

164

Directorate of Town and Country Planning, Haryana

SCO No. 71-75, 2nd Floor, Sector-17 C, Chandigarh, web site: tcpharyana.gov.in
Phone: 0172-2549349; e-mail: tcphry@gmail.com

Regd.

1. Mirage Buildwell Pvt. Ltd.
2. Navneet Realtors Pvt. Ltd.
3. Banita Buildcon Pvt. Ltd.
4. Perpetual Infrastructures Pvt. Ltd.
5. Afra Infrastructures Pvt. Ltd.
C/o Parsavnath Developers Ltd.
Arunanchal Bhawan, 6th Floor,
19, Barakhamba Road,
New Delhi.

Memo No. LC-1226-JE (BR)-2014/

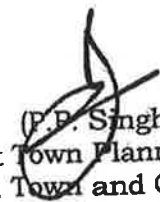
7436

Dated: 11/4/14

Subject: Approval of service plan estimates in respect of licence no.73 of 2012 dated 11.7.2012 for development of a residential plotted colony over an area measuring 50.564 acres in the revenue estate of village Kasba Karnal, Sector 35, Distt. Karnal- Parsvnath Developers Ltd.

Reference: Chief Administrator, HUDA, Panchkula memo dated 25.03.2014.

Service plans/estimates duly approved by Chief Administrator HUDA, Panchkula have been received in this office. The estimated cost of the Development works as per the said service estimates works out to Rs.2062.58 lacs against which Bank Guarantee of Rs.515.645 lacs is required to be submitted. Since you have already submitted a Bank Guarantee of Rs.284.755 lacs at the time of grant of licence, you are requested to submit the additional bank guarantee amounting Rs. 230.89 lacs on account of IDW with minimum validity upto 21.02.2016 to enable the approval of service plan estimates.


(P.P. Singh)
District Town Planner (HQ)
O/o Director General, Town and Country Planning,
Haryana, Chandigarh

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS
AT KARNAL - MEERUT ROAD, SECTOR - 35, KARNAL
(HARYANA)**

DEVELOPED BY

M/S. PARSVNATH DEVELOPERS (P) LTD.

**SERVICE COST ESTIMATE FOR EXTERNAL
DEVELOPMENT WORKS**

(260)

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD,
SECTOR - 35, KARNAL (HARYANA)**

REPORT

Karnal town of Harayana State situated on Delhi - Ambala Highway (Grant Trunk Road NH - I) at a distance of 120 Kms from Delhi. Being the National Capital Region, the town has fast developing tendency and potential. Further, it has also started sharing the growing residential/ industrial load of Delhi. In order to relieve the growing pressure of population in National Capital of Delhi, it has been decided by the Harayana Govt. to establish various residential, industrial and other infrastructure sectors in Karnal. M/s. Parsvanath Developers (P) Ltd. has been developing Township at Karnal. This report and estimate is for 50.564 Acres Part of 131 Acres Township.

WATER SUPPLY

At present the source of water supply in this area is borewell. As the underground water is potable, provision for 5 numbers of tubewell has been made in this estimate. It has been proposed to construct the under ground tanks of capacity as per attached details, and at location for domestic purpose and for fire protection. The underground tanks will be fed from the borewell and HUDA supply, which will feed overhead tanks on the roof of the buildings. The water supply system has been designed as per Hazen Williams formula.

DESIGN

The scheme has been designed for population as given in the design calculation enclosed herewith.

PUMPING REQUIREMENTS

It has been proposed to install pumping set as described with standby of equal capacity. The provision for standby generating set has also been provided in case of any electricity failure.

SEWERAGE SCHEME

This scheme has been designed for sewer connecting to STP & over flow of STP connected to Municipal sewer main. The sewerage system has been marked on respective plans.

The 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. Necessary provision for laying S.W./R.C.C. 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 for the design of sewerage system.

576

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD,
SECTOR - 35, KARNAL (HARYANA)**

STORM WATER DRAINAGE

Since the Master Scheme has been proposed with open surface pipe drain, we proposed to lay open surface drains with required number of catch basins for disposal of storm water. The intensity of rain fall has been taken as 1/4" per hour. A minimum size of 400 mm wide storm water line will be provided and designed as per Manning's formula.

SPECIFICATIONS

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

ROADS

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

STREETLIGHTING

Provision of lighting on surrounding area has been made.

HORTICULTURE

Estimates and details of plantation, landscaping, signage etc. has 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 Rs. 1167.00 Lacs Including 3% contingencies and 49% departmental charges.

FOR M/S. PARSVANATH DEVELOPERS (P) LTD.



(AUTHORIZED SIGNATORY)

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD,
SECTOR - 35, KARNAL (HARYANA)**

TOTAL WATER REQUIREMENT

DAILY WATER REQUIREMENT

1 Residential	=	15 Units
(i) Type A	=	10 Units
(ii) Type B1	=	18 Units
(iii) Type B2	=	44 Units
(iv) Type C1	=	27 Units
(v) Type C2	=	235 Units
(vi) Type D	=	17 Units
(vii) Type E	=	366 Units
Total	=	4941 Persons
@ 13.5 persons / Unit	=	
2 EWS	=	92 Units
@ 9 persons / Unit	=	828 Persons
Total (1 + 2)	=	<u>5769 Persons</u>
@ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	<u>895637 Liter / Day</u>
3 Commercial (1,923 acres)	=	1686 Persons
(i) Commercial @ 15 / LPCD	=	<u>25290 Liter / Day</u>
4 Nursing Home - 2 Nos.	=	365 Patient
(i) @ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	<u>56666 Liter / Day</u>
5 Others	=	
(i) Primary School - 1 No.	=	500 Students & Teachers
(ii) Nursery School - 1 Nos.	=	500 Students & Teachers
(iii) Taxi Stand	=	50 Persons
(iv) Maintenance Staff (Such as gardener, ESS staff, Security Guards etc.)	=	50 Persons
Total	=	<u>1100</u>
@ 45 / LPCD	=	<u>49500 Liter / Day</u>
6 Area Under Parks 3.298 Acres @ 25 KL/ Acre	=	82450 Liter / Day
7 Area under Road Assuming 10% of 50.564 x 0.10 @ 5KL / Acre	=	25282 Liter / Day
6 Total Water Demand	=	1134825 Liter / Day
	=	1134.83 KLD
Or Say	=	1150.00 KLD

PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD, SECTOR - 35, KARNAL (HARYANA)

(F) BOREWELLS

Approx. discharge of borewells @ 15 KL/hour and working 16 hours/day

(a) Total water demand =	= 1150.00
(b) Number of borewells $1150/(15 \times 16)$	= 4.79
Add 10% as standby	= 0.48
Total	= <u>5.27</u>
Say	= <u><u>5.00</u></u>

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD,
SECTOR - 35, KARNAL (HARYANA)**

SEWAGE TREATMENT PLANT CAPACITY

DAILY WATER REQUIREMENT

1 Residential		
(i) Type A	=	15 Units
(ii) Type B1	=	10 Units
(iii) Type B2	=	18 Units
(iv) Type C1	=	44 Units
(v) Type C2	=	27 Units
(vi) Type D	=	235 Units
(vii) Type E	=	17 Units
Total	=	<u>366 Units</u>
@ 13.5 persons / Unit	=	4941 Persons
2 EWS (Type-F)		92 Units
@ 9 persons / Unit	=	828 Persons
Total (1 + 2)	=	<u>5769 Persons</u>
@ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	<u>895637 Liter / Day</u>
3 Commercial (1.923 acres)		1686 Persons
(i) Commercial @ 15 / LPCD	=	<u>25290 Liter / Day</u>
4 Nursing Home - 2 Nos.		365 Patient
(i) @ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	<u>56666 Liter / Day</u>
5 Others		
(i) Primary School - 1 No.	=	500 Students & Teachers
(ii) Nursery School - 1 Nos.	=	500 Students & Teachers
(iii) Taxi Stand	=	50 Persons
(iv) Maintenance Staff (Such as gardener, ESS staff, Security Guards etc.)	=	50 Persons
Total	=	<u>1100</u>
@ 45 / LPCD	=	<u>49500 Liter / Day</u>
Total water demand/day	=	<u>1027093 Liter / Day</u>
Average Sewerage Contribution Considering 80% of AV water demand	=	821674.4 Liter / Day
Sub Soil infiltration @ 10% AV/WD	=	102709 Liter / Day
Sewerage Treatment Plant Capacity	=	<u>924.38 KLD</u>
Or Say	=	<u>925.00 KLD</u>

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD,
SECTOR - 35, KARNAL (HARYANA)**

SEWAGE TREATMENT PLANT CAPACITY

DAILY WATER REQUIREMENT

1 Residential		
(i) Type A	=	15 Units
(ii) Type B1	=	10 Units
(iii) Type B2	=	18 Units
(iv) Type C1	=	44 Units
(v) Type C2	=	27 Units
(vi) Type D	=	235 Units
(vii) Type E	=	17 Units
Total	=	<u>366 Units</u>
@ 13.5 persons / Unit	=	4941 Persons
2 EWS (Type-F)		92 Units
@ 9 persons / Unit	=	828 Persons
Total (1 + 2)	=	<u>5769 Persons</u>
@ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	<u>895637 Liter / Day</u>
3 Commercial (1.923 acres)		1686 Persons
(i) Commercial @ 15 / LPCD	=	<u>25290 Liter / Day</u>
4 Nursing Home - 2 Nos.		365 Patient
(i) @ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	<u>56666 Liter / Day</u>
5 Others		
(i) Primary School - 1 No.	=	500 Students & Teachers
(ii) Nursery School - 1 Nos.	=	500 Students & Teachers
(iii) Taxi Stand	=	50 Persons
(iv) Maintenance Staff (Such as gardener, ESS staff, Security Guards etc.)	=	50 Persons
Total	=	<u>1100</u>
@ 45 / LPCD	=	<u>49500 Liter / Day</u>
Total water demand/day	=	<u>1027093 Liter / Day</u>
Average Sewerage Contribution Considering 80% of AV water demand	=	821674.4 Liter / Day
Sub Soil infiltration @ 10% AV/WD	=	102709 Liter / Day
Sewerage Treatment Plant Capacity	=	<u>924.38 KLD</u>
Or Say	=	<u>925.00 KLD</u>

