

ESTIMATED COST FOR DEGRADED PLANTING IN NORTH CIRCLE (SHIWALIKS)

Degraded Planting

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Project is construction of 6-lane structures on NH-1 Section (KM 407+000 to KM 444+784) under Rectification of Blackspots on Brownfield Amritsar Spur of Delhi-Amritsar-Katra Expressway (Proposal No. FPI/PD/Road/143098/2021)

1) Diverted Forest Area = 9.2556 Ha.					
2) Comp. Aff. Scheme area = 18.5112 ha				Daily Wage Rate @ 383 56/-	
3) Name of Site of Plantation : Manjhi PF, H.D. No. 497				Plants/Ha : 1000	
4) No. of plants Planted = 18,5112*1000 = 18511 Plants					
5) Name of species to be planted (Berl, Simbal, Jand, Kikar, Khair, Amla, Bahera, Ficus, Phalahl etc)					
Sr. No.	Nature of Work	Unit	Unit Cost	Quantity	Amount
A. Nursery					
1	Cost of Plants including (a) Original planting=1000 per ha. Replacement 10%= 100 per ha Total 1100 No. in P. bag	No	25.00	1100	27500
					27500
B. Soil /Adv Works.					
2	Cutting of Lantana Malha	Ha.	20921.38	0.60	12552.81
3	Lantana stubbing	Ha.	31381.49	0.20	6276.30
4	Uprooting of old stumps & Disposal	100 No.	76.70	100.00	76.70
5	Preparation of inspection path in Heavy Soil 50 Mtr x .10 Mtr x 1Mtr= 5 M3	M3	153.42	5.00	767.10
6	Survey And Alignment	Ha	1533.97	1	1533.97
7	(a)Earth work i.e. digging of trenches Heavy Soil Size 750No. x 2 Mtr. x .40 Mtr x .35 Mtr = 210 m3	M3	153.42	210	32218
	(b) Earth work i.e. digging of pits 250No. X .50 Mtr x .5 Mtr x .4 Mtr = 25 M3	M3	153.42	25	3836
					57261
C. Plantation					
8	(a)Refilling of trenches 750 No x .0.50 Mtr x .40 Mtr x .30 Mtr = 45 m3	M3	30.97	45.00	1393.65
	(b)Refilling of pits 250no.x.50 x.50 x.35=21.67M3	M3	30.97	21.67	677.31
9	Carriage of Plants by Tractor-Trolley	No	5.75	1000	5750.00
10	Carriage of Plants by M/L lead 500mt.	Mtr	11.58	1000	11580.00
11	Loading & unloading of plants	100 No	46.37	1000	4637.00
12	Planting of Plants	No	4.88	1000	4880.00
13	Application of Insecticides 1000 x 2 times=2000	100 No	67.00	2000	1340.00
14	Application of fertilizers 1000 x 2 times = 2000	100 No	67.00	2000	1340.00
15	Planting of Bhabbar Grass including extraction and carriage of Tussocks	100 No.	12.10	2000	242.00
16	Preparation of round fencing including cutting carriage material (with binding)	No	28.76	750	21570.00
17	Fixing of Bamboo Tree Guard around plant	No	10.00	250	2500.00
					51736.66
D. Maintenance of Planting Year					
18	Repair i.e. cleaning and dressing of inspection path	M3	153.42	5	767.10
19	Watch and ward for every 10 ha. Of plantation x 26 days	No.	38.36	26	997.36
20	Re-Cutting of lantana/mallaha 2nd and 3rd times. 0.50 x 2= 1	Ha	6961.00	1.00	6961.00
21	Weeding hoeing i.e. 2000mtr x 3 = 6000 mtr	Mtr	2.38	6000	14280.00
22	Hand watering to plants 300 no	No	3.83	300	1149.00
23	Application of Insecticides 1000 x 2 times = 2000	100 No	67.00	2000	1340.00
24	Application of fertilizers (twice) 1000 x 2 times = 2000	100 No	67.00	2000	1340.00
25	Desilting of Tranches 1000 No x 1.50 x .35 x 25 = 131.25	Mtr	69.73	131.25	9152.06
26	Carriage of Plants by Tractor-Trolley	No	5.74	100	574.00
27	Carriage of Plants by M/L lead 500mt	Mtr	11.58	100	1158.00
28	Loading & unloading of plants	100 No	76.37	100	7637.00
29	Cutting of Tall Weeds 2 mtr wide (1000x2=2000)	100 mtr	95.87	2000	19170.00
30	Providing thorny protection to plants against porcupine damage	100 No	191.70	400	76680.00
31	Re-Planting of Plants	No	4.88	100	488.00
32	Covering (25% Plants)	No.	3.41	250	852.50
33	Uncovering	No.	0.36	250	90.00
					41909.19

