

## Directorate of Town & Country Planning, Haryana

Nagar Yojana Bhavan, Plot no. 3, Sector-18 A, Madhya Marg, Chandigarh  
Web site tcpharyana.gov.in - e-mail: tcpharyana7@gmail.com

Regd.

To

✓ Arttech Residency LLP,  
GF-10, Plot no.9, Ozon Centre,  
Sector-12, Faridabad - 121007.

Memo No. LC-3339 /PA(SK)/2025/ 5873

Dated:

13-02-25

**Subject:** Approval of Service Plan / Estimate in licence no. 56 of 2019 dated 08.03.2019 granted for setting up Affordable Residential Plotted Colony under DDJAY policy -2016 over an area measuring 14.41875 acres falling in the revenue estate of village Patlikhurd & Palwal, Sector-6, Palwal - Arttech Residency LLP.

Please refer to the CE, HSVP, Panchkula memo dated 23.05.2024 on the above cited subject matter.

The Service Plan / Estimate in licence No. 56 of 2019 dated 08.03.2019 granted for setting up Affordable Residential Plotted Colony under DDJAY policy -2016 over an area measuring 14.41875 acres falling in the revenue estate of village Patlikhurd & Palwal, Sector-6, Palwal has been checked and corrected, wherever necessary by the Chief Engineer-I, HSVP and are hereby approved by the DTCP Haryana subject to the following terms and conditions:


1. You will have to pay the proportionate cost of external development charges for setting up of Residential Plotted Colony for the services like water supply, sewerage, storm water drainage, roads, bridges, street lighting, horticulture etc. on gross acreage basis as and when determined by HSVP/Director. These charges are modifiable and modified charges will be binding upon you.
2. The maintenance charges for various services like water supply, sewerage, storm water drainage, Horticulture, roads, street lighting and resurfacing of roads etc. have been included in the estimate as per detail given in it and the total cost of maintenance charges are works out to Ra. 400.84 lacs as you are liable to maintain the estate developed by yourself as per norms as determined by the Govt. /Govt. agency.
3. The category wise area shown on the plans and proposed density of population thereof has been treated to be correct for the purpose of services only.
4. All technical notes and comments incorporated in the estimates in two sheets will also apply. A copy of these is also appended as Annexure-A, alongwith recommendation of HSVP dated 23.05.2024 Annexure-B.
5. The wiring system of street lighting will be under ground and the specifications of the street lighting, fixture etc. will be as per relevant standard of HVPNL.

6. The appropriate provision for fire fighting arrangement as required in the NBC/ISI should also be provided by you and fire safety certificate should also be obtained by you from the Competent Authority before undertaking any construction. You will be responsible for fire safety arrangement.
7. You shall be fully responsible for making arrangement of disposal of sewerage and storm water drainage till such time these are made available by FMDA/HSVP/State Govt. and all link connections with the external system shall be made by you at your own cost. The owner will have to ensure that sewer/storm water drainage to be laid by you will be connected by gravity with the master services to be laid/laid by FMDA / HSVP / State Govt. in this area as per scheme.
8. The correctness of the levels of the colony will be sole responsibility of the owner for integrating the internal sewer/storm water drainage of the colony by gravity with the master services. In case pumping is required the same will be provided by you.
9. Roof top rain harvesting system shall be provided by you as per norms and the same shall be kept operational/maintained all the time. Arrangement for segregation of first rain not to be entered into the system shall also be made by you.
10. The estimates do not include the provision of electrification of the colony. However, it is clear that the supervision charges and O&M charges shall be paid by you directly to the HVPN.
11. You shall be sole responsible for the construction of various structures such as RCC underground tank etc. according to the standard specification good quality and its workmanship. The structural responsibility will entirely rest upon you.
12. In case some additional structures are required to be constructed and decided by HSVP at a later stage, the same will be binding upon you.
13. You will not make the connection with the master services i.e. water supply, sewerage and storm water drainage without getting its approval from the competent authority.
14. This estimate does not include the common services like water supply, storage tank on the top of the building blocks, lifts, ramps, fire fighting arrangements, plumbing etc. and will for part of the building works.
15. In case some additional structures are required to be constructed and decided by the Competent Authority at a later stage, the same will be binding upon you. Flow control valves will be installed preferably automatic type, on water supply connection with external water supply line.
16. You shall get the electrical service plan estimates approved from the concerned authority regarding power utility within a period of 60 days and submit the same in this office for approval.

17. You shall get the permission of competent Authority, before laying services through Panchayat/Government land, if any.
18. That you shall execute the development works as per Environmental Clearance and comply with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act, 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, you shall be liable for penal action by Haryana State Pollution Control Board or any other Authority Administering the said Acts.

A copy of the approved service plan/estimates is enclosed herewith. You are requested to supply four additional copies of the approved service plan/estimates to the Chief Engineer, HSVP, Faridabad under intimation to this office.


DA/as above.

  
(Savita Jindal)  
District Town Planner (HQ)  
For: Director, Town & Country Planning  
Haryana, Chandigarh

Endst No LC-3339 -PA (SK)-2025/

Dated:

A copy is forwarded to the Chief Engineer-I, HSVP, Panchkula with reference to his memo No. CE-1/SE(HQ)/EE(M)/SDE(F)/2024/139166 dated 23.05.2024 for information and necessary action please.

  
(Savita Jindal)  
District Town Planner (HQ)  
For: Director, Town & Country Planning  
Haryana, Chandigarh

LC-3339

Set-1

**PROJECT**

**PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY  
(DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06,  
DISTRICT PALWAL**

**CLIENT**

M/s. ARTTECH Residency LLP

DI - 29.12.2023

  
**KAPIL MANGLA**  
**B.ARCH**  
**CA/2001/27088**

**SERVICES CONSULTANTS**

**INTEGRAL DESIGNS**  
**E-90, ANAND NIKETAN**  
**NEW DELHI - 110 021**  
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**FOR ARTTECH RESIDENCY LLP**  
  
Partner

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**RAPIL MANGLA**  
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For ARITECH RESIDENCY LLP  
*[Signature]*

**PROJECT REPORT / ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL.**

**REPORT**

The Haryana Government has prepared a master plan for development of Residential /Industrial/Commercial urban estate PALWAL. M/s. ARTTECH Residency LLP has decided to develop a part of the area in this master plan and has named this part as **Proposed Affordable Residential Plotted Colony (DDJAY) over an area measuring 14.41875 Acres in Sector-06, District Palwal**. This colony is located in Sector-06, Distt. Palwal of Haryana Urban Development Authority PALWAL. License has already been granted for by D.T.C.P. drawing No.- DTC/P-9888 dated 22.12.2023 to be read with License No.- 56 of 2019 dated 08.03.2019. The brief details of the colony are as under:-

**1. WATER SUPPLY**

The source of water supply shall be HUDA water supply connection. It has been proposed to construct underground tanks of capacity as per attached details for domestic and other purpose. The underground tanks will be filled up from the riser and then pumped to the underground water tanks of each plot.

**(i) Source**

The source of water supply in this area is tube well at present as the underground water is potable and fit for human consumption. Moreover, water is available at reasonable depth. The average yield of tube well will be about **30000 Ltrs. (8000 gallon)** per hour. The recharging of under ground water table in this belt is stated to be good. However, we shall resort to rainwater harvesting system to keep up the recharging system. The number of tube well required for the above area has been worked out and the tube wells will be bored in tune with growth of demand to avoid obsolesce of the tube well. The ultimate requirement of tube well includes provision of 10% standby. Ultimately, water shall be supplied to the project by

HARYANA URBAN DEVELOPMENT AUTHORITY, PALWAL.

  
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For ARTTECH RESIDENCY LLP  
  
Partner



ii) Design

The scheme has been designed for population of 3794 persons in 14.41875 Acres considering main population at 13.5 persons per plot. The rate of water supply per head per day has been taken assumed as 172.5 (150+15%) ltrs. per head per day as per HUDA norms. In addition to above, necessary provision of water for Commercial, Community Center, Parks etc have been taken into account for calculating the maximum number of tube well required.

iii) Underground Water Tank Storage

Underground water storage tank provision has been made for 350 KLD capacity as per water calculation sheets attached.

- a) The underground tanks has been constructed into two compartments to cater the domestic requirements and estimate has been prepared.

iv) Pump chambers and Pumping Machinery

It is proposed to equip each tube well with an electrically driven set submersible pump capable of delivering 30000 ltrs. (8000 gallon) per hour. It is also proposed to equip the required 2 Nos. pumping set with standby diesel engines/gen set for operation during failure of electricity.

v) Boosting Station

The boosting station is being planned for catering to the above requirement.


vi) Distribution System

The Distribution Systems for this plotted Development area has been designed to supply @ 172.5 ltrs. per head per day. Necessary provision for laying **DI Pipe** conforming to relevant IS standards along with valves and specials has been made in this estimate. The minimum terminal head at any point in this system will be about 2.0 mtrs. so that it can serve the

underground water tank of each plot envisaged in the plan. Minimum pipe diameter for

  
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kept as 100 mm diameter. For ARTECH RESIDENCY LLP

  
Anand Chid  
Partner



vii) Rising Mains

Rising Mains from HUDA water main on sector road to water works have also been designed and provision for **D.I. pipeline** (diameter as/design) has been made in this estimate.

2. SEWERAGE SCHEME

This scheme is designed for sewer connecting to S.T.P.

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. Sewer line upto 400 mm dia has been designed to run half full and above 400 mm dia has been designed to run three fourth full at peak flow. Necessary provision for laying Stoneware pipe sewer line, construction of required number of manholes etc. have been made in the estimate. In this case, all the sewage pipes shall be terminated into STP

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.

3. STORM WATER DRAINAGE

It is proposed to lay underground R.C.C. NP-3 class pipe drains with required number of manholes for disposal of Storm Water which will be connected to Rainwater Harvesting Pit and Overflow of Pit shall be connected to HUDA storm water drain. The intensity of rainfall has been taken as  $\frac{1}{4}$ " per hour. A minimum size of 400 mm dia pipe is proposed to installed. Storm Water Line shall be installed as per Haryana Authority requirement and designed as per Manning formula. Necessary Rainwater Harvesting arrangement also has been provided.

  
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For AETECH RESIDENCY LLP  
  
PARTNER



#### 4. ROADS

The road in the colony has been planned in such a way that feeder roads are 9 mtrs. wide. Internal services roads providing approach to the plots are 9 mtrs. wide. The following specifications have been adopted which are reproduced below.

- i) 200 mm ~~GSM~~ **GSB**
- ii) 250 mm stone aggregate
- iii) 50 mm thick ~~RLM~~ **RLM**
- iv) 20 mm ~~MSS~~ **BC**

The above construction shall be done on well compacted sub grade as per specifications. Complete work will be carried out as per MORTH specifications, IRC guideline or HUDA specifications, whichever applicable.

#### 5. STREET LIGHTING

Provision for lighting in the surrounding area has been made.

#### 6. HORTICULTURE

The usual provision of roadside plantation of tree with tree guards has been made for all roads. The parks shall be developed by providing Lawns etc.

#### 7. SPECIFICATIONS

The work will be carried out in accordance with the standard specifications of P.H. as laid

down by the Haryana  
  
**MANGLA**  
**B. ARCH**  
001/27088

  
**ANAND K. S.**  
RESIDENCY LLP  
Partner



8. RATES

The estimate for providing services has been based on the present market rates.

COST

The total cost of the scheme, including cost of all services works out to be ~~Rs. 1071.65~~ <sup>1404.62</sup> ~~1067.47~~ Lakh including 3% contingencies and P.E. charges and 49% departmental, administrative, unforeseen and escalation charges.

The cost per gross acre for this works out to ~~Rs. 88.34~~ <sup>97.42</sup> Rs. 74 Lakh/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.

