

**SERVICE ESTIMATE, DESIGN REPORT AND CALCULATION OF
INTERNAL DEVELOPMENT WORKS**

FOR

DEEN DAYAL JAN AWAS YOJNA

9.5 ACRES

AT GWALPAHARI

GURGAON HARYANA

For Namdev Construction Private Limited

Director/Auth. Signatory

DEVELOPED BY

**M/S Namdev Construction Pvt. Ltd.
LGF-10, Vasant Square Mall, Plot-A,
Sector-B, Pocket-V, Community Center,
Vasant Kunj, New Delhi-110070.**



**SERVICE ESTIMATE, DESIGN REPORT AND CALCULATION OF
INTERNAL DEVELOPMENT WORKS**

DEEN DAYAL JAN AWAS YOJNA 9.5 Acres AT GWALPAHARI, GURGAON.

M/S Namdev Construction Pvt. Ltd. LGF-10, Vasant Square Mall, Plot-A, Sector-B, Pocket-V, Community Center, Vasant Kunj, New Delhi-110070.

Report

Gurgaon town of Haryana State is situated on Delhi - Jaipur National Highway No.8 at a distance of 30 kms from Delhi. Being in the national capital Region, the town has fast developing tendency and potential. Further, it has also started sharing the growing Industrial load of Delhi. In order to relieve the growing pressure of population in National Capital of Delhi, Haryana Urban Development Authority has already developed residential sector which are fully inhabited to an extent. Further to the increasing demand HUDA has planned to develop new sectors at outskirts of Gurgaon town.

This report and estimate is for approval of **9.5 Acres DEEN DAYAL JAN AWAS YOJNA**

WATER SUPPLY

At present the source of water supply in this area is HUDA. It has been proposed to construct underground tank and over head tank of capacity as per attached details and at location for domestic purpose and for fire protection. The underground tanks will be fed from the HUDA supply, from there water will be lifted to the over head tank using lifting pumps and from there supply shall be given to each plot with gravity flow.

DESIGN

The scheme has been designed for population of 2808 persons considering 18 person for each plot. The rate of water supply per head/day has been taken as (150+15%) i.e. 172.5 liters per head per day.

PUMPING EQUIPMENTS

It has been proposed to install pumping set as described with standby of equal capacity. Standby electric power requirement is added to the main DG Sets in case of electricity failure.

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to a centralized Sewage treatment plant with a bypass to HUDA sewer to dispose excess sewage. The sewerage system has been marked on the respective plans.

Sewer lines have been designed for three times average D.W.F in relation to water supply demand. It has been assumed that about 80% of the domestic water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 2.46 ft./sec self-cleaning velocity. Sewer line up to 200mm dia has been designed to run half full and above 200mm dia has been designed to run three fourth full at peak flow. Necessary provision for laying S.W/RCC pipe sewer line, construction of required number of manholes etc., has been made in the estimate.

Necessary design statement for entire sewerage system has been prepared and attached with estimate. Manning's formula has been used on the design of sewerage system.

STORM WATER DRAINAGE

We proposed to lay underground R.C.C. pipe drains with required number of catch basins, manholes and rainwater recharge pits with over flow to the Proposed HUDA storm drain on sector Road. The intensity of rain fall has been taken as $\frac{1}{4}$ " per hour. A minimum size of 400 mm dia RCC storm water line will be provided and designed as per Manning's formula.

For Namdev Construction Private Limited

Director/Authorized Signatory



SPECIFICATIONS

The work will be carried out in accordance with the standard specifications of P.H as laid down by the Haryana Govt./HUDA

ROADS

Roads have been provided to above zones and estimate is prepared as per revised specifications adopted by HUDA

STREET LIGHTING

Provision for streets also has been made

HORTICULTURE

Estimates of plantation, landscaping, signage, etc., have been included

RATES

The estimate has been prepared based on the present market rates

COST

The total cost of the scheme, including cost of all services works out to be
Including 3% Contingencies

^{852.05}
Rs. ~~64,382,417.63~~
@ 49% Departmental

~~Say six crore fourty three lakhs eighty two thousand four hundred seventeen rupees only~~

For: M/S Namdev Construction Pvt. Ltd. LGF-10, Vasant Square Mall, Plot-A, Sector-B, Pocket-V,
Community Center, Vasant Kunj, New Delhi-110070.

Authorized Signatory

For Namdev Construction Private Limited

Director/Auth. Signatory



Requirement for commercial :-

No. of commercial complex - I
Area = 0.3509 Acre

Daily water demand @ 32000 litre/Acre.

Therefore daily water demand = $0.3509 \times 32000 = 11229 \text{ litres}$
11.23 KL
say 12 KL

Requirements for community facilities.

No. of community facilities - I

Area of community = 0.9505 Acre

Daily water demand = @ 25000 litre/Acre.

Therefore daily water demand = $0.9505 \times 25000 = 23763 \text{ litres}$
say 24 KL

Total daily requirement for domestic use

$$484 + 12 + 24 = 520 \text{ KL}$$

Population for fire demand

→ Domestic = 2808 Person

→ Commercial + Community facilities Area = $0.3509 + 0.9505$
1.3014 Acre
or 5267 Spm @ 3 Spm/person = 1756 person.

