

Prasanna N. B. Sc

Pr. B. No
3848

Schedule XLY-Form No. 134

21 SBD/2019-20

Prasanna N. B. Sc
Pr. B. No. 3848
Pr. B. No. 3148

Pr. B. No. 3148
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DIVISION

SUB-DIVISION

MEASUREMENT BOOK

Pr. B. No. 3148

Name of work—
 Situation of work—
 Agency by which work is executed—
 Date of measurement—
 No. and date of agreement.
 (These four lines should be repeated at the commencement of
 the measurements relating to each work.)

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Name of road - const. of road from pmsy road se Vishunpura khurd Harijan tola					
Name of Agency - Rajesh Kumar					
Agreement no - 21 SBD / 2019 - 2020					
Date of start - 12/02/2019					
Date of completion - 11/02/2020					
<u>Measurement</u>					

1. setting out pillars					
Providing & fixing of working benchmark pillars					
- - - do - - -					
(A) working bench mark pillars = 2 NO.					
(B) Reference pillars - - - = 6 NO.					
2. clearing and grubbing road					
Land - - - do - - -					
as per technical specification					
2X 63X25X 3.50 = 1102.5m ²					
= 1102.5					1.10 Hect
10000					
(3) Dismantling of existing structure - - - do - - -					

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Dismantling Brick masonry from culvert as per technical specification					
do					17.33m ³
④ Dismantling of existing structures like culverts					
do					
Cement concrete as per technical specification					
do					0.60m ³
⑤ Removing all types of hume pipe					
do					
as per tech. specification					

up to 600mm dia = 5m

⑥ Box cutting					
Excavation for roadway in soil using manual means					
do					
(A) Flexible road					
RPS	2x	34x	30x	0.525x	0.10 = 107.10m ³
	2x	2x	25x	0.525x	0.10 = 5.25m ³
(B) Rigid road					
RPS	2x	20x	25x	0.375x	0.10 = 37.50m ³
	Total				149.85m ³

⑦ const. of embankment with material obtained from

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
borrow pits -					
do					
as per technical specifications					
A) For 1000 m lead					
R.P.S.M.	2 X	3 X 30 X	1.2 X	0.90 =	194.40m ³
	2 X	6 X 30 X	1.3 X	0.80 =	374.40
	1 X	4 X 30 X	1.25 X	0.90 =	135.0m ³
	Total				703.80
Limit to				688.81m ³	

B) For 100 m lead					
R.P.S.M.	2 X	7 X 30 X	1.20 X	0.90 =	453.60
	2 X	8 X 30 X	1.30 X	0.80 =	429.20
	2 X	4 X 25 X	1.25 X	0.90 =	225.0
	2 X	9 X 30 X	1.30 X	0.90 =	631.8
2 X	2 X 30 X	1.30 X	0.90 =	140.40	
Total				1950m ³	
Limit to				1928.83m ³	

(8) construction of subgrade and earthen shoulder
do
as per tech. specifications

A) on flexible road						
side of WSB						
R.P.S.M.	2 X	34 X 30 X	1.40 X	0.20 =	571.20	
	2 X	2 X 25 X	1.40 X	0.20 =	28.0	
side of WBM						
	2 X	34 X 30 X	1.20 X	0.075 =	183.60	
Continuation				2 X	2 X 25 X 1.20 X 0.075 =	9.0
					791.80m	

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(B) 9m rigid road					
side of curb					
2 X 20 X 25 X 0.625 X 0.1 = 62.50					
side of wbm					
2 X 20 X 25 X 0.625 X 0.075 = 46.88					
side of cc					
2 X 20 X 25 X 0.625 X 0.160 = 100.00					
Hard shouldering					
2 X 20 X 25 X 0.375 X 0.125 = 46.88					
TOTAL					256.26m
Total of A+B					
791.80 + 256.26 = 1048.06m					

const of					
(9) granular subbase by providing coarse graded material as per tech. specifi.					
for flexible portion					
curb in widening					
2 X 24 X 30 X 0.525 X 0.10 = 107.10					
2 X 2 X 25 X 0.525 X 0.10 = 5.25					
curb in full width					
34 X 30 X 4.050 X 0.10 = 413.10					
2 X 25 X 4.050 X 0.10 = 20.25					
for profile correction					
15 X 5 X 3 X 0.1 = 22.50					

Continuation

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
For rigid portion					55.20
G.S.B in Box cutting portion					
	2X	20X	25X	0.375X0.10	= 37.50
Profile correction					12.10
	5X	5X	3.10X	0.12	= 7.75
			Total		613.45m ³

(10) Providing laying spreading and compacting stone aggregates of specific sizes to water bound macadam

