

**SCHEME FOR COMPENSATORY
AFFORESTATION OVER 63.30 ha OF NON-
FOREST GOVT. LAND IDENTIFIED IN
VILLAGE PHULJHAR UNDER BANSAPAL
TAHASIL OF B.J.P. RANGE OF KEONJHAR
FOREST DIVISION AGAINST NUAGAON
IRON ORE MINES
OF
SRI KAMALJEET SINGH AHLUWALIA**

ELEMENTS OF THE SCHEME FOR COMPENSATORY AFFORESTATION

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CHAPTER- I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

Nuagaon Iron Ore Mines of Sri Kamaljeet Singh Ahluwalia is situated in village Nuagaon, Guali and etc. under Barbil Tahasil of Keonjhar district under the jurisdiction of Barbil Forest Range of Keonjhar Forest Division. The original Mining Lease was granted and executed in favour of M/s Karam Chand Thapar & Broths (P) Ltd. for a period of 20 years from 04.03.1959 to 03.03.1979. The said mining lease has been transferred in favour of M/s Hindustan General Electrical Corporation in the year 1967 following approval of the State Government and renewed in the 1st RML period in favour of M/S Hindustan General Electrical Corporation for a period of 20 years with effect from 04.03.1979 to 03.03.1999 and the renewed lease has been executed on dated 07.09.1981. Nonetheless, the said mining lease has again been transferred in favour of Sri Kamaljeet Singh Ahluwalia, Barbil, in the 1st RML period, vide order No.11541/MG dt.01.12.1984 of the Dept. of Mining & Geology, Government of Odisha and executed on dt. 18.12.1984. The 2nd RML application has been filed, one year prior to the expiry of the 1st RML, by the Lessee Shri Kamaljeet Singh Ahluwalia in the year 1998 over 767.284 ha Mining Lease. The 2nd RML has been executed with validity from 04.03.1999 to 31.03.2020 through execution of supplementary lease deed vide order No. 3345/S&M dated 18.04.2015 of the Department of Steel & Mines, Govt. of Odisha pursuant to the MMDR Amendment Act, 2015.

Nuagaon Iron Ore Mines of Sri K.J.S. Ahluwalia is located within the latitude 21° 57'26" to 21°59'37"N and longitude 85° 16'18" to 85° 19'48"E of Survey of India Toposheet No. 73 G/5. The mining lease, granted during 2nd RML over 767.284 ha, involves 521.149 ha Village forest, 4.613 ha DLC forest land and 241.522 ha Non-Forest Land. Nevertheless, Non-Forest land over 114.061 ha, out of the total non-forest land over 241.522 ha involved in the mining lease, has been certified by the Tahasildar, Barbil to be Forest land as on 25.10.1980 as per Govt. record pursuant to the guideline F. No. 8-78/1996-FC(pt.) dt.10.03.2015 read with F. No. 8-78/1996-FC(pt.) dt.09.03.2016 of MoEF & CC, Govt. of India. Forest diversion proposal, over 63.30 ha non-forest land recorded as forest as on 25.10.1980, has been submitted for approval under Sec 2(ii) of FC Act, 1980.

The present Compensatory Afforestation scheme, prepared at the prevailing wages @Rs. 200 per man days with maintenance period of 10 (ten) years, over 63.30 ha non forest land, equal in extent the forest land submitted for diversion over 63.30 ha under Sec 2(ii) of FC Act, 1980, will be met from the identified and allotted non forest Govt. land over 76.2874 ha in village Phuljhar under BJP range of Banspal Tahasil (earlier Telkoi Tahsil) of Keonjhar district, in favour of Nuagaon Iron Mines of Sri Kamaljeet Singh Ahluwalia, vide letter No.XXI-32/98/Rev/2276(5) dated 09.10.1998 of the Collector, Keonjhar for raising Compensatory Afforestation.

