

GOVERNMENT OF RAJASTHAN

**PUBLIC WORKS DEPARTMENT**

**ESTIMATE**

FOR

**Name of work :Renewal of Road from Chouth Ka Barwara to Nayagaon  
KM 0/0 to 4/750**

**ESTIMATED COST RS. 85.95 LACS**

**NAME OF CIRCLE : SAWAI MADHOPUR**

**NAME OF DIVISION : II SAWAI MADHOPUR**

**NAME OF SUB DIVISION : CHOUTH KA BARWARA**

# Technical Report

Name of work Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

District : Sawai Madhopur

Ref . Of Sanction

Location Bagina to Jhopra

Proposed Length of road (km.) : ~~4.700~~ 4.750 KM

Necessity of Project : Presently this road was badly damaged and KM 0/650 to 0/850 are sanctioned previously but disputed by Forest Department this chainage uncomplete. So smooth riding quality road repair work is necessary .

Formation width = 7.50 M

Specification The following specification taken in this estimate

## **i) Road Work**

i) GSB 150mm for carriageway & 150mm both side for berms

iii) WMM 150 mm thick


iv) Tack coat with 20mm PMC & Seal coat (B)


v) CC M-30

vi) HPC Double row

vii) Drain work

Estimate Renewal CKB to Nayagaon (3.9.18)

  
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viii) Protection wall

**Execution of work**

The work shall be executed by department after inviting tender

**Labour**

Skilled and unskilled labour are available from local area

**Basis of Rates**

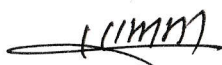
: Current BSR of PWD Circle, Sawai Madhopur w.e.f. 23.3.2018 for Road work .

**Estimate cost (Rs. In Lacs)**

: **Rs. 85.95 Lacs**

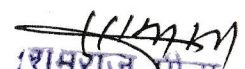
**Prorata Charges.**

: 3.50 % Contingency charges 1% QC charges & 13% Proratra charges are added in the Estimate.

  
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PWD Sub Division  
Chouth Ka Barwara


Estimate Renewal CKB to Nayagaon (3.9.18)

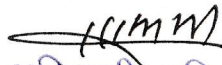
  
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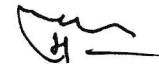
Name of work : Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

**GENERAL ABSTRACT**

S.No.	Particulars	AMOUNT
1	PART 'A' ROAD WORK	6182406.00
2	PART 'C' HPC DOUBLE ROW	372216.00
4	PART 'D ' DRAIN WORK	537306.00
5	PART 'E PROTECTION WALL	186435.00
	GRAND TOTAL	7278363.00
	Add 3.50% for Contingency charges	254742.71
	Add 1% for QC	72783.63
	GRAND TOTAL	7605889.34
	Add 13% Prorata charges	988765.61
		8594654.95
	Say	85.95 Lacs

  
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Assistant Engineer  
PWD Sub Div.  
Chouth Ka Barwara



# Estimate

Name of work : Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

## PART 'A' ROAD WORK

Based on PWD BSR 23 March 2018 for Road work PWD Circle SWM

BSR Ref	Description of Item	No.	L	B	H	Qty	Unit	Rate Rs	Amount Rs
2.3 (ii) (B)	Clearing and Grubbing Road Land .(Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.) By mechanical means in Area of throny jungle								
		2	4300.00	2.00		17200.00	Sqm		
					Total	17200.00	Sqm		
					Say	1.72	Hect	10449.00	17972.00
3.15	Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.								
		1	200.00	7.50	0.300	450.00			
	For Berms	2	4300.00	1.00	0.300	2580.00			
					Total	3030.00	Cum	54.00	163620.00

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BSR Ref	Description of Item	No.	L	B	H	Qty	Unit	Rate Rs	Amount Rs
4.2	Granular Sub-Base with Coarse Graded Material ( Table:- 400- 2) (Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401)								
(iii)	for grading-III Material								
	Ch 0/0 to 2/500	1	250.00	4.05	0.150	151.875			
	Ch 0/650 to 0/850	1	200.00	4.05	0.150	121.50			
	Ch 4/550 to 4/750	1	200.00	4.05	0.150	121.50			
	For BT Berms	2	4000.00	1.00	0.100	800.00			
	For CC Berms	2	550.00	1.00	0.200	220.00			
					Total	1414.88	Cum	519.00	734320.00
4.12	Wet Mix Macadam (Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.)								
		1	650.00	3.75	0.150	365.63			
	For Patch work	1	4000.00	3.75	0.075*3%	33.75			
					Total	399.38	Cum	1033.00	412554.00
5.1	Prime coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.)								
		1.02	200.00	3.75		765.00	Sqm	20.00	15300.00