For M/s. ARTTECH Residency LLP

For ARTTECH RESIDENCY LLP

*Mouli Gohil*  
Authorized signatory

Authorized signatory

*Kapil Mangla*  
KAPIL MANGLA  
B.Arch  
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Executive Engineer  
HSVP, U.P. Palwal

## DESIGN CALCULATION

### 1. DAILY WATER REQUIREMENT

#### 1.0 Plotted development :-

Total No. of plots

= 281 ~~281~~

Total No. of population per plot @ 13.5

Total No. of population = 13.5 x 281

Water requirement @ 172.5 liter per person per day (3794 x 172.5)

Say

= 3793.5  
= 654465.0 Ltrs.  
= 655 KLD 589 KLD

#### 2.0 Add requirement for Institutions etc.

##### a) No. of Community Centre

= 1

Daily Water requirement @ 25 KLD per Acre

Daily water requirement for 1.44208 Acre (25 x 1.44208)

= 36.052 KLD

Say

= 37 KLD

##### b) No. of Commercial

= 1

Daily Water requirement @ 32 KLD per Acre

Daily water requirement for 0.28865 Acre (32 x 0.28865)

= 9.2368 KLD

Say

= 9.0 KLD

##### c) Misc.

= 5,000 litres/day

= 5.0 KLD

**Total Water Requirement (a+b+c)**

= 51.0 KLD

#### 3.0 Horticulture water requirement (recognized green area)

Total area approx. 4378.27424 Sq.Mtrs. (1.081891 acres)

@ 25 KL/acres (recycle from STP)

= 27 KLD

#### 4.0 Area under roads (9 mtr. Wide road) out of 9.056

Total length of road

= 1295.0 mtr.

Total road area (9 x 1295.0 / 4046.825)

= 2.88 Acres

For ARTTECH RESIDENCY LLP

  
Partner



Page No.: 8

  
KAPIL MANGLA  
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Daily water requirement for

	For sweeping of roads $(2.88 \times 5000/1000)$	=	14.4 KLD
	Total daily water requirement $(655 + 51)$	=	706.00 KLD
	Say	=	700 KLD
a.	For domestic use- $(65\% \text{ of } 700 \text{ KLD}) = 455 \text{ KLD}$	=	460 KLD
b.	For Flushing use- $(35\% \text{ of } 700 \text{ KLD}) = 245 \text{ KLD}$	=	250 KLD
c.	Under parks & roads $(3 + 4) = 27.0 + 14.4$	=	41.4 KLD
5.0	Total domestic water requirement	=	460 KLD

**II TUBEWELLS**

(a)	Yield	-	30 KL/hr (8000 Gallon/day)
			(1 Gallon = 3.8 Ltrs.)
(b)	Working Hours per day	-	12 Hours per Day
(c)	Total Water demand	-	460 m <sup>3</sup> / day (12268 Gallon)
(d)	Number of Tubewell required	-	1.8
	(Water demand/Discharge/Hour of Working per day)		1.17
(e)	Add 10% as standby	-	0.13
	<b>Total</b>	-	1.93 Nos.
	<b>Say</b>	-	2.0 Nos.

Since the Water to the proposed development is to be supplied mainly by HUDA. It is proposed to install **2 nos.** of tubewell for augmentation (**2-working**) till the HUDA supply is available. The water for the green & landscape area is to be supplied from STP.

**Pumping machinery for Tube well**

(a)	Gross Working Head	-	45.00 Meters
(b)	Average fall in S.L.	-	3.00 Meters
(c)	Depression Head	-	9.00 Meters
(d)	Friction loss in main	-	3.00 Meters
	<b>Total</b>		<b>60.00 Meters</b>

*[Signature]*  
**MANGLA**  
**B.ARCH**  
**01/27088**



For ARCH RESIDENCY LLP  
*[Signature]*

### Boasting machinery for flushing water

Daily water req. for flushing use  
incl. lost.  $225 \text{ KL} + 44.50 \text{ KL} = 269.5 \text{ KL}$  say  $270 \text{ KL}$

Discharge rate 100-8 100 pumping per day

$270/8 = 33.75 \text{ KL/hr}$  or  
 $562.50 \text{ LPM}$   
say  $570 \text{ LPM}$

Head 45 meters

Bill req  $\frac{570 \times 45}{60 \times 75 \times 0.60} = 9.50 \text{ HP}$   
say  $10.0 \text{ HP}$

Under ground water Table (Flushing water)

Flushing water req. incl. lost =  $270 \text{ KL}$

Cap. of UGT req. @  $0.60 = 162 \text{ KL}$   
say  $175 \text{ KL}$

- (e) Discharge - <sup>2250</sup> 30000 LPH  
 or - <sup>375</sup> 300 LPM (each pump)
- (f)  $HP = \frac{315}{(500 \times 60)} / \frac{1}{(60 \times 75 \times 0.60)}$  - <sup>8.33</sup> 41.11 HP  
 Say - **15.00 HP Each Pump**

### III. BOOSTING MACHINERY (Dom.)

- (a) Daily Domestic Water Demand - <sup>420</sup> 460 m<sup>3</sup> / day
- (b) Discharge per hour @ 8 hr. pumping / day - <sup>58.75</sup> 58.75 m<sup>3</sup> / Hour  
 or - <sup>52.50</sup> 52.50  
 $\frac{58.75}{0.060} = 979.16$  Say - <sup>875</sup> 1000 LPM
- (c) Proposed pump discharges  
 Pump provided (1 working + 1 standby) - <sup>875</sup> 1000 LPM (each pump)
- Gross Working Head for site**
- (d) Suction lifts - 3.00 Meters
- (e) Frictional loss in mains & specials - 10.00 Meters
- (f) Max clear head required - 30.00 Meters
- Total - 45.00 Meters  
 Say - 45.00 Mtrs.
- (g) H.P. of each pump required  $\frac{875}{(1000 \times 45)} / \frac{1}{(60 \times 75 \times 0.60)} = 16.67$  HP - <sup>14.58</sup> 16.67 HP  
 Say - <sup>15.0</sup> 20 HP

It is proposed to provide 2 Nos. of pumps (1 working + 1 standby) of 20 HP each. <sup>15.0</sup>

### IV. UNDER GROUND WATER TANKS (Domestic)

- (a) Total Daily water demand - <sup>420</sup> 460 KLD
- Capacity of under ground tank taking storage (3-4 day requirements) say 75% of daily demand  
 $\frac{420}{25+25+587} \times 587$  say 607.  
 $\frac{420}{252} \times 252 = 260$   
 $\frac{420}{260} \times 460 = 345$  Say = 350 KLD

- (b) Proposed U/G water tank (2 x 175 = 350 KLD) <sup>350 KLD</sup>

*Kapil Mangla*  
**KAPIL MANGLA**  
 B.ARCH  
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For fix =  $100 \times \sqrt{3.714} \times 1.3$   
 $64.92 = 2x$   
 say 90m



*Arttech Residency Ltd*  
**ARTTECH RESIDENCY LTD**  
 Mumbai

V. OVER HEAD SERVICE RESERVOUR

There is no requirement of O.H.S.R. for domestic water supply as the capacity of U.G.S.T. has been increased by 25% each, which is equal to required capacity of O.H.S.R.

VI. GENERATING SETS FOR SITE (BOOSTING MACHINERY SYSTEM)

HP of tubewell pump 15 x 1	=	15
HP of domestic pump <sup>20 HP for flushing water</sup>	=	20
<i>Total</i> (15+20)	=	35 HP
<i>40 35 x 1.85 x 0.746</i>	=	48 KVA <i>44.76</i>
Say	=	50 KVA

It is proposed to add 50 KVA Capacity to the main DG set for pumping system


VII. GENERATING SETS FOR SITE (STP)

HP of S.T.P.	=	85
Total	=	85 HP
85 x 1.85 x 0.746	=	117.31 KVA
Total	=	117.31 KVA
Say	=	125 KVA

It is proposed to add 125 KVA Capacity to the Main DG Set for STP

VIII. SEWAGE TREATMENT PLANT

Total water requirement	- <sup>640</sup> 700 KLD
Capacity of S.T.P @ 80% of total water requirement	- <sup>512</sup> 560 KLD
9% Extra as per EIA	- <sup>25.6</sup> 25.6 KLD
Total	- <sup>537.6</sup> 560 KLD
Say	- 560 KLD

For ARTECH RESIDENTIAL  


Executive Engineer  
 H&VP, Div. Palsani

\* \* \* \* \*



  
 KAPIL MANGLA  
 B ARCH  
 CA/2001/27088

## FINAL ABSTRACT OF COST

Amount in Rs. Lakh

SUB WORK NO. I	WATER SUPPLY SCHEME	<del>230.76</del> <del>283.55</del> 230.76
SUB WORK NO. II	SEWERAGE SCHEME	<del>140.38</del> <del>211.03</del> 140.38
SUB WORK NO. III	STROM WATER SCHEME	<del>94.22</del> <del>141.60</del> 94.22
SUB WORK NO. IV	ROAD WORKS	<del>201.54</del> <del>322.42</del> 201.54
SUB WORK NO. V	STREET LIGHTING	<del>33.19</del> <del>55.32</del> 33.19
SUB WORK NO. VI	HOTICULTURE	<del>4.65</del> <del>10.46</del> 4.65
SUB WORK NO. VII	M/C CHARGES FOR SERVICES & RESURFACING OF ROADS	<del>362.72</del> <del>400.84</del> 362.72
		<del>1967.47</del> <del>1404.62</del> 1967.47
TOTAL		1967.47

Checked by: 1387166  
 Forwarding order no. 28105/2024 and notes attached with the estimate

(Rupees Ten Crore Sixty Seven Lacks Forty Seven Thousand only)

Development Cost per Acre (14.41875 Acre) is coming out to be  
 (Rs.  $\frac{1067.47}{14.41875} = 74.05$  Lakh, Say 74 Lakh)

Executive Engineer (AD)  
 for Chief Engineer I  
 HSVP, Panchkula

For ARITECH RESIDENCY LLP  
  
 Partner  
 AUTHORISED SIGNATORY

Executive Engineer  
 HSVP, Div. 

  
 Superintending Engineer,  
 HSVP Circle, Panchkula

  
 KAPIL MANGLA  
 B ARCH  
 CA/2001/27088



  
 Director  
 Town & Country Planning  
 Haryana, Chandigarh



हरियाणा शहरी विकास प्राधिकरण

HARYANA SHEHARI  
VIKAS PRADHIKARAN

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Email : cencrhuda@gmail.com

Address: C-3, HSVP, HQ Sector-6  
Panchkula

CE-1 No. 138166  
Dated: 23/05/2024  
Annexure-A

**SUB:-** Approval of service plan estimate against license no. 56 of 2019 (Endst. No. LC-3339-JE(9K)-2019/7169 dated 09.03.2019) transferred in favour of Artech Residency LLP by the order dated 17.11.2023 (Endst. No. LC-3339/JE(AK)/2023/39616 dated 17.11.2023) for setting up of Affordable Residency Plotted Colony (under DDJAY-2016) over an area measuring 14.41875 acres in the revenue estate of Village Palwal, Sector-6, Palwal.

**Technical note and comments:-**

1. All detailed working drawings would have to be prepared by the colonizer for Integrating the internal services proposals with the master proposals of town.
2. The correctness of the levels will be the sole responsibility of the colonizer for the integration of internal proposals, with the master proposals, of town and will be got confirmed before execution.
3. The material to be used shall be the same specifications as are being adopted by HSVP and further shall also conform to such directions, as issued by Chief Engineer, HSVP from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specifications as are being followed by HSVP. Further it shall also conform to such other directions, as are issued by Chief Engineer, HSVP from time to time.
5. The colonizer will be fully responsible to meet the demand of water supply and allied services till such time these are made available by State Government/ HSVP. All link connections with the State Government/ HSVP system and services will be done by the colonizer. If necessary extra tube-wells shall also be installed to meet extra demand of water beyond the provision according to EDC deposited.
6. Structural design & drawings of all the structures, such as pump chamber, boosting chamber, RCC OHSR, underground tanks, quarters, manholes chamber, sections of RCC pipes sewer and SW pipes, sewer, ventilating shafts for sewerage and Masonry Ventilation Chamber for Chamber for storm water drainage, temporary disposal/ arrangement etc. will be as per relevant I.S codes and PWD specifications, colonizer himself will be responsible for structural stability of all structures.
7. Potability of water will be checked and confirmed and the tube-wells will be put into operation after getting chemical analysis of water tested.
8. Only C.I/D.I pipes will be used in water supply and flushing system, UPVC/HOPE pipe for irrigation purposes.




