

PRADHAN MANTRI
GRAM SADAK YOJANA

**DETAILS OF UNDER PASSES/OVERPASSES PROPOSED
FOR THE SAFE PASSAGE OF WILD ANIMALS**

On

Ikhala Block Boundary Kishtwar to lopara Road
part -II

Package No:- JK04-167

Length: - 13.00kms

Length of Road in forest Area: - 9.60 kms

Executive Engineer
PMGSY Division
Marwah

1. INTRODUCTION

The rural road network required for providing the 'basic access' to all villages/ habitations is termed as the Core Network. Basic access is defined as one all-weather road access from each village/ habitation to the nearby Market Centre or Rural Business Hub (RBH) and essential social and economic services.

A Core Network comprises of Through Routes and Link Routes. Through routes are the ones which collect traffic from several link roads or a long chain of habitations and lead it to a market centre or a higher category road, i.e. the District Roads or the State or National Highways. Link Routes are the roads connecting a single habitation or a group of habitations to Through Roads or District Roads leading to Market Centres. Link Routes generally have dead ends terminating on habitations, while Through Routes arise from the confluence of two or more Link Routes and emerge on to a major road or to a Market Centre.

The Core Network may not represent the most convenient or economic route for all purposes. However, since studies show 85-90% of rural trips are to market centres, the Core Network is likely to be a cost-effective conceptual frame work for investment and management purposes, particularly in the context of scarce resources.

The sub-project Road takes off from Ikhala being the Block Boundary of Kishtwar and is aimed to connect firstly the Block & Tehsil Dachhan of the District Kishtwar and secondly the Sub Division Marwah directly with District headquarter Kishtwar which is devoid of Road connectivity since the dawn of independence. The forest clearance for part-1st of length 22.00 kms has been sanctioned whereas the 2nd part of length 13.00 kms of Sub project is awaited for which proposal moved. The Sub-project will directly connect the whole Sub-Division of Marwah having a population of more than 30000 by all weather connectivity. The habitations which get connected and benefited will be Hanzal, Teller, Chanjer, Deherna, Nowpachi

Hanzal is situated on the right bank of River Marsudhar and towards east side of block Marwah.

Presently Hanzal is connected with a bridle track having deep ascends and descends and remains mostly cut off during winter season. All the essential commodities are to be carried upto Hanzal by head load or ponies resulting in backwardness of the area both socially as well as economically.

Mostly the people are illiterate and unemployed due to lack of education facilities in the vicinity of the area

The Block Marwah is spreaded over a vast hilly area having many beautiful tourist spots, pastures and meadows having great exploration of Tourism potential. The construction of road shall boast tourism sector in the area in general and the whole block shall come up at par with the famous

Tourist resorts and shall improve the socio-economical condition of the down trodden and poverty stricken populace of the block.

This road will increase the intensity of tourism in the area similar as Phalgam in Kashmir. The road shall also provide accessibility to school, High school, Health Centre etc. The road construction has been proposed with a formation width of 6.0M except , except at valley/zig points where construction of R/walls are inevitable from geometrical constraints and at horizontal curves, extra widening has been proposed ranging from 0.60 to 0.90 Mtr. depending upon the radius of horizontal curve and as per IRC specification.

**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
Block Boundary Kishtwar to Lopara Part-II Road**

2. Objectives of Animal Passage plan Study

The objectives of animal passage plan are:

- ❖ To incorporate the needs of wildlife into transportation projects.
- ❖ To maintain the habitat connectivity.
- ❖ To aid in the reduction of human wildlife conflict, improving awareness, safety and reducing collisions.

1. Project Location and Technical Details:

Project:	Construction of Motorable Road from Ikhala Block Boundary Kishtwar to Lopra Part-II
Proposal No.	FP/JK/ROAD/51130/2020
Project Proponent:	Marwah & Dachhan Forest Range
Project Cost:	4294.00 lacs
Details of Forest Area involved:	5.9312 Ha

1. **Justification for Proposed route & alternative examined:** The present proposed road alignment is only feasible for Construction of Motorable Road from Ikhala Block Boundary Kishtwar to Lopra Part-II. There is no possibility of alternate alignment for the project road. Hence, the diversion of the Forest is the only choice to construct the road.

