



Asian Development Bank



CDCL



Kingdom of Bhutan

## Phuentsholing Township Development Project

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Grant Number : 0573-BHU(SF)

Contract N°:PTDP-PIC-1

Project Implementation Consultant (PIC)

## Quarterly Project Report n°1

Period from 1 October 2018 to 31 December 2018

[PIC Report Cataloguing n°PTDP- 012 – 31 January 2019 ]



Gyaltshen Consultancy

**Phuntsholing Township Development Project**

Project Implementation Consultant

Amochhu Phuentsholing, Chukha

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<b>Author(s)</b>	R Jeancenelle
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### Addressee(s)

Sent to:		
Name	Organisation	Sent on (date):
Kamal Dhakal	Project Manager, PIU, CDCL	28 Feb. 2019

Copy to:		
Name	Organisation	Sent on (date):
Nicolas Morice	Egis International	28 Feb. 2019

### History of modifications

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## **Abbreviations**

ADB – Asian Development Bank  
ADF – Asian Development Fund  
ALDTP – Amochhu Land Development and Township Project  
APFS – Audited Project Financial Statement  
DMF – Design Monitoring Framework  
CDCL – Construction Development Corporation Ltd.  
C-EMP- Contractor-Environmental Management Plan  
CW – Civil Works  
DHI – Druk Holdings and Investment Ltd.  
EA – Executing Agency  
EIA - Environmental Impact Assessment  
EMP – Environmental Management Plan  
FIDIC – Fédération des Ingénieurs Conseils  
GAP - Gender Action plan  
GFC – Good for Construction  
GRC - Grievance Redress Committee  
GRM Grievance Redress Mechanism  
IA – Implementing Agency  
ICB – international Competitive Bidding  
MOF – Ministry of Finance  
MOM - Management, Operation and Maintenance  
MOWHS – Ministry of Works and Human Settlements  
NCB – National Competitive Bidding  
NC - Non Conformance  
Nu – Ngultrum  
PT – Phuentsholing Thromde (city council)  
PAC – Public Advisory Committee  
PCR – Phuentsholing – Chamkuna - Road  
PIC – Project Implementation Consultant  
PIU – Project Implementation Unit  
PMU – Project Management Unit  
PS – Provisional sum  
QAP – Quality Assurance Plan  
RGOB – Royal Government of Bhutan  
RFQ – Request for Quotation  
PTDP – Phuentsholing Township Development Project  
PPTA – Project Preparation Technical Assistance  
SEMR – Semi annual Environmental Monitoring Report  
TN – Technical Note  
TOR – Terms Of Reference

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## Basic Project Information

<b>Name of project</b>	Phuentsholing Township Development Project
<b>Cost of project</b>	63.00 \$million
<b>Name of Agency</b>	Druk Holding and Investments Limited
<b>Implementing Agency</b>	Construction Development Corporation Ltd
<b>Approval Date</b>	5 June 2018
<b>Project effectiveness</b>	26 July 2018
<b>CDCL PMU created</b>	26 July 2018
<b>Project Completion Date</b>	30 June 2025
<b>Project Closing Date</b>	31 December 2025
<b>Project Location</b>	Bhutan / Phuentsholing
<b>PTDP anticipated impact</b>	Impact 1: Balanced and sustainable development of human settlements ensured; Impact 2: Smart growth principles applied in planning and development.
<b>PTDP anticipated outcome</b>	Phuentsholing's urban area protected from floods and expanded with improved amenities and services
<b>PTDP Outputs</b>	Output 1: Flood and erosion protection measures installed Output 2: Municipal infrastructure constructed Output 3: Township management systems installed
<b>Date of Loan agreement</b>	03 July 2018
<b>Loan effectiveness</b>	01 October 2018
<b>Elapsed loan period</b>	91 days
<b>Last ADB review mission</b>	12-20 November 2018
<b>Reporting Period</b>	1 <sup>st</sup> October to 31 <sup>st</sup> December 2018

<b>Project funding source</b>	<b>Amount (\$million)</b>	<b>Share of Total (%)</b>
Asian Development Bank <sup>a</sup>	53.00	84.1
Ordinary capital resources (concessional loan)	28.74	45.6
Special Funds resources (ADF grant)	24.26	38.5
Government	10.00	15.9
<b>Total</b>	<b>63.00</b>	<b>100.0</b>

<sup>a</sup> Disaster Risk Reduction Fund will finance \$6.07 million equivalent of the concessional OCR loan and \$6.07 million of the ADF Grant.

Source: Asian Development Bank.

# A. Executive Summary

## A.1 Major issues

Majors issues pending at end of period (31 December 2018):

- Insufficient staffing of construction supervision team for civil works contract supervision. Proper structuration of PIC Construction Supervision Team proposed within Variation order to PIC Contract;
- Because of substantial recurrent sedimentation, initial channel section has to be excavated and future channel will have to be dredged regularly Quantities of materials to be initially, then yearly dredged have to be estimated.
- All Zone A cross-drains (opened or ducted outfalls) to be redesigned.
- Process to select experts to develop Flood Hazard Early Warning System and Flood Management Plan to be clarified.
- Process to select Consultancy Firm to develop 2-D hydraulic modelling to be clarified.
- Decision about extension of Zone A reclaimed area to be taken.

## A.2 Progress made during the reporting period

**Table A.2-1: Project progress during period**

Activity	% Accomplished vs. Target for the period <sup>a</sup>		Summary of Progress
	Accom.	Target	
Flood and erosion protection measures	4.2%	4.2%	CW 01 selection and Contractor's mobilization
Municipal infrastructure	0.0%	0.0%	
Township management systems	0.0%	0.0%	

<sup>a</sup> Accomplishment and target refers to physical activities

Progress of activities against output indicators are listed in **Appendix 1**, Design and Monitoring Framework. The updated implementation schedule showing actual progress to the one anticipated in shown in **Appendix 2**.

A progress photographs album is attached in **Appendix 11**.

## A.3 Problems encountered

The problems encountered during the reporting period and remedial action taken or proposed to be taken are as follows.

### 1. Adjustment of design

Re-alignment of diaphragm wall, west ward on more than half of its extension, to extend the land reclaimed area on Phase 1 of Project has been suggested by Employer. However, since its implication would be a substantial change of design and probably rescheduling of some of Project implementation components, decision about pursuing with this option will be needed as early as possible.

PIC has prepared a Technical Note (TN<sup>4</sup>) on this subject, then final decision on implementation of proposal on subject is awaited.

### 2. Estimate of dredging quantities

Determination in sediment excavation volume would be a major issue if estimated quantities shows that average yearly volume are quite substantial. Based on updated topographic area of Zone A, first estimate of quantities shows that yearly quantities of sedimentation brought by Amochhu River, during the 3 last monsoon periods, are probably close to one million cum.

A 2013 survey was completed as part of the HCP design. Additional surveys were completed after the 2016 flood, both before and after construction of the temporary flood control bund. By comparing the 2013 and 2016 surveys, the difference in sediment volumes across the design channel caused by large

2016 flood will be calculated. This estimate will provide a sense for how much sediment can be deposited under natural conditions.

The volume of sediment to be removed during the construction of the design channel will be calculated by comparing the existing bed elevation, and design bed elevation. Initial estimates indicate this value will be in excess of one million cum.

The river tendency will be to return to the existing grade, the estimates for the required excavation, to create the design channel also represent a maximum but not unreasonable estimate of annual sedimentation in the channel. A minimum estimate of the annual sedimentation volumes will be derived from the comparison of the pre- and post-2016 surveys.

Then, two problems with sediments management are faced, if annual sedimentation in channel is around one million cum:

1/ How to address of the possible recurrent yearly sedimentation;

2/ Dredging of the existing materials (at end of year 2018 situation) to the HCP design channel level.

#### Recurrent sedimentation

If quantities levels are confirmed, risk of Project flooding during exceptional event will still exist, which would bring life threatening hazard and even jeopardize part of the land development Project. Then several options would have to be studied, like:

- Systematic removal of sediment materials, which means to organize and finance it;
- construct additional protection infrastructure;
- reassess river training measures, considering the actual site condition (riverbed roughness value) and change in Project concept (postponing of right bank development).

In order to confirm quantities of sedimentation, a comprehensive topographic survey has to be conducted on the Zone A area and along the 300 m width channel to be dredge, a cross section every 50m is required.

#### Removal of existing deposited materials

For earthworks related pay-items in the CW-01 bill of quantities, Contractor has to conduct excavation within the 300m channel corridor. However, the quantities are not clearly stated and will depend on the materials quality available. The main pay items concerned are those for general earth filling. Once Contractor has produced his method statement for earthworks related items an estimate of volume of materials which will be excavated from river bed will be done. Then the gap between the total volume needed to realize the first channel as per HCP design and the quantities which will be accomplished by CW-01 will be estimated.

Computation are expected to be made for end of first 2019 quarter.

### **3. Consultancy Services staffing**

As expressed in the PIC Inception Report, Construction Supervision team has been found understaffed to fulfill basic tasks of control and supervision of an admeasurement civil works contract. In consultation with the employer PIC has proposed improvement and additional staffing as follows:

- Proposal to redefine task assignments of Material/Engineering Geologist (Key – International), Geotechnical Engineer (Key Local), and Geotechnical Engineer (Non Key – International) in order to clarify Experts tasks and save man-months.
- Proposal to add a National Environmentalist expert, on intermittent, but regular presence, in order to monitor, on monthly base, the Contractor's activities.
- Proposal to staff additional national positions to structure a competent Construction Supervision team:
  - Quantity Surveyor;
  - Laboratory Technician;
  - Land surveyor;
  - Site Inspectors.

Final approval of this re-organization and of additional staffing, which would be included in a Variation Order n°1 to PIC Contract is awaited.



#### **4. Flexibility in mobilizing International Expert**

Relationship with immigration Department is quite uneasy, with time needed to get Labour Ministry approval for foreign experts stays approval or stays extension approval.

At present inception stage of Project, with numerous changes occurring, Expert schedule is quite difficult to forecast beyond few weeks. Hence, flexibility about mobilization/demobilization of Experts, for foreign Expert mostly for those on short term basis is needed.

Besides, all foreign Experts are based in Phuentsholing and in and out movements are not free even to go to airport or Thimphu where some Project stakeholders are stationed. Therefore, some adaptation of Foreign expert status would be required.

#### **5. CW-01 Civil Works Contract - Drawings**

Design drawings, stipulated as Good For Construction in CW drawings, was nevertheless not approved by Engineer's Representative, since site conditions reported in the Contract Documents differ from those surveyed at start of Works, and because some part of design (outfalls) has to be adjusted.

Then extensive review of detailed design has to be conducted by PIC, and based on recommendations, shop drawings will have to be systematically produced by Contractor, notably:

- Adjustment of all out-falls (11) geometry, to connect properly adjacent, and upstream, PCR project structures, and to improve functionality with slope increase.
- Addition of one out-fall newly added by PCR project.
- Need for detailed design of northern point of diaphragm wall at up-stream limit of Zone A, to connect existing ground at hill foot.
- Possibly, integrate channelization of Amchhu river in its stretch right upstream adjacent to Project, where about 210 m.
- Addition of 2 spurs on left bank of Amochhu River just before the Indian border at the downstream end of Project.

