

GOVERNMENT OF JAMMU AND KASHMIR



DETAILED PROJECT REPORT

FOR
UPGRADATION OF ROAD FROM
KM 4TH OF T02 TO MADAM

UNDER

PARDHAN MANTRI GRAM SADAK YOJANA

DISTRICT: BARAMULLA

BLOCK: TANGMARG

LENGTH OF ROAD: 2.50 KM

PACKAGE NO: JK03

Cost of Project:	450.75 Lacs	320.65 Lacs
Maintenance Cost	44.75 Lacs	44.75 Lacs
Renewal coat of OGPC	44.61 Lacs	38.40
Total Cost:	539.75 LACS	503.80 Lacs

390.82 Lacs

2. Executive Engineer
PMGSY (JKRRDA)
Infrastructure Engineer
PMGSY (JKRRDA) Dept
BARAMULLA

Signature

PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY) SUMMARY SHEET

PACKAGE NO. :-JK03

Annexure 7.1, Format F-1

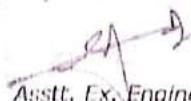
NAME OF PROJECT: KM 4TH OF T02 TO MADAM

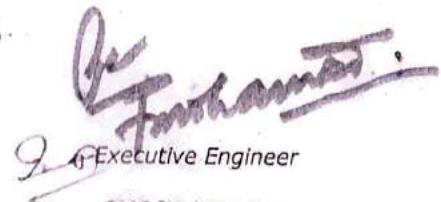
BLOCK: TANGMARG

LENGTH: 2.50KM

DISTRICT: BARAMULLA

S.N No	Name of road	Total No of habitation	Unconnected habitations				Package No District
			>1000	500-999	250- 500	<250	
1.	Km 4 th of T02 to Madam	5	3	2	-	-	JK03- BARAMULLA
Type of work	No. of roads	Total length of roads (Km)	No of New CD structure	Estimate cost			
1	2	3	4	Pavement from Format F-5	CD struktur e from Format F-6	Misc	Total (5+6+7)
U	1	2.50	11	457.57	79.25	2.93	539.75
Total				=450.40 Lacs. 317.72			
M. Cost				=44.75 Lacs 36.931.72			
Renewal coat of OGPC				=44.61 Lacs 38.40			
Grand Total				=539.75 Lacs 549.058 Lacs 390.82 Lacs			


Asstt. Ex. Engineer


Executive Engineer

PMGSY / JKRRDA

EXCUTIVE ENGINEER
PMGSY (JKRRDA) DIVISION
BARAMULLA

Upgradation of Road From Km 4th of T02 to Madam

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1. Form 8: **Permittee's Summary**
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D. Annexure

Annexure-1 **Details of soil tests (Section 4.2)**
Annexure-2 **Detailed hydraulic calculation of all replaced and proposed new culverts (Section 6.7)**
Annexure-3 **Chamager-wise Cut/SJ volume**
Annexure-4 **Traversed walk report**

1. Introduction

1.1 Objectives of Pradhan Mantri Gram Sadak Yojna (PMGSY)

Rural Road connectivity is a key component of rural development by promoting access to economic and social services and thereby generating increased agricultural incomes and productive employment opportunities. It is also a key ingredient in ensuring poverty reduction.

It was against this background of poor connectivity that the Prime Minister announced in 2000, a massive rural roads program. The Prime Minister's Rural Road Program (Pradhan Mantri Gram Sadak Yojana, PMGSY) set a target of:

- Achieving all-weather road access to every village/habitation with a population greater than 1000 by 2003
- Providing all-weather road access to all villages/habitations of population greater than 500 people [250 in case of hill States (North-Eastern states, Sikkim, Himachal Pradesh, Jammu & Kashmir and Uttaranchal), the desert areas and tribal areas] by the end of the Tenth Five Year Plan, i.e., 2007

1.3 Core Network

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 Km 4th of T02 to Madam, is a through road with Code L030 in Tangmarg block of Baramulla District. This road directly connects the habitations of Ranipora-A and B, Ranipora Brah and Sohach with populations of 2472, 1848, 3509, 1542 and 1076 respectively. Thus this link road serves the total population of 10447.

Upgradation of Road From Km 4th of T02 to Madam

1.4 Geography

Road alignment passes through orchards, builtup area with Plain/Hilly terrain.

1.5 Climatic Condition

In summer temperature rises to Max. 35 deg and in winters night temperature falls to min 5 deg.

1.6 The Sub-Project Road

The road passes through plain/ hilly terrain

Road is partly in filling and partly in cutting and passing through the apple orchards and builtup area comprising of schools, mosques, water supply lines and electricpoles.

District:	Baramulla
Block:	Tangmarg
Road Name:	Km 4 th of T02 to Madam
Road Code:	159105
Package No:	JK03-
Road Length:	2.5 Km
Start Point:	34.084896 N, 74.428197 E
End Point:	34.103911 N, 74.441388 E