2. Area Details Falling in Forest area

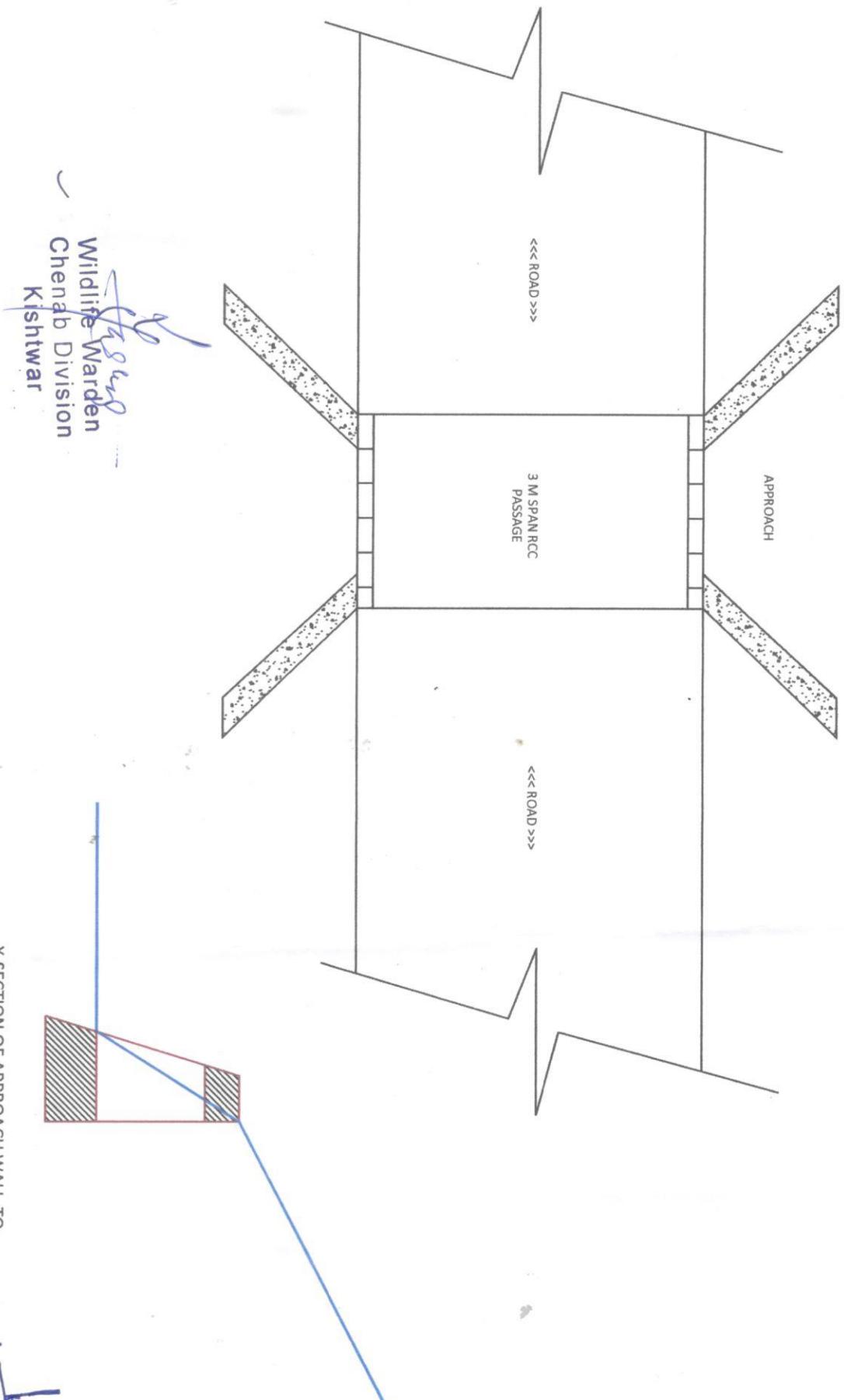
Part- 1

- (i) Total Length of the Road: 13000m
- (ii) Total Length of the Road in Forest Area:- 9600m
- (iii) Width of the Road: 6.00m
- (iv) Area in forest land 5.9312Ha.

3. Major Activities involved in the execution of Project:

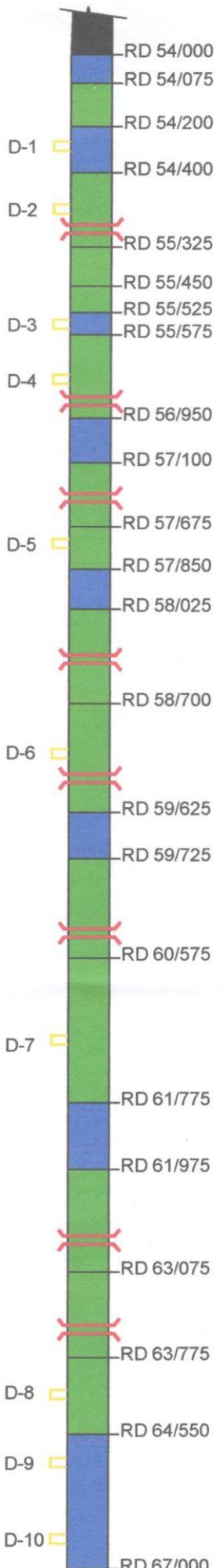
Earthwork in excavation in Hilly area	
1	Earthwork in cutting
2	Earthwork in filling
B	CD Works

PLAN SHOWING THE DRAWINGS OF APPROACH PATH WALLING AND 3MTR SPAN RCC CULVERT FOR
SAFE PASSAGE OF WILD ANIMALS IN FOREST LAND ON IKHALA BLOCK BOUNDARY KISHTWAR TO
LOPARA ROAD PART-II



Executive Engineer
P.M.G. Division
Kishtwar

LAYOUT PLAN FOR CONSTRUCTION OF ROAD FROM IKHALA BLOCK BOUNDARY KISHTWAR TO LOPARA (PART-II)
UNDER PACKAGE NO. JK04-167, PHASE-X, STAGE-I, LENGTH=13.00KM PIU- MARWAH, DISTRICT KISHTWAR.



FOREST AREA DETAILS

	LENGTH X WIDTH	AREA
RD 54/075	TO 54/200	750 M ²
RD 54/400	TO 55/325	5550 M ²
RD 55/325	TO 55/450	750 M ²
RD 55/450	TO 55/525	450 M ²
RD 55/575	TO 56/950	8250 M ²
RD 57/100	TO 57/675	3450 M ²
RD 57/675	TO 57/850	1050 M ²
RD 58/025	TO 58/700	4050 M ²
RD 58/700	TO 59/625	5550 M ²
RD 59/725	TO 60/575	5100 M ²
RD 60/575	TO 61/775	7200 M ²
RD 61/975	TO 63/075	6600 M ²
RD 63/075	TO 63/775	4200 M ²
RD 63/775	TO 64/550	4650 M ²
TOTAL		57600 M² - A

DUMPING AREA DETAILS IN FOREST LAND

$$\bar{6} = \frac{1712 \text{ M}^2 - B}{}$$

$$\text{TOTAL AREA} = A+B = \frac{57600 \text{ M}^2}{59312 \text{ M}^2} + \frac{1712 \text{ M}^2}{59312 \text{ M}^2} \text{ OR } 5.9312 \text{ HECTARES}$$

Executive Engineer
PMGSY Division
Marwah

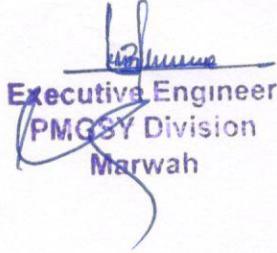
LEGEND:-

1. FOREST LAND
2. STATE / PRIVATE LAND
3. OTHER ROAD
4. DUMPING POINT
5. PASSAGE SITE

Wittulka Warden
 Chenab Division
 Kishtwar

**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
Block Boundary Kishtwar to Lopara Part-II Road**

B	CD Works
4	Construction of 2.0m Span RCC Culvert
5	Construction of 3.0m Span RCC Culvert
6	Construction of 6.0m Span RCC Culvert
C	Construction of Semi Pucca Walling
7	R/Wall Ht. 2.00 m
8	R/Wall Ht. 3.00 m
9	R/Wall Ht. 4.00 m
10	R/Wall Ht. 2.50 m
11	Parapet
12	Pucca Drain
D	Providing & Fixing of Signage and Boards
13	Citizen & Main Information Board
14	Logo Board
15	Road Sign Boards
16	Km Stone
17	200 m Stones
18	5 Km Stones