CHAPTER- II

DETAILS OF LAND IDENTIFIED FOR COMPENSATORY AFFORESTATION

A. LAND IDENTIFICATION AND JOINT VERIFICATION OF THE IDENTIFIED SITE.

The site for Compensatory Afforestation has been identified in village Phuljhar under Bansapal Tahasil in B.J.P. Range of Keonjhar Forest Division over 63.30 ha and has been jointly verified by the Tahasildar, Bansapal, Revenue Inspector, Nayakote, Range Officer, B.J.P. Range and Forest Section Officer, Suakati. The identified land has been allotted in favour of Nuagon Iron Mines of Sri Kamaljeet Singh Ahluwalia. by the Collector, Keonjhar vide letter No. XXI-32/98/Rev/2276(5) dated 09.10.1998. The identified site bears Khata No.54 and Plot No.1728, 1753(P), 1754(P) and 1755 and is surrounded by Village Boundary of village Kasia No. 95 on the North, Village Boundary of village Sankari No. 45 on the East, Plot No. 1780 and 1755/2774 on the South and Plot No. 1753, 1739, 1738, 1737, 1754, 1725, 443 on the West.

B. INFORMATION ON NON-ENCROACHMENT AND NON-ENCUMBRANCE.

The Tahasildar, Bansapal has given certificate of non-encroachment and non-encumbrance in respect of the non-forest Govt. land identified and allotted for Compensatory Afforestation.

C. INFORMATION ON LAND STATUS.

The land schedule and land status of 63.30 ha land identified and allotted for Compensatory Afforestation is furnished hereunder:-

Tahasil	Village	Khata No.	Plot No.	Area taken for instant proposal for CA in ha.	Kissam
Banspal (Earlier it was Telkoi)	Phuljhar	54	1728	18.00	Parbat - II
			1753(P)	20.70	Parbat - II
			1754(P)	16.3126	Parbat - II
			1755	8.2874	Parbat - II
			TOTAL	63.30	

D. SUITABILITY OF IDENTIFIED SITE FOR COMPENSATORY AFFORESTATION.

The identified land is free from encroachment and encumbrance. This land is neither covered under Section-4 of Orissa Forest Act, 1972 nor included in DLC report.

The non-forest Govt. land identified in village Phuljhar is in one patch situated in hilly slopes with existing growth of Sal and its associates. The slope of the identified site is moderate and suitable for Compensatory Afforestation in ANR with gap plantation model@ 200 seedling per ha over 63.30 ha.

The topography of the area is mainly hilly. The soil is prone to erosion necessitating soil-moisture conservation measures. Available depth of sandy-loam soil is conducive for plantation with suitable soil-moisture conservation measures. The average temperature varies from 13.5° C minimum in December to 45°C maximum in May. The

annual rainfall varies from 1200 mm to 1500 mm. The maximum rainfall is received during the rainy season from July to September. The identified land is considered for Compensatory Afforestation in ANR with gap plantation model over 63.30 ha. The CA scheme is envisaged to be executed with involvement of PhuljharVSS.

CHAPTER-III

DELINEATION OF PROPOSED AREA ON SUITABLE MAP

III(1) GPS COORDINATES AND GPS MAP OF THE COMPENSATORY AFFORESTATION SITE

The area has been demarcated through GPS survey and 33 nos of 4' height RCC pillars have been posted around the identified area and the GPS survey data showing latitude & Longitude of each point and their chainage with bearing has been depicted in the village sheet map (Map Enclosed). A durable sign board has been erected at the identified site at a conspicuous location with name of the project, year of allotment, name of the scheme, details of plots etc. depicted there on.

CHAPTER- IV

AGENCY RESPONSIBLE FOR COMPENSATORY AFFORESTATION

IV(1) AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS

The user agency shall provide funds for raising Compensatory Afforestation as per the approved scheme.

IV(2) AGENCY RESPONSIBLE FOR EXECUTION OF COMPENSATORY AFFORESTATION

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Keonjhar Division will be assigned with the task for execution of Compensatory Afforestation.