→ Total Population = $2808 + 1756 = 4564 \text{ person}$

→ Storage for fire = $100 \sqrt{4564} = 213.54 \text{ KL} / \frac{1}{3} = 71.18 \text{ KL}$
say 100 KL

Project- DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA
DAILY WATER DEMAND & PUMPING SYSTEM (Annexure - 1)

S No.	Plots/Building	Unit	Population @18 Person/Plot	Water Req. @ 172.5 lpc/d	Water Req. Flushing 33%	Domestic 67%
1	Plot Type-I	10	180	In LPD 31050	In KLD 10	In KLD 21
2	Plot Type-II	12	216	37260	12	25
3	Plot Type-III	40	720	124200	41	83
4	Plot Type-IV (iv)	66	1188	204930	68	137
5	Plot Type-V (v)	28	504	86940	29	58
	Total	156	2808	484380.00	159.85	324.53
ii	HortiCulture Total area of 0.643 acres @ 25000 / Acre from STP = 17825 Litre/day		16,075			
iii	STP capacity 80% of daily domestic and flushing water Total water demand = 484 + 12 + 24 = 520 KL 520 x 80% = 416 KL 30% = 156 KL	387.50 420 KL				
2a	Under ground water tank			Req. Provided		
i	Daily fresh water demand	348/2 = 174 KL	180325	180330	KL	
ii	Daily flushing water demand	172 + 28 = 200 KL	12460	12460	KL	
iv	Total under ground Tank Capacity fire demand		12484	12490	KL	
			Say	380490	KL	
	Therefore it is proposed to construct under ground water tanks for domestic + fire = 280 KL (180 KL + 100 KL)					
	Raw Water Tank					
	Domestic Tank					
	Total					
	CENTRALIZED OHSR (OVER HEAD WATER STORAGE TANK)					
		150		150 KL		
	4000 LITERS OVER HEAD WATER STORAGE TANK ON EACH BUILDING					
3A	Fresh Water Transfer Pumpset					
a)	Pump Capacity					

detail of water requirement at opposite page also.



4A	i	Total Domestic Demand for Main (i)					325 348	KLD
	ii	Daily Working Hrs for pumping					8	Hrs
	iii	Required Pumping Capacity					676 725	LPM
	iv	Proposed pump set (2 W + 1S)					350-370	LPM
	b)	Pump Head						
		i Suction lift					5	Mtr
		ii Elevation Height					20	Mtr
		iii Residual Head					5	Mtr
		iv Friction Head Loss					3	
	v	Total pump head required				370 x 35 = 12950 60 x 75 x 0.60 = 2700 24.80	33	Mtr
	c)	Pump HP					35	Mtr
		Power Required each pump (Lpm*head (m)/4500* 65(effi)					4.2-4.80	HP
						370 LPM (2W+1S)	5.0	HP
	Flushing Water Transfer Pumpset							
	a)	Pump Capacity						
	i	Total Domestic Demand for Main (i)					160 190	KLD
	ii	Daily Working Hrs for pumping					8	Hrs
	iii	Required Pumping Capacity					333 396	LPM
	iv	Proposed pump set (2 W + 1S)					350 200	LPM
	b)	Pump Head						
		i Suction lift					5	Mtr
		ii Elevation Height					20	Mtr
		iii Residual Head					5	Mtr
		iv Friction Head Loss					4	
	v	Total pump head required				20 x 35 = 700 60 x 75 x 0.60 = 2700 24.80	34	Mtr
	c)	Pump HP					35	Mtr
		Power Required each pump (Lpm*head (m)/4500* 65(effi)					4.2 2.59	HP
						200 LPM (2W+1S)	5.0	HP
	Irrigation Water Transfer Pumpset							
	a)	Irr. water Pump Capacity						
	i	Total Irr. Demand (i)					16-28	KLD
	ii	Daily Working Hrs for pumping					4	Hrs
	iii	Required Pumping Capacity					67-117 Say 120 LPM	LPM





iv	Proposed pump set (1 W + 1S)			Say	70	LPM
b) Pump Head						
i	Suction lift				0	Mtr
ii	Elevation Height				30	Mtr
iii	Residual Head				10	Mtr
iv	Friction Head Loss				10	Mtr
v	Total pump head required			Say	50	Mtr
c) Pump HP						
i	Power Required each pump $(\text{Lpm} \times \text{head (m)}) / 4500 \times 65 (\text{eff})$	117 x 50			1.2-2.17	HP
		65 x 75 x 0.60		Say	1.5-3.60	HP
6 Borewell Number & Pumping machinery (borewells will be installed of authorities Permits)						
a) Number of borewell						
i	Yield / Borewell				12.0	KL/Hr
ii	Operation Borewell per day				12.0	Hrs
iii	Half Day Requirement				162.3	KL
iv	Required number of Borewell				1.1-2.4	Nos
v	Add 10% as standby				0.1-0.2	Nos
vi	Total Number of bore well				1.2-2.6	Nos
		Bore well Required	Say		1.0-3.60	Nos
		Bore well Provided	2.0		2.0	Nos
b) Pumping Machinery for Borewell						
i	Gross working head				60	Mtr
ii	Average Fall in S.L.				5	Mtr
iii	Depression Head loss				5	Mtr
iv	Friction Loss in main				10	Mtr
v	Total Head Required			Say	80	Mtr
c) Pump HP						
i	Power Required each pump $(\text{Lpm} \times \text{head (m)}) / 4500 \times 65 (\text{eff})$	348 x 80			5.5-16	HP
		2460 x 75 x 0.60		Say	6.0	HP

Note:- Entire Water to the proposed development is to be supplied by HUDA from the canal filtration scheme and therefore it is proposed to install two borewell as standby.