Executive Engineer
PMGSY Division
Marwah

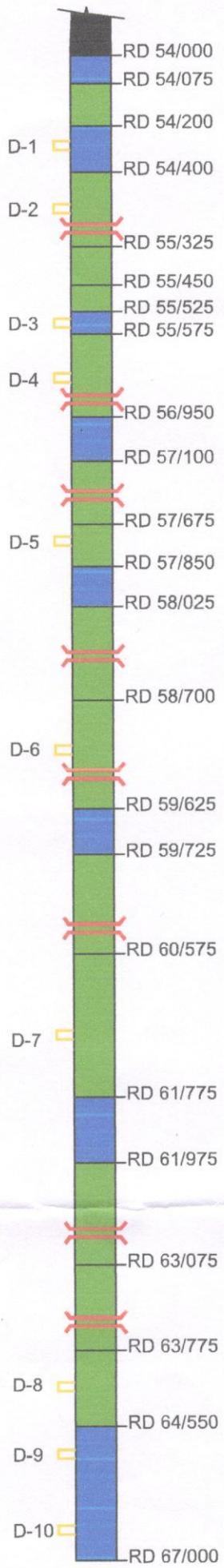
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Proposed mitigation measures: In addition to proposed action plan following measures could be undertaken in view of projected increase in traffic load which could facilitates the animals to cross the road:

- Creation of barriers
- To provide RCC Box culverts/Animal Underpass at various strategic point, so that along with water various wildlife can also pass through the culvert to reach the other side of the road
- The culvert floor must be naturalized so that small vegetation can grow and give the underneath area a natural passage look.
- Noise barriers shall be installed near the underpasses for effective use of underpasses
- The culvert height shall accommodate animals like Black bear , Leopord, Muskdeer etc
- The hydrological importance shall also be kept in mind while deciding on the relocation / modification of the culverts.
- During Construction period no construction work shall be allowed after night fall.
- Special care should be taken to ensure that the animal movement is not restricted due to the construction work
- Workers & local populace should be made aware through awareness workshops about the importance of wildlife and biodiversity and special attention paid that no poaching and hunting takes place
- Creation of rumble strip on stretches which are passing through longer forest patches.
- Pipe culverts shall be avoided and be replaced with box culverts if located in places having good forest patches on both side with larger and continuous patch size to save the smaller wild animals from road accidents. Culvert floor shall be planted with indigenous plant and grass species.
- No labour camps should be allowed at the construction sites. Arrangements should be made to bring in the labour during the working hours and drop them after that. No fire or cooking should be allowed at the construction site.
- No stocking and dumping of construction material other than the designated sites duly agreed by the Forest Department.
- Construction workers and local communities should be sensitized about importance of wildlife conservation and do's and don'ts through awareness workshops/meeting with full involvement of local Forest personnel. Workers should be made aware of provision of legal penalties to stop poaching and wood cutting.
- Vehicle speed limit should not be more than 30-40 km/hr. in the animal prone stretch warning signage shall be installed at every 25 m in entire project road. Night traffic should be controlled through barriers at appropriate locations to be decided by the project authorities and local forest department. Random checking by the Flying Squad of Transport Authority.


Executive Engineer
PMGSY Division
Marwah

LAYOUT PLAN FOR CONSTRUCTION OF ROAD FROM IKHALA BLOCK BOUNDARY KISHTWAR TO LOPARA (PART-II)
UNDER PACKAGE NO. JK04-167, PHASE-X, STAGE-I, LENGTH=13.00KM PIU- MARWAH, DISTRICT KISHTWAR.



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$$\frac{6}{6} = \frac{1712 \text{ M}^2 - B}{1712 \text{ M}^2}$$