#### **6. CW-01 Civil Works Contract - Safety**

Temporary flood protection measures to protect works and installations during flooding period are still awaited from Contractor. These temporary works shall start during next quarter, and be completed for end of May 2019

Effective measure to control and divert through traffic (notably heavy vehicles) from third parties crossing the project site are still to be proposed and be implemented. It shall be completed when Contractor installation is finished (end January 2019).

### **A.4 Proposed program of activities/work plan for the next quarter**

#### **From PIU/PMU side**

- Recruitment of External Independent Environmental Expert
- Constitution of Public Advisory Committee (PAC) and conduction of first meeting
- Deputation of one Site Inspector and one Laboratory Technician to PIC
- Procurement of consultancy service for Hydraulic 2D- modelling as per ADB requirement
- Mobilization of Flood Management Consultants for establishing the FEWS and FMP.
- Arrange coordination meeting with PCR project
- Arrange DHI management site monitoring visit

#### **From PIC**

- Conclude Variation Order n°1 related to Construction Supervision team, and miscellaneous logistics issues.
- Conclude adaptation of contract related to Flood Emergency Warning System development
- Preparation of QAP/Construction Supervision Manual, based on team as per Variation order approved
- Preparation of draft Management Information System.
- Give rough estimate of additional materials dredging quantities.
- Continue supervision of Civil Works Contract n°01

- Management of Civil Works Contract under FIDIC General Condition of Contract
- Presentation of QAP/Construction Supervision Manual version 01

**From Contractor CW-01**

- Finalize C-EMP.
- Fully complete site installation.
- Deliver PIU and PIC site office.
- Start Diaphragm Wall construction, from Zone A North end.
- Propose flood protection measures and emergency plan, and start implementing it.
- Propose through traffic management measures and implementing it.
- HIV/AIDS awareness inception to employees

## B. Project activities

### B.1 Project Organization Management

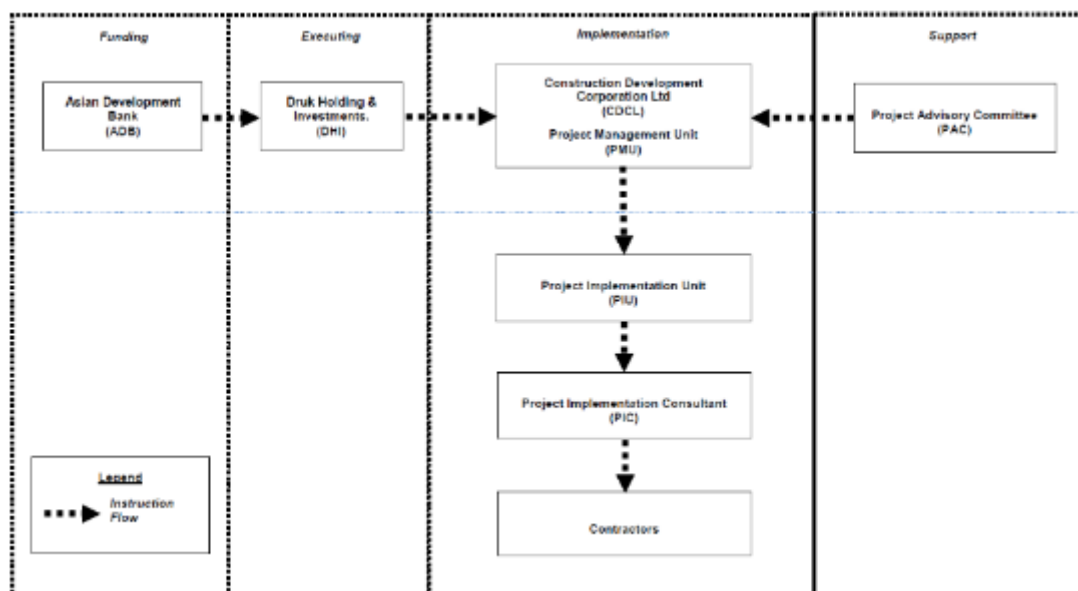
#### General

The proposed PDTP will reclaim 464 hectares (ha) of riparian land near Phuentsholing Thromde (Municipality) located along both sides the Amochhu River on Bhutan's south-western border with India. The project will provide protection from floods and erosion, and will address scarcity of land for housing, ease the pressure on human settlements in the project area by providing ample water supply, improving access, solid waste management, etc.

#### Organization

Within the ADB Project agreements, the Executing Agency (EA) of the project is Druk Holding and Investments Limited (DHI), a government owned enterprise. The implementing agency is Construction Development Corporation Limited (CDCL), a subsidiary of DHI specializing in urban and infrastructure development, who has established a Project Management Unit (PMU) at Thimphu and a Project implementation unit (PIU) in Phuentsholing for the sole purpose of implementing the Project.

The PIU is headed by a Project Manager and is well staffed. The PIC reports to the Project Manager and supports PIU. The Project management organization chart is displayed here-after.



**Figure 1: PDTP (Phase 1) Implementation Arrangements**

The PMU and PIU positions staffed related to Project management, but not the one related to construction supervision activities, which are under PIC responsibility, are listed in **Appendix 3**.

## B.2 Activities:

### B.2.1 PIC Organization and Personnel Activities

#### Consultant Staffing

**Table B.2-1PIC staffing bar schedule (reporting period 1<sup>st</sup>& 2<sup>nd</sup> Qtr.)**

	Position (Experts)	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
1	Chief Resident Engineer / Team Leader	■	■			■
2	Senior Civil Engineer / DTL		■	■	■	■
3	Material Engineer / Engineering Geologist		■	■		
4	Contract Specialist	■				
5	Environmental Specialist			■		
6	Financial Management Specialist				■	■
7	Hydrology/Sediment Specialist			■	■	■
8	Quality Control/ Construction Manager	■	■	■	■	■
9	Geotechnical Engineer					
10	Safeguards Specialist	■	■	■	■	■
11	Geotechnical Engineer				■	■
12	Structural Engineer				■	■
13	Roads Engineer					
14	Water Supply / Sewerage. / Hydr. Eng.					
15	Water Treatment Process Specialist					
16	Solid Waste Management Specialist					
17	Electro-Mechanical Engineer					

As noticed in the PIC Inception Report, PIC staffing is insufficient to conduct proper Construction Supervision (CS) of civil works contracts, ruled by FIDIC for General conditions of Contract, with payment based on “ad measurement”, as it is the case with first and main civil works contract procured, CW-01.

The following additional personnel (all national) is required:

- For quality control: Permanent Material Engineer, Laboratory personnel (Technician and Assistant, or 2 technicians), Land Surveyor and Assistant (together with survey equipment<sup>1</sup>);
- For quantity control: Quantity Surveyor, Site Inspectors (2, 3, 4...) depending on the pace and locations of works;
- For regular environmental monitoring, a National Environmentalist.
- For Contract administrative management: Civil Works secretary.

PIC proposed on 20 December 2018 first draft of a variation n°01 taking into account the CS needs.

In the meantime PIC mobilized at his own risk, national Material Engineer and Environmentalist, and PIU seconded to PIC a Site Inspector and a Land Surveyor.

#### PIC Logistic

- PIC at temporary office provided by PIU. Two vehicles procured and one used since 15 December 2018. Part of Office equipment since 6 December 2018.

#### Construction Supervision Team Activities

- Mobilization from 28 October, Organization of Supervision activities, sharing of tasks among personnel, preparation of Quality Assurance plan and starting to and tasks assignment among CS personnel.

<sup>1</sup>Land surveyor, equipment available on Contractor’s contract, in Provisional Sum Item (n°703).

- Review of design: Design review for CW-01 works done but needed updated surveys. Engineer considered that detailed as per Contract documents cannot be considered as “Good for Construction” drawings. Thus shop-drawings have to be prepared after updated site survey being implemented (letter dated 23 November 2018).
- Outfall invert levels between PCR design and HCP design at the Project boundary do not match. Slopes of Outfalls need to be changed to follow PCR invert level at project boundary. PIC prepared revised sketches and slope tables to deal with the issue. Approval is awaited from Employer before notifying to Contractor. Follow-up of CW-01 establishment: about 80% completed. (see C1)
- Validation of CW-01 IPCn°02 (November 2018);

#### Core Team activities

- Production of 4 Technical notes related to: Procurement of CW-02 package (TN n°1), Improvement of Contract Documents (TN n°2), Design Review – Outfalls / Amchhu unprotected stretch (TN n°3), Diaphragm-Wall realignment (TN n°4).
- Hydrology / Sedimentation specialist mobilized on 31 December 2018 to prepare:
  - o TOR for Flood Management Consultants;
  - o recommendation to adapt outfalls design to Project boundary constraints (see A2 point 6 above);
  - o Analyse CW-01 Contractor proposal for temporary measures against floods during construction;
  - o Analyse consequences of substantial sedimentation in Amocchu river bed noticed since design stage.

#### Use of Provisional Sum

**Table B.2-2: Status of use of PIC Contract Provisional Sum**

Item	Amount (USD)	Status
Purchase of 2 Vehicles & Motor Cycle	122 500	Procurement has been conducted as per ADB guidelines for vehicles. Completed on 3 Dec. 2018. One vehicle already purchased. Other one pending.
Office Equipment	10 000	Computers, software, printers, photocopiers, furniture, GPS power inverter, etc. for field office. Procurement conducted as per ADB Guidelines. Completed on 22 Nov. 2018. Purchase done 2 <sup>nd</sup> week Dec. 2018. Still one desktop, one laptop, one printer and one digital camera to be supplied.
Seminars, Workshops, and Training Sessions	10 000	No action yet.
Studies, Surveys and Reports	230 000	a) Biodiversity Monitoring and Benchmarking Survey. No action yet b) Preparation of a Flood Management Plan. TOR under preparation

#### **B.2.2 PIC Performance**

### B.3 Implementation of physical works

#### **B.3.1 Signed Contracts data / Ongoing Procurement**

Only One CW contract signed - CW-01 with AFCONS for river training works on 18 July 2018. Site handed over on 27 September 2018. Notice to start works on 1<sup>st</sup> November 2018.

#### **B.3.2 Status of variation orders**

No Variation Order initiated

#### **B.3.3 Civil Works package summary of physical and financial progress**

**Table B.3-1: CW-01 Summary of physical and financial progress**

Contract	Contract Date	Start date	Time for completion (days)	Completion date	Physical progress (%)		Financial progress (%)		Elapsed time (days)
					Target	Actual	Target	Actual	
CW-01	18 Jul. 2019	01 Nov.2019	912	01 May 2021	4.2	4.2	9.2	9.2	61

### **B.3.4 CW-01 Contractor's establishment**

#### Mobilization

- Most of all contractor's management staff and experts has been mobilized. Till report date there are 31 Experts (Expatriate Expert and National Expert) and Management staff, 61 skill labours and 58 unskilled labours.
- Equipment: The contractor has furnished most of all equipment including laboratory apparatus for material testing. The contractor still has to mobilize hydraulic grab equipment (1 no) and 40 t crane (1 no) for diaphragm wall work. It is planned to come in the second week of January 2019.
- Sub-Contractors: No subcontractors approved. But source of coarse aggregates and fine aggregates are from Quarry / Crusher supplier located at project site (Supplier Name: Rigсар Construction Pvt. Ltd).