CHAPTER- V

DETAILS OF WORK SCHEDULE PROPOSED FOR COMPENSATORY AFFORESTATION

A. PLANTING PLAN

Planting Plan reflects the species specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc. Specific treatment of the site in terms of soil and moisture conservation intervention will be depicted in the treatment map. A treatment map will invariably be prepared for Species to be planted and treatments to be applied to the different patches shown in the treatment map and planting plan. This plan will be followed when actual planting is carried out.

Species to be planted:-

1. *Syzgium cumini* (Jamu)
2. *Adina cardifolia* (Kuruma)
3. *Anogeissus latifolia* (Dhaura)
4. *Accacia catechu* (Khair)
5. *Dalbergia sissoo* (Sissoo)
6. *Azadirachta indica* (Neem)
7. *Gmelina arborea* (Gambar)
8. *Terminalia belerica* (Bahada)
9. *Terminalia chebula* (Harida)
10. *Pongamia pinnata* (Karanja)
11. *Emblica officinalis* (Ainla)

B. PRE-PLANTING OPERATION

B(I)-RAISING OF PLANTATION STOCK- NURSERY-

Nursery will be raised @ 220 seedlings per ha including seedlings for 10% causality replacement under ANR model for 63.30 ha.

B(II)-SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING-

The planting area has been surveyed and demarcated through GPS survey and 33 nos of 4' height RCC pillars have been posted at inter visible distance (as per the direction of forest Range Officer, BJP Range) with GPS co-ordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A GPS map in the scale of 1:4000 has been prepared along with GPS co-ordinates forward and backward bearing, pillar No. and distance between pillars reflected in the map. A durable sign board has been erected at a conspicuous location with name of the site, scheme, area etc. depicted on it.

B(III)-SITE PREPARATION AND SILVICULTURAL OPERATION INCLUDING CLEARANCE OF WEED, CLIMBER CUTTING, HIGH STUMP CUTTING, SINGLING OF SHOOTS-

The clearing of the site involving removal of invasive weeds, bushes, climbers, high stumps and singling of shoots will be taken up preferably by the end of February and latest by the end of March. Pits of the dimension 30 x 30 x 30 cm. will be dug @200 per ha in the available gaps over 63.30 ha preferably 2 months before or at least a month before planting of seedlings.

C. PLANTING OPERATION

Planting of seedlings will be taken up in the month of July. The polythene covering of the balls of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heel as a final step so that there is a proper bond between the ball and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

D. POST PLANTING OPERATION

D(1)-CASUALTY REPLACEMENT

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

D(2)-WEEDING AND SOIL WORKING

Regular and efficient weeding will start immediately after sprouting of the stumps is complete or after the seedlings have started throwing up new buds.

D(3)-MANURING AND INSECTICIDE APPLICATION

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil while refilling the pits. As regards artificial fertilizers, the minerals required and dosage @ 50 grammes of patent mixtures like 'Gromor' or N.P.K. (2:2:1) will be applied in two split doses one in August and the other in September.

D(4)-SOIL MOISTURE CONSERVATION MEASURES

Special Soil Moisture Conservation Measures will be taken up through construction of LBCD structures of 2 mtr span to the tune of 80 Nos. and 3 mtr span to the tune of 30 Nos. over the entire plantation site and staggered trenches of dimension 2 x 0.5 x 0.5 mtr to the tune of 60 Nos. per ha. over 63.30 ha.

D(5)-PROTECTION AGAINST FIRE AND GRAZING

Fire line tracing will be ensured to protect the plantation from fire and watch & ward will be provided as per the approved norm for protecting the plantation from grazing with involvement of Phuljhar VSS.

CHAPTER- VI

**COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION
COST NORM FOR ANR PLANTATION @ 200 PLANTS PER HECTARE
WAGE RATE Rs. 200/- PER DAY**

A. ESTIMATE OF COST FOR 1.00 HA. UNDER ANR PLANTATION MODEL

0th year (Advance work) Pre-planting operation.