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Hoshiarpur, 27/06/2022

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Sr. No.	Nature of Work	Unit	Unit Cost	Quantity	Amount
	Component				
	3rd Year Maintenance				
1	Reopening of trenches for replacement 100 no .50m x .35 m x .25m = 4.37 m3	M3	63.29	4.37	278.58
2	Refilling of trenches 100 No. x 0.50m x 0.35m x 0.25m = 4.37 m3	M3	39.81	4.37	173.97
3	Nursery cost of Plants	No	59.67	100	5967.00
4	Carnage of Plants by manual labour lead 500mt.	100 Mtr.	11.58	100	1150.00
5	Loading & unloading of plants from T/ Trolley	100 No	46.37	100	4637.00
6	ii) Tractor trolley average lead 15 km (1000 plants per trolley)	No	5.75	100	575.00
7	Re-Planting of Plants	No	4.88	100	488.00
8	Repair of Barbed Wire fence in hills	100 Mtr	122.52	1950	2389.00
9	Weeding and hoeing to trenches (Twice)	Mtr.	2.38	2000	4760.00
10	Cutting of lantana/mallaha lind and lllrd times.	Ha	6961.00	0.70	4872.70
11	Application of fertilizers	100 No	67.00	1000	6700.00
12	Repair of inspection path (Twice)	Mtr	153.42	200	30684.00
13	Pruning of plants	No.	10.00	250	2500.00
14	Jungle Clearance i.e. Bhang, Jhau tall weed etc.	No.	6276.10	0.2	1255.22
	Total				55815.96
	Cost of material				
15	Fertilizers i.e. urea etc.	Kg	33.92	40.00	1356.80
	Total				1356.80
	Total Cost of 3rd maintenance				57172.76
	Contingency 10%				5717.28
	SubTotal Cost of 3rd year maintenance				62890.04
	4th Year Maintenance				
1	Watch and ward for every 10 ha. Of plantation	No	38.36	26.00	997.36
	Total				997.36
	5th Year Maintenance				
1	Watch and ward for every 10 ha. Of plantation	No	38.36	26.00	997.36
	Total				997.36
	6th Year Maintenance				
1	Watch and ward for every 10 ha. Of plantation	No	38.36	26.00	997.36
	Total				997.36
	7th Year Maintenance				
1	Watch and ward for every 10 ha. Of plantation	No	38.36	26.00	997.36
	Total				997.36
	8th Year Maintenance				
1	Watch and ward for every 10 ha. Of plantation	No	38.36	26.00	997.36
	Total				997.36
	9th Year Maintenance				
1	Watch and ward for every 10 ha. Of plantation	No	38.36	26.00	997.36
	Total				997.36
	10th Year Maintenance				
1	Watch and ward for every 10 ha. Of plantation	No	38.36	26.00	997.36
	Total				997.36
	ABSTRACT				
1	Total Cost On Plantation Works				251921.93
2	Total Cost of 1st year Maintenance				98492.60
3	Total Cost of 2nd year Maintenance				83339.70
4	Total Cost of 3rd year Maintenance				62890.04
5	Total Cost of 4th year Maintenance				997.36
6	Total Cost of 5th year Maintenance				997.36
7	Total Cost of 6th year Maintenance				997.36
8	Total Cost of 7th year Maintenance				997.36
9	Total Cost of 8th year Maintenance				997.36
10	Total Cost of 9th year Maintenance				997.36
11	Total Cost of 10th year Maintenance				997.36
	G.Total				503625.79
	Comp. Aff. Scheme for 1.00 Ha.				503625.79
	Or Say				503626.00

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Detailed Planning					
Sr. No.	Nature of Work	Unit	Unit Cost	Quantity	Amount
	Component				
	Scheme Details				
	A. Comp. Aff. Scheme for 18.5112 ha x 1000 = 18511 plants	Ifa	503626	18.5112	9322722
	B. Entry Point Activities including livelihood generation (Strengthening of JFMC's, Trainings, Solar Lights etc) 10% of CA	Rs			932272
	C. Soil and water conservation works				
1	Dry Stone	Cum	1245.00	800	996000
				Total	996000
	D. Mulching(@10% of the total CA Scheme)	L/S			932272
	E. Forest Protection and Monitoring				
1	Fire Protection Equipments	No	100000	1	100000
				Total	100000.00
				G. Total	12283265.9
				Or Say	12283266/-

