

# Wildlife Mitigation Plan

Proposed for Construction of  
motor road start from  
Naudkhal Mala KM 7 to Kota  
KM 12.05 in Distt. Pauri  
Garhwal

*[As cited in the recommendation of NBWL Letter F.no. 6-154/2019 WL Dated  
21/01/2020 sub para 56.4.2 (copy enclosed)]*

**Wildlife Mitigation Plan For Proposed Construction of  
Motor road Naudkhal Mala km 7 to kota KM 12.05  
km Under PMGSY in Distt. Pauri Garhwal**

Total length of Road	12.05 km
Length of road in RF (Bijini Beat, Gohri Range, RTR)	0.75 hect (1500 m)
Length of road in VP	0 hect
Length of road in civil forest	2.752 hect (5505.5 m)
Length of road in private land	4.50 hect (5000 m)

The Motor road construction is proposed (village road) to be passing through the buffer zone of Rajaji Tiger Reserve inhabits many wild animal like elephant, leopard, wild pig, in addition to other wild animal. The likelihood movement of these wild animals being disturbed because of the construction of this road.

Hence to minimize this and to avoid any possible incidence of conflicts with wild animals "Wildlife Mitigation Plan" is being prepared on the basis of Wildlife Clearance obtained with certain mitigation measures as cited in the recommendation of **NBWL Letter F.no. 6-154/2019 WL Dated 21/01/2020** sub para 56.4.2 which consists the following structures and preventive measures :-

**Wild life Mitigation plan as per NBWL**

In 56<sup>th</sup> Meeting of the standing Committee of NATIONAL Board for Wild life dated 17.12.2019 NTCA has recommended the project Construction of Naudkhal mala km 7 to kota MR under PMGSY Works with MITIGATIVE MEASURE as follow which has to be furnished by the user Agency before start of work.



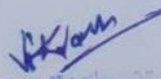
- (a) The width of road within stretch of Rajaji Tiger Reserve (buffer area) will be 5m including carriage way and paved shoulder (mentioned in point(i) of NBWL )
- width of road within stretch of Rajaji Tiger Reserve (buffer area) is kept 5m including carriage way and paved shoulder it is also shown in land schedule.
- (b) No existing drainage system should be disturbed while construction the road (mentioned in point (iii) of NBWL).
- For this UA will constructed culvert at various chainage along the full stretch of motor road. (copy enclosed)
- (c) Construction work will be done during day time only. (Mentioned in point (iv) of NBWL).
- (d) The material for road works(including top soil) will be procured from outside forest area and no hazardous material will be used during construction (Mentioned in point (v) of NBWL).
- (e) User agency will provide speed breakers and rumble strips at the interval of every 400-500 meter along the stretch of road to reduce traffic volume and speed. The speed breaker and rumble strip will be provided at maximum wildlife crossings and no blasting will be carried out within 1km of boundary of protected area(Mentioned in point (vi) of NBWL).
- User agency will constructed speed breakers and rumble strips at the interval of every 400-500 meter along the stretch of road to reduce traffic volume and speed. The speed breaker and rumble strip will be provided at maximum wildlife crossings and no blasting will be carried out within 1km of boundary of protected area.
- (f) No vehicular movement will be allowed at night which would be permitted at emergency case by tiger reserve management (Mentioned in point (vii) of NBWL).

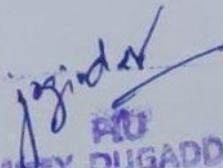
(g) Signage and caution board will be provided by user agency for spreading awareness (Mentioned in point (viii) of NBWL).

(h) Animal passage culvert with dimension of least 5m height and 4.0-5.0m width with minimum opening 1.2 as per recommended by NTCA-WII guidelines for allowing species like tiger to cross road will be constructed and location of these structure will be decided with fresh survey with tiger reserve management before start of work.(Mentioned in point (viii) of NBWL).

- UA will constructed Animal passage culvert box with dimension of least 5m height and 4.0-5.0m width with minimum opening 1.2 as per recommended by NTCA-WII guidelines for allowing species like tiger to cross road will be constructed. (copy enclosed)

These above mitigation measure will be done by user agency before start of work on the basis of WII Guid lines.

  
Assistant Engineer, NPCC Ltd.  
PMGSY, District, Garhwal  
Distt. Pauri Garhwal (Uttarakhand)

  
PMUSY, DUGADDA  
PAURI GARHWAL (Uttarakhand)



## Mitigation Plan Measure

1. Construction of under pass (Box culverts)  
(As Mentioned in point (viii) of NBWL)

A minimum span of 30 m with a height of 5m and width 6 m would work for most species in tiger landscapes.

2. Density of mitigation structure

A passage way of over 50 m per 1 km length of structure in forested habitats would ensure the habitat connectivity is maintained and fragmentation is avoided.