#### Engineering

- Planning preparation: from 27/10/2018 to 29/11/2018
- Planning Approval: PIC approved baseline schedule on 13 December 2018.
- Method Statement: submitted from 16/11/2018 to 09/03/2019. Last approval expected on 30/03/2019

#### Site Installation

- Area preparation: 01/11/2018 to 25/11/2018
- Site Office: 16/11/2018 to end January 2019, 20% completed.
- Client Office: 16/11/2018 to end January 2019, 20% completed.
- Labour Camp: 16/11/2018 to end January 2019
- Staff Camp: 16/11/2018 to end January 2019
- Batching Plant: 16/11/2018 to 15/01/2019
- BAQC Lab, Stone Yard, Workshop & Reinforcement Yard : Completed 14/12/2018
- Forecast full site installation completed: 15/02/2019
- Contractor proposed to start first physical activities, with the first river training works (Diaphragm wall works) on 15 January 2019.

### **B.3.5 CW-01 Works Progress**

#### Site survey and shop drawings

- 18 Permanent Bench Marks have been established by contractor plus 3 Nos of existing Permanent BMs also has been checked by Contractor, approved by PIC for Zone A.
- Cross sections of river and general surveys with material bund on riparian land for Zone-A, have been produced on 20 December 2018.
- D-wall alignment for part-8, upstream section (on 8 sections) of Zone-A has been approved by PIC. D-wall alignment for part-1 to part-7 still need to be approved by PIC.
- Contractor need to rectify the cross section perpendicularly to river center line (D-Wall)

#### Quality Control Activities

- General Testing activities: Water sample test, Concrete Cube Compressive Testing Machine (CTM) Calibration done; Laboratory Apparatus Calibration Test Certificates obtained.
- Compressive Strength Tests Quality Assurance Plan & Project Quality Plan has been submitted to PIC and after reviewal from PIC need to be revised
- Material Source Approval [& mix designs ]: Cement OPC & PPC, Aggregates, Steel Reinforcements, Bentonites, Anchor Bar, PVC approved. Trial Mix design approved

#### Works Status

- Items 1 – General:
  - o PIU, PIC and Contractor site office construction is still in progress (foundation and frame work, 20%);
  - o Contractor's Staff and Labour accomodation is in progress (foundation in progress, 5%);
  - o Materials Stock Yard for steel rebar, aggregates has been completed;
  - o Testing Laboratory and test apparatus, concrete cubes curing tank has been completed / provided;
  - o Batching Plant and Silos (2 Nos) installation is in progress (60%).
- Item 2a – River Training Works

- Guide Wall work is in progress. Concreting 20 m length, Formwork and rebars installation 40 m length, Excavation 100 m length.
- D-wall not yet started.
- Item 2b – Embankment Works
  - Open Outfall No. 8 at part-8 (Latest Drawing) and Open Outfall No. 2 at Part-5 (Latest Drawing), excavation work is in progress (670 m3)
  - Embankment Works for backfilling not yet started, trial patch only done for material approval.
- Item 2c. General Earth Filling: Not yet started.
- Item 2d. Promenade finishing: Not yet started.
- Item 2e. Irrigation and landscape: Not yet started.
- Provisional Sum (PS)
  - PS for Survey Equipment, Office Camera, Projector and Radio Handset: Quotations have been requested from Contractor. PIC made evaluation of the alternatives, and proposed selection of provider to PIU.
  - PS for pickup vehicles purchase: PIU cancelled procurement.
- Day works: No day works ordered.

**Table B.3-2: CW-01 - Physical progress per major works items**

Major works items	Unit	Contract quantity	Target 31/12/2019	Achieved 31/12/2019
Diaphragm wall	M	4509	0	0
Cast in situ wall	M <sup>3</sup>	6000	0	0
Retaining wall	M <sup>3</sup>	8 600	0	0
Ducted outfall	M	2082	0	0
Open outfall	M	480	0	0
Embankment construction	M <sup>3</sup>	3 140 000	0	0
Lower Level walkway	M <sup>2</sup>	4 600	0	0
Upper Level walkway	M <sup>2</sup>	23 800	0	0

### B.3.6 CW-01 Non Conformance

No Non Conformance Registered (NCR) / No Corrective Action Report (CAR) issued until end of this month.

## B.4 Field Monitoring visits, workshops, training and particular meetings

ADB conducted the Loan Inception Mission from 12 to 20 November 2018. The Mission's findings were discussed at a wrap-up meeting on 20 November 2018 with DHI, CDCL and the Ministry of Finance. Main findings of the Mission are detailed in the "Aide Mémoire of the Loan Inception Mission" of which understandings was approved by the higher authorities of the Bhutanese Government and ADB.

The list of field monitoring visits, workshops, training and particular meetings is presented in **Appendix 4**

## B.5 Status of Contract Awards

**Table B.5-1: Status of Contract award**

Contract	Bid preparation.	Bid period	Bid evaluation	Award & Negotiation	LTP
<u>Civil works packages</u>					
CW-01 River Training	Q1 2017	Q1& Q2 2017	Q2 2017	Q2 2018	12 Sep. 2018
CW-02 Common urban infrastructure	Q2 2019				
CW-03 Flood early warning system	Q3 2019				
CW-04 Power transmission infrastructure					
CW-05 ICT infrastructure					
<u>Consultancy services packages</u>					
CS-01 PIC	Q1 2017	Q2 & Q3 2017	Q3 2017	Q3 2017	17 Sep. 2018
CS-02 Environment monitoring expert.					
CS xx 2D hydraulic model					

CS-03 Urban Management Advisor					
CS-04 Investment Promotion Advisor					
CS-05 Sustainable Township management capacity development consultants					
CS-06 Investor promotion and transaction advisory consultants					

**Appendix 5** shows the Updated Procurement plan and Contract Award schedule. There is no change compare to initial PAM Procurement Plan.

## B.6 Disbursement of Project Funds

The total and breakdown of investment costs remains unchanged (see **Appendix 6**), per awarded Contract the invoiced amounts are as follows (extract from **Appendix 6**).

**Table B.6-1: Financial Status of PTDP Civil Works, Goods & Consultancy Contracts**

Investment costs	Contracts Amount (Taxes included)		Billed until this month*		Invoiced this Month* (Dec 2018)		Total Billed incl. this month*	
	Cur;	Amount	Amount	%	Amount	%	Amount	%
Civil Works Contracts (CW-01)	BTN	2,934,669,207			123,930,570	4.2	123,930,570	4.2
Consultancy Services (CS-01 PIC)	USD	4,138,144.85	5,046.31	0.1	49,507.98	1.2	54,554.29	1.3
	BTN	91,474,227	60,152	0.1	971,496	1.0	1,031,648	1.1

\* Amount of works and services billed, advance payment not included.

Summary of disbursements for reporting period showing actual payments against each contract is indicated in the table below.

**Table B.6-2: Status of Disbursement of Project Fund**

Cat	Description/ name	Budget Allocation (Mil. US\$)	Contracts Awarded (Mil. US\$)	Uncontracted Balance (Mil. US\$)	Total Disbursed (Mil. US\$)	Undisbursed Amount (Mil. US\$)
		(a)	(b)	(c) = (a - b)	(d)	(e) = (a - d)
Loan	Civil Works	15.05	15.05	0	0	15.05
	Consulting services (PIC)	7.42	5.27	2.15	0.07	5.2
	<b>Sub total</b>	<b>22.47</b>	<b>20.32</b>	<b>2.15</b>	<b>0.07</b>	<b>20.25</b>
Grant	Civil Works (CW-01)	19.57	19.57	0	1.76	17.81
	<b>Sub total</b>	<b>19.57</b>				
DHI	PMU and PIU Expenditures	1.67	N/A		0.06	1.61
	Training	0.21	0	0.21	0	0.21
	Operation and Maintenance	0.86	0	0.86	0	0.86
	<b>Sub total</b>	<b>2.73</b>				<b>2.68</b>

\*1US\$ = 70.5 BTN

**Appendix 7** displays the S-curves and quarterly details for Loan 3668-BHU and Grant 0573-BHU contracts awards and disbursements.

## B.7 Details of Counterpart Contribution

Within the report date DHI has disbursed an amount of Nu. 58.1 Million (US\$ 0.82 mil.) as equity fund to CDCL from where the counterpart disbursements are done.

## B.8 Implementation Schedule

**Appendix 2** display update Implementation schedule for Outputs (actual vs. scheduled).



## C. Environmental aspects

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### C.1 Site visits

First site visit conducted by PIU Environmental Manager and ADB Associate Environment Officer on 3rd week of November 2018. **To be detailed by PIU**

Monthly site visits conducted at end of November and December 2018 months by PIC Temporary Environmentalist. **Monthly Environmental Monitoring report and Environment Site Inspection sheet have been produced. Guidance to Contractor for preparation of C-EMP has been given.**

### C.2 CW-01 Contractors – Implementation of the C-EMP

Contractor submitted first Draft of CEMP on 7 November 2018. Annexures were missing, and PIC had several comments on main text. After full re-submission of overall corrected documents on 24 December 2018, PIC found C-EMP comprehensive and adequate.

First Environmental Monitoring Report for December 2018 to be submitted on 5 January 2019.

PIC approved Environmental Monitoring Agency (M/S Bhutan Ecolab Services – BES) on 11 December 2018.

Summary of Environmental Monitoring Review is attached in **Appendix 8**.

## D. Health and Safety Aspects

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### D.1 Accident prevention

No accidents reported since mobilization of first Contractor and first Consultant.

### D.2 HIV / AIDS Prevention

Contractor CW-01 has to conduct awareness and HIV / AIDS prevention action. No action conducted yet, full staff mobilization is required.

### D.3 Traffic Safety

CW-01 prepared traffic management plan for through traffic and constructed temporary diversion. The plan has to be reviewed but first measures have been taken (safety and itinerary road signs).

Others Health and Safety issued recorded for the period are listed in **Appendix 9**.

## E. Social Safeguard and communication

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### E.1 Social Safeguard

No specific action conducted this quarter.

### E.2 Communication action (website, events...)

Induction meeting on PTDP was conducted with Phuentsholing Thromde officials on November 28, 2018. Main agenda was to disseminate information regarding start of PTDP to the local government.

See **Appendix 4** for comprehensive list of meetings.

The first stakeholder consultation meeting is scheduled to be held in January 2019.

## F. Grievance Redress Mechanism

### F.1 Grievance Redress Mechanism set-up

A two tier mechanism will be adopted by the project. The first tier will be in the field at the PIU level led by PIU head and the second level/tier GRM will be led by the PMU head.

#### Secretariat

The first level secretariat of GRM will be established in the PIU office, with PIC/PIU's Health and Safety officer acting as the secretary.

#### Composition

At the first level GRM, the team called the 'Grievance Redress Committee (GRC)' will be established at the PIU level and consist of the PIU head as the lead of GRC. The composition of the first tier GRM is shown in Table 1 here after.