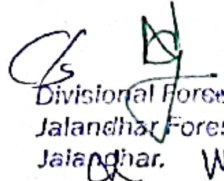
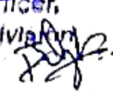

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Diversion of 9.2556 Ha. of Forest Land for Non-Forest purpose for the project
 "Construction of 6-lane structures on NH-1 section (KM 407+000 to KM 444+794) on
 Brownfield Amritsar Spur of Delhi – Amritsar – Katra Expressway"

Rate= 368.85

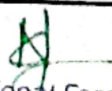
Estimate for planting of Tall plants					
	Name of Work	Unit	Unit Cost (In Rs.)	Qty	Total Amt
	Nursery				
	Cost of Tall plants	1 No	60	550	33000.00
	Soil Works				
1	Site /Jungle Clearance (50%)	Ha.	5367.22	0.5	2683.61
2	Alignment & Dagbailing	Ha.	984	1	984.00
3	Earth Work- Digging of Pits 500x 0.6m x0.6m x0.5m Heavy Soil	1M ³	101.38	90	9124.20
4	Kana Stubbing 25%	Ha.	26836.3	0.25	6709.08
	Planting				
1	Refilling of Pits	100 cum	2747	72	1977.84
2	Loading & Unloading of Plants (500+10% Wastage=550)	100 No	246	550	1353.00
3	Carriage of Plants (500+10% Wastage=550 avg. distance upto 10 km.)500 Trolly	100 No	196.8	1	196.80
4	i) Carriage from site to site	100 No	131.2	550	721.60
	ii) Planting of Plants (500 No Including 10% replacement)	100 No	984	550	5412.00
5	Spot Irrigation (500 Plants)	100 No	205	500	1025.00
6	Application of Insecticide (2 times)	100 No	41	1000	410.00
7	Application of Fertilizers (2 times)	100 No	41	1000	410.00
8	Weeding & Hoeing 3 times	100 No	357.52	1500	5362.80
9	Hand Water 6 months x 2 times =12 times	100 No	205	6000	12300.00
10	Replanting of Plants 10%	100 No	579.11	50	289.56
11	Rejungle Clearance (2 times)	Per Ha.	2378	1	2378.00
12	Covering (25% plants) of plants	100 No	295.2	125	369.00
13	Uncovering of plants	100 No	32.8	125	41.00
14	Restubbing of Kana (1 time)	Ha.	26836.3	0.25	6709.08
15	Laying out & fixing of Barbed Wire	L/s			4200.00
16	Watch & Ward for every 10 Ha.	Man year	8528	1Man	5969.60


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	(7 months)			7 Month	
17	Material				
	i) Insecticides/Fertilizers	L/s			5000.00
	ii) POL	L/s			5000.00
				Sub Total	111626.16
Maintenance I Year					
1	Cost of plants for 30% replacement	1 No.	60	150	9000.00
2	Reopening of Pits 150 x 0.60 x 0.60 x 0.40	1 m3	59.63	21.6	1288.01
3	Refilling of pits with earth in other soils 150 x 0.60 x 0.60 x 0.40	1 m3	27.47	21.6	593.35
4	Loading & Unloading of Plants	1 No.	2.46	150	369.00
5	Carriage of Plants (150+10% Wastage=330 avg. distance upto 10 km.)	500 No	196.2	1	196.20
6	Spreading of plants pit to pit	100 No	131.2	165	216.48
7	Re-planting Tall Plants	100 No	329.08	165	542.98
8	Spot Irrigation	100 No.	205	165	338.25
9	Weeding & Hoeing (thrice)	100 No	357.52	1500	5362.80
10	App. Of Fertilizer (two times)	100 No	41	1000	410.00
11	App. Of Insecticide (two times)	100 No	41	1000	410.00
12	Hand watering 6 months x 2 times =12 times	100 No	357.52	6000	21451.20
13	Rejungle Clearance (2 times)	Ha.	2378	1	2378.00
14	Restubbing of Kana	Ha.	26836	0.25	6709.00
15	Watch & Ward for every 10 Ha. (10 months)	Man year	8528	1/10 Man yr.	8528.00
16	POL	L/s			5000.00
17	Material and supply	L/s			5000.00
				Sub Total	67793.27
Maintenance II Year					
1	Cost of plants for 15% replacement	No.	60	75	4500.00
2	Reopening of Pits 75 x 0.60 x 0.60 x 0.40	1 m3	59.63	10.8	644.00
3	Refilling of pits with earth in other soils 75 x 0.60 x 0.60 x 0.40	1 m3	27.47	10.8	296.68
4	Loading & Unloading of Plants	1 No.	2.46	75	184.50


