

R. K. Construction

Scada Baidygangat P.C.C. high Bridge.

Agx. No - 971 SBD/14-18 (Alabahal)

Stale Scheme

~~NOTED P.M.D.~~

~~E.C. R.W.D. work extra required.~~

~~Assist of Engineer N.W.D.~~

~~with Sd. Div. Kulkarni.~~

~~RECEIVED~~ 10-2140

Certified that this M.B
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issued to Shri Bhupendra Joshi Singh
A.E. R.W.D. work Sub-Div. Kutchambra.

Executive Engineer

Rural Works Department

Work Division, Kutchambra

25/7/17

Schedule KLV - Form No. 134.

E.E. R.W.D. A. Bad. Division.

R.W.D. work Assistant Engineer.

Engineer R.W.D. work Sub-Div. Kutchambra,

MEASUREMENT BOOK.

9140

211176

Shri Bhupendra Joshi Singh A.E. Kutchambra,

Date of first entry

Date of last entry

निर्धारित तिथि तक।

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
6th on A/c bill					
Name of Work - Construction of R.C.C.					
High Level bridge at					
Santo Baluganj road					
Agency - M/s R.K. Construction					
Agreement No - 94(SBD) 2017-18					
Date of work start - 13/03/2018					
Date of completion - 12/09/2019					
Date of entry -					
Measurement.					
Record entry for steel measurement					
substructure.					
pier cap (P7)					
25 mmφ.	1x	76x	2.95		224.20 m ³
	1x	11x	8.80		96.80 m ³
	1x	22x	8.50		187.00 m ³
					508.00 m ³
					@ 3.85 kg/m ³ = 1955.80 kg
16 mmφ.	1x	30x	3.275		101.25 m ³
	1x	5x	19.81		99.05 m ³
					200.30 m ³
					@ 1.58 kg/m ³ = 316.47 kg
12 mmφ.	1x	44x	7.68		311.52 m ³
	1x	51x	3.88		197.88 m ³
	1x	51x	2.88		146.88 m ³
					656.28 m ³
					@ 0.89 kg/m ³ = 584.09 kg
					% 2856.36 kg

Continuation

Particulars	Details of actual measurement			Contents of area
	No.	L	B	
				B. F. of 2856.36 sq
Pedestal — Pier P ₅ — 3 Nos.				
Pier P ₆ — 6 Nos.				
Pier P ₇ — 3 Nos.				
				12 Nos.
12 nos of 12 x 4 x 1.57 = 75.36 sq				
12 x 4 x 1.66 = 79.68 sq				
12 x 7 x 1.21 = 102.48 sq				
				257.52 sq
				@ 0.89 sq/ft = 229.19 sq
8 nos of 12 x 4 x 32.66 = 1567.97 sq				
				@ 0.39 sq/ft = 611.51 sq
				3697.06 sq
				= 3.697 A.T

① R.C.C. & Substructure

With concrete (Abt of

Pier shaft) M-20 —

— as all complete.

Pier cap T section. $7.60 \times 2.25 = 17.10$ $5.00 \times 1.30 = 6.50$ $P_7 - 1 \times \frac{1}{3} (17.10 + 6.50 + \sqrt{17.10 \times 6.50}) = 11.38 \text{ m}^3$ Pedestal (pier) $12 \times 0.96 \times 0.52 \times 0.15 = 0.90 \text{ m}^3$ 12.28 m^3

Record entry steel measurement & S/S

For 6th span

Main Girder

28 mm ϕ — $34 \times 26.15 = 889.10 \text{ m}$ $12 \times 28.368 = 340.42 \text{ m}$

Continuation

90.1229.527

Sch. XLV-Form No. 134

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
			15.04	1229.52	
	6	25.68	=	154.08	
	6	22.48	=	134.88	
	6	19.12	=	114.73	
	4	15.92	=	63.69	
				1696.90	
				@ 1.83 kg/m ²	8196.03 kg
16 mm φ	6	25.24	=	151.44	
	6	25.20	=	151.20	
				302.64	
				@ 1.58 kg/m ²	478.17 kg
6 mm φ	102	25.26	=	2576.52	
	6	25.24	=	151.44	
				2727.96	

				@ 0.22 kg/m ²	600.15 kg
10 mm φ	28	25.48	=	306.88	
	176	25.35	=	397.29	
				2589.48	
				@ 0.62 kg/m ²	1605.48 kg
6 mm φ	65	1.035	=	67.28	
	170	0.75	=	127.50	
	12	8.70	=	105.98	
				299.98	
				@ 0.22 kg/m ²	66.00 kg
10 mm φ	14	25.48	=	153.66	
	100	25.36	=	1072.80	
				1226.46	
				@ 0.62 kg/m ²	760.41 kg
				c/o	12935.76 kg
					11706.24 kg