हरियाणा शहरी विकास प्राधिकरण

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Tel. : 2570982  
Toll Free No. : 1800-180-3030  
Website : www.hsvp.in  
Email : cenrhuda@gmail.com

Address: C-3, HSVP, HQ Sector-6  
Panchkula

9. A minimum 100 i/d C.I/D.I, 200mm i/d SW and 400mm id RCC NP-3 pipes will be used for water supply, sewerage and storm water drainage respectively.
10. Standard X-section for S.W. pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health Engineering Deptt. or HSVP. If needed, the same may be sought by the colonizer from concerned Executive Engineer of HSVP.
11. The X-section, width of roads, will be followed as approved by the Chief Town Planner, Haryana, Chandigarh. The kerbs and channels will also be provided as per approved X-section and specifications. If needed, the same may be sought by the colonizer from concerned Executive Engineer of HSVP.
12. The specifications for various roads will be followed as per IRC/MORTH specifications.
13. The wiring system of street lighting and specifications of street lighting fixture will be as per relevant standards.
14. This shall conform to such other conditions as are incorporated in the approved estimate and the letter of approval.

  
Executive Engineer (M),  
for Chief Engineer-I, HSVP,  
Panchkula.

# ESTIMATE

**SUB WORK NO. 1**

**WATER SUPPLY**

Amount in Rs.  
(In Lacs)

1	Sub Head No. 01	Head Works (TW)	<del>28.57</del> 67.00	66.88
2	Sub Head No. 02	Pumping Machinery	<del>4.20</del> 19.80	29.00
3	Sub Head No. 03	Rising Main From HUDA & Tubewell	<del>14.47</del> 11.57	4.06
4	Sub Head No. 04	Distribution System (domestic)	31.87	38.64
5	Sub Head No. 05	Irrigation / flushing water	29.51	14
			<del>17.36</del> 171.73	154.36
		<b>TOTAL</b>	150.36	
	Add 3% for contingencies and P.E charges		5.15	5.29
		<b>TOTAL</b>	155.51	176.88
	Add 49% Departmental charges, price escalation unforeseen and administrator charges		86.67	81.65
			75.89	27.00
			267.55	
		<b>TOTAL</b>	230.76	270.53
		<b>SAY</b>	230.76	270.53

For ARTTECH RESISTENCY LLP

*Moulik Chakraborty*  
1984

*Kapil Mangla*  
**KAPIL MANGLA**  
B.ARCH  
CA/2001/27088



*[Signature]*  
Executive Engineer  
RWD/DM, PWD/CI

Sub Work No. 1  
Sub Head No. 01

Water Supply  
Head Works (TW)

Amount (Rs.)  
(In Lacs)

1	Boring and installing 200 mm inner dia tubewell with reverse / direct rotary rig complete with pipe and strainer to a depth of about 150 meter in all respect <i>2 nos. @ Rs. 15.00 Lacs each</i>	<del>20.00</del> 15.00
2	Provision for construction of pump chamber as per standard design of PWD PH/ HUDA of size 4.90 x 4.25 <i>2 Nos. @ Rs. 4.50 Lacs each</i>	<del>9.00</del> 4.50 lacs
3	Provision for boundary wall, gate around tube well site water works <i>2 Nos. @ Rs. 5 Lacs (L.S.)</i>	<del>10.00</del> 05
4	Provision for footpath, hedges and lawn at Tubewell water works etc. (L.S.)	<del>2.00</del> 3.00
5	Construction of boosting chambers of suitable size along with under ground tank of capacity 350 KL. <i>incl. 10 KL. Tank, machinery and generation set etc. complete in all respect.</i>	
	Detail of boosting stations	
	i) Construction of boosting chambers.	<del>1.00</del> 2.00
	ii) Construction of U.G. Tank <i>2x175</i> = 350 KL. @ Rs. 4000 /KL. in compartments. <i>Dom</i> <i>@ Flushing water under ground tank = 115 KL @ 80 RS/CL</i>	19.25 lacs <del>14.00</del> 9.63 lacs
6	Provision for staff quarters for maintenance of scheme = 1 No, 350 SQ. FT. @ <del>10000</del> Lacs (L.S.)	10.00 7.50
7	Provision for carriage of material and other unforeseen items etc. (L.S.)	1.00
	<b>TOTAL</b>	<del>66.88 lacs</del> 67.00 <i>20.50</i>
	<b>Say</b>	<del>67.00</del> 67.00

For ARTECH RESIDENCY LLP

*Dr. Navin Chandra*  
Executive Engineer  
MWD, D.D. P.



*KAPIL BANGLA*  
B. ARCH  
CA/2001/27088

Sub Work No. 1  
Sub Head No. 02

Water Supply  
Pumping Machinery

Amount(Rs.)  
(In Lacs)

- |   |  |      |
|---|--|------|
| 1 | Providing and installing electricity driven submersible pumping set capable of delivering about 30.0 KL water per hour against a total Head of 60 M complete with motor and other accessories. (10 H.P) - 1 nos. @ Rs.2.00 Lac each.                     | 4.00 |
| 2 | Provision for cheap pressure type chlorination plant complete: 1 No. @ Rs. 1.00 Lac  | 1.00 |
| 3 | Provision for making foundations and erection of Pumping Machinery: (L.S)  | 2.00 |
| 4 | Provision for pipes, valves and specials inside boosting chamber. (L.S)  | 1.00 |
| 5 | Provision for electric service connection including electrical fittings for tube-well and boosting chamber including transformer   | 2.00 |
| 6 | Providing & installing of centrifugal Booster Pumps Domestic booster Capacity 1000 LPM at 45 M head, 2 Nos. @ 0.40 Lac each (1W+1S).<br><i>Centrifugal booster pump for flushing water station 45m head with 10+20 (1+1) 2 nos. @ Rs. 2.00 lacs each</i> | 0.80 |
| 7 | Providing genset. (50 KVA) (L.S)   | 7.50 |
| 8 | Provision for carriage of material and other unforeseen items. (L.S)   | 2.00 |

TOTAL

Rs. 29.80 lacs  
19.80

SAY

19.80

*Kapil Mangla*  
KAPIL MANGLA  
B.Arch  
CA/2001/27088



*Executive Engineer*  
NRT

FOR ARTECH RESIDENCY LLP  
*Manish Chandra*  
Partner

Executive Engineer  
NRT

Sub - Work No. 1  
Sub Head No. 03

Water Supply  
Rising Main from  
HUDA/Tubewell

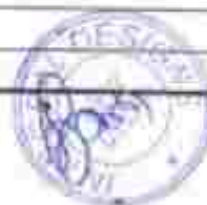
Amount in Rs.  
(In Lacs)

1	Provision for rising main from main HUDA water line to U.G.S.T tank. Providing, Laying, jointing and testing DI (Class K-9) pipe line including cost of excavation complete as per specifications. -150 mm dia I/d. DI Pipe 355 mtr. @ Rs. 1,575/ mtr. <i>2220 2040</i>	<i>7.24</i> <del>5.59</del>
2	Provision for rising main from main tubewell to U.G.S.T. tank. Providing, Laying, jointing and testing DI pipe line including cost of excavation complete as per specifications. <i>T.W. Rising main</i> a) 100 mm dia -122 @ Rs. 1275 / M <i>1460</i>	<i>1.78</i> <del>1.56</del>
3	Providing and fixing sluice Valve including cost of surface box and masonry chamber etc. complete in all respect. -150 mm dia I/d. 1 no. @ Rs. 15000/- each -100 mm dia I/d. 2 nos. @ Rs. 12000/- each	0.15 0.24
4	Providing and fixing indicating plates for sluice valve and air valves. - 3 nos. @ Rs. 1000 / each	0.06
5	Provision for carriage of material and other unforeseen items etc. (L.S)	1.00
6	Provision for making connection with HUDA pipe with provision of automatic constant pressure control valve (L.S)	<i>2.00</i>
7	Provision for cutting of road and carriage of materials etc. and other unforeseen chargers (L.S)	2.00
<b>TOTAL</b>		<i>14.47</i> <del>11.57</del>

SAV

*11.57*

BE-ARTTECH RESIDENTY LLP  
*Artech*



*Kapil Mangla*  
KAPIL MANGLA  
ARCH  
C/A/2001/2-388

Executive Engineer  
MSVP, Dw. Petrol

Sub - Work No. 1

Water Supply

Sub Head No. 04

Distribution system

Amount in Rs.  
(In Laacs)

- 1 Providing, Laying, jointing and testing DI pipe including cost of excavation complete as per specifications. (UG-Tank to Plots)

150 mm  $\phi$  DI Pipe Bunk - 2 of 3040/-  
- 100 mm dia, 2328 m @ Ra. 1275/ Mtr.  
1420 14601/-

1.63 lac  
29.68  
20.73 lac

- 2 Providing and fixing sluice Valve including cost of surface box and brick masonry chamber etc. complete in all respect.

- 100 mm dia I/d, 28 nos. @ Rs. 12000/- each  
150 mm  $\phi$  141 - 25 15000/- each

3.36  
0.15 lac

- 3 Providing and fixing air Valve & scour valve or scour taps including cost of brick masonry chamber etc. complete in all respect.

- 12 nos. @ Rs. 10000/- each

1.20

- 4 Providing and fixing indicating plates for sluice valve and air valves.

- 40 nos. @ Rs. 1000/- each (28 + 12 = 40)

0.40

- 5 Provision for carriage of material and other unforeseen items etc. (L.S)

2.00

- 6 ~~Provision for fixing fire hydrant (L.S)~~

1.00 lac

- 7 Provision for cutting of road and carriage of materials etc. and other unforeseen charges (L.S)

2.00

TOTAL

31.37 lac  
38.64

SAY

38.64



RANIL MANGLA  
B.Arch  
CA/2001/27088

EXHIBIT - 1  
H.S.V. / ...

ARTTECH RESIDENCY LLP  
Partner

Sub - Work No. 1

Sub Head No. 05

Water Supply  
Flushing / Irrigation  
Pipe

Amount in Rs.  
(In Lacs)

1. Providing, Laying, jointing and testing <sup>D.S</sup> UPVC (6 kg) pipe including cost of excavation complete as per specifications. - 100 mm dia, 1764 m @ Rs. 400/ Mtr.	1480 1460	21.61 7.06
2. Providing and fixing gate/sluice Valve including cost of surface box and brick masonry chamber etc. complete in all respect. - 100 mm dia i/d, 10 nos. @ Rs. 12000/- each - 150 mm dia i/d, 0 no. @ Rs. 15000/- each		1.20 0.00
3. Providing and fixing indicating plates for sluice valve and air valves. - 10 Nos. @ 3000 / each		0.30
4. Provision for carriage of material and other unforeseen items etc. L/S		3.00
5. Provision for cutting of road and carriage of materials etc. and other unforeseen chargers (L.S)		2.00
6. <sup>for laying, jointing, testing</sup> UPVC pipe <sup>for 6 kg</sup> <sup>including cost of filling, valves, castings</sup> <sup>provided 25 mm dia (L.S)</sup>		0.50 / 0.50
7. <sup>for and fixing 25 mm dia irrigation by road valve</sup> <sup>complete in all respects</sup>		1.00
	<b>TOTAL</b>	<b>43.36</b>
	<b>SAY</b>	<b>43.36</b>
		<b>29.51 / 03</b>



*Kapil Mangla*  
**KAPIL MANGLA**  
B.Arch  
CA/2001/27088

For ARTTECH RESIDENCY LLP

*Nanika Chahal*  
ARTTECH

*f*  
Engr. *f*  
HDZ

*Mang*

Sub - Work No. II

Sewerage Scheme  
Amount in Rs.  
(In Laes)

1	Providing, jointing, cutting and testing silt glaze Stoneware pipe and specials lowering into trenches including cost of Excavation, bed concrete, cost of manholes etc. complete in all respect.	
a)	Stoneware pipe 150 mm i/d, avg. depth 0-0.75 M, 1200 M @ Rs. 800/- per mtr.	9.60
Ⓐ	Stoneware pipe 200 mm i/d, avg. depth 0.9-1.65 M, 968 M @ Rs. 1700/- per mtr.	16.46 <del>14.62</del>
Ⓑ	Stoneware pipe 250 mm i/d avg. depth 1.65-2.30 M, 287 M @ Rs. 2000/- per mtr.	5.74
Ⓒ	Stoneware pipe 300 mm i/d avg. Depth 2.30 - 3.5 M, 115 M @ Rs. 2800/- per mtr.	3.23
Ⓓ	Stoneware pipe 400 mm i/d avg. Depth 2.30 - 3.5 M, 141 M @ Rs. 3500/- per mtr.	4.94
2	Provision for providing oblique junction (L.S)	2.00
3	Provision for providing and fixing vent shaft at suitable places as per PH requirement (L.S)	<del>2.00</del> 5.00
4	Provision of temporary disposal arrangement till HUDA sewer main including cost of S.T.P. capacity 50 KLD @ 16000/- DL	<del>88.00</del> 40.00
5	Provision of 150 mm dia i/d D.I pipe rising main from STP to HUDA main sewer line - 150 M @ Rs. 4575/- per mtr. <i>Solul</i>	3.06 <del>2.36</del>
6	Provision for timbering and shoring (L.S)	2.00
7	Provision for cutting of road and carriage of materials etc. and other unforeseen charges (L.S.)	5.00
8	Provision for connection with HUDA main sewer (L.S)	5.00
TOTAL		137.51 4.12 91.47
Add 3% for contingencies and P.F charges		2.74
TOTAL		141.63 69.40 94.22
Add 49% Departmental charges, price escalation unforeseen and administrator charges		46.17 59.13

