Data Book-5

Main Design Items and Design Criteria of Flood Control Facilities (Draft)

Items for Design (Draft) [River Channel Improvement]

No	Item	Topic	Guideline, Criteria (in Japan)		Concept and Criteria in the Nadi River Basin
			Reference*1	Abstract	
1	General, Purpose	1) Purpose 2) Target Area 3) Name of River 4) Construction Term			
2	Characteristics of River Channel	1) Present Characteristics of River Channel 2) Hydraulic Characteristics during flood 3) Characteristics of River Environment 4) Characteristics of River Basin	B Chapter 4-1 B Chapter 4-2 B Chapter 4-3 B Chapter 4-4	- River bed gradient, Representative grain-diameter - Scale of flood, flood water level - River environment to be preserved - Characteristics of entire river basin including protected land	
3	Conditions of Surrounding Land	1) Obstructions 2) Present land boundary 3) Yard / room for execution of works			
5	Plain Figure	1) Plain figure 2) Inspection passage 3) Plain figure of structure surrounding	B Chapter 2-2 A Article27 B Chapter 2-3	- Understanding of present plain figure - Securing of inspection passage - Drop structure, ground sill and so on	
6	Longitudinal Profile	1) Design river bed gradient	B Chapter 2-2	- Stability of river bed and securing of cross section area	
4	Cross Section Profile	1) Design high water level 2) Levee free-board 3) Cross section area 4) Cross section profile 5) Widening method	A Article18 B Chapter 5-1 B Chapter 2-3 B Chapter 2-3 B Chapter 2-3	- Safety for the flow less than the design high water level - Considering of debris, wind waves - Securing of discharge capacity - Single / compound cross section - Center-line method, flood mainstream method	
7	Safety Evaluation	1) Safety of bank 2) Safety of slope 3) Safety of high water channel	B Chapter 2-3 B Chapter 2-3 B Chapter 2-3	- Bank erosion by a flood - Erosion and scour of slope - Surface erosion of high water channel	
8	Attached Installation	1) Water colliding front and scour 2) Revetment	B Chapter 2-3 A Article25	- Protection against water colliding front and scour - Waterside banquette and revetment for bank protection	

*1 A: Government Ordinance for Structural Standard for River Administration Facilities (revised)、Japan River Association
B: Handbook for the Study for River Channel Planning, Japan Institute of Country and Engineering)
C: Handbook for the Study for Structure of River Bank, Japan Institute of Country and Engineering
D: Mechanical Design Method for Revetment (revised), Japan Institute of Country and Engineering

Items for Design (Draft) [Embankment]

No	Item	Topic	Guideline, Criteria (in Japan)		Concept and Criteria in the Nadi River Basin
			Reference*1	Abstract	
1	General, Purpose	1) Purpose 2) Target Area 3) Name of River 4) Construction Term			
2	Conditions of River Channel	1) Design high water level 2) Design height of river bed 3) Design external force	A Article18	- Safety for the flow less than the design high water level	
3	Conditions of Surrounding Land	1) Natural condition 2) Present environment (noise and vibration) 3) Existing structures 4) Past damage record 5) Obstructions 6) Present land boundary 7) Yard / room for execution of works	C Chapter 3.1.1 C Chapter 3.1.2 C Chapter 3.1.3 / 3.1.4 C Chapter 3.1.5	- Hydrology, topography, geology and river channel - Land use and environment - Investigation of existing structures - Investigation of past damage record	
4	Material and structure	1) Material and structure	A Article19	- Earth embankment / Concrete or Steel sheet pile, if needed	
5	Plain Figure	1) Plain figure 2) Inspection passage	A Article27	- Securing of inspection passage	
6	Longitudinal Profile	1) Design river bed gradient			
7	Cross Section Profile	1) Bank height 2) Levee free-board 3) Crown width 4) Slope gradient 5) Waterside banquette / single slope 6) Marginal strip 7) Revetment	A Article20 ditto A Article21 A Article22 A Article23 A Article14, A Article25	- Bank height according to the design high water level - Levee free-board according to the design high water level - Crown width according to the design flood discharge - Less than 50% of slope gradient - Waterside banquette (width should be more than 3m), if required - Width and length should be set according to the purpose - Revetment for slope or waterside banquette	
8	Safety Evaluation	1) Structure against percolation 2) Structure against erosion 3) Structure against earthquake	C Chapter 4 C Chapter 5 C Chapter 6	- Inspection for safety against percolation - Inspection for safety against erosion - Inspection for safety against earthquake	

*1 A: Government Ordinance for Structural Standard for River Administration Facilities (revised)、Japan River Association
B: Handbook for the Study for River Channel Planning, Japan Institute of Country and Engineering
C: Handbook for the Study for Structure of River Bank, Japan Institute of Country and Engineering
D: Mechanical Design Method for Revetment (revised), Japan Institute of Country and Engineering

Items for Design (Draft) [Revetment]

No	Item	Topic	Guideline, Criteria (in Japan)		Concept and Criteria in the Nadi River Basin
			Reference*1	Abstract	
1	General, Purpose	1) Purpose 2) Target Area 3) Name of River 4) Construction Term			
2	Characteristics of River Channel	1) Present Characteristics of River Channel 2) Necessity 3) Past damage record	D 2-1 D 2-2 D 2-4	- River bed gradient, river bank material, change of course and so on - Possiblity of bank erosion by flood - Past damage record of damaged part, cause and type of damage	
3	Conditions of Surrounding Land	1) Obstructions 2) Present land boundary 3) Yard / room for execution of works			
4	Type of works	1) Selection of type of works for revetment	D 2-3,2-5	- According to the river channel characteristics	
5	Slope protective works	1) Mechanical safety of slope protective works	D 5-3	- Securing the safet against the flow	
6	Foundation work	1) Deepest height of river bed 2) Height of fundation work 3) Structure 4) Mechanical safety of foundation work	D 5-4-2 D 5-4-3 D 5-4-4 D 5-4-4	- Deepest height of river bed considering the scour by flood - According to the deepest height of river bed - According to the conditions of ground, durability and so on - Securing the safet against the flow	
7	Foot protection work	1) Necessity 2) Width 3) Mechanical safety of foot protection work	D 5-5-1 D 5-5-3 D 5-5-2, 5-5-4	- Considering scour in front of the foundation work - Considering degradation of river bed in front of the foundation work - Securing the safet against the flow	

*1 A: Government Ordinance for Structural Standard for River Administration Facilities (revised)、Japan River Association
B: Handbook for the Study for River Channel Planning, Japan Institute of Country and Engineering)
C: Handbook for the Study for Structure of River Bank, Japan Institute of Country and Engineering
D: Mechanical Design Method for Revetment (revised), Japan Institute of Country and Engineering

Data Book-6

Drawings of River Survey

Cross Section (Nadi Rver)

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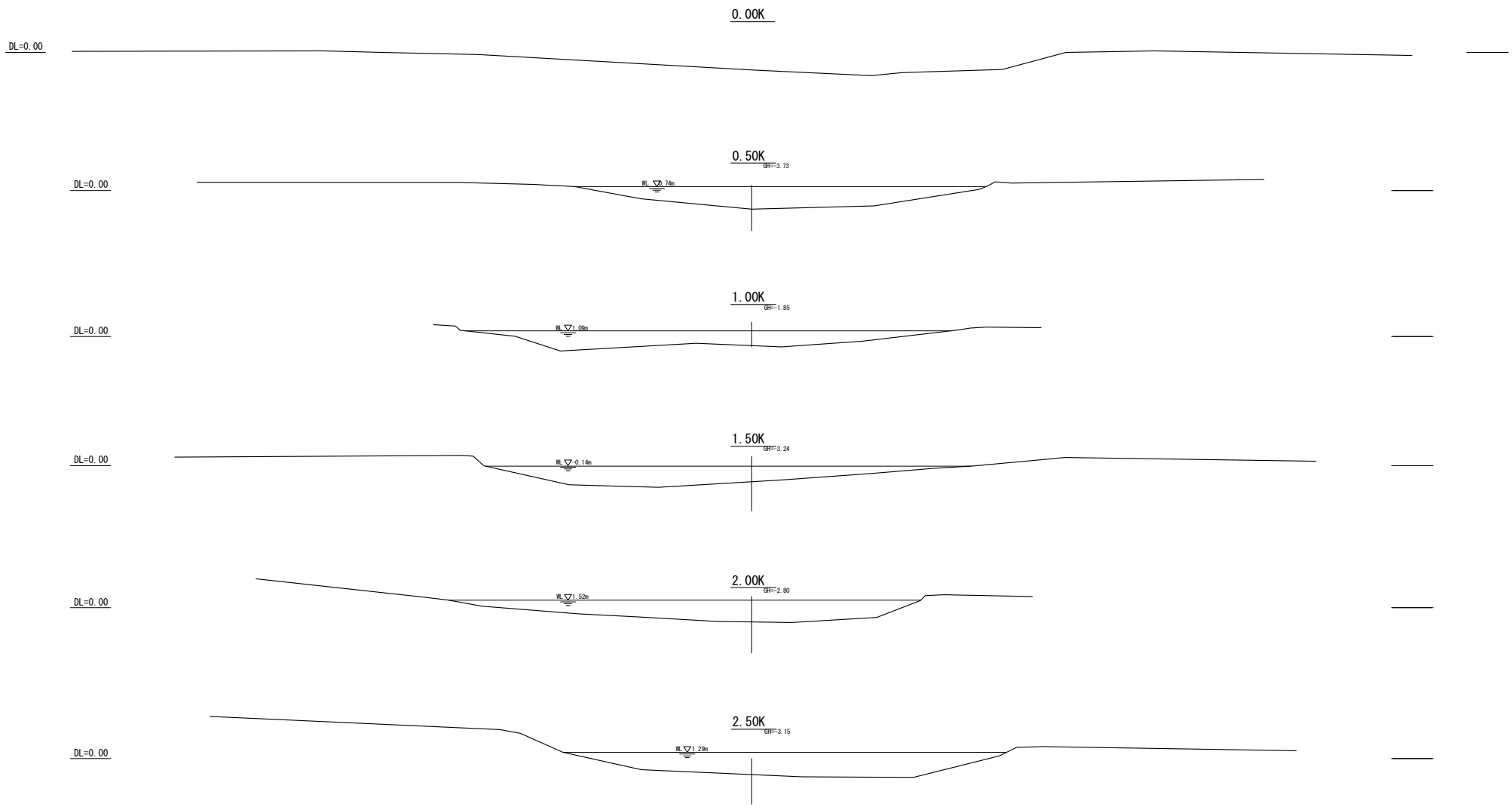

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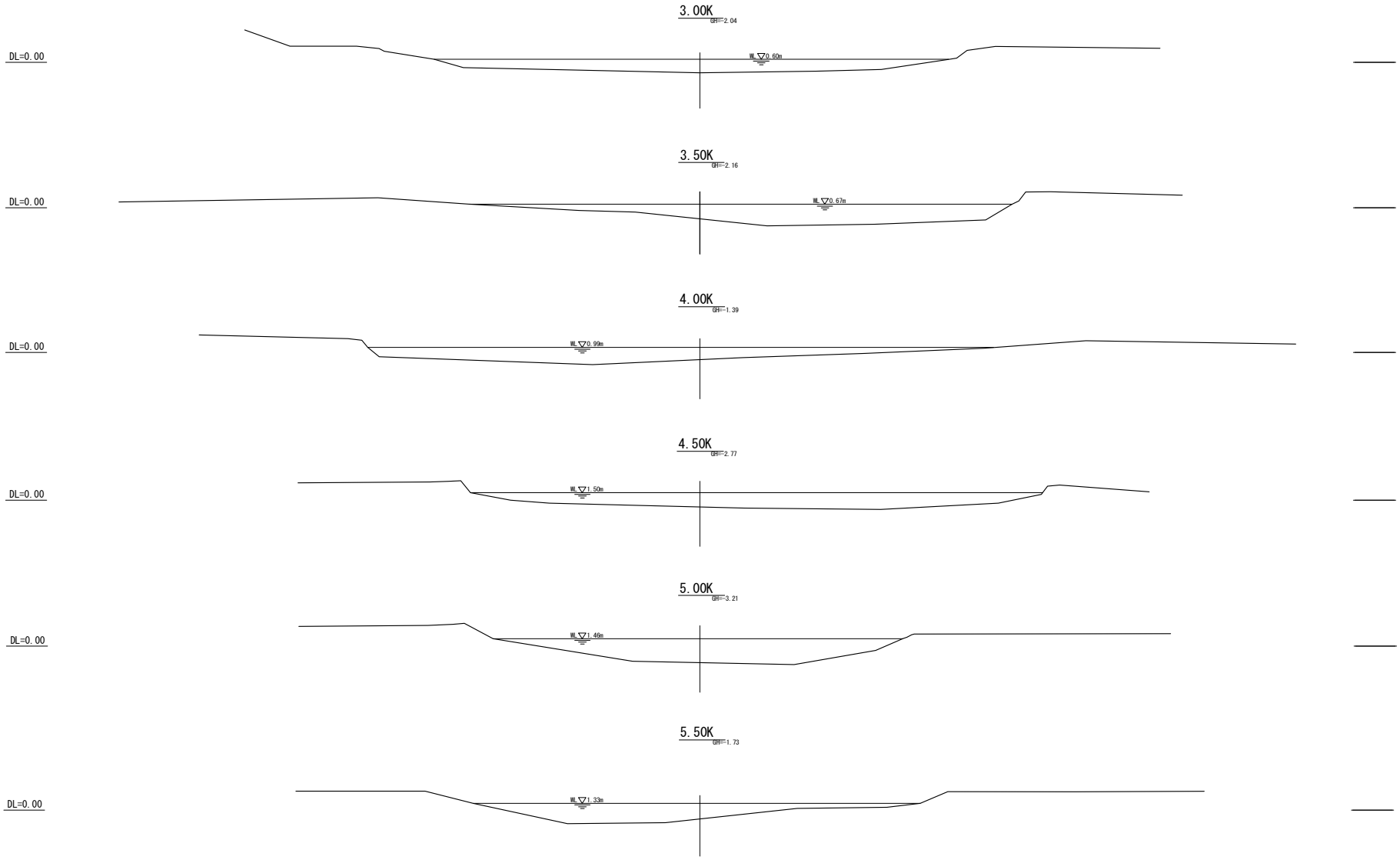

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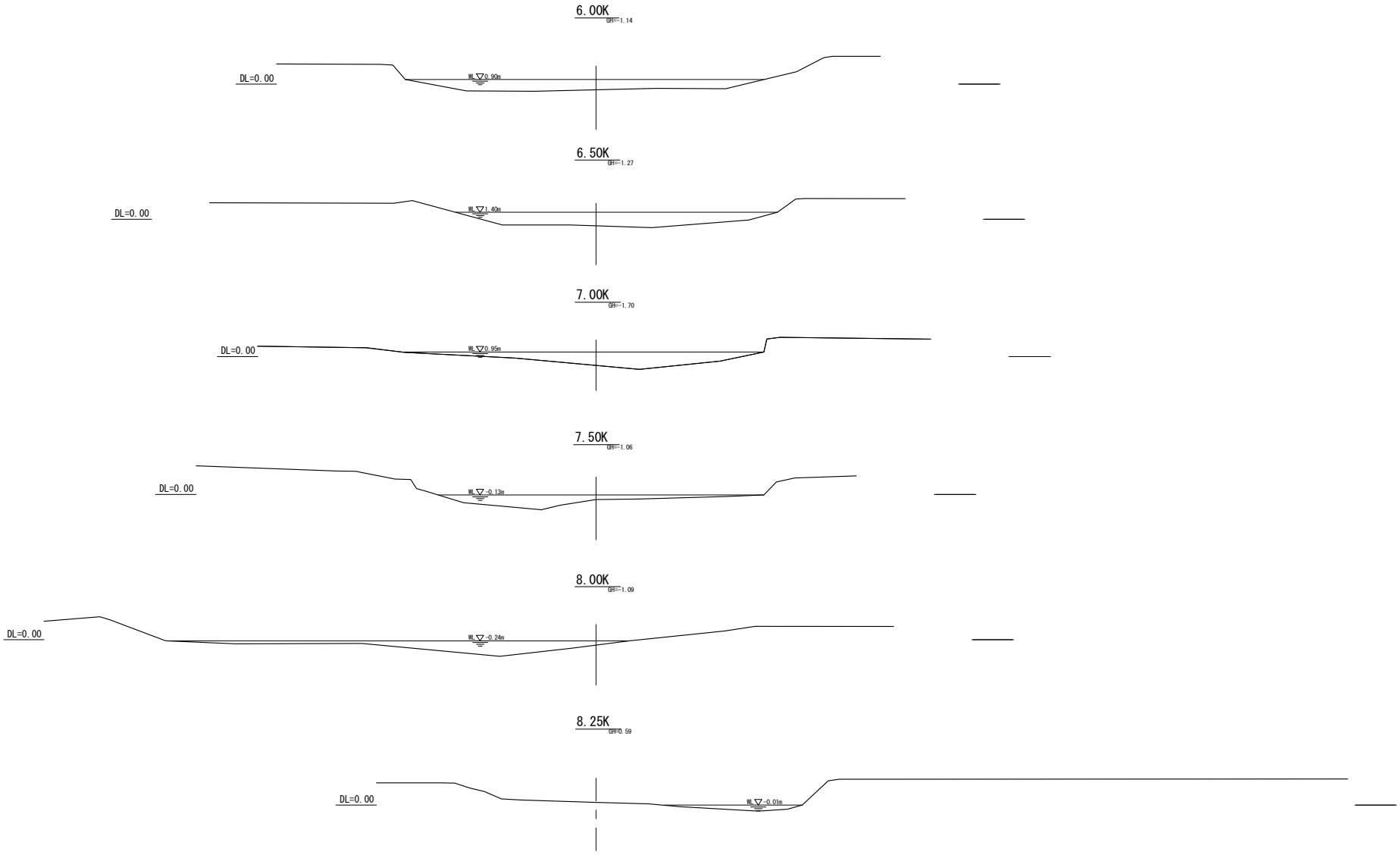

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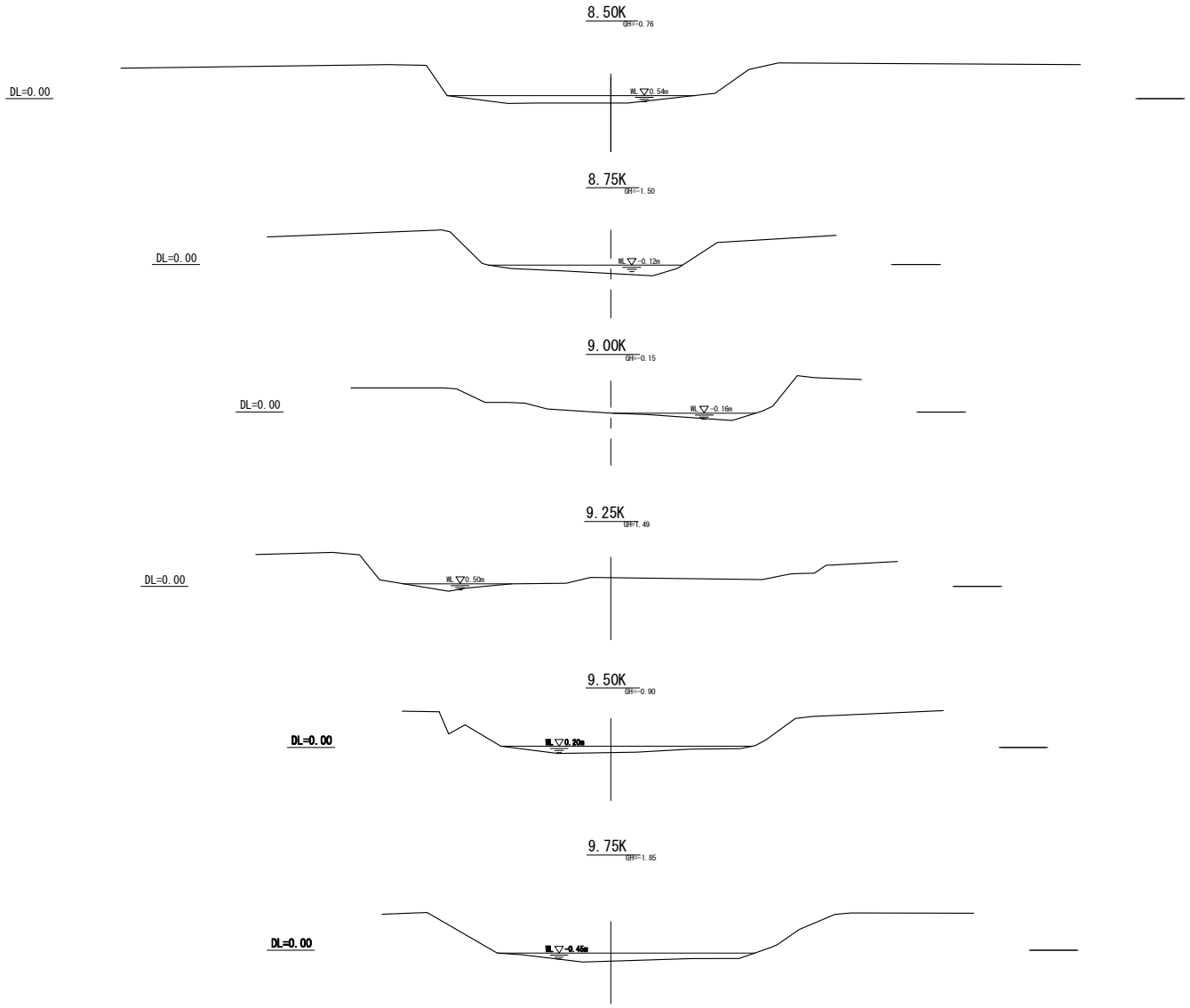

Cross Section (Nadi Rver)

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XS Water Gauge

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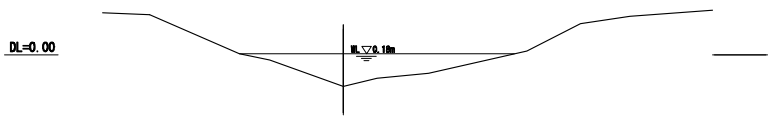

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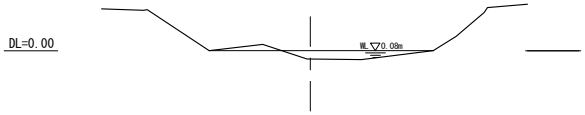

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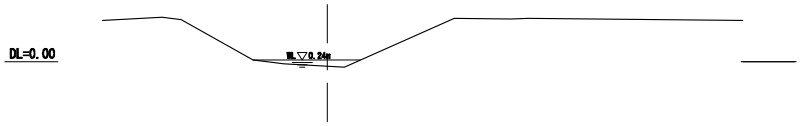

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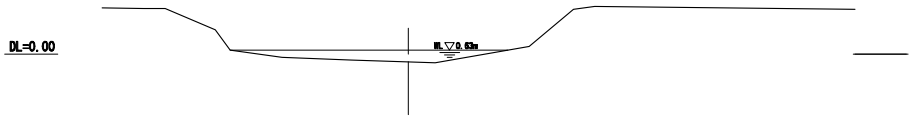

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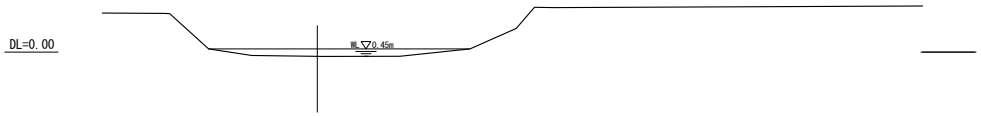

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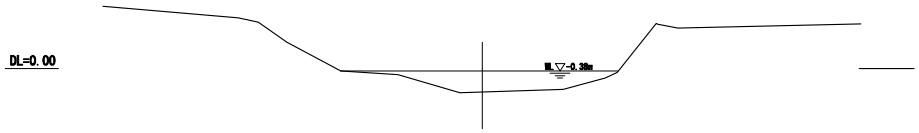

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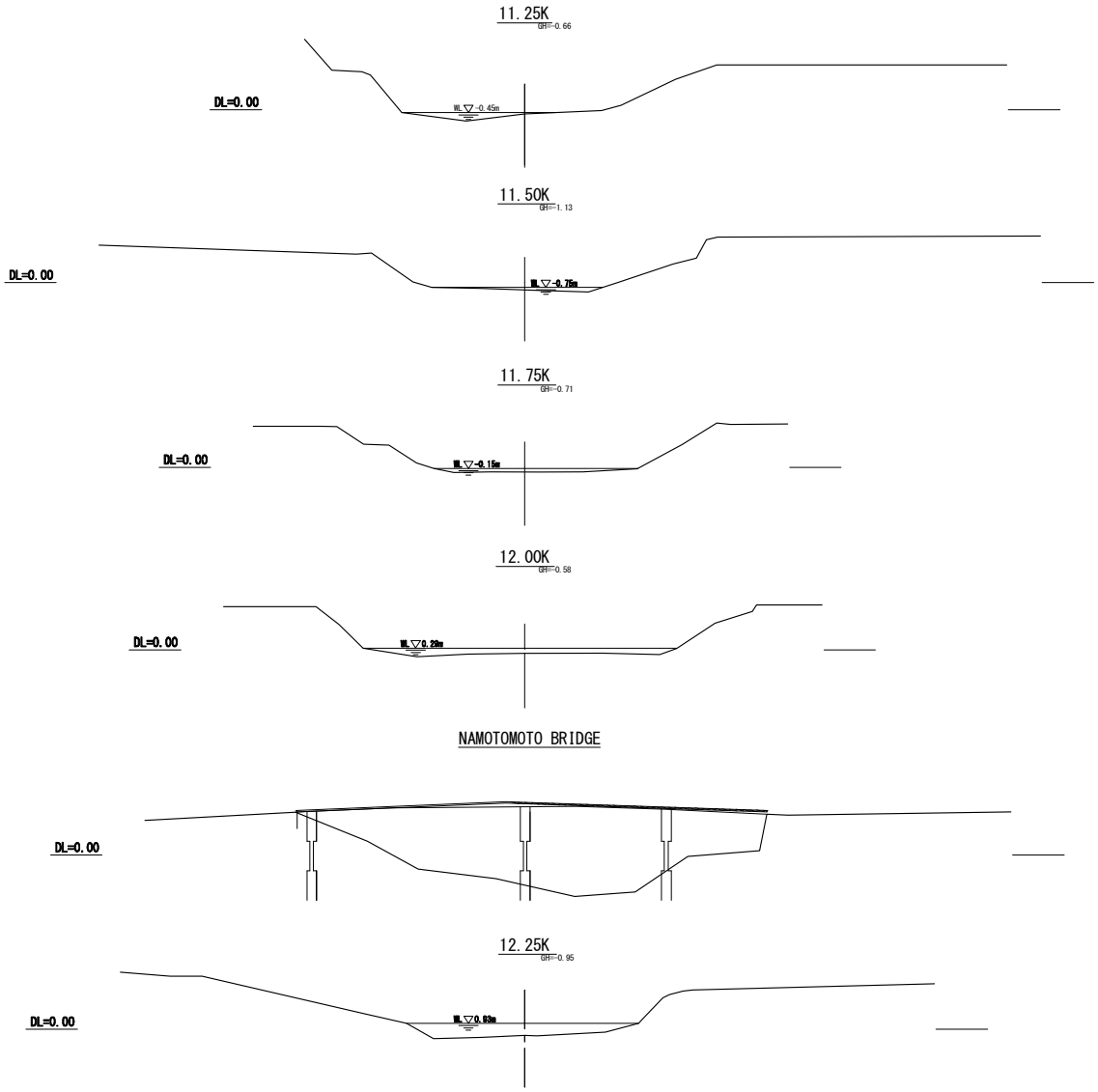

