AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DDJAY OVER AN AREA MEASURING 10.420139 ACRES SITUATED IN THE REVENUE ESTATE OF VILLAGE KHAIKA SECTOR-4, SOHNA DIST- GURUGRAM, HARYANA

DEVELOPED BY M/S GLS INFRATECH PVT LTD.

ESTIMATE FOR PROVIDING WATER SUPPLY.SEWERAGE. STORM WATER DRAINAGE, ROADS,STREET LIGHTING AND HORTICULTURE IN AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DDJAY OVER AN AREA MEASURING 10.420139 ACRES SITUATED IN THE REVENUE ESTATE OF VILLAGE KHAIKA SECTOR-4, SOHNA DIST- GURUGRAM, HARYANA.

Gurugram is a town and municipal corporation in the Gurugram district of the state of Haryana, India. It is a part of the National Capital Region (NCR) of Delhi. Its proximity to the burgeoning city of Gurgaon has in recent years caused its character and demographics to change dramatically. It has many factories, offices, hotels, IT parks and educational institutes. There are several sightseeing spots around the area, some overlapping with Gurgaon. Sohna is 41 kilometres from Indira Gandhi International Airport and is located on National Highway 48, making it well connected with Delhi, Gurgaon, Rewari, Dharuhera, Jaipur, Ahmedabad and Mumbai.

PROJECT REPORT/ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STROM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULURE IN AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DDJAY OVER AN AREA MEASURING 10.420139 ACRES SITUATED IN THE REVENUE ESTATE OF VILLAGE KHAIKA SECTOR-4, SOHNA DIST- GURUGRAM, HARYANA.

The Haryana Government has prepared a master plan for development of Residential/Industrial/ Commercial urban estate Gurugram. Project is doveloped by M/S GLS Infatech Private Limited. They have decided to develop the area in this master plan as a plotted residential colony and has named this part as Proposed Affordable residential plotted Colony for an area measuring 10.420139 Acres in, The Revenue Estate of Village Khaika, Sector-4, Sohna, Dist-Gurugram,

<u>Water Supply</u>

1 <u>Source</u>

The source of water supply in this area is from **HSVP** how ever tubewells shall be proposed for Emergency if permission will get from CGWA. At present water supply is from HSVP municipal supply and tanker supply is sweet and fit for human consumption. However in borewell water is available at reasonable depth. The average yield of tubewell with 40-45 ft strainers will be about 20,000 litre per hour. The recharging of underground water table in this belt is stated to be good. However still we shall resort to rain water harvesting system to keep up the recharging system. The number of tubewells required for the above area has been worked out and the tubewells will be bored after the permission from CGWA in tune with growth of demand. The ultimate requirement of tubewells includes provisions of 10% stand by. Ultimately, water shall be supplied to the Project by **HARYANA SHAHARI VIKAS PRADHIKARAN, GURUGRAM, HARYANA**.

2 **Design**

The scheme has been designed for approved population of **2628 persons in 10.420139 acres**. The rate of water supply per head per day has been taken as 172.5 litres (150+15%) as per NBC 2016 / HSVP norms. in addition to above necessary provision of water for community area, coomercial area, parks etc. have been taken into account for calculating the maximum quantity of water requirement.

3 **Pumping Equipments**

It has been proposed to install pumping set as described with standby of equal capacity. The provision for standby generating set has been provided in case of any electricity failure. Generator will be provided separately or added to the capacity of main generator.

4 **Under Ground Storage**

Underground storage tank provision has been made for **280KL** capacity. in 4 compartments, which caters for the raw, domestic as well as for firefighting requirement. The water from fire compartment shall overflow to the raw water compartment so that the water in the fire compartment always remain fresh.

5 **Boosting Station**

A boosting station having monoblock centrifugal pump set is planned near under ground reservior to pump water from domestic/ treated under ground water tank to over head water tank provided at individual plot terrace.

6 **Distribution System**

The distribution system for this development has been designed to supply @ 172.5 litre per head her day @ 2.5 times the average rate of flow on 'Hazen william' formula with C-140. Necessary provision for laying D.I. pipe K-7 conforming to relevent IS standards along with valves and specials has been made in the project. The minimum terminal head at any point will be more than 30.00 meters so thet it can serve the stilt and four floors stories construction envisaged in the plan. Minimum pipe dia for distribution is kept as 100 mm dia for domestic water supply.