2. Planning and Basic Design Consideration

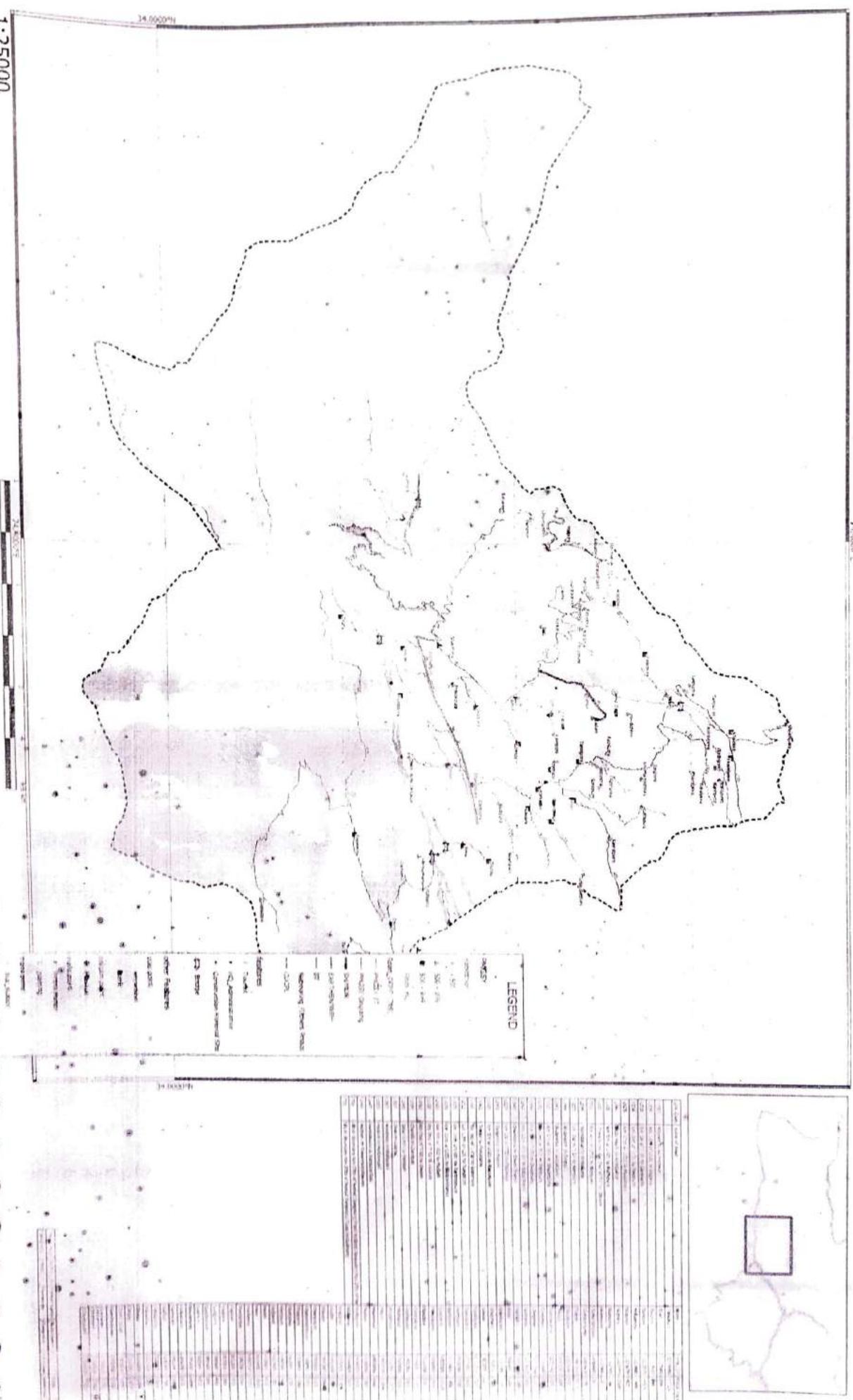
2.1 Key maps

Annexure Attached

2.2 Preliminary alignment investigation Strip Plan Attached

Annexure Attached

DRRP of Tangmarg block in District Baramulla



Name of the Road

up-gradation and Maintenance of Road from KM 4th of T 0-1 to Madam

Block

TANGMARG

District

PIRAMULLA

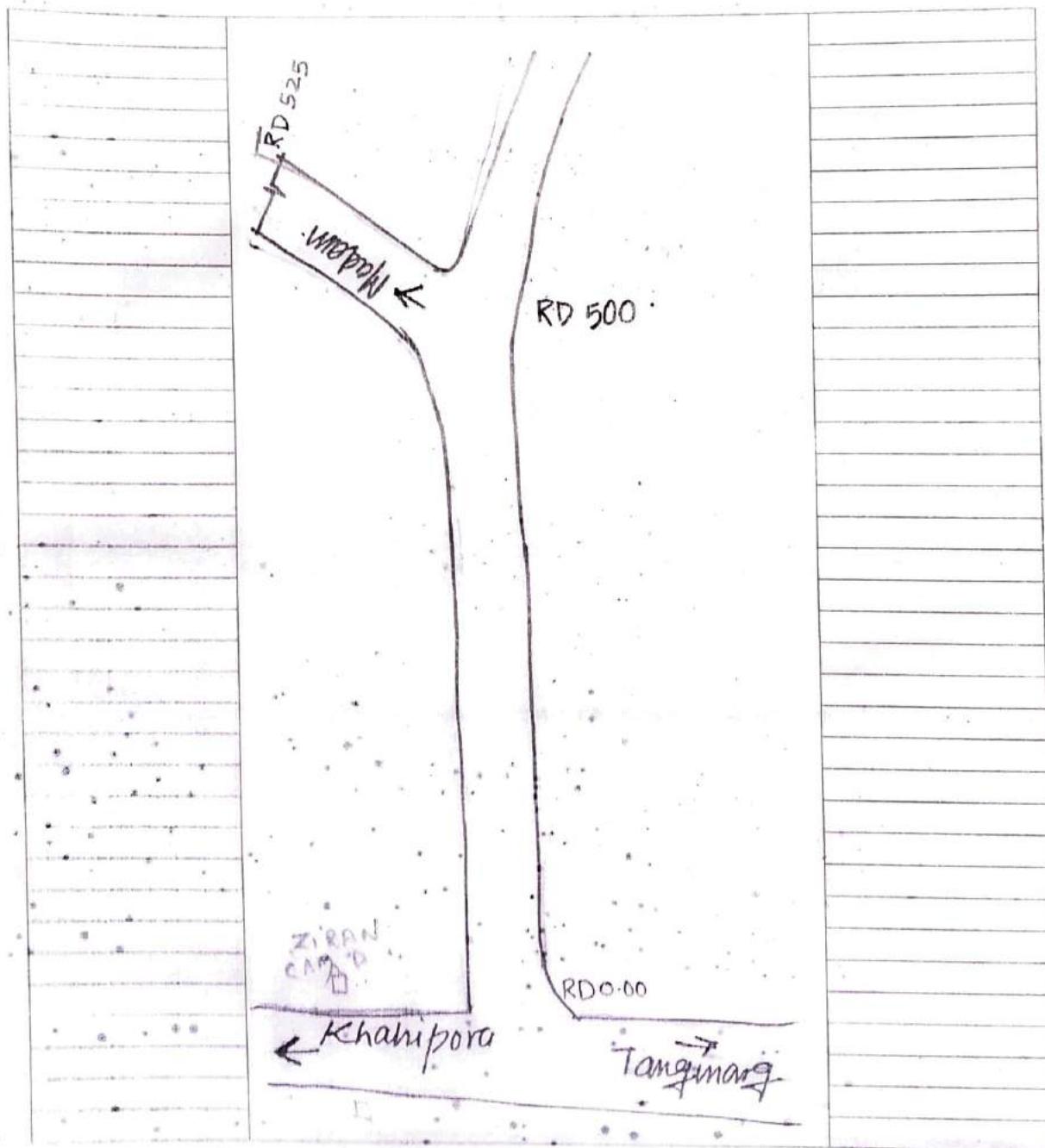
State

Jammu and Kashmir

Date

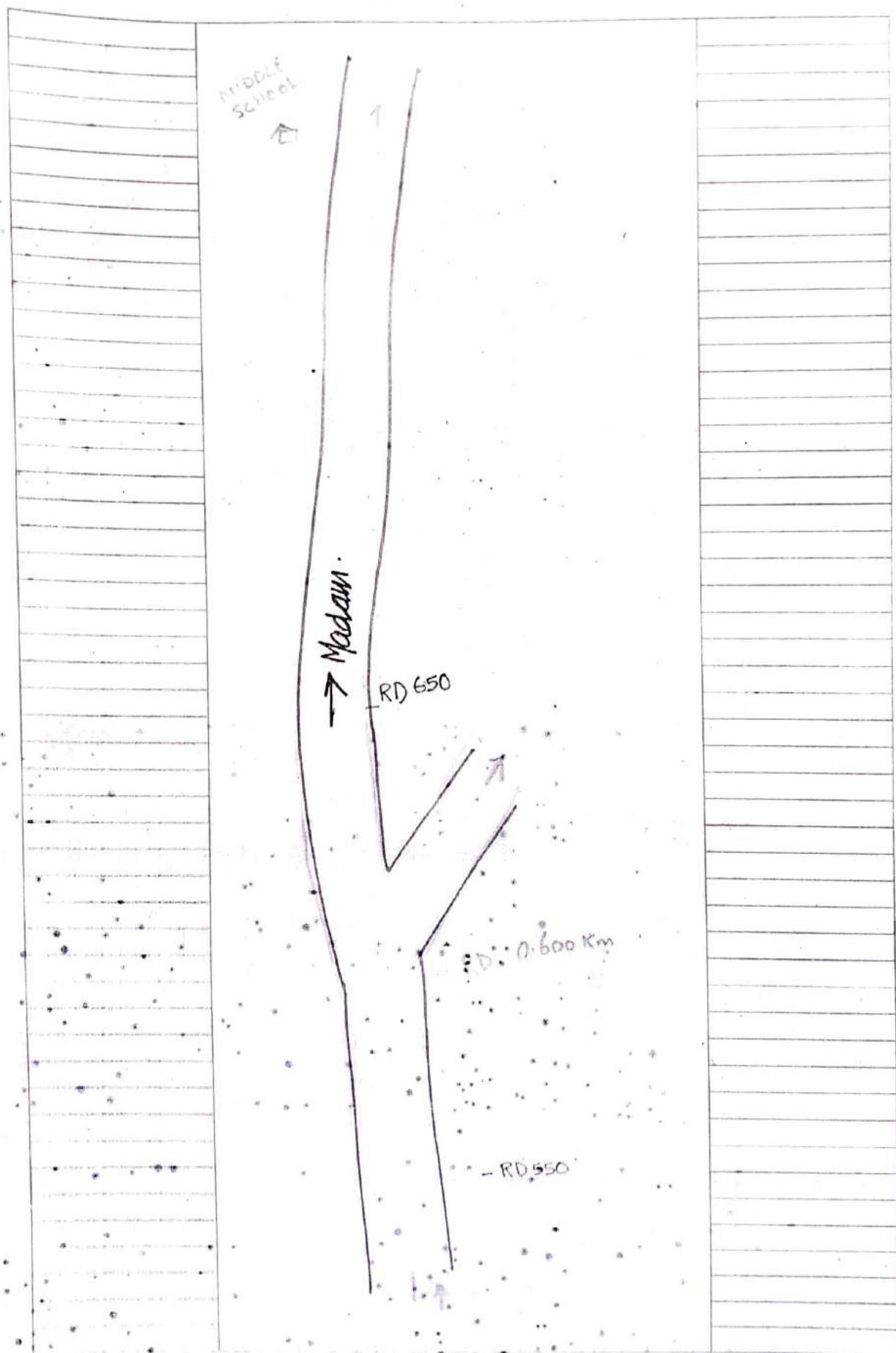
21-07-2019

Staff

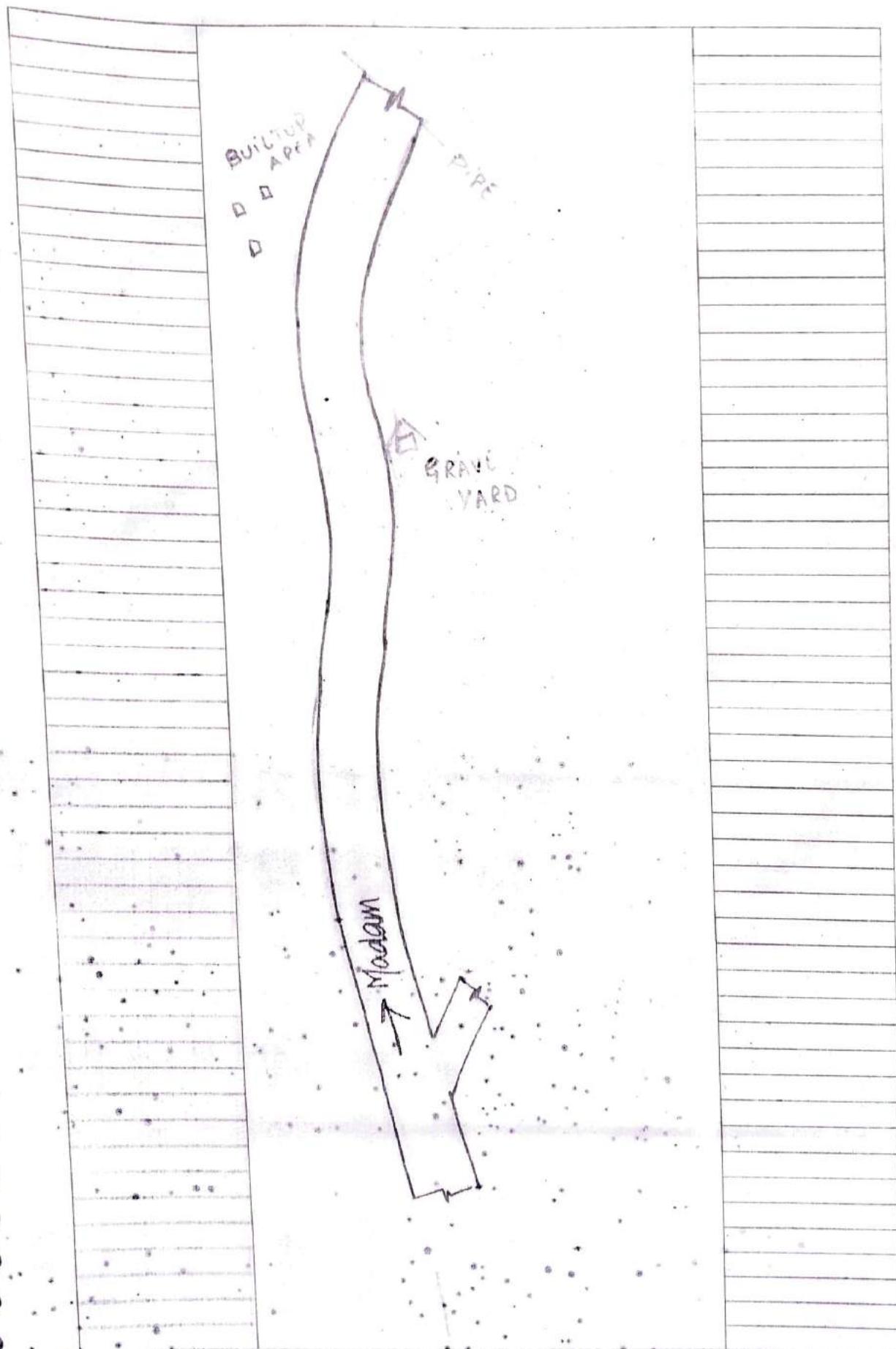


Up-gradation and Maintenance of Road from km 4.1 to 2 To Madam

②

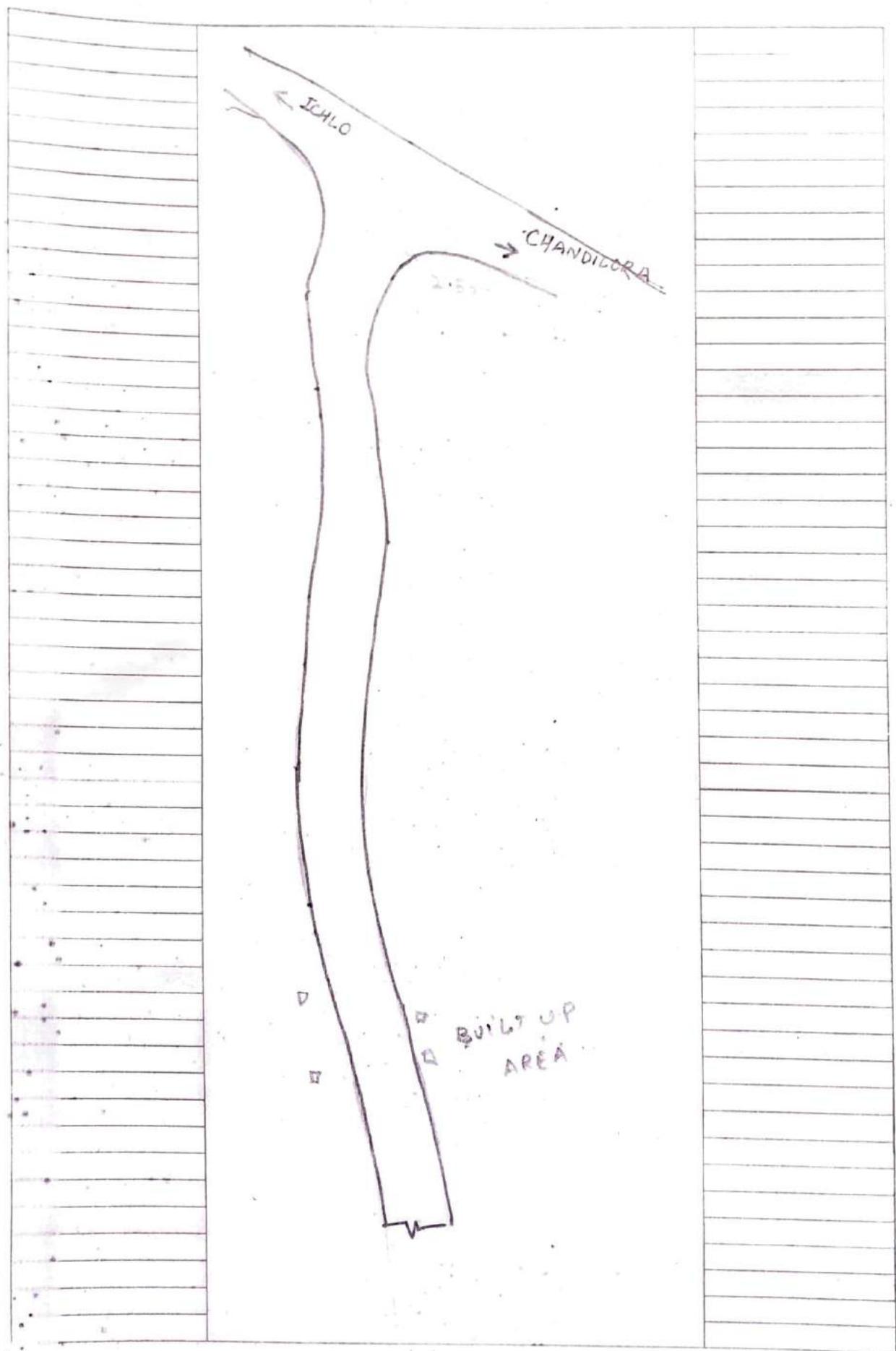


Up-Grading and Maintenance of Road from km 4m of T.O.2 to Madam ⑧



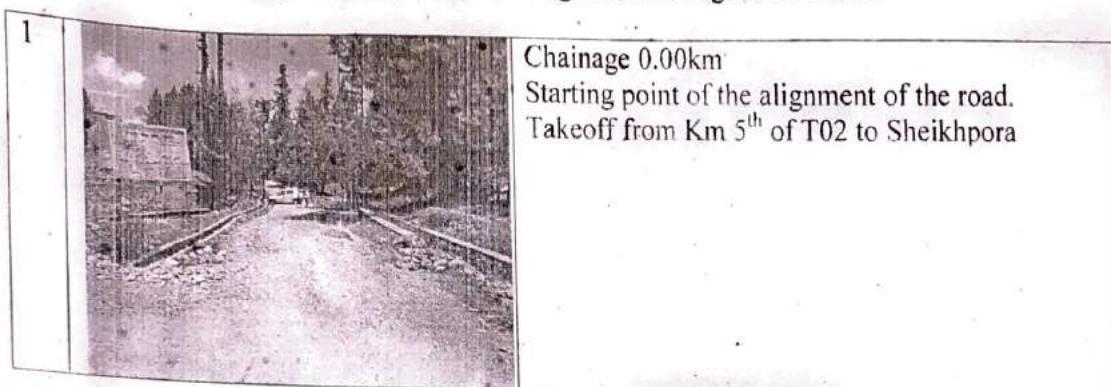
Construction and Maintenance of Road from km 4th of T 0-1 to Mackam

