

CBR-62

GOVERNMENT OF RAJASTHAN PUBLIC WORKS DEPARTMENT



ESTIMATE *FOR* **CENTRAL ROAD FUND**

Name of work : Widening, Strengthening & Renewal
on Karanpur Mandrail Ond Chandelipura Road
(MDR-03 A) Km. 0/0 to 34/0

ESTIMATED COST : Rs. 4209.00 LACS

Name of Zone	-	Bharatpur
Name of Circle	-	Karauli
Name of Division	-	Sapotra

PPR

Name of Work :- Widening, Strengthening &
Renewal Karanpur Mandrail Ond
Chandelipura Road
(MDR-03 A) on Km. 0/0 to 34/0

CENTRAL ROAD FUND

Estimated Cost : 4209.00 Lacs

Year of Proposal : 2019-2020

Name of State : Rajasthan

Division : Karauli

Circle : Karauli

Zone : P.W.D. Bharatpur

कार्य का नाम :- वाइडनिंग, स्ट्रेन्थनिंग एण्ड रिन्यूअल
करणपुर-मंडरायल-औंड- चंदेलीपुरा रोड़
(एम.डी.आर.-03ए) ऑन
कि.मी. 0/0 से 34/0

तकमीना लागत : 4209.00 लाख

विधायक का नाम : श्री रमेश चन्द मीणा

विधान सभा क्षेत्र : सपोटरा

सांसद का नाम : श्री मनोज राजोरिया

लोक सभा क्षेत्र : करौली-धौलपुर

1- Name of District	Karauli
2- Name of Road	Widening, Strengthening & Renewal Karanpur Manderail Ond Chandelipura Road (MDR-03 A) on Km. 0/0 to 34/0
3- Category of Road	MDR-03A
4- Proposed Length of road	34.000 Km.
5- Existing Width	0/00 to 34/00 – 3.75M
6- Estimate Cost (Rs in Lacs)	4209.00 Lacs
7- Traffic Details (PCU)	6032
8- Detailed Specification of	GSB Proposed in Berms 150mm & in Widening 200mm. 50mm thick DBM & 40mm BC New Box Culvert Proposed as balancing culvert and for grade Improvement of road, RCC Drain Work is proposed in village portion along CC Work & RCC Retaining Walls are proposed along high embankment of road in Estimate. Protection wall & Syphon is provided All required road furniture's proposed to be provided and fixed.

INDEX

Name of Work :- Widening, Strengthening & Renewal
on Karanpur Manderail Ond Chandelipura Road
(MDR-03 A) Km. 0/0 to 34/0

S.No.	Particular	Page No.
1	Technical Report	
2	Estimate	
3	Drawing & Certificate etc.	

Modified Check list for PPRs Preparation for CRF works (16.7.2010)
(Modified in light of MoRTH and GoR directions)

S. No.	Particulars	Requirements	Page No. in PPR
1	2	3	4
1	General	PPR (three copies) should properly Stapled & covered with transparent sheet. No cuttings/ overwritings shall be there in PPRs	
2	Front Page & Report	Front page Should have Name of Work, estimated cost, Year of Proposal & names of State, District, Division, Circle, Zone. Guideline for Name of work:- The works of Periodic Renewal & Improvement of Riding Quality not being considered under CRF, hence the name of work & PPR should not contain "Periodic Renewal or Improvement of Riding Quality" works. The works shall be for "Strengthening", "Widening", "Construction of CC pavement", "Replacement/ Construction of CD works" and combination of these words as per combinations proposed. Names of town/village & Chainages of starting point, end points and important towns/villages covered in proposed work shall be indicated in the name of work. Note: Names of towns/villages lying far away from the work shall not be mentioned in the name of work. (Letters Should Not be all capital)	1
3	Second Page	Second page Should all be in Hindi (Font DevLyš 010). It should have Name of Work, estimated cost, names of MLA & MP Constituencies with names of MLAs & MPs.	2
4	Third page	Third page Should have Name of District, Name of road, Category SH/MDR No., proposed length of road, existing width, estimated cost (Rs in lacs), Traffic details (PCU), detailed specifications of proposed works and Importance of road work.	3
5	Indexing & page No. at	Index showing particulars and Page Numbers of contents in PPR Page Numbering should be done on all contents of PPR	4
6	Check list	The page numbers of all the components of PPR shall be indicated in the column No. 4 of the modified check list	5-7
7	Index map at fifth page	District map (A-4 size), All SH/MDRs passing through the district, sanctioned CRF Job no. and its reach, proposed work to be shown in different colours Chainages of Starting & End of proposed work to be shown Should be signed by Executive Engineer	8-11
8	General abstract	General abstract should be signed by Superintending Engineer concerned. And should furnish length of different work proposed in scope in tabular format Note: The percentage charges for contingency @ 3% shall be added to the cost of work and total be worked out first, the percentage charges for work charge and quality control @ 1.5% and 1% respectively shall be added subsequently to this total to work out the Grand Total. All the calculations should be by formula in MS Excel.	12
9	Certificate signed by Executive Engineer and all certificates should be in one page without any alteration.	"Certified that no land acquisition is required and land needed for the project is available free of all incumbrances." (It should be in bold letters) "Certified that No shifting of utilities is involved in the proposed work." "Certified that no requirement of cutting of trees is there in the proposed work." "Certified that no part of work already sanctioned / proposed in CRF for other schemes within the prescribed renewal cycle period is included in the PPR". "Certified that BM has not been proposed in existing crust thickness less than 300 mm/inadequate crust/submergence/low lying /drainage affected areas without raising". "Certified that the site for proposed CC pavement has been inspected by me and the proposed length is extremely necessary being in reaches of submergence/low lying /drainage affected areas". "Certified that rates, nomenclature and all calculations have been checked and found correct" "Certified that items of Road side plantation and Road boundary stones have been included in the PPR in compliance to the Circular No. 989 dated 5.10.09" "Certified that all items of Road Safety works have been included in the PPR and SH have designed for 20 years in compliance to the Minutes of Meeting No. 36 dated 2.7.10" "Certified that "the existing procedure and guidelines applicable for the National Highways projects with regard to framing and processing of the estimates have been applied in the PPR in compliance to the MoRTH guidelines dated 25.3.10"	13

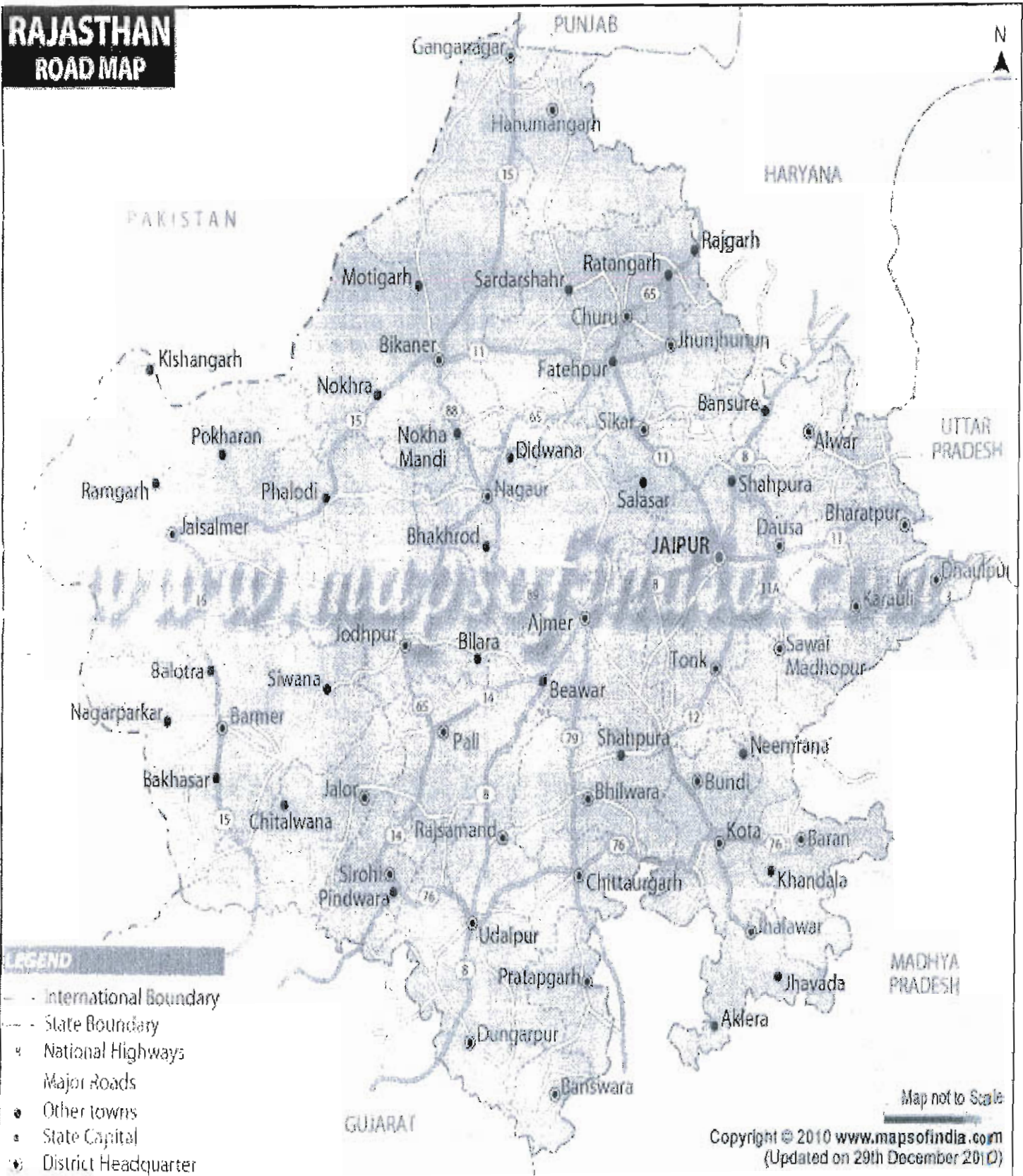
S. No.	Particulars	Requirements	Page No. in PPR
1	2	3	4
		'Certified that the work of less than 10 Km. has been proposed under CRF because the adjoining reaches have already been attended with details as under:- 1. Preceding reaches :- 2. Intermediate reaches :- 3. Succeeding reaches :- (This certificate shall be furnished only if the work of less than 10 Km. has been proposed clearly indicating the details of schemes and year of treatment)	
10	Tech. Report	Name of Work: (Letters Should Not be all capital) District: Location of 0/0, starting point and end point of proposed length Names towns /villages covered: Name & Chainage with populations Proposed length of road: Total Proposed (km) with bifurcation as per items in the proposal Assembly Constituencies: with breakup of length of work Proposed and cost Name of MLA: Parliamentary Constituency: with breakup of length of work Proposed and cost Name of MP: Existing width (Mts): If varying, than chainages and respective kms Traffic details: PCU and CVPD as per latest traffic census If the proposal is for less than 10 Km then give detailed specific justification clearly indicating the details of schemes and year of treatment, which should tally with details given in Linear Chart /Surface History Existing status & Necessity of work Proposed Scope of work with Chainage in Brief: Strengthening by WBM / 50 mm BM with 20 MM PMC with Seal coat Type, if fulfil the criteria as per IRC-37/ IRC-81. SH shall be designed for 20 years in compliance to the Minutes of Meeting No. 36 dated 2.7.10. (Not less than 50 mm BM having bitumen content as per last job mix formula approved in the district duly supported with design by Benkleman Beam) CC Pavement: To be designed as per IRC 15 & 58 : 2002, with all design calculations to be furnished In MS Excell by formulas also. Widening to 2 lane: only to be proposed in case PCU is more than 6000 in plain or as per IRC 64-1997 for other terrains. Widening to intermediate lane/fourlane not allowed under CRF. The thickness of proposed crust should be same as equivalent existing crust at first stage. Further strengthening if needed, shall be proposed for whole width. Bottom layer of Gravel to be taken preferably in full width of formation for ensuring proper drainage in problematic clayey soil. Surfacing by 20 mm PMC with seal coat . Replacement /Construction of CD works: With detailed hydraulic/structural details, drawings & designs as per MoSRT/ IRC recommendations. Causeway/ submerssible bridges not allowed under CRF. All design calculations to be furnished in MS Excell by formulas also.	14-20
		PPRs shall Include all road safety works such as: i. junction improvements, ii. rotaries, iii. curve improvements, iv. road markings, v. traffic sign boards (additional sign boards just before junction), vi. overhead gentries (over full width and on two poles, and having required perforations), vii. Steel railing of continuous steel bars on central median for 4-lane road length passing through urban area, viii. edge marking lines, ix. rumble strips on all accessing roads.	
		Specification adopted for the scope of work in Detail with IRC provisions & Design extract.	
		Basis of rates: (latest BSR shall be taken as basis,)	
		Probable starting date:(As per MoRTH letter No. NH-15015/29/2001-PL dated 5.7.2001)	
		Probable date of completion: (As per extant policy for the road & bridge works on NHs)	

S. No.	Particulars	Requirements	Page No. in PPR
1	2	3	4
		VIP reference: No. & date letter received in the context (if any).	
		Estimated cost:(Rs in lacs)	
		Name & Tel No of AEN,EE,SE Concerned	
		Tech. Report should be Signed by SE	
11	X-sections	Typical Initial X-section ,proposed X-section of road for widening Detail L& X-sections, If proposal for Raising/curve Improvement	21-105
12	Linear Chart /Surface History contains	linear chart for at least 5 km on either side of proposed section and for whole length of that road in that district in case of proposals of widening be given showing the following details:- Crust thickness in mm CBR if available Year of construction. Year of last renewal. Type of treatment. CD works location Carriage way width. Formation width. Town/Village Block. MLA Constituency. Traffic Station. PCU per day. CVPD Proposed in other Scheme. should be appended duly signed by Executive Engineer.	106-110
13	Estimate	Detail estimate is reqd. No part of the estimate should be based on per km or lumpsum cost basis . Estimates should comprised of Sub estimates as (A)Road (B) CC pavement (C) CD works, (D)protection works,(E) drains (F) Road Furniture, (G) Plantation, (H) Road Safety etc No Lump sum provisions are allowed. Prorata charges like Agency Charges, expected TP,Escalation,Land acquisition, Shifting.utilities charges etc. shall not be added in the estimate Extra cost of bitumen as per current market rates to be added if needed in the respective part of the estimate to make estimate realistic. (Specifications taken should be based on IRC/ MoSRTTH specifications)	111-136
14	Soft copy in CD	Estimate in soft copy (CD) with all calculations by formula in MS-excel & all sheets should be named and be appended in soft copy also with every PPR	

Executive Engineer
PWD Div., Sapotra

Superintending Engineer
PWD Circle, Karauli

RAJASTHAN ROAD MAP



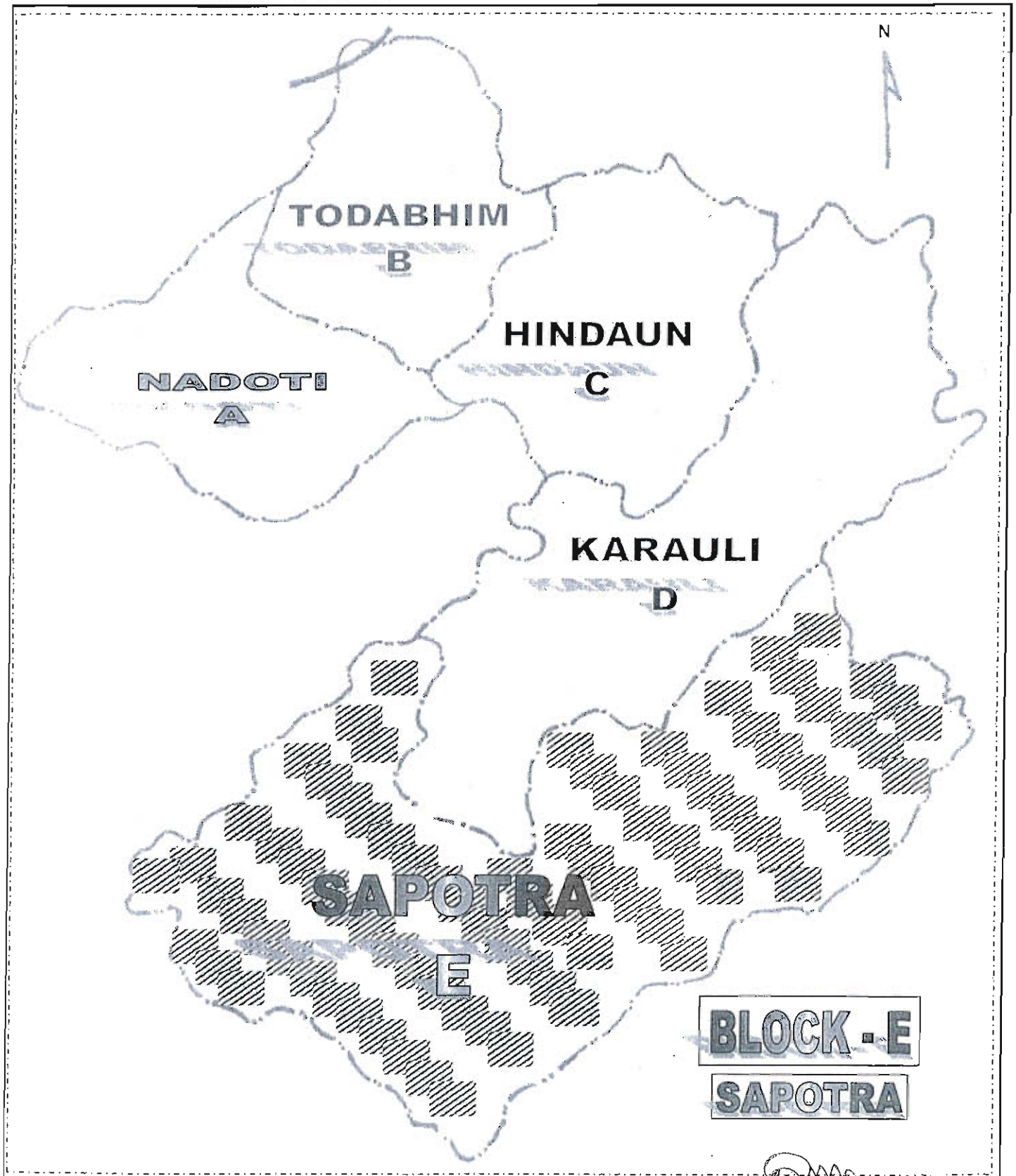
Assistant Engineer
P.W.D. Sub Dn. -
Mandrail

ERM
Executive Engineer,
P.W.D. Division
Sapotra

DISTRICT MAP SHOWING BLOCKS

DISTRICT KARAUJI

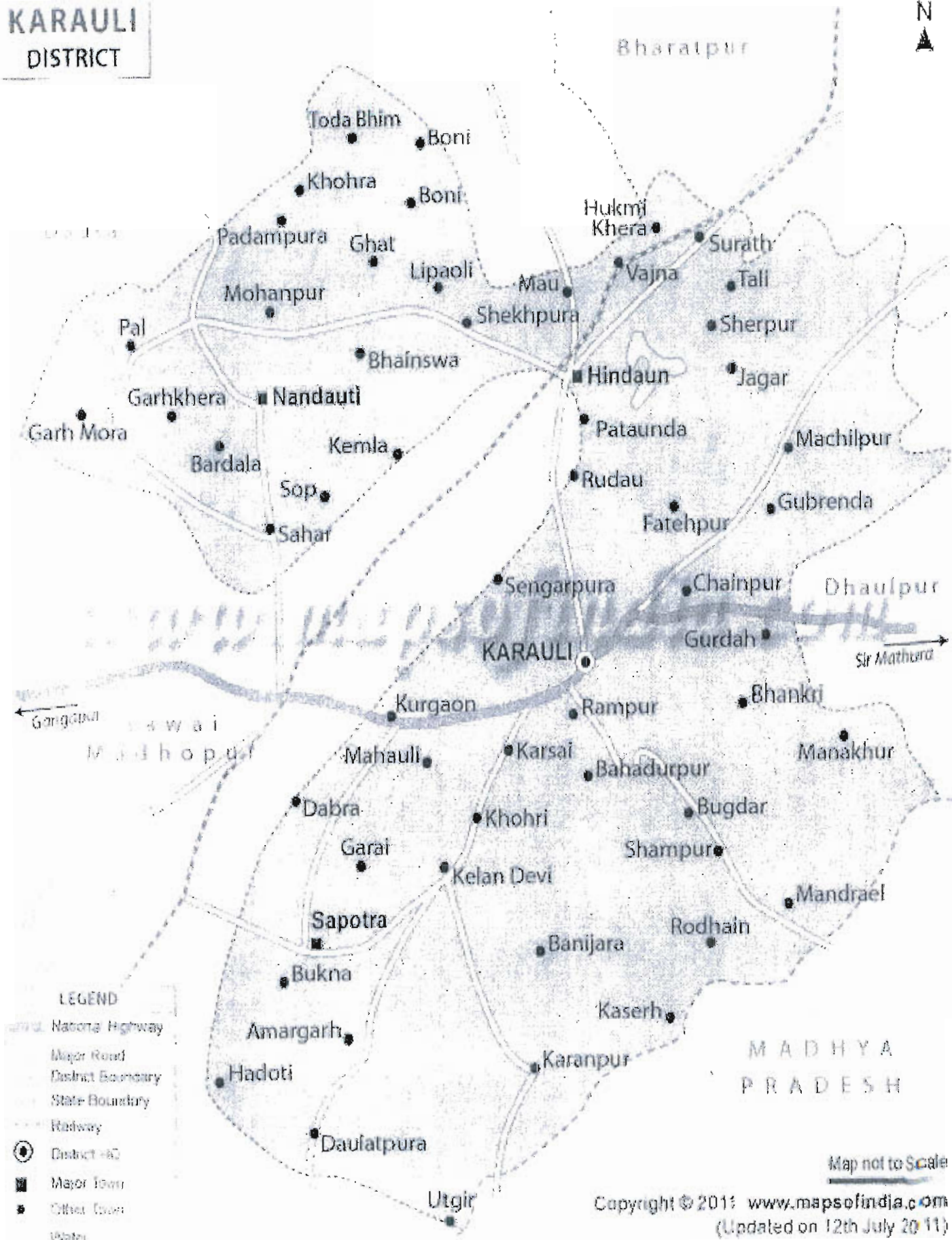
M-1



Assistant Engineer
PWD Sub Div. Mandrail

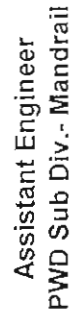
Executive Engineer
PWD Division Sapotra

KARAULI DISTRICT



Assistant Engineer
PWD Sub Div. Mandrail


Executive Engineer
PWD Division Sapotra

[illegible]

Executive Engineer
PWD Division-Sapotra

Office of the Executive Engineer, P.W.D. Division, Sapotra

Certificate

"It is Certified that no shifting of utilities is involved in the Proposed work."

"It is Certified that no requirement of cutting of trees is there in the proposed work."

"It is Certified that no part of work already Sanctioned/ Proposed in C.R.F. or other Schemes with in the prescribed renewal cycle period is included in the PPR"

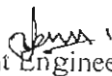
"It is Certified that no Land acquisition is required and Land needed for the Project is available free of all encumbrances. Proposal for Forest Permission is submitted for length 4.175 Km."

"Certified that BM has not been proposed in existing crust thickness less than 300mm/ inadequate crust/ submergence/ low lying/ drainage affected areas without raising

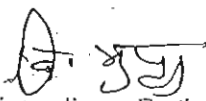
"It is Certified that the site for proposed C.C. Pavement has been inspected by me and the proposed length in extremely necessary being in reaches of submergence/Low lying/drainage affected areas."

"It is Certified that rates, nomenclature and all Calculations have been checked and found correct."

"A Certified that the concerned State Government or Union territory shall ensure taking up proper Maintenance and Repair (M&R) of the Project roads after it is developed under this scheme."


Assistant Engineer
PWD Sub Div. Mandrail


Executive Engineer
PWD Div. Sapotra


Superintending Engineer
PWD Circle, Karauli

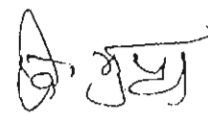
Certificate

Name of work : Widening & Strengthening & Renewal on Karanpur
Mandrial ond Chandelipura road (MDR-03A)
Km. 0/0 to 34/0

It is Certified that there is no specified GSB in local area, CBR of
local GSB is less than 7 & PI of loacal GSB more than 12 & gradation is not
proper. So local GSB is not provided in project.


(Sandeep Verma)
Assistant Engineer
b. Dn. Karanpur


(Sharat Lal Meena)
Executive Engineer
PWD Dn. Sapotra


(Vishnu Kumar Gupta)
Superintending Engineer
PWD Circle Karauli

Name of work : Widening, Strengthening & Renewal on Karanpur Mandrail
Ond Chandelipura Road (MDR-03 A) Km. 0/0 to 34/0

GENERAL ABSTRACT

Part - "A" Road work	Rs.	2786837.95.00
Part - "B" CC Pavement	Rs.	278303984.00
Part - "C" C. D. Works		
Box Culvert (5x5)m	Rs.	23971730.00
Box Culvert (1.50x1.50)m	Rs.	17549486.00
Part - "D" HP Culvert 2x1000mm dia	Rs.	6436706.76
Part - "E" Retaining Work	Rs.	9105696.60
Part - "F" Drain Work	Rs.	23769058.00
Part - "G" Protection Wall	Rs.	16545227.00
Part - "H" Toe Wall Pitching	Rs.	2363419.00
Part - "I" Syphon	Rs.	2746650.00
Part - "J" Road Furniture	Rs.	11811068.40
	Rs.	1713336.00
	Rs.	10649157.00
TOTAL		402602096.76
Add 3.0% for Contingency & Supervision Charge	Rs.	12077960.00
		414680159.76
Add 0.5% for WC	Rs.	2073401.00
Add 1% for Quality	Rs.	4146802.00
TOTAL		42090362.76
	Say	4209.00 Lacs

Assistant Engineer
PWD Sub Div. Karanpur/Mandrail

Executive Engineer
PWD Div.-Sapotra

Superintending Engineer
PWD Circle-Karauli

Estt. No. 567 Dt. 29/11/2020

TECHNICALLY SANCTIONED

FOR
Rs. 420896788.76 (Forty two Crore, Eight Lac,
ninety six thousand, seven hundred Eighty Eight
Chargable to
CRIF 936/RJ/2020-21
Point Seventy Six)

Estt. No. 567

TECHNICALLY SANCTIONED

T.A. PWD ZONE BHARATPUR A.C.E.

Rs. 4209.00 Lac (Forty thousand
nine hundred nine Lac
Chargable to
CRIF 936/RJ/2020-21
T.A. PWD ZONE BHARATPUR A.C.E.

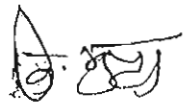
Certificate

Name of work : Widening Strengthening & Renewal on Karanpur
Mandrial Ond Chandelipura Road (MDR-03A)
Km. 0/0 to 34/0

It is Certified that there is no land acquisition is required and land needed for the project is available free of all cumbrances in 29.875 Km. out of 34.00 Km. 4.175 Km. length passes through wild life sanctuary for which on line forest diversion proposal are already submitted under RIDF-XXIII. now the forest proposal will be revised and all efforts will be made to take permission form froest department in specified forest reach before execution of work.


(Sandeep Verma)
Assistant Engineer
Sub Dn. Karanpur


(Sharat Lal Meena)
Executive Engineer
PWD Dn. Sapotra


(Vishnu Kumar Gupta)
Superintending Engineer
PWD Circle Karauli

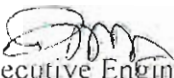
Technical Report

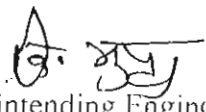
1. Name of Work : **Widening, Strengthening & Renewal on Karanpur Manderail Ond Chandelipura Road (MDR-03 A) Km. 0/0 to 34/0. Sanction – CE(NH & PPP) PWD Raj. Jaipur No. F.7(434)SecII/CRF/2020-21/D-519 Date 12.10.2020 Amount 42.09 Cr (Job No. – CRIF-936/RJ/2020-21)**
- 2 District : Karauli
- 3 Location : Km. 0/00 to 34/00
- 4 Important town/village covered : Toda, Simara, Kased, Karai, Arora, Rondhai, Mandrail
- 5 Proposed Length of Road : 34.000 Km. from 0/00 to 34/00
- 6 Assembly Consistencies : Sapotra
(Km. 0/00 to 34/00) Amount Rs. 4209.00 Lacs
- 7 Name of MLA : Sh. Ramesh Chand Meena
- 8 Parliamentary Constituency : Karauli-Dholpur
(Km. 0/00 to 34/00) Amount Rs. 4209.00 Lacs
- 9 Name of M.P. : Shri Manoj Rajoriya, Karauli-Dholpur
- 10 Existing Width (Mtr.) : Km. 0/00 to 34/00 = 34.000 Km., - 3.75M
- 11 Traffic Details : P.C.U. : 6032 C.V.P.D. : 259
(as per census 03.01.2020 to 05.03.2020)
- 12 Soil Type : Sandy
- 13 Climate : Rainfall Temp. (Max.)
Temp (Min.)
- 14 Existing Station :
- 15 Necessity of Work : Karanpur Manderail Ond Chandelipura Road (MDR-03 A) jointed District Head Quarter Karauli & Keladevi Traffic intensity increase on this road because much more Mining Area on this road & Many people comes from U.P on this road to Keladevi Temple. Out of 34.00 Km., 4.175 Km. of road passage through Forest Land & proposal for forest permission is submitted to forest Department.
- 16 Proposed scope of work : (i) Widening from 3.75m to 7m as mentioned above.

- (ii) GSB Proposed in Berms 150mm & in Widening 200mm.
- (iii) WMM on hole width 7.00mtr is 250mm thick.
- (iv) 50mm thick DBM & 40mm BC.
- (v) New Box Culvert Proposed as balancing culvert and for grade Improvement of road, RCC Drain Work is proposed in village portion along CC Work & RCC Retaining Walls are proposed along high embankment of road in Estimate.
- (vi) Box Culvert (1.5x1.5)m 9 Nos. & (4x5x5)m 2 Nos. in RCC Grade M-25
- (vii) Retaining Wall & Drain Work proposed in RCC Grade M-25
- (viii) HP Culvert 2x1000mm dia
- (ix) Protection Work in CM 1:4
- (x) 60 Nos. Syphon is proposed
- (xi) M-30 CC Pavement proposed in Village portion.
- (xii) All required road furniture's proposed to be provided and fixed.

17	Basic of Rates	:	Estimate has been framed on basis of BSR April.- 2019 of PWD Circle Karauli
18	V.I.P. Reference	:	Road Improvement desired by The MP of Karauli-Dholpur and MLA Sh. Ramesh Chand Meena, Sapotra also desired time to time for improvement and widening of same.
19	Carriageway Width	:	3.75 M to 7.00 M
20	Formation Width	:	12.00 M
21	Estimate Cost	:	4209.00 Lacs
22	Name of S.E.	:	Shri Vishnu Kumar Gupta, 9414847135
23	Name of E.E.	:	Shri S. L. Meena, 9784339087
24	Name of AEn	:	Shri Sanjeev Verma, 9983296632

Assistant Engineer
PWD Sub Div.- Mandrail


Executive Engineer
PWD Div. Sapotra


Superintending Engineer
PWD Circle, Karauli

**Public Works Department
Government of Rajasthan**

No. F.7(434)Sec II/CRF/2020-21/D- 519

Date:- 12.10.2020

From:

Additional Secretary to Govt.
Public Works Department
Rajasthan Jaipur

To:

Chief Engineer (NH & PPP)
Public Work Department
Rajasthan Jaipur

**Sub:-Administrative & financial sanction for 31 works under
Central Road and Infrastructure Fund (CRIF) for year
2020-21 in Rajasthan.**

Sir,

I am directed to convey Administrative & Financial sanction on behalf of the Governor of Rajasthan for 31 works under Central Road and Infrastructure Fund Scheme for total approval cost amounting Rs. 704.13 Cr. It shall be ensured that these works be undertaken as per the guidelines of the Govt of India.

The expenditure on these works shall be restricted to the amount received from Govt and available budget provisions. The expenditure is chargeable to the head:-

S. No	District	Name of the Work	Job No.	Demand no. 21: 5054-03-337- (05)-{00}-74 68.69%	Demand no. 51: 5054-03-789- (07)-{00}-74 17.83%	Demand no. 30: 5054-03-796- (07)-{00}-74 13.48%	Total Cost (Rs. in Cr)
14	Jodhpur	Strengthening of Jhalamand Guda Kharabera Panchayat road km 1/500 to 1/2500 with Major Bridge on Jojari river at km 3/200 & Widening from Single lane to 2 lane km 1/500 to 1/500 (MDR-121)	CRIF- 935/RJ/2020-21	12.11	3.14	2.38	17.63
15	Karauli	Widening & Strengthening & Renewal on Karanpur Mandrail and Chandelpura road (MDR-03A) km 0/0 to 34/0	CRIF- 936/RJ/2020-21	28.91	7.50	5.68	42.09
16	Karauli	Strengthening & Renewal on Mandrail-Karauli-Hindaun road SH-22 Km 11/0 to 29/0	CRIF- 937/RJ/2020-21	12.25	3.18	2.40	17.83
17	Karauli	Strengthening & Widening of BT & CC pavement on Shri Mahaveerji-Balghat-Mohanpura-Karim-Jodhpura-Kirkhri (Kadamkhundi Ghasram Baba Ka Sihan)-Bhairsha Patti Khurd-Bhanakpura-Balahedi Mod to Balahedi-Berkheda-Ukrond Mod, Upto SH-22 Ch. Km 0/0 to 15/0 (MDR-223)	CRIF- 938/RJ/2020-21	11.51	2.99	2.25	16.75
18	Pali	Widening & Strengthening of Bilara Sojat Desuri road SH-62 km 70/0 to 85/0	CRIF- 939/RJ/2020-21	16.85	4.37	3.31	24.53
19	Sikar	Strengthening & Widening of Hasampur of Ajeetgarh via Hathideh km 13/0 to 21/0 & 24/0 to 55/200 (Excluding km 36/200 to 39/0) (MDR-114)	CRIF- 940/RJ/2020-21	23.87	6.20	4.68	34.75
20	Tonk	Widening & Strengthening in km 1/200 to 2/800, 3/500 to 11/200, 11/700 to 21/0 & 21/600 to 35/500 (Tonk-Nagar fort section) of Tonk-Kota via Nagar-Naimwa-Kesora Palan road (SH-34)	CRIF- 941/RJ/2020-21	19.32	5.02	3.79	28.13

37

S. No	District	Name of the Work	Job No.	Demand no. 21: 5054-03-337- (05) -{00}-74 68.69% 11.90	Demand no. 51: 5054-03-789- (07)-{00}-74 17.83% 3.09	Demand no. 30: 5054-03-796 - (07)-{00}-74 13.48% 2.34	Total Cost (Rs. in Cr)
29	Karauli	Strengthening & Renewal of Karanpur-Keladevi road (MDR-3) <km 65/0 to 100/0	CRIF- 950/RJ/2020-21				17.33
30	Banswara	Strengthening & Widening of BT road from Bhatar Bhairuji Temple to Naharpura road. Kanela (MDR-125) km 0/0 to 13/0	CRIF- 951/RJ/2020-21	6.52	1.69	1.28	9.49
31	Jaipur	Widening & Strengthening of Behror to Tala via Bansur, Narayanpur, Thanagaji Road (SH-52) km 120/200 to 139/200	CRIF- 952/RJ/2020-21	10.94	2.84	2.15	15.93
		Total		483.67	125.53	94.93	704.13 Cr.

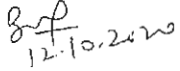
This is in accordance with the approval issued by the Govt. of India vide their letter no NH-28014/1/2020-RO Jaipur dated 24.08.2020 and by Govt. of Rajasthan, Addl. Chief Secretary Finance, Finance Department vide No. 102003972 dated 27.08.2020 subject to compliance of conditions (copy enclosed).

Encl: A/a

[Signature]
12.10.2020
(A.M. Khan)
Dy. Secretary (NH)

Copy forwarded to the following for information and necessary action:

1. PS to ACS, PWD.
2. PS to Secretary, PWD.
3. PS to CE (Road) & AS, PWD.
4. ACE, PWD, Zone-I/II Jaipur,
Kota/Udaipur/Bikaner/Bharatpur/Jodhpur/Tonk/Udaipur-II
(H.Q. Banswara)/Jodhpur-II (H.Q. Barmer)/to upload Short term NIT
under intimation to this office.
5. SEPWDCircle Alwar/Baran/Barmer/Bharatpur/Churu/Dausa/
Dholpur/Rural Jaipur/Jodhpur/Karauli/Pali/Sikar/Tonk/
Kota/Banswara
6. EEPWDDn. Aligarh/Alwar-I/Alwar-
II/Bassi/Bharatpur/Deeg/Dholpur/Fathepur/Garhi/Gudamalani/Jod
hpur-II/Kaman/Kotputli
/Mangrol/Malpura/Neemkathana/Pali/Rajgarh/Ratangarh/Sapotra/
Sangod/Sikandra/Todabhim/Tonk.


12.10.2020

(A.M. Khan)

TA to Chief Engineer
(NH & PPP)

राजस्थान सरकार
वित्त विभाग

नॉन (कॉपी)

आईडी0 सं0 102003972

F.7(434)SEC-II/CRF/P-2020-21

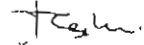
वित्त विभाग की टिप्पणी निम्नवत है :-

(1) प्रशासनिक विभाग के प्रस्ताव के क्रम में MORTH, Govt. of India के पत्र दिनांक 24.08.2020 (पृष्ठ 01-10/सी) द्वारा स्वीकृत 31 कार्यों (क्र0सं0 01 से 31) हेतु राशि सं0 704.13 करोड़ की 'CRF योजना मद' से प्रशासनिक एवं वित्तीय स्वीकृति जारी करने की सहमति निम्न शर्तों के अध्वधीन प्रदत्त की जाती है :-

- (अ) विभाग द्वारा बजट प्रावधान से अधिक राशि व्यय नहीं की जावेगी, तथा प्राप्त राशि से अधिक दायित्व उत्पन्न नहीं किए जावेंगे।
- (ब) विभाग द्वारा भारत सरकार के सड़क परिवहन एवं राज्य मार्ग मंत्रालय द्वारा जारी दिशा-निर्देशों/शर्तों की पालना सुनिश्चित की जावेगी।
- (क) विभाग द्वारा प्रस्तावित कार्यों की राशि भारत सरकार से प्राप्त करना सुनिश्चित किया जावेगा।
- (द) विभाग प्रस्तावित कार्य अन्य योजना/पत्रावली में स्वीकृत नहीं होना सुनिश्चित करेगा।
- (इ) CRF योजना के दिशा निर्देशों की पूर्ण पालना सुनिश्चित करने का उत्तरदायित्व प्रशासनिक विभाग का होगा।
- (ए) विभाग विविध अभिलेख से पूर्व यह सुनिश्चित करेगा, कि प्रस्तावित कार्यों की ड्राइंग एवं डिजाइन आदि अनुमोदित कराली है, तथा भूमि अधिग्रहण की आवश्यकता होने पर भूमि अधिग्रहीत कराली है।
- (ल) विभाग द्वारा इस कार्य से संबंधित समस्त औपचारिकताओं, तत्संबंधी वित्तीय नियमों, RTPP Act/Rules, निर्धारित प्रक्रियाओं की पालना एवं अन्य शर्तों आदि की पालना सुनिश्चित की जावेगी।

(2) क्रम सं0 32 पर भरतपुर जिले में State Highway-48 हेतु प्रस्तावित कार्य के लिए पृथक से प्रस्ताव प्रस्तुत किये जाने का विभाग को परामर्श दिया जाता है।

यह वित्त विभाग में सक्षम स्तर से अनुमोदित है।


(सर्वेश कुमार तिवारी)
25.09.2020
संयुक्त शासन सचिव,
वित्त (व्यय-3) विभाग

139 अतिरिक्त मुख्य सचिव,
सार्व0 निर्माण विभाग

139.

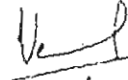
140.

SE (NH)

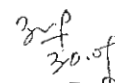
SE NH

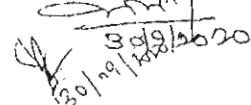
For necessary action

A. K. (CRF)/DA


28/9


30/09/2020


30.09


30/09/2020

DISTRICT LABORATORY, P.W.D. KARALI

No. :- 384

Date:- 21/10/2020

Executive Engineer
PWD Div. Sapotra

Subject: Test Result of Soil Samples

Name of Work : Karanpur Mandrayal Road, Karanpur Kailadevi Road, Mandrayal Karauli Road

Ref: Your Letter No.Sp.1 Dated 15/10/2020

Test result of OMC, MDD & CBR of Soil Samples of above roads. as under-

S. No	Material	Location/ Source of Material	OMC %	MDD (g/m/cc)	CBR %	Atterberg's limits			Remarks
						L.L. (%)	P.L. (%)	P.I.	
Karanpur-Mandrayal Km 0/0 to 34/0									
1	Soil	Km 0/500	11.30	1.76	6.20	-	-	-	
2	Soil	Km 4/600	12.10	1.79	6.10	-	-	-	
3	Soil	Km 8/900	11.68	1.78	6.20		-		
4	Soil	Km 12/700	12.32	1.80	6.30		-		
5	Soil	Km 18/900	12.26	1.79	6.10	-	-	-	
6	Soil	Km 26/500	12.67	1.82	6.00		-		
7	Soil	Km 33/450	12.54	1.81	6.10	-	-	-	
Karanpur-Kailadevi Km 65/0 to 99/0									
1	Soil	Km 66/200	11.55	1.77	6.00	-	-	-	
2	Soil	Km 76/300	12.76	1.82	5.90	-	-	-	
3	Soil	Km 81/200	13.12	1.85	6.00			-	
4	Soil	Km 88/300	12.84	1.83	6.20			-	
5	Soil	Km 92/200	13.45	1.88	6.40	-	-	-	
6	Soil	Km 97/500	13.18	1.86	6.30	-	-	-	
Mandrayal-Karauli (SH-22) Km 11/0 to 29/0									
1	Soil	Km 12/500	13.56	1.90	5.10	-	-	-	
2	Soil	Km 16/400	13.44	1.87	4.80	-	-	-	
3	Soil	Km 20/150	12.98	1.84	5.00			-	
4	Soil	Km 27/370	12.80	1.83	5.10			-	

Note: The above results are applicable only to the specific Samples received in Lab vide above reference Letter.