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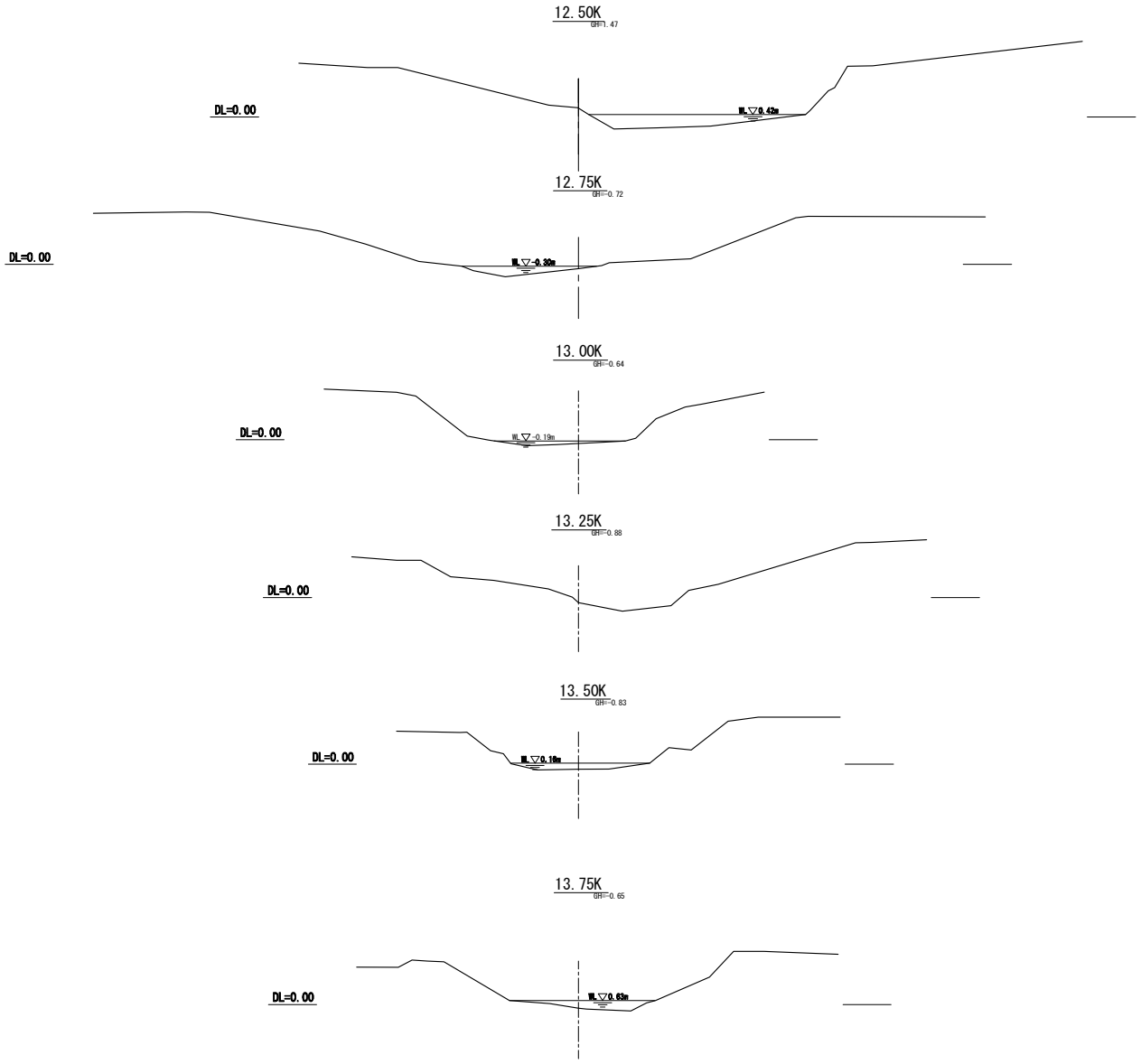

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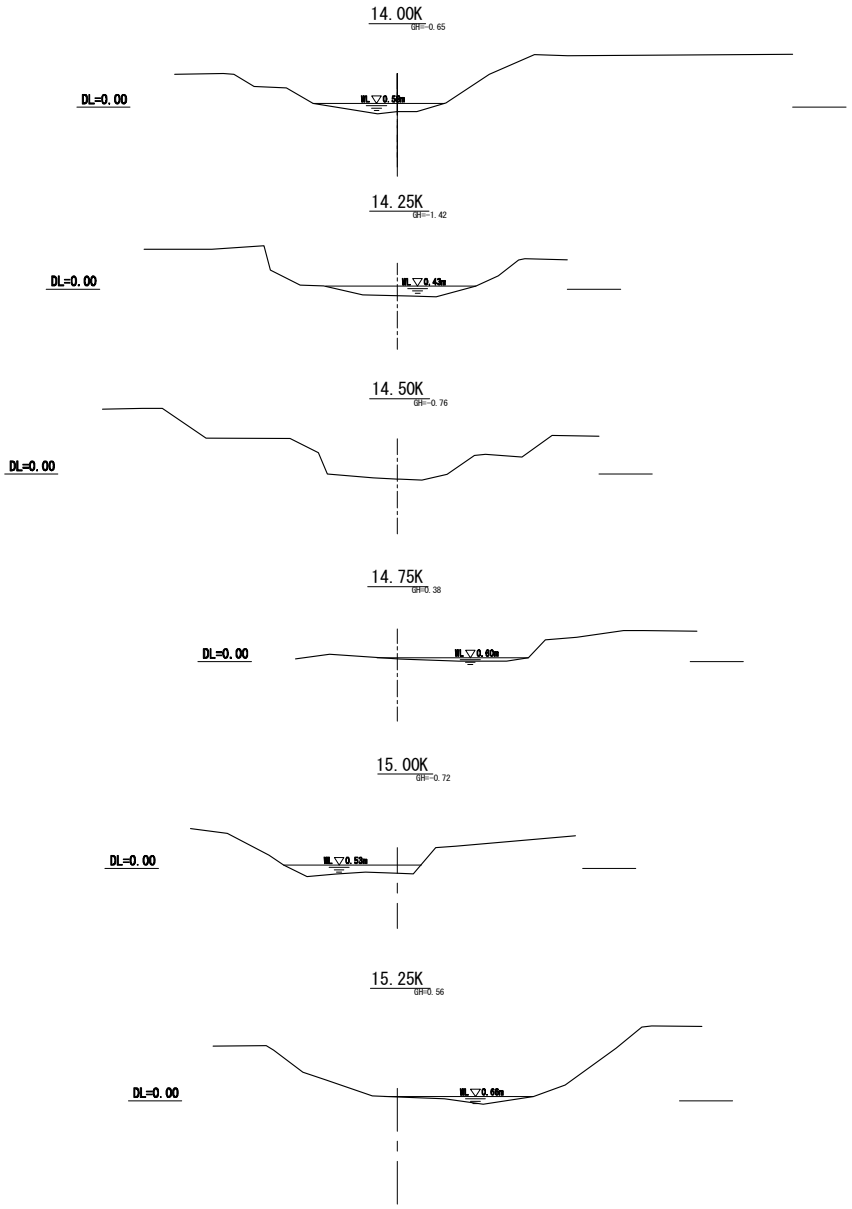

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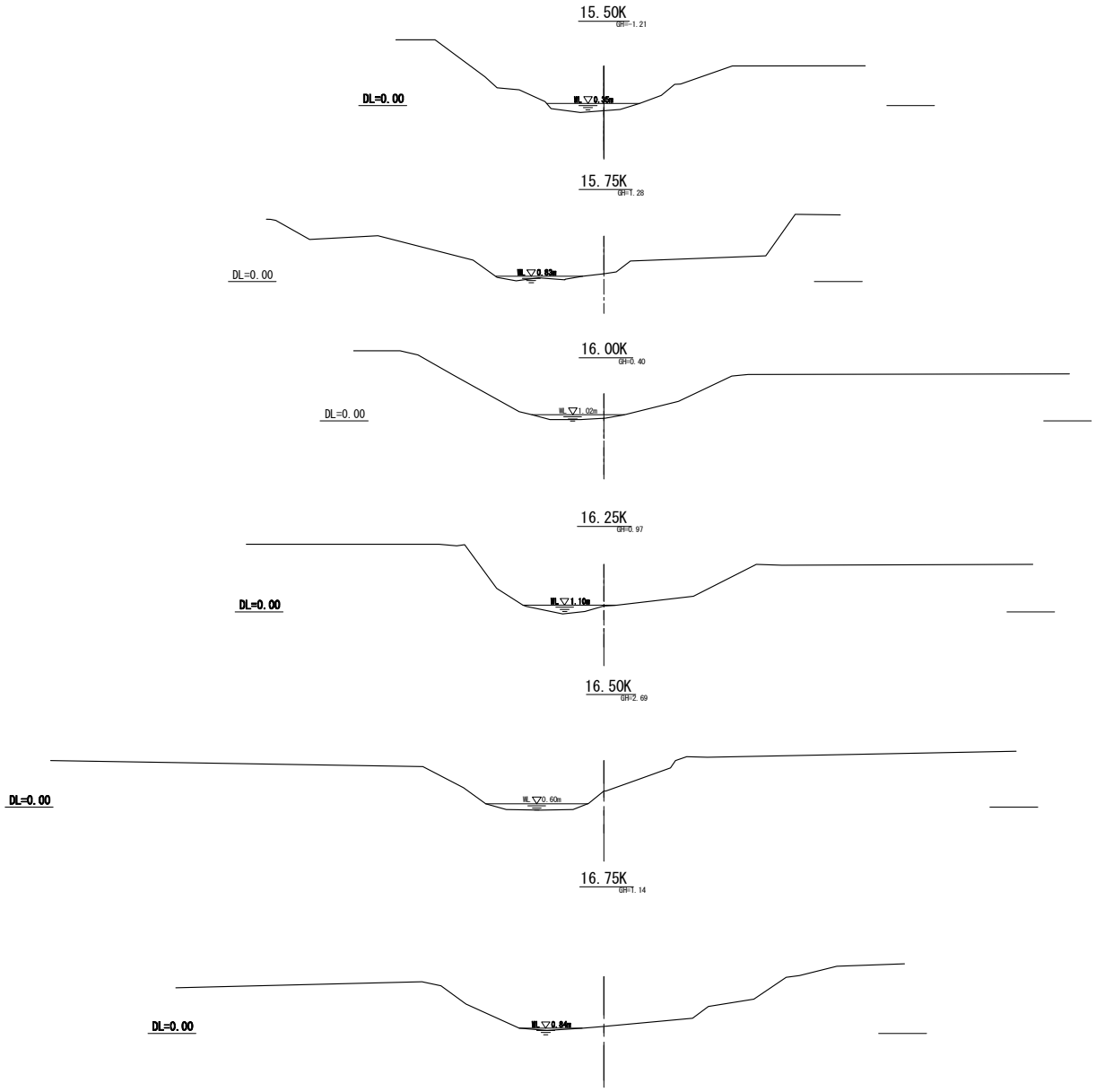

D6-9

Cross Section (Nadi Rver)

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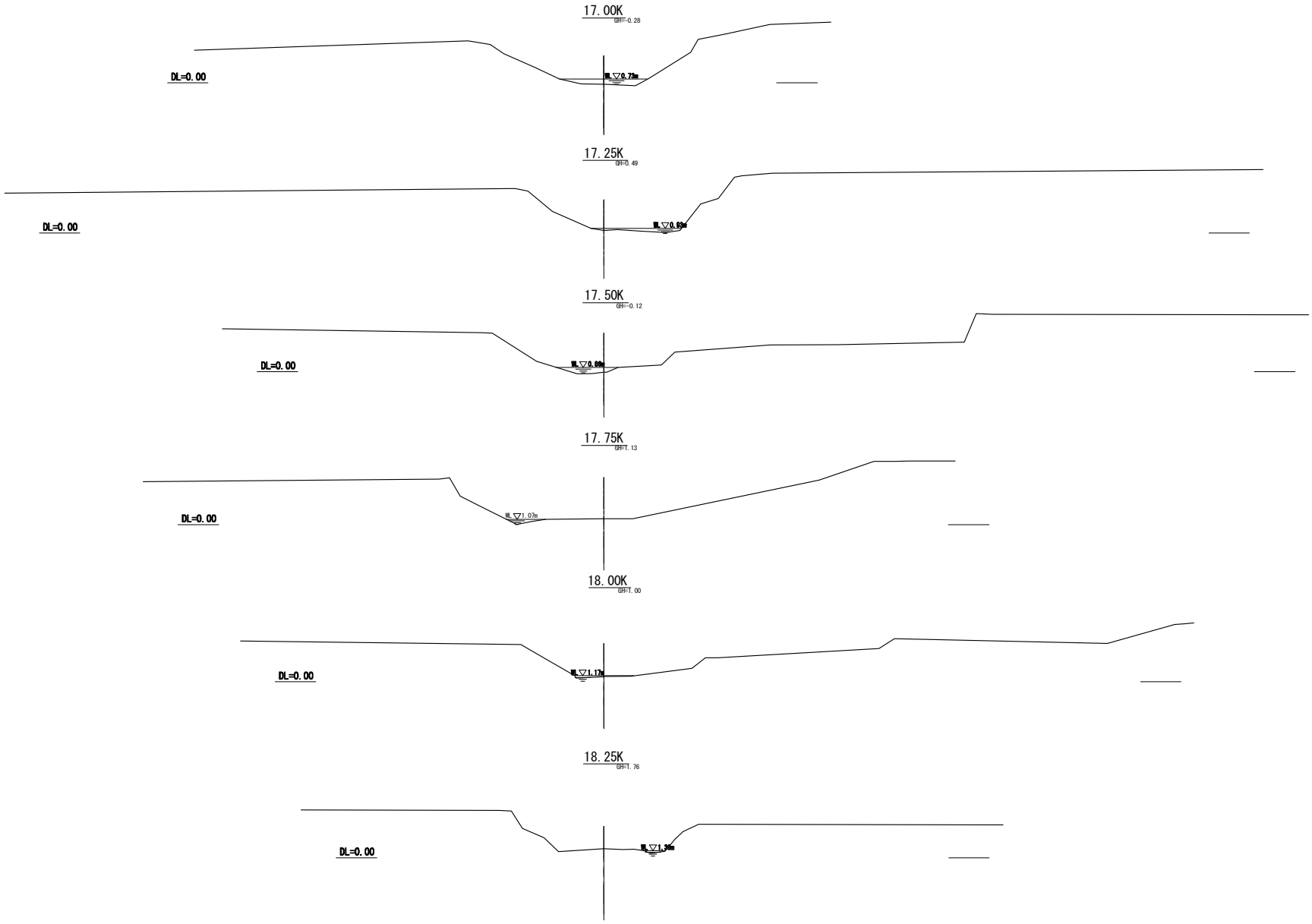

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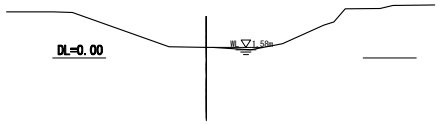
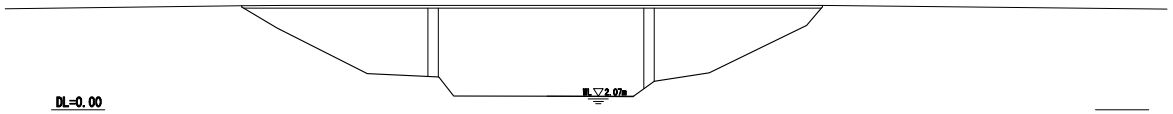
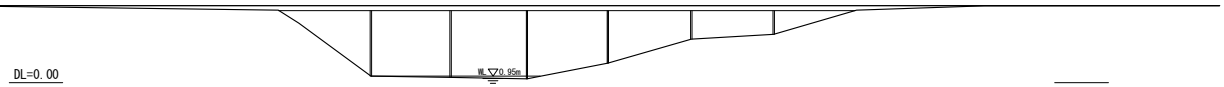


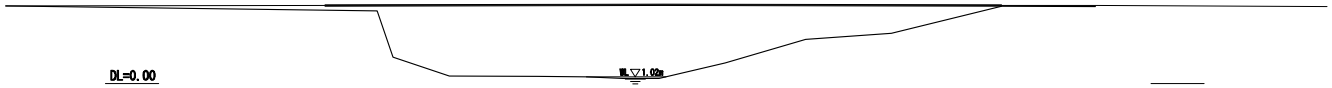
18.75K & Votualevu Bridge



Nadi Bridge



Nadi Bridge 2



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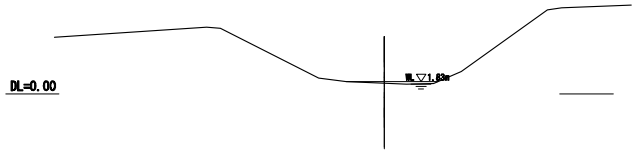

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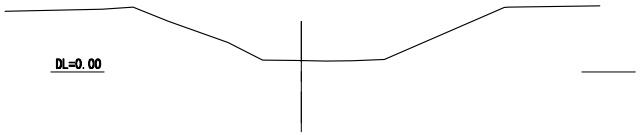

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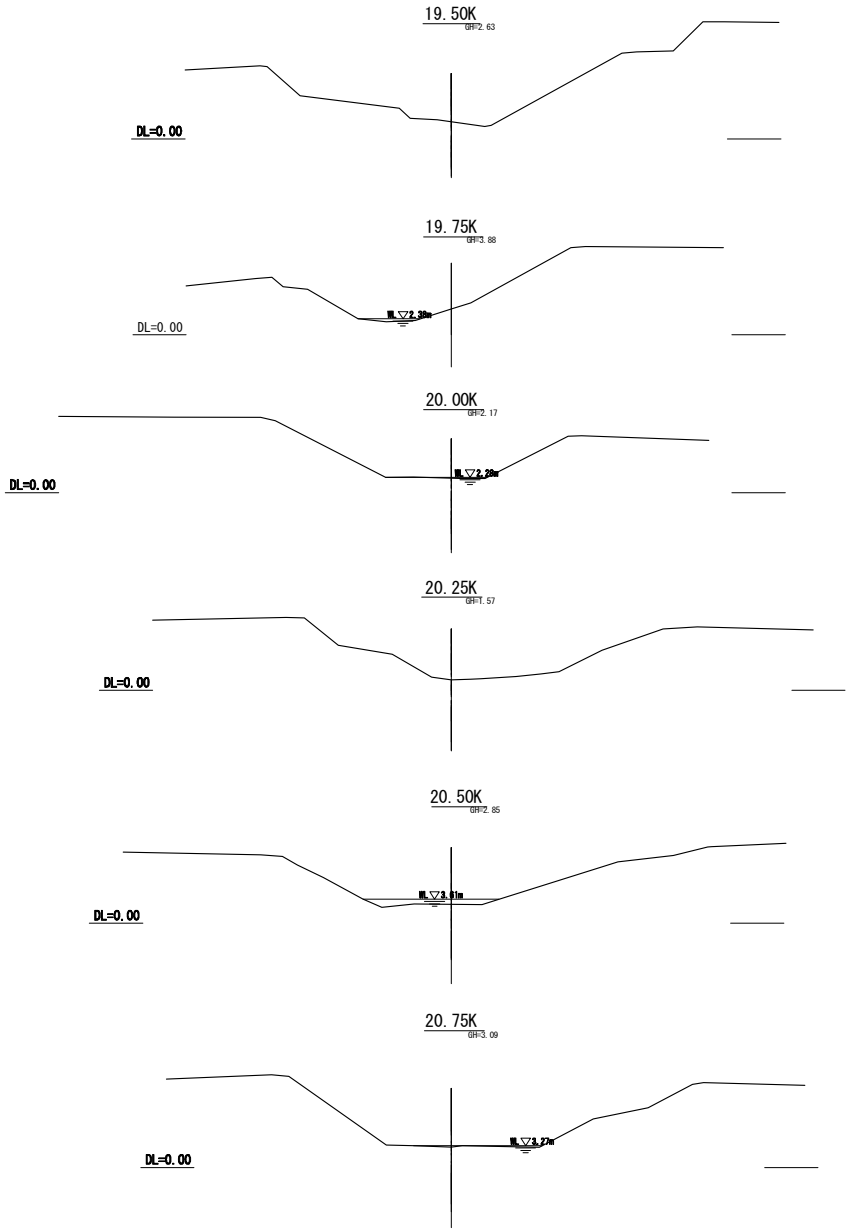

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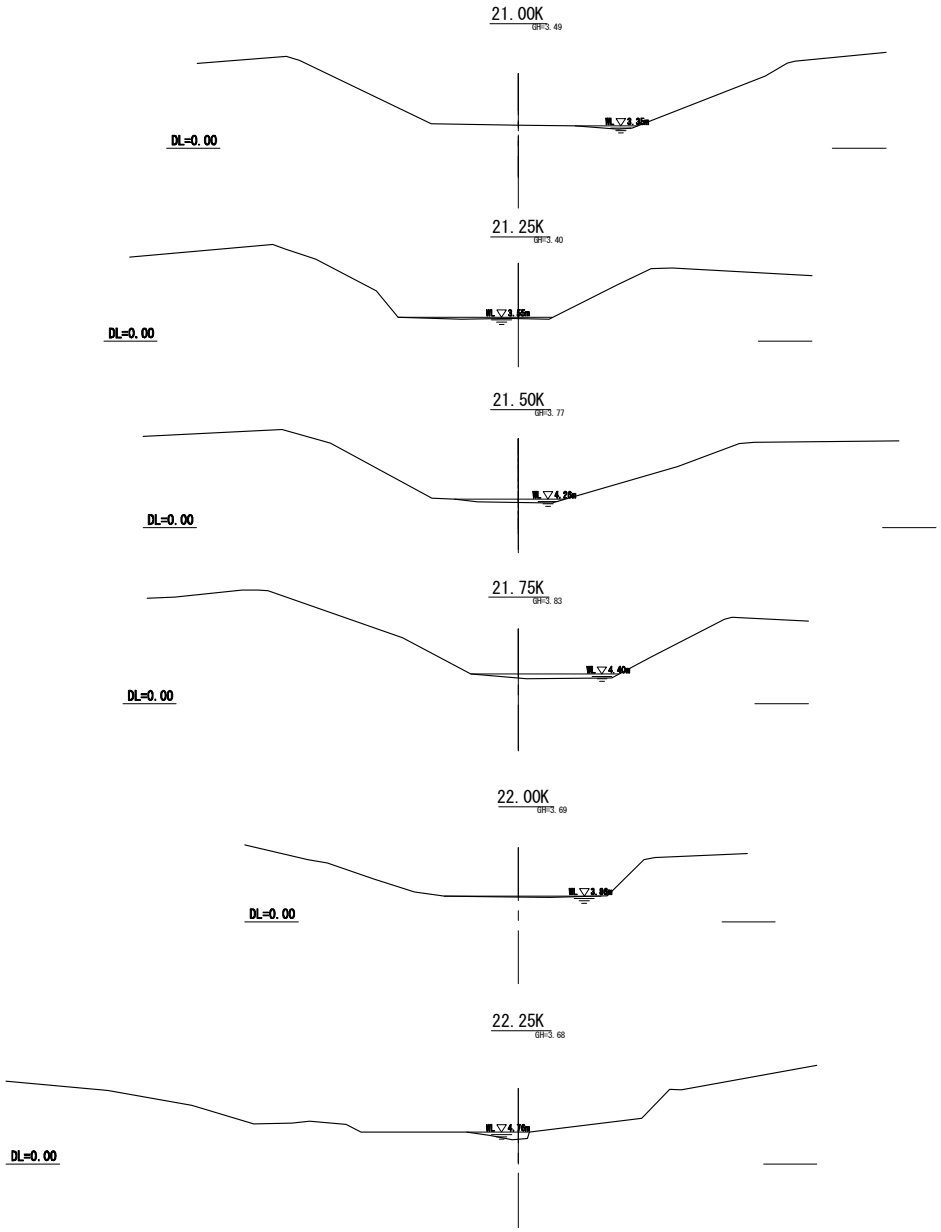

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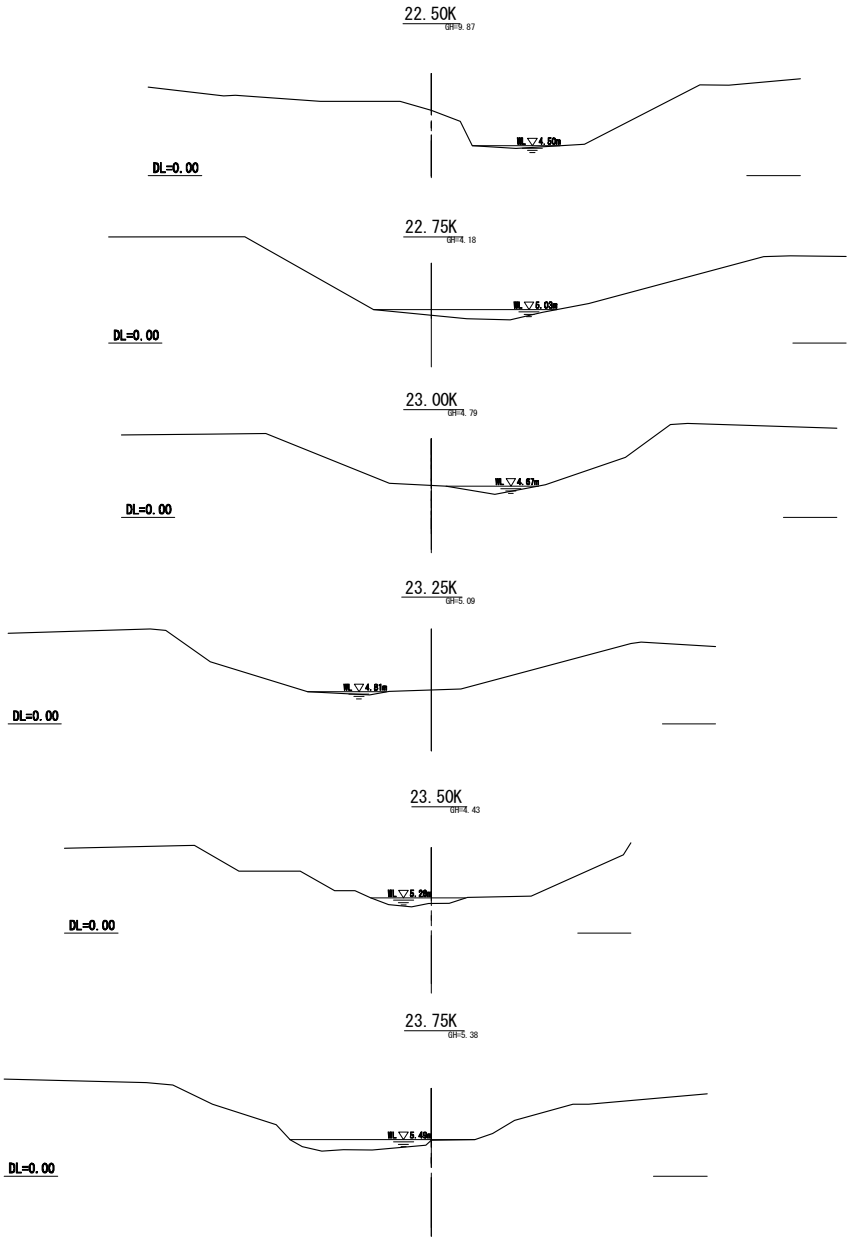

