MINISTRY OF PUBLIC WORKS AND TRANSPORT(MPWT)
THE ROYAL GOVERNMENT OF THE KINGDOM OF CAMBODIA

PREPARATORY SURVEY ON NATIONAL ROAD NO. 5 IMPROVEMENT PROJECT (THLEA MA'AM–BATTAMBANG SECTION AND SRI SOPHORN–POIPET SECTION) IN THE KINGDOM OF CAMBODIA

FINAL REPORT (VOLUME II APPENDIX)

OCTOBER 2014

JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS INTERNATIONAL

EI
CR (3)
14-177 (2)

NATIONAL ROAD NO. 5 IMPROVEMENT PROJECT
(THLEA MA'AM–BATTAMBANG SECTION AND SRI SOPHORN–POIPET SECTION)
FINAL REPORT
LIST OF APPENDICES

APPENDIX 1-1

MINUTES OF

STEERING COMMITTEE MEETING

MINUTES OF DISCUSSION
Between the Steering Committee and the JICA Survey Team
on
The Inception Report of
The Preparatory Survey for National Road No. 5 Improvement Project
(Middle Section: Thlea Ma'am – Battambang)

Japan International Cooperation Agency (hereinafter referred to as 'JICA') organized a Survey Team for the Preparatory Survey for National Road No. 5 Improvement Project (Middle Section: Thlea Ma'am – Battambang) (hereinafter referred to as 'the Survey').

The First Steering Committee meeting was held on 8 May 2013, and the Inception Report was presented by the Survey Team. The list of the attendants is attached as Attachment 1.

After a series of discussion on the Inception Report, the followings were agreed upon between the Steering Committee and the Survey Team:

(1) The Survey Team officially submitted the Inception Report to the Steering Committee and made presentation with particular focus on the plan of the Survey.
(2) The Steering Committee agreed in principle to the contents of the Inception Report.
(3) The Steering Committee agreed to extend the support to the JICA Survey Team as stated in the Inception Report.
(4) The Steering Committee requested that the survey on the Sri Sophorn – Poipet Section be added to the survey on the Middle Section and the results of the two surveys be united into one report. JICA answered that JICA will add the survey on the Sri Sophorn – Poipet Section to the contract with the Survey Team (Katahira & Engineers International) upon receipt of a request letter from MPWT before the end of May 2013.
(5) The Steering Committee commented the following and the Survey Team agreed to incorporate them in the Survey
    (i) Necessity and route of the Pursat Bypass should be studied.
    (ii) Measures against flood/inundation need to be diligently studied.
    (iii) Survey on the Middle Section should be completed in as short period as possible, so that the process of loan appraisal of the Middle Section can be started with minimum time lag from that of the South Section.
    (iv) The Survey Team should maintain good coordination with MEF/IRC and MOE in preparing RAP and EIA report.
    (v) Attention should be paid to the rapid increase of traffic volume which is

occurring in the recent years due to increase in vehicle ownership. Attention should be also paid to the planned increase of quota of trucks in the Cross Border Transport Agreement between Cambodia and Thailand.

(6) The Japanese side requested the Cambodian side that MPWT coordinate with the line ministries to expedite the process of approval of EIA report and finalizing RAP.

Phnom Penh, 8 May 2013

H.E. Tauch Chankosal
Chairperson, Steering Committee
(Secretary of State, MPWT)

Mr. Tatsuyuki Sakurai
Team Leader, JICA Survey Team

Preparatory Survey for National Road No.5 Improvement Project

(Middle Section: Thlea Ma'am - Battambang)

1st Steering Committee, 08 May 2013

The Attendant List

Date: 08 May 2013

Time: 3:00 PM

Place: MPWT

Organization	Position	Name	Tel. Number	Signature
MPWT	Secretary of State	H.E Tauch Chancosal	Personal information, Not disclosed	
	Director General	H.E Kem Borey		
	Director of ICD	Chhim Phalla		
	Deputy Director General	MOM NADA		
Embassy of Japan				
JICA	JICA Expert for JUPUT	SHINADA Takeshi		
	Representative	Egami Masahiko		
	Officer	Say Bora		
Ministry of Economy & Finance				
	Deputy chief Bild.	Mr. Ream Vidom		
	Deputy chief Bild.	Mr Pich Sochenta		
	K.D	Mr SUONG RUN		
	Director General adte	Mr OUK. DIM		
Ministry of Environment	Dep. WT Kg-Chhnang	Mr YIN. VANNA		

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Preparatory Survey for National Road No.5 Improvement Project

(Middle Section: Thlea Ma'am - Battambang)

1st Steering Committee, 08 May 2013

The Attendant List

Date: 08 May 2013

Time: 3:00 PM

Place: MPWT

Organization	Position	Name	Tel. Number	Signature
Battambang Province			Personal information, Not disclosed	
Pursat Province		Hean AN		
	Deputy Director of Dept	Chinh Leoung		
JICA Survey Team	Tatsuyuki SAKURAI	Team Leader		S. Sakurai
	Deputy Team Leader	Tomohiko Nakamura		
	Hydrological cum Schedule Survey Specialist	Itimasa Aoki		
	Resettlement	YAMASHITA Akira		
	Project Coordination / Assistant Engineer	Masateru Tachimoto		
Others				
DPWT	Deputy Director KSP	Som Soffica		Som Soffica
Dep Dept	KHANN SOKHA			

A1-4

Preparatory Survey for National Road No.5 Improvement Project

(Middle Section: Thlea Ma'am - Battambang)

1st Steering Committee, 08 May 2013

The Attendant List

Date: 08 May 2013

Time: 3:00 PM

Place: MPWT

Organization	Position	Name	Tel. Number	Signature
MPWT	Secretary of State	H.E Tauch Chancosal	Personal information, Not disclosed	
	Director General	H.E Kem Borey		
	Director of ICD	Chhim Phalla		
	Deputy Director General	MOM MADA		
Embassy of Japan				
JICA	JICA Expert for MPWT	SHIMADA Takashi		
	Representative	Egami Mashiko		
	Officer	Say Bora		
Ministry of Economic & Finance	Deputy chief Bild.	Mr. Ream Udom		
	Deputy chief Bild.	Mr Pich Sodreata		
	K.D	Mr SUONG RUN		
	Director General office	Mr OUK. DIM		
Ministry of Environment	Dep. WT Reg-Chhoeung	Mr YIN. VANNA		

A1-5

Preparatory Survey for National Road No.5 Improvement Project

(Middle Section: Thlea Ma'am - Battambang)

1st Steering Committee, 08 May 2013

The Attendant List

Date: 08 May 2013

Time: 3:00 PM

Place: MPWT

Organization	Position	Name	Tel. Number	Signature
Battambang Province			Personal information, Not disclosed	
Pursat Province		Hean Ann		
	Deputy Director of DPWT	Chinh Leang		
JICA Survey Team	Tatsuyuki SAKURAI	Team Leader		T. Sakurai
	Deputy Team Leader	Tomohiko Nakamura		
	Hydrological & Hydraulic Survey Specialist	Hiromasa Aoki		
	Resettlement	YAMASHITA Akira		
	Project Coordination / Assistant Engineer	Masateru Tochimoto		
Others				
DPWT	Deputy Director KSP	SOM Sothea		SOM Sothea
	KHANN Sokhon			

A1-6

Preparatory Survey for National Road No.5 Improvement Project

Middle Section: Thlea Ma'am - Battambang

1 st Steering Committee Meeting, 08 May 2013

The Attendant List

Date: 08 May 2013

Time: 3:00 PM

Place: MPWT

Organization	Position	Name	Tel. Number	Signature
MPWT	Secretary of State	H.E Tauch Chankosal	Personal information, Not disclosed	
	Director General	H.E Kem Borey		
	Director of ICD	Chhim Phalla		
	Deputy Director General	Mom Nada		
	Deputy Director KSP (DPWT)	Som Sothea		
JICA	JICA Expert for MPWT	Shimada Takashi		
	Representative	Masahiko Egami		
	Officer	Say Bora		
Ministry of Economy & Finance	Deputy Chief Bilateral	Ream Utdom		
	Deputy Chief Bilateral	Pich Socheata		
Kandal Province	Kandal	Suong Run		
	Kandal	Khan Sokha		
Kampong Chhnang Province	Director General Affairs	Ouk Dim		
	Deputy Director	Yim Vanna		
Pursat Province	Deputy Director	Chinh Kourng		
	Director Inter-field	Hun An		

Preparatory Survey for National Road No.5 Improvement Project

Middle Section: Thlea Ma'am - Battambang

1 st Steering Committee Meeting, 08 May 2013

The Attendant List

Date: 08 May 2013

Time: 3:00 PM

Place: MPWT

Organization	Position	Name	Tel. Number	Signature
JICA Survey Team	Team Leader	Sakurai Tatsuyuki	Personal information, Not disclosed	
	Deputy Team Leader	Tomohiko Nakamura		
	Hidrological &Hydraulic Survey Speicialist	Heromasa Aoki		
	Resettlement	Yamashita Akira		
	Project Coordination/Assistance Engineer	Masateru Tochinaka		

MINUTES OF DISCUSSION (Draft 2.9.2013)
Between the Steering Committee and the JICA Survey Team
on
The Progress Report of
The Preparatory Survey for National Road No. 5 Improvement Project
(Middle Section: Thlea Ma'am – Battambang)

Japan International Cooperation Agency (hereinafter referred to as 'JICA') organized a Survey Team for the Preparatory Survey for National Road No. 5 Improvement Project (Middle Section: Thlea Ma'am – Battambang) (hereinafter referred to as 'the Survey').

The Second Steering Committee meeting was held on 30 August 2013, and the Progress Report was presented by the Survey Team. The list of the attendants is attached as Attachment 1.

After a series of discussion on the Progress Report, the followings were agreed upon between the Steering Committee and the Survey Team:

(1) The Survey Team officially submitted the Progress Report to the Steering Committee and made presentation.
(2) The Steering Committee agreed in principle to the contents of the Progress Report.
(3) The Steering Committee commented the following and the Survey Team agreed to incorporate them in the Survey
   - Due attention should be paid to the structure/type of median division from viewpoint of traffic safety, amenity and landscape.

Phnom Penh, 30 August 2013

H.E. Tauch Chankosal
Chairperson, Steering Committee
(Secretary of State, MPWT)

Mr. Tatsuyuki Sakurai
Team Leader, JICA Survey Team

MINUTES OF DISCUSSION
Between the Steering Committee and the JICA Survey Team on
The Interim Report of
The Preparatory Survey for National Road No. 5 Improvement Project
(Middle Section: Thlea Ma'am – Battambang)

Japan International Cooperation Agency (hereinafter referred to as 'JICA') organized a Survey Team for the Preparatory Survey for National Road No. 5 Improvement Project (Middle Section: Thlea Ma'am – Battambang) (hereinafter referred to as 'the Survey').

The third Steering Committee meeting was held on 9 December 2013, and the Interim Report was presented by the Survey Team. The list of the attendants is attached as Attachment 1.

After a series of discussion on the Interim Report, the followings were agreed upon between the Steering Committee and the Survey Team:

(1) The Survey Team officially submitted the Interim Report to the Steering Committee and made presentation.
(2) The Steering Committee agreed in principle to the contents of the Interim Report.
(3) The Steering Committee commented the following and the Survey Team agreed to incorporate them in the Survey
   - The structure of pavement of the Sri Sophorn – Poipet Section should be proposed with alternatives.
   - MPWT should arrange the site visit of the proposed Pursat bypass route with MEF and relevant organizations in January 2014.
   - Comparative Study of the route of Pursat bypass should additionally include more detailed information such as schedule of relocation of houses and land acquisition.
   - The preliminary design shall be further discussed between MEF, MPWT, JICA and the Survey Team before the Draft Final Report is prepared.
(4) It was agreed that the Cambodian side review the Interim Report and send comments, if there is any, to the Survey Team by the end of January 2013.

Phnom Penh, 9 December 2013

Mr. Chhim Phalla
Acting Chairperson, Steering Committee
(Director of International Cooperation Department, MPWT)

Mr. Tomohiko Nakamura
Deputy Team Leader,
JICA Survey Team

Preparatory Survey for National Road No.5 Improvement Project

(Middle Section: Thlea Ma'am - Battambang)

3rd Steering Committee, 09 December 2013

The Attendant List

Date: 09 December 2013

Time: 9:00 AM

Place: MPWT

Organization	Name	Position	Tel. Number	Signature
MPWT	H.E Tauch Chancosal	Secretary of State	Personal information, Not disclosed	
	H.E Kem Borey	Director General		
	Chhim Phalla	Director of ICD		
	Kith Chandararith	Deputy Director of ICD		
	Tatsuo SHIMADA	JICA Expert		
Embassy of Japan				
JICA	EGAMI Masahiko	Representative, JICA Cambodia		
	Nhep Tinal	Officer		
Ministry of Economic & Finance	Sim Samnang	Deputy RD Director		
	NGY LAYMITHUNA	TECHNICAL OFFICIAL		
	Sun Sokny	chief of RD office No.2		
	Chheang Chhaklin	Deputy chief of RD office		

Preparatory Survey for National Road No.5 Improvement Project

(Middle Section: Thlea Ma'am - Battambang)

3rd Steering Committee, 09 December 2013

The Attendant List

Date: 09 December 2013

Time: 9:00 AM

Place: MPWT

Organization	Name	Position	Tel. Number	Signature
Ministry of Environment			Personal information, Not disclosed	
Pursat Province	[illegible]	[illegible]		
	[illegible]	Deputy. Director		
Battambang Province				
	Sal Sotat	DPWT BB		
Banteay Meanchey				
	YIN Vath	Deputy Director		
JICA Survey Team	Yamashita akira	Consultant		
	Tomohiko Nakamura	Dep. Team Leader		
	Tachinaka Masateru	JICA Survey Team		
Others				
Kuoy Chhmang	[illegible]	deputy director		
— a —	OUK. DIM	Kg. Chhnang Province		

Preparatory Survey for National Road No.5 Improvement Project

(Middle Section: Thlea Ma'am - Battambang)

3rd Steering Committee, 09 December 2013

The Attendant List

Date: 09 December 2013

Time: 9:00 AM

Place: MPWT

Organization	Name	Position	Tel. Number	Signature

MINUTES OF DISCUSSION
Between the Steering Committee and the JICA Survey Team
on
The Draft Final Report of
The Preparatory Survey for National Road No. 5 Improvement Project
(Middle Section: Thlea Ma'am – Battambang and Sri Sophorn – Poipet Section)

Japan International Cooperation Agency (hereinafter referred to as 'JICA') organized a Survey Team for the Preparatory Survey for National Road No. 5 Improvement Project (Middle Section: Thlea Ma'am – Battambang and Sri Sophorn – Poipet Section) (hereinafter referred to as 'the Survey').

The Fourth Steering Committee meeting was held on 13 August 2014, and the Draft Final Report was presented by the Survey Team. The list of the attendants is attached as Attachment 1.

After a series of discussion on the Draft Final Report, the followings were agreed upon between the Steering Committee and the Survey Team:

(1) The Survey Team officially submitted the Draft Final Report to the Steering Committee and made presentation of the result of the Survey, with particular focus on preliminary design, countermeasures for inundation/flood, and cost estimation.
(2) The Steering Committee agreed in principle to the contents of the Draft Final Report.
(3) The Survey Team requested Steering Committee that comments on the Draft Final Report be sent to the Survey Team by the end of August 2014 and the Steering Committee agreed to it.
(4) The Steering Committee commented the following and the Survey Team agreed to incorporate them in the Survey
    (i) Future increase of traffic volume should be taken into account.
    (ii) The Survey Team and MPWT shall have further consultation on the plan of the interchange with the access road to the new border facility.
    (iii) Cost of weigh station need to be considered.
    (iv) The Survey Team will confirm the cost of EMP be included in the cost of Consultant Services for the Project.
    (v) The representative of Ministry of Environment queried the dead line for approval of EIA report and representative of JICA replied that approval by the end of September is acceptable.
    (vi) MPWT should issue a letter to Pursat Province instructing issuance of a letter on freezing of land transactions along the route of Pursat Bypass.

Phnom Penh, 13 August 2014

H.E. Tauch Chankosal
Chairperson, Steering Committee
(Secretary of State, MPWT)

Mr. Tatsuyuki Sakurai
Team Leader, JICA Survey Team

National Road No. 5 (Middle Section and Sri Sophorn – Poipet Section) Improvement Project
Attendant List of 4th Steering Committee (13 August 2014)

Organization	Position	Name	Signiture	Remarks
MPWT	Secretary of State	H.E. Tauch Chankosal		Chair Person
Ministry of Economy & Finance	Deputy chief of Resettlement office	chheang chhorlin		
	OFGid	NGY CAMMITHNA		
		CHUONG CHANTHY		
Ministry of Environment	Deputy Director	DUONG SAM KEAT		
Pursat Province	[illegible]	HUN. AN		
	Deputy. Director. PNT Pursat	Chinh. kounvr		
Battambang Province	Deputy Dirctor	Sal Solat		
Banteay Meanchey Province	Deputy Director	SOK CHANTHA		

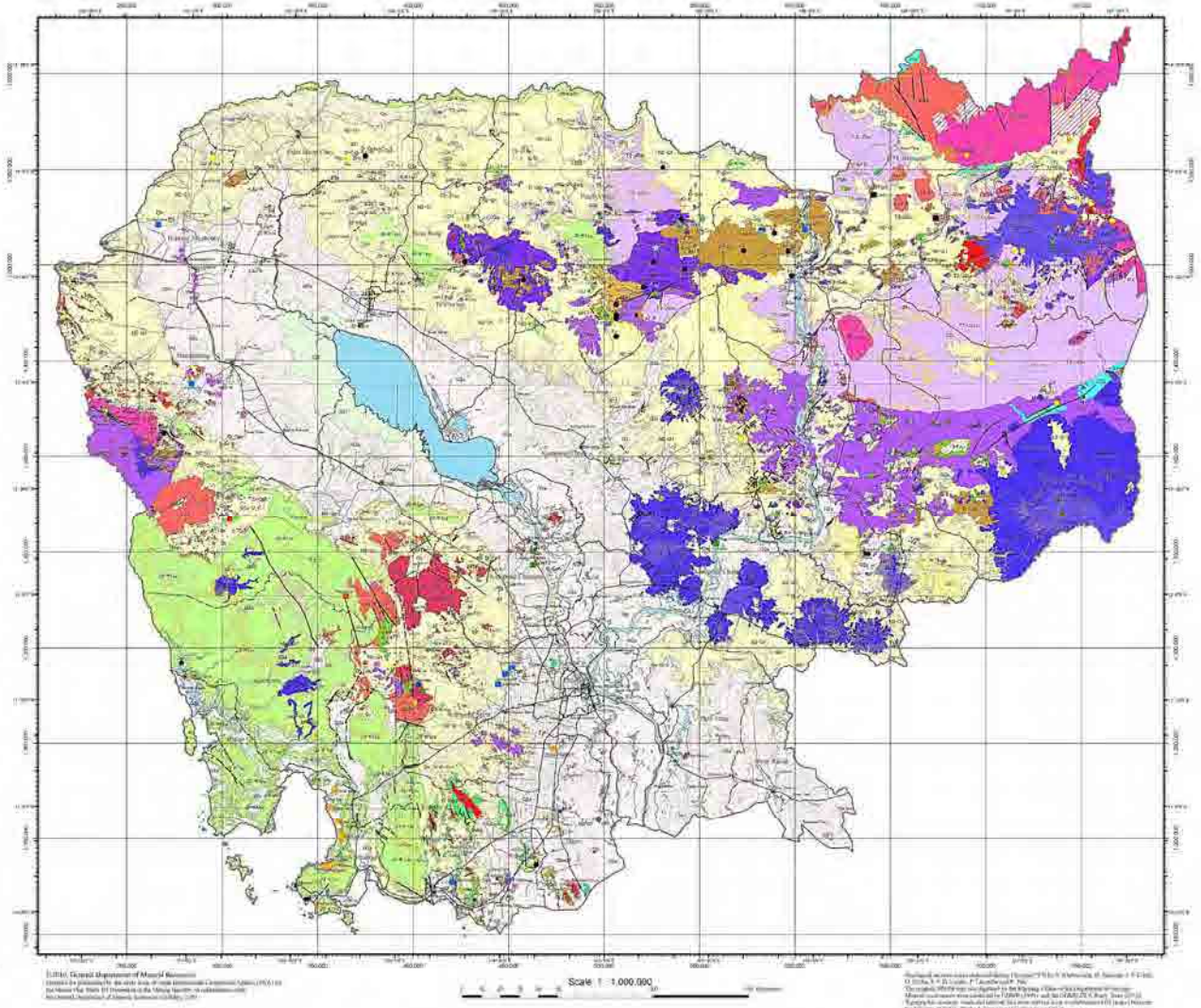
Ministry of Public Works & Transport	Director General of Public Work	H.E. Kem Borey		
	Director of Intern'l Cooperation	Mr. Chhin Phalla		
	Deputy Director ICD	KITH Chandararith		
	JICA Expert			
Embassy of Japan	1st Secretary	Mr. Tomohiro IIZUKA		
JICA Cambodia Office	Senior Representative	Mr. Takashi ITO		
	Representative	Mr. Masahiko EGAMI		
	officer	Nhep Tinat		