Executive Engineer
PWD SI & QC Div. Karauli

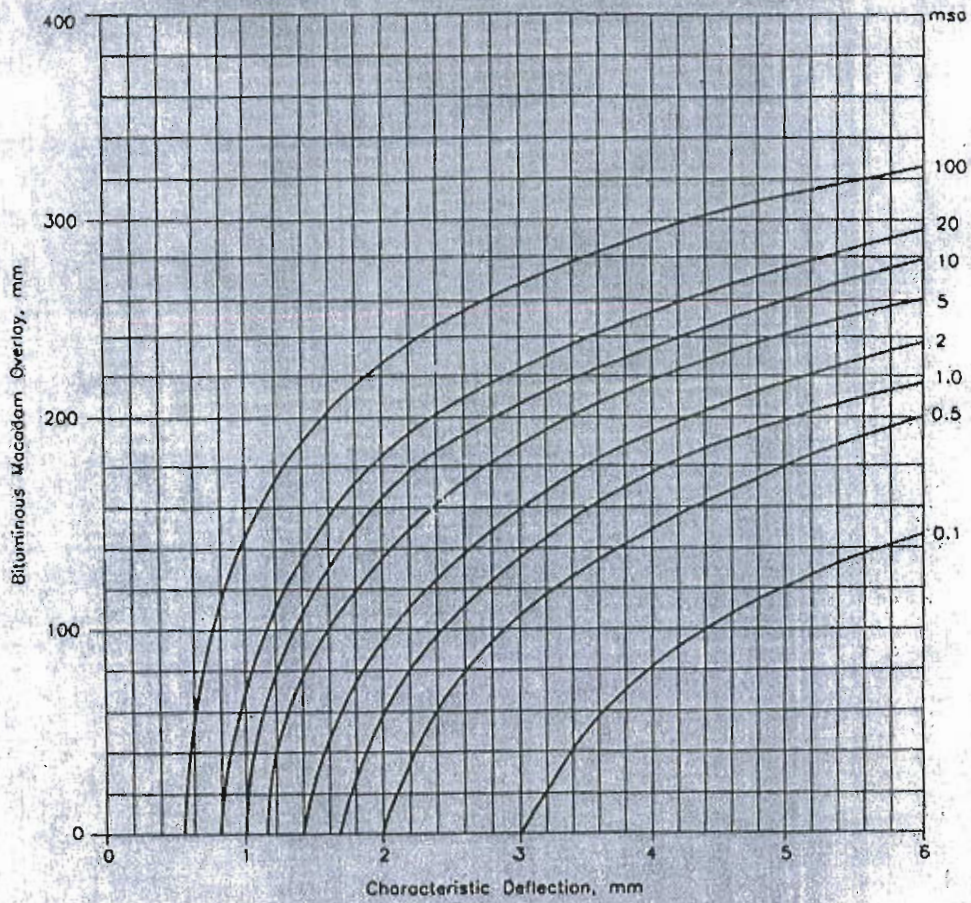


Fig. 9. Overlay Thickness Design Curves

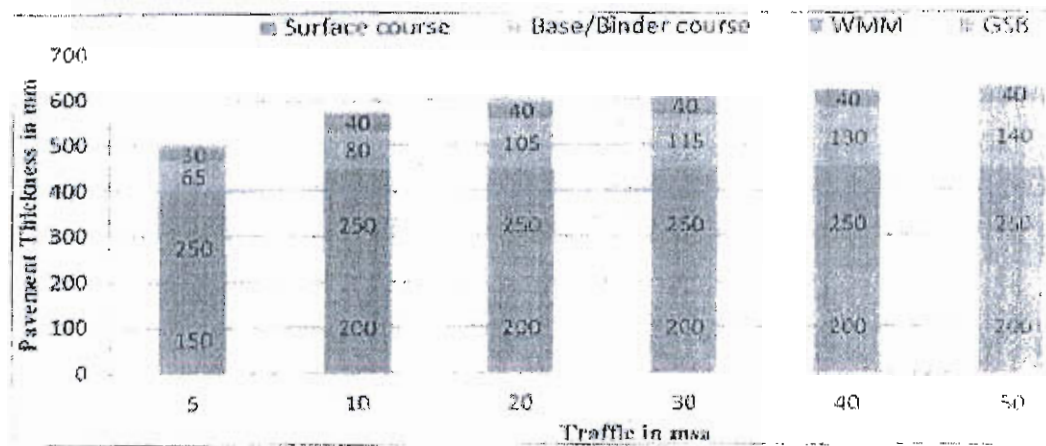


Fig. 12.1 Catalogue for Pavement with Bituminous Surface Course with Granular Base and Sub-base - Effective CBR 5% (Plate-1)

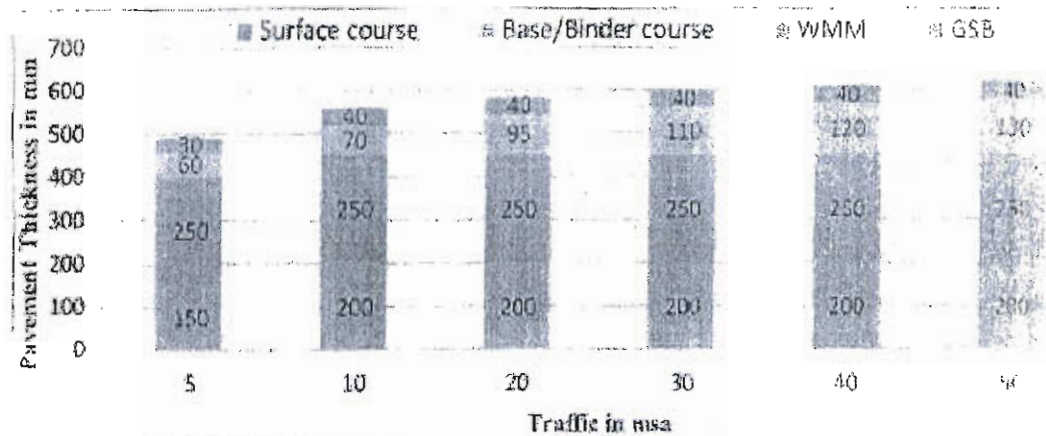


Fig. 12.2 Catalogue for Pavement with Bituminous Surface Course with Granular Base and Sub-base - Effective CBR 6% (Plate-2)

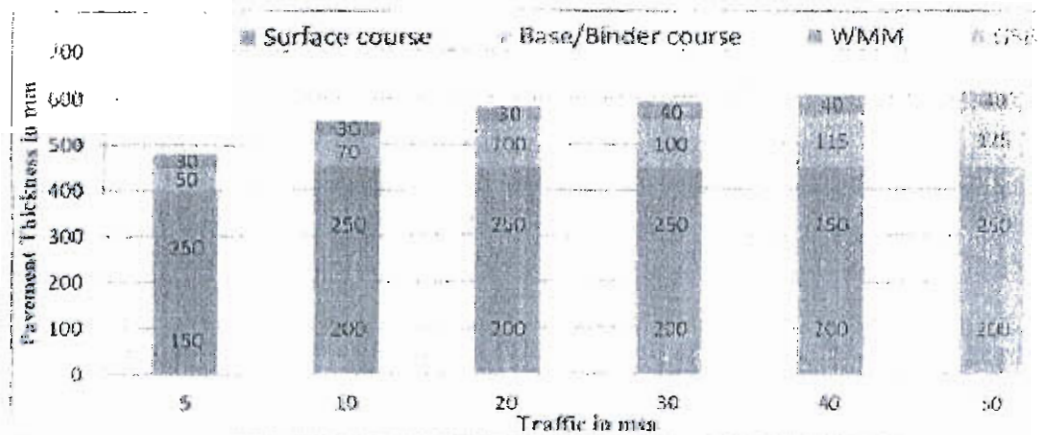


Fig. 12.3 Catalogue for Pavement with Bituminous Surface Course with Granular Base and Sub-base - Effective CBR 7% (Plate-3)

FLEXIBLE PAVEMENT DESIGN

(AS PER IRC:37:2018)

DESIGN DATA:

Name of road	Karanpur Mandrail Road
Classification of road	MDR 03 A
Section km	Km 0/0 to 34/0
Year of Last Traffic Count	September 2020
Period of Traffic Survey	3 Days
Total motorised vehicles (except 2 wheelers) per day	1698 Nos.
Number of commercial vehicles (total of both direction)	259 CVPD
Rainfall	700 mm per annum
Growth rate per annum	7.50%
Period of OD Survey & Construction	1 Year
Design Life	15 Years

DESIGN CALCULATIONS :

Initial Traffic in the Year of Completion of Construction

$$P_n = P_o (1+r)^n$$

Where,

P_n = Traffic in the year of completion of construction CV / Day

P_o = Traffic at last Count

r = Annual growth rate of traffic

n = Number of years between the last census and the year of completion of construction

$$P_n = 259 \times (1 + 0.075)^1$$

278 CV / Day

Vehicle Damage-Factor (V.D.F.)

For Plain and Rolling Terrain, & CVPD 150 to 1500

3.90 Standard Axle per CV

No. of Traffic Lanes in the road

0.75 For Two Lane Road

Traffic Distribution Factor as per para 3.2.3.2. of IRC -37-2018 =

Design Traffic Calculations:

Cumulative Standard axles

Initial Traffic X distribution Factor as per para 3.2.3.2 of IRC -37 -2018

$$= 278 \times 0.75$$

208.5 CV / Day

$$N_s = \{365 \times A \times (1+r)^x - 1\} \times F / r$$

$$= 365 \times \{ \{ (208.5 (1 + 0.075)^{15} - 1) \} \times 3.9 / 0.075 \}$$

7.75 msa

CBR 6

Structural Section of Pavement =		For CBR 5 and MSA			
Surfacing		5	10	1.75	Provide
Bituminous Base Course		30	40	31.50	
Base Course	WMM	60	70	66.50	
Sub Base Course	GSB	250	250	250.00	
		150	200	177.50	
Total Crust		490	560	528.5	


 Assistant Engineer
 PWD Sub Division
 Mandrail


 Executive Engineer
 PWD Division
 Sahibganj

PAVEMENT OVERLAY DESIGN

(AS PER IRC:81:1997)

DESIGN DATA:

(i)	Name of road :	Karanpur Mandrail Road
(ii)	Classification of road :	MDR 03 A
(iii)	Section : km	Km 0/0 to 34/0
(iv)	Year of Last Traffic Count	September 2020
(v)	Period of Traffic Survey	3 Days
(vi)	Total motorised vehicles (except 2 wheelers) per day	1596 Nos
(vii)	Number of commercial vehicles (total of both direction)	259 CVPD
(viii)	Rainfall	700 mm per annum
(ix)	Growth rate per annum	7.50%
(x)	Period of OD Survey & Construction	1 Year
(xi)	Design Life	15 Years
(xii)	Charaterstic Deflection =	3.570 mm

DESIGN CALCULATIONS :

1 Initial Traffic in the Year of Completion of Construction

$$P_n = P_o (1+r)^n$$

Where:

P_n = Traffic in the year of completion of construction CV / Day

P_o = Traffic at last Count

r = Annual growth rate of traffic

n = Number of years between the last census and the year of completion of construction

$$P_n = 259 \times (1 + 0.075)^1$$

278 CV / Day

2 Vehicle Damage Factor (V.D.F.)

For Plain and Rolling Terrain, & CVPD 150 to 1500

3.90 Standard Axle per CV

3 No.s of Traffic Lanes in the road

Traffic Distribution Factor as per para 3.2.3.2. of IRC -37-2001 =

0.75 For Two Lane Road

4 Design Traffic Calculations:

Cummulative Standard axles

Initial Traffic $\times$ distribution Factor as per para 3.2.3.2 of IRC -37 -2001

$$= 278 \times 0.75$$

208.5 CV / Day

$$N_s = [365 \times A \times (1+r)^n - 1] \times F / r$$

$$= 365 \times [((208.5 (1 + 0.075)^{15} - 1) \times 3.9) / 0.075]$$

7.75 msa

5 Characterstic Deflection =

3.570 mm

6 Thickness of Bituminous Macadam Overlay (mm)

220 mm

(From Fig. 9 of IRC-81-1997)

Equivalent Thickness For Dense Bituminous Macadam Overlay (mm)

7 By Mult. By .7

154 mm

8 Structural Section of Pavement Overlay =

Say

90 mm

Base Course		Provided
WBM / WMM / BUSG	180	250
DBM	50	50
Surfacing		
BC	40	40

Assistant Engineer
PWD Sub Divn

Executive Engineer
PWD Divn Sapotra

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :	Karanpur Mandrail Chandelpura Road MDR 03 A			
Section: Km From To	0	34	Air temperature, °C Annual rainfall, mm.	28 Degree
No. Of traffic lane:	Whether temperature correction is to be applied		Yes/no	Yes
	Whether correction for seasonal variation is to be applied		Yes/no	Yes

S.no	Location of test point and identification of lane	Characteristic deflection mm
1	Km 1	
2	Km 2	3.62
3	Km 3	3.77
4	Km 4	3.73
5	Km 5	3.67
6	Km 6	3.85
7	Km 7	
8	Km 8	
9	Km 9	
10	Km 10	3.61
11	Km 11	3.40
12	Km 12	3.60
13	Km 13	3.53
14	Km 14	3.72
15	Km 15	3.59
16	Km 16	3.44
17	Km 17	
18	Km 18	
19	Km 19	3.58
20	Km 20	3.41
21	Km 21	3.57
22	Km 22	3.53
23	Km 23	3.37
24	Km 24	3.64
25	Km 25	3.65
26	Km 26	3.56
27	Km 27	3.50
28	Km 28	3.41
29	Km 29	3.43
30	Km 30	3.53
31	Km 31	3.68
32	Km 32	3.62
33	Km 33	3.41
34	Km 34	3.57
	Average	3.57


Assistant Engineer
PWD Sub Divn


Executive Engineer
PWD Divn Sapotra

Name of Road		Karanpur Mandraji Chandelpura Road MDR 03 A		Date and time of observation Climate conditions (hot/humid/cold)		24-Oct-20	9.00 A.M.
Section: Km From		1	2	Air temperature, °C		28	700 mm
To		Annual rainfall, mm.		Degree		Yes/no	Yes
No. Of traffic lane:		Whether temperature correction is to be applied		Yes/no		Yes/no	Yes
		Whether correction for seasonal variation is to be		Final		Renbound deflection(mm)	Correctio n for temperat ure mm
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Corrected deflection mm
1	1050	29	Sandy	7.00%	0	134	1.04
2	1100	29	Sandy	7.00%	0	150	1.04
3	1250	29	Sandy	7.00%	0	93	1.04
4	1300	29	Sandy	7.00%	0	87	1.04
5	1350	29	Sandy	7.00%	0	133	1.04
6	1400	29	Sandy	7.00%	0	159	1.04
7	1450	29	Sandy	7.00%	0	108	1.04
8	1500	29	Sandy	7.00%	0	94	1.04
9	1550	29	Sandy	7.00%	0	124	1.04
10	1600	29	Sandy	7.00%	0	126	1.04
11	1650	29	Sandy	7.00%	0	94	1.04
12	1700	29	Sandy	7.00%	0	68	1.04
13	1750	29	Sandy	7.00%	0	75	1.04
14	1800	29	Sandy	7.00%	0	160	1.04
15	1850	29	Sandy	7.00%	0	141	1.04
16	1900	29	Sandy	7.00%	0	116	1.04
17	1950	29	Sandy	7.00%	0	102	1.04
18	2000	29	Sandy	7.00%	0	117	1.04

Mean Deflection 2.48
Standard Deviation 0.57
Corrected Deflection 3.62

[Signature]
SANKLEMAN BEAM TEST MEASUREMENTS

[Signature]

Name of Road				Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/humid/cold)		24-Oct-20 10:00 A.M	
Section, Km From		2	3	Air temperature, °C		28	700 mm				
To				Annual rainfall, mm.		Degree					
No. Of traffic lane:		Whether temperature correction is to be applied		Whether correction for seasonal variation is to be		Yes/no	Yes				
		Yes/no		Yes		Yes/no	Yes				
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Rebound deflection (mm)	Correction for temperature mm	Correction for season	Corrected deflection mm
1	2050	29	Sandy	7.00%	0	154	156	3.12	0.06	1.04	3.31
2	2100	29	Sandy	7.00%	0	92	95	1.90	0.06	1.04	2.04
3	2150	29	Sandy	7.00%	0	68	71	1.42	0.06	1.04	1.54
4	2200	29	Sandy	7.00%	0	100	102	2.04	0.06	1.04	2.18
5	2350	29	Sandy	7.00%	0	103	106	2.12	0.06	1.04	2.27
6	2400	29	Sandy	7.00%	0	142	145	2.90	0.06	1.04	3.08
7	2450	29	Sandy	7.00%	0	68	71	1.42	0.06	1.04	1.54
8	2500	29	Sandy	7.00%	0	155	155	3.10	0.06	1.04	3.29
9	2550	29	Sandy	7.00%	0	104	106	2.12	0.06	1.04	2.27
10	2600	29	Sandy	7.00%	0	99	102	2.04	0.06	1.04	2.18
11	2650	29	Sandy	7.00%	0	91	94	1.88	0.06	1.04	2.02
12	2700	29	Sandy	7.00%	0	71	73	1.46	0.06	1.04	1.58
13	2750	29	Sandy	7.00%	0	78	79	1.58	0.06	1.04	1.71
14	2800	29	Sandy	7.00%	0	129	131	2.62	0.06	1.04	2.79
15	2850	29	Sandy	7.00%	0	159	159	3.18	0.06	1.04	3.37
16	2900	29	Sandy	7.00%	0	157	157	3.14	0.06	1.04	3.33
17	2950	29	Sandy	7.00%	0	140	141	2.82	0.06	1.04	3.00
18	3000	29	Sandy	7.00%	0	119	122	2.44	0.06	1.04	2.60

Mean Deflection 2.45
Standard Deviation 0.66
Characteristic Deflection 3.17

Asst. Engineer

Executive Engineer

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/wind/cold)		24-Oct-20	11:00 A.M		
Section: Km From		3	4	Air temperature, °C		28	700 mm				
To				Annual rainfall, mm.		Degree					
No. Of traffic lane:		Whether temperature correction is to be applied									
		Whether correction for seasonal variation is to be									
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Renbound deflection(mm)	Correction for temperature mm	Correction for season	Corrected deflection mm
1	3050	29	Sandy	7.00%	0	142	145	2.90	0.06	1.04	3.08
2	3100	29	Sandy	7.00%	0	133	135	2.70	0.06	1.04	2.87
3	3150	29	Sandy	7.00%	0	74	76	1.52	0.06	1.04	1.64
4	3200	29	Sandy	7.00%	0	140	143	2.86	0.06	1.04	3.04
5	3250	29	Sandy	7.00%	0	134	136	2.72	0.06	1.04	2.89
6	3300	29	Sandy	7.00%	0	152	152	3.04	0.06	1.04	3.22
7	3350	29	Sandy	7.00%	0	138	138	2.76	0.06	1.04	2.93
8	3400	29	Sandy	7.00%	0	94	95	1.90	0.06	1.04	2.04
9	3450	29	Sandy	7.00%	0	104	104	2.08	0.06	1.04	2.23
10	3500	29	Sandy	7.00%	0	138	139	2.78	0.06	1.04	2.95
11	3550	29	Sandy	7.00%	0	90	92	1.84	0.06	1.04	1.98
12	3600	29	Sandy	7.00%	0	156	158	3.16	0.06	1.04	3.35
13	3650	29	Sandy	7.00%	0	71	72	1.44	0.06	1.04	1.56
14	3700	29	Sandy	7.00%	0	101	101	2.02	0.06	1.04	2.16
15	3750	29	Sandy	7.00%	0	138	138	2.76	0.06	1.04	2.93
16	3800	29	Sandy	7.00%	0	136	137	2.74	0.06	1.04	2.91
17	3850	29	Sandy	7.00%	0	147	147	2.94	0.06	1.04	3.12
18	3900	29	Sandy	7.00%	0	114	115	2.30	0.06	1.04	2.45
19	3950	29	Sandy	7.00%	0	111	114	2.28	0.06	1.04	2.43
20	4000	29	Sandy	7.00%	0	150	151	3.02	0.06	1.04	3.20

Engineer

Executive Engineer

Mean Deflection 2.65

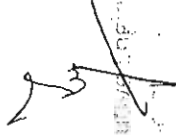
Standard Deviation 0.84

Characteristic Deflection 2.71

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :		Karapur Mandrail Chandelipura Road MDR 03 A				Date and time of observation (climate conditions (hot/humid/cold))		24-Oct-20 12:00 A.M.			
Section: Km From		4	5	Air temperature, °C		28	700 mm				
To				Annual rainfall, mm.		Degree					
No. Of traffic lane:		Whether temperature correction is to be applied							Yes		
		Whether correction for seasonal variation is to be							Yes/no		
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Renbound deflection(mm)	Correction for temperature mm	Correction for season	Corrected deflection mm
1	4050	29	Sandy	7.00%	0	76	79	1.58	0.06	1.04	1.71
2	4100	29	Sandy	7.00%	0	110	112	2.24	0.06	1.04	2.39
3	4150	29	Sandy	7.00%	0	76	79	1.58	0.06	1.04	1.71
4	4200	29	Sandy	7.00%	0	155	155	3.10	0.06	1.04	3.29
5	4250	29	Sandy	7.00%	0	135	136	2.72	0.06	1.04	2.89
6	4300	29	Sandy	7.00%	0	147	148	2.96	0.06	1.04	3.14
7	4350	29	Sandy	7.00%	0	84	85	1.70	0.06	1.04	1.83
8	4400	29	Sandy	7.00%	0	93	94	1.88	0.06	1.04	2.02
9	4450	29	Sandy	7.00%	0	111	111	2.22	0.06	1.04	2.37
10	4500	29	Sandy	7.00%	0	75	76	1.52	0.06	1.04	1.64
11	4550	29	Sandy	7.00%	0	116	119	2.38	0.06	1.04	2.54
12	4600	29	Sandy	7.00%	0	155	157	3.14	0.06	1.04	3.33
13	4650	29	Sandy	7.00%	0	142	142	2.84	0.06	1.04	3.02
14	4700	29	Sandy	7.00%	0	133	136	2.72	0.06	1.04	2.89
15	4750	29	Sandy	7.00%	0	74	76	1.52	0.06	1.04	1.64
16	4800	29	Sandy	7.00%	0	69	71	1.42	0.06	1.04	1.54
17	4850	29	Sandy	7.00%	0	80	80	1.60	0.06	1.04	1.73
18	4900	29	Sandy	7.00%	0	149	150	3.00	0.06	1.04	3.18
19	4950	29	Sandy	7.00%	0	79	81	1.62	0.06	1.04	1.75
20	5000	29	Sandy	7.00%	0	131	134	2.68	0.06	1.04	2.85

Mean Deflection 2.17
Standard Deviation 0.65
Characteristic Deflection 2.67

By 
Executive Engineer

By 
Assistant Engineer

Name of Road :	Karanpur Mandrail Chandelipura Road MDR 03 A	Date and time of observation Climate conditions (hot/himid/cold)	24-Oct-20 3:05 PM.
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Mean Deflection	2.59
Standard Deviation	0.63
Characteristic Deflection	4.85

1. *John* *Employee*
 2. *John* *Employee*

BANKILUMAN BEAM TEST MEASUREMENTS

Name of Road		Karanpur Mandrail Chandelipura Road MDR 03 A					Date and time of observation Climate conditions (hot/humid/cold)		24-Oct-20	2:00 PM.	
Section: Km From		9	10	Air temperature, °C		28	700 mm				
To		Annual rainfall, mm.					Degree				
No. Of traffic lane:		Whether temperature correction is to be applied					Yes/no	Yes			
		Whether correction for seasonal variation is to be					Yes/no	Yes			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Renbound deflection(mm)	Correction for temperature mm	Correction for season	Corrected deflection mm
1	9050	29	Sandy	7.00%	0	91	91	1.82	0.06	1.04	1.96
2	9100	29	Sandy	7.00%	0	156	156	3.12	0.06	1.04	3.31
3	9150	29	Sandy	7.00%	0	104	104	2.08	0.06	1.04	2.23
4	9200	29	Sandy	7.00%	0	143	146	2.92	0.06	1.04	3.10
5	9250	29	Sandy	7.00%	0	127	129	2.58	0.06	1.04	2.75
6	9300	29	Sandy	7.00%	0	98	100	2.00	0.06	1.04	2.14
7	9350	29	Sandy	7.00%	0	95	95	1.90	0.06	1.04	2.04
8	9400	29	Sandy	7.00%	0	144	146	2.92	0.06	1.04	3.10
9	9450	29	Sandy	7.00%	0	154	155	3.10	0.06	1.04	3.29
10	9500	29	Sandy	7.00%	0	136	139	2.78	0.06	1.04	2.95
11	9550	29	Sandy	7.00%	0	152	154	3.08	0.06	1.04	3.27
12	9600	29	Sandy	7.00%	0	83	83	1.66	0.06	1.04	1.79
13	9650	29	Sandy	7.00%	0	88	89	1.78	0.06	1.04	1.91
14	9700	29	Sandy	7.00%	0	136	137	2.74	0.06	1.04	2.91
15	9750	29	Sandy	7.00%	0	98	99	1.98	0.06	1.04	2.12
16	9800	29	Sandy	7.00%	0	108	109	2.18	0.06	1.04	2.33
17	9850	29	Sandy	7.00%	0	126	128	2.56	0.06	1.04	2.72
18	9900	29	Sandy	7.00%	0	93	93	1.86	0.06	1.04	2.00
19	9950	29	Sandy	7.00%	0	91	94	1.88	0.06	1.04	2.02
20	10000	29	Sandy	7.00%	0	70	71	1.42	0.06	1.04	1.54

Mean Deflection 2.47
Standard Deviation 0.57
Characteristic Deflection 3.61

Engineer
Assistant Engineer

Assistant Engineer

Assistant Engineer

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelpura Road MDR 03 A				Date and time of observation Climate conditions (hot/humid/cold)		24-Oct-20	3:00 PM.		
Section: Km From		10	11	Air temperature, °C		28	700 mm				
To		Annual rainfall, mm.				Degree					
No. Of traffic lane:		Whether temperature correction is to be applied					Yes/no	Yes	Corrected deflection mm		
		Whether correction for seasonal variation is to be					Yes/no	Yes			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	
1	10050	29	Sandy	7.00%	0	137	140	2.80	0.06	1.04	2.97
2	10100	29	Sandy	7.00%	0	76	78	1.56	0.06	1.04	1.68
3	10150	29	Sandy	7.00%	0	129	129	2.58	0.06	1.04	2.75
4	10200	29	Sandy	7.00%	0	130	131	2.62	0.06	1.04	2.79
5	10250	29	Sandy	7.00%	0	94	97	1.94	0.06	1.04	2.08
6	10300	29	Sandy	7.00%	0	134	136	2.72	0.06	1.04	2.89
7	10350	29	Sandy	7.00%	0	96	96	1.92	0.06	1.04	2.06
8	10400	29	Sandy	7.00%	0	103	106	2.12	0.06	1.04	2.27
9	10450	29	Sandy	7.00%	0	95	97	1.94	0.06	1.04	2.08
10	10500	29	Sandy	7.00%	0	113	116	2.32	0.06	1.04	2.48
11	10550	29	Sandy	7.00%	0	114	117	2.34	0.06	1.04	2.50
12	10600	29	Sandy	7.00%	0	145	147	2.94	0.06	1.04	3.12
13	10650	29	Sandy	7.00%	0	107	109	2.18	0.06	1.04	2.33
14	10700	29	Sandy	7.00%	0	122	125	2.50	0.06	1.04	2.66
15	10750	29	Sandy	7.00%	0	129	131	2.62	0.06	1.04	2.79
16	10800	29	Sandy	7.00%	0	157	158	3.16	0.06	1.04	3.35
17	10850	29	Sandy	7.00%	0	121	123	2.46	0.06	1.04	2.62
18	10900	29	Sandy	7.00%	0	101	103	2.06	0.06	1.04	2.20
19	10950	29	Sandy	7.00%	0	72	74	1.48	0.06	1.04	1.60
20	11000	29	Sandy	7.00%	0	91	91	1.82	0.06	1.04	1.96

Mean Deflection 2.46
Standard Deviation 0.47
Characteristic Deflection 2.40

Execution Engineer

Assistant Engineer

Assistant Engineer

KANKLEMAN BEAM TEST MEASUREMENTS

Name of Road		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation (Climate conditions hot/humid/cold)		24-Oct-20 4:00 PM			
Section: Km From To		11	12	Air temperature, °C Annual rainfall, mm.		28 Degree	700 mm				
No. Of traffic lane:		Whether temperature correction is to be applied						Yes/no			
		Whether correction for seasonal variation is to be						Yes/no			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Rebound deflection (mm)	Correction for temperature mm	Correction for season	Corrected deflection mm
1	11050	29	Sandy	7.00%	0	157	160	3.20	0.06	1.04	3.39
2	11100	29	Sandy	7.00%	0	124	126	2.52	0.06	1.04	2.68
3	11150	29	Sandy	7.00%	0	146	148	2.96	0.06	1.04	3.14
4	11200	29	Sandy	7.00%	0	81	81	1.62	0.06	1.04	1.75
5	11250	29	Sandy	7.00%	0	102	103	2.06	0.06	1.04	2.20
6	11300	29	Sandy	7.00%	0	137	140	2.80	0.06	1.04	2.97
7	11350	29	Sandy	7.00%	0	90	93	1.86	0.06	1.04	2.00
8	11400	29	Sandy	7.00%	0	98	98	1.96	0.06	1.04	2.10
9	11450	29	Sandy	7.00%	0	95	98	1.96	0.06	1.04	2.10
10	11500	29	Sandy	7.00%	0	73	73	1.46	0.06	1.04	1.58
11	11550	29	Sandy	7.00%	0	151	152	3.04	0.06	1.04	3.22
12	11600	29	Sandy	7.00%	0	124	124	2.48	0.06	1.04	2.64
13	11650	29	Sandy	7.00%	0	107	108	2.16	0.06	1.04	2.31
14	11700	29	Sandy	7.00%	0	143	144	2.88	0.06	1.04	3.06
15	11750	29	Sandy	7.00%	0	132	134	2.68	0.06	1.04	2.85
16	11800	29	Sandy	7.00%	0	113	115	2.30	0.06	1.04	2.45
17	11850	29	Sandy	7.00%	0	152	154	3.08	0.06	1.04	3.27
18	11900	29	Sandy	7.00%	0	106	109	2.18	0.06	1.04	2.33
19	11950	29	Sandy	7.00%	0	84	87	1.74	0.06	1.04	1.87
20	12000	29	Sandy	7.00%	0	118	119	2.38	0.06	1.04	2.54

Mean Deflection 2.52
Standard Deviation 0.54
Characteristic Deflection 2.60

EXAMINED
SIGNED

ASSISTANT ENGINEER

CHIEF ENGINEER

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelpura Road MDR 03 A					Date and time of observation Climate conditions (hot/himid/cold)		25-Oct-20	9.00 AM.	
Section: Km From		12	13	Air temperature, °C		28	700 mm		Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
To		Annual rainfall, mm.		Degree	Yes/no	Yes					
No. Of traffic lane:		Whether temperature correction is to be applied		Yes/no	Yes						
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Final	Renbound deflection(mm)			
									Whether correction for seasonal variation is to be		
1	12050	29	Sandy	7.00%	0	68	70	1.40	0.06	1.04	1.52
2	12100	29	Sandy	7.00%	0	156	158	3.16	0.06	1.04	3.35
3	12150	29	Sandy	7.00%	0	102	105	2.10	0.06	1.04	2.25
4	12200	29	Sandy	7.00%	0	128	129	2.58	0.06	1.04	2.75
5	12250	29	Sandy	7.00%	0	111	111	2.22	0.06	1.04	2.37
6	12300	29	Sandy	7.00%	0	128	128	2.56	0.06	1.04	2.72
7	12350	29	Sandy	7.00%	0	92	94	1.88	0.06	1.04	2.02
8	12400	29	Sandy	7.00%	0	138	140	2.80	0.06	1.04	2.97
9	12450	29	Sandy	7.00%	0	123	123	2.46	0.06	1.04	2.62
10	12500	29	Sandy	7.00%	0	79	80	1.60	0.06	1.04	1.73
11	12550	29	Sandy	7.00%	0	157	159	3.18	0.06	1.04	3.37
12	12600	29	Sandy	7.00%	0	83	86	1.72	0.06	1.04	1.85
13	12650	29	Sandy	7.00%	0	95	96	1.92	0.06	1.04	2.06
14	12700	29	Sandy	7.00%	0	127	128	2.56	0.06	1.04	2.72
15	12750	29	Sandy	7.00%	0	92	95	1.90	0.06	1.04	2.04
16	12800	29	Sandy	7.00%	0	94	96	1.92	0.06	1.04	2.06
17	12850	29	Sandy	7.00%	0	147	147	2.94	0.06	1.04	3.12
18	12900	29	Sandy	7.00%	0	74	74	1.48	0.06	1.04	1.60
19	12950	29	Sandy	7.00%	0	133	136	2.72	0.06	1.04	2.89
20	13000	29	Sandy	7.00%	0	100	103	2.06	0.06	1.04	2.20

Mean Deflection 2.41
Standard Deviation 0.56
Characteristic Deflection 3.53

[Signature]
Executive Engineer
R.O.C. District

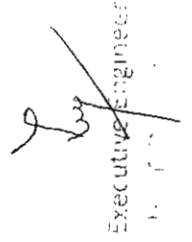
[Signature]
District Engineer
R.O.C. District

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District Engineer
R.O.C. District

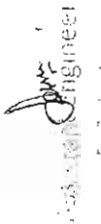
BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road	Karanpur Mandrail Chandelpura Road MDR 03 A					Date and time of observation Climate conditions (hot/himid/cold)		25-Oct-20	10:00 AM		
Section: Km From	13	14	Air temperature, °C		28	700 mm					
To			Annual rainfall, mm.		Degree						
No. Of traffic lane:	Whether temperature correction is to be applied					Yes/no	Yes				
						Yes/no	Yes				
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	13050	29	Sandy	7.00%	0	147	148	2.96	0.06	1.04	3.14
2	13100	29	Sandy	7.00%	0	115	115	2.30	0.06	1.04	2.45
3	13150	29	Sandy	7.00%	0	145	146	2.92	0.06	1.04	3.10
4	13200	29	Sandy	7.00%	0	116	116	2.32	0.06	1.04	2.48
5	13250	29	Sandy	7.00%	0	124	126	2.52	0.06	1.04	2.68
6	13300	29	Sandy	7.00%	0	108	108	2.16	0.06	1.04	2.31
7	13350	29	Sandy	7.00%	0	79	82	1.64	0.06	1.04	1.77
8	13400	29	Sandy	7.00%	0	125	126	2.52	0.06	1.04	2.68
9	13450	29	Sandy	7.00%	0	152	153	3.06	0.06	1.04	3.24
10	13500	29	Sandy	7.00%	0	85	87	1.74	0.06	1.04	1.87
11	13550	29	Sandy	7.00%	0	144	147	2.94	0.06	1.04	3.12
12	13600	29	Sandy	7.00%	0	124	127	2.54	0.06	1.04	2.70
13	13650	29	Sandy	7.00%	0	78	78	1.56	0.06	1.04	1.68
14	13700	29	Sandy	7.00%	0	145	146	2.92	0.06	1.04	3.10
15	13750	29	Sandy	7.00%	0	84	87	1.74	0.06	1.04	1.87
16	13800	29	Sandy	7.00%	0	139	139	2.78	0.06	1.04	2.95
17	13850	29	Sandy	7.00%	0	91	93	1.86	0.06	1.04	2.00
18	13900	29	Sandy	7.00%	0	154	156	3.12	0.06	1.04	3.31
19	13950	29	Sandy	7.00%	0	103	106	2.12	0.06	1.04	2.27
20	14000	29	Sandy	7.00%	0	158	158	3.16	0.06	1.04	3.35

Mean Deflection 2.60
Standard Deviation 0.56
Characteristic Deflection 3.72


Executive Engineer


Assistant Engineer


Assistant Engineer

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road		Karanpur Mandrail Chandelpura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		25-Oct-20	11.00 AM		
Section: Km From		14	15	Air temperature, °C		28	700 mm				
To				Annual rainfall, mm.		Degree					
No. Of traffic lane:		Whether temperature correction is to be applied					Yes/no	Yes			
		Whether correction for seasonal variation is to be					Yes/no	Yes			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	14050	29	Sandy	7.00%	0	126	127	2.54	0.06	1.04	2.70
2	14100	29	Sandy	7.00%	0	82	83	1.66	0.06	1.04	1.79
3	14150	29	Sandy	7.00%	0	83	84	1.68	0.06	1.04	1.81
4	14200	29	Sandy	7.00%	0	77	79	1.58	0.06	1.04	1.71
5	14250	29	Sandy	7.00%	0	100	101	2.02	0.06	1.04	2.16
6	14300	29	Sandy	7.00%	0	137	140	2.80	0.06	1.04	2.97
7	14350	29	Sandy	7.00%	0	83	86	1.72	0.06	1.04	1.85
8	14400	29	Sandy	7.00%	0	137	137	2.74	0.06	1.04	2.91
9	14450	29	Sandy	7.00%	0	145	148	2.96	0.06	1.04	3.14
10	14500	29	Sandy	7.00%	0	76	77	1.54	0.06	1.04	1.66
11	14550	29	Sandy	7.00%	0	133	135	2.70	0.06	1.04	2.87
12	14600	29	Sandy	7.00%	0	151	153	3.06	0.06	1.04	3.24
13	14650	29	Sandy	7.00%	0	68	71	1.42	0.06	1.04	1.54
14	14700	29	Sandy	7.00%	0	73	76	1.52	0.06	1.04	1.64
15	14750	29	Sandy	7.00%	0	74	77	1.54	0.06	1.04	1.66
16	14800	29	Sandy	7.00%	0	84	86	1.72	0.06	1.04	1.85
17	14850	29	Sandy	7.00%	0	155	158	3.16	0.06	1.04	3.35
18	14900	29	Sandy	7.00%	0	99	101	2.02	0.06	1.04	2.16
19	14950	29	Sandy	7.00%	0	146	147	2.94	0.06	1.04	3.12
20	15000	29	Sandy	7.00%	0	92	95	1.90	0.06	1.04	2.04

Mean Deflection 2.31
Standard Deviation 0.64
Characteristic Deflection 3.59

Executive Engineer

Assistant Engineer

Assistant Engineer

BANKLEMAN BEAMING MEASUREMENTS

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Mean Deflection	2.54
Standard Deviation	0.17
Characteristic Deflection	3.12

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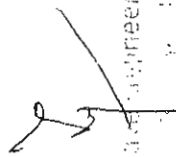
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BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		25-Oct-20	2.00 PM		
Section: Km From		18	19	Air temperature, °C		28	700 mm				
To		Annual rainfall, mm.				Degree					
No. Of traffic lane:		Whether temperature correction is to be applied				Yes/no	Yes				
						Yes/no	Yes				
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Rebound deflection(mm)	Correction for temperature mm	Correction for season	Corrected deflection mm
1	18050	29	Sandy	7.00%	0	91	93	1.86	0.06	1.04	2.00
2	18100	29	Sandy	7.00%	0	72	74	1.48	0.06	1.04	1.60
3	18150	29	Sandy	7.00%	0	135	138	2.76	0.06	1.04	2.93
4	18200	29	Sandy	7.00%	0	79	80	1.60	0.06	1.04	1.73
5	18250	29	Sandy	7.00%	0	150	151	3.02	0.06	1.04	3.20
6	18300	29	Sandy	7.00%	0	134	135	2.70	0.06	1.04	2.87
7	18350	29	Sandy	7.00%	0	138	140	2.80	0.06	1.04	2.97
8	18400	29	Sandy	7.00%	0	88	91	1.82	0.06	1.04	1.96
9	18450	29	Sandy	7.00%	0	142	145	2.90	0.06	1.04	3.08
10	18500	29	Sandy	7.00%	0	115	115	2.30	0.06	1.04	2.45
11	18550	29	Sandy	7.00%	0	85	87	1.74	0.06	1.04	1.87
12	18600	29	Sandy	7.00%	0	124	126	2.52	0.06	1.04	2.68
13	18650	29	Sandy	7.00%	0	108	111	2.22	0.06	1.04	2.37
14	18700	29	Sandy	7.00%	0	141	144	2.88	0.06	1.04	3.06
15	18750	29	Sandy	7.00%	0	101	102	2.04	0.06	1.04	2.18
16	18800	29	Sandy	7.00%	0	98	98	1.96	0.06	1.04	2.10
17	18850	29	Sandy	7.00%	0	81	81	1.62	0.06	1.04	1.75
18	18900	29	Sandy	7.00%	0	142	144	2.88	0.06	1.04	3.06
19	18950	29	Sandy	7.00%	0	152	154	3.08	0.06	1.04	3.27
20	19000	29	Sandy	7.00%	0	110	113	2.26	0.06	1.04	2.41

Mean Deflection 2.48
Standard Deviation 0.55
Characteristic Deflection 3.59


Engineer


Surveyor

BARKLEMAN BEAM TEST MEASUREMENTS

Name of Road		Karanpur Mandrail Chandelipura Road MDR 03 A					Date and time of observation climate conditions (hot/humid/cold)		25-Oct-20	3.00 PM	
Section: Km From To		19	20	Air temperature, °C Annual rainfall, mm.		28	700 mm				
No. Of traffic lane:		Whether temperature correction is to be applied					Yes/no	Yes			
		Whether correction for seasonal variation is to be					Yes/no	Yes			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	19050	29	Sandy	7.00%	0	143	144	2.88	0.06	1.04	3.06
2	19100	29	Sandy	7.00%	0	70	73	1.46	0.06	1.04	1.58
3	19150	29	Sandy	7.00%	0	86	86	1.72	0.06	1.04	1.85
4	19200	29	Sandy	7.00%	0	98	98	1.96	0.06	1.04	2.10
5	19250	29	Sandy	7.00%	0	133	136	2.72	0.06	1.04	2.89
6	19300	29	Sandy	7.00%	0	80	82	1.64	0.06	1.04	1.77
7	19350	29	Sandy	7.00%	0	110	110	2.20	0.06	1.04	2.35
8	19400	29	Sandy	7.00%	0	123	124	2.48	0.06	1.04	2.64
9	19450	29	Sandy	7.00%	0	96	99	1.98	0.06	1.04	2.12
10	19500	29	Sandy	7.00%	0	72	72	1.44	0.06	1.04	1.56
11	19550	29	Sandy	7.00%	0	142	145	2.90	0.06	1.04	3.08
12	19600	29	Sandy	7.00%	0	119	119	2.38	0.06	1.04	2.54
13	19650	29	Sandy	7.00%	0	113	115	2.30	0.06	1.04	2.45
14	19700	29	Sandy	7.00%	0	144	145	2.90	0.06	1.04	3.08
15	19750	29	Sandy	7.00%	0	77	79	1.58	0.06	1.04	1.71
16	19800	29	Sandy	7.00%	0	110	112	2.24	0.06	1.04	2.39
17	19850	29	Sandy	7.00%	0	96	97	1.94	0.06	1.04	2.08
18	19900	29	Sandy	7.00%	0	107	110	2.20	0.06	1.04	2.35
19	19950	29	Sandy	7.00%	0	148	151	3.02	0.06	1.04	3.20
20	20000	29	Sandy	7.00%	0	79	81	1.62	0.06	1.04	1.75