**Table F.1-1: Composition of the First Tier GRM**

Organization	Positions	Names
PIU	Project Manager	Mr. Kamal Dhakal
PIU	Dy Project Manager	Mr. Dawa Tshering
PIU	Environment Manager	Mr. Pushpa Raj Pradhan
PIC	Team Leader / Dy Team Leader	Mr. Robert Jeancenelle / Edwin Anggrijatno
PIC	Construction Manager	Mr. SonamTobgay
PIC	Safeguard and H&S Specialist	Mr Megay Penjore
Phuentsholing Constituency	Representative	Mr. Nar Bahadur Rai
Phuentsholing Thueml	Representative	Mr. Sonam Tenzin
RENEW (Community based org.)	Representative	Ms. Dechen
Members on call basis based on the nature of grievance representing relevant section of district office		To be named
Contractor CW-01	Project Manager	Mr. Ravichandran

The composition of the second tier GRM is shown in Table 2 here after.

**Table F.1-2: Composition of the Second Tier GRM**

Organization	Positions	Names
PMU	Project Director	Mr. Tshering Dupchu
PIU	Project Manager	Mr. Kamal Dhakal
PIU	Environment Manager	Mr. Pushpa Raj Pradhan
Central Government / MOWHS	Representative	Mr. Namgay Tshering
RENEW (Community based org.)	Representative	Ms. Lhaden

### F.2 Grievances registered

No grievance have been registered during the period.

## **G. Design Monitoring Framework and actions agreed during last ADB review mission**

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### **G.1 Performance against DMF Indicators**

Status of performance against Project Design and Monitoring Framework indicators is shown in **Appendix 1**.

Compliance with loan and grant Covenant updated table is attached in **Appendix 10**.

## G.2 Action agreed during last ADB review mission

Last ADB mission was the Loan Inception Mission. The progress made in the priority actions of CDCL and DHI mentioned in the Aide Memoire of the ADB loan inception mission from 12 to 20 November 2018 are as follows:

**Table G.2-1: Status of actions agreed during last ADB review mission**

Actions	Responsible Party	Due Date	Status
<b>Project Management</b>			
Staffing of PMU and PIUs	CDCL	Immediate	Completed
Submit to ADB variation for hydraulic model	PMU	10 Jan. 2019	Being initiated
Submit Quarterly Progress Report to ADB	PMU	30 Jan. 2019	Being submitted
Submit Inception report to ADB and PMU	PIC	26 Nov. 2018	Submitted to PIU 4 Dec. 2018
CDCL staff secondment to PIC finalized	CDCL	30 Nov. 2018	First phase completed
<b>Consultant Recruitment</b>			
<u>External Environmental monitoring expert</u>			
Advertise position on CMS	PMU	30 Nov. 2018	Being initiated
Award contract and mobilize consultant	PMU	31 Jan. 2019	Being initiated
<u>Flood management consultancy</u>			
Award contract and mobilize consultant	PIC	31 Jan. 2019	Being Initiated
<b>Civil Works Packages:</b>			
Confirm whether Zone A+ will be investigated	PMU	31 Dec. 2018	Confirmed. Not be investigated
Comments received from HCP on CW02	PMU	Q2 2019	To be initiated
Submission of Bid Documents CW02	PMU	Q3	To be initiated
<b>Safeguards</b>			
GRM sanctioned and procedure finalized	PMU/PIU	31 <sup>st</sup> January 2018	To be initiated
Submit to ADB Environment Monitoring Report	PMU	28 Feb. 2019	Preparation SEMR N°1 on-going
<b>Finances</b>			
Submit Withdrawal applications	PMU	30 Nov. 2018	Submitted for mobilization advance
Submit APFS to ADB	CDCL	31 Dec. 2019	Yet to initiate

## **Appendixes**

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**Appendix 1: Design and Monitoring Framework**

**Appendix 2: Updated Implementation Schedule**

**Appendix 3: PMU and PIU Positions**

**Appendix 4: List of the workshops, training and particular meetings**

**Appendix 5: Updated Procurement Plan and Contract Award Schedule**

**Appendix 6: Update Investment Cost**

**Appendix 7: Contract and disbursement S-Curve, ADB Loan and ADB Grant**

**Appendix 8: Monthly Environmental Monitoring Review for Quarter4 /2018**

**Appendix 9: Health and safety monitoring for Quarter4 /2018**

**Appendix 10: Compliance with Loan and Grant Covenants**

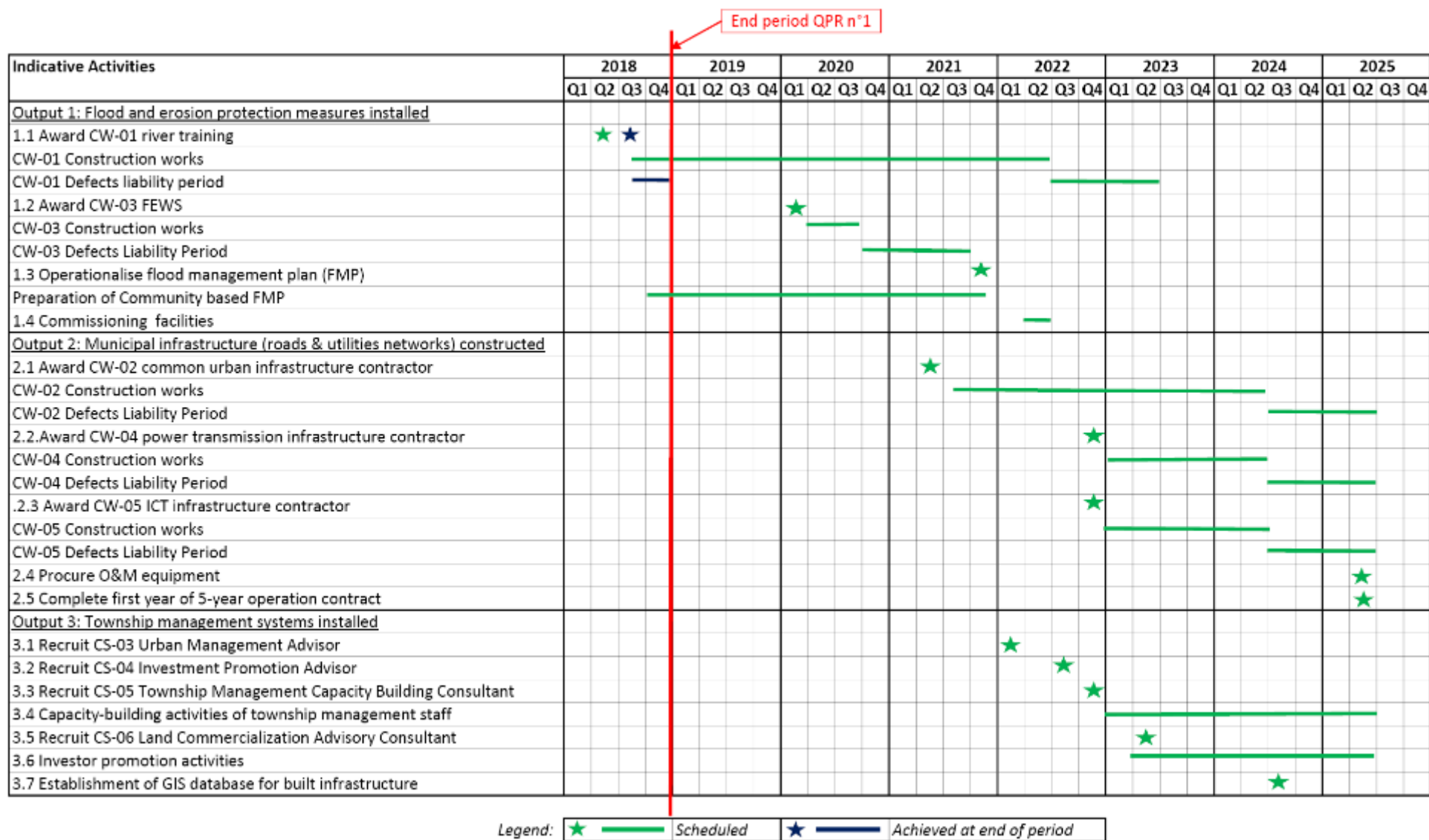
**Appendix 11: Photographs album**

## Appendix 1: Design and Monitoring Framework

	Indicator	Progress
<b>Outcome</b> Phuentsholing's urban area protected from floods and expanded with improved amenities and services	By 2026: a. Phuentsholing and reclaimed land protected from 100-year flood events in the Amochhu River (2018 baseline: Phuentsholing is protected from mean annual floods) b. At least 10% of fully serviced plots tendered for development (2018 baseline: NA)	a. First assessment of progress of achievement when cast in-situ wall achieved. Q2/2020. b. confirmation of tender schedule Q2/2024
<b>Outputs</b> 1. Flood and erosion protection measures installed	By 2025: 1a. 4 km of climate- and erosion-resilient river walls constructed to protect against 100-year probable flood (2018 baseline: 0) 1b. At least 66 ha of land reclaimed (2018 baseline: 0) 1c. A flood early warning system and community-based flood management plan established and operational (2018 baseline: NA)	1a. Construction of river wall to start in Jan 2019. Protection achieved when cast-in-situ wall built. 1b. Construction of backfilling to start in Feb 2019. Land reclaimed when walkways finished. 1c. Not yet started. FEWS to be installed from Q2/2020 to Q4/2021
2. Municipal infrastructure constructed	2a. 10 km of roads with footpaths, landscaping, and streetlights planned with at least 30% female participation (2018 baseline: 0) 2b. Water treatment plant with a capacity of 4 MLD constructed (2018 baseline: none) 2c. 12 km of new primary and secondary water mains constructed (2018 baseline: 0) 2d. 9 km of new sewer mains and 9 km of new storm drains constructed (2018 baseline: 0) 2e. A sewerage treatment plant with a capacity of 3 MLD constructed (2018 baseline: 0) 2f. A resource recovery system for solid waste management installed (2018 baseline: 0) 2g. A 630 KVA grid substation constructed (2018 baseline: 0) 2h. 16 circuit-km of 415-volt power distribution lines installed (2018 baseline: 0) 2i. 11 circuit-km of telecommunication transmission cables installed (2018 baseline: 0)	To be started with CW02, CW3, CW4 & CW5 start. 2a. To be assessed from Q3/2021. 2b. To be assessed from Q3/2021 2c. To be assessed from Q3/2021 2d. To be assessed from Q3/2021 2e. To be assessed from Q3/2021 2f. To be assessed from Q3/2021 2g. To be assessed from Q2/2022 2h. To be assessed from Q2/2022 2h. To be assessed from Q2/2022
3. Township management systems installed	3a. At least 80% of township management staff reported improved knowledge of modern urban management (2018 baseline: NA) 3b. An asset management system established with 100% of project infrastructure and facilities geocoded in a database (2018 baseline: NA) 3c. At least 10 potential investors attended investor outreach campaigns (2018 baseline: NA)	3a. First assessment in Year 2024 3b. To be assessed from Q2/2022 3a. To be assessed on Q3/2024



## Appendix 2: Updated Implementation Schedule



## Appendix3: PMU and PIU Positions

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### A. Project Management Unit

