



OFFICE OF THE DIVISIONAL FOREST OFFICER  
RAMNAGAR FOREST DIVISION  
RAMNAGAR

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**BIOLOGICAL MEASURES FOR STABILIZATION OF MUCK DUMPING SITES TO BE UNDERTAKEN IN THE CONSTRUCTION OF 55 MTR. SPAN PRE-STRESSED BOX TYPE BRIDGE OVER UJH NALLA WITH APPROACH LEFT HAND SIDE.**

**1. Introduction:**

The Ramnagar Forest Division was constituted in 1984 vide Govt. order No. FST of 1984 dated 23.05.1984. It has three Ranges viz: Ramnagar North, Ramnagar South and Basantgarh. This Forest Division is situated between  $75^{\circ}.9'$  E to  $75^{\circ}.42'$  E Longitude (meridian) and  $32^{\circ}.40'$  N to  $32^{\circ}.58'$  Latitude (Parallel). The Ramnagar Forest Division is bounded on its North by Jug Dhar which extends towards South East to the highest peak (Kaplas) (4341 m) from the mean sea level. On the eastern side, ridge of the Ujh catchment separates Basantgarh and Billawar Ranges. On the Western side River Tawi, Champal Khad (partly), Barmeen Khad (partly) and Nardan Nallah forms the boundary.

**2. Configuration of the ground:**

The tract is extremely hilly and rugged in nature having varied range of aspects and is cut up by numerous Nallahs and Khads which makes it difficult to traverse. The hilly slopes range from precipitous to gentle. The altitude varies from 500 m to 4341 m. There are two main rivers i.e. river Tawi and river Ujh.

**3. Geology, Rock and Soil:**

- a. **Recent:** Consist of alluvial gravel and glacial moraines.
- a. **Upper Siwaliks:** It consists of coarse boulder-conglomerate, coarse grits, sand grits and clays.
- b. **Middle Siwaliks:** It consists of brown sandstone, gravel beds or clays & hales hard gray sandstone with inter bedded clays.

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- c. **Lower Siwaliks:** Consists of dark grey, buff brown shales and sand stone, hard red sand stone, purple shales and pseudo-conglomerate.
- d. **Murrees:** Purple, Grey hard and compact bedded, massive undulated sand stones inter bedded with purple and red clays.

**4. Climate and Rainfall:**

The climate of the tract varies with altitude, aspect and topography, a Sub-tropical climate prevails over most parts of the division as its tract consists of low lying hills. Most part of South, North and Basantgarh Ranges experience a moist climate. Snow fall is a regular feature at higher reaches of the division during winters. It melts early in the Ramnagar North Range but lasts for a pretty long time in higher elevations of Basantgarh Range.

**5. Diversion of Forest Land for Non-Forestry Works:**

In order to uplift the life of downtrodden people in terms of access to better education, enhancement of living standard, and access to economy, the road connectivity is the main key for which a special project PMGSY has been launched by the Central Govt. In the implementation of this scheme, various types of land is to be involved, and the Central Government under the provision of Indian Forest (Conservation) Act, 1980 has made access to use of forest land for non-forestry activity. To mitigate the loss of environment which is the key component for the sustainable of all living creatures on this planet, several parameters have been kept in view by the Government while considering the use of forest land for non-forestry purposes.

**6. Stabilization of Muck Dumping Sites.**

While taking into hand the construction activities of road, a large scale muck is generated and thrown in the forest land, thus disturbing the natural features of the site. In order to stabilize these sites, a plan with respect to biological measures has been drawn as under:

Area under mulba dumping sites = 0.25 ha.

S. No.	Item of works	unit	Quantity	Rate (in	Amount
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				Rs)	(Rs. in lakh)
1	Fencing: Using Square Fence post conforming to product code PCFP-4 at spacing of 10' & 5 strands of Galvanized Barbed wire with 2 criss cross conforming to the product code GA-BW all fence post be fixed in the cement concrete 1:3:6 (1 Cement: 3coarse sand: 6 stone aggregate 40 mm nominal size) block of size 1'6" x 1'x1'	Rft	1500	120/rft	1.80
2	Afforestation (1 <sup>st</sup> Year)				
i	<b>Plantation:</b> Poly bagged planting of fast-growing soil binding local species (Tree/Shrubs) in pits of size 45 x 45 x 45 cm in staggered fashion along the contour.	Nos.	250	29.34	0.073
ii	<b>Plant Production:</b> Raising of plants in Polythene bags of size (9" x 6") conforming to product code No. PB-60/90 with artificial source of irrigation in the nursery	Nos.	250	8.03	0.020
iii	Maintenance of Plants raised in departmental Nursery	Nos.	250	2.66	0.007
v	<b>Grass slips</b> (Soil binding grasses viz: Vetivers, Napier, Saccharum munja & Arundo donax)	Nos.	300	6.35	0.02
vi	<b>Cutting:</b> Ipomea/Vitex/Popular/Salix/Mulberry (area specific)	Nos.	250	6.00	0.015
				<b>Total</b>	<b>1.935</b>
3	<b>Maintenance for 9 Years:</b> 2 <sup>nd</sup> year @ 25% + 3 <sup>rd</sup> year @ 10% + 4 <sup>th</sup> Year to 10 <sup>th</sup> Year 7@ 5% = 70% of afforestation				1.35
				<b>Total (1+2+3)</b>	<b>3.285</b>
4	Overhead 10% of total				0.328
				<b>Grand Total</b>	<b>3.613</b>

## 7. Modus Operandi

- Fast growing species of plants shall be planted to stabilize the area in the very near future.
- Soil binding species viz: Vetivers, Napier, Saccharum munja & Arundo donax shall be planted.