4



Upgradation of Road From Km 4th of T02 to Madam

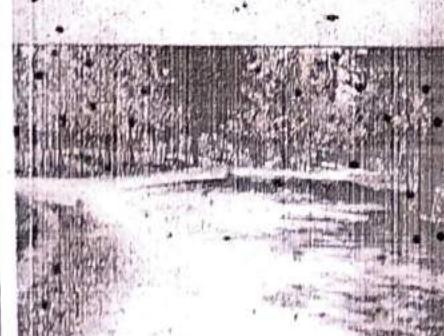
Figure-2 Strip plan showing land and alignment details



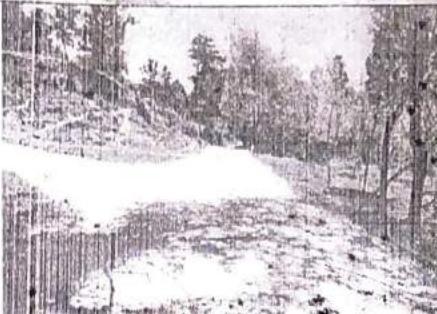
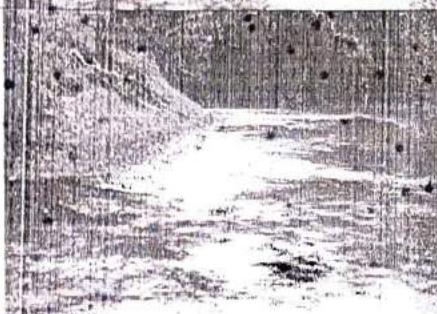
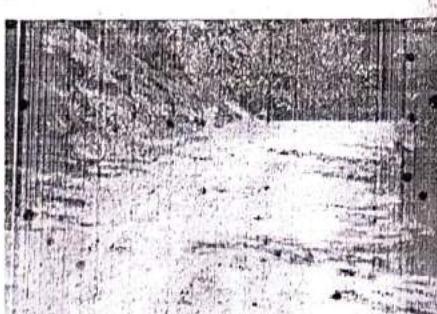
Upgradation of Road From Km 4th of T02 to Madam

2		Chainage 0.050km Starting point of the alignment of the road. View of the road intersection looking towards the Madam.
3		Chainage 0.100km Photograph showing R/S forest Land and LHS private land.
4		Chainage 0.150km Right side open land for road widening, left side private land.
5		Chainage 0.200km Requisite road width available for widening of the road.
6		Chainage 0.250km Left side forest land. Right side paddy land requires protection work.

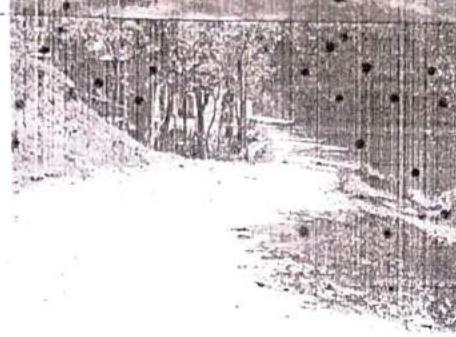
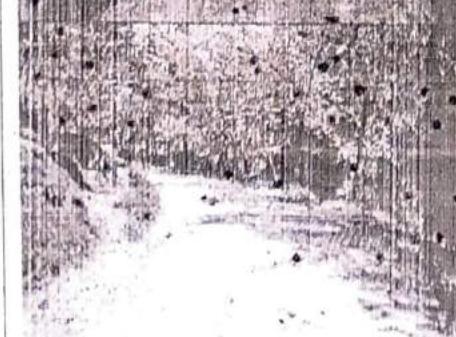
Upgradation of Road From Km 4th of T02 to Madam

7		Chainage 0.300km Land available for road widening.
8		Chainage 0.350km Non-Cultivated land both sides.
9		Chainage 0.400km Non-Cultivated land both sides.
10		Chainage 0.450km Straight alignment with requisite road width available.
11		Chainage 0.500km Alignment showing junction left link is followed for alignment.

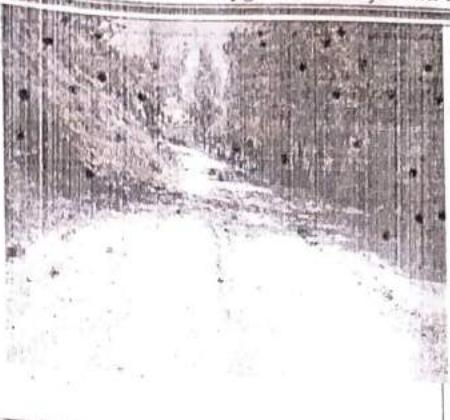
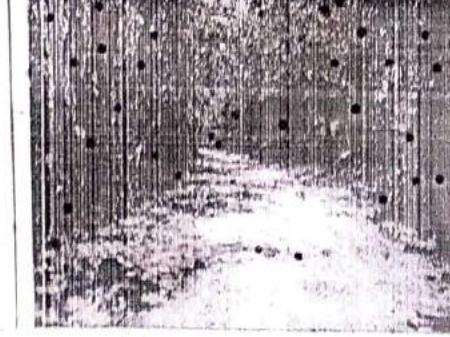
Upgradation of Road From Km 4th of T02 to Madam

12		Chainage 0.550km General view of the road .
13		Chainage 0.600m Right side paddy field left side junction.Straight way is followed for alignment.
14		Chainage 0.650km Protection work required for road widening land available for both sides.
15		Chainage 0.700km Protection work required for road widening land available for both sides.
16		Chainage 0.750km Dilapidated condition of the existing road surface.

Upgradation of Road From Km 4th of T02 to Madam

17		Chainage 0.800km Un cultivated land both sides land available for widening of road.
18		Chainage 0.850km Un cultivated land both sides land available for widening of road.
19		Chainage 0.900km Un cultivated land both sides land available for widening of road.
20		Chainage 0.950km Left side school building with permanent fencing.
21		Chainage 1.000km Protection work required for both sides and dilapidated condition of road.

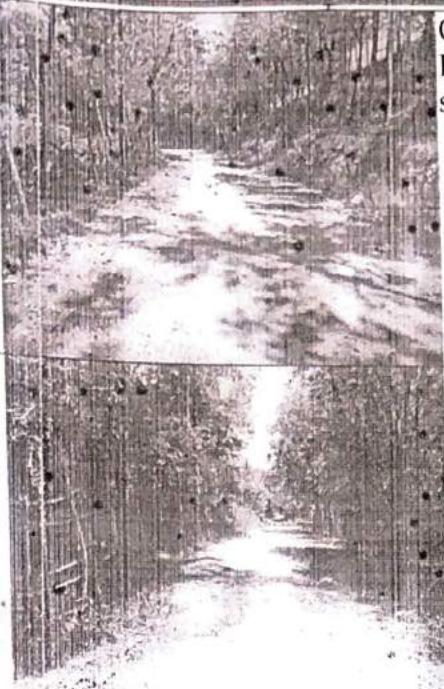
Upgradation of Road From Km 4th of T02 to Madam

22		Chainage 1.050km Protection work required for both sides and dilapidated condition of road .
23		Chainage 1.100km Orchards on left side necessary width available.
24		Chainage 1.150km Orchard on left side protection work required on Right side.
25		Chainage 1.200km Orchard on left side protection work required on Right side.
26		Chainage 1.250km Orchard on left side protection work required on Right side.

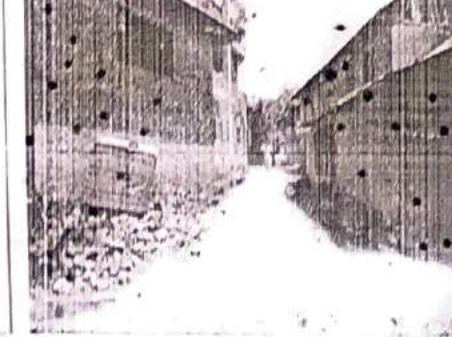
Upgradation of Road From Km 4th of T02 to Madam

27		Chainage 1.300km Orchard on left side protection work required on Right side.
28		Chainage 1.350km Orchard on left side protection work required on Right side.
29		Chainage 1.400km Left side straight link followed in the alignment.
30		Chainage 1.450km General view with both sides agricultural land.
31		Chainage 1.500km Orchards on both sides. Involvement of fruit/ non fruit-bearing trees involved in the alignment.

Upgradation of Road From Km 4th of T02 to Madam

32		Chainage 1.550km Protection work required on right side of hill slope.
33		Chainage 1.600km Agricultural land on both sides. And dilapidated condition of the road.
34		Chainage 1.650km Orchard land on both sides and dilapidated condition of existing pavement.
35		Chainage 1.700km Orchards on both sides.
36		Chainage 1.750km Left side uncultivated land Right side cultivated land requires protection work.

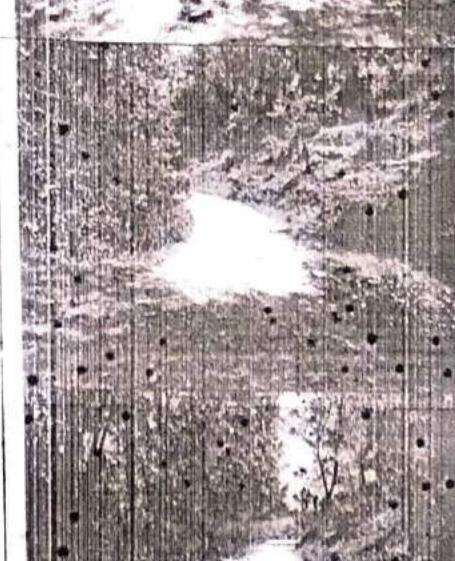
Upgradation of Road From Km 4th of T02 to Madam

37		Chainage 1.800km Junction shows straight R/side alignment followed.
38		Chainage 1.850km Existing least width of the road with dilapidated condition of pavement.
39		Chainage 1.900km Right side Grave yard.
40		Chainage 1.950km Left side irrigation canal requires C.C Drain . Right side Grave yard.
41		Chainage 2.000km Built up area Structures coming in the road alignment.

Upgradation of Road From Km 4th of T02 to Madam

42		Chainage 2.050km Built up area.
43		Chainage 2.100km Built up area both sides.
44		Chainage 2.150km Junction
45		Chainage 2.200km Orchards on both sides.
46		Chainage 2.250km Orchards both sides

Upgradation of Road From Km 4th of T02 to Madam

47		Chainage 2.300km Front view.
48		Chainage 2.350km Orchards both sides
49		Chainage 2.400km Orchards both sides requires protection work.
50		Chainage 2.450km Orchards both sides requires protection work.
51		Chainage 2.500km Orchards both sides requires protection work.

