

DIVERSION OF 0.6030HA.OF FORESTLAND FOR CONSTRUCTION OF BANUALA BAROOND-II  
SMALL HYDRO PROJECT 0.80 MW IN TEHSIL CHURAH DISTRICT CHAMBA (H.P)  
FILE NO .. :FP/HP/HYD/146882/2021  
DATE OF PROOSAL :

ALTERNATE SITES CONSIDERED TO MINIMISE THE USE OF  
FOREST LAND FOR CONSTRUCTION OF  
BANUALA BAROOND – II (0.80 MW) SMALL HYDRO ELECTRIC PROJECT

**ALTERNATIVE-I**

The proposed project is situated on the right bank of the Churkhu stream. The alternative involves construction of diversion structure at EL  $\pm$  1700 m on Churkhu Nala. The water conductor shall consist of surface Desilting tank and water Conductor System on the right bank of Churkhu Nala comprising of 10 m length. Penstock alignment runs through rocky slope. The gross head available for power generation shall be around 85 m. Surface powerhouse shall be located on the right bank of the Churkhu Nala. There is no bend in Penstock alignment. As substantial part of the Channel lies in inhabitant area thus it will not have any other adverse environmental impact and cutting of trees.

Feature considered:

- Alignment of the proposed project falls on right bank of the stream. This has been deliberately designed for the reduction of land to be used, fewer amounts of trees to be cut and also based on the suitable strata for Channel. The proposal involves cutting of 18 trees.
- Forest land involved to the tune of 0.6030 Hectares.
- No disturbance to the stable slope & green cover.
- Limited number to trees to be cut off for execution of Water Conductor System.

**ALTERNATIVE- II**

This alternative involves construction of diversion structure on right Churkhu Nala at EL  $\pm$  1700 m and the water conductor system involving Open Channel of about 50 m length passing through a loose rock on the right bank of the Nala. Geologically, this alternative is not appropriate for the safety of the Project components.

Feature Considered:

- Forest land involved to the tune of 0.6087 hectares and 25 trees are involved in this process.
- It is difficult for construction of open channel on the right side as the slope is very steep which may trigger landslide during and after construction and it also increases the number of trees to be cut.
- Gross head available also decreases, resulting in less power generation.
- A lot of trees to be cut resulting into decreasing forest cover in this area.

**ALTERNATIVE- III**

This is mainly left bank alternative involves construction of diversion structure at EL  $\pm$  1700 m on the Churkhu Nala. Water of Churkhu Nala shall be diverted through a 50 m long Water Conductor System to the Forebay. There is open space available for location of Forebay. The penstock shall be over ground along with surface powerhouse on the left bank of the Churkhu Nala. The gross head shall be about 75 m. The length of the transmission line increases by 100 meters and the length of the road upto Power House shall increase by 460 m which increases the involvement of more forest land. In this alternative the Water Conductor System would cross the agriculture land resulting in erosion of agricultural land.

**Features Considered:**

- Entire alignment falls on left bank of Churkhu Nala.
- Forest land involved to the tune of 0.7074 hectares and 21 trees are involved in this proposal.
- Length of water conductor system involved is more which increases the construction time.
- Total area involved is more which leads to cutting of more trees, Diversion of more forest land.
- Left bank of Churkhu Nala covering proposed Powerhouse and Penstock consist of loose strata which is vulnerable to landslides.

Keeping in view all the above three alternative, the **alternative- I**, which is more suitable and environmental friendly, has been finally adopted.