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
				B.F. of	12935.76 kg
Cross Girders.					11706.24 kg
16 mm φ.	8	5.648	=	45.17 m	
			@ 1.58 kg/m	2	71.37 kg
12 mm φ.	4	5.438	=	21.75 m	
			@ 0.89 kg/m	2	19.36 kg
25 mm φ.	10	6.40	=	64.00 m	
			@ 3.85 kg/m	2	246.40 kg
12 mm φ.	4	7.536	=	30.14 m	
	4	7.512	=	30.08 m	
				60.22 m	
			@ 0.89 kg/m	2	53.60 kg
25 mm φ.	4	8.464	=	33.86 m	
			@ 3.85 kg/m	2	130.36 kg

20 mm φ.	8	7.00	=	56.00 m	
			@ 2.47 kg/m	2	138.32 kg
12 mm φ.	20	5.518	=	110.36 m	
			@ 0.89 kg/m	2	98.22 kg
20 mm φ.	6	7.00	=	42.00 m	
			@ 2.47 kg/m	2	103.74 kg
10 mm φ.	24	2.936	=	70.46 m	
	56	2.2786	=	126.03 m	
				382.49 m	
			@ 0.62 kg/m	2	237.14 kg
6 mm φ.	24	5.25	=	126.00 m	
	16	2.93	=	46.88 m	
				172.88 m	
			@ 0.22 kg/m	2	38.03 kg
					12842.78 kg
Add 5% extra for loss & waste.					642.14 kg

Continuation

13484.92 kg

= 13.485 M.T.

Sch. XLV-Form No. 134

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
① Providing R.C.C. 730 grade super structure					
Main Girder	3	25.32	$\frac{0.30+0.55}{2}$	0.12	3.875^3
	3	25.32	0.30	0.55	12.53^3
	3	25.32	0.30	1.77	39.65^3
	3	25.32	$\frac{0.30+0.55}{2}$	0.102	3.04^3
Cross Girder	8	2.20	0.30	1.66	8.76^3
					67.85^3

Record entry steel measurement in S/S

For 6th span (R.C.C. S/ab)

$$12 \text{ mm } \phi - 108 \times 7.252 = 783.22 \text{ kg}$$

$$226 \times 5.300 = 1197.80 \text{ kg}$$

$$1.981.02 \text{ kg}$$

$$@ 0.89 \text{ kg/m} = 1763.11 \text{ kg}$$

$$16 \text{ mm } \phi - 232 \times 2.325 = 539.40 \text{ kg}$$

$$@ 1.58 \text{ kg/m} = 852.25 \text{ kg}$$

$$8 \text{ mm } \phi - 204 \times 1.850 = 377.40 \text{ kg}$$

$$24 \times 25.60 = 614.40 \text{ kg}$$

$$24 \times 25.51 = 612.29 \text{ kg}$$

$$44 \times 25.27 = 1111.19 \text{ kg}$$

$$16 \times 1.70 = 27.20 \text{ kg}$$

$$8 \times 25.27 = 202.16 \text{ kg}$$

$$170 \times 1.656 = 281.52 \text{ kg}$$

$$3226.16 \text{ kg}$$

$$@ 0.40 \text{ kg/m} = 1290.46 \text{ kg}$$

$$3905.82 \text{ kg}$$

$$\text{Add st. extra for lap wastage} = 195.29 \text{ kg}$$

$$4101.11 \text{ kg}$$

Continuation

$$= 4.101 \text{ m}^3$$

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
① providing r.c.c. 7-30 grade					
and super structure					
(For 6th span)					