Upgradation of Road From Km 4th of T02 to Madam

52



Chainage 2.500km
A general of road at tail end.

| Whole Number |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
| 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 |
| 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
| 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 |
| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 |
| 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 |
| 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 |
| 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
| 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 |
| 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
| 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 |
| 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 |
| 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
| 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 |
| 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 |
| 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
| 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 |
| 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 |
| 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |
| 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 |
| 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 |
| 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 |
| 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 |
| 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
| 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 |
| 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 |
| 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 |
| 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 |
| 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 |
| 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 |
| 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 |
| 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 |
| 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
| 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 |
| 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

1. **Identify the fraction or mixed number.**2. **Find the greatest common factor of the numerator and denominator.**3. **Divide the numerator and denominator by the greatest common factor.**4. **Write the fraction in its simplest form.**5. **Find the fraction or mixed number that is equivalent to the original fraction or mixed number.**6. **Answer**

Population: 2000,000

Fraction: $\frac{2000}{1000000}$ or $\frac{1}{500}$ Simplifying: $\frac{1}{500}$ Mixed Number: $0\frac{1}{500}$ or 0.002 Fraction: $\frac{1}{500}$ 

3. Topographic Survey

3.1 General

Topographic survey true to ground realities have been done using Topographic survey true to ground realities has been done using Auto level and measuring tape.

The in-house standards, work procedures and quality plan prepared with reference to IRC: SP 19-2001, IRC: SP 20; IRC: SP 13 (in respect of surveys for riversstreams) and current international practices have been followed during the above survey.

3.3 Leveling

Auto level has been used for leveling purposes.

3.4 Cross Section & Detailing

Cross sections were taken at 25/50/100 m interval and at closer interval in curved portion of the existing road. All physical features of the road were recorded.

3.5 Data Processing

All data from topographic survey recorded by total station were downloaded and final alignment, plan, profile were prepared and presented in AutoCAD Format.

3.6 TMB was fixed on R-wall at

3.7 Checklist

Reference pillars given	Yes <input type="checkbox"/>	No <input type="checkbox"/>
TBM with northing-easting given	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Traverse survey carried out	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Cross section and detailing carried out	Yes <input type="checkbox"/>	No <input type="checkbox"/>

4. Soil and Materials Survey

4.1 General

The soil and material investigations were done following the guidelines of IRC: SP: 20-2002 and IRC: SP: 72-2007 and other relevant IS codes. The potential sources of borrow areas for soil and quarry sites will be identified.

4.2 Soil sample collection and Testing

Soil samples will be collected along and around the road alignment at three (3) locations per km, from the adjoining borrow areas, as well as one sample is collected from the existing road. Soil Classification tests like grain size analysis and Atterberg's limit were conducted for all the samples collected. Standard Proctor test and the corresponding 4 day soaked CBR test were conducted either for a minimum of one test per km for soil samples of same group or more tests due to variation of soil type. The following tests were conducted as detailed below:

- Grain size analysis as per IS : 272 (Part 4) – 1985
- Atterberg's limit as per IS : 2720 (Part 5) – 1985
- Standard Proctor density test as per IS : 2720 (Part 7) – 1980
- 4 day soaked CBR test as per IS : 2720 (Part 16) – 1985

4.3 Analysis of Test Results

The laboratory soaked CBR value ranges from% to% The soil laboratory test results will be summarized in Table 4.1.

Table 4.1 CBR values for different stretches

Sl.No.	Section	CBR (%)

4.4 Coarse and Fine Aggregates

Information regarding the source of aggregate and sand will be gathered. The stone aggregates shall be procured from Donipawa where as the locally available sand shall be used. The source and the lead distance from the quarry to project site will be finalized in discussion with the PIU. The aggregates and sand where available and acceptable shall be used for bituminous work, concrete works, other pavement works.

Figure -3 Quarry Map

4.5 Sub-soil investigation for bridges

4.6 Checklist

Borrow pit suitable	Yes <input type="checkbox"/>	No <input type="checkbox"/>
SSI for existing ground	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Investigation for coarse/fine aggregate	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Quarry map	Yes <input type="checkbox"/>	No <input type="checkbox"/>

5. Traffic Survey

5.1 General

In the present scenario of new connectivity/upgradation road, 3 day, 24 hr traffic volume count has been conducted on the already completed or similar type of PMGSY road in the vicinity of the project road. The Classified Volume Count survey has been carried out in accordance with the requirements of the TOR and relevant codes (IRC: SP: 19-2001, IRC: SP: 20, IRC: SP: 72-2007). The surveys have been carried out by trained enumerators manually under the monitoring of Engineering Supervisor.

5.2 Traffic Data and Analysis

The traffic count done was classified into different vehicle category as given below:

- Motorized vehicle comprising of light commercial vehicle, medium commercial vehicle, heavy commercial vehicle, trucks, buses, agricultural tractors with trailers, car, jeep, two wheelers etc.
- Non-motorized vehicles comprising of cycle, rickshaw, cycle van, animal drawn vehicle etc.

The number of laden and un-laden commercial vehicles was recorded during the traffic counts. Traffic volume count for this project road was done during summer season. The seasonal variation 20 % is based on local enquiry.

Average of 3 day traffic data is presented in following tables.

Table 5.1 Average Daily Traffic at R.D 5000 (both ways)

Sl. No.	Type of Vehicle	Day-1	Day-2	Day-3	Average
1	Car, Jeep, Van	717	590	703	670
2	Auto Rickshaw	25	21	25	24
3	Scooters/Motorbikes	201	165	197	188
4	Bus / Minibus	230	104	116	150
5	Trucks	96	52	88	79
6	Tractors with trailer	20	11	18	16
7	Tractor without trailer	68	37	62	56
8	Cycles	125	103	123	117
	Cycle Rickshaw / Hand				
9	Cart	22	18	22	21
10	Horse cart / Bullock Cart	4	3	4	4
11	Pedestrian	412	339	404	385
Total commercial vehicle per day					
	(cvpd)	346	167	222	245
Total motorised vehicle per day		1357	980	1209	1182
Total non-motorised vehicle per day		151	124	149	141

- a) Traffic volume and mix do not vary along the road
- b) Traffic volume and mix vary along the road
- c) Traffic volume and mix will vary along the road in the future
- d) There is a potential for through traffic using the road

e) % of loaded vehicles

5.3 Traffic Growth Rate and forecast

Table 5.2 Average Annual Daily Traffic at RD5000 (both ways).

Sl. No.	Type of Vehicle	ADT	AADT	Growth Rate
1	Car, Jeep, Van	670	838	6%
2	Auto Rickshaw	24	30	6%
3	Scooters/Motorbikes	188	235	6%
4	Bus / Minibus	150	188	6%
5	Trucks	79	98	6%
6	Tractors with trailers	16	20	6%
7	Tractors without trailers	56	70	6%
8	Cycles	117	146	6%
9	Cycle Rickshaw / Hand Cart	21	26	6%
10	Horse cart / Bullock Cart	4	5	6%
11	Pedestrian	385	481	6%
Total commercial vehicle per day (cvpd)		245	306	6%
Total motorised vehicle per day		1182	1478	6%
Total non-motorised vehicle per day		141	177	6%

a) Traffic volume and mix do not vary along the road
 b) Traffic volume and mix vary along the road
 c) Traffic volume and mix will vary along the road in the future
 d) There is a potential for through traffic using the road

Table 5.3 Average Daily Traffic at RD 7900 (both ways)

Sl. No.	Type of Vehicle	Day-1	Day-2	Day-3	Average
1	Car, Jeep, Van	265	242	266	258
2	Auto Rickshaw	9	11	10	10
3	Scooters/Motorbikes	66	84	73	74
4	Bus / Minibus	85	53	48	62
5	Trucks	36	27	36	33
6	Tractors with trailer	7	6	7	7
7	Tractor without trailer	25	19	25	23
8	Cycles	46	53	50	50
9	Cycle Rickshaw / Hand Cart	8	9	9	9
10	Horse cart / Bullock Cart	1	2	2	2
11	Pedestrian	152	173	166	164
Total commercial vehicle per day (cvpd)		128	86	91	102
Total motorised vehicle per day		493	442	465	467
Total non-motorised vehicle per day		55	64	61	60

5.3 Traffic Growth Rate and forecast

Table 5.2 Average Annual Daily Traffic at R.D.7900 (both ways).

Sl. No.	Type of Vehicle	ADT	AADT	Growth Rate
1	Car, Jeep, Van	258	322	6%
2	Auto Rickshaw	10	13	6%
3	Scooters/Motorbikes	74	93	6%
4	Bus / Minibus	62	78	6%
5	Trucks	33	41	6%
6	Tractors with trailers	7	8	6%
7	Tractors without trailers	23	29	6%
8	Cycles	50	62	6%
	Cycle Rickshaw / Hand			
9	Cart	9	11	6%
10	Horse cart / Bullock Cart	2	2	6%
11	Pedestrian	164	205	6%
Total commercial vehicle per day (cvpd)		102	127	6%
Total motorised vehicle per day		467	583	6%
Total non-motorised vehicle per day		60	75	6%

6. Hydrological Survey

6.1 General

Hydrological survey is necessary for design of adequate and safe Cross Drainage Structures so that the rain water can pass as per natural slope. Hydrological survey of the proposed road is based on the following observations:

- Rainfall Data
- Catchments Area
- Time of Concentration
- Existing Cross Drainage Structures

6.2 Rainfall Data

Rainfall Data as applicable for the project road were collected with maximum rainfall occurring in the months of Feb, Mar, Apr.

6.3 Catchment Area

The Catchments area is calculated by gathering local information and topographical survey data as it was not possible to calculate from topographical sheets due to their unavailability.

6.4 Time of Concentration

Time of concentration (tc) in hours is calculated from the formula of $(0.87 \times L^{0.385}) / H$, where L is distance from the critical point to the structure site in km and H is the difference in elevation between the critical point and the structure site in meters.

6.5 Existing Cross Drainage Structures

There are 19 number of cross drainage structures along the existing project road as listed below:

(Insert the data in the table below)

Table-6.1 List and condition of existing culverts

Sl.	Chainage (km)	Description of Existing Structure		
		Type	Span/ Dia. (m)	Condition
1				
2				
3				
4				
5				
6				
7				

Upgradation of Road From Km 4th of T02 to Madam

7. Adopted Geometric Design Standards

7.1 General

The geometric design standards for this project conform to PMGSY guidelines and the guidelines as stated in IRC-SP 20:2002. Recommended design standards vis-à-vis the standards followed for this road are described below.

7.2 Terrain

The classification of terrain was selected from plain/rolling/hilly/steep classification for which following criteria will be applicable.

Terrain classification	Cross slope of the country	
Plain	0-10%	More than 1 in 10
Rolling	10-25%	1 in 10 to 1 in 4

7.3 Design Speed

The proposed design speed along this project road will be selected from the following table:

Road classification	Plain terrain		Rolling terrain	
	Ruling	Min.	Ruling	Min.
Rural Roads (ODR and VR)	50	40	40	35

7.4 Right of Way (ROW)

The requirement of ROW for this road is as follows (as specified in IRC-SP 20:2002):

Road classification	Plain and Rolling Terrain			
	Open Area		Built-up Area	
	Normal	Range	Normal	Range
Rural roads (ODR and VR)	15	15-25	15	15-20

7.5 Roadway Width

• Roadway width for this road is given below:

Terrain Classification	Roadway Width (m)
Plain and Rolling	7.5

7.6. Carriageway Width

• The width of carriageway for this project road is 3.75m for the entire length.

7.7. Shoulders

• It is proposed to have 1.0 m wide shoulder as the case may be on both sides of road.

Upgradation of Road From Km 4th of T02 to Madam

7.8 Roadway width at cross-drainage structures

The roadway width at culvert locations for this road is 5.5 m.

7.9 Sight Distance

The safe stopping sight distance is applicable in the geometric design. The sight distance values for this road as per IRC recommendations are presented below:

Design Speed (km/hr)	Safe Stopping Sight Distance (m)
30	30

7.10 Radius of Horizontal Curve

According to IRC recommendations/standards, the minimum radius of horizontal curve for this project road is given below:

Terrain Category	Radius of Horizontal Curve (m)	
	Ruling Minimum	Absolute Minimum
Plain	90	60

To minimize extra land arrangement, minimum radius used is 20 m and design speed in these curves are also restricted to 20 km/hr.

7.11 Camber & Super elevation

A camber adopted on this road section is given below. The maximum super elevation is 5.0% for this project road.