3. Speed breakers and rumble strips at the interval of every 400-500 meter along the stretch of road to reduce traffic volume and speed.

### Under pass (Box Culverts)

These square or rectangular structures built under the linear infrastructure of dimension height of 5m and width 6 m for passage of fauna (including aquatic species).



Source: Photograph by Akanksha Saxena.

Box Culverts

परियोजना का नाम :- जनपद पौड़ी गढ़वाल में प्रधानमंत्री ग्रामीण सड़क योजना के अन्तर्गत नोडखाल माला किमी 07 से कोटा मोटर मार्ग (12.050 कि०मी०) के नव निर्माण हेतु भूमि हस्तान्तरण प्रस्ताव।

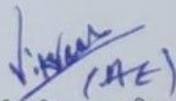
## संयुक्त निरीक्षण रिपोर्ट

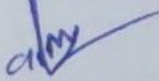
आज दिनांक 20.12.2020 को प्रधान मंत्री ग्रामीण सड़क योजना एन०पी०सी०सी० खण्ड पी०एम०जी०एस०वाई० दुग्गड्डा पौड़ी गढ़वाल के द्वारा नोडखाल माला किमी० 7 से कोटा तक बनाये जाने वाले Animals Passage Plan (As per NBWL Guide Line) हेतु स्थल निरीक्षण किया गया है। संयुक्त निरीक्षण के समय वन विभाग एवं प्रयोक्ता एजेन्सी के कर्मचारी मौजूद थे।

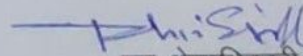
संयुक्त निरीक्षण में Animals Passage Plan हेतु 6 स्थान चयनित किये गये जंहा Box culvert जानवरों के आवाजाही हेतु बनाया जाना उपयुक्त रहेगा, जिनका विवरण निम्न प्रकार है :-

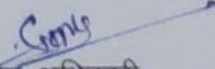
SI No.	Chainage	Coordinate	
1	2/17 (2.4 Km)	30 06' 3.47"	078 24' 42.6"
2	4/4 (4.1 Km)	30 06' 11.14"	078 24' 26.0"
3	6/18 (6.45 Km)	30 06' 26.76"	078 24' 15.28"
4	7/4 (7.10 Km)	30 06' 37.09"	078 24' 27.3"
5	8/5 (8.13 Km)	30 07' 08.00"	078 24' 22.34"
6	10/20 (10.50 Km)	30 07' 34.27"	078 24' 39.0"

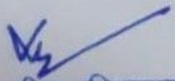
नोट :- मोटर मार्ग निर्माण के दौरान विभाग द्वारा वन विभाग के साथ Box culvert लगाये जाने से पूर्व एक बार निरीक्षण किया जायेगा।