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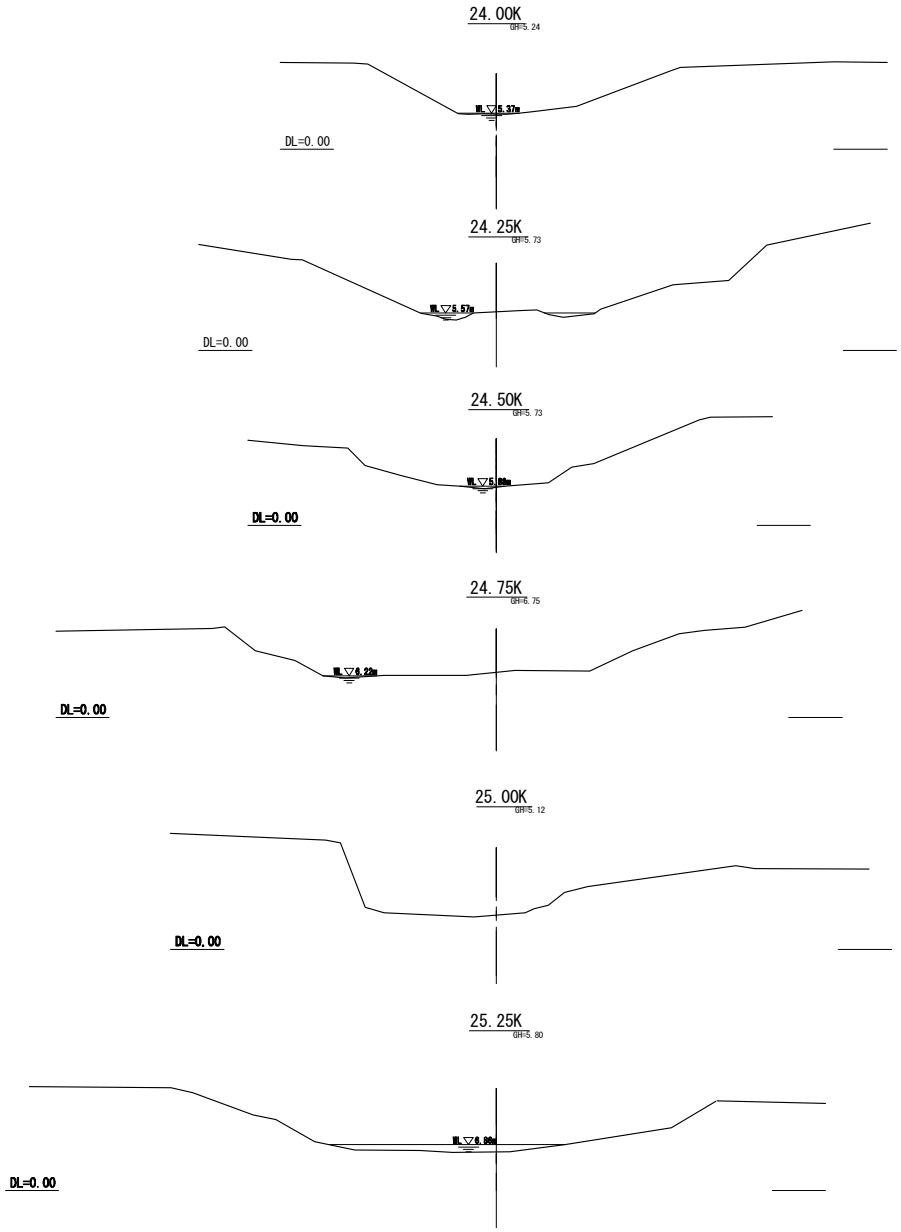

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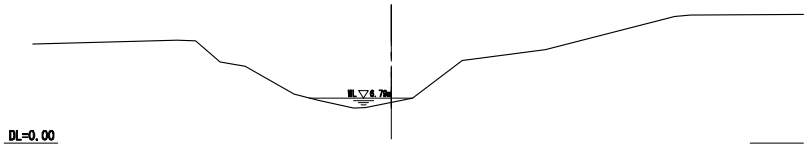

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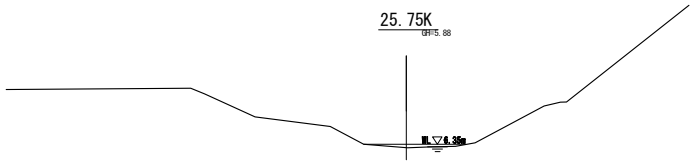

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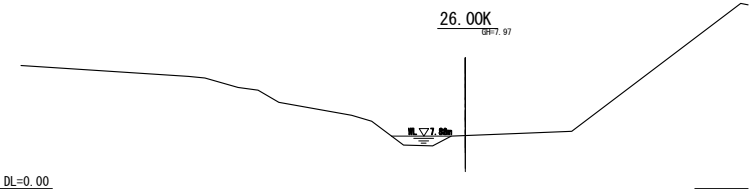

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27.00K

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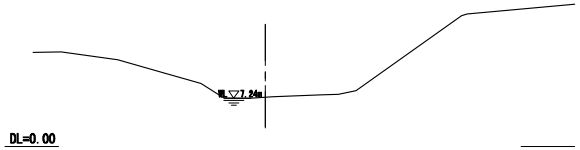

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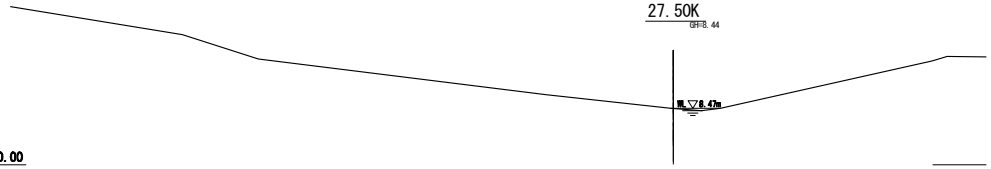

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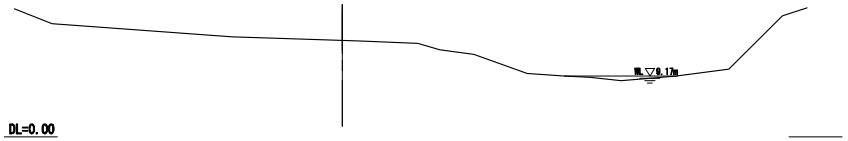

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Cross Section (Malakua River)

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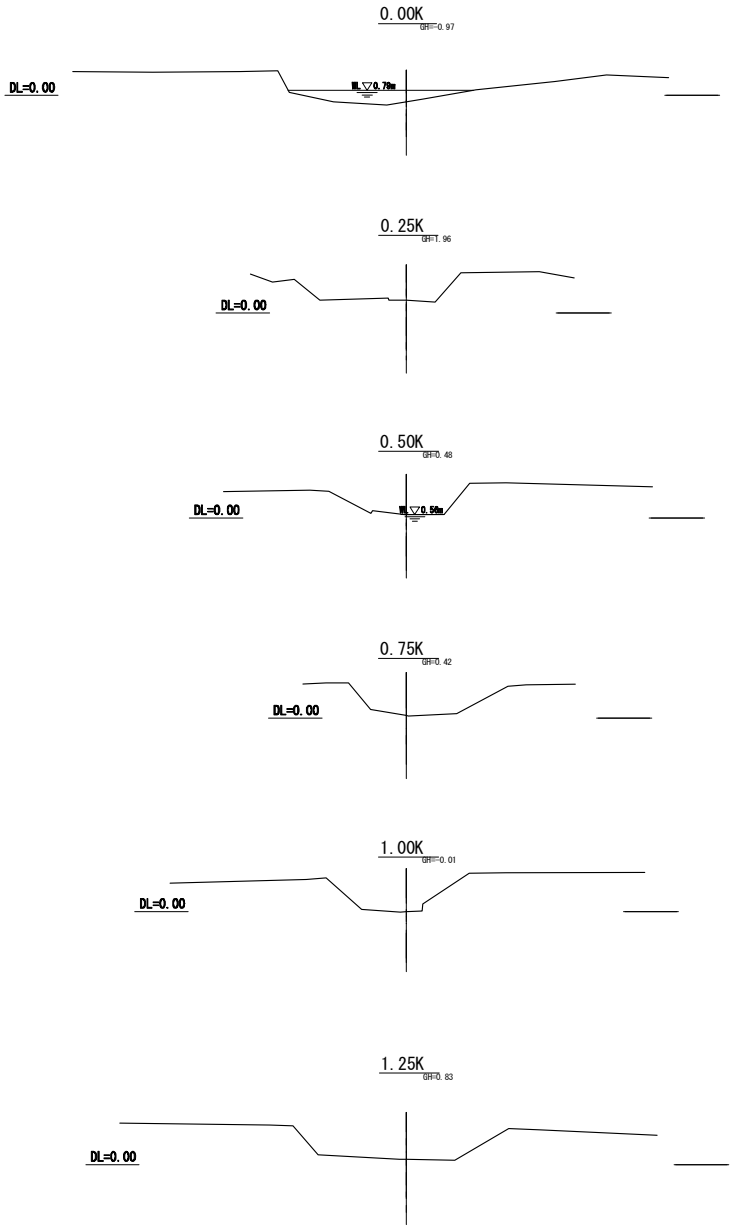

Cross Section (Malakua River)

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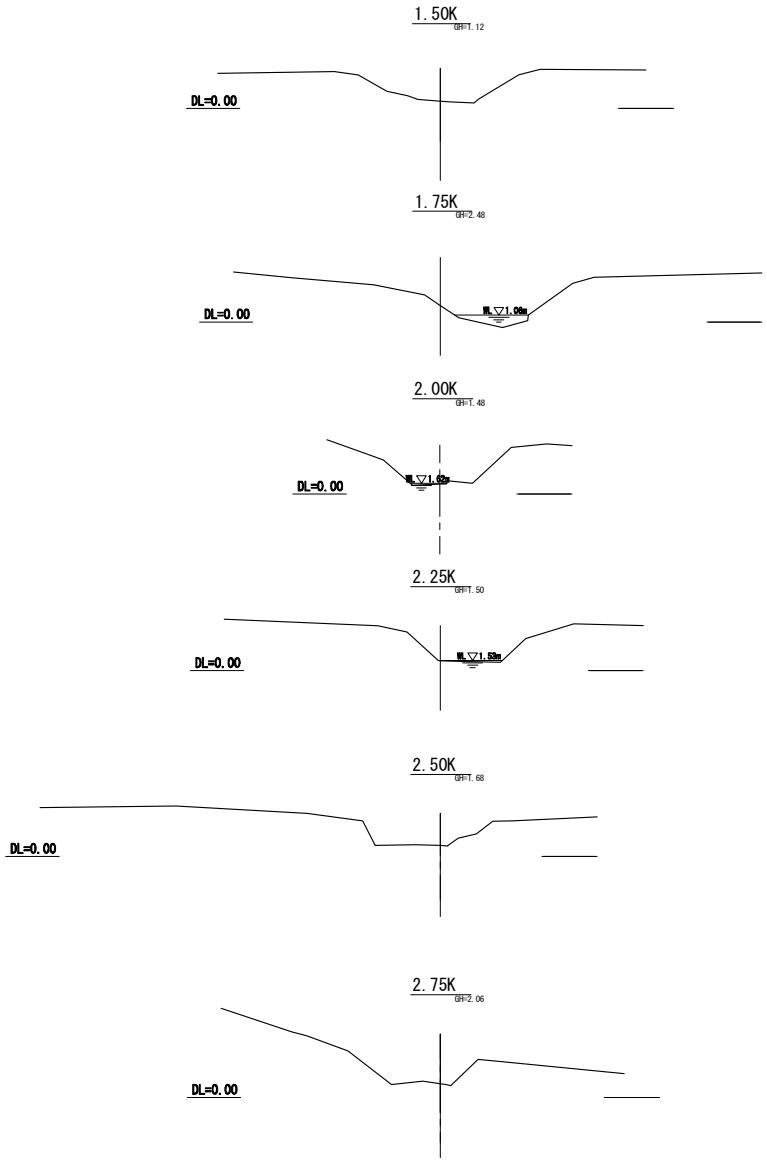

Cross Section (Malakua River)

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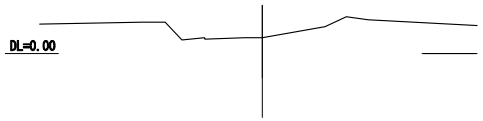

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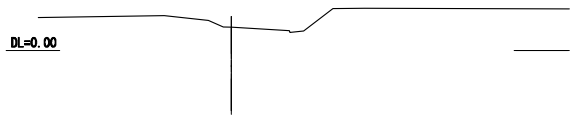
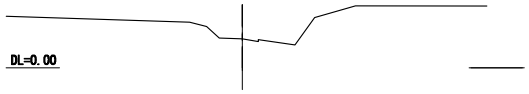


Timber/ Rail Bridge

Timber/ Rail Bridge

4.00K
GH=3.10

4.50K
GH=4.35



Cross Section (Malakua River)

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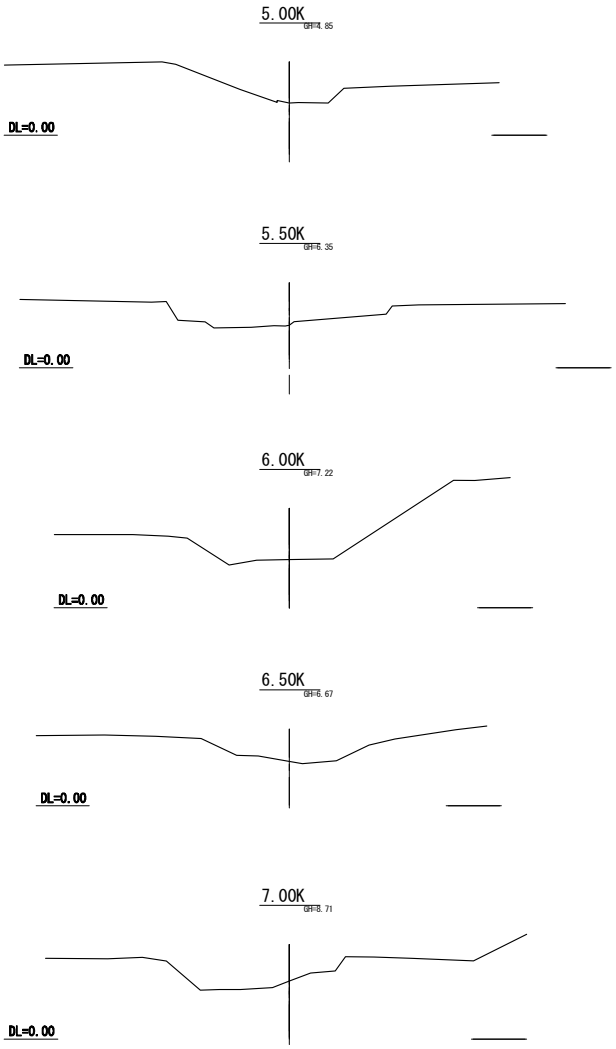

Cross Section (Nawaka River)

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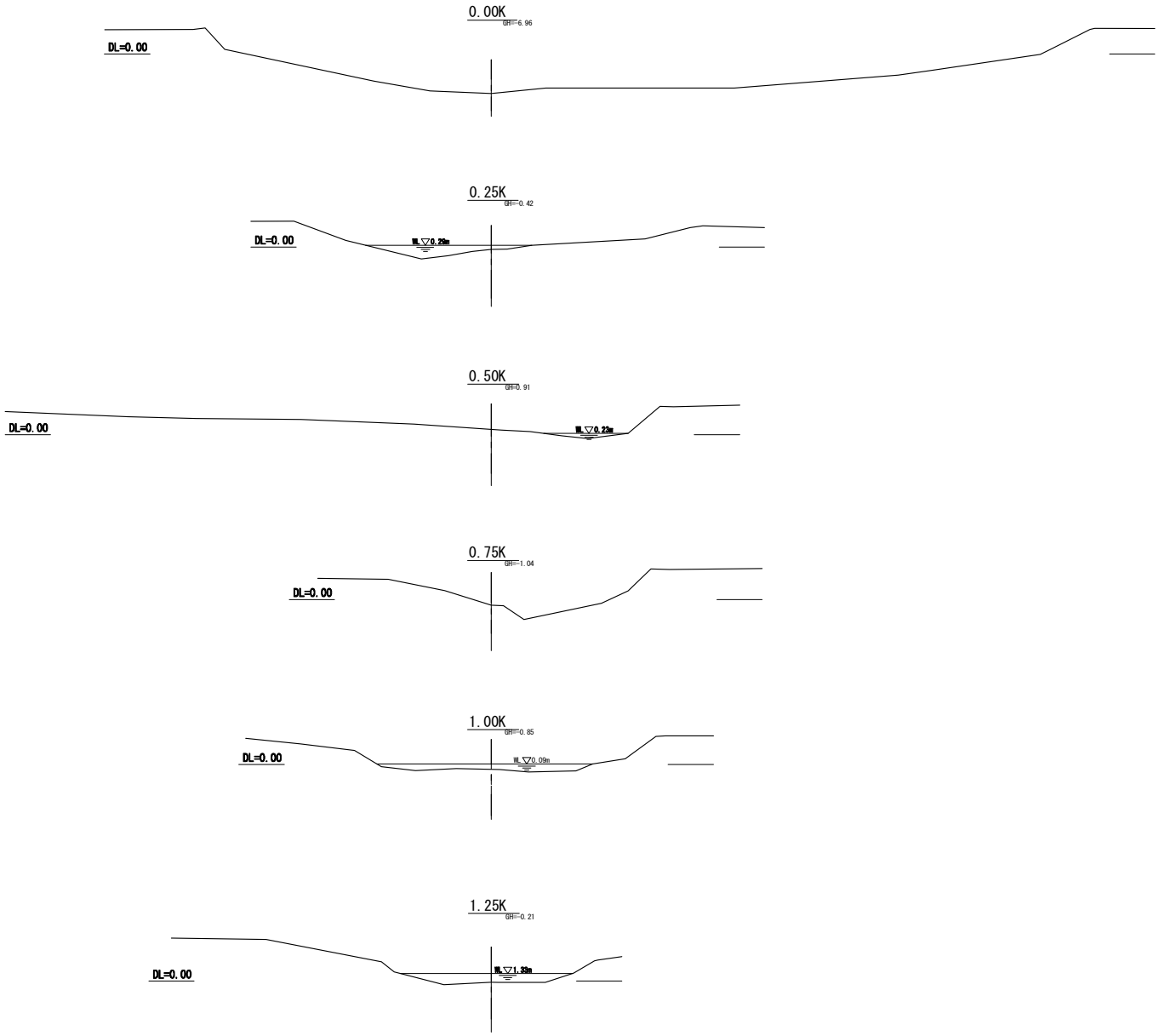

Cross Section (Nawaka River)

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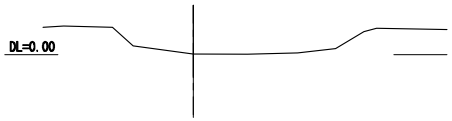

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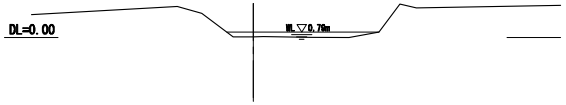

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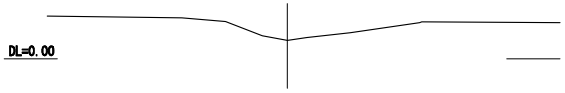

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2.75K
GH=2.83

Cross Section (Nawaka River)

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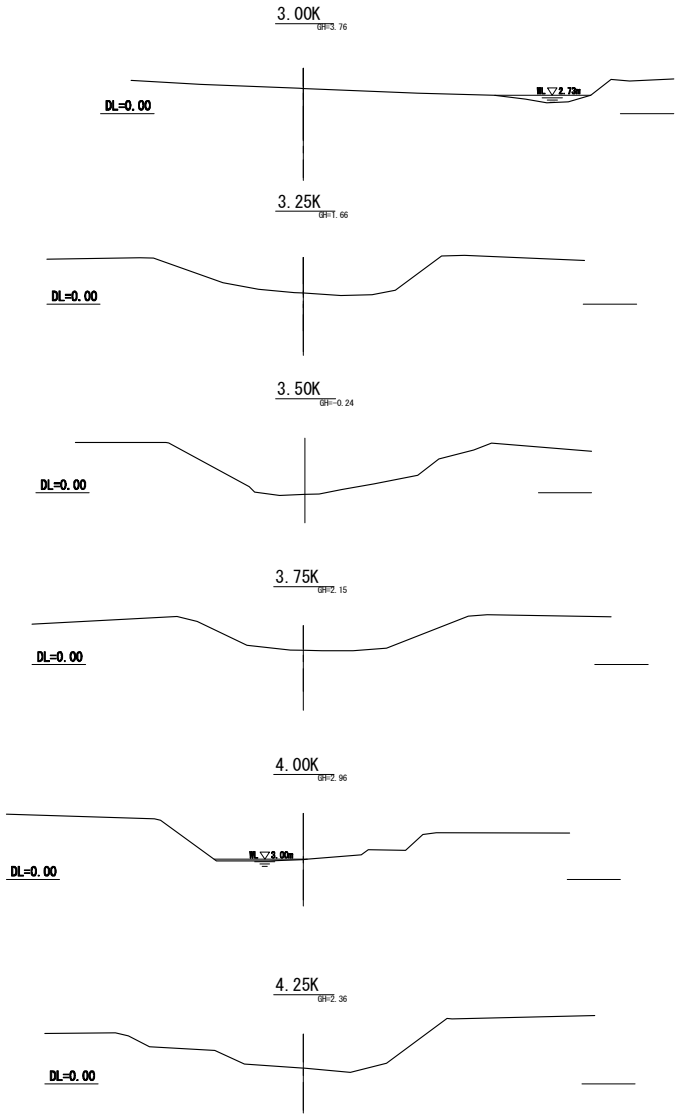

Cross Section (Nawaka River)

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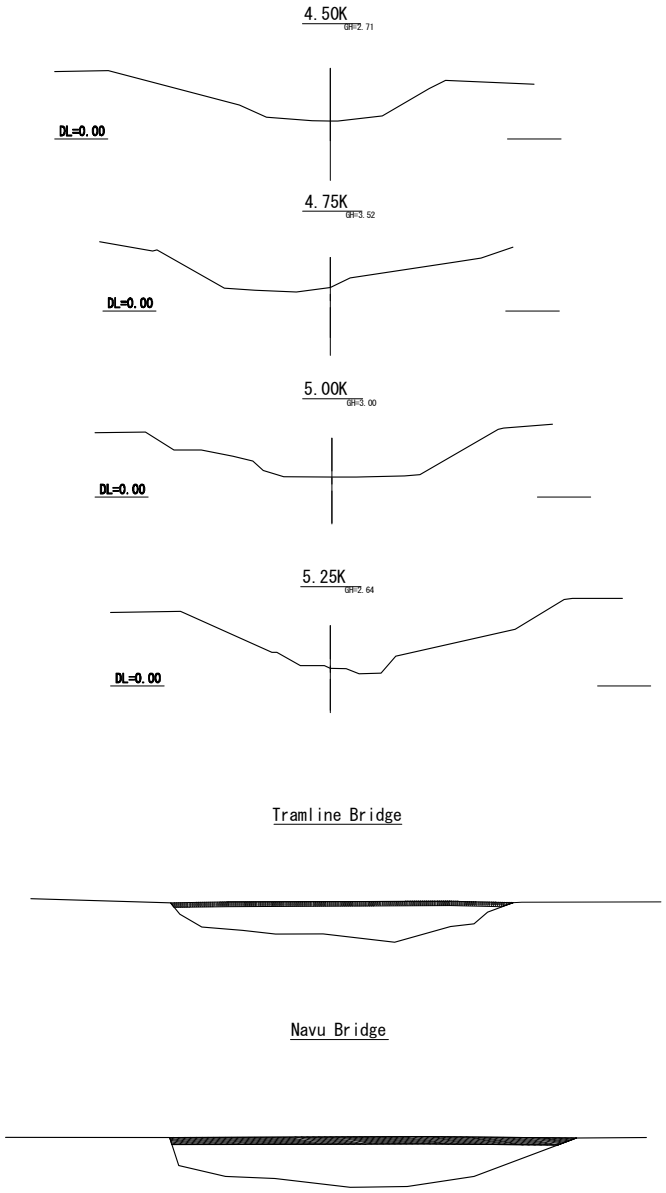
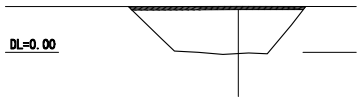


Cross Section (Nawaka River)