MEF	Deputy chief of DBC1	Mr. Ream Utdom		DCDM/GDB
JICA Survey Team	Team Leader	Tatsuyuki SAKURAI		

APPENDIX 2-1

GEOLOGICAL MAP

GEOLOGICAL MAP OF CAMBODIA



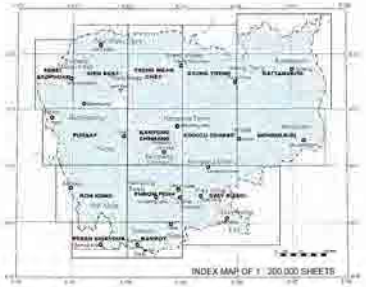
Scale 1 : 1,000,000

LEGEND

Sedimentary and metamorphic rocks

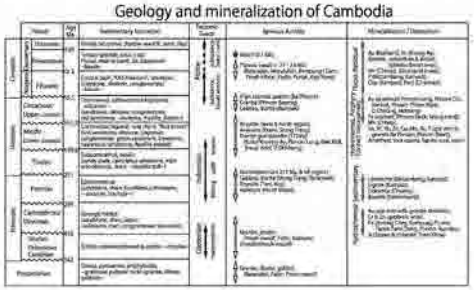
Igneous and related rocks

Mineral resources



INDEX MAP OF 1 : 200,000 SHEETS

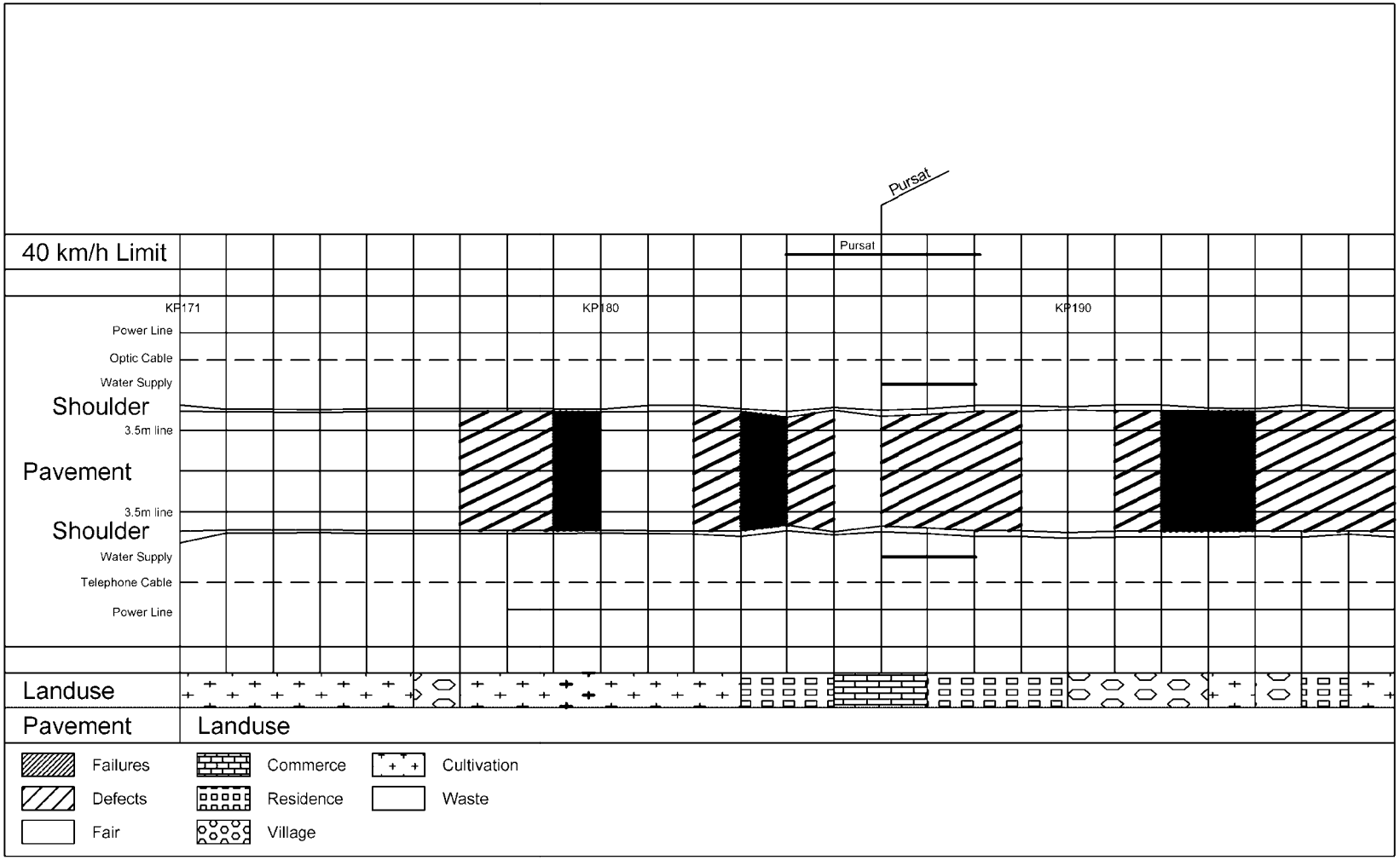
Geology and mineralization of Cambodia

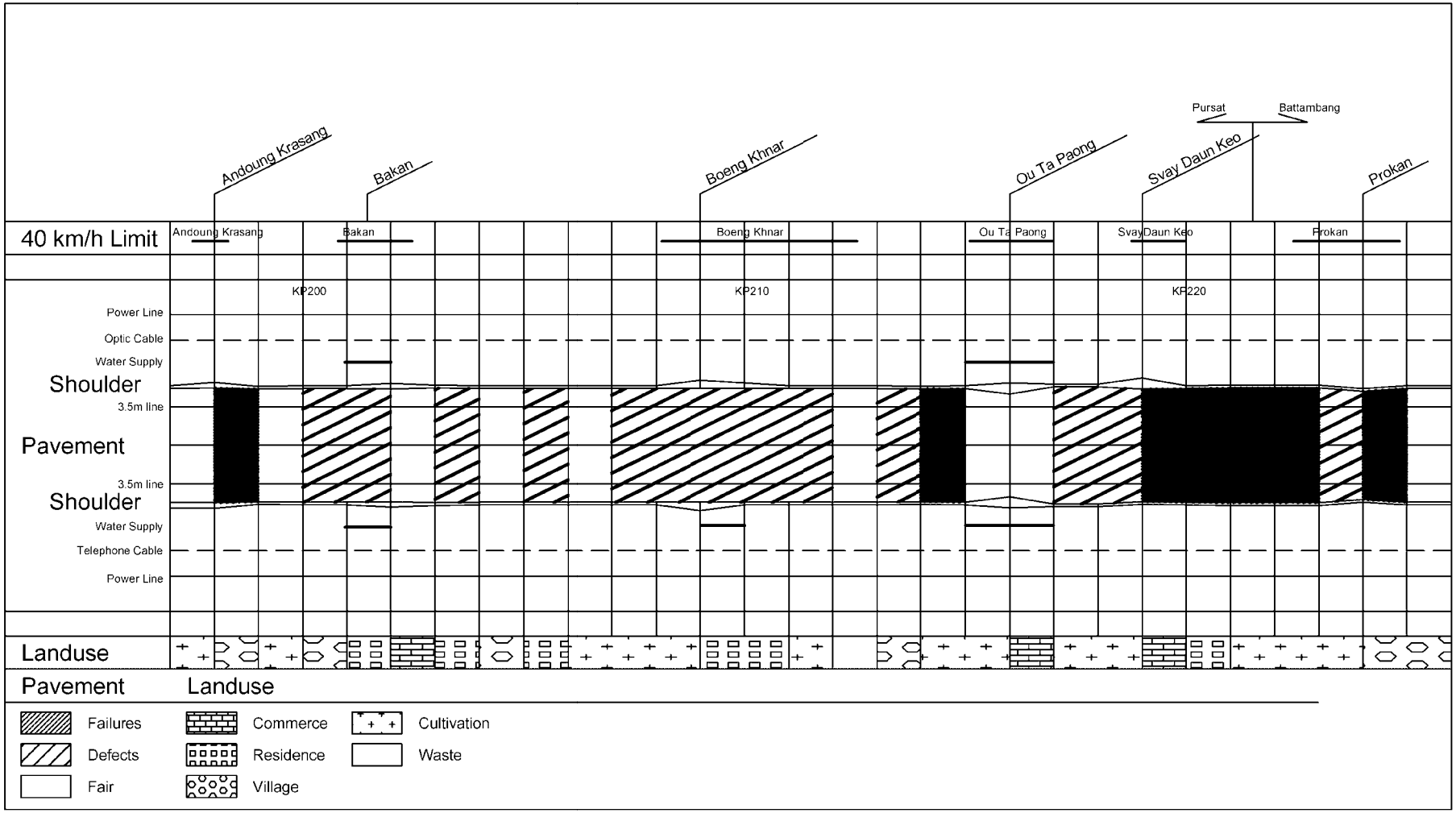


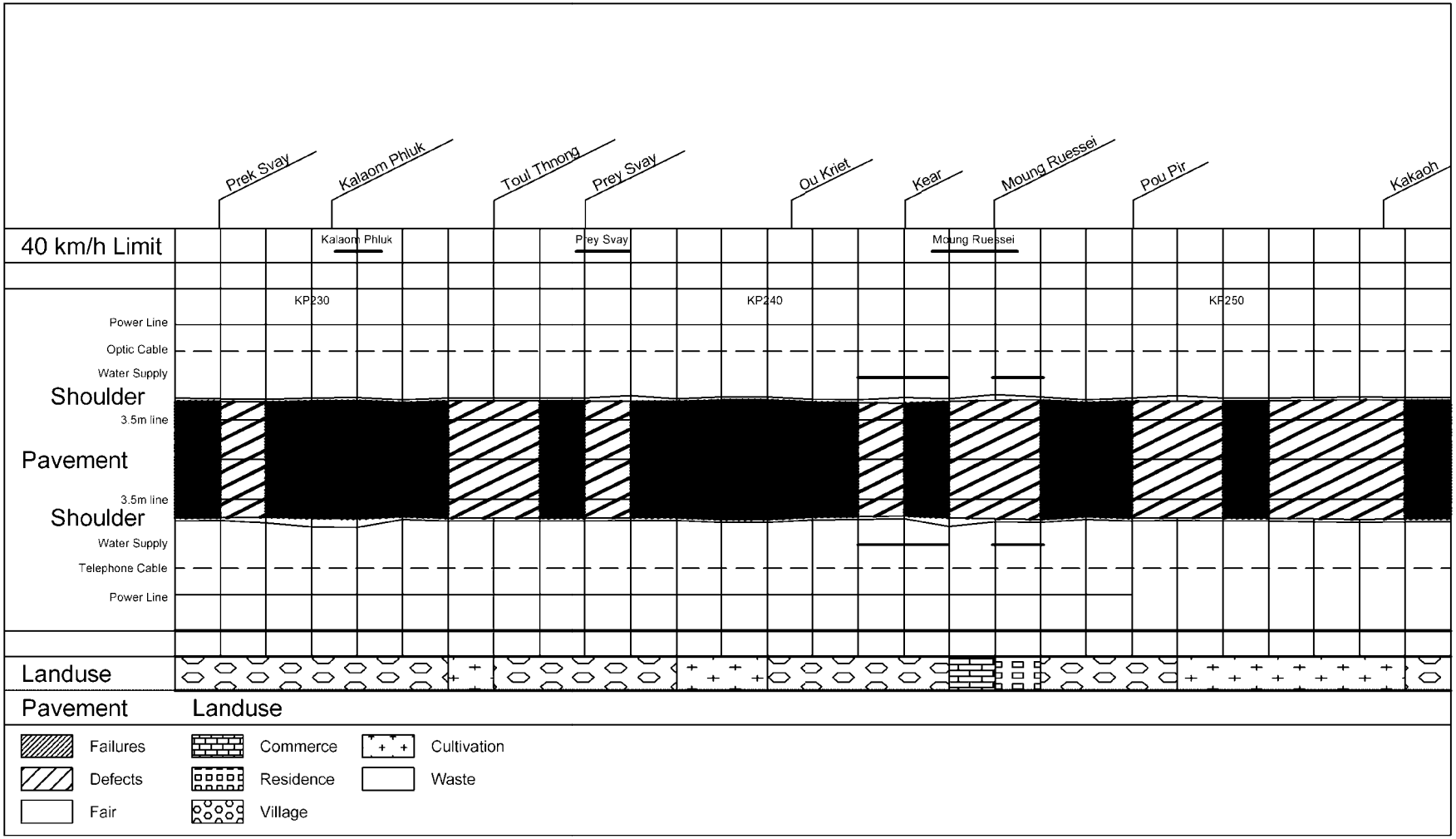
GEOLOGICAL MAP OF CAMBODIA
1 : 1,000,000