Surface type	High rainfall (Annual rainfall >1000mm)
Thin bituminous road	3.5

7.12 Vertical Alignment

The present road is in plain terrain and vertical alignment has been designed well within ruling gradient.

Generally, minimum gradient of 0.3% for drainage purpose is considered for designing the vertical alignment of this road. Vertical curves are not required when grade change is less than 1%, however a minimum vertical curve is provided to avoid vertical kink.

7.13 Vertical Curves

For satisfactory appearance, the minimum length of vertical curve for different design speed is given in IRC-SP 20:2002. Vertical curves will be designed to provide the visibility at least corresponding to the safe stopping sight distance. Valley curves will be designed for headlight sight distance.

7.14 Side slope

Upgradation of Road From Km 4th of T02 to Madam

Side slope for this rural road where embankment height is less than 3.0m is given in the table below.

Condition	Slope (H:V)
Embankment in silty/sandy/gravel soil	2:1
Embankment in clay or clayey silt or inundated condition	2.5:1 to 3:1
Cutting in silty/sandy/gravelly soil	1:1 to 0.5:1
Cutting in disintegrated rock or conglomerate	0.5:1 to 0.25:1
Cutting in soft rock like shale	0.25:1 to 0.125:1
Cutting in medium rock like sandstone, phyllite	0.083:1 to 0.0625:1
Cutting in hard rock like quartzite, granite	Near vertical

7.15 Extra Widening of Pavement

The Extra Widening of Pavement at Curve as per IRC guideline is given below:

Radius of Curve (m)	Upto 20	21 - 60	Above 60
Extra Widening for 5.5 m wide intermediate lane carriageway, (m)	0.9	0.6	Nil

8. Alignment Design

8.1 General

The basic aim of highway design is to identify technically sound, environment-friendly and economically feasible highway alignment. The ensuing sections deals with obligatory points, which control highway alignment, design of cross-section, highway geometric design & methodology, design of miscellaneous items. The main components included in the highway design are:

- Cross-sectional elements
- Embankment
- Horizontal alignment
- Vertical profile
- Junctions and/or Interchanges
- Road furniture
- Miscellaneous items

8.2 Horizontal alignment

Table 8.2 – Horizontal Curve details
(Example)

Curve No.	IP Chainage	Radius (m)	Ls (m)	Speed (Kmph)	S.E.	Def Angle			Lc (m)	L _{total} (m)	Hand of Curve
						D	M	S			
1											
2											
3											
4											
5											
5											
5											

8.4 Design of Junctions

The proposed alignment intersects cross roads and forms junctions. The locations of junctions are given below:

Upgradation of Road From Km 4th of T02 to Madam

Table 8.4 – List intersections, type and proposed modifications

S.No.	Type of Intersection	Location (km)	Exiting condition	Proposed modification
1				
2				
3				
4				
5				
6				
7				
8				
9				

Design alternatives considered

Chainage		Design alternatives considered							Specify design alternative selected	Justification		
From	To	Pavement		Shoulder			Soil stabilization and use of locally available marginal materials.					
		Flexible	Rigid	Earthen full width	Hard Full width	Hard shoulder 0.875 m each side						
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

9.4 Pavement composition

Flexible Pavement

The designed pavement thickness and composition was calculated by referring Figure 4 (Pavement design catalogue) of IRC: SP: 72 – 2007. The ratio between heavy commercial vehicles and medium commercial vehicles as given in Chapter 5 should be maintained as far as possible.

The pavement layers provided are given below:

Top Layer	Premix Carpet with Type B Seal Coat	50+20+6 mm
Base Layer	WBM Grading III & WBM Grading II	200 mm
Sub – Base Layer	Granular Sub-base Grading II	150 mm
Total thickness		426 mm

9. Pavement Design

9.1 General

Considering the subgrade strength, projected traffic and the design life, the pavement design for low volume PMGSY roads was carried out as per guidelines of IRC: SP: 72 – 2007, or IRC SP:77 "Design of Gravel Road" and IRC SP:62-2004 "Cement Concrete roads". In built up area for hygienic and safety reasons, C.C. pavement was used with a hard shoulder and drain appropriate line drain.

9.2 Pavement Design Approach

9.2.1 Design Life

A design life of 10 years was considered for the purpose of pavement design of flexible and granular pavements.

9.2.2 Design Traffic

The average annual daily traffic (AADT) for the opening year as well as the total commercial vehicle per day (CVPD) was presented in Table 5.2.

9.2.3 Determination of ESAL applications

Only commercial vehicles with a gross laden weight of 3 tonnes or more are considered. The design traffic was considered in terms of cumulative number of standard axles to be carried during the design life of the road. The numbers of commercial vehicles of different axle loads are converted to number of standard axle repetitions by a multiplier called the Vehicle Damage Factor (VDF). An indicative VDF value was considered as the traffic volume of rural road does not warrant axle load survey.

For calculating the VDF, the following categories of vehicles was considered as suggested in paragraph 3.4.4 of IRC: SP: 72 – 2007.

- Laden heavy/medium commercial vehicles
- Un-laden /partially loaded heavy/medium commercial vehicles
- Over loaded heavy/medium commercial vehicles

Indicative VDF values considered 10% of laden MCV and 10% laden HCV as overloaded & given below:

Vehicle type	Laden	Un-laden /Partially laden
HCV	2.86	0.31
MCV	0.34	0.02

Lane distribution factor (L) for Single lane road = 1.0 Cumulative ESAL application = $T_0 \times 4811 \times L$, where T_0 = ESAL application per day. The Cumulative ESAL application for the project road as per paragraph 3.5 of IRC: SP: 72 – 2007 is presented in B&C form.

9.2.4 Subgrade CBR

The subgrade CBR range of Nomograph attached was considered and the traffic falls in the T 7 category.

9.3 Design Alternatives

14.1.4 Delineators and Object Markers

Roadway delineators are intended to mark the edges of the roadway to guide drivers on the alignment ahead. Object markers are used to indicate hazards and obstructions within the vehicle flow path, for example, channelising islands close to the intersections.

Delineators and object markers are provided in accordance with the provisions of IRC: 79-1981. They are driving aids and should not be regarded as substitutes for warning signs, road markings or barriers.

14.1.5 Guard Posts, Crash Barriers and Speed Breakers

Guard posts are proposed on embankments of height more than 1.5m and bridge approaches. The spacing of guard post shall be 10.0m c/c in these areas. Typical Guard post consists of pre-cast (M20) CC post of size 200mm x 200mm and a height of 600mm above ground level. They are encased in M15 cement concrete to a depth of 450mm below ground level. Guard posts are painted with alternate black and white reflective paint of 150mm wide bands. Table 14.2 gives the details of guard posts, crash barrier and speed breakers. A layout of a typical speed breaker is given below.

Table 14.2

Details of guard posts, crash barrier and speed breakers

Sl.	Name of Road	Chainage (km)	Guard post (nos.)	Crash Barrier (m)	Speed breakers (nos)
	—	—	NA	—	—

14.2 Temporary traffic control

The road under consideration has to be widened alongwith the bridges and culvert. The list below provides the c/d structures to be widened/reconstructed and temporary traffic control measures to be implemented.

Table 14.3 gives the section-wise details of temporary traffic control measures to be adopted.

Table 14.3

Details of temporary traffic control measures to be adopted

Sl.	Name of Road	Chainage (km)	Temporary traffic control measures to be adopted			

14.3 Checklist for Road Safety Measures

{Insert description of road safety issues identified during design and provide details of mitigation measures adopted. Examples of mitigation measures that may be required are:

SI	Road Safety Checklist
a	A minimum 100 mm thickness of pavement GSB layer constructed to the full roadway width.
b	The upper layer of all shoulders of sub□base quality compacted to a minimum thickness of 100 mm.
c	Shoulder side slopes are not be steeper than 2H:1V unless stone pitching of the slope is provided.
d	Speed breakers as per NRRDA circular comply with the requirements of IRC:99□1988 for general traffic.
e	Speed breakers placed at the threshold of a habitation and at regular intervals (150 □ 200 m) through the habitation.
f	Within densely populated habitations, a cement concrete (CC) pavement or V-shaped side drain is constructed to the full width of the available roadway.
g	Within habitations, wherever deep side drains are constructed either within or adjacent to the roadway, is covered by slabs laid level with the adjacent pavement and capable of being manually removed.
h	In habitations where child playing areas border the road, a low profile wall, raised kerb or similar form of boundary marking (depending on the site conditions), is constructed to create a physical boundary and act as a deterrent to the random movement of a child onto the road.
i	On roads where, because of the lack of dry land in the general area, the shoulder will be continually occupied and only intermittently available for traffic, speed breakers are installed at regular intervals, not more than 300 m apart, for the entire length of the road.
j	The drawings show all obstructions in the proposed road shoulder with a note that the obstruction is to be removed.
k	If a shoulder obstruction cannot be removed, hazard markers are installed to mark the Obstruction
l	Hazard markers are installed at all pipe culvert headwalls.
M	Hazard markers are installed at each end of all box culverts, river crossing causeways and similar CD structures.
N	Hazard markers are installed at any discontinuity in the shoulder.
O	Directional sight boards are installed on all sharp curves and bends.
P	Speed breakers are provided at sharp curves and bends where the curve design speed is less than 40 km/h in plain and rolling terrain, and less than 25 km/h in mountainous and steep terrain.
Q	Speed breakers are provided and directional sight boards installed at sites where reverse horizontal curves are closely spaced and speed reduction is required.
R	At a main road intersection, signs and pavement markings for STOP control on the PMGSY village road are installed, side road warning signs on the main road and intersection warning signs on the village road are installed, and speed breakers on the PMGSY village road are provided as given in the figures (refer IRC 99-1988).

15. Specification

15.1 General

The "Specification for Rural Roads" published by IRC on behalf of the Ministry of Rural Development, Govt. of India has been followed.

15.2 Construction Equipment

Construction by manual means and simple tools has been considered for the project as per the guideline of NRRDA. For handling of bulk materials like spreading of aggregates in sub-base & base courses by mix-in-place method, use of motor grader & tractor-towed rotavator has been allowed in line with the schedule of rate for PMGSY work. Compaction of all items shall be done by ordinary smooth wheeled roller if the thickness of the compacted layer does not exceed 100 mm. It is also considered that, hot mix plant of medium type & capacity with separate dryer arrangement for aggregate shall be used for bituminous surfacing work that can be easily shifted. A self-propelled or towed bitumen pressure sprayer shall be used for spraying the materials in narrow strips with a pressure hand sprayer. Now the vibratory rollers are also being used for rapid progress.

For structural works, concrete shall be mixed in a mechanical mixer fitted with water measuring device.

The excavation shall be done manually or mechanically using suitable medium size excavators.

15.3 Construction Methods

15.3.1 Preparation for Earthwork

After setting out existing ground shall be scarified to a minimum depth of 150 mm and leveled manually and compacted with ordinary roller to receive the first layer of earthwork. In filling area, existing embankment will be generally widened on both sides as per the alignment plan. Continuous horizontal bench, each at least 300 mm wide, shall be cut on the existing slopes for bonding with the fresh embankment/ subgrade material as per CI 301.7.

15.3.2 Embankment work

Material from borrow pits will be used for embankment construction as well as the approved material deposited at site from roadway cutting and excavation of drain & foundation may be used. Layer of the earth shall be laid in not more than 25 cm (loose) thick layers & compacted each layer of the soil up to 30 cm below the subgrade level at OMC to meet 97% of Standard Proctor Density.

Material for embankment and sub-grade shall satisfy the requirements of Table 300-1 and 300-2 as per the Specification for Rural Roads.

15.3.3 Sub-grade

Material from borrow pits will be used for construction of top 30 cm as sub-grade. Soil in these sections is quite good for road construction. Top 30 cm upto the subgrade level and shoulder at OMC to meet 100 % of Standard Proctor Density by proper control of moisture and by required compaction with a smooth wheeled roller.

15.3.4 Sub-base

Sub base material in the form of stone aggregates and sand as available in the area to be used in GSB Grade II layer.

15.3.5 Base

Stone aggregates will be used in base course. 63 mm to 45 mm size (Grading 2) aggregate as been proposed for the bottom layer and 53 mm to 22.4 mm (Grading 3) size has been proposed for the top layer.