Mean Deflection	2.33
Standard Deviation	0.54
Characteristic Deflection	3.11

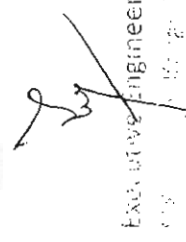
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Assistant Engineer
20/05/2011

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		25-Oct-20	4.00 PM:		
Section: Km From		20	21	Air temperature, °C		28	700 mm				
To		Annual rainfall, mm.				Degree					
No. Of traffic lane:		Whether temperature correction is to be applied				Yes/no	Yes				
		Whether correction for seasonal variation is to be				Yes/no	Yes				
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	20050	29	Sandy	7.00%	0	71	73	1.46	0.06	1.04	1.58
2	20100	29	Sandy	7.00%	0	142	142	2.84	0.06	1.04	3.02
3	20150	29	Sandy	7.00%	0	123	125	2.50	0.06	1.04	2.66
4	20200	29	Sandy	7.00%	0	146	147	2.94	0.06	1.04	3.12
5	20250	29	Sandy	7.00%	0	99	99	1.98	0.06	1.04	2.12
6	20300	29	Sandy	7.00%	0	68	70	1.40	0.06	1.04	1.52
7	20350	29	Sandy	7.00%	0	151	152	3.04	0.06	1.04	3.22
8	20400	29	Sandy	7.00%	0	134	136	2.72	0.06	1.04	2.89
9	20450	29	Sandy	7.00%	0	77	80	1.60	0.06	1.04	1.73
10	20500	29	Sandy	7.00%	0	140	140	2.80	0.06	1.04	2.97
11	20550	29	Sandy	7.00%	0	90	92	1.84	0.06	1.04	1.98
12	20600	29	Sandy	7.00%	0	69	71	1.42	0.06	1.04	1.54
13	20650	29	Sandy	7.00%	0	95	95	1.90	0.06	1.04	2.04
14	20700	29	Sandy	7.00%	0	95	95	1.90	0.06	1.04	2.04
15	20750	29	Sandy	7.00%	0	88	91	1.82	0.06	1.04	1.96
16	20800	29	Sandy	7.00%	0	74	75	1.50	0.06	1.04	1.62
17	20850	29	Sandy	7.00%	0	145	148	2.96	0.06	1.04	3.14
18	20900	29	Sandy	7.00%	0	142	144	2.88	0.06	1.04	3.06
19	20950	29	Sandy	7.00%	0	116	116	2.32	0.06	1.04	2.48
20	21000	29	Sandy	7.00%	0	104	107	2.14	0.06	1.04	2.29

Mean Deflection 2.25
Standard Deviation 0.61
Characteristic Deflection 1.57


Executive Engineer


Assistant Engineer

BANKLIMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		26-Oct-20	9:00 AM.		
Section: Km From		21	22	Air temperature, °C Annual rainfall, mm.		28 Degree	700 mm				
To											
No. Of traffic lane:		Whether temperature correction is to be applied Whether correction for seasonal variation is to be									
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermedate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	21050	29	Sandy	7.00%	0	150	151	3.02	0.06	1.04	3.20
2	21100	29	Sandy	7.00%	0	79	82	1.64	0.06	1.04	1.77
3	21150	29	Sandy	7.00%	0	139	142	2.84	0.06	1.04	3.02
4	21200	29	Sandy	7.00%	0	136	139	2.78	0.06	1.04	2.95
5	21250	29	Sandy	7.00%	0	107	110	2.20	0.06	1.04	2.35
6	21300	29	Sandy	7.00%	0	99	100	2.00	0.06	1.04	2.14
7	21350	29	Sandy	7.00%	0	128	130	2.60	0.06	1.04	2.77
8	21400	29	Sandy	7.00%	0	85	88	1.76	0.06	1.04	1.89
9	21450	29	Sandy	7.00%	0	146	146	2.92	0.06	1.04	3.10
10	21500	29	Sandy	7.00%	0	127	130	2.60	0.06	1.04	2.77
11	21550	29	Sandy	7.00%	0	74	76	1.52	0.06	1.04	1.64
12	21600	29	Sandy	7.00%	0	85	86	1.72	0.06	1.04	1.85
13	21650	29	Sandy	7.00%	0	93	93	1.86	0.06	1.04	2.00
14	21700	29	Sandy	7.00%	0	104	106	2.12	0.06	1.04	2.27
15	21750	29	Sandy	7.00%	0	144	146	2.92	0.06	1.04	3.10
16	21800	29	Sandy	7.00%	0	117	119	2.38	0.06	1.04	2.54
17	21850	29	Sandy	7.00%	0	85	87	1.74	0.06	1.04	1.87
18	21900	29	Sandy	7.00%	0	121	121	2.42	0.06	1.04	2.58
19	21950	29	Sandy	7.00%	0	128	130	2.60	0.06	1.04	2.77
20	22000	29	Sandy	7.00%	0	147	148	2.96	0.06	1.04	3.14

Mean Deflection 2.49
Standard Deviation 0.52
Characteristic Deflection 3.53

Executive Engineer
Karanpur Mandrail Chandelipura
Road MDR 03 A

Assistant Engineer
Karanpur Mandrail Chandelipura
Road MDR 03 A

Assistant Engineer
Karanpur Mandrail Chandelipura
Road MDR 03 A

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		26-Oct-20	11.00 AM		
Section: Km From		22	23	Air temperature, °C		28	700 mm				
To		Annual rainfall, mm.					Degree				
No. Of traffic lane:		Whether temperature correction is to be applied					Yes/no	Yes			
							Yes/no	Yes			
Whether correction for seasonal variation is to be							Yes/no	Yes			
							Yes/no	Yes			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	22050	29	Sandy	7.00%	0	105	106	2.12	0.06	1.04	2.27
2	22100	29	Sandy	7.00%	0	131	132	2.64	0.06	1.04	2.81
3	22150	29	Sandy	7.00%	0	85	85	1.70	0.06	1.04	1.83
4	22200	29	Sandy	7.00%	0	76	76	1.52	0.06	1.04	1.64
5	22250	29	Sandy	7.00%	0	78	79	1.58	0.06	1.04	1.71
6	22300	29	Sandy	7.00%	0	87	90	1.80	0.06	1.04	1.93
7	22350	29	Sandy	7.00%	0	131	134	2.68	0.06	1.04	2.85
8	22400	29	Sandy	7.00%	0	70	72	1.44	0.06	1.04	1.56
9	22450	29	Sandy	7.00%	0	136	139	2.78	0.06	1.04	2.95
10	22500	29	Sandy	7.00%	0	99	102	2.04	0.06	1.04	2.18
11	22550	29	Sandy	7.00%	0	131	134	2.68	0.06	1.04	2.85
12	22600	29	Sandy	7.00%	0	134	136	2.72	0.06	1.04	2.89
13	22650	29	Sandy	7.00%	0	108	111	2.22	0.06	1.04	2.37
14	22700	29	Sandy	7.00%	0	103	105	2.10	0.06	1.04	2.25
15	22750	29	Sandy	7.00%	0	94	97	1.94	0.06	1.04	2.08
16	22800	29	Sandy	7.00%	0	151	154	3.08	0.06	1.04	3.27
17	22850	29	Sandy	7.00%	0	124	127	2.54	0.06	1.04	2.70
18	22900	29	Sandy	7.00%	0	79	79	1.58	0.06	1.04	1.71
19	22950	29	Sandy	7.00%	0	128	130	2.60	0.06	1.04	2.77
20	23000	29	Sandy	7.00%	0	93	95	1.90	0.06	1.04	2.04

Mean Deflection 2.33
Standard Deviation 0.52
Characteristic Deflection 3.37

Executive Engineer
C.P.O.C. P.O. 10/10/20

Assistant Engineer
C.P.O.C. P.O. 10/10/20

Assistant Engineer
C.P.O.C. P.O. 10/10/20

[illegible]


Executive Engineer
SIS QC Divn. Ka

Assistant Engineer
P.W.D. D.D.V.

Mean Deflection	2.44
Standard Deviation	0.5
Characteristic Deflection	3.64

Mean Deflection	2.45
Standard Deviation	0.6
Characteristic Deflection	3.55

~~Executive Engineer~~
~~SISQC (A) No. 401~~

Assistant Engineer
K. S. Div. Kalyan:

Assistant Engineer
P.W.D. Sub-Div.

Mean Deflection	2.78
Standard Deviation	0.39
Characteristic Deflection	3.56

~~Executive Engineer
SI&QC Dept Kar~~

Assistant Engineer
S&C, Durgakudi

Assistant Engineer
Rajendra Singh

BANKLIMAN BEAM TEST MEASUREMENTS

Name of Road :		Karanpur Mandrail Chandelipura Road MDR 03 A					Date and time of observation Climate conditions (hot/himid/cold)		26-Oct-20	4.00 AM.	
Section: Km From		26	27	Air temperature, °C		28	700 mm				
To		Annual rainfall, mm.					Degree				
No. Of traffic lane:		Whether temperature correction is to be applied					Yes/no	Yes			
		Whether correction for seasonal variation is to be					Yes/no	Yes			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	26050	29	Sandy	7.00%	0	80	83	1.66	0.06	1.04	1.79
2	26100	29	Sandy	7.00%	0	84	84	1.68	0.06	1.04	1.81
3	26150	29	Sandy	7.00%	0	102	104	2.08	0.06	1.04	2.23
4	26200	29	Sandy	7.00%	0	144	146	2.92	0.06	1.04	3.10
5	26250	29	Sandy	7.00%	0	100	101	2.02	0.06	1.04	2.16
6	26300	29	Sandy	7.00%	0	118	118	2.36	0.06	1.04	2.52
7	26350	29	Sandy	7.00%	0	72	72	1.44	0.06	1.04	1.56
8	26400	29	Sandy	7.00%	0	134	135	2.70	0.06	1.04	2.87
9	26450	29	Sandy	7.00%	0	146	148	2.96	0.06	1.04	3.14
10	26500	29	Sandy	7.00%	0	120	120	2.40	0.06	1.04	2.56
11	26550	29	Sandy	7.00%	0	99	100	2.00	0.06	1.04	2.14
12	26600	29	Sandy	7.00%	0	125	126	2.52	0.06	1.04	2.68
13	26650	29	Sandy	7.00%	0	139	142	2.84	0.06	1.04	3.02
14	26700	29	Sandy	7.00%	0	86	88	1.76	0.06	1.04	1.89
15	26750	29	Sandy	7.00%	0	77	78	1.56	0.06	1.04	1.68
16	26800	29	Sandy	7.00%	0	79	81	1.62	0.06	1.04	1.75
17	26850	29	Sandy	7.00%	0	150	152	3.04	0.06	1.04	3.22
18	26900	29	Sandy	7.00%	0	108	110	2.20	0.06	1.04	2.35
19	26950	29	Sandy	7.00%	0	144	145	2.90	0.06	1.04	3.08
20	27000	29	Sandy	7.00%	0	78	78	1.56	0.06	1.04	1.68

Mean Deflection 2.36
Standard Deviation 0.50
Characteristic Deflection 3.50

Executive Engineer
SIRCHIV Karauli

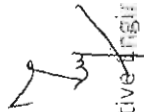
Assistant Engineer
SIRCHIV Karauli

Assistant Engineer
SIRCHIV Karauli

Name of Road		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		27-Oct-20	9.00 AM	
Section: Km From		27	28	Air temperature, °C		28	700 mm			
To				Annual rainfall, mm.		Degree				
No. Of traffic lane:		Whether temperature correction is to be applied				Yes/no	Yes			
		Whether correction for seasonal variation is to be				Yes/no	Yes			
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & Pl	Moisture content %	Dial gauge reading initial	Interme diate	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	27050	29	Sandy	7.00%	0	121	2.44	0.06	1.04	2.60
2	27100	29	Sandy	7.00%	0	137	2.74	0.06	1.04	2.91
3	27150	29	Sandy	7.00%	0	139	2.80	0.06	1.04	2.97
4	27200	29	Sandy	7.00%	0	93	1.88	0.06	1.04	2.02
5	27250	29	Sandy	7.00%	0	110	2.26	0.06	1.04	2.41
6	27300	29	Sandy	7.00%	0	100	2.02	0.06	1.04	2.16
7	27350	29	Sandy	7.00%	0	127	2.54	0.06	1.04	2.70
8	27400	29	Sandy	7.00%	0	71	1.48	0.06	1.04	1.60
9	27450	29	Sandy	7.00%	0	121	2.46	0.06	1.04	2.62
10	27500	29	Sandy	7.00%	0	105	2.12	0.06	1.04	2.27
11	27550	29	Sandy	7.00%	0	145	2.96	0.06	1.04	3.14
12	27600	29	Sandy	7.00%	0	112	2.28	0.06	1.04	2.43
13	27650	29	Sandy	7.00%	0	143	2.86	0.06	1.04	3.04
14	27700	29	Sandy	7.00%	0	116	2.38	0.06	1.04	2.54
15	27750	29	Sandy	7.00%	0	147	2.98	0.06	1.04	3.16
16	27800	29	Sandy	7.00%	0	112	2.30	0.06	1.04	2.45
17	27850	29	Sandy	7.00%	0	92	1.86	0.06	1.04	2.00
18	27900	29	Sandy	7.00%	0	94	1.92	0.06	1.04	2.06
19	27950	29	Sandy	7.00%	0	145	2.96	0.06	1.04	3.14
20	28000	29	Sandy	7.00%	0	109	2.22	0.06	1.04	2.37

 Assistant Engineer
 PWD Sec Divn

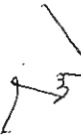
 Assistant Engineer
 SI&QC Div Karauli

 Executive Engineer
 SI&QC Div Karauli

Mean Deflection 2.53
 Standard Deviation 1.44
 Characteristic Deflection 3.41

Name of Road		Karapur Mandrail Chandelpura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		27-Oct-20 10.00 AM		
Section: Km From		28	29	Air temperature, °C		28	700 mm			
To		Annual rainfall, mm.		Degree		Yes/no	Yes			
No. Of traffic lane:		Whether temperature correction is to be applied		Yes/no		Yes/no	Yes			
		Whether correction for seasonal variation is to be								
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Renbound deflection(mm)	Correction for temperature mm	Correction for season	Corrected deflection mm
1	28050	29	Sandy	7.00%	0	119	2.38	0.06	1.04	2.54
2	28100	29	Sandy	7.00%	0	82	1.66	0.06	1.04	1.79
3	28150	29	Sandy	7.00%	0	77	1.54	0.06	1.04	1.66
4	28200	29	Sandy	7.00%	0	154	3.10	0.06	1.04	3.29
5	28250	29	Sandy	7.00%	0	108	2.18	0.06	1.04	2.33
6	28300	29	Sandy	7.00%	0	146	2.96	0.06	1.04	3.14
7	28350	29	Sandy	7.00%	0	142	2.88	0.06	1.04	3.06
8	28400	29	Sandy	7.00%	0	100	2.04	0.06	1.04	2.18
9	28450	29	Sandy	7.00%	0	106	2.14	0.06	1.04	2.29
10	28500	29	Sandy	7.00%	0	72	1.46	0.06	1.04	1.58
11	28550	29	Sandy	7.00%	0	116	2.38	0.06	1.04	2.54
12	28600	29	Sandy	7.00%	0	68	1.40	0.06	1.04	1.52
13	28650	29	Sandy	7.00%	0	122	2.48	0.06	1.04	2.64
14	28700	29	Sandy	7.00%	0	107	2.14	0.06	1.04	2.29
15	28750	29	Sandy	7.00%	0	122	2.44	0.06	1.04	2.60
16	28800	29	Sandy	7.00%	0	81	1.62	0.06	1.04	1.75
17	28850	29	Sandy	7.00%	0	126	2.54	0.06	1.04	2.70
18	28900	29	Sandy	7.00%	0	78	1.56	0.06	1.04	1.68
19	28950	29	Sandy	7.00%	0	127	2.54	0.06	1.04	2.70
20	29000	29	Sandy	7.00%	0	123	2.46	0.06	1.04	2.62

Mean Deflection 2.35
Standard Deviation 0.54
Characteristic Deflection 3.43

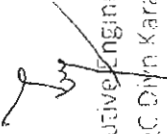

Executive Engineer
SI&QC Divn Karauli


Assistant Engineer
SI&QC Div Karauli


Assistant Engineer
SI&QC Div Karauli

Name of Road :		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/humid/cold)		27-Oct-20 12:30 AM			
Section: Km From To		29	30	Air temperature, °C Annual rainfall, mm.		28	700 mm				
				Degree		Yes/no Yes/no					
No. Of traffic lane:		Whether temperature correction is to be applied Whether correction for seasonal variation is to be									
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	29050	29	Sandy	7.00%	0	79	80	1.60	0.06	1.04	1.73
2	29100	29	Sandy	7.00%	0	153	153	3.06	0.06	1.04	3.24
3	29150	29	Sandy	7.00%	0	147	148	2.96	0.06	1.04	3.14
4	29200	29	Sandy	7.00%	0	155	155	3.10	0.06	1.04	3.29
5	29250	29	Sandy	7.00%	0	73	73	1.46	0.06	1.04	1.58
6	29300	29	Sandy	7.00%	0	96	99	1.98	0.06	1.04	2.12
7	29350	29	Sandy	7.00%	0	115	117	2.34	0.06	1.04	2.50
8	29400	29	Sandy	7.00%	0	81	83	1.66	0.06	1.04	1.79
9	29450	29	Sandy	7.00%	0	105	108	2.16	0.06	1.04	2.31
10	29500	29	Sandy	7.00%	0	137	137	2.74	0.06	1.04	2.91
11	29550	29	Sandy	7.00%	0	78	80	1.60	0.06	1.04	1.73
12	29600	29	Sandy	7.00%	0	97	97	1.94	0.06	1.04	2.08
13	29650	29	Sandy	7.00%	0	101	101	2.02	0.06	1.04	2.16
14	29700	29	Sandy	7.00%	0	145	145	2.90	0.06	1.04	3.08
15	29750	29	Sandy	7.00%	0	71	73	1.46	0.06	1.04	1.58
16	29800	29	Sandy	7.00%	0	117	119	2.38	0.06	1.04	2.54
17	29850	29	Sandy	7.00%	0	94	94	1.88	0.06	1.04	2.02
18	29900	29	Sandy	7.00%	0	146	147	2.94	0.06	1.04	3.12
19	29950	29	Sandy	7.00%	0	115	115	2.30	0.06	1.04	2.45
20	30000	29	Sandy	7.00%	0	94	97	1.94	0.06	1.04	2.08

Mean Deflection 2.37
Standard Deviation 0.58
Characteristic Deflection 3.53


Executive Engineer
SI&QC Divn Karauli


Assistant Engineer
SI&QC Divn Karauli


PWD Sub DWR

BANKLEMAN BEAM TEST MEASUREMENTS

Name of Road		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		27-Oct-20	2.00 PM		
Section: Km From To		31	32	Air temperature, °C Annual rainfall, mm.		28 Degree	700 mm				
No. Of traffic lane:		Whether temperature correction is to be applied Whether correction for seasonal variation is to be				Yes/no	Yes	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm	
						Yes/no	Yes				
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Interme diate	Final	Renbound deflection(mm)			
1	31050	29	Sandy	7.00%	0	77	79	1.58	0.06	1.04	1.71
2	31100	29	Sandy	7.00%	0	142	142	2.84	0.06	1.04	3.02
3	31150	29	Sandy	7.00%	0	110	111	2.22	0.06	1.04	2.37
4	31200	29	Sandy	7.00%	0	71	73	1.46	0.06	1.04	1.58
5	31250	29	Sandy	7.00%	0	82	83	1.66	0.06	1.04	1.79
6	31300	29	Sandy	7.00%	0	113	113	2.26	0.06	1.04	2.41
7	31350	29	Sandy	7.00%	0	145	148	2.96	0.06	1.04	3.14
8	31400	29	Sandy	7.00%	0	83	83	1.66	0.06	1.04	1.79
9	31450	29	Sandy	7.00%	0	117	118	2.36	0.06	1.04	2.52
10	31500	29	Sandy	7.00%	0	76	78	1.56	0.06	1.04	1.68
11	31550	29	Sandy	7.00%	0	155	155	3.10	0.06	1.04	3.29
12	31600	29	Sandy	7.00%	0	123	125	2.50	0.06	1.04	2.66
13	31650	29	Sandy	7.00%	0	145	147	2.94	0.06	1.04	3.12
14	31700	29	Sandy	7.00%	0	129	131	2.62	0.06	1.04	2.79
15	31750	29	Sandy	7.00%	0	70	70	1.40	0.06	1.04	1.52
16	31800	29	Sandy	7.00%	0	124	125	2.50	0.06	1.04	2.66

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Mean Deflection 1.71
Standard Deviation 0.52
Characteristic Deflection 1.62

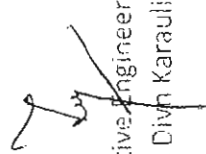
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Assistant Engineer
S&OC Div Karauli

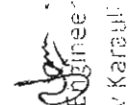
[Signature]
Assistant Engineer
S&OC Div Karauli

[Signature]
Executive Engineer
S&OC Div Karauli

Name of Road		Karanpur Mandrail Chandelipura Road MDR 03 A				Date and time of observation Climate conditions (hot/himid/cold)		27-Oct-20 3:00 PM.			
Section: Km From		32	33	Air temperature, °C		28	700 mm				
To				Annual rainfall, mm.		Degree					
No. Cf traffic lane:		Whether temperature correction is to be applied				Yes/no	Yes				
		Whether correction for seasonal variation is to be				Yes/no	Yes				
S.no	Location of test point and identification of lane	Pavement temperature, °C	Type of soil & PI	Moisture content %	Dial gauge reading initial	Intermediate	Final	Renbound deflection(mm)	Correctio n for temperat ure mm	Correction for season	Corrected deflection mm
1	32150	29	Sandy	7.00%	0	123	123	2.46	0.06	1.04	2.62
2	32200	29	Sandy	7.00%	0	82	84	1.68	0.06	1.04	1.81
3	32250	29	Sandy	7.00%	0	148	151	3.02	0.06	1.04	3.20
4	32300	29	Sandy	7.00%	0	94	95	1.90	0.06	1.04	2.04
5	32350	29	Sandy	7.00%	0	81	82	1.64	0.06	1.04	1.77
6	32400	29	Sandy	7.00%	0	142	145	2.90	0.06	1.04	3.08
7	32450	29	Sandy	7.00%	0	112	115	2.30	0.06	1.04	2.45
8	32500	29	Sandy	7.00%	0	70	70	1.40	0.06	1.04	1.52
9	32550	29	Sandy	7.00%	0	95	98	1.96	0.06	1.04	2.10
10	32600	29	Sandy	7.00%	0	80	81	1.62	0.06	1.04	1.75
11	32650	29	Sandy	7.00%	0	72	73	1.46	0.06	1.04	1.58
12	32700	29	Sandy	7.00%	0	85	86	1.72	0.06	1.04	1.85
13	32750	29	Sandy	7.00%	0	135	135	2.70	0.06	1.04	2.87
14	32800	29	Sandy	7.00%	0	106	106	2.12	0.06	1.04	2.27
15	32850	29	Sandy	7.00%	0	124	125	2.50	0.06	1.04	2.66
16	32900	29	Sandy	7.00%	0	81	84	1.68	0.06	1.04	1.81
17	32950	29	Sandy	7.00%	0	139	142	2.84	0.06	1.04	3.02
18	33000	29	Sandy	7.00%	0	132	134	2.68	0.06	1.04	2.85

Mean Deflection: 2.29
Standard Deviation: 0.56
Characteristic Deflection: 3.41


Executive Engineer
SI&QC Divn Karauli


Assistant Engineer
SI&QC Div Karauli


Assistant Engineer
PW&S Sub Divn

[illegible]

Executive Engineer
SI&CC Dibrugarh

Assistant Engineer
SI&QC Div Karadi

Assistant Engineer
PWD Sub-Div

Name of work : Strengthening & Renewal of Mandrail-Karanpur Road (MDR-3A) Km.
0/00 to 34/0

Design of Cement Concrete Pavement

(As per IRC:SP:62-2014)

1 Design Parameters

- | | | | |
|---|---|---|-----------------------|
| (a) Location of Pavement | : | Rajasthan | |
| (b) Design Period | : | 20 Years | |
| (c) Design wheel load | : | 51 kN | |
| (d) Soaked CBR value of existing soil of Subgrade | : | 5.00% | |
| (e) Modulus of Subgrade reaction (k)
(From Table No. 1 for CBR 3%) | : | 30.80×10^{-3} | N/mm ² /mm |
| (f) Effective k over 150 mm thick Sub base | : | $1.20 \times 30.80 \times 10^{-3}$ | N/mm ² /mm |
| | | $= 36.96 \times 10^{-3}$ | N/mm ² /mm |
| (g) Grade of CC Pavement | : | M 30 Grade Controlled Concrete | |
| (h) Flexural strength (f_t) for 28 days | : | $0.70 \sqrt{f_{c_1}}$
$0.7 \sqrt{30}$
3.834 Mpa | |
| (i) Flexural strength (f_t) for 90 days | : | $1.20 \times 3.834 = 4.60$ Mpa | |
| (j) Modulus of elasticity for concrete (E) | : | 3.0×10^4 MPa | |
| (k) Poisson's ratio (μ) | : | 0.15 | |

2 Joint Spacing & Lane width

- | | | |
|--|---|-----------|
| (a) Slab length, or spacing between consecutive contraction joints (L) | : | 3.75 Mtr. |
| (b) Slab width, or spacing between longitudinal joints (W) | : | 4.00 Mtr. |

3 Thickness of pavement

(A) Tacking 150 mm Trial thickness

- | | | |
|------------------------|---|---|
| (a) Edge Load Stress | : | From Fig. 4 of IRC :SP : 62-2014 Edge Load Stress for
$k = 0.037 \text{ N / mm}^3$
$= 4.50 \text{ Mpa}$ |
| (b) Temperature Stress | : | (1) Temperature differential for Rajasthan for 150mm slab is 12.5°C |

(2) Radius of relative stiffness (ℓ) =

$$4 \sqrt{\frac{Eh^3}{12(1-\mu^2)k}}$$

$$= 4 \sqrt{\frac{3 \times 10^4 \times 150^3 \times 10^3}{12(1-0.15^2) 36.96}}$$

$$= 695.17 \text{ mm}$$

$$(3) L / \ell = 3750 / 695.17$$

$$= 5.39$$

$$(4) \text{Bradbury's coefficient (C)} = 0.798$$

$$(5) \text{Temperature Stress } (\sigma_{te}) = 1.60 \text{ Mpa}$$

- | | | |
|------------------|---|---|
| (C) Total Stress | = | Edge load stress + Temperature stress
$= 4.50 + 1.60 = 6.10 \text{ Mpa}$ |
|------------------|---|---|

This is greater than the allowable flexural strength of concrete (4.60 Mpa)

So the thickness of 300mm assumed is inadequate

(B) Tacking 300 mm Trial thickness in view of Table 4 of IRC:SP:62-2014

(a) Edge Load Stress : From Fig. 4 of IRC :SP : 62-2014 Edge Load Stress for $k = 0.037 \text{ N / mm}^3$
= 2.70 Mpa

(b) Temperature Stress : (1) Temperature differential for Rajasthan for 300mm slab is 13.10°C

(2) Radius of relative stiffness (ℓ) =

$$4 \sqrt{\frac{Eh^3}{12(1-\mu^2)k}}$$

$$= 4 \sqrt{\frac{3 \times 10^4 \times 300^3 \times 10^3}{12 (1-0.15^2) 36.96}}$$

$$= 862.57 \text{ mm}$$

$$(3) L / \ell = 3750 / 862.57$$

$$= 4.34$$

$$(4) \text{ Bradbury's coefficient (C) } = 0.535$$

$$(5) \text{ Temperature Stress } (\sigma_e) = 1.00 \text{ Mpa}$$

(C) Total Stress = Edge load stress + Temperature stress
= $2.70 + 1.00 = 3.70 \text{ Mpa}$
The total stress is less than 4.60 Mpa and hence assumed thickness of 300mm is Ok

(D) Corner Stress = From Fig. 5, Corner load stress for wheel load = 51 kN,
 $K = 0.037 \text{ N / mm}^3$
Slab thickness = 300mm
Corner stress (σ_c) = 3.10 Mpa

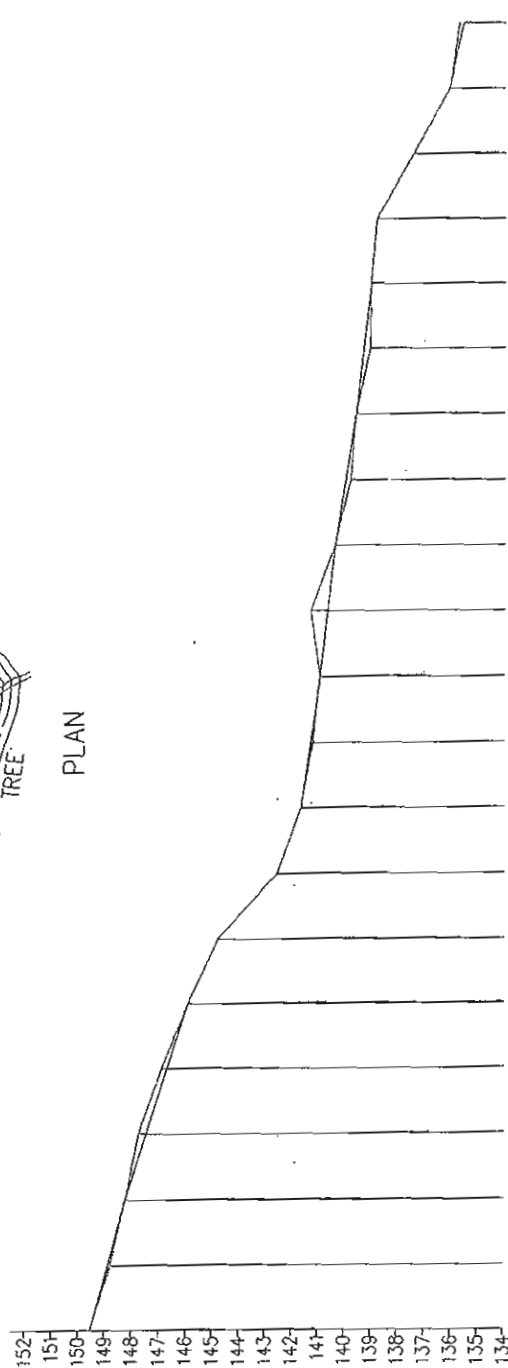
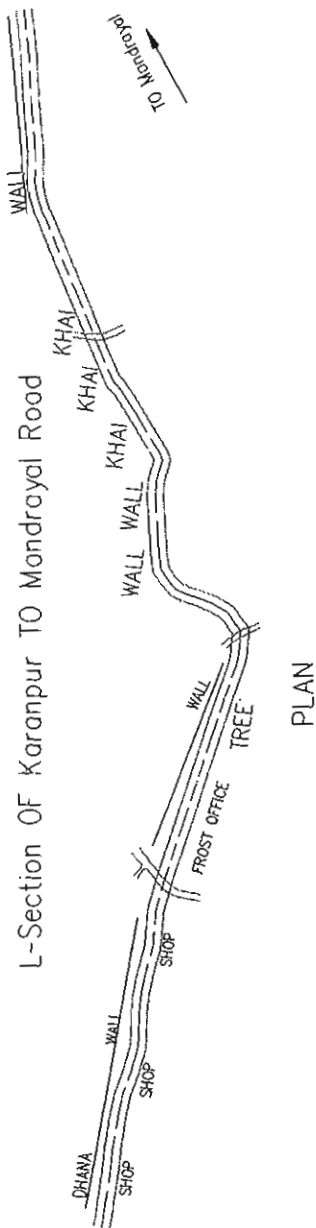
The corner stress is less than 4.6 MPa and hence the thickness of 300mm assumed is safe.

Hence provide 300mm thick cement concrete slab of M-30 grade as per section 1401 (9) (iii) of MORD specification.

Assistant Engineer
PWD Sub Div. Karanpur/Mandrail


Executive Engineer
PWD Div. Sapotra


Superintending Engineer
PWD Circle Karauli

[illegible]

LSection from Ch : 0 to 500

LSection from Ch : 0 to 500

Project Name:- PWD ROAD

Karanpur T0 Mandrayal Road

M/S:- ASS Consultant



L-Section OF Karanpur TO Mandrayal Road



PLAN

Handwritten notes: '18' and '15' with arrows pointing to specific points on the cross-section diagram.

Chainage	500	525	550	575	600	625	650	675	700	725	750	775	800	825	850	875	900	925	950	975	1000
OGL	135.571	135.366	135.366	135.423	135.481	134.452	134.593	135.162	135.567	135.812	135.907	136.442	135.602	134.762	133.424	133.081	132.386	131.945	131.495	131.192	130.430
FRL	135.721	135.366	135.395	135.423	135.452	135.481	135.510	135.538	135.567	135.859	136.150	136.442	135.602	134.762	133.921	133.081	132.609	132.137	131.664	131.192	130.430
Cut/Fill OGL&FRL	0.150	0.000	0.529	0.647	0.971	1.029	0.917	0.376	0.000	0.047	0.243	0.000	2.726	1.391	0.497	0.000	0.223	0.192	0.169	0.000	0.000
Grade	1: 70.423(-)	1: 870.647(+)	1: 85.714(+)	1: 29.753(-)	1: 52.935(-)	1: 32.506(-)															

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1000

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0.000
0.529
0.647
0.971
1.029
0.917
0.376
0.000
0.047
0.243
0.000
2.726
1.391
0.497
0.000
0.223
0.192
0.169
0.000
0.000

1: 70.423(-)
1: 870.647(+)
1: 85.714(+)
1: 29.753(-)
1: 52.935(-)
1: 32.506(-)

LSection from Ch : 500 to 1000

Karanpur TO Mandrayal Road

Project Name: PWD ROAD

JEC

AEN

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M/S:- ASS Consultant



TO Mandrayal

PLAN

Cut/Fill

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Grade	1: 20.78(-)	1: 21.576(-)	1: 20.276(-)	1: 49.766(-)	1: 1282.05(-)
Cut/Fill OGL&FRL					
FRL					
OGL					
Chainage					
1000	130.430	125.751	123.433	117.371	115.323
1025	129.227	124.592	122.275	119.381	115.343
1050	127.142	123.851	121.116	118.878	115.362
1075	125.443	122.951	120.000	118.376	114.767
1100	124.501	122.123	0.000	117.874	115.864
1125	123.851	121.116	0.000	2.067	116.367
1150	122.951	120.000	0.000	2.644	-3.175
1175	122.123	119.883	1.794	2.663	-1.466
1200	121.116	119.381	2.663	2.067	0.289
1225	120.000	118.878	1.794	2.644	0.000
1250	119.381	118.376	2.663	2.067	1.097
1275	118.878	117.874	2.644	2.067	0.000
1300	118.376	117.371	2.663	2.067	0.000
1325	117.874	116.869	2.644	2.067	0.000
1350	117.371	116.367	2.663	2.067	0.000
1375	116.869	115.864	2.644	2.067	0.000
1400	116.367	115.362	2.663	2.067	0.000
1425	115.864	114.767	2.644	2.067	0.000
1450	115.362	114.265	2.663	2.067	0.000
1475	115.343	113.763	2.644	2.067	0.000
1500	115.323	113.261	2.663	2.067	0.000

LSection from Ch : 1000 to 1500

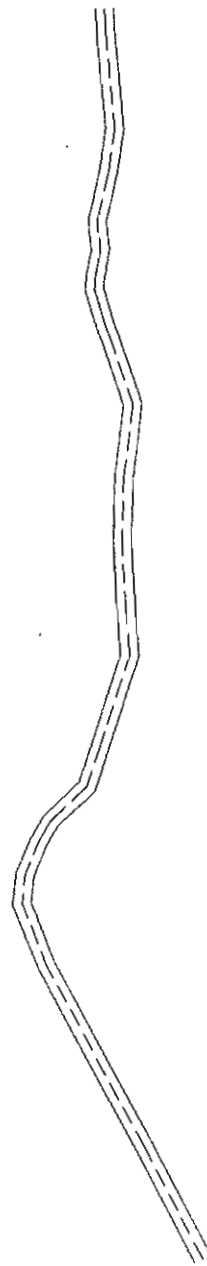
Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

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Grade	1: 1282.051(-)	1: 327.103(-)	1: 228.358(-)
Cut/Fill OGL&FRL	1500 115.570 -0.247	1525 115.447 -0.144	1550 115.284 0.000
FRL	1575 115.252 0.013	1600 115.234 0.011	1625 115.114 0.111
OGL	1650 115.049 0.157	1675 115.064 0.123	1700 115.167 0.000
Chainage	1725 115.179 0.088	1750 115.044 -0.030	1775 115.009 -0.071
	1800 114.719 0.142	1825 114.504 0.281	1850 114.487 0.221
	1875 114.632 0.000	1900 114.602 -0.079	1925 114.377 0.037
	1950 114.201 0.104	1975 114.100 0.096	2000 114.165 -0.078

LSection from Ch : 1500 to 2000

Karanpur TO Mondroyal Road

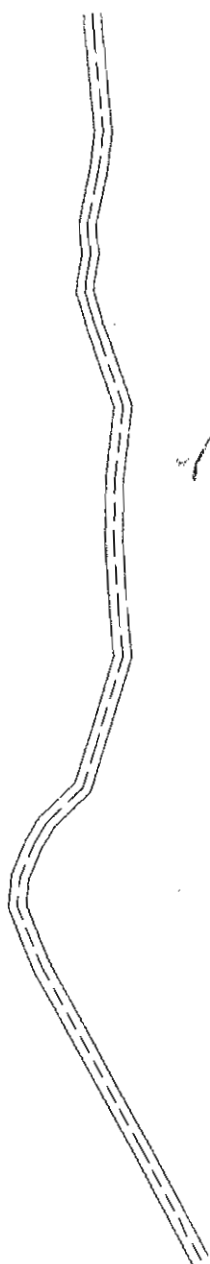
Project Name: - PWD ROAD

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M/S:- ASS Consultant



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Grade	1: 229.358(-)	1: 76.923(-)	1: 15000(+)	1: 26.776(+)	1: 46.189(+)
Cut/Fill OGL&FRL					
FRL					
OGL					
Chainage					
2000	114.165	114.087	-0.078		
2025	114.170	113.978	-0.192		
2050	114.080	113.869	-0.211		
2075	113.995	113.760	-0.235		
2100	113.895	113.651	-0.244		
2125	113.703	113.542	-0.161		
2150	113.433	113.433	0.000		
2175	113.183	113.108	-0.075		
2200	112.758	112.783	0.025		
2225	112.458	112.458	0.000		
2250	110.886	112.460	1.574		
2275	109.003	112.461	3.458		
2300	108.353	112.463	4.110		
2325	109.283	112.465	3.182		
2350	111.145	112.466	1.321		
2375	112.468	112.468	0.000		
2400	113.745	113.402	-0.343		
2425	114.510	114.335	-0.175		
2450	115.269	115.269	0.000		
2475	115.919	115.810	-0.109		
2500	116.209	116.352	0.142		

LSection from Ch : 2000 to 2500

Karanpur To Mandrayal Road

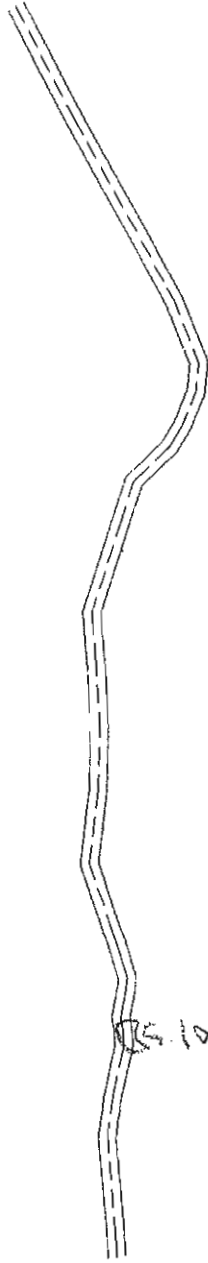
Project Name:- PWD ROAD

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SEN

M/S. - ASS Consultant



1.50 x 1.50

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Grade	1: 46.185(+)	1: 166.237(+)	1: 158.866(-)
Cut/Fill OGL&FRL	0.142	0.309	0.881
FRL	116.352	116.893	118.294
OGL	117.434	117.434	117.742
Chainage	2500	2525	2975
	116.209	116.584	118.394
	117.434	117.434	118.624
	114.644	117.584	118.609
	2575	2940	0.215
	115.409	117.735	0.142
	116.114	117.885	0.019
	116.929	118.035	0.142
	118.114	118.186	118.923
	118.384	118.336	118.939
	2700	-0.048	119.081
	118.408	118.486	119.238
	118.448	118.637	119.238
	118.628	118.787	119.288
	118.978	118.937	119.088
	2800	-0.041	0.000
	119.288	119.088	0.142
	2825	-0.200	118.923
	119.238	119.238	118.609
	2850	0.000	118.394
	118.939	119.081	118.451
	118.923	118.939	0.709
	2900	0.019	117.413
	118.904	118.923	118.294
	2925	0.142	0.881
	118.624	118.766	
	2950	0.215	
	118.394	118.609	
	2975	0.709	
	117.742	118.451	
	3000	0.881	
	117.413	118.294	

L Section from Ch : 2500 to 3000

Karanpur TO Mandrayal Road

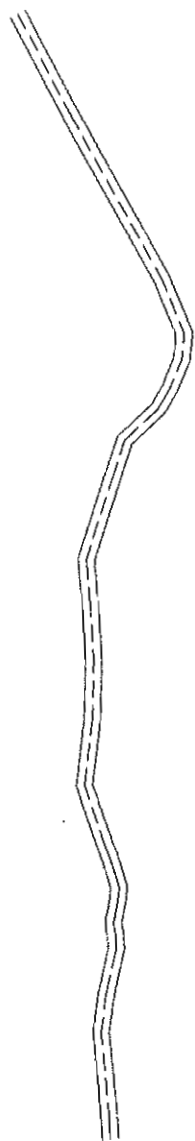
Project Name: - PWD ROAD

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M/S:- ASS Consultant



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Grade	1: 158.866(-)	1: 28.83(-)	1: 81.433(-)	1: 46.887(-)
Cut/Fill OGL&FRL	3000 117.413 0.881	3125 117.507 0.000	3275 112.304 0.000	3425 110.340 0.122
FRL	3050 116.910 1.069	3175 115.209 0.564	3325 111.069 0.621	3475 109.955 0.333
OGL	3075 117.185 0.537	3200 114.169 0.737	3350 110.725 0.658	3500 109.435 0.346
Chainage	3025 116.915 1.221	3150 116.634 0.006	3300 111.644 0.353	