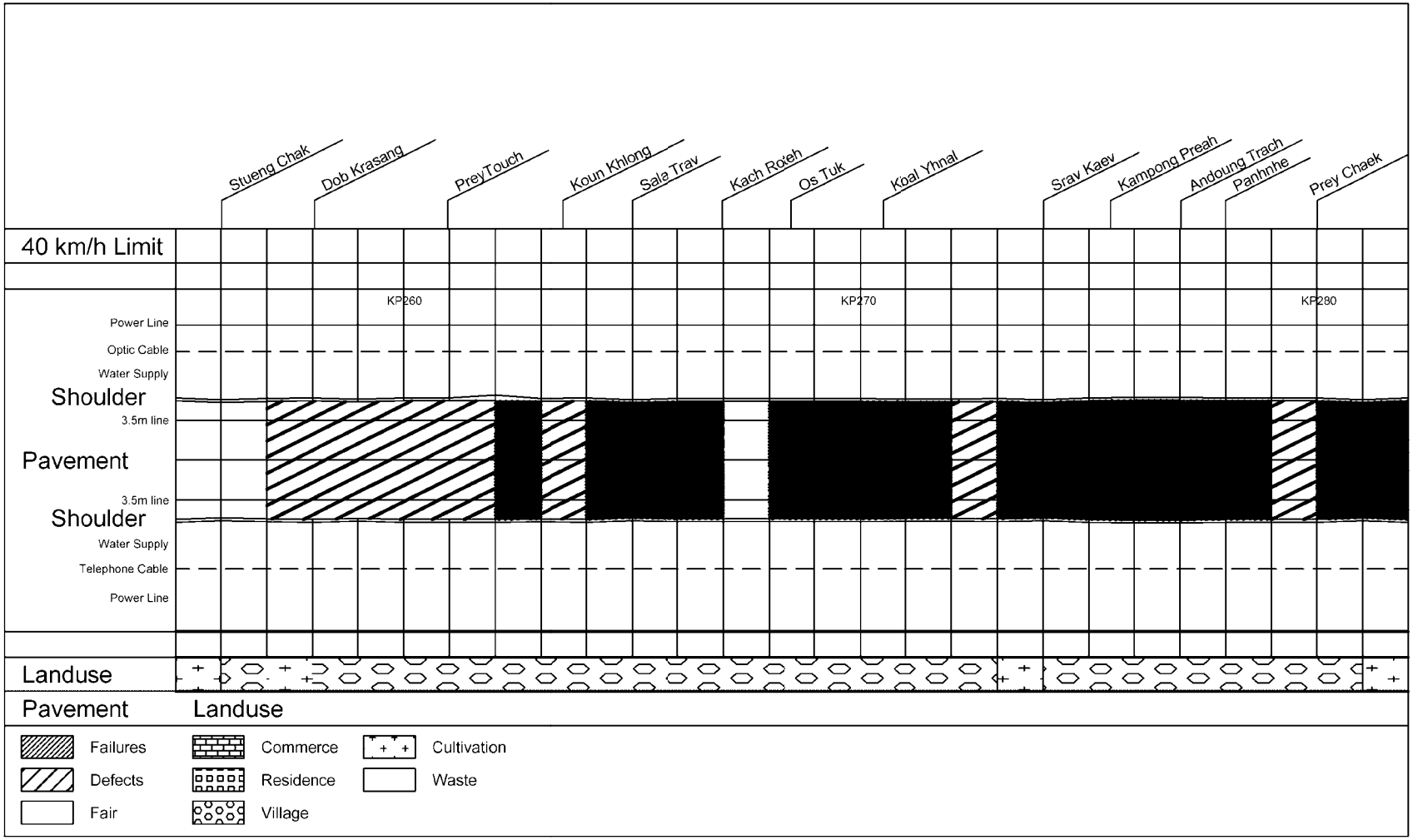
APPENDIX 4-1

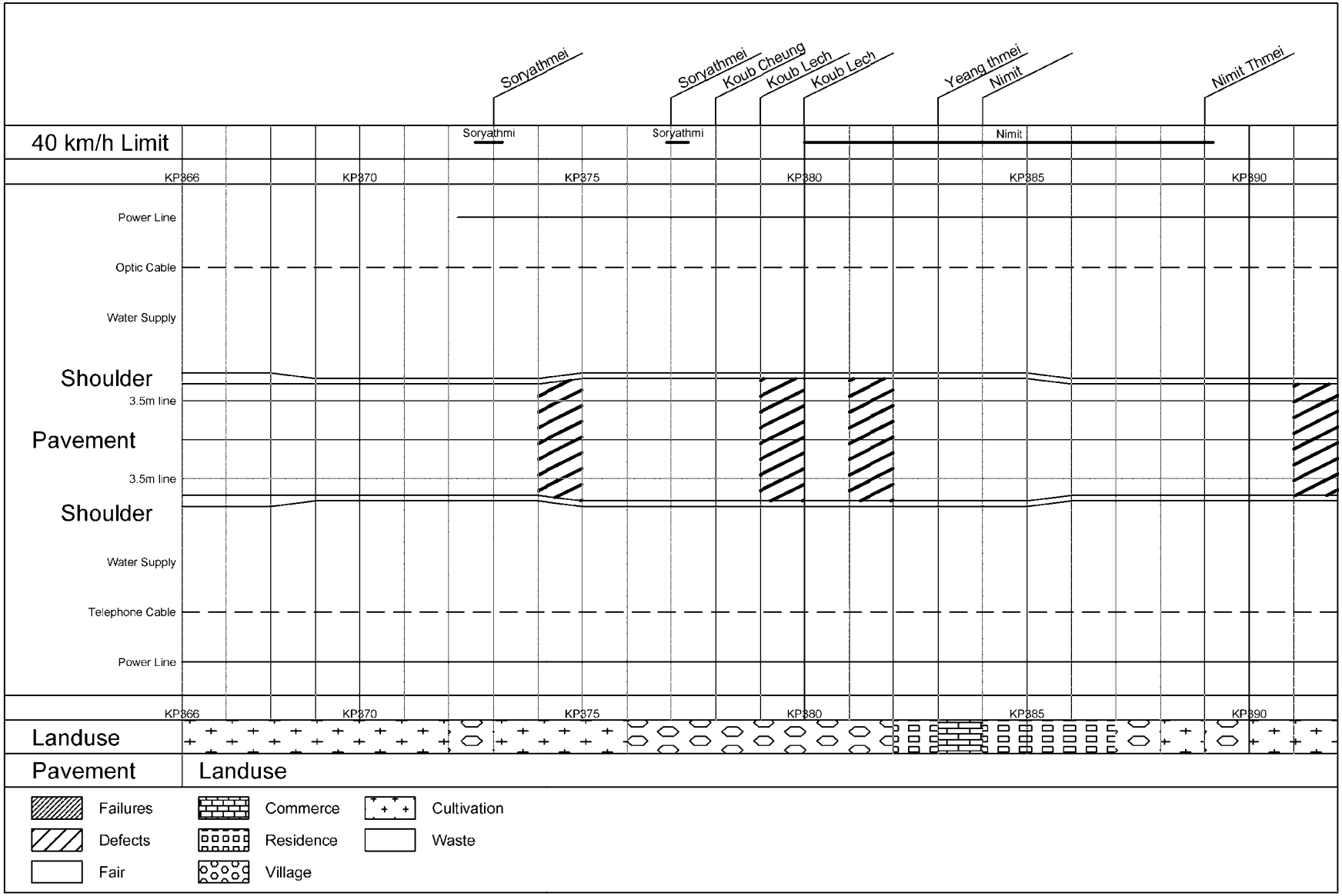
STRAIGHT LINE DIAGRAM

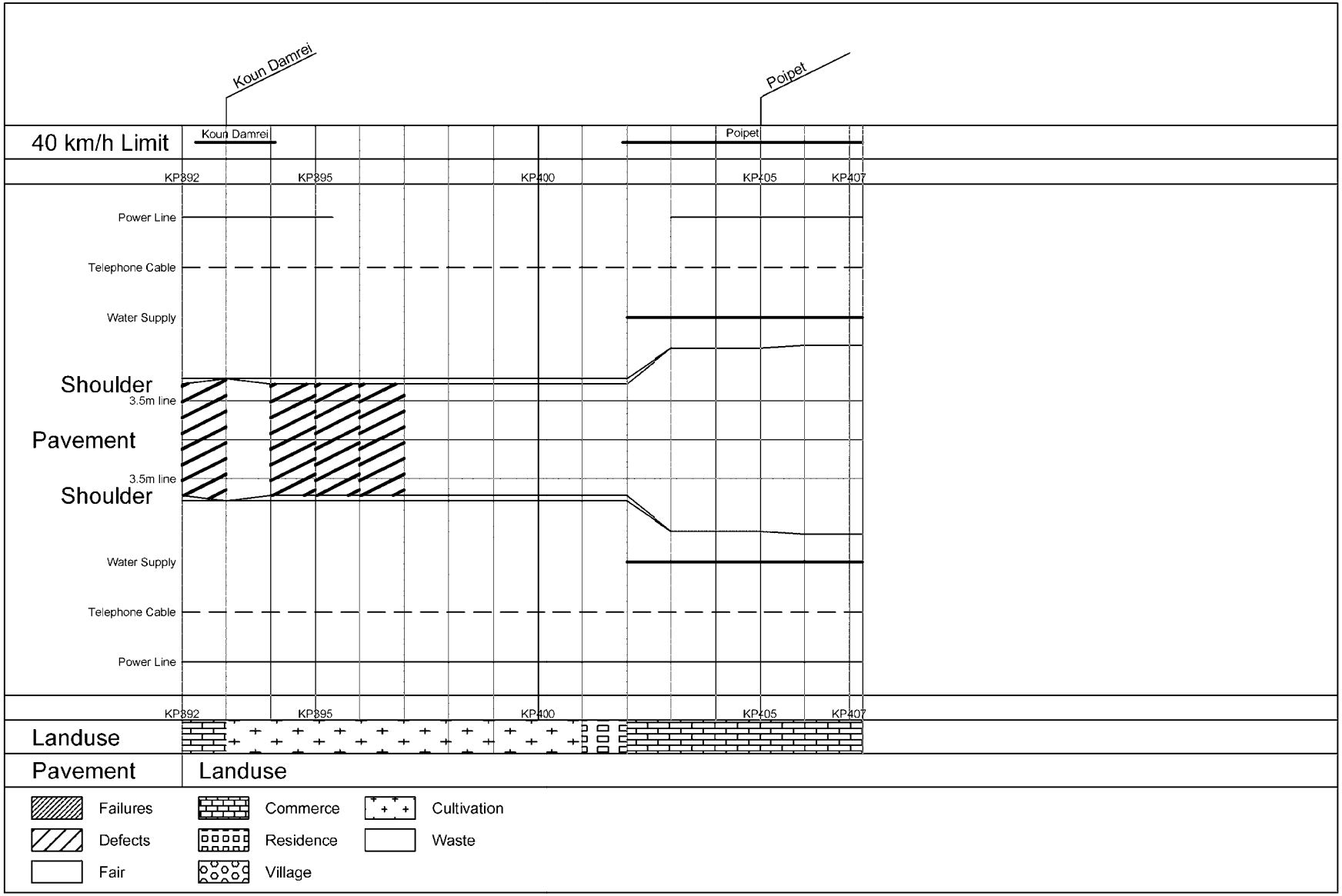

Pursat
40 km/h Limit
Pursat
KP171
KP180
KP190
Power Line
Optic Cable
Water Supply
Shoulder
3.5m line
Pavement
3.5m line
Shoulder
Water Supply
Telephone Cable
Power Line
Landuse
Pavement
Landuse
Failures
Defects
Fair
Commerce
Residence
Village
Cultivation
Waste


Andoung Krasang
Bakan
Boeng Khnar
Ou Ta Paong
Pursat
Battambang
Svay Daun Keo
Prokan
40 km/h Limit
Andoung Krasang
Bakan
Boeng Khnar
Ou Ta Paong
SvayDaun Keo
Prokan
KP200
KP210
KP220
Power Line
Optic Cable
Water Supply
Shoulder
3.5m line
Pavement
3.5m line
Shoulder
Water Supply
Telephone Cable
Power Line
Landuse
Pavement
Landuse
Failures
Defects
Fair
Commerce
Residence
Village
Cultivation
Waste


Prek Svay
Kalaom Phluk
Toul Thnong
Prey Svay
Ou Kriet
Kear
Moung Ruessei
Pou Pir
Kakaoh
40 km/h Limit
Kalaom Phluk
Prey Svay
Moung Ruessei
KP230
KP240
KP250
Power Line
Optic Cable
Water Supply
Shoulder
3.5m line
Pavement
3.5m line
Shoulder
Water Supply
Telephone Cable
Power Line
Landuse
Pavement
Landuse
Failures
Defects
Fair
Commerce
Residence
Village
Cultivation
Waste


Stueng Chak
Dob Krasang
PreyTouch
Koun Khlong
Sala Trav
Kach Roteh
Os Tuk
Koal Yhnal
Srav Kaev
Kampong Preah
Andoung Trach
Panhnhe
Prey Chaek
40 km/h Limit
KP260
KP270
KP280
Power Line
Optic Cable
Water Supply
Shoulder
3.5m line
Pavement
3.5m line
Shoulder
Water Supply
Telephone Cable
Power Line
Landuse
Pavement
Landuse
Failures
Defects
Fair
Commerce
Residence
Village
Cultivation
Waste


Soryathmei
Soryathmei
Koub Cheung
Koub Lech
Koub Lech
Yeang thmei
Nimit
Nimit Thmei
40 km/h Limit
Soryathmi
Soryathmi
Nimit
KP366
KP370
KP375
KP380
KP385
KP390
Power Line
Optic Cable
Water Supply
Shoulder
3.5m line
Pavement
3.5m line
Shoulder
Water Supply
Telephone Cable
Power Line
KP366
KP370
KP375
KP380
KP385
KP390
Landuse
Pavement
Landuse
Failures
Defects
Fair
Commerce
Residence
Village
Cultivation
Waste

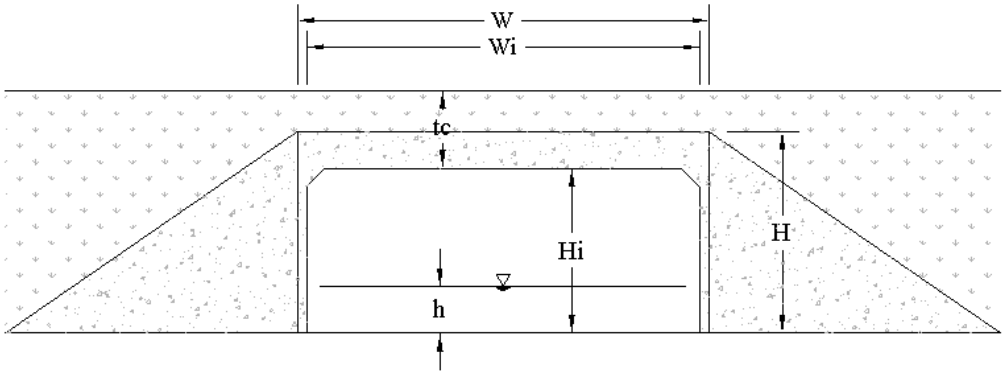

Koun Damrei
Poipet
40 km/h Limit
Koun Damrei
Poipet
KP392
KP395
KP400
KP405
KP407
Power Line
Telephone Cable
Water Supply
Shoulder
3.5m line
Pavement
3.5m line
Shoulder
Water Supply
Telephone Cable
Power Line
KP392
KP395
KP400
KP405
KP407
Landuse
Pavement
Landuse
Failures
Defects
Fair
Commerce
Residence
Village
Cultivation
Waste

APPENDIX 6-1

INVENTORY SURVEY OF

BOX CULVERT

KP: ***171+800*** No.: ***Bc54*** Date: ***20-May-2013***

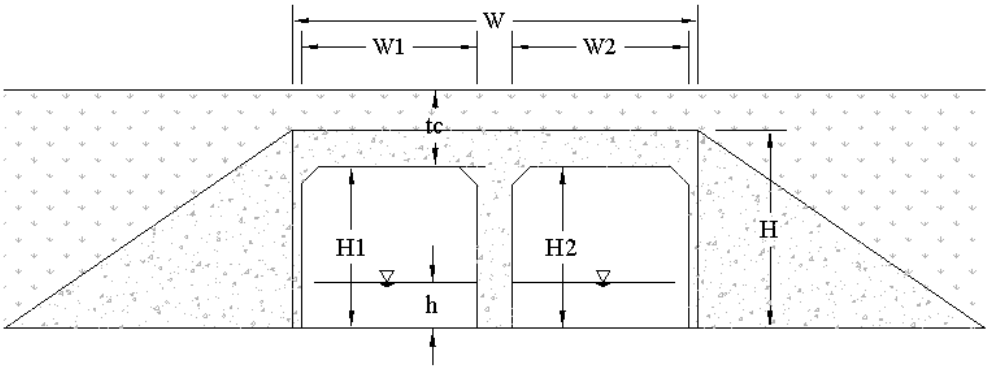


1-BC

W	=	***2.90***	(m)
W_i	=	***2.80***	(m)
H	=	***2.10***	(m)
H_i	=	***1.70***	(m)
L	=	***13.60***	(m)
h	=	***0.20***	(m)
tc	=	***0.85***	(m)

Lake Side (Outlet)

KP: ***179+100*** No.: ***Bc55*** Date: ***20-May-2013***



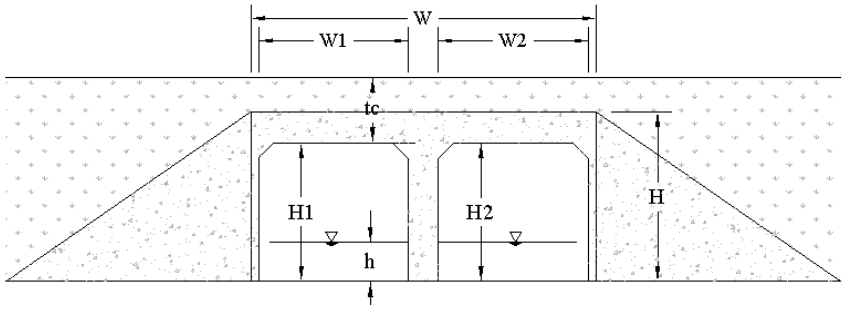
2-BC

W	=	***6.40***	(m)
W_1, W_2	=	***2.80***	(m)
H	=	***2.30***	(m)
H_1, H_2	=	***1.90***	(m)
L	=	***13.60***	(m)
h	=	***0.20***	(m)
tc	=	***0.53***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_i$ =Net Width, H=Total Height, $H_1/H_2/H_i$ =Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top, River means Tonle Sap River

KP: ***179+500*** No.: ***Bc56*** Date: ***20-May-2013***

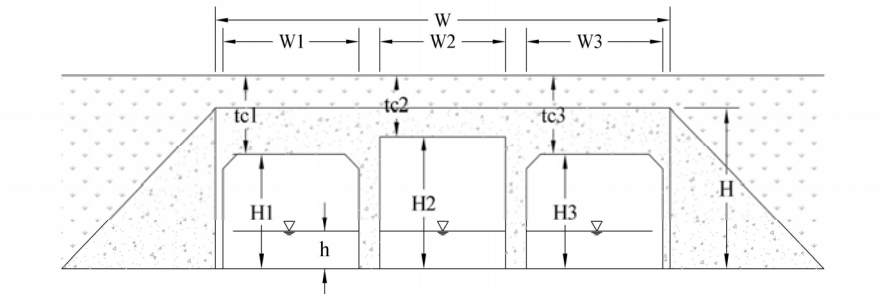


2-BC

W	=	***6.25***	(m)
W_1, W_2	=	***2.85***	(m)
H	=	***2.25***	(m)
H_1, H_2	=	***1.90***	(m)
L	=	***13.60***	(m)
h	=	***0.20***	(m)
tc	=	***0.62***	(m)

Lake Side (Outlet)

KP: ***179+800*** No.: ***Bc57*** Date: ***20-May-2013***



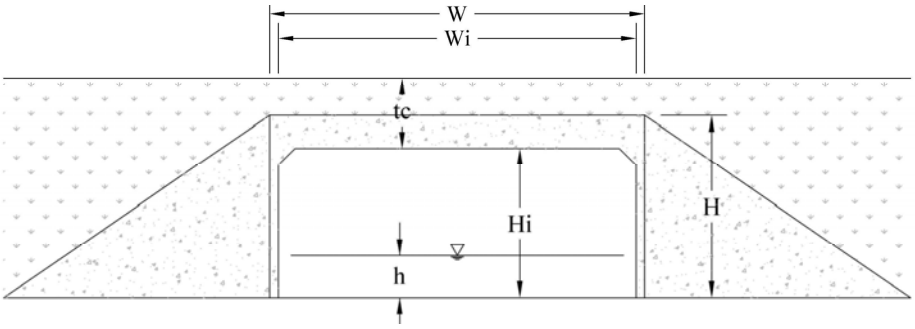
3-BC

W	=	***9.60***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.20***	(m)
H_1, H_3	=	***1.65***	(m)
H_2	=	***1.80***	(m)
L	=	***12.20***	(m)
h	=	***0.40***	(m)
tc_1, tc_3	=	***0.73***	(m)
tc_2	=	***0.48***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_3$=Net Width, H=Total Height, $H_1/H_2/H_3$ =Net Height, L=Total Length, h=Water Depth, $tc_1/tc_2/tc_3$=Height of Soil over Top, River means the Tonle Sap River

KP: ***182+200*** No.: ***Bc58*** Date: ***20-May-2013***

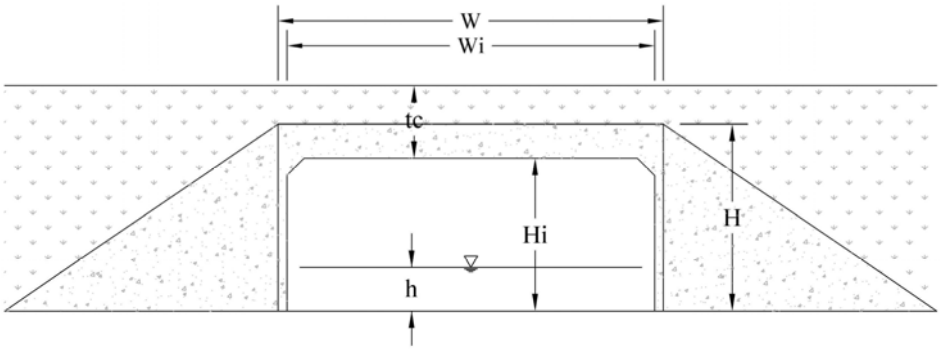


1-BC

W	=	***2.90***	(m)
W_i	=	***2.80***	(m)
H	=	***2.15***	(m)
H_i	=	***1.75***	(m)
L	=	***13.60***	(m)
h	=	***0.20***	(m)
tc	=	***0.65***	(m)

Lake Side (Outlet)

KP: ***196+500*** No.: ***Bc59*** Date: ***21-May-2013***



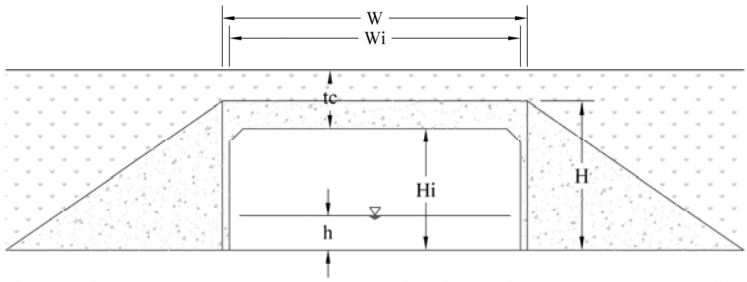
1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***2.20***	(m)
H_i	=	***1.60***	(m)
L	=	***14.00***	(m)
h	=	***0.10***	(m)
tc	=	***0.80***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_i=Net Width, H=Total Height, H_i= Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top, River means the Tonle Sap River

KP: ***199+300*** No.: ***Bc60*** Date: ***21-May-2013***

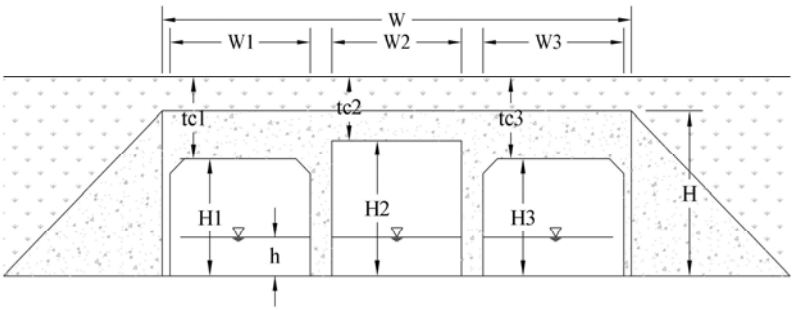


1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***1.90***	(m)
H_i	=	***1.45***	(m)
L	=	***13.80***	(m)
h	=	***0.10***	(m)
tc	=	***0.75***	(m)

Lake Side (Outlet)

KP: ***214+100*** No.: ***Bc61*** Date: ***22-May-2013***



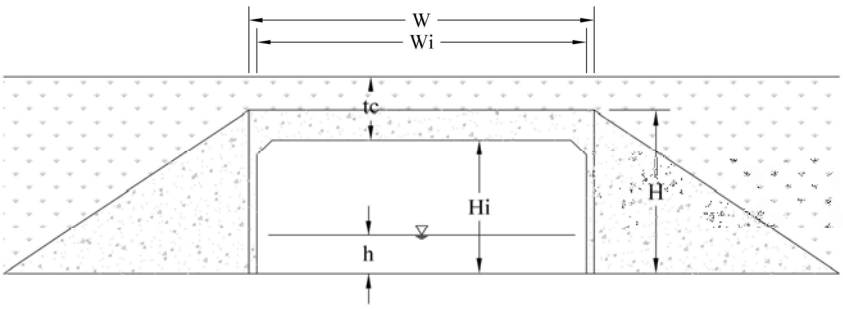
3-BC

W	=	***9.45***	(m)
W_1, W_3	=	***2.80***	(m)
W_2	=	***2.95***	(m)
H	=	***2.40***	(m)
H_1, H_3	=	***1.75***	(m)
H_2	=	***2.00***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***0.97***	(m)
tc_2	=	***0.72***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_i/W_1/W_2/W_3=Net Width, H=Total Height, H_i/H_1/H_2/H_3=Net Height, L=Total Length, h=Water Depth, tc_1/tc_2/tc_3=Height of Soil over Top, River means the Tonle Sap River

