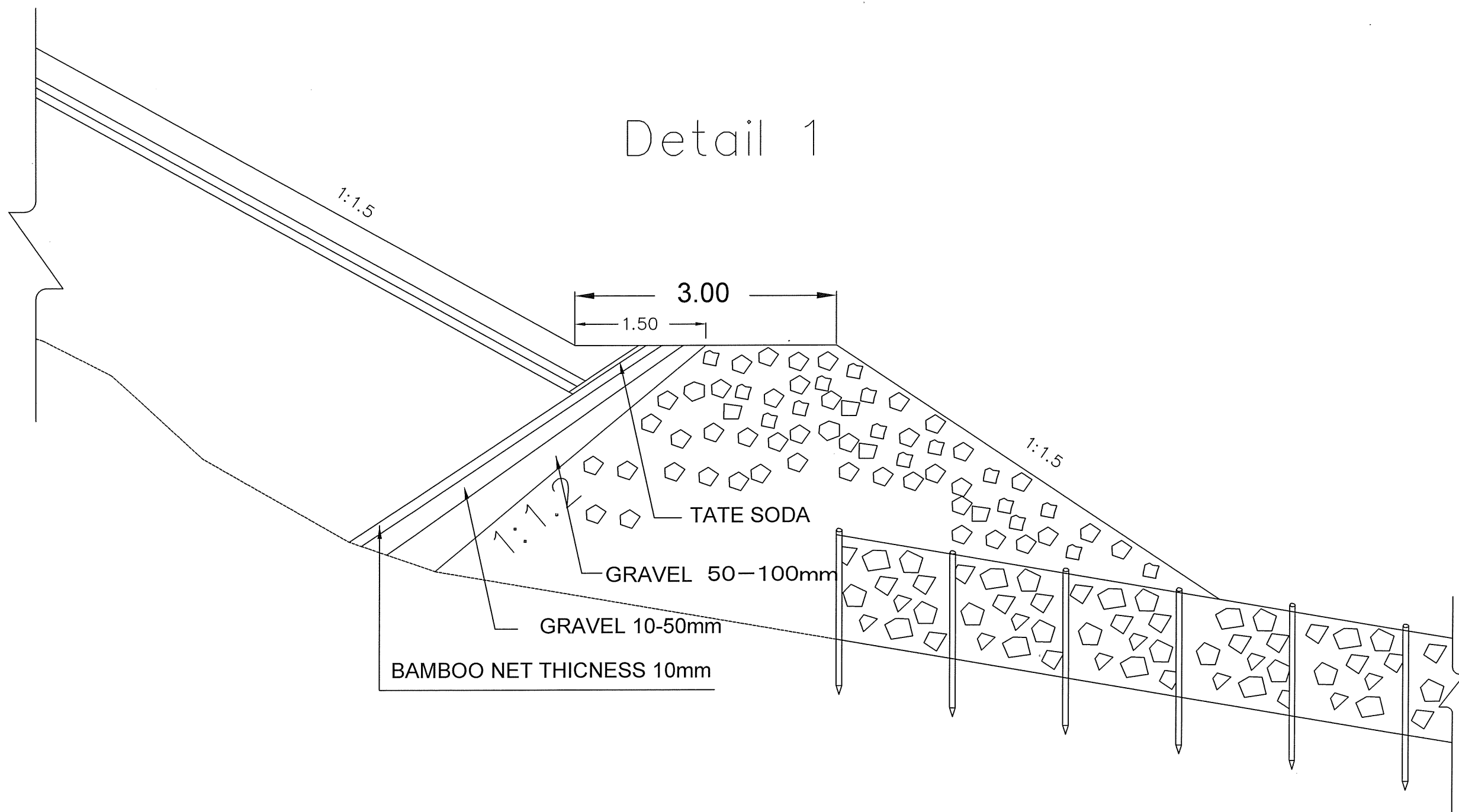
Earth works



Work Type	Legend	Unit
Excavation		m
Supply and place gravel/sand(Fill)		m ²
Backfill		m ²
Cut Slope Trimming		m
Filled Slope Trimming		m
Crown Finishing Work		m