Sl. No.	Item of work	Preferable period of execution	Person days	Labour (₹)	Material (₹)	Total
1	Survey, Demarcation & pillar posting, GPS Reading with mapping	Nov-Dec	2	400	0	400
2	Site preparation.	Nov-Dec	2	400	0	400
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan-Feb	5	1000	0	1000
4	Nursery cost (6 months old seedling) part @₹9.45/- seedling (₹6.67 in 0 th year + ₹2.78 in 1 st year) for 220 seedlings (200+20)	Jan-March	5.5	1100	367	1467
5	Contingency and Unforeseen Expenditures		0	0	133	133
	Sub-Total		14.5	2900	500	3400
1ST YEAR OPERATION						
1	Nursery cost (6 months old seedling) balance @₹2.78 for 220 seedling	Apr-Jul	2.5	500	112	612
2	Pitting 30 cm cube size	Feb/Mar	6	1200	0	1200
3	Carriage and planting including casualty replacement	Jul/Aug	5	1000	0	1000
4	Complete weeding, Soil working, Manuring	Aug/Sep	6	1200	0	1200
5	Cost of Vermi compost @200gms/ plant @₹20/- per Kg= ₹800.00 and Granular Insecticide 5 gms/ plant @₹80/- per Kg= ₹80.00	Aug/Sep	0	0	880	880
6	Cost of Chemical fertilizer (a) Urea 70 gms/ plant@₹6/- per Kg= ₹84.00 (b)NPK 50 gms/ plant @₹24/- per kg= ₹240.00 as basal dose.		0	0	324	324
7	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/ Oct	15	3000	0	3000
8	Soil Conservation Measures	Sep/ Oct	20	4000	0	4000

	(Staggered trenches of dimension 2m X 0.5m X 0.5m @60 nos per ha) or its equivalent					
9	Fire line Tracing and Inspection path	Feb/ Mar	3	600	0	600
10	Watch & ward	Aug-Mar	7	1400	0	1400
11	Contingency and Unforeseen Expenditures		0	0	304	304
	Sub-Total		64.5	12900	1620	14520
2ND YEAR OPERATION						
1	Casualty Replacement including cost of seedling, carriage and planting	Jul/ Aug	1	200	189	389
2	Complete weeding and cultural operations	Sep/ Oct	2	400	0	400
3	Soil working and manuring	Sep/ Oct	2	400	0	400
4	Cost of Fertilizer and insecticide (a) Vermi compost @200gms/ plant @₹20/- per Kg= ₹800.00 (b) Granular Insecticides 5 gms/ plant for 20 plants 100 gms @₹80/- per Kg= ₹8.00	Sep/ Oct	0	0	808	808
5	Soil Conservation Measures (Renovation of staggered trenches etc.)	Sep/ Oct	8	1600	0	1600
6	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
7	Watch & ward (whole year)	Apr/ Mar	7	1400	0	1400
8	Contingency and Unforeseen Expenditures		0	0	181	181
	Sub-Total		21	4200	1178	5378
3RD YEAR OPERATION						
1	Complete weeding and cultural operations	Aug/ Sep	1	200	0	200
2	Soil working	Aug/ Sep	1	200	0	200
3	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
4	Watch & ward (whole year)	Apr-Mar	7	1400	0	1400
5	Contingency and Unforeseen Expenditures		0	0	200	200
	Sub-Total		10	2000	200	2200
4TH YEAR OPERATION						
1	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
5TH YEAR OPERATION						
1	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200

2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
6TH YEAR OPERATION						
1	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
7TH YEAR OPERATION						
1	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
8TH YEAR OPERATION						
1	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
9TH YEAR OPERATION						
1	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
10TH YEAR OPERATION						
1	Fire line Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
	Grand Total		131	26200	3498	29698

ABSTRACT

Year	Person days	Labour	Material	Total
0th Year	14.5	2900	500	3400
1st Year	64.5	12900	1620	14520
2nd Year	21	4200	1178	5378
3rd Year	10	2000	200	2200
4th Year	3	600	0	600
5th Year	3	600	0	600
6th Year	3	600	0	600
7th Year	3	600	0	600
8th Year	3	600	0	600
9th Year	3	600	0	600
10th Year	3	600	0	600
Total	131	26200	3498	29698
Total Cost Norm per ha.				29698
Total Cost of plantation (63.30 ha.)				1879883.40

