

Model rate structure for plantation of Mixed tree species with rainfall upto 800 mm and medium quality, medium drained soil depth upto 30 cm.

(Aided Natural Regeneration)

Detailed scheme for creation and maintenance of plantation against the proposal of Diversion of 22.920 ha. forest land for construction of Nagpur-Mumbai Expressway (Package-IV- Nasik West Part) in f/o Executive Engineer, Maharashtra State Road Development Corporation, Mumbai (Camp) Office, Nasik of the State of Maharashtra.

Compensatory Afforestation Site :-

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46.00 ha. (Out of total area as per 7/12 extract of land records is 106.98 ha.) in Sur. No. 41, Village Banwadi, Taluka Nagpur (Rural), Dist Nagpur.
Range - Butibori, Round - Butibori (East), Beat - Dongargaon.

Spacing - 3.00m x 3.00m
Size of pits - 0.45 x 0.45 x 0.45 m
No. of seedlings - 1111 per ha.

Wage Rate
Rs. 251.21
per day

Wage Rate -
Rs. 308.33
per day

Sr. No.	Particulars of works	Expenditure per ha.				Expenditure for 46.3 ha.			
		Man days	Wages	Material supply	Total (Rs. Per Ha.)	Man days	Wages	Material supply	Total (Rs. Per Ha.)
A. Pre Monsoon Works (PPO/PYO)									
1	a. Survey and demarcation	1.00	251.21	50.00	301.21	46.0000	14183.18	2300.00	16483.18
	b. Preparation of treatment map (100 m 50 m grid)	1.00	251.21	50.00	301.21	46.0000	14183.18	2300.00	16483.18
	c. Clearing of bushes and preparation of site (As per requirement)	10.00	2512.10	50.00	2562.10	460.0000	141831.80	2300.00	144131.80
2	Soil and moisture conservation works including collection of rubbles from area upto 30 m etc.	31.00	7787.51	0.00	7787.51	1426.0000	439678.58	0.00	439678.58
3	Alignment of 1200 rmt of CCT at 8.00 m spacement) (0.25 M.D per 100 rmt and M&S. Rs. 40 per 100 rmt).	3.00	753.63	96.00	849.63	138.0000	42549.54	4416.00	46965.54
4	Digging of CCT of size 60 cm width and 45 cm depth including stacking of soil at down word slope (1200 rmt per ha. - 0.15 per rmt)	183.60	46122.16	0.00	46122.16	8445.6000	2604031.85	0.00	2604031.85

5	Digging of Trench cum mound (TCM) of size 1.90 x 0.60 x 1.00 m along the periphery of plantation area including spreading/stacking the excavated soil as directed in 1 m width and 1 m height. Length 102 Rmt per Ha. (127.50 cum per ha.)	82.57	20742.41	50.00	20792.41	3798.2200	1171105.17	2300.00	1173405.17
6	Alignment of pits at 3.0 x 3.0 m spacing 1111 pits per ha (Wages 0.13 M.D and MS. Rs. 2.24 per 50 pits)	2.86	718.46	49.77	768.23	131.5600	40563.89	2289.42	42853.31
7	Digging of pits of 0.45 x 0.45 x 0.45 m size 1111 pits per ha (6.60 M.D. per 100 pits)	73.33	18421.23	0.00	18421.23	3373.1800	1040052.59	0.00	1040052.59
8	Part nursery cost for raising 1333 seedlings per ha including (20% casualty replacement in polybags of size 12.50 x 25 cm (Wages Rs. 8.80 and M&S Rs. 1.76 per plant)	28.63	7192.14	2346.08	9538.22	1316.9800	406064.44	107919.68	513984.12
	Total	416.99	104752.06	2691.85	107443.91	19181.54	5914244.23	123825.10	6038069.33
	Contingency 3%			3223.32	3223.32			181142.08	181142.08
	Labour Welfare 4%			4297.76	4297.76			241522.77	241522.77
	Grand Total	416.99	104752.06	10212.92	114964.98	19181.54	5914244.23	546489.95	6460734.18

B. First Year Operation

1	Part Nursery cost for maintenance of 1333 seedlings per ha. Rs.1.55 per seedling (Wages Rs.1.11 M & S Rs.0.44)	11.68	2934.13	586.52	3520.65	537.2800	165659.54	26979.92	192639.46
2	Refilling of pits with good quality soil a) 1.66 MD per 100 pits b) 20% soil replacement, 20 cum per ha Rs 300 per cum c) Filling 5% farm yard manure in pits 5cum per ha Rs700 per cum	18.44	4632.31	9500.00	14132.31	848.2400	261537.84	437000.00	698537.84
3	Transportation of 1333 of seedlings from nursery to plantation site (including loading & unloading) Rs. 0.14 MD per 100 per seedling and MS Rs 1.00 per seedlings.	1.55	389.38	1333.00	1722.38	71.3000	21983.93	61318.00	83301.93
4	Plantation of agave suckers in 3 rows on TCM (306 suckers/Hec @ Rs 500 per Kg)	1.00	251.21	981.00	1232.21	46.0000	14183.18	45126.00	59309.18
5	Sowing of seeds on CCT1200 rmt 5 kg per ha @ Rs 50 per Kg	12.00	3014.52	250.00	3264.52	552.0000	170198.16	11500.00	181698.16
6	Removal of weeds from CCT (1.20 MD per 100 rmt)	14.40	3617.42	0.00	3617.42	662.4000	204237.79	0.00	204237.79