Ref	Position	Type	
1	Chief Executive Officer	Part time	Mr. PhuntshoGyeltshen
2	Finance General Manager	Part time	Ms. DechenWangmo
3	Project Director	Full time	Mr. Tshering Dupchu
4	Project Accountant	Full time	Mr. PhurpaDorji
5	Urban Planner	Part time	Ms. Kamala Thapa
6	Procurement and Contracts Manager	Part time	Mr. Sonam Tshering
7	Civil Engineer	Part time	Mr.SonamTamtsho
8	Legal Officer	Part time	Mr.Kinley Dorji
9	Human Resources Manager	Part time	Ms.Kencho Tshering

### B. Project Implementation Unit

Ref	Position	Type	
1	Project Manager	Full time	Mr. Kamal Dhakal
2	Deputy Project Manager	Full time	Mr. Dawa Tshering
3	Assistant Accountant	Full time	Mr. Lhaten Tshering
4	Document Control Manager	Full time	Ms. Tshering Pelden (Administrative Manger)
5	Document Control Assistant	Full time	Combined with above
6	Procurement and Contracts Manager	Full time	
7	Stakeholder, Community & Public Relations Manager	Full time	Mr. DhanBahadur Ghalley
8	Environment Officer	Full time	Mr. Pushpa Raj Pradhan
9	Health & Safety Inspector	Full time	Combined with above

## Appendix 4: List of the workshops, training and particular meetings

Dates	Type	Subject	Attendee
5 Nov. 2018		Ground Breaking Ceremony	Project stakeholder
14-15 Nov. 2018	Workshop	Capacity Building Project Administration and Implementation Workshop	PMU/PIU; Project Director, Project Manager, Dy Project Manager, Chief Architect, Finance Manager, Project Accountant
12 to 20 Nov.2018	Mission	ADB Loan Inception Mission	ADB, PIU, PMU
12 Nov.2018	Meeting	Tripartite inception meeting	CDCL, ADB, PIC
6 Dec. 2018	Meeting	Introduction PIC & CW01 to Phuentsholing Thromde	Thromde, PIU, PIC, CW01 Thromde representatives (5) Thromde technicians (3) PIU (3) PIC (2) CW-01 (4)
28 Dec. 2018	Training	Use of Persona Protective Equipment	CW-01 staff 39 personnel of which 3 females

# Appendix 5: Updated Procurement Plan and Contract Award Schedule

Amochhu Land Development & Township Project															
No.	Package	Procurement Plan Amount (\$ millions)		Note	Type	Implementation Period	Current Status of Designs/Bid Documents	Submission Date to CDCL	Submission Date to ADB for Clearance	Advertise Bid	Bids Submitted	Submission Date of TBER to ADB for Clearance	Submission Date of FBER to ADB for Clearance	Target Date of Contract Award	Start Date
<b>Works &amp; Goods</b>															
1	CW-01	35	River training and land reclamation	1	ICB	Q4-2018 to Q2-2022			14-Mar-17	25-May-17				18-Jul-18	27-Sep-18
2	CW-02	11.2	Common urban infrastructure		ICB	Q3-2021 to Q2-2024		10-Dec-20	24-Dec-20	28-Jan-21	11-Mar-21	8-Apr-21	13-May-21	3-Jun-21	1-Jul-21
3	CW-03	0.2	Flood warning system		ICB Goods	Q2-2020 to Q3-2020		11-Nov-19	18-Nov-19				12-Feb-20	11-Mar-20	1-Apr-20
4	CW-04	0.5	Power transmission infrastructure		FA	Q1-2023 to Q2-2024									
5	CW-05	0.9	ICT infrastructure		FA	Q1-2023 to Q2-2024									
<b>Consultants</b>															
1	CS-01	5.70	Project implementation consultant	2	QCBS 90:10	Q3-2018 to Q2-2025	30 EoIs received, Sub 1 approved,		06-Dec-16	21-Feb-17	15-May-17				29-Oct-18
2	CS-02	0.25	Independent environmental monitoring expert		ICS	Q4-2018 to Q2-2025		16-Sep-18	23-Sep-18	28-Oct-18		2-Dec-18			30-Dec-18
3	CS-03	0.10	Urban management advisor		ICS	Q2-2022 to Q1-2025		18-Mar-22	25-Mar-22	29-Apr-22		3-Jun-22			1-Jul-22
4	CS-04	0.10	Investment promotion advisor		ICS	Q4-2022 to Q1-2025		18-Jun-22	25-Jun-22	30-Jul-22		3-Sep-22			1-Oct-22
5	CS-05	1.30	Sustainable township management capacity development		QCBS 90:10	Q1-2023 to Q2-2025		06-May-22	13-May-22	10-Jul-22	4-Sep-22	2-Oct-22	30-Oct-22	4-Dec-22	1-Jan-23
6	CS-06	1.10	Investor promotion and transaction advisory services		QCBS 90:10	Q3-2023 to Q2-2025		03-Nov-22	10-Nov-22	7-Jan-23	4-Mar-23	1-Apr-23	29-Apr-23	3-Jun-23	1-Jul-23
			achieved												
			pending												
			overdue												
			actual dates												
								<b>Indicative Durations</b>							
								ICB Works	14	35	42	28	35	21	28
								ICB Goods	7			86	28		
								NCB Goods	7			72	28		
								QCBS	7	58	56	28	28	35	28
								ICS	7	35		35			28
Notes:	1	includes cross drainage structures, land formation, and about \$250K for supply and to include prov sum packages for traffic management study (\$100K), preparation of emergency management plan (\$200K), and													
	2														

## Detail on Contract award process

Contract	Bid prepa.	Bid period	Bid evaluation	Award & Nego	LTP
CW-01 River Training	Q1 2017	Q1 & Q2 2017	Q2 2017	Q2 2018	12 Sep. 2018
CW-02 Common urban infrastructure	Q2 2019				
CW-03 Flood early warning system	Q3 2019				
CW-04 Power transmission infrastructure					
CW-05 ICT infrastructure					
CS-01 PIC	Q1 2017	Q2 & Q3 2017	Q3 2017	Q3 2017	17 Sep. 2018
CS-02 Environment monitoring expert.					
CS xx 2D hydraulic model					

## Appendix 6: Update Investment Cost

### Investment costs from Loan Agreement (in \$ million)

Investment costs	Total Amount (Taxes included)		ADB Loan		ADB Grant		Government*			
	Cur;	Amount	Amount	%	Amount	%	Costs	Taxes & duties	Total	%
Civil Works	USD	37.59	15.05	40	19.57	52	2.97		2.97	8
Consultancy Services	USD	7.55	7.42	98				0.13	0.13	2
	BTN	<b>45.14</b>	<b>22.47</b>	<b>50</b>	<b>19.57</b>	<b>43</b>	<b>2.97</b>	<b>0.13</b>	<b>3.11</b>	<b>7</b>

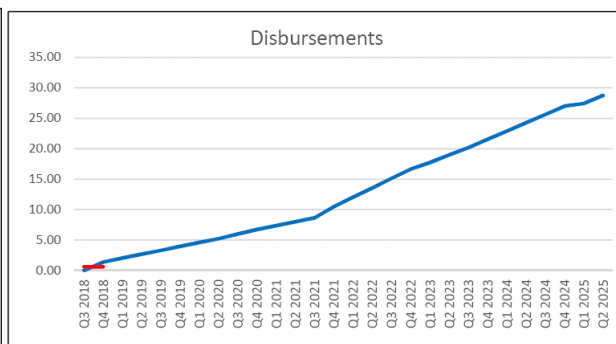
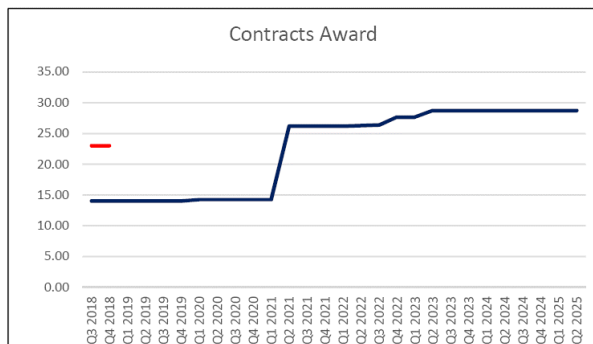
### Breakdown of Investment costs per Contracts and amounts used.

Investment costs	Contracts Amount (Taxes included)		Billed until this month*		Invoiced this Month* (Dec 2018)		Total Billed incl. this month*	
	Cur;	Amount	Amount	%	Amount	%	Amount	%
Civil Works Contracts (CW-01)	BTN	2,934,669,207			123,930,570	4.2	123,930,570	4.2
Consultancy Services (CS-01 PIC)	USD	4,138,144.85	5,046.31	0.1	49,507;98	1.2	54,554.29	1.3
	BTN	91,474,227	60,152	0.1	971,496	1.0	1,031,648	1.1

# Appendix 7: Contract and disbursement S-Curve, ADB Loan and ADB Grant

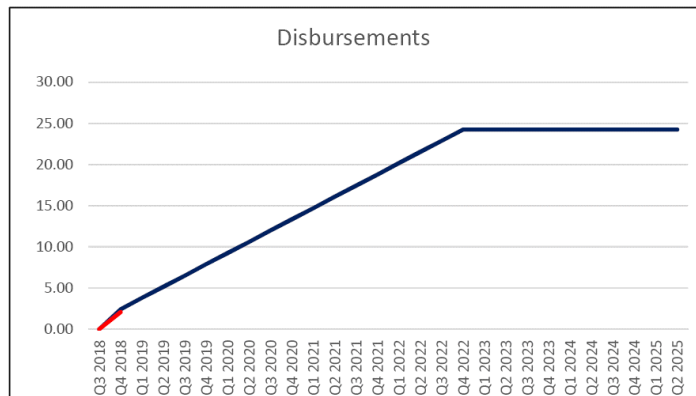
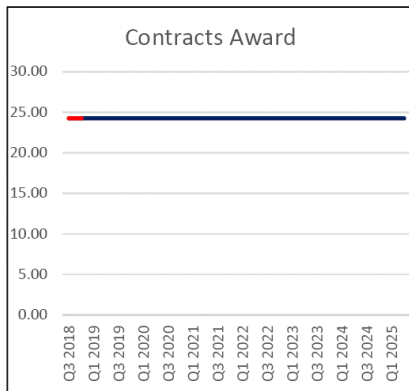
## Appendix 7.1 Schedule of contracts award and disbursement for Loan 3668-BHU