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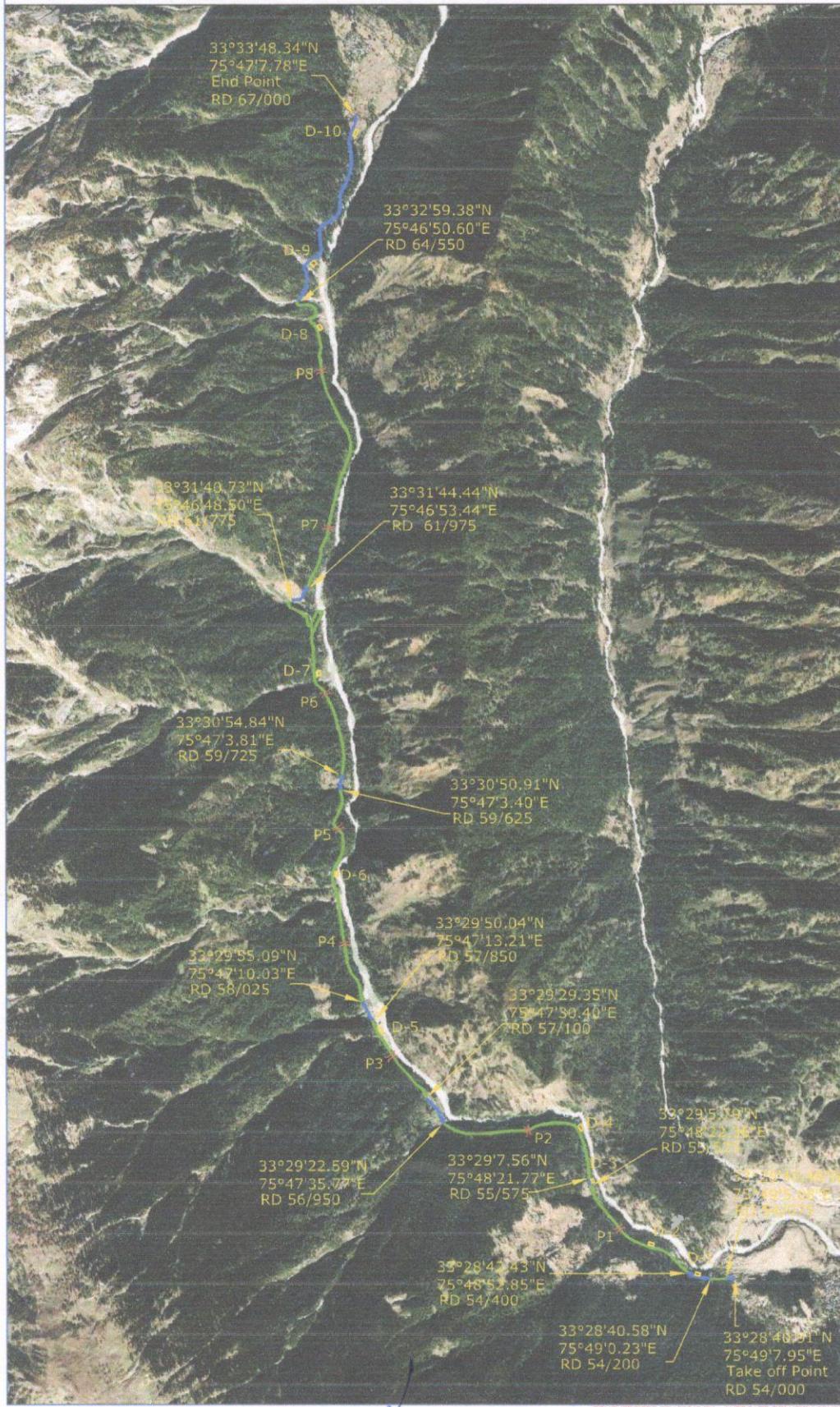
LEGEND:-

1. FOREST LAND	
2. STATE / PRIVATE LAND	
3. OTHER ROAD	
4. DUMPING POINT	
5. PASSAGE SITE	

Champ
Wildlife Warden
Chenab Division
Kishtwar

Champ
Executive Engineer
PMGSY Division
Marwah

**GPS MAP FOR CONSTRUCTION OF ROAD FROM IKHALA BLOCK BOUNDARY KISHTWAR TO LOPARA
(PART-II) UNDER PACKAGE NO. JKO4-167, PHASE-X, STAGE-I, LENGTH=13.00KM PIU- MARWAH,
DISTRICT KISHTWAR.**



GPS COORDINATES PASSAGE SITE

P-1	33°28'55.17"N	75°48'30.64"E
P-2	33°29'21.84"N	75°48'9.82"E
P-3	33°29'41.74"N	75°47'18.88"E
P-4	33°30'9.86"N	75°47'4.54"E
P-5	33°30'40.89"N	75°47'2.35"E
P-6	33°31'19.67"N	75°46'55.75"E
P-7	33°32'4.68"N	75°47'0.88"E
P-8	33°32'49.39"N	75°46'57.26"E

SCALE:- 1:40000

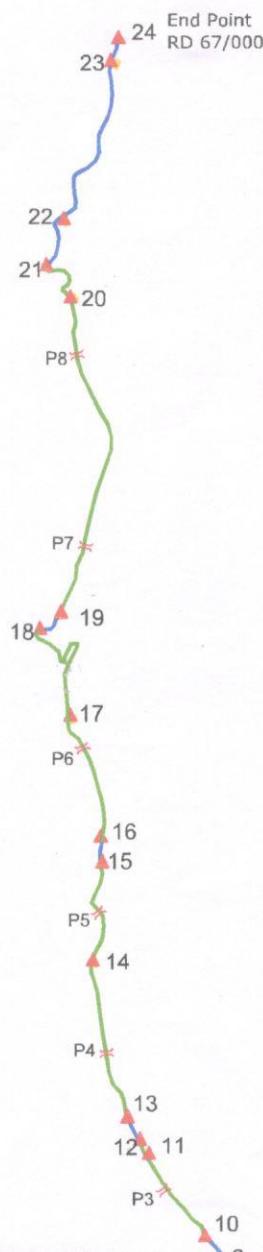
GPS COORDINATES DUMPING SITE

ID	LATITUDE	LONGITUDE
D-1.	33°28'40.58"N	75°49'0.23"E
D-2.	33°28'49.40"N	75°48'41.55"E
D-3.	33°29'5.79"N	75°48'22.36"E
D-4.	33°29'19.83"N	75°48'18.82"E
D-5.	33°29'47.04"N	75°47'14.88"E
D-6.	33°30'28.84"N	75°47'1.12"E
D-7.	33°31'21.20"N	75°46'55.84"E
D-8.	33°32'51.86"N	75°46'56.43"E
D-9.	33°33'9.67"N	75°46'54.25"E
D-10.	33°33'41.51"N	75°47'7.03"E

LEGEND:-

1.	FOREST LAND	
2.	REVENUE LAND	
3.	DUMPING POINT	
4.	PASSAGE SITE	

GEO REFERENCE MAP FOR CONSTRUCTION OF ROAD FROM IKHALA BLOCK BOUNDARY KISHTWAR TO LOPARA (PART-II) UNDER PACKAGE NO. JK04-167, PHASE-X, STAGE-I, LENGTH=13.00KM PIU- MARWAH, DISTRICT KISHTWAR.