7 **Rising Mains**

Rising mains from HSVP water main or sector road to water works have also been designed and provision for 100 mm dia D.I. pipe line (dia as/ design) has been made in this estimate.

8 **Sewerage**

This scheme is designed for sewer connecting to the proposed sewage treatment plant. The sewage system has been marked on the respsctive plans.

The sewer lines have been designed for 3 times average DWF in relation to the water supply demand assuming that 80% of water supply shall find its way into the propoesd sewer. DWC HDPE SN8 pipe sewers have been proposed and designed to run half full. The sewers have been designed on 0.75 M per second minimum velocity i.e. self cleansing velocity Necessary provision for laying DWC HDPE SN8 pipes and manholes etc. has been made in this estimate.

Size/ Shape of Manholes

As per IS 4111:1986 "Circular type of manholes are much stronger than rectangular and arch type manholes thus these type of manholes are preferred over rectangular as well as arch type manholes. However both rectangular and circular type of manholes are propsed to be provided. The brick masonary rectangular manhole is proposed to be provided for depth upto 0.9m.

The brick masonry/ concrete circular manholes are proposed to be provided for all depth exceeding 0.9 m upwards. Circular manholes are strsaight down in lower portion and slanting on top portion so as to narrow down the top opening equal to internal dia of manhole cover.

Depending on the depth of manhole, brick circular manhole of dia 910, 1220, 1520, 1820 mm dia are proposed to be provided.

9 **Storm Water Drainage**

The storm water is designed to carry 6.25 mm rainfall per hour or 0.123 cusecs per acre as discharge. Also suitable provisions are contemplated in our scheme to ensure better recarging of underground water table in the area. Underground R.C.C. pipe drain with minimum 400 mm dia are proposed to be provided in this area with circular manhole.

Necessary design statement for entire storm water system has been prepared and attached with estiamte.

10 **Rain Water Harvesting**

The main emphasis on recharging the underground aquifers and safe disposal of storm water with flooding the site has been laid in designing/ planning of storm water drainage system. Modular type rain water harvesting are proposed to be provided.

11 **Roads**

The roads are proposed to be provided in the plotted development in such a way that main 9 m wide colony road connects with 24 m sector road. Internal service of the roads of the colony 9m wide provide approach for construction of roads to the plots. Detailed calculation of the various item of works have been made on the basis of the detail design of the roads as approved by Chief Engineer HSVP, Gurugram.

12 **Street Lighting**

Street lighting system has been designed to provide illumination of 15 to 20 lux on roads. Street lights are provided on 6 m high steel tubular poles are located on one side of 9.0 m wide road. Luminaries with 65 watts LED lights are proposed to be provided for achieving the desired illumination.

13 **Horticulture**

Provision of road side plantation of trees with tree guards has been made for all roads.The parks shall be developed by providing lawns & ornamental trees with tree guards.

14 **Specifications :**

The work will be carried out in accordance with the standard sprcification of P.H. Department as laid down by HSVP & Haryana Government.

15 **Rates**

Estimate for providing services in this pocket has been prepared on the recent HSVP rates.

16 **Cost**

The total cost of development in this project including various P.H. and B & R services works out to **Rs. 1132.86 Lacs** which includes 3% contingency and PE charges and 49% departmental charges also.

The cost per gross acre for this phase works out to App. **Rs. 108.72 Lacs/acre** which covers the provision of services like water supply, sewerage, storm water drainage, roads, street lighting and plantations including plantations maintenance thereof as well as future expansion whatsoever indicated.