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD,
SECTOR - 35, KARNAL (HARYANA)**

SEWERAGE SCHEME

(I) DAILY WATER REQUIREMENT

1 Residential

(i) Type A	=	15 Units
(ii) Type B1	=	16 Units
(iii) Type B2	=	9 Units
(iv) Type C1	=	51 Units
(v) Type C2	=	35 Units
(vi) Type D	=	216 Units
(vii) Type E	=	24 Units
Total	=	366 Units
@ 13.5 persons / Unit	=	4941 Persons

2 EWS (Type F)

@ 9 persons / Unit	=	92 Units
Total (1 + 2)	=	828 Persons
@ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	5769 Persons
	=	895637 Liter / Day

3 Commercial (1.923 acres)

(i) Commercial @ 15 / LPCD	=	1686 Persons
	=	25290 Liter / Day

4 Nursing Home - 2 Nos.

(i) @ 135 / LPCD + 15% Wastage = 155.25 LPCD	=	365 Patient
	=	56666 Liter / Day

5 Others

(i) Primary School - 1 No.	=	500 Students & Teachers
(ii) Nursery School - 1 Nos.	=	500 Students & Teachers
(iii) Taxi Stand	=	50 Persons
(iv) Maintenance Staff (Such as gardener, ESS staff, Security Guards etc.)	=	50 Persons
Total	=	1100
@ 45 / LPCD	=	49500 Liter / Day

Total water demand/day = 1027093 Liter / Day

- Average Sewerage Contribution considering 80% of AV demand = 821674 Liter / Day
- Sub Soil infiltration 10% of AV/WD = 102709 Liter / Day
- Peak discharge @ 3 times of AV sewerage contribution plus sub soil infiltration = 2567731 Liter / Day
- Or Say = 1.057 Cuses / Day

Hence 450 dia. Pipe having design capacity 3.05 cuses / day is sufficient to carry the above discharges including future expansion.

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT ROAD,
SECTOR - 35, KARNAL (HARYANA)**

(II) Pumping Machinery for Borewell

Gross working Head (G+2) = 10+2x4	=	18.0 Meters
Average Fall in S.L.	=	5.0 Meters
Depression Head	=	5.0 Meters
Friction loss in main	=	10.0 Meters
Total	=	<u>38.0 Meters</u>
Or Say	=	<u><u>40.0 Meters</u></u>

Pump HP = $\frac{15000 \times 40 \times 1}{60 \times 60 \times 75 \times 0.60}$	=	3.7 H.P.
---	---	----------

Or Say	=	<u><u>5.0 H.P.</u></u>
--------	---	------------------------

(III) Under Ground Water Tanks

Total Water Demand	=	1030 KLD
Day Storage (Equal to 14 Hour)	=	600.83 KLD

Or Say	=	600.00 KLD
--------	---	------------

Therefore, it is proposed to construct an underground tank of 800 KLD having 300 KLD for domestic use, 300 KLD as raw water, and 200 KLD for fire fighting purpose as per location shown on plan.

(IV) Boosting Machinery

a) For Under Ground Tank

Total Water Demand (Domestic)	=	600 KLD
Pumping per hour @ one hour pumping	=	25.00 KLD
	=	1500.00 LPM

Or Say	=	1500.00 LPM
--------	---	-------------

Gross Working Head		
- Suction lift	=	3.00 Meters
- Delivery head	=	5.00 Meters
- Frictional loss in Mains & Specials+ Positive head	=	7.00 Meters
- Clear head required (G+2) = 10+2x4	=	18.00 Meters
Total	=	<u>33.0 Meters</u>
Or Say	=	<u><u>35.0 Meters</u></u>

Pump HP = $\frac{1500 \times 35 \times 100}{60 \times 75 \times 70}$	=	16.66 H.P.
--	---	------------

Or Say	=	<u><u>20.0 H.P.</u></u>
--------	---	-------------------------

It is proposed to provide 2 nos. of motors of 20 HP sets of 1500 LPM discharge at 35 M head (one pump is working and other as standby for domestic supply & generator set of same capacity in case of electric failure)

(A.B.C.)

**PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT KARNAL - MEERUT
ROAD, SECTOR - 35, KARNAL (HARYANA)**

(VI) PUMPS FOR FIRE PROTECTION

S. No.	Parameters	Location	Pump sets		
			Jockey	Main	Diesel
1	Discharge in lpm	Pump Room	280 lpm	2850 lpm	2850 lpm
2	Head in metre		80	80	80
3	HP		12.5	120	120
4	Quantity in nos.		1	2	1

(VII) GENERATING SETS

S. No	equipment	QTY	HP	Total HP
1	Borewell	5	5	25
2	Fire Jockey pumps	1	12.5	12.5
3	Booster Pump (for domestic)	2	20	40
			Total	77.5
			Say	57.815 KW

It is proposed to add 60 KVA capacity for above said machinery to the main DG set.

ELC

ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)

FINAL ABSTRACT OF COST

S. No.	Description	Amount
		(Rs.)
Sub Work No. I	Water Supply Scheme	191.65
Sub Work No. II	Sewerage Scheme	96.62
Sub Work No. III	Storm Water Drainage	125.53
Sub Work No. IV	Road	258.63
Sub Work No. V	Street Lighting	77.61
Sub Work No. VI	Horticulture	62.31
Sub Work No. VII	Maintenance Charges for 10 Years including Resurfacing of Roads after 1st 5 year & 11nd 5 years of mtc	354.07
	Total (in Lacs)	1166.42
	Say Rs. (in Lacs)	1167.00

For M/s. Parsvanath Developers (P) Ltd.


(Authorized Signatory)

ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSWATH DEVELOPERS AT MEERUT -
KARNAL ROAD, SECTOR-35, KARNAL (HARYANA)

Sub Work No.1 Water Supply

S. No.	Description	Amount (Rs.).
Sub Head No. 01	Head Works	3186300.00
Sub Head No. 02	Pumping Machinery	2710000.00
Sub Head No. 03	Rising Main	93,000.00
Sub Head No. 04	Distribution System	5727150.00
Sub Head No. 05	Fire Fighting	237300.00
Sub Head No. 06	Irrigation	533390.00
	Total	12487140.00
	Add 3% contingencies	374614.20
	Total	12861754.20
	Add 49% Department charges	6302259.56
	Total	19164013.76
	Say (In Lacs)	191.64

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-1 Water Supply
Sub Work No-01 Head Works

S. No.	Description	Amount (Rs.)
1	Boring and installing tubewell with reverse rotary rig complete with pipe and strainer to depth of about 120 m in all respect 5 Nos. @ Rs. 2,70,000/- each	1350000.00
2	Provision for rising mains, connecting borewell with water main and bye-pass arrangements. 80 mm dia 90 m @ 820/- per metre 100 mm dia 75 m @ 900/- per meter	73800.00 67500.00
3	Providing Boosting arrangement by pumps (20 HP) for domestic water supply (capacity 1500 lpm at 35 M head, 2 nos. @ Rs. 85000/- each	170000.00
4	Provision for carriage of material & other foreseen items L.S	25000.00
5	Construction of U.G. tanks of total cap. 600 KL Rs. 2200/ KL	1320000.00
6	Provision for borewell chamber of size 1.5 x 1.1 x 2 m for Housing borewell 5 Nos. @ Rs. 36000/- each	180000.00
	Total	3186300.00
	Say (In Lacs)	31.86

Material statement of Borewell Rising Mains

S. No.	Name of line	Discharge KLH	Length of 80 mm dia. pipe	Length of 100 mm dia pipe
1	BW1, BW2, B3 to B4	45	90	-
2	BW4 to BW5	15	-	30
3	BW5 to UGT	75	-	45
	Total		90	75

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-1 Water Supply
Sub Work No-02 Pumping Machinery

S. No.	Description	Amount (Rs.)
1	Providing and installing electricity driven Submersible Pumping set capable of delivering about 15KL per hour of water against a total head of 35 M complete with motor and other accessories. - 5 Nos. @ Rs. 57000/-	285000.00
2	Provision for diesel engine genset each for standby arrangements for booster pumps complete with gear head arrangement. - 1 No. 60 KVA	450000.00
3	Providing and installing pumping set of following capacities for Fire protections:- (i) 280 lpm at 80 M head 1 No. @ Rs. 1,50,000/- (ii) 2850 lpm at 80 M head 2 Nos. for Rs. 7,50,000/- (iii) 2850 lpm at 80 M head 1 No. Diesel Pump @ Rs. 90,000/-	150000.00 1500000.00 90000.00
4	Provision for Chlorination plant complete 1 No. @ Rs. 60000	60000.00
5	Provision for making foundations & erection of pumping machinery	50000.00
6	Provision for pipes, valves & specials inside boosting chamber - 1 set (L.S.)	50000.00
7	Provision for electric services connection including electric fittings for tube well & boosting chambers etc. - 1 set (L.S.)	50000.00
8	Provision for carriage for materials and other unforeseen items etc. (L.S.)	25000.00
	Total	2710000.00
	Say (In Lacs)	27.10