SCALE:- 1:40000

GPS COORDINATES

ID	LATITUDE	LONGITUDE
1.	33°28'40.91"N	75°49'7.95"E
2.	33°28'40.48"N	75°49'5.08"E
3.	33°28'40.58"N	75°49'0.23"E
4.	33°28'42.43"N	75°48'52.85"E
5.	33°28'49.40"N	75°48'41.55"E
6.	33°29'5.79"N	75°48'22.36"E
7.	33°29'7.56"N	75°48'21.77"E
8.	33°29'19.83"N	75°48'18.82"E
9.	33°29'22.59"N	75°47'35.77"E
10.	33°29'29.35"N	75°47'30.40"E
11.	33°29'47.04"N	75°47'14.88"E
12.	33°29'50.04"N	75°47'13.21"E
13.	33°29'55.09"N	75°47'10.03"E
14.	33°30'28.84"N	75°47'1.12"E
15.	33°30'50.91"N	75°47'3.40"E
16.	33°30'54.84"N	75°47'3.81"E
17.	33°31'21.20"N	75°46'55.84"E
18.	33°31'40.73"N	75°46'48.50"E
19.	33°31'44.44"N	75°46'53.44"E
20.	33°32'51.86"N	75°46'56.43"E
21.	33°32'59.38"N	75°46'50.60"E
22.	33°33'9.67"N	75°46'54.25"E
23.	33°33'41.51"N	75°47'7.03"E
24.	33°33'48.34"N	75°47'7.78"E

GPS COORDINATES PASSAGE SITE		
P-1	33°28'55.17"N	75°48'30.64"E
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LEGEND:-

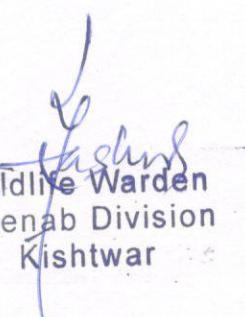
1.	FOREST LAND	
2.	REVENUE LAND	
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Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
 Block Boundary Kishtwar to Lopara Part-II Road

Abstract of Proposed action plan for safe passage of wild Animals

S.No	Name of Particulars	Amount (Rs in Lacs)
1	Provision for construction of B/walls & R/walls in addition to the already proposed in Project	20.00
2	Construction of 03mtr Span RCC Culvert/Animal Passage including Approach Track 08No's	133.44
3	Road Studs /Speed Breakers on 20 stretches	3.00
4	Provision for construction of Parapets	5.00
5	Provision for P/F Sign boards /Cautionary warning signs at every 20 to 25mtrs of Road Stretch	10.00
G-Total		171.44

Say Rs.171.44


 Wildlife Warden
 Chenab Division
 Kishtwar


 Executive Engineer
 PMGSY Division
 Marwari

**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
Block Boundary Kishtwar to Lopara Part-II Road**

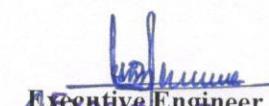
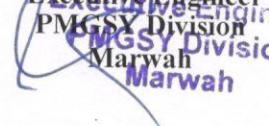
DETAILED ESTIMATE FOR CONSTRUCTION OF 03MTR SPAN RCC CULVERT / ANIMAL PASSAGE FOR SAFE PASSAGE OF ANIMALS IN FOREST AREA ON Ikhala Block Boundary Kishtwar to Lopara Part-II					
S. No.	Description	Unit	App. Quantity	Rate	Amount
1	<p>Earth work in excavation by mechanical means (hydraulic excavator) in trenches for foundations, drains, pipes, cables etc. (not exceeding 1.5 m in width) and for shafts, wells, cesspits and the like not exceeding 10 sqm on plan, including dressing of sides and ramming of bottoms lift upto 1.5 m, including getting out excavated earth and disposal of surplus excavated earth as directed, within a lead of 50 metres:70% all kinds of soil & 30 % ordinary rock</p> <p>Abutment = $7.50 \times 8.60 \times 4.30 = 277.35$ cum</p> <p>Wing wall = $4 \text{ nos} \times 2.50 \times 1.40 \times 3.80 = 53.20$ cum</p> <p>Approaches = $2 \text{ nos} \times 1/2 \times 1.60 \times 2.50 \times 3.00 = 12.00$ cum</p> <p>Approach for culvert to wild animals $1/2 \times 1.50 \times 2.50 \times 5.00 \times 4 \text{ Nos} = 37.50$ cum</p> <p>Total = 350.05 cum</p>	cum	380.05	317.43	120639.00
2	<p>Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centring and shuttering. All work upto plinth level with:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)</p> <p>Abutment step I = $8.60 \times 7.00 \times 0.20 = 12.04$ cum</p> <p>Step ii = $8.00 \times 7.00 \times 0.20 = 11.20$ cum</p> <p>Wing wall = $4 \text{ nos} \times 1.40 \times 2.50 \times 0.40 = 1.16$ cum</p> <p>Approaches = $2 \text{ nos} \times 3.00 \times 1.60 \times 0.20 = 1.92$ cum</p> <p>Bottom Inside = $2.00 \times 7.00 \times 0.10 = 2.80$ cum</p> <p>Total = 29.12 cum</p>	cum	29.12	4943.40	143951.00
3	<p>Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centring and shuttering. All work upto plinth level with:1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)</p> <p>Abutments 2nd step = $2 \text{ nos} \times 6.50 \times 7.20 \times 0.80 = 37.44$ cum</p> <p>2nd step = $2 \text{ nos} \times (0.60+2.00)/2 \times 7.00 \times 3.00 = 54.60$ cum</p> <p>Dirt wall = $2 \text{ nos} \times 7.00 \times 0.30 \times 0.30 = 1.26$ cum</p> <p>Wing wall 1st step = $4 \text{ nos} \times 2.50 \times 1.20 \times 0.80 = 9.60$ cum</p>				