	DESIGN CALCULATION	**For 10.420139 Acres Acres**	**Unit**
	Daily water requirement		
	Total No. of Plots (General)	146	Nos
	Total No. of Plots (EWS)	0	Nos
	Population per plot (General)	18	Person/Plot
	Population per plot (EWS)	9	Person/Plot
1	Therefore population (General)	2628	Persons
	Therefore population(EWS)	0	Persons
	Total Population	2628	Persons

		SAY	2628	Persons	
	Total daily Water requirement for plots (150 LPCD + 15%)	@	172.5	LPCD	
			Domestic @ 65%	Flushing @ 35%	
			294664.50	158665.50	LPD
		Or Say	**294.70**	**158.70**	**KLD (1)**
2	**Non Residential building water requirement**				
a	No. of commercial area		1	No.	
	Daily water requirement	@	32000	Ltrs/Acre/day	
	Area of commercial		0.417	Acre	
	Daily water requirement	@	20800	11200	Ltrs/Acre/day
	Therefore daily water requirement		8673.60	4670.40	lit/day
		Or Say	**8.67**	**4.67**	KLD
b	No. of community center		1	No.	
	Area of community center		1.042	Acre	
	Daily water requirement	@	25000	lit/acre/day	
	Daily water requirement		16932.5	9117.5	lit/day
		Or Say	**16.93**	**9.12**	KLD
c	No. of milk booth		1	No.	
	Daily water requirement	@	1000	lit/acre/day	
	Daily water requirement		650	350	lit/day
		Or Say	**0.65**	**0.35**	KLD
	Total 2 (a+b+c)		**26.26**	**14.14**	**KLD (2)**
3	Area under Parks		0.791	Acre	
	Daily water requirement	@	25000	lit/acre/day	
	Therefore daily water requirement			19775	lit/day

				19.78	KLD
4	Area under Roads		2.965	Acre	
	Daily water requirement	@	5000	lit/acre/day	
	Therefore daily water requirement			14825	lit/day
				14.83	KLD
		Total		**34.60**	**KLD**
I	**Total daily requirement**				
a)	For (1+2)		320.96	172.84	KLD
b)	Under Road+ Parks (3+4)		0.00	34.60	KLD
	Total Daily Requirement		320.96	207.44	KLD
		Or Say	**321.00**	**208.00**	**KLD**
II	**Tubewell**				
	Assuming working hours of tubewells		**12**	hours	
	Assuming discharge/hour of each tubewell		**20**	KL/hours	
	Total domestic water requirment		**321**	**KLD**	
	No. of tubewells required		1.34	Nos.	
	Add 10% standby		0.13		
		Total	1.47	Nos.	
		Proposed	**2.0**	Nos.	

So It is proposed 2 nos of tubewell if permission will get from from CGWA. The provision of 2 no of tubewell has been made in the estimate because the water demand for flushing, horticulture and the road washing purpose is to be met from re circulated after treatment at STP and ultimate water supply is to be provided by HSVP.

III	**Pumping machinery for tubewell**			
a)	Gross working load	=	45.00	m
b)	Average Fall in S.L	=	3.05	m
c)	Depression head	=	6.10	m
d)	Friction loss	=	2.50	m

		=	56.65	m	
	Say	=	60.00	m	
BHP = (20x1000x60)/(60x60x75x0.6)		=	7.41	HP	
With 60% efficiency	**Proposed**		**7.50**	HP	

It is proposed to install **2 no. Submersible pumping set** with a discharge of **20000 ltr./hour (335 lpm) driven with 7.5 HP** electric motor.

IV Underground Tank

Daily requirement for domestic use and other except fire fighting		=	**320.96**	KLD	
Capacity of under ground tank 14 hr storage except fire fighting @ 60% storage requirement		=	**192.57**	KLD	
	Say	=	**200.00**	KLD	
Total Population in General plots		=	**2628**	Person	18 Person/plot
Total Population in Commercial area		=	**563**	Person	3 sqm/ Person
Total Population in community centre		=	**1406**	Person	3 sqm/ Person
Fire Tank Capacity as 100 x [sqrt(4596) /1000] x 1/3		=	71.46	KLD	
	Say	**=**	**80.00**	KLD	
	Total		**280.00**	**KLD**	

It is proposed to provide 1 no. under ground tank of capacity **280 KL** which also includes **80 KL** capacity for **fire fighting**.

Tank will have four compartments, Two for fire, one for raw and one for domestic use. The water first enters the fire compartment, then over flows to the domestic water use compartment so that the water in the fire compartment shall remain fresh.