LSection from Ch : 3000 to 3500

LSection from Ch : 0 to 500

Project Name:- PWD ROAD

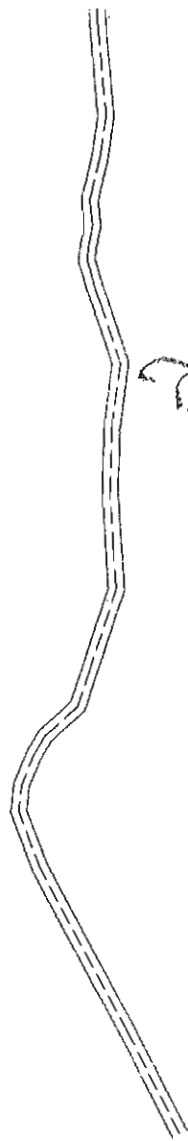
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Karanpur TO Mandrayal Road

M/S:- ASS Consultant



Grade	1: 46.897(-)	1: 36.792(-)	1: 58.972(+)	1: 34.29(+)	1: 36.819(+)	1: 59.425(+)
Cut/Fill OGL&FRL	3500 109.435 3525 108.675 3550 108.249 3575 107.489 3600 106.644 3625 105.798 3650 105.029 3675 104.771 3700 104.851 3725 104.941 3750 105.286 3775 106.151 3800 106.894 3825 107.274 3850 107.839 3875 108.784 3900 109.749 3925 110.539 3950 110.789 3975 111.897 4000 111.813	-0.346 -0.120 -0.227 0.000 0.165 0.332 0.422 0.000 0.345 0.679 0.759 0.318 0.000 0.349 0.513 0.297 0.061 0.000 0.429 0.000 -0.337				
FRL	109.089 108.555 108.022 107.489 106.810 106.130 105.451 104.771 104.196 103.620 103.045 102.469 101.894 101.323 100.752 100.181 99.610 99.039 98.468 97.897 97.326					
OGL	109.435 108.675 108.249 107.489 106.644 105.798 105.029 104.771 104.851 104.941 105.286 106.151 106.894 107.274 107.839 108.784 109.749 110.539 110.789 111.897 111.813					
Chainage	3500 3525 3550 3575 3600 3625 3650 3675 3700 3725 3750 3775 3800 3825 3850 3875 3900 3925 3950 3975 4000					

LSection from Ch : 3500 to 4000

Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

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Chainage	OGI	FRL	Cut/Fill OGI&FRL	1: 59.429(-)	1: 97.034(-)	1: 341.297(-)	1: 341.297(-)	1: 341.297(-)	1: 341.297(-)
4000	111.813	111.476	-0.337						
4025	111.303	111.056	-0.247						
4050	110.635	110.635	0.000						
4075	107.875	110.197	2.322						
4100	106.547	109.758	3.211						
4125	105.962	109.320	3.358						
4150	105.476	108.882	3.406						
4175	105.178	108.443	3.265						
4200	104.985	108.005	3.020						
4225	104.469	107.567	3.098						
4250	104.351	107.128	2.777						
4275	104.528	106.690	2.162						
4300	104.508	106.252	1.744						
4325	104.986	105.813	0.827						
4350	105.375	105.375	0.000						
4375	105.223	105.302	0.079						
4400	104.917	105.229	0.311						
4450	103.811	105.082	1.271						
4475	103.774	105.009	1.235						
4500	103.498	104.936	1.438						

Section from Ch : 4000 to 4500

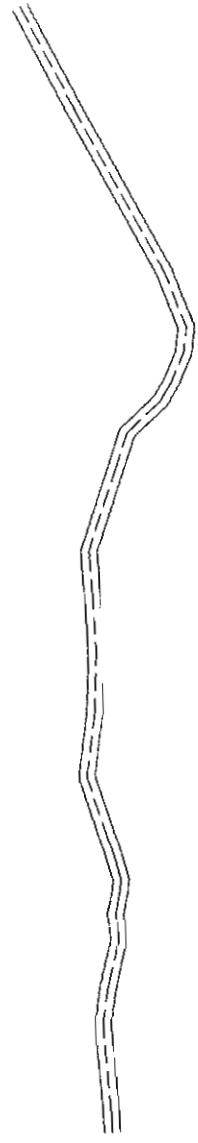
Karanpur TO Mandrayal Road

Project Name: - .PWD ROAD

M/S:- ASS Consultant

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Grade	1: 341.297(-)			1: 106.635(+)			1: 4165.607(+)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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FRL	4500	103.498	104.936	1.438	4525	103.406	104.862	1.456	4550	103.399	104.789	1.390	4575	103.474	104.716	1.242	4600	103.801	104.643	0.841	4625	104.056	104.569	0.513	4650	104.496	104.496	0.000	4675	104.061	104.730	0.669	4700	104.311	104.965	0.654	4725	103.924	105.199	1.275	4750	103.702	105.434	1.732	4775	104.224	105.668	1.444	4800	104.844	105.903	1.059	4825	105.669	106.137	0.468	4850	106.134	106.372	0.238	4875	106.606	106.606	0.000	4900	106.843	106.612	-0.231	4925	106.957	106.618	-0.339	4950	106.886	106.624	-0.262	4975	106.659	106.630	-0.029	5000	106.773	106.636	-0.137																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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LSection from Ch : 4500 to 5000

Karanpur TO Mandrayal Road

Project Name: - PWD ROAD

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W/S:- ASS Consultant



Grade	1: 4155.667(+)	1: 138.934(-)	1: 92.282(-)
Chainage	5000	5025	5050
OG	106.773	106.642	106.343
FRL	106.636	106.642	106.462
Cut/Fill	-0.137	0.000	0.119
OG&FRL	106.636	106.642	106.462
5075	105.996	106.282	106.282
5100	105.696	106.102	106.102
5125	105.496	105.922	105.922
5150	105.216	105.742	105.742
5175	104.824	105.562	105.562
5200	104.439	105.382	105.382
5225	104.219	105.202	105.202
5250	103.386	105.023	105.023
5275	103.746	104.843	104.843
5300	103.746	104.663	104.663
5325	103.666	104.483	104.483
5350	103.675	104.303	104.303
5375	103.620	104.123	104.123
5400	103.498	103.943	103.943
5425	103.456	103.763	103.763
5450	103.583	103.583	103.583
5475	102.513	103.312	103.312
5500	100.150	103.041	103.041

LSection from Ch : 5000 to 5500

Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

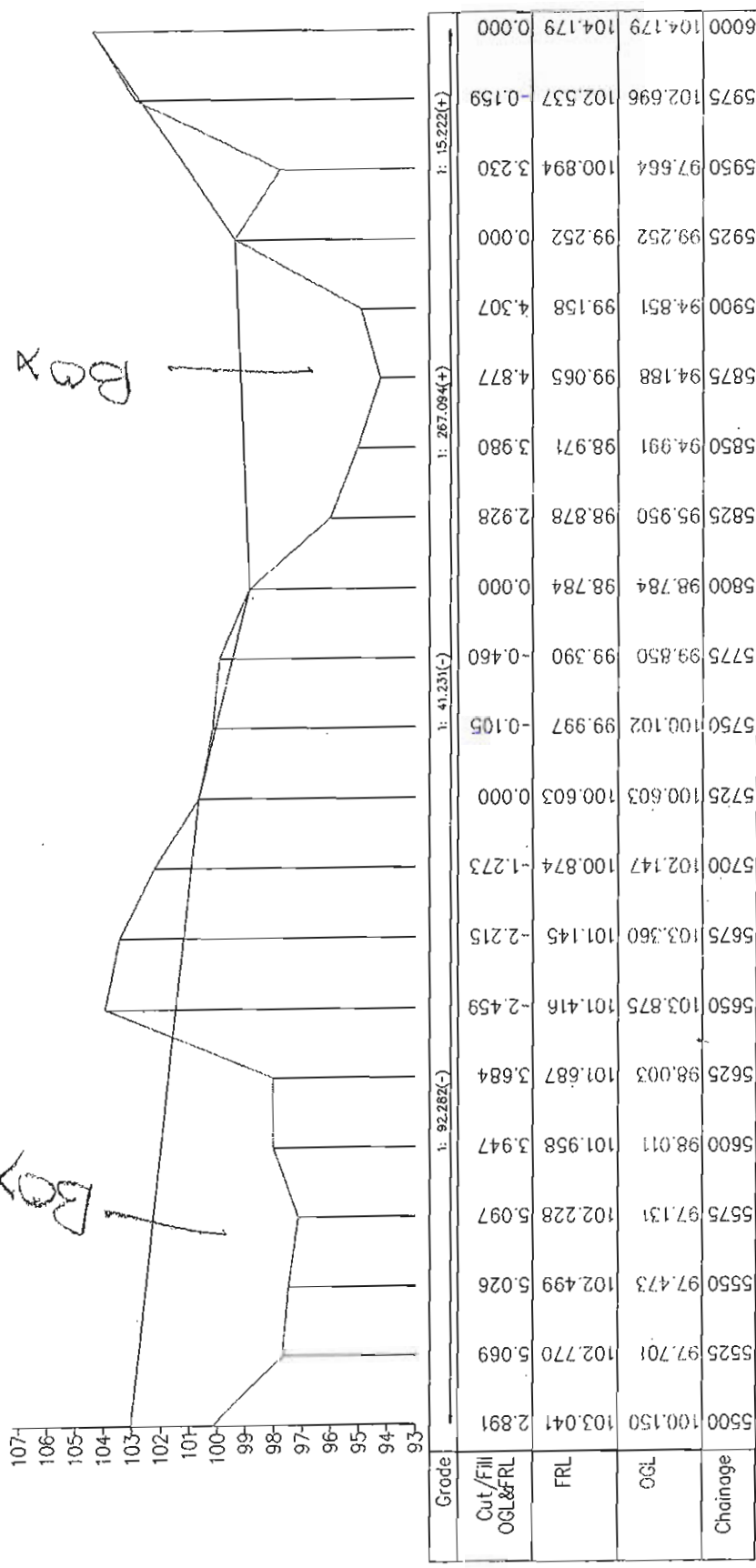
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M/S:- ASS Consultant

Box 1.50 X 1.50

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Grade	1: 92.282(-)	1: 41.231(-)	1: 267.094(+)	1: 15.222(+)
Chainage	5500	5525	5550	5575
	100.150	97.701	102.770	102.499
	2.891	5.069	5.026	5.097
	103.041	101.958	101.687	101.416
	103.041	101.687	101.416	101.145
	103.041	101.145	100.874	100.603
	103.041	100.603	99.997	99.390
	103.041	99.390	98.784	98.878
	103.041	98.878	98.971	99.065
	103.041	99.065	99.158	99.252
	103.041	99.252	99.550	99.664
	103.041	99.664	100.894	102.537
	103.041	102.537	104.179	104.179
	103.041	104.179	104.179	104.179

LSection from Ch : 5500 to 6000

Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

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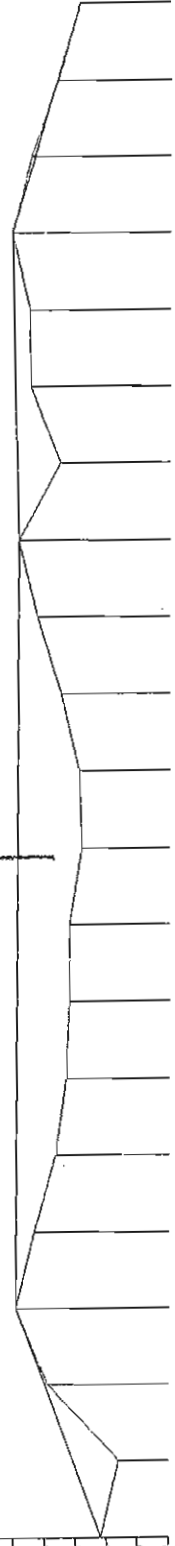
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M/S:- ASS Consultant

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Grade	1: 27.584(+)	1: 2427.185(+)	1: 492.61(+)	1: 34.754(-)
Cut/Fill OGL&RL	6000 104.179 0.000	6025 103.608 105.085 1.477	6050 105.897 105.992 0.095	6075 106.898 106.898 0.000
FRL	6100 106.316 106.888 0.572	6125 105.622 106.877 1.255	6150 105.279 106.867 1.588	6175 105.194 106.857 1.663
	6200 105.200 106.847 1.647	6225 104.807 106.836 2.029	6250 104.892 106.826 1.934	6275 105.452 106.816 1.364
	6300 106.217 106.805 0.588	6325 106.795 106.795 0.000	6350 105.475 106.846 1.371	6375 106.436 106.897 0.460
	6400 106.448 106.947 0.499	6425 106.998 106.998 0.000	6450 106.390 106.279 -0.111	6475 105.524 105.559 0.035
Choinage	6500 104.840 104.840 0.000			

LSection from Ch : 6000 to 6500

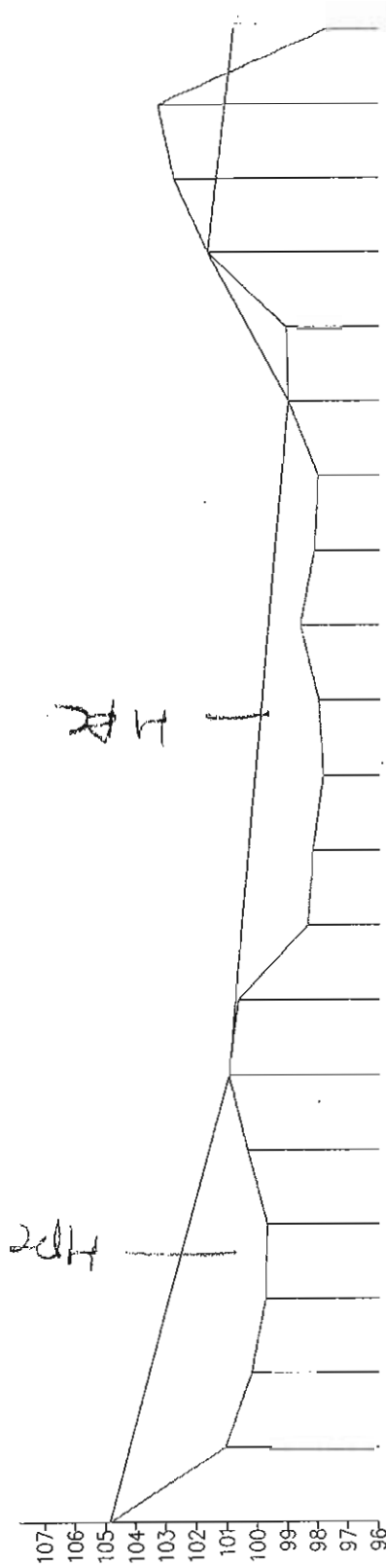
Koranpur TO Mandrayal Road

Project Name:- PWD ROAD

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M/S:- ASS Consultant



Grade	1: 38.38X(-)	1: 113.75(-)	1: 19.194(+)	1: 84.104(-)
Cut/Fill OGL&FRL				
FRL	6500 104.840 0.000	6525 101.050 3.139	6550 100.181 3.357	6575 99.729 3.158
OGL	6600 99.675 2.560	6625 100.322 1.262	6650 100.933 0.000	6675 100.613 0.100
Chainage	6700 98.328 2.165	6725 98.155 100.274 2.119	6750 97.809 100.054 2.245	6775 97.964 99.834 1.870
	6800 98.566 99.614 1.048	6825 98.109 99.395 1.286	6850 97.974 99.175 1.201	6875 98.955 98.955 0.000
	6900 99.002 100.258 1.256	6925 101.560 101.560 0.000	6950 102.640 101.263 -1.377	6975 103.155 100.966 -2.190
	7000 97.550 100.666 3.118			

LSection from Ch : 6500 to 7000

Karanpur To Mandrayal Road

Project Name:- PWD ROAD

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Grade	1: 84.104(-)	1: 110.837(+)	1: 353.774(-)	1: 36.075(+)	12.927(-)	19.213(-)
Cut/Fill OGL&FRL	7050 97.595	7050 100.074	7075 98.178	7100 98.682	7125 99.182	7150 98.754
FRL	7025 97.480	7025 100.371	7075 99.777	7100 99.479	7125 99.182	7150 99.408
OGL	7000 97.550	7000 100.668	7075 98.178	7100 98.682	7125 99.182	7150 98.754
Chainage	7025 97.480	7025 100.371	7075 98.178	7100 98.682	7125 99.182	7150 98.754
	7450 100.307	7425 101.000	7400 99.881	7375 98.709	7350 101.212	7325 100.947
	7475 98.373	7450 100.307	7400 99.881	7375 98.709	7350 101.212	7325 100.947
	7500 92.976	7475 98.373	7400 99.881	7375 98.709	7350 101.212	7325 100.947
	97.072	98.373	101.071	101.141	101.212	100.986
	4.096	0.000	2.432	0.000	0.039	0.325
						0.746
						0.690
						0.459
						0.872
						0.859
						1.213
						0.654
						0.000
						0.797
						1.599
						2.479
						2.891
						3.118

LSection from Ch : 7000 to 7500

Karanpur TO Mandrayal Road

Project Name: - PWD ROAD

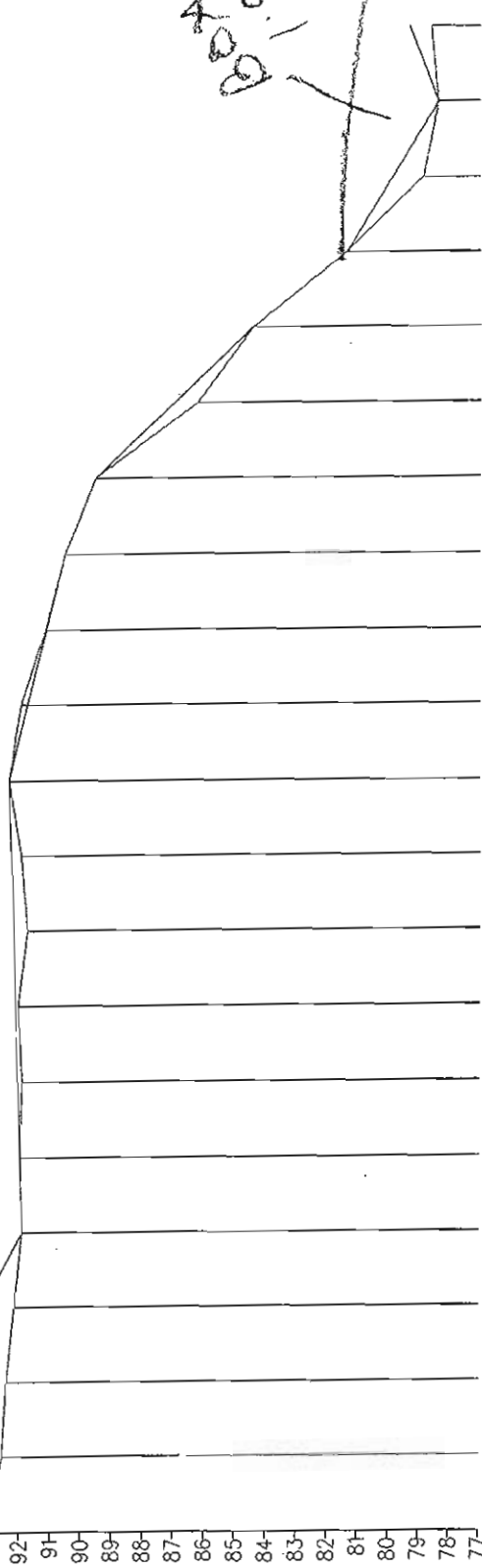
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Grade	7500	7525	7550	7575	7600	7625	7650	7675	7700	7725	7750	7775	7800	7825	7850	7875	7900	7925	7950	7975	8000
Cut/Fill OGL&FRL	97.072	95.771	94.469	93.168	91.867	91.926	91.846	92.049	92.110	92.170	92.231	91.617	91.044	90.389	89.411	86.869	84.326	81.301	79.817	78.333	0.000
FRL	97.072	95.771	94.469	93.168	91.867	91.928	91.988	92.049	92.110	92.170	92.231	91.617	91.003	90.389	89.411	86.869	84.326	81.301	79.817	78.333	0.000
OGL	97.072	95.771	94.469	93.168	91.867	91.926	91.846	92.049	92.110	92.170	92.231	91.617	91.003	90.389	89.411	86.869	84.326	81.301	79.817	78.333	0.000
Chainage	92.976	92.541	92.388	92.133	91.867	91.926	91.846	91.966	91.646	91.831	92.231	91.818	91.044	90.389	89.411	86.118	84.326	81.301	78.823	78.333	78.561

LSection from Ch : 7500 to 8000

Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

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M/S:- ASS Consultant

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Chainage	8000	78.561	79.264	0.703																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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LSection from Ch : 8000 to 8500

Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

JEC

AEN

[Signature]
KEN

M/S:- ASS Consultant

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Box 1 90 H₁
Retaining wall

Grade	1: 21.88(+)	1: 13.04(+)	1: 238.055(+)
Cut/Fill OGL&FRL			
FRL			
OGL			
Chainage			
8800	73.672	73.672	0.000
8825	74.102	74.815	0.713
8850	74.847	75.957	1.110
8875	76.302	77.100	0.798
8900	77.620	78.242	0.622
8925	79.385	79.385	0.000
8950	81.580	81.302	-0.378
8975	83.219	83.219	0.000
9000	83.969	83.324	-0.645

LSection from Ch : 8500 to 9000

Karanpur TO Mandrayal Road

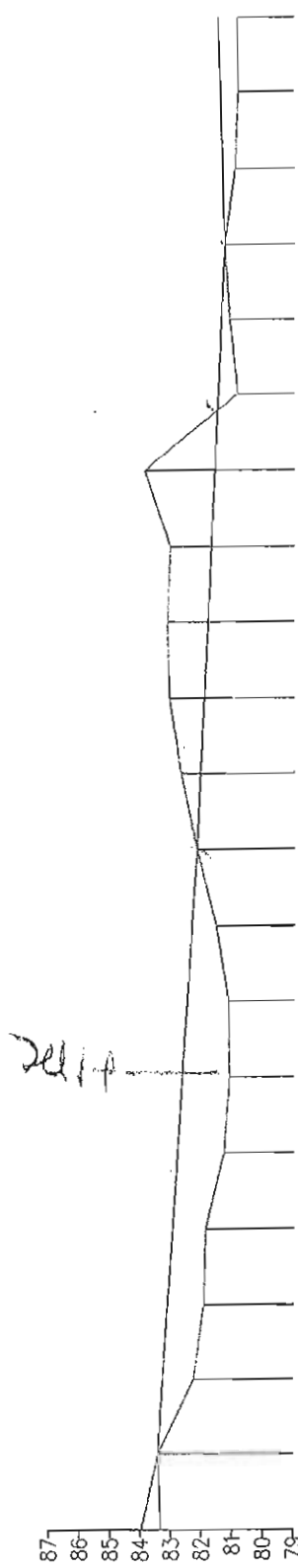
Project Name: - PWD ROAD

JEC

AEN

M/S:- ASS Consultant





Grade	1: 238.095(+)		1: 153.61(-)		1: 221.484(-)		1: 409.277(+)					
	Cut/Fill OGL&FRL		Cut/Fill OGL&FRL		Cut/Fill OGL&FRL		Cut/Fill OGL&FRL					
Chainage	9000	83.969	83.324	-0.645	9025	83.429	83.429	0.000	9500	80.784	81.407	0.623
	9050	82.249	83.266	1.017	9100	81.844	82.941	1.097	9475	80.774	81.346	0.572
OGL	9075	81.919	83.104	1.185	9125	81.269	82.778	1.509	9450	80.874	81.285	0.411
	9100	81.844	82.941	1.097	9150	81.090	82.615	1.525	9425	81.224	81.224	0.000
FRL	9175	81.112	82.453	1.341	9225	82.127	82.127	0.000	9400	81.064	81.337	0.273
	9200	81.507	82.290	0.783	9250	82.642	82.014	-0.628	9375	80.809	81.450	0.641
	9275	83.037	81.901	-1.136	9300	83.097	81.788	-1.309	9350	83.826	81.563	-2.263
	9325	82.992	81.676	-1.317	9375	82.992	81.676	-1.317	9425	81.224	81.224	0.000

LSection from Ch : 9000 to 9500

Karanpur TO Mandrayal Road

M/S:- ASS Consultant

XEN

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Project Name:- PWD ROAD

Project Name:- PWD ROAD

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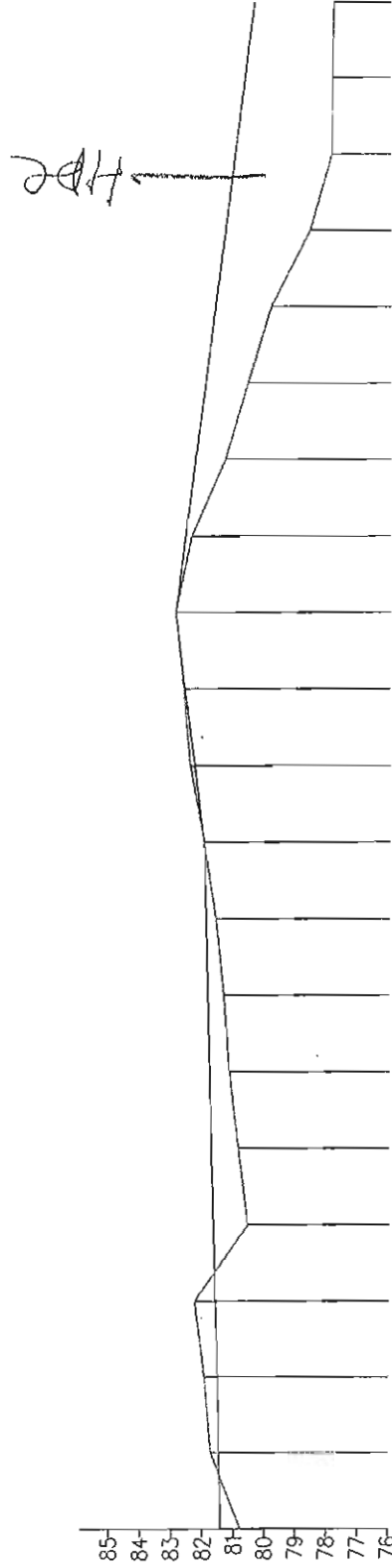
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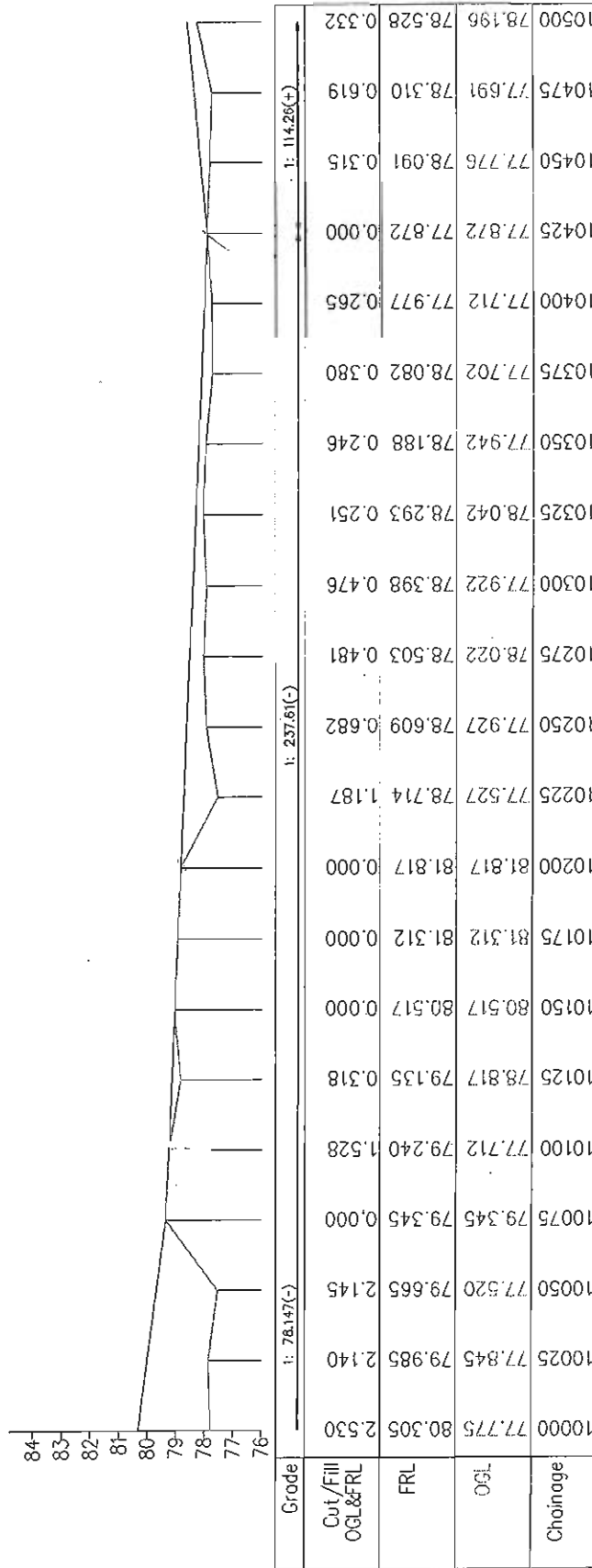
M/S:- ASS Consultant

Karanpur TO Mandrayal Road

LSection from Ch : 9500 to 10000

Chainage	9500	9525	9550	9575	9600	9625	9650	9675	9700	9725	9750	9775	9800	9825	9850	9875	9900	9925	9950	9975	10000
Grade	80.784	81.739	81.939	82.249	80.547	80.847	81.137	81.327	81.577	81.957	82.389	82.619	82.864	82.349	81.284	80.564	79.806	78.555	77.860	77.825	77.775
Cut/Fill OGL&FRL	0.623	-0.271	-0.410	-0.658	1.105	0.866	0.637	0.508	0.319	0.000	-0.130	-0.057	0.000	0.195	0.940	1.340	1.778	2.709	3.085	2.800	2.530
FRL	81.407	81.468	81.529	81.591	81.652	81.713	81.774	81.835	81.896	81.957	82.259	82.562	82.864	82.544	82.224	81.904	81.584	81.264	80.945	80.625	80.305
OGL	80.784	81.739	81.939	82.249	80.547	80.847	81.137	81.327	81.577	81.957	82.389	82.619	82.864	82.349	81.284	80.564	79.806	78.555	77.860	77.825	77.775





LSection from Ch : 10000 to 10500

Karanpur TO Mandrayal Road

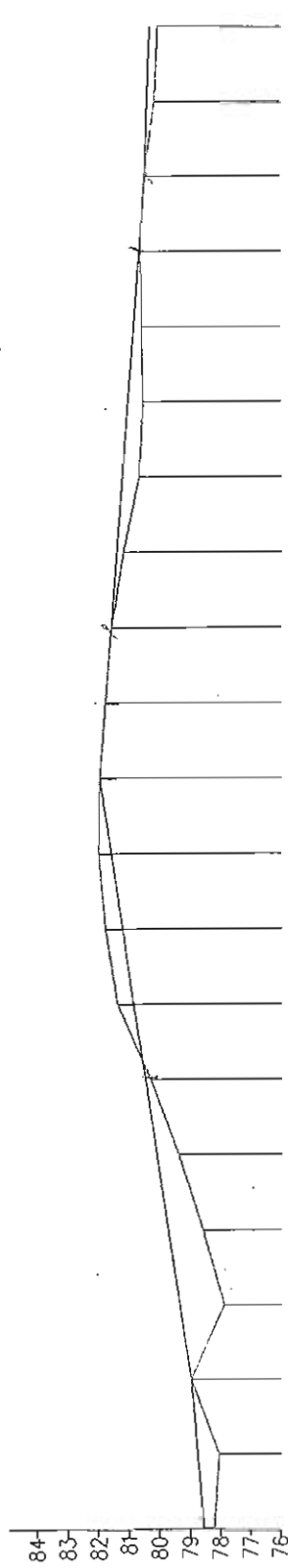
Project Name:- PWD ROAD

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M/S:- ASS Consultant



Grade	1: 114.26(+)	1: 66.097(+)	1: 129.45(-)	1: 238.095(-)
Cut/Fill OGL&FRL				
FRL	78.528	78.528	78.528	78.528
OGL	78.196	78.196	78.196	78.196
Chainage	10500	10525	10550	10575
	78.196	78.046	78.966	79.333
	78.561	79.700	80.067	80.333
	79.361	80.067	80.435	80.700
	80.251	80.435	80.802	81.169
	81.333	80.802	81.169	81.536
	81.713	81.710	81.903	82.148
	81.493	81.517	82.148	82.513
	81.103	81.324	82.513	82.878
	80.583	81.131	82.878	83.243
	80.443	80.937	83.243	83.608
	80.488	80.744	83.608	83.973
	80.513	80.551	83.973	84.338
	80.358	80.358	84.338	84.703
	80.023	80.253	84.703	85.068
	79.898	80.148	85.068	85.433

LSection from Ch : 10500 to 11000

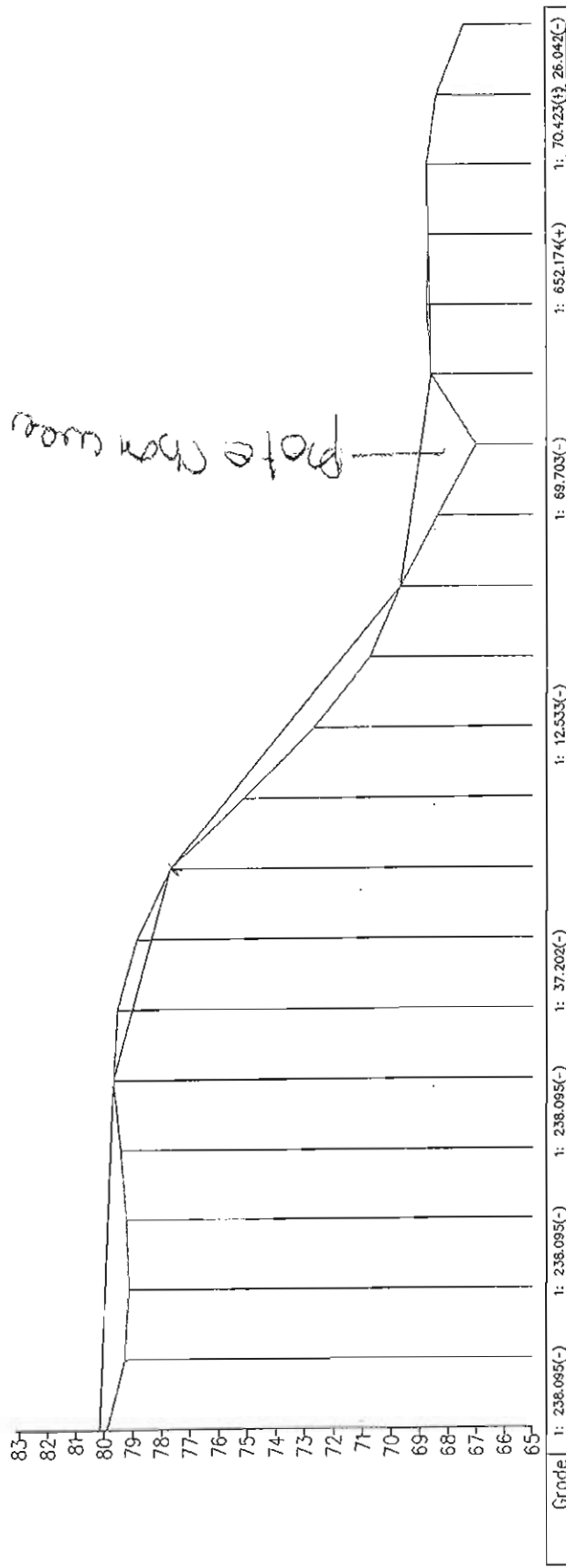
Karanpur TO Mandrayal Road

Project Name: - PWD ROAD

JEC

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W/S:- ASS Consultant



Grade	1: 238.095(-)	1: 238.095(-)	1: 238.095(-)	1: 37.202(-)	1: 12.533(-)	1: 69.703(-)	1: 652.174(+)	1: 70.423(+)	26.042(-)												
Cut/Fill OGL&FRL	11000 79.898 80.148 0.250	11025 79.253 80.043 0.790	11050 79.113 79.938 0.825	11075 79.183 79.833 0.650	11100 79.363 79.728 0.365	11125 79.623 79.623 0.000	11150 79.471 78.951 -0.520	11175 78.782 78.279 -0.503	11200 77.607 77.607 0.000	11225 75.052 75.612 0.560	11250 72.598 73.618 1.020	11275 70.683 71.623 0.940	11300 69.628 69.628 0.000	11325 68.342 69.269 0.927	11350 66.977 68.911 1.934	11375 68.552 68.552 0.000	11400 68.702 68.590 -0.112	11425 68.612 68.629 0.017	11450 68.667 68.667 0.000	11475 68.312 68.312 0.000	11500 67.352 67.352 0.000
FRL																					
OGL																					
Choinage																					

LSection from Ch : 11000 to 11500

Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

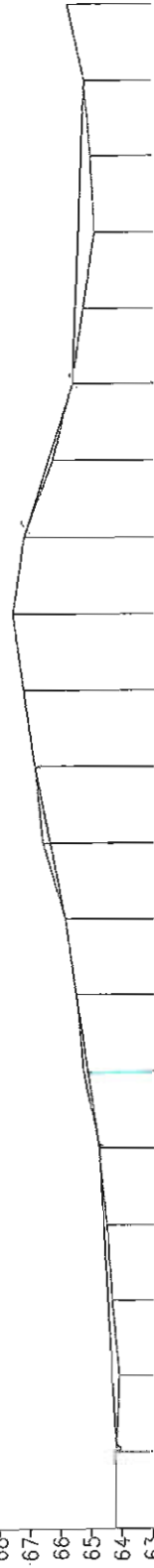
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(Signature)

M/S:- ASS Consultant

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Grade	1: 657.885(-)	1: 174.52(+)	1: 89.124(+)	1: 51.02(+)	1: 71.124(+)	1: 68.493(-)	1: 31.546(-)	1: 237.53(-)	1: 48.544(+)										
Cut/Fill OGL&FRL																			
FRL	64.215	64.464	64.505	64.750	65.112	65.473	65.835	66.325	66.815	67.167	67.518	67.153	66.233	65.568	65.463	65.358	64.962	65.147	65.662
OGL	64.187	64.316	64.505	64.750	65.250	65.489	65.835	66.555	66.815	67.178	67.518	67.153	66.233	65.568	65.223	64.842	64.962	65.147	65.662
Chainage	2000	2075	2100	2125	2150	2175	2200	2225	2250	2275	2300	2325	2350	2375	2400	2425	2450	2475	2500

LSection from Ch : 12000 to 12500

Karanpur TO Mandrayal Road

Project Name:- PWD ROAD

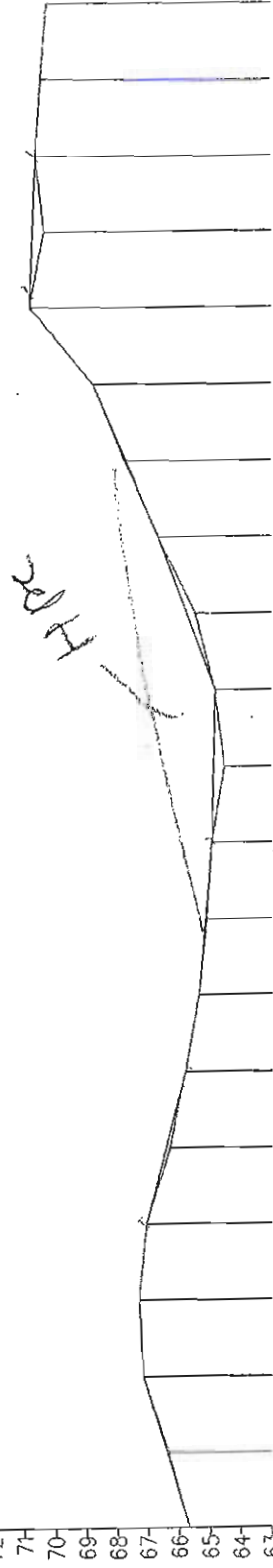
JEC

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M/S:- ASS Consultant

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Grade	1: 33.67(+)	1: 168.919(+)	1: 96.154(-)	1: 39.526(-)	1: 58.14(-)	1: 117.647(-)	1: 416.667(-)	1: 27.64(+)	1: 24.038(+)	1: 12.389(+)	1: 247.525(-)	1: 142.857(-)
Cut/Fill OGL&FRL	12550 67.147 0.000	12575 67.295 0.000	12600 67.035 0.000	12625 66.280 0.123	12650 65.770 0.000	12675 65.340 0.000	12700 65.065 0.063	12725 64.915 0.000	12750 64.495 0.360	12775 64.795 0.000	12800 65.430 0.269	12825 66.604 0.000
FRL	12525 66.337 0.067	12550 67.147 0.000	12575 67.295 0.000	12600 67.035 0.000	12625 66.280 0.123	12650 65.770 0.000	12675 65.340 0.000	12700 65.065 0.063	12725 64.915 0.000	12750 64.495 0.360	12775 64.795 0.000	12800 65.430 0.269
OGL	12500 65.662 0.000	12525 66.337 0.067	12550 67.147 0.000	12575 67.295 0.000	12600 67.035 0.000	12625 66.280 0.123	12650 65.770 0.000	12675 65.340 0.000	12700 65.065 0.063	12725 64.915 0.000	12750 64.495 0.360	12775 64.795 0.000
Chainage	12500 65.662 0.000	12525 66.337 0.067	12550 67.147 0.000	12575 67.295 0.000	12600 67.035 0.000	12625 66.280 0.123	12650 65.770 0.000	12675 65.340 0.000	12700 65.065 0.063	12725 64.915 0.000	12750 64.495 0.360	12775 64.795 0.000
	12900 70.702 0.000	12925 70.230 0.371	12950 70.500 0.000	12975 70.350 0.025	13000 70.150 0.000							

