PEGU KHOLA SMALL HYDROPOWER PROJECT (3.0 MW)

Dolakha, Nepal

MONTHLY PROGRESS REPORT

October, 2025

Submitted to:

Bigu Hydro Venture Pvt. Ltd.

Battisputali, Kathmandu-09

Prepared by:

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Battisputali, Kathmandu

BIGU HYDRO VENTURE PVT. LTD.

Battisputali, Kathmandu-09, Nepal

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Document	Monthly Progress Report
Submission Date	4th November, 2025
Revision	

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1 ACRONYMS & ABBREVIATIONS

PH	Power House
PKSHPP	Pegu Khola Small Hydropower Project
amsl	above mean sea level
L	Length
B	Breadth
H	Height
GWh	Giga-Watt hour
MW	Mega-Watt
W	Width
HPP	Hydropower Project
HRT	Head Race Tunnel
PH	Powerhouse
CDO	Chief District Officer
DAO	District Administration Office
JV	Joint Venture
HW	Headworks

2 SALIENT FEATURES

General	
Project Name	Pegu Khola Small Hydropower Project
River	Pegu Khola
Type of Scheme	Run of River (RoR)
Project Location	Dolakha
Province	Bagmati
Municipality	Bigu Rural Municipality
Latitude	27° 49' 22" N to 27° 50' 18" N
Longitude	86° 04' 59" E to 86° 03' 21.5" E
Organization	
Developer	Bigu Hydro Venture Pvt. Ltd.
Consultant	Sanima Hydro and Engineering Pvt. Ltd.
Hydrology	
Catchment Area at Intake	23.94 km^2
Catchment Area at Powerhouse	31.58 km^2
Design Discharge	1.95 m^3/s at 40.58% PoE
Annual Average Discharge	2.51 m^3/s
Minimum Environmental Release	10% of each monthly flow
Flood Discharge at Intake (100 years)	22.21 m^3/s
Flood Discharge at Powerhouse (100 years)	29.30 m^3/s
Construction Flood Discharge at Intake (20 years)	12.54 m^3/s
Construction Flood Discharge at Powerhouse (20 years)	16.54 m^3/s
Geology	
Regional Geology	Lesser Himalayan Region
Major Rock Types in Headworks	Schist
Major Rock Types in Waterways	Schist intercalated with Phyllite
Major Rock Types in Powerhouse	Metasandstone intercalated with Phyllite
Structures	
Weir	
Type	Boulder Lined
Length	18.00 m
Height	5.50 m
Crest Level	2011.40 m amsl
Intake	
Type	Side Intake
Number of Orifice	2
Size (B X H)	1.40 m X 1.00 m
Invert Level of Orifice	2009.60 m amsl
Undersluice	
Number of Orifice	1
Size (B X H)	2.00 m X 1.50 m

Invert Level	2008.10 m amsl
Settling Basin	
Type	Surface
Size of Particle to Settle	0.2 mm
Settling Efficiency	100% (Camp's Efficiency)
Number of Bays	2
Headrace Pipe	
Type	Surface
Material	Mild Steel of E250 grade
Length	1907.28 m
Internal Diameter	1.10 m
Thickness	6 mm
Surge Pipe	
Type	Buried
Length	102.90 m
Internal Diameter	2.00 m
Thickness	18 mm
Penstock	
Type	Buried
Material	Mild Steel of E250 grade
Length	466.62 m
Powerhouse	
Type	Surface
Length	18.90 m
Breadth	12.55 m
Height	12.40 m
Turbine	
Type	Horizontal Axis Pelton turbine
Number of Units	2
Rated Output per Unit	1,563 kW
Rated Net Head	190.06 m
Speed	600 rpm
Turbine Efficiency	90%
Generator	
Type	3-phase Brushless Synchronous
Number of Units	2
Rated Output per Unit	1.765 kVA
Frequency	50 Hz
Generator Efficiency	96%
Transformer	
Type	Step-up Transformer
Number of Units	1
Rating of Each Unit	3,600 kVA
Rated Voltage	6.6/33 kV
Transformer Efficiency	99%

Transmission Line	
Transmission Voltage	33 /132 kV
Length from Switchyard to Sagu Khola-1 HPP (5.5 MW)	2 Km
Connection Point-1	SK-1 HPP
Length from SK-1 HPP to Sagu Khola HPP (20 MW)	6.5 Km
Connection Point-2	SKHPP
Power & Energy (As per PPA)	
Installed Capacity	3.00 MW
Dry Season Energy	2.45 GWh
Wet Season Energy	13.80 GWh
Total Annual Energy	16.25 GWh

3 INSTITUTIONAL ARRANGEMENT

Following entities constitute the whole institutional arrangement of Pegu Khola Small Hydropower Project having installed capacity of 3 MW:

1. **Employer** : Bigu Hydro Venture Pvt. Ltd.
2. **Design Consultant** : Sanima Hydro Engineering Pvt. Ltd
3. **Supervision Consultant** : Aviyan Hydro Engineering Pvt. Ltd.
4. **Contractor** : Singha Bahini Construction Pvt. Ltd.