It is proposed to provide under ground tank of following capacity

a)	Capacity of Fire tank-1	**40.00**	KLD
b)	Capacity of Fire tank-2	**40.00**	KLD
c)	Capacity of Raw tank	**100.00**	KLD
d)	Capacity of Domestic tank	**100.00**	KLD

V	**BOOSTING MACHINERY (Drinking water)**			
	UG. Tank			
a)	**Filter Feed Pump**			
	Daily requirement for domestic use	=	320.96	KLD
	Assuming 12 hours running 1 pumps (with one standby)			
	Discharge/hour	=	26.75	KL/HR
			445.77	LPM
		Or Say	450.00	LPM
	Head of pump			
i)	Suction lifts	=	0.0	m
ii)	Friction loss in M<main & specials	=	0.0	m
iii)	Clear head	=	35.0	m
		=	35.0	m
	Say	=	35.0	m
	BHP of motor (450*35)/(60*75*0.6)	=	5.8	HP
		Or Say	7.5	HP
b)	**Domestic Water Transfer Pump**			
	Daily requirement for domestic use	=	320.96	KLD
	Assuming 6 hours running 2 pumps (with one standby)			
	Discharge/hour	=	26.75	KL/HR
			445.77	LPM
		Or Say	450.00	LPM
	Head of pump			
i)	Suction lifts	=	5.0	m
ii)	Friction loss in M<main & specials	=	10.0	m
iii)	Clear head	=	15.0	m
iv)	Residual head	=	15.0	m
		=	45.0	m
	Say	=	45.0	m

	BHP of motor (450*45)/(60*75*0.6)			=	7.50	HP	
				Or Say	7.5	HP	
VI	**Gen Set**	Nos.	HP				
a)	Raw Water Transfer Pump	1	7.5	=		7.5	HP
b)	Domestic Water Transfer Pump	2	7.5	=		15	HP
c)	Flushing Water Transfer Pump	2	5.0	=		10	HP
d)	Tubewell	2	7.5	=		15	HP
e)	Lighting	1	5.0	=		5	HP
						52.5	HP
		or	52.5 x 0.746 x 1.50			58.7	KVA
			Say			**60**	KVA
5	**Sewage Treatment Plant capacity**						
	Gross domestic + Flushing water requirement/day				493.8	KLD	
	Sewage flow will be 80% of total load				395.0	KLD	
	STP Capacity required at 5% extra margin				**414.79**	**KLD**	

	STP Capacity (Or Say)			**420.00**	**KLD**
VII	**STP Treated Tank**				
	Daily requirement for flushing, horticulture, road washing		=	**207.44**	KLD
	Capacity of under ground tank 14 hr storage @60% storage		=	**124.46**	KLD
		Say	=	**130.00**	KLD
VIII	**BOOSTING MACHINERY (Flushing water)**				
	STP				
	Daily requirement for Flushing & Horticulture use		=	192.61	KLD
	Assuming 6 hours running 2 pumps (with one standby)				
	Discharge/hour		=	16.05	KL/HR
				267.52	LPM
			Or Say	270.00	LPM
	Head of pump				
i)	Suction lifts		=	5.0	m
ii)	Friction loss in M<main & specials		=	10.0	m
iii)	Clear head		=	15.0	m
iv)	Residual head		=	15.0	m
			=	45.0	m
	Say		=	45.0	m
	BHP of motor (270*45)/(60*75*0.6)		=	4.50	HP
			Or Say	5.0	HP

FINAL ABSTRACT OF COST

	Amount (Lacs.) For 10.420139 Ac
Sub Work 1- Water Supply	**175.00**
Sub Work 2- Sewerage	**215.68**
Sub Work 3- S.W. Drainage	**115.22**
Sub Work 4- Roads	**295.56**
Sub Work 5- Street Lighting	**39.98**
Sub Work 6- Horticulture	**7.26**
Sub Work 7- Maintenance of services for 10 years including resurfacing of roads after 1st 5 years & II. Phase i.e. 10 years maintenance (as per HSVP norms)	**284.15**
TOTAL	**1132.86**
COST / ACRE	**108.72**