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BSR Ref	Description of Item	No.	L	B	H	Qty	Unit	Rate Rs	Amount Rs
5.2	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.								
		1.02	4000.00	3.75		15300.00			
						15300.00	Sqm	7.00	107100.00
5.1	<b>Open - Graded Premix Surfacing</b> (Providing, laying and rolling of open - graded premix surfacing of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or cut-back or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a smooth wheeled roller 8-10 tonne capacity, finished to required level and grades.)								
(i)	Case - I: Mechanical method using Penetration grade Bitumen and HMP of appropriate capacity not less than 75 tonnes/hour								
	<b>Using VG-30 binder</b>	1.02	4000.00	3.75		15300.00	Sqm	86.00	1315800.00
513 5.12	Seal Coat (Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A and B seal coats)								
(i)	Case - I : Type B								
		1.02	4000.00	3.75		15300.00	Sqm	34.00	520200.00
8.14	Kilo Metre Stone (Reinforced cement concrete M15grade kilometre stone of standard design as per IRC:8-1980, fixing in position including painting and printing etc)								
(ii)	Ordinary Kilometer stone (Precast)					5	Nos.	1391.00	6955.00
(iii)	Hectometer stone (Precast)					20	Nos.	404.00	8080.00

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BSR Ref	Description of Item	No.	L	B	H	Qty	Unit	Rate Rs	Amount Rs
8.5	Direction and Place Identification signs upto 0.9 sqm size board. (Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminium sheeting, 2 mm thick with area not exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 x 45 x 60 cm, 60 cm below ground level as per approved drawing)								
		2.00	0.90	1.20		2.16	Sqm	7384.00	15949.00
	Retro- reflectorised Traffic signs (Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC :67 made of encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing)								
	90 cm equilateral triangle					6.00	No	3614.00	21684.00
9.1 (A)	(Plain cement concrete 1:3:6 mix with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.)								
		1	550.00	3.75	0.100	206.25			

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BSR Ref	Description of Item	No.	L	B	H	Qty	Unit	Rate Rs	Amount Rs
						206.25	Cum	3139.00	647419.00
3	<b>Cement Concrete Pavement</b> (Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing )								
		1	550.00	3.75	0.200	412.50			
					<b>Total</b>	<b>412.50</b>	<b>Cum</b>	5205.00	2147063.00
9.15	Laying Reinforced cement concrete pipe NP4/prestressed concrete pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets . 300mm dia								
		6	2.00	2.50		30.00			
						30.00	Rmt	1613.00	48390.00
						<b>Total</b>			<b>6182406.00</b>

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## COST ESTIMATE FOR ROAD CONSTRUCTION (CULVERTS AND SMALL BRIDGES)

Name of work : Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

Ch. 0/825

Sl. No.	Description of Item	Measurement	Quantity	Unit	Rate Rs	Amount Rs
1	2	3	4	5	6	7
<b>PART -B : HUME PIPE CULVERT 1000MM DIA DOUBLE ROW</b>		<b>1 No's</b>				
1	304 12.1	Excavation for Structures (Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.) Ordinary soil manual means upto 3 mtr depth				
		As per IRC:SP:20-2002 Plate No. 7.01	98.04			
	Splayed Wing Walls	4 x 4.00 x $\frac{(1.55 + 1.15)}{2} \times 1.500$	32.40			
		<b>Total :</b>	<b>130.44</b>	P.Cum	80.00	10435.00
2	9.1 (i)	Plain cement concrete 1:4:8 mix with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.				
		As per IRC:SP:20-2002 Plate No. 7.01	4.01			
	Splayed Wing Walls	4 x 4.00 x $\frac{(1.55 + 1.15)}{2} \times 0.150$	3.24			
		<b>Total :</b>	<b>7.25</b>	P.Cum	2609.00	18915.00
3	13.4	Stone masonry work in cement mortar 1:3 for substructure complete as per drawing and Technical Specifications Random rubble masonry				
		As per IRC:SP:20-2002 Plate No. 7.01	39.72			
	Splayed Wing Walls	4 x 4.00 x $\frac{(1.20 + 0.40)}{2} \times 2.425$	31.04			
		<b>Total :</b>	<b>70.76</b>	P.Cum	3145.00	222540.00
4	12.8	Plain/Reinforced cement concrete in open foundation complete as per drawing and technical specifications				
	C	RCC Grade M20 Using concrete mixer				
		As per IRC:SP:20-2002 Plate No. 7.01	14.54			