**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
Block Boundary Kishtwar to Lopara Part-II Road**

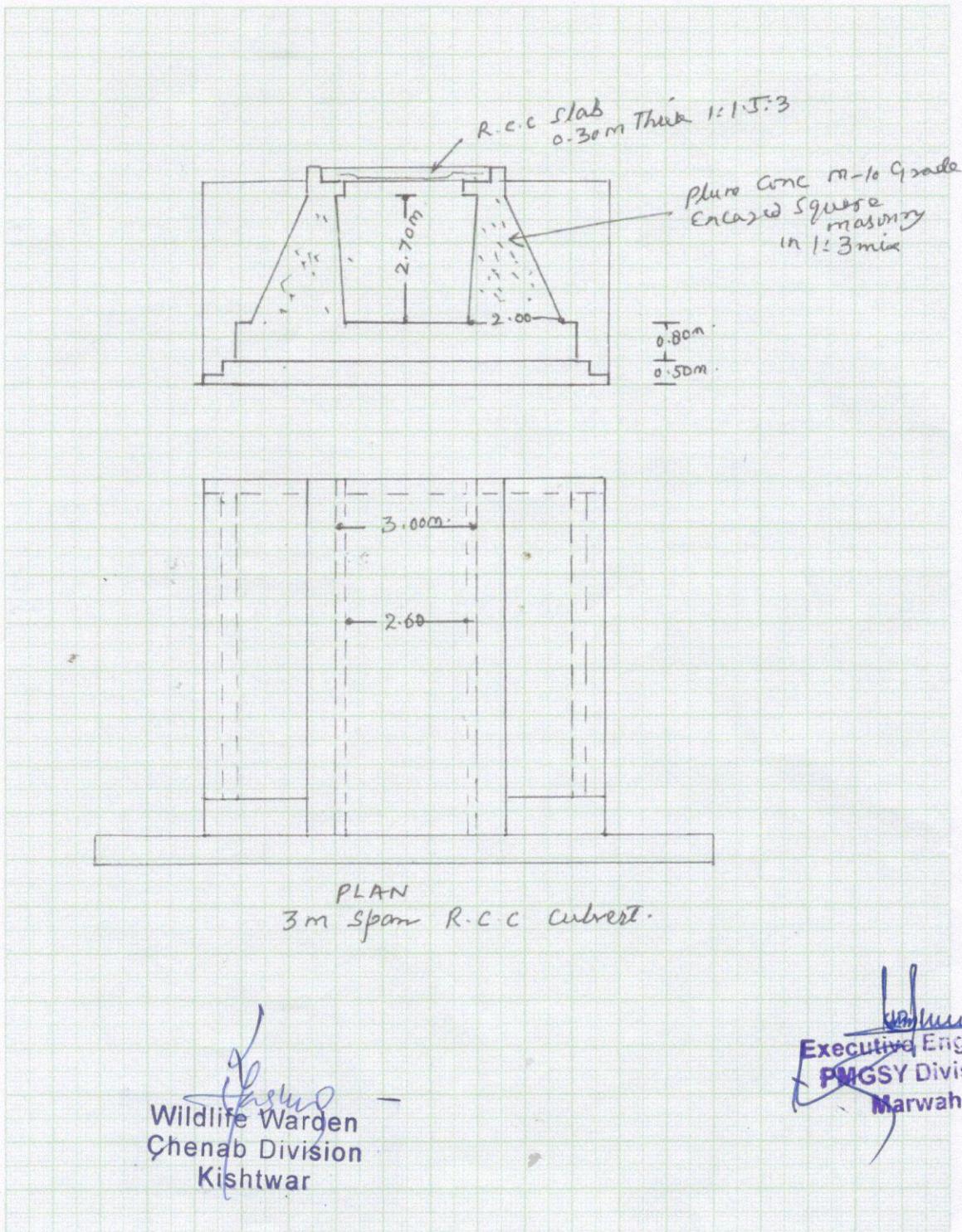
	2 nd step 4 nos x $(0.60+1.20)/2 \times 2.50 \times 2.90 = 26.10$ cum Bottom inside = $3.00 \times 7.00 \times 0.10 = 2.10$ cum Parapet Over culvert $2 \times 3.40 \times 0.60 \times 0.40 = 1.63$ cum Over approaches & wing wall = 2 sides x 4 nos x1.50 $x(0.45+0.60)/2 \times 0.60 = 3.78$ cum T = 136.51 M³		cum	136.51	5877.45	802330.00
4	Providing and laying in position specified grade of reinforced cement concrete including curing but excluding the cost of centering, shuttering, finishing and reinforcement. All works upto plinth level in 1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size) Slab = $1 \times 7.00 \times 3.60 \times 0.30 = 7.56$ cum Total = 7.56cum		cum	7.56	8953.95	67692.00
5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Mild steel and medium tensile steel bars Qty. vide item no. 4 = 7.56 @ 150 kgs / cum = 1134.00kgs Total = 1134.00 kgs		kg	1134	78.55	89075.00
6	Random Rubble masonry with hard stone in foundation and plinth including leveling up with cement concrete 1:6:12 (1 Cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level and curing complete with: Cement mortar 1:6 (1 Cement : 6 coarse sand) Nallah $2 \text{ nos} \times 2.50 \times (0.60 + 1.60)/2 \times 3.00 = 16.50$ cum Approaches for wild animals $0.60+1.30/2 \times 2.50 \times 5 \text{ Nos} \times 4 \text{ Nos} = 47.50$ cum Net Total = 64.00 cum		cum	64.00	4400.5	281632.00
7	Back filling with stones behind abutment, wing wall and return wall complete as per drawing and technical specification clause 1204.3.8 $2 \times 2.50 \times \frac{1}{2} \times 1.20 \times 2.00 = 6.00$ cum Total = 6.00 cum		cum	6.00	527.00	3162.00
8	carriage of stone av. Distance 1 km by M.T			64.00	139.71	8941.00
9	Carriage of sand av. Distance 33.00 km by M.T			102.24	462.14	47249.00
10	Carriage of aggr. av. Distance of 35 km by MT			155.85	479.42	74717.00
11	Carriage of steel Distance of 44 km by M.T			1.134	495.31	561.00

**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
Block Boundary Kishtwar to Lopara Part-II Road**

12	Carriage of cement Distance of 44 km by M.T	57.87	495.31	28644.00
			Total =	1668593.00
			Grand Total =	16.68lacs


 Executive Engineer
 PMGSY Division

 Project Engineer
 PMGSY Division
 Marwah
 Marwah

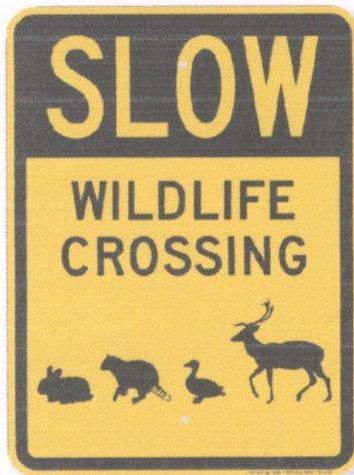
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**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
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Provision of Safety Features