TOTAL

146.38

140.38

For ARITECH RESIDENCY LLP  
Executive Engineer  
MARCH 2019  
Partner



CAV  
KADAMANGA  
LARCH  
CA/2001/270119

Sub - Work No.III

Strom water Scheme

Amount in Rs.  
(In Laacs)

1	Providing, jointing, cutting and testing RCC pipe class - NP3 and lowering into trenches including cost of Excavation, bed concrete, cost of manholes etc. complete.	
a)	NP3 R.C.C pipe 400 mm i/d, avg. Depth 0.90 - 1.65 M, 1383 M @ Rs. 1800/- per mtr. <i>2500/-</i>	<del>34.58</del> 24.89
b)	NP3 R.C.C pipe 450 mm i/d avg. Depth 1.65 - 3.5 M, 00 M @ Rs. 2800/- per mtr.	0.00
c)	NP3 R.C.C pipe 500 mm i/d avg. Depth 1.65 - 3.5 M, 326 M @ Rs. 3500/- per mtr. <i>2700/-</i>	<del>8.80</del> 5.87
2	Provision for road gully chamber & pipe connection (L.S)	<del>2.00</del> <i>5.00</i>
3	Provision for lighting, watching and temporary diversion of traffic.	<del>1.00</del> <i>2.00</i>
4	Provision for cutting of road and carriage of materials etc. and other unforeseen charges (L.S)	<del>2.00</del> <i>7.50 lac</i>
5	Provision of Rain Water Harvesting pit arrangement for 14.41875 Acre @ <i>1.51 lac per Acre (L.S) 4 nos @ 3.50 lac each</i>	<del>14.00</del> 21.63
6	Provision for making connection with HUDA on master line	<del>3.00</del> <i>3</i> 2.00
7	Provision for timbering and shoring	<del>3.00</del> <i>3</i> 2.00
8)	<i>Provision for Temporary disposal arrangement till HUD services are provide (L.S)</i>	<del>15.00</del>
	<b>TOTAL</b>	<del>61.39</del> <i>67.39</i>
	Add 3% for contingencies and P.E charges	<del>1.84</del> <i>2.00</i> 1.84
	<b>TOTAL</b>	<del>63.23</del> <i>69.39</i>
	Add 49% Departmental charges, price escalation unforeseen and administrator charges	<del>30.98</del> <i>35.00</i>

*KAPIL MANGLA*  
B.Arch  
CA/2001/27088

**TOTAL** 94.22

Executive Engineer  
Division Palwal

*94.22*



SAY For ARITECH RESIDENT *94.22*

*94.22*

Sub - Work No. IV

Road Works

Amount in Rs.  
(In Lacs)

1.0 Site Clearance

1.1 Clearing and grubbing road land including uprooting ranks, vegetation, grass, bushes, shrubs, sapling and trees girth upto 300 mm, removal of stumps of trees cut earlier and disposal of unservicable materials and stacking of servicable materials to be used or auctioned, upto a lead of 1000 mm including removal and disposal of top soil not exceeding 150 mm thickness by manual means in area of light jungle as per drawings and clause 201 of month specifications for 4.06 Hecture @Rs. 50000/- per hectare (14.418752-471 = 5.84 hecter)

1.65 Hecter

-2.92  
0.83 lacs

2.0 Earth Work

2.1 Provision for levelling and earth filling as per site condition for 14.41875 Acres @ Rs. 150000/- per acre

1.38 lacs

21.63  
25.24 lacs

3.0 Provision for

(i) 200 mm thick GSB with 300 mm thick WMM confirming to MOT specification.

(ii) 250 mm thick stone aggregate

(iii) Wearing coat (TOP COAT) 50 mm thick <sup>DBM</sup> B.M and <sup>SC</sup> 30 mm MSS confirming to MOT specification

(iv) 20 mm thick MSS confirming to MOT specification

AS-PER-REVISED-NORMS OF HUDA,  
(1295 x 4 = 7770 sqmtr.) @ Rs. 1200/- per sq. mtr.

9820

15000

1800

139.86  
93.24  
147.30 lacs

4.0 Miscellaneous Items

4.1 Provision for cement concrete kerb and channels as per specifications (2590 x 2) = 5180 mtr @ Rs. 600/- per mtr.

260

27000

31.08  
15.96

4.2 Provision & fixing guide map at selected location (L.S)

0.50 lacs

4.3 Provision for plot <sup>ARTTECH</sup> markers (L.S)

1.00

FOR ARTTECH RESOURCES LLP  
Partner

KARIE MANGLA  
B.ARCH  
CA/2001/27088



Executive Engineer  
HSVP, Division Palwal

4.4 Provision for demarcating burgies (L.S)	2.00	
4.5 Provision for parking or traffic arrangement. (L.S)	2.00 0.50	
4.6 Provision for carriage of material. (L.S)	5.00 0.50	
4.7 Construction of pavement in commercial area = 0.28865 acre = 1168.116/2 = 584 sqm @ Rs. 600 per sqm. <i>1.5%</i>	8.70 3.50	
<b>TOTAL</b>	<del>216.29</del> 131.32	
Add 3% for contingencies and P.E charges	6.30 3.94	
<b>TOTAL</b>	<del>216.59</del> 135.26	
Add 49% Departmental charges, price escalation unforeseen and administrative charges	66.28	
<b>TOTAL</b>	<del>241.65</del> 201.54	
<b>TOTAL</b>	201.54	
	SAY	201.54 <del>241.65</del>



*Kapil Mangla*  
**KAPIL MANGLA**  
 B.ARCH  
 CA/2001/27088

For ARTECH RESIDENCY LLP  
*Manish Poda*  
 Partner

Executive Engineer  
 HSVP, Division Palwal

Sub - Work No. V	Street Lighting
	Amount in Rs. (In Laacs)
1 Providing street lighting on internal road as per standard specification of DHBVPL in 14.41875 acres @ Rs. 1,50,000/- per acres. $14.41875 \times 1,50,000/- = 21.63$ Laacs	<del>21.63</del> 36.05
	<del>21.63</del> 36.05
	TOTAL
Add 3% for contingencies and P.E charges	<del>0.65</del> 1.08
	<del>22.28</del> 37.13
	TOTAL
Add 49% Departmental charges, price escalation unforeseen and administrative charges	<del>10.92</del> 18.19
	55.32 laacs
TOTAL	33.19
	SAY
	55.32 laacs <del>33.19</del>



Executive Engineer  
HSVP, Division Palwal

*Kapil Mangla*  
KAPIL MANGLA  
B.ARCH  
CA/2001/27088  
For ARTTECH RESIDENCY LLP  
*Vand. Chh*  
PARTNER

Executive Engineer  
HSVP, Division Palwal

Sub - Work No. VI

Horticulture

Amount in Rs.  
(In Lacs)

1 Development of Lawn Areas (organized green of 1.0819 Acres)

- a) Trenching the ordinary soil up to depth of 60 cm. i/c removal & stacking of serviceable material and disposing by spreading & levelling within a lead of 50 m and making up the trenches area to proper leads by filling with earth or earth mixed with manure before and after flooring trench with water i/c cost of imported earth manure.
- b) Rough dressing of turfed area
- c) Grassing with "Doob grass" i/c watering and maintenance of lawns till the grass forms a thick lawn, free from weeds and fit mowing in rows 7.50 cm. apart in either direction including provision for hedges and barbed wire fencing around park and green belts (as per HUDA norms) Area approx. 1.0819 Acres @ Rs.150000/- per acre

1.62

2 Planting of trees with tree guards on roads at 1/2 mtr. Intervals

24 m wide road & 12 m wide road

Total road length - 1395 M

No. of trees @ 12 m c/c =  $1395/12 = 116.25$

Say 108 nos.

Cost details:

Excavation Rs. 60

Manure Rs. 94 + 100

Tree plant Rs. 150

Tree guard Rs. 2000

Total Rs. 4300 2310

108 Trees @ Rs. 4300/- each

225

2310

$116.25 \times 2 = 232.5$

say 225 nos

5.20 lacs

1.40

6.82 lacs

-3.03

0.20 lacs

-0.09

7.02 lacs

TOTAL

TOTAL

3.12

3.12 lacs

+5.3

10.46 lacs

Add 3% for contingencies and P.E. charges

Add 49% Departmental charges, price escalation unforeseen and administrator charges

*Kapil Mangla*  
KAPIL MANGLA

B.ARGH

CA/2001/27088

TOTAL

4.65 10.46 lacs

For ARTECH RESIDENCY LLP

*Manish Chahal*  
Partner



Executive Engineer  
HSVP, Division Palwal

Sub - Work No. VII

M/C Charges for Services & Resurfacing of Roads

2<sup>nd</sup> phase after 5 year of 1<sup>st</sup> phase

Amount in Rs.  
(In Lacs)

1 Providing of M/C charges for water supply, Storm water drainage, sewerage, Roads, Street lighting, Horticulture etc. complete in all aspect, including Operational and establishment charges as per HUDA norms after completion and resurfacing of roads after 10 years. 14.41875 acres @ Rs. ~~750~~ <sup>850</sup> lacs per acre.

115.35  
108.14

2 Providing of resurfacing of roads after 1<sup>st</sup> 5 years of maintenance i.e. 100 mm thick B.M, 100 mm thick BUSG complete to 25 mm thick premix carpet with mechanical paver. (1295 x 6 M) ~~7770~~ <sup>9820</sup> sqm @ Rs. ~~800~~ <sup>660</sup> per sqmtr.

62.16  
64.81 lac

3 Resurfacing of roads after 10 years of maintenance by 25 mm thick premix carpet with seal coat with mech. Paver ~~7770~~ <sup>9820</sup> sqm @ Rs. ~~850~~ <sup>825</sup> per sqmtr.