(A) as per tech. specifications

Flexible road

24	24X	30X	3.75X	0.075	= 202.50
10X	30X	3.80X	0.075	= 85.50	
2X	25X	3.75X	0.075	= 14.06 m ³	
			Total		302.06m ³

(B) Rigid road

10X	25X	3.75X	0.075	= 70.312	
10X	25X	3.85X	0.075	= 72.187	
			Total		142.499
			Total A+B		302.06 + 142.499 = 444.559
					= 444.559m ³

(11) Providing and applying primer coat with bitumen emulsion

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
as per tech. specific -					
R.P.C.	24	30	3.75	=	2700
	10	30	3.80	=	1140
	2	25	3.75	=	187.50
			Total		4027.50m ²

12) Tack coat

Providing and applying					
tack coat with bitumen					
emulsion - - do - -					
as per tech. specific					
24	30	3.75	=	2700	
10	30	3.80	=	1140	
2	25	3.75	=	187.50	
			Total		4027.50m ²

13) mix seal surface

Providing laying and					
rolling of close graded					
premix surfacing					
- - do - -					
as per tech. specific					
R.P.C.	24	30	3.75	=	2700
	10	30	3.80	=	1140
	2	25	3.75	=	187.50
			Total		4027.50m ²

14) cement concrete pavement

const. of un-reinforced					
plain cement concrete					
pavement - - do - -					

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(14) as per tech. spec.					
R.P.P.M	1.0 x 2.5 x 3.75 x 0.16				150.0
	1.0 x 2.5 x 3.85 x 0.16				154.0
				Total	304.0m ³
				Limit to	303.0m ³

(15) Kilometer Stone					
Reinforced cement concrete					
M-15 grade					
(i) Km Stone					3 No.
(ii) 200m Stone					6 No.

(16) Reinforced cement concrete					
M-15 grade					
boundary pillars					
da					= 140 No.

(17) Traffic sign					
Providing and fixing of retro-reflective cautionary mandatory and information sign board					
da					
(i) 600 mm circular speed limit					10 No.
(ii) 900 mm equilateral triangle (left, right)					
curve Continuation					6 No.

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(iii) 600mm x 450mm rectangular school place board —					4 No.
(18) Road marking with hot applied Thermoplastic compound — do — on B T surface					
R.F. 8m	2x	34x	30x	0.10 =	204m ²
	2x	2x	25x	0.10 =	10m ²
	Total				214m ²

(19) Road marking with
hot applied thermoplastic
compound — do —
on concrete surface

$$2 \times 20 \times 25 \times 0.10 = 100 \text{m}^2$$

(20) Direction and place
identification sign —
— do — = 1 No.

(21) Providing and fixing
of typical messy
informatory sign
board with logo
— do —
as per tech. specific.

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Logo identification sign board					2 No.
citizen information board					2 No.
maintn Board					2 No.
				total	6 No.

22) H.P culvert

(A) Earth work in excavation for found of structure - rd do as per drawing and technical specifications

H.W	2x	6.450x	1.40x	1.5 =	27.09
Below pipe	1x	4.850x	1.530x	0.365 =	2.708
					29.798m ³
for 4 No. of culvert					
	4x	29.798 =			119.192m ³

(B) Providing m15 as levelling course in found do

H.W	2x	6.450x	1.40x	0.150 =	2.709
Below pipe	1x	4.931x	1.530x	0.250 =	1.886
Less for pipe		0.250x	0.7857x	(1.230) ² x 5.496 =	-1.633
					2.962m ³
for 4 No. of culvert					
	4x	2.962 =			11.848m ³

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
① Brick masonry work					
in cm 1:4 in headwall					
do					
H.W 2x 6.150 x 0.825 x 2.580 =					26.181
Parapet 2x 6.150 x 0.40 x 1.20 =					5.904
Lev for 2x 0.7857 x (1.230) ²					0.1478
pipe					30.607m ³
For lining culvert 4x 30.607 =					122.428
② Providing and laying					
RCC pipe NP-3 for					
culverts do					
as per tech. specifications					
RCC [3x 2.50					7.50m
For lining culvert 4x 7.50 =					30m
③ Plastering with cement					
mortar (1:4) on brick					
work in sub-structure					
as per tech. specifications					
outer side					
2 x 6.150 x 3.780 =					46.494
Inner side					
2 x 6.150 x 0.60 =					7.380
Top					
2 x 6.150 x 0.40 =					4.920
Ends					
4 x 0.825 x 2.580 =					8.574
Ends					
parapet 4 x 0.40 x 1.20 =					1.920
Lev					
2 x 0.7857 x (1.230) ² =					2.377
					66.851m ²