4 KEY DATAS

- Survey License Awarded: 3rd Poush 2072 BS (18th December 2015)
- PPA Signed: 30th Ashad 2079 BS (14th July, 2022 AD)
- Generation License Obtained: 11th Bhadra 2077 B.S (27th August, 2020 A.D).
- Grid Connection Agreement: 25th Kartik 2075 BS (11th November 2018 AD).

5 RESOURCES AT SITE

5.1 Human Resources

Human Resources deployed at site *(Bigu Hydro Venture Pvt. Ltd.)*

SN	Designation	Nos.	Site
1	CEO	1	HO/Project
2	Resident Engineer/Site Incharge	1	Project
3	PRO	1	Charikot, Dolakha
4	Light Driver	1	Project
5	Cook	1	Project
	Total	**5**	

Human Resources deployed at site *(Aviyan Hydro Engineering Pvt. Ltd.)*

SN	Designation	Nos.	Site
1	Surveyor/Supervisor	1	Project
	Total	**1**	

Human Resources deployed at site *(Singha Bahini Construction Pvt. Ltd.)*

SN	Designation	Nos.	Site
1	Construction Manager	1	Project
2	Civil Engineer	1	Project

3	Surveyor	1	Project
4	Electrician	1	Project
5	Operator	1	Project
	Total	**5**	

Human Resources deployed at site *(For Civil Construction)-Sub Contractor (Shahi Construction Pvt. Ltd.)*

SN	Designation	Nos.	Site
1	Technical	1	Project
2	Skilled/Unskilled	16	Project
3	Foreman/Supervisor	2	Project
	Total	**7**	

Human Resources deployed at site *(Sundrawati Construction Pvt. Ltd.)*

SN	Designation	Nos.	Site
1	Operator	2	Project
2	Helper	1	Project
	Total	**3**	

5.2 Plant and Equipment

Status of Plant and Machineries at site

SN	Plant and Machinery	Unit	Quantity	Status
A	**Transportation Vehicles**			
1	Pick Up	Nos.	1	Working
2	Motorbike	Nos.	1	Working/Charikot
B	**Construction Equipment**			
1	Excavator	Nos.	3	Working
2	Breakers	Nos.	2	Working
C	**Stationary Equipment**			
1	Printer	Nos.	1	Working
D	**Surveying Equipment**			
1	Total Station	Nos.	1	Working
2	Tri Brach	Nos.	2	Working
3	Auto Level	Nos.	1	Working
4	Tripod	Nos.	3	Working
E	**Electric Equipment**	-	-	-
F	**Laboratory Equipment**	-	-	-
G	**Miscellaneous Machine**	-	-	-

5.3 Material Stocks

Materials stock at Site

SN	Description	Unit	Opening Balance	Received	Used	Closing Balance
A	**Cement**					
1	OPC	Bags	146	350	246	230
2	PPC	Bags	-	-	-	-
B	**Reinforced Steel Bar**					
1	Binding Wire 1.6 mm	Kg.	2	51.20	38.2	15
2	Rebar 8 mm	Kg.	-	-	-	-
3	Rebar 10 mm	Kg.	54	-	54	0
4	Rebar 12 mm	Kg.	-	14233.30	-	14233.30
5	Rebar 16 mm	Kg.	-	2480.50	-	2480.50
6	Rebar 20 mm	Kg.	-	-	-	-
7	Rebar 25 mm	Kg.	-	-	-	-
8	Rebar 28 mm	Kg.	-	-	-	-
C	**Aggregates at Site**					
1	Sand	m^3	7.18	27.00	34.18	0.00
2	Aggregate	m^3	0.50	4.00	4.50	0.00
D	**Fuel**					
1	Diesel	Ltr.	906.00	3302.00	2093.00	2115.00
2	Petrol	Ltr.	-	-	-	-
E	**Chemical for Concrete**					
1	Accelerator	Kg.	-	-	-	-
2	Admixtures	Kg.	-	-	-	-
3	Super Flow	Kg.	-	-	-	-
4	Micro Silica	Bags	-	-	-	-
5	Super plasticizer	Kg.	-	-	-	-
F	**M/S Steel Pipe**					
1	Headrace Pipe	Nos.	-	-	-	-
2	Bend	Nos.	-	-	-	-
3	Bifurcation	Nos.	-	-	-	-
4	Surge Pipe	Nos.				