81.02 lac  
66.05

TOTAL

261.16  
236.35

Add 3% for contingencies and P.E. charges

7.84  
7.09  
269.02

TOTAL

243.44

Add 49% Departmental charges, price escalation unforeseen and administrator charges

131.82  
119.28  
400.84 lac

TOTAL

362.72

SAY

400.84 lac  
362.72

  
KAPIL MANGLA  
B.Arch  
CA/2001/27088

  
FOR ARTECH RESIDENCY LLP  
  
Partner

Executive Engineer  
HSVP, Division Palwal

**PROJECT : PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL**

**Material Statement**

S. No.	Line Designation		Size of pipe	Length of Pipe	Length in mtr.			
	Municipal Line		(in mm)	(In Mtr.)	90 Ø	100 Ø	150 Ø	200 Ø
1	MI	UGT	150	355			355	
	<b>TOTAL</b>				<b>0</b>	<b>0</b>	<b>355</b>	<b>0</b>
1	STP	HUDA	150	150			150	
	<b>TOTAL</b>				<b>0</b>	<b>0</b>	<b>150</b>	<b>0</b>
	<b>TUBEWELL</b>							
1	B1	B2	100	85		85.0		
2	B2	UGT	100	37		37.0		
	<b>TOTAL</b>				<b>0</b>	<b>122.0</b>	<b>0</b>	<b>0</b>

  
**KAPIL MANGLA**  
 ARCH  
 CA/2001/27088



For ARTTECH RESIDENCY LLP  
  
 Manish Chohan  
 Partner

Executive Engineer  
 HSVP, Division Palwal

**PROJECT : PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL**

**Material Statement – External Water Supply (Irrigation/Flushing Line)**

Sl. No.	Line No.		Size of pipe (in mm)	Length of Pipe (In Mtr.)	Length in mtr.			
	From	TO			100 Ø			
A.	<b>IRRIGATION/FLUSHING LINE</b>							
1	F-1	F-2	100	85 <sup>30</sup>		85 <sup>30</sup>		
2	F-2	F-3	100	64 <sup>55</sup>		64 <sup>55</sup>		
3	F-2	F-4	100	161 ✓		161 ✓		
4	F-4	F-5	100	48		48		
5	F-5	F-6	100	152 <sup>15</sup>		152 <sup>15</sup>		
6	F-4	F-8	100	40 ✓		40 ✓		
7	F-5	F-8	100	57 <sup>161</sup>		57 <sup>161</sup>		
8	<del>F-8</del>	<del>F-9</del>	100	<del>32</del>		<del>32</del>		
9	F-8	F-10	100	39 <sup>50</sup>		39 <sup>50</sup>		
10	F-8	F-11	100	166 <sup>39</sup>		166 <sup>39</sup>		
11	F-10	F-13	100	50 ✓		50 ✓		
12	F-10	F-13	100	74 <sup>30</sup>		74 <sup>30</sup>		
13	F-11	F-12	100	24 <sup>165</sup>		24 <sup>165</sup>		
14	F-13	F-15	100	74 ✓		74 ✓		
15	F-15	F-16	100	39 <sup>26</sup>		39 <sup>26</sup>		
16	F-16	<del>F-17</del>	100	<del>54</del>		<del>54</del>		
17	<del>F-17</del>	<del>F-18</del>	100	<del>38</del>		<del>38</del>		
18	F-14	F-19	100	27		27		
19	F-19	F-20	100	77		77		
20	F-19	F-21	100	120		120		
21	F-22	F-22a	100	67		67		
22	F-22	F-23	100	65		65		
23	F-23	F-24	100	131		131		
24	F-24	F-25	100	45		45		
25	F-25	F-26	100	32		32		
26	F-25	STP	100	6		6		
	<b>TOTAL</b>				0	0	1764	0

Executive Engineer  
HSVP, Division Palwal

**GARDEN HYDRANT LINE**

NOTE: Garden Hydrant is located at distance of 30 m  
No. of Garden Hydrant = 10


  
**KAPIL MANGLA**  
 ARCH  
 CA/2001/27088  
 For ARTECH RESIDENCY LLP  
 Navin Kishor  
 Partner

**PROJECT - PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL**

**Material Statement - Water Supply (Distribution System)**

Sl. No.	Line No.		Size of pipe (in mm)	Length of Pipe (In Mtr.)	Length in mtr.					S.V Qty in Nos. & Size in mm				
	From	TO			75 Ø	90 Ø	100 Ø	125 Ø	140 Ø	65 Ø	80 Ø	100 Ø	150 Ø	
1	WS1	WS2	100	150 <del>22</del>			150 <del>22</del>							
2	WS2	WS3	100	9 <del>32</del>			9 <del>32</del>							
3	WS3	WS4	100	150			150							
4	WS4	WS5	100	11 <del>40</del>			11 <del>40</del>							
5	WS5	WS6	100	16 <del>53</del>			16 <del>53</del>							
6	WS6	WS7	100	40			40							
7	WS7	WS8	100	11 <del>67</del>			11 <del>67</del>							
8	WS8	WS9	100	180 <del>32</del>			180 <del>32</del>							
9	WS9	WS10	100	9			9							
10	WS10	WS11	100	223 <del>67</del>			223 <del>67</del>							
11	WS11	WS12	100	45			45							
12	WS12	WS13	100	11 <del>65</del>			11 <del>65</del>							
13	WS13	WS14	100	165 <del>04</del>			165 <del>04</del>							
14	WS14	WS15	100	9 <del>31</del>			9 <del>31</del>							
15	WS15	WS16	100	65 <del>50</del>			65 <del>50</del>							
16	WS16	WS17	100	40			40							
17	WS17	WS18	100	11 <del>24</del>			11 <del>24</del>							
18	WS18	WS19	100	65 <del>19</del>			65 <del>19</del>							
19	WS19	WS20	100	9 <del>77</del>			9 <del>77</del>							
20	WS20	WS21	100	165 <del>12</del>			165 <del>12</del>							
21	WS21	WS22	100	75			75							
22	WS22	WS23	100	11			11							
23	WS23	WS24	100	45			45							
24	WS24	WS25	100	9			9							
25	WS25	WS26	100	45			45							
26	WS26	WS27	100	37			37							
27	WS27	WS27a	100	37			37							
28	WS27	WS28	100	21			21							
29	WS27	WS29	100	29			29							
30	WS29	WS30	100	166			166							
31	WS29	WS31	100	50			50							
32	WS31	WS32	100	24			24							
33	WS31	WS33	100	24			24							
34	WS31	WS34	100	24			24							
35	WS33	WS35	100	18			18							
36	WS35	WS36	100	22			22							
37	WS35	WS37	100	9			9							
38	WS37	WS38	100	22			22							
39	WS37	WS39	100	34			34							
40	WS39	WS40	100	22			22							
41	WS40	WS41	100	86			86							
42	WS41	UGT	150	80			80						80	
	<b>TOTAL</b>				0	0	0	2328	0	0	0	0	0	0

Executive Engineer  
HSVP, Division Palwal

1419 m  
KASHI MANGLA  
B.Arch  
V2001/27088



INTEGRAL DEFENSE SYSTEMS  
INTEGRAL DEFENSE SYSTEMS  
Namb Gd  
Partner

PROJECT : PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL.

Sl. No.	Name of pipe line		No. of Plots	Population @13.5 person per plot	water requirement@172.5 Litre/head/day IN KLD	Water requirement for non residential plots			Gross requirement in KLPD	Gross requirement in LPD
	Unit	Nos.				persons	KLD	plots area in acres		
1	2	3	4	5	6	7	8	9	10	11
1	WS1	WS2	21	283.5	48.90				48.90	48903.8
2	WS2	WS3		0.0	0.00				0.00	0
3	WS3	WS4	22	297.0	51.23				51.23	51232.5
4	WS2	WS5		0.0	0.00				0.00	0.0
5	WS5	WS6	2	27.0	4.66				4.66	4657.5
6	WS5	WS7	5	67.5	11.64				11.64	11643.8
7	WS7	WS8		0.0	0.00				0.00	0.0
8	WS8	WS9	22	297.0	51.23				51.23	51232.5
9	WS8	WS10		0.0	0.00				0.00	0.0
10	WS10	WS11	30	405.0	69.86				69.86	69862.5
11	WS7	WS12	6	81.0	13.97				13.97	13972.5
12	WS12	WS13		0.0	0.00				0.00	0.0
13	WS13	WS14	10	135.0	23.29				23.29	23287.5
14	WS13	WS15		0.0	0.00				0.00	0.0
15	WS15	WS16	10	135.0	23.29				23.29	23287.5
16	WS12	WS17	5	67.5	11.64				11.64	11643.8
17	WS17	WS18		0.0	0.00				0.00	0.0
18	WS18	WS19	10	135.0	23.29				23.29	23287.5
19	WS18	WS20		0.0	0.00				0.00	0.0
20	WS20	WS21	9	121.5	20.96				20.96	20958.8
21	WS17	WS22	5	67.5	11.64				11.64	11643.8
22	WS22	WS23		0.0	0.00				0.00	0.0
23	WS23	WS24	6	81.0	13.97				13.97	13972.5
24	WS23	WS25		0.0	0.00				0.00	0.0
25	WS25	WS26	6	81.0	13.97				13.97	13972.5
26	WS22	WS27	5	67.5	11.64				11.64	11643.8
27	WS27	WS27a	11	148.5	25.62				25.62	25620.0

Water supply load

*Kapil Mangla*  
**KAPIL MANGLA**  
 B.Arch  
 CA/2001/27088

13972.5  
 Executive Engineer  
 HSVP, Division Palwal

25620.0  
 PARTITECH RESIDENCY LLP



*Noted*

28	WS27	WS28	13	175.5	30.27				30.27	30273.8	
29	WS17	WS29		0.0	0.00				0.00	0.0	
30	WS29	WS30	21	283.5	48.90				48.90	48903.8	
31	WS29	WS31	7	94.5	16.30				16.30	16301.3	
32	WS31	WS32	10	135.0	23.29				23.29	23287.5	
33	WS31	WS33		0.0	0.00				0.00	0.0	
34	WS33	WS34	9	121.5	20.96				20.96	20958.8	
35	WS33	WS35		0.0	0.00				0.00	0.0	
36	WS35	WS36	11	148.5	25.62				25.62	25616.3	
37	WS35	WS37		0.0	0.00				0.00	0.0	
38	WS37	WS38	11	148.5	25.62				25.62	25616.3	
39	WS37	WS39		0.0	0.00				0.00	0.0	
40	WS39	WS40	11	148.5	25.62				25.62	25616.3	
41	WS39	WS41	11	148.5	25.62				25.62	25616.3	
42	WS33	UGT		0.0	0.00				0.00	0.0	
	<b>TOTAL</b>		<b>289</b>	<b>3901.5</b>	<b>673.01</b>				<b>673.01</b>	<b>673008.8</b>	
						0.28865	COMMERCIAL	32	9.2368	9.24	9236.8
1						1.44208	COMMUNITY	25	36.052	36.05	36052.0

KAPIL MANGLA  
B.Arch  
CA/2001/27088



FOR ARTTECH RESIDENCY LLP  
Kailash

Executive Engineer  
HSVP, Division Palwal

**PROJECT : PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL.**

**MATERIAL STATEMENT**

**SEWAGE DRAINAGE QUANTITY**

Sl. No.	Line No.		Size of Pipe (In mm.)	Length of Pipe (In Mtr)	Length in mtr.						
					150 Ø	200 Ø	250 Ø	300 Ø	350 Ø	400 Ø	450 Ø
1	S1	S2	200	14.0		14.0					
2	S2	S3	200	14.0		14.0					
3	S2	S4	200	16.0		16.0					
4	S4	S5	200	6.0		6.0					
5	S5	S6	200	14.0		14.0					
6	S6	S7	200	14.0		14.0					
7	S7	S8	200	14.0		14.0					
8	S8	S9	200	14.0		14.0					
9	S9	S10	200	14.0		14.0					
10	S10	S11	250	14.0			14.0				
11	S11	S12	250	14.0			14.0				
12	S12	S13	250	14.0			14.0				
13	S13	S14	250	14.0			14.0				
14	S14	S15	250	18.0			18.0				
15	S15(a)	S16	200	15.0		15.0					
16	S15	S16	250	14.0			14.0				
17	S16	S17	250	14.0			14.0				
18	S17	S18	250	14.0			14.0				
19	S18	S19	300	14.0				14.0			
20	S19	S20	300	14.0				14.0			
21	S20	S21	300	14.0				14.0			
22	S21	S22	300	14.0				14.0			
23	S22	S23	300	7.0				7.0			
24	S23	S24	400	15.0							
25	S24	S25	400	8.0						15.0	
26	S25	S26	400	14.0						8.0	
27	S26	S27	400	14.0						14.0	
28	S27	S28	400	14.0						14.0	
29	S28	S29	400	10.0						14.0	
30	S29	S30	400	29.0						10.0	
31	S30	S31	400	31.0						29.0	
32	S31	STP	400	6.0						31.0	
33	S31	S32	200	6.0						6.0	