8	CAPACITY OF DG SET											
	Equipment Description					No of Pump	Each power cons (HP)	Total Power Cons		Unit		
	i	Dom. Water Transfer Pumps A&B (Working)				2	5.0	10		HP		
	iii	Bore wells				2	6.0	12		HP		
	iv	Flu. Water Transfer Pumps A&B (Working)				2	5.0	5-10		HP		
	vi	Irr. Water Transfer Pumps (Working)				1	1.5	2		HP		
	vii	Total HP Required						28.5 34		HP		
	viii	DG KVA Required (HP*.8)						29 34		KVA		
		DG Capacity						35 34 40.76 41.52		KVA		
								38 KVA				
								say 50 KVA				
9	HUDA Water Supply Line											
	Total Water Demand	Line	Flow	Proposed Dia	Length of Line	Fractional Head Loss	Velocity	Total Head Loss				
	LPD		LPM	mm	Mtr.	Mtr./ Mtr.	Mtr./Sec.	Mtr.				
	324534.6	A - Tank	225.37	100	50	0.00505	0.5736	0.253				



FINAL ABSTRACT OF COST

Description	Total of sub work	3% Contingencies and PE	TOTAL	49% departmental	Grand Total
Sub Work-1 Water Supply	9,205,150	276,155	9,481,305	4,645,839	14,127,144
Sub Work-2 Sewerage	3,786,250	113,648	3,901,898	1,911,930	5,813,827
Sub Work-3 S.W. Drainage	3,512,000	105,360	3,617,360	1,772,506	5,389,866
Sub Work-4 Road Works	10,674,552	320,237	10,994,789	5,387,446	16,382,235
Sub Work-5 Street Lighting	23,755	29,178	1,004,778	490,871	1,492,649
Sub Work-6 Plantation	883,100	26,493	909,593	445,701	1,355,294
Sub Work-7 Services & Resurfacing of road	171,644	377,715	12,968,215	6,354,425	19,322,640
Sub Work-8 Irrigation	324,990	9,750	334,740	164,022	498,762
TOTALS	Rs. 41,951,142.00	Rs. 1,258,534.26	Rs. 43,209,676.26	Rs. 21,172,741.37	Rs. 64,382,417.63

Total Cost — Say six crore eighteen lakhs sixty thousand seven hundred fifty two rupees only

Checked subject to measurements
in forwarding letter No.

Dt. and notes

attached with the estimate

For: M/S Namdev Construction Pvt. Ltd. LGF-10, Vasant Square Mall, Plot-A, Sector-B, Pocket-V, Community Center, Vasant Kunj, New Delhi-110070.

Superintending Engineer
for Chief Engineer
Panchkula

Authorized Signatory For Namdev Construction Private Limited

Director/Auth. Signatory

20/08/2021

Addl. Chief Engineer

HSVP, Gurugram

Superintending Engineer,
HSVP, Gurugram

20/08/21

Director

Town & Country Planning

Haryana, Chandigarh



Executive Engineer
HSVP, Division No.1
Gurugram

For Service Plan Estimate Only

852.03 Lakh
643.85 = 643.85
852.05 = 852.05

Say 141.28 Lacs
Say 58.14 Lacs
Say 53.90 Lacs
Say 163.83 Lacs
Say 14.95 Lacs
Say 13.56 Lacs
Say 193.23 Lacs
Say 4.99 Lacs
Total 643.85 Lacs

SUB WORK No. 1

WATER SUPPLY

S No.	Heads	Description	Amount in Rs. Lakh
1	Sub Head 01	Rising Main <i>Head works</i>	45.50 48.10 Rs. 6,745,000.00-
2	Sub Head 2	HUDA Rising Mains	2.78 Rs. 228,500.00-
3	Sub Head 03	Pumping and Machinery	21.60 22.10 Rs. 1,275,000.00
4	Sub Head 04	Water Supply and distribution (<i>Dom. and Flushing</i>)	21.30 Rs. 956,650.00-
⑤	Sub Head 05	<i>Irrigation System</i> TOTAL CO to Grand Summary	5.02 Rs. 9,205,150.00-

99.30 Lakh

For Namdev Construction Private Limited

Director/Auth. Signatory



SUB WORK No. 1
Sub Head 01WATER SUPPLY
Rising Main

S No.	Description	Amount
1	Construction of UG Tank ²⁸⁰ 160 KL @ ⁴⁸⁰⁰ Rs. 8,600 /-KL	Rs. 525,000.00
2	Provision for unseen material/carriage of material	Rs. 50,000.00
3	Provision for construction of pump chamber of Size 1.5 x 5 x 1.5 m for Housing ^{2x8 Laleh}	Rs. 3,000,000.00
4	Construction of OHSR OF 150KL with 25m staging hieght icliding cost of inlet outlet and overflow pipes 150kl 12000 Rs. Per KL	Rs. 3,120,000.00
5	PROVIDED 4000 LITERS PVC OVER HEAD WATER STORAGE TANK ON EACH BUILDING ^{4000X15} ⁸⁼⁶²⁴ ^{KL} 5000 Rs. Per KL	Rs. 50,000.00
6	Door for facilitates and amenities for maintenance staff L S	Rs. 6,745,000.00
Total CO to Sub work - 1		Rs. 6,745,000.00

MATERIAL STATEMENT OF UGT & OTH TO ANNEXURE 6

For Namdev Construction Private Limited

Director/Auth. Signatory



Say Re 48.10 Laleh.