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSINATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-1 **Water Supply**
Sub Work No-03 **Rising Main from HUDA,**

S. No.	Description	Amount (Rs.)
1	Providing, laying, jointing & testing G.I pipe lines including cost of excavation complete in all respects. - 80 mm dia G.I pipe 50 mts @ Rs. 350/-	17,500.00
2	Providing and fixing sluice valves including cost of surface boxes and masonry chambers etc., complete in all respects. - 80 mm dia i/d No. @ Rs. 5000/-	5,000.00
3	Providing and fixing indicating plates for sluice valve - 1 No. @ Rs. 500/-	500.00
4	Provision for carriage of material & other foreseen items etc., - L.S.	20000.00
5	Provision for making connection with HUDA main (L.S.)	50000.00
Total		93,000.00
Say (In Lacs)		0.93

Material Statement and design statement of HUDA Rising Mains

S. No.	Name of line	Discharge KLH	Discharge @ 1.5 times KLD	Velocity mt./sec	Dia in mm	Length in m from municipal to U.G.T.
1	Municiple to Main UGT	600	900 m.	0.75	80	50

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSWATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-1 Water Supply
Sub Head No-04 Distribution system

S. No.	Description	Amount (Rs.)
1	Providing, laying, jointing & testing D.I pipe lines including fitting & cost of excavation etc., complete in all respects. a) D.I pipe 250 mm 60 mts @ Rs. 2950/- b) D.I pipe 200 mm 510 mts @ Rs. 2400/- c) D.I pipe 150 mm 975 mts @ Rs. 1950/- d) D.I pipe 100 mm 1400 mts @ Rs. 1500/-	177000.00 1224000.00 1901250.00 2100000.00
2	Providing, laying, jointing & testing G.I pipe line including fitting, jointing complete in all respect for connection to plot holder. a) G.I. pipe 20 mm dia 496 mts @ Rs. 150/-	74400.00
3	Provision for carriage for material and other unforeseen items etc., (L.S.)	50000.00
4	Providing and fixing Sluice Valve a) 250 mm dia., 1 No. @ Rs. 9000/- each b) 200 mm dia., 5 Nos. @ Rs. 9000/- each c) 150 mm dia., 5 Nos. @ Rs. 6000/- each d) 100 mm dia., 20 Nos. @ Rs. 5000/- each	10000.00 45000.00 30000.00 100000.00
5	Providing and fixing indicates plate for valve 31 Nos. @ 500/- each	15500.00
	Total	5727150.00
	Say (In Lacs)	57.27

0030

0030

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSINATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

S. No.	Description	250mm	200mm	150mm	100mm
(A)	For cold water supply from under ground tank (domestic)				
1	U.G.T. - W1	60	-	-	-
2	200 mm dia. Ring	-	510	-	-
3	150 mm dia. Ring	-	-	975	-
4	100 mm dia. Pipe	-	-	-	1400
	TOTAL	60	510	975	1400

**Terminal Head Statement for Residential Colony Karnal (Harayana) Area 50.564 acres
Cold Water Supply Domestic**

S. No	Name of Pipe line	Length	No. of Plot		Population @ 13.5 person/lot EWS 9 Person/P lot	Requirement t KL @ 155.25 ltrs. (135+15%) head per day	Total Requirement from community+ commercial, nursing home etc		Total requirement in KL @ 3 Time of AV/MD	Proposed size of pipe line in mm	Loss of head in 1000 M (mts)	Loss of head in the line (mts)	Hydraulic level		Ground level at lower end (mts)	Terminal head available (mts)	Remarks
			Self	Additional			Self	Additional					Upper end (mts)	Lower end (mts)			
1	AT UGT	-	-	366 + EWS 92	5769	895.84	91.33	91.33	2960.91	-	-	-	269.45	269.45	244.45	25.00	Ground level = 244.45 UGT Bed level=244.45 -3 mtr = 241.45 Add Building head G+2 = 5+2x4= 13 mts Add suction head 3 mtrs Add Delivery head 5mtr Add positive head 3 mtrs Add friction losses 4 mtr Head level = 28 mts = 268.45
2	UGT-W1	55	EWS 92	366	5769	895.84	91.33	91.33	2960.91	250	1.60	0.09	269.45	269.36	244.35	25.01	
3	W1-W2	160	34	200	3159	490.04	62.13	62.13	1656.51	200	1.50	0.24	269.36	269.12	244.25	24.87	
4	W2-W3	95	64	136	2700	419.18	62.13	62.13	1443.93	200	1.10	0.10	269.12	269.02	244.4	24.62	
5	W1-W4	95	34	98	1782	276.85	62.13	62.13	1016.34	200	0.70	0.07	269.36	269.30	244.5	24.80	
6	W4-W3	160	38	98	1836	285.04	62.13	62.13	1041.51	200	0.70	0.11	269.30	269.18	244.4	24.78	
7	W4-W5	180	38	71	1471.5	228.45	24.7	29.2	772.95	150	1.60	0.29	269.30	269.01	244.15	24.88	
8	W5-W6-W7	450	71	-	959	148.88	24.7	24.7	520.74	150	0.41	0.18	269.01	268.82	244.05	24.77	
9	W4-W8-W7	400	87	-	1174.5	182.34	-	182.34	547.02	150	0.40	0.16	269.30	268.14	244.05	25.09	

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-1 Water Supply
Sub Work No-05 Fire fighting

S. No.	Description	Amount in Rs.
1	Providing, laying jointing & testing M.S. pipe lines for rising main including cost of fitting, valves, connection etc., complete in all respects.	
	a) 200 mm dia pipe line 12 mts @ Rs. 1450/-	17400.00
	b) 150mm dia pipe line 50 mts @ Rs.1200/-	60000.00
	c) 80 mm dia pipe line 14 m @ Rs. 850/-	11900.00
2	Providing and fixing Fire hydrants with accessories- 4 @ Rs. 5000/-	20000.00
3	Provision for carriage of material & other foreseen items etc., - L.S.	10000.00
4	Provision for indicating plates 4 Nos. @ Rs. 500/- each	2000.00
5	Providing for sluice valve 200 - 1 no @ Rs. 10000/-	10000.00
6	Provision for sluice valve 150mm dia 4 Nos. @ Rs. 7000/- each	28000.00
7	Provision for sluice valve 80mm dia 4 Nos. @ Rs. 4500/- each	18000.00
8	Provision for making connection with HUDA (L.S) & three way connections, inlet connection etc.	50000.00
9	Provision for cutting of roads and making good to its original condition (L.S)	10000.00
	Total	237300.00
	Say (In Lacs)	2.373

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARASYNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Material Statement of Fire ring - MS - 150mm dia

S. No.	Location	200 mm dia pipe	150 mm dia pipe	80 mm dia pipe
1	Pump room to FWS1	12	-	-
2	Fire pipe around pump room	-	50	4 x 3.5
3	Fire hydrants	-	-	-
	Total	12	50	14

Material Statement of Fire Hydrant - MS - 80mm dia

S. No.	Location	Length of pipe in m
1	80 dia fire hydrant 4 nos @ 3.50 mt (AV)	14
	Total (Meters)	14

Fire Hydrant System

- Valves 200 mm dia
- Valves 150mm dia
- Valves 80mm dia
- Fire Hydrants
- Fire Brigade Connections

- 1
- 2
- 3
- 4
- 5

- 1 No.
- 4 Nos.
- 4 Nos.
- 4 Nos.
- 2 Nos.

one with each

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSYNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-1 Water Supply
Sub Work No-06 Irrigation

S. No.	Description	Amount (Rs.)
1	Providing, laying, jointing and testing. UPVC pipe line conforming to I.S 4985 including cost of excavation etc., complete in all respects a) 110mm OD 15 m @ Rs 500/- b) 75 mm OD 510 m @ Rs. 400/- c) 50 mm OD 885 m @ Rs. 250/- d) 20 mm OD 44 m @ Rs. 110/-	7500.00 204000.00 221250.00 4840.00
2	Providing & fixing sluice valves complete with chamber 50 mm 4 Nos. @ Rs. 1500/- 65 mm 2 Nos. @ Rs. 2400/- 100 mm 1 No. @ Rs. 4500/-	6000.00 4800.00 4500.00
3	Providing and fixing Ball valve - a) 20 mm 22 Nos. @ Rs. 250/-	5500.00
4	Provision for carriage for materials and other unforeseen items etc.,	25000.00
5	Providing and fixing Irrigation Pumps complete with foundation, motor control Panel, cabling etc., - 1 set @ Rs. 50000/-	50000.00
	Total	533390.00
	Say (In Lacs)	5.33

Material statement of Irrigation System

S. No.	Line Name	110 mm	Length of pipe in m 75 mm OD	Length of pipe in m 50 mm OD	Length of pipe in m 20 mm OD	Irrigation Hydrants
1	STP Pump Room to ring main.	15	-	-	-	-
2	Garden hydrant ring main around the green area	-	510	885	-	-
3	Garden hydrant 22 x 2 mts (AV)	-	-	-	44	-
4	Garden hydrant	-	-	-	-	22
	Total	15	510	885	44	22

ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSYNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)

