

221/19-20

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703

Schedule XLV Form No.-134

BIHAR P.W.D.

Mauwaka Tola to Badalalwa Tola

221/19

DIVISION

221/19

SUB-DIVISION

m/s H1 Teesh Associates

MEASUREMENT BOOK

221/19-20

4th & Final bill

Sch. XLV-Form No.134

24

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	

Name of work- Constⁿ of road
from Nauka Tola to Daldalwa
Tola under MMSY

Agency- M/S Hi-Tech Associate
Constⁿ & Design Services

Agreement No- 42 SBD/2020-21

Date of work order - 17/08/2020

Date of Completion - 16/08/2021

Record Entry

(1) From Granular sub
base grading of

1	X	30	X	4.05	X	0.100	=	12.15M ²
1	X	16	X	4.05	X	0.100	=	4.05M ²
								16.20M ²

(2) From laying, spreading
and compacting WBM
grade-3

1	X	20	X	6.00	X	3.75	X	0.075	=	7.31M ²
5	X	30	X	3.75	X	0.075	=	42.19M ²		
5	V	30	X	3.75	X	0.075	=	42.19M ²		
4	X	30	X	3.75	X	0.075	=	33.75M ²		
5	X	30	X	3.75	X	0.075	=	42.19M ²		
1	X	10	X	3.75	X	0.075	=	2.81M ²		
								170.44M ²		

Sum
01/02/24
24

By
01/02/24
AS

(3) Constⁿ of un-reinforced pcc
pavement

1	X	19	X	3.75	X	0.160	=	11.40M ²
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Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
<u>Record Entry</u>					
① Prime coat with emulsion (SS)					
1 X 20 X 6.00 + 3.75 =					97.50m ²
5 X 30 X 3.75 =					562.50m ²
5 X 30 X 3.75 =					562.50m ²
4 X 30 X 3.75 =					450.00m ²
5 X 30 X 3.75 =					562.50m ²
1 X 10 X 3.75 =					37.50m ²
					<u>2272.50m²</u>

② Prime Tack coat with emulsion (RS)

Q- same as above = 2272.50m²

③ Prime laying and rolling of close graded premix Surfacing of 20mm

11 X 3.75

Q- same as above = 2272.50m²

Sum
05/02/24
JE

Signature
10/02/24

<u>Record Entry</u>					
① Constn of subgrade and earthen shoulder					
2 X 10 X 2.60 X 0.175					9.10m ³
2 X 5 X 30 X 1.50 X 0.175					78.75m ³
2 X 5 X 30 X 1.50 X 0.175					78.75m ³
2 X 4 X 30 X 1.50 X 0.175					63.00m ³
Continuation					229.60m ³

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
② Brm and laying B/E/S					
2 x 5 x 30 x 0.375 =					112.50 m ³
2 x 5 x 30 x 0.375 =					112.50 m ³
2 x 4 x 30 x 0.375 =					90.00 m ³
2 x 1 x 10 x 0.375 =					7.50 m ³
					322.50 m ³