1:400

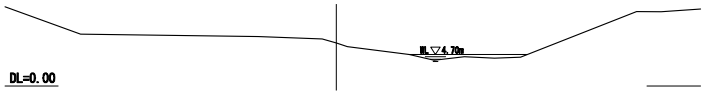
Nawaka Bridge

GH=-0.22



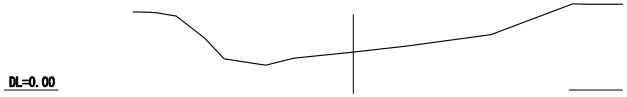
5.50K

GH=6.46



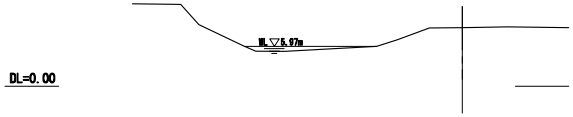
6.00K

GH=5.66



6.50K

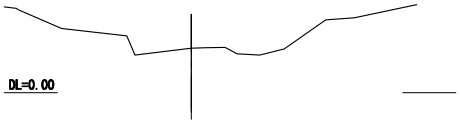
GH=8.78



Retention Weir

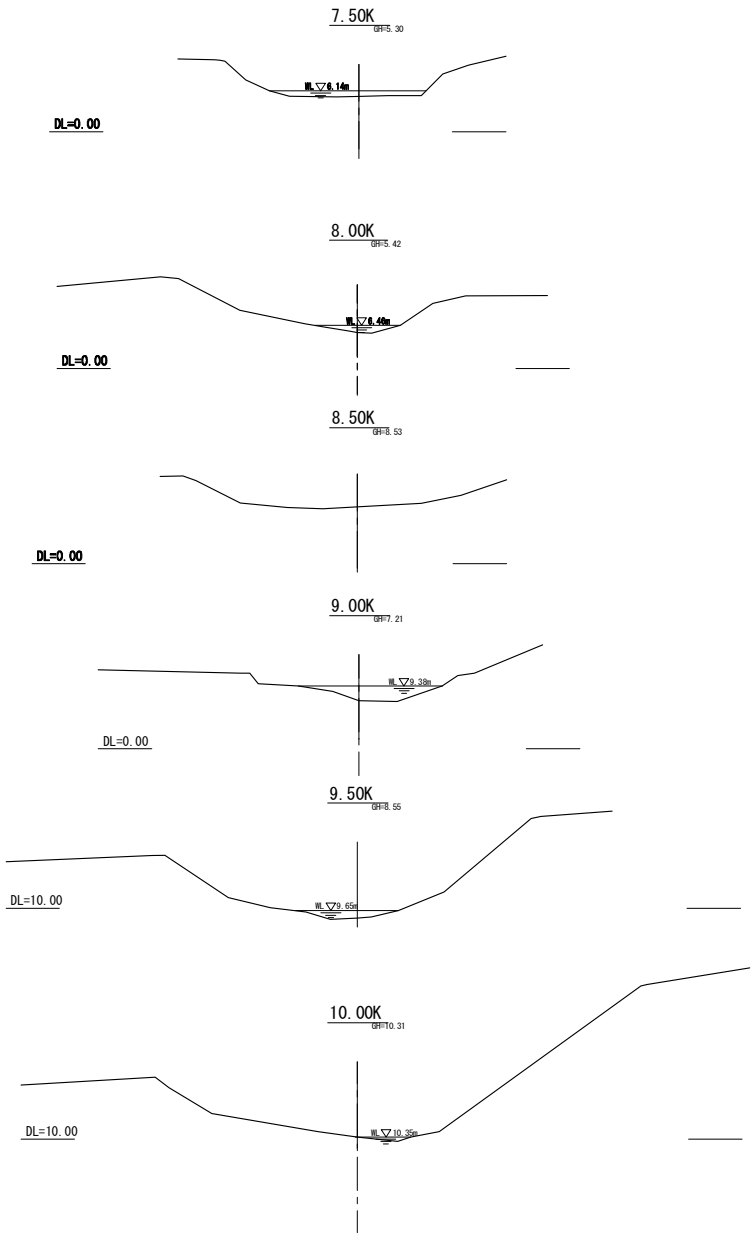
7.00K

GH=6.71



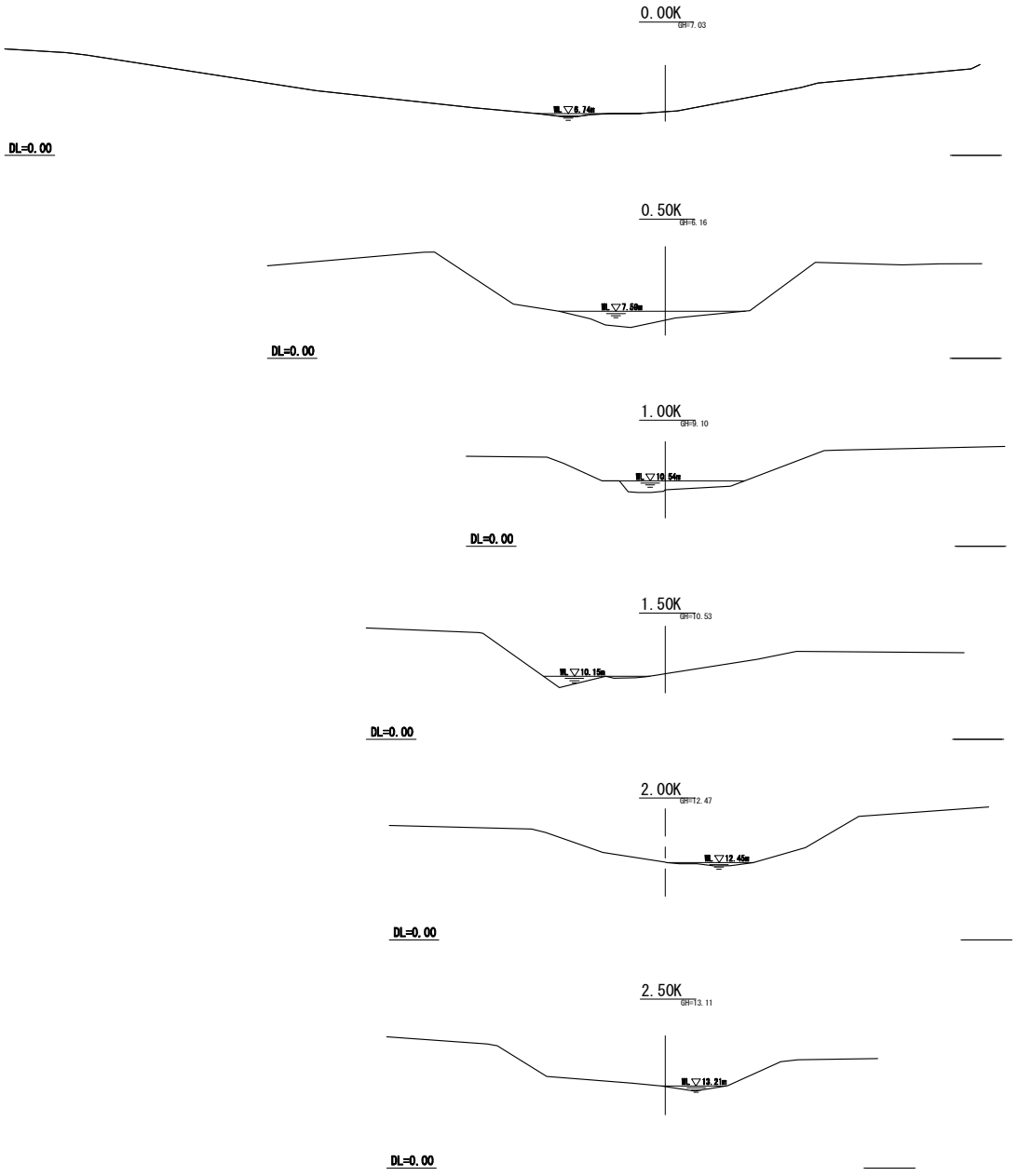
Cross Section (Nawaka River)

1:400



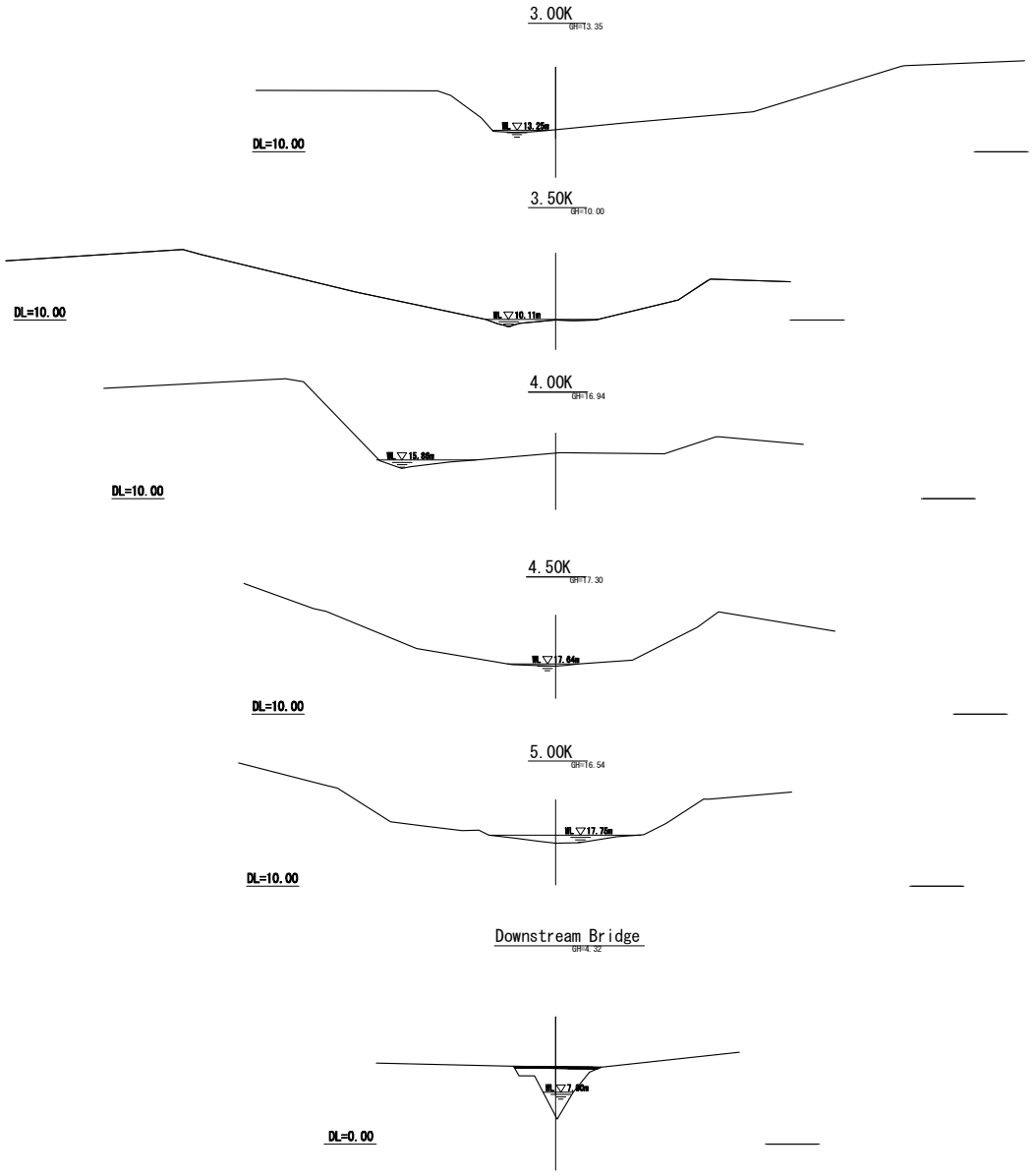
Cross Section (Namosi River)

1:400



Cross Section (Namosi River)

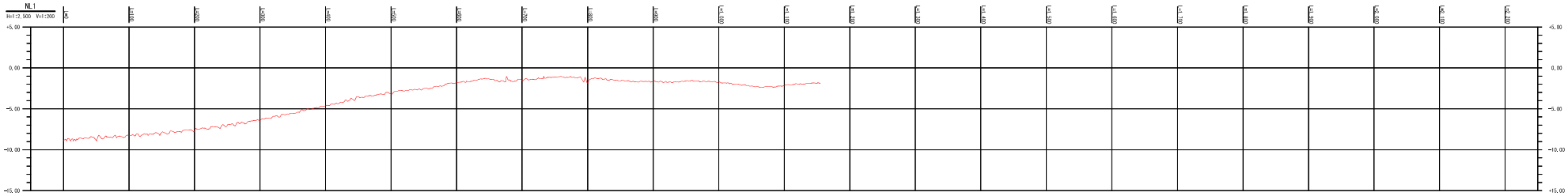
1:400



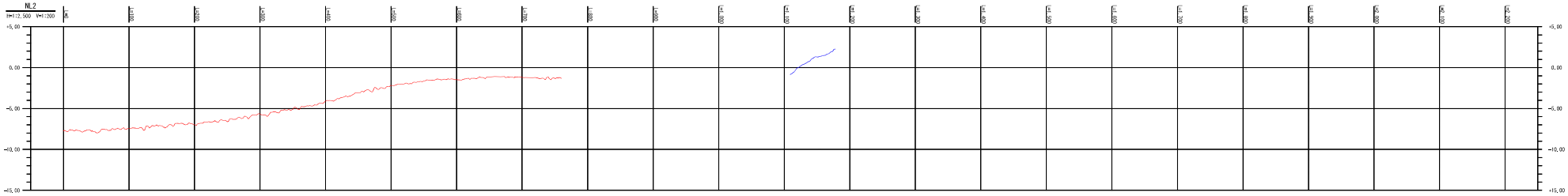
Data Book-7

Drawings of Seacoast Survey

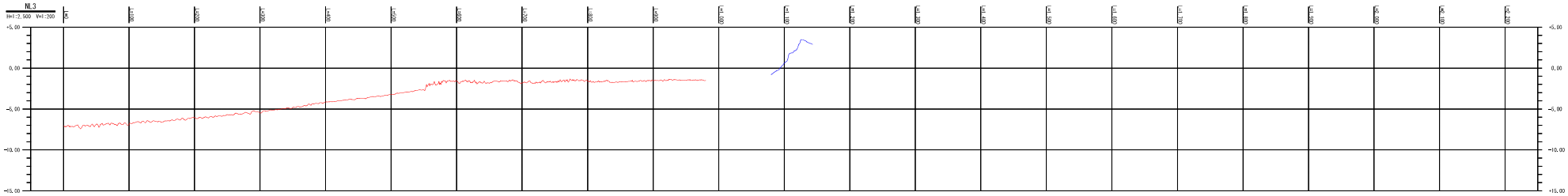
断面基点座標 Easting=1858216.423 Northing=3918128.555 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1858459.725 Northing=3917691.472 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1858703.037 Northing=3917254.39 (Fiji Map Grid) 乾季 雨季



業務名	フィジー国ナンディ川洪水対策策定プロジェクトに係る測量調査・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単位	m
調査年月日	平成26年9月 平成27年2月	図面番号	1
会社名	八千代エンジニヤリング株式会社		

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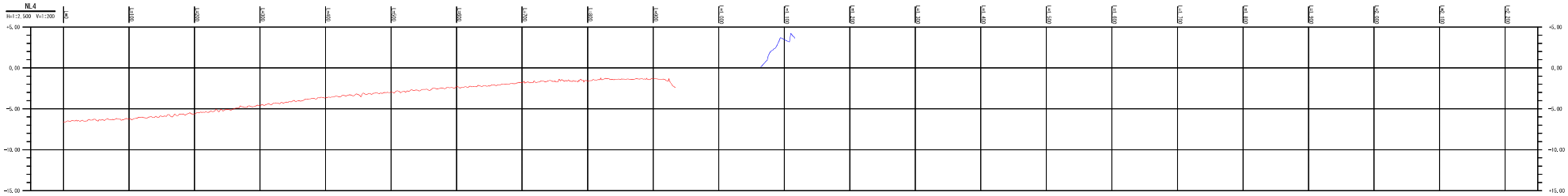
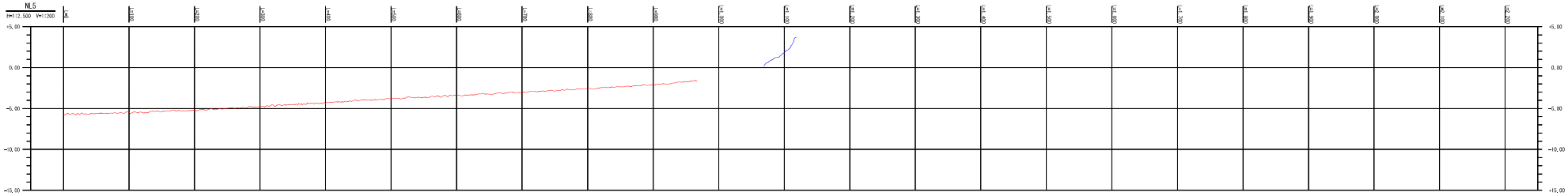
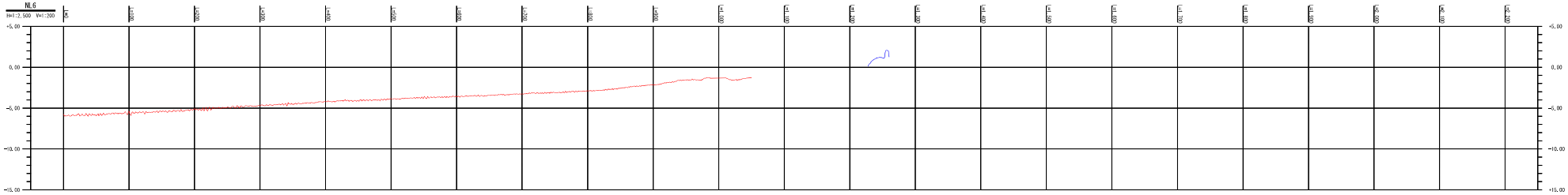


断面基点座標 Easting=1859192.985 Northing=3916382.432 (Fiji Map Grid) 乾季 雨季

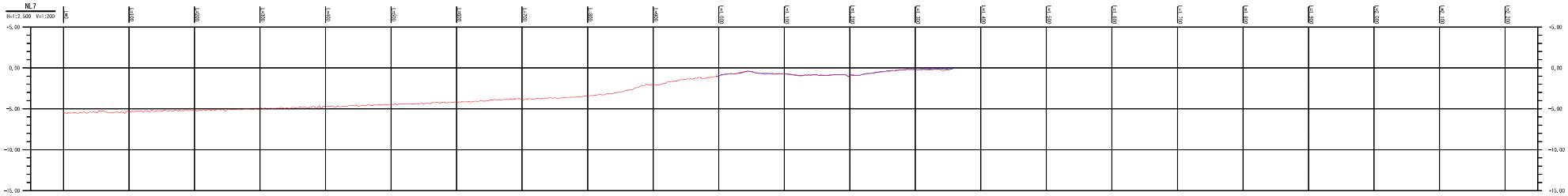


断面基点座標 Easting=1859141.379 Northing=3916591.839 (Fiji Map Grid) 乾季 雨季

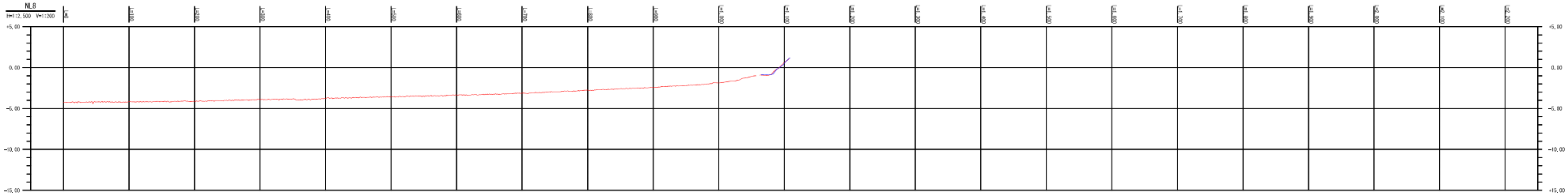


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る海岸測量・沿岸調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単位	m
調査年月日	平成26年9月 平成27年2月	図面番号	2
会社名	八千代エンジニヤリング株式会社		

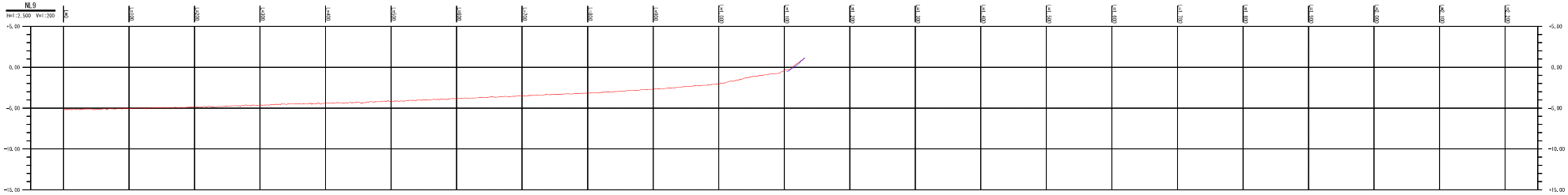
断面基点座標 Easting=1859174.721 Northing=3916091.893 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1859620.689 Northing=3916392.609 (Fiji Map Grid) 乾季 雨季

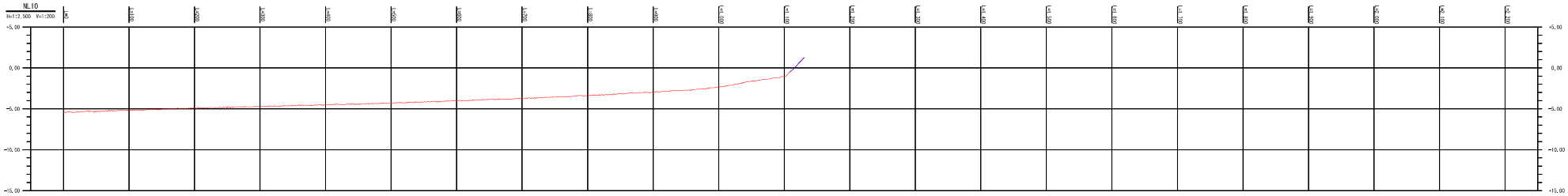


断面基点座標 Easting=1859249.107 Northing=3916055.597 (Fiji Map Grid) 乾季 雨季

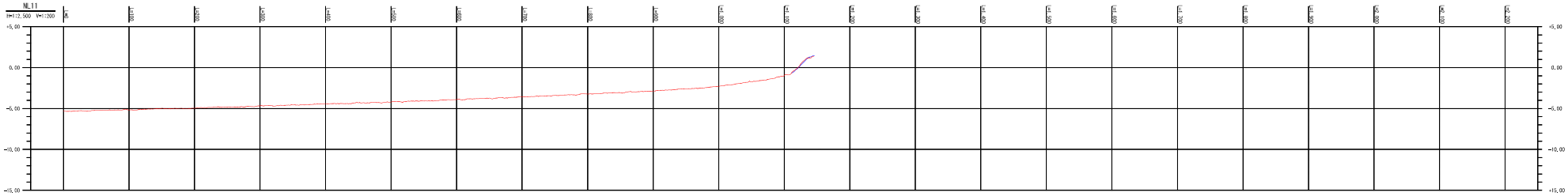


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単 位	m
調査年月日	平成26年9月 平成27年2月	図面番号	3
会社名	八千代エンジニヤリング株式会社		

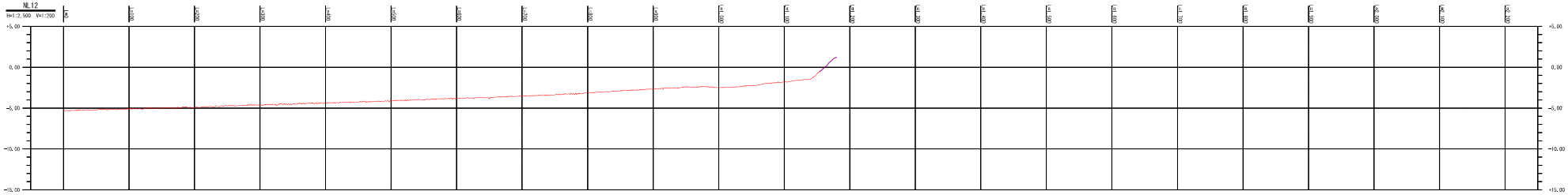
断面基点座標 Easting=1858915.649 Northing=3915669.644 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1858523.875 Northing=3915358.555 (Fiji Map Grid) 乾季 雨季

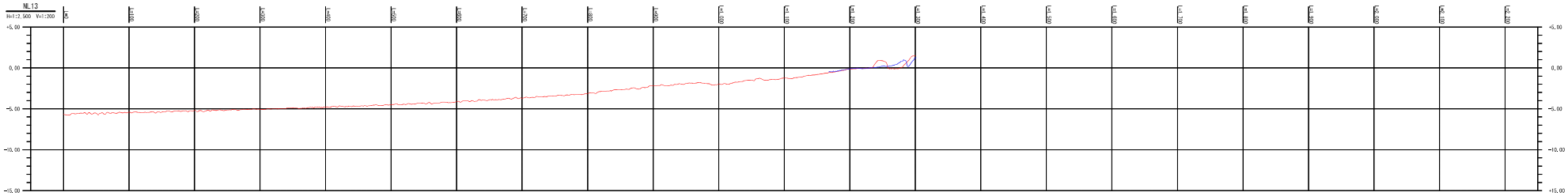


断面基点座標 Easting=1858067.362 Northing=3915130.614 (Fiji Map Grid) 乾季 雨季

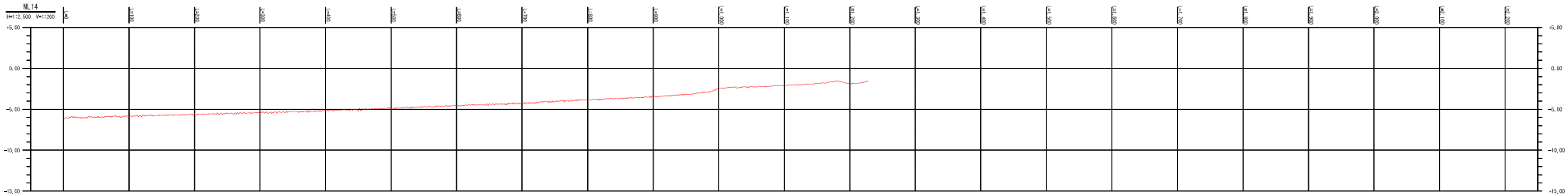


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに係る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単 位	m
調査年月日	平成26年9月 平成27年2月	図面番号	4
会社名	八千代エンジニヤリング株式会社		

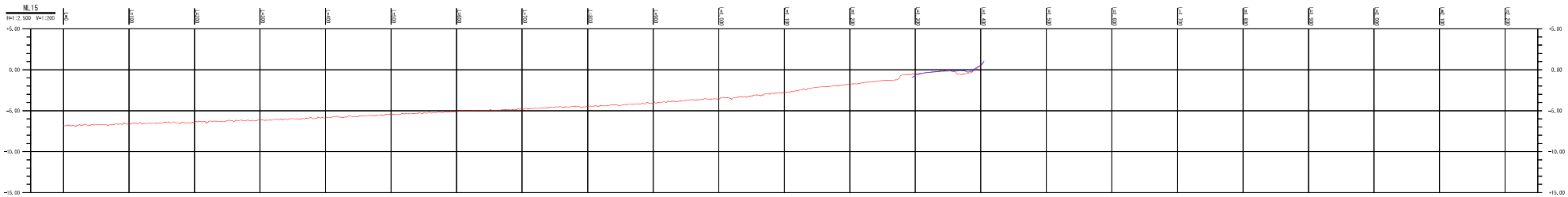
断面基点座標 Easting=1858192.662 Northing=3915341.591 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1857691.703 Northing=3915416.654 (Fiji Map Grid) 乾季 雨季

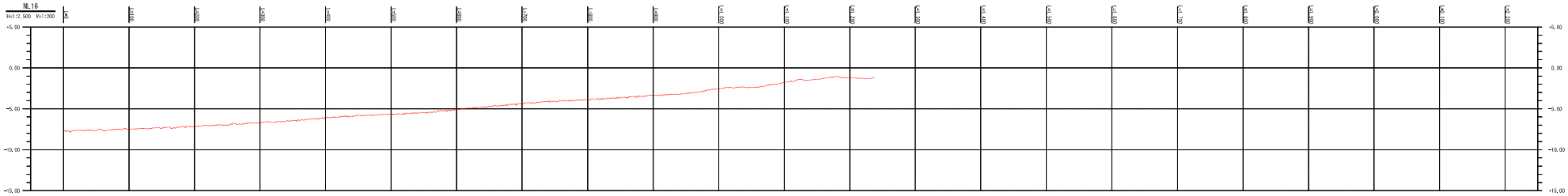


断面基点座標 Easting=1857188.667 Northing=3915714.494 (Fiji Map Grid) 乾季 雨季

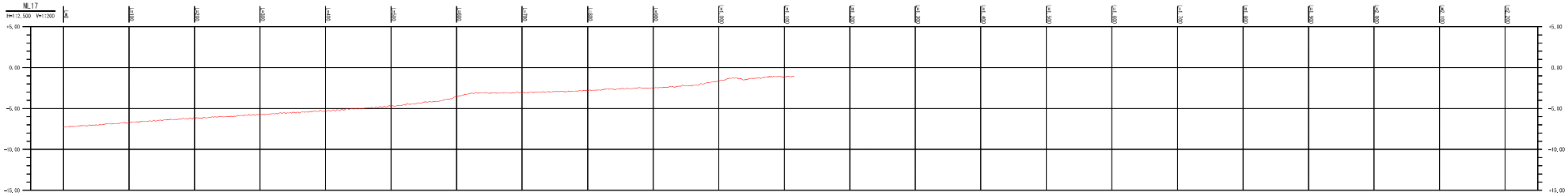


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単 位	m
調査年月日	平成26年9月 平成27年2月	図面番号	5
会社名	八千代エンジニヤリング株式会社		