SUB WORK No. 1

WATER SUPPLY

Sub Head 2

HUDA Rising Mains

S No.	Description	Amount
1	1. Providing, laying, jointing and testing CILA pipe lines /D.I. Pipe. Including cost of excavation etc. complete in all respects.	65000/-
a)	100 mm dia pipe 52 Mtr. @ Rs. 1,400/- 1250/-	Rs. 70,000.00
2	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects	
a)	100 mm dia 1 Nos. @ Rs. 8,000/- 12000/-	Rs. 8,000.00
3	Providing and fixing indicating plates for sluice valve and air valves	
a)	1 Nos. @ Rs. 500/- each 1000/-	Rs. 500.00
4	Provision for carriage for materials and other unforeseen items (L/S)	Rs. 50,000.00
5	Provision for cutting of roads and making good to its original conditions (L/S)	Rs. 50,000.00
6	Provision for making connection with HUDA (L/S)	Rs. 50,000.00
Total CO to Sub work - 1		Rs. 2,28,500.00

Say Rs. 2.78 Lakh



SUB WORK No. 1
Sub Head 3WATER SUPPLY
Pumping and machinery

S No.	Description	Amount
1	Providing & installing following capacity for Water supply Booster Pumps	1,50,000/-
a)	Capacity 350 LPM @ 35 mtr. Head, 5HP 3 Nos. @ Rs. 100,000.00 each.	Rs. 300,000.00
2	Providing & installing pumping set of following capacity for Flushing Pumps	3,00,000/-
a)	Capacity 350 LPM @ 35 mtr. Head, 5.00 HP 2-Nos. @ Rs. 100,000.00 each.	Rs. 200,000.00
3	Providing & installing pumping set of following capacity for Irrigation Pumps	1,50,000/-
a)	Capacity 70 LPM @ 50 mtr. Head, 3HP 2 Nos. @ Rs. 50,000.00 each.	Rs. 100,000.00
4	Provisions for chlorination plant complete	1 Nos @ Rs. 100,000.00 each
5	Provision for making foundations and erection of pumping machinery L/S	100000/-
6	Provision for pipes, valves and specials inside the boosting chamber L/S	50,000/-
7	Provision for carriage of material and other unforeseen items etc. L/S	Rs. 100,000.00
8	Provision for diesel engine Gen set each for standby arrangements for T.W. & booster pump complete with gear head arrangements of 35 KVA capacities - 1 No.	5,00,000/-
TOTAL CO to SUB WORK - 1		Rs. 1,275,000.00

For Namdev Construction Private Limited

Director/Auth. Signature



- ⑧ Prov. & Installation of submersible pumping set capable of delivering 12 KL water per Hour against a head of 50 mtr.

2 No. Rs. 1,50,000/- each 3,00,000/-

- ⑨ Provision for 10 nos. fire hydrants complete with masonry chamber Rs. 15000/- each 1,50,000/-

- ⑩ Provision for fire safety equipments, L.S. & other unforeseen items.

1,50,000/-
~~80,000/-~~
 22,10,000/-
~~24,60,000/-~~

22.10
 Say Rs. 22.10 Lakh.

SUB WORK No. 1
Sub Head 4

WATER SUPPLY
Water supply and distribution

(Dom. + Flushing)

S No.	Description	Amount
1	Providing, Laying, jointing and testing DI pipe line including Fittings, valves, cost of excavation etc. complete in all respect.	
a)	150 mm Pipe 32 Mtr @ Rs. 1,500 1575/-	Rs. 48,000 50400/-
b)	100 mm Pipe 727 364 Mtr @ Rs. 1,250	Rs. 4,55,000 908750/-
c)	80 mm Pipe 363 Mtr @ Rs. 1,050	Rs. 3,81,150
d)	65 mm Pipe Mtr @ Rs. 800	Rs. 0
2	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects.	
b)	150 mm 1 Each @ Rs. 10,000 15000/-	Rs. 10,000 15000/-
b)	100 mm 4 3 Each @ Rs. 7,500 12000/-	Rs. 22,500 48000/-
c)	80 mm 1 Each @ Rs. 5,000	Rs. 5,000
3	Providing and fixing air release valve	
	2 Nos @ Rs. 5,000 10,000/-	Rs. 10,000 20,000/-
4	Provision for carriage of materials and other unforeseen items	Rs. 25,000 50,000/-
TOTAL CO to SUB WORK - 1		Rs. 9,56,650.00

MATERIAL STATEMENT OF DWS AND FWS REFERS TO ANNEXURE 3

For Flushing

- ⑤ Providing, laying jointing, testing of D.I. pipe line including fitting valves, Const. of excavation etc. Complete.