Sum
10/02/24
J.E



Constn of Rec box culvert

1 Nos $\Rightarrow$ 1.00 m x 1.00 m

① E/W in excavation
for structure

Raft- 1 x 1.50 x 6.00 x 0.79 = 7.07 m³

Detached
c/w- 2 x 8-10 x 0.30 x 1.80 = 8.75 m³
15.82 m³

② Brm sand filling in
foundn trenches

below raft- 1 x 1.50 x 6.00 x 0.10 = 0.90 m³

Detached
c/w- 2 x 8-10 x 0.30 x 0.10 = 0.49 m³
1.39 m³

③ Brm Rec H/S in foundn

below raft:-

1 x 1.50 x 6.00 x 0.10 = 0.90 m³

Sum
20/2/24
J.E



Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
<u>Record Entry</u>					
① S/F / FHYSD bars in - sub structure					
Detached wall main bar					
10 mm ϕ bar -					
$2 \times 2 \times 11 \times 1.36 = 59.84 \text{ m}$					
Distribution bar 10 mm ϕ					
$2 \times 2 \times 6 \times 6.50 = 156.00 \text{ m}$					
Distribution bar (above bed level)					
10 mm ϕ bar					
$4 \times 2 \times 12 \times 1.25 = 120.00 \text{ m}$					
one lap bar:-					
10 mm ϕ lap bar					
$2 \times 38 \times 0.40 = 30.40 \text{ m}$					
Raft upper & lower bar					
10 mm ϕ bar					
$2 \times 2 \times 20 \times 1.50 = 120.00 \text{ m}$					
Return wall main bar					
10 mm ϕ bar					
$4 \times 2 \times 5.50 \times 1.78 = 78.32 \text{ m}$					
Angle bar in raft					
10 mm ϕ bar:-					
$2 \times 40 \times 1.40 = 112.00 \text{ m}$					
Abutment out side					
10 mm ϕ bar					
$2 \times 40 \times 1.90 = 152.00 \text{ m}$					
Abutment in side bar					
10 mm ϕ bar					

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
2 X 30 X 1.50 =					90.00 kg
Distribution bar:-					
10 mm ϕ bar					
4 X 10 X 6.0 =					240.00 kg
over lap bar 10 mm ϕ					
1 30 X 0.40 =					52.00 kg
Slab upper portion:-					
10 mm ϕ bar					
2 X 40 X 1.50 =					120.00 kg
Slab lower portion:-					
12 mm ϕ bar					
2 X 40 X 1.50 =					120.00 kg
In slab (Angle bar)					
8 mm ϕ bar					
2 X 40 X 1.40 =					112.00 kg
Hunch:-					
8 mm ϕ bar					
4 X 40 X 1.10 =					176.00 kg
Parapet:-					
10 mm ϕ bar					
2 X 2 X 6 X 1.0 =					24.00 kg
Distribution bar 10 mm ϕ					
2 X 2 X 4 X 1.50 =					24.00 kg
over lap bar 10 mm ϕ					
2 X 41 X 0.40 =					32.80 kg
Total length of 8 mm ϕ bar					
112.00 + 176.00 =					288.00 kg
0.40 kg/m					115.20 kg
Continuation					115.20 kg

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
				14.5	115.20 kg
Total length of 10mm pipe					
= 59.84 + 156.00 + 120.00 + 30.40 +					
120.00 + 78.32 + 112.00 + 152.00					
+ 90.00 + 240.00 + 52.00 + 120.00					
+ 24.00 + 24.00 + 32.80					
= 1411.36 m					
@ 0.62 kg/m					
= 875.04 kg					
Total length of 12mm pipe					
= 120.00 m @ 0.89 kg/m					
= 106.80 kg					
1097.04 kg					
= 1.09 MT					
limited - 1.08 MT					

Amue
28/02/24
J.E

Shyam
28/02/24
J.E

Record Entry

(1) From Rec 1125 in
box cell.

Raft 1	X 1.50 Y 6.00 Z 0.21 =	1.89 m ³
Abut. 2	X 1.40 Y 6.00 Z 0.25 =	3.00 m ³
Dis- 1	X 1.50 Y 6.00 Z 0.21 =	1.89 m ³
Parapet- 2	X 1.50 X 0.25 X 0.60 =	0.45 m ³
Detached 2	X 8.10 Y 0.30 X 1.50 =	7.29 m ³
EW		
Arch- 2	X 0.10 X 0.10 X 6.00 =	0.12 m ³
		14.64 m ³

(2) From weep hole

2 X 5 X 1 = 10 m³

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
③ Horn back filling					
2 x 6.00 x 1.00 x 0.60					7.20 ft ³
④ Horn and fixing ordinary					
km-stone					2 Nos
⑤ Horn and fixing 20cm					
stone					4 Nos
⑥ Horn and fixing boundary					
Pillar					24 Nos
⑦ Painting two coat primer					
coat					
2 x 3 x 6.20 x 1.80					66.96 ft ²
⑧ Painting two coat cement					
Paint					

2 x 5 x 30 x 0.100	30.00 ft
2 x 5 x 30 x 0.100	30.00 ft
2 x 4 x 30 x 0.100	24.00 ft
2 x 1 x 10 x 0.100	2.00 ft
	86.00 ft

⑨ Horn and laying Road Marking

BT Portion:-

2 x 10 x 30 x 0.100	60.00 ft
2 x 10 x 30 x 0.100	60.00 ft

ce Portion:-

2 x 5 x 30 x 0.100	30.00 ft
2 x 5 x 30 x 0.100	30.00 ft
2 x 4 x 30 x 0.100	24.00 ft
2 x 1 x 10 x 0.100	2.00 ft
	206.00 ft