## COST ESTIMATE FOR ROAD CONSTRUCTION (CULVERTS AND SMALL BRIDGES)

Name of work : Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

Ch. 0/825

Sl. No.	Description of Item	Measurement	Quantity	Unit	Rate Rs	Amount Rs
1	2	3	4	5	6	7
	For Coping	2 x 7.88 x 0.40 0.075	0.47			
	Splayed Wing Walls	2 x 4.00 x 0.40 0.075	0.24			
			15.25	P.Cum	3888.00	59303.00
5	9.15 Laying Reinforced cement concrete pipe NP4/prestressed concrete pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets . 1000mm dia					
		As per IRC:SP:20-2002 Plate No. 7.01	15.00	P.Rmt	3940.00	59100.00
6	13.2 Pointing with cement mortar (1:3 ) on brick work in substructure as per Technical specifications					
		2.00 x 7.88 1.80	28.37			
	Deduction for Pipes		4.75			
			23.62			
	Splayed Wing Walls	4 x 4.00 x $\frac{(1.80 + 0.60)}{2}$	19.20			
		Total :	42.82	P.10 Sgm	449.00	1923.00
					Total	372216.00
					For 1 Nos	372216.00

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Chouth Ka Barwara

## COST ESTIMATE FOR ROAD CONSTRUCTION

Name of work : Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

BSR Ref	Description of Item	Measurement	Unit	Qty.	Rate Rs	Amount Rs
	2	3	4	5	6	7
<b>PART- C : DRAIN WORK</b>						
12.1 (i)	Excavation for Structures (Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.) Ordinary soil manual means upto 3 mtr depth					
		1 400.00 1.05 0.60	P.Cum	252.00		
			P.Cum	252.00	80.00	20160.00
9.1 (i)	Plain cement concrete 1:4:8 mix with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.					
		1 400.00 1.05 0.10	P.Cum	42.00		
		Total	P.Cum	42.00	2609.00	109578.00
12.6	Brick masonry work in cement mortar 1:3 in foundation complete excluding pointing and plastering, as per drawing and technical specifications					
		2 400.00 0.225 0.50	P.Cum	90.00		
		Total	P.Cum	90.00	3338.00	300420.00

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## COST ESTIMATE FOR ROAD CONSTRUCTION

Name of work : Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

BSR Ref	Description of Item	Measurement	Unit	Qty.	Rate Rs	Amount Rs
2		3	4	5	6	7
13.3	Plastering with cement mortar (1:3 ) on brick work in sub-structure as per Technical specifications					
		2 400.00 0.50	P.Sqm	400.00		
			P.10 Sgm	400.00	921.00	36840.00
12.8	Plain/Reinforced cement concrete in open foundation complete as per drawing and technical specifications					
C	RCC Grade M20 Using concrete mixer	2 400.00 0.225 0.05	P.Cum	9.00		
		1 400.00 0.45 0.05	P.Cum	9.00		
			Total	18.00	3906.00	70308.00
	<b>Total</b>				<b>Total</b>	<b>537306.00</b>

  
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# Estimate

Name of work : Renewal of Road from Chouth Ka Barwara to Nayagaon KM 0/0 to 4/750

## Details & Abstract

### Part K" : PROTECTION WALL

Based on PWD BSR 23.03.2018 for Road work PWD Circle SWM

S. O.	BSR Ref	Description of Item	No.	L	B	H	Qty	Unit	Rate Rs	Amount Rs
1	304 12.1	Excavation for Structures (Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.) Ordinary soil manual means upto 3 mtr depth								
			1.00	30.00	1.15	1.500	51.75			
						Total	51.75	80.00	P.Cum	4140.00
2	9.1 (i)	Plain cement concrete 1:4:8 mix with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.								
			1.00	30.00	1.15	0.150	5.18			
						Total	5.175	2609.00	P.Cum	13502.00
3	13.4	Stone masonry work in cement mortar 1:3 for substructure complete as per drawing and Technical Specifications Random rubble masonry								
			1.00	30.00	1.00+0.40/2	2.50	52.50			
						Total	52.50	3145.00	P.Cum	165113.00
4	12.8	Plain/Reinforced cement concrete in open foundation complete as per drawing and technical specifications								
		RCC Grade M20								

अधिसापि अभियन्ता


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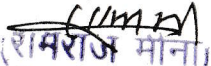
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S. O.	BSR Ref	Description of Item	No.	L	B	H	Qty	Unit	Rate Rs	Amount Rs
		Using concrete mixer	1.00	30.00	0.40	0.05	0.60	3888.00	P.Cum	2333.00
5	13.2	Pointing with cement mortar (1:3 ) on brick work in substructure as per Technical specifications								
			1.00	30.00	1.00		30.00			
							30.00	449.00	P.10 Sqm	1347.00
								Total		186435.00

  
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 Assistant Engineer  
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