LSection from Ch : 12500 to 13000

Karanpur TO Mandrayal Road

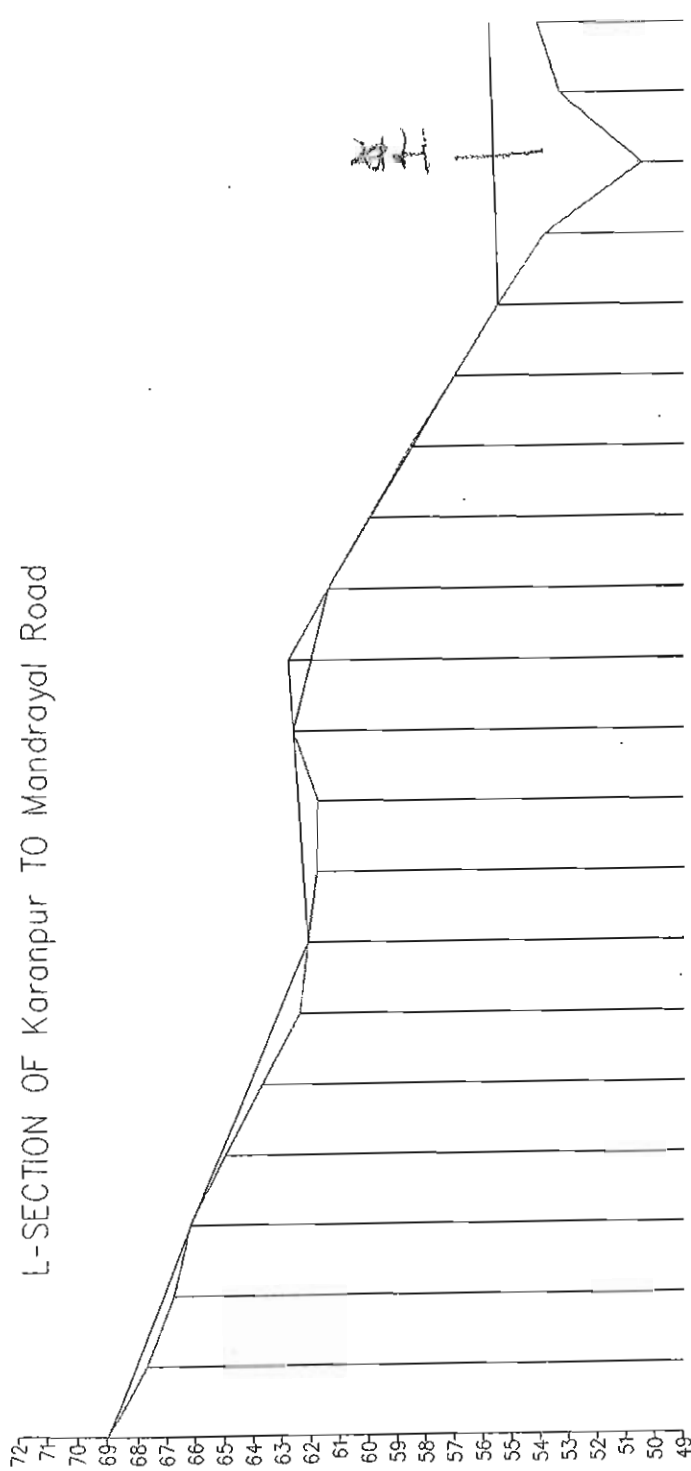
Project Name: PWD ROAD

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W/S: - ASS Consultant

L-SECTION OF Koranpur TO Mondrayal Road



Grade	1: 26.535(+)	1: 24.355(+)	1: 162.338(+)	1: 41.288(+)	1: 17.061(+)	1: 16.513(+)	1: 362.318(+)														
Cut/Fill OCL&FRL	13000 68.974 68.974 0.000	13025 67.681 68.032 0.351	13050 66.756 67.090 0.334	13075 66.148 66.148 0.000	13100 64.936 65.122 0.185	13125 63.656 64.095 0.439	13150 62.326 63.069 0.743	13175 62.042 62.042 0.000	13200 61.732 62.196 0.464	13225 61.671 62.350 0.679	13250 62.504 62.504 0.000	13275 62.674 61.899 -0.776	13300 61.293 61.293 0.000	13325 59.891 59.828 -0.063	13350 58.447 58.362 -0.085	13375 56.897 56.897 0.000	13400 55.383 55.383 0.000	13425 53.767 55.452 1.685	13450 50.410 55.521 5.111	13475 53.248 55.590 2.342	13500 54.011 55.659 1.648
FRL																					
OCL																					
Chainage																					

L-Section from Ch : 13000 to 13500

L-Section from Ch : 13000 to 13500

JEC

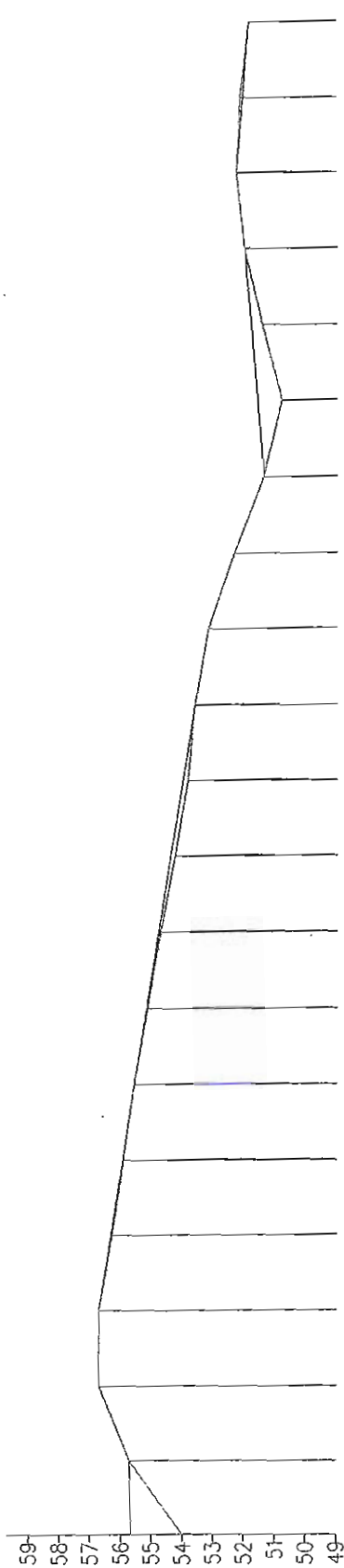
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[Signature]
XEN

M/S:-
ASS Consultant

Project Name:-
PWID ROAD

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 352.318(+): 25.328(+)* 2083.333(-)	1: 65.048(-)	1: 63.355(-)	1: 56.561(-): 30.12(-): 26.567(-)	1: 124.172(+)	1: 104.603(+)	1: 119.904(-)														
Cut/Fill OGL&FRL	13500 54.011 55.659 1.648	13525 55.728 55.728 0.000	13550 56.715 56.715 0.000	13575 56.703 56.703 0.000	13600 56.267 56.319 0.052	13625 55.895 55.934 0.039	13650 55.550 55.550 0.000	13675 55.113 55.155 0.042	13700 54.698 54.761 0.063	13725 54.230 54.366 0.136	13750 53.816 53.972 0.156	13775 53.577 53.577 0.000	13800 53.135 53.135 0.000	13825 52.305 52.305 0.000	13850 51.364 51.364 0.000	13875 50.765 51.565 0.800	13900 51.403 51.767 0.364	13925 51.968 51.968 0.000	13950 52.207 52.207 0.000	13975 52.089 51.999 -0.090	14000 51.790 0.000
FRL																					
OGL																					
Chainage																					

LSection from Ch : 13500 to 14000

LSection from Ch : 13500 to 14000

JEC

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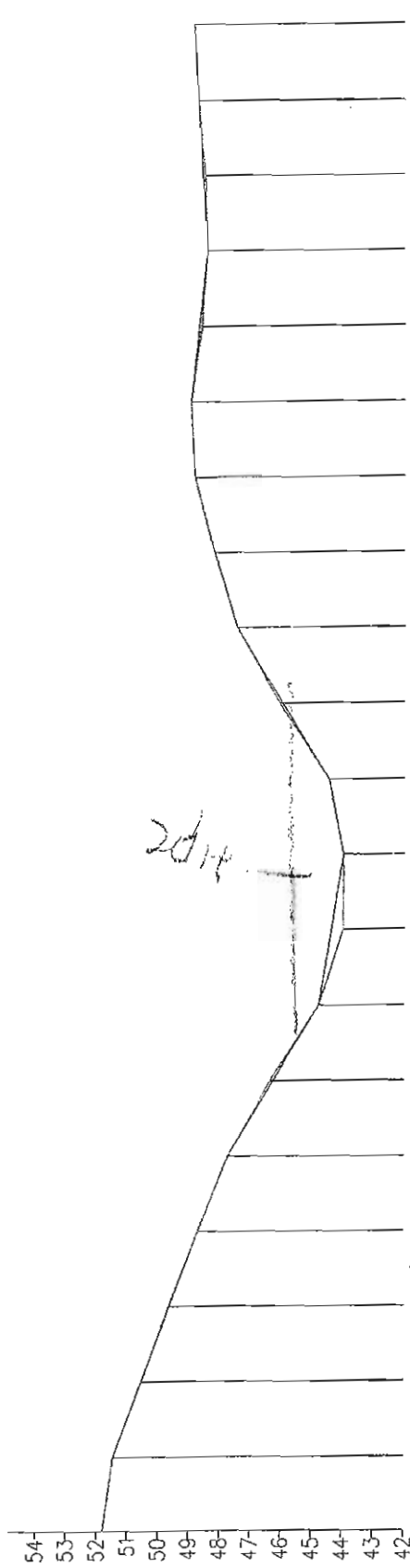
XEN

Project Name: -

PWD ROAD

M/S: -
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 73.528(-)	1: 27.203(-)	1: 25.641(-)	1: 16.932(-)	1: 61.501(-)	1: 51.546(+)	1: 16.824(+)	1: 35.868(+)	1: 38.64(+)	1: 217.351(+)	1: 90.744(-)	1: 182.482(+)	1: 211.864(+)
Cut/Fill OGL&FRL													
FRL	48.693	49.661	48.693	46.341	44.359	43.952	44.437	48.106	48.753	48.868	48.510	48.454	48.591
OGL	51.790	50.531	51.450	47.718	44.765	43.952	44.437	48.106	48.753	48.868	48.510	48.454	48.591
Choinage	0.000	0.015	0.000	-0.049	0.000	0.392	0.000	0.000	0.000	0.000	0.083	0.079	0.000
	14000	14025	14050	14075	14100	14125	14150	14175	14200	14225	14250	14275	14300
	51.790	51.450	50.531	49.661	48.693	47.718	46.341	44.765	44.359	43.952	44.437	45.923	47.409
	48.709	48.450	48.516	49.661	48.693	47.718	46.341	44.765	44.359	43.952	48.510	48.454	48.591
	0.000	0.000	0.015	-0.049	0.000	0.000	-0.099	0.000	0.392	0.000	0.083	0.079	0.000
	14500	14475	14450	14425	14400	14375	14350	14325	14300	14275	14250	14225	14200
	48.709	48.450	48.516	49.661	48.693	47.718	46.341	44.765	44.359	43.952	48.510	48.454	48.591
	0.000	0.000	0.015	-0.049	0.000	0.000	-0.099	0.000	0.392	0.000	0.083	0.079	0.000

LSection from Ch : 14000 to 14500

LSection from Ch : 14000 to 14500

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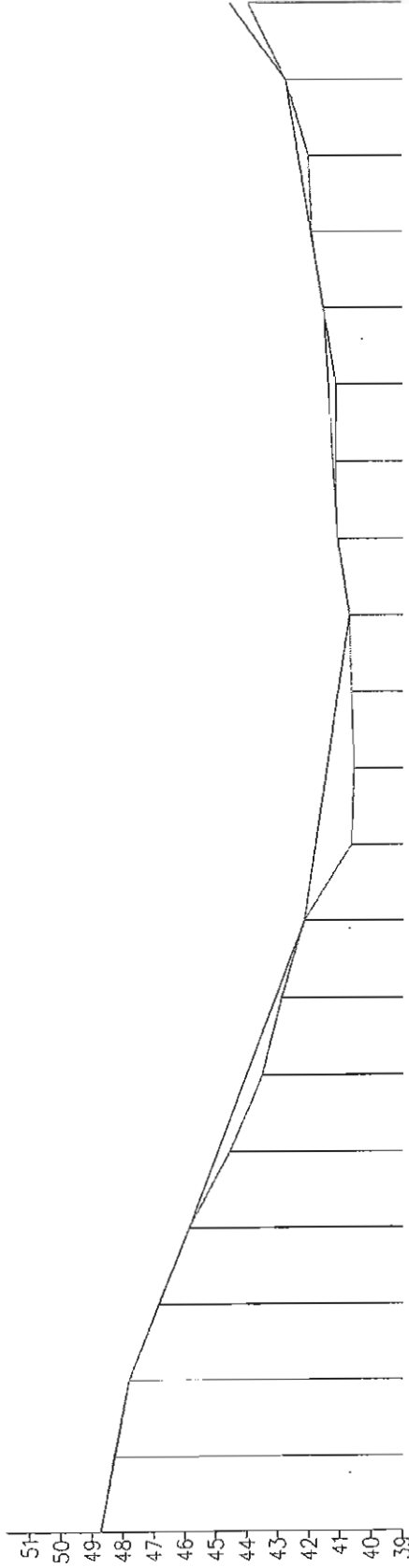
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W/S:-
ASS Consultant

Project Name:-

PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 53.763(-): 53.763(-)	1: 25.773(-)	1: 25.883(-)	1: 67.935(-)	1: 65.789(+)	1: 164.114(+)	1: 63.721(+)	1: 14.248(+)
Cut/Fill OGL&FRL	14500 48.709 0.000	14525 48.288 -0.044	14550 47.779 0.000	14575 46.854 -0.045	14600 45.839 0.000	14625 44.526 0.386	14650 43.478 0.508	14675 42.858 0.202
FRL	14500 48.709 0.000	14525 48.288 -0.044	14550 47.779 0.000	14575 46.854 -0.045	14600 45.839 0.000	14625 44.526 0.386	14650 43.478 0.508	14675 42.858 0.202
OGL	14500 48.709 0.000	14525 48.288 -0.044	14550 47.779 0.000	14575 46.854 -0.045	14600 45.839 0.000	14625 44.526 0.386	14650 43.478 0.508	14675 42.858 0.202
Chainage	14500 48.709 0.000	14525 48.288 -0.044	14550 47.779 0.000	14575 46.854 -0.045	14600 45.839 0.000	14625 44.526 0.386	14650 43.478 0.508	14675 42.858 0.202
	14950 41.950 0.333	14925 41.860 0.030	14900 41.498 0.000	14875 41.093 0.253	14850 41.105 0.088	14825 41.041 0.000	14800 40.661 0.000	14775 40.613 0.416
	14975 42.675 0.000	14950 41.950 0.333	14925 41.860 0.030	14900 41.498 0.000	14875 41.093 0.253	14850 41.105 0.088	14825 41.041 0.000	14800 40.661 0.000
	15000 43.856 0.573	14975 42.675 0.000	14950 41.950 0.333	14925 41.860 0.030	14900 41.498 0.000	14875 41.093 0.253	14850 41.105 0.088	14825 41.041 0.000

LSection from Ch : 14500 to 15000

LSection from Ch : 14500 to 15000

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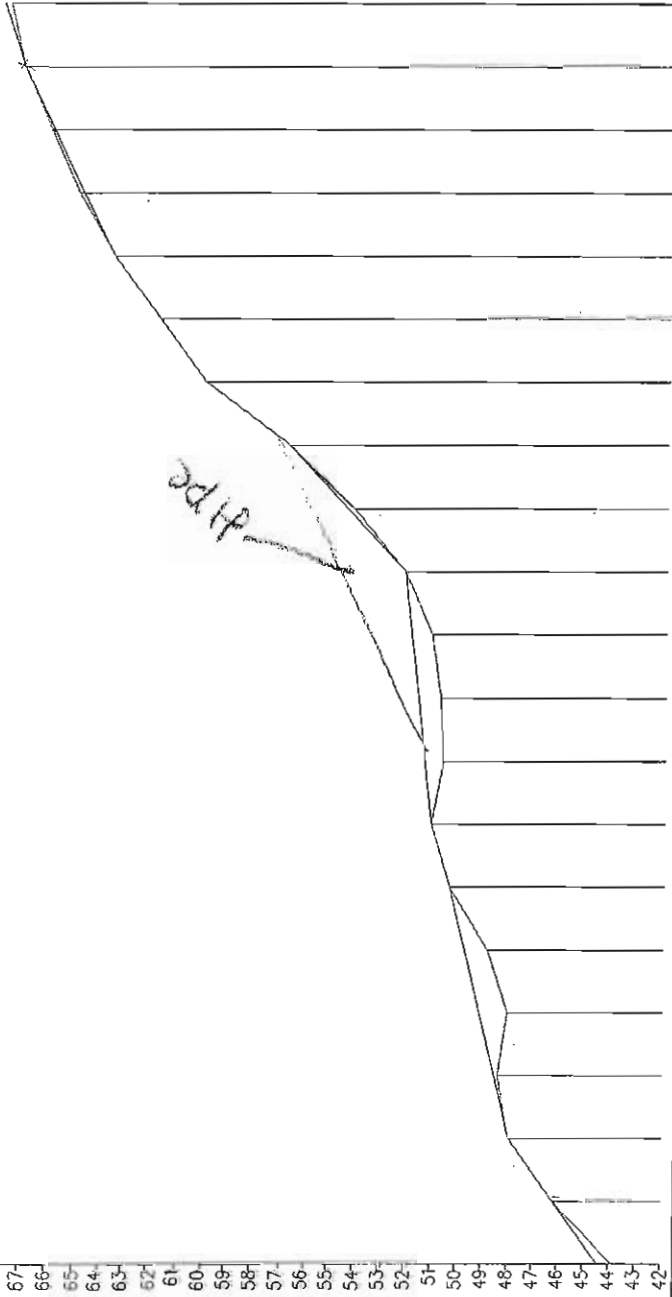
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M/S:-
ASS Consultant

Project Name:-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

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Grade	15000	15025	15050	15075	15100	15125	15150	15175	15200	15225	15250	15275	15300	15325	15350	15375	15400	15425	15450	15475	15500
Cut/Fill OGL&FRL	44.430	46.184	47.937	48.532	49.128	49.723	50.318	51.052	51.316	51.579	51.843	52.106	54.110	56.624	59.854	61.610	63.365	64.731	65.758	66.955	67.487
FRL	44.430	46.184	47.937	48.532	49.128	49.723	50.318	51.052	51.316	51.579	51.843	52.106	54.110	56.624	59.854	61.610	63.365	64.731	65.758	66.955	67.487
OGL	44.430	46.184	47.937	48.532	49.128	49.723	50.318	51.052	51.316	51.579	51.843	52.106	54.110	56.624	59.854	61.610	63.365	64.731	65.758	66.955	67.487
Choinage	0.573	0.000	0.000	0.145	1.101	0.911	0.000	0.000	0.717	0.867	0.785	0.000	0.255	0.000	0.000	0.033	0.000	-0.169	-0.109	0.000	0.245

LSection from Ch : 15000 to 15500

LSection from Ch : 15000 to 15500

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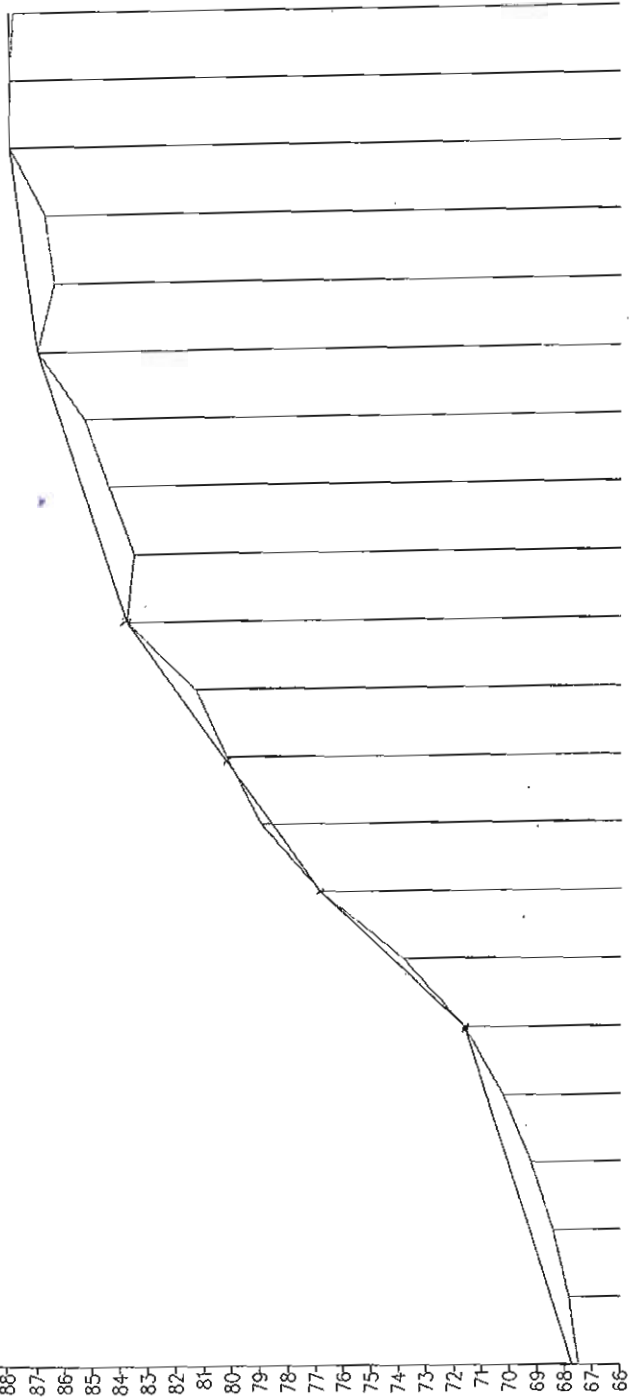
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Project Name: -

PWD ROAD

M/S:-
ASS Consultant

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LSection.from Ch : 15500 to 16000

LSection from Ch : 15500 to 16000

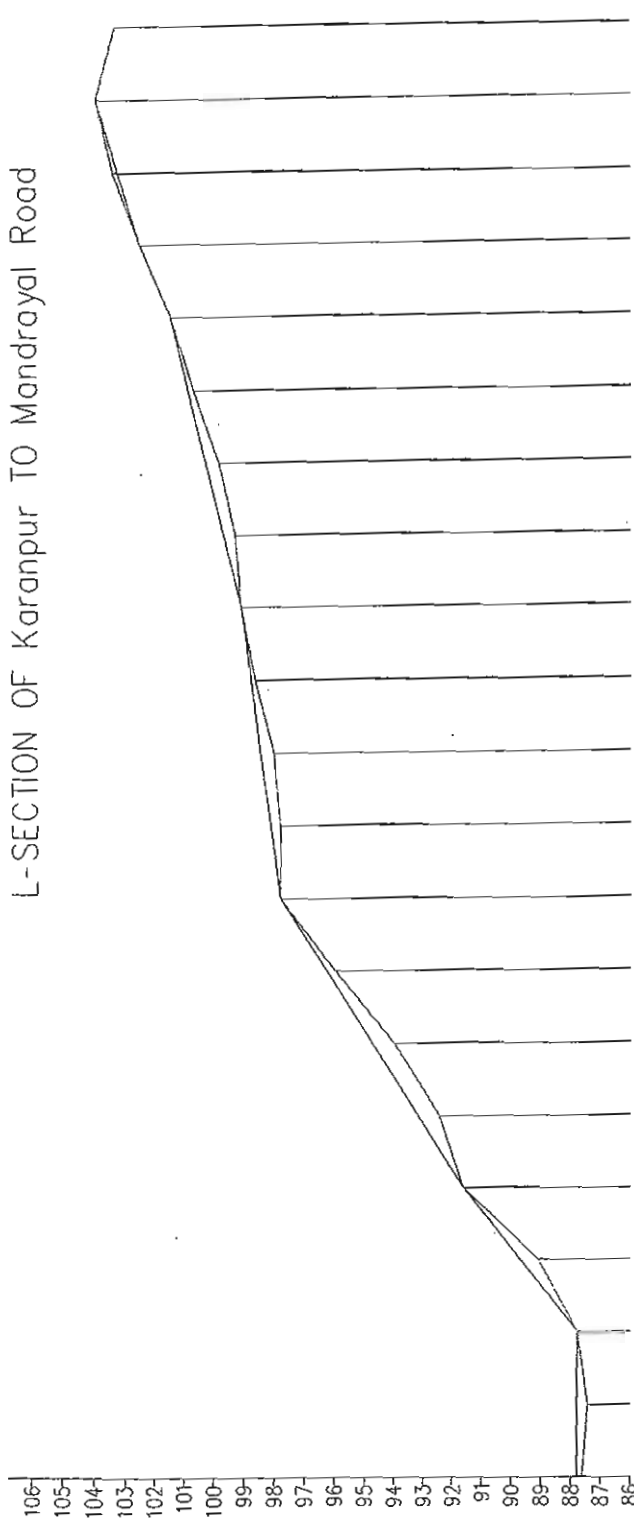
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M/S:-
ASS Consultants

Project Name: -
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 5882.353(-)	1: 13.055(+)	1: 13.055(+)	1: 18.316(+)	1: 79.745(+)	1: 43.706(+)	1: 24.272(+)	1: 34.602(+)	1: 37.202(+)
Cut/Fill OGL&FRL	16000 87.622	16025 87.428	16050 87.787	16075 89.105	16100 91.617	16125 92.415	16150 93.953	16175 95.931	16200 97.746
FRL	87.796	87.791	87.787	89.702	91.617	93.149	94.682	96.214	97.746
OGL	87.622	87.428	87.787	89.105	91.617	92.415	93.953	95.931	97.746
Choinage	16000 87.622	16025 87.428	16050 87.787	16075 89.105	16100 91.617	16125 92.415	16150 93.953	16175 95.931	16200 97.746
	16225 97.743	16250 97.943	16275 98.546	16300 99.000	16325 99.186	16350 99.708	16375 100.538	16400 101.288	16425 102.318
	16450 103.207	16475 103.763	16500 103.091						

LSection from Ch : 16000 to 16500

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LSection from Ch : 16000 to 16500

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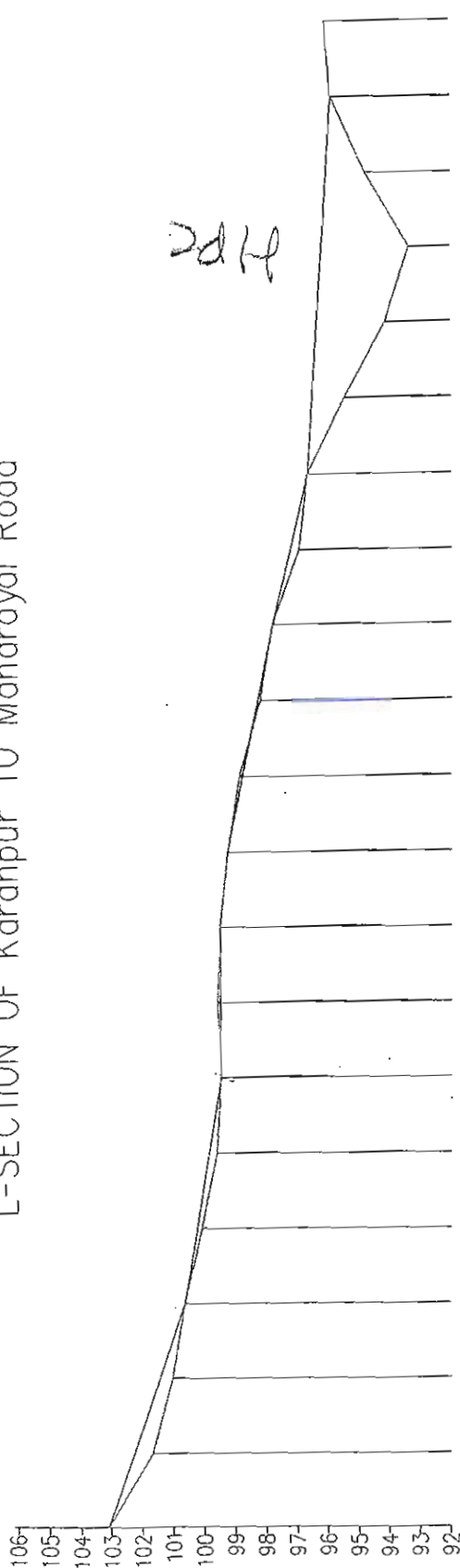
M/S:-

ASS Consultant

Project Name: -

PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 30.389(-)		1: 63.993(-)		1: 2380.952(+)		1: 98.814(-)		1: 51.3(-)		1: 43.827(-)		1: 158.629(-)		1: 142.857(+)																																																
Cut/Fill: OGL&FRL	16500	103.091	0.000	16525	101.681	0.587	16550	101.036	0.410	16575	100.623	0.000	16600	100.077	0.155	16625	99.596	0.246	16650	99.451	0.000	16675	99.556	0.094	16700	99.472	0.000	16725	99.219	0.000	16750	98.825	-0.093	16775	98.159	0.085	16800	97.757	0.000	16825	96.907	0.279	16850	96.616	0.000	16875	95.416	1.042	16900	94.103	2.198	16925	93.343	2.800	16950	94.753	1.233	16975	95.828	0.000	17000	96.003	0.000
FRL	103.091	102.268	101.446	100.623	100.232	99.842	99.451	99.462	99.472	99.219	98.732	98.244	97.757	97.187	96.616	96.458	96.301	96.143	95.986	95.828	96.003																																										
OGL	103.091	101.681	101.036	100.623	100.077	99.596	99.451	99.556	99.472	99.219	98.825	98.159	97.757	96.907	96.616	95.416	94.103	93.343	94.753	95.828	96.003																																										
Chainage	16500	16525	16550	16575	16600	16625	16650	16675	16700	16725	16750	16775	16800	16825	16850	16875	16900	16925	16950	16975	17000																																										

LSection from Ch : 16500 to 17000

LSection from Ch : 16500 to 17000

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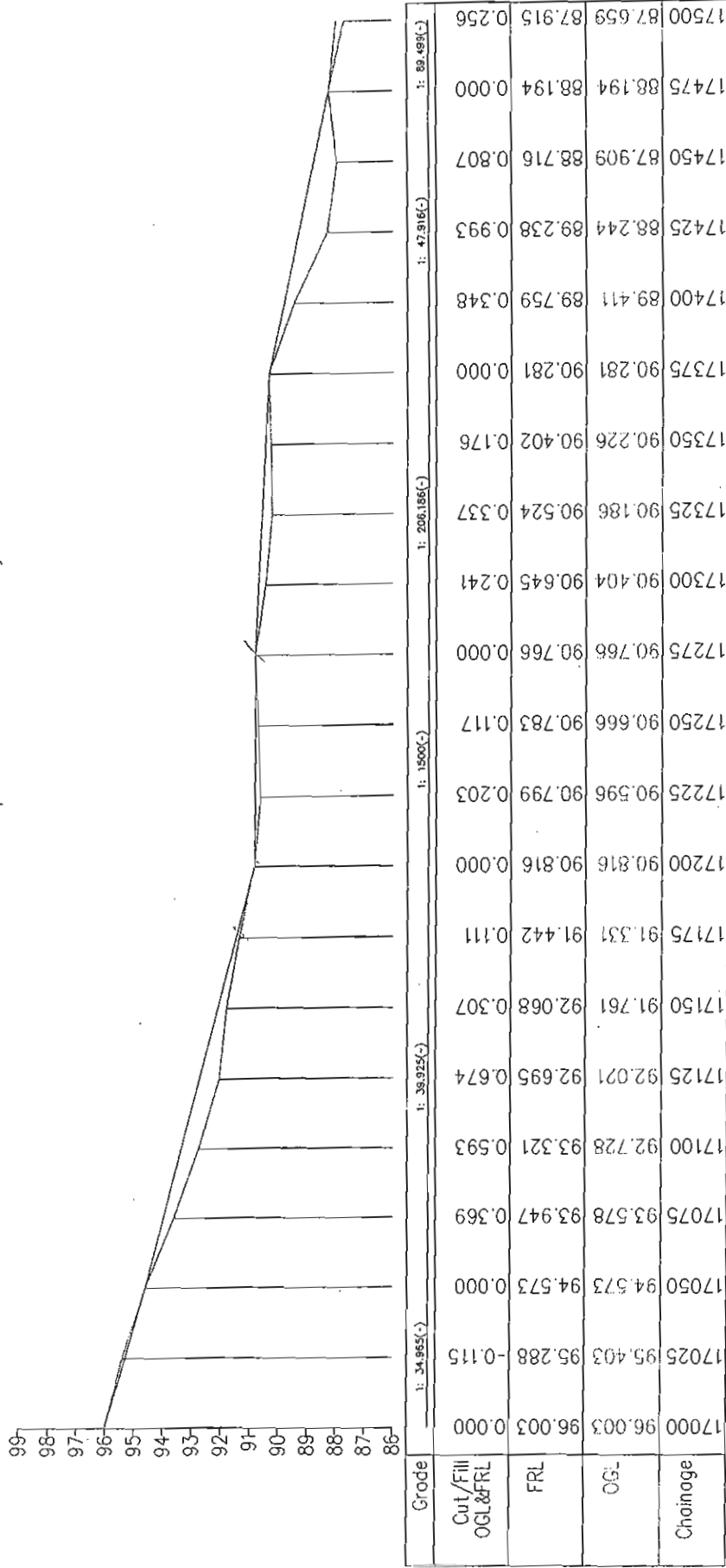
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Project Name: -
PWD ROAD

M/S: -
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road



LSection from Ch : 17000 to 17500

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LSection from Ch : 17000 to 17500

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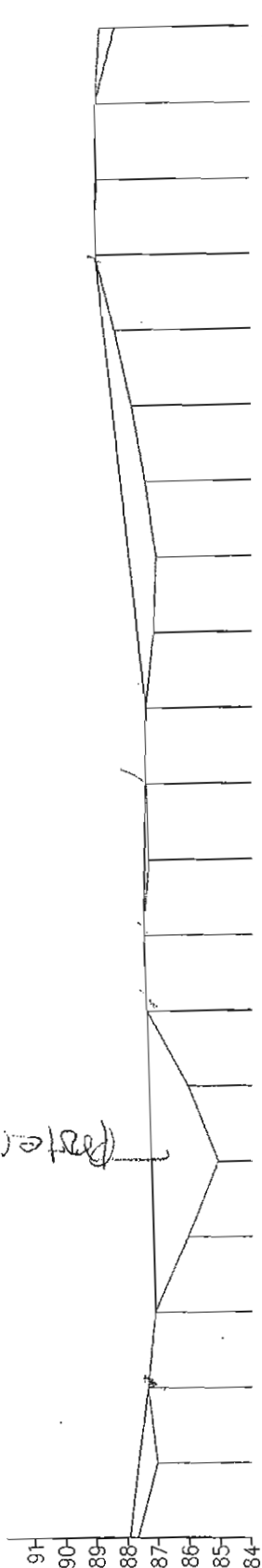
M/S:-
ASS Consultant

Project Name:-

PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

Profile



	1: 89.499(-)	1: 102.04(-)	1: 353.142(+)	1: 233.645(+)	1: 833.333(-)	1: 97.403(+)	1: 1428.571(-)	1: 39.453(-)													
Grade																					
Cut/Fill OGL&FRL	17500 87.659 87.915 0.256	17525 87.033 87.635 0.602	17550 87.356 87.356 0.000	17575 87.111 87.111 0.000	17600 86.064 87.176 1.112	17625 85.089 87.242 2.153	17650 86.064 87.307 1.243	17675 87.372 87.372 0.000	17700 87.479 87.479 0.000	17725 87.299 87.449 0.150	17750 87.379 87.419 0.040	17775 87.389 87.389 0.000	17800 87.134 87.646 0.512	17825 87.044 87.902 0.858	17850 87.384 88.159 0.775	17875 87.804 88.416 0.612	17900 88.339 88.672 0.333	17925 88.929 88.929 0.000	17950 88.854 88.912 0.058	17975 88.894 88.894 0.000	18000 88.736 88.260 -0.476
FRL																					
OGL																					
Chainage																					

LSection from Ch : 17500 to 18000

LSection from Ch : 17500 to 18000

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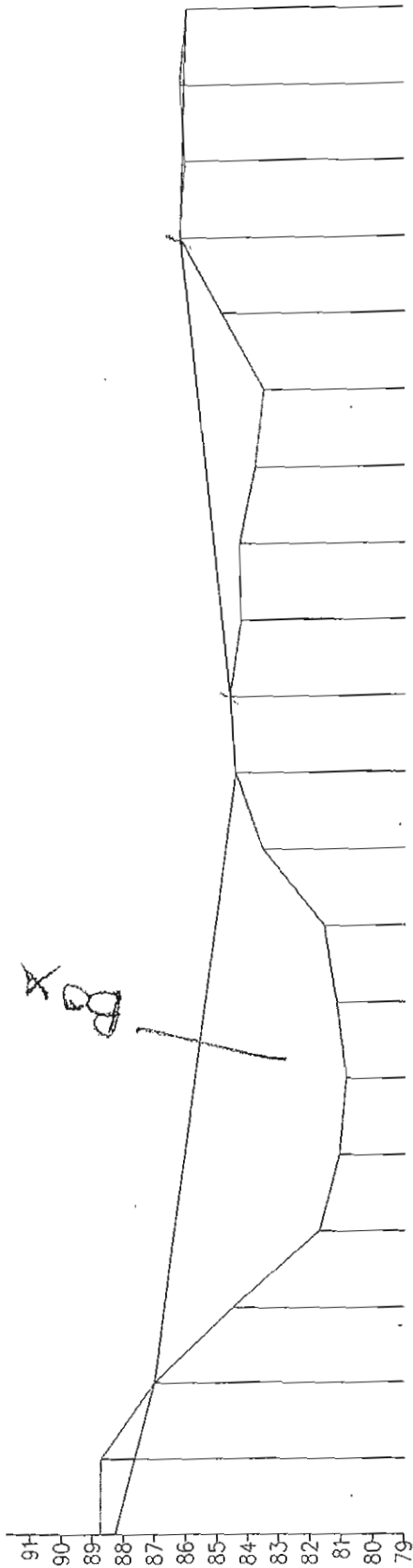
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Project Name: -

PWD ROAD

W/S-
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 39.45X(-)	1: 76.39X(-)	1: 149.70(+)	1: 98.55X(+)	1: 308.64X(-)
Cut/Fill OGL&FRL	18025 88.709 87.627 -1.082	18050 86.993 86.993 0.000	18075 84.495 86.666 2.171	18100 81.697 86.339 4.641	18125 81.065 86.011 4.946
FRL	18000 88.736 88.260 -0.476	18025 88.709 87.627 -1.082	18050 86.993 86.993 0.000	18075 84.495 86.666 2.171	18100 81.697 86.339 4.641
OGL	18000 88.736 88.260 -0.476	18025 88.709 87.627 -1.082	18050 86.993 86.993 0.000	18075 84.495 86.666 2.171	18100 81.697 86.339 4.641
Chainage	18000 88.736 88.260 -0.476	18025 88.709 87.627 -1.082	18050 86.993 86.993 0.000	18075 84.495 86.666 2.171	18100 81.697 86.339 4.641
	18025 88.709 87.627 -1.082	18050 86.993 86.993 0.000	18075 84.495 86.666 2.171	18100 81.697 86.339 4.641	18125 81.065 86.011 4.946
	18050 86.993 86.993 0.000	18075 84.495 86.666 2.171	18100 81.697 86.339 4.641	18125 81.065 86.011 4.946	18150 80.857 85.684 4.827
	18075 84.495 86.666 2.171	18100 81.697 86.339 4.641	18125 81.065 86.011 4.946	18150 80.857 85.684 4.827	18175 81.159 85.357 4.198
	18100 81.697 86.339 4.641	18125 81.065 86.011 4.946	18150 80.857 85.684 4.827	18175 81.159 85.357 4.198	18200 81.557 85.030 3.473
	18125 81.065 86.011 4.946	18150 80.857 85.684 4.827	18175 81.159 85.357 4.198	18200 81.557 85.030 3.473	18225 83.511 84.702 1.191
	18150 80.857 85.684 4.827	18175 81.159 85.357 4.198	18200 81.557 85.030 3.473	18225 83.511 84.702 1.191	18250 84.375 84.375 0.000
	18175 81.159 85.357 4.198	18200 81.557 85.030 3.473	18225 83.511 84.702 1.191	18250 84.375 84.375 0.000	18275 84.542 84.542 0.000
	18200 81.557 85.030 3.473	18225 83.511 84.702 1.191	18250 84.375 84.375 0.000	18275 84.542 84.542 0.000	18300 84.186 84.796 0.610
	18225 83.511 84.702 1.191	18250 84.375 84.375 0.000	18275 84.542 84.542 0.000	18300 84.186 84.796 0.610	18325 84.224 85.049 0.825
	18250 84.375 84.375 0.000	18275 84.542 84.542 0.000	18300 84.186 84.796 0.610	18325 84.224 85.049 0.825	18350 83.730 85.303 1.573
	18275 84.542 84.542 0.000	18300 84.186 84.796 0.610	18325 84.224 85.049 0.825	18350 83.730 85.303 1.573	18375 83.446 85.557 2.111
	18300 84.186 84.796 0.610	18325 84.224 85.049 0.825	18350 83.730 85.303 1.573	18375 83.446 85.557 2.111	18400 84.778 85.810 1.032
	18325 84.224 85.049 0.825	18350 83.730 85.303 1.573	18375 83.446 85.557 2.111	18400 84.778 85.810 1.032	18425 86.064 86.064 0.000
	18350 83.730 85.303 1.573	18375 83.446 85.557 2.111	18400 84.778 85.810 1.032	18425 86.064 86.064 0.000	18450 85.898 85.983 0.085
	18375 83.446 85.557 2.111	18400 84.778 85.810 1.032	18425 86.064 86.064 0.000	18450 85.898 85.983 0.085	18475 86.046 85.902 -0.144
	18400 84.778 85.810 1.032	18425 86.064 86.064 0.000	18450 85.898 85.983 0.085	18475 86.046 85.902 -0.144	18500 85.821 85.821 0.000