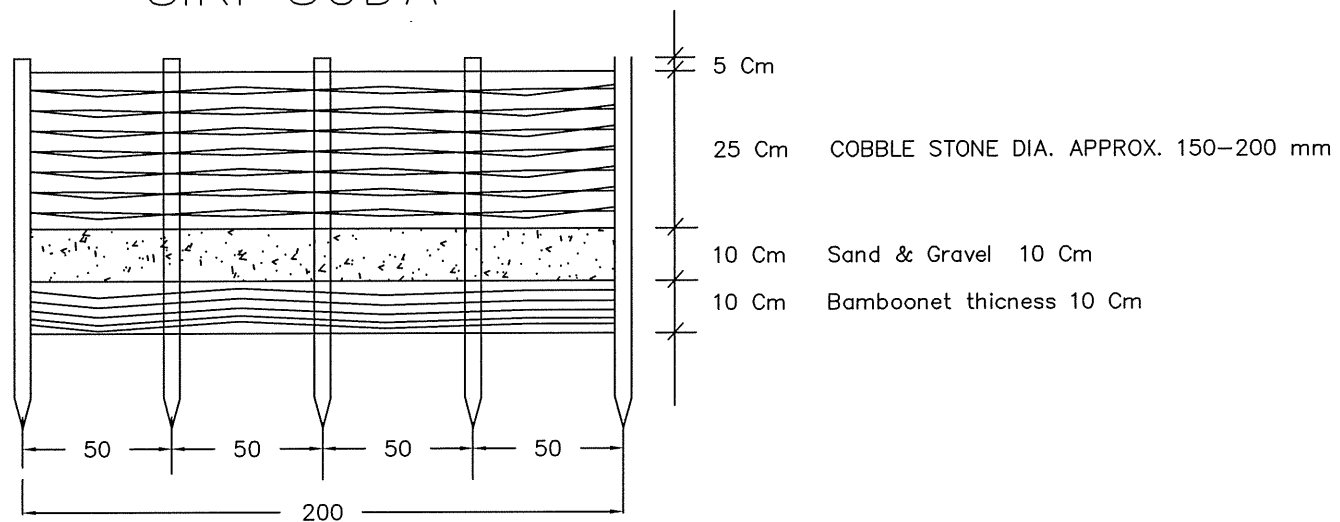
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Japan International Cooperation Agency JICA	Counterpart		
	Check by	Y. Miwa	25/12/13
The Project on Riverbank Protection Works Phase II	JICA Expert Design		
	Approved by		25/12/13
	Chief Advisor		
DETAIL CROSS SECTION	Approved by		
	Project Manager		
	Drawing number	DT 01	Page 31

Detail 1

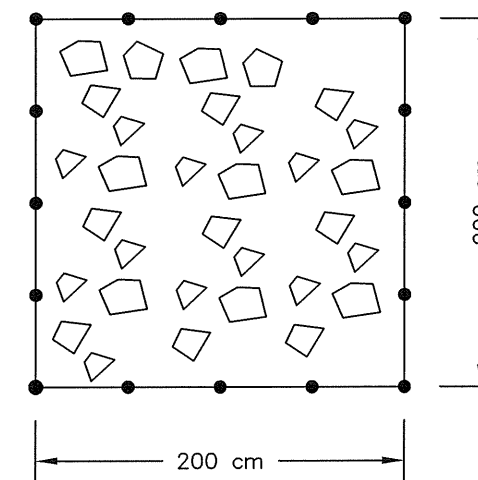




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	Check by	<i>[Signature]</i>	25/12/13
	JICA Expert Design	<i>[Signature]</i>	
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	Chief Advisor	<i>[Signature]</i>	
DETAIL	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
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SECTION A-A
Not to scale
SIKI SODA