$$R.C.C./ab = 25.32 \times 8.45 \times 0.218 = 46.64 \text{ m}^3$$

Record only steel measurement in s/s

For 7th span

Main Girder

$$28 \text{ mm } \phi. \quad 34 \times 26.15 = 889.10 \text{ m}$$

$$12 \times 28.368 = 340.42 \text{ m}$$

$$6 \times 25.68 = 154.08 \text{ m}$$

$$6 \times 22.48 = 134.88 \text{ m}$$

$$6 \times 19.12 = 114.72 \text{ m}$$

$$4 \times 15.922 = 63.69 \text{ m}$$

$$1696.90 \text{ m}$$

$$@ 4.83 \text{ kg/m} = 8196.03 \text{ kg}$$

$$16 \text{ mm } \phi. \quad 6 \times 25.24 = 151.44 \text{ m}$$

$$6 \times 25.20 = 151.20 \text{ m}$$

$$302.64 \text{ m}$$

$$@ 1.58 \text{ kg/m} = 478.17 \text{ kg}$$

$$6 \text{ mm } \phi. \quad 102 \times 25.26 = 2576.52 \text{ m}$$

$$6 \times 25.44 = 151.44 \text{ m}$$

$$2727.96 \text{ m}$$

$$@ 0.22 \text{ kg/m} = 600.15 \text{ kg}$$

$$10 \text{ mm } \phi. \quad 28 \times 2 \times 5.48 = 306.88 \text{ m}$$

$$176 \times 2 \times 5.356 = 397.29 \text{ m}$$

$$2589.48 \text{ m}$$

$$@ 0.62 \text{ kg/m} = 1605.48 \text{ kg}$$

Continuation

$$10879.83 \text{ kg}$$

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
				13.5.04	-10879.83 kg
6 mm φ -	65	1.035			
	170	0.75			
	12	8.767			
				299.98	
				@ 0.22 kg/ft	66.00 kg
10 mm φ -	14	2.5488			
	100	2.5364			
				1226.46	
				@ 0.62 kg/ft	760.41 kg

Cross Girder

16 mm φ -	8	5.646			
				@ 1.58 kg/ft	71.37 kg
12 mm φ -	4	5.438			

				@ 0.89 kg/ft	19.36 kg
25 mm φ -	10	6.40			
				@ 3.85 kg/ft	246.40 kg
12 mm φ -	4	7.536			
	4	7.512			
				60.22	
				@ 0.89 kg/ft	53.60 kg
25 mm φ -	4	8.464			
				@ 3.85 kg/ft	130.36 kg
20 mm φ -	8	7.00			
				@ 2.47 kg/ft	138.32 kg
12 mm φ -	20	5.518			
				@ 0.89 kg/ft	98.22 kg
20 mm φ -	6	7.00			
				@ 2.47 kg/ft	103.74 kg
Continuation					12567.61 kg

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
				B.F. of	12567.61 kg
10 mm	27	2.93			
	56	2.78			
			382.49		
				@ 0.62 kg/m ²	237.14 kg
6 mm	27	5.25			
	16	2.93			
			172.88		
				@ 0.22 kg/m ²	38.03 kg
					12842.78 kg
Adv st. extra for lap & wastage					642.14 kg
					13484.92 kg
					= 13.485 M.T.

① Provide R.C.C. 1:30					
grade of Supr. structure.					
Main Girder	3	25.32	(0.30 + 0.55)	0.12	3.87 m ³
	3	25.32	0.30	0.55	12.53 m ³
	3	25.32	0.30	1.77	39.65 m ³
	3	25.32	(0.30 + 0.55)	0.10	3.04 m ³
Cross Girder	8	2.20	0.30	1.66	8.76 m ³
					67.85 m ³

Record entry steel measurement in S/S
for 7 ft span (R.C.C. S/S)

12 mm	108	7.25			783.22 kg
	226	5.30			1197.80 kg
					1981.02 kg
				@ 0.89 kg/m ²	1763.11 kg

Continuation

Total 1763.11 kg

Sch. XLV-Form No. 134

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
				B.F. of	1763.11 by
16 mm ϕ -	232	2.325			
				@ 1.58 kg/m ³	852.25 by
8 mm ϕ -	204	1.80			
	24	25.60			
	24	25.51			
	44	25.27			
	16	1.70			
	8	25.27			
	170	1.656			
				3226.16	
				@ 0.40 kg/m ³	1290.46 by
					3905.82 by
Add 3% extra for lap & wastage -					195.29 by

4101.11 by
= 4.101 M.T.

① Providing R.C.C. 17.30

gradient superstructure

(For 74 spans)

R.C.C. Slab - $25.32 \times 8.45 \times 0.218 = 46.64 \text{ m}^3$

② Supplying & lifting and

lifting Elastomeric

Bearing & Seismic Pad.

Elastomeric Bearing.