100 mm dia D.I. pipe 750 m @ Rs. 1250/- Per mtr. 937500/-

- ⑥ Provision for sluice valve, air valves & other unforeseen items for flushing distribution system. 2.5 1,00,000/-

Rs. 2129650/-

Say Rs. 21.30 Lakh



SUB WORK No. 8

WATER SUPPLY

Sub Head 6

Irrigation System

S No.	Description	Amount
1	Providing, laying, jointing and testing pipes lines conforming to IS:4985 (uPVC) including cost of excavation etc. complete in all respects.	
c)	63 mm Pipe 620 Mtr @ Rs. 400- 675/-	418500/- Rs. 2,48,000
d)	50 mm Pipe 61 Mtr @ Rs. 350- 500/-	30500/- Rs. 21,350
e)	40 mm Pipe 0 Mtr @ Rs. 300- 400/-	Rs. 0
f)	32 mm Pipe 0 Mtr @ Rs. 275- 350/-	Rs. 0
g)	25 mm Pipe 12 Mtr @ Rs. 220- 300/-	Rs. 2,640
3	Providing and fixing Garden Hydrant Chamber	
	8 Nos. @ Rs. 3,500 each	Rs. 28,000.00 ✓
5	Provision for carriage of materials and other unforeseen items	Rs. 25,000.00
TOTAL CO to SUB WORK - 1		Rs. 3,24,990.00

502000/-

MATERIAL STATEMENT OF IRRIGATION SUPPLY REFERS TO ANNEXURE 6

Say Rs. 5.02 Lakh



SUB WORK No. 2

SEWERAGE SCHEME

Sub Head 7

S No.	Description	Amount
1	Providing, jointing, cutting and testing NP2 pipe and lowering into trenches including cost of excavation, bed conc., const. of manholes etc.	
2	Providing, laying, cutting, jointing and testing NP2 pipe and lowering into trenches including cost of Excavation, bed concrete, cost of manhole etc. complete	
a)	200 mm dia 550 Mtr. @ Rs. 650	Rs. 3,57,500.00
b)	250 mm dia 191 Mtr. @ Rs. 750	Rs. 1,43,250.00
3	150mm Dia CILA Class (Bye Pass Line) 25 Mtr. @ Rs. 1,500	Rs. 37,500.00
4	Provision for carriage of material (L.S)	Rs. 1,00,000.00
5	Provision for making connection with HUDA sewer	Rs. 50,000.00
6	Provision for temporary disposal arrangement till such time HUDA services are made available	Rs. 10,000.00
7	Providing STP of 390 KLD Rs. 8,000 per KLD	Rs. 31,20,000.00
	TOTAL CO to FINAL ABSTRACT OF COST	Rs. 37,88,250.00

MATERIAL STATEMENT OF SEWERAGE SCHEME REFERS TO ANNEXURE 1

Say Rs. 81.32 Lakh



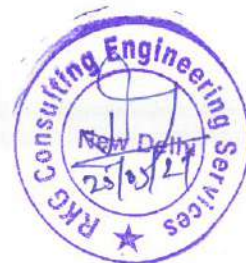
SUB WORK No. 3

STORM WATER DRAINAGE

Sub Head 7

S No.	Description	Amount
1	Providing, laying, RCC pipe class NP-3 manholes etc. complete in all respects	26,60,000/-
a)	400 mm dia 1064 Mtr. @ Rs. 1,750 2500/-	Rs. 18,62,000.00
b)	450 mm dia 0 Mtr. @ Rs. 0	Rs. 0.00
c)	500 mm dia 0 Mtr. @ Rs. 0	Rs. 0.00
2	Provision for lighting and watching	Rs. 50,000.00
3	Provision for road gullies & connecting pipe L.S.	Rs. 1,50,000.00
4	Provision for rainwater harvesting arrangements	
	Rs. 1,50,000.00 per acre Recharge Pit (Size 3 m dia with single bore.) 8 Nos.	Rs. 12,00,000.00
5	Provision for timbering & shoring (L.S.)	Rs. 1,00,000.00
6	Provision for lighting, watering and timbering drains & other unforeseen charges	Rs. 1,00,000.00
7	Provision for making connection with HUDA Mains.	Rs. 50,000.00
TOTAL CO to FINAL ABSTRACT OF QUANTITY		Rs. 35,12,000.00

MATERIAL STATEMENT OF STORM WATER DRAINAGE REFERS TO ANNEXURE 2



Sub Work No. IV

Road Works

Sr. No.	Description	Unit	Qty.	Rate	Amount
1.	Provision for leveling & earth filling as per site conditions.	Acre	9.50	1,50,000/-	14,25,000/-
2.	Const. of 24 M & 9 M wide roads with 200 mm GSB, 250mm WMM, 50mm DBM, & 25mm thick BC complete in all respect.	Sqm	7436	1200/-	89,23,000/-
3.	Provision for Kerb & channel of C:C 1:2:4 (795x1+36+24+8+28) = 891 M	Mtr.	891	600/-	5,35,000/-
4.	Provision for guide map, plot indicator & other unforeseen items.	L.S.			1,00,000/-
5.	Provision for carriage of material & traffic light control etc.	L.S.			1,00,000/-
					1,10,83,000/-

Say Rs. 110.83 Lakh

Sub Work No V

Deatail of service estimate for Street light					
S.no.	Work Description	UNIT	Total Required Qty.	Rate	Tentative Est. Amount
1	4C X 25 Sqmm Al armored XLPE cable	Mtr.	300	161.00	48,300.00
2	2C X 16 Sqmm Al armored XLPE cable	Mtr.	1000	72.00	72,000.00
3	Street Light Feeder Panels complete in all respects.	Nos.	2	45,000.00	90,000.00
4	7.0 Mtr. M.S. B-Class tubler Pole	Nos.	70	7,000.00	490,000.00
5	Street Light Fixture 60 Watt	Nos.	70	3,500.00	245,000.00
6	Pipe Earthing	Nos.	4	4,000.00	16,000.00
7	LT Jointing	Job	1	11,300.00	11,300.00
	TOTAL CARRIED OVER TO SUMMARY				972,600



For Namdev Construction Private Limited

Director/ Auth. Signatory

Prov. street lighting on roads as per standard specifications of HSNP/ HVPN etc. Complete.