WATER SUPPLY HEAD		**Amount (Lacs.) For 10.420139 Ac**
Sub Head 1- Head Works		**47.80**
Sub Head 2- Pumping Machinery		**26.60**
Sub Head 3- Distribution System		**39.36**
Sub Head 4- Irrigation scheme		**0.57**
Total		**114.33**
Add 3% Contingencies & PE Charge		**3.43**
		117.76
Add 49% Departmental Charges		**57.70**
	TOTAL	**175.46**
(CO to final abstract of cost)	**SAY**	**175.00**

Sub Head I | **Water Supply Head Works**

Rs.(lakhs)

S. No.	Description	Unit	Qty	Rate	Amount
1	Boring and installing 510 mm i/d tubewells with reverse/direct rotary rig complete with pipe strainer to a depth of about 80m. complete.	Nos.	2	1000000.00	20.00
2	Constructing pump chambers as per standard design of PWD PH/HSVP of size 1.50x1.50 m.	Nos.	2	100000.00	2.00
3	Construction of boosting chambers of suitable size along with under ground tank pumping machinery and generating set etc. complete in all respects. Details of boosting station				
i)	construction of boosting chamber			LS	5.00
ii)	construction of UG Tank	KL.	280	6000.00	16.80
4	Provision for carriage of material and other unforeseen items .	LS		LS	1.00
5	Provision for facilities staff for Maintenance.	LS		LS	3.00
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	**47.80**
				SAY	**47.80**

Sub Work I Water Supply
Sub Head No. II Pumping Machinery

S. No.	Description	Unit	Qty	Rate	Amount (Rs.) (in Lakhs)
1	Providing and installing electricity driven electro or submersible pumping set capable of delivering about 20 KL water per hour against a total head of 60 M complete with motor and other accessories.	Nos.	2	200000.00	4.00
2	Provision for cheap pressure type chlorination plant complete.			LS	1.00
3	Provision for making foundations & erection of pumping machinery.			LS	1.00
4	Provision for pipes, valves & specials inside the pump chamber.			LS	1.00
5	Provision for electric services connection including electric fittings for tubewells chambers complete. Including cost of trasfermer.			LS	2.00
6	Providing and installing electricity driven pumping set, capable of delivering 450 LPM of water at 35M head complete in all respects. (For Filter Feed Pump) (7.5HP)				
	(1 working + 1 standby)	Nos.	2	140000.00	2.80
7	Providing and installing electricity driven pumping set, capable of delivering 450 LPM of water at 45M head complete in all respects. (7.5 HP) (Domestic Water Transfer Pump)				
	(2 working + 1 standby)	Nos.	3	140000.00	4.20

8	Providing and installing electricity driven pumping set, capable of delivering 270 LPM of water at 45M head complete in all respects. (5 HP) (Flushing Water Transfer Pump) (2 working + 1 standby)	Nos.	3	120000.00	3.60
9	Provision of diesel generator set of each for standby arrangements for booster pump complete with gear head arrangements of following capacities 60 KVA.			LS	6.00
10	Provision for carriage of materials and other unforeseen items.			LS	1.00
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	**26.60**
				SAY	**26.60**

Sub Work I | **Water Supply**
Sub Head No. III | **Distribution System/Rising Main**

S. No.	Description	Unit	Qty	Rate	IN LACS
1	Providing, laying, jointing & testing D.I. K-7 pipes including cost of excavation complete as per ISI marked. (For Domestic water supply line)				
i)	100 mm dia	M	1115	1475.00	16.45
2	Providing, laying, jointing & testing D.I. K-7 pipes including cost of excavation complete as per ISI marked. (For borewell line)				
i)	100 mm dia	M	45	1475.00	0.66
3	Providing, laying, jointing & testing HDPE PE-80 pipes including cost of excavation complete as per ISI marked. (For Flushing water supply line)				
i)	80 mm dia	M	1110	800.00	8.88
4	Providing and fixing sluice valves including cost brick masonary chambers complete in all respects.				
i)	100 mm i/d	Nos.	8	25000.00	2.00
5	Providing, fixing and testing butterfly valves including cost of valve chambers complete in all respects.				
i)	80 mm i/d	Nos.	8	15000.00	1.20
6	Providing and fixing 100 mm dia NRV including cost of valve chambers complete in all respects.				
i)	100 mmm dia	Nos.	1	25000.00	0.25
ii)	80 mmm dia	Nos.	1	20000.00	0.20