Continuation
 For 4 No. of culvert
 4 x 66.851 = 267.404 m²

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
① Providing 1.5mm cement panning					
do					
as per tech. specifications					
Top	2	6.150	0.40	=	4.920
Ends	4	0.40	1.20	=	1.920
parapet	2	6.150	0.60	=	7.380
Inner sides					
				total	14.220m ²
for 4 No. of culvert				4 x 14.220	56.88m ²
② Painting two coats on new concrete					
surface					
do					
as per tech. spec.					
	2.5	2	6.150	x 3.780 =	116.235m ²
for 4 No. of culvert				4 x 116.235	464.94m ²
③ cable duct across the road					
Providing and laying of a reinforced cement concrete pipe duct across the road					
do					
as per tech. specifications.				Qnt =	4.5 Rm

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(24) Hard shouldering laying brick soling layer on prepared subgrade --- do. --- as per tech. specificch					
RPSM	2X	20X	25X	0.375 =	375m ²
Gainth 10/02/2020 JE				RPSM 25-9-2020 AE EK m ² .	

material statement	
(1) ELV = 3096.89m ³	
(2) Stone aggregates = 1126.817m ³	
(3) coarse sand = 401.651m ³	
(4) stone chips = 284.074m ³	
(5) stone screening = 106.694m ³	
(6) Bricks = 84364 No.	
(7) cement = 144.564 tone	
(8) SS-1 bitumen emulsion = 3.40611 mt	
(9) RS-1 emulsion = 1.10468 mt	
(10) Bitumen (S-90) = 7.65225 mt	
Gainth 10/02/2020 JE	RPSM 25-9-2020 AE Continuation EK m ² .

UP... of ...

Abstract of cost

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(1) setting out pillars					
(A) working bench mark pillars - - do - -					
Qnt = 2 No. vide - m B					
Page - (1) item - (1) A					
@ Rs 3979.82/No. 2 Rs					7959 =
(B) Reference pillars					
Qnt = 6 No. Page - (1)					
Item - 1(B) @ Rs 1823.69					
					= Rs 10942 =
(2) clearing and grubbing					
road/canal - - do - -					
Qnt = 1.10 Hectare					
Page - (1) item - (2)					
@ Rs 50148.62/Hect = Rs					55163 =
(3) Dismantling of existing structure - - do - -					
Qnt = 17.33 m ² Page - (2)					
item - (3) @ Rs 231.85/m ²					
					= Rs 4017 =
(4) Dismantling of existing structure like culverts - - do - -					
Qnt = 0.60 m ³ Page - (2)					
item - (4) @ Rs 480.23/m ³					
					= Rs 288 =

Continuation

Total C/o Rs 78369 =

P.T.O

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
⑤ Removing all types of kumbe pipes					
do					
Qnt = 5m					
Page - ②					
Item - ⑤ @ Rs 171.34/m					
					= Rs 856=
⑥ Box cutting / Excavation for roadway in soil					
do					
Qnt = 149.85 m ³					
Page - ②					
Item - ⑥ @ Rs 75.43/m ³					
					= Rs 11303=

⑦ const. of embankment with material obtained from borrow pits					
do					
⑧ For 1000 m lead					
Qnt = 688.81 m ³					
Page - ③					
Item - 7(A) @ Rs 155.23/m ³					
					= Rs 106923=
⑨ For 100 m lead					
Qnt = 1928.83 m ³					
Page - ③					
Item - 7(B) @ Rs 130.88/m ³					
					= Rs 252445=

Continuation

C/O Total Rs 449896

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(8) const. of subgrade and earthen shoulder — do — Qnt = 1048.06 m ³ Page - (4) item - (8) @ Rs 195.94/m ³ = Rs 205357.2					
(9) const. of granular subbase by providing well graded — do — do — Qnt = 613.45 m ³ Page - (5) item - (9) @ Rs 2865.36/m ³ = Rs 1757755.2					
(10) WBM gr - III providing layering spreading and compacting stone aggregates — do — Qnt = 444.559 m ³ Page - (5) item - (10) @ Rs 4284.49/m ³ = Rs 1904709.2					
(11) Providing and applying primer coat with bitumen emulsion — do —					

Continuation

C/Total Rs 4317717.2

Particulars	Details of actual measurement				Contents of area
	No.	L	B.	th	
amt = 41027.50 m ²					
Page - (6) item - (11)					
@ Rs 49.59/m ² = Rs 199724					
(12) Tack coat					
Providing and applying tack coat with bitumen emulsion					
do					
amt = 41027.50 m ²					
Page - (6) item - (12)					
@ Rs 16.10/m ² = Rs 64843					
(13) Mix seal surfacing					
Providing, laying and rolling of class graded premix					
do					
amt = 41027.50 m ²					
Page - (6) item - (13)					
@ Rs 244.12/m ² = Rs 983193					
(14) const. of un-reinforced plain cement concrete pavement					
do					
amt = 303 m ³					
Page - (7) item - (14)					
@ Rs 8006.68/m ³ = Rs 2426024					