For New Hydel Power

New Hydel Power

  
Authorised Signatory

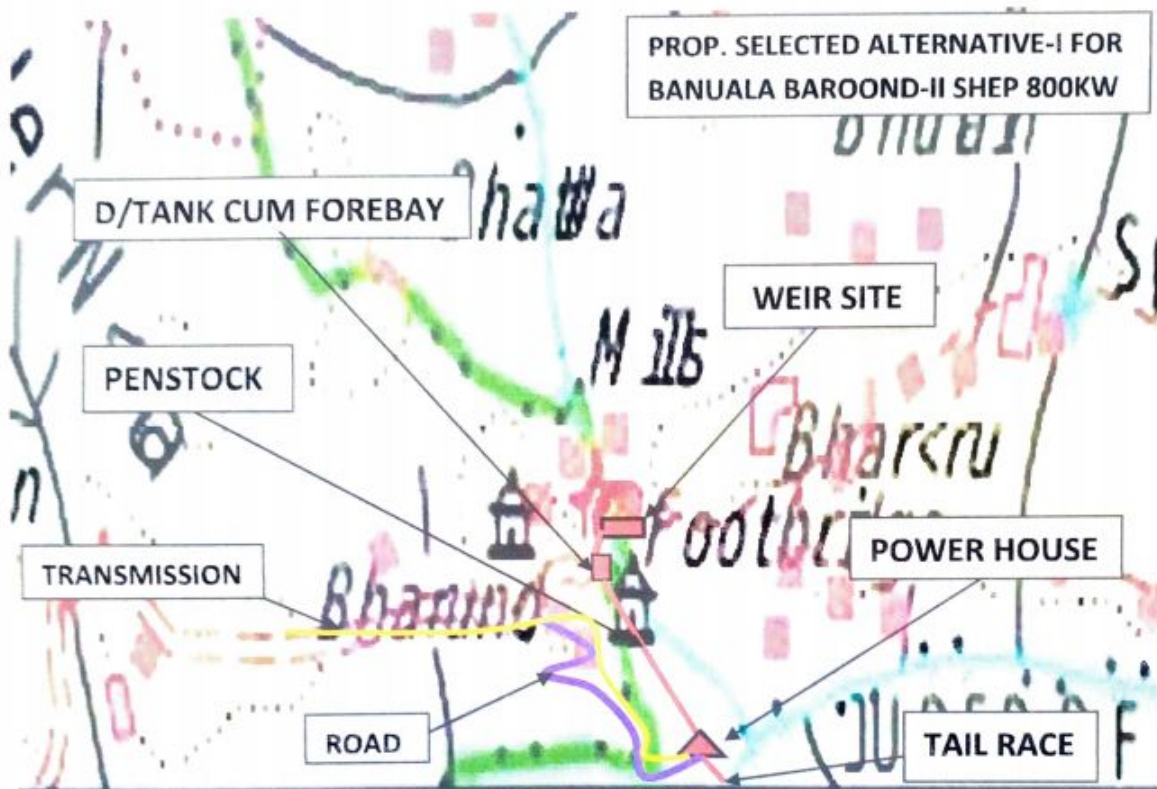
Authorised Signatory



**BANUALA BAROOND -II SMALL HYDRO PROJECT (0.80 MW)**  
**TEHSIL CHURAH DISTRICT CHAMBA (H.P.)**

SOI TOPO SHEET : 52D/5

# ALTERNATIVE --I



## FEATURES CONSIDERED

AREA INVOLVED	0.6030 HA.
TREES INVOLVED	18 NO.

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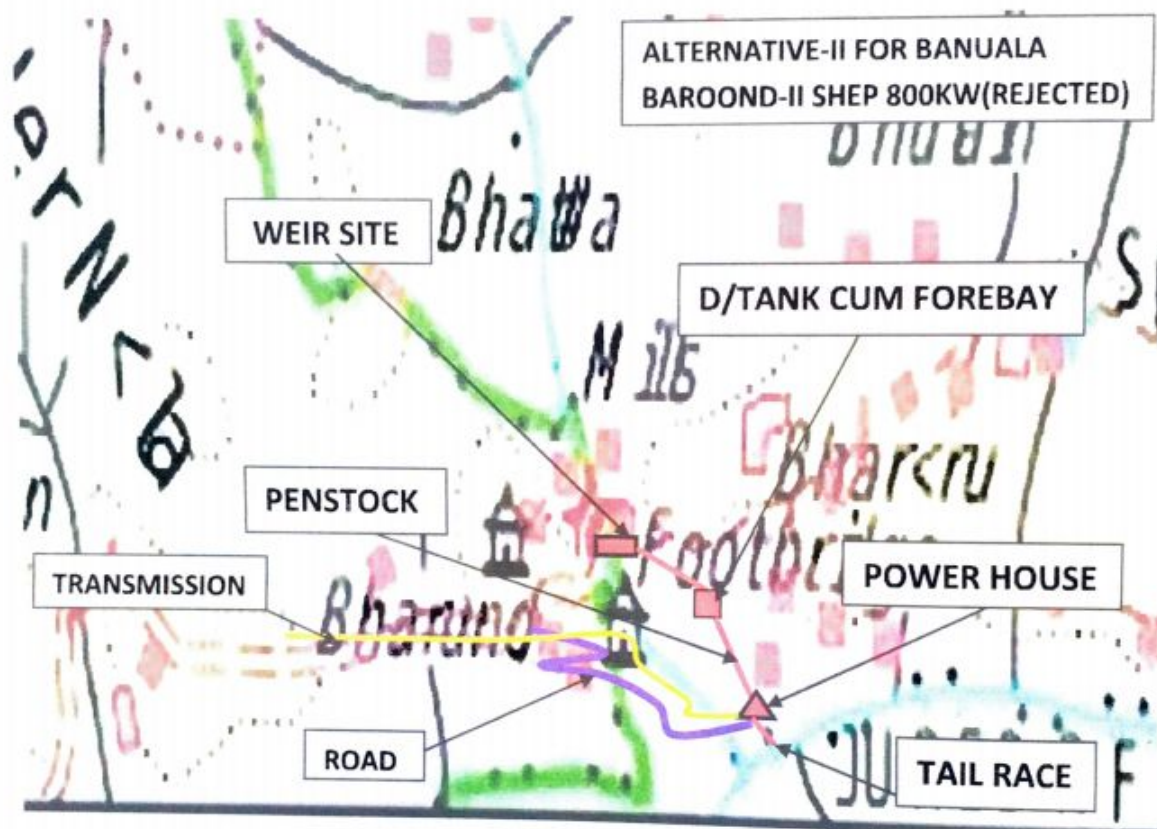
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Divisional Forest Officer  
 Chamba Forest Division  
 CHAMRA