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(10) Paint and fixing Maintenance board					2.14y
(11) Paint and fixing Traffic signs					
(i) 600mm equilateral -					12.14y
(ii) 600mm x 450mm -					2.14y
(iii) 300mm side octagon -					2.14y
(12) Planting of Trees side road side					60.14y

Area
of 10524
sq ft

E/W calculation sheet

Ch	Area	H. Area	Length	Volume
0	2.366			
50	2.301	2.334	50	116.675
100	2.535	2.418	50	120.900
150	2.320	2.428	50	121.375
200	2.432	2.376	50	118.800
250	3.040	2.736	50	136.800
300	4.312	3.676	50	183.800
350	4.021	4.167	50	208.325
400	4.405	4.213	50	210.650
450	4.122	4.263	50	213.150
500	4.311	4.216	50	210.800
550	4.653	4.482	50	224.100
600	5.125	4.889	50	244.450
650	4.123	4.624	50	231.200
700	4.255	4.189	50	209.450
750	3.984	4.119	50	205.950

Continuation

2756.9254

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
800	3.133	3.558	50		2756.42517
					177.900
850	3.855	3.494	50		174.700
900	4.551	4.203	50		210.150
950	3.985	4.268	50		213.400
1000	4.103	4.644	50		202.200
1030	4.125	4.114	30		123.420
Total B/W with exist					3858.19517
Less qty of subgrade (-)					1141.1017
Less qty of box cutting (-)					58.2517
Less qty of G.S.B (-)					498.6017
Less qty of W.B.M (-)					266.6717
Less qty of P.C.C (-)					259.9117
					1633.66517

① Constn of embankment

lead up to 1000 ft

Q - 30% of 1633.66517 = 490.0917

All read paid qty page 18 (A) - 400.0017

90.0917

② Constn of embankment

lead up to 100 ft

Qty - 70% of 1633.66517 = 1143.5717

Already paid qty page 19 (A) - 933.5017

210.0717

04103/2024
J-E

04103/24
P.E.

Abstract of cost

Sch. XLV-Form No.134

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
① Constn of benchmark					
Q-VTNP18①=		1.03 Km			
e R-9879=75/Km R-					10176=00
② Constn of Ref. Pillar					
Q-VTNP18②=		1.03 Km			
e R-9686=75/Km R-					9977=00
③ Clearing and grubbing road land					
Q-VTNP18③=		0.306 hect			
e R-51133.76/hect R-					15647=00
④ Constn of embankment lead up to 1000 m					
Q-VTNP18④=		490.09 m			
P-32①=		90.09 m			
		490.09 m			
e R-202.52/m R-					99253=00
⑤ Constn of subgrade and earthen shoulder					
Q-VTNP18⑤=		911.50 m			
P-25①=		229.60 m			
		1141.10 m			
e R-204=16/m R-					2,32,967=00
⑥ Constn of embankment lead up to 100 m					
Q-VTNP19⑥=		933.50 m			
P-32②=		210.07 m			
		1143.57 m			
e R-167=41/m R-					1,91,445=00
Continuation					559465=00

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
⑦ Excavation for roadway (box cutting)					
Q-VTNB/19⑦ = 58.25 m ³					
e R 74.16 m ³ - R					4320 = 0
⑧ Form and laying B/E/S					
Q-VTNB/26⑧ = 322.50 m ³					
e R 472 = 43 m ³ R					1,52,359 = 00
⑨ Form granular subbase					
Q-VTNB/19⑧ = 482.40 m ³					
P24⑨ = 16.20 m ³					
- 498.60 m ³					
e R 306020 m ³ R					15,25,721 = 00
⑩ Form laying, spreading and compacting W.B.M grade-3					
Q-VTNB/20⑩ = 96.23 m ³					
P24⑩ = 170.44 m ³					
266.67 m ³					
e R 3804 = 08 m ³ R					10,14,434 = 00
⑪ Form Prime coat with emulsion (SS)					
Q-VTNB/25⑪ = 2272.50 m ³					
e R 44.52 m ³ - R					1,01,172 = 00
⑫ Form Tack coat with emulsion (As)					
Q-VTNB/25⑫ = 2272.50 m ³					
e R 15.14 m ³ - R					34,406 = 00