LSection from Ch : 18000 to 18500

LSection from Ch : 18000 to 18500

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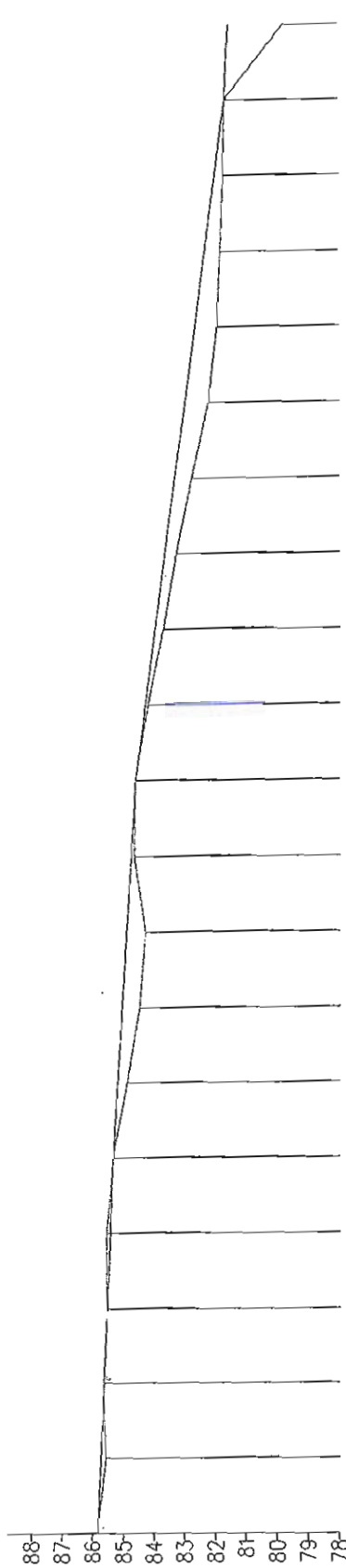
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M/S:-
ASS Consultant

Project Name:-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 24.33m	1: 16.79m	1: 16.46m
Cut/Fill OGL&FRL	18500 85.821 0.000	18525 85.556 0.161	18550 85.635 85.614 -0.021
FRL	18575 85.538 85.510 -0.028	18600 85.528 85.407 -0.121	18625 85.303 85.303 0.000
OGL	18650 84.854 85.155 0.301	18675 84.433 85.006 0.573	18700 84.248 84.858 0.610
Chainage	18725 84.614 84.709 0.095	18750 84.561 84.561 0.000	18775 84.151 84.235 0.084
	18800 83.637 83.910 0.273	18825 83.207 83.584 0.377	18850 82.718 83.259 0.541
	18875 82.182 82.933 0.751	18900 81.906 82.608 0.702	18925 81.794 82.282 0.488
	18950 81.677 81.957 0.280	18975 81.631 81.631 0.000	19000 79.731 81.479 1.748

LSection from Ch : 18500 to 19000

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LSection from Ch : 18500 to 19000

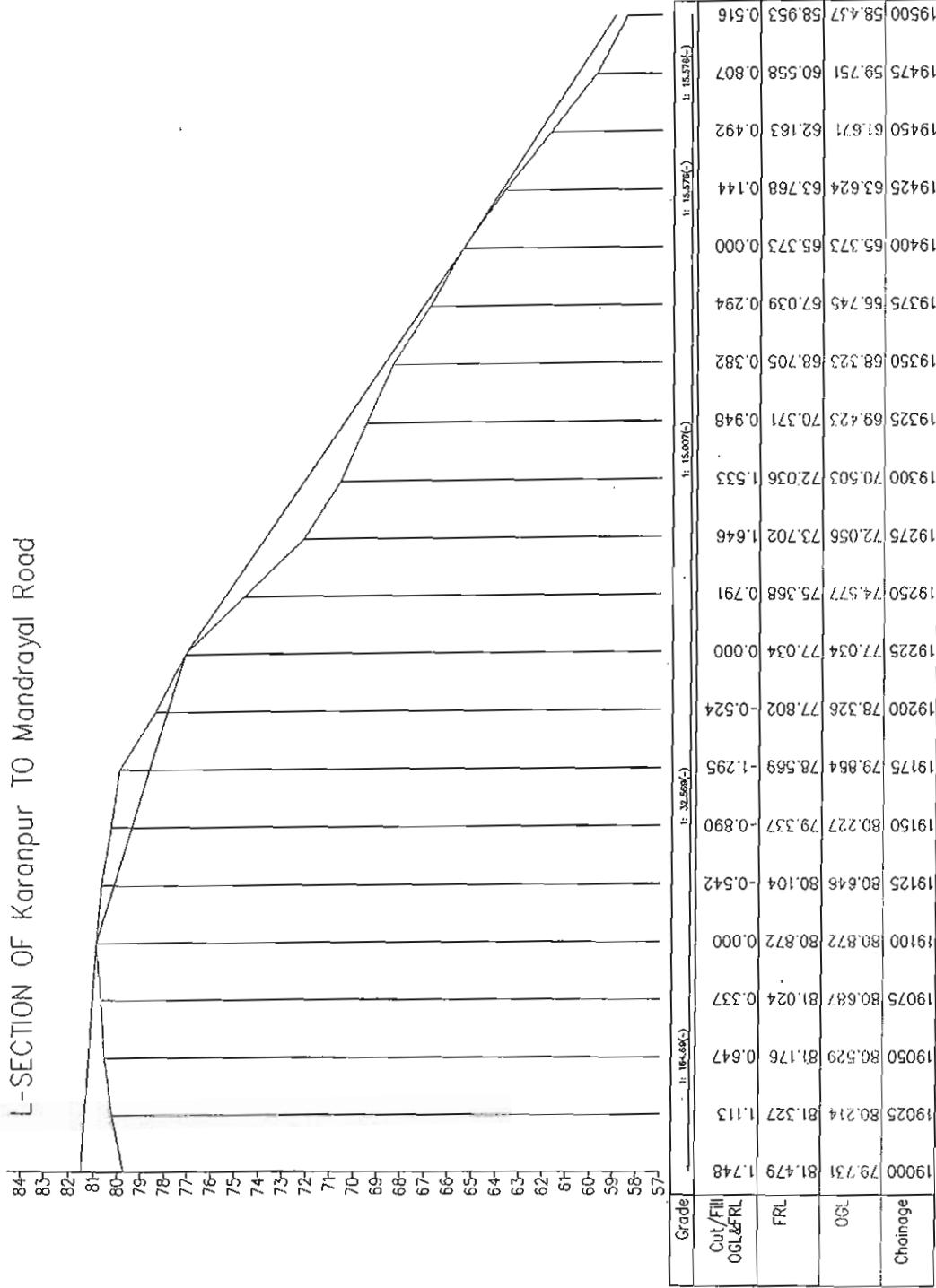
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M/S:-
ASS Consultant

Project Name:-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



LSection from Ch : 19000 to 19500

LSection from Ch : 19000 to 19500

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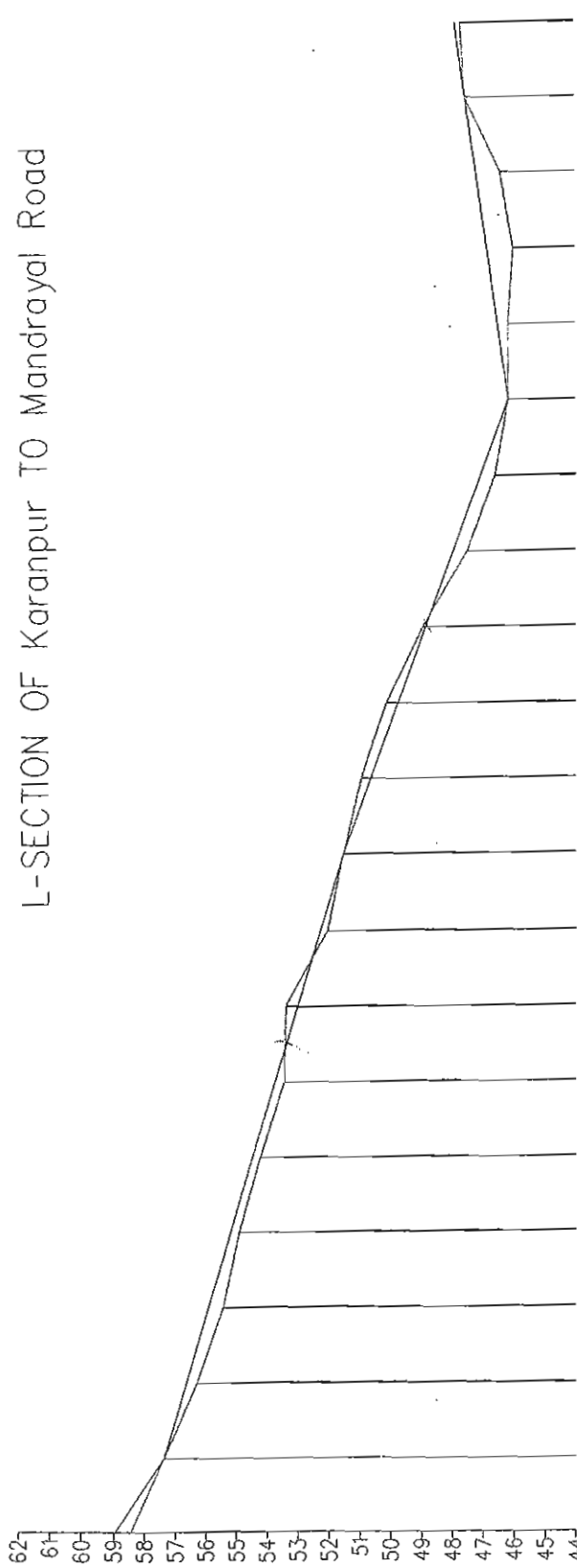
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M/S -
ASS Consultant

Project Name :-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

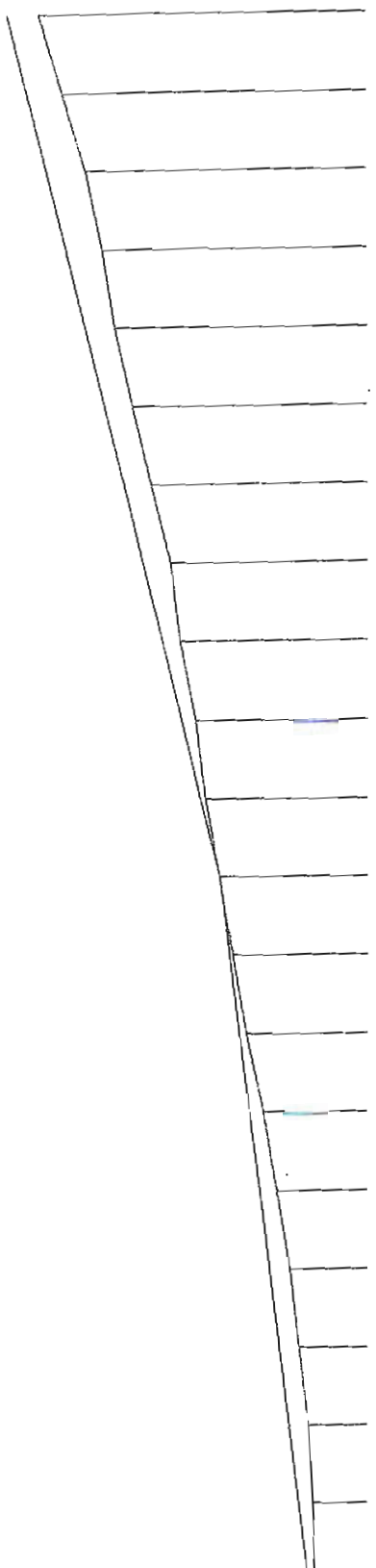


Grade	1: 15.27M(-)	1: 34.165(-)	1: 26.07M(-)	1: 74.738(+)	1: 80.697(+)
Cut/Fill OGL&FRL	19500 58.437 0.516	19625 54.163 0.258	19775 50.092 -0.379	19925 45.973 0.847	20000 47.609 0.190
FRL	19525 57.348 0.000	19650 53.383 0.306	19725 51.494 0.000	19875 46.151 0.000	19975 47.489 0.000
OGL	19550 56.273 0.343	19675 53.331 0.374	19750 50.902 0.299	19850 46.571 0.471	19950 46.381 0.773
Chainage	19575 55.401 0.483	19600 54.863 0.290	19700 52.000 0.226	19825 47.471 0.461	19900 46.154 0.331

LSection from Ch : 19500 to 20000

LSection from Ch : 19500 to 20000		JEC		AEN		M/S:- ASS Consultant	
Project Name:- PWD ROAD							

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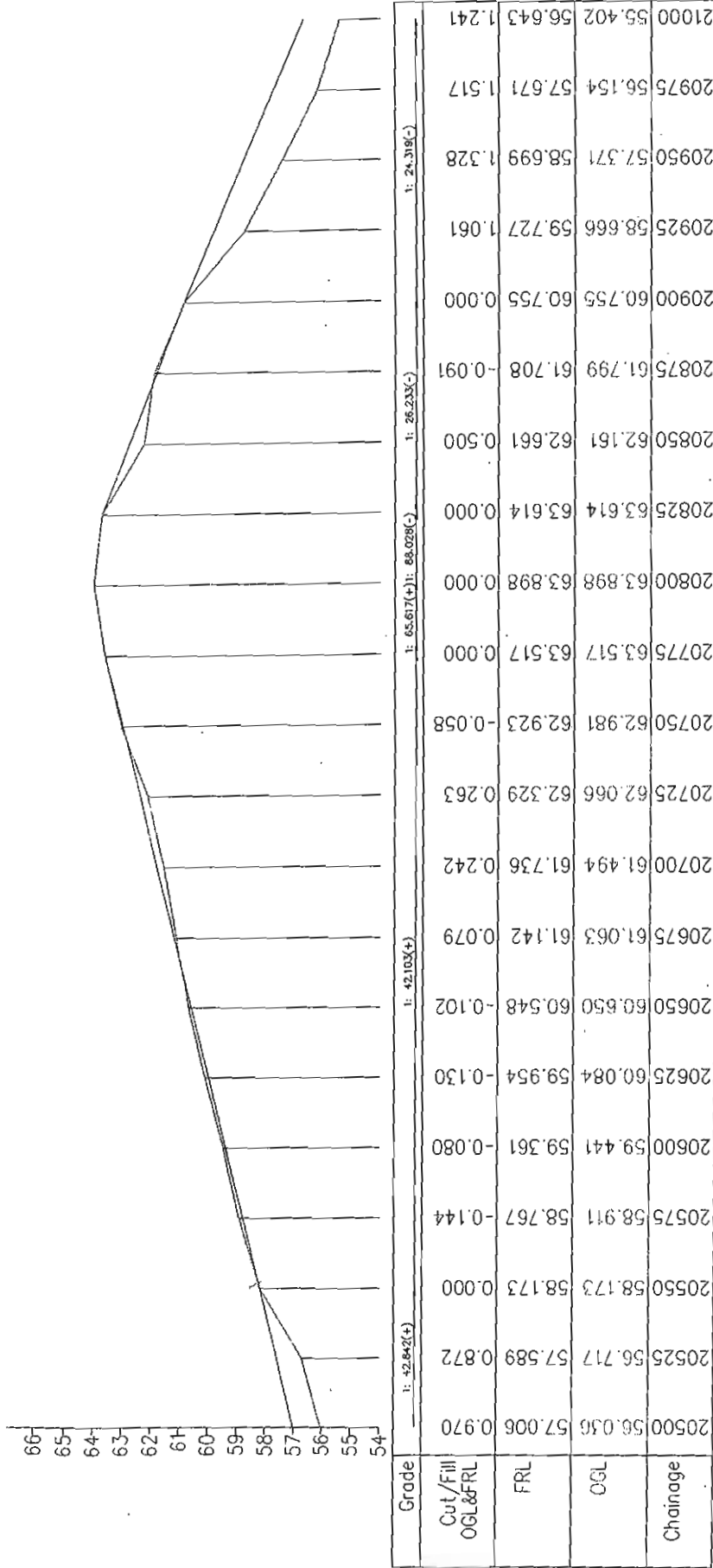


Grade	1: 80.697(+)		1: 42.842(+)	
Chainage	20000	47.609	47.799	0.190
	20025	47.663	48.109	0.446
	20050	47.813	48.418	0.605
	20075	48.113	48.728	0.615
FRL	20100	48.403	49.038	0.635
	20125	48.810	49.348	0.538
	20150	49.228	49.658	0.430
	20175	49.743	49.967	0.224
Cut/Fill OGL&FRL	20200	50.178	50.277	0.099
	20225	50.587	50.587	0.000
	20250	51.018	51.171	0.153
	20275	51.316	51.754	0.438
	20300	51.795	52.338	0.543
	20325	52.083	52.921	0.838
	20350	52.666	53.505	0.839
	20375	53.223	54.088	0.865
	20400	53.767	54.672	0.905
	20425	54.141	55.255	1.114
	20450	54.637	55.839	1.202
	20475	55.329	56.422	1.093
	20500	56.036	57.006	0.970

LSection from Ch : 20000 to 20500

LSection from Ch : 20000 to 20500 Project Name: - PWD ROAD	JEC	AEN	M/S:- ASS Consultant
	 JEC		

L-SECTION OF Karanpur TO Mandrayal Road



LSection from Ch : 20500 to 21000

LSection from Ch : 20500 to 21000

JEC

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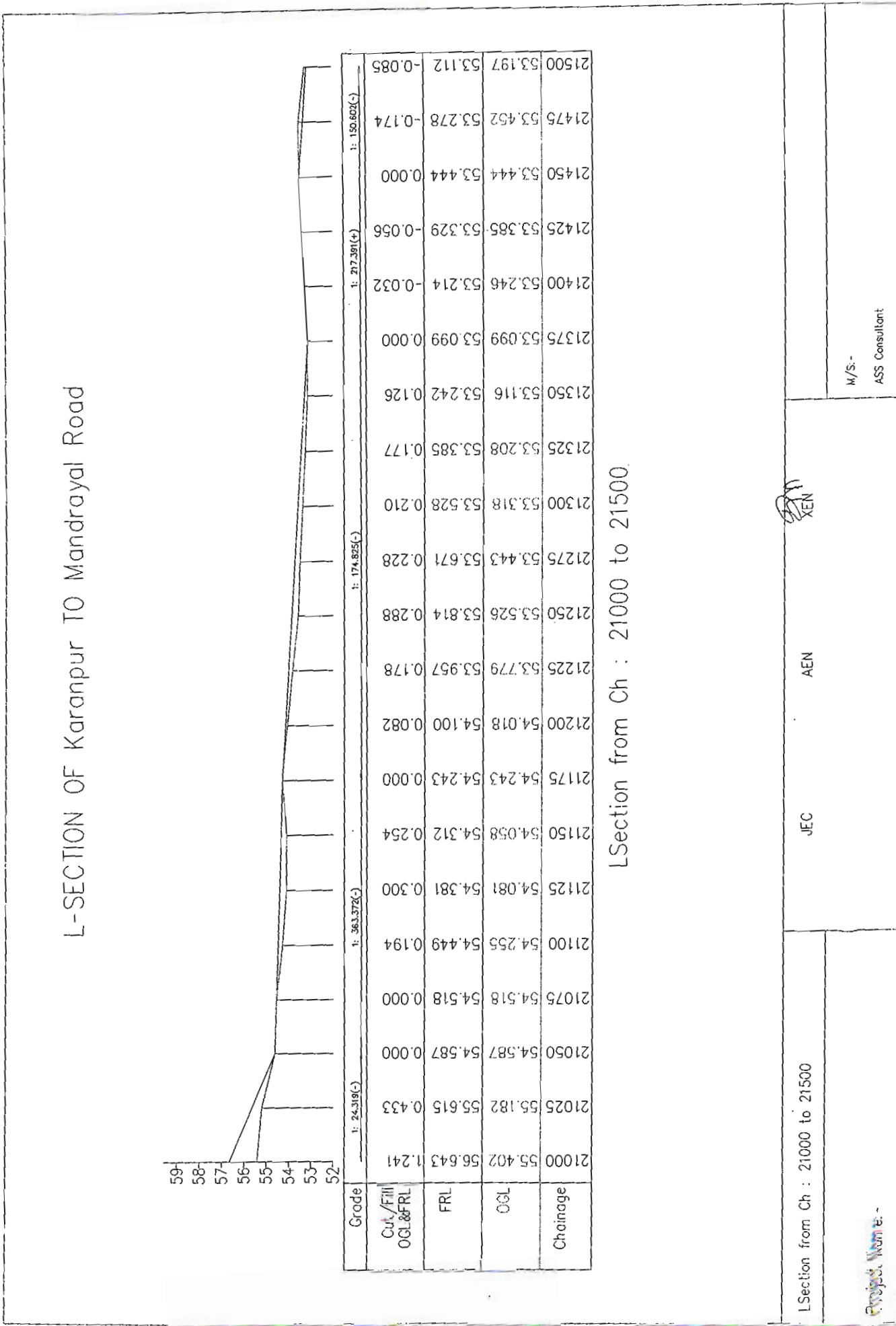
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M/S:-
ASS Consultant

Project Name:-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

Stationing	Ground Level (m)	Existing Road Level (m)	Proposed Road Level (m)	Height Difference (m)
21000	55.402	56.643	1.241	
21025	55.182	55.615	0.433	
21050	54.587	54.587	0.000	
21075	54.518	54.518	0.000	
21100	54.255	54.449	0.194	
21125	54.081	54.381	0.300	
21150	54.058	54.312	0.254	
21175	54.243	54.243	0.000	
21200	54.018	54.100	0.082	
21225	53.779	53.957	0.178	
21250	53.526	53.814	0.288	
21275	53.443	53.671	0.228	
21300	53.318	53.528	0.210	
21325	53.208	53.385	0.177	
21350	53.116	53.242	0.126	
21375	53.099	53.099	0.000	
21400	53.246	53.214	-0.032	
21425	53.385	53.329	-0.056	
21450	53.444	53.444	0.000	
21475	53.452	53.278	-0.174	
21500	53.197	53.112	-0.085	



L-SECTION OF Karanpur TO Mandrayal Road

Station	Ground Level (m)	Existing FRL (m)	Proposed OGL (m)	Height (m)
21500	53.197	53.112	53.112	-0.085
21475	53.452	53.278	53.278	-0.174
21450	53.444	53.444	53.444	0.000
21425	53.385	53.329	53.329	-0.056
21400	53.246	53.214	53.214	-0.032
21375	53.099	53.099	53.099	0.000
21350	53.116	53.242	53.242	0.126
21325	53.208	53.385	53.385	0.177
21300	53.318	53.528	53.528	0.210
21275	53.443	53.671	53.671	0.228
21250	53.526	53.814	53.814	0.288
21225	53.779	53.957	53.957	0.178
21200	54.018	54.100	54.100	0.082
21175	54.243	54.243	54.243	0.000
21150	54.058	54.312	54.312	0.254
21125	54.081	54.381	54.381	0.300
21100	54.255	54.449	54.449	0.194
21075	54.518	54.518	54.518	0.000
21050	54.587	54.587	54.587	0.000
21025	55.182	55.615	55.615	0.433
21000	55.402	56.643	56.643	1.241

L-SECTION OF Karanpur TO Mandrayal Road

Station	Ground Level (m)	Existing FRL (m)	Proposed OGL (m)	Height (m)
21500	53.197	53.112	53.112	-0.085
21475	53.452	53.278	53.278	-0.174
21450	53.444	53.444	53.444	0.000
21425	53.385	53.329	53.329	-0.056
21400	53.246	53.214	53.214	-0.032
21375	53.099	53.099	53.099	0.000
21350	53.116	53.242	53.242	0.126
21325	53.208	53.385	53.385	0.177
21300	53.318	53.528	53.528	0.210
21275	53.443	53.671	53.671	0.228
21250	53.526	53.814	53.814	0.288
21225	53.779	53.957	53.957	0.178
21200	54.018	54.100	54.100	0.082
21175	54.243	54.243	54.243	0.000
21150	54.058	54.312	54.312	0.254
21125	54.081	54.381	54.381	0.300
21100	54.255	54.449	54.449	0.194
21075	54.518	54.518	54.518	0.000
21050	54.587	54.587	54.587	0.000
21025	55.182	55.615	55.615	0.433
21000	55.402	56.643	56.643	1.241

L-SECTION OF Karanpur TO Mandrayal Road

Stationing	Grade	1: 24.319(-)	1: 363.372(-)	1: 174.825(-)	1: 217.391(+)	1: 150.602(+)
21000	55.402	56.643	1.241			
21025	55.182	55.615	0.433			
21050	54.587	54.587	0.000			
21075	54.518	54.518	0.000			
21100	54.255	54.449	0.194			
21125	54.081	54.381	0.300			
21150	54.058	54.312	0.254			
21175	54.243	54.243	0.000			
21200	54.018	54.100	0.082			
21225	53.779	53.957	0.178			
21250	53.526	53.814	0.288			
21275	53.443	53.671	0.228			
21300	53.318	53.528	0.210			
21325	53.208	53.385	0.177			
21350	53.116	53.242	0.126			
21375	53.099	53.099	0.000			
21400	53.246	53.214	-0.032			
21425	53.385	53.329	-0.056			
21450	53.444	53.444	0.000			
21475	53.452	53.278	-0.174			
21500	53.197	53.112	-0.085			

L-SECTION OF Karanpur TO Mandrayal Road

Stationing	Ground Level (m)	Existing Road Level (m)	Proposed Road Level (m)	Height Difference (m)
21000	55.402	56.643	1.241	
21025	55.182	55.615	0.433	
21050	54.587	54.587	0.000	
21075	54.518	54.518	0.000	
21100	54.255	54.449	0.194	
21125	54.081	54.381	0.300	
21150	54.058	54.312	0.254	
21175	54.243	54.243	0.000	
21200	54.018	54.100	0.082	
21225	53.779	53.957	0.178	
21250	53.526	53.814	0.288	
21275	53.443	53.671	0.228	
21300	53.318	53.528	0.210	
21325	53.208	53.385	0.177	
21350	53.116	53.242	0.126	
21375	53.099	53.099	0.000	
21400	53.246	53.214	-0.032	
21425	53.385	53.329	-0.056	
21450	53.444	53.444	0.000	
21475	53.452	53.278	-0.174	
21500	53.197	53.112	-0.085	

L-SECTION OF Karanpur TO Mandrayal Road

Station	Ground Level (m)	Existing Road Level (m)	Proposed Road Level (m)	Height Difference (m)
21000	55.402	56.643	1.241	
21025	55.182	55.615	0.433	
21050	54.587	54.587	0.000	
21075	54.518	54.518	0.000	
21100	54.255	54.449	0.194	
21125	54.081	54.381	0.300	
21150	54.058	54.312	0.254	
21175	54.243	54.243	0.000	
21200	54.018	54.100	0.082	
21225	53.779	53.957	0.178	
21250	53.526	53.814	0.288	
21275	53.443	53.671	0.228	
21300	53.318	53.528	0.210	
21325	53.208	53.385	0.177	
21350	53.116	53.242	0.126	
21375	53.099	53.099	0.000	
21400	53.246	53.214	-0.032	
21425	53.385	53.329	-0.056	
21450	53.444	53.444	0.000	
21475	53.452	53.278	-0.174	
21500	53.197	53.112	-0.085	

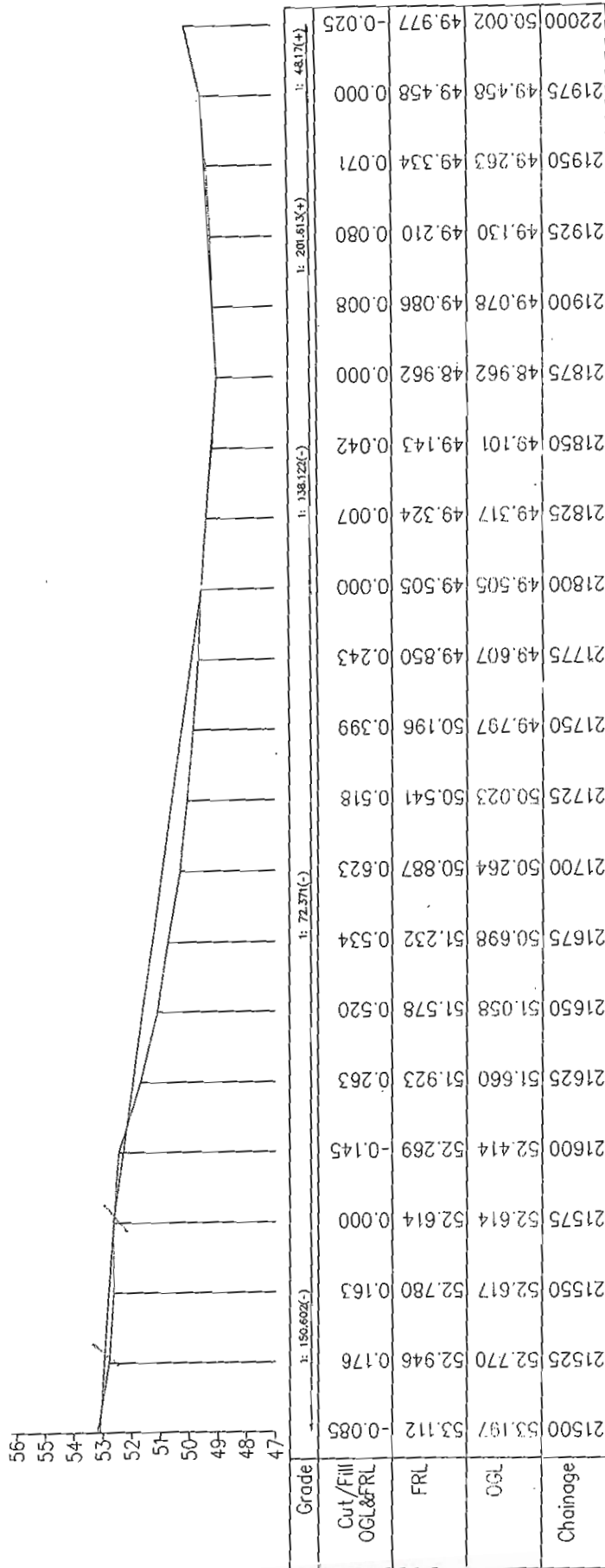
L-SECTION OF Karanpur TO Mandrayal Road

Station	Ground Level (m)	Existing Road Level (m)	Proposed Road Level (m)	Height Difference (m)
21500	53.197	53.452	53.444	-0.085
21475	53.112	53.278	53.444	-0.174
21450	53.112	53.278	53.444	-0.174
21425	53.385	53.329	53.329	-0.056
21400	53.246	53.214	53.214	-0.032
21375	53.099	53.099	53.099	0.000
21350	53.116	53.242	53.242	0.126
21325	53.208	53.385	53.385	0.177
21300	53.318	53.528	53.528	0.210
21275	53.443	53.671	53.671	0.228
21250	53.526	53.814	53.814	0.288
21225	53.779	53.957	53.957	0.178
21200	54.018	54.100	54.100	0.082
21175	54.243	54.243	54.243	0.000
21150	54.058	54.312	54.312	0.254
21125	54.081	54.381	54.381	0.300
21100	54.255	54.449	54.449	0.194
21075	54.518	54.518	54.518	0.000
21050	54.587	54.587	54.587	0.000
21025	55.182	55.615	55.615	0.433
21000	55.402	56.643	56.643	1.241

L-SECTION OF Karanpur TO Mandrayal Road

Station	Grade	1: 24.319(-)	1: 363.372(-)	1: 174.825(-)	1: 217.391(+)	1: 150.602(+)
21000	55.402	56.643	1.241			
21025	55.182	55.615	0.433			
21050	54.587	54.587	0.000			
21075	54.518	54.518	0.000			
21100	54.255	54.449	0.194			
21125	54.081	54.381	0.300			
21150	54.058	54.312	0.254			
21175	54.243	54.243	0.000			
21200	54.018	54.100	0.082			
21225	53.779	53.957	0.178			
21250	53.526	53.814	0.288			
21275	53.443	53.671	0.228			
21300	53.318	53.528	0.210			
21325	53.208	53.385	0.177			
21350	53.116	53.242	0.126			
21375	53.099	53.099	0.000			
21400	53.246	53.214	-0.032			
21425	53.385	53.329	-0.056			
21450	53.444	53.444	0.000			
21475	53.452	53.278	-0.174			
21500	53.197	53.112	-0.085			

L-SECTION OF Karanpur TO Mandroyal Road



LSection from Ch : 21500 to 22000

LSection from Ch : 21500 to 22000

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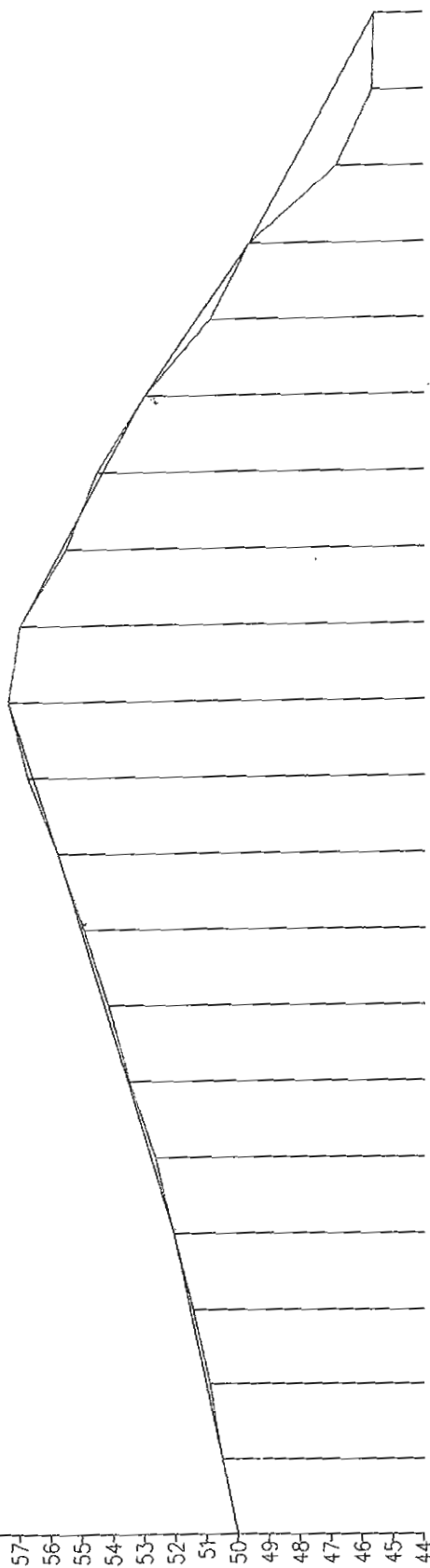
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M/S:-
ASS Consultant

Project Name: -
PWD ROAD

A vertical number line with numbers 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60. A horizontal line is drawn between 50 and 51, and a vertical line is drawn between 50 and 51, forming a crosshair at 50.5.

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LSection from Ch : 22000 to 22500

LSection from Ch : 22000 to 22500

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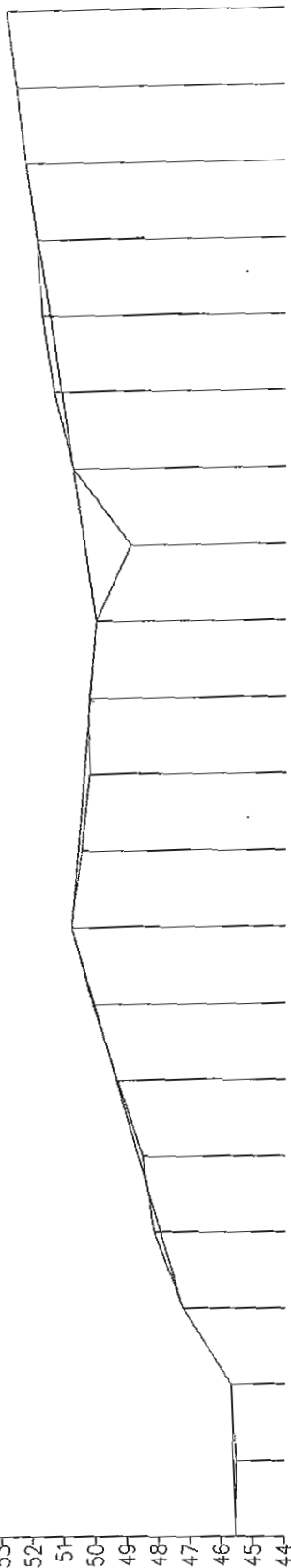
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M/S:-
ASS Consultant

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L-SECTION OF Karanpur TO Mandrayal Road

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Grade	1: 274.725(+)	1: 16.202(+)	1: 35.643(+)	1: 130.039(-)	1: 71.429(+)	1: 68.493(+)	1: 68.493(+)	1: 68.493(+)	1: 84.746(+)
Cut/Fill OGI&FRL	22500 45.540 0.000	22525 45.529 0.102	22550 45.722 0.000	22575 47.265 0.000	22600 48.165 -0.199	22625 48.530 0.138	22650 49.326 0.043	22675 50.128 -0.057	22700 50.772 0.000
FRL	22500 45.540 0.000	22525 45.529 0.102	22550 45.722 0.000	22575 47.265 0.000	22600 48.165 -0.199	22625 48.530 0.138	22650 49.326 0.043	22675 50.128 -0.057	22700 50.772 0.000
OGI	22500 45.540 0.000	22525 45.529 0.102	22550 45.722 0.000	22575 47.265 0.000	22600 48.165 -0.199	22625 48.530 0.138	22650 49.326 0.043	22675 50.128 -0.057	22700 50.772 0.000
Chainage	22500 45.540 0.000	22525 45.529 0.102	22550 45.722 0.000	22575 47.265 0.000	22600 48.165 -0.199	22625 48.530 0.138	22650 49.326 0.043	22675 50.128 -0.057	22700 50.772 0.000
	22800 50.003 0.000	22825 48.898 50.353 1.455	22850 50.703 0.000	22875 51.306 51.068 -0.238	22900 51.678 51.433 -0.245	22925 51.840 51.798 -0.042	22950 52.163 52.163 0.000	22975 52.456 52.458 0.002	23000 52.753 52.753 0.000

LSection from Ch : 22500 to 23000

LSection from Ch : 22500 to 23000

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M/S:-
ASS Consultant

Project Name:-
PWD ROAD

841-SECTION OF Karanpur TO Mandrayal Road

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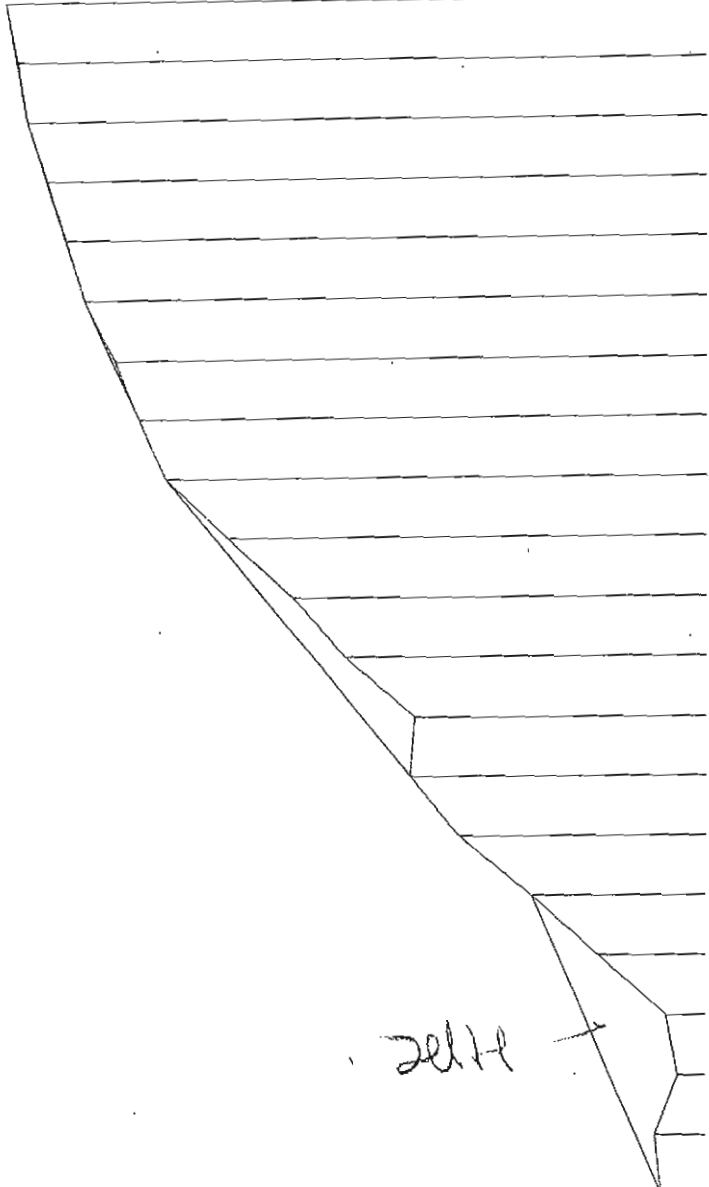
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Grade	1: 23.57(%)	1: 5.21(%)	1: 12.56(%)	1: 23.32(%)	1: 32.53(%)	1: 50.82(%)
Cut/Fill OGL&FRL	23000 52.753 0.000	23025 53.046 0.772	23050 52.008 2.795	23075 52.596 3.353	23100 55.373 1.641	23125 58.079 0.000
FRL	23025 53.046 0.772	23050 52.008 2.795	23075 52.596 3.353	23100 55.373 1.641	23125 58.079 0.000	23150 61.121 0.000
OGL	23000 52.753 0.000	23025 53.046 0.772	23050 52.008 2.795	23075 52.596 3.353	23100 55.373 1.641	23125 58.079 0.000
Chainage	23000 52.753 0.000	23025 53.046 0.772	23050 52.008 2.795	23075 52.596 3.353	23100 55.373 1.641	23125 58.079 0.000
	23150 61.121 0.000	23175 63.124 0.000	23200 62.947 2.167	23225 65.805 1.300	23250 67.904 1.191	23275 70.572 0.514
	23300 73.076 0.000	23325 74.179 0.018	23350 75.106 0.141	23375 76.332 0.000	23400 77.063 0.037	23425 77.807 0.062
	23450 78.637 0.000	23475 78.993 0.064	23500 79.477 0.000			

LSection from Ch : 23000 to 23500

LSection from Ch : 23000 to 23500

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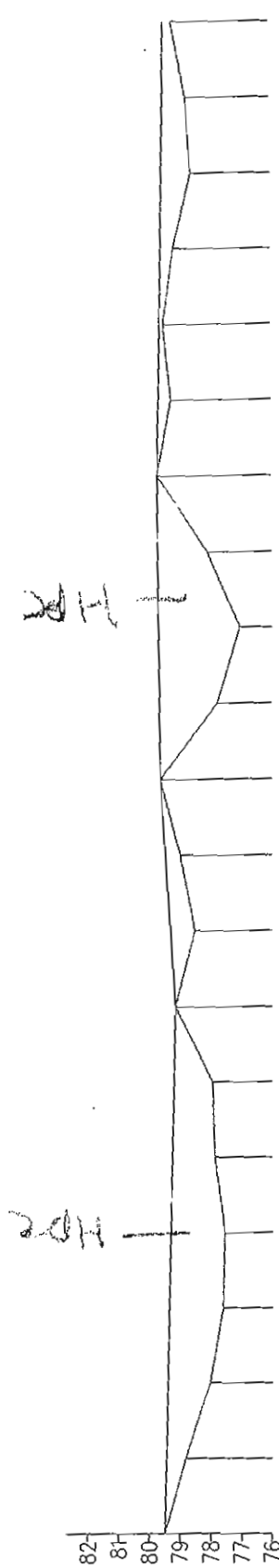
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Project Name:-
PWD RO&D