Executive Engineer  
HSVP Division Palwal

K. K. NANGLA  
B. ARCH  
Sewage Q01/27088



FOR ARTTECH RESIDENCY U.P.  
Nand Lal

17	S32	S33	200	5.5		5.5					
18	S32	S34	200	14.0		14.0					
19	S34	S35	200	13.0		13.0					
20	S35	S36	200	13.0		13.0					
21	S36	S37	200	13.0		13.0					
22	S37	S38	200	13.0		13.0					
23	S38	S39	200	13.0		13.0					
24	S39	S40	250	13.0			13.0				
25	S40	S41	250	13.0			13.0				
26	S41	S42	250	13.0			13.0				
27	S42	S43	250	14.0			14.0				
28	S43	S44	250	6.0			6.0				
29	S44	S45	250	16.0			16.0				
30	S45	S46	200	13.0		13.0					
31	S46	S47	200	13.0		13.0					
32	S47	S48	200	13.0		13.0					
33	S48	S49	250	13.0			13.0				
34	S49	S50	200	14.0		14.0					
35	S50	S51	200	13.0		13.0					
36	S51	S52	200	13.0		13.0					
37	S52	S53	200	13.0		13.0					
38	S53	S54	200	13.0		13.0					
39	S54	S55	200	14.0		14.0					
40	S55	S56	200	14.0		14.0					
41	S56	S57	200	14.0		14.0					
42	S57	S58	200	17.0		17.0					
43	S58	S59	200	8.0		8.0					
44	S59	S60	200	14.0		14.0					
45	S60	S61	200	15.0		15.0					
46	S61	S62	200	8.0		8.0					
47	S62	S63	200	15.0		15.0					
48	S63	S64	200	14.0		14.0					
49	S64	S65	200	14.0		14.0					
50	S65	S66	200	14.0		14.0					
51	S66	S67	200	14.0		14.0					
52	S67	S68	200	14.0		14.0					
53	S68	S69	200	13.0		13.0					
54	S69	S70	200	13.0		13.0					
55	S70	S71	200	13.0		13.0					
56	S71	S72	200	13.0		13.0					

Executive Engineer  
HSVP Division Palwal

For ARTIST RESIDENCY LSP

*[Signature]*  
Palwal  
Bewage City



*[Signature]*  
**KAPIL MANGLA**  
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CA/2001/27088

7	S72	S73	200	7.0	7.0					
75	S73	S74	200	7.0	7.0					
76	S74	S75	200	20.0	20.0					
77	S75	S76	200	20.0	20.0					
78	S76	S77	250	19.0		19.0				
79	S77	S78	250	19.0		19.0				
80	S78	S79	250	19.0		19.0				
81	S79	S80	250	13.0		13.0				
82	S80	S81	250	13.0		13.0				
83	S81	S82	200	13.0	13.0					
84	S81	S98	300	22.0			22.0			
85	S83	S84	200	13.0	13.0					
86	S84	S85	200	13.0	13.0					
87	S85	S86	200	13.0	13.0					
88	S86	S87	200	13.0	13.0					
89	S87	S88	200	7.0	7.0					
90	S88	S76	200	8.0	8.0					
91	S89	S90	200	7.0	7.0					
92	S90	S91	200	14.0	14.0					
91	S91	S92	200	14.0	14.0					
91	S92	S93	200	14.0	14.0					
93	S93	S94	200	14.0	14.0					
96	S94	S95	200	14.0	14.0					
97	S95	S96	200	14.0	14.0					
98	S96	S97	200	14.0	14.0					
99	S97	S98	200	7.0	7.0					
100	S98	S21	300	30.0			30.0			
101	S99	S100	200	15.0	15.0					
102	S100	S101	200	14.0	14.0					
103	S101	S102	200	14.0	14.0					
104	S102	S103	200	14.0	14.0					
105	S103	S104	200	14.0	14.0					
106	S104	S105	200	14.0	14.0					
107	S105	S106	200	14.0	14.0					
108	S106	S107	200	14.0	14.0					
109	S107	S108	200	14.0	14.0					
110	S108	S109	200	9.0	9.0					
111	S109	S98	200	14.0	14.0					
	TOTAL			1200.0	967.5	287.0	115.0	0.0	141.0	0.0
	SAY			1200.0	967.5	287.0	115.0	0.0	141.0	0.0

  
**KAPIL MANGLA**  
 B.ARCH  
 CA/2001/27088 Sewage Qty.

Executive Engineer  
 H.S.V.P. Division Patwal



**DESIGN CHART FOR SEWAGE SYSTEM**

BASED ON MANNING'S FORMULA WHERE VALUE OF n=0.013 (Concrete Pipe)

SL. NO	LINE NO.		Total pipe width	Total population of 12.5 person /Plot	12.5 load for plotted unit @ 25 litres for community & 32 litres for commercial	Sewage Flow (GPM)	SEWAGE DISCHARGE IN KL/D			PEAK FLOW (GPM)	INFILTRATION (25% OF PROGRESSIVE DISCHARGE)	FINAL DISCHARGE	FINAL DISCHARGE	LENGTH	DIA OF PIPE (MM)	SLOPE	FALL IN LINE (MM)	VELOCITY	CAPACITY OF PIPE (LPS)	GROUND LEVEL		INVERT LEVEL		DEPTH OF PIPE AT		AVERAGE DEPTH OF PIPE	REMARKS	
	START	END					Area	Area	KL/D											PREVIOUS AREA	PROGRESSIVE DISCHARGE	KL/D	KL/D	KL/D	LPS			MTR
1	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	XXV	XXVI	XXVII	XXVIII	
1	S1	S2	0	0	0	0	0.000	27.328	27.328	81.98	6.8320	88.82	1.0280	14.0	200	145	96.552	0.77	12.034	0.000	0.000	750	653	-750	-653	-702		
2	S2	S3	0	0	0	0	0.000	27.328	27.328	81.98	6.8320	88.82	1.0280	14.0	200	145	96.552	0.77	12.034	0.000	0.000	653	557	-653	-557	-605		
3	S2	S4	2	27	4657.5	3726	3.726	27.328	31.054	93.16	7.7635	100.90	1.1681	16.0	200	145	110.345	0.77	12.034	0.000	0.000	557	447	-557	-447	-502		
4	S4	S5	1	27	4657.5	3726	3.726	31.054	34.780	104.34	8.6950	113.04	1.3083	6.0	200	145	41.379	0.77	12.034	0.000	0.000	447	405	-447	-405	-426		
5	S3	S6	2	27	4657.5	3726	3.726	34.780	38.506	115.52	9.6265	125.14	1.4484	14.0	200	145	96.552	0.77	12.034	0.000	0.000	405	309	-405	-309	-357		
6	S6	S7	3	27	4657.5	3726	3.726	38.506	42.232	126.70	10.5580	137.25	1.5886	14.0	200	145	96.552	0.77	12.034	0.000	0.000	309	212	-309	-212	-260		
7	S7	S8	2	27	4657.5	3726	3.726	42.232	45.958	137.87	11.4895	149.36	1.7287	14.0	200	145	96.552	0.77	12.034	0.000	0.000	212	116	-212	-116	-164		
8	S8	S9	2	27	4657.5	3726	3.726	45.958	49.684	149.05	12.4210	161.47	1.8689	14.0	200	145	96.552	0.77	12.034	0.000	0.000	116	19	-116	-19	-67		
9	S9	S10	2	27	4657.5	3726	3.726	49.684	53.410	160.23	13.3525	173.58	2.0091	14.0	200	145	96.552	0.77	12.034	0.000	0.000	19	-78	-19	78	29		
10	S10	S11	2	27	4657.5	3726	3.726	53.410	57.136	171.41	14.2840	185.69	2.1492	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-78	-149	78	149	113		
11	S11	S12	2	27	4657.5	3726	3.726	57.136	60.862	182.59	15.2155	197.80	2.2894	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-149	-221	149	221	185		
12	S12	S13	2	27	4657.5	3726	3.726	60.862	64.588	193.76	16.1470	209.91	2.4295	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-221	-293	221	293	257		
13	S13	S14	2	27	4657.5	3726	3.726	64.588	68.314	193.76	16.1470	209.91	2.4295	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-221	-293	221	293	257		
14	S14	S15	2	27	4657.5	3726	3.726	68.314	72.040	204.94	17.0785	222.02	2.5697	18.0	250	195	92.308	0.77	18.787	0.000	0.000	-293	-385	293	385	339		
15	S1500	S16	2	27	4657.5	3726	3.726	72.040	75.766	216.12	18.0100	234.13	2.7098	15.0	200	145	103.448	0.77	12.034	0.000	0.000	-385	-489	385	489	437		
16	S15	S16	2	27	4657.5	3726	3.726	75.766	79.492	227.30	18.9415	246.24	2.8500	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-489	-561	489	561	525		
17	S16	S17	2	27	4657.5	3726	3.726	79.492	83.218	238.48	19.8730	258.35	2.9902	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-561	-632	561	632	596		
18	S17	S18	2	27	4657.5	3726	3.726	83.218	86.944	249.65	20.8045	270.46	3.1303	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-632	-704	632	704	668		
19	S18	S19	2	27	4657.5	3726	3.726	86.944	90.670	260.83	21.7360	282.57	3.2705	14.0	300	250	56.000	0.76	26.947	0.000	0.000	-704	-760	704	760	732		
20	S19	S20	2	27	4657.5	3726	3.726	90.670	94.396	272.01	22.6675	294.68	3.4106	14.0	300	250	56.000	0.76	26.947	0.000	0.000	-760	-816	760	816	788		
21	S20	S21	2	27	4657.5	3726	3.726	94.396	98.122	283.19	23.5990	306.79	3.5508	14.0	300	250	56.000	0.76	26.947	0.000	0.000	-816	-872	816	872	844		
22	S21	S22	2	27	4657.5	3726	3.726	98.122	101.848	294.37	24.5305	318.90	3.6909	14.0	300	250	56.000	0.76	26.947	0.000	0.000	-872	-928	872	928	900		
23	S22	S23	3	40.5	8086.25	5589	5.589	98.122	103.711	311.13	25.9278	337.06	3.9012	7.0	100	250	28.000	0.76	26.947	0.000	0.000	-928	-928	900	928	914		
24	S23	S24	4	54	9315	7452	7.452	98.122	105.574	316.72	26.2033	343.12	3.9712	15.0	400	360	41.667	0.77	48.270	0.000	0.000	-928	-998	956	998	977		
25	S24	S25	4	54	9315	7452	7.452	105.574	113.026	339.08	28.2565	367.33	4.2516	8.0	400	360	22.222	0.77	48.270	0.000	0.000	-998	-1020	998	1020	1009		
26	S25	S26	4	54	9315	7452	7.452	113.026	120.478	361.43	30.1193	391.55	4.5319	14.0	400	360	38.889	0.77	48.270	0.000	0.000	-1020	-1059	1020	1059	1059		
27	S26	S27	4	54	9315	7452	7.452	120.478	127.930	383.79	31.9825	415.77	4.8122	14.0	400	360	38.889	0.77	48.270	0.000	0.000	-1059	-1098	1059	1098	1098		
28	S27	S28	4	54	9315	7452	7.452	127.930	135.382	406.15	33.8455	439.99	5.0925	14.0	400	360	38.889	0.77	48.270	0.000	0.000	-1098	-1137	1098	1137	1137		
29	S28	S29	4	54	9315	7452	7.452	135.382	142.834	428.50	35.7085	464.21	5.3728	10.0	400	360	27.778	0.77	48.270	0.000	0.000	-1137	-1164	1137	1164	1150		