Loan Contracts Award (\$million)					Loan Disbursements (\$million)				
Quarter	Target		Actual		Quarter	Loan		Actual	
	Amount	Cumul	Amount	Cumul		Quarter	Cumul	Quarter	Cumul
Q3 2018	14.04	14.04	23.01	23.01	Q3 2018	0.00	0.00	0.58	0.58
Q4 2018	0.00	14.04	0.00	23.01	Q4 2018	1.38	1.38	0.00	0.58
Q1 2019	0.00	14.04	0.00	23.01	Q1 2019	0.64	2.02	0.00	0.58
Q2 2019	0.00	14.04	0.00	23.01	Q2 2019	0.64	2.66	0.00	0.58
Q3 2019	0.00	14.04	0.00	23.01	Q3 2019	0.64	3.30	0.00	0.58
Q4 2019	0.00	14.04	0.00	23.01	Q4 2019	0.65	3.95	0.00	0.58
Q1 2020	0.20	14.24	0.00	23.01	Q1 2020	0.64	4.59	0.00	0.58
Q2 2020	0.00	14.24	0.00	23.01	Q2 2020	0.64	5.23	0.00	0.58
Q3 2020	0.00	14.24	0.00	23.01	Q3 2020	0.74	5.97	0.00	0.58
Q4 2020	0.00	14.24	0.00	23.01	Q4 2020	0.75	6.72	0.00	0.58
Q1 2021	0.00	14.24	0.00	23.01	Q1 2021	0.64	7.36	0.00	0.58
Q2 2021	11.94	26.18	0.00	23.01	Q2 2021	0.64	8.00	0.00	0.58
Q3 2021	0.00	26.18	0.00	23.01	Q3 2021	0.64	8.64	0.00	0.58
Q4 2021	0.00	26.18	0.00	23.01	Q4 2021	1.84	10.48	0.00	0.58
Q1 2022	0.00	26.18	0.00	23.01	Q1 2022	1.54	12.02	0.00	0.58
Q2 2022	0.10	26.28	0.00	23.01	Q2 2022	1.54	13.56	0.00	0.58
Q3 2022	0.10	26.38	0.00	23.01	Q3 2022	1.54	15.10	0.00	0.58
Q4 2022	1.28	27.66	0.00	23.01	Q4 2022	1.54	16.64	0.00	0.58
Q1 2023	0.00	27.66	0.00	23.01	Q1 2023	1.10	17.74	0.00	0.58
Q2 2023	1.08	28.74	0.00	23.01	Q2 2023	1.22	18.96	0.00	0.58
Q3 2023	0.00	28.74	0.00	23.01	Q3 2023	1.22	20.18	0.00	0.58
Q4 2023	0.00	28.74	0.00	23.01	Q4 2023	1.36	21.54	0.00	0.58
Q1 2024	0.00	28.74	0.00	23.01	Q1 2024	1.36	22.90	0.00	0.58
Q2 2024	0.00	28.74	0.00	23.01	Q2 2024	1.36	24.26	0.00	0.58
Q3 2024	0.00	28.74	0.00	23.01	Q3 2024	1.36	25.62	0.00	0.58
Q4 2024	0.00	28.74	0.00	23.01	Q4 2024	1.36	26.98	0.00	0.58
Q1 2025	0.00	28.74	0.00	23.01	Q1 2025	0.46	27.44	0.00	0.58
Q2 2025	0.00	28.74	0.00	23.01	Q2 2025	1.30	28.74	0.00	0.58



## Appendix 7.2 Schedule of contracts award and disbursement for Grant 0573-BHU

Grant Contracts Award (\$million)					Grant Disbursements (\$million)				
Quarter	Target		Actual		Quarter	Target		Actual	
	Amount	Cumul	Quarter	Cumul		Amount	Cumul	Quarter	Cumul
Q3 2018	24.26	24.26	24.26	24.26	Q3 2018	0.00	0.00	0.00	0.00
Q4 2018	0.00	24.26	0.00	24.26	Q4 2018	2.43	2.43	2.07	2.07
Q1 2019	0.00	24.26	0.00	24.26	Q1 2019	1.37	3.80	0.00	2.07
Q2 2019	0.00	24.26	0.00	24.26	Q2 2019	1.37	5.16	0.00	2.07
Q3 2019	0.00	24.26	0.00	24.26	Q3 2019	1.37	6.53	0.00	2.07
Q4 2019	0.00	24.26	0.00	24.26	Q4 2019	1.37	7.89	0.00	2.07
Q1 2020	0.00	24.26	0.00	24.26	Q1 2020	1.37	9.26	0.00	2.07
Q2 2020	0.00	24.26	0.00	24.26	Q2 2020	1.37	10.62	0.00	2.07
Q3 2020	0.00	24.26	0.00	24.26	Q3 2020	1.37	11.99	0.00	2.07
Q4 2020	0.00	24.26	0.00	24.26	Q4 2020	1.37	13.35	0.00	2.07
Q1 2021	0.00	24.26	0.00	24.26	Q1 2021	1.37	14.72	0.00	2.07
Q2 2021	0.00	24.26	0.00	24.26	Q2 2021	1.37	16.08	0.00	2.07
Q3 2021	0.00	24.26	0.00	24.26	Q3 2021	1.37	17.45	0.00	2.07
Q4 2021	0.00	24.26	0.00	24.26	Q4 2021	1.37	18.81	0.00	2.07
Q1 2022	0.00	24.26	0.00	24.26	Q1 2022	1.37	20.18	0.00	2.07
Q2 2022	0.00	24.26	0.00	24.26	Q2 2022	1.37	21.54	0.00	2.07
Q3 2022	0.00	24.26	0.00	24.26	Q3 2022	1.36	22.90	0.00	2.07
Q4 2022	0.00	24.26	0.00	24.26	Q4 2022	1.36	24.26	0.00	2.07
Q1 2023	0.00	24.26	0.00	24.26	Q1 2023	0.00	24.26	0.00	2.07
Q2 2023	0.00	24.26	0.00	24.26	Q2 2023	0.00	24.26	0.00	2.07
Q3 2023	0.00	24.26	0.00	24.26	Q3 2023	0.00	24.26	0.00	2.07
Q4 2023	0.00	24.26	0.00	24.26	Q4 2023	0.00	24.26	0.00	2.07
Q1 2024	0.00	24.26	0.00	24.26	Q1 2024	0.00	24.26	0.00	2.07
Q2 2024	0.00	24.26	0.00	24.26	Q2 2024	0.00	24.26	0.00	2.07
Q3 2024	0.00	24.26	0.00	24.26	Q3 2024	0.00	24.26	0.00	2.07
Q4 2024	0.00	24.26	0.00	24.26	Q4 2024	0.00	24.26	0.00	2.07
Q1 2025	0.00	24.26	0.00	24.26	Q1 2025	0.00	24.26	0.00	2.07
Q2 2025	0.00	24.26	0.00	24.26	Q2 2025	0.00	24.26	0.00	2.07



# Appendix 8: Monthly Environmental Monitoring Review for Quarter4 /2018

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## Introduction

This environmental section is prepared in compliance with the Environmental Management Plan (EMP) for the Phuentsholing Township Development Project (PTDP)/ Amochhu Land Development and Township Project (ALDTP) financed with support from Asian Development Bank (ADB) & Druk Holding and Investments (DHI). DHI is the Project Owner and the Executing Agency (EA) and Construction Development Corporation Limited (CDCL), is the Implementing Agency (IA). The Civil work contract of package CW-01 has been awarded to M/s AFCONS Infrastructural Limited, India. For supervising the Contractor's works, the CDCL has appointed M/s EGIS International as Engineer.

### 1. Purpose of the Report.

The purposes of this report is to provide status of, statutory clearances, environmental safeguards, environmental monitoring and occupational health and safety monitoring, being adopted / supervised at the site of the PTDP for the month of December 2018.

### 2. Project Update

The project is in initial stage. the pre-construction activities such as mobilization of manpower, equipment, construction of office and camp area, setup of basic amenities are in progress. The trench excavation activities have been initiated at chainage 724R for permanent construction work of guide wall for diaphragm as well as excavation for outfall construction.

### 3. Works in Progress

#### Work Progress Summary

The project is currently at mobilization stage and setting up of various amenities are being carried out. The list of works completed and started are as below;

#### Survey Highlights:

Re-survey of DGPS control points on NLCS points to establish control points for the Project.

#### Construction Highlights:

##### *Temporary Works:*

- Batching Plant: Main Plant Erection Completed. Silo Assembly In-progress.
- Weigh Bridge: Erection Complete. Calibration Complete. Commissioned.
- Labour Colony: Accommodation foundation Works In-progress.
- Client Office: Foundation Works Complete. Superstructure Works Commenced.
- Afcons Site Office: Foundation Works Complete. Superstructure Works Commenced.
- Store Shed: Works Complete. Commissioned.
- Workshop: Structural work in progress.
- QA/QC Lab: Two containers with necessary equipment installed.
- Concrete Cube Curing Tank: Completed.
- Aggregate Stack Bins: Random Rubble Masonry Completed.
- Office Containers: 2 Nos. received and Commissioned.
- Site Fencing Works: Completed for Site Establishment Works. In-progress for Camp Area.
- Toilet and Septic Tanks: Temporary toilets behind the office and storage are completed. Septic tanks with soak pits for the office complex and labour camps are built. Sewerage network laying out is under progress.

##### *Permanent Works:*

- Guide Wall: Works Commenced in Part-8, chainage 734 R
- Open Outfalls: Open Outfall No. 8 and 2 excavation works commenced in Part No.8 and Part No. 5 respectively.

### 4. Environmental Monitoring

#### Methodology for Environmental Monitoring



The monitoring methods used are visual inspection, informal interview of workers and residents and photographic documentation. Checklist for monitoring environmental compliances have also been developed by PIC.

#### Details of Mitigation Measures Adopted (Pre-Construction Phase)

- There are large number of vehicular movements due to which huge amount of dust is generated from the road. Water is sprinkled on road in every 2 hours interval Dust suppression by two tankers are carried out.
- Road diversions were created for easy and smooth movement of traffic on Samtse-Phuentsholing road
- Presently three colored waste bins are provided at the office complex. More bins are awaited.
- Water Quality
- There are two tube wells on site, one is in camp area and other one is in office area for water supply. Both borewells are fitted with pumps. The sample from both the tube wells were collected for assessing the suitability of water for the use. The samples were collected to analyse the physico-chemical characteristic. As per the report submitted by the contractor the water quality is within permissible limit of National Environmental Quality Standard 2010.
- River water will be used for construction work i.e. concrete mix, curing and sprinkling. To check the quality of the water one sample was also collected from the river side for chemical analysis. As per the report submitted by the contractor the water quality is within permissible limit of National Environmental Quality Standard 2010.

### **5. Challenges and areas of concern**

#### Environmental Issues

Several environment related issues have been observed at the site which are mentioned below;

Issue	Comment/ Recommendations
Dusts at site	Adequate dust suppression measures are carried at the contractors' area of activity. However, lots of dusts are observed generating from nearby activities causing continuous exposure of workers to fine dusts. So it is recommended to take additional measures in terms of supply and use of N95 nasal masks to all workers as preventive measure.
Trash bins for work sites	Proper color coded bins are required at all work sites. Bins were not available at the workshop/lab area and also at the excavation areas
Trash bins for toilets	Proper bins for disposal of sanitary pads in female toilets are necessary.
Oil/ Grease Handling Areas	Oil drums are placed on raised concrete platform,. Catch drains and collection system around such platform is necessary to be provided .

#### Health and Safety Issues

Several health and safety related issues have been observed at the site as mentioned below;

Issue	Comment and Recommendations
Sign Board – message is too small and project names are larger	Make the messages such as “Danger” and “ Diversion” should be larger
Diversion Signs	Install a Diversion ahead sign, before the actual diversion. Atleast 50m ahead
Diversion road	Protection of diverted roads with proper markers – atleast 0.5m from the road edge. - retro reflective tapes are required
First Aid Boxes	First Aid boxes were not available at the workshop/lab area and also at the excavation area at guide wall construction.
First Aid Center Register and Stock	First Aid Box at the First Aid Center is necessary with adequate stock and proper register of all types of injuries, accidents or related information.
Fire Extinguishers	There are no fire extinguishers near workshops and oil storages. Fire extinguishers should be made available at all important locations with proper accessibility (i.e., they should not be kept behind the oil barrels).