Continuation

C/5 Tota B 7991501

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(15) Kilometer stone					
Reinforced cement concrete					
m-15 grade					
(i) Km stone					
amt = 3 No. Page - (7)					
item - 15 (i)					
@ Rs 2366.73 / No. = Rs 71002					
(ii) 200m stone					
amt = 6 No.					
Page - 7 item 15 (ii)					
@ Rs 667.32 / No. = Rs 40032					
(16) Reinforced cement concrete m-15 grade boundary pillars					
do					
amt = 140 No.					
Page - (7) item - (16)					
@ Rs 505.30 / No. = Rs 707422					
(17) Traffic sign					
Providing and fixing of retro-reflective cautionary mandatory and information sign board - do -					
(i) 600 mm circular board					
amt = 10 No. Page - (7)					

item - 17 (i) ^{Continuation} @ Rs 5591.16 = Rs 559112

C/o TOTAL Rs 8129257

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(ii) 900 mm equilateral triangle					
Qnt = 6 No. Page - (7)					
item - 17(ii)					
@ Rs 6212.47/No. = Rs 37274 =					
(iii) 600 mm x 450 mm rectangular board					
Qnt = 4 No. Page - (8)					
item - 17(iii)					
@ Rs 5441.14/No. = Rs 21764 =					

(18) Road marking with bit applied Thermoplastic on BT surface					
- - - do - -					
Qnt = 214 m ²					
Page - (3) item - 18					
@ Rs 942.89/m ² = Rs 201778 =					

(19) Road marking with bit applied Thermoplastic compound on concrete surface					
- - - do - -					
Qnt = 100 m ² Page - (8)					
item - (19) @ Rs 1048.07/m ²					
= Rs 104807 =					

Continuation

C/o Total Rs 849488

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(20) Direction and place identification sign — do —					
Qnt = 1 No. Page - (8)					
Item - (20) @ Rs 34178.67/m					
					= Rs 3478 =
(21) Providing and fixing of typical masonry informology — do sign board					
Qnt = 6 No.					
Page - (9) Item - (21)					

@ Rs 9451.18/m² = Rs 56707 =

H.P culvert

(22) (A) Framework in excavation for fund. — do —					
Qnt = 119.192 m ²					
Page - (9) Item - 22 (A)					
@ Rs 264.02/m ² = Rs 31469 =					
(B) Providing m-15 as levelling course in found. — do —					
Qnt = 11.848 m ³					
Page - (9) Item - 22 (B)					

@ Rs 5592.93/m³ = Rs 66265 =

C/O Total Rs 8652799 =

Particulars	Details of actual measurement				Contents of area
	Nq.	L	B.	D.	
(c) Brick masonry work in headwall.					
— do —					
Qnt = 122.428 m ³					
Page - (10) item - 22 (c)					733477=
@ Rs 5991.09/m ³ =					Rs 733477=
(d) Providing and laying RCC pipe NP-3 for culverts — do —					
Qnt = 30 m					
Page - (10) item - 22 (d)					
@ Rs 4078.20/m =					Rs 122346=

(e) Plastering with cement mortar (1:4) on brick work in substructure — do —					
Qnt = 267.404 m ²					
Page - (10) item - 22 (e)					
@ Rs 166.23/m ² =					Rs 44451=

(f) Providing 1.5mm cement punning — do —					
Qnt = 56.88 m ²					
Page - (11) item - 22 (f)					
@ Rs 49.48/m ² =					Rs 2814=

Continuation

c/o Total Rs 9555887

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(22) Painting two coats on new concrete surface - - do - -					
Qnt = 464.94 m ²					
Page - (11)					
item - 22 (f)					
@ Rs 110.65 / m ² = Rs 51446=					
					Rs 51446=
(23) Cable duct across the road providing and laying of reinforced concrete concrete pipe					
Qnt = 45 Rm					
with TMD page - (11)					
item - (23)					
@ Rs 880.74 = Rs 39633=					
(24) Hard shouldering Laying brick soling layer on prepared subgrade - - do - -					
Qnt = 375 m ²					
P - (12) item - (24)					
@ Rs 489.66 / m ² = Rs 183622=					
					Total Rs 9830588=
Less 0.11% below on per agreement as per mat (-) Rs 10814=					
					Total Rs 9819774=
Working 10/02/2020 JE	RP Sm 25-9-2020 AF				

Continuation
EK

Cap
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30/9/20