KP: ***218+800*** No.: ***Bc62*** Date: ***22-May-2013***

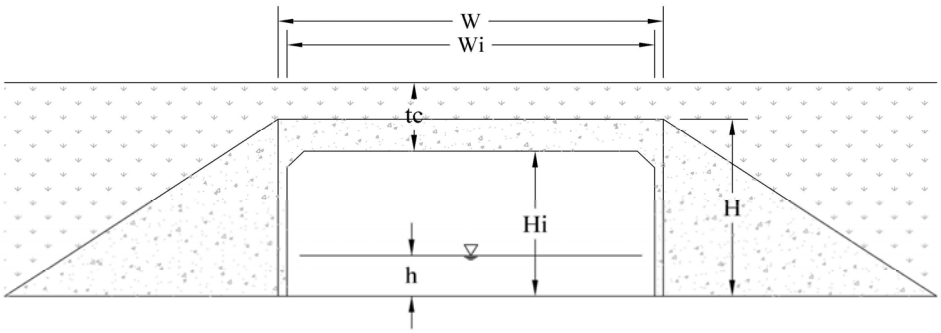


1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***2.95***	(m)
H_i	=	***2.55***	(m)
L	=	***15.20***	(m)
h	=	***0.10***	(m)
tc	=	***0.75***	(m)

Lake Side (Outlet)

KP: ***218+900*** No.: ***Bc63*** Date: ***22-May-2013***



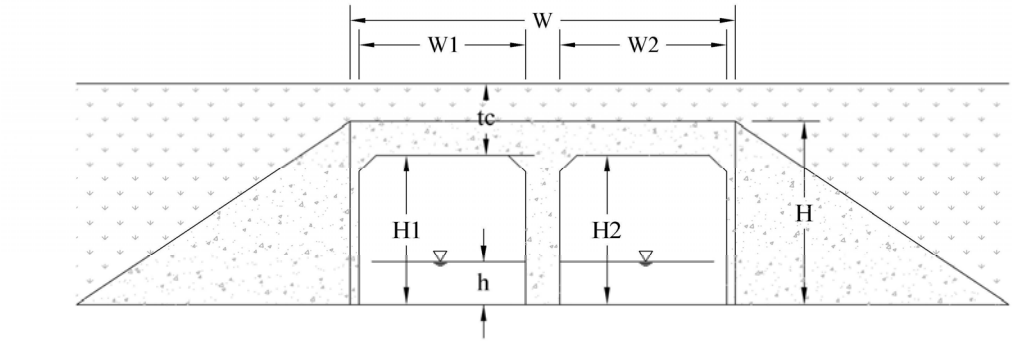
1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***2.35***	(m)
H_i	=	***1.95***	(m)
L	=	***15.30***	(m)
h	=	***0.10***	(m)
tc	=	***1.05***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top, River means the Tonle Sap River

KP: ***221+400*** No.: ***Bc64*** Date: ***22-May-2013***

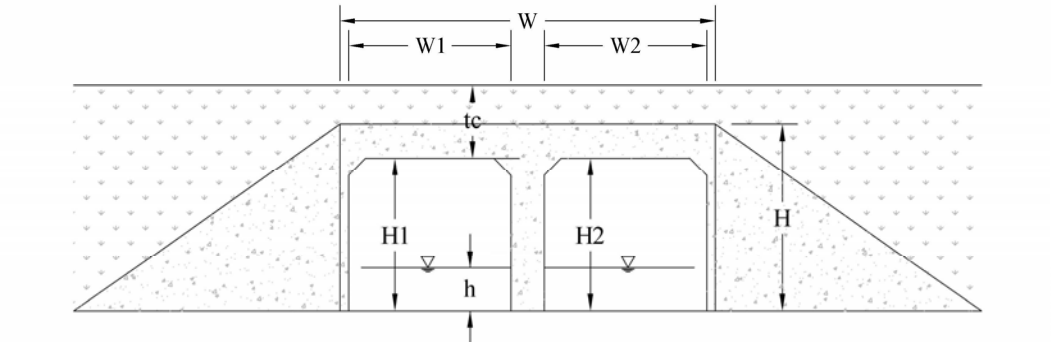


2-BC

W	=	***4.10***	(m)
W_1, W_2	=	***1.80***	(m)
H	=	***2.40***	(m)
H_1, H_2	=	***2.00***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.80***	(m)

Lake Side (Outlet)

KP: ***221+700*** No.: ***Bc65*** Date: ***22-May-2013***



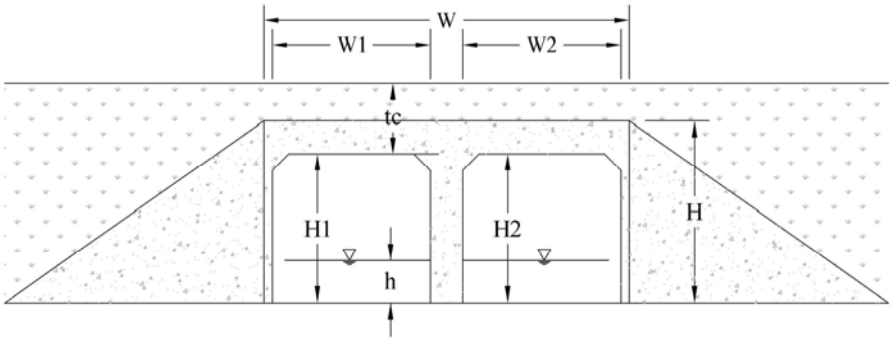
2-BC

W	=	***6.30***	(m)
W_1, W_2	=	***3.00***	(m)
H	=	***2.25***	(m)
H_1, H_2	=	***1.80***	(m)
L	=	***16.02***	(m)
h	=	***0.00***	(m)
tc	=	***1.25***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_1/W_2=Net Width, H=Total Height, H_1/H_2=Net Height, L=Total Length, h=Water Depth,, tc=Height of Soil over Top, River means the Tonle Sap River

KP: ***230+400*** No.: ***Bc66*** Date: ***22-May-2013***

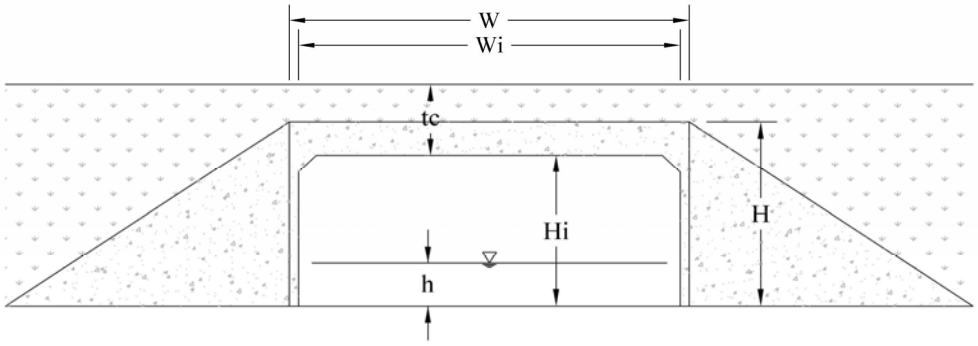


2-BC

W	=	***6.30***	(m)
W_1, W_2	=	***3.00***	(m)
H	=	***2.20***	(m)
H_1, H_2	=	***1.80***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.65***	(m)

Lake Side (Outlet)

KP: ***232+800*** No.: ***Bc67*** Date: ***23-May-2013***



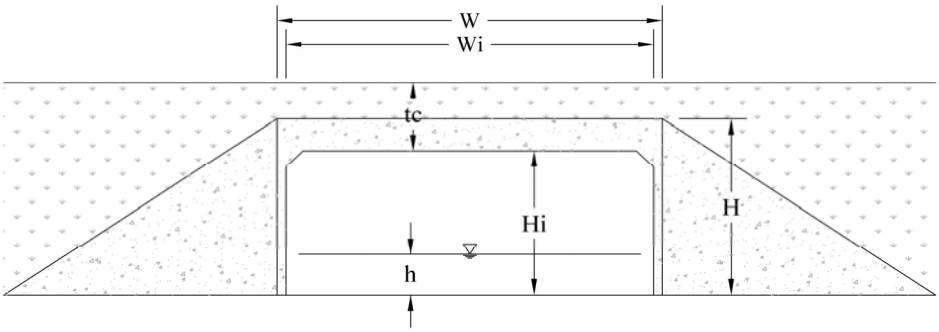
1-BC

W	=	***3.20***	(m)
W_i	=	***3.10***	(m)
H	=	***1.85***	(m)
H_i	=	***1.45***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.75***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_i$ =Net Width, H=Total Height, $H_1/H_2/H_i$ =Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***237+400*** No.: ***Bc68*** Date: ***23-May-2013***

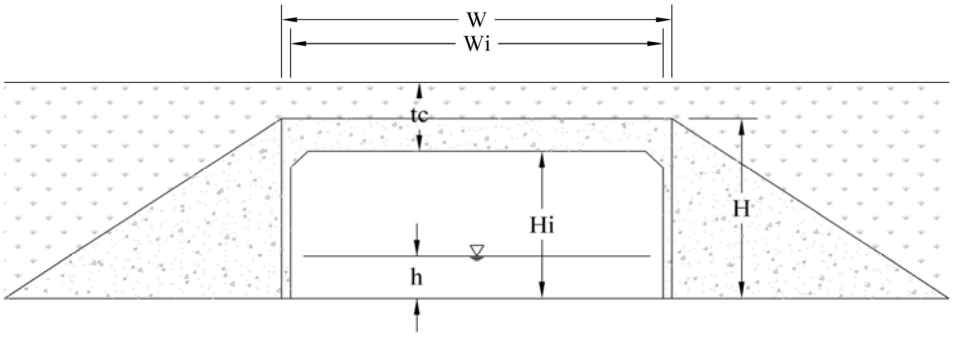


1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***1.95***	(m)
H_i	=	***1.55***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.80***	(m)

Lake Side (Outlet)

KP: ***238+200*** No.: ***Bc69*** Date: ***23-May-2013***



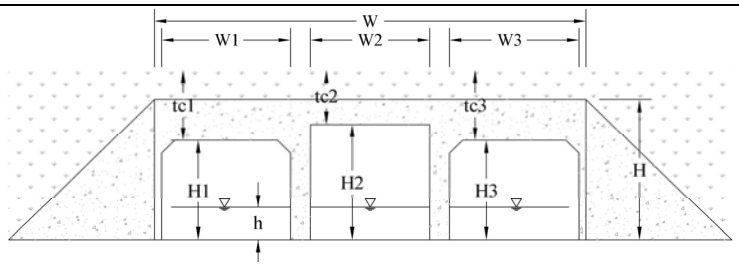
1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***2.30***	(m)
H_i	=	***1.90***	(m)
L	=	***13.70***	(m)
h	=	***0.10***	(m)
tc	=	***0.62***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***240+000*** No.: ***Bc70*** Date: ***23-May-2013***

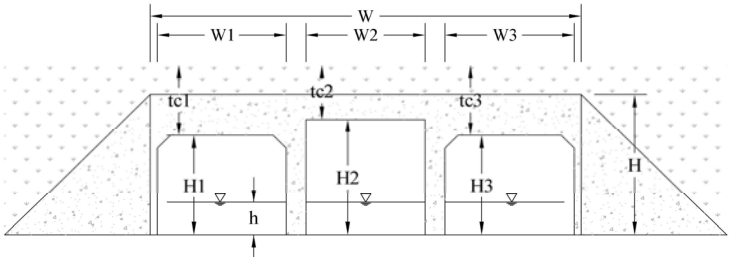


3-BC

W	=	***6.65***	(m)
W_1, W_3	=	***2.80***	(m)
W_2	=	***3.00***	(m)
H	=	***2.50***	(m)
H_1, H_3	=	***1.85***	(m)
H_2	=	***2.10***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***0.75***	(m)
tc_2	=	***0.50***	(m)

Lake Side (Outlet)

KP: ***245+400*** No.: ***Bc71*** Date: ***23-May-2013***



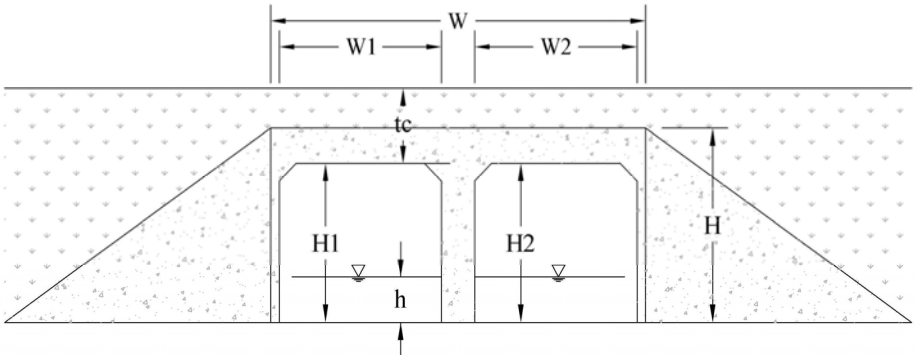
3-BC

W	=	***7.50***	(m)
W_1, W_3	=	***2.80***	(m)
W_2	=	***3.00***	(m)
H	=	***2.45***	(m)
H_1, H_3	=	***1.80***	(m)
H_2	=	***2.05***	(m)
L	=	***13.80***	(m)
h	=	***1.40***	(m)
tc_1 ,tc_3	=	***1.30***	(m)
tc_2	=	***1.05***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_3$=Net Width, H=Total Height, $H_1/H_2/H_3$=Net Height, L=Total Length, h=Water Depth, $tc_1/tc_2/tc_3$=Height of Soil over Top, River means the Tonle Sap River

KP: ***248+500*** No.: ***Bc72*** Date: ***23-May-2013***

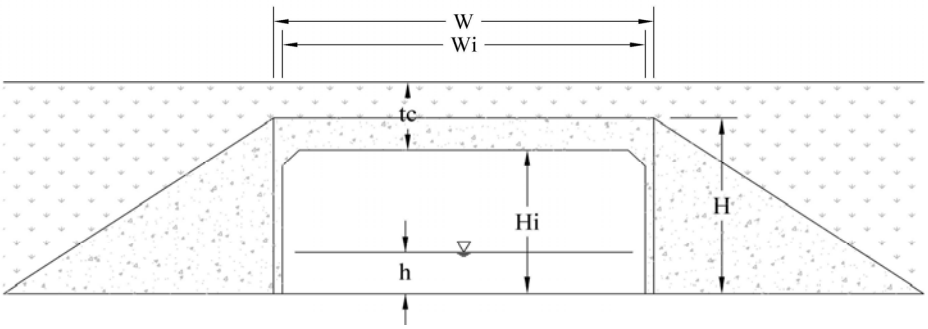


2-BC

W	=	***6.35***	(m)
W_1, W_2	=	***2.85***	(m)
H	=	***2.45***	(m)
H_1, H_2	=	***2.00***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.45***	(m)

Lake Side (Outlet)

KP: ***249+000*** No.: ***Bc73*** Date: ***23-May-2013***



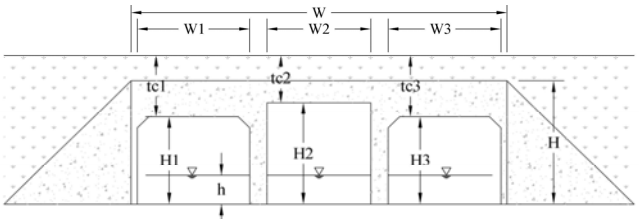
1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***2.45***	(m)
H_i	=	***2.05***	(m)
L	=	***13.80***	(m)
h	=	***0.00***	(m)
tc	=	***0.65***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_i$ =Net Width, H=Total Height, $H_1/H_2/H_i$ =Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top, River means the Tonle Sap River

KP: ***251+000*** No.: ***Bc74*** Date: ***23-May-2013***

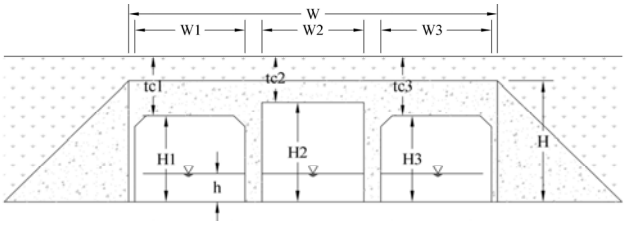


3-BC

W	=	***9.70***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.60***	(m)
H_1, H_3	=	***2.00***	(m)
H_2	=	***2.20***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***0.72***	(m)
tc_2	=	***0.52***	(m)

Lake Side (Outlet)

KP: ***252+400*** No.: ***Bc75*** Date: ***23-May-2013***



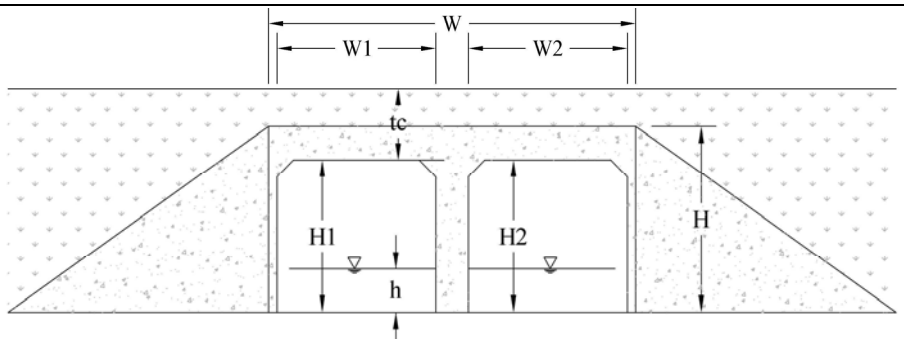
3-BC

W	=	***9.50***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***1.35***	(m)
H_1, H_3	=	***0.75***	(m)
H_2	=	***1.00***	(m)
L	=	***13.70***	(m)
h	=	***0.30***	(m)
tc_1 ,tc_3	=	***1.20***	(m)
tc_2	=	***0.95***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_3$=Net Width, H=Total Height, $H_1/H_2/H_3$=Net Height, L=Total Length, h=Water Depth, $tc_1/tc_2/tc_3$=Height of Soil over Top, River means the Tonle Sap River

KP: ***254+700*** NO.: ***Bc76*** Date: ***23-May-2013***

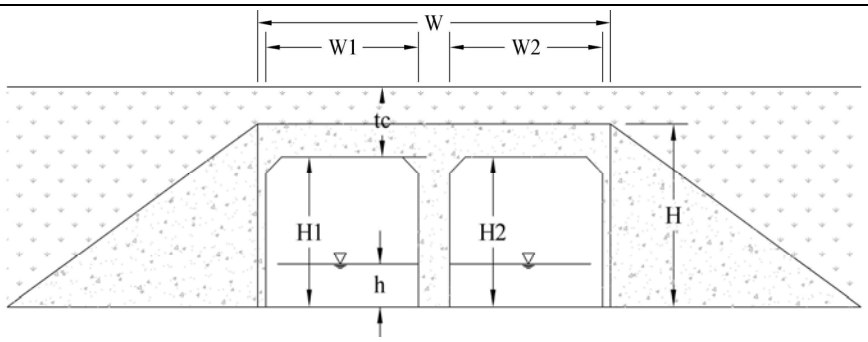


2-BC

W	=	***8.80***	(m)
W_1, W_2	=	***4.30***	(m)
H	=	***1.90***	(m)
H_1, H_2	=	***1.45***	(m)
L	=	***13.50***	(m)
h	=	***0.00***	(m)
tc	=	***1.10***	(m)

Lake Side (Outlet)

KP: ***255+900*** No.: ***Bc77*** Date: ***23-May-2013***



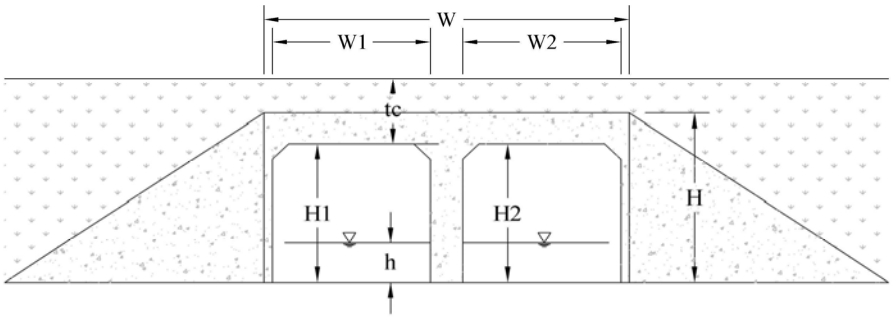
2-BC

W	=	***6.20***	(m)
W_1	=	***2.80***	(m)
W_2	=	***2.85***	(m)
H	=	***2.00***	(m)
H_1, H_2	=	***1.60***	(m)
L	=	***13.80***	(m)
h	=	***0.00***	(m)
tc	=	***0.70***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_1/W_2=Net Width, H=Total Height, H_1/H_2=Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***259+100*** No.: ***Bc78*** Date: ***23-May-2013***

