

DIVERSION OF 1.0188 HA. OF FORESTLAND FOR CONSTRUCTION OF BANUALA BAROOND-I  
SMALL HYDRO PROJECT 2MW IN TEHSIL CHURAH DISTRICT CHAMBA (H.P.)  
FILE NO .. : FP/HP/HYD/148103/2021  
DATE OF PROPOSAL : 7/10/2021

## RECLAMATION PLAN

### BANUALA BAROOND-I HYDRO PROJECT(2MW) DISTRICT CHAMBA (H.P)

Dumping site for disposal of muck have been identify with due consideration of its distance and suitability of the area and topography point of view.

Accordingly the following sites have been identified

| Sr.no | Description       | Mohal  | Khasra No.    | Area in Sqm |
|-------|-------------------|--------|---------------|-------------|
| 1     | Dumping site -I   | Prabha | 346/334/264/5 | 170.00      |
| 2     | Dumping site -II  | Prabha | 346/334/264/6 | 142.00      |
| 3     | Dumping site--III | Prabha | 111/2         | 194.00      |
| 4     | Dumping site-IV   | Prabha | 286/96/4      | 156.00      |
| 5     | Dumping site-V    | Prabha | 286/96/5      | 170.00      |

#### Rehabilitation proposal

Since there is no displacement of any population due to the construction of the road there will be no rehabilitation problem

#### Afforestation

Compensatory Afforestation shall be carried out by the forest department for compensation shall be paid by the user agency. Area to be taken for Afforestation shall be twice the forest land required for the construction of project.

#### Retaining Walls

RR Masonry/GI wire crate filled with boulders/ stones reclaimed fro, excavation of road shall be used for construction of retaining walls for retaining the surplus excavated earth /muck as per standard design of HPPWD with due consideration to site condition.

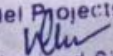
#### Use of muck /debris

Most of the excavation muck/debris obtained from the project components shall be used for manufacture of aggregates for construction work, filling in wire crates, stone masonry work breast wall, switchyard, etc. the remaining muck/debris will be neatly stacked in dumping areas identified for the purpose.

#### Plantation

The dumping area and various sites be properly leveled after the completion of the project. The area will be landscaped the plantation carried out so to merge with the nature surroundings.

| Location of dumping | Area in Sqm. | Slop of dumping place in degree | Qty. of muck generated (CU.MTR) | Qty. with Swell Factor(CU.MTR) @45% | Qty. muck to used(CUM.Mtr) | Qty.of muck deposited (Cu.mtr) | Height of dumping expected in mtr. |
|---------------------|--------------|---------------------------------|---------------------------------|-------------------------------------|----------------------------|--------------------------------|------------------------------------|
| Dumping site -I     | 170.00       | 15                              | 235                             | 340.75                              | 52.92                      | 287.82                         | 1.70                               |
| Dumping site -II    | 142.00       | 15                              | 340                             | 493                                 | 148                        | 345                            | 2.50                               |
| Dumping site-III    | 194.00       | 15                              | 850                             | 1232.50                             | 369.75                     | 477                            | 2.50                               |
| Dumping site-IV     | 156.00       | 14                              |                                 |                                     |                            | 385                            | 2.50                               |
| Dumping site-V      | 170.00       | 14                              | 488                             | 707.60                              | 283.04                     | 424.56                         | 2.50                               |
| <b>TOTAL</b>        | <b>832</b>   |                                 | <b>1913</b>                     | <b>2773.85</b>                      | <b>853.71</b>              | <b>1919.38</b>                 | <b>2.34(Standard)</b>              |

Gyatri Hydel Projects P.  
  
Authorised Signatory

| Sr.no | Description       | Mohal  | Khasra No.    | Area in Sqm | Height | Capacity of dumping site Qty.in cu. mtr |
|-------|-------------------|--------|---------------|-------------|--------|---|
| 1     | Dumping site -I   | Prabha | 346/334/264/5 | 170.00      | 1.70   | 289                                     |
| 2     | Dumping site -II  | Prabha | 346/334/264/6 | 142.00      | 2.50   | 355                                     |
| 3     | Dumping site--III | Prabha | 111/2         | 194.00      | 2.50   | 485                                     |
| 4     | Dumping site -IV  | Prabha | 286/96/4      | 156.00      | 2.50   | 390                                     |
| 5     | Dumping site - V  | Prabha | 286/96/5      | 170.00      | 2.50   | 425                                     |