9.50 Acres @ Rs. 2.50 Lakh

23.75 Lakh

Sub-Work No. VI

Plantation and Road side Trees

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Development of lawn areas	Acre	8.381	100000	8,38,100
a)	Trenching the ordinary soil up to dept of 60cm including removal and stacking of serviceable materials and disposing of by spreading and levelling within a lead to 50m and making up the trenches area of proper leads by filling with earth mixed with manure before and after flooding trench with water including cost of imported earth and manure		9.50	1,50,000/-	1425 000/-
b)	Rough dressing of turfed area				-
c)	Grassing with "Doob Grass" including watering and maintenance of lawns for 30 days till the grass forms a thick lawn free weeds and fit for moving in rows 7.5m apart in either direction including provision for hedges and barbed wire fencing around park				-
2	Provisions trees, guards and planting trees along road at 12mt interval $891 \div 12 = 74.25$	No.s	75 60	1300/- 750	97500/- 45,000
	Say 75 Nos.				1522500/-
	Total				8,83,100

Excavation = 60
 Manure — 90
 Tree Plant — 150
 Tree guard — 1000
1300



Say Rs. 15.23 Lakh

Sub-Work No. VIIMaintenance Charges & Re-surfacing of Roads

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing of maintenance charges for water supply , storm water drainage, sewerage, Road, Street lighting, Horticulture etc. complete in all aspect, including Operational and establishment charges as per HUDA norms for 10 years completion	Acre	8.381 9.50	500000 7,50,000/-	41,90,500 7125000/-
					-
2	Providing of resurfacing of roads after 1st 5 years of maintenance with 50 mm thick B.M.layer & 25 mm thick premix carpet with seal cost	Sq.m	12000 7436	350 600/-	42,00,000 4461600/-
					-
3	Providing of resurfacing of roads after 10 years with 50mm B.M. 25 mm thick premix carpet with seal coat .	Sq.m	12000 7436	350 750/-	42,00,000 5579000/-
				Total	17163600/-
	Total				1,25,90,500

Say Rs. 171.64 Lakhs



DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA

HYDRAULIC CALCULATION FOR DOMESTIC WATER

S.NO	Line ref.	Total Unit /Plot	Total Population Person / Plot	Daily water demand (Total)	Domestic 67%	Peak Flow	Flow rate	Line Length	Effective Length (L*1.3)	Velocity	Dia of Pipe	Elev. Height	Frictional Headloss	Total Frictional Headloss	Total Cumm. Head loss	Remarks
S.NO	Line no	Main	Self	Cum.	LPD	LPD	LPM	MTR.	MTR.	M/SEC	MM	MTR.	MTR/M TR.	MTR.	MTR.	
1	2 - 1	38	684	684	117990	79053	197633	137	141	0.455	80	20	0.006	1.095	31.10	
2	3 - 2	47	846	1530	263925	176830	442074	307	170	0.651	100	20	0.009	1.978	31.98	
3	4 - 3	1	18	1548	267030	178910	447275	311	42	0.659	100	0	0.009	0.499	32.48	
4	4 - 4a	30	540	540	93150	62411	156026	108	157	0.359	80	20	0.004	0.787	30.79	
5	5 - 4	0	0	2088	360180	241321	603302	419	54	0.889	100	20	0.016	1.118	31.12	
6	5 - 5a	11	198	198	34155	22884	57210	40	50	0.132	80	20	0.001	0.039	31.16	
7	6 - 5	27	486	2772	478170	320374	800935	556	98	1.180	100	20	0.027	3.428	33.43	
8	6 - 6a	2	36	36	35000	23450	58625	41	15	0.135	80	20	0.001	0.012	30.01	
9	OHT - 6		0	2808	519380	347985	869962	604	32	0.569	150	0	0.004	0.181	33.61	



DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA								
MATERIAL STATEMENT OF DOMESTIC WATER SUPPLY SYSTEM								
S No.	Line No	Length	Dia	50 mm	65 mm	80 mm	100 mm	150 mm
1	2 - 1	141 ✓	80 100			141	141	
2	3 - 2	170 ✓	100				170 ✓	
3	4 - 3	42	100				42 ✓	
4	4 - 4a	157	80 100			157	157	
5	5 - 4	54	100				54	
6	5 - 5a	50	80 100			50	50	
7	6 - 5	98	100				98	
8	6 - 6a	15	80 100			15	15	
9	OHT - 6	32	150					32 ✓
	TOTAL			0	0	363	364	32 ✓
	Sluice Valve					1	3 (4)	1

Annexure-5

Bore well Supply						
S No	Line No	Length	Dia	80 mm	100 mm	150 mm
1	BW1-1	178	80	178		
2	BW2-1	33	80	33		
3	1-UGT	5	100		5	
	Total			211	5	0