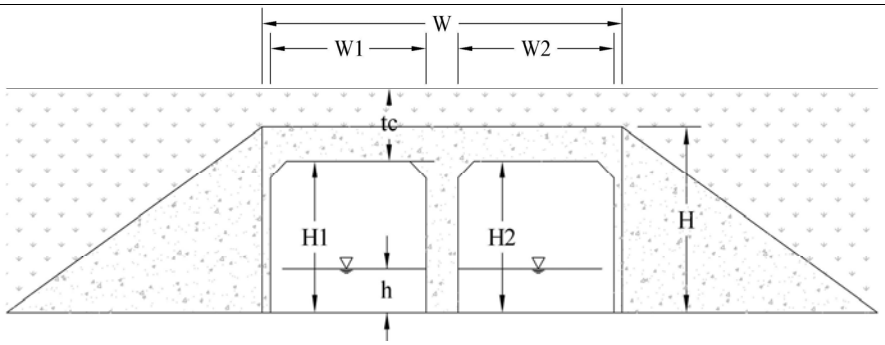


2-BC

W	=	***6.20***	(m)
W_1	=	***2.75***	(m)
W_2	=	***2.85***	(m)
H	=	***2.30***	(m)
H_1, H_2	=	***1.90***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.75***	(m)

Lake Side (Outlet)

KP: ***261+400*** No.: ***Bc79*** Date: ***23-May-2013***



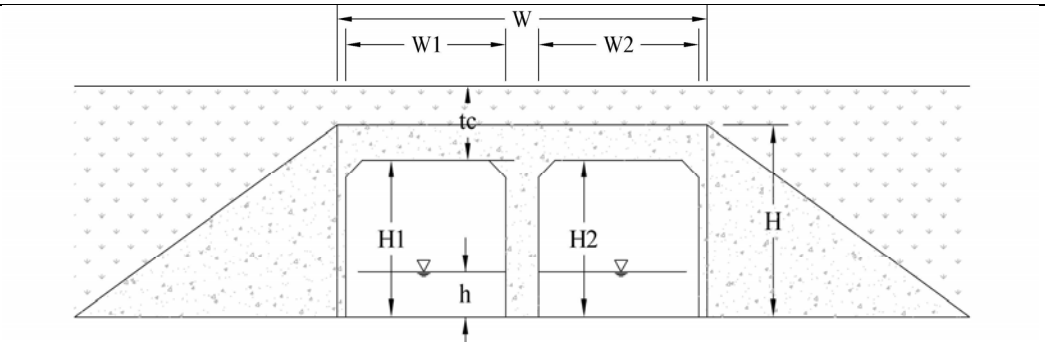
2-BC

W	=	***8.60***	(m)
W_1, W_2	=	***4.15***	(m)
H	=	***2.35***	(m)
H_1, H_2	=	***1.90***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***1.05***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_1/W_2=Net Width, H=Total Height, H_1/H_2=Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***262+300*** No.: ***Bc80*** Date: ***24-May-2013***

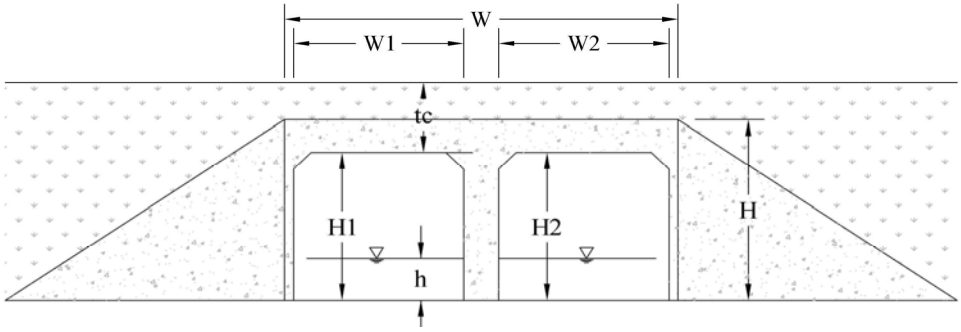


2-BC

W	=	***6.30***	(m)
W_1, W_2	=	***2.85***	(m)
H	=	***2.40***	(m)
H_1, H_2	=	***2.00***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.45***	(m)

Lake Side (Outlet)

KP: ***264+100*** No.: ***Bc81*** Date: ***24-May-2013***



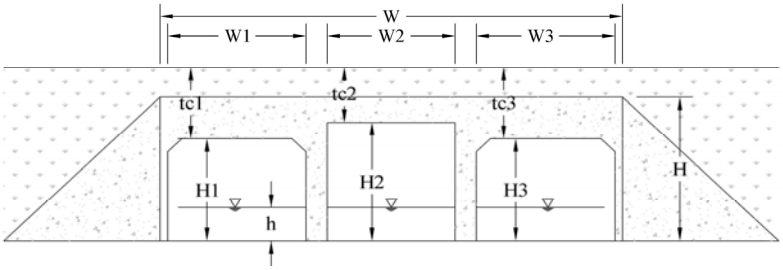
2-BC

W	=	***6.20***	(m)
W_1, W_2	=	***2.85***	(m)
H	=	***2.20***	(m)
H_1, H_2	=	***1.80***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.55***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_1/W_2=Net Width, H=Total Height, H_1/H_2=Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***267+000*** No.: ***Bc82*** Date: ***24-May-2013***

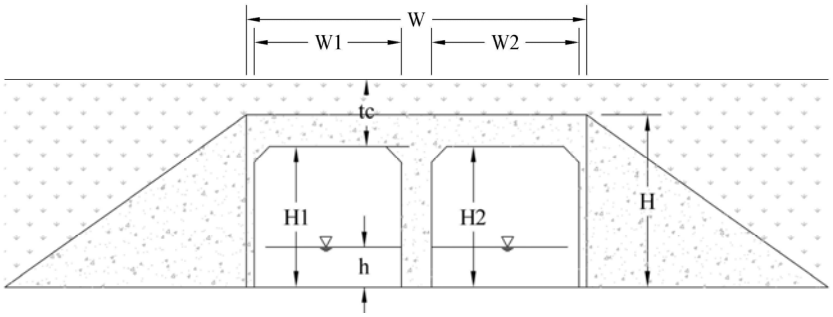


3-BC

W	=	***9.60***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.60***	(m)
H_1, H_3	=	***1.95***	(m)
H_2	=	***2.20***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***0.75***	(m)
tc_2	=	***0.50***	(m)

Lake Side (Outlet)

KP: ***269+700*** No.: ***Bc83*** Date: ***24-May-2013***



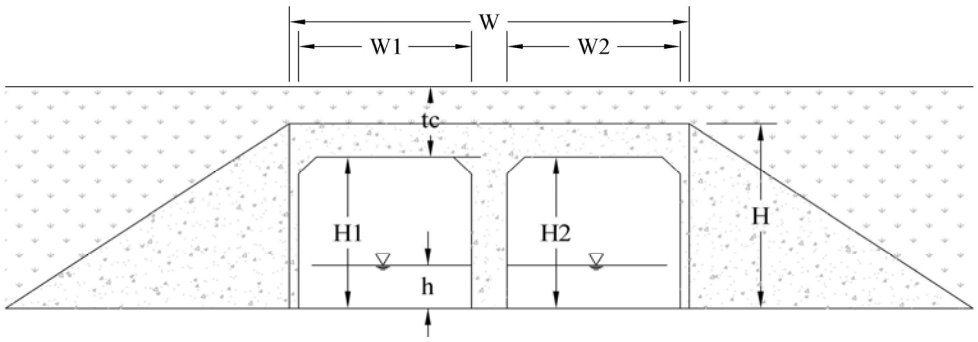
2-BC

W	=	***6.30***	(m)
W_1, W_2	=	***3.00***	(m)
H	=	***2.40***	(m)
H_1, H_2	=	***2.00***	(m)
L	=	***13.00***	(m)
h	=	***0.00***	(m)
tc	=	***0.55***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_3$=Net Width, H=Total Height, $H_1/H_2/H_3$=Net Height, L=Total Length, h=Water Depth, $tc_1/tc_2/tc_3$=Height of Soil over Top, River means the Tonle Sap River

KP: ***270+400*** No.: ***Bc84*** Date: ***24-May-2013***

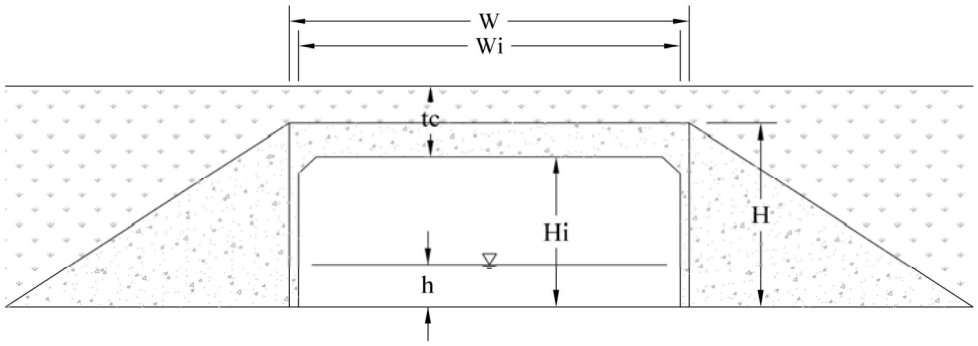


2-BC

W	=	***6.30***	(m)
W_1, W_2	=	***3.00***	(m)
H	=	***2.25***	(m)
H_1, H_2	=	***1.90***	(m)
L	=	***13.10***	(m)
h	=	***0.00***	(m)
tc	=	***0.60***	(m)

Lake Side (Outlet)

KP: ***274+200*** No.: ***Bc85*** Date: ***26-May-2013***



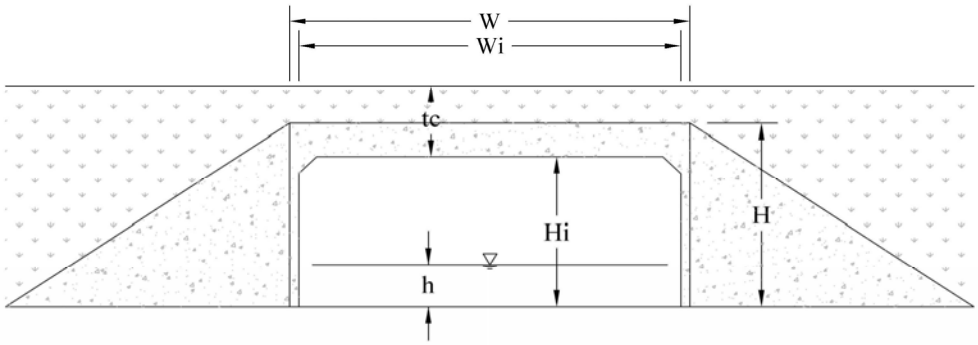
1-BC

W	=	***2.90***	(m)
W_i	=	***2.85***	(m)
H	=	***2.05***	(m)
H_i	=	***1.65***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.55***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_i$ =Net Width, H=Total Height, $H_1/H_2/H_i$ =Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***276+100*** No.: ***Bc86*** Date: ***26-May-2013***

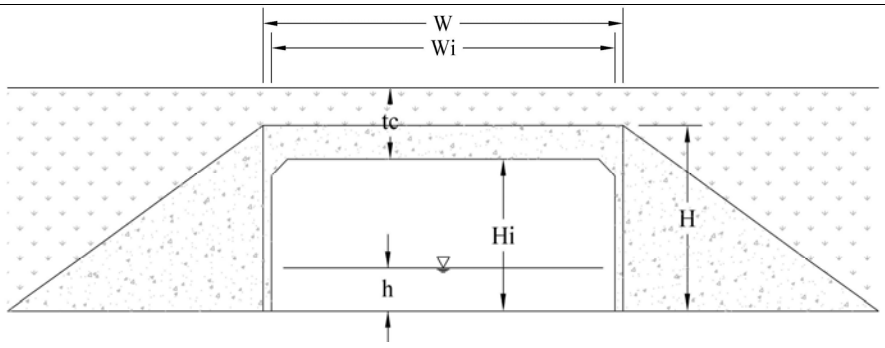


1-BC

W	=	***2.90***	(m)
W_i	=	***2.85***	(m)
H	=	***2.35***	(m)
H_i	=	***1.95***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.55***	(m)

Lake Side (Outlet)

KP: ***280+700*** No.: ***Bc87*** Date: ***26-May-2013***



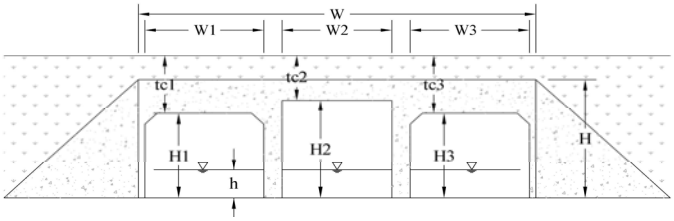
1-BC

W	=	***3.10***	(m)
W_i	=	***3.00***	(m)
H	=	***2.20***	(m)
H_i	=	***1.80***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.65***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_i=Net Width, H=Total Height, H_i =Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top, River means the Tonle Sap River

KP: ***281+700*** No.: ***Bc88*** Date: ***26-May-2013***

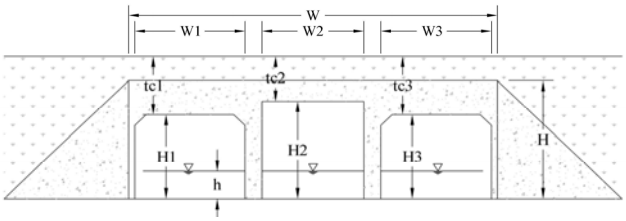


3-BC

W	=	***9.50***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.60***	(m)
H_1, H_3	=	***1.95***	(m)
H_2	=	***2.20***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***1.05***	(m)
tc_2	=	***0.80***	(m)

Lake Side (Outlet)

KP: ***283+700*** No.: ***Bc89*** Date: ***27-May-2013***



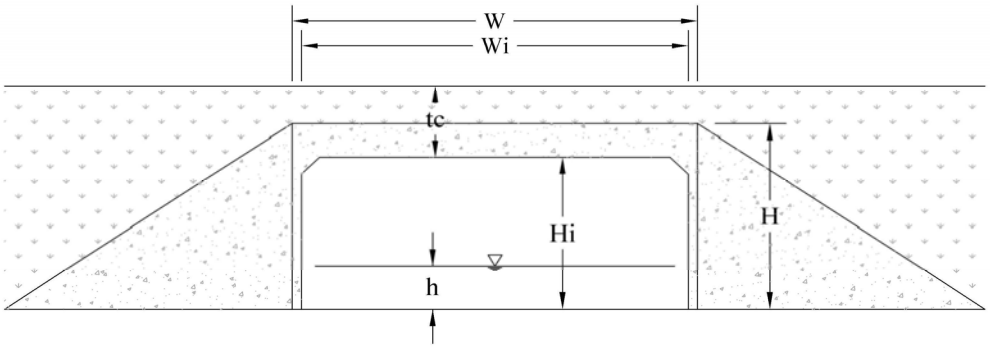
3-BC

W	=	***9.55***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.60***	(m)
H_1, H_3	=	***1.95***	(m)
H_2	=	***2.20***	(m)
L	=	***26.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***3.15***	(m)
tc_2	=	***2.90***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_3$=Net Width, H=Total Height, $H_1/H_2/H_3$=Net Height, L=Total Length, h=Water Depth, $tc_1/tc_2/tc_3$=Height of Soil over Top, River means the Tonle Sap River

KP: ***285+100*** No.: ***Bc90*** Date: ***27-May-2013***

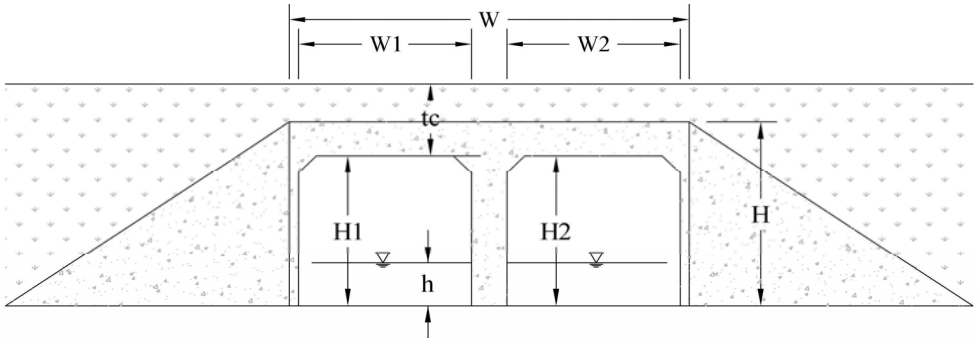


1-BC

W	=	***2.00***	(m)
W_i	=	***1.90***	(m)
H	=	***2.35***	(m)
H_i	=	***2.00***	(m)
L	=	***14.40***	(m)
h	=	***0.00***	(m)
tc	=	***0.85***	(m)

Lake Side (Outlet)

KP: ***294+000*** No.: ***Bc91*** Date: ***27-May-2013***



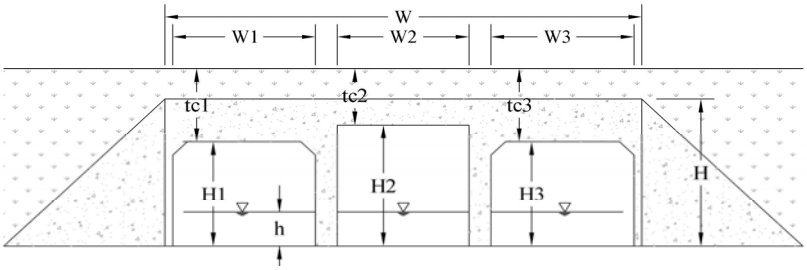
2-BC

W	=	***6.30***	(m)
W_1, W_2	=	***2.85***	(m)
H	=	***2.30***	(m)
H_1, H_2	=	***1.85***	(m)
L	=	***23.20***	(m)
h	=	***0.80***	(m)
tc	=	***0.80***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_i$ =Net Width, H=Total Height, $H_1/H_2/H_i$ =Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***295+000*** No.: ***Bc92*** Date: ***27-May-2013***

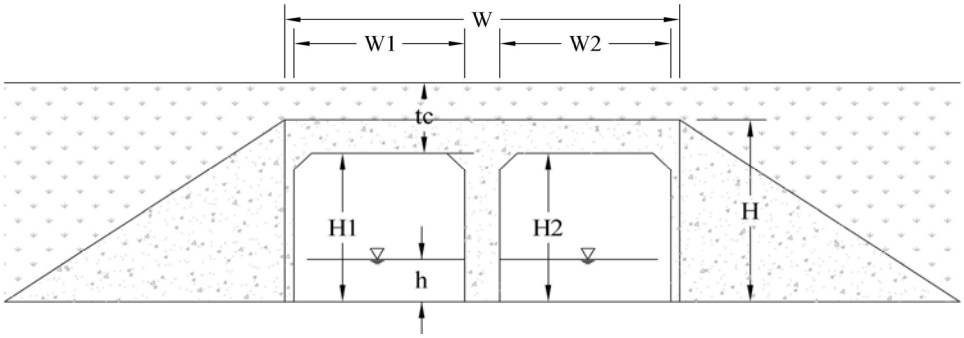


3-BC

W	=	***9.35***	(m)
W_1,	=	***2.85***	(m)
W_2	=	***2.90***	(m)
W_3	=	***2.75***	(m)
H	=	***2.65***	(m)
H_1, H_2, H_3	=	***2.00***	(m)
L	=	***23.10***	(m)
h	=	***1.60***	(m)
tc_1 , tc_2, tc_3	=	***0.65***	(m)

Lake Side (Outlet)