Sub Work No-II Sewerage Scheme

S. No.	Description	Amount in Rs.
1	Providing, jointing, cutting and testing S.W. pipe and over flow from STP to Municipal sewer trenches including cost of excavation, bed concrete, cost of manhole etc., complete in all respects.	
a)	200 mm AV depth 2 Mtr., 2995 Mtrs. @ 1000/-	2995000.00
b)	250 mm AV 2 Mtr., 415 Mtrs. @ 1250/-	518750.00
c)	300 mm AV 2 Mtr., 311 Mtrs. @ 1600/-	497600.00
d)	450 mm AV 2 Mtr., 120 Mtrs. @ 1950/-	234000.00
a)	Provision for lighting and watching	50000.00
b)	Provision for timbering and shoring L.S.	50000.00
c)	Provision for making connection with HUDA	50000.00
d)	Provision for carriage of material (L.S.)	50000.00
3	Construction of STP tank of total capacity 925 KLD @ 2000/KLD complete	1850000.00
	Total	6295350.00
	Add; 3 % contingencies	188860.50
	Total	6484210.50
	Add; 49 % Departmental charges	3177263.15
	Total	9661473.65
	Say (In Lacs)	96.62

C/o to Final abstract of cost

300

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Material statement of Sewerage System - As per drawing sheet

S. No.	Name of Pipe Line	Length of Pipe in M			
		200 mm	250 mm	300 mm	450 mm
1	S1 - S4		180		
2	S2 - S4	135			
3	S3 - S4	145			
4	S4 - S7		95		
5	S5 - S6 - S7	168			
6	S7 - S10A		99		
7	S8 - S10A	185			
8	S10A - S10			32	
9	S9 - S10	288			
10	S10 - S12			45	
11	S11 - S12	210			
12	S12 - S13			234	
13	S13 - S14				115
14	S15 - S14	108			
15	S14 - STP				5
16	Branches	1756	41		
	Total	2995	415	311	120

Design of Sewerage Scheme of Residential Colony Karnal Area 48.15 acres

S. No	Name of Sewer line	No. of Pits to be served		Population @ 13.5 person/lot	Discharge @ 13.5 Litre/day	Discharge of community commercial and other building		Total Discharge in KLD	Peak discharge @ 75% DWF	Proposed size of sewer line	Velocity in ft/sec	Design discharge	Length in Mtr	Gradient	Fall		Ground level		Invert level		Depth		Average depth
		Self	Additional			Self	Alditto								Upper end	Lower end	Upper end	Lower end	Upper end	Lower end	Upper end	Lower end	
1	S1-S4	13	117 (Future Expansion)	1755	272.46	30	-	302.46	0.28	250	2.50	0.659	180	1:250	0.72	244.45	244.35	242.23	242.23	1.5	2.07	1.79	
2	S2-S4	-	-	-	-	40.13	-	40.13	0.04	200	2.50	0.44	135	1:200	0.68	244.45	243.45	242.77	242.77	1.00	1.53	1.27	
3	S3-S4	-	-	-	-	20.64	-	20.64	0.02	200	2.50	0.44	145	1:200	0.73	244.40	244.30	242.37	242.37	1.00	1.83	1.47	
4	S4-S7	7	130	1849.5	266.18	90.77	-	356.95	0.33	250	2.50	0.659	95	1:250	0.38	244.3	244.4	242.23	241.85	2.07	2.55	2.31	
5	S5-S6-S7	22	-	287	46.109	22.5	-	68.61	0.06	200	2.50	0.44	169	1:200	0.84	244.05	244.4	243.05	242.21	1.00	2.19	1.80	
6	S7-S10A	15	159	2349	364.68	-	113.27	477.95	0.44	250	2.50	0.659	140	1:250	0.56	244.4	244.5	241.85	241.29	2.55	3.21	2.88	
7	S8-S10A	73	-	985.5	153.08	-	-	153.08	0.14	200	2.50	0.44	185	1:200	0.82	244.25	244.5	243.25	242.33	1.00	2.17	1.59	
8	S10A-S10	-	247	3334.5	517.76	113.27	-	631.03	0.584	300	2.50	0.948	32	1:300	0.11	244.5	244.5	241.29	241.18	3.21	3.32	3.26	
9	S8-S10	61	-	823.5	12.79	28.35	-	41.14	0.04	200	2.50	0.44	268	1:200	1.44	244.35	244.5	243.35	241.91	1.00	2.59	1.80	
10	S10-S12	-	308	4198	645.53	-	141.82	787.15	0.728	300	2.50	0.948	45	1:300	0.15	244.5	244.5	241.18	241.03	3.32	3.47	3.08	
11	S11-S12	51	-	688.5	108.97	-	-	108.97	0.1	200	2.50	0.44	210	1:200	1.05	244.3	244.5	243.70	242.25	1.00	2.25	1.63	
12	S12-S13	16	359	5083	786.03	-	141.82	927.66	0.558	300	2.50	0.948	234	1:300	0.78	244.5	243.8	241.03	240.25	3.47	3.55	3.51	
13	S13-S14	69	375	13230	2053.98	-	141.82	2165.56	2.03	450	2.50	3.04	115	1:510	0.23	243.8	243.5	240.25	240.02	3.55	3.48	3.52	
14	S15-S14	9	-	121.55	18.64	-	-	18.67	0.02	200	2.50	0.44	108	1:200	0.54	243.5	243.5	242.60	242.08	1.00	1.44	1.22	
15	S14-S1P	-	453+ future expansion 190 unit @13.5 person+519 units @9 person (Type F+EWS+NPNL)	13352	2072.9	141.82	-	2214.52	2.05	450	2.50	3.05	5	1:510	0.01	243.5	243.5	240.02	240.01	3.48	3.49	3.48	

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSWNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-II

Storm water drain

S. No.	Description	Amount in Rs.
1	Constructing R.C.C. pipe Storm Water Drain complete with excavation C.C. & manholes, refilling etc. upto 2.5 M depth	
a)	400 mm dia. R.C.C. pipe 5088 mtr. @ Rs. 900/-	
b)	Complete with excavation, bed concrete & C.C. haunches, filling with manholes	4579200.00
d)	Provision for lighting and watching	
e)	Provision for timbering and shoring	50000.00
f)	Provision for carriage of material and unforeseen item	50000.00
g)	Provision for Rain water harvesting 17 nos. @ 200000 each	3400000.00
h)	Provision for making connection with HUDA (L.S)	50000.00
	Total	8179200.00
	Add; 3 % contingencies	245376.00
	Total	8424576.00
	Add; 49 % Departmental charges	4128042.24
	Total	12552618.24

Say (In Lacs)

125.53

G/o to Final abstract of cost

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSWATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)
STORM WATER DRAIN**

S. No	Name of Surface Drain	400 mm dia. R.C.C. Pipe in mtrs	Over Flow Pipe 400 mm dia. R.C.C. Pipe
1	R.W.H. - 1	50	8
2	R.W.H. - 2	140	22
3	R.W.H. - 3	849	10
4	R.W.H. - 4	245	28
5	R.W.H. - 5	135	15
6	R.W.H. - 6	420	20
7	R.W.H. - 7	527	20
8	R.W.H. - 8	65	20
9	R.W.H. - 9	177	25
10	R.W.H. - 10	50	30
11	R.W.H. - 11	458	10
12	R.W.H. - 12	220	15
13	R.W.H. - 13	90	20
14	R.W.H. - 14	383	20
15	R.W.H. - 15	225	30
16	R.W.H. - 16	323	25
17	R.W.H. - 17	383	30
	Total	4740	348
	Grand Total	5086	

325

Proposed Township for M/s Parsvnath Developers (P) Ltd
at Sector - 35 Karnal (Haryana)

Hydraulic Chart
Storm Water Drain

Calculations are based on Manning Formula
 $V = (1.486/n) \times m^{2/3} \times s^{1/2}$ in ft/s

No.	Ref. of Line	Length of Line Mtrs.	Catchment Area in sqm		Total Area Sqmt	Discharge In Cusecs (1 Acre = 1 cusecs)	Proposed dia of pipe mm	Velocity ft/Sec	Design Capacity of pipe Cusecs	Gradient	Drop mt	Level at Start			Level at End		
			Self	Additional								GL	IL	Depth	GL	IL	Depth
Rain Water Harvesting No.1																	
1	D1-RWH-1	50	56x28/2 x 50 = 2100	-	2100	0.518	400	0.75	3.48	1:500	0.10	244.45	243.45	1.0	244.30	243.35	0.95
Rain Water Harvesting No.2																	
2	D2-D3	95	65x58=3770	-	3770	0.931	400	0.75	3.48	1:500	0.12	244.45	243.45	1.0	244.30	243	0.97
3	D3-D4	40	65x66=66/2=5005	-	5005	1.237	400	0.75	3.48	1:500	0.13	244.30	243.30	1.0	244.25	243.07	1.08
4	D4-RWH-2	5	62x90=62/2=4712	-	4712	1.164	400	0.75	3.48	1:500	0.20	244.30	243.30	1.0	244.25	243.10	1.15
Rain Water Harvesting No.3																	
5	D4A-D8-D10	215	180x26=4680	-	4680	1.156	400	0.75	3.48	1:500	0.43	244.25	243.65	0.60	244.25	243.22	1.03
6	D6-D7	188	152x12=1824	-	1824	0.450	400	0.75	3.48	1:500	0.38	244.25	243.65	0.60	244.25	243.27	0.98
7	D5-D7	166	146x30=4380	-	4380	1.082	400	0.75	3.48	1:500	0.33	244.25	243.65	0.60	244.25	243.32	0.93
8	D7-D8-D10	30	-	Line D6-D7 = 1824 + Line D5-D7 = 4380 + Line D4A-D8-D10 = 4680 10884	10884	2.69	400	0.75	3.48	1:500	0.06	244.25	243.27	0.98	244.25	243.21	1.04
9	D9-D10	175	92x70 = 6440	-	6440	1.591	400	0.75	3.48	1:500	0.15	244.25	243.25	1.00	244.25	243.10	1.15
10	D11-D12	75	75x30 = 2250	-	2250	0.556	400	0.75	3.48	1:500	0.15	244.25	243.25	1.00	244.25	243.10	1.15