SN	Description	Unit	Opening Balance	Received	Used	Closing Balance
5	Penstock Pipe	Nos.				
G	**Gabion Box**					
1	Gabion box 1.5×1×1	Nos.	17.00	-	-	17.00
2	Gabion box 2×1×1	Nos.	18.00	-	-	18.00
3	Gabion box 3×1×1	Nos.	4.00	-	-	4.00
H	**Plywood for Formworks**					
1	8'*4'*10mm	Nos.				
2	6'*3'*10mm	Nos.				
3	6'*4'*10mm	Nos.				
3	8'*4'*16mm	Nos.				

6 MOBILAZATION AND DEMOBILIZATION

S.N.	Description	Status	Remarks
A	Access Road at Headworks	Completed	
B	Camp Facilities	On-Going	
C	Construction Power Line at Headworks	Completed	
D	Main Civil Works	On-Going	
E	HM Works	Under Process	
F	EM Works	Under Process	
G	TL Works	Under Process	

7 WORK PROGRESS

7.1 Pre-Construction Works

7.1.1 Access road

S.N.	Description	Unit	Total Scope	Total Excavation Chainage		Total Progress %	Status
				From	To		
1	Main Road to HRP	m				100%	*Completed*
1	HRP Section	m	1800.00			100%	*Completed*
2	Penstock Pipe/Powerhouse Section	m					

7.1.2 Protection Works at Access Road

S.N.	Description	Unit	Total completed Quantity this month	Gabion Installation		Status
				Chainage		
				From	To	
1	Main Road to HRP	m^3				
1	HRP Section	m^3				
2	Penstock Pipe/Powerhouse Section	m^3				

7.1.3 Camp Facilities

S.N	Description	Area m2	Status
1	Employer's Camp (Powerhouse)	348.00	Completed
2	Staff Camp (Headworks)	103.39	Completed
3	Labor's Camp (Headworks)	180.00	Completed
3	Labor's Camp (Powerhouse)		Design and material estimate is on-going

7.1.4 Land Acquisition

S.N.	Descriptions	Unit	Total Area to be Acquired	Total Area Acquired Previous Month	Total Area Acquired This Month	Total Land Acquisition Completed	% Completed
1	Headworks	Ropani					
2	HRP	Ropani	53.89			50.37	93.47%
3	Surge Pipe	Ropani	6.70			4.35	64.93%
4	Penstock	Ropani	28.87			19.93	69.03%
5	Powerhouse & Tailrace	Ropani					
6	Switchyard	Ropani					
7	Access Road	Ropani	18.00			9.03	50.16%
Note: Kitta no 463, 464, 513 and 514 already sign the agreement paper.							

7.1.5 Construction Power

S.N.	Description	Location	Status
1	Headworks	Gaklakte to Doppa	Completed
2	HRP/Penstock		Material Purchase is ongoing
3	Powerhouse		Not started Yet

7.1.6 Laboratory setup

S.N.	Description	Location	Status
A	**Establishment**		
1	Civil Works		Material Purchase is ongoing
2	Equipment Purchase		Ongoing

7.2 Communication Facilities

S.N.	Description	Location	Status
1	Employer's Camp		Completed
2	Headworks Camp		Ongoing

7.3 Health and Safety

S.N.	Description	Location	Status
A	**Camp**		
1	Employer's Camp		Ongoing
2	Headworks Camp		Ongoing
B	**Provision of personnel protective equipment.**		
1	Headworks		Ongoing
2	HRP/Penstock		Not yet
3	Powerhouse		Not yet

7.4 Water Supply and Sanitation

S.N.	Description	Location	Status
1	Employer's Camp		Ongoing
2	Headworks Camp		Ongoing
3	Headworks Labor's Camp		Ongoing

7.5 Main Civil works

7.5.1 Weir and Undersluice

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					
2	Overburden Boulder Mixed Soil Excavation	m^3					

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					
7	Reinforcement	Ton					
8	Formwork	m^2					

7.5.2 Intake, gravel trap and flushing culvert

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					
2	Overburden Boulder Mixed Soil Excavation	m^3					
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					
7	Reinforcement	Ton					
8	Formwork	m^2					

7.5.3 Approach Pipe

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					
2	Overburden Boulder Mixed Soil Excavation	m^3					
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					
7	Reinforcement	Ton					
8	Formwork	m^2					