KP: ***297+500*** No.: ***Bc93*** Date: ***27-May-2013***



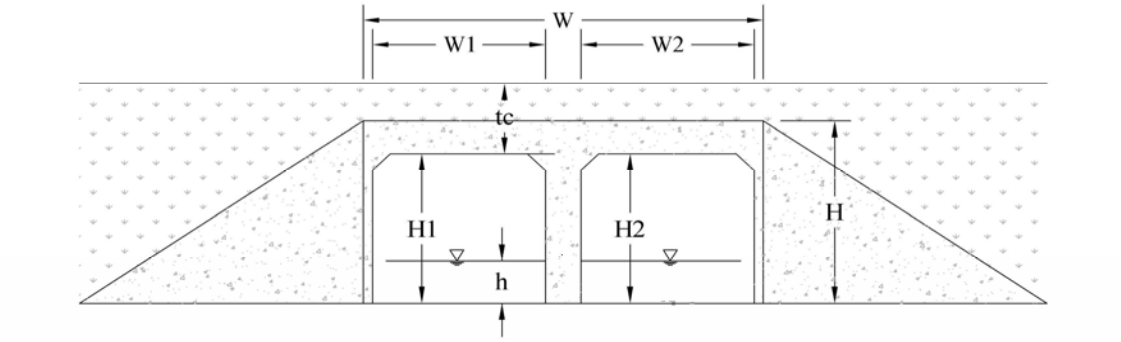
2-BC

W	=	***6.20***	(m)
W_1,W_2	=	***2.85***	(m)
H	=	***1.90***	(m)
H_1, H_2	=	***1.50***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.55***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_1/W_2/W_3=Net Width, H=Total Height, H_1/H_2/H_3=Net Height, L=Total Length, h=Water Depth, tc_1/tc_2/tc_3=Height of Soil over Top,

KP: ***302+300*** No.: ***Bc94*** Date: ***28-May-2013***

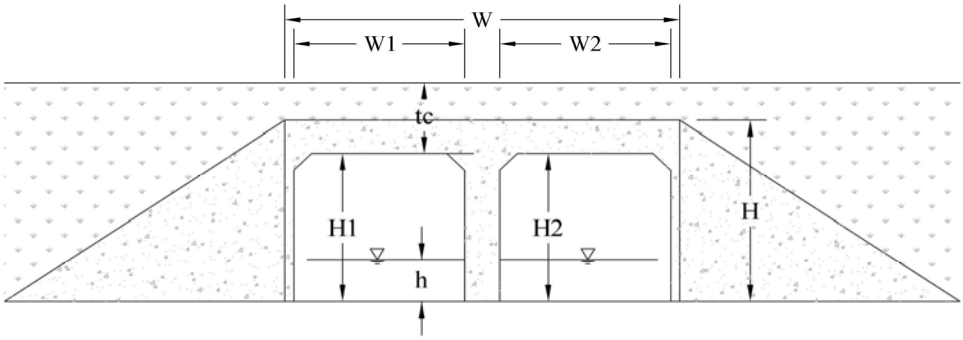


2-BC

W	=	***6.20***	(m)
W_1,W_2	=	***2.85***	(m)
H	=	***2.25***	(m)
H_1, H_2	=	***1.85***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc	=	***0.52***	(m)

Lake Side (Outlet)

KP: ***303+600*** No.: ***Bc95*** Date: ***28-May-2013***



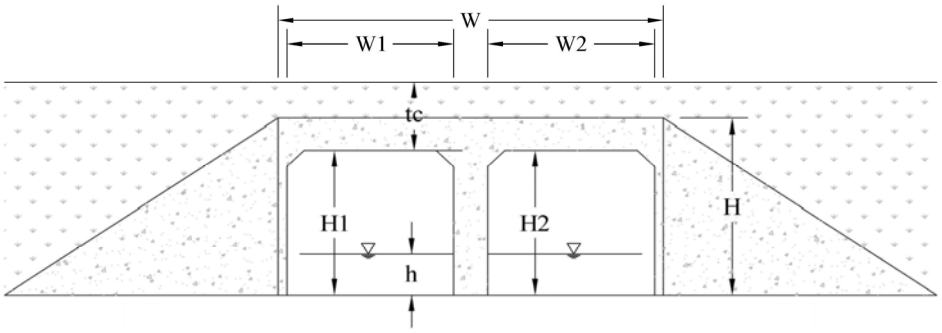
2-BC

W	=	***6.30***	(m)
W_1,W_2	=	***2.85***	(m)
H	=	***2.25***	(m)
H_1, H_2	=	***1.85***	(m)
L	=	***10.50***	(m)
h	=	***0.00***	(m)
tc	=	***0.70***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, W_1/W_2=Net Width, H=Total Height, H_1/H_2=Net Height, L=Total Length, h=Water Depth, tc=Height of Soil over Top,

KP: ***306+400*** No.: ***Bc96*** Date: ***28-May-2013***

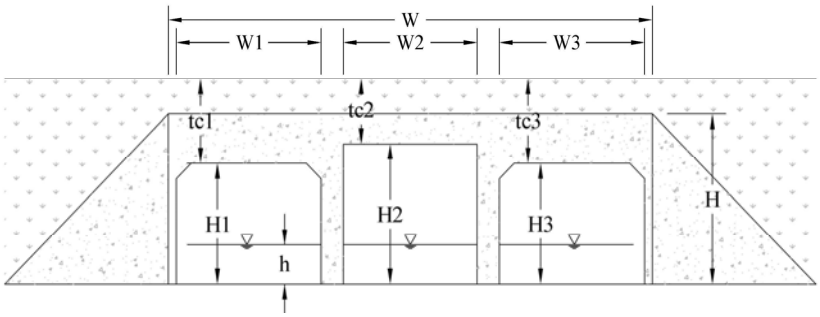


2-BC

W	=	***6.25***	(m)
W_1, W_2	=	***2.85***	(m)
H	=	***1.95***	(m)
H_1, H_2	=	***1.55***	(m)
L	=	***12.30***	(m)
h	=	***0.00***	(m)
tc	=	***0.56***	(m)

Lake Side (Outlet)

KP: ***309+100*** No.: ***Bc97*** Date: ***28-May-2013***



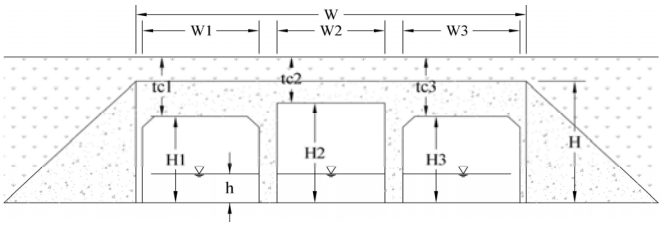
3-BC

W	=	***9.60***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.55***	(m)
H_1, H_3	=	***1.90***	(m)
H_2	=	***2.15***	(m)
L	=	***13.70***	(m)
h	=	***0.10***	(m)
tc_1 ,tc_3	=	***0.85***	(m)
tc_2	=	***0.60***	(m)

Lake Side (Outlet)

Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_3$=Net Width, H=Total Height, $H_1/H_2/H_3$=Net Height, L=Total Length, h=Water Depth, $tc_1/tc_2/tc_3$=Height of Soil over Top,

KP: ***310+400*** No.: ***Bc98*** Date: ***28-May-2013***

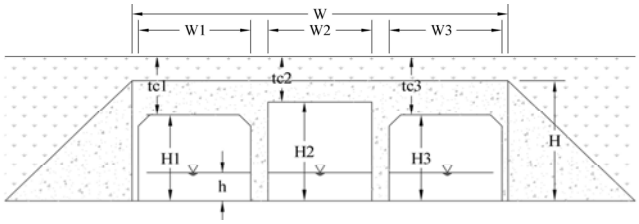


3-BC

W	=	***9.60***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.40***	(m)
H_1, H_3	=	***1.75***	(m)
H_2	=	***2.00***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***0.77***	(m)
tc_2	=	***0.52***	(m)

Lake Side (Outlet)

KP: ***311+300*** No.: ***Bc99*** Date: ***28-May-2013***



3-BC

W	=	***9.60***	(m)
W_1, W_3	=	***2.85***	(m)
W_2	=	***3.00***	(m)
H	=	***2.60***	(m)
H_1, H_3	=	***1.95***	(m)
H_2	=	***2.20***	(m)
L	=	***13.70***	(m)
h	=	***0.00***	(m)
tc_1 ,tc_3	=	***0.75***	(m)
tc_2	=	***0.50***	(m)

Lake Side (Outlet)

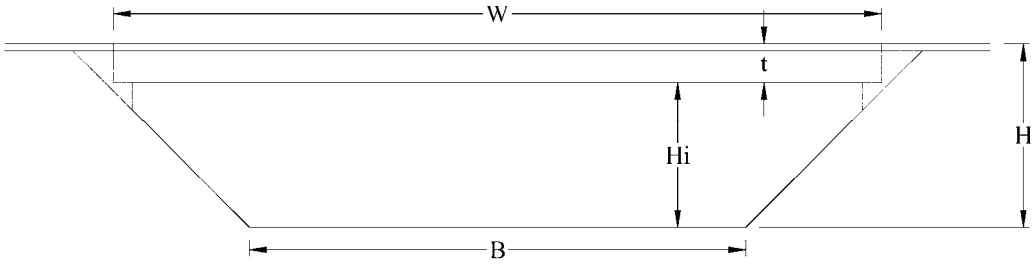
Note: BC means Box Culvert, W=Total Width, $W_1/W_2/W_3$=Net Width, H=Total Height, $H_1/H_2/H_3$=Net Height, L=Total Length, h=Water Depth, $tc_1/tc_2/tc_3$=Height of Soil over Top, Lake means the Tonle Sap Lake

APPENDIX 6-2

INVENTORY SURVEY OF

BRIDGE

KP: ***177+200*** No.: ***Br40*** Date: ***May 20, 2013***

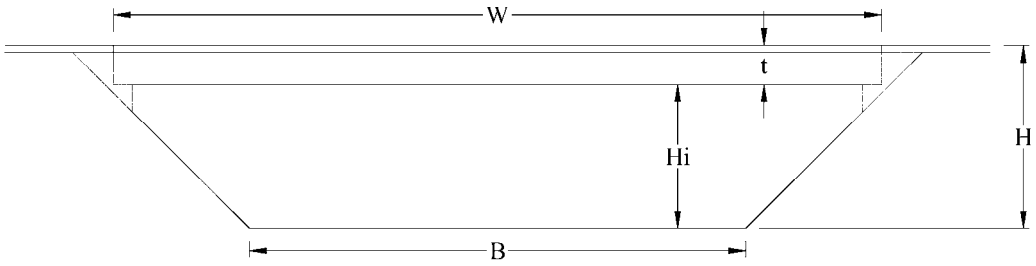


1-Br

W	=	***23.1***	(m)
W_i	=	***23.1***	(m)
H	=	***5.5***	(m)
H_i	=	***4.3***	(m)
L	=	***9.6***	(m)
B	=	***12.2***	(m)
t	=	***1.2***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***178+500*** No.: ***Br41*** Date: ***May 20, 2013***



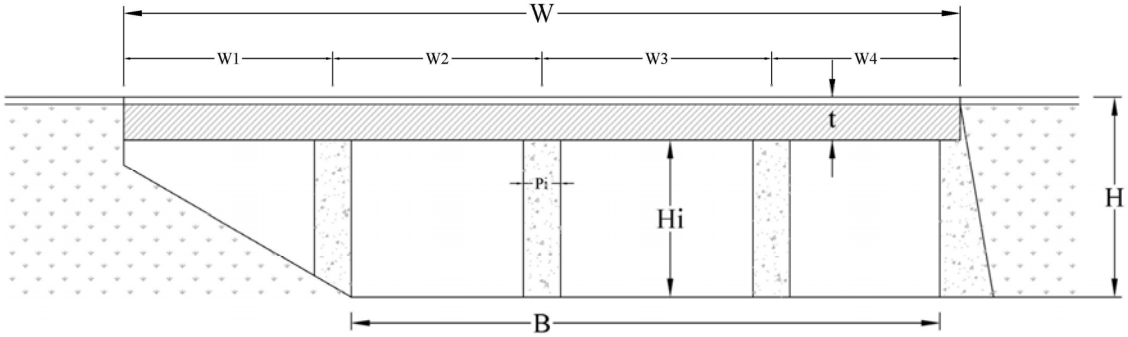
1-Br

W	=	***19.8***	(m)
W_i	=	***19.8***	(m)
H	=	***4.4***	(m)
H_i	=	***2.8***	(m)
L	=	***10.0***	(m)
B	=	***11.0***	(m)
t	=	***1.6***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***181+800*** No.: ***Br42*** Date: ***May 20, 2013***

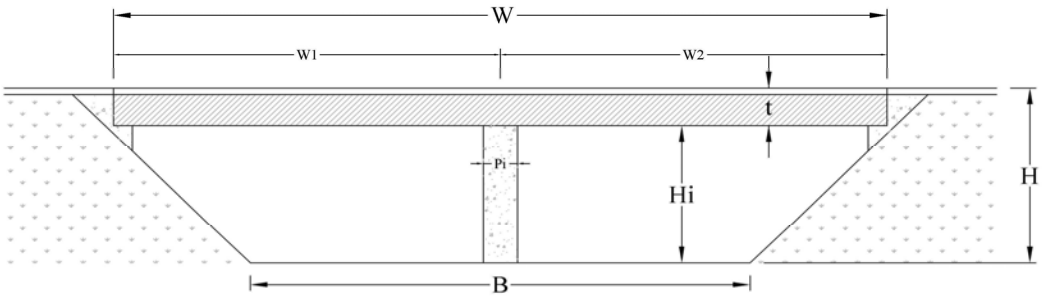


4-Br

W	=	***19.2***	(m)
W_1,W_2,W_3,W_4	=	***4.8***	(m)
H	=	***2.2***	(m)
H_i	=	***1.4***	(m)
L	=	***9.1***	(m)
B	=	***14.8***	(m)
t	=	***0.8***	(m)
Pi	=	***0.8***	(m)

Lake Side (down stream)

KP: ***182+800*** No.: ***Br43*** Date: ***May 20, 2013***



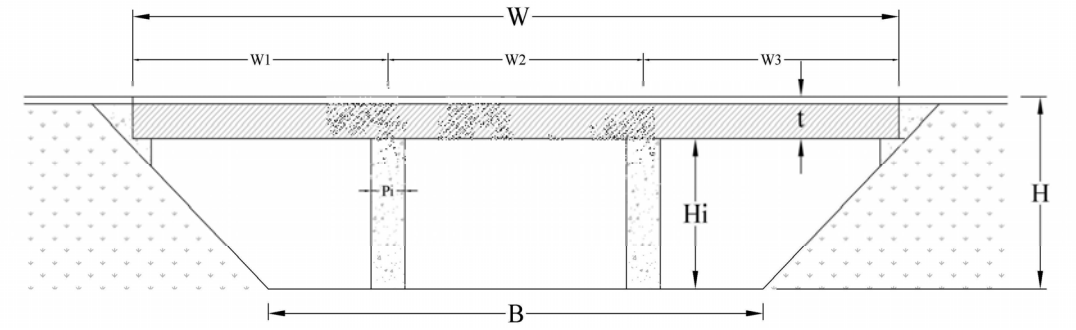
2-Br

W	=	***42.6***	(m)
W_1,W_2	=	***21.3***	(m)
H	=	***3.5***	(m)
H_i	=	***2.9***	(m)
L	=	***10.0***	(m)
B	=	***35.7***	(m)
t	=	***0.55***	(m)
Pi	=	***0.9***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***183+300*** No.: ***Br44*** Date: ***May 20, 2013***

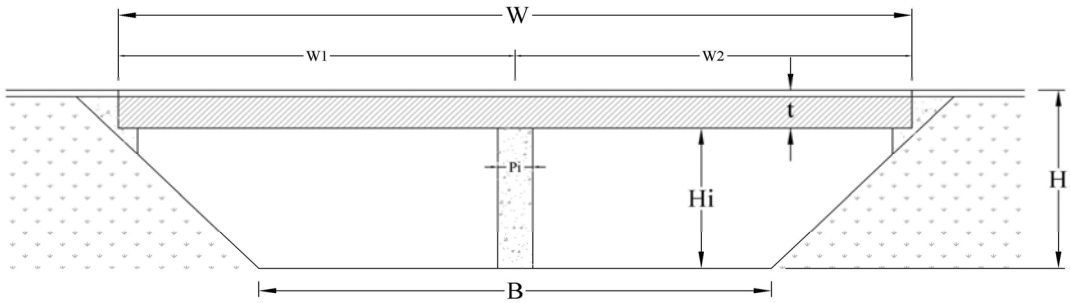


3-Br

W	=	***45.3***	(m)
W_1,W_2,W_3	=	***15.1***	(m)
H	=	***4.9***	(m)
H_i	=	***3.6***	(m)
L	=	***9.0***	(m)
B	=	***35.6***	(m)
t	=	***1.25***	(m)
Pi	=	***1.5***	(m)

Lake Side (down stream)

KP: ***183+900*** No.: ***Br45*** Date: ***May 21, 2013***



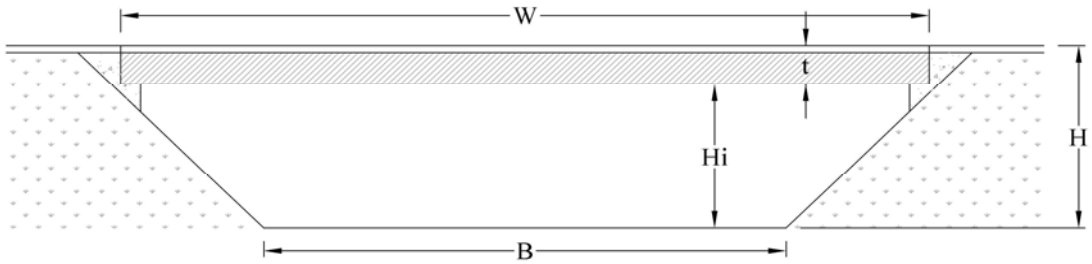
2-Br

W	=	***42.5***	(m)
W_1,W_2	=	***21.25***	(m)
H	=	***6.0***	(m)
H_i	=	***5.3***	(m)
L	=	***10.0***	(m)
B	=	***30.6***	(m)
t	=	***0.65***	(m)
Pi	=	***0.6***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***184+100*** No.: ***Br46*** Date: ***May 21, 2013***



1-Br

W	=	***26.5***	(m)
W_i	=	***26.5***	(m)
H	=	***3.2***	(m)
H_i	=	***2.5***	(m)
L	=	***10.1***	(m)
B	=	***20.2***	(m)
t	=	***0.65***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***185+700*** No.: ***Br47*** ✗ Date: ***May 21, 2013***

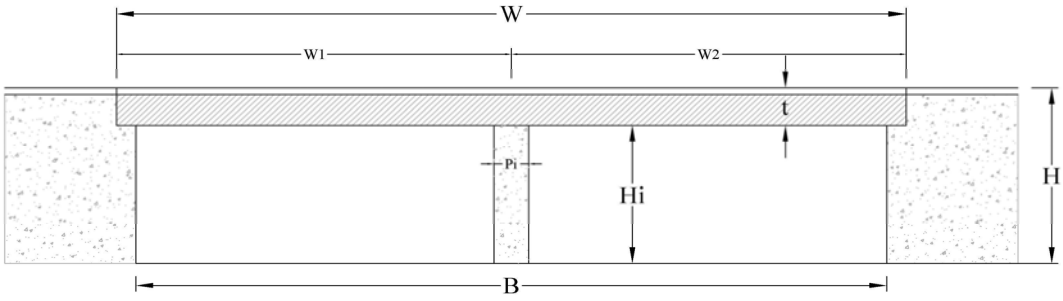
1-Br

W	=	(m)
W_i	=	(m)
H	=	(m)
H_i	=	(m)
L	=	(m)
B	=	(m)
t	=	(m)
Pi	=	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***187+400*** No.: ***Br48*** Date: ***May 21, 2013***

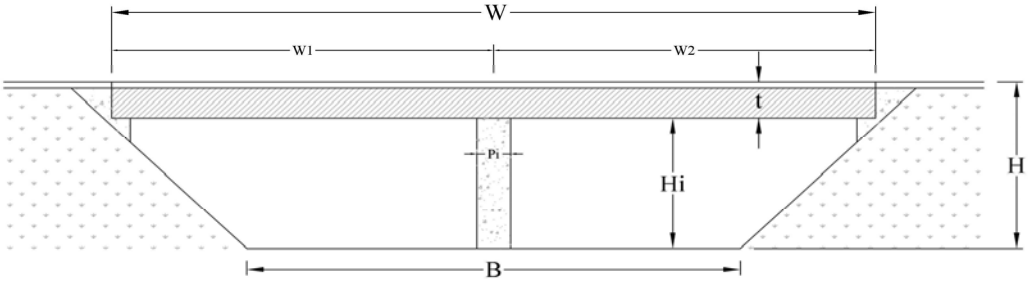


2-Br

W	=	***39.1***	(m)
W_1,W_2	=	***19.55***	(m)
H	=	***6.1***	(m)
H_i	=	***4.5***	(m)
L	=	***8.8***	(m)
B	=	***39.1***	(m)
t	=	***1.6***	(m)
Pi	=	***1.6***	(m)