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5	Carriage of Plants = 75 avg. distance upto 10 km.)	500 No	196.2	1	196.20
6	Spreading of plants pit to pit	100 No	131.2	75	98.40
7	Re-planting to tall plants	100 No	229.08	75	171.81
8	Spot Irrigation	100 No.	205	75	153.75
9	Weeding & Hoeing (twice)	100 No	357.52	1500	5362.80
10	Hand Watering 10 Times	100 No	205	5000	10250.00
11	Rejungle Clearance (2 times)	Ha.	2378	1	2378.00
12	Stubbing of Kana	Ha.	26836	0.1	2683.60
13	Pruning to plants	100 No.	387.61	100	387.61
14	Watch & Ward for every 10 Ha.	Man year	8528	1/10 Man yr.	8528.00
15	POL	L/s			5000.00
16	Material and supply	L/s			5000.00
				Sub Total	45835.35
Maintenance III Year					
1	Cost of plants for 10% replacement	1 No.	60	50	3000.00
2	Reopening of Pits 50 x 0.60 x 0.60 x 0.40	1 m3	5963	7.2	429.34
3	Refilling of pits with earth in other soils 50 x 0.60 x 0.60 x 0.40	1 m3	27.47	7.2	197.78
4	Loading & Unloading of Plants	1 No.	2.46	50	123.00
5	Carriage of Plants 50 avg. distance upto 10 km.)	500 No	196.2	1	196.20
6	Spreading of plants pit to pit	100 No	131.2	50	65.60
7	Re-planting to plants	100 No	229.08	50	114.54
8	Spot Irrigation	100 No.	205	50	102.50
9	Weeding & Hoeing (thrice)	100 No	357.52	1500	5362.80
10	Hand Watering (8 times)	100 No	205	4000	8200.00
11	Rejungle Clearance (2 times)	Ha.	2378	1	2378.00
12	Stubbing of Kana	Ha.	26836	0.1	2683.60
13	Pruning to plants 20%	100 No.	387.61	100	387.61
14	Watch & Ward for every 10 Ha.	Man year	8528	1/10 Man yr.	8528.00
15	POL	L/s			5000.00
16	Material and supply	L/s			5000.00
				Sub Total	41768.97
Maintenance IV Year					
1	Cost of plants for 5% replacement	1 No.	60	25	1500.00
2	Reopening of Pits 25 x 0.60 x 0.60 x 0.40	1 m3	59.63	3.6	214.67


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3	Refilling of pits with earth in other soils 25 x 0.60 x 0.60 x 0.40	1 m3	27.47	3.6	98.89
4	Loading & Unloading of Plants	1 No.	2.46	25	61.50
5	Carriage of Plants = 25 avg. distance upto 10 km.)	500 No	196.2	1	196.20
6	Spreading of plants pit to pit	100 No	131.2	25	32.80
7	Re-planting to plants	100 No	229.08	25	57.27
8	Spot Irrigation	100 No.	205	25	51.25
9	Weeding & Hoeing (twice)	100 No	357.52	1500	5362.80
10	Rejungle Clearance (2 times)	Ha.	2378	1	2378.00
11	Pruning to plants 30%	100 No.	387.61	300	1162.83
12	Watch & Ward for every 10 Ha.	Man year	8528	1/10 Man yr.	8528.00
15	POL	L/s			5000.00
16	Material and supply	L/s			5000.00
				Sub Total	29644.21
				TOTAL	296667.96
					14833.40
	Over Head expenses 5%				26700.12
	Enhancement due to wage escalation @9%				
				G.Total	338201.47
				Or Say	338201
Note	The watch and ward in subsequent years will carry out the necessary operations of Pruning				
	Total Cost per plant (in Rs)	676			
					676000.00

Total Poles and Plants effected in this Case: 790

$$790 \times 2 = 1580$$

$$\text{Additional CA Cost: } 1580 \times 676 = \text{Rs. } 1068080$$

$$1580 / 500 = 3.16 \text{ Ha. Area}$$


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