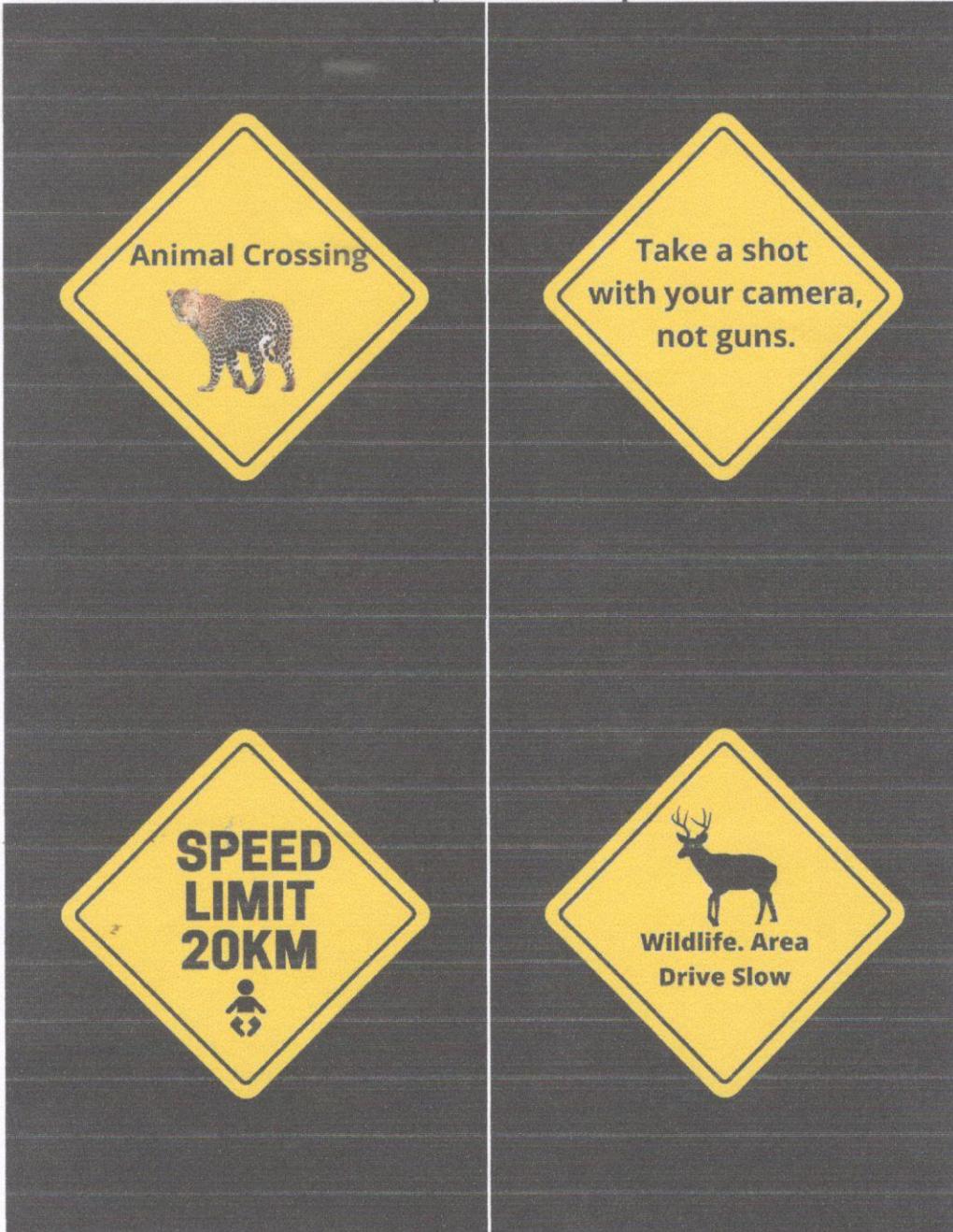
Cautionary / Warning Sign Boards such as Over Hanging Signage will be provided at start and at the end of each stretch of Wildlife area / Forest area



[Signature]
Wildlife Warden
Chenab Division
Kishtwar

[Signature]
Executive Engineer
PMGSY Division
Marwah

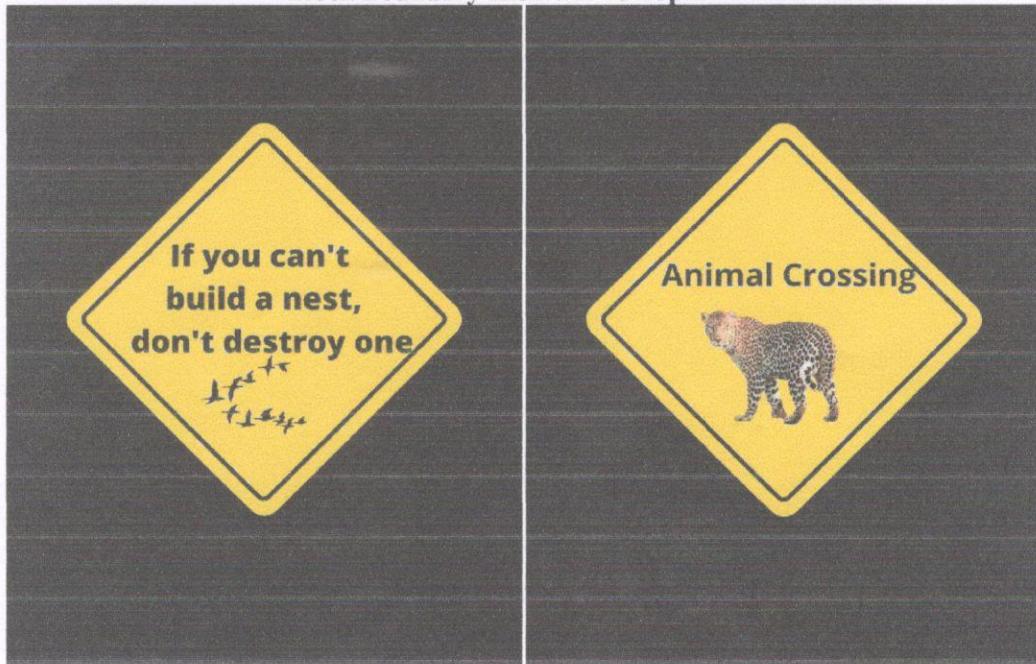
**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
Block Boundary Kishtwar to Lopara Part-II Road**