7	Planting of seedling 1111 per ha (1MD per 100 seedling)	19.11	4800.62	0.00	4800.62	879.0600	271040.57	0.00	271040.57
8	3 weedings and two soil workings 3.5 MD per 100 seedlings fertilizers application Rs 0.45 per seedling)	38.88	9767.04	500.00	10267.04	1788.4800	551442.04	23000.00	574442.04
9	Casualty replacement (20% 222 seedling per ha) (2 M.D per 100 seedlings)	4.44	1115.37	0.00	1115.37	204.2400	62973.32	0.00	62973.32
10	Part Nursery Cost for casualty replacement in SYO.(222 seedlings per ha.) wagesRs. 8.80 and material supply RS 1.76 total Rs 10.56 per seedling	7.78	1954.41	390.72	2345.13	357.8800	110345.14	17973.12	128318.26
11	Watch and ward (10 months) 1 watcher per 10 ha	30.00	7536.30	0.00	7536.30	1380.0000	425495.40	0.00	425495.40
12	Fire tracing	2.00	502.42	0.00	502.42	92.0000	28366.36	0.00	28366.36
	Total	161.28	40515.15	13541.24	54056.39	7418.88	2287463.27	622897.04	2910360.31
	Contingency 3%		0.00	1621.69	1621.69		0.00	87310.81	87310.81
	Labour Welfare 4%		0.00	2162.26	2162.26		0.00	116414.41	116414.41
	Grand Total	161.28	40515.15	17325.19	57840.34	7418.88	2287463.27	826622.26	3114085.53

C. Second Year Operation

1	Part Nursery cost for seedlings for casualty replacement (222 seedlings per ha)	1.95	489.86	97.67	587.53	89.7000	27657.20	4492.82	32150.02
2	Transportation of 222seedlings for casualty replacement from nursery to plantation site (including loading & unloading) Wages 0.14 M.D&MS Rs.1 per 100 seedlings.	0.31	77.88	222.00	299.88	14.2600	4396.79	10212.00	14608.79
3	Planting for Casualty replacement (222 seedling per ha) (2 M.D per 100 seedlings)	4.44	1115.37	0.00	1115.37	204.2400	62973.32	0.00	62973.32
4	2 weeding and 1 soil working, with fertilizer application at Rs. 0.45 per seedling	27.77	6976.10	500.00	7476.10	1277.4200	393866.91	23000.00	416866.91
5	Watch and ward 12 months 1 watcher 10.00 ha	36.50	9169.17	0.00	9169.17	1679.0000	517686.07	0.00	517686.07
6	Fire tracing	2.00	502.42	0.00	502.42	92.0000	28366.36	0.00	28366.36
	Total	72.97	18330.80	819.67	19150.47	3356.62	1034946.64	37704.82	1072651.46
	Contingency 3%		0.00	574.51	574.51		0.00	32179.54	32179.54
	Labour Welfare 4%		0.00	766.02	766.02		0.00	42906.06	42906.06
	Grand Total	72.97	18330.80	2160.20	20491.00	3356.62	1034946.64	112790.42	1147737.07

D. Third Year Operations

1 One weeding. 1 soil working (1.50MD per 100 seedlings)	16.67	4187.67	0.00	4187.67	766.8200	236433.61	0.00	236433.61
2 Watch and ward 12 months 1 watcher 10.00 ha	36.50	9169.17	0.00	9169.17	1679.0000	517686.07	0.00	517686.07
3 Fire trenching	2.00	502.42	0.00	502.42	92.0000	28366.36	0.00	28366.36
Total	55.17	13859.26	0.00	13859.26	2537.82	782486.04	0.00	782486.04
Contingency 3%		0.00	415.78	415.78		0.00	23474.58	23474.58
Labour Welfare 4%		0.00	554.37	554.37		0.00	31299.44	31299.44
Grand Total	55.17	13859.26	970.15	14829.40	2537.82	782486.04	54774.02	837260.06

E. Fourth Year Operations

1 Fire trenching	2.00	502.42	0.00	502.42	92.0000	28366.36	0.00	28366.36
2 Watch and ward 12 months 1 watcher 10.00 ha	36.50	9169.17	0.00	9169.17	1679.0000	517686.07	0.00	517686.07
Total	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43
Contingency 3%		0.00	290.15	290.15		0.00	16381.57	16381.57
Labour Welfare 4%		0.00	386.86	386.86		0.00	21842.10	21842.10
Grand Total	38.50	9671.59	677.01	10348.60	1771.00	546052.43	38223.67	584276.10