Place : Chamba

Dated : 7/11/21

For Gyatri Hydel Project P. Ltd.  
Gyatri Hydel Projects P. Ltd.  
Authorized Signatory



| MUCK DUMPING PLAN FOR BANUALA BAROOND-I SMALL HYDRO PROJECT 2.00 MW |   |                                  |   |   |   |                                     |  |                      |                       |                              |                                 |                               |                       |  |
|---|---|----------------------------------|---|---|---|-------------------------------------|--|----------------------|-----------------------|------------------------------|---------------------------------|-------------------------------|-----------------------|--|
| Sr. No.   | Name of Component From Where Muck is To Be Produced | Actual Size Of Component In sqm. | Total Qty. Of Muck is to be Produced (in cum) | Factor of Increase in volume after excavation (35%) | Total Qty. Of Muck is to be Dumped on The Basis Of Increased Qty (in cum) | Qty.Of Muck TO Be utilised (in cum) | Total Qty. Of Muck Remaining After Utilisation | Nme of Dumping place | Size of Dumping Sites | Area of Dumping place In sqm | Remaining Height of Muck Dumped | Capacity of Muck To be Dumped | Quantity to be Dumped | Remarks  |
| 1   | Intake/Trench WEIR                                  | 13x5                             | 65  | 35%   | 87.75   | 30.71                               | 57.04  | Dumping Site-I       | 17x10                 | 170                          | 2.3                             | 381.8                         | 57.04                 | Out of total Muck Generated About 40% Shall Be Used In Construction of Crates. Protection of weir retaining walls & Rest Of The Muck Including Swell Factor (35%) shall be Dumped in muck Dumping site I                             |
| 2   | Convenne Chennel                                    | 85 X2                            | 170   |   | 230   | 23                                  | 207  |                      | 17x10                 | 170                          | 2.3                             | 381.8                         | 207                   | Out of total Muck Generated About 10% Shall Be Used In Construction of Crates and Protection work. Rest of Muck Including Swell Factor (35%) shall be Dumped in muck Dumping site I  |
| 4   | D-tank cum forebay                                  | 26x13.6                          | 354   |   | 478   | 48                                  | 430  | Dumping Site-II      | 14.2x10               | 142                          | 3.2                             | 470                           | 430                   | Out of total Muck Generated About 10% Shall Be Used In Construction of Crates and Protection work. Rest of Muck Including Swell Factor (35%) shall be Dumped in muck Dumping site II   |
| 5   | Penstock Pipe                                       | 955x3                            | 850   |   | 1147.5  | 229.5                               | 918  |                      | Dumping Site -III     | 19.4x10                      | 194                             | 2.9                           | 529.2                 | 480  |
|   |   |                                  |   |   |   |                                     |  | Dumping Site-IV      | 15.6x10               | 156                          | 3.1                             | 480.6                         | 438                   |  |
| 6   | Power house and swictoryard                         | 37x24.60                         | 200   |   | 270   | 108                                 | 162  | Dumping Site-V       | 17x10                 | 170                          | 3.2                             | 540                           | 162                   | Out of total Muck Generated About 40% Shall Be Used In Construction of Crates, Agreegates, Road r/Walls, S/Walls, Filling, Bearing and Soling. Rest Of The Muck Including Swell Factor (35%) shall be Dumped in muck Dumping sites V |
| 7   | Tail Race   | 20x2                             | 40  |   | 54  | 21.6                                | 32.4   | Dumping Site-V       | 17x10                 | 170                          | 3.2                             | 540                           | 32.4                  |  |
| 8   | Road  | 200x4.36                         | 400   |   | 540   | 216                                 | 324  | Dumping Site-V       | 17x10                 | 170                          | 3.2                             | 540                           | 324                   |  |
|   | Total   |                                  | 2079  |   | 2807.25   | 676.81                              | 2130.44  |                      |                       | 1342                         | 2.90(Avg)                       | 3863.4                        | 2130.44               |  |

Gyatri Hydel Project Pvt. Ltd.  
 Authorised Signatory  
 Authorised Signatory

9/s Divisional Forest Officer  
 Chamba Forest Division  
 Chamba-176310

**COST ESTIMATION OF DUMPING SITES & PLANTATION  
BANULA BAROOND - I (2MW) SHEP**

| SR. NO.      | DESCRIPTION  | UNIT   | QTY.    | RATE (IN Rs.) | AMOUNT (Rs.)     |
|--------------|--|--------|---------|---------------|------------------|
| 1            | Cost of Surveying and Investigation  | Lumsum | 1       | 15000         | 15,000           |
| 2            | Cost of Carrying of muck to the dumping site and properly stacking.  | Cum    | 1932.38 | 50            | 96,619           |
| 3            | Earth work for the excavation of Gabion wall i.e trenches of different sizes with proper depth, removal of bushes and stumps, shoring and bracing etc. | Cum    | 140     | 450           | 63,000           |
| 4            | Cost of crate wire of 4mm dia with carriage upto site.   | Kg     | 803     | 83            | 66,696           |
| 5            | Providing RR Massionary and Stone Filled Gabion Wire Crates for protection Work.   | Cum    | 225     | 750           | 1,68,750         |
| 6            | Plantation of 380 plants @ Rs 25/- per plant.  | Nos    | 380     | 25            | 9,500            |
| 7            | Digging of pit for plantation.   | Nos    | 380     | 50            | 19,000           |
| 8            | Cost of Barbed wire Fencing for protection of Plants @ Rs. 45/- per plant with carriage and labour   | kg     | 250     | 150           | 37,500           |
| 9            | Salary for Gardener (1) for 4 years ( 48 Months) @ Rs.6800/- per month .   | Months | 48      | 6800          | 3,26,400         |
| 10           | 2 Nos. Beldar for protection of plantation for 2 years @ Rs 350/- per day.   | Year   | 2       | 2,55,500      | 5,11,000         |
| 11           | Reclamation and restoration.   | Lumsum | 1       | 1,50000       | 1,50,000         |
| 12           | Landscaping and Beautification.  | Lumsum | 1       | 1,60000       | 1,60,000         |
| 13           | Carriage of soil from road site  | Cum    | 100     | 500           | 50,000           |
| 14           | Collection of Grass seed   | Kg     | 100     | 600           | 60,000           |
| 15           | Broadcasting of grass seed plants  | Nos.   | 100     | 400           | 40,000           |
| <b>Total</b> |  |        |         |               | <b>17,73,465</b> |