W/S:-
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 478.142(-)	1: 159.575(+)	1: 1282.051(+)	1: 591.198(-)
Cut/Fill OGL&FRL	23500 79.477 0.000	23550 78.026 1.346	23575 77.598 1.722	23600 77.536 1.732
FRL	23525 78.799 0.626	23550 78.026 1.346	23575 77.598 1.722	23600 77.536 1.732
OGL	23500 79.477 0.000	23550 78.026 1.346	23575 77.598 1.722	23600 77.536 1.732
Chainage	23500 79.477 0.000	23550 78.026 1.346	23575 77.598 1.722	23600 77.536 1.732
	23525 78.799 0.626	23550 78.026 1.346	23575 77.598 1.722	23600 77.536 1.732
	23550 78.026 1.346	23575 77.598 1.722	23600 77.536 1.732	23625 77.854 1.362
	23575 77.598 1.722	23600 77.536 1.732	23625 77.854 1.362	23650 77.933 1.230
	23600 77.536 1.732	23625 77.854 1.362	23650 77.933 1.230	23675 79.111 0.000
	23625 77.854 1.362	23650 77.933 1.230	23675 79.111 0.000	23700 78.498 0.770
	23650 77.933 1.230	23675 79.111 0.000	23700 78.498 0.770	23725 78.960 0.464
	23675 79.111 0.000	23700 78.498 0.770	23725 78.960 0.464	23750 79.581 0.000
	23700 78.498 0.770	23725 78.960 0.464	23750 79.581 0.000	23775 77.754 1.846
	23725 78.960 0.464	23750 79.581 0.000	23775 77.754 1.846	23800 77.020 2.600
	23750 79.581 0.000	23775 77.754 1.846	23800 77.020 2.600	23825 78.067 1.573
	23775 77.754 1.846	23800 77.020 2.600	23825 78.067 1.573	23850 79.659 0.000
	23800 77.020 2.600	23825 78.067 1.573	23850 79.659 0.000	23875 79.216 0.401
	23825 78.067 1.573	23850 79.659 0.000	23875 79.216 0.401	23900 79.463 0.111
	23850 79.659 0.000	23875 79.216 0.401	23900 79.463 0.111	23925 79.134 0.398
	23875 79.216 0.401	23900 79.463 0.111	23925 79.134 0.398	23950 78.547 0.943
	23900 79.463 0.111	23925 79.134 0.398	23950 78.547 0.943	23975 78.712 0.736
	23925 79.134 0.398	23950 78.547 0.943	23975 78.712 0.736	24000 79.155 0.250

LSection from Ch : 23500 to 24000

LSection from Ch : 23500 to 24000

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Project Name: -

PWD ROAD

W/S:-

ASS Consultant

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Grade	1: 591.398(-)				1: 5319.149(+)				1: 1910.10(-)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Chainage	24000	79.155	79.405	0.250	24025	79.045	79.363	0.318	24050	79.076	79.321	0.245	24075	79.047	79.279	0.232	24100	79.082	79.236	0.154	24125	79.194	79.194	0.000	24150	79.279	79.199	-0.080	24175	79.319	79.203	-0.116	24200	79.312	79.208	-0.104	24225	79.374	79.213	-0.161	24250	79.299	79.218	-0.082	24275	79.186	79.222	0.036	24300	79.108	79.227	0.119	24325	79.159	79.232	0.073	24350	79.169	79.236	0.067	24375	79.241	79.241	0.000	24400	79.214	79.216	0.002	24425	79.200	79.192	-0.008	24450	79.168	79.167	-0.001	24475	79.158	79.142	-0.016	24500	79.168	79.117	-0.051																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

LSection from Ch : 24000 to 24500

Section from Ch : 24000 to 24500

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NEX

M/S: -
ASS Consultant

Project Name: -

PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

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Grade	1: 100.100(-)		1: 125000(-)	
Cut/Fill OGL&FRL	24500 79.168	-0.051	24525 79.139	-0.046
FRL	24550 78.931	79.068 0.137	24575 78.966	79.043 0.077
OGL	24600 78.994	79.018 0.024	24625 79.020	78.994 -0.026
Chainage	24650 78.909	78.969 0.060	24675 78.933	78.944 0.011
	24700 78.960	78.919 -0.041	24725 78.914	78.895 -0.020
	24750 78.828	78.870 0.042	24775 78.845	78.845 0.000
	24800 78.356	78.845 0.489	24825 78.836	78.845 0.009
	24850 78.742	78.844 0.102	24875 78.742	78.844 0.102
	24900 78.773	78.844 0.071	24925 78.693	78.844 0.151
	24950 78.701	78.844 0.143	24975 78.763	78.843 0.080
	25000 78.818	78.843 0.025		

LSection from Ch : 24500 to 25000

LSection from Ch : 24500 to 25000

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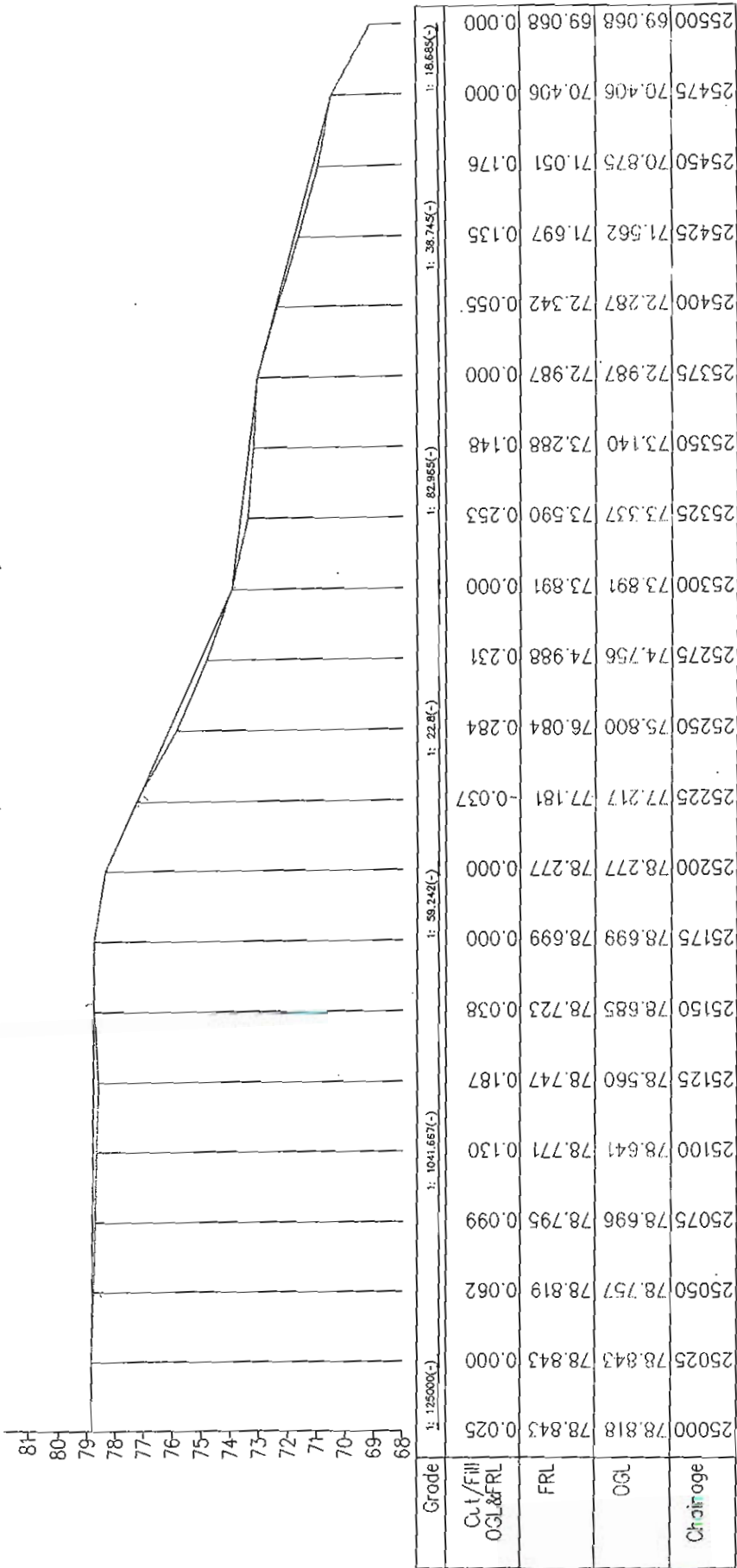
AEN

W/S -
ASS Consultant

Project Name:-

PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



LSection from Ch : 25000 to 25500

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LSection from Ch : 25000 to 25500

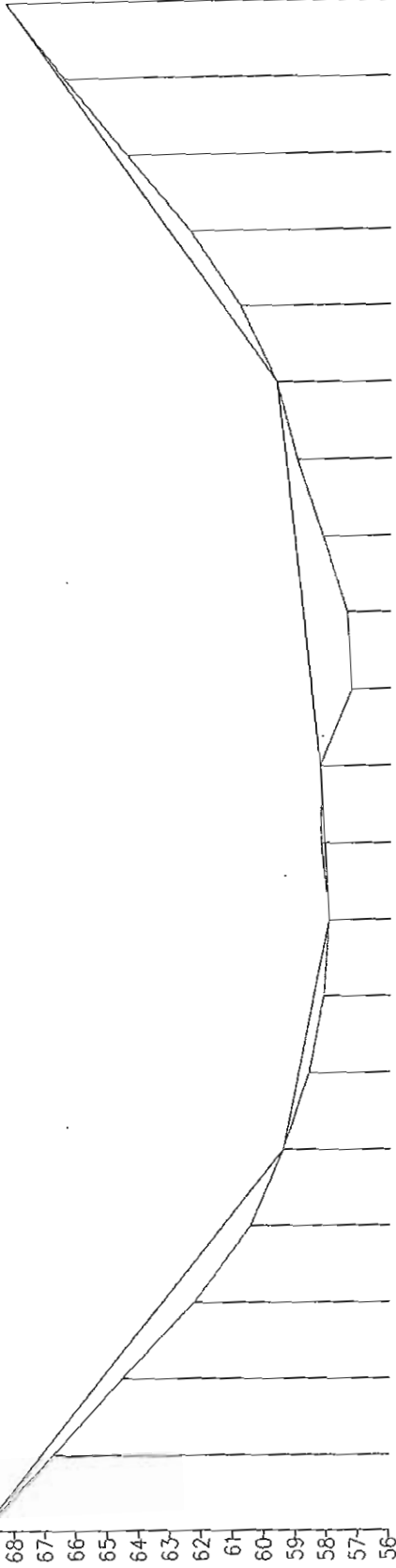
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M/S. -
ASS Consultant

Project Name: -
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

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Grade	1: 12.928(-)	1: 51.975(-)	1: 179.856(+)	1: 91.308(+)	1: 14.635(+)
Cut/Fill OGL&FRL	25500 69.068 69.068 0.000	25525 66.738 67.134 0.396	25550 64.535 65.201 0.666	25575 62.250 63.267 1.017	25600 60.439 61.334 0.895
FRL	25625 59.400 59.400 0.000	25650 58.592 58.919 0.327	25675 58.126 58.438 0.312	25700 57.957 57.957 0.000	25725 58.213 58.096 -0.117
OGL	25750 58.235 58.235 0.000	25775 57.214 58.509 1.295	25800 57.379 58.783 1.404	25825 58.156 59.056 0.900	25850 58.969 59.330 0.361
Chainage	25875 59.604 59.604 0.000	25900 60.762 61.312 0.550	25925 62.360 63.020 0.660	25950 64.345 64.729 0.384	25975 66.316 66.437 0.121
	26000 68.145 68.145 0.000				

LSection from Ch : 25500 to 26000

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LSection from Ch : 25500 to 26000

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M/S:-
ASS Consultant

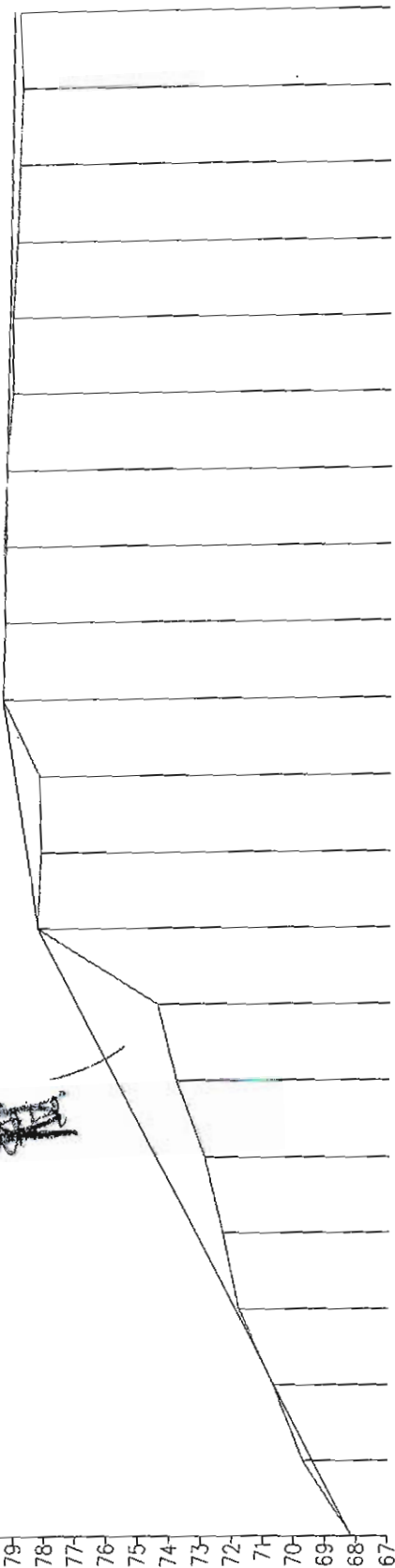
Project Name:-

PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

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Grade	1: 19.857(+)	1: 66.857(+)	1: 445.434(-)
Cut/Fill OGL&FRL			
FRL			
OGL			
Chainage			
26000	68.145	0.000	
26025	69.709	-0.307	
26050	70.684	-0.025	
26075	71.796	0.120	
26100	72.309	0.865	
26125	72.892	1.539	
26150	73.796	1.892	
26175	74.381	2.564	
26200	78.202	0.000	
26225	78.120	0.457	
26250	78.156	0.796	
26275	79.327	0.000	
26300	79.245	0.026	
26325	79.281	-0.066	
26350	79.179	-0.020	
26375	78.957	0.146	
26400	78.957	0.089	
26425	78.797	0.193	
26450	78.702	0.232	
26475	78.594	0.284	
26500	78.654	0.168	

LSection from Ch : 26000 to 26500

LSection from Ch : 26000 to 26500

JEC

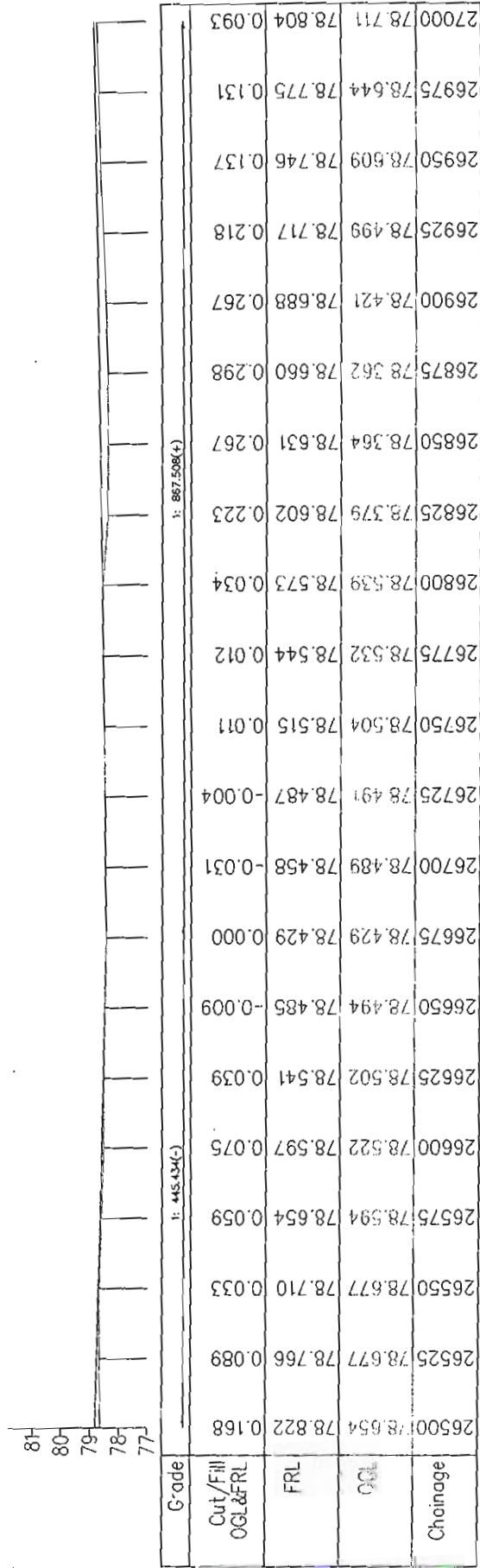
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XEN

M/S:-
ASS Consultant

Project Name:-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



LSection from Ch : 26500 to 27000

LSection from Ch : 26500 to 27000

JEC

AEN

XEN

Project Name: -

RAIL ROAD

M/S:-
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road

Stationing	Chainage	OG	FRL	Cut/Fill	OG & FRL
27000	78.111	78.804	0.093		
27025	78.769	78.832	0.063		
27050	78.844	78.861	0.017		
27075	78.837	78.890	0.053		
27100	78.854	78.919	0.065		
27125	79.013	78.948	-0.065		
27150	78.991	78.977	-0.014		
27175	78.999	79.005	0.006		
27200	79.034	79.034	0.000		
27225	79.063	79.063	0.000		
27250	79.053	79.092	0.039		
27275	78.934	79.120	0.186		
27300	78.891	79.149	0.258		
27325	78.884	79.177	0.293		
27350	78.945	79.206	0.261		
27375	79.080	79.235	0.155		
27400	79.021	79.263	0.242		
27425	79.147	79.292	0.145		
27450	79.262	79.320	0.058		
27475	79.464	79.349	-0.115		
27500	79.454	79.377	-0.077		

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JEC

NEX

5

Project Name: -

PWD ROAD

LSection from Ch : 27000 to 27500

Chainage	OGL	FRL	Cut/Fill OGL&FRL	Grade
27000	78.111	78.804	0.093	77
27025	78.769	78.832	0.063	78
27050	78.844	78.861	0.017	79
27075	78.837	78.890	0.053	80
27100	78.854	78.919	0.065	81
27125	79.013	78.948	-0.065	82
27150	78.991	78.977	-0.014	
27175	78.999	79.005	0.006	
27200	79.034	79.034	0.000	
27225	79.063	79.063	0.000	
27250	79.053	79.092	0.039	
27275	78.934	79.120	0.186	
27300	78.891	79.149	0.258	
27325	78.884	79.177	0.293	
27350	78.945	79.206	0.261	
27375	79.080	79.235	0.155	
27400	79.021	79.263	0.242	
27425	79.147	79.292	0.145	
27450	79.262	79.320	0.058	
27475	79.464	79.349	-0.115	
27500	79.454	79.377	-0.077	

L-SECTION OF Karanpur TO Mandrayal Road

Chainage	FRL	OGL	GL
28000	80.288	79.949	-0.339
28025	80.205	79.978	-0.227
28050	80.256	80.006	-0.250
28075	80.331	80.035	-0.296
28100	80.398	80.064	-0.334
28125	80.373	80.092	-0.281
28150	80.323	80.121	-0.202
28175	80.232	80.149	-0.083
28200	80.116	80.178	0.062
28225	80.063	80.207	0.144
28250	80.016	80.235	0.219
28275	79.974	80.264	0.290
28300	79.944	80.292	0.348
28325	79.964	80.321	0.357
28350	79.931	80.349	0.418
28375	79.991	80.378	0.387
28400	80.056	80.407	0.351
28425	80.149	80.435	0.286
28450	80.276	80.464	0.188
28475	80.408	80.492	0.084
28500	80.521	80.521	0.000

L-Section from Ch : 28000 to 28500

M/S:-
ASS Consultant

LSection from Ch : 28000 to 28500

Project Name: -
PWD ROAD

JEC

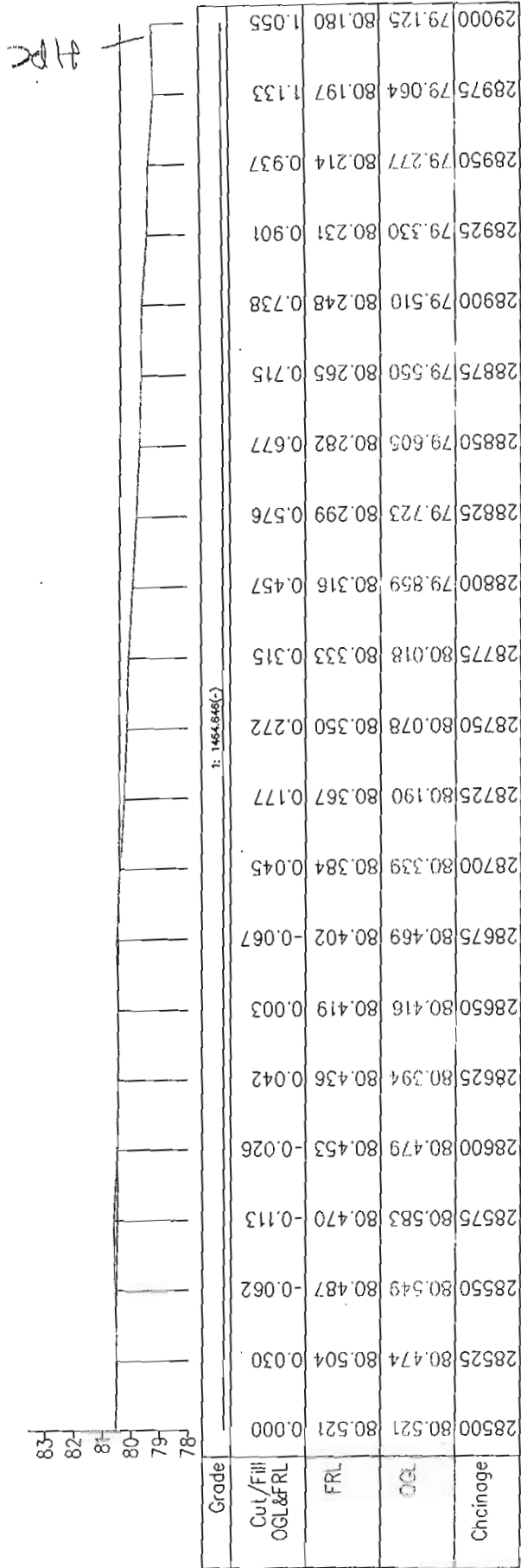
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LSection from Ch : 28000 to 28500

Chainage	OG	FRL	Cut/Fill OG&FRL	Grade
28000	80.288	79.949	-0.339	78
28025	80.205	79.978	-0.227	79
28050	80.256	80.006	-0.250	80
28075	80.331	80.035	-0.296	81
28100	80.398	80.064	-0.334	82
28125	80.373	80.092	-0.281	83
28150	80.323	80.121	-0.202	84
28175	80.232	80.149	-0.083	85
28200	80.116	80.178	0.062	86
28225	80.063	80.207	0.144	87
28250	80.016	80.235	0.219	88
28275	79.974	80.264	0.290	89
28300	79.944	80.292	0.348	90
28325	79.964	80.321	0.357	91
28350	79.931	80.349	0.418	92
28375	79.991	80.378	0.387	93
28400	80.056	80.407	0.351	94
28425	80.149	80.435	0.286	95
28450	80.276	80.464	0.188	96
28475	80.408	80.492	0.084	97
28500	80.521	80.521	0.000	98

L-SECTION OF Karanpur TO Mandrayal Road



LSection from Ch : 28500 to 29000

LSection from Ch : 28500 to 29000

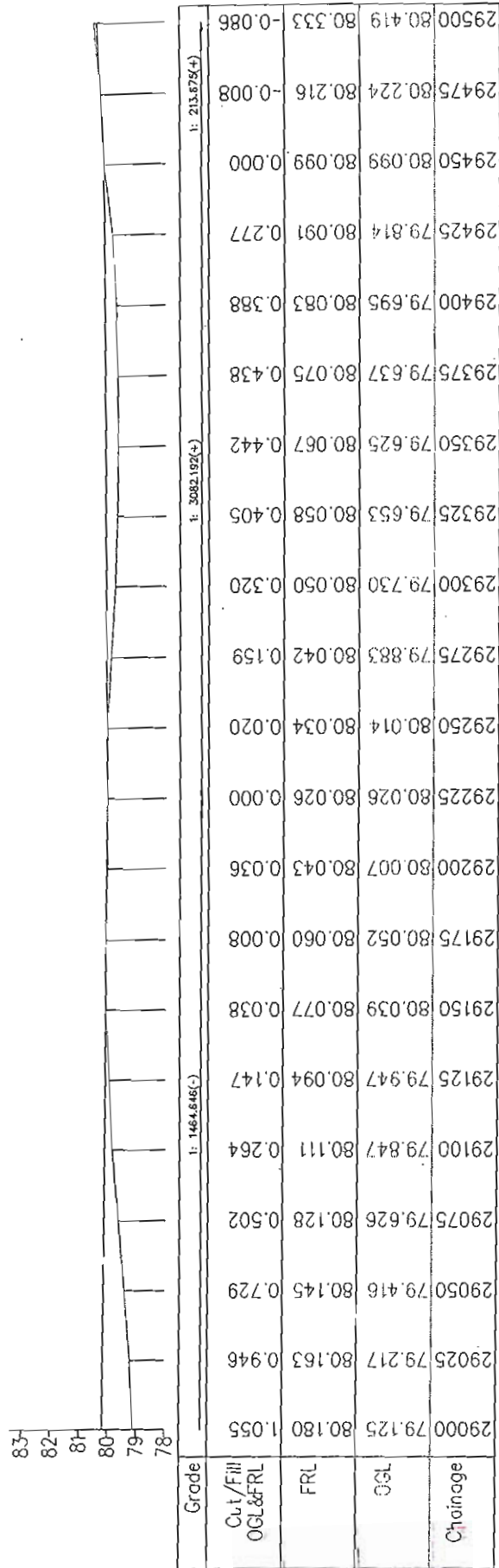
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28500

Project Name :-
PWD ROAD

M/S :-
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road



Section from Ch : 29000 to 29500

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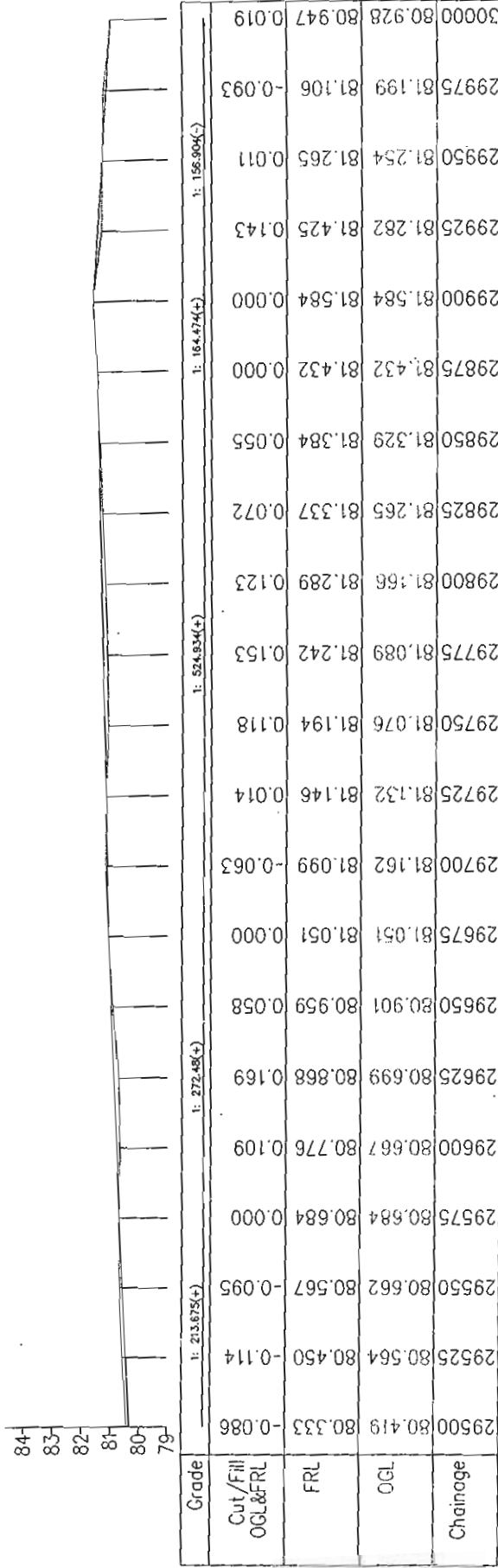
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825

Project Name: -
PWD ROAD

W/S:-
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road



LSection from Ch : 29500 to 30000

LSection from Ch : 29500 to 30000

JEC

AEN

XEN

Project Name :-

PWD ROAD

M/S:-
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road

Chainage	30000	80.928	80.947	0.019	30025	80.747	80.787	0.040	30050	80.628	80.628	0.000	30075	80.406	80.489	0.083	30100	80.248	80.349	0.101	30125	80.210	80.210	0.000	30150	79.936	80.013	0.077	30175	79.667	79.816	0.148	30200	79.568	79.618	0.050	30225	79.421	79.421	0.000	30250	79.211	79.208	-0.003	30275	78.995	78.995	0.000	30300	78.708	78.812	0.104	30325	78.343	78.629	0.286	30350	78.021	78.447	0.426	30375	77.983	78.264	0.281	30400	77.973	78.081	0.108	30425	77.898	77.898	0.000	30450	78.007	77.969	-0.038	30475	78.065	78.041	-0.024	30500	78.112	78.112	0.000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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LSection from Ch : 30000 to 30500

LSection from Ch : 30000 to 30500

JEC

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XEN

M/S:-
ASS Consultant

Project Name:-
PWD ROAD

81
80
79
78
77
76
75

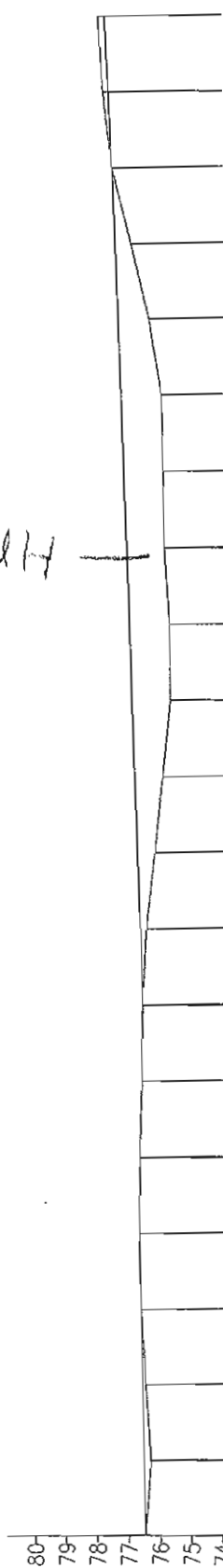


LSection from Ch : 30500 to 31000

 NEX

Project Name: -
FWD ROAD

214

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LSection from Ch : 31000 to 31500

LSection from Ch : 31000 to 31500

JEC

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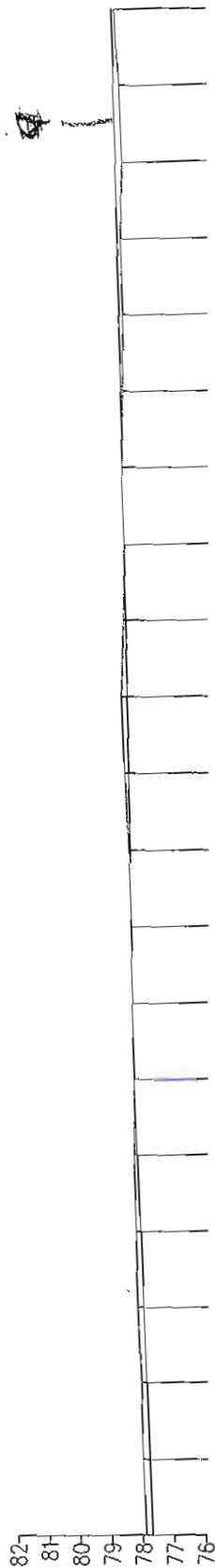
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M/S:-
ASS Consultant

Project Name: ~
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

82
81
80
79
78
77
76



Grade	1: 234.467(+)		1: 552.783(+)	
Cut/Fill OGL&FRL				
FRL	77.697	-0.206	77.903	78.971
OGL	77.903	-0.206	78.047	78.971
Chainage	31500	31525	31550	31575
	77.903	78.047	78.091	78.228
	-0.206	-0.243	-0.180	-0.211
	77.697	77.911	78.124	78.282
	-0.158	-0.158	-0.158	-0.158
	78.230	78.230	78.230	78.230
	-0.100	-0.100	-0.100	-0.100
	78.337	78.337	78.337	78.337
	0.000	0.000	0.000	0.000
	78.382	78.382	78.382	78.382
	0.003	0.003	0.003	0.003
	78.424	78.424	78.424	78.424
	0.004	0.004	0.004	0.004
	78.473	78.473	78.473	78.473
	-0.052	-0.052	-0.052	-0.052
	78.518	78.518	78.518	78.518
	-0.127	-0.127	-0.127	-0.127
	78.563	78.563	78.563	78.563
	-0.175	-0.175	-0.175	-0.175
	78.609	78.609	78.609	78.609
	-0.067	-0.067	-0.067	-0.067
	78.654	78.654	78.654	78.654
	0.003	0.003	0.003	0.003
	78.699	78.699	78.699	78.699
	-0.002	-0.002	-0.002	-0.002
	78.744	78.744	78.744	78.744
	0.068	0.068	0.068	0.068
	78.790	78.790	78.790	78.790
	0.122	0.122	0.122	0.122
	78.835	78.835	78.835	78.835
	0.109	0.109	0.109	0.109
	78.880	78.880	78.880	78.880
	0.202	0.202	0.202	0.202
	78.925	78.925	78.925	78.925
	0.172	0.172	0.172	0.172
	78.971	78.971	78.971	78.971
	0.068	0.068	0.068	0.068

LSection from Ch : 31500 to 32000

LSection from Ch : 31500 to 32000

JEC

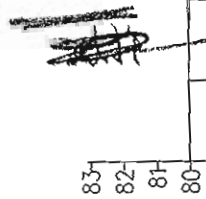
AEN

XEN

M/S:-
ASS Consultant

Project Name:-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 8.6478(+)		1: 1.338256(-)		1: 402.865(+)	
	Cut/Fill	OG	L	R	Cut/Fill	OG
Chairage	32500 79.987	80.033	0.046	32525 80.062	80.062	0.000
	32550 80.110	80.043	-0.067	32575 80.102	80.025	-0.077
	32600 80.006	80.006	0.000	32625 79.906	79.944	-0.038
	32650 79.719	79.882	0.163	32675 79.597	79.820	0.223
	32700 79.537	79.758	0.221	32725 79.430	79.696	0.266
	32750 79.407	79.634	0.227	32775 79.270	79.572	0.302
	32800 79.167	79.510	0.343	32825 79.089	79.448	0.359
	32850 79.007	79.385	0.378	32875 79.079	79.323	0.244
	32900 79.211	79.261	0.050	32925 79.056	79.199	0.143
	32950 79.096	79.137	0.041	32975 79.054	79.075	0.021
	33000 79.003	79.013	0.010			

LSection from Ch : 32500 to 33000

LSection from Ch : 32500 to 33000

JEC

AEN

[Signature]
XEN

M/S:-
ASS Consultant

Project Name: -
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

82-
81-
80-
79-
78-
77-

Grade	1: 402.865(-)	1: 1052.632(-)
Out/Fill OGL&FRL	33000 79.003 79.013 0.010	33025 78.982 78.951 -0.031
FRL	33050 78.889 78.889 0.000	33075 78.894 78.865 -0.029
OGL	33100 78.861 78.842 -0.020	33125 78.815 78.818 0.003
Chainage	33150 78.616 78.794 0.178	33175 78.576 78.770 0.194
	33200 78.597 78.747 0.150	33225 78.505 78.723 0.218
	33250 78.408 78.699 0.291	33275 78.457 78.675 0.218
	33300 78.547 78.652 0.105	33325 78.525 78.628 0.103
	33350 78.535 78.604 0.069	33375 78.595 78.580 -0.015
	33400 78.540 78.557 0.016	33425 78.556 78.533 -0.023
	33450 78.522 78.509 -0.013	33475 78.470 78.485 0.015
	33500 78.503 78.462 -0.041	

LSection from Ch : 33000 to 33500

W/XEN

LSection from Ch : 33000 to 33500

JEC

AEN

M/S:-
ASS Consultant

Project Name:-
PWD ROAD

L-SECTION OF Karanpur TO Mandrayal Road

81
80
79
78
77

Grade	1: 1052.632(-)		1: 15178.57(-)		1: 781.25(-)	
Cut/Fill OGL&FRL	33500	78.503	78.462	-0.041	33525	78.462
FRL	33525	78.462	78.438	-0.024	33550	78.414
OGL	33575	78.393	78.412	0.019	33600	78.365
Chainage	33600	78.365	78.411	0.046	33625	78.340
	33625	78.340	78.409	0.069	33650	78.277
	33650	78.277	78.407	0.130	33675	78.394
	33700	78.391	78.404	0.013	33725	78.360
	33725	78.360	78.402	0.042	33750	78.324
	33775	78.360	78.399	0.039	33800	78.370
	33825	78.360	78.396	0.036	33850	78.330
	33875	78.332	78.393	0.061	33900	78.190
	33925	78.171	78.389	0.218	33950	78.276
	33975	78.386	78.386	0.000	34000	78.383
	34000	78.383	78.354	-0.029		

LSection from Ch : 33500 to 34000

LSection from Ch : 33500 to 34000

JEC AEN

[Signature]
XEN

Project Name: -
PWC ROAD

M/S:-
ASS Consultant

L-SECTION OF Karanpur TO Mandrayal Road



Grade	1: 781.25(-)	1: 230.061(-)	1: 197.889(-)
Cut/Fill OGL&FRL	34000 78.383 -0.029	34025 78.310 78.322 0.012	34050 78.290 78.290 0.000
FRL	34075 78.093 78.181 0.088	34100 77.836 78.073 0.237	34125 77.676 77.964 0.288
OGL	34150 77.632 77.855 0.223	34175 77.660 77.747 0.087	34200 77.638 77.638 0.000
Chainage	34225 77.499 77.512 0.013	34250 77.341 77.385 0.044	34275 77.259 77.259 0.000

LSection from Ch : 34000 to 34275

LSection from Ch : 34000 to 34275	JEC	AEN	XEN	M/S:- ASS Consultant

Linear Chart

Name of Road : Karanpur-Rondhai-Mandrail-Onndh-Chandelipura-Sirmathura-Sonekagurja-Dholpur Road
Category : MDR-3 A (0 at Karanpur)

Distt. Karauli
Div. Sapatra

Kms.		1	2	3	4	5	6	7	8	9	10
Shoulders	From Width										
		Shoulders									
Village		Toda									

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INDEX

Block Topped

W.B.M

Gravel Road

Fair Weather

Assistant Engineer
PWD Sub Div. Mandrail

Superintending Engineer
PWD Circle, Karauli

Linear Chari

Name of Road : Karanpur-Rondhai-Mandrail-Onndh-Chandelipura-Sirmathura-Sonekagurja-Dholpur Road
Category : MDR-3 A
(0 At Karanpur)

Distt. : Karauli
Div. : Sapotra

	11	12	13	14	15	16	17	18	19	20
Kms.										
Shoulders										
From										
Width										
Shoulders										
Village						Kased				Arora

CW

3.00
3.75
4.25
5.50

1	CW Width	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2	Shoulder +CW	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
3	Formation Width	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
4	Roac Boundary	15	15	15	15	15	15	15	15	15
5	Crust Thickness	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm
6	Year of Construction	1988	1988	1988	1988	1988	1988	1988	1988	1988
7	Year of last Renewal	2005	2005	2005	2005	2005	2005	2005	2005	2009
8	Type of Renewal	PMC	PMC	PMC	PMC	BM	BM	BM	BM	BM
9	PCU Per Day	6032	6032	6032	6032	6032	6032	6032	6032	6032
10	CVD	593	593	593	593	593	593	593	593	593
11	Sanctioned in Scheme									
12	Proposed in Scheme									
13	Block	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra
14	MLA Constituency	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra
15	PWD Div.	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra

CRF

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Block Topped
W.B.M
Gravel Road
Fair Wheather

Assistant Engineer
PWD Sub Div. Mandrail


Executive Engineer
PWD Div. Sapotra

Superintending Engineer
PWD Circle, Karauli

Linear Chart

Name of Road : Karanpur-Rondhai-Mandrail-ONDH-Chandelpura-Sirmathura-Sonekagurja-Dholpur Road
Category : MDR-3 A (0 At Karanpur)

Distt. : Karauli
Div. : Karauli

↑	Kms.	21	22	23	24	25	26	27	28	29	30	
Shoulders												
From												
Width												
Shoulders												
Village					Rondhai							

CW

3.00
3.75
4.25
5.50

1	C/W Width	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	
2	Shoulder +CW	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	
3	Formation Width	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	
4	Road Boundary	15	15	15	15	15	15	15	15	15	15	
5	Crust Thickness	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm	325 mm	
6	Year of Construction	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	
7	Year of last Renewal	2009	2009	2009	2009	2009	2009	2017	2017	2017	2010	
8	Type of Renewal	PMC	PMC	PMC	PMC	PMC	PMC	PMC	PMC	PMC	BM	
9	PCU Per Day	6032	6032	6032	6032	6032	6032	6032	6032	6032	6032	
10	CVD	593	593	593	593	593	593	593	593	593	593	
11	Sanctioned in Scheme											
12	Proposed in Scheme											
13	Block	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	
14	MLA Constituency	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	
15	PWD Div.	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	Sapotra	

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Block Topped
W.B.M
Gravel Road
Fair Wheather