## Other Related Issues

There are also few management and coordination issues that needs to be implemented as below.

Status of Vehicle and equipment	Status of monthly vehicle and equipment engaged at the site. A record should be maintained with the details of the vehicle type, model, emission certification validity/date, condition etc. This should include the vehicles and equipment engaged by sub-contractor/s as well.
Labor Details of the Month	Status of monthly labors engaged for the site. The details of number of people engaged with their skills, gender, nationality and period engaged in a tabular format is required. A site register and board display would be necessary to provide this information.

Various road diversions have been created for smooth movement of traffic.

Various activities like car washing, illegal waste dumping, approach road towards river side which is used by public for picnic all are blocked/stopped as shown in Appendix 3

### 6. Grievance redress and changes in the EMP/reporting:

So far no complaints have been received

### 7. Monitoring schedule and activities:

The PIC has prepared the schedule of monitoring which is enclosed here below:

Environment Monitoring Implementation Plan					
Activities	Locations	Numbers	Frequency	Remarks	Parameters
Daily check	Zone A	Min 3	Daily	Environment Officer/ Inspector	Batching Plant, Camp, Construction Site/s
Monthly Report	Zone A	One	Monthly	Environment Specialist - PIC	As per Outline
Quarterly Report	Zone A	One	March, June, Sept, Dec	Environment Specialist - PIC	As per Outline
Semi-Annual Report	All PTDP Zones	One	July and Feb	Environment Specialist - PIC	
Annual Report	All PTDP Zones	One	Feb	Environment Specialist - PIC	
Air Quality Monitoring	All PTDP Zones	6	2/week	Based on site roster for each station	TSPM, PM2.5, PM10, SO2, NOX, CO
Noise	All PTDP Zones	6	Monthly	24 hours/ Work hours	Decibels- dB (A)
Noise	Zone A	3	Weekly	Instantaneous (1m, 3m, 5m)	Decibels- dB (A)
Water Quality Monitoring	All PTDP Zones	8	2/ year	April and October	pH, Color, Electrical conductivity, TDS, Turbidity, Ammonia Nitrogen, Ca, Mg, Na, K, Salinity, COD, BOD, Cl, Phenol, Sulphates, Nitrate, fluoride, DO, SAR, TSS, cyanide, Heavy metals, total coliform and faecal coliform
Water Quality Monitoring	Zone A	2	Monthly	By 15 <sup>th</sup> of each month	
Ground Water Quality	Zone A	2	2/ year	April and October	
Soil Testing/ Ground Contamination Monitoring	Zone A	1	Monthly	By 15 <sup>th</sup> of each month	Visual observation of contamination from oil, grease and other foreign materials.
Meteorology	Zone A	1	1 hourly	Monthly Weather Report. By 15 <sup>th</sup> of following month	Wind speed, Wind Direction, Temperature, Relative Humidity, Rainfall
Ecology	All PTDP Zones	All Zones	4/ year	January, April, July, and October	Terrestrial flora and fauna, Zooplankton, Phytoplankton, Benthos & fishes
Bio diversity monitoring and bench marking study (BMBMS)	All PTDP Zones	All	4/ year - for 3 years	January, April, July, and October. To be completed by External specialist. TOR prepared by PIC Environmental Specialist	Terrestrial flora and fauna, Zooplankton, Phytoplankton, Benthos & fishes

The site environmental condition surveys conducted this quarter are as follows:

Parameters	Oct. 2018	Nov. 2018	Dec. 2018	Results / Comments
Air quality	X	∅	∅	Sampling to start in Jan 2019
Noise – All PTDP zones		∅	∅	Sampling to start in Jan 2019
Noise – Zone A		∅	∅	Sampling to start in Feb 2019
Water quality – All PTDP zones		∅	27/12/2019	Sampling to be done in Q2/ 2019
Water quality – Zone A		∅	27/12/2019	Sampling to start in Feb 2019
Ground water quality		∅	∅	Sampling to be done in Q2/ 2019
Soil Testing/ Ground Contamination		∅	∅	Sampling to start in Feb 2019
Ecology		∅	∅	Will start next quarter
Meteorology		∅	∅	Meteo station not yet on site / to be installed next quarter

## Appendix 9: Health and safety monitoring for Quarter4 /2018

Health and Safety Monitoring Checklist for 4 <sup>th</sup> quarter 2018															
No.	Date and Time	Work in Progress (Name of Work)	Station (Location)	Monitoring Activities											
				Encroachment into Sensitive Habitats	Impact on Vegetation	Dust	Noise and Vibration	Spills Disposal	Water bodies run-off and Siltation	Waste (solid & liquid)	Road Traffic	Public Safety	Labor Issues (Occupational safety health)	Flood Protection and Prevention	Social Concerns
<b>OVERALL CONSTRUCTION SITE</b>															
1	27/12/2018	Site office construction	Afcons office site	No	No	E	E	E	No	No	Diverted	Taken care of	S	No	No
2	27/12/2018	Construction of Diaphragm wall	Northern end point of the site	No	No	E	E	E	No	No	Diverted	Taken care of	S	No	No
3	27/12/2018	Diversion roads	Approach to the site office and northern end of the project site	No	No	E	E	E	No	No	Diverted	Taken care of	S	No	No
4	27/12/2018	Laying of Hume pipes along the diverted road for future water diversion	Next to the office site and northern tip of the project site	No	No	E	E	E	No	No	Diverted	Taken care of	S	E	No
<b>Project Action to be Taken</b>															
<b>Legend:</b>															
- No– No significant concern;															
- E or S:- Environmental or Safety concern															

### Contractor's Occupational Health and Safety Monitoring Program

#### Health and safety activities

- Details of trainings, awareness and inductions carried out
- Necessary Safety Induction training has been provided for every new comer (staff and workers).
- Tool Box talk and exercise are carried out on daily for safety and health awareness.
- Caution board, PPE display board, safety awareness board provided at site to a large extent.
- Summary of Occupational Health and Safety Monitoring
- Identification of hazards (unsafe act and unsafe activity) and mitigate and minimization on daily basis are being carried out.
- All necessary PPE are provided to workers and staffs for first line of defence to incident.
- Unauthorised entry to site are prohibited.
- Helmets and coloured vests are provided to all visitors for safety.

#### Accident statistics of the period

- So far in the project, there has been no major accidents of any type. Only first aid on few minor issues have been provided at the site. There is not first aid register at the site.
- Safe man hour: 46,730 hours, from the total working duration of cumulative man hours till 31 December 2019, 46,730 hours

- The sign board display with accident statistics was not available in December.

#### Labor Engagement Statistics of the Month

The contractor only recruits Bhutanese with proper documents and other foreign workers with authentic work permits. Immigration/Work permit is ensured for all the Non-Bhutanese Engineers, workers and labours for working in Bhutan. In December 2018, 23 Indian workers were employed by Afcons. The labour register and muster roll of the main contractor are maintained.

#### Vehicle, Machine and Equipment Statistics of the Month

The contractor has deployed various vehicle, machines and equipment at the site either directly or through sub-contractors. Vehicles are also checked for proper registration, fitness, and emission certificates.

#### **PIC other observations**

- Dust control is being taken care of by sprinkling of water along the road and construction sites.
- Noise has been kept to the minimum as currently not much of noise issues have emerged.
- Spoils disposal is currently carried out at the diaphragm wall construction site. Spoils disposal is taken care of at the site
- The laying of Hume pipes is for water diversion of over flow of the water from small streams that swell up during monsoon.
- Labor Issues (Occupational safety health) Occupational Safety Health is followed by wearing personal protective Equipment such as helmets (by all workers), gloves (where necessary) and reflective vests for easy visibility and recognition. However, constant monitoring needs to be carried out with regard to Occupational safety and health environment;

## Appendix 10: Compliance with Loan and Grant Covenants

Reference Section	Covenant	Status of Compliance
<b>Project agreement CDCL</b>		
Section 2.04	CDCL shall carry out the Project in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. CDCL shall furnish, or cause to be furnished, to ADB, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as ADB shall reasonably request.	Being complied with
Section 2.08.	(a) CDCL shall (i) provide its annual financial statements prepared in accordance with financing reporting standards acceptable to ADB; (ii) have its financial statements audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with auditing standards acceptable to ADB; (iii) as part of each such audit, have the auditors prepare the auditors' opinion(s) on the financial statements; and (iv) furnish to ADB, no later than 1 month after approval by the relevant authority, copies of such audited financial statements and auditors' opinion(s), all in the English language, and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.	To be complied with Format of financial reports to be prepared next quarter
Section 2.14.	CDCL shall promptly notify ADB of any proposal to amend, suspend or repeal any provision of its constitutional documents, which, if implemented, could adversely affect the carrying out of the Project or the operation of the Project facilities. CDCL shall afford ADB an adequate opportunity to comment on such proposal prior to taking any affirmative action thereon.	Being complied with
Section 2.15.	Within 6 months after the Effectiveness Date, CDCL shall create a Project website to disclose information about various matters on the Project, including procurement. With regard to procurement, the website shall include information on the list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, the list of goods/services procured, and the process for handling complaints related to contracts and procurement.	Being complied with
<b>Project agreement DHI</b>		
Section 2.04.	(a) DHI shall furnish to ADB all such reports and information as ADB shall reasonably request concerning (i) the Financings and the expenditure of the proceeds thereof; (ii) the items of expenditure financed out of such proceeds; (iii) the Project; (iv) the administration, operations and financial condition of DHI; and (v) any other matters relating to the purposes of the Financings.  (b) Without limiting the generality of the foregoing, DHI shall furnish to ADB periodic reports on the execution of the Project and on the operation and management of the Project facilities. Such reports shall include updates on implementation of the SAP. Such reports shall be submitted in such form and in such detail and within such a period as ADB shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the period under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following period.	Being complied with
Section 2.05	(a) DHI shall (i) maintain separate accounts and records for the Project; (ii) prepare annual financial statements for the Project in accordance with financial reporting standards acceptable to ADB; (iii) have such financial statements audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with auditing standards acceptable to ADB; (iv) as part of each such audit, have the auditors prepare a report, which includes the auditors' opinion(s) on the financial statements and the use of the Financings proceeds, and a management letter (which sets out the deficiencies in the internal control of the Project that were identified in the course of the audit, if any); and (v) furnish to ADB, no later than 6 months after the close of the fiscal year to which they relate, copies of such audited financial statements, audit report and management letter, all in the English language, and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.	Being complied with