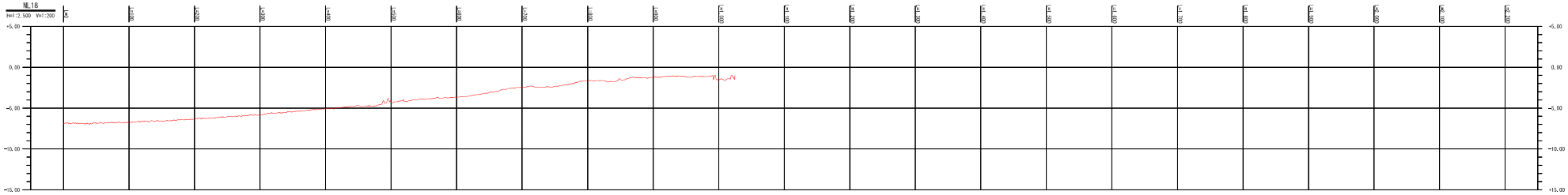
断面基点座標 Easting=1856685.789 Northing=3915995.228 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1856185.588 Northing=3915988.567 (Fiji Map Grid) 乾季 雨季

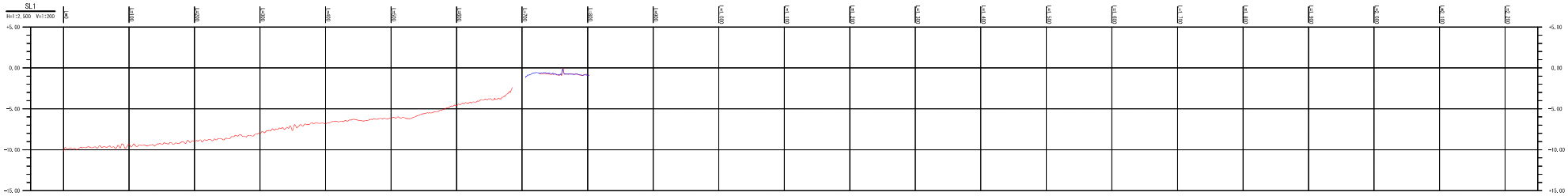


断面基点座標 Easting=1855686.839 Northing=3915825.977 (Fiji Map Grid) 乾季 雨季

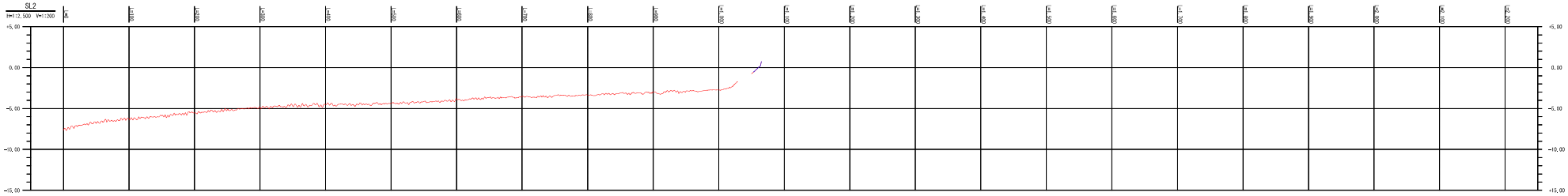


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単 位	m
調査年月日	平成26年9月 平成27年2月	図面番号	6
会社名	八千代エンジニヤリング株式会社		

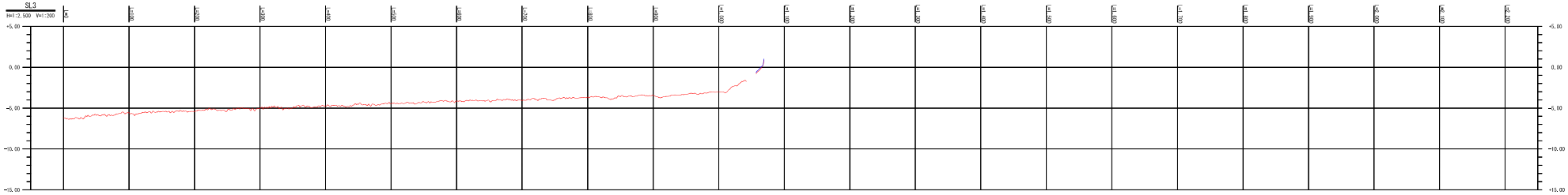
断面基点座標 Easting=1852071.16 Northing=3914221.753 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1852134.658 Northing=3913719.19 (Fiji Map Grid) 乾季 雨季

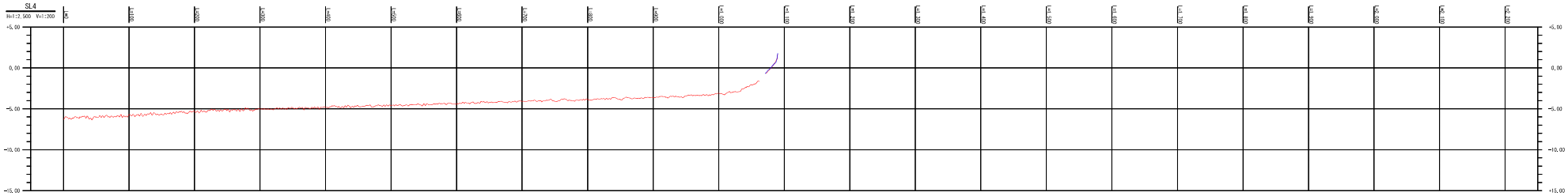


断面基点座標 Easting=1852200.15 Northing=3913216.567 (Fiji Map Grid) 乾季 雨季

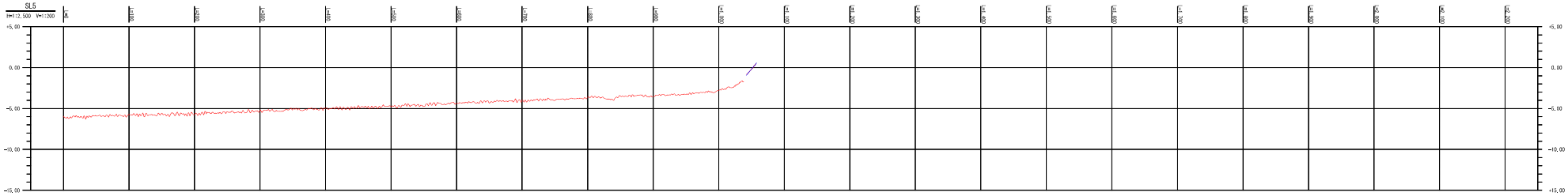


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単位	m
調査年月日	平成26年9月 平成27年2月	図面番号	7
会社名	八千代エンジニヤリング株式会社		

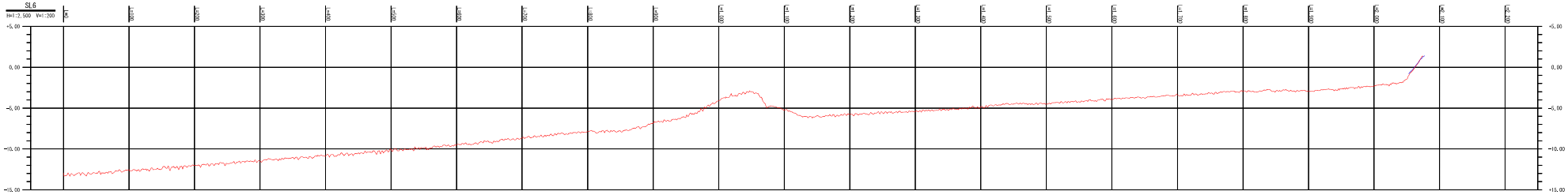
断面基点座標 Easting=1852204.141 Northing=3912715.921 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1852213.407 Northing=3912215.114 (Fiji Map Grid) 乾季 雨季

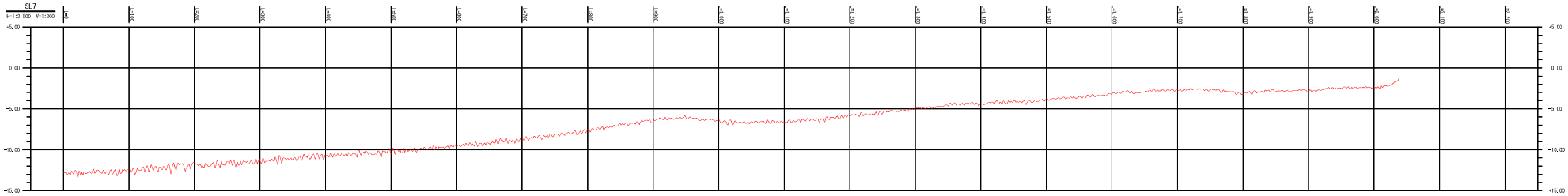


断面基点座標 Easting=1851106.024 Northing=3911750.599 (Fiji Map Grid) 乾季 雨季

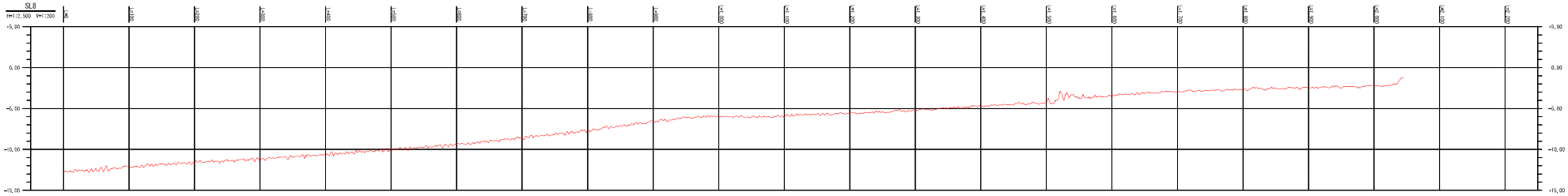


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単　位	m
調査年月日	平成26年9月 平成27年2月	図面番号	8
会社名	八千代エンジニヤリング株式会社		

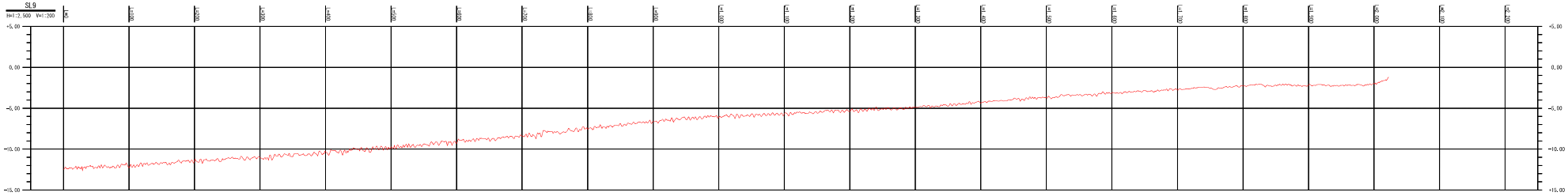
断面基点座標 Easting=1851104.598 Northing=3911500.388 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1851076.589 Northing=3911251.039 (Fiji Map Grid) 乾季 雨季

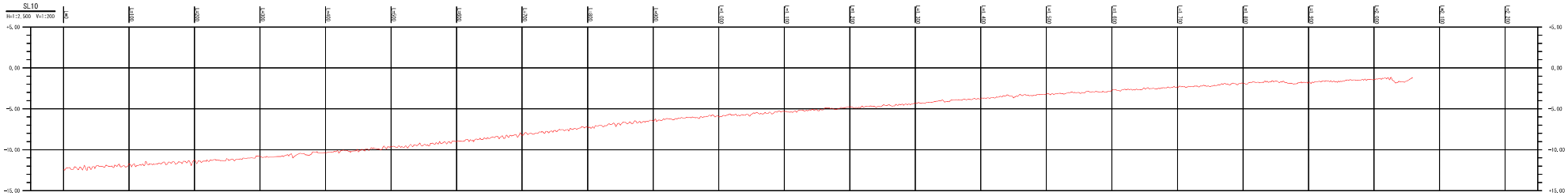


断面基点座標 Easting=1851068.518 Northing=3911001.046 (Fiji Map Grid) 乾季 雨季

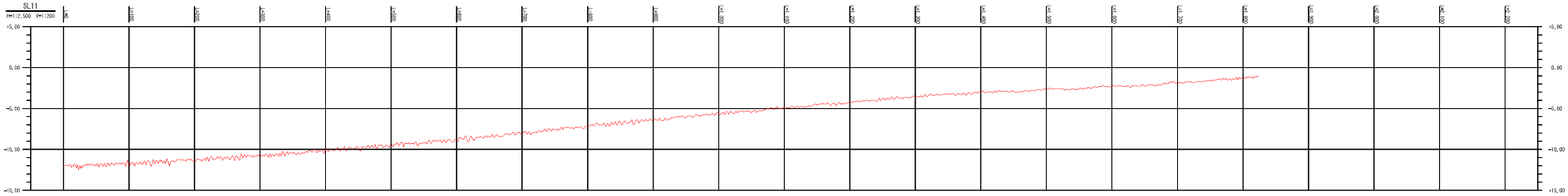


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る海岸測量・沿岸調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単　位	m
調査年月日	平成26年9月 平成27年2月	図面番号	9
会社名	八千代エンジニヤリング株式会社		

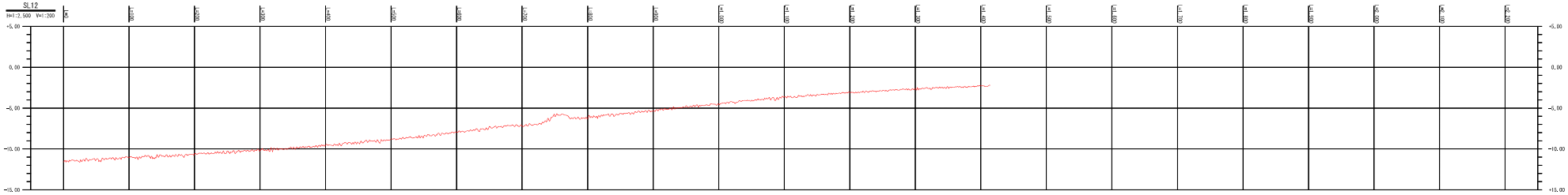
断面基点座標 Easting=1851042.482 Northing=3910751.626 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1850991.665 Northing=3910503.004 (Fiji Map Grid) 乾季 雨季

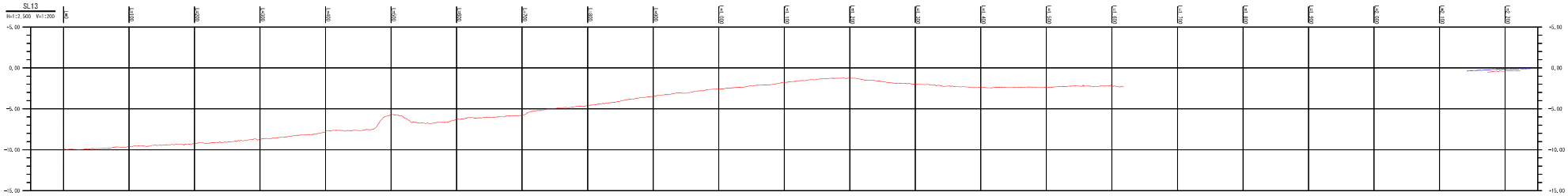


断面基点座標 Easting=1850998.237 Northing=3910252.538 (Fiji Map Grid) 乾季 雨季

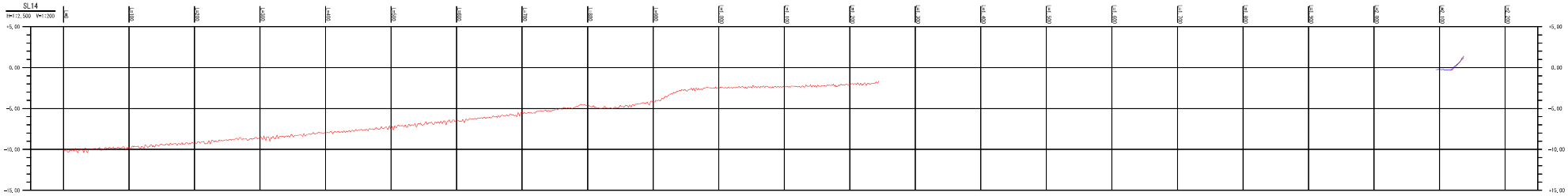


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに係る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単位	m
調査年月日	平成26年9月 平成27年2月	図面番号	10
会社名	八千代エンジニヤリング株式会社		

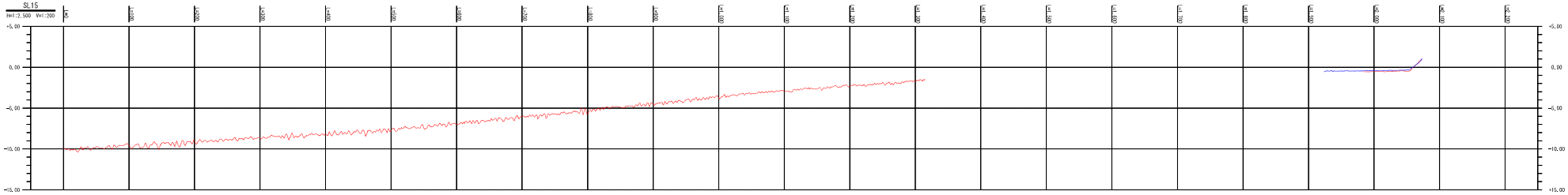
断面基点座標 Easting=1851029.871 Northing=3910001.264 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1851029.708 Northing=3909751.005 (Fiji Map Grid) 乾季 雨季

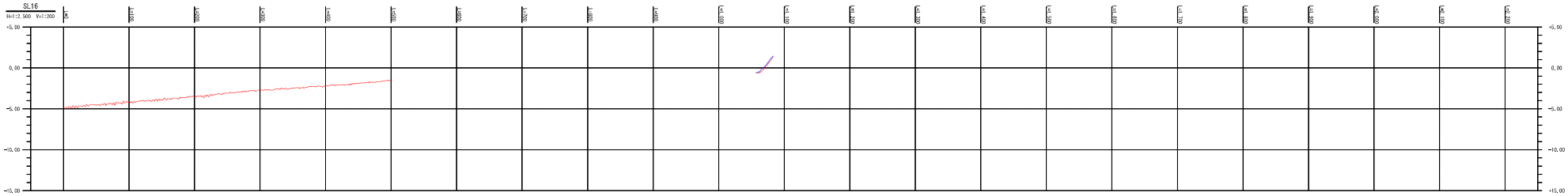


断面基点座標 Easting=1850962.518 Northing=3909502.931 (Fiji Map Grid) 乾季 雨季

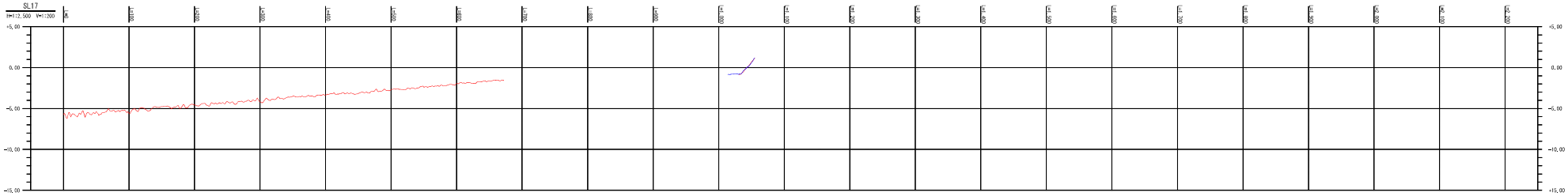


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単　位	m
調査年月日	平成26年9月 平成27年2月	図面番号	11
会社名	八千代エンジニヤリング株式会社		

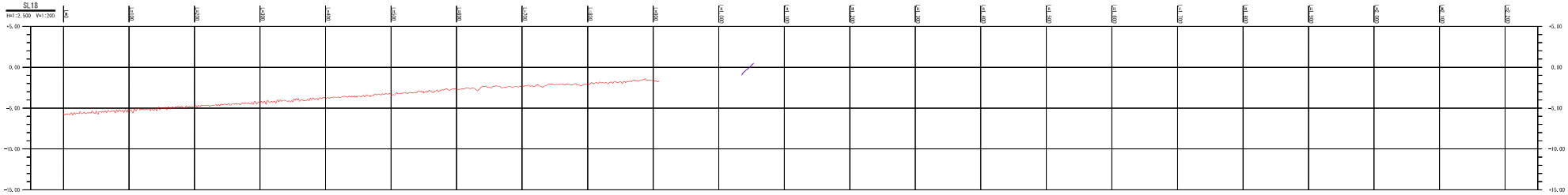
断面基点座標 Easting=1851824.204 Northing=3909321.681 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1851672.525 Northing=3908844.962 (Fiji Map Grid) 乾季 雨季

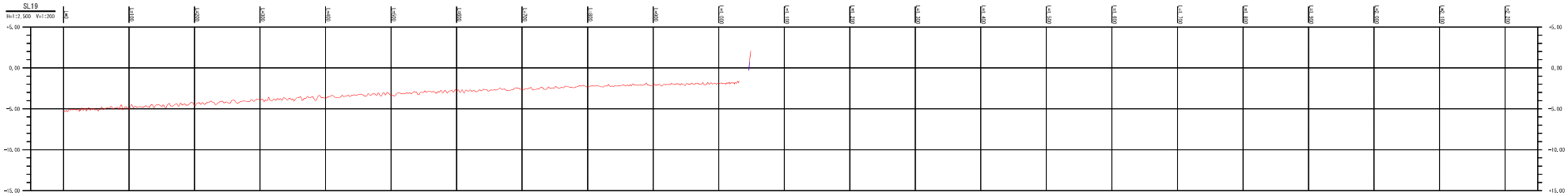


断面基点座標 Easting=1851481.823 Northing=3908380.285 (Fiji Map Grid) 乾季 雨季

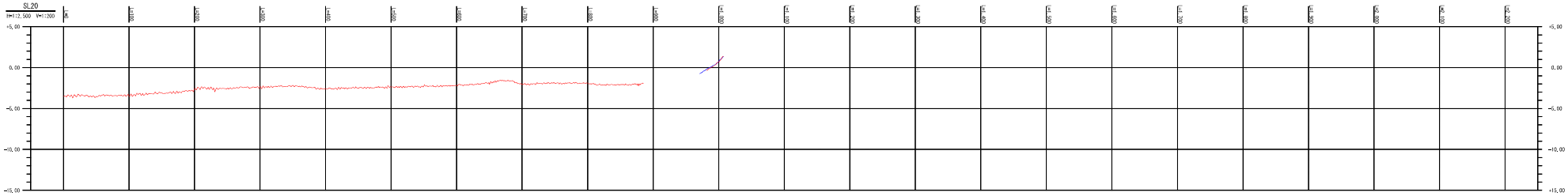


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単　位	m
調査年月日	平成26年9月 平成27年2月	図面番号	12
会社名	八千代エンジニヤリング株式会社		

断面基点座標 Easting=1851246.418 Northing=3907929.427 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1850942.468 Northing=3907499.729 (Fiji Map Grid) 乾季 雨季



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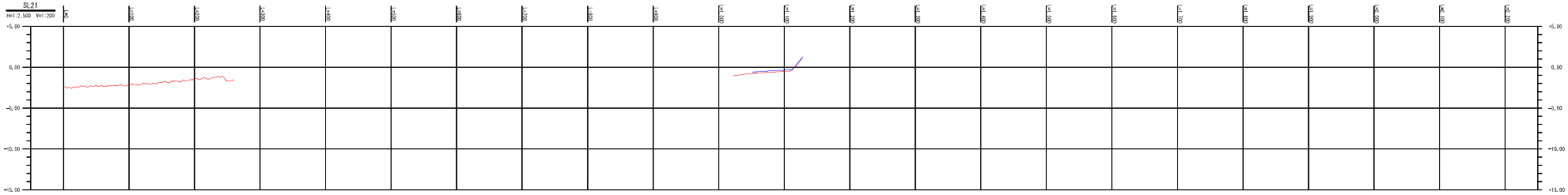
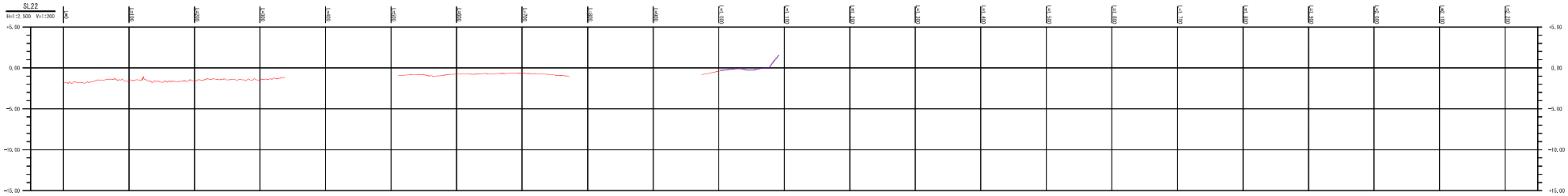
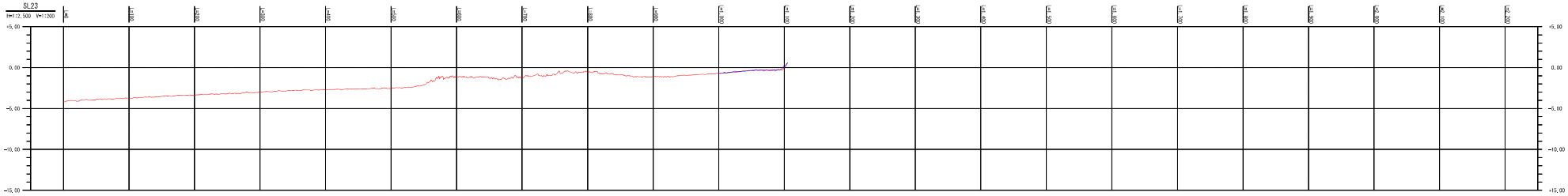


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単 位	m
調査年月日	平成26年9月 平成27年2月	図面番号	13
会社名	八千代エンジニヤリング株式会社		

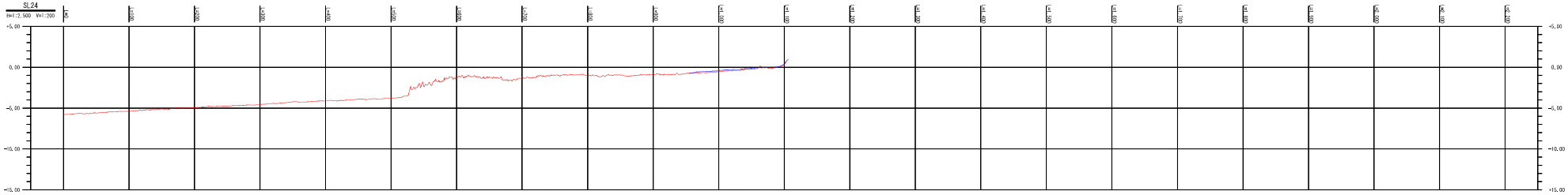
断面基点座標 Easting=1850924.416 Northing=3907014.463 (Fiji Map Grid) 乾季 雨季