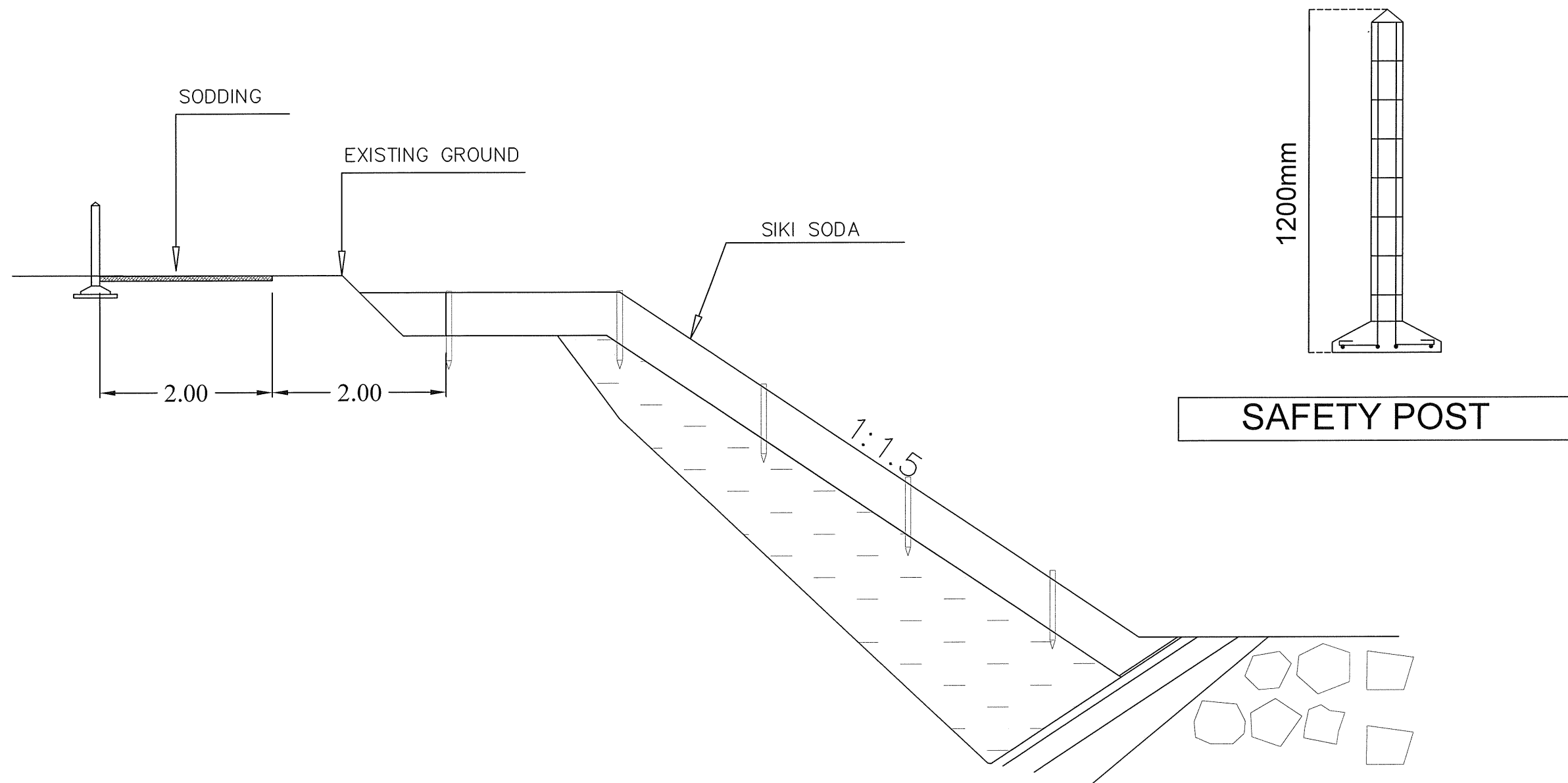




TOP VIEW
SIKI SODA

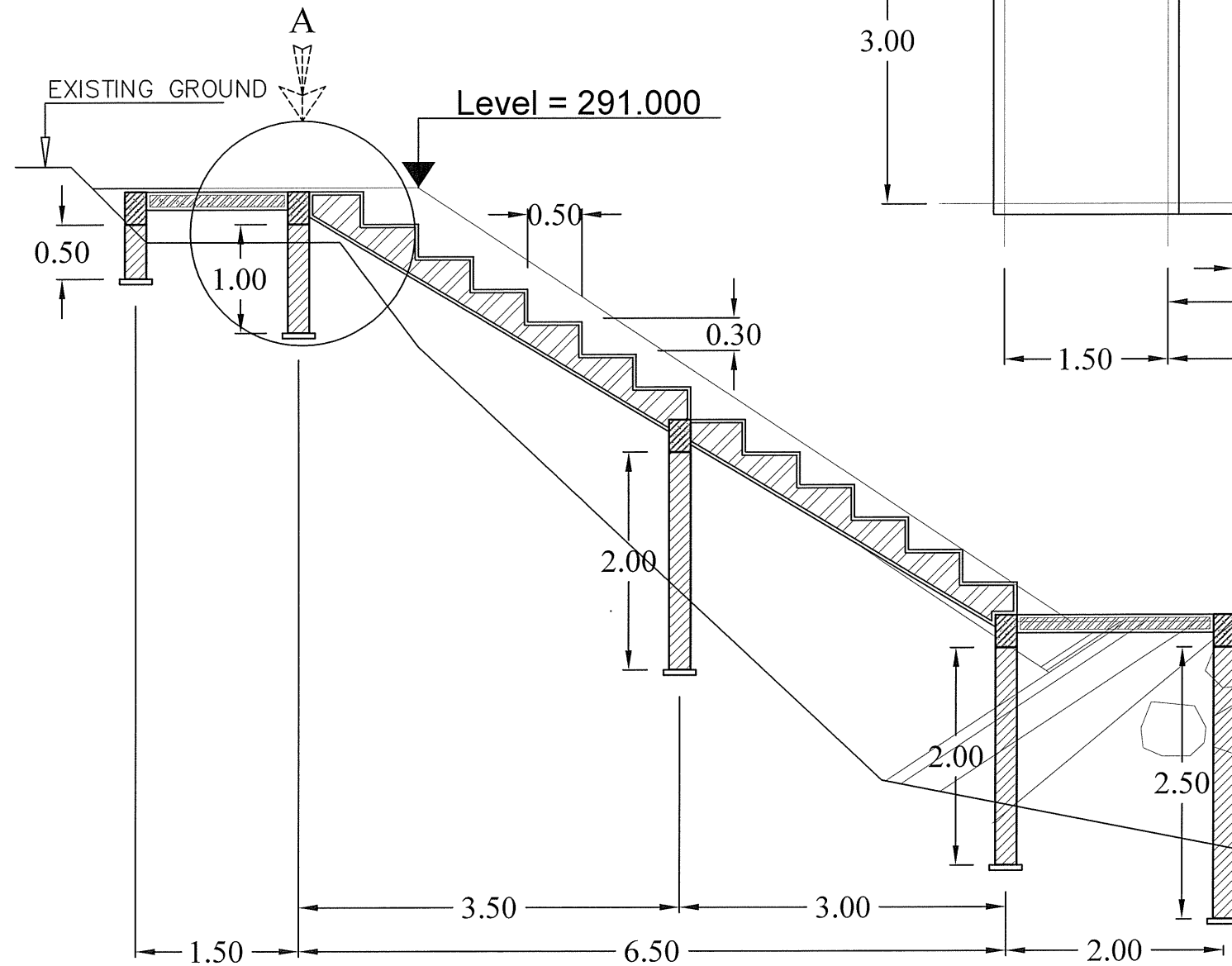


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	