15.3.6 Shoulder

Earthen shoulder shall be constructed in layers and compacted to 100% of Proctor's Density. First layer of shoulder shall be laid after the sub-base layer is laid. Thereafter earth layer shall be laid with base layer of pavement and compacted.

15.3.7 Surfacing

Slow setting bitumen emulsion will be applied as primer on water bound layer. Emulsion shall be sprayed on surface with pressure distributor. Rapid setting bituminous emulsion shall be used for Tack coat.

Premixed carpet and mixed with equivalent viscosity grade bitumen shall be laid as surfacing course. 6 mm thick Type B seal coat is considered for sealing of the premixed carpet.

15.3.8 Structural Works

Following grades of concrete are proposed for Structural works and comply with MORD and IRC specifications:

- Concrete in superstructure of slab culvert – M-25(RCC)
- Concrete in abutment cap, dirt wall of slab culverts – M-25/ M-15 (RCC)
- Concrete below abutment, return wall, headwall – M-15 (RCC)

{Insert any other new specification adopted like hard shoulders and rigid pavement.}

16. Environmental Issues

16.1 Alignment

The proposed road has planned to be designed considering the impact on environment. Proposed road alignment follows existing pathway to the maximum extent so that huge land acquisition is not necessary for construction of the project road. Proposed road, when completed, will be an addition to the aesthetics of this rural area.

16.2 Environmental Sensitive Area (National Park, Wild Life Sanctuary, Protected /Reserve Forest, Wet land etc.)

The alignment will be finalise avoiding the environmental sensitive area such as National Park, Wild Life Sanctuary, Protected /Reserve Forest, Wet land etc. It is also necessary to maintain the minimum distance of 500 m of the project road from environmental sensitive area.

16.3 Construction Camp

Construction camps will be established away from forest area/water body. The minimum facilities such as water supply, sanitation, storm water drainage, solid waste management and first aid box will be provided during the construction period of the project. Necessary provision for rehabilitation or restoration after the completion of construction phase will be done.

16.4 Permit / Clearance required prior to commencing of civil work

- **No objection Certificate**- This will be taken by PIU from SPCB.
- **Forest Department**- If the project road passing thorough forest land and acquisition of the same is involved and it will be taken by PIU from Forest Department
- **Consent to establish (CFE) and Consent to Operate (CFO)** - This is required for Plant Hot Mix Plant, WMM Plant, Batching Plant required for the project and the same will be taken by the Contractor from SPCB.
- **Lease from Mines & Geology**- This will be taken by the Contractor for new Stone Quarry required for the project.

16.5 Borrow area

The filling soil will have to be procured from borrow pit. Borrow area will be so excavated that the lands can reused as agricultural field. The depth of borrow pit shall not exceed 450 mm (150 mm top soil included). The top soil shall be stripped and stacked and shall be spread back on the land. As far as possible the borrow pits shall not be dug close to the road embankment. The Redevelopment of borrow area will be done before closure of the same and it will be as per agreement between landowner and the Contractor.

16.6 Erosion Control

Turfing of the embankment slopes and earthen shoulder to prevent erosion of slopes of the embankment, rain cuts and erosion of shoulder is being suggested.

16.7 Drainage

Suitable cross drainage structures have been provided on the basis of hydrological survey of the area. So, there will be no obstruction to the natural drainage of the area. Road side drainage is also duly considered in a manner so that surface water is led to the low points and is drained through the CD structures.

16.8 Use of Material

Cut back bitumen is not proposed in the project to avoid contamination with Kerosene. Bitumen emulsion is proposed for primer coat and tack coat.

17. Analysis of Rates

17.1 General

Rates for various item of works of the project have been derived from the "Schedule of Rates 2013 for Road works, Culvert works & Carriage etc. of JKRRDA

17.2 Basic Rate of Material

The basic rates for stone materials & river bed materials have been taken from SOR 2013 of JKRRDA

For bituminous materials, basic rate at (location) for equivalent viscosity grade bitumen and for emulsion the basic rate of (location) has been considered as suggested in from SOR 2013 of JKRRDA

Basic rate of other materials like coarse & fine sand, cement are as per the latest from SOR 2013 of JKRRDA

Basic rate of steel materials at sub-divisional office has been considered in analysis after adding cost of carriage, loading & unloading.

17.3 Lead for Materials

For stone aggregates and sand, lead from source to work site is calculated from the district map and block level map of core network and finalizing the same in discussion with PIU. The supply of different materials to worksite is by road. Lead for bituminous & steel materials are similarly obtained using SOR.

18. Cost Estimate

18.1 General

Cost Estimate of project has been arrived on the following basis

- Selection of Items of work
- Estimation of item wise quantities
- Analysis of Rates

18.2 Estimation of Quantities

All the relevant road and structure work items will be identified as per survey, design and drawings. Following major item of works considered are given below:

- Site clearance, dismantling and earthwork
- Pavement works (GSB, WBM, Bituminous layers)
- Cross drainage structure works
- Drainage and protective works
- Utility relocation
- Road safety and furniture
- Maintenance works

Quantity of earthwork will be derived from the proposed cross section drawings. Volume of cut and fill will be obtained directly using the design package software. Quantity derived from software will be manually verified. There are same stretches of the road in cut section. The details are provided chainage wise in Table-18.1 of total cut and fill volume. The soil obtained from roadway excavation shall be used for construction of embankment and shall be paid as per item no.4. All other quantities will be computed from the drawings of finished road, miscellaneous drawings & drawings of CD Structures.

Earth work Table attached.

18.3 Abstract of Cost

Unit rates will be derived by using the "Schedule of Rates for Road Works, Culvert works and Carriage etc. SOR 2013 of JKRRDA The abstract of Cost estimate is given in the Table below.

Details of cost in Format F6 & Format F7

18.4 Maintenance

Cost of Annual Maintenance for five years after completion of project will be estimated as per the PMGSY Guidelines. Different activities of ordinary repairs are done as and when.

Cost of 5 year Routine Maintenance Works in Format F6

19. Construction Program

19.1 General

Construction of program will be devised after the project is approved by competent authority.

19.2 Realistic duration

24 months

Question	Yes	No	N/a
1. Are there any flood prone areas on the road? If yes:			
1.1 Are locations specified and inspected?			
1.2. Is high flood level specified for each stretch?			
1.3 Are locations specified and inspected?			
2. Are there any locations on the road where irrigations ducts need to be provided? If yes:			
2.1 Are locations specified and inspected?			
3. Can the road be used as a shortcut by through traffic?			
4. Does the road lead to any quarries, mining areas, brick kilns, logging areas, tourist attractions etc.?			
5. Are there plans to build new schools, hospitals, temples etc			
6. Is there potential for double connectivity? If yes on any of 3-6:			
6.1 Is information on location, size and nature of additional traffic generators and specific routes obtained?			
7. Is there a need for deviations from existing track? If yes:			
7.1 Were the proposals for deviation shown on site and explained to the community?			
7.2 Is the land availability checked?			
7.3 If there is a need for donation, were the owners consulted regarding their agreement to donate the land?			
8. Is there a need for speed breakers? If yes:			
8.1 Is location and rational for speed breakers identified?			
8.2 Is rationale verified and checked on site?			
8.3 Are alternative or additional locations discussed?			
9. Are all existing intersections checked with the community on site?			
9.1 Is the use of intersecting roads identified (e.g. school children, farm machinery, etc)?			
10. Are proposed culvert locations verified with the community?			
10.1 Is there a need for additional culverts?			
10.2 If yes, are locations identified?			
m			
11.1 If yes, are locations identified?			

For DPR consultant

For PIU

For PIC

Annexure 7.3

(See Para 7.4)

PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)

Format for Consolidated Report of the STA

On the Project Proposals under PMGSY.

1. State: J&K Phase Year: 2019 -20

- Names of the Members of the STA involved in the Technical Scrutiny.
- Whether Pre-DPR meeting was held with SRRDA and DPIUs.
- Summary of the Project proposals scrutinized indicating district wise and road wise details of length and cost. The summary includes the no. of Packages and total value.
- Whether schedule for scrutiny was fixed in advance (give details) and difficulty in adhering to schedule.
- Actual scrutiny process and time taken for scrutiny (Please indicate the dates).
- Interaction of the Engineers of the Executing Agencies with the STAs.
- Major deficiencies observed during scrutiny with details.
- Reliability of data obtained through investigations and used in the design/estimation.
- Compliance of the provisions/instructions given in the guidelines/ circulars/ operations manual/ IRC codes etc. In the preparation of DPRs Including Environmental/RR/Road safety aspects etc.
- Levels of response from the Senior Engineers of the Executing agencies for the suggestions given by the STAs for revision/ modifications in the DPRs.
- If DPRs outsourced, perceived level of competence of outsourced consultants and suggestions.
- Overall comments and impressions of the STAs, If any, on the process of the preparation of DPRs and their technical scrutiny.

Signature and

Name of the Coordinator STA.

PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)

CERTIFICATE OF GROUND VERIFICATION FROM EXECUTIVE ENGINEER / HEAD PIU

1. a) Certified that the Land width for the road is likely to be available as certified by panchayats after duly compensated.
2. Certified that the DPR has been checked at site by

On date 20/01/2016 Assistant Executive Engineer
PMGSY (JKRRDA) Bia
(DPR wise summary report in format F9-B)

EE

SE

Arif Farhan
Executive Engineer
Executive Engineer
PMGSY (JKRRDA) Div.
BARAMULLA

List of DPRS VERIFIED On GROUND:

S.No.	DPRs seen on ground by	DPR Nos	% of total number
1	AEE	1	100
2	EE	1	100
3	SE	1	100

Arif Farhan
Head of PIU
Executive Engineer
PMGSY (JKRRDA) Div.
BARAMULLA

?

Community Consultation Checklist – Engineering

Question	Yes	No	N/a
1. Are there any flood prone areas on the road?			
If yes:			
1.1 Are locations specified and inspected?			
1.2. Is high flood level specified for each stretch?			
1.3 Are locations specified and inspected?			
2. Are there any locations on the road where irrigations ducts need to be provided?			
If yes:			
2.1 Are locations specified and inspected?			
3. Can the road be used as a shortcut by through traffic?			
4. Does the road lead to any quarries, mining areas, brick kilns, logging areas, tourist attractions etc.?			
5. Are there plans to build new schools, hospitals, temples etc			
6. Is there potential for double connectivity?			
If yes on any of 3-6:			
6.1 Is information on location, size and nature of additional traffic generators and specific routes obtained?			
7. Is there a need for deviations from existing track?			
If yes:			
7.1 Were the proposals for deviation shown on site and explained to the community?			
7.2 Is the land availability checked?			
7.3 If there is a need for donation, were the owners consulted regarding their agreement to donate the land?			
8. Is there a need for speed breakers?			
If yes:			
8.1 Is location and rational for speed breakers identified?			
8.2 Is rationale verified and checked on site?			
8.3 Are alternative or additional locations discussed?			
9. Are all existing intersections checked with the community on site?			
9.1 Is the use of intersecting roads identified (e.g. school children, farm machinery, etc)?			
10. Are proposed culvert locations verified with the community?			
10.1 Is there a need for additional culverts?			
10.2 If yes, are locations identified?			
m			
11.1 If yes, are locations identified?			