	<p>(b) ADB shall disclose the annual audited financial statements for the Project and the opinion of the auditors on the financial statements within 14 days of the date of ADB's confirmation of their acceptability by posting them on ADB's website.</p> <p>(c) In addition to annual audited financial statements referred to in section (a) herein above, DHI shall (i) provide its annual financial statements prepared in accordance with financing reporting standards acceptable to ADB; (ii) have its financial statements audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with auditing standards acceptable to ADB; (iii) as part of each such audit, have the auditors prepare the auditors' opinion(s) on the financial statements; and (iv) furnish to ADB, no later than 1 month after approval by the relevant authority, copies of such audited financial statements and auditors' opinion(s), all in the English language, and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.</p> <p>(d) DHI shall enable ADB, upon ADB's request, to discuss the financial statements for the Project and DHI and its financial affairs where they relate to the Project with the auditors appointed by DHI pursuant to subsections (a)(iii) and (c)(i) hereinabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB. This is provided that such discussions shall be conducted only in the presence of an authorized officer of DHI, unless DHI shall otherwise agree.</p>	
<b>Loan Agreement</b>		
Section 3.01(b)	Loan to be applied exclusively to the financing of expenditures on the Project in accordance with the provisions of this Loan Agreement and the Project Agreement.	Being complied with
Section 3.03	The Borrower shall procure, or cause to be procured, the items of expenditure to be financed out of the proceeds of the Loan in accordance with the provisions of Schedule 4 to this Loan Agreement.	Being complied with
Section 4.03	The Borrower shall take all actions which shall be necessary on its part to enable DHI and CDCL to perform their respective obligations under the Project Agreements, and shall not take or permit any action which would interfere with the performance of such obligations.	Being complied with
Schedule 4, para. 2	Works shall be procured and Consulting Services shall be selected and engaged only on the basis of the procurement methods and the selection methods set forth below. These methods are subject to, among other things, the detailed arrangements and threshold values set forth in the Procurement Plan. The Borrower may only modify the procurement methods and the selection methods or threshold values with the prior agreement of ADB, and modifications must be set out in updates to the Procurement Plan.	Being complied with
Schedule 4, para. 5	DHI shall not award any Works contract which involves environmental impacts until: <ul style="list-style-type: none"> <li>(a) The Borrower's National Environment Commission has granted the final approval of the EIA; and</li> <li>(b) DHI has incorporated the relevant provisions from the EMP into the Works contract.</li> </ul>	To be complied with <ul style="list-style-type: none"> <li>a) Being complied with, NEC approved the EIA</li> <li>b) CEMP under review. To be complied with mid January 2019</li> </ul>
Schedule 4, para. 10	Contracts procured under international competitive bidding procedures and contracts for Consulting Services shall be subject to prior review by ADB, unless otherwise agreed between the Borrower and ADB and set forth in the Procurement Plan.	Being complied with
Schedule 5, para. 1	The Borrower, DHI and CDCL shall ensure that the Project is implemented in accordance with the detailed arrangements set forth in the PAM. Any subsequent change to the PAM shall become effective only after approval of such change by the Borrower and ADB. In the event of any discrepancy between the PAM and this Loan Agreement, the provisions of this Loan Agreement shall prevail.	Being complied with
Schedule 5, para. 2	The Borrower shall ensure that DHI and CDCL employ sufficient staff for the PMU and PIU for the duration of the Project, with adequate and relevant expertise in the field of project management, financial management, engineering, procurement, and environmental and social safeguards implementation. The PMU Project Director and PIU Project Director shall hold the position not less than the rank of Class 1 engineer, or equivalent, Officers, unless otherwise acceptable to ADB.	To be complied by next quarter  Being complied with

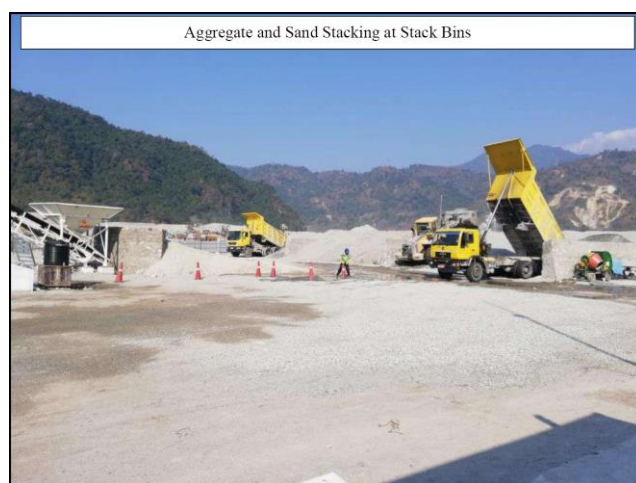
Schedule 5, para. 3	The Borrower, DHI and CDCL shall (a) ensure that the majority of counterpart staff assigned to the PMU and PIU are assigned to the Project on a full-time basis; and (b) undertake best efforts to ensure that they remain in their positions for a reasonable period of time, and that staff replacements do not unduly disrupt implementation of the Project. The Borrower, DHI and CDCL shall provide ADB reasonable opportunity to comment on any proposed appointment of persons to key positions in the PMU and PIU, including the Project Director for the PMU and the Project Directors for PIU.	Being complied with
Schedule 5, para. 4	The Borrower shall cause DHI and CDCL to give full, timely and efficient cooperation in issuing any licenses, permits or approvals required in connection with infrastructure work.  The Borrower shall also ensure that Bhutan Power Corporation and Bhutan Telecom will provide the necessary connections in the developed areas.	Being complied with for CW-01 works To be complied with at end of construction stage (
Schedule 5, para. 5	Within 36 months of the Effective Date, the Borrower through DHI shall develop and finalize, and ensure approval by the relevant government agency and implementation of, the SAP, which shall include, among other matters: (i) the required legal, policy and operational frameworks for operation of the new township that will establish institutional arrangements for sustainable township management, including the required approval process, and the allocation of roles and responsibilities between the municipality and CDCL; (ii) the allocation of sufficient municipal and CDCL human resources; (iii) a plan on the development of the surrounding area adjacent to the newly developed township, including plans for raising grounds level for the protection for surface flooding; and (iv) a time bound plan for the operation and maintenance of the newly developed township.	To be complied with for 2021 Q2
Schedule 5, para. 6 (Environment)	The Borrower shall ensure or cause DHI and CDCL to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Recipient relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the EIA and the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Being complied with
Schedule 5, paras. 7 and 8 (Land Acquisition and Involuntary Resettlement)	The Borrower shall ensure that all land and all rights-of-way required for the Project are made available to the Works contractor in accordance with the schedule agreed under the related Works contract.  The Borrower shall ensure that the Project does not involve any involuntary resettlement impacts within the meaning of the SPS. In the event the Project involves any such impacts, the Borrower shall take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower and with the SPS.	Being complied with
Schedule 5, para. 9 (Indigenous Peoples)	The Borrower shall ensure that the Project does not involve any indigenous peoples' impacts within the meaning of the SPS. In the event the Project involves any such impacts, the Borrower shall take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower and with the SPS.	Being complied with
Schedule 5, para. 10	The Borrower shall ensure that the core labor standards and the Borrower's applicable laws and regulations are complied with during Project implementation. The Borrower shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (a) comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms; (b) do not use child labor; (c) do not discriminate workers in respect of employment and occupation; (d) do not use forced labor; (e) allow freedom of association and effectively recognize the right to collective bargaining; and (f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women. The Borrower shall strictly monitor compliance with the requirements set forth above and provide ADB with regular reports.	Being complied with
Schedule 5, para. 11	The Borrower shall ensure that the principles of gender equality aimed at increasing Project benefits and impact on women in the Project area are followed during implementation of the Project. These include (a) equal pay to men and women for work of equal value; (b) enabling working conditions for women workers; and (c) taking necessary actions to encourage women living in the Project area to participate in the design and implementation of Project activities.	Being complied with
Schedule 5, para. 12	The Borrower shall make available, or cause DHI and CDCL to make available, necessary budgetary and human resources to fully implement the EMP.	Being complied with
Schedule 5, para. 13	The Borrower shall ensure, or cause DHI and CDCL to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the EIA and the EMP (to the extent they concern impacts or affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures;	a) Being complied with b) Being complied with c) Being complied



	<p>(c) provide the Borrower with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the EIA and the EMP;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	<p>with</p> <p>d) Being complied with</p> <p>e) to be complied and end of works (2021 Q1)</p>
Schedule 5, para. 14	<p>The Borrower shall to do the following:</p> <p>(a) submit bi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the EIA and the EMP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed orrective action plan;</p> <p>(c) no later than six months of the Effective Date, engage qualified and experienced external experts or qualified NGO[s] under a selection process and terms of reference acceptable to ADB, to verify information produced through the Project monitoring process, and facilitate the carrying out of any verification activities by such external experts; and</p> <p>(d) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP promptly after becoming aware of the breach.</p>	<p>a) To be complied with</p> <p>b) To be complied with</p> <p>c) to be complied with independent environmental monitoring expert</p> <p>d) To be complied with</p>
Schedule 5, para. 16	<p>The Borrower through DHI will provide all counterpart funds, land and facilities required for timely and effective implementation of the Project, including without limitation, any funds required to (a) to meet any shortfall between cost and revenues for the operation and maintenance of the facilities developed under the Project, (b) to mitigate any unforeseen environmental and social impacts, and (c) to meet additional costs arising from design changes, price escalation in construction costs and/or unforeseen circumstances. The Borrower will make the resources thus required available on an annual basis for each fiscal year. In addition to the foregoing, the Borrower shall ensure that DHI and CDCL have sufficient funds to satisfy their liabilities arising from any Works and/or Consulting Services contract.</p>	<p>Being complied with</p>
Schedule 5, para. 18	<p>The Borrower, DHI and CDCL shall ensure that the anticorruption provisions acceptable to ADB are included in all bidding documents and contracts, including provisions specifying the right of ADB to audit and examine the records and accounts of the executing and implementing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the Project.</p>	<p>Complied with for CW-01.</p> <p>To be complied with CW02, 03, 04 &amp; 05</p>
Schedule 5, para. 19	<p>The Borrower shall develop and implement a program for regular and periodic maintenance of the facilities to be financed by the Project in accordance with international best practices acceptable to ADB, and make adequate resources available, through budgetary allocations or otherwise, for this purpose.</p>	<p>To be complied with one year before operating of every infrastructure</p>
<b>Grant Agreement</b>		
Section 3.01	<p>The Recipient shall make the proceeds of the Grant available to CDCL under the Subsidiary Financing Agreement upon terms and conditions satisfactory to ADB and shall ensure the smooth implementation of the Project and that such proceeds are applied to the financing of expenditures on the Project in accordance with the provisions of this Grant Agreement and the Project Agreements.</p>	<p>Being complied with</p>
Section 4.02	<p>The Recipient shall enable ADB's representatives to inspect the Project, the Goods and Works, and any relevant records and documents.</p>	<p>Being complied with</p>

# Appendix 11:Photographs album

## Appendix 10.1: Works progress at QPR n°1 edition





## Appendix 10.2 :Environmental and safety compliances



Photograph 1: Water Sprinkling carried out for the Dust Suppression



Photograph 2: Samtse-Phuentsholing with Diversion Road Signage



Photograph 3: Construction of Labor Shed and Security Cabin in progress at chainage 734R



Photograph 4: Road block towards river sides



Photograph 5: Project Board and Security Cabin



Photograph 6: Tool Box Talk to workers regarding safety



Photograph 7:: Safety Signboard showing Mandatory PPE



Photograph 8: Bund Creation and blocking access to Stop Car Washing in River



Photograph 9: Toilets and bath rooms at site



Photograph 10: Workers using PPE