ADDITIONAL COST PROPOSED

1	SMC measures- LBCD structure of 2mtr span @ Rs. 5389/- for 80 structures.	431120.00
2	SMC measures- LBCD structure of 3 mtr span @ Rs.11248/- for 30 structures.	337440.00
3	Staggered trenches @Rs. 9160/- for 60 Nos per ha. over 63.30 ha.	579828.00
4	Additional incentive (3%) for VSS/Fr./FG proposed for more than 80% survival and very good growth during 4 th year of maintenance as per recommendation of DFO and RCCF. @Rs. 765/- for 63.30 ha.	48425.00
5	Additional EPA expenses if implemented through VSS at rate Rs.1200/- in 0 th Year, Rs.2400/- in 1 st Year, Rs.1800/- in 2 nd Year, Rs.600/- in 3 rd Year, Rs.600/- in 4 th Year, Rs.600/- in 5 th Year, Rs.600/- in 6 th year, Rs.600/- in 7 th year, Rs.600/- in 8 th year, Rs.600/- in 9 th year, Rs.600/- in 10 th year @ Rs. 10200/- for 63.30 ha	645660.00
	Total	Rs. 20,42,473.00

N.B:- Unit cost of LBCD structures of different dimension along with staggered trenches is enclosed as Annexure- I , II & III.

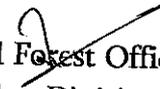
TOTAL COST OF PROJECT

1.	Cost of ANR model over 63.30 ha	18,79,883.40
2	Additional Cost	20,42,473.00
	Sub Total	39,22,356.40
3	Add 20% escalation	784471.28
	Grand Total	47,06,827.68
		or
		47,06,828.00

(Rupees forty seven lakh six thousand eight hundred twenty eight) only.

A. PROVISION OF FUNDS AND FUND UTILIZATION

Rs. 47,06,828/- (Rupees forty seven lakh six thousand eight hundred twenty eight) only shall be deposited by the User Agency Kamaljeet Singh Ahluwalia on approval of the scheme in Ad-hoc CAMPA Account and the funds will be utilized for raising of Compensatory Afforestation by the Divisional Forest Officer, Keonjhar Division on allotment by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.


 Divisional Forest Officer,
 Keonjhar Division

CHAPTER- VII

DETAILS OF PROPOSED MONITORING MECHANISM

Compensatory Afforestation will be taken up in the identified site by the Range Officer, BJP Forest Range of Keonjhar Division. The Range Forest Officer, BJP Forest Range will undertake field checks of the works undertaken at the identified site and will be cross checked by the Asst. Conservator of Forests, (Affn.) and Divisional Forest Officer, Keonjhar Division. GPS co-ordinates along with other required information of Compensatory Afforestation will be uploaded in the e-Greenwatch Portal of NIC, MoEF, Govt. of India for the purpose of online monitoring. Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored and recorded in the plantation journal by the field staffs of BJP Forest Range and reported to the Divisional Forest Officer for necessary action. The same thing will be reported to the Regional Chief Conservator of Forests, Rourkela Circle and Chief Conservator of Forests (PP&A), O/o the Pr. Chief Conservator of Forests, Odisha, Bhubaneswar and necessary corrective measures will be followed if required so.


Divisional Forest Officer,
Keonjhar Division

Annexure- I

ESTIMATE OF COST FOR ONE LOOSE BOULDER STRUCTURE

It has been proposed to take up Soil Conservation Measures by construction of Loose Boulder Structure over the plantation site of size 2 mtr span to the tune of 80 Nos. The unit cost of LBCD structure is produced hereunder-