Annexure-5A

HUDA Supply					
S No	Line No	Length	Dia	80 mm	100 mm
1	Main-Pump	50	100	-	100



DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA

DESIGN STATEMENT OF SEWERAGE LINE

S No	Line No		Leng th	Unit	Total Plots	Total Population 18 Person /plot		Daily water @172.5 ltr/Person	Oth er Buil dins	Total Water LPD	Daily waste water (80%) of water consum ption	Total Waste water (peak=ave rage*3) LPD	Total Waste water (peak=ave rage*3) LPS	Dia Prop osed mm	Gra dian t 1/	Veloci ty m/Sec	Design discha rge LPS	Che ck for carr ying capa city	Fall in (m) Mtr.	G Level Upper Mtr	G Level Lower Mtr	Invert Level Upper Mtr	Invert Level Lower Mtr	Dept h Start Mtr	Depth End Mtr	REMA RKS
	From	To																								
1	1	2	134	38 Plots	38	684	684	117990		117990	94392	283176	3.28	200	145	0.75	11.81	OK	0.92	104.30	103.15	103.40	102.15	0.90	1.00	
2	2	3	171	47 Plots	47	846	1530	263925		263925	211140	633420	7.33	200	145	0.75	11.81	OK	1.18	103.15	101.50	102.15	100.10	1.00	1.40	CL=10 0.47
3	3	4	53	1 Plots	1	18	1548	267030		267030	213624	640872	7.42	200	145	0.75	11.81	OK	0.37	101.50	101.65	100.10	99.73	1.40	1.92	
4	4a	4	149	30 Plots	30	540	540	93150		93150	74520	223560	2.59	200	145	0.75	11.81	OK	1.03	103.05	101.65	102.15	100.42	0.90	1.23	CL
5	4	5	47		0	0	2088	360180		360180	288144	864432	10.01	250	195	0.75	18.46	OK	0.24	101.65	101.10	99.73	99.49	1.92	1.61	
6	5a	5	43	11 Plots	11	198	198	34155		34155	27324	81972	0.95	200	145	0.75	11.81	OK	0.30	101.50	101.10	100.60	100.10	0.90	1.00	CL
7	5	6	109	29 Plots	29	522	2808	484380		484380	387504	1162512	13.46	250	195	0.75	18.46	OK	0.56	101.10	100.75	99.49	98.93	1.61	1.82	
8	6	7	30	0		0	2808	484380	0	484380	387504	1162512	13.46	250	145	0.87	21.41	OK	0.21	100.75	100.75	98.93	98.72	1.82	2.03	
9	7	STP	5	0		0	2808	484380		484380	387504	1162512	13.46	250	195	0.75	18.46	OK	0.03	100.75	100.75	98.72	98.70	2.03	2.05	



DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA							
Material statement for Sewerage (Annexure-7)							
S No.	Line No		Length	Pipe Dia	200 mm	250 mm	300 mm
			Mtr	mm	Mtr.	Mtr.	Mtr.
1	1	2	134 ✓	200	134	-	-
2	2	3	171 ✓	200	171	-	-
3	3	4	53 ✓	200	53	-	-
4	4a	4	149 ✓	200	149	-	-
5	4	5	47 ✓	250	-	47	-
6	5a	5	43 ✓	200	43	-	-
7	5	6	109 ✓	250	-	109	-
8	6	7	30 ✓	250	-	30	-
9	7	STP	5 ✓	250	-	5	-
TOTAL					550 ✓	191 ✓	0
STP Bye pass		25 Mtr	CILA PIPE				
STP	390 KLD	(Refer to Anne 1)					



DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA

HYDRAULIC DESIGN CALCULATION OF STORM WATER DRAINAGE SYSTEM

S NO	LINE NO		LENGT H	AREA IN Sqm		DISCHARGE IN CUM/SEC RAIN FALL=6.2 5 mm	DISCHARGE IN LPS	VELOCITY (m/sec)	SLOPE	Pipe Dia	CHECK	GROUND LEVEL AT START	GROUND LEVEL AT END	FALL	INVERT LEVEL AT START	INVERT LEVEL AT END	DEPT H AT STAR T	DEPT H AT END	REMARKS
	FROM	TO		Self	Previous														
1	1	RWH-1	57	840	0	0.001	1.31	0.677	450	400	OK	104.30	104.30	0.13	103.40	103.27	0.90	1.03	
2	RWH-1	2	60	715	840	0.002	2.43	0.677	450	400	OK	104.30	104.30	0.13	103.27	103.14	1.03	1.16	
3	2a	2	17	231	0	0.000	0.36	0.677	450	400	OK	104.30	104.30	0.04	103.40	103.36	0.90	0.94	
4	2	RWH-2	3	0	1786	0.003	2.79	0.677	450	400	OK	104.30	104.30	0.01	103.14	103.13	1.16	1.17	
5	RWH-2	3	143	5715	1786	0.012	11.72	0.677	450	400	OK	104.30	103.15	0.32	103.13	102.12	1.17	1.03	
6	3	4	177	7095	7501	0.023	22.81	0.677	450	400	OK	103.15	101.50	0.39	102.12	100.42	1.03	1.08	
7	4a	4	23	134	0	0.000	0.21	0.677	450	400	OK	101.50	101.50	0.05	100.60	100.55	0.90	0.95	
8	4	RWH-3	4	0	14730	0.023	23.02	0.677	450	400	OK	101.50	101.50	0.01	100.42	100.41	1.08	1.09	
9	RWH-3	RWH-4	33	365	14730	0.024	23.59	0.677	450	400	OK	101.50	101.35	0.07	100.41	100.24	1.09	1.11	CL =
10	RWH-4	7	21	399	15095	0.024	24.21	0.677	450	400	OK	101.35	101.65	0.05	100.24	100.19	1.11	1.46	100.58
11	5	RWH-5	28	313	0	0.000	0.49	0.677	450	400	OK	103.15	103.05	0.06	102.25	102.04	0.90	1.01	
12	RWH-5	6	9	80	313	0.001	0.61	0.677	450	400	OK	103.05	103.05	0.02	102.04	102.02	1.01	1.03	
13	6	7	153	4493	393	0.008	7.63	0.677	450	400	OK	103.05	101.65	0.34	102.02	100.58	1.03	1.07	CL =
14	7	9	47	431	20380	0.033	32.52	0.677	450	400	OK	101.65	101.15	0.10	100.19	100.09	1.46	1.06	100.16
15	8	RWH-6	33	854	0	0.001	1.33	0.677	450	400	OK	101.50	101.50	0.07	100.60	100.53	0.90	0.97	
16	RWH-6	9	28	1389	854	0.004	3.50	0.677	450	400	OK	101.50	101.15	0.06	100.53	100.16	0.97	0.99	
17	9	RWH-7	108	4450	23054	0.043	42.98	0.677	450	400	OK	101.15	100.75	0.24	100.09	99.85	1.06	0.90	
18	RWH-7	RWH-8	19	610	27504	0.044	43.93	0.677	450	400	OK	100.75	100.75	0.04	99.85	99.81	0.90	0.94	
19	RWH-8	10	11	134	28114	0.044	44.14	0.677	450	400	OK	100.75	99.92	0.02	99.81	98.88	0.94	1.04	