Lake Side (down stream)

KP: ***187+700*** No.: ***Br49*** Date: ***May 21, 2013***



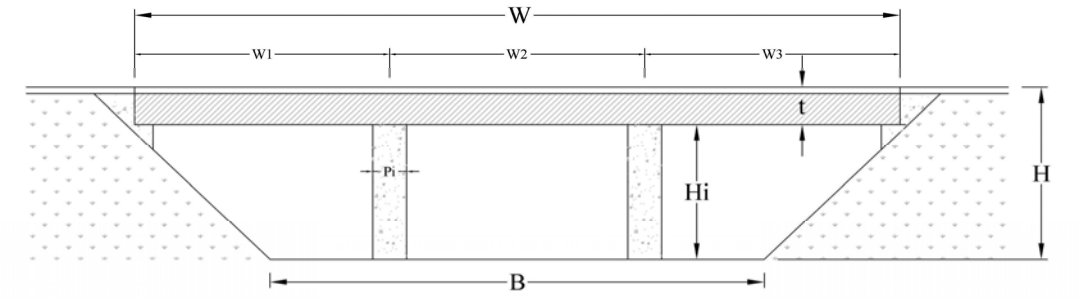
2-Br

W	=	***30.5***	(m)
W_1,W_2	=	***15.25***	(m)
H	=	***3.4***	(m)
H_i	=	***2.5***	(m)
L	=	***10.0***	(m)
B	=	***23.8***	(m)
t	=	***0.9***	(m)
Pi	=	***0.7***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***188+100*** No.: ***Br50*** Date: ***May 21, 2013***

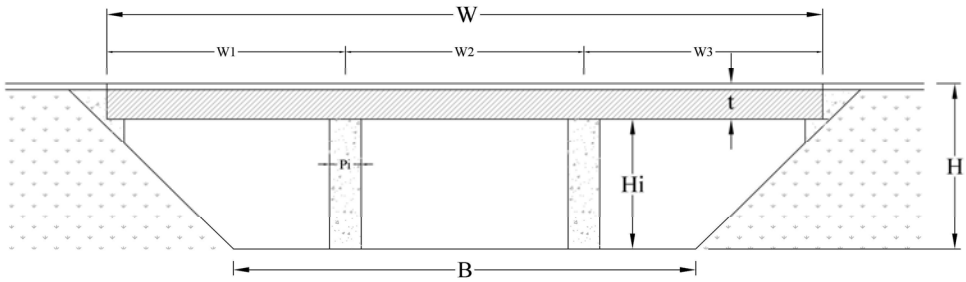


3-Br

W	=	***61.0***	(m)
W_1	=	***18.0***	(m)
W_2,W_3	=	***21.5***	(m)
H	=	***2.5***	(m)
H_i	=	***1.9***	(m)
L	=	***10.0***	(m)
B	=	***56.0***	(m)
t	=	***0.65***	(m)
Pi	=	***0.9***	(m)

Lake Side (down stream)

KP: ***188+250*** No.: ***Br51*** Date: ***May 21, 2013***



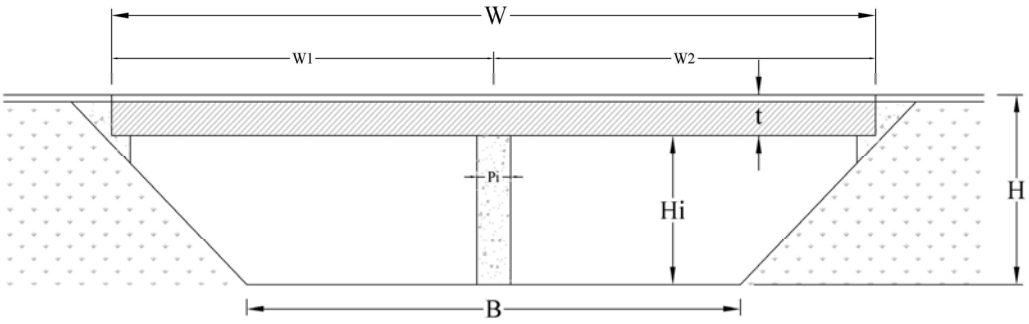
3-Br

W	=	***51.5***	(m)
W_1	=	***15.0***	(m)
W_2,W_3	=	***18.25***	(m)
H	=	***2.9***	(m)
H_i	=	***2.2***	(m)
L	=	***10.0***	(m)
B	=	***45.8***	(m)
t	=	***0.65***	(m)
Pi	=	***0.9***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***189+250*** No.: ***Br52*** Date: ***May 21, 2013***

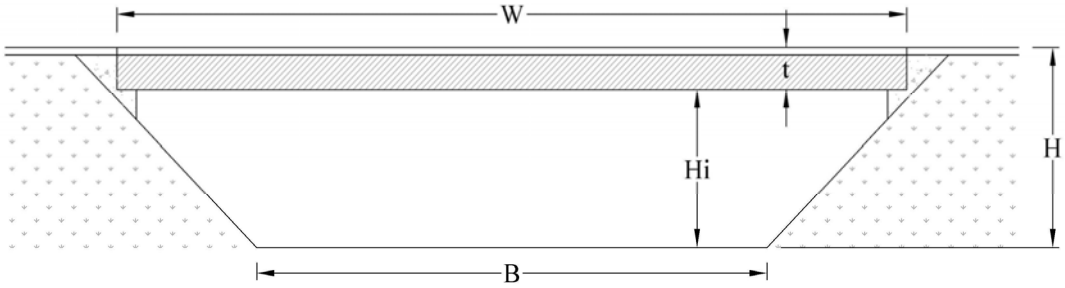


4-Br

W	=	***36.5***	(m)
W_1,W_2	=	***18.25***	(m)
H	=	***3.6***	(m)
H_i	=	***3.0***	(m)
L	=	***10.0***	(m)
B	=	***29.4***	(m)
t	=	***0.6***	(m)
Pi	=	***0.9***	(m)

Lake Side (down stream)

KP: ***189+900*** No.: ***Br53*** Date: ***May 21, 2013***



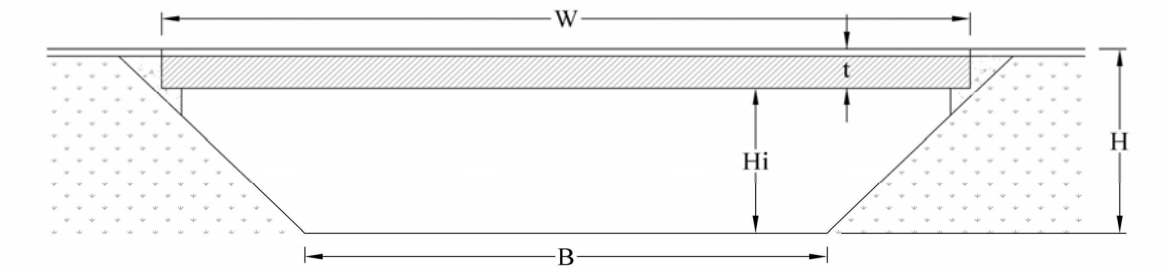
1-Br

W	=	***24.5***	(m)
W_i	=	***24.5***	(m)
H	=	***2.1***	(m)
H_i	=	***2.5***	(m)
L	=	***10.0***	(m)
B	=	***20.3***	(m)
t	=	***0.6***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***190+150*** No.: ***Br54*** Date: ***May 21, 2013***

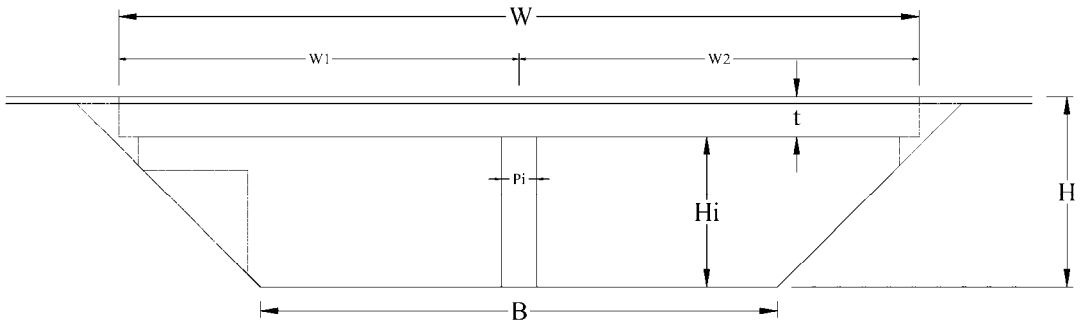


1-Br

W	=	***24.5***	(m)
W_i	=	***24.5***	(m)
H	=	***1.9***	(m)
H_i	=	***1.3***	(m)
L	=	***10.0***	(m)
B	=	***20.8***	(m)
t	=	***0.55***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***191+100*** No.: ***Br55*** Date: ***May 21, 2013***



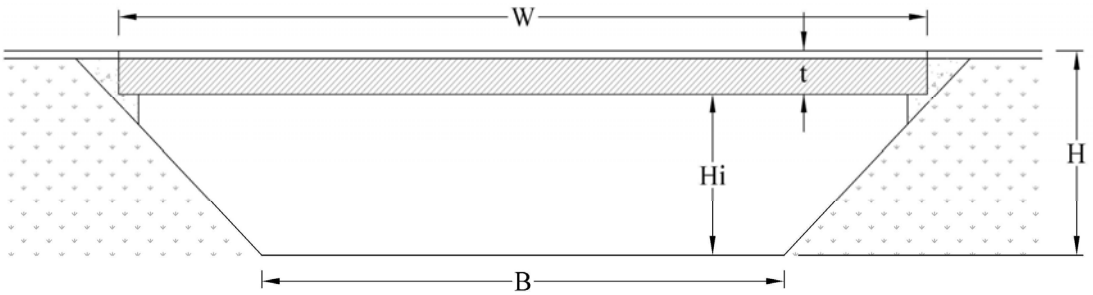
2-Br

W	=	***36.4***	(m)
W_1,W_2	=	***18.2***	(m)
H	=	***4.9***	(m)
H_i	=	***4.3***	(m)
L	=	***10.0***	(m)
B	=	***26.7***	(m)
t	=	***0.55***	(m)
Pi	=	***0.4***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***201+800*** No.: ***Br56*** Date: ***May 21, 2013***



1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.4***	(m)
H_i	=	***2.0***	(m)
L	=	***10.0***	(m)
B	=	***13.8***	(m)
t	=	***0.4***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***208+500*** No.: ***Br57*** ✗ Date: ***May 21, 2013***

2-Br

W	=	(m)
W_1,W_2	=	(m)
H	=	(m)
H_i	=	(m)
L	=	(m)
B	=	(m)
t	=	(m)
Pi	=	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***215+750*** No.: ***Br58*** ✕ Date: ***May 22, 2013***

3-Br

W	=	(m)
W_1	=	(m)
W_2,W_3	=	(m)
H	=	(m)
H_i	=	(m)
L	=	(m)
B	=	(m)
t	=	(m)
Pi	=	(m)

Lake Side (down stream)

KP: ***219+600*** No.: ***Br59*** ✕ Date: ***May 22, 2013***

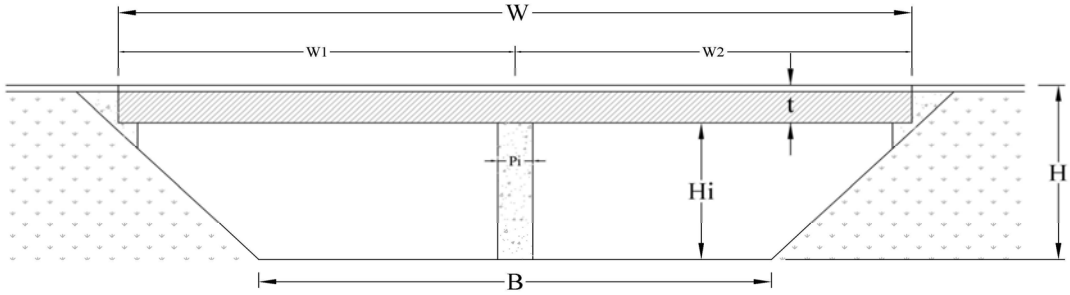
3-Br

W	=	(m)
W_1	=	(m)
W_2	=	(m)
W_3	=	(m)
H	=	(m)
H_i	=	(m)
L	=	(m)
B	=	(m)
t	=	(m)
Pi	=	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***220+800*** No.: ***Br60*** Date: ***May 22, 2013***

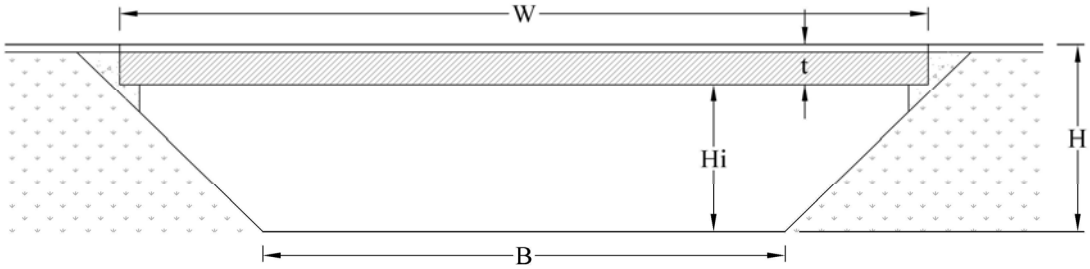


2-Br

W	=	***30.4***	(m)
W_1, W_2	=	***15.2***	(m)
H	=	***4.2***	(m)
H_i	=	***3.8***	(m)
L	=	***10.0***	(m)
B	=	***22.1***	(m)
t	=	***0.4***	(m)
Pi	=	***0.4***	(m)

Lake Side (down stream)

KP: ***222+650*** No.: ***Br61*** Date: ***May 22, 2013***



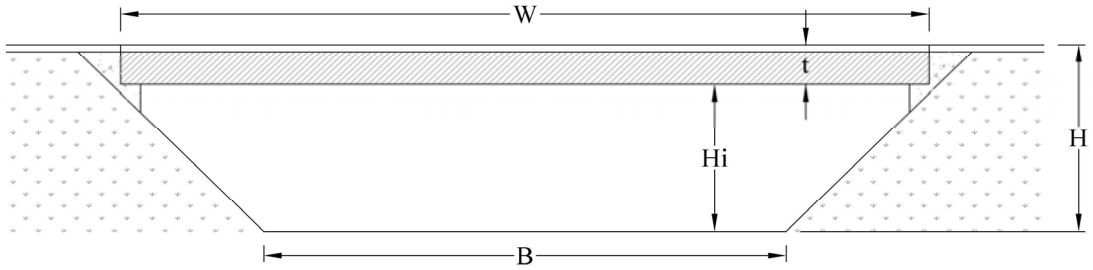
1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.9***	(m)
H_i	=	***2.5***	(m)
L	=	***10.0***	(m)
B	=	***12.7***	(m)
t	=	***0.4***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***223+650*** No.: ***Br62*** Date: ***May 22, 2013***

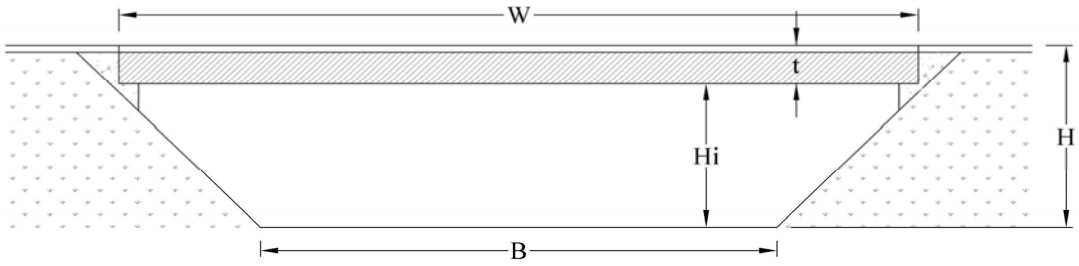


1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***3.0***	(m)
H_i	=	***2.6***	(m)
L	=	***10.0***	(m)
B	=	***12.5***	(m)
t	=	***0.4***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***242+850*** No.: ***Br63*** Date: ***May 23, 2013***



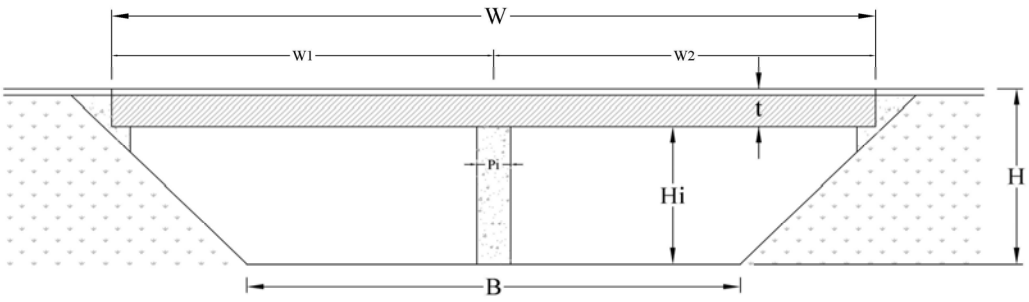
1-Br

W	=	***24.5***	(m)
W_i	=	***24.5***	(m)
H	=	***3.0***	(m)
H_i	=	***2.4***	(m)
L	=	***10.0***	(m)
B	=	***18.6***	(m)
t	=	***0.6***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***243+600*** No.: ***Br64*** Date: ***May 23, 2013***



2-Br

W	=	***37.0***	(m)
W_1, W_2	=	***18.5***	(m)
H	=	***3.1***	(m)
H_i	=	***2.6***	(m)
L	=	***10.0***	(m)
B	=	***30.9***	(m)
t	=	***0.5***	(m)
Pi	=	***0.4***	(m)

Lake Side (down stream)

KP: ***244+400*** No.: ***Br65*** ✗ Date: ***May 23, 2013***

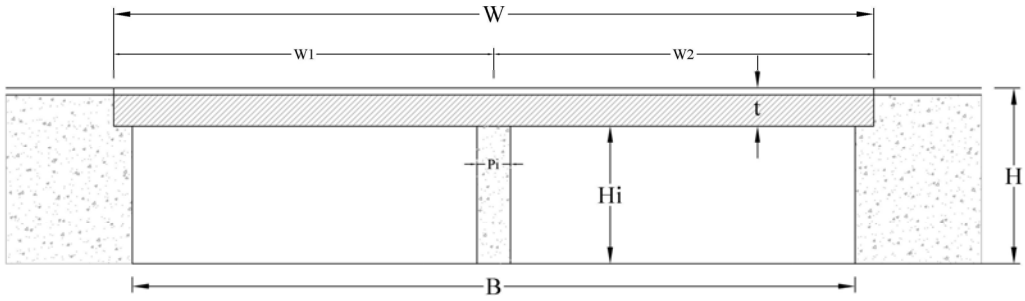
3-Br

W	=		(m)
W_1	=		(m)
H	=		(m)
H_i	=		(m)
L	=		(m)
B	=		(m)
t	=		(m)
Pi	=		(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***245+900*** No.: ***Br66*** Date: ***May 23, 2013***

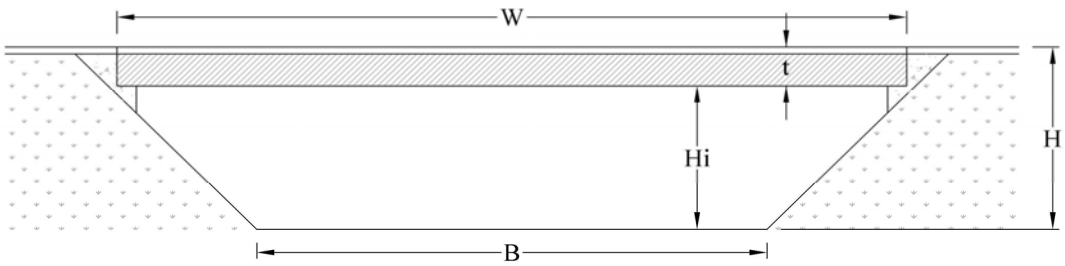


2-Br

W	=	***15.8***	(m)
W_1,W_2	=	***7.9***	(m)
H	=	***2.4***	(m)
H_i	=	***1.9***	(m)
L	=	***9.1***	(m)
B	=	***15.8***	(m)
t	=	***0.5***	(m)
Pi	=	***0.8***	(m)