7	Providing and fixing air valves and scour valves including cost of valve chambers complete in all respects.	Nos.	4	10000.00	0.40
8	Providing and fixing indicating plates for sluice valve, air valve etc.	Nos.	22	1000.00	0.22
9	Provision for carriage of material			LS	1.00
10	Provision for cutting the roads and making to its original condition			LS	1.00
11	Providing and fixing fire hydrants complete with masonary chambers.	Nos.	11	15000.00	1.65
12	Making water supply connection			LS	1.00
13	Provision for rising main from HSVP water supply line to UG Tank				
i)	100 mm dia (DI Pipe K-7)	M	302	1475.00	4.45
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	**39.36**
				SAY	**39.36**

Sub Work I **Water Supply**

Sub Head No. IV **Irrigation**

S. No.	**Description**	**Unit**	Qty	**Rate**	**IN LACS**
1	Providing, laying, jointing & testing HDPE PE-80 pipes including cost of excavation complete as per ISI marked.				
i)	25 mm dia	M	48	400.00	0.192
ii)	32 mm dia	M	12	530.00	0.064
2	Providing & fixing 20 mm PVC Irrigation hydrant valve with PVC lid complete in all respect including cost of PVC keys	Nos.	6	3500.00	0.21
3	Provision for carriage of material	LS		10000.00	0.10
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	**0.57**
				SAY	**0.57**

	Sub Work II				Sewerage Scheme
S. No.	**Description**	**Unit**	Qty	**Rate**	in Lacs
1	Providing, lowering, jointing, cutting DWC HDPE SN8 pipes and specials into trenches including cost of excavation, bed concrete lot of manholes complete.				
i)	200 mm i/d				
a)	Average depth upto 1.5 m	M	404	2270.00	9.17
b)	Average depth 1.5 m to 4.5 m	M	685	2370.00	16.23
ii)	250 mm i/d				
a)	Average depth 1.5 m to 4.5 m	M	69	2430.00	1.68
2	Provision for lighting, watching and temporary diversion traffic			LS	1.00
3	Provision for timbering & shoring			LS	1.00
4	Provision for cutting of roads and carriage of materials etc. and other unforsean charges			LS	1.00
5	Provision for connection with HSVP			LS	1.00
6	Providing and installation of STP 420 KL including civil tanks and all electro mechanical works. It also includes flushing tank.	KL	420	25000.00	105.0
7	Provision for DI K-7 pipe from S.T.P. to HSVP main line (Over flow line)				
i)	100 mm dia pipe	M	302	1475.00	4.45
					140.54

Add 3% contingencies & PE charges		4.22
		144.75
Add 49% Deptt. Charges		70.93
	TOTAL	**215.68**
(C.O. TO FINAL ABSTRACT OF COST SUB WORK - II)	**SAY**	**215.68**

Sub Work III **Storm water drainage**

S. No.	Description	Unit	Qty	Rate	In Lacs
1	Providing, lowering, jointing, cutting RCC NP2 pipes and specials into trenches including cost of excavation cost of manholes, ventilating chambers etc. complete in all respects.				
i)	400 mm i/d				
a)	Average depth upto 1.5 m	M	505	2950.00	14.90
b)	Average depth 1.5 m to 4.5 m	M	675	3050.00	20.59
2	Provision for road gully and drain.			LS	5.00
3	Provision for lighting, watching and temporary diversion of traffic.			LS	1.00
4	Provision for cutting of roads and carriage of materials etc. and other unforseen items.			LS	1.00
5	Construction of rain water harvesting pit as per details and specification given below and as per attached drawing including, cost of excavation of all ind soil foundation trenches of drain including dressing of sides of ramming and getting out excavtion of soil.	Nos	7	450000.00	31.50
6	Provision for connection with HSVP.				
	400 mm i/d (Average depth 1.5 m to 4.5 m)	M	3	3050	0.09
7	Provision for connection with HSVP line			LS	1.00