Place : Chamba

Dated : 21/3/2022

For Gvatri Hydel Project P. Ltd.  
Gvatri Hydel Project (P) Ltd

Authorized Signatory

Authorized Signatory

95  
Divisional Forest Office  
Chamba Forest Division  
CHAMBA




## “ ABSTRACT OF COST”

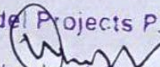
**Name of work :- Construction of Banuala Baroond-I SHEP (2MW) in Tehsil Churah Distt. Chamba being executing by M/s Gyatri Hydel Projects .**

(Sub Head :- CONSTRUCTION OF WIRE CRATES TO THE DUMPING SITES)

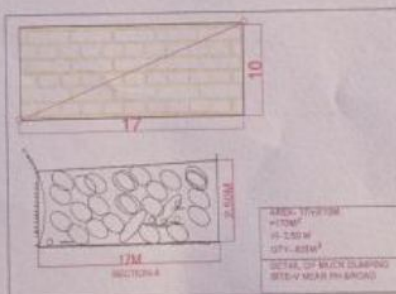
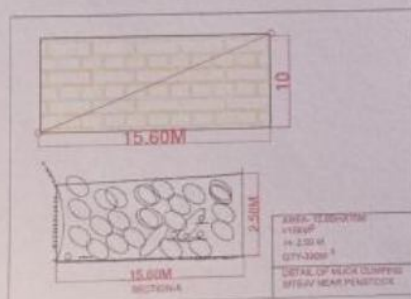
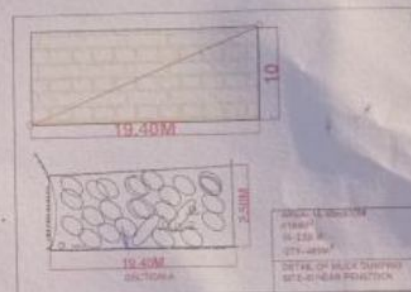
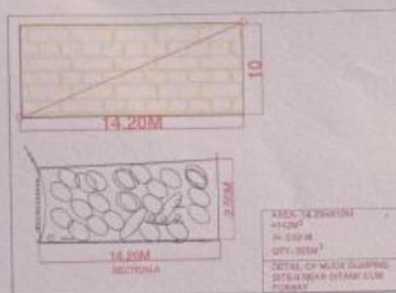
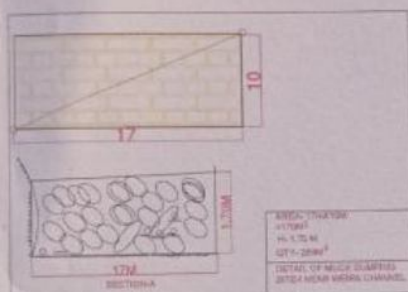
| S.NO | Item  | Qty. | Rate | Unit            | Amount           |
|------|---|------|------|-----------------|------------------|
| 1    | Earthwork in excavation for structure as per drawing and technical specifications clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50m, dressing of sides and bottom and backfilling in trenches with excavation suitable materials ordinary soil upto standard depth. | 140  | 450  | Per cubic Metre | 63,000           |
| 2    | RR Massionery and laying of boulder apron laid in wire crates with 4 mm dia GI wire conforming to IS:280 and IS :4826 in 100 mm X 100 mm mesh (woven diagonally) including 10 per cent extra for laps and joint laid with stone boulders weighing not less than 25 Kg each as per drawing and technical specifications Clause 1301.   | 225  | 750  | Per cubic Metre | 1,68,750         |
| 3    | Provide the GI wire of dia 4mm with all costs at site including Transportation and other charges.   | 803  | 83   | Kg              | 66,696           |
|      |   |      |      |                 |                  |
|      |   |      |      | <b>Total</b>    | <b>298446.00</b> |

  
Er. Vijay Singh(Civil)

Naman Engineers and Consultants  
Dharamshala HP

Gyatri Hydel Projects P. Ltd.  
  
Authorised Signatory

# MUCK DUMPING SITE PLAN OF BANUALA BAROOND-I SHEP 2MW



Jyoti Hydral Project (P) Ltd.  
 (Signature)  
 Authorised Sign.

(Signature)  
 Divisional Forest Officer  
 Chambe Forest Division  
 CHAMBA-176310