For DPR consultant	For PIU	For PIC

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Summary Sheet

F1 ↴

Name of the Block	Total No. of Habitats	Unconnected Habitats			Package No. JK	
		>1000	500-999	250-500	<250	
TANGMARG	5	0	0	0	0	

Type of Work	No. of Roads	Total Length of Road (Km)	No. of new CD Structures	Estimated Cost			No. of new villages connected
				Pavement From F-5	CD Str. From F-6	Total 5+6	Total Villages
1	2	3	4	5	6	7	8
UPGRADATION	1	2.500	11	368.22	79.25	447.47	10
				221.10	38.62	319.72	

The DPR is technically Scrutinized
for Rs 450.00 lacs (excluding Syrs
for Rs 320.65 m/s maintenance & renewal cost)

Total Cost of Work:
Misc. Cost:
Total Cost of Project:
5 yr. Maintenance Cost:
Renewal coat
Grand Total

Rs. 447.47-tacs 319.72
Rs. 2.93 Lacs
450.40-tacs 320.65
447.75 Lacs 34.04-tacs 31.77
44.64-tacs 38.40
539.75-tacs 549.05-tacs

390.82 m/s

Assistant Executive Engineer
PMGSY SD-Pattan
Assistant Executive Engineer
PMGSY (JKRRDA) BIS
Sub Division Head

Dr. Mohammad Shahid Mir
Professor
Civil Engineering Department
National Institute of Technology Jharkhand
Hazaribagh, Jharkhand - 835006

Executive Engineer
PMGSY, Division Baramulla
Executive Engineer
JKRRDA
Baramulla

JKRRDA
Baramulla

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Details of Existing Roads

District: Baramulla

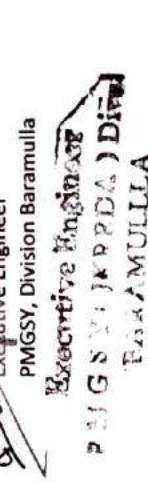
Block: Tangmarg

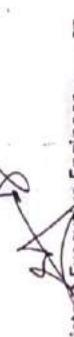
S.No.	Name of Road	Road length (Km)	Road Connecting	Facilities accessed (Use A/B/C/D)	Traffic/ day			Existing Road Details			Bituminous Layers			
					Total Motorised	Total Truck/ Tractors	Land Width (m)	Road Width (m)	Embankment formation Height (m)	WMM Layers	Thickness (mm)	Type	Width (m)	Thickness (mm)
1	2	3	4	.5	6	7	8	9	10	11	12	13	14	15
1	Upgradation of Road From Km4th of T02 to Madam	2.5		A	1008	244	10	3.0		GIII	0.075			16

Package No: JK03-

On Target


Executive Engineer
PMGSY, Division Baramulla


Executive Engineer
PMGSY JK RDA) Dir
BARAMULLA


Assistant Executive Engineer
PMGSY JK RDA) Bla
Sub Division Head

District
Bengal

Pradhan Mantri Gram Sadak Yojana (PMGSY)
Road Proposed in PMGSY for Rural connectivity (Pavement Layers)
Block: Champawat / FS
Segments

Package No: JK

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Road Proposed in PMGSY for Rural connectivity (Pavement layers)

Block: ~~Spargers~~ ~~Zengwey~~ F5

Assistant Executive Engineer
Mechanical-Brake
PMGSY (JKRRDA) Bla
Sub Division Head

Mr. G. Venkateswaran
Executive Engineer
PMGSY, Division Anantnag

PMGSY, Division Anantnag

Bengali, English & Hindi
IGS (CHERDA) DIVISION
BEGAMULLA

Pradhan Mantri Gram Sadak Yojana (PMGSY)
Road Proposed in PMGSY for Rural Connectivity (X- Drainage Structures)
Block: Tangmarg

68-632

Project Executive Engineer
PMSM Construction Engineer
Sub Division Head

Executive Engineer
PMGSY, Division Baramulla
Executive Engineer
PMGSY (JK) Division
BARAMULLA

8. Base year traffic volume

Month & Year of Traffic Volume Count =

Days	Cars, Jeeps Motorised Two Wheelers		Light Commercial Vehicle		Motorised Traffic				Buses				Non Motorised Traffic			
	Passenger	Commercial	Passenger	Commercial	L	U	AC	AC	U	OL	L	U	OL	Cycles	Cycle Rickshaw	Animal Drawn Vechile
Day 1	717	201	230	48	48	10	10	10	230	125	125	125	4	4	4	
Day 2	590	165	104	26	26	5.5	5.5	5.5	104	103	103	103	3	3	3	
Day 3	703	197	116	44	44	9	9	9	116	123	123	123	4	4	4	
Average	670	189	159	39	39	8	8	8	150	117	117	117	4	4	4	

ADT in the Year of Traffic Count

Growth rate adopted (%) = 6

Design Life = 10

Number of Harvesting Seasons = 2

No. of Days in Each Harvesting Season (T) = 75

Value of (n) assumed = 1

9. Subgrade CBR (for Different Sections) =

Chabrage 0-2000 2000-40000 40000-52000

CBR(Avg)=5 CBR(Avg)=5 CBR(Avg)=5

10. Cost Details

A. General Costs

Cost of Preparation of DPR/Survey etc

B. Pavement Components

Description of layer

Cleaning and Grabbing/Upgrading /Cutting of trees(fect)

Loosening of Existing Track(subgrade prep.)(Cum)

Earth Work - in Excavation/ Cutting (cum)

Earthwork- in Filling (Embankment)(cum)

Subgrade (if provided separately) (cum)

Shoulders : Earthen (cum)

Excavation for roadway in cutting.....

Scarfing

Hard(cum)

Granular Sub base

Soil + Aggregate Mix

WBM Gr-11 (cum)

WMM

1373

Base Year Traffic ADT (T)

HCV

LCV

cumulative ESAL

traffic category=

-TT

-TC

Avg CBR

5

Cost lacs.

Cost/km (lacs)

1.17

2.93

1.17

Cost lacs.

1.16

Cost/km (lacs)

0.46

Cost lacs.

-0.74

Cost/km (lacs)

0.65

Cost lacs.

2.75

Cost lacs.

1.50

Cost lacs.

-5.72

Cost lacs.

1.33

Cost lacs.

2.04

Cost lacs.

0.25

Cost lacs.

0.2

Cost lacs.

-21.39

Cost lacs.

12.04

Cost lacs.

-34.78

Cost lacs.

35.35

Cost lacs.

14.77

Cost lacs.

10.09

2. Base year traffic volume

Month & Year of Traffic Volume Count =

Days	Cars, Jeeps, Motorised Two Wheelers		Light Commercial Vehicle		Trucks		Agricultural Tractors Trailers		Buses		Cycles		Non Motorised Traffic	
	P. Vans, Thres. Thres. & Wheelers	Wheeler	Vehicle	L	U	OL	U	OL	L	U	OL	Cycles	Rickshaw	Animal Drawn Vechile
Day 1	717	201	230	48	48		10	10	230	104		125		4
Day 2	590	165	104	25	25		5.5	5.5		103		103		3
Day 3	703	197	116	44	44		9	9		123		123		4
Average	676	188	159	39	39		8	8	150	116		117		4

ADT in the year of Traffic Count

1252

Growth rate adopted (%) = 6

Design Life = 10 Years

Number of Harvesting Seasons = 2

No. of Days in Each Harvesting Season (n) = 75

Value of (n) assumed = 1

9 Subgrade CBR (for Different Sections) =			
Chirbage	0-2000	2000-40000	40000-52000
CBR %	CBR(Avg)=5	CBR(Avg)=5	CBR(Avg)=5

10. Cost Details

A. General Costs

Cost of Preparation of DPR/Survey etc

B. Pavement Components

Description of layer

Thickness in mm	Quantity	Cost lacs.	Cost/km (lacs)
30.14	1.16	0.46	
2652- 5166	1.63	-0.74	0.65
300MM	2.652	2.75	
5166	6.86		
	5473.20	3.74	1.50
450MM	14.31	10.88	5.72
300MM	2.04	1.63	0.25
2652	3399.30		0.2
	53.47	5.7	
300/150		21.39	12.04
3252		4666.00	

Excavation for roadway in cutting.....

Scarifying

Hard(cum)

Granular Sub base

Soil + Aggregate Mix

WBM Gr-11(cum)

WBM

Base Year Traffic AADT (T)	1753.6			Avg CBR
	HCV	LCV	ESAL	
78	316	316	1753.6	5
57.84	57.84	57.84	57.84	5
47.75	47.75	47.75	47.75	5
466557.52	466557.52	466557.52	466557.52	5
76	76	76	76	5
1560.7	1560.7	1560.7	1560.7	5
Total	1373			

Average Annual daily Traffic

1252

Base Year Traffic AADT (T)

1753.6

Name of Road: Upgradation of Km 4th of T102 to Madam

1. Five Year Routine Maintenance

Year	%	Cost	Cost/km
I	0.5	2.2	0.64
II	1.00	4.79	1.27
III	1.50	5.7	1.48
IV	2.00	8.8	2.51
V	3.00	12.4	3.27
Total		44.75	11.77
Estimated Cost		47.90	12.71

11. Whether the road has Geometrics as per Rural Roads Manual - Road /

12. Whether C.D. works / Protection works are provided as per RRM /

13. Whether the Cost estimates are as per standard data analysis and S.S.R.

11. Whether the road has Geometrics as per Rural Roads Manual - Road /

12. Whether C.D. works / Protection works are provided as per RRM /

13. Whether the Cost estimates are as per standard data analysis and S.S.R.

14. Sources and the Lead distances of Materials are as under

Material	Source	Lead Distance	Material	Source	Lead Distance
Earth	Local	Cement	Shrai	14	14
C Aggregate	Shrai	Emulsion	Kunzar	14	14
Sand	Khudwani	Bitumen	Kunzar	14	14
		Steel	Shrai		

Certified that information provided is true

Dr. Mohammad Shafi Mir
Prepared By
(Name) **ZAFAR KHAN**
Assistant Engineer
P.M.G.S.Y. (JKRRDA) Bld
Sub Division Head

Dr. Mohammad Shafi Mir
Checked By
(Name) **M G Y (JKRRDA) D**
Structural Engineer
P.M.G.S.Y. (JKRRDA) Bld
Sub Division Head

Counter Signatures of
Co-ordinator STA :
Dr. Mohammad Shafi Mir

Dr. Mohammad Shafi Mir
Professor
Civil Engineering Department
National Institute of Technology (NIT) Srinagar
Hastital Srinagar, J&K - 190006

Name of Road :**15 Is the Proposed Road entered on the OMMS :**

(Data entries to be verified by STA before Clicking the Proposal)

Yes / No

16 If the Proposal is for new connectivity**Have you satisfied yourself that the proposed road is a part of Core Network****Is the unconnected habitation (s) part of list of unconnected Habitations as per CN-6****Does the Proposal ensure full connectivity to Target Habitation
a) If No, the name of Unconnected Habitation up to which it is connected**

Yes

Yes / No

17 Are you satisfied with the following**Engineering Surveys (L section, X section must be verified)****Soil Material Investigation (CBR, Density, LL, PI, Gradation to be verified)****Traffic Surveys / Estimation****Hydraulic Studies.****(Catchment for structures with more than 2 Vents to be verified from topo sheet. Location and requirement of all CD structures to be verified from L section)****18 In case , Traffic is projected beyond T 4 Category are you satisfied with the reason given by PIU****19 In case, sub grade CBR is less than 3; has Soil Stabilisation etc. been proposed****(If not , specific Reasons given by PIU)****20 Is the design of the following elements as per Rural Roads Manul / Circulars of NRDA:****Alignment & Geometrics****Location and type of CD works and****Side drains****Integration for Cross and longitudinal Drainage****Protection Works****21 Is the design of Flexible Pavement as per IRC SP: 72-2007 and design of Rigid Pavement as per IRC SP:62-2004 .****22 Does the Estimation Conform to Standard Rate Analysis and SSR generated for the current Phase****23 Does the proposal have provisions for****PIGSY Logo Sign Boards and Information Board****Km/Hm Stones****Guard Stones (where necessary)****Traffic Sign Boards (as necessary)**

26. Specific Remarks, if any, by STA

(specific remarks of STA about the overall project, are necessary on each DPR)

The DPR is for upgrading of 2.50 km length of 5.5 m wide road to a carriageway width of 5.5 m & includes improvement of drainage & slope stability aspects.

Certified that the Design and Estimation for the Proposed Road work are based on the data and SSR provided by PIU Engineers. The Proposal after final Correction is entered on the OMMS. The Proposal may be considered for clearance.