S. No.	Ref. of Line	Catchment Area in sqm		Discharge in Cusecs (1 Acre = 1 cusecs)	Proposed dia of pipe mm	Velocity mt / Sec	Design Capacity of pipe Cusecs	Gradient	Drop	Level at Start			Level at End			
		Self	Additional							Total Area	GL	IL	Depth	GL	IL	Depth
Rain Water Harvesting No. 4																
11	D10-D12		Line D9-D10 = 6440 + D7-D8-D10 = 10884 17324	4.28	500	0.75	4.85	1:600	0.03	244.25	243.10	1.15	244.25	243.07	1.18	
12	D12-RWH-3		Line D10-D12 = 17324 + Line D11-D12 = 2250 19574	4.837	500	0.75	4.85	1:600	0.01	244.25	243.07	1.18	244.25	243.06	1.19	
13	D13-D15	45x58=2610	-	0.611	400	0.75	3.48	1:500	0.06	244.40	243.40	1.00	244.40	243.34	1.06	
14	D14-D15	36x35=1260	-	0.311	400	0.75	3.48	1:500	0.07	244.40	243.40	1.00	244.40	243.32 243.34	1.07	
15	D15-RWH-4		Line D13-D15 = 2475 + Line D14-D15 = 1260 3735	0.922	400	0.75	3.48	1:500	0.06	244.40	243.33	1.07	244.40	243.27	1.13	
16	D16-RWH-4	140x80=11200	-	2.767	400	0.75	3.48	1:500	0.31	244.25	243.25	1.00	244.25	242.94	1.31	
Rain Water Harvesting No.5																
17	D17-RWH-5	140x80=11200	-	2.767	400	0.75	3.48	1:500	0.01	244.25	242.94	1.31	244.25	242.93	1.32	
Rain Water Harvesting No.6																
18	D19-D23	45x42=1890	-	0.467	400	0.75	3.48	1:500	0.06	244.30	243.30	1.00	244.30	243.20	1.06	
19	D18-D23	56x45=2520	-	0.622	400	0.75	3.48	1:500	0.09	244.30	243.30	1.00	244.30	243.21 243.24	1.09	
20	D20-D22	145x28=4060	-	1.003	400	0.75	3.48	1:500	0.29	244.45	243.45	1.00	244.30	243.16	1.14	
21	D21-D22	140x25=3500	-	0.86	400	0.75	3.48	1:500	0.28	244.45	243.45	1.00	244.30	243.16 243.17	1.13	
22	D22-D23		Line D20-D22 = 4060 + Line D21-D22 = 3500 7560	1.86	400	0.75	3.48	1:500	0.03	244.30	243.16	1.14	244.30	243.13	1.17	

S. No.	Ref. of Line	Length of Line		Catchment Area in acent		Total Area	Discharge in Cusecs (1 Acre = 1 cusecs)	Proposed dia of pipe	Velocity	Design Capacity of pipe	Gradient	Level at Start			Level at End			
		Mtrs.	Self	Additional	Drop							GL	IL	Depth	GL	IL	Depth	
																		mt
Rain Water Harvesting No.7																		
23	D23-RWH-6	45	50x45 = 2250	Line D22-D23 = 7560 + Line D18-D23 = 2520 + Line D19-D23 = 1890 11970	14220	3.51	450	0.75	3.92	1:500	0.09	244.30	243.13	1.17	244.30	243.04	1.26	
Rain Water Harvesting No.7																		
24	D24-D26	152	152x18 = 2736	-	2736	0.676	400	0.75	3.48	1:500	0.30	244.40	243.40	1.00	244.20	243.10	1.10	
25	D25-D26	145	145x50+18/2 = 4930	-	4930	1.128	400	0.75	3.48	1:500	0.29	244.40	243.40	1.00	244.20	243.11	1.09	
26	D26-RWH-7	120	110x18+40x18+14/2 = 1980+640 = 2620	Line D24-D26 = 2736 + Line D25-D26 = 4930 7666	10286	2.54	400	0.75	3.48	1:500	0.24	244.20	243.10	1.10	244.20	242.86	1.34	
27	D27-RWH-7	110	110x35 = 3850	-	3850	0.95	400	0.75	3.48	1:500	0.22	244.20	243.20	1.00	244.20	242.98	1.22	
Rain Water Harvesting No.8																		
28	D28-RWH-8	65	65x42 = 2730	-	2730	0.674	400	0.75	3.48	1:500	0.13	244.40	243.40	1.00	244.55	243.17	1.38	
Rain Water Harvesting No.9																		
29	D29-RWH-9	102	125x45 = 5625	-	5625	1.39	400	0.75	3.48	1:500	0.20	244.55	243.55	1.00	244.45	243.35	1.10	
30	D30-RWH-9	75	75x40 = 3000	-	3000	0.741	400	0.75	3.48	1:500	0.15	244.55	243.55	1.00	244.45	243.40	1.05	
Rain Water Harvesting No.10																		
31	D31-RWH-10	50	60x45 = 2700	-	2700	0.667	400	0.75	3.48	1:500	0.10	244.50	243.50	1.00	244.50	243.40	1.10	
Rain Water Harvesting No.11																		
32	D32-D33	88	68x30 = 2040	-	2040	0.504	400	0.75	3.48	1:500	0.18	244.45	243.45	1.00	244.40	243.27	1.13	
33	D36-D35	90	90x25+26/2 = 2430	-	2430	0.6	400	0.75	3.48	1:500	0.18	244.40	243.40	1.00	244.40	243.22	1.18	
34	D35-D34	30	30x28 = 840	Line D36-D35 = 2930	3270	0.808	400	0.75	3.48	1:500	0.06	244.40	243.22	1.18	244.40	243.16	1.24	

552

S. No.	Ref. of Line	Length of Line		Catchment Area in sq.mt		Discharge in Cusecs (1 Acre = 1 cusecs)	Proposed dia of pipe		Velocity mt / Sec	Design Capacity of pipe Cusecs	Gradient	Level at Start			Level at End			
		Mtrs.	Self	Additional	Total Area		mm	ft				Drop	GL	IL	Depth	GL	IL	Depth
35	D37-D34	102	102x26 = 2652	-	2652	0.655	400	400	0.75	3.48	1:500	0.20	244.40	243.40	1.00	244.40	243.20	1.20
36	D34-D33	25	25x20 = 500	Line D37-D34 = 2652 + Line D35-D34 = 3270 5922	6422	1.587	400	400	0.75	3.48	1:500	0.05	244.40	243.16	1.20	244.40	243.11	1.29
37	D33-D39	58	58x18 = 1044	Line D34-D33 = 6422 + Line D32-D33 = 2040 8462	9506	2.35	400	400	0.75	3.48	1:500	0.12	244.40	243.11	1.29	244.40	242.99	1.41
38	D38-D39	58	58x18 = 1044	-	1044	0.278	400	400	0.75	3.48	1:500	0.12	244.40	243.40	1.00	244.40	243.28	1.12
39	D40-D41	55	125x55 = 6875	-	6875	1.698	400	400	0.75	3.48	1:500	0.11	244.40	243.30	1.00	244.40	243.19	1.11
40	D39-D41	5	-	Line D33-D39 = 10550 + Line D40-D41 = 6875 10550	10550	2.607	400	400	0.75	3.48	1:500	0.01	244.40	242.99	1.41	244.40	242.98	1.42
41	D41-RWH-11	5	-	Line D39-D41 = 10550 + Line D40-D41 = 6875 17425	17425	4.306	500	500	0.75	4.85	1:600	0.01	244.40	242.98	1.42	244.40	242.97	1.43
Rain Water Harvesting No.12																		
42	D42-RWH-12	115	115x35 = 4025	-	4025	0.995	400	400	0.75	3.48	1:500	0.23	244.20	243.20	1.00	244.20	242.97	1.23
43	D43-RWH-12	105	105x85 = 8925	-	8925	2.21	400	400	0.75	3.48	1:500	0.21	244.20	243.20	1.00	244.20	242.99	1.21
Rain Water Harvesting No.13																		
44	D44-RWH-13	90	175x36 = 6300	-	6300	1.56	400	400	0.75	3.48	1:500	0.18	244.20	243.20	1.00	244.20	243.02	1.18
Rain Water Harvesting No.14																		
45	D46-RWH-14	220	205x36 = 7380	-	7380	1.82	400	400	0.75	3.48	1:500	0.44	244.30	243.30	1.00	243.80	242.80	1.0
46	D45-D47	105	65x50 = 3250	-	3250	0.80	400	400	0.75	3.48	1:500	0.09	244.00	243.00	1.00	244.00	242.91	1.0