  
(AE)  
ए०ई०, पी०एम०जी०एस०वाई०  
एन०पी०सी०सी० दुग्गड्डा

  
अनुभाग अधिकारी  
बिजनी अनुभाग गोहरी रेंज  
राजाजी टाईगर रिजर्व

  
वन क्षेत्राधिकारी  
गोहरी रेंज  
राजाजी टाईगर रिजर्व

  
वन बीट अधिकारी  
बिजनी बीट गोहरी रेंज  
राजाजी टाईगर रिजर्व

  
वन्य जीव प्रतिपालक  
राजाजी टाईगर रिजर्व,  
देहरादून।

  
उप-निदेशक  
राजाजी राष्ट्रीय पार्क  
उत्तराखण्ड, देहरादून



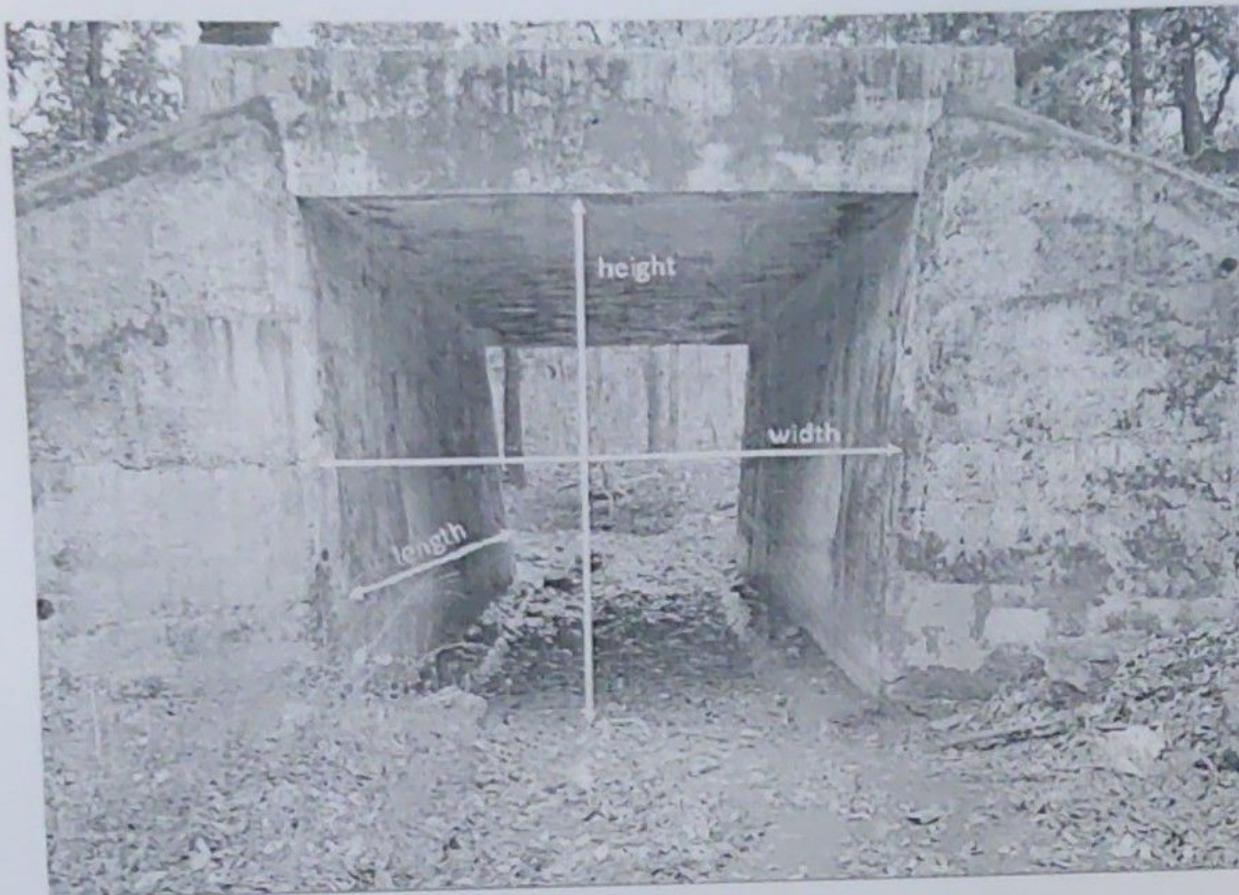


Figure 7.1. Dimensions of an underpass determining its openness.

*[Signature]*  
 Assistant Engineer, NPCC Ltd.  
 PMGSY Works, Dugadda  
 Distt. Pauri Garhwal (Uttarakhand)

*[Signature]*  
 PIU  
 PMGSY, DUGADDA  
 PAURI GARHWAL (UK)

74  
In support of point (b) of NBWL

Name of Work : Construction Of Naudkhal Mala K.M-7 To Kota Motor Road Under PMGSY Length 12.050 Km.

Block :- YAMKESWAR

District : PAURI GARHWAL

DETAILS OF RCC CULVERT

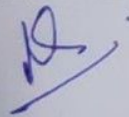
S/No	Chainage	Location (X/S)	Nos	Length (Rmt.)	Quantity (Rmt.)	Remark
1	200-225	0/8	1x1	6.90	6.90	CULVERT
2	350-375	0/14-0/15	1x1	6.90	6.90	
3	525-550	0/21	1x1	6.60	6.60	
4	600-625	0/24-0/25	1x1	6.90	6.90	
5	750-775	0/30-0/31	1x1	6.60	6.60	
6	900-925	0/36-0/37	1x1	6.60	6.60	
7	1000-1025	0/40-1/1	1x1	6.60	6.60	
8	1200-1225	1/8-1/9	1x1	6.60	6.60	
9	1250-1275	1/10-1/11	1x1	6.90	6.90	
10	1375-1400	1/15	1x1	6.00	6.00	
11	1500-1525	1/20-1/21	1x1	6.90	6.90	
12	1700-1725	1/28	1x1	6.60	6.60	
13	1800-1825	1/32	1x1	6.60	6.60	
14	2050-2075	2/2-2/3	1x1	6.00	6.00	
15	2250-2275	2/10	1x1	6.60	6.60	
16	2325-2350	2/13	1x1	6.90	6.90	
17	2400-2425	2/16	1x1	6.60	6.60	
18	2500-2525	2/20	1x1	6.60	6.60	
19	2700-2725	2/28	1x1	6.90	6.90	
20	2800-2825	2/32	1x1	6.60	6.60	
21	2900-2925	2/36	1x1	6.90	6.90	
22	3150-3175	3/6-3/7	1x1	6.90	6.90	
23	3225-3250	3/9-3/10	1x1	6.60	6.60	
24	3325-3350	3/13-3/14	1x1	6.60	6.60	
25	3375-3400	3/15-3/16	1x1	6.60	6.60	
26	3475-3500	3/19	1x1	6.60	6.60	
27	3575-3600	3/23	1x1	6.00	6.00	
28	3725-3750	3/29-3/30	1x1	6.90	6.90	
29	3825-3850	3/33	1x1	6.90	6.90	
30	3900-3925	3/36	1x1	6.00	6.00	
31	4050-4075	4/2	1x1	6.60	6.60	
32	4100-4125	4/4-4/5	1x1	6.60	6.60	
33	4250-4275	4/10-4/11	1x1	6.60	6.60	
34	4350-4375	4/14	1x1	6.60	6.60	
35	4550-4575	4/22-4/23	1x1	6.60	6.60	
36	4675-4700	4/27-4/28	1x1	6.60	6.60	
37	4750-4775	4/30-4/31	1x1	6.60	6.60	
38	4850-4875	4/34	1x1	6.00	6.00	
39	5100-5125	5/4-5/5	1x1	6.00	6.00	
40	5325-5350	5/13	1x1	6.00	6.00	
41	5650-5675	5/26	1x1	6.00	6.00	
42	5750-5775	5/30-5/31	1x1	6.60	6.60	