Range Forest Officer  
Basantgarh

Divisional Forest Officer  
Ramnagar Forest Division  
Ramnagar

03 of 03.

**Model plan related to Engineering measures for Stabilization of  
Muck Dumping Sites (2 nos) in forest area**

**(For One Dumping Point)**

Typical Estimate for construction of Crated wall to protect dumping sites of Surplus Muck/Excavated material in forest area as per Engineering measures.

Taking length of Crated Wall = 50 mtr

Trench excavation in Dense soil for Structure =  $1 \times 25.0 \times 1.40 \times 0.60$

= 21.0 cum @ Rs. 332/cum

= Rs. 6972-00

For 6 layered Crated wall,

Quantity =  $6 \times 25.0 \times 1.20 \times 1.20 = 216.0$  cu m


Amount = 216.0 cum @ Rs. 1200/cum (incl cost of Crates & labour for handling of available stones)

= Rs. 2,59200-00

Total amount for 50 mtr , Six layered Crated wall = 6972-00 + 259200-00 = Rs. 2,66172-00

Rate per mtr = Rs. 10646.88

Say Rs. **10,647-00**

  
Engineer  
P.W.D. (R & B) Sub-Division  
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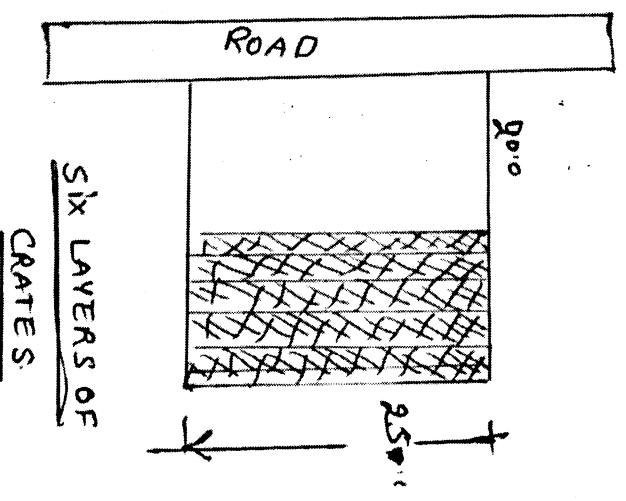
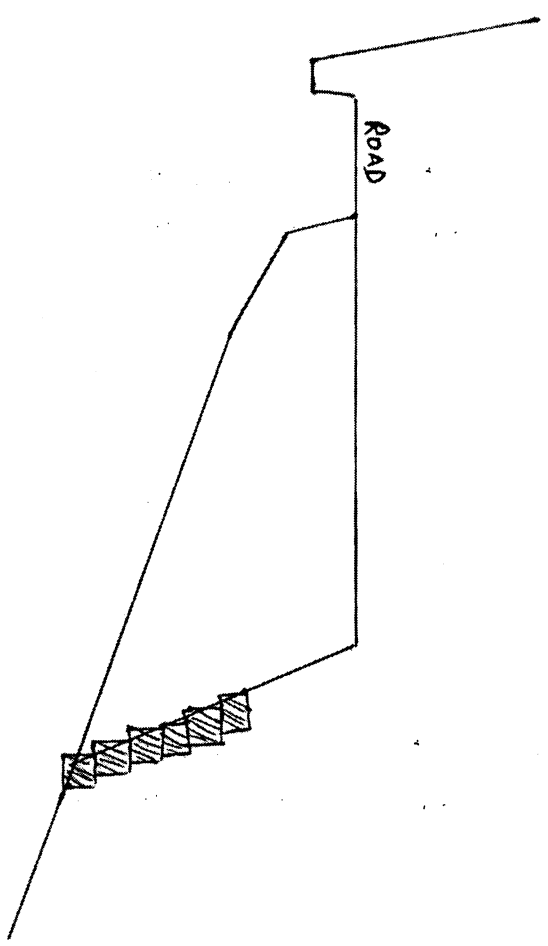
  
Executive Engineer  
P.W.D. (R&B) Division  
Udhampur

TYPICAL CROSSSECTION AND SITE PLAN OF MUCK DISPOSAL POINT

FOR STABILIZATION OF MUCK EXCAVATED FROM FOREST AREA COMING IN THE

ALIGNMENT OF GREEN ROAD 55.0mts Span Prestressed Bridge over U/S.