7.5.4 Settling basin, flushing culvert and Headpond

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	Total % Completed
1	Site Clearance	m^2				1634.34	
2	Common soil excavation	m^3				482.50	
3	Boulder and gravel mixed soil excavation	m^3				7377.77	
4	Hard Rock / Boulder Excavation	m^3				580.56	
5	Stone Masonry (1:4 C/S Mortar)	m^3		33.724	109.101	142.825	
6	C15 Concrete	m^3					
7	C25 Concrete	m^3					
8	C35 Concrete	m^3					
8	Reinforcement	Ton					
9	Formwork	m^2					

7.5.5 Headrace Pipe

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2				206.85	
2	Normal / common soil excavation					1237.23	
3	Overburden Boulder Mixed Soil Excavation	m^3			100.00	2982.73	
4	Hard rock Excavation	m^3		120.00	70.00	1286.24	
5	C15 Concrete	m^3					
6	C25 Concrete	m^3					
7	C35 Concrete	m^3					
8	Reinforcement	Ton					
9	Formwork	m^2					

7.5.6 Surge Pipe

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
2	Overburden Boulder Mixed Soil Excavation	m^3					
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					
7	Reinforcement	Ton					
8	Formwork	m^2					

7.5.7 Penstock

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					
2	Overburden Boulder Mixed Soil Excavation	m^3					
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					
7	Reinforcement	Ton					
8	Formwork	m^2					

7.5.8 Powerhouse

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					
2	Overburden Boulder Mixed Soil Excavation	m^3					
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
7	Reinforcement	Ton					
8	Formwork	m^2					

7.5.9 Tailrace Culvert

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					
2	Overburden Boulder Mixed Soil Excavation	m^3					
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					
7	Reinforcement	Ton					
8	Formwork	m^2					

7.5.10 Switchyard

S.N.	Descriptions	Unit	BOQ Quantity	Quantity Previous Month	Quantity This Month	Total Quantity Completed	% Completed
1	Site Clearance	m^2					
2	Overburden Boulder Mixed Soil Excavation	m^3					
3	Hard rock Excavation	m^3					
4	C15 Concrete	m^3					
5	C25 Concrete	m^3					
6	C35 Concrete	m^3					
7	Reinforcement	Ton					
8	Formwork	m^2					

8 VISITORS OF THE MONTH

- No any visitors this month.

9 HEALTH AND SAFETY ISSUES

- No any health issue reported this month.

10 PROBLEMS FACED ON SITE

- Continuous heavy rainfall has disturbed labor camp construction and halted settling basin excavation due to waterlogging and unsafe working conditions.
- Access road blockages and muddy conditions during rain have delayed material supply and machinery movement.

11 SWOT ANALYSIS

The main aspect of this analysis is to understand the strength, weakness, opportunity and threats of the project works which can be helpful in finding out the value of developing the project's different infrastructures within project boundary.

a) **Strength:**
The project has a good location and land conditions, making construction easier. Since many hydropower projects are nearby, we can share transmission lines to send electricity to the Singati substation. Construction power is available near to the project site, and there is already a road for transportation, making work faster. Also, because Mathillo Sagu Khola Small Hydropower Project (10 MW) is close, we can share equipment, saving money and time.

b) **Weakness:**
Social issues may arise as locals have past experiences with hydropower projects, leading to concerns over compensation, environmental impact, and employment. While roads exist, some sections may need upgrades for heavy transport. Limited land availability could require negotiations. The RCOD of our project is less means major construction has not yet started, posing risks of cost escalation and delays if not managed efficiently.

c) **Opportunity:**
The presence of other hydropower initiatives nearby creates potential avenues for sharing resources, knowledge, and potentially even infrastructure development.

d) **Threat:**
Heavy rains, landslides, or extreme weather could delay work. Government rules and policies may change, affecting the project's timeline. Some local disagreements over land or jobs could slow progress, so good communication is needed. If construction is delayed, costs may go up over time.

12 PHOTOGRAPHS

Figure 1: Stone masonry work along with site clearance at settling basin

Figure 2: Stone masonry work in progress at the settling basin

Figure 3: Ongoing works of stone masonry works at settling basin

Figure 4: Ongoing works of stone masonry works at settling basin

Figure 5: Store construction progressing

Figure 6: Store construction completed and ready for use at project site

Figure 7: Construction of labor camp-Progressing

Figure 8: Construction of labor camp-Progressing

Figure 8: Preparation of clear cover blocks in progress

Figure 9: Reinforcement straightening and preparation works being carried out

Figure 10: HRP Excavation

Figure 11: HRP Excavation along with Survey works going on

Figure 12: Access Road clearance and maintenance

Figure 13: Access Road after clearance and maintenance

Figure 14: Access Road after clearance and maintenance