Assistant Engineer
PWD Sub Div. Mandrail

Executive Engineer
PWD Div. Sapotra

Superintending Engineer
PWD Circle, Karauli

Name of Road : Karanpur-Rondhai-Mandrail-Onndh-Chandelipura-Sirmathura-Sonekagurja-Dholpur Road
Category : MDR-3 A (0 At Karanpur)

Distt. : Karauli
Div. : Karauli

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1	CW Width	3.75	3.75	3.75	3.75					
2	Shoulder +CW	7.50	7.50	7.50	7.50					
3	Formation Width	7.5	7.5	7.5	7.5					
4	Road Boundary	15	15	15	15					
5	Crust Thickness	325 mm	325 mm	325 mm	325 mm					
6	Year of Construction	1988	1988	1988	1988					
7	Year of last Renewal	2010	2010	2010	2010					
8	Type of Renewal	BM	BM	BM	BM					
9	PCU Per Day	6032	6032	6032	6032					
10	CVD	593	593	593	593					
11	Sanctioned in Scheme									
12	Proposed in Scheme		CRF							
13	Block	Sapotra	Sapotra	Sapotra	Sapotra					
14	MLA Constituency	Sapotra	Sapotra	Sapotra	Sapotra					
15	PWD Div.	Sapotra	Sapotra	Sapotra	Sapotra					

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Assistant Engineer
PWD Sub Div. Mandrail

Superintending Engineer
PWD Circle, Karauli

Traffic Cencus

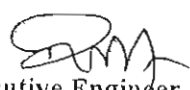
Name of work : Strengthening & Renewal of Mandrail-Karanpur Road (MDR-3A) Km. 0/00 to 34/0

S.No.	Type of vehicle	P.C.U. Factor	Traffic Per Day	Total PCU	Remarks
1	Car-Jeep, Vans, Three Wheelers	1	620	620.00	
2	Motorised two wheelers	0.5	1760	880.00	
3	Light commercial Vehicle	1.5	150	225.00	
4	Tractors	3	485	1455.00	
5	Agriculture Tractor Trolley	1.5	334	501.00	
6	Bus	3	71	213.00	
7	Cycles	0.5	1120	560.00	
8	Cycle Rickshaw	2	30	60.00	
9	Animal Drawn Vehicle	6	215	1290.00	
10	Multi Axle Truck/ Truck Tractor/Tanker	6	38	228.00	
	Total	25	4823	6032.00	

CPVD 259
PCU 6032


Assistant Engineer
PWD Sub Div.-Karanpur/Mandrail


Superintending Engineer
PWD Circle Karauli


Executive Engineer
PWD Div. Sapotra

**Name of work : Strengthening & Renewal of Mandrail-Karanpur Road
(MDR-3A) on Km. 0/00 to 34/0**

**Details/Abstract
Part - "A" Road Work**

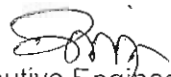
S. No.	Particular	No.	L	B	H	Qty.
1 (2.5)	Clearing grass and removal of rubbish (maximum 150 mm) upto a distance of 100 mtrs. outside the periphery of the area cleared-by manual means. Km. 00/00 to 34/0	2	33300.00	5.00		333000.0 Sqm
		33.30		@	OR ✓ 10925.00 P. Hect	33.30 Hect 363803.00
2	Earth work in excavation including (3.3.2.2) stacking/ disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth (MoRTH specification Clause 301 to 305). In hard soil. mechanically using bull dozer, F.E. loader and carriage upto 1 km by tipper/dumper. Hoda Cutting Km. 0/00 to 34/0 (As per Calculation Sheet)	2	22900.00	2.00	0.20	18320.00 Cum
		46676.32		@	✓ 40.00 P. Cum	28356.32 Cum 46676.32 Cum 1867053.00
3 (3.20)	Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a lead upto 1000 m as per Technical Specification Clause 301.5. _do_ with lead 500mtr to 1000 mtr Km. 00/00 to 34/0 (As per Calculation Sheet)	217567.46		@	✓ 99.00 P. Cum	217567.46 Cum 21539179.00

S. No.	Particular	No.	L	B	H	Qty.
4 (4.3)	Providing, laying, spreading and compacting specified graded Crushed aggregates as granular sub base course as per Table 400-1,400-2 or any other coarse material as per design mix, as per CBR, including premixing the material at OMC in mechanical mixer(Pug mill), carriage of mixed material spreading in uniform layers with motor grader, F.E loader on a prepared base and compacting with vibratory roller to achieve desired density (as per I.S.2720) including all material, labour, machinery, lighting, guarding, barricading and maintenance of diversion complete.[MoRTH specification : Clause 401] by mechanical means with all lead.					
	Km. 00/00 to 34/0	2	33300.00	2.50	0.15	24975.00 Cum
	For Grade Improvement (Sheet Enclosed)	1	10400.00	7.50	0.20	15600.00 Cum
	Hoda	2	22900.00	1.95	0.20	17862.00 Cum
			58437.00	@	✓ 690.00	58437.00 Cum
			Cum		P. Cum	40321530.00
5 (5.2)	Providing, laying, spreading and compacting crushed graded stone aggregate of as per table 400-10 and 400-11 to Wet Mix Macadam specification including premixing the material with water to OMC in mechanical mixer as per approved design mix, carriage of mixed material by Tipper to site, laying in uniform layers with motor grader/F.E. Loader/paver finisher in sub base / base course on a well prepared under base and compacting with vibratory roller to achieve the desired density including lighting, guarding, barricading and maintenance of diversion etc. (MoRTH specification : Clause 406) by mechanical means with all lead					
	Surface Correction	1	31400.00	7.25	0.25	56912.50 Cum
	Under CC Surface Ch. 0/0 to 0/700	1	22900.00	3.75	0.10	601.13 Cum
	Ch. 15/800 to 16/100	1	700.00	7.25	0.15	761.25 Cum
	Ch. 23/900 to 24/200	1	300.00	7.25	0.15	326.25 Cum
	Ch. 31/800 to 32/100	1	300.00	7.25	0.15	326.25 Cum
	Ch. 33/700 to 34/00	1	300.00	7.25	0.15	326.25 Cum
			59579.88	@	✓ 1350.00	59579.88 Cum
					P. Cum	80432833.00

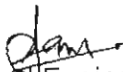
S. No.	Particular	No.	L	B	H	Qty.
6 (2.9.2.1)	Dismantling of flexible pavements and disposal of dismantled materials upto a lead of 1000 metres, scaking serviceable and unserviceable materials separately as per MoRTH specification clause : 202. By Mechanical Means, Bituminous courses	1	33300.00	3.75	0.03	3746.25 Cum
			3746.25	@	150.00	561938.00
			Cum		P. Cum	
7 (6.4.2)	Providing and applying primer coat over prepared surface or granular base with bitumen emulsion as per IS: 8887 & manufacturer's specifications @ 6 kg /10 sqm with a self propelled or towed bitumen pressure sprayer equipped for spraying the material uniformly at specified rates and temperatures including cleaning of road surface as per MoRTH specification Clause-502,112. Add extra to above item per 1 Kg Extra in Emulsion per 10 Sqm 8.50 Kg/10 Sqm	1	31400.00	7.25		227650.00 Sqm
			227650.00	@	22.00	5008300.00
			Sqm		P. Sqm	
8 (6.5.1.2)	Providing and applying tack coat with bitumen emulsion on the prepared surface including cleaning as per IS : 8887 & manufacturer's specifications @ 2 kg /10sqm with a self propelled or towed bitumen pressure sprayer equipped for spraying the material uniformly at specified rates and temperatures as per MoRTH specification Cl.503,112. Add extra to above item per 2.75 Kg extra in emulsion per 10 sqm	1	31400.00	7.00		219800 Sqm
			219800.00	@	8.55	1879290.00
			Sqm		P. Sqm	

S. No.	Particular	No.	L	B	H	Qty.
9 (6.12.2)	Providing and laying Dense Bituminous Macadam on prepared surface with specified graded crushed aggregates as per table 510 and design mix for base/binder course including loading of material with F.E loader, heating of binder (including cost of antistripping compound wherever required) aggregate and filler in hot mix plant 40-60 TPH transporting the mixed material by tippers and laying with sensor paver finisher as per clause 507.3.5 to the required level and grade, rolling by self propelled power rollers and vibratory rollers or pneumatic tyred roller 150-250KN. TP=0.7MPa to achieve the desired density (approved by the department) but excluding cost of primer/tack coat. [MoRTH Specification : Clause 507,112] with 4.50 % Bitumen with all lead. with bitumen grade VG-30	1	31400.00	7.00	0.05	10990.00 Cum
		10990.00	@	5707.00		62719930.00
		Cum		P. Cum		
10 (6.13.1a)	Providing and laying bituminous concrete as per design mix on prepared surface with specified graded stone as per table 500 - 18 for wearing course including loading of aggregate with F.E. Loader and hot mixing of binder (including cost of anti-stripping compound, wherever required) and 3% cement filler with aggregates in hot mix plant 40-60 TPH Transporting the mix material with tipper to paver and laying with sensor paver finisher (as per clause 507.3.5) to the required level, grades and rolling with vibratory compactor and pneumatic tyred roller 150 - 250 KN, TP = 0.7 MPa, to achieve the desired density (approved by the department) excluding cost of primer/tack coat (MoRTH Specification : Clause -509,112) with all lead. 30-45 mm compacted thickness with 6% binder grading - 2 with all lead of mix material. a) With straight run bitumen grade VG-30	1	31400.00	7.00	0.04	8792.00 Cum
		8792.00	@	7235.00		63610120.00
		Cum		P. Cum		
				Total		278303981.00

Assistant Engineer
PWD Sub Div. Karanpur/Mandrail


Executive Engineer
PWD Div.- Sapotra

S. No.	Particular	No.	L	B	H	Qty.
11	Add extra for adding Shreaded Plastic					
chap. 6	Waste as per Guidelines envisaged in					
16.17-	IRC : SP 98-2013 over item of (Bitumen					
A) NH	Concrete) @ 8% of the quantity of					
BSR	Bitumen by weight including mixing of					
	aggregate and plastic waste in Hot Mix					
	Plant (the bitumen content will be as per					
	respective Clause of MoRTH					
	Specification.)					
		1	31400.00	7.00	0.04 0.15	1318.80 Cum
			1318.80	@	288.00	379814.00
			Cum		P. Cum	
					Total	278683795.00


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail

Executive Engineer
 PWD Div.- Sapotra

Name of work : Strengthening & Renewal of Mandrail-Karanpur Road

(MDR-3A) on Km. 0/00 to

Raising Sheet

Ch.	to	Ch.	Total
525	to	675	150
775	to	850	75
1025	to	1175	150
1225	to	1350	125
1425	to	1450	25
2225	to	2375	150
2550	to	2675	125
3625	to	3750	125
4050	to	4325	275
4400	to	4600	200
4675	to	4875	200
5100	to	5375	275
5475	to	5625	150
5800	to	5925	125
5925	to	5975	50
6000	to	6050	50
6100	to	6400	300
6500	to	6650	150
6675	to	6875	200
7000	to	7100	100
7125	to	7300	175
7350	to	7425	75
8000	to	8075	75
8125	to	8225	100
8250	to	8350	100
8800	to	8925	125
9025	to	9225	200
9425	to	9500	75
9600	to	9700	100
9825	to	10075	250
10100	to	10150	50
10200	to	10250	50
10425	to	10650	225
11300	to	11375	75
11500	to	11700	200
12700	to	12850	150
13075	to	13250	175
13400	to	13525	125
13850	to	13900	50
14175	to	14225	50
14700	to	14800	100
15075	to	15150	75
15175	to	15275	100
15500	to	15625	125
15775	to	15950	175
16050	to	16200	150
16850	to	16975	125
17075	to	17175	100
17375	to	17475	100
17575	to	17675	100
17775	to	17925	150
18050	to	18250	200
18275	to	18425	150
18650	to	18725	75
18800	to	18450	-350
19000	to	19100	100
19225	to	19350	125

Ch.	to	Ch.	Total
			7025
20900	to	21050	150
21625	to	21775	150
22425	to	22500	75
22800	to	22850	50
23000	to	23125	125
23175	to	23300	125
23500	to	24125	625
24775	to	24825	50
24900	to	24975	75
25500	to	25950	450
26075	to	26275	200
28200	to	28475	275
28700	to	29150	450
29250	to	29450	200
30275	to	30400	125
31175	to	31425	250
			10400

Sum
225000

Name of work : Strengthening & Renewal of Mandrail-Karanpur Road

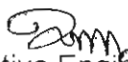
(MDR-3A) on Km. 0/00 to 34/0

Details/Abstract Part - "B" CC Pavement

S. No.	Particular	No.	L	B	H	Qty.
1 (9.1)	Construction of dry lean cement concrete sub- base over a prepared sub - grade with coarse and fine aggregate conforming to IS : 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15 : 1, aggregate gradation after blending to be as per Table 600 -1, cement content not to be less than 150 Kg/Cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant as per mix design, transported to site, laid with a hydrostatic paver with electronic sensor, compacting with 8 -10 tonne vibratory roller, finishing and curing complete as per MoRTH specification clause 601.					
	Under CC Surface Ch. 0/0 to 0/700	1	700.00	7.25	0.10	507.50 Cum
	Ch. 15/800 to 16/100	1	300.00	7.25	0.10	217.50 Cum
	Ch. 23/900 to 24/200	1	300.00	7.25	0.10	217.50 Cum
	Ch. 31/800 to 32/100	1	300.00	7.25	0.10	217.50 Cum
	Ch. 33/700 to 34/00	1	300.00	7.25	0.10	217.50 Cum
		1377.50	@	2404.00		1377.50 Cum
		Cum		P. Cum		3311510.00
2 (9.3)	Construction of un-reinforced, dowel jointed at expansion and construction joint only, plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 602.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion, construction joints, applying debonding strips, primer, sealant, dowel bars, near approaches to bridge/culvert and construction joints, admixtures as approved, curing of concrete slabs for 14-days, using curing compound and water finishing to lines and grade as per drawing and MoRTH Specification Clause 602 including vaccum dewatering process with all required equipments					
	Under CC Surface Ch. 0/0 to 0/700	1	700.00	7.00	0.30	1470.00 Cum

S. No.	Particular	No.	L	B	H	Qty.
	Ch. 15/800 to 16/100	1	300.00	7.00	0.30	630.00 Cum
	Ch. 23/900 to 24/200	1	300.00	7.00	0.30	630.00 Cum
	Ch. 31/800 to 32/100	1	300.00	7.00	0.30	630.00 Cum
	Ch. 33/700 to 34/00	1	300.00	7.00	0.30	<u>630.00</u> Cum
						3990.00 Cum
		3990.00		@	✓ 5178.00	<u>20660220.00</u>
		Cum			P. Cum	
					Total	23971730.00


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra

**Name of work : Strengthening & Renewal of Mandrail-Karanpur Road
(MDR-3A) on Km. 0/00 to 34/0**

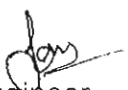
Details/Abstract
Box Culvert (5.00x5.00m) (Ch. 1/200, 2/400)

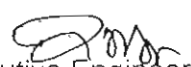
S. No.	Particular	No.	L	B	H	Qty.
1 (B-1.1.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305 In ordinary soil Depth upto 3 metre BOX CELL CURTAIN WALL Toe Walls	1.00 1.00 1.00 4.00	29.50 29.50 29.50 30.00	7.80 1.80 2.00 0.80	1.50 2.00 2.50 0.90	345.15 Cum 106.20 Cum 147.50 Cum <u>86.40</u> Cum 685.25 Cum
		685.25 Cum		@	✓ 190.00 P. Cum	130198.00
2 (B2.3.1)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. P.C.C. grade M15 BOX CELL CURTAIN WALL Toe Walls	1.00 1.00 1.00 4.00	29.50 29.50 29.50 30.00	12.70 1.65 1.85 0.80	0.10 0.10 0.10 0.10	37.47 Cum 4.87 Cum 5.46 Cum <u>9.60</u> Cum 57.39 Cum
		57.39 Cum		@	✓ 3980.00 P. Cum	228412.00
3 (B2-3.7)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. R.C.C. grade M20 CURTAIN WALL	1.00 1.00 1.00 1.00	29.50 29.50 29.50 29.50	1.25 1.45 0.58 0.66	0.35 0.35 1.65 2.15	12.91 Cum 14.97 Cum 27.99 Cum <u>41.70</u> Cum 97.57 Cum
		97.57 Cum		@	✓ 4532.00 P. Cum	442187.00

S. No.	Particular	No.	L	B	H	Qty.
4 (B2-3.9)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. R.C.C. grade M30 BOX CELL	1.00 4.00	18.50 5.50	12.70 2.00	0.70 0.50	164.47 Cum <u>22.00</u> Cum 186.47 Cum
		186.47 Cum		@	✓ 4964.00 P. Cum	925637.00
5 (B3-3.9.1)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. R.C.C. grade M30 upto 5 metre height Middle wall of box Outer wall of box Wing Walls	2.00 2.00 18.00 4.00	12.50 12.50 12.50 5.50	0.60 0.70 0.23 0.50	4.40 4.40 0.45 5.10	66.00 Cum 77.00 Cum 22.78 Cum <u>56.10</u> Cum 221.88 Cum
		221.88 Cum		@	✓ 5216.00 P. Cum	1157326.00
6 (B4-1.2.1)	Structural Cement concrete upto a height of 5m for reinforced concrete in superstructure complete including steel formwork, scaffolding etc. as per drawing and technical specification as per MoRTH Specification 1500 & 1700 M 30 grade solid slab superstructure SLAB APPROACH SLAB	1.00 2.00	18.50 7.00	12.50 5.50	0.70 0.30	161.88 Cum <u>23.10</u> Cum 184.98 Cum
		184.98 Cum		@	✓ 5769.00 P. Cum	1067150.00
7 (B1.4)	Filter media behind abutment, wing wall and return wall, complete as per drawing and technical specification as per MoRTH Specification : Clause:2504 Behind Abutment Below Pitching	2.00 4.00	18.00 35.00	4.00 7.00	0.70 0.15	100.80 Cum 147.00 Cum 247.80 Cum
		247.80 Cum		@	✓ 650.00 P. Cum	161070.00

S. No.	Particular	No.	L	B	H	Qty.
8 (B2.3.8)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. R.C.C. grade M25 Toe Walls	4.00	30.00	0.43	1.50	76.50 Cum
		76.50		@	4922.00	376533.00
		Cum			P. Cum	
9 (B2.8.3)	Providing and fabricating steel reinforcement at any level including cutting, binding, placing in position and binding complete in foundation as per drawing and technical specification as per MoRTH Specification : Section: 1600 TMT Steel reinforcement Qty as per item no 3&8 Qty as per item no 4	(97.57+76.50) *7850*0.7/100*1/1000 146.47*7850*1.5/100*1/1000				9.57 P.Tone 17.25 P.Tone 26.81 P.Tone
		26.81		@	53630.00	1437820.00
		Tone			P. Tone	
10 (B3.5.3)	Steel reinforcement in substructure complete as per MoRTH Specification : Section 1600 TMT Steel reinforcement Qty as per item no 5&6	(221.88+184.98) *7850*1.5/100*1/1000 47.91		@	53630.00	47.91 P.Tone 2569413.00
		Tone			P. Tone	
11 (B3.12)	Providing A.C pipe Weep holes 150mm dia in Masonry/Plain Concrete/.Reinforced Concrete abutment, wing wall/return wall complete as per drawing and technical specification as per MoRTH Specification Clause 2205	4.00	29.00	1.00		116.00 Mtr
		116.00		@	210.00	24360.00
		Mtr			P. Mtr	
12 (B4.7)	Providing and laying reinforced Cement Concrete grade M30 design mix railing complete as per drawing and technical specification as per MoRTH Specification :1500, 1600 & 1700.	2.00	18.50			37.00 Mtr
		37.00		@	1161.00	42957.00
		Mtr			P. Mtr	

S. No.	Particular	No.	L	B	H	Qty.
13 (11.79.1)	Providing and laying pitching on slopes laid over prepared filter media as per drawing and technical specifications Clause 1302 Stone/Boulder	4.00	30.00	7.00	0.20	168.00 Cum
		168.00		@	1260.00	211680.00
		Cum			P. Cum	
					TOTAL	8774743.00
					For 2 Nos.	17549486.00


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra

**Name of work : Strengthening & Renewal of Mandrail-Karanpur Road
(MDR-3A) on Km. 0/00 to 34/0**

DETAILS & ABSTRACT

PART-C :- Box Culvert (1.50x1.50 Mtr)

(Ch. 2/600, 3/725, 4/175, 5/575, 5/900, 7/975, 8/800, 11/600, 18/150)

S.No	Item	No.	L	B	H	Qty.
1 (B-1.1.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305. In ordinary soil. Depth upto 3 metre	2	8.00	1.20	1.00	19.20 Cum
		19.20		@	190.00	3648.00
			Cum		P. Cum	
2 (B-2.3.1)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level.					
	P.C.C. grade M15	2	8.00	1.20	0.15	2.88 Cum
	Under Box	1	4.00	6.50	0.15	3.90 Cum
	Under Approach Slab	2	2.00	6.50	0.15	3.90 Cum
		10.68		@	3980.00	10.68 Cum
			Cum		P. Cum	42506.40
3 (B-2.3.7)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level.					
	R.C.C. grade M20	2	8.00	1.00	0.50	8.00 Cum
		3	6.50	0.75	0.30	4.39 Cum
	Approach Slab	2	2.00	6.50	0.20	5.20 Cum
		17.59		@	4532.00	17.59 Cum
			Cum		P. Cum	79717.88
4 (B-2.3.8)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level.					
	R.C.C. grade M 25	2	8.00	(0.60+0.30)/2	2.00	14.40
	Parapet	2	4.00	0.30	0.45	1.08

S.No	Item	No.	L	B	H	Qty.
	Ded.	4	1.62	1.62	0.45	-4.72
	Bearing Coat	1	4.00	6.70	0.15	<u>4.02</u>
						14.78 Cum
		14.78		@	4922.00	72747.16
		Cum			P. Cum	
5 (7.16.3)	Providing and laying Precast reinforced cement concrete Box culvert section of M-40 grade designed for 'AA' class loading as per IRC specifications including to effect of impact, EQ etc. complete on form base of 200mm thick lean concrete of M-10 grade with aggregate of size 40mm nominal of following internal size the work includes required safety measures construction of drain for diversion of flowing water cost of design of RCC Precast Box and its proof checking from IIT/MNIT Jaipur complete in all respect as per specifications. Size 1.50 M x 1.50 M	1	15.00			15.00 Mtr.
		15.00		@	24906.00	373590.00
		Mtr			P. Mtr	
6 (B-1.4)	Filter media behind abutment, wing wall and return wall, complete as per drawing and technical specification as per MoRTH Specification : Clause:2504	2	6.50	0.50	1.60	10.40 Cum
		10.40		@	650.00	6760.00
		Cum			P. Cum	
7 (B-2.8.3)	Providing and fabricating steel reinforcement at any level including cutting, binding, placing in position and binding complete in foundation as per drawing and technical specification as per MoRTH Specification : Section: 1600					
	TMT Steel reinforcement					
	Qty as per item no 3 &4	(17.59+14.78) *7850*1.0/100*1/1000				2.54 Tone
		2.54		@	53630.00	136220.20
		Tonne			P. Tonnes	
TOTAL						Total <u>715189.64</u>
						For 9 Nos. 6436706.76


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra

**Name of work : Strengthening & Renewal of Mandrail-Karanpur Road
(MDR-3A) on Km. 0/00 to 34/0**

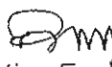
DETAILS & ABSTRACT

PART-D :- HP Culvert (Ch. 0/625, 4/550, 4/775, 5/250, 6/225, 6/575, 6/775, 9/150, 9/950, 12/800, 13/450, 14/225, 15/275, 16/925, 23/050, 23/600, 23/800, 29/00, 31/350, 32/00, 33/950)

S.No	Item	No.	L	B	H	Qty.
1 (B-1.1.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305. In ordinary soil. Depth upto 3 metre	2	8.00	1.30	1.00	20.80 Cum
	Wing Wall	4	4.00	1.30	1.00	<u>20.80</u> Cum
						41.60 Cum
		41.60		@	190.00	7904.00
		Cum			P. Cum	
2 (B-2.3.1)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level.					
	P.C.C. grade M15	2	8.00	1.30	0.15	3.12 Cum
	Under Pipe	1	4.00	11.00	0.15	6.60 Cum
	Haunching	1	4.00	11.00	1.25	55.00 Cum
	Wing Wall	4	4.00	1.30	0.15	3.12 Cum
	Ded.		2x3.14/4x1.25x1.25x11.00			<u>-26.98</u> Cum
						40.86 Cum
		40.86		@	3980.00	162622.80
		Cum			P. Cum	
3 (7.4.2.b)	Providing and laying stone masonry work in cement mortar with mechanical mixer for foundation (any level) complete including all scaffolding etc. but excluding pointing and plastering as per drawing and technical specification as per MoRTH Specification : Section 1000,1400. Random rubble masonry, in cement mortar 1:4					
		2	8.00	(1.10+0.40)/2	2.10	25.20 Cum
	Wing Wall	4	4.00	(1.10+0.40)/2	2.10	25.20 Cum
	Approach Slab	2	2.00	6.50	0.20	<u>5.20</u> Cum
						55.60 Cum
		55.60		@	2950.00	164020.00
		Cum			P. Cum	

S.No	Item	No.	L	B	H	Qty.
4 (7.10.2.6)	Providing, laying & fixing in position RCC spun or hume pipes ISI marked with proper jointing in required slope packed in the gasket of hume or spun yarn and neatly finished with rich grout of cement mortar 1:3 or having flexible rubber ring joint made with perfectly air and water tight including testing of joints as per MoRTH Specification : Clause : 1000 & 2900. NP - 4 (Double Row), 1000mm dia	1	12.50			12.50 Mtr.
		12.50		@	7002.00	87525.00
		Mtr			P. Mtr	
5 (7.9)	Providing Cement plaster 12mm thick in cement mortar 1:3 at all levels as per MoRTH Specification: Clause:1000 & 1300	2.00	8.00	1.60		25.60 Sqm
		4.00	4.00	1.60		25.60 Sqm
						51.20 Sqm
		51.20		@	130.00	6656.00
		Sqm			P. Sqm	
6 (7.17 b)	Providing PCC M-20 architectural coping on the top of wing wall, return wall etc. complete as per drawing and MoRTH specification Clauses 1313, 1411 and 2206.6. 75 mm thick	2.00	8.00	0.40		6.40 Sqm
		4.00	4.00	0.40		6.40 Sqm
						12.80 Sqm
		12.80		@	381.00	4876.80
		Sqm			P. Sqm	
TOTAL						Total 433604.60
						For 21 Nos. 9105696.60


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra

Name of work : Strengthening & Renewal of Mandrail-Karanpur Road

(MDR-3A) on Km. 0/00 to 34/0

Details/Abstract Part - "E" Retaining Work

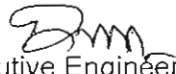
S. No.	Particular	No.	L	B	H	Qty.
1 (B- 1.1.2.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305 In hard soil Upto 3 m depth	5.00	200.00	2.50	1.50	3750.00 Cum
		3750.00		@	250.00	937500.00
		Cum			P. Cum	
2 (B- 2.3.2)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. P.C.C. grade M20	5.00	200.00	2.50	0.15	375.00 Cum
		375.00		@	4490.00	1683750.00
		Cum			P. Cum	
3 (B- 2.3.8)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. R.C.C. grade M25	5.00	200.00	2.10	0.50	1050.00 Cum
		5x200x (0.70+0.30)/2			3.00	1500.00 Cum
						2550.00 Cum
		2550.00		@	4922.00	12551100.00
		Cum			P. Cum	
4 (B- 2.8.3)	Providing and fabricating steel reinforcement at any level including cutting, binding, placing in position and binding complete in foundation as per drawing and technical specification as per MoRTH Specification : Section: 1600. TMT Steel reinforcement	2550.00x0.80/100x7850				160140.00 Kg
		160.14		@	53630.00	160.14 Tonne
		Tonne			P. Tonnes	8588308.00

S. No.	Particular	No.	L	B	H	Qty.
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5 (B- Providing A.C pipe Weep holes 150mm
3.12) dia in Masonry/Plain Concrete/Reinforced
Concrete abutment, wing wall/return wall
complete as per drawing and technical
specification as per MoRTH Specification
Clause 2205

400x1.00
400.00 Mtr @ 210.00 P. Mtr
Total 23769058.00


Assistant Engineer
PWD Sub Div. Karanpur/Mandrail

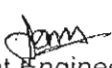

Executive Engineer
PWD Div.- Sapotra

**Name of work : Strengthening & Renewal of Mandrail-Karaupur Road
(MDR-3A) on Km. 0/00 to 34/0**

Details/Abstract
Part - "F" Drain Work

S. No.	Particular	No.	L	B	H	Qty.
1 (B- 1.1.2.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305 In hard soil Upto 3 m depth	2.00 1.00	1440.00 700.00	1.40 1.40	0.75 0.75	3024.00 Cum <u>735.00</u> Cum 3759.00 Cum
		3759.00 Cum		@	250.00 P. Cum	939750.00
2 (B- 2.3.2)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. P.C.C. grade M20	2.00 1.00	1440.00 700.00	1.40 1.40	0.10 0.10	403.20 Cum <u>98.00</u> Cum 501.20 Cum
		501.20 Cum		@	4490.00 P. Cum	2250388.00
3 (B- 2.3.8)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. R.C.C. grade M25	2.00 1.00	1440.00 700.00	3.00 3.00	0.15 0.15	1296.00 Cum <u>315.00</u> Cum 1611.00 Cum
		1611.00 Cum		@	4922.00 P. Cum	7929342.00

S. No.	Particular	No.	L	B	H	Qty.
4 (B-2.8.3)	Providing and fabricating steel reinforcement at any level including cutting, binding, placing in position and binding complete in foundation as per drawing and technical specification as per MoRTH Specification : Section: 1600. TMT Steel reinforcement					
		1611.00x0.80/100x7850				101170.80 Kg
		101.17 Tonne		@	53630.00 P..Tonnes	101.17 Tonne
					Total	<u>5425747.00</u>
						16545227.00


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra

Name of work : Strengthening & Renewal of Mandrail-Karanpur Road

(MDR-3A) on Km. 0/00 to 34/0

DETAILS & ABSTRACT

PART-G :- Protection Wall

S.No	Item	No.	L	B	H	Qty.
1 (B-1.1.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305. In ordinary soil. Depth upto 3 metre	1	430.00	1.20	0.80	412.80 Cum
			412.80	@	190.00	78432.0
			Cum		P. Cum	
2 (B-2.3.1)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level.					
	P.C.C. grade M15	1	430.00	1.20	0.15	77.40 Cum
			77.40	@	3980.00	308052.00
			Cum		P. Cum	
3 (7.4.2)	Providing and laying stone masonry work in cement mortar with mechanical mixer for foundation (any level) complete including all scaffolding etc. but excluding pointing and plastering as per drawing and technical specification as per MoRTH Specification : Section 1000,1400. Random rubble masonry, in cement mortar 1:4					
		1	430.00	(1.10+0.50)/2	1.80	619.20 Cum
			619.20	@	2950.00	1826640.00
			Cum		P. Cum	
4 (7.9)	Providing Cement plaster 12mm thick in cement mortar 1:3 at all levels as per MoRTH Specification: Clause:1000 & 1300	1	430.00	1.20		516.00 Sqm
			526.00	@	130.00	68380.00
			Sqm		P. Sqm	
5 (7.17)	Providing PCC M-20 architectural coping on the top of wing wall, return wall etc. complete as per drawing and MoRTH specification Clauses 1313, 1411 and 2206.6. 75 mm thick	1	430.00	0.50		215.00 Sqm
			215.00	@	381.00	81915.00
			Sqm		P. Sqm	
TOTAL					Tota	2363419.00

Assistant Engineer

PWD Sub Div. Karanpur/Mandrai

Executive Engineer

PWD Div. - Sapatra

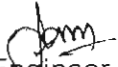
**Name of work : Strengthening & Renewal of Mandrail-Karanpur Road
(MDR-3A) on Km. 0/00 to 34/0**

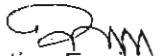
DETAILS & ABSTRACT

PART-H :- Toe Wall Pitching

S.No	Item	No.	L	B	H	Qty.
1 (B- 1.1.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305. In ordinary soil. Depth upto 3 metre	1	1770.00	1.10	0.80	1557.60 Cum
		1557.60		@	190.00	295944.00
		Cum			P. Cum	
2 (B- 2.3.1)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. P.C.C. grade M20	1	1770.00	1.10	0.15	292.05 Cum
		292.05		@	3980.00	1162359.00
		Cum			P. Cum	
3 (7.4.2 b)	Providing and laying stone masonry work in cement mortar with mechanical mixer for foundation (any level) complete including all scaffolding etc. but excluding pointing and plastering as per drawing and technical specification as per MoRTH Specification : Section 1000,1400. Random rubble masonry, in cement mortar 1:4	1	1770.00	(0.90+0.40)/2	1.50	1725.75 Cum
		1725.75		@	2950.00	5090962.50
		Cum			P. Cum	
4 (7.9)	Providing Cement plaster 12mm thick in cement mortar 1:3 at all levels as per MoRTH Specification: Clause:1000 & 1300	1.00	1770.00	0.70		1239.00 Sqm
		1239.00		@	130.00	161070.00
		Sqm			P. Sqm	
5 (11.79 .1)	Providing and laying pitching on slopes laid over prepared filter media as per drawing and technical specifications Clause 1302 Stone/Boulder	1.00	1770.00	7.00	0.20	2478.00 Cum
		2478.00		@	1260.00	3122280.00
		Cum			P. Cum	
6 (B- 1.4)	Filter media behind abutment, wing wall and return wall, complete as per drawing and technical specification as per MoRTH Specification : Clause:2504	1	1770.00	7.00	0.15	1858.50 Cum
		1858.50		@	650.00	1208025.00
		Cum			P. Cum	

S.No	Item	No.	L	B	H	Qty.
7 (B-3.3.2b)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level. P.C.C. grade M20	177	7.00	0.60	0.15	111.51 Cum
		111.51		@	4490.00	500679.90
			Cum		P. Cum	
8 (7.17.b)	Providing PCC M-20 architectural coping on the top of wing wall, return wall etc. complete as per drawing and MoRTH specification Clauses 1313, 1411 and 2206.6. 75 mm thick	1.00	1770.00	0.40	✓	708.00 Sqm
		708.00		@	381.00	<u>269748.00</u>
			Sqm		P. Sqm	
	TOTAL					11811068.40


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra

**Name of work : Strengthening & Renewal of Mandrail-Karanpur Road
(MDR-3A) on Km. 0/00 to 34/0**

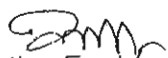
DETAILS & ABSTRACT

PART-I :- Syphon

S.No	Item	No.	L	B	H	Qty.
1 (B- 1.1.1)	Earth work in excavation for foundation of structure complete with all lift, dewatering, shoring and shuttering etc. including refilling of trenches in 250 mm layers, ramming, watering and disposal of surplus earth with all lifts and lead upto 1000 meters exclusive of compensation of earth as per MoRTH specification Clause 301 to 305. In ordinary soil. Depth upto 3 metre	2	2.00	1.00	1.60	6.40 Cum
		6.40		@	190.00	1216.00
		Cum			P. Cum	
2 (B- 2.3.1)	Providing and laying Cement concrete for plain/reinforced concrete in open foundation as per drawing and technical specification as per MoRTH Specification : Section 1500, 1700 & 2100 including form work at any level.					
	P.C.C. grade M15	2	2.00	1.00	0.15	0.60 Cum
	Under Pipe	1	0.60	11.00	0.15	0.99 Cum
	Haunching	1	0.60	11.00	0.40	2.64 Cum
	Ded.			1x3.14/4x0.40x0.40x11.00		-1.38 Cum
		2.85		@	3980.00	2.85 Cum
		Cum			P. Cum	11343.00
3 (7.4.2 b)	Providing and laying stone masonry work in cement mortar with mechanical mixer for foundation (any level) complete including all scaffolding etc. but excluding pointing and plastering as per drawing and technical specification as per MoRTH Specification : Section 1000,1400. Random rubble masonry, in cement mortar 1:4					
		2	2.00	(0.80+0.40)/2	1.20	2.88 Cum
		2.88		@	2950.00	8496.00
		Cum			P. Cum	
4 (7.10 4.2)	Providing, laying & fixing in position RCC spun or hume pipes ISI marked with proper jointing in required slope packed in the gasket of hume or spun yarn and neatly finished with rich grout of cement mortar 1:3 or having flexible rubber ring joint made with perfectly air and water tight including testing of joints as per MoRTH Specification : Clause 1000 & 2900. NP - 4 (Single Row), 300mm dia					
		1	12.50			12.50 Mtr.
		12.50		@	518.00	6475.00
		Mtr			P. Mtr	

S.No	Item	No.	L	B	H	Qty.
5 (7.9)	Providing Cement plaster 12mm thick in cement mortar 1:3 at all levels as per MoRTH Specification: Clause:1000 & 1300	2.00	2.00	0.80		3.20 Sqm
			3.20	@	130.00	416.00
			Sqm		P. Sqm	
6 (7.17)	Providing PCC M-20 architectural coping on the top of wing wall, return wall etc.					
b)	complete as per drawing and MoRTH specification Clauses 1313, 1411 and 2206.6. 75 mm thick	2.00	2.00	0.40		1.60 Sqm
			1.60	@	381.00	609.60
			Sqm		P. Sqm	
TOTAL					Total	28555.60
					For 60 Nos.	1713336.00


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra

**Name of work : Strengthening & Renewal of Mandrail-Karanpur Road on
MDR-3A Km. 0/00 to 34/0**

**Details/Abstract
Part - "J" Road Furniture**

S. No.	Particular	No.	L	B	H	Qty.
1 (8.1)	S & F in position precast R.C.C. stone (M-15 mix) of standard IRC design including finishing in cement sand mortar 1:3, painting with enamel paint, printing letters and numerals etc. complete (MoRTH specifications clause : 800)					
(8.1.1)	5th km stone	6.00 Nos		@	1859.00 P. Each	6.00 Nos 11154.00
(8.1.2)	Ordinary km stone for NH	28.00 Nos		@	1134.00 P. Each	28.00 Nos 31752.00
(8.1.3)	200 m stone	136.00 Nos		@	324.00 P. Each	136.00 Nos 44064.00
2 (8.6)	Supply of informatory reflective sign boards made out of 2 mm thick M.S. sheet, stove enamelled paint as per IRC - 67 (latest revision) fixed on angle iron of size 65 x 65 x 6 mm of 3 m long. 600 x 800 mm with size of square 400 mm	15.00 Nos		@	1434.00 P. Each	15.00 Nos 21510.00
3						
(11.12)	Providing and laying of hot applied thermo plastic compound inclusive of type-1 reflectorising glass beads as per table 800.3, 800.4 applied in uniform thickness of at least 2.5 mm and spread uniformly with reflectorising glass beads type-2 in addition @ 250 gm/scm with a road marking machine as per IRC : 35 complete with traffic diversion arrangement as per MoRTH specification clause 803.4.					
	Centre Line Km. 11/00 to 29/0	34000x0.10/3				1133.33 Sqm
	Edge Line Km. 11/00 to 29/00	2x34000x0.10				6800.00 Sqm
		7933.33 Sqm		@	477.00 P. Sqm	7933.33 Sqm 3784198.00
4 (8.25)	Supplying & fixing of Cat's Eye made of aluminium alloy size 75x100x22 mm having 21 biconvex lenses embedded in circular disk of ABS plastic on Each side.	2500.00 No.		@	264.00 P. Each	2500.00 No. 660000.00

S. No.	Particular	No.	L	B	H	Qty.
		No.			P. Each	

5 (8.26) P&F delinator with 30 cms dia RCC hume pipe (IS-Marked) pipe 1.00 M long 40 cms embedded in earth the inside of pipe shall be filled with cement concrete 1:4:8 (1 cement : 4 coarse sand : 8 coarse aggregate 20 mm nominal size) with semi circular hump at top the pipes shall be painted 15 cms wide alternate strips with black/ white with enamel paint (Black strip at top) with red round reflector 7.5 cms dia at top on side facing the traffic and opposite side (as per IRC -79)

900.00
No.

@ 495.00
P. Each

900.00 No.
445500.00

6 (8.16) Supply of Village Name Board size 600 x 900 mm made out of 1.25mm thick M.S. sheet duly framed with 30 mm ODMS tube tightened with M.S. flat 12 x 3 mm fixed on two posts of size 40 mm ODMS tube 3m long whole board is processed in blue/white stoving enamel paint and white / red machine cut reflective sheet complete in all respect posts duly painted with black/white synthetic enamel.

17.00
No.

@ 2133.00
P. Each

17.00 No.
36261.00

7 (8.8.4) Supply of direction and place identification sign boards made out of 2mm thick sheet framed to angle iron 40 x 40 x 5 mm and two vertical posts of angle size 65 x 65 x 6 mm, 3 m long with hold fasts, stove enamelled paint and reflective letters,numerals,symbols etc. complete of size : 900 x 600 mm

6.00
No.

@ 2357.00
P. Each

6.00 No.
14142.00

8 (8.8.1) Supply of direction and place identification sign boards made out of 2mm thick sheet framed to angle iron 40 x 40 x 5 mm and two vertical posts of angle size 65 x 65 x 6 mm, 3 m long with hold fasts, stove enamelled paint and reflective letters,numerals,symbols etc. complete of size : 1500 x 1200 mm

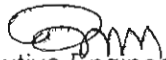
6.00
No.

@ 4162.00
P. Each

6.00 No.
24972.00

S. No.	Particular	No.	L	B	H	Qty.
9 (8.44)N H BSR	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ ground level, fixed on CRC rolled channel vertical post, 150 x 75 x 5 mm spaced 2 mm centre to centre, 1.8 m high, 1.1 m below ground / road level, all steel parts and fitments to be galvanized by hot dip process, all fittings to conform to IS: 1367 and IS: 1364 , metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per MoRTH specification Clause 810.	1595.00 Mtr			@ 3004.00 P. Mtr	1595.00 Mtr 4791380.00
10 (8.14)	Supply of Chevron sign of size 600x450 mm made out of aluminum sheet 2 mm thick both side with fixing provision on M.S. angle iron post 50x50x6 mm 3 M long screwed with stainless steel nut bolts of 8 mm dia, plate is covered by high intensity grade retro-reflective sheeting and black reflective arrow, complete in all respect.	288.00 No.			@ 2723.00 P. Each Total	288.00 No. <u>784224.00</u> 10649157.00


 Assistant Engineer
 PWD Sub Div. Karanpur/Mandrail


 Executive Engineer
 PWD Div.- Sapotra