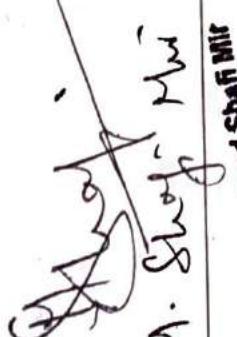
Technical Scrutiny at STA done by:

Signature

Name

Date

Date


Prof. M. Shafiq Mir

 STA:

Signature

Name

Date

 Mohammad Shafiq Mir

Dr. Mohammad Shafiq Mir
Professor
Civil Engineering Department (NIT) Srinagar
National Institute of Technology - 199006
Hazarbal Srinagar, J&K

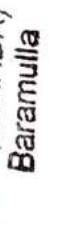
PRADHAN MANTRI GRAM SADAK YOJNA									
PACKAGE SUMMARY- PACKAGE NO: JK01									
PHASE:- X STAGE U									
SNO	NAME OF BLOCK	NAME OF ROAD	TYPE OF PROPOSAL	PROPOSED LENGTH	COST OF PAVEMENT	NO. OF CD WORKS	COST OF CD WORKS	MISC COST	TOTAL ESTIMATED COST
	FROM	TO	MU	KM	LACS	NOS	LACS	LACS	LACS
1	2	3	4	5	6	7	8	9	10
1	Tangmarg	Baramulla	U	2.50	388.72	45	79.25	2.93	450.40
					279.10	09	38.62	320.55	320.55
									180.16
									180.16
									26.
Total Estimated Cost					469.46 Lacs	320.65			
Maintenance Cost for five Years + 10% Cost					44.75 Lacs	98.65	31.77		
No New Construction									
Grand total					514.21 Lacs	549.05	352.42		

Prepared by 
Name: RYAN AH SANDAY
Designation: A-EC

Checked by 
Name: TAUSEEF AMAN
Designation: Project Engineer

Scrutinized by 
Name: P M GSY
Designation: JKRRDA

Technical Scrutiny done by 
Name: DR. MOHAMMAD SHAHI MIR
Signature: Dr. Mohammad Shahi Mir
Name: Dr. Mohammad Shahi Mir
Professor
Civil Engineering Department
National Institute of Technology (NIT) Srinagar
Hazarbal Srinagar - 190006

Coordinator STA 
Name: BARAMULLA
Signature: Baramulla
Name: Baramulla

Signature 
Name: P M GSY
Designation: JKRRDA

Signature 
Name: Dr. Mohammad Shahi Mir
Signature: Dr. Mohammad Shahi Mir
Name: Dr. Mohammad Shahi Mir

S.No.	Items	Unit	Qty.
S.No.	Hect	2.641.25	0.44
1	a)Clearing and grubbing.		
	b)Cutting of Trees:		
	i) 300 - 600 mm Girth	Nos.	175 0.26
	ii) 600 - 900 mm Girth	Nos.	90 0.21
	iii) 900 - 1800 mm Girth	Nos.	50 0.25
			1.16
2	Earth Work:		
	a)Excavation for Roadway Cutting in soil.	Cum	6.86
	b)Ordinary rock	Cum	0.00
	c)Excavation for roadway in hard rock (requiring blasting)	Cum	0.00
	d)Excavation for roadway in hard rock (available at site).	Cum	3.74
	e) Embankment filling (available at site).	Rm	0.28
	f) Unlined surface drain.		10.88
3	Cross Drainage		
	a) 1000mm dia. Single Row	Nos.	2 3 5.33 8.00
	b) 750mm dia. Single Row	Nos.	3 5.3 6.51
	b) 750mm dia. Single Row	Nos.	5.3 11.28 6.51
	f) 5.0 mtr span slab culvert	Nos.	0 23.53 0
			46.65 21.27
4	Protection Works		
	a) 2.5 Mtr. Height R/Wall	Rm	450 400 84.99
	b) B/Wall	Rm	270 250 28.86
	e)PCC Edge/Wall.	Rm	120 100 8.99
		Rm	900 720 32.60
5	PCC Side Drain.		
6	Pavement		
	a) Excavation for roadway	cum	3359.40 2.04
			1.63

b) Subgrade Preparation	2652	Cum	3001.20	1.84 1.63
d) Granular Sub-Base	3252	Cum	42.55	31.78 2.23
e) WMM	1518.31	Cum	1218.41	9.48 8/5
f) Priming Coat	13840	Sqm	16108.77	2.68 2.30
g) Tack Coat	13840	Sqm	16108.77	805.40 62.07 33.33
h) 50mm Bituminous Macadam	692	Cum	805.40	31.72 2.23
i) 20mm OGPC	13840	Sqm	16108.77	25663.00 12.89 11.50
j) Seal coat	14350	Sqm	20150.50	44.34 10.28
k) Shoulders.	950	Cum	6968.00	1250
				222.28 186.29
7 Road Furniture	317.32	Total	8.00 11.06	447.47
				447.47
Add for c/o Project Preparation, Documentation ,survey,Soil investigation etc.	2.93			
Total Cost of construction	3200.85			
5 yrs Routine Maintenance Cost @10%. 1/21	31.720.50			
Add Cost of Renewal Coat after 6 year of completion		30.40	44.61	
Total Cost of Project	390.82		549.02	

Assistant Executive Engineer
 PMGSY Sub-Divisional Engineer
 PMGSY (KRRDA) Bld
 Sub Division Head


 Executive Engineer
 PMGSY, Division Baramulla
 Executive Engineer
 PMGSY (KRRDA) Dir.
 BARAMULLA

CARRIAGE CHART

Gram Sadak Yojana (PMGSY)

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Name of Road: Upgradation of Km 4th of 102 to Magallan

Read length: 2.50 km

Digitized by Google

District: Baramulla		Block: Tangmarg		Road Length		Amount(Rs)	
1	M-10 (12.56)	Source	Qty in %	Per Unit	Density(T/Cum)	Mileage(KM)	Rate
		Shrai	0.93	CUM	1.8	14	5.12
	CARRIAGE OF COURSE AGG.(CA)			CUM	1.6	28	5.12
	CARRIAGE OF FINE AGG(FA)	Hanjiwera	0.46	CUM		14	5.12
	CARRIAGE OF CEMENT	Kunzer	0.2304	T			T.KM
	LOADING UNLOADING OF CA. (L=Mech, UL=Mech)		0.93	CUM		61.47	CUM
	LOADING UNLOADING OF FA. (L=Man, UL=Mech)		0.46	CUM		37.3	CUM
	LOADING UNLOADING OF CEMENT. (L=Man, UL=Man)		0.2304	T		254.48	T
	TOTAL						
2	R.R. MASONRY (15)	Shrai	1.000	CUM	2.2	14	5.12
	CARRIAGE OF STONES	Hanjiwera	1.000	CUM	1.6	28	5.12
	CARRIAGE OF FA	Kunzer	1.000	T		14	T.KM
	CARRIAGE OF CEMENT					110.41	CUM
	LOADING UNLOADING OF STONES (L=Man, UL=Mech)		1.1	CUM		37.3	CUM
	LOADING UNLOADING OF SAND (L=Man, UL=Mech)		0.38	CUM		254.48	T
	LOADING UNLOADING OF CEMENT. (L=Man, UL=Man)		0.9648	T			
	TOTAL						
3	R.R. MASONRY DRY	Shrai	1.1	CUM	2.2	14	5.12
	CARRIAGE OF STONES.		1.1	CUM		110.41	CUM
	LOADING UNLOADING OF STONES. (L=Man, UL=Mech)						
	TOTAL						
4	M-15 (12.55)	Shrai	0.91	CUM	1.8	14	5.12
	CARRIAGE OF CA	Hanjiwera	0.46	CUM	1.6	28	5.12
	CARRIAGE OF FA	Kunzer	0.2592	T		14	T.KM
	CARRIAGE OF CEMENT					61.47	CUM
	LOADING UNLOADING OF CA. (L=Mech, UL=Mech)		0.91	CUM		37.3	CUM
	LOADING UNLOADING OF FA. (L=Man, UL=Mech)		0.46	CUM		254.48	T
	LOADING UNLOADING OF CEMENT.		0.2592	T			

TOTAL															
5 TYPE B (FIRST CLASS) CRADLE															
CARRIAGE OF GRANULAR MATERIAL	Strd	1.00	CUM	1.92		14		5.12	T.KM		137.63				
LOADING UNLOADING OF GRANULAR		1.00	CUM					61.47	CUM		61.47				
TOTAL												199.10			
6 1000MM DIA NP3 PIPES (PER RM)															
CARRIAGE OF NP3 PIPES	Zainkote	0.31	CUM	2.5		40		5.12	T.KM		158.72				
LOADING (BY MECH. MEANS)		1	PIPE					39.65574	RM		15.86				
UNLOADING (BY MANUAL MEANS)		1	PIPE					156.2295	RM		62.49				
TOTAL												237.07			
7 750MM DIA NP3 PIPES (PER RM)															
CARRIAGE OF NP3 PIPES	Zainkote	0.21	CUM	2.5		40		5.12	T.KM		107.52				
LOADING (BY MECH. MEANS)		1	PIPE					23.79508	RM		9.52				
UNLOADING (BY MANUAL MEANS)		1	PIPE					130.1885	RM		52.08				
TOTAL												169.11			
8 PAVEMENT LAYERS															
1) GSB															
CARRIAGE OF GSB	Shrai	1.33	CUM	1.9		14		5.12	T.KM		181.14				
LOADING UNLOADING OF GSB (I=Mech,		1.33	CUM					61.47	CUM		81.7551				
TOTAL												262.89			
2) WMM															
CARRIAGE OF WMM	Lasjan	1.33	CUM	1.8		65		5.12	T.KM		796.72				
LOADING UNLOADING OF G-II,		1.33	CUM					61.47	CUM		81.76				
TOTAL												878.48			
3) 50MM THICK BIT. MACADAM															
CARRIAGE OF BIT. MACADAM	Kunzar	1.33	CUM	2.2		14		5.12	T.KM		209.74				
4) PRIME COAT															
CARRIAGE OF EMULSION	Kunzar	0.00085	T			14		5.12	T		0.06				
LOADING UNLOADING OF EMULSION		0.00085	T					289.46	T		0.25				
TOTAL												0.31			
5) TACK COAT															
CARRIAGE OF BITUMEN	Kunzar	0.000275	T			14		5.12	T		0.02				
LOADING UNLOADING OF BITUMEN		0.000275	T					284.46	T		0.08				
TOTAL												0.10			
6) OGPC															
CARRIAGE OF OGPC	Kunzar	0.103	T			14		5.12	T		7.38				

Assistant Executive Engineer
BMRMGSY Sub-Division-B
Ptn

PMGSY, Sub-Division-Bengaluru.
Current Executive Engineer
PMGSY (KRRDA) Bls
Sub Division Hrd


Executive Engineer
PMGSY, Division Anantnag

Executive Engineers
MICHIGAN RDA DIRECTOR
BADMINTON

DAKANE - 6

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Detailed Estimate For Cutting of Trees

Name of Road: Upgradation of Ranbirpora Ranipora Sonach Road
 District: Anantnag, Jammu & Kashmir
 Block: Tangmarg

Road Length: 2.50 km

S.No.	Description of Items	Unit	Qty.	Rate in Rs.	Carriage/ Loading/ unloading	Net Rate in Rs.	Amount in Lacs.
1	Clearing & grubbing road land including uprooting wild vegetation , grass, bushes ,shrubs, saplings & trees of girth up to 300mm , removal of stumps of such trees cut earlier & disposal of unserviceable materials up to a lead of 1000M including removal & disposal of top organic soil not exceeding 150mm in thickness as per technical specifications clause 201 (In area of non thorny jungle).By Mechanical means(item No 2.2(11)A, Page No 04 of SOR)	Hect	2500x2.5x2/10000	35258.63	0	35258.63	0.44
2	Cutting of trees, including cutting of trunks, branches and removal of stumps & roots, refilling, compaction of backfilling and stacking of serviceable material by manual means with all lifts as per Technical Specification Clause 201.Lead upto 100 M (Item No 2.3, Page No 4 of SOR)						
a	300 - 600 mm Girth	Nos	175	149.1	0.00	149.1	0.26
b	600-900mm girth	Nos	90	233.61	0.00	233.61	0.21
c	900-1800mm girth	Nos	50	500.06	0.00	500.06	0.25
TOTAL							0.66

Assistant Executive Engineer

PMGSY Sub Division-Pattan

Executive Engineer

PMGSY (JKRRDA) Bld

Sub Division Head

Executive Engineer

PMGSY, Division Baramulla

Executive Engineer

PMGSY (JKRRDA) Div

BARAMULLA

Detailed Estimate For Earthwork

Name of Road: Upgradation of Km 4th of T02 to Madam

District: Anantapur Date: 24/11/9
Block: Shamsi Town: 2090182

**Assistant Executive Engineer
Project Sub-Division B
Sub Division H**

 Executive Engineer
PMGSY, Division Anantnag

 Executive Engineer
PMGSY, Division Anantnag