The unit cost of LBCD structure of 2 mtr span size is produced hereunder

Sl. No.	Item of activity	Cost per unit (Rs.)	Total unit (No/ Cum)	Total cost (in Rs.)
1.	Leveling the unshaped surface of the selected site & layout the structure foundation L.S. 1 MD.	200	1	200
2.	Excavation of foundation in hard soil within initial lead of 50 mtr. including rough dressing and breaking of clods to maximum size 5 cm. to 7 cm. laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx. bund of loose boulder structure.	66.67	3.63	242.01
	Base with apron- $1 \times 3.70 \times 3.00 \times 0.30 = 3.33$			
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.30 = 0.30$			
	@ Rs.6667.00 per 100 cum.			
3.	Rough stone dry packing	571.87	8.65	4946.67
	up to GL			
	Base with apron- $1 \times 3.70 \times 3.00 \times 0.30 = 3.33$			
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.30 = 0.30$			
	Above GL			
	Super structure $1 \times 2.00 \times (2.70 + 0.60)/2 \times 0.60 = 1.980$			
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.50 = 0.50$			
	Side wall-			
i.	$2 \times (0.50 + 1.10)/2 \times 0.9 \times 0.5 = 0.72$			
ii.	$2 \times (0.5 + 1.10)/2 \times 1.2 \times 0.5 = 0.96$			
iii.	$2 \times 0.6 \times 0.6 \times 0.5 = 0.36$			
iv.	$2 \times 1.0 \times 0.5 \times 0.5 = 0.50$			
	@ Rs.571.87 per cum			
	G. Total:-			5388.68
				or
				5389.00

Annexure- II

Span of 3 Mtr. Size

Sl. No.	Item of activity	Cost per unit (Rs.)	Total unit (No/ Cum)	Total cost (in Rs.)
1.	Leveling the unshaped surface of the selected site & layout the structure foundation L.S. 1 MD.	200	1	200.00
2.	Excavation of foundation in hard soil within initial lead of 50 mtr. including rough dressing and breaking of clods to maximum size 5 cm. to 7 cm. laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx. bund of loose boulder structure.	66.67	6.42	428.02
	Base with apron- $1 \times 5.10 \times 4.00 \times 0.30 = 6.12$			
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.30 = 0.30$			
	@ Rs.6667.00 per 100 cum.			
3.	Rough stone dry packing	571.87	18.57	10619.62
	up to GL			
	Base with apron- $1 \times 5.10 \times 4.00 \times 0.30 = 6.12$			
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.30 = 0.30$			
	Above GL			
	Super structure - $1 \times (4.10 + 0.60)/2 \times 1.00 \times 3.0 = 7.05$			
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.50 = 0.50$			
	Side wall-			
i.	$2 \times (0.50 + 1.50)/2 \times 1.5 \times 0.5 = 1.50$			
ii.	$2 \times (0.5 + 1.50)/2 \times 2.0 \times 0.5 = 2.00$			
iii.	$2 \times 0.6 \times 1.0 \times 0.5 = 0.60$			
iv.	$2 \times 1.0 \times 0.5 \times 0.5 = 0.50$			
	@ Rs.571.87 per cum			
	G. Total:-			11247.64
				Or
				11248.00

Annexure- III

**ESTIMATE OF COST FOR ONE SPECIAL SMC STRUCTURE
(2.5 Mtr. x 0.5 Mtr. x 0.5 mtr.)**

The unit cost of Staggered Trench of size 2.5 mtr x 0.5mtr x 0.5 mtr along with Agave Plant on the dugout soil is produced hereunder-

Sl. No.	Item of activity	Cost per unit (Rs.)	Total unit (No/ Cum)	Total cost (in Rs.)
1	Earth Work in excavation if staggered trench in hard soil including Rough dressing and leveling the beds and heaping the dugout soil at the downhill side of the trench and leveling the same too. Size of a trench = 2.5 Mtr x 0.5 Mtr x 0.5 Mtr @ 200 MD/ ha for 300 Nos.	86.67	1	86.67
2.	Cost of Agave Planting on the dugout soil and its maintenance including weeding, soil working, manuring, cost of fertilizer etc. for seven years 03 nos. of Agave plants per trench @ Rs.22.00 per plant on LS	22.00	3	66.00
	Total cost per trench	108.67	4	152.67
	Cost of 60 nos. of Staggered Trenches per ha			9160.00