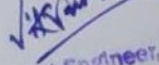
43	5975-6000	5/39-5/40	1x1	6.60	6.60
44	6125-6150	6/5-6/6	1x1	6.60	6.60
45	6250-6275	6/10-6/11	1x1	6.60	6.60
46	6525-6550	6/21	1x1	6.60	6.60
47	6625-6650	6/25-6/26	1x1	6.60	6.60
48	6800-6825	6/32	1x1	6.60	6.60
49	6875-6900	6/35-6/36	1x1	6.60	6.60
50	6950-6975	6/38-6/39	1x1	6.60	6.60
51	7050-7075	7/2	1x1	6.60	6.60
52	7225-7250	7/9-7/10	1x1	6.90	6.90
53	7425-7450	7/17-7/18	1x1	6.60	6.60
54	7625-7650	7/25-7/26	1x1	6.90	6.90
55	7875-7900	7/35	1x1	6.00	6.00
56	8050-8075	8/2	1x1	6.90	6.90
57	8200-8225	8/8	1x1	6.60	6.60
58	8300-8325	8/12	1x1	6.90	6.90
59	8375-8400	8/15-8/16	1x1	6.60	6.60
60	8525-8550	8/21	1x1	6.60	6.60
61	8625-8650	8/25-	1x1	6.60	6.60
62	8700-8725	8/28-8/29	1x1	6.90	6.90
63	8975-9000	8/39-8/40	1x1	6.60	6.60
64	9050-9075	9/2-9/3	1x1	6.60	6.60
65	9175-9200	9/7-9/8	1x1	6.60	6.60
66	9475-9500	9/19-9/20	1x1	6.60	6.60
67	9675-9700	9/27-	1x1	6.60	6.60
68	9800-9825	9/32	1x1	6.60	6.60
69	9875-9900	9/35	1x1	6.60	6.60
70	10075-10100	10/3-10/4	1x1	6.60	6.60
71	10250-10275	10/10-10/11	1x1	6.60	6.60
72	10350-10375	10/14	1x1	6.60	6.60
73	10475-10500	10/19-10/20	1x1	6.60	6.60
74	10625-10650	10/25	1x1	6.00	6.00
75	10825-10850	10/33	1x1	6.60	6.60
76	10950-10975	10/38-10/39	1x1	6.00	6.00
77	11125-11150	11/5-11/6	1x1	6.00	6.00
78	11250-11275	11/10-	1x1	6.60	6.60
79	11425-11450	11/17-11/18	1x1	6.00	6.00
80	11650-11675	11/26-11/27	1x1	6.60	6.60
81	11800-11825	11/32	1x1	6.90	6.90
82	11975-12000	11/39-11/40	1x1	6.00	6.00
				Total Qty.	537.90
					Rmt.

Quantity Of Cement Plum Masonary Toe Of Culvert (3x1.5x1.5) Dwon Stream Side						
Item	No.	Length	Width	Height	Qty.	Unit
Toe wall Of Culvert below abutement	82.00	3.60	1.50	1.50	664.20	Cum

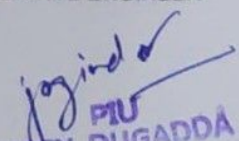
JUNIOR ENGINEER



ASSISTANT ENGINEER

  
Assistant Engineer, NPCC Ltd.  
PMGSY Works, Dugadda  
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EXECUTIVE ENGINEER

  
PIU  
PMGSY, DUGADDA  
PAURI GARHWAL (UK)