Check by	<i>[Signature]</i>	25/12/13
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DETAIL	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
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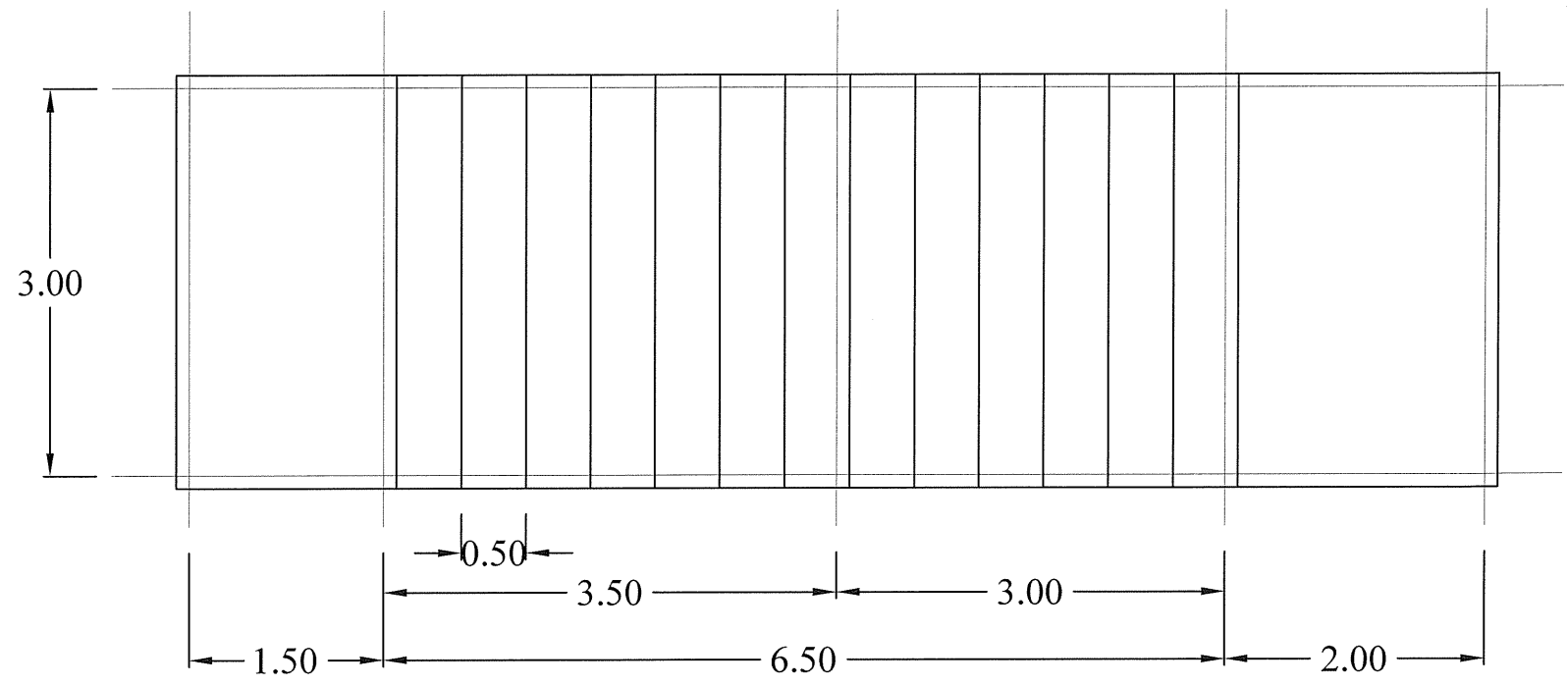
DETAIL FINISHING WORK