S. No.	Ref. of Line	Length of Line		Catchment Area in sqmt		Discharge In Cusecs (1 Acre = 1 cusecs)	Proposed dia of pipe	Velocity	Design Capacity of pipe	Gradient	Level at Start			Level at End			
		Mtrs.	Self	Additional	Total Area						Drop	GL	IL	Depth	GL	IL	Depth
Rain Water Harvesting No.15																	
47	D47-RWH-14	58	56x28=1624	Line D45-D47=3250	4874	1.20	400	0.75	3.48	1:500	0.12	244.00	242.91	1.09	243.80	242.79	1.01
48	D48-D49	20	135x58=7830	-	7830	1.93	400	0.75	3.48	1:500	0.12	243.80	243.80	1.00	243.80	242.78	1.12
49	D49-D50	55	135x55=7425	Line D49-D49=7830	15255	3.76	450	0.75	4.10	1:500	0.11	243.80	242.78	1.12	243.80	242.61	1.23
50	D50-RWH15	70	130x30=3900	Line d49-D50=15255	19155	4.73	500	0.75	4.85	1:600	0.12	243.80	242.67	1.23	243.80	242.55	1.36
51	D51-RWH-15	80	85x36=3060	-	3060	0.756	400	0.75	3.48	1:500	0.16	243.80	242.80	1.00	243.80	242.64	1.16
Rain Water Harvesting No.16																	
52	D52-D53	75	110x75=8250	-	8250	2.039	400	0.75	3.48	1:500	0.15	244.40	243.40	1.00	244.35	243.25	1.10
53	D53-D54	45	110x45=4950	Line D52-D53=8250	13200	3.26	400	0.75	3.48	1:500	0.09	244.35	243.25	1.10	244.30	243.14	1.16
54	D54-D55	58	110x58=6380	Line D53-D54=13200	19580	4.83	500	0.75	4.85	1:600	0.10	244.30	243.14	1.16	244.20	243.04	1.16
55	D55-RWH-16	145	-	Line D54-D55=19580	19580	4.83	500	0.75	4.85	1:600	0.02	244.20	243.04	1.16	244.20	243.02	1.18
Rain Water Harvesting No.17																	
56	D56-D58	110	110x25=2750	-	2750	0.68	400	0.75	3.48	1:500	0.11	244.20	243.20	1.00	244.20	243.09	1.11
57	D57-D58	115	36x150+44/2 =2910+60+16/2 =940=3750	-	3750	0.827	400	0.75	3.48	1:500	0.23	244.00	243.00	1.00	244.10	242.77	1.23
58	D60-D59	108	98x30=2940	-	2940	0.726	400	0.75	3.48	1:500	0.22	244.35	243.35	1.00	244.10	243.10	1.07
59	D59-D58	40	-	Line D57-d59=3750 + Line D58-D59=2940 =6690	6690	1.65	400	0.75	3.48	1:500	0.10	243.10	242.77	1.23	244.20	242.67	1.53
60	D58-RWH-17	10	160x75=12000	-	12000	2.96	400	0.75	3.48	1:500	0.02	244.50	242.67	1.00	244.20	242.65	1.55

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-1V Roads Work

Width	Length in meter	Metalled Portion	Area in sqm
22	166	15	2490
18	680	12	8160
12	1032	6	6192
6	1750	3	5250
Total - 3628 Meter			22092
Add 10 % for curves			2209.2
Total			24301.2
Add for surface plaza/ parking			6250
Total			30551

S. No.	Description	Amount in Rs.
1	Provision for leveling & earth filling as per site Conditions 50.564 acres @ Rs. 70,000/-	3539480.00
2.(i)	Soiling coat 100 mm thick (63-45)mm gauge compacted to 75mm thick WBM conforming to MOT specification. (Table 400-6, Grading No.2)	
(ii)	Wearing coat (Top coat) 100mm thick (53-22.4)mm gauge compacted to 75mm thick conforming to MOT specifications (Table 400-6 Grating No.3)	
(iii)	25 mm thick premix carpet with seal coat 30551 @ Rs. 350/- per Sqm	10692850.00
3	Provision for Kerbs & channels of CC 1:2:5 - 3628 M x2@ Rs. 175/- M	1269800.00
4	Provision for making approach to each block and pavements - L.S	1000000.00
5	Provision for guide map and other unforeseen and indicating board etc. - L.S	100000.00
6	Provision for traffic light arrangement - L.S	50000.00
7	Provision for carriage of material & unforeseen charges. L.S	200000.00
Total		16852130.00
Add: 3% contingencies		505563.90
Total		17357693.90
Add: 49% Department charges		8505270.01
Total		25862963.91
Say (In Lacs)		258.63

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARASYNATH DEVELOPERS AT MEERUT -
KARNAL ROAD, SECTOR-35, KARNAL (HARYANA)**

Road Work

S. No.	Road Name	Road Length Metres			
		22.0 M wide	18.0 M wide	12.0 M wide	6.0 M wide
1	Entry Road	166			
2	All Round the Township			1032	
3	Road middle to Township		680		
4	In Lanes				1750
	Total	166	680	1032	1750

No. of Car Parking = 500 Nos.

Area = 2.50 x 5.00 x 500 = 6250 Sq. Mts.

ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)

Sub Work No-V Street Lighting

S. No.	Description	Amount in Rs.
1	Providing street lighting on roads as per standard specifications on HVPN 50.564 acres @ Rs. 100000/- per acre Add: 3 % contingencies Total	5056400.00 151692.00 5208092.00
	Add: 49% Departmental charges Total	2551965.08 7760057.08

Say (In Lacs)

77.61

C.O. to final abstract of cost.

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSVNATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

Sub Work No-V1 Plantation & Road side trees

S. No.	Description	Amount	
		(Rs.)	

1
a) Development of Lawn acres:-
Trenching the ordinary soil upto depth of 60-cm i/e removal and Stracking of serviceable material & disposing by spreading and leveling within a lead of 50 M and making up the trench area for proper levels by filling with earth or earth mixed with manure before and after flooding trench with water i/e cost of imported earth and manure.

b) Rough dressing of turfed area.
c) Grassing with" DOOB GRASS" i/e watering & maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit mowing in rows 7.5 cm part in either direction including provision for hedges and barbed wire around park. Approx 50.564 acres organized green @ 70000/- per acre

3539480.00

2 Providing and planting trees along 6.0 m wide and more width at 12 m
Total Road length 3628
No. of trees at 6 m c/c 3628/6 = 604.67
Say 605 x 2 (both side) = 1210 Nos.

Cost details:-
Excavation = 30
Manure = 40
Tree Plant = 60
Tree Guard = 300
Total 430

1210 @ Rs. 430/- each
Total 520300.00
Add; 3 % contingencies 121793.40
Total 4181573.40
Add; 49 % Departmental charges 2048970.97
Total 6230544.37
Say (In Lacs) 62.31

C.O. to final abstract of cost.

**ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROPOSED TOWNSHIP FOR PARSINATH DEVELOPERS AT MEERUT -
KARNAL RAOD, SECTOR-35, KARNAL (HARYANA)**

SUB WORK NO. VII: MTC. CHARGES AND RESURFACING OF ROADS.

S. No.	Description	Amount (Rs.)
--------	-------------	-----------------

1	Provision for maintenance charges for water supply, sewerage, storm water, drainage, roads, street light, Hort., etc. complete including operation & establishment charges as per norms after completion. 50.564 Acres @ Rs. 2.75/- lacs per acre	13905100.00
---	--	-------------

2	Provision for resurfacing of roads after first five years of maintenance i.e. 100mm thick with 25mm thick premix carpet with seal coat with mechanical paver. 30551 sqm. @ Rs. 200/- per sqm.	6110200.00
---	--	------------

3	Provision for resurfacing of roads after 10 years of Mtc. i.e. 25mm thick premix carpet with seal coat with mechanical paver. 30551 sqm. @ Rs. 100/- per sqm.	
	Total	3055100.00
	Add 3% contingencies	92112.00
	Total	23762512.00
	Add 49% deptt., charges	11643630.88
	Total	<u>35406142.88</u>

Say (In Lacs) 354.07

C.O. to final abstract of cost.



A TOTAL AREA OF SCHEME	= 50.564 ACRES
B AREA UNDER EXTERNAL SECTOR ROADS	= 3.265 ACRES
C. NET AVAILABLE FOR TOWNSHIP (50% OF ROAD)	= 1.632 ACRES
D UNDETERMINED AREA	= 0.833 ACRES
NET PLANNED AREA (A-C-D)	= 48.099 ACRES
AREA UNDER RESIDENTIAL	= 23.388 ACRES
AREA UNDER NURSING HOME (2 NOS.)	= 0.52 ACRES
AREA UNDER COMMERCIAL	= 1.923 ACRES (3.98%)
TOTAL SALEABLE AREA	= 25.83 ACRES (53.70%)
ORGANISED GREEN	= 1.95 ACRES (4.05%)
INCIDENTAL GREEN	= 1.348 ACRES (2.80%)
TOTAL GREEN	= 3.298 ACRES (6.85%)

NET PLANNED AREA = 48.099 ACRES.
DETAIL OF PLOTS IN THE LAYOUT PLAN :-

LANDUSE	SIZE (per unit)	AREA (sq. mtrs)	AREA (acres)	NOS	AREA (sq. mtrs)	TOTAL AREA (in acres)
TYPE - A	18.2 X 40.0	732	168.4	15	10986	
TYPE - B1	12.0 X 20.0	240	55.31	16	3971.77	
TYPE - B2	12.0 X 20.0	236	53.08	9	3277.40	
TYPE - C1	10.0 X 20.0	200	45.35	31	5270.14	
TYPE - C2	12.0 X 20.0	240	55.31	35	5735.75	
TYPE - D	10.0 X 20.0	200	45.35	118	4649.20	
TYPE - E	10.0 X 15.0	150	34.01	24	4182.64	
TYPE - F	3.0 X 10.0	30	6.80	52	4836.25	
TOTAL :-				458	94649.77	23.388