断面基点座標 Easting=1850409.720 Northing=3906858.473 (Fiji Map Grid) 乾季 雨季

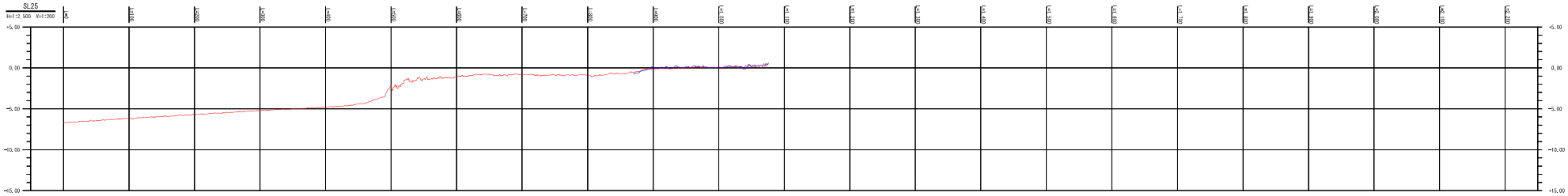


断面基点座標 Easting=1849885.799 Northing=3906714.112 (Fiji Map Grid) 乾季 雨季

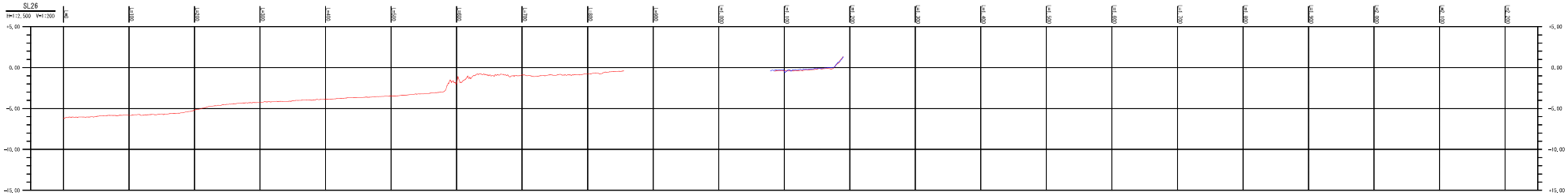


業務名	フィジー国ナンディ川洪水対策策定プロジェクトに伴る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単　位	m
調査年月日	平成26年9月 平成27年2月	図面番号	14
会社名	八千代エンジニヤリング株式会社		

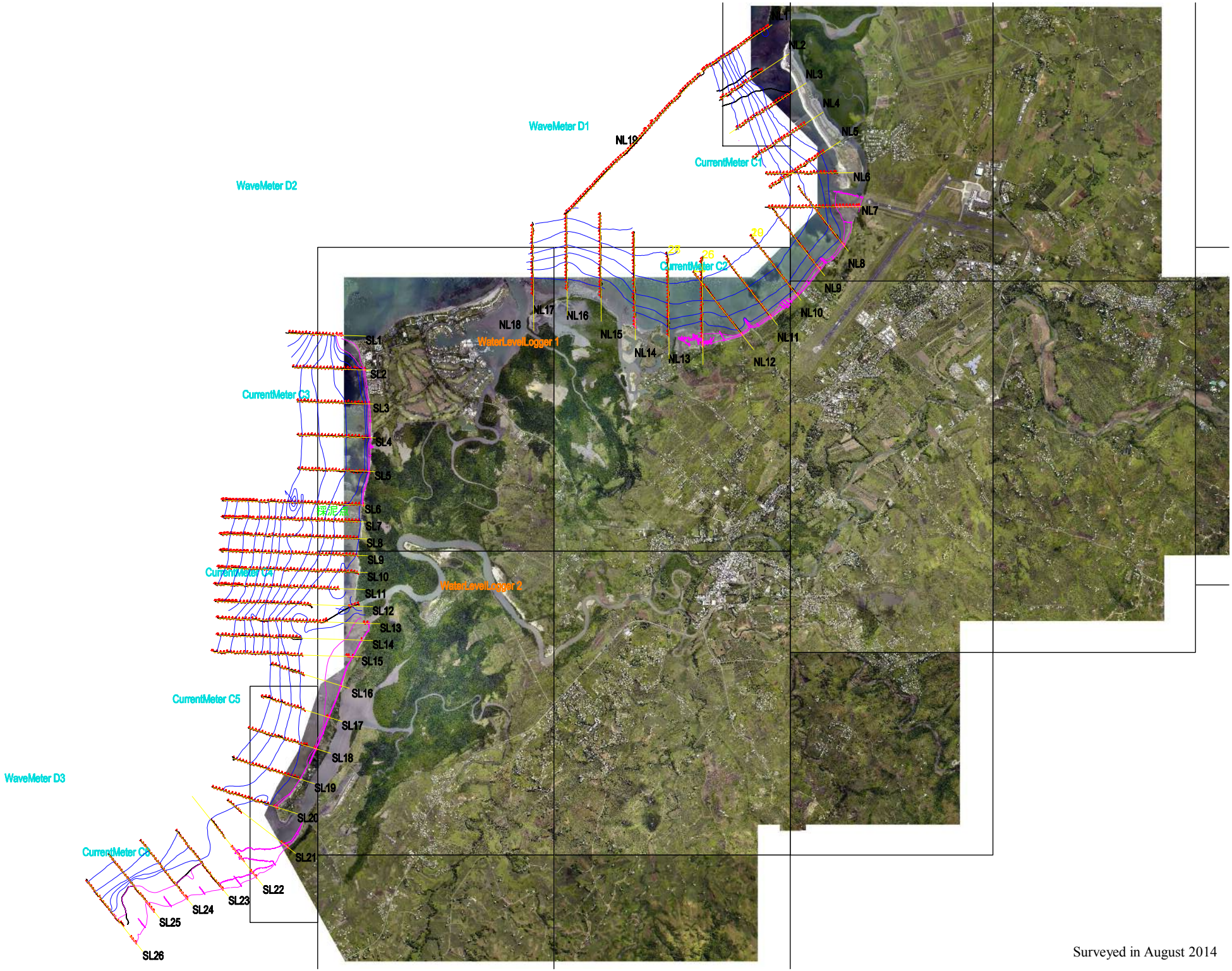
断面基点座標 Easting=1849409.932 Northing=3906509.117 (Fiji Map Grid) 乾季 雨季



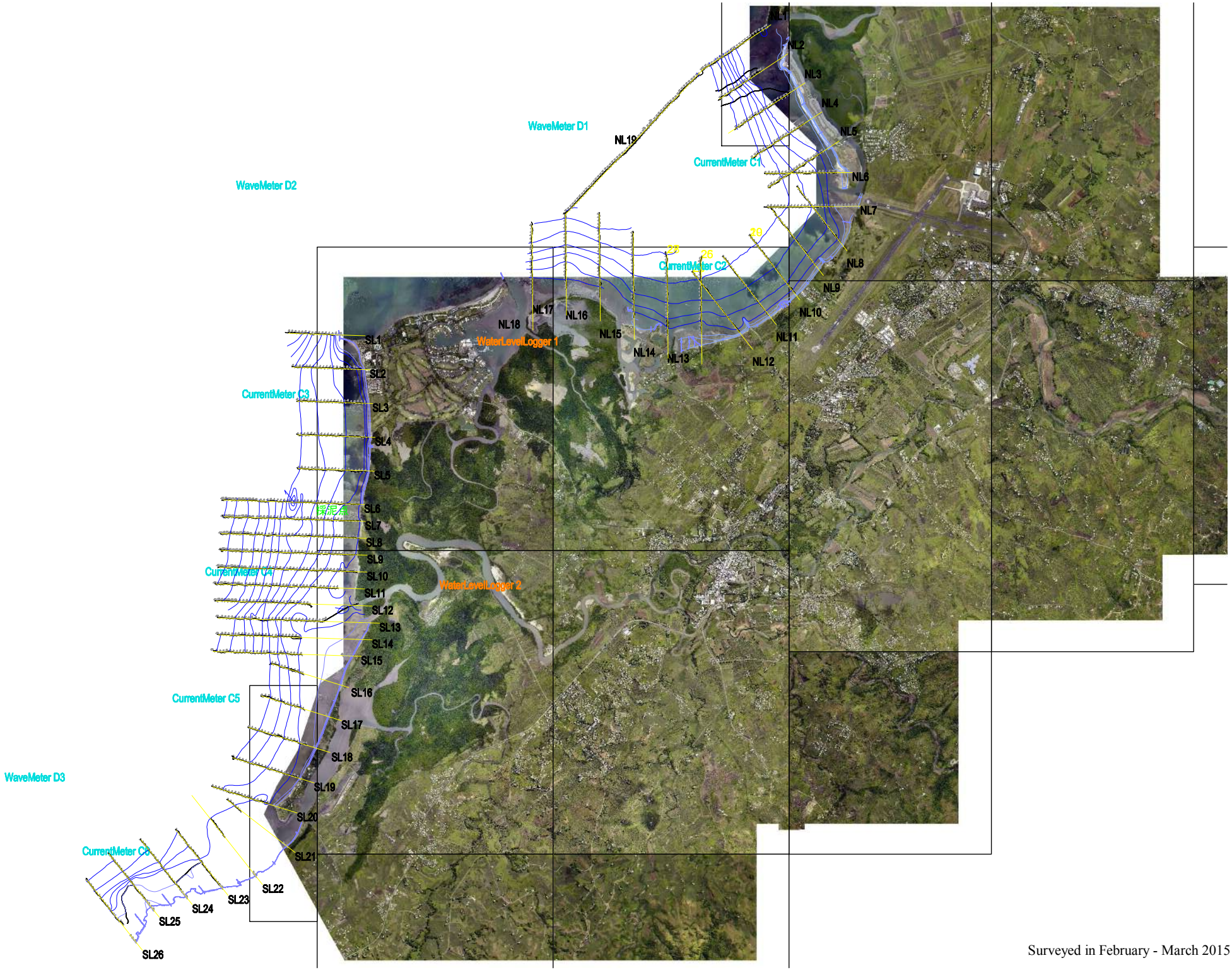
断面基点座標 Easting=1849081.465 Northing=3906118.175 (Fiji Map Grid) 乾季 雨季



業務名	フィジー国ナンディ川洪水対策策定プロジェクトに係る測量測量・治水調査		
図面名	断面図		
縮尺	SH=1:2,500 SV=1: 200	単　位	m
調査年月日	平成26年9月 平成27年2月	図面番号	15
会社名	八千代エンジニヤリング株式会社		



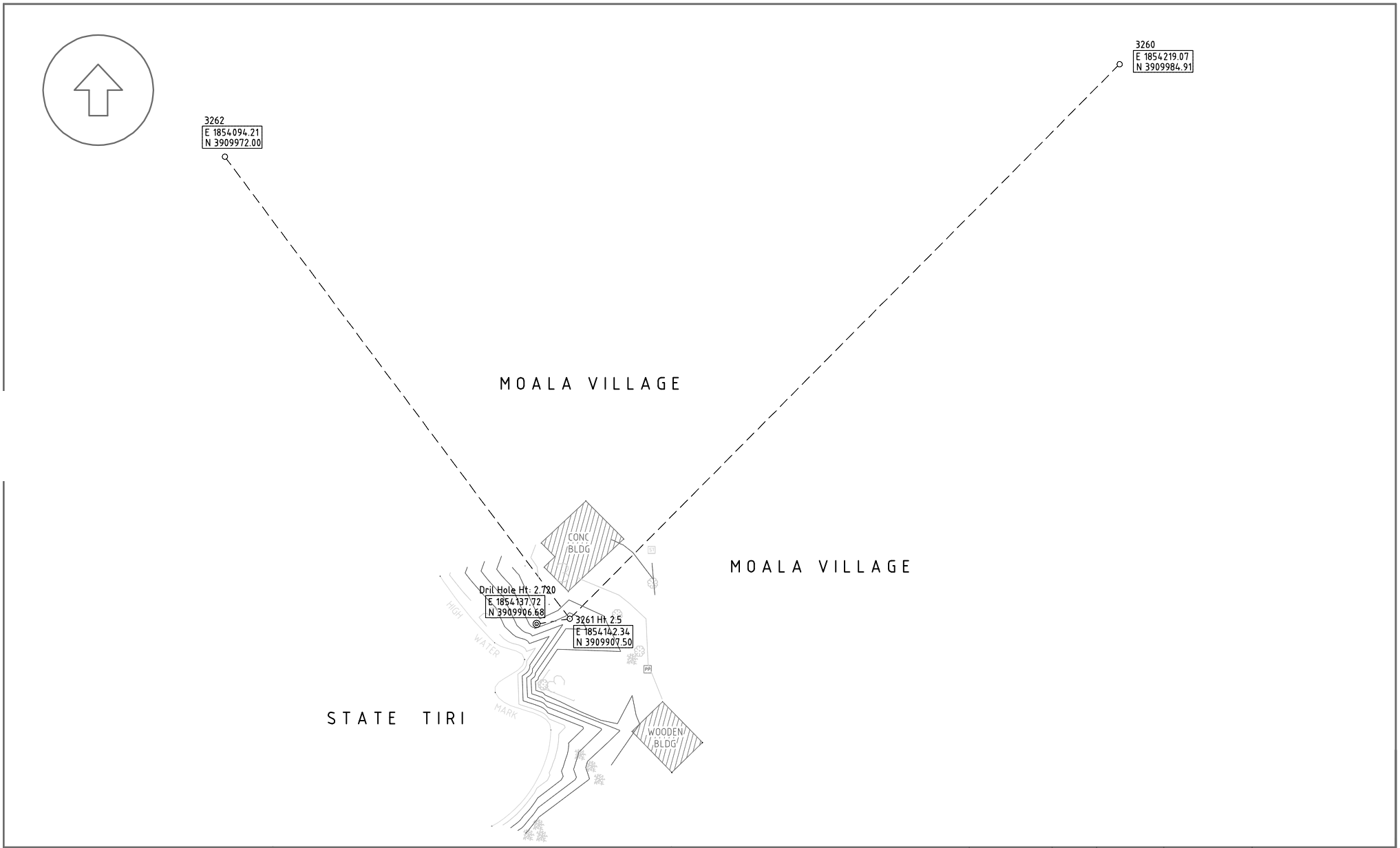
Surveyed in August 2014



Surveyed in February - March 2015

Data Book-8

Drawings of Topographical Survey



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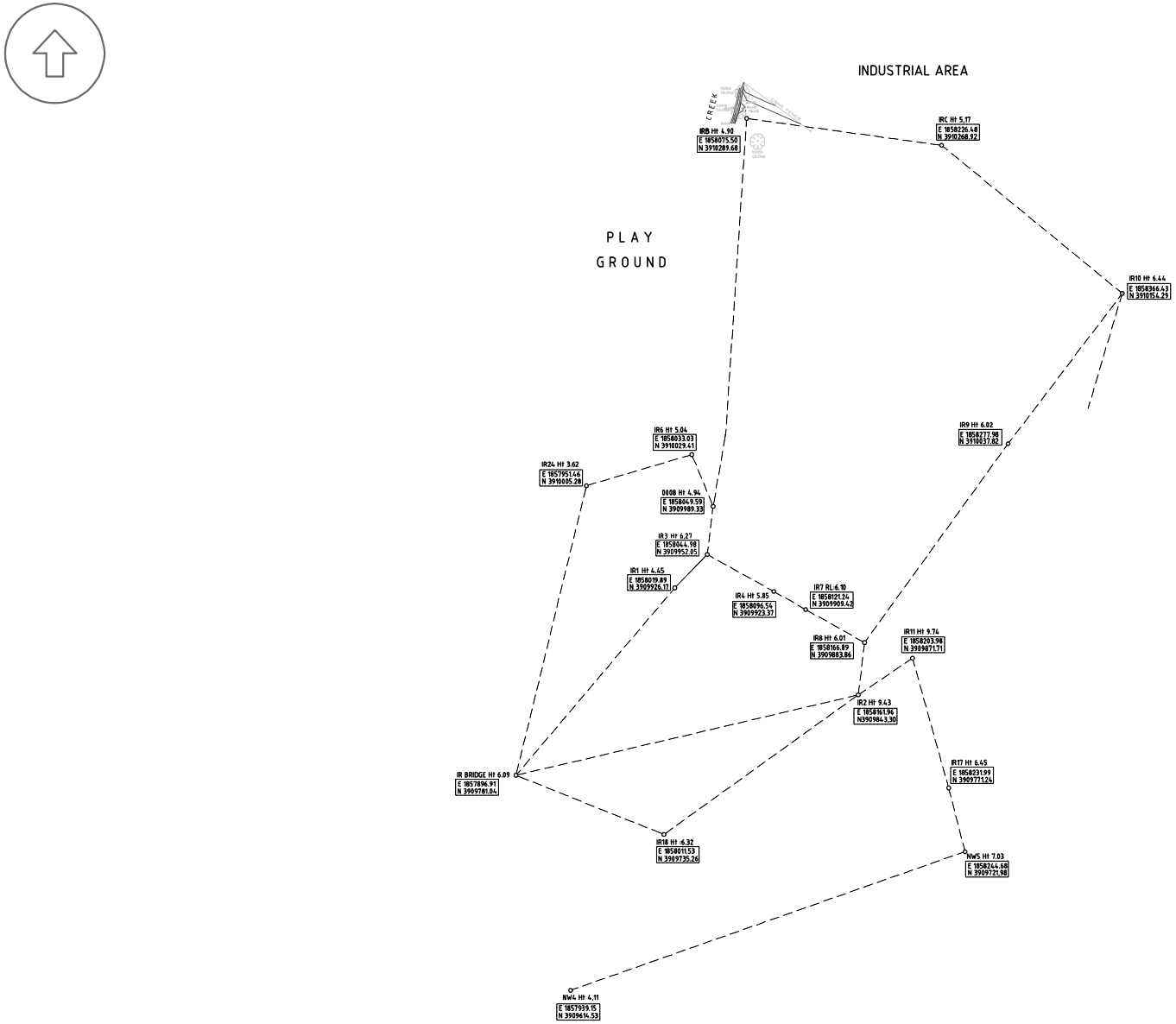
CLIENT
JICA STUDY TEAM
NADI RIVER FLOOD PROJECT

PROJECT
SITE No. 1

JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	05/11/15	
DRAFTED BY:	Salend	10/11/15	
CHECKED BY:			
APPROCED BY:			

SCALE : 1 : 500
2110 - SITE 1
ACAD
C/2100-2199/2110 - Topo



D8-2

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CLIENT
JICA STUDY TEAM
NADI RIVER FLOOD PROJECT

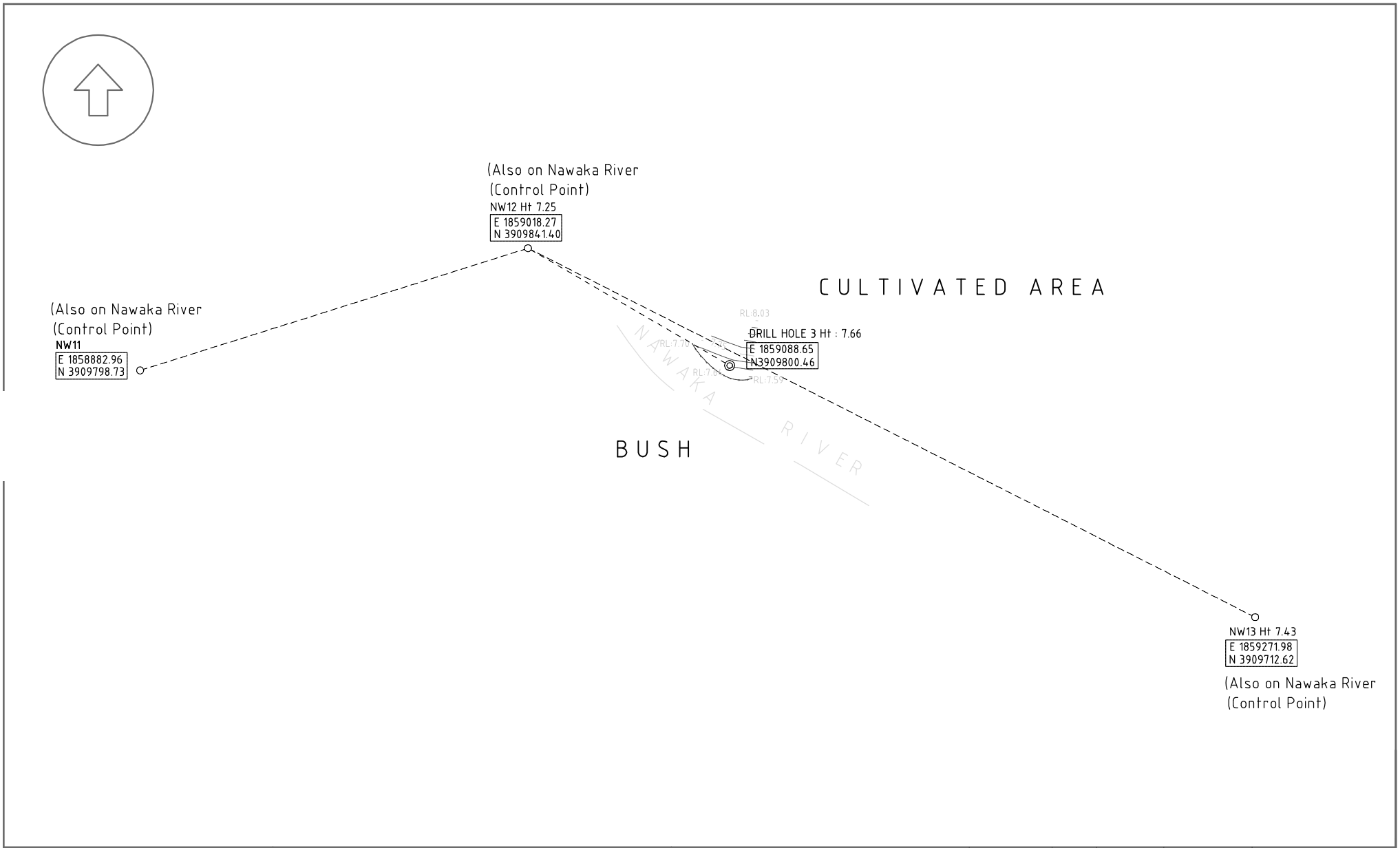
PROJECT
SITE No. 2

ISSUED TO :	DATE		NAME	DATE	AMENDMENTS
		SURVEYED	SAMI	5/11/2015	
		DESIGN			
		DRAWN	SALEND	10/11/2015	
		CHECKED			
		APPROVED			

SCALE: 1 : 2500

2110 - SITE 2

ACLT :
C/2100-2199\ 2110- TOPO



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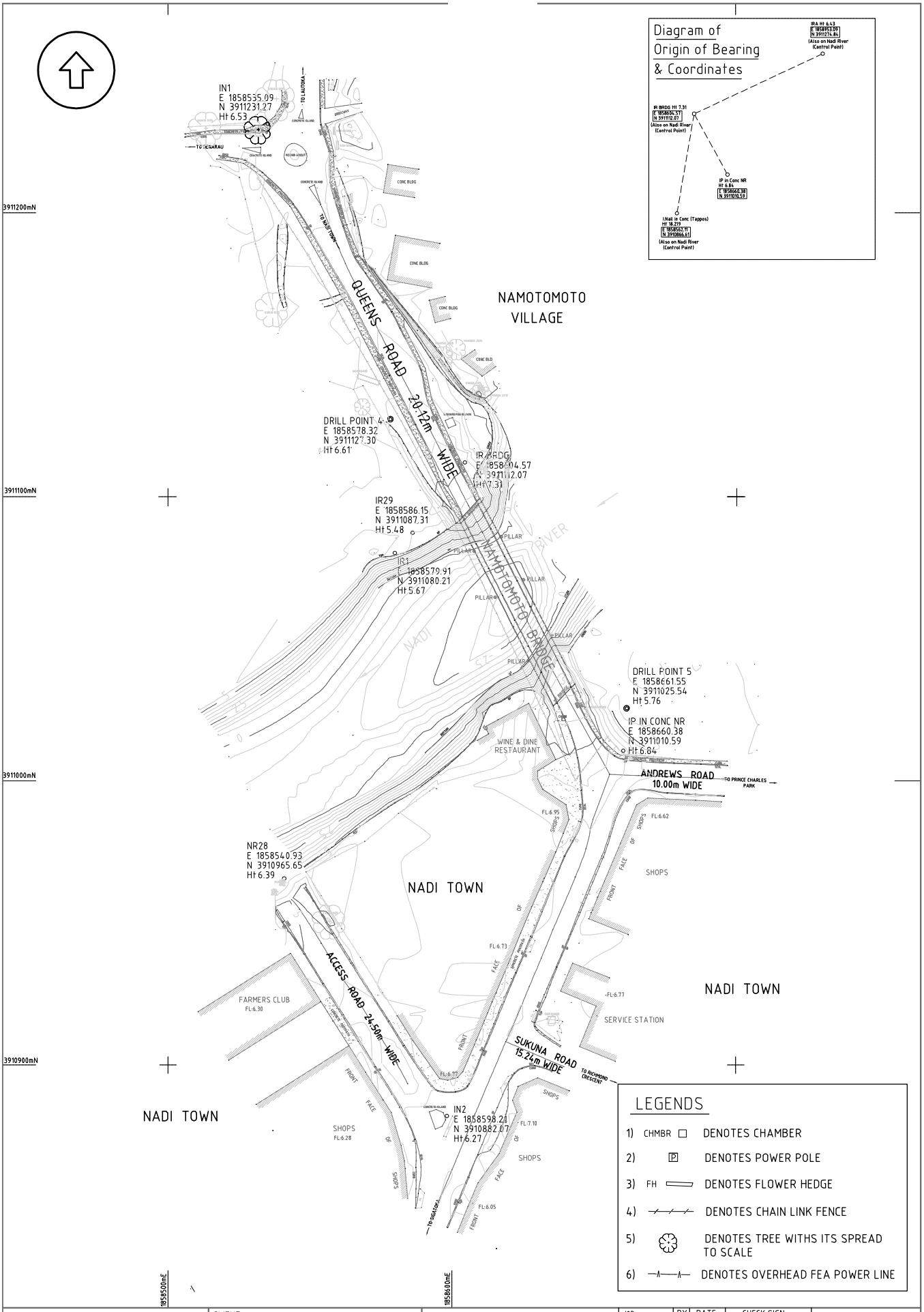
CLIENT
JICA STUDY TEAM
NADI RIVER FLOOD PROJECT