**BANUALA BAROOND -II SMALL HYDRO PROJECT (0.80 MW)**  
**TEHSIL CHURAH DISTRICT CHAMBA (H.P.)**

SOI TOPO SHEET : 52D/5

## ALTERNATIVE --II



FEATURES CONSIDERED	
AREA INVOLVED	0.6087 HA.
TREES INVOLVED	25 NO.

New Hydro Power  
Authorised Signatory

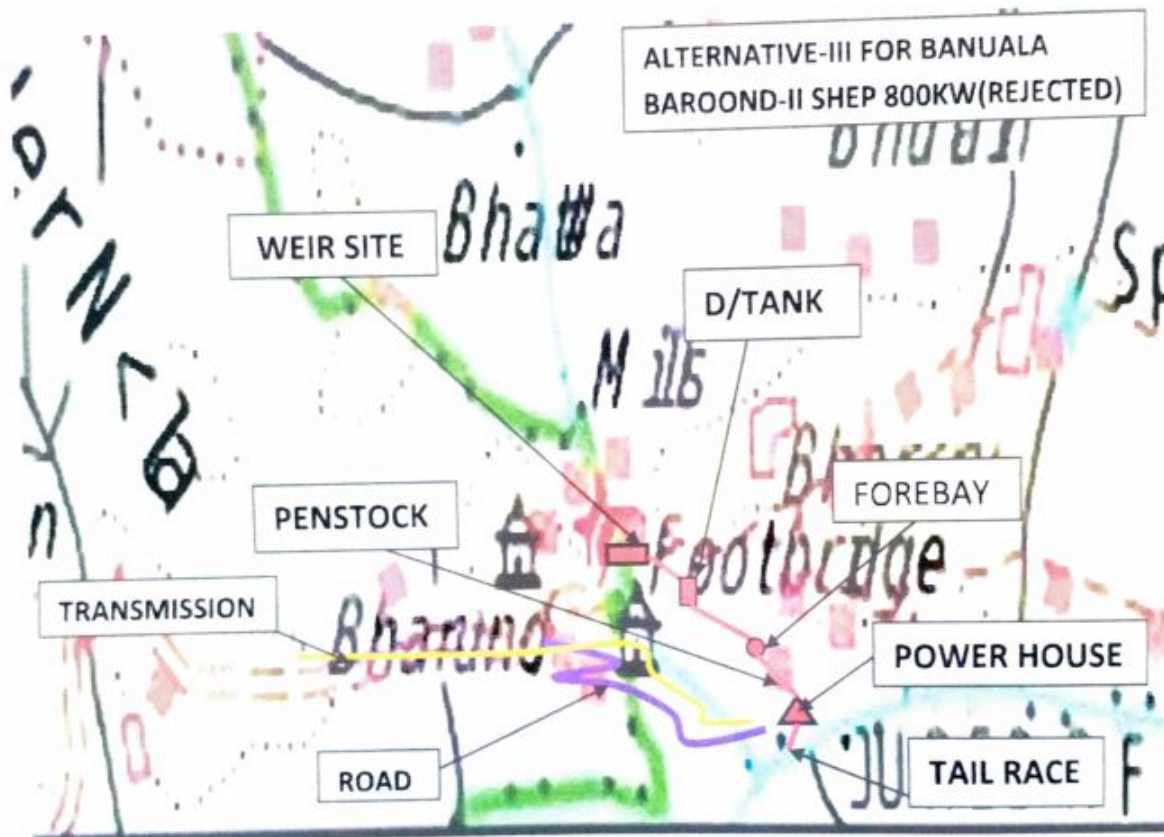
Divisional Forest Officer  
Chamba Forest Division  
CHAMBA



**BANUALA BAROOND -II SMALL HYDRO PROJECT (0.80 MW)**  
**TEHSIL CHURAH DISTRICT CHAMBA (H.P.)**

SOI TOPO SHEET : 52D/5

# ALTERNATIVE --III



## FEATURES CONSIDERED

AREA INVOLVED	0.7074 HA.
TREES INVOLVED	21 NO.

New Hydro Power  
 Authorised Signatory

25

Divisional Forest Officer  
 Chamba Forest Division  
 CHAMBA