TOTAL PLOTS PROPOSED = 458 PLOTS		
EWS @ 20%	Required 91.6	Provided 92 (TYPE-F)
NPL Plots @ 25%	114.5	115

COMMUNITY SITES	REQUIRED		PROVIDED	
	AREA (ACRES)	NOS	AREA (ACRES)	NOS
P School	1	1	1	1
Nursery School	0.2	1	1	1
Taxi Stand	0.5	1	1	1

DENSITY CALCULATION	
Permissible Density = 300 PPH	121.46 PPA
Plots @ 13.5 per plot (458-92=366x13.5)	4941
EWS Plots @ 8 per plot (92x8)	736
Total Population	5788
Density Achieved	5788/18.099 = 319.84 PPA
	119.64x2.87 = 295.25 PPA

ROAD LAYOUT

Doc. No. DCRP/3349 DATED 24-08-2011

REVISED DEMARCATION-CUM-LAYOUT PLAN OF RESIDENTIAL PLOTTED COLONY AREA MEASURING 50.564 ACRES (LICENCE NO 73 OF 2012 DATED 11.07.2012) IN SECTOR-35, KARNAL BEING DEVELOPED BY MIRAGE BULDWELL PVT. LTD. AND OTHERS IN COLLABORATION WITH PARSAVNATH DEVELOPERS LTD

OWNER'S SIGN: [Signature]
 ARCHITECT SIGN: [Signature]

DRG. TITLE: DEMARCATION-CUM-LAYOUT PLAN
 SCALE: 1:1500
 DATE: 21-07-12





A TOTAL AREA OF SCHEME	= 50.564 ACRES
B AREA UNDER EXTERNAL SECTOR ROADS	= 3.285 ACRES
C. NET AVAILABLE FOR TOWNSHIP (50% OF ROAD)	= 1.632 ACRES
D. UNDETERMINED AREA	= 0.833 ACRES
NET PLANNED AREA (A-C-D)	= 48.099 ACRES
AREA UNDER RESIDENTIAL	= 23.388 ACRES
AREA UNDER NURSING HOME (2 NOS)	= 0.52 ACRES
AREA UNDER COMMERCIAL	= 1.923 ACRES (3.99%)
TOTAL SALEABLE AREA	= 25.83 ACRES (53.70%)
ORGANISED GREEN	= 1.95 ACRES (4.05%)
INCIDENTAL GREEN	= 1.348 ACRES (2.80%)
TOTAL GREEN	= 3.298 ACRES (6.85%)

NET PLANNED AREA = 48.099 ACRES.
DETAIL OF PLOTS IN THE LAYOUT PLAN :-

LANDUSE					
RESIDENTIAL	SIZE (per plot)	AREA (sq.m)	AREA (sq.ft)	TOTAL AREA (sq.m)	
TYPE A	10.0 X 40.0	400	4304	13	5747.00
TYPE B1	12.0 X 30.0	360	3891	18	7011.72
TYPE B2	12.0 X 25.0	300	3240	9	3517.60
TYPE C1	10.0 X 25.0	250	2697	11	3271.14
TYPE C2	12.0 X 20.0	240	2580	33	3760.25
TYPE D	10.0 X 20.0	200	2152	24	2842.56
TYPE E	10.0 X 15.0	150	1614	24	2842.56
TYPE F	5.0 X 10.0	50	538	54	4988.25
TOTAL				456	34629.77

TOTAL PLOTS PROPOSED = 456 PLOTS	Required	Provided
EWS @ 20%	91.6	92 (TYPE-F)
NPL Plots @ 25%	114.5	115

DETAIL OF COMMUNITY SITES			
COMMUNITY SITES	REQUIRED AREA (SQ.M)	REQUIRED NOS.	PROVIDED NOS.
P School	1	1	1
Nursery School	0.2	1	1
Taxi Stand	0.5	1	1

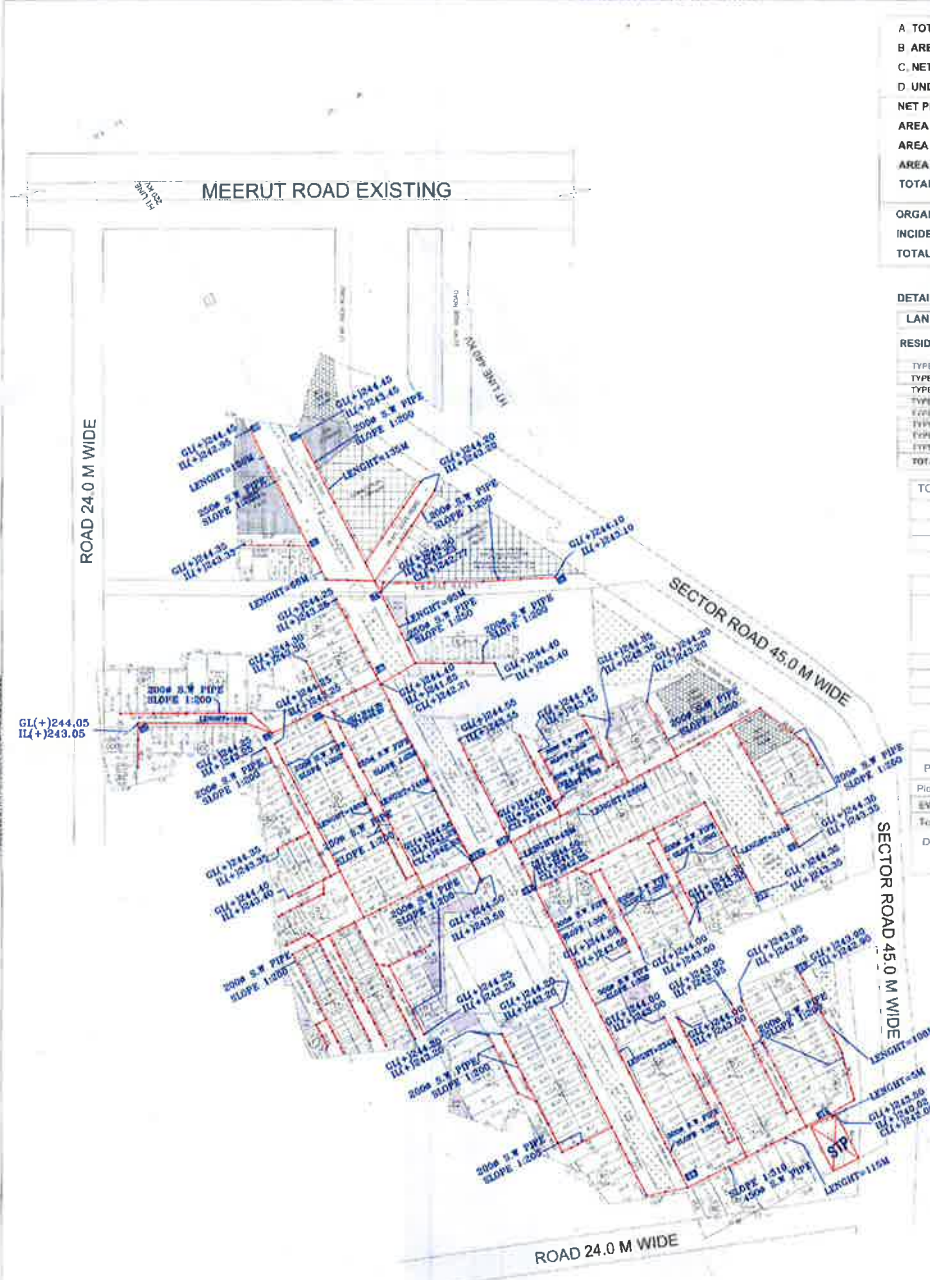
DENSITY CALCULATION	
Permissible Density= 300 PPH	121.46 PPA
Plots @ 13.5 per acre (459 M ² x 36x13.5)	4941
EWS Plots @ 5 per plot (825x)	528
Total Population	5769
Density Achieved	5769/48.099 = 119.94 PPA 119.94 x 2.47 = 296.25 PPH

WATER SUPPLY SCHEME

DRG. NO. DGRP. 33/1 DATED 21-07-2012

REVISED DEMARCATION-CUM-LAYOUT PLAN OF RESIDENTIAL PLOTTED COLONY AREA MEASURING 50.564 ACRES (LICENCE NO 73 OF 2012 DATED 11.07.2012) IN SECTOR-35, KARNAL BEING DEVELOPED BY MIRAGE BULDWELL PVT. LTD. AND OTHERS IN COLLABORATION WITH PARSAVNATH DEVELOPERS LTD.