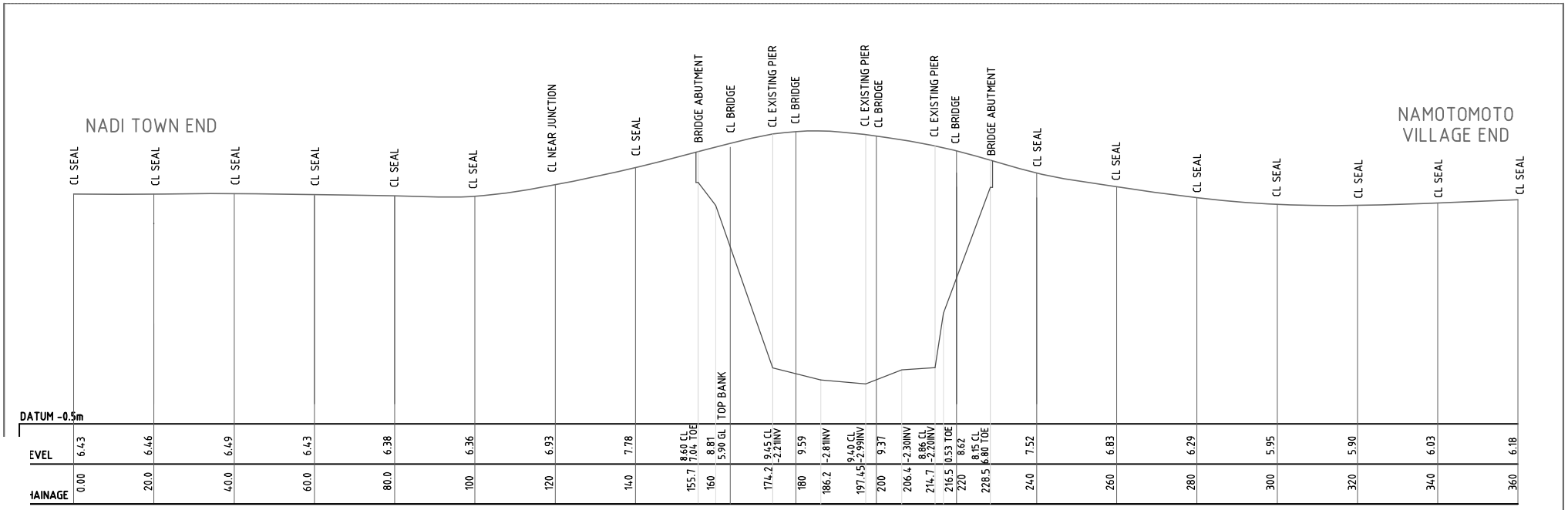
PROJECT
SITE No. 3

JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	05/11/15	
DRAFTED BY:	Salend	10/11/15	
CHECKED BY:			
APPROCED BY:			

SCALE : 1 : 1250
2110 - SITE 3
ACAD
C/2100-2199/2110 - Topo

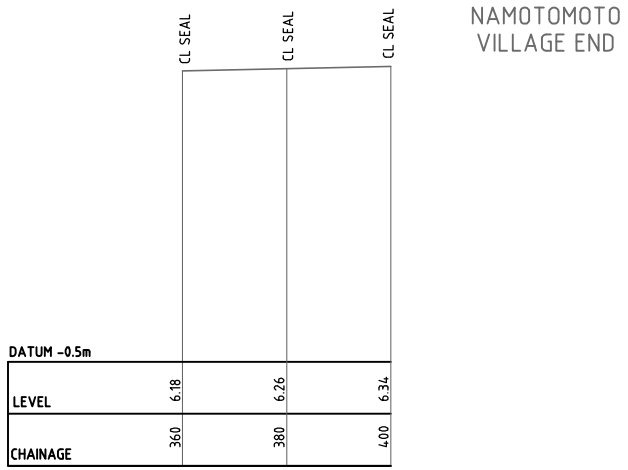


WesEng Consulting Ltd 2 Tui Street, Level 2, A.K.Singh Bldg. P.O. Box 450 Lautoka, Fiji Tel +679 6660597 Mob +679 9992597	CLIENT JICA STUDY TEAM NADI RIVER FLOOD PROJECT	PROJECT NAMOTOMOTO BRIDGE SITES 4 & 5	JOB / BY / DATE / CHECK SIGN SURVEYED S.K 05/11/15 DRAFTED S.P 07/11/15 CHECKED APPROVED THIS DRAWING AND DESIGN REMAIN THE PROPERTY OF,AND MAY NOT BE REPRODUCED, WITHOUT THE WRITTEN PERMISSION OF CADASTRALS	SCALE: 1 : 1250 2110- SITE 4&5 C:/2100 – 2199/ 2110 – Topo	



LONG SECTION - NAMOTOMOTO BRIDGE

HZ = 1 : 100 VT = 1 : 500



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Mob: +679 999597

CLIENT
JICA STUDY TEAM
(NADI RIVER SURVEY PROJECT)

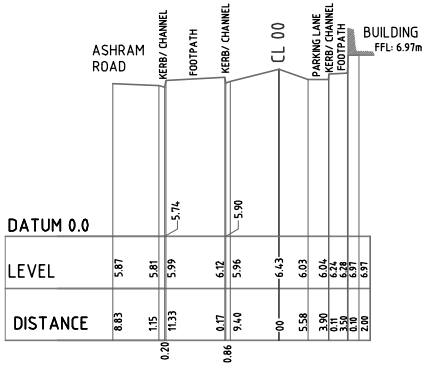
TITLE
LONG SECTIONAL SURVEY DETAILS
(CHAINAGE 00 - 400m LS)
NAMOTOMOTO BRIDGE - NADI

SURVEYED BY:		DRAWN BY :	SALEND		
DATE SURVEYED:		DATE PLOTED :	25/12/15		
SDRMAP REF:		CAD REF :			
Field Book No:		APPROVED :			
CHECKED:			REF	BY	DATE

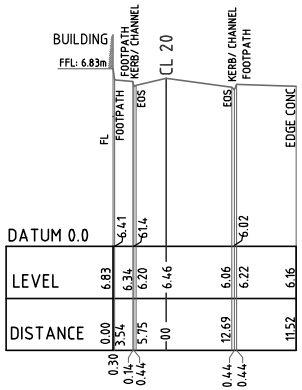
SCALE : As Shown

CAD 2110-LS(NB)

ACAD
C/2100-2199\2110 - NAMOTOMOTO BRIDGE



CROSS SECTION 60
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



CROSS SECTION 20
NAMOTOMOTO BRIDGE
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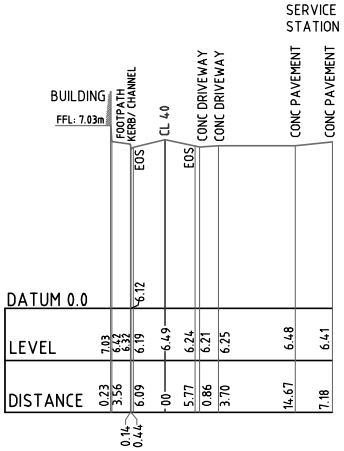

CROSS SECTION 40
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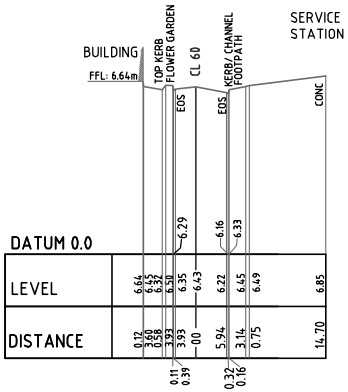
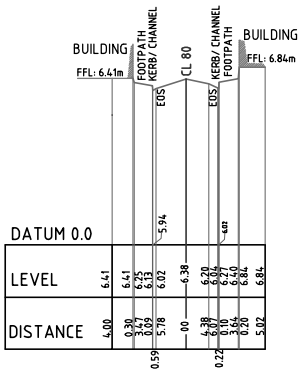


CROSS SECTION 60
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



CROSS SECTION 80
NAMOTOMOTO BRIDGE
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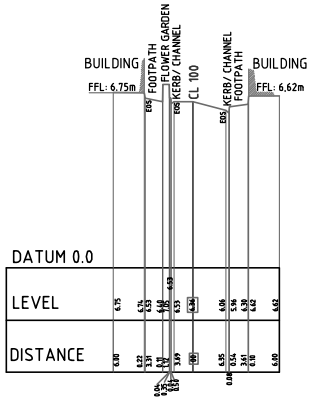

CROSS SECTION 100
NAMOTOMOTO BRIDGE
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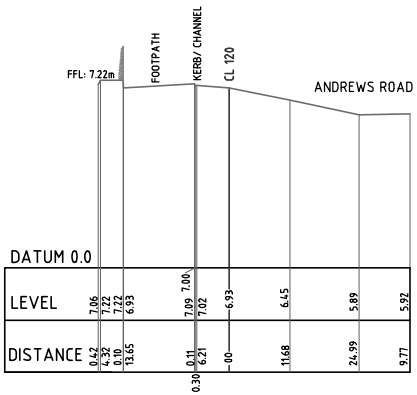

CROSS SECTION 120
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500

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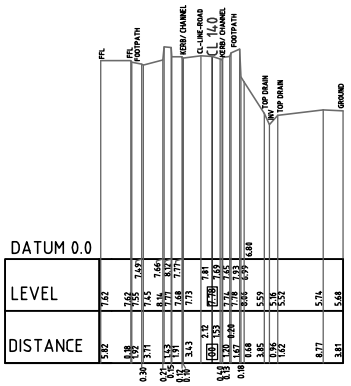
CLIENT
JICA STUDY TEAM
(NADI RIVER SURVEY PROJECT)

TITLE
CROSS SECTION DETAILS
(CHAINGE 00 - 120)
NAMOTOMOTO BRIDGE - NADI

SURVEYED BY:		DRAWN BY :	SALEND		
DATE SURVEYED:		DATE PLOTED :	26/12/15		
SDRMAP REF:		CAD REF :			
Field Book No:		APPROVED :			
CHECKED:			REF	BY	DATE

SCALE : As Shown
CAD 2110 - XS(1)
ACAD
C/2100-2199\2110 - NAMOTOMOTO BRIDGE



CROSS SECTION 140
NAMOTOMOTO BRIDGE

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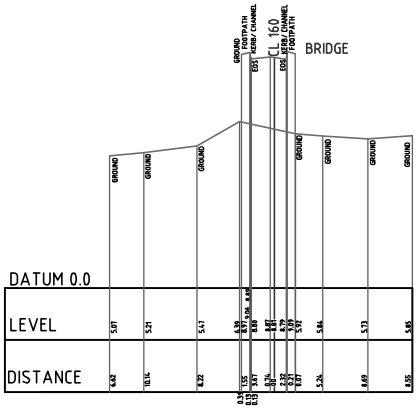

CROSS SECTION 160
NAMOTOMOTO BRIDGE

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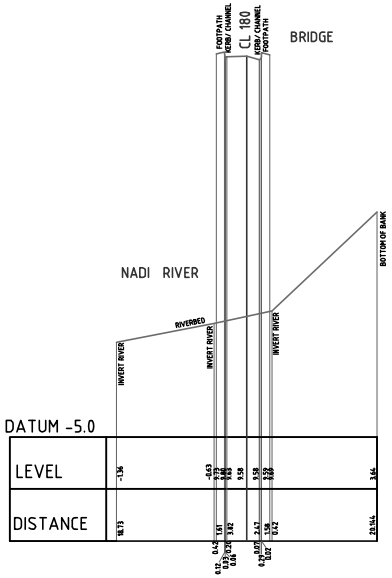

CROSS SECTION 180
NAMOTOMOTO BRIDGE

HZ = 1 : 100 VT = 1 : 500

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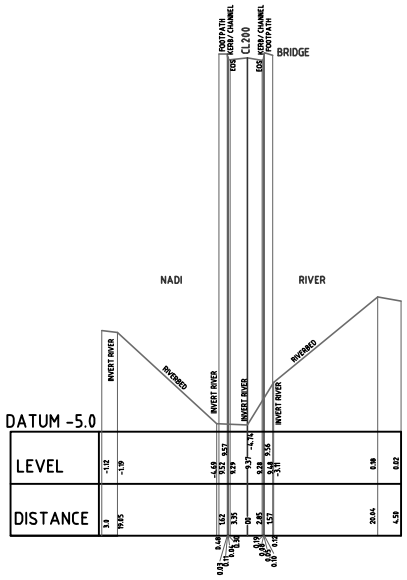
JICA STUDY TEAM
(NADI RIVER SURVEY PROJECT)

TITLE
CROSS SECTION DETAILS
(CHAINAGE 140 - 180)
NAMOTOMOTO BRIDGE - NADI

SURVEYED BY:		DRAWN BY :	SALEND		
DATE SURVEYED:		DATE PLOTED :	27/12/15		
SDRMAP REF:		CAD REF :			
Field Book No:		APPROVED :			
CHECKED:			REF	BY	DATE

SCALE : As Shown
CAD 2110 - (XS2)
ACAD
C/2100-2199\2110 - NAMOTOMOTO BRIDGE



CROSS SECTION 200
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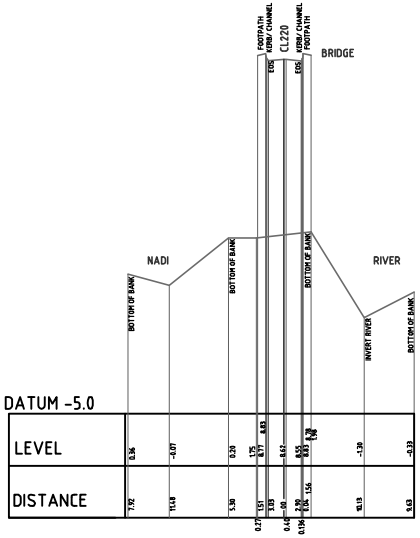
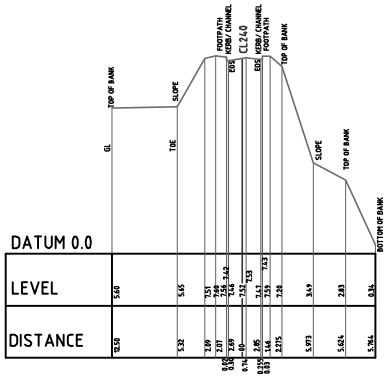


CROSS SECTION 220
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



CROSS SECTION 240
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500

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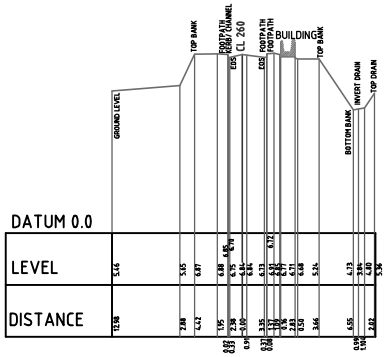
JICA STUDY TEAM
(NADI RIVER SURVEY PROJECT)

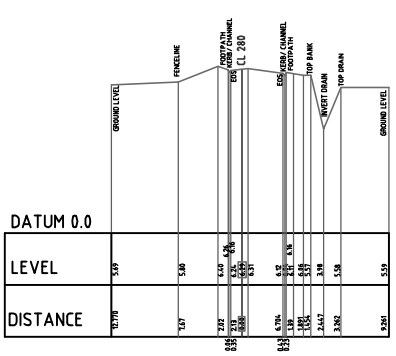
TITLE
CROSS SECTION DETAILS
(CHANIAGE 200 - 240)
NAMOTOMOTO BRIDGE - NADI

SURVEYED BY:		DRAWN BY :	SALEND		
DATE SURVEYED:		DATE PLOTED :	27/12/15		
SDRMAP REF:		CAD REF :			
Field Book No:		APPROVED :			
CHECKED:			REF	BY	DATE

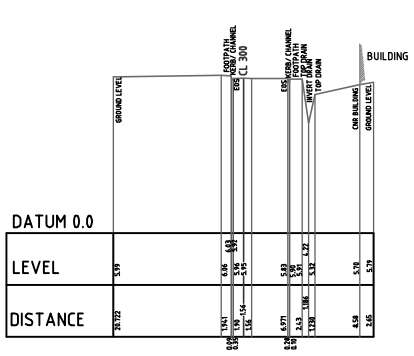
SCALE : As Shown
CAD 2110 - XS(3)
ACAD
C/2100-2199\2110 - NAMOTOMOTO BRIDGE



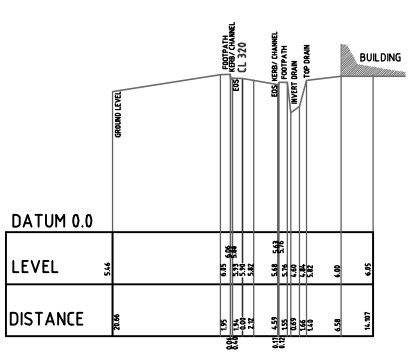
CROSS SECTION 260
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



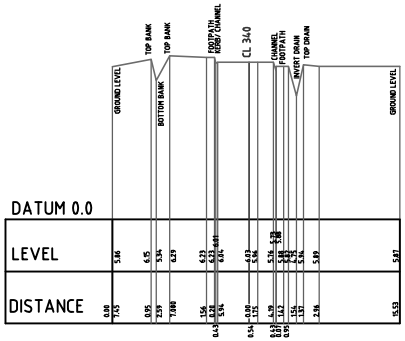
CROSS SECTION 280
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



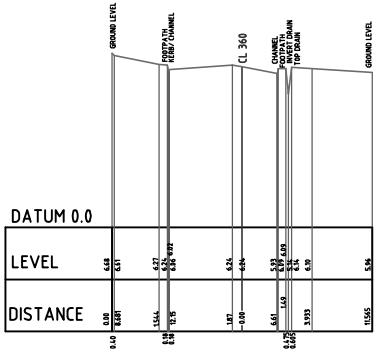
CROSS SECTION 300
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



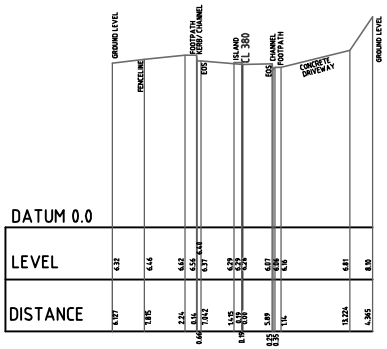
CROSS SECTION 320
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



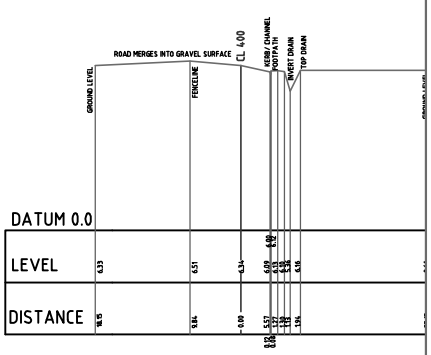
CROSS SECTION 340
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



CROSS SECTION 360
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



CROSS SECTION 380
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500



CROSS SECTION 400
NAMOTOMOTO BRIDGE
HZ = 1 : 100 VT = 1 : 500

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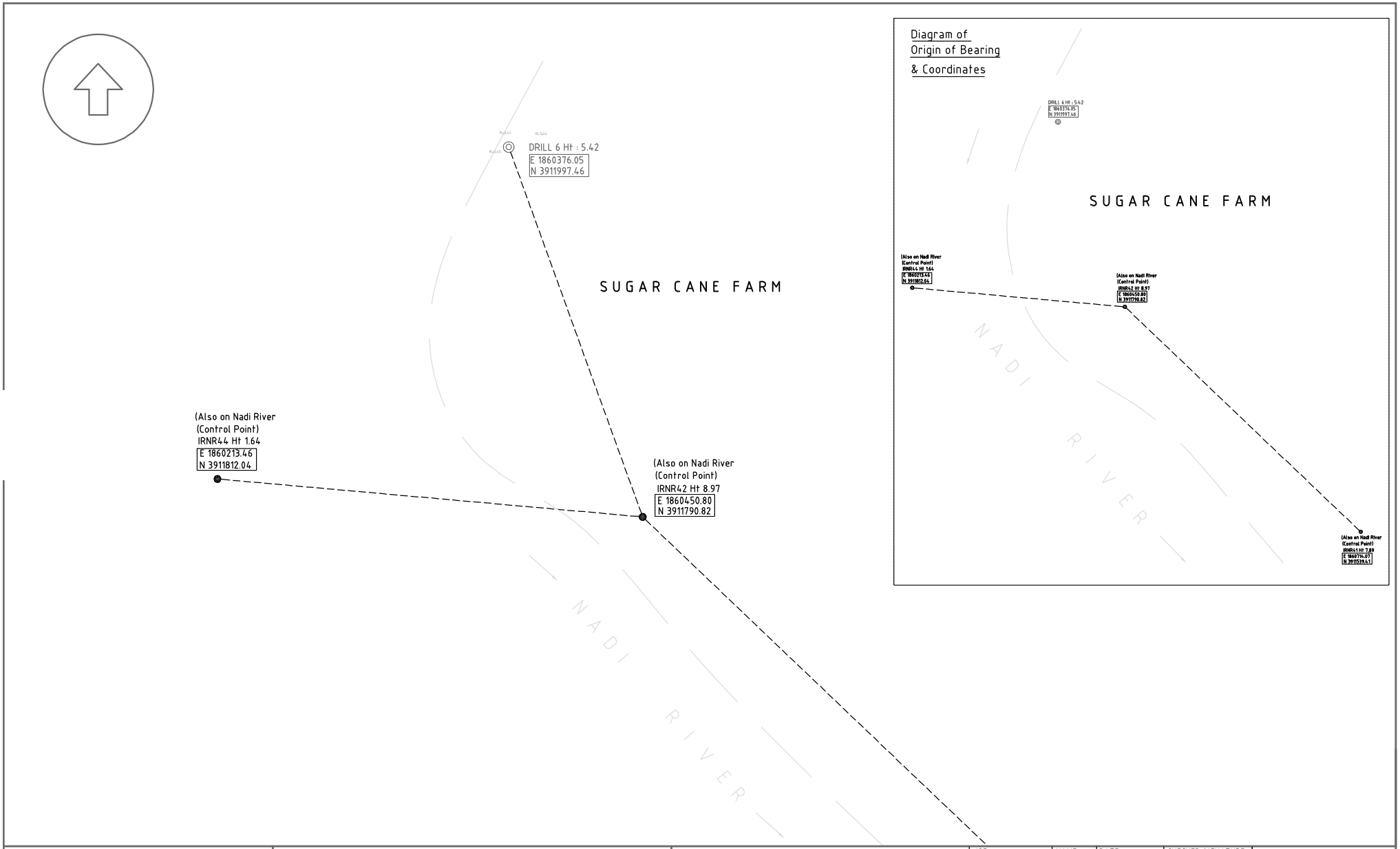
JICA STUDY TEAM
(NADI RIVER SURVEY PROJECT)

TITLE
CROSS SECTION DETAILS
(CHAINAGE 260 - 400)
NAMOTOMOTO BRIDGE - NADI

SURVEYED BY:		DRAWN BY :	SALEND		
DATE SURVEYED:		DATE PLOTED :	28/12/15		
SDRMAP REF:		CAD REF :			
Field Book No:		APPROVED :			
CHECKED:			REF	BY	DATE

SCALE : As Shown
CAD 2110 - XS(4)
ACAD
C/2100-2199\2110 - NAMOTOMOTO BRIDGE



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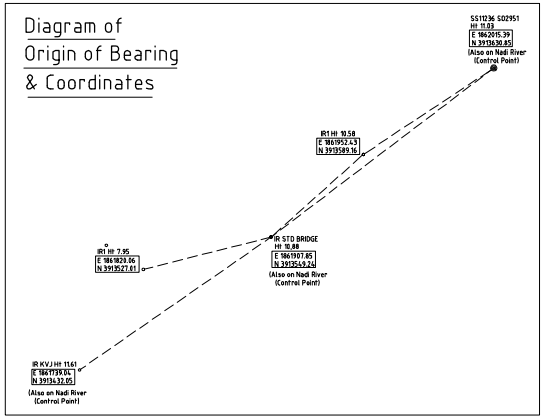
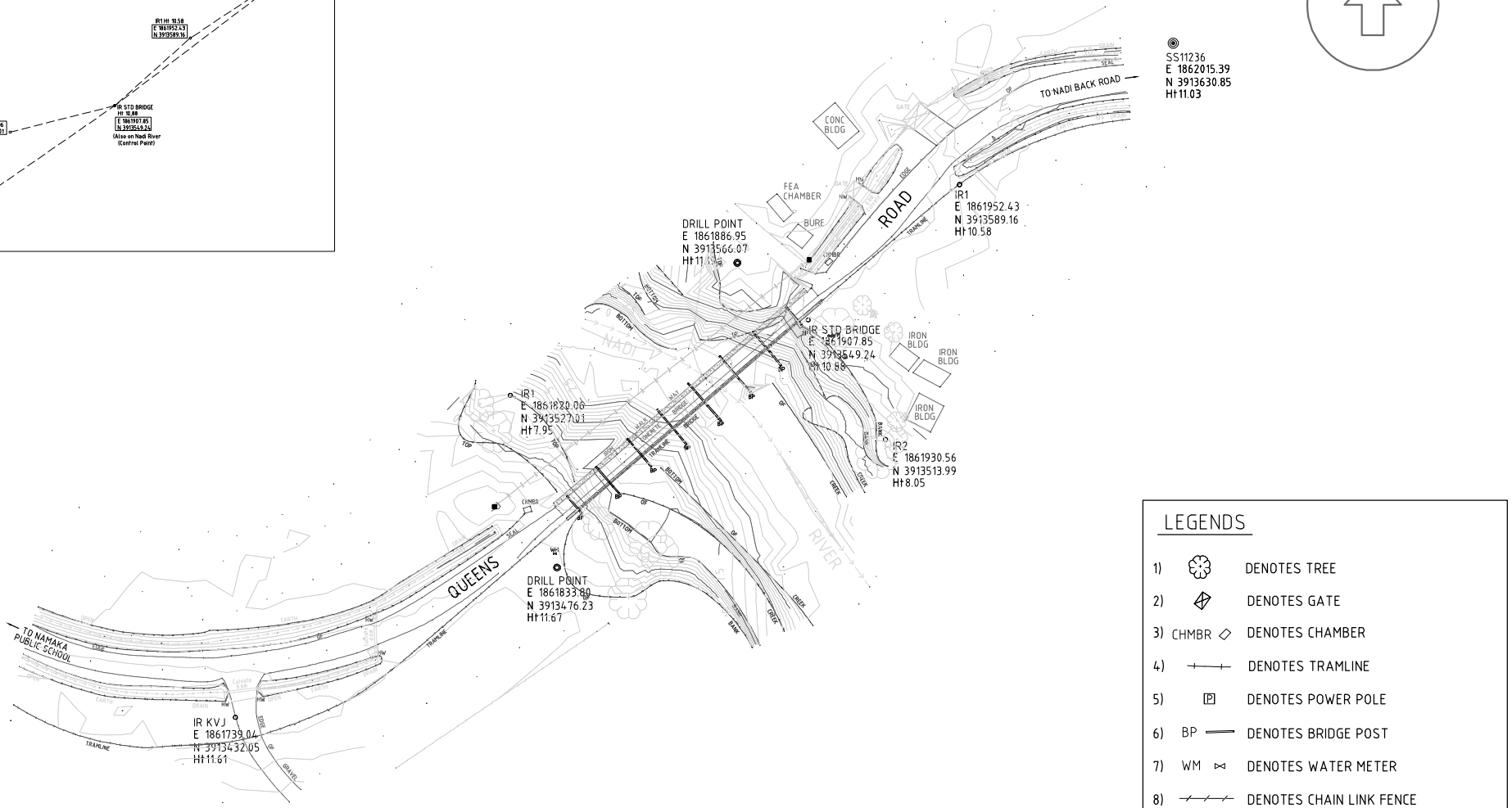
JICA STUDY TEAM
NADI RIVER FLOOD PROJECT

PROJECT
SITE No. 6

JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	07/11/15	
DRAFTED BY:	SALEND	10/11/15	
CHECKED BY:			
APPROCED BY:			

SCALE : 1 : 2000
2110 - SITE 6
ACAD
C/2100-2199/2110 - Topo





LEGENDS

1) DENOTES TREE
2) DENOTES GATE
3) CHMBR DENOTES CHAMBER
4) DENOTES TRAMLINE
5) DENOTES POWER POLE
6) BP DENOTES BRIDGE POST
7) WM DENOTES WATER METER
8) DENOTES CHAIN LINK FENCE
9) HW DENOTES CONCRETE HEADWALL
10) DENOTES OVERHEAD FEA POWER LINE