$12 \times 50.00 \times 36.00 \times 9.90 = 213840 \text{ cm}^3$

Seismic Pad

Transverse - $6 \times 20.00 \times 80.00 \times 5.00 = 48000 \text{ cm}^3$

Continuation

Longitudinal - $8 \times 20.00 \times 40.00 \times 5.00 = 32000 \text{ cm}^3$

293840.00 cm³

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
<u>ABSTRACT OF COST</u>					
① Laying R.C.C. MP 4. p.					
on best class bedding					
75.00 m ³ vide TMS p. 48					
50.00 m ³ vide TMS p. 62					
125.00 m ³ @ 4428 = 553500 =					
② Construction of embank.					
made with material					
obtained from borrow pits.					
2844.00 m ³ vide TMS p. 48					
1706.40 m ³ vide TMS p. 62					
4550.40 m ³ @ 181 = 827263 =					
③ Construction of granular					
sub base with material					
grading. I					
121.50 m ³ vide TMS p. 48					
72.90 m ³ vide TMS p. 62					
194.40 m ³ @ 3140 = 610509 =					
④ Providing R.C.C. 11-35					
4 pile bored cast c.					
sets excluding reinforcement					
— do do at complete.					
1518.00 m ³ vide TMS p. 48					
@ 15614 = 23702249 =					
⑤ Supplying & fitting and					
placing 48 SD bar					
reinforcement in					
foundations.					
185.51 m ³ vide TMS p. 48					
@ 52021 = 9650510 =					

Continuation

35344031 =

Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
				B.F.A.	35344031 = v
⑥ E/W i excavation for found ⁿ of structure.					
568.02 m ³ width TMS P. 48					
				cf. 118217/m ³	67123 = v
⑦ Providing and laying of P.C.C. 1:1:5 & levelling course 100 mm thick below the foundation					
22.31 m ³ width TMS P. 49					
				cf. 5651 = 83/m ³	126092 = v
⑧ R.C.C. grade 1:3:6 pile cap with all complete job.					
job -					

487.46 m ³ width TMS P. 49					
				cf. 7028 = 32/m ³	3426025 = v
⑨ Dismantling of existing structure.					
40.68 m ³ width TMS P. 49					
				cf. 1077 = 67/m ³	43840 = v
⑩ pile load test on single vertical pile in accordance with					
(a) Initial and routine test					
200 Tonn width TMS P. 49					
				cf. 305200/T	60600 = v
(b) Lateral Load test.					
30.00 Tonn width TMS P. 49					
				cf. 5050 = 50/T	151500 = v

Continuation

1. 39219211 = v

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Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
					B.C.A. 392/92/11 =
(11) Providing steel liner 6 mm thick for curbs and 6 mm thick of stemming of wells - do - do - do - do - do					
47.34 m ² vide T&SP. 49					
					cf. 72460 = 43/m ² - 3430177 =
(12) R.C.C. & sub-structure with concrete (Abutment & pier slabs) 4-30					
475.37 m ³ vide T&SP. 50					
12.28 m ³ vide T&SP. 54					
487.65 m ³ cf. 7089 = 53/m ³ - 3457209 =					

(13) supplying & lifting and placing HYSD bar reinforcement in sub-structure					
68.813 m ² vide T&SP. 50					
3.697 m ² vide T&SP. 54					
72.51 m ²					
					cf. 52161 = 90/m ² - 3782259 =
(14) Providing R.C.C. 4-30 grade & super-structure					
572.45 m ³ vide T&SP. 50					
67.85 m ³ vide T&SP. 57					
46.64 m ³ vide T&SP. 58					
67.85 m ³ vide T&SP. 60					
46.64 m ³ vide T&SP. 61					
801.43 m ³ cf. 7550 = 94/m ³ - 6051550 =					
Continuation					cf. 55940506 =

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Particulars	Details of actual measurement				Contents of area
	No.	L	B	D	
					B.F.A. 55940506 =
(15) Supply fitting and placing 4x80 bar reinforcement west & Super. structure.					
87.930 M.T. side T&B P. 51					
13.485 M.T. side T&B P. 56					
4.101 M.T. side T&B P. 57					
13.485 M.T. side T&B P. 60					
4.101 M.T. side T&B P. 61					
123.102 M.T.					
					Ct. 53281 = 99 / M.T. 6559/20 =
(16) Supply fitting & placing Elastic mesh bearing and seismic pad.					

710600.00 c/cen side T&B P. 51					
293840.00 c/cen side T&B P. 61					
1004440.00 c/cen					
					Ct. 0.90 / c/cen = 903996 =
					R. 63403622 =
Less 10% (As per gate) (-) R.					6340362 =
					R. 57063260 =
Less previous payment (-) R.					52646086 =
					R. 4417174 =
Sumit Kumar					
15/9/2020					
J.D.					
					15.9.20
					ME
C.S.P.					
					17/9/2020

Continuation