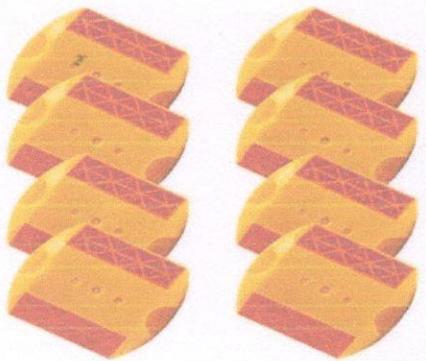
Hasnur
Wildlife Warden
Chenab Division
Kishtwar

W.M.
Executive Engineer
PMGSY Division
Marwah

**Details of Under passes proposed for safe passage of wild Animals in forest Land on Ikhala
Block Boundary Kishtwar to Lopara Part-II Road**



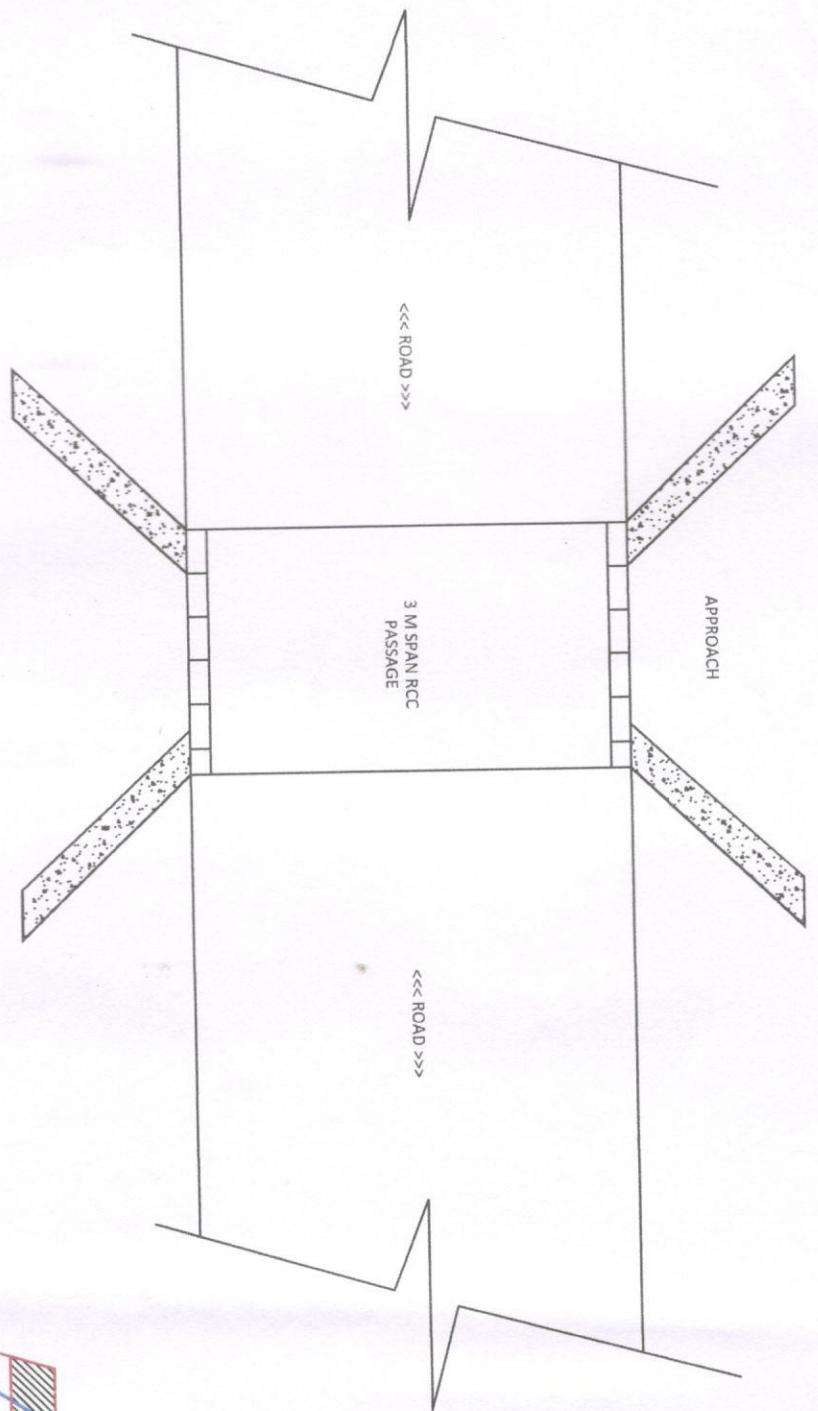
- Road Studs / Speed Breakers will be provided at the start and at the end of each stretch of Wildlife Area / Forest Area.



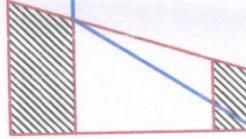
Hasan
Wildlife Warden
Cherab Division
Kishtwar

Wahid
Executive Engineer
PMGSY Division
Marwah

PLAN SHOWING THE DRAWINGS OF APPROACH PATH WALLING AND 3MTR SPAN RCC CULVERT FOR
SAFE PASSAGE OF WILD ANIMALS IN FOREST LAND ON IKHALA BLOCK BOUNDARY KISHTWAR TO
LOPARA ROAD PART-II



X-SECTION OF APPROACH WALL TO
CULVERT FOR PASSING WILD ANIMALS



[Signature]
Wildlife Warden
Chenab Division
Kishtwar

[Signature]
Executive Engineer
PNGSY Division
Marwah