OWNER'S SIGN	ARCHITECT SIGN	DRAW. TITLE	SCALE	NORTH
		DEMARCATION-CUM-LAYOUT PLAN	1:1500	
			DATE	
			21-07-12	



A. TOTAL AREA OF SCHEME	= 80.594 ACRES
B. AREA UNDER EXTERNAL SECTOR ROADS	= 3.265 ACRES
C. NET AVAILABLE FOR TOWNSHIP (50% OF ROAD)	= 1.632 ACRES
D. UNDETERMINED AREA	= 0.833 ACRES
NET PLANNED AREA (A-C-D)	= 48.099 ACRES
AREA UNDER RESIDENTIAL	= 23.388 ACRES
AREA UNDER NURSING HOME (2 NOS.)	= 0.52 ACRES
AREA UNDER COMMERCIAL	= 1.923 ACRES (3.99%)
TOTAL SALEABLE AREA	= 25.83 ACRES (53.70%)
ORGANISED GREEN	= 1.95 ACRES (4.05%)
INCIDENTAL GREEN	= 1.348 ACRES (2.80%)
TOTAL GREEN	= 3.298 ACRES (6.85%)

NET PLANNED AREA = 48.099 ACRES.
DETAIL OF PLOTS IN THE LAYOUT PLAN :-

RESIDENTIAL	SIZE (per unit)	AREA (sq.m)	AREA (acres)	NOS.	AREA (sq.m)	TOTAL AREA (acres)
TYPE - A	16.0 X 40.0	640	796.4	15	9747.84	
TYPE - B1	12.0 X 38.0	420	502.31	15	7534.77	
TYPE - B2	12.0 X 28.0	336	401.95	2	2009.80	
TYPE - C1	12.0 X 28.0	336	200	13	1377.34	
TYPE - C2	15.0 X 28.0	420	229	75	1792.75	
TYPE - D	10.0 X 38.0	320	233.2	219	47049.25	
TYPE - E	10.0 X 38.0	320	217.28	24	4814.88	
TYPE - F	5.0 X 10.0	50	18.8	92	4882.25	
TOTAL				456	94549.77	23.388

TOTAL PLOTS PROPOSED =	456 PLOTS
EWS @ 20%	91.6
NPPL Plots @ 25%	114.5
Provided	92 (TYPE-F)
	115

DETAIL OF COMMUNITY SITES			
COMMUNITY SITES	REQUIRED	PROVIDED	
	AREA (acres)	NOS.	NOS.
P.School	1	1	1
Nursery School	0.2	1	1
Tax Stand	0.5	1	1

DENSITY CALCULATION	
Permissible Density: 300 PPH	121.48 PPA
Plots @ 13.5 per plot (458-92=366x13.5)	4941
EWS Plots @ 5 per plot (20x5)	458
Total Population	5769
Density Achieved	5200/48.099 = 108.34 PPA
	119.94x2.47 = 295.25 PPA

REVISED DEMARCATION-CUM-LAYOUT PLAN OF RESIDENTIAL PLOTTED COLONY AREA MEASURING 50.584 ACRES (LICENCE NO 73 OF 2012 DATED 11.07.2012) IN SECTOR-35, KARNAL BEING DEVELOPED BY MIRAGE BULDWELL PVT. LTD. AND OTHERS IN COLLABORATION WITH PARSAVNATH DEVELOPERS LTD.

OWNERS SIGN

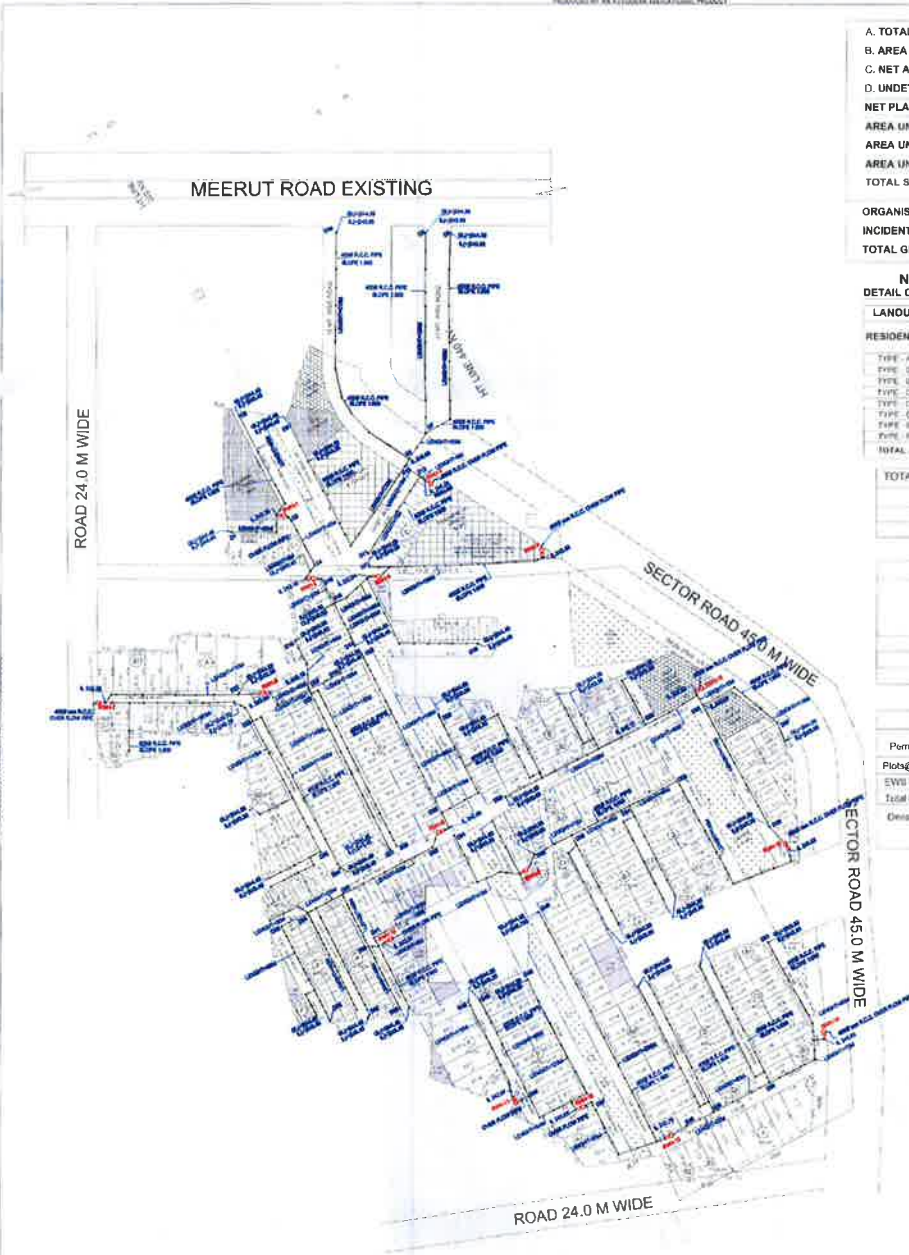
ARCHITECT SIGN

DWG. TITLE : DEMARCATION-CUM-LAYOUT PLAN

SCALE : 1:1500
 DATE : 21-07-12

NORTH





A. TOTAL AREA OF SCHEME	= 50,564 ACRES
B. AREA UNDER EXTERNAL SECTOR ROADS	= 3,285 ACRES
C. NET AVAILABLE FOR TOWNSHIP (50% OF ROAD)	= 1,632 ACRES
D. UNDETERMINED AREA	= 0,833 ACRES
NET PLANNED AREA (A-C-D)	= 48,099 ACRES
AREA UNDER RESIDENTIAL	= 23,388 ACRES
AREA UNDER NURSING HOME (2 NOS.)	= 0.52 ACRES
AREA UNDER COMMERCIAL	= 1,923 ACRES (3.99%)
TOTAL SALEABLE AREA	= 25.83 ACRES (53.70%)
ORGANISED GREEN	= 1.95 ACRES (4.05%)
INCIDENTAL GREEN	= 1,348 ACRES (2.80%)
TOTAL GREEN	= 3,298 ACRES (6.85%)

NET PLANNED AREA = 48,099 ACRES
DETAIL OF PLOTS IN THE LAYOUT PLAN :-

LANDUSE	SIZE (sq. m)	AREA (sq. m)	AREA (sq. ft)	NOS	AREA (sq. m)	TOTAL AREA (sq. m)
TYPE - A	12.0 X 20.0	240	2584	15	3600	15117.00
TYPE - B1	12.0 X 20.0	240	2584	15	3600	15117.00
TYPE - B2	12.0 X 20.0	240	2584	9	2160	8777.40
TYPE - C1	10.0 X 20.0	200	2149	31	6200	24111.24
TYPE - C2	12.0 X 20.0	240	2584	35	8400	32517.50
TYPE - D	10.0 X 20.0	200	2149	219	43180	164887.70
TYPE - E	10.0 X 10.0	100	1076	34	3460	13314.00
TYPE - F	5.0 X 10.0	50	538	32	1620	6210.00
TOTAL				450	94549.77	371,308

TOTAL PLOTS PROPOSED = 450 PLOTS			
	Required	Provided	
EWG @ 30%	91.5	92 (TYPE-F1)	
NPL Plots @ 25%	114.5	115	

DETAIL OF COMMUNITY SITES			
COMMUNITY SITES	REQUIRED	PROVIDED	
	AREA (acres)	NOS	NOS
P. School	1	1	1
Nursery School	0.2	1	1
Taxi Stand	0.5	1	1

DENSITY CALCULATION	
Permissible Density= 300 PPH	121.45 PPA
Plots @ 13.5 per plot (459-92=368x13.5)	494
EWG Plots @ 5 per plot (92x5)	460
Total Population	5769
Density Achieved	5769/48,099 = 119.94 PPA
	119.94x2.47 = 296.25 PPH

RAIN WATER HARVESTING

STORM WATER LAYOUT

DEL. N. DATE: 15/07/2012 DATED: 15/07/2012



REVISED DEMARCATION-CUM-LAYOUT PLAN OF RESIDENTIAL PLOTTED COLONY AREA MEASURING 50,564 ACRES (LICENCE NO 73 OF 2012 DATED 11.07.2012) IN SECTOR-35, KARNAL BEING DEVELOPED BY MIRAGE BULDWELL PVT. LTD. AND OTHERS IN COLLABORATION WITH PARSASVATH DEVELOPERS LTD.

OWNER'S SIGN: ARCHITECT SIGN: ENG. TITLE:

SCALE: 1:1500
 DEMARCATION-CUM-LAYOUT PLAN
 DATE: 21-07-12