F. Fifth Year Operations

1 Fire trenching	2.00	502.42	0.00	502.42	92.0000	28366.36	0.00	28366.36
2 Watch and ward 12 months 1 watcher 10.00 ha	36.50	9169.17	0.00	9169.17	1679.0000	517686.07	0.00	517686.07
Total	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43
Contingency 3%		0.00	290.15	290.15		0.00	16381.57	16381.57
Labour Welfare 4%		0.00	386.86	386.86		0.00	21842.10	21842.10
Grand Total	38.50	9671.59	677.01	10348.60	1771.00	546052.43	38223.67	584276.10

G. Sixth Year Operations.

1 Fire trenching	2.00	502.42	0.00	502.42	92.0000	28366.36	0.00	28366.36
2 Watch and ward 12 months 1 watcher 10.00 ha	36.50	9169.17	0.00	9169.17	1679.0000	517686.07	0.00	517686.07
Total	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43
Contingency 3%		0.00	290.15	290.15		0.00	16381.57	16381.57
Labour Welfare 4%		0.00	386.86	386.86		0.00	21842.10	21842.10
Grand Total	38.50	9671.59	677.01	10348.60	1771.00	546052.43	38223.67	584276.10

H. Seventh Year Operations

1 Fire trenching	2.00	502.42	0.00	502.42	92.0000	28366.36	0.00	28366.36
2 Watch and ward 12 months 1 watcher 10.00 ha	36.50	9169.17	0.00	9169.17	1679.0000	517686.07	0.00	517686.07
Total	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43
Contingency 3%		0.00	290.15	290.15		0.00	16381.57	16381.57
Labour Welfare 4%		0.00	386.86	386.86		0.00	21842.10	21842.10
Grand Total	38.50	9671.59	677.01	10348.60	1771.00	546052.43	38223.67	584276.10


 Dy. Conservator of Forests,
 Nagpur Division Nagpur

Abstract for Model No. 3

(Amount in Rupees)

Sr. No.	Year of operation	Man days	Wages	Material supply	Total	Man days	Wages	Material supply	Total	Other expenses	Total	Total amt (rounded off)
1	Pre Monsoon works	416.99	104752.06	2691.85	107443.91	19181.54	5914244.23	123825.10	6038069.33	422664.85	6460734.18	6460734
2	First Year Operations	161.28	40515.15	13541.24	54056.39	7418.88	2287463.27	622897.04	2910360.31	203725.22	3114085.53	3114086
3	Second Year Operations	72.97	18330.80	819.67	19150.47	3356.62	1034946.64	37704.82	1072651.46	75085.60	1147737.07	1147737
4	Third Year Operations	55.17	13859.26	0.00	13859.26	2537.82	782486.04	0.00	782486.04	54774.02	837260.06	837260
5	Fourth Year Operations	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43	38223.67	584276.10	584276
6	Fifth Year Operations	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43	38223.67	584276.10	584276
7	Sixth Year Operations	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43	38223.67	584276.10	584276
8	Seventh Year Operations	38.50	9671.59	0.00	9671.59	1771.00	546052.43	0.00	546052.43	38223.67	584276.10	584276
	Total	860.41	216143.60	17052.76	233196.36	39578.86	12203349.90	784426.96	12987776.86	909144.38	13896921.24	13896921
										Cost per plant Rs.		
9	Providing and erecting 1.2 m high wire fencing with seven rows of barbed wire supported on cement pillars (@ 750/- per rmt. Total 3015 rmt.)											
10	Contingency 3%											
11	Labour Welfare 4%											
	Total (B)											
	Grand Total (A) + (B)										271.92	
										2261250.00		
										67837.50		
										90450.00		
										2419537.50		
										16316458.74		
										16316459		

Note 1. The rates indicated are as per item No. 3 of Government of Maharashtra resolution No. MREGS-2011/F.No. 85/EGS-1, Planning department, EGS division dt. 03/11/2011. The rates for item No. 4 & 5 of pre monsoon works and item No. 2 of FYO Are as per Model No. 7.

2. Rubble bund of size bottom width 1.00m top width 0.60 m and height 1.00 m should be constructed wherever digging of TCM is not possible.

Note 1. The rates indicated are as per item No. 3 of Government of Maharashtra resolution No. MREGS-2011/F.No. 85/EGS-1, Planning department, EGS division dt. 03/11/2011. The rates for item No. 4 & 5 of pre monsoon works and item No. 2 of FYO Are as per Model No. 7.

2. Rubble bund of size bottom width 1.00m top width 0.60 m and height 1.00 m should be constructed wherever digging of TCM is not possible.

3. The above estimate is prepared as per present wage rate.


Dy. Conservator of Forests,
Nagpur Division Nagpur