NALLAH AT Chigli Koyla left Approach (L=1.0KM)



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Executive Engineer  
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Full title of the project: - Const. of 55.0 mtr span prestressed box type bridge over 17th Nalla with approach (Left approach) L = 1.0 Km.

Details of work / Debris to be produced

NAME OF WORK: - Const. of 55.0 mtr span prestressed box type bridge over 17th Nalla with approach (Left approach) L = 1.0 Km.

Detail of quantity to be produced & used during the construction.

S.No.	Description of Work	Quantity
①	Total quantity to be produced during construction =	13,580 cum.
②	Consumable work quantity at work.	4074 cum
③	Net quantity to be dumped (1-2)	9506 cum
④	Soil factor @ 40%.	3802.40 cum
<b>Grand Total</b>		<b>13,308.40 cum.</b>

(3+4)

Assistant Engineer  
PWD (K & B) Sub Division  
Kannur

Executive Engineer  
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PERFORMA-V

STATEMENT SHOWING DETAIL OF PLACES FOR DISPOSAL OF MUCK/DEBRIS OF CONSTRUCTION OF 55.0 MTR SPAN  
PRESTRESSED BOX TYPE BRIDGE OVER UJH NALLAH AT CHIGLI KIYA (LEFT APPROACH) (L=1.0 KM) IN DISTRICT UDHAMPUR, UT  
JAMMU AND KASHMIR


S.No.	Name of Dumping place	Location of Dumping places	Slope of Dumping place	Length & Width (in Mtr) and Area of Dumping places (in sqm)	Qty of muck/Debris to be dumped (in 1000 cum)	Height of dumping expected Remarks (Area in Bigha)	Remarks (Area in ha)
1	Near Chigli	0/250 to 0/275	1:4	25m x 20m = 500sq.m	1.72	10	0.05 ha
2	Kiya	0/925 to 0/950	1:4	25m x 20m = 500sq.m	1.72	10	0.05 ha
<b>Total</b>				<b>1000 sq.m</b>	<b>3.44</b>		<b>0.10 ha</b>

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PERFORMA-III (REFER ITEM 8)  
 STATEMENT SHOWING DUMPING QUANTITY OF MUCK/DEBRIS TO BE DUMPED WITH OTHER DETAILS FOR CONSTRUCTION OF 55.0 MTR SPAN PRESTRESSED  
 BOX TYPE BRIDGE OVER UJH NALLAH AT CHIGLI KIYA (LEFT APPROACH) (L=1.0 KM) IN DISTRICT UDHAMPUR,  
 KASHMIR  
 UT JAMMU AND

S.No.	Name of the Component	Total Qty. of Muck/Debris to be produced (in cum)	Qty. of Muck/Debris to be utilized locally (in cum)	Qty. of Muck/Debris to be dumped on compact basis (in cum)	Factor of increase in volume of dumping (in cum)	Qty. of Muck/Debris to be dumped on basis of increase (in cum)	Name of Dumping Places	Slope of Dumping Places	Location of Dumping Places, Police station & nearby road	Distance of Dumping Place from River (in Kms)	Area of Dumping place with length & breadth (in hect)	Area of forest land out of land in Col.10 (in ha)	Height of Muck/Debris dump expected (Vol. Area) in mtrs	Remarks
1	Formation													
2	Cutting Work	13580-00	4074-00	9506-00	1.4	3802.4	Near Chigli Kiya	1:4	0/250 to 0/275 0/925 to 0/950	11	0.1	0.6	10	15

  
 PWD (R & B) Sub-Division  
 Udhampur

  
 Executive Engineer  
 PWD (R & B) Division  
 Udhampur



Full Title of The project:- CONSTRUCTION OF 55.0 MTR SPAN PRESTRESSED BOX TYPE BRIDGE OVER UJH NALLAH AT CHIGLI KIYA (LEFT APPROACH) (L=1.0 KM)

File No. :-

Date of Proposal :-

STATEMENT SHOWING THE ROAD LINE TO BE CONSTRUCTED FOR CONSTRUCTION OF 55.0 MTR SPAN PRESTRESSED BOX TYPE BRIDGE OVER UJH NALLAH AT CHIGLI KIYA (LEFT APPROACH) (L=1.0 KM) IN DISTRICT UDHAMPUR, UT JAMMU & KASHMIR.

S.No.	RD		Distance in Mtrs.			Width of Right of way	Area of road		Total area (in sqm)	Name of Village/Muha land forest area nearby	Muck/Debr ies to produce (Total cum)	Muck/Debr ies to be consumed at work	Muck/Debr ies to be dumped	Remarks
	From	To	Non Forest land (in mtrs)	Forest land (in mtrs)	Total (in mtrs)		Forest land	Non Forest land						
0	0	1000	1000	0	1000	6	1000 x 6 =6000sqm or 0.60 Ha	0	6000 sqm or 0.60 Ha	Chigli Kiya, Chigla Blota	13580	4074	9506	

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