Proposed Group Housing at Sector 2 Gwalpahari, Gurgaon Haryana
Storm Water Drainage System Design

S NO	LINE NO		LENGT H	AREA IN Sqm			DISCHARGE IN CUM/SEC RAIN FALL=6.2 5 mm	DISCHARGE IN LPS	Pipe Dia	SLOPE	VELOCITY (m/sec)	DISCHARGE CAPACITY	Check	GROUND LEVEL AT START	GROUND LEVEL AT END	FALL	INVERT LEVEL AT START	INVERT LEVEL AT END	DEPT H AT START	DEPT H AT END	REMARKS
				FROM	TO	Self	Previous														
20	10a	10	80	5670	0	5670	0.009	8.86	400	450	0.677	85.11	OK	99.92	99.92	0.18	99.02	98.84	0.90	1.08	
21	10	OUT	10		33918		0.053	53.00	400	450	0.677	85.11	OK	99.92	99.92	0.02	98.84	98.82	1.08	1.10	
				Total Area in Sq.Mtr																	
				33918	or 8.381 Acres																



Proposed Group Housing at Sector 2 Gwalpahari, Gurgaon Haryana
Storm Water Drainage System

DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA							
MATERIAL STATEMENT FOR STORM WATER DRAINAGE SYSTEM (ANNEXURE-8)							
SL NO	NAME OF LINE		LENGTH	PIPE DIA	400MM	450MM	500MM
	From	To	MTR	MM	MTR	MTR	MTR
1	1	RWH-1	57 ✓	400	57		
2	RWH-1	2	60 ✓	400	60		
3	2a	2	17 ✓	400	17		
4	2	RWH-2	3 ✓	400	3		
5	RWH-2	3	143 ✓	400	143		
6	3	4	177 ✓	400	177		
7	4a	4	23 ✓	400	23		
8	4	RWH-3	4 ✓	400	4		
9	RWH-3	RWH-4	33 ✓	400	33		
10	RWH-4	7	21 ✓	400	21		
11	5	RWH-5	28 ✓	400	28		
12	RWH-5	6	9	400	9		
13	6	7	153 ✓	400	153		
14	7	9	47 ✓	400	47		
15	8	RWH-6	33 ✓	400	33		
16	RWH-6	9	28	400	28		
17	9	RWH-7	108 ✓	400	108		
18	RWH-7	RWH-8	19 ✓	400	19		
19	RWH-8	10	11 ✓	400	11		
20	10a	10	80 ✓	400	80		
21	10	OUT	10	400	10		
	TOTAL				1064.00	0.00	0.00



Proposed Group Housing at Sector 2 Gwalpahari, Gurgaon Haryana
Garden Irrigation System

DEEN DAYAL JAN AWAS YOJNA 9.5 ACRES AT GWALPAHARI GURGAON HARYANA						
MATERIAL STATEMENT FOR GARDEN IRRIGATION SYSTEM						
SL NO	NAME OF LINE	LENGTH	PIPE DIA	50MM	63MM	GH
		MTR	MM	MTR	MTR	NOS
1	STP-G8	30	63		30	
	G8-G7	116	63		116	
2	G7-G7a	47	50	47		1
3	G7-G6	41	63		41	
4	G6-G5	150	63		150	
5	G5-G4	42	63		42	1
6	G4-G3	151	63		151	1
7	G3-G3a	14	50	14		1
8	G3-G2	17	63		17	1
9	G2-G1	73	63		73	3
	TOTAL			61 ✓	620 ✓	8



Length of Road

ROAD AREA-GWAL PAHARI PROJECT

ROAD	LENGTH in m	WIDTH in m	AREA in sqm
1	32.28	9.0	290.52
2	157.83	9.0	1420.47
3	38.70	9.0	348.3
4	183.09	9.0	1647.81
5	31.52	9.0	283.68
6	318.89	9.0	2870.01
7	31.52	9.0	283.68
793.83 mtr say 795 mtr			7144.47

24 M Wide Road Area	291.14
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Total Area = 7144.47 + 291.14 = 7435.61

say 7436 sqm