Continuation

33,91,877 = 00

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(13) Brown laying mix-seal					
Q-VTNB/25(3) =			2272.50 m		
c R 225 = 07/11					R. 5,11,472 = 00
(14) Constn of un-reinforced lee pavement					
Q-VTNB/2(12) =			249.68 m		
P 24(3) =			11.40 m		
			261.08 m		
limited -			259.91 m		
c R 7166 = 66/11					R. 18,62,687 = 00
(15) Brown and fixing ordinary 16 km stone					
Q-VTNB/30(10) =			2446.64 m		
c R 2446.64/each R -					4893 = 00
(16) Brown and fixing 200m 17 stone					
Q-VTNB/30(5) =			4 Hag		
c R 631.66/each - R -					2527 = 00
(17) Brown and fixing boundary 18 pillar					
Q-VTNB/30(6) =			24 Hag		
c R 509 = 51/each R -					12,228 = 00
(18) Painting two coat Primer 19 coat					
Q-VTNB/30(8) =			66.96 m		
c R 97 = 96/11 - R -					6559 = 00
(19) Brown and applying 2 coat 20 cement paint					
Continuation					57,92,243 = 00

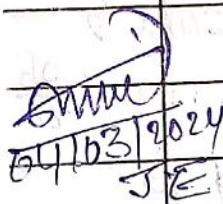
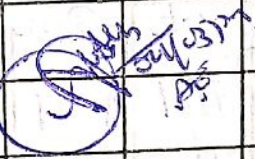
Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
8-VTNB/30⑧ = 86.00 ft					
e R- 90.98/ft - R- 7824=00					
(20/21) From laying Road marking					
8-VTNB/30⑨ = 206.00 ft					
e R- 7352.41/ft - R- 151,501=00					
(21/22) From and fixing masonry					
informational sign board					
8-VTNB/20⑩ = 2 Nay					
e R- 17480.00/each R- 22960=00					
(22/23) From and fixing masonry					
board					
8-VTNB/31⑪ = 2 Nay					
e R- 11480.00/each R- 22960=00					
(23/25) 600mm equilateral					
8-VTNB/31⑫ = 12 Nay					
e R- 3529.73/each R- 42357=00					
(24/27) 600mm x 450mm					
8-VTNB/31⑬ = 2 Nay					
e R- 4173.31/each R- 8347=00					
(25/28) 900 mm - side octagon					
8-VTNB/31⑭ = 2 Nay					
e R- 8130.16/each R- 16260=00					
(26/29) From and laying 300mm					
dia Rec Pipe NB					
8-VTNB/19⑮ = 15.00 ft					
e R- 749.77/ft R- 11247=00					
(27/30) Planting of Trees by					
the road-side					

Continuation

60,75,699=00

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Q-VTNB/21(2) = 60 Nos					
e h. 819 = 92/each h.					49195 = ∞
(28/31) E/W in excavation for foundation					
Q-VTNB/26(1) = 15.82 m ³					
e h. 269 = 32/m ³ - h.					4261 = ∞
(29/32) Brown sand filling					
Q-VTNB/26(2) = 1.39 m ³					
e h. 400.59/m ³ - h.					557 = ∞
(30/34) Brown Rec 1125 in founds					
Q-VTNB/26(3) = 0.90 m ³					
e h. 5962.44/m ³ - h.					5366 = ∞
(31/39) Brown Rec 1125 in box cell					
Q-VTNB/29(1) = 14.64 m ³					
e h. 7514.65/m ³ - h.					110,014 = ∞
(32/40) Brown back filling					
Q-VTNB/30(5) = 7.20 m ³					
e h. 2931 = 97/m ³ - h.					21,110 = ∞
(33/41) Brown weep holes					
Q-VTNB/29(2) = 10 Nos					
e h. 83.11/each - h.					831 = ∞
(34/43) S/F/F HYSD bars in sub-structure					
Q-VTNB/27(1) = 1.08 m ³					
e h. 46107.33/m ³ - h.					49,796 = ∞
					h. 63,16,829 = ∞
Ad					

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
			B.F. R-	63,16,829	=00
Add 1 y. labour cost (+)				63,168	=00
Add 12 y. GST (+)				7,58,019	=00
Add - storage fee (+)				81,085	=00
			R-	72,19,101	=00
Less 0.07 y. below -					5053 =00
			R-	72,14,048	=00
Less Prev. Pay -			R-	46,82,515	=00
			R-	25,31,533	=00
 					

The work is completed as per Agreement dated 04/03/2024 and maintenance work will be started from 03/03/2024.