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30	S29	S30	4	54	9315	7452	7.452	142.814	150.286	450.86	37.5715	488.43	5.6531	29.0	400	360	86.556	0.77	48.270	0.000	0.000	-1164	-1245	1164	1245	1206
31	S30	S31	4	54	9315	7452	7.452	150.286	157.728	473.21	39.4345	512.65	5.9334	31.0	400	360	86.111	0.77	48.270	0.000	0.000	-1245	-1331	1245	1331	1288
32	S31	S32	4	54	9315	7452	7.452	157.728	165.190	495.57	41.2975	536.87	6.2337	6.0	400	360	16.667	0.77	48.270	0.000	0.000	-1331	-1348	1331	1348	1339
33	S31	S32	4	54	9315	7452	7.452	165.190	172.642	517.93	43.1605	561.09	6.4941	6.0	200	145	41.379	0.77	12.034	0.000	0.000	-1348	-1389	1348	1389	1368
34	S32	S33		0	0	0	0.000	172.642	172.642	517.93	43.1605	561.09	6.4941	5.5	200	145	37.931	0.77	12.034	0.000	0.000	-1389	-1427	1389	1427	1408
35	S32	S34	4	54	9315	7452	7.452	172.642	180.094	540.20	45.0235	585.31	6.7244	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-1389	-1486	1389	1486	1437
36	S34	S35	4	54	9315	7452	7.452	180.094	187.546	562.64	46.8885	609.52	7.0547	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-1486	-1575	1486	1575	1534
37	S35	S36	2	27	4657.5	3726	3.726	187.546	191.272	573.82	47.8180	621.63	7.1948	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-1575	-1665	1575	1665	1629
38	S36	S37	4	54	9315	7452	7.452	191.272	198.724	596.17	49.6810	645.85	7.4752	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-1665	-1755	1665	1755	1719
39	S37	S38	2	27	4657.5	3726	3.726	198.724	202.450	607.33	50.6125	657.96	7.6153	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-1755	-1844	1755	1844	1799
40	S38	S39	2	27	4657.5	3726	3.726	202.450	206.176	618.53	51.5440	670.07	7.7555	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-1844	-1934	1844	1934	1889
41	S39	S40	4	54	9315	7452	7.452	206.176	213.628	640.88	53.4070	694.29	8.0358	13.0	250	195	66.667	0.77	18.787	0.000	0.000	-1934	-2001	1934	2001	1967
42	S40	S41	4	54	9315	7452	7.452	213.628	220.680	640.88	53.4070	694.29	8.0358	13.0	250	195	66.667	0.77	18.787	0.000	0.000	-2001	-2001	1934	2001	1967
43	S41	S42	2	27	4657.5	3726	3.726	213.628	217.354	632.06	54.3385	706.40	8.1759	13.0	250	195	66.667	0.77	18.787	0.000	0.000	-2001	-2067	2001	2067	2034
44	S42	S43	2	27	4657.5	3726	3.726	217.354	221.080	663.24	55.2700	718.51	8.3161	14.0	250	195	71.795	0.77	18.787	0.000	0.000	-2067	-2139	2067	2139	2103
45	S43	S44	4	54	9315	7452	7.452	221.080	228.532	685.60	57.1330	742.73	8.5964	0.0	250	195	38.768	0.77	18.787	0.000	0.000	-2139	-2170	2139	2170	2154
46	S44	S45	4	54	9315	7452	7.452	228.532	235.984	707.95	58.9960	766.95	8.8767	16.0	250	195	82.051	0.77	18.787	0.000	0.000	-2170	-2252	2170	2252	2211
47	S45	S46	4	54	9315	7452	7.452	235.984	243.436	730.31	60.8590	791.17	9.1578	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-2252	-2341	2252	2341	2297
48	S46	S47	4	54	9315	7452	7.452	243.436	250.888	732.66	62.7220	815.39	9.4373	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-2341	-2431	2341	2431	2388
49	S47	S48	4	54	9315	7452	7.452	250.888	258.340	775.02	64.5850	829.61	9.7177	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-2431	-2521	2431	2521	2476
50	S48	S49	4	54	9315	7452	7.452	258.340	265.792	797.38	66.4480	863.82	9.9980	13.0	250	195	66.667	0.77	18.787	0.000	0.000	-2521	-2587	2521	2587	2554
51	S49	S50	4	54	9315	7452	7.452	265.792	273.244	819.23	68.3110	888.04	10.2783	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-2587	-2684	2587	2684	2638
52	S50	S51	4	54	9315	7452	7.452	273.244	280.696	842.09	70.1740	912.26	10.5586	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-2684	-2774	2684	2774	2729
53	S51	S52	4	54	9315	7452	7.452	280.696	288.148	864.44	72.0370	936.48	10.8389	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-2774	-2863	2774	2863	2818
54	S52	S53	4	54	9315	7452	7.452	288.148	295.600	886.80	73.9000	960.70	11.1192	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-2863	-2953	2863	2953	2908
55	S53	S54	4	54	9315	7452	7.452	295.600	303.052	909.16	75.7630	984.92	11.3995	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-2953	-3045	2953	3045	2998
56	S54	S55	4	54	9315	7452	7.452	303.052	310.504	931.51	77.6260	1009.14	11.6798	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-3045	-3139	3045	3139	3091
57	S55	S56	4	54	9315	7452	7.452	310.504	317.956	953.87	79.4890	1033.36	11.9602	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-3139	-3236	3139	3236	3187
58	S56	S57	2	27	4657.5	3726	3.726	317.956	321.682	965.05	80.4205	1045.47	12.1003	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-3236	-3332	3236	3332	3284
59	S57	S58	2	27	4657.5	3726	3.726	321.682	325.408	976.22	81.3520	1057.58	12.2405	17.0	200	145	117.341	0.77	12.034	0.000	0.000	-3332	-3450	3332	3450	3391
60	S58	S59	4	54	9315	7452	7.452	325.408	332.860	998.58	83.2150	1081.80	12.5208	8.0	200	145	55.172	0.77	12.034	0.000	0.000	-3450	-3505	3450	3505	3477
61	S59	S60	4	54	9315	7452	7.452	332.860	340.312	1020.94	85.0780	1106.01	12.8011	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-3505	-3601	3505	3601	3553
62	S60	S61	2	27	4657.5	3726	3.726	340.312	344.038	1032.11	86.0095	1118.12	12.9412	15.0	200	145	103.448	0.77	12.034	0.000	0.000	-3601	-3705	3601	3705	3653
63	S61	S62	2	27	4657.5	3726	3.726	344.038	347.764	1043.29	86.9410	1130.23	13.0814	8.0	200	145	55.172	0.77	12.034	0.000	0.000	-3705	-3769	3705	3769	3732
64	S62	S63	2	27	4657.5	3726	3.726	347.764	351.490	1054.47	87.8725	1142.34	13.2216	15.0	200	145	103.448	0.77	12.034	0.000	0.000	-3769	-3863	3769	3863	3815

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65	S63	S64	4	54	9315	7452	7.452	351.490	338.942	1076.83	89.7355	1166.56	13.5819	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-3863	-2960	2863	2960	3012
66	S64	S65	2	27	4657.5	3726	3.726	338.942	362.608	1088.00	90.6670	1178.67	13.6420	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-3960	-4056	3960	4056	4008
67	S65	S66	2	27	4657.5	3726	3.726	362.608	366.394	1090.18	91.3983	1190.78	13.7022	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-4056	-4153	4056	4153	4105
68	S66	S67	2	27	4657.5	3726	3.726	366.394	370.120	1110.36	92.5380	1202.89	13.9223	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-4153	-4250	4153	4250	4201
69	S67	S68	2	27	4657.5	3726	3.726	370.120	373.846	1121.54	93.4615	1215.00	14.0625	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-4250	-4346	4250	4346	4298
70	S68	S69	4	54	9315	7452	7.452	373.846	381.298	1143.89	95.3245	1239.22	14.3426	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-4346	-4436	4346	4436	4391
71	S69	S70	2	27	4657.5	3726	3.726	381.298	385.024	1155.07	96.2560	1251.33	14.4830	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-4436	-4525	4436	4525	4481
72	S70	S71	2	27	4657.5	3726	3.726	385.024	388.750	1166.25	97.1875	1263.44	14.6231	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-4525	-4615	4525	4615	4570
73	S71	S72	2	27	4657.5	3726	3.726	388.750	392.476	1177.43	98.1190	1275.55	14.7633	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-4615	-4705	4615	4705	4660
74	S72	S73	2	27	4657.5	3726	3.726	392.476	396.202	1188.61	99.0505	1287.66	14.9034	7.0	200	145	48.276	0.77	12.034	0.000	0.000	-4705	-4793	4705	4793	4729
75	S73	S74	2	27	4657.5	3726	3.726	396.202	399.928	1199.78	99.9820	1299.77	15.0436	7.0	200	145	48.276	0.77	12.034	0.000	0.000	-4793	-4881	4793	4881	4777
76	S74	S75	2	27	4657.5	3726	3.726	399.928	403.654	1210.96	100.9135	1311.88	15.1837	20.0	200	145	137.931	0.77	12.034	0.000	0.000	-4881	-4970	4881	4970	4870
77	S75	S76	2	27	4657.5	3726	3.726	403.654	407.380	1222.14	101.8450	1323.99	15.3239	20.0	200	145	137.931	0.77	12.034	0.000	0.000	-4970	-5077	4970	5077	5008
78	S76	S77	2	27	4657.5	3726	3.726	407.380	411.106	1233.32	102.7765	1336.09	15.4641	19.0	250	195	97.436	0.77	18.787	0.000	0.000	-5077	-5175	5077	5175	5126
79	S77	S78	2	27	4657.5	3726	3.726	411.106	414.832	1244.50	103.7080	1348.20	15.6042	19.0	250	195	97.436	0.77	18.787	0.000	0.000	-5175	-5272	5175	5272	5223
80	S78	S79	2	27	4657.5	3726	3.726	414.832	418.558	1255.67	104.6395	1360.31	15.7444	19.0	250	195	97.436	0.77	18.787	0.000	0.000	-5272	-5369	5272	5369	5321
81	S79	S80	2	27	4657.5	3726	3.726	418.558	422.284	1266.85	105.5710	1372.42	15.8845	13.0	250	195	66.667	0.77	18.787	0.000	0.000	-5369	-5436	5369	5436	5403
82	S80	S81	2	27	4657.5	3726	3.726	422.284	416.010	1278.03	106.5025	1384.53	16.0247	13.0	250	195	66.667	0.77	18.787	0.000	0.000	-5436	-5503	5436	5503	5469
83	S81	S82	2	27	4657.5	3726	3.726	426.010	429.736	1289.21	107.4340	1396.64	16.1648	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-5503	-5592	5503	5592	5548
84	S81	S86	2	27	4657.5	3726	3.726	429.736	433.462	1300.29	108.3655	1408.75	16.3050	22.0	300	250	88.000	0.76	26.947	0.000	0.000	-5592	-5680	5592	5680	5636
85	S83	S84	2	17	4657.5	3726	3.726	433.462	437.188	1311.46	109.2970	1420.86	16.4452	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-5680	-5770	5680	5770	5725
86	S84	S85	2	27	4657.5	3726	3.726	437.188	440.914	1322.74	110.2285	1432.97	16.5853	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-5770	-5860	5770	5860	5815
87	S85	S86	2	27	4657.5	3726	3.726	440.914	444.640	1333.92	111.1600	1445.08	16.7255	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-5860	-5949	5860	5949	5905
88	S86	S87	2	27	4657.5	3726	3.726	444.640	448.366	1345.10	112.0915	1457.19	16.8656	13.0	200	145	89.655	0.77	12.034	0.000	0.000	-5949	-6039	5949	6039	5994
89	S87	S88	2	27	4657.5	3726	3.726	448.366	452.092	1356.28	113.0230	1469.30	17.0058	7.0	200	145	48.276	0.77	12.034	0.000	0.000	-6039	-6087	6039	6087	6063
90	S88	S76	2	27	4657.5	3726	3.726	452.092	455.818	1367.45	113.9545	1481.41	17.1459	8.0	200	145	55.172	0.77	12.034	0.000	0.000	-6087	-6142	6087	6142	6115
91	S89	S90	2	27	4657.5	3726	3.726	455.818	459.544	1378.63	114.8860	1493.52	17.2861	7.0	200	145	48.276	0.77	12.034	0.000	0.000	-6142	-6191	6142	6191	6167
92	S90	S91	2	27	4657.5	3726	3.726	459.544	463.270	1389.81	115.8175	1505.63	17.4262	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-6191	-6287	6191	6287	6259
93	S91	S92	2	27	4657.5	3726	3.726	463.270	466.996	1400.99	116.7490	1517.74	17.5664	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-6287	-6384	6287	6384	6356
94	S92	S93	2	27	4657.5	3726	3.726	466.996	470.722	1412.17	117.6805	1529.85	17.7066	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-6384	-6480	6384	6480	6432
95	S93	S94	2	27	4657.5	3726	3.726	470.722	474.448	1423.34	118.6120	1541.96	17.8467	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-6480	-6577	6480	6577	6529
96	S94	S95	2	27	4657.5	3726	3.726	474.448	478.174	1434.52	119.5435	1554.07	17.9869	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-6577	-6674	6577	6674	6625
97	S95	S96	2	27	4657.5	3726	3.726	478.174	481.900	1445.70	120.4750	1566.18	18.1270	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-6674	-6770	6674	6770	6719
98	S96	S97	2	27	4657.5	3726	3.726	481.900	485.626	1456.88	121.4065	1578.28	18.2672	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-6770	-6867	6770	6867	6815
99	S97	S98	2	27	4657.5	3726	3.726	485.626	489.352	1468.06	122.3380	1590.39	18.4073	7.0	200	145	48.276	0.77	12.034	0.000	0.000	-6867	-6915	6867	6915	6863