		75.08
Add 3% contingencies		2.25
		77.33
Add 49% Deptt. Charges		37.89
	TOTAL	**115.22**
(C.O. TO FINAL ABSTRACT OF COST SUB WORK - III)	**SAY**	**115.22**

Sub Work IV Road Work

S. No.	Description	Unit	Qty	Rate	In Lacs
1	Provision for levelling and earth filling as per site conditions.	Acre	10.420139	175000.00	18.24
2	Construction of road by-				
	i) 150 mm thick W.B.M. stone aggregate layer				
	ii) 100 mm thick PCC				
	iii) 50 thick sand bed				
	iv) 80 mm thick conc. pavers				
	Total	Sq. M	7926	1500.00	118.89
3	Miscellaneous items				
(a)	Providing for Kerbs & Channels for 10.420139 ACRES	RMT	2360	600.00	14.16
	Road 1180 x 2 = 2360 RM				
(b)	Provision of foot path of precast conc.	Sq. M	4130	750.00	30.975
	for 10.420139 acres				
	Road 1180 x 1.75x 2 = 4130 SQM				
4	Provision for traffic lighting and guide map	LS		100000.00	1.00
5	Provision for carriage of material	LS		100000.00	1.00
6	Provision for plot indicator	LS		100000.00	1.00

7	Provision for demaracation & unfloreseen items	LS		100000.00	1.00
8	Provision for parking & pavement for commercial area @ 50% 1686.39 = 843.20 sqm	sqm	843.20	750.00	6.32
					192.58
	Add 3% contingencies				5.78
					198.36
	Add 49% Deptt. Charges				**97.20**
				TOTAL	**295.56**
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - IV)			SAY	**295.56**

Sub Work V Street Lighting

S. No.	Description	Unit	Qty	Rate	In Lacs
1	Providing street lighting on internal roads as per standerd specification of HVPNL and CFL complete in all respect				
	Provision made on L.S. cost @ Rs.2,50,000.00 per acre	L.S.	10.420139	250000.00	26.05
					26.05
	Add 3% contingencies				0.78
					26.83
	Add 49% Deptt. Charges				13.15
				TOTAL	**39.98**
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - V)			**SAY**	**39.98**

Sub Work VI Horticulture

S. No.	Description	Unit	Qty	Rate	Amount
					In Lacs
1	Development of lawn area				
a)	Trenching the ordinary soil upto depth of 60 cm. including removal and apcking of servicable material and disposing at the lead of 50m and making upto the tranched area to prope level by filling with earth mixed with manure before and after flooding trenches with water including cost of imported earth and manure.				
b)	Rough dressing of trenched area.				
c)	Grassing with including watering and maintenance of lawns free from weds and fit for moving in rows including for hedges, shrubs and green belt (as per HSVP Norms)	Per acre	0.791	150000.00	1.19
2	Planting of trees with tree guards on roads at 12 m intervals				
	Total length of roads = 1180 mtr				
	No of trees @ 12m c/c = 1180x2/12 = 196.66 nos				
	say = 197 nos				
	Cost of the tree @ 1800/- each	Nos.	197	1800.00	3.55
	TOTAL				**4.73**
	Add 3% contingencies				0.14
					4.87
	Add 49% Deptt. Charges				2.39
				TOTAL	**7.26**
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - VI)			**SAY**	**7.26**

Sub Work VII Maintenance

S. No.	Description	Unit	Qty	Rate	In Lacs
1	Provision for maintenance charges for water supply, sewerage, storm water drainage, roads, street light, horticulture etc. complete including operation and establishment charges as per HSVP norms after completion and resurfacing of roads after 10 years or 1st phase.	Acre	10.420139	750000.00	78.15
2	Provision for resurfacing and strengthening of roads after 1st five years of 1st phase with 80 mm thick concrete pavers @ 600 / sqm	Sq. M	7926	600.00	47.56
3	Provision for resurfacing and strengthening of road after 10 years of 2nd phase with 80 mm thick concrete pavers @ 600 / sqm	Sq. M	7926	750.00	59.45
					185.15
	Add 3% contingencies				5.55
					190.71
	Add 49% Deptt. Charges				93.45
				TOTAL	**284.15**
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - VII)			SAY	**284.15**