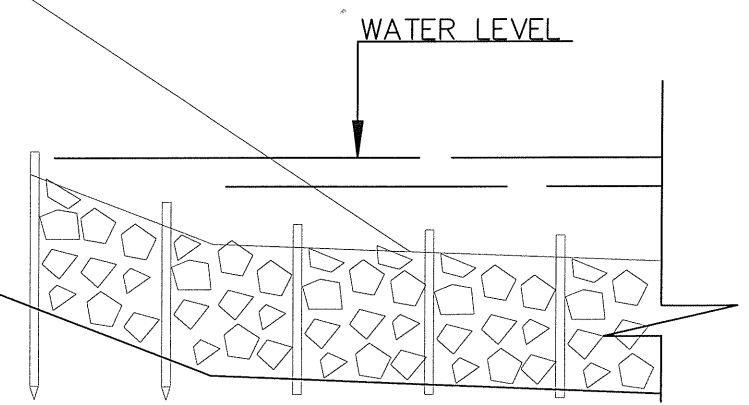
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	Check by	<i>[Signature]</i>	25/12/13
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	Approved by	<i>[Signature]</i>	
DETAIL	Chief Advisor	<i>[Signature]</i>	25/12/13
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	DT 05	Page 34



Section





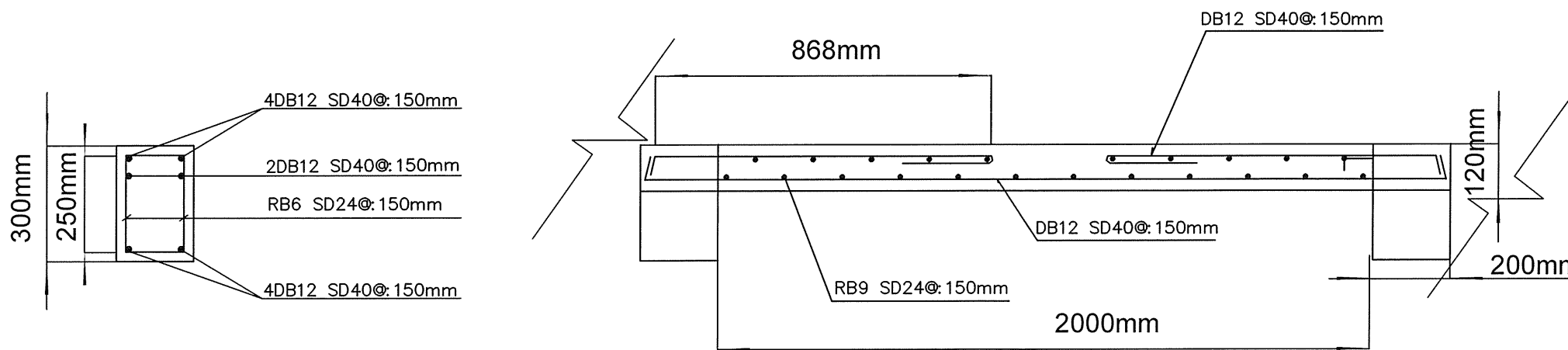
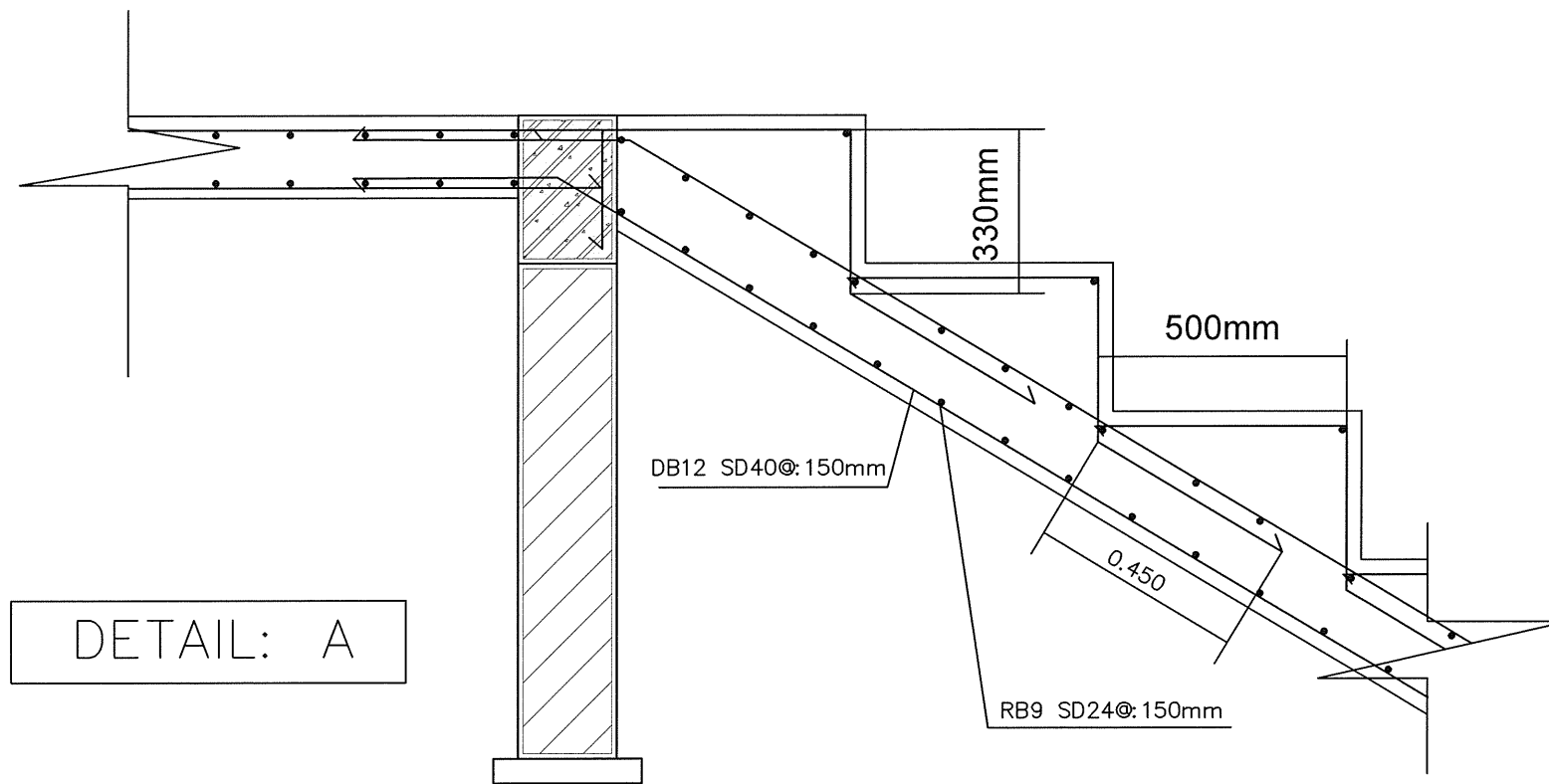
PLAN



DETAIL CONCRETE WORK





 Ministry of Public works and Transport Department of Waterways	Name	Signature	Date
	Design by	<i>[Signature]</i>	16/12/03
 Japan International Cooperation Agency JICA	Counterpart	<i>[Signature]</i>	
	Check by	<i>[Signature]</i>	25/12/13
	JICA Expert Design	<i>[Signature]</i>	25/12/13
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	Chief Advisor	<i>[Signature]</i>	
DETAIL	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	DT 06	Page 35



DETAIL CONCRETE WORK



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DETAIL	Chief Advisor	<i>[Signature]</i>	
	Approved by	<i>[Signature]</i>	
	Project Manager	<i>[Signature]</i>	
	Drawing number	DT 07	Page 36