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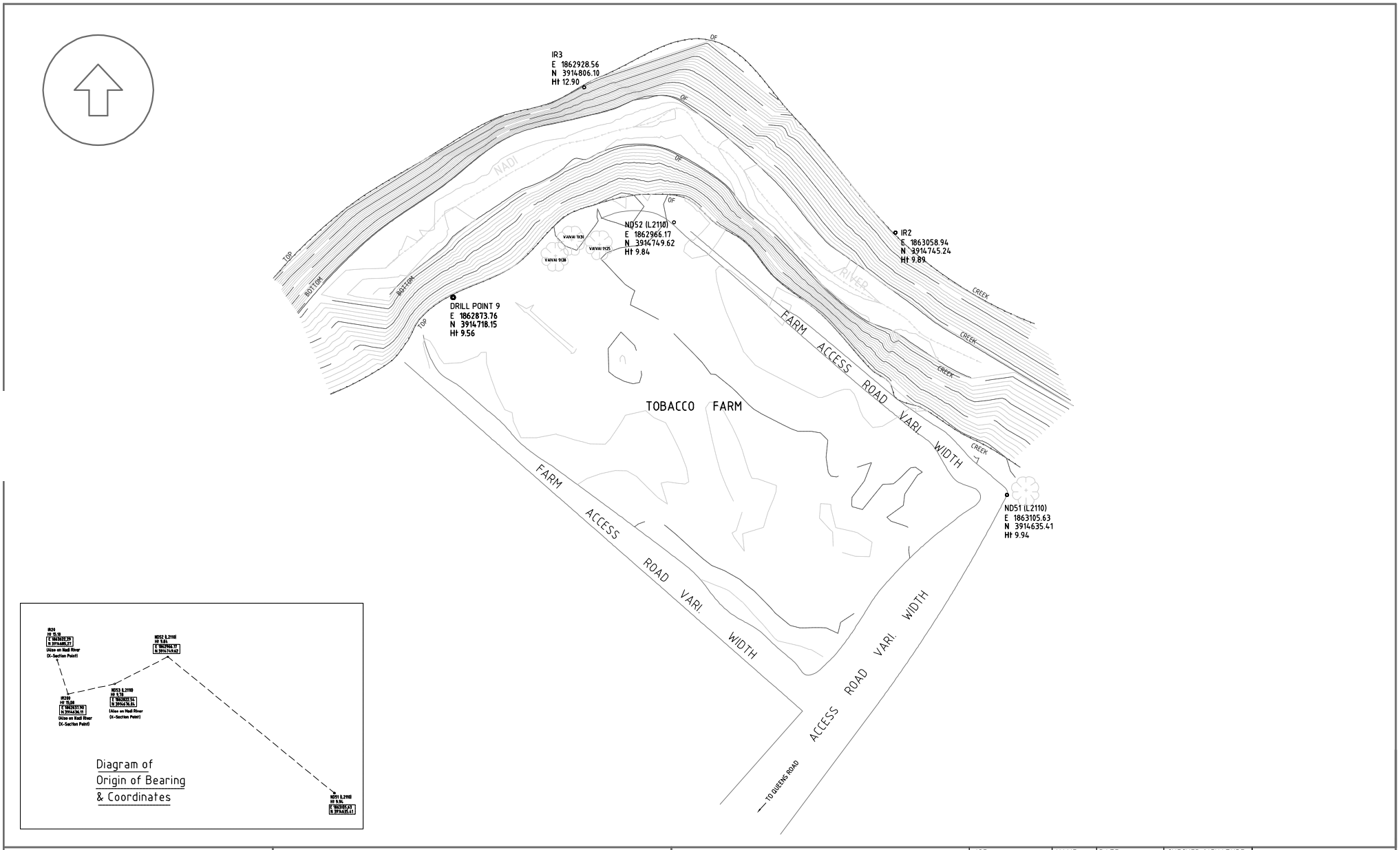
JICA STUDY TEAM
NADI RIVER FLOOD PROJECT

PROJECT
NADI BACK ROAD BRIDGE
SITES 7 & 8

JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	09/10/15	
DRAFTED BY:	JOVILISI	20/10/15	
CHECKED BY:			
APPROCED BY:			

SCALE : 1 : 1250
2110- NBR 7&8
ACAD
C/2100-2199/2110 - Topo



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PROJECT
SITE No. 09

JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	09/10/15	
DRAFTED BY:	JOVILISI	20/10/15	
CHECKED BY:			
APPROCED BY:			

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SCALE : 1 : 1500
2110 - Site 9
ACAD
C/2100-2199/2110 - Topo

Diagram of Origin of Bearing & Coordinates

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NADI RIVER FLOOD PROJECT

PROJECT
SITE No. 10A

JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	09/10/15	
DRAFTED BY:	JOVILISI	20/10/15	
CHECKED BY:			
APPROCED BY:			

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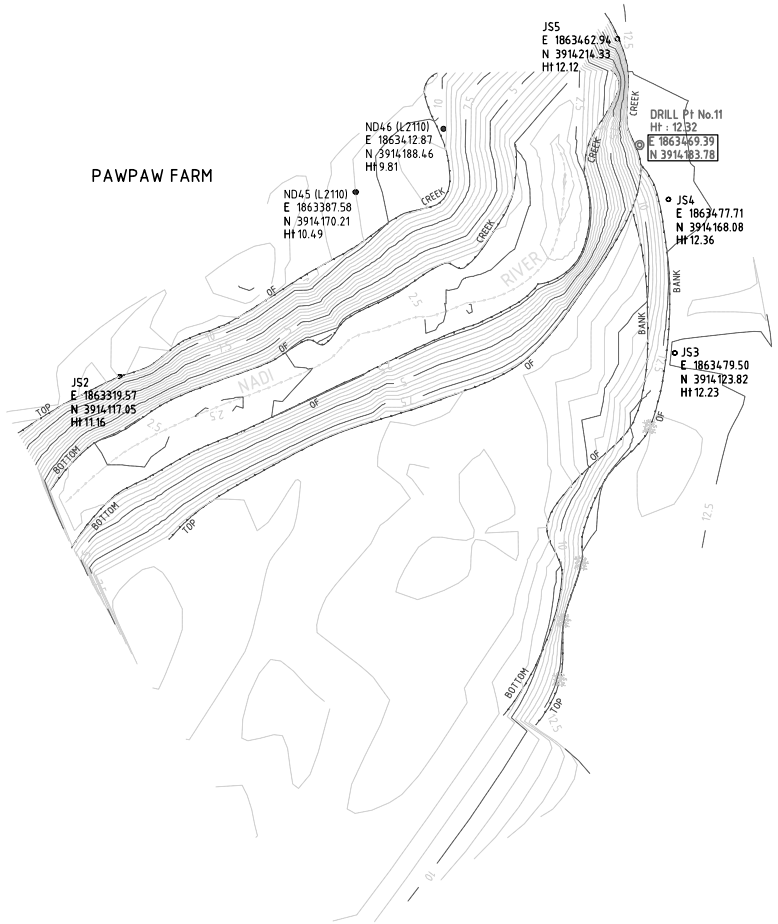
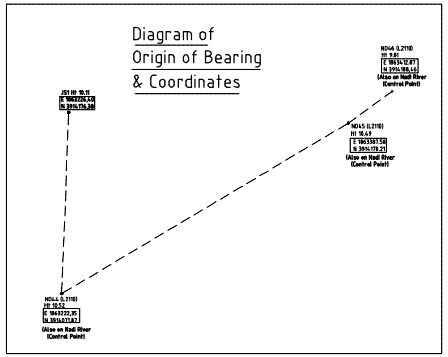
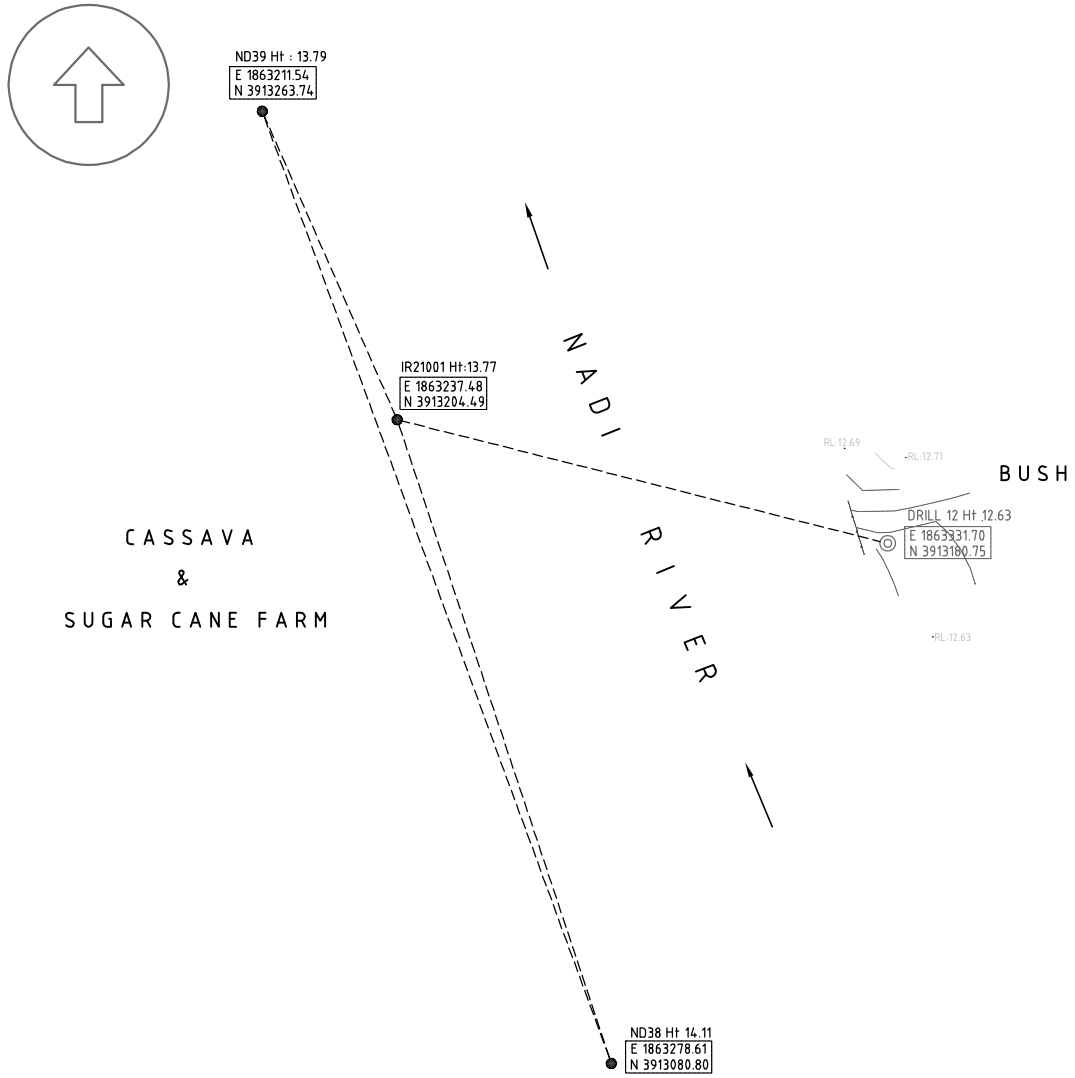
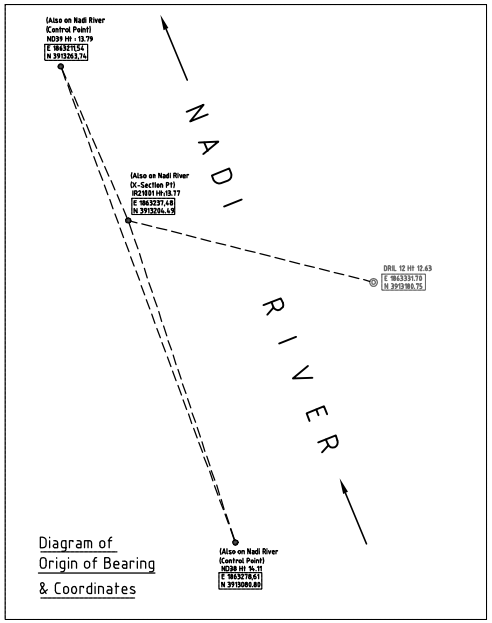
SCALE : 1 : 1500
2110 - SITE 10A
ACAD
C/2100-2199/2110 - Topo





WesEng Consulting Ltd 2 Tui Street, Level 2, A.K.Singh Bldg. P.O. Box 450 Lautoka, FIJI Tel +679 6660597 Mob +679 9999597	CLIENT JICA STUDY TEAM NADI RIVER FLOOD PROJECT	PROJECT SITE No. 11A	JOB	NAME	DATE	CHECKED SIGNATURE	SCALE : 1 : 1500
			SURVEYED BY:	SAMISONI	09/10/15		2110 - SITE 11A
			DRAFTED BY:	JOVILISI	20/10/15		ACAD
			CHECKED BY:				C/2100-2199/2110 - Topo
			APPROCED BY:				
			THIS DRAWING AND DESIGN REMAIN THE PROPERTY OF,AND MAY NOT BE REPRODUCED, WITHOUT THE WRITTEN PERMISSION OF CADASTRALS				





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JICA STUDY TEAM
NADI RIVER FLOOD PROJECT

PROJECT

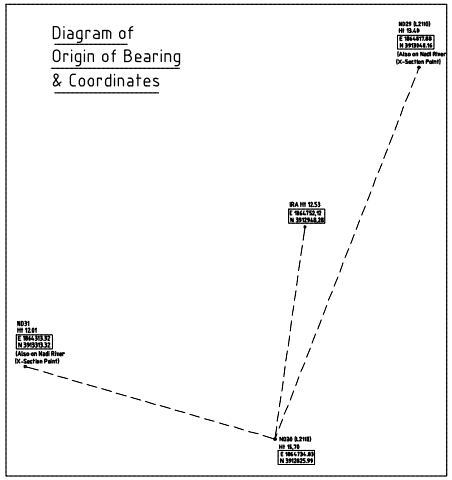
SITE No. 12

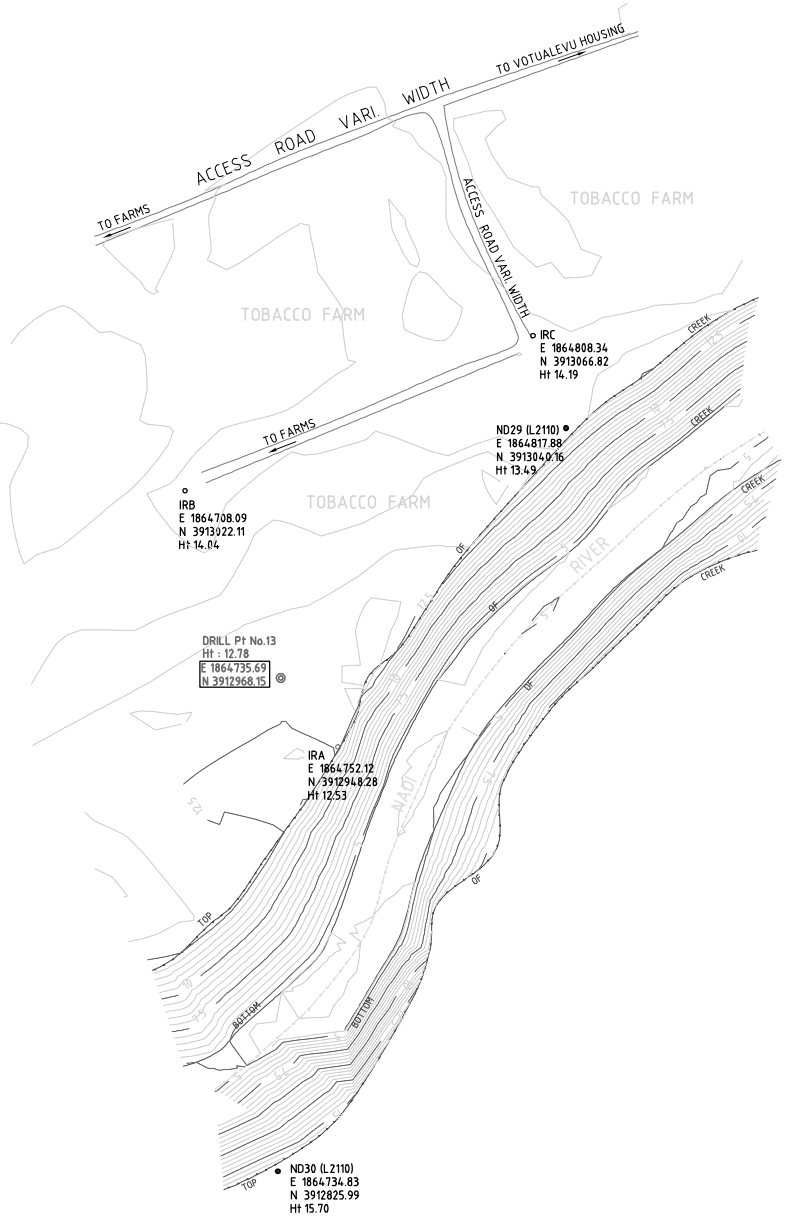
JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	09/10/15	
DRAFTED BY:	JOVILISI	20/10/15	
CHECKED BY:			
APPROCED BY:			

SCALE : 1 : 1000

2110 - SITE 12

ACAD
C/2100-2199/2110 - Topo





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NADI RIVER FLOOD PROJECT

PROJECT

SITE No. 13A

JOB	NAME	DATE	CHECKED SIGNATURE
SURVEYED BY:	SAMISONI	09/10/15	
DRAFTED BY:	JOVILISI	20/10/15	
CHECKED BY:			
APPROCED BY:			

SCALE : 1 : 1500

2110 - SITE 13A

ACAD
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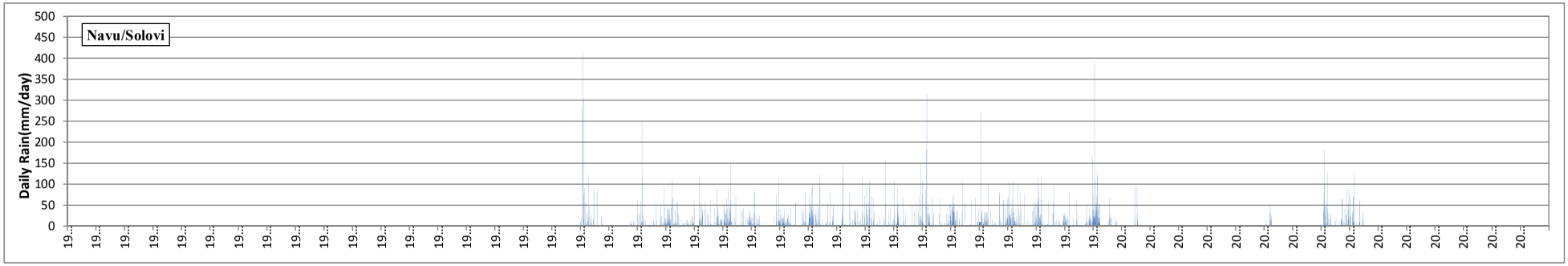
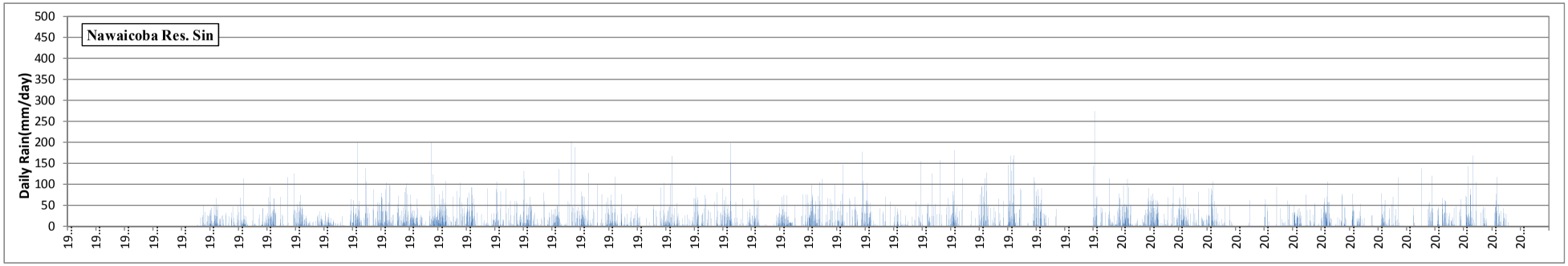
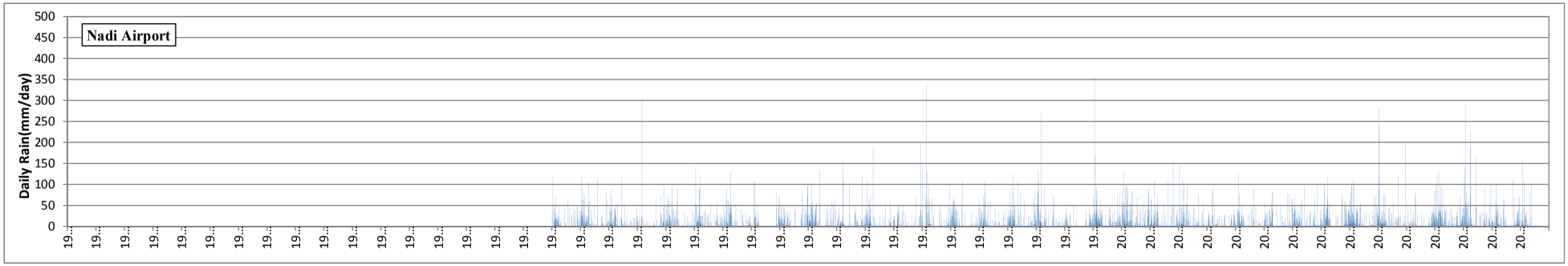
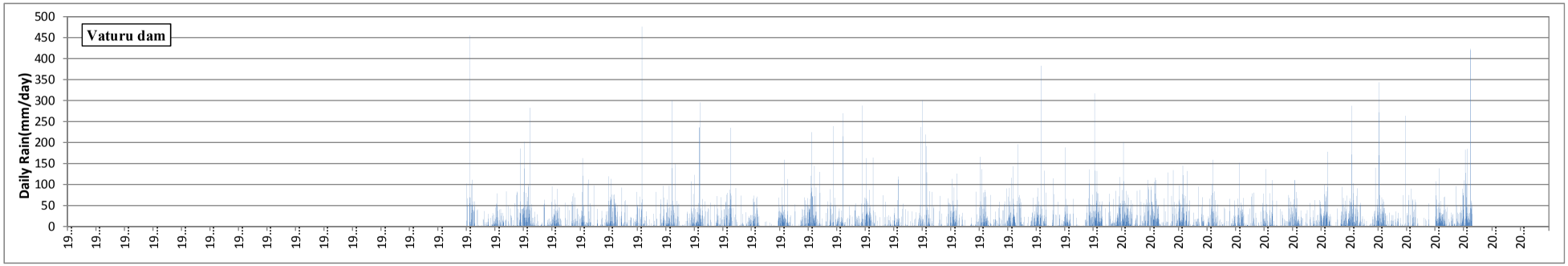
Data Book-9

Rainfall Data


Navu/Solovi
Daily Rain(mm/day)
500
450
400
350
300
250
200
150
100
50
0


Nawaicoba Res. Sin
Daily Rain(mm/day)
500
450
400
350
300
250
200
150
100
50
0


Nadi Airport
Daily Rain(mm/day)
500
450
400
350
300
250
200
150
100
50
0


Vaturu dam
Daily Rain(mm/day)
500
450
400
350
300
250
200
150
100
50
0

Waidum
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500

Tubenasolo-old
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500

Navunitawa
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500

Moliveitala
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500

Daily Rain(mm/day)
0
50
100
150
200
250
300
350
400
450
500
Nausori Highland

Daily Rain(mm/day)
0
50
100
150
200
250
300
350
400
450
500
Bukuyu

Daily Rain(mm/day)
0
50
100
150
200
250
300
350
400
450
500
Nadurugu

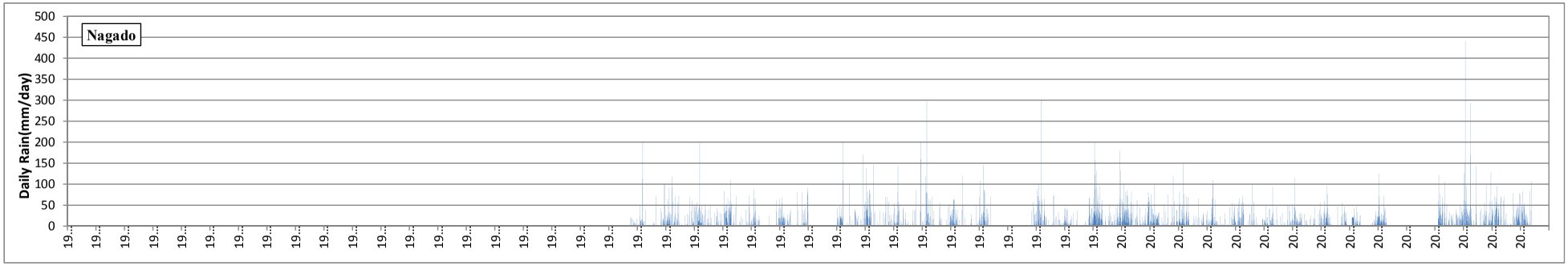
Daily Rain(mm/day)
0
50
100
150
200
250
300
350
400
450
500
Naboutini

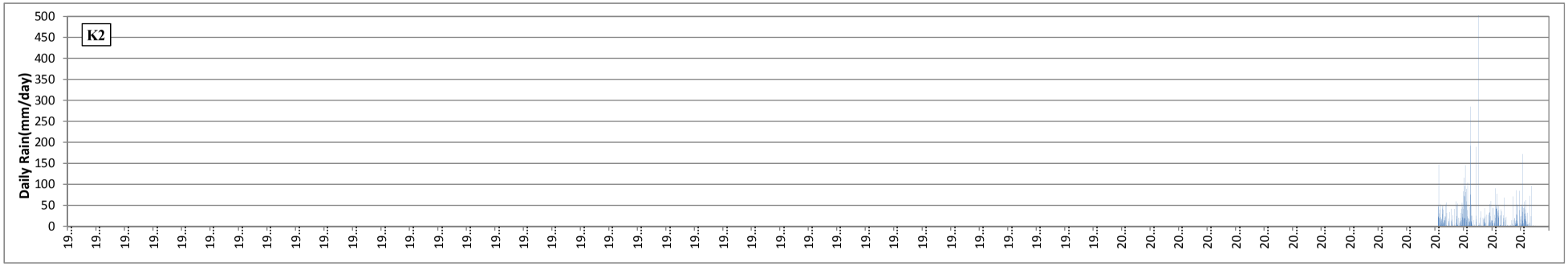
Vunamoli
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500

Navilawa
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500

Natawa Village
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500

Toko Village
Daily Rain(mm/day)
0 50 100 150 200 250 300 350 400 450 500


Nagado
Daily Rain(mm/day)
500
450
400
350
300
250
200
150
100
50
0


K2
Daily Rain(mm/day)
500
450
400
350
300
250
200
150
100
50
0