Lake Side (down stream)

KP: ***255+250*** No.: ***Br67*** Date: ***May 23, 2013***



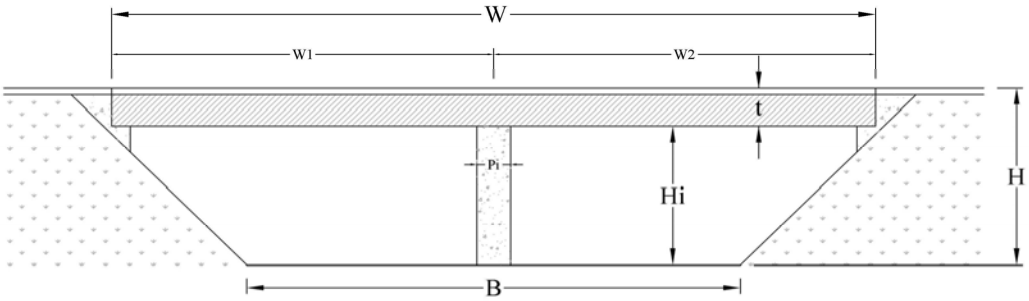
1-Br

W	=	***21.5***	(m)
W_i	=	***21.5***	(m)
H	=	***2.4***	(m)
H_i	=	***1.9***	(m)
L	=	***10.0***	(m)
B	=	***16.7***	(m)
t	=	***0.5***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***255+600*** No.: ***Br68*** Date: ***May 23, 2013***

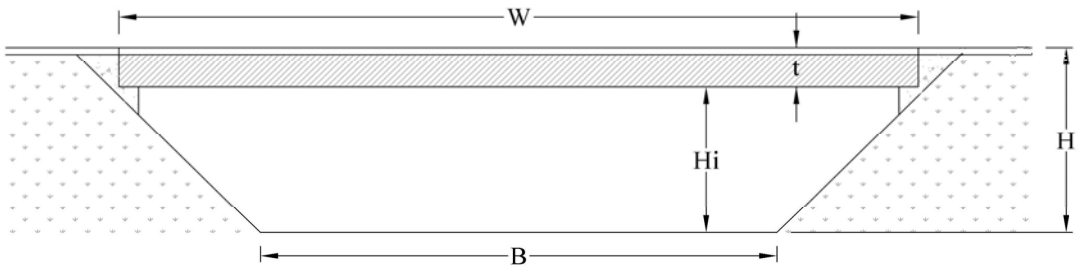


2-Br

W	=	***30.5***	(m)
W_1, W_2	=	***15.25***	(m)
H	=	***2.3***	(m)
H_i	=	***1.9***	(m)
L	=	***10.0***	(m)
B	=	***25.9***	(m)
t	=	***0.4***	(m)
Pi	=	***0.4***	(m)

Lake Side (down stream)

KP: ***256+550*** No.: ***Br69*** Date: ***May 23, 2013***



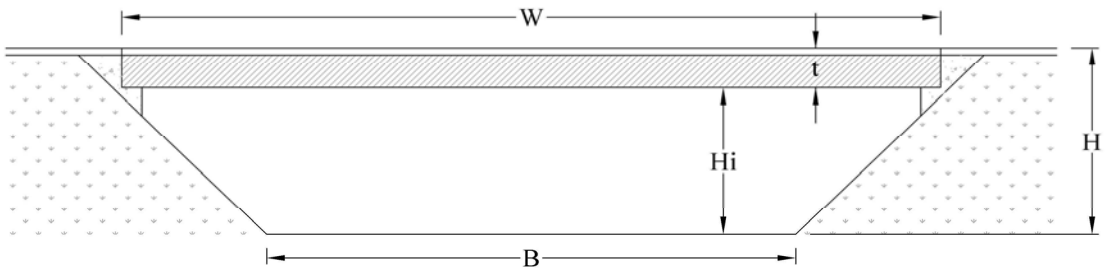
1-Br

W	=	***21.5***	(m)
W_i	=	***21.5***	(m)
H	=	***2.5***	(m)
H_i	=	***2.0***	(m)
L	=	***10.0***	(m)
B	=	***16.5***	(m)
t	=	***0.5***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***257+900*** No.: ***Br70*** Date: ***May 23, 2013***

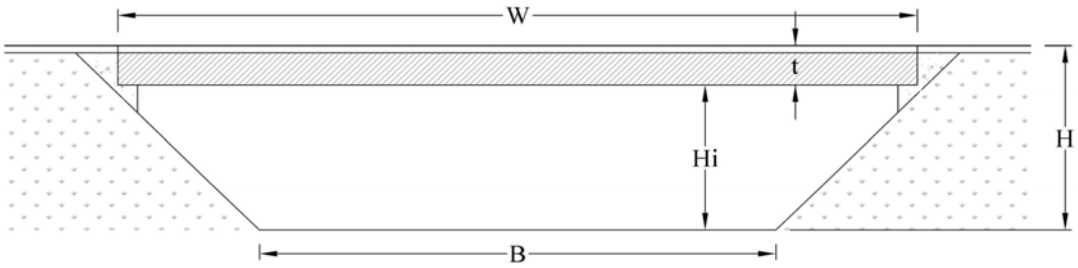


1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***3.0***	(m)
H_i	=	***2.5***	(m)
L	=	***10.0***	(m)
B	=	***12.6***	(m)
t	=	***0.45***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***265+348*** No.: ***Br71*** Date: ***May 24, 2013***



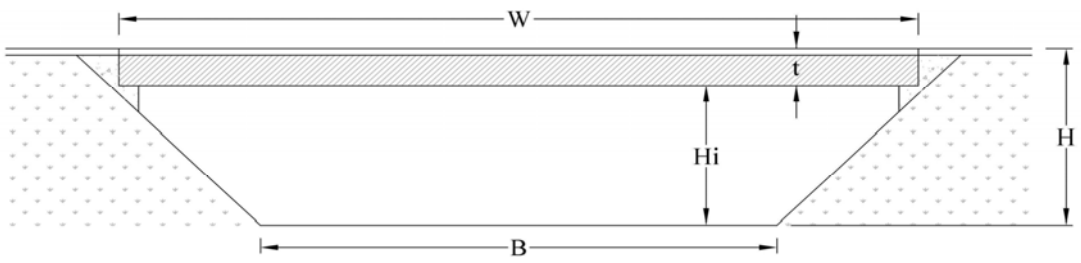
1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.9***	(m)
H_i	=	***2.4***	(m)
L	=	***18.5***	(m)
B	=	***12.8***	(m)
t	=	***0.45***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***270+900*** No.: ***Br72*** Date: ***May 24, 2013***

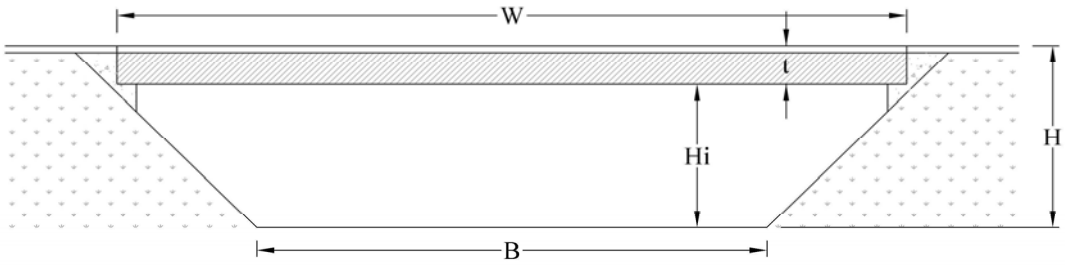


1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.8***	(m)
H_i	=	***2.4***	(m)
L	=	***10.0***	(m)
B	=	***12.9***	(m)
t	=	***0.4***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***271+700*** No.: ***Br73*** Date: ***May 24, 2013***



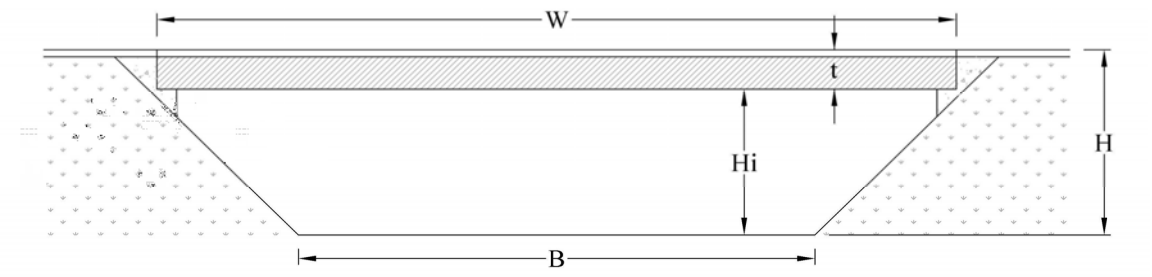
1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.4***	(m)
H_i	=	***2.0***	(m)
L	=	***10.0***	(m)
B	=	***13.7***	(m)
t	=	***0.4***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***272+650*** No.: ***Br74*** Date: ***May 24, 2013***

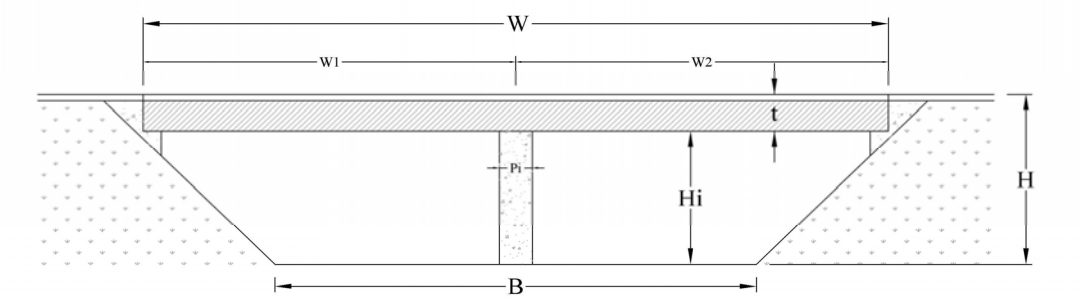


1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.3***	(m)
H_i	=	***1.9***	(m)
L	=	***10.0***	(m)
B	=	***14.0***	(m)
t	=	***0.4***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***273+300*** No.: ***Br75*** Date: ***May 24, 2013***



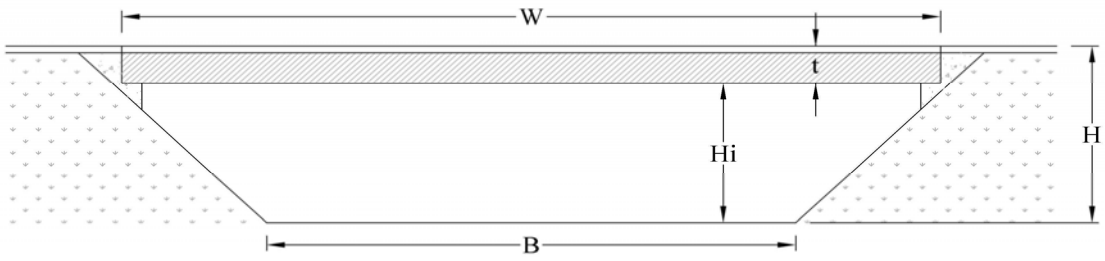
2-Br

W	=	***30.5***	(m)
W_1, W_2	=	***15.25***	(m)
H	=	***3.4***	(m)
H_i	=	***2.9***	(m)
L	=	***10.0***	(m)
B	=	***23.8***	(m)
t	=	***0.45***	(m)
Pi	=	***0.4***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***275+650*** No.: ***Br76*** Date: ***May 26, 2013***

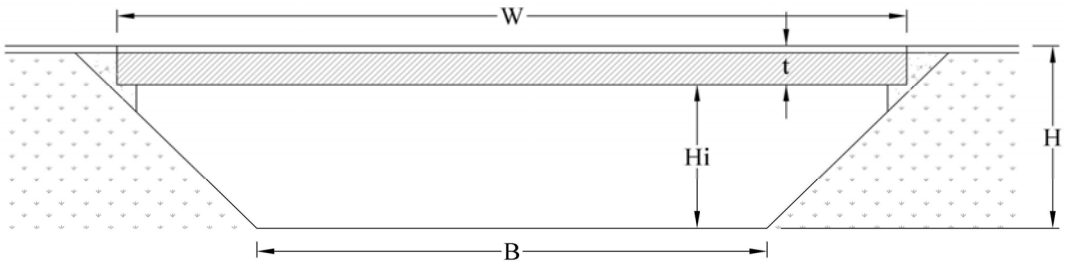


1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.5***	(m)
H_i	=	***2.1***	(m)
L	=	***10.0***	(m)
B	=	***13.5***	(m)
t	=	***0.45***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***276+550*** No.: ***Br77*** Date: ***May 26, 2013***



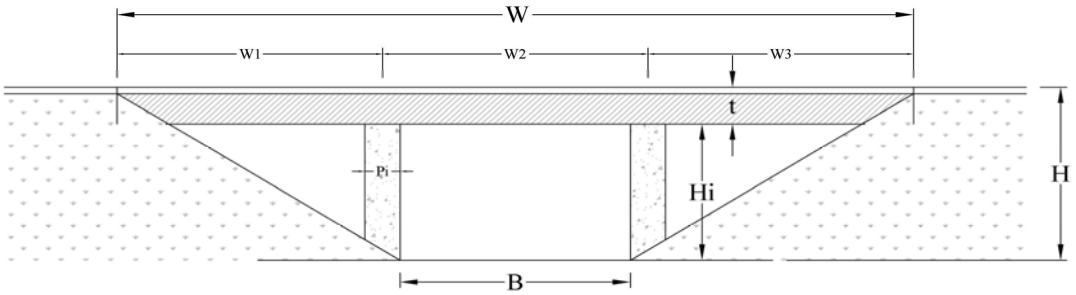
1-Br

W	=	***18.5***	(m)
W_i	=	***18.5***	(m)
H	=	***2.4***	(m)
H_i	=	***2.0***	(m)
L	=	***10.0***	(m)
B	=	***13.7***	(m)
t	=	***0.45***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***292+000*** No.: ***Br78*** Date: ***May 27, 2013***

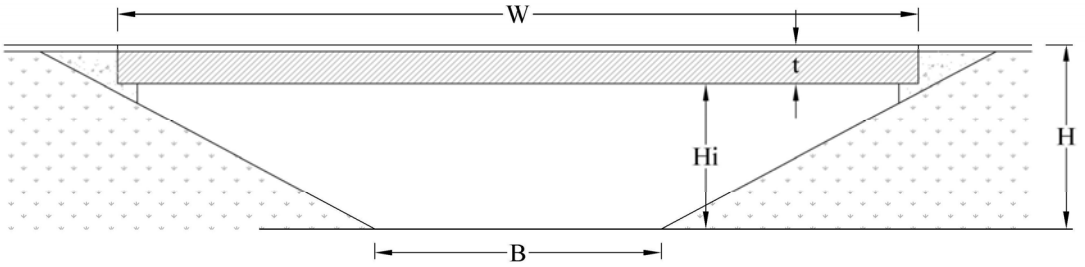


3-Br

W	=	***130.8***	(m)
W_1,W_2,W_3	=	***43.6***	(m)
H	=	***12.6***	(m)
H_i	=	***12.6***	(m)
L	=	***6.6***	(m)
B	=	***12.6***	(m)
t	=	***N/A***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***303+400*** No.: ***Br79*** Date: ***May 28, 2013***



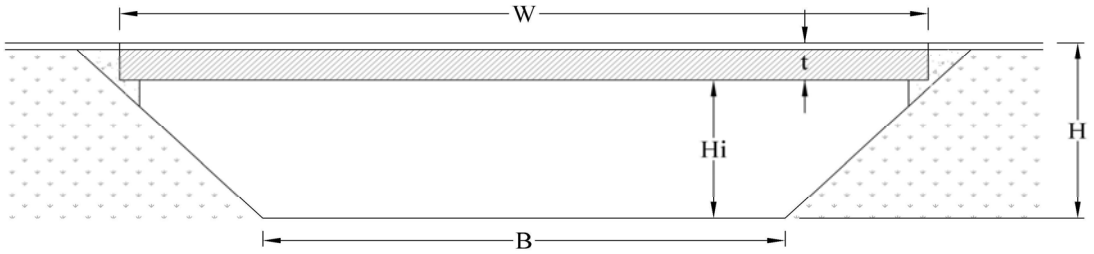
1-Br

W	=	***13.7***	(m)
W_i	=	***13.65***	(m)
H	=	***5.1***	(m)
H_i	=	***3.8***	(m)
L	=	***7.0***	(m)
B	=	***3.8***	(m)
t	=	***1.35***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***305+800*** No.: ***Br80*** Date: ***May 28, 2013***

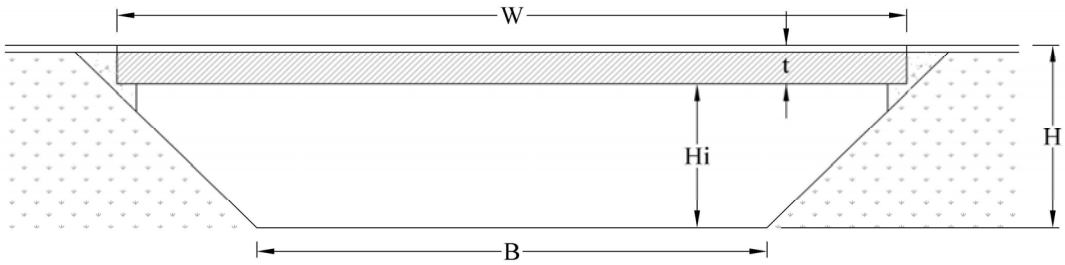


1-Br

W	=	***26.3***	(m)
W_i	=	***26.25***	(m)
H	=	***3.4***	(m)
H_i	=	***2.8***	(m)
L	=	***10.0***	(m)
B	=	***2.8***	(m)
t	=	***0.6***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

KP: ***307+200*** No.: ***Br81*** Date: ***May 28, 2013***



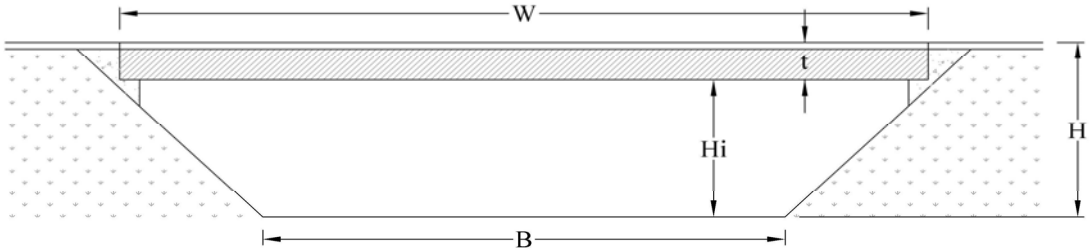
1-Br

W	=	***26.3***	(m)
W_i	=	***26.25***	(m)
H	=	***2.5***	(m)
H_i	=	***1.8***	(m)
L	=	***10.0***	(m)
B	=	***1.8***	(m)
t	=	***0.65***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake

KP: ***312+000*** No.: ***Br82*** Date: ***May 28, 2013***



1-Br

W	=	***24.5***	(m)
W_i	=	***24.5***	(m)
H	=	***4.2***	(m)
H_i	=	***3.0***	(m)
L	=	***7.0***	(m)
B	=	***3.0***	(m)
t	=	***1.2***	(m)
Pi	=	***N/A***	(m)

Lake Side (down stream)

Note: Br means Bridge, W=Total Width, W_i=Net Width, H=Total Height, H_i=Net Height, L=Total Length, B=River bed Width, t=Girder thickness, N/A means data not available. Lake means Tonle Sap Lake