FOR ARTTECH DESIGNING CO

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HSR  
Division Palwal



100	S98	S23	2	27	4657.5	3726	3.726	489.352	493.078	1479.23	133.2695	1602.50	18.5475	30.0	300	250	120.000	0.76	26.947	0.000	0.000	-6915	-7035	6915	7035	6975	
101	S99	S100	2	27	4657.5	3726	3.726	493.078	496.804	1490.41	124.2010	1614.61	18.6877	15.0	200	145	103.448	0.77	12.034	0.000	0.000	-7035	-7138	7035	7138	7087	
102	S100	S101	2	27	4657.5	3726	3.726	496.804	500.530	1501.59	125.1325	1626.72	18.8278	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7138	-7235	7138	7235	7187	
103	S101	S102	2	27	4657.5	3726	3.726	500.530	504.256	1512.77	126.0640	1638.83	18.9680	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7235	-7331	7235	7331	7285	
104	S102	S103	2	27	4657.5	3726	3.726	504.256	507.982	1523.95	126.9955	1650.94	19.1081	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7331	-7428	7331	7428	7380	
105	S103	S104	2	27	4657.5	3726	3.726	507.982	511.708	1535.12	127.9270	1663.05	19.2483	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7428	-7525	7428	7525	7476	
106	S104	S105	2	27	4657.5	3726	3.726	511.708	515.434	1546.30	128.8585	1675.16	19.3884	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7525	-7621	7525	7621	7573	
107	S105	S106	2	27	4657.5	3726	3.726	515.434	519.160	1557.48	129.7900	1687.27	19.5286	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7621	-7718	7621	7718	7669	
108	S106	S107	2	27	4657.5	3726	3.726	519.160	522.886	1568.66	130.7215	1699.38	19.6687	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7718	-7814	7718	7814	7766	
109	S107	S108	2	27	4657.5	3726	3.726	522.886	526.612	1579.84	131.6530	1711.49	19.8089	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7814	-7911	7814	7911	7862	
110	S108	S109	2	27	4657.5	3726	3.726	526.612	530.338	1591.01	132.5845	1723.60	19.9491	9.0	200	145	62.069	0.77	12.034	0.000	0.000	-7911	-7973	7911	7973	7942	
111	S109	S98	2	27	4657.5	3726	3.726	530.338	534.064	1602.19	133.5160	1735.71	20.0892	14.0	200	145	96.552	0.77	12.034	0.000	0.000	-7973	-8069	7973	8069	8021	
<b>TOTAL</b>			<b>201</b>		<b>3793.5</b>																						
Community (1.44208 Acre @ 25 KL per Acre)																											
112	S75	STP	1	13.5	36250	29000	29.000	534.064	563.064	1689.19	140.7640	1829.96	21.1801	10.00	250	145	68.966	0.89	21.786	0.000	0.000	-8069	-8138	8069	8138	8104	
Commercial (0.28865 Acre @ 32 KL per Acre)																											
113	S70	S73	1	13.5	9024	7219.2	7.219	563.064	570.283	1710.85	142.5708	1833.42	21.4516	10.00	250	145	68.966	0.89	21.786	0.000	0.000	-8138	-8207	8138	8207	8173	

**KAPIL MANGLA**  
**ARCH**  
 CA/2001/27088



**SMARTTECH RESIDENCY LLP**  
 Partner

**HSVP, Division Patwal**

PROJECT : PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL

MATERIAL STATEMENT  
STORM WATER DRAINAGE

STORM WATER DRAINAGE QUANTITY

Sl. No.	Line No.		Size of pipe (in mm)	Length of Pipe (In Mtr.)	Length in mtr.			
	From	TO			400 Ø	450 Ø	500 Ø	600 Ø
1	R3	R4	400	14.0	14.0			
2	R4	R5	400	14.0	14.0			
3	R5	R6	400	9.7	9.7			
4	R6	RWH	400	2.0	2.0			
5	RWH	R7	400	1.0	1.0			
6	R7	R8	400	9.2	9.2			
7	R8	R8a	400	15.0	15.0			
8	R8a	R8b	400	15.0	15.0			
9	R8b	R8c	400	8.0	8.0			
10	R8c	R8d	400	12.0	12.0			
11	R8	R9	400	8.0	8.0			
12	R9	R10	400	13.0	13.0			
13	R10	R11	400	13.0	13.0			
14	R11	R12	400	13.0	13.0			
15	R12	R13	400	13.0	13.0			
16	R13	R14	400	13.0	13.0			
17	R14	R15	400	13.0	13.0			
18	R15	R16	400	13.0	13.0			
19	R16	R17	400	13.0	13.0			
20	R17	R18	400	13.0	13.0			
21	R18	R19	400	13.0	13.0			
22	R19	R20	400	13.0	13.0			
23	R20	R21	500	13.0			13.0	
24	R21	R22	500	13.0			13.0	
25	R22	R23	500	11.0			11.0	
26	R23	R24	500	16.0			16.0	
27	R24	R25	500	16.0			16.0	
28	R25	R26	500	8.0			8.0	
29	R26	R27	500	24.0			24.0	
30	R27	R28	500	19.0			19.0	
31	R28	R29	500	8.0			8.0	
32	R29	R30	500	18.0			18.0	
33	R30	R31	500	15.0			15.0	
34	R31	R32	500	14.0			14.0	
35	R32	R33	500	14.0			14.0	
36	R33	R34	500	14.0			14.0	
37	R34	R35	500	8.0			8.0	
38	R35	R36	500	8.0			8.0	
39	R36	EXTERNAL	500	1.0			1.0	
40	R37	R38	400	13.0				

KAPIL KANGLA  
ARCH  
CANE 7088

For AFFORDABLE RESIDENTIAL PLOT  
Storm Qty



Executive Engineer  
HSVP, Division Palwal

41	R38	R39	400	13.0	13.0		
42	R39	R40	400	13.0	13.0		
43	R40	R41	400	13.0	13.0		
44	R41	R42	400	13.0	13.0		
45	R42	R43	400	13.0	13.0		
46	R43	R44	400	13.0	13.0		
47	R44	R45	400	13.0	13.0		
48	R45	R46	400	13.0	13.0		
49	R46	R47	400	16.0	16.0		
50	R47	R48	400	21.0	21.0		
51	R47	R49	400	9.0	9.0		
52	R49	R50	400	14.0	14.0		
53	R50	R20	400	15.0	15.0		
54	R51	R52	400	12.0	12.0		
55	R52	R53	400	13.0	13.0		
56	R53	R54	400	13.0	13.0		
57	R54	R55	400	13.0	13.0		
58	R55	R23	400	13.0	13.0		
59	R56	R57	400	14.0	14.0		
60	R57	R58	400	14.0	14.0		
61	R58	R59	400	14.0	14.0		
62	R59	R26	400	15.0	15.0		
63	R60	R61	400	13.0	13.0		
64	R61	R62	400	14.0	14.0		
65	R62	R28	400	15.0	15.0		
66	R63	R64	400	14.0	14.0		
67	R64	R65	400	14.0	14.0		
68	R65	R66	400	12.0	12.0		
69	R66	R67	400	9.0	9.0		
70	R67	R68	400	14.0	14.0		
71	R68	RWH	400	1.0	1.0		
72	RWH	R69	400	1.0	1.0		
73	R69	R70	400	9.0	9.0		
74	R70	R30	400	9.0	9.0		
75	R71	R72	400	7.0	7.0		
76	R72	R73	400	14.0	14.0		
77	R73	R36	400	15.0	15.0		
78	R74	R75	400	12.0	12.0		
79	R75	R76	400	13.0	13.0		
80	R76	R77	400	13.0	13.0		
81	R77	R78	400	13.0	13.0		
82	R78	R79	400	14.0	14.0		
83	R79	R80	400	9.0	9.0		
84	R80	R81	400	19.0	19.0		
85	R80	R82	400	15.0	15.0		
86	R82	R83	400	14.0	14.0		
87	R83	R84	400	11.0	11.0		
88	R84	R85	400	19.7	19.7		
89	R85	R85a	400	14.6	14.6		
90	R85	R126	400	2.7	2.7		
91	R126	RWH	400	1.0	1.0		
92	RWH	R128	400	1.0	1.0		
93	R128	R86	500	3.7			

Executive Engineer  
HSVP, Division Patwat

KAPIL MANGLA  
B.Arch  
CA/2001/27088

ARTTECH RESISTANCE LLP

Storn City



3.7

94	R86	R87	500	7.0			7.0	
95	R87	R88	500	12.0			12.0	
96	R88	R89	500	13.0			13.0	
97	R89	R90	500	13.0			13.0	
98	R90	R90a	400	13.0	13.0			
99	R90	R91	500	20.0			20.0	
100	R91	R92	500	14.0			14.0	
101	R92	R93	500	14.0			14.0	
102	R93	R26	500	9.0			9.0	
103	R94	R95	400	17.0	17.0			
104	R95	R94	400	14.0	14.0			
105	R94	R95	400	14.0	14.0			
106	R95	R96	400	14.0	14.0			
107	R96	R97	400	14.0	14.0			
108	R97	R98	400	14.0	14.0			
109	R98	R99	400	14.0	14.0			
110	R99	R100	400	14.0	14.0			
111	R100	R101	400	14.0	14.0			
112	R101	R91	400	22.0	22.0			
113	R102	R103	400	16.0	16.0			
114	R103	R104	400	14.0	14.0			
115	R104	R105	400	14.0	14.0			
116	R105	R106	400	14.0	14.0			
117	R106	R107	400	14.0	14.0			
118	R107	R108	400	14.0	14.0			
119	R108	R109	400	14.0	14.0			
120	R109	R110	400	14.0	14.0			
121	R110	R111	400	14.0	14.0			
122	R111	R112	400	15.0	15.0			
123	R112	R191	400	8.0	8.0			
124	R113	R114	400	12.0	12.0			
125	R114	R115	400	13.0	13.0			
126	R115	R116	400	13.0	13.0			
127	R116	R117	400	13.0	13.0			
128	R117	R118	400	14.0	14.0			
129	R118	R84	400	9.0	9.0			
130	R119	R120	400	14.0	14.0			
131	R120	RWH	400	4.0	4.0			
132	RWH	R121	400	4.0	4.0			
133	R121	R122	400	14.0	14.0			
134	R122	R123	400	16.0	16.0			
135	R124	R125	400	14.0	14.0			
136	R125	R123	400	14.0	14.0			
137	R123	R126	400	11.0	11.0			
138	R126	RWH	400	1.0	1.0			
139	RWH	R127	400	1.0	1.0			
140	R127	R86	400	4.0	4.0			
	<b>TOTAL</b>				<b>1383</b>	<b>0</b>	<b>326</b>	<b>0</b>

Executive Engineer  
HSVP, Division Patwa

K. JANGLA  
B.Arch  
31/27088

FORAN TECH RESIDENCY LLP  
Partner

Storm Qty

PROJECT : PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL

DESIGN CHART FOR STORM WATER DRAINAGE SYSTEM

BASED ON MANNINGS FORMULA WHERE VALUE OF n=0.015 (R.C.C Pipe), DESIGN INTENSITY = 04" PER HOUR

SL. NO	LINE NO.		AREA SERVED BY THE LINE (SQM)	AREA SERVED BY THE LINE (ACRES)			DISCHARGE @ 0.25 CUSECS PER ACRE (CUSECS)	SIZE OF PIPE (IN (M))	VELOCITY (M/SEC)	CAPACITY OF PIPE (CUSECS)	DESIGN VELOCITY (M/SEC)	LENGTH OF PIPE (M)	SLOPE IN IN	FALL IN MM As per pipe slope	GROUND LEVEL		INVERT LEVEL		DEPTH OF PIPE AT		AVERAGE DEPTH OF MENHOLE (In mm)	REMARKS
	START	END	SELF	SELF	BRANCH	TOTAL									U/End	L/End	U/End	L/End	U/End	L/End		
															(In mm)	(In mm)	(In mm)	(In mm)	(In mm)	(In mm)		
	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
1	R3	R4	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44	
2	R4	R5	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44	
3	R5	R6	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.7	360	26.94	0.00	0.00	-900	-927	900	927	913.47	
4	R6	RWH	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	2.0	360	5.56	0.00	0.00	-900	-906	900	906	902.78	
5	RWH	R7	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	1.0	360	2.78	0.00	0.00	-900	-903	900	903	901.39	
6	R7	R8	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.2	360	25.56	0.00	0.00	-900	-926	900	926	912.78	
7	R8	R8a	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83	
8	R8a	R8b	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83	
9	R8b	R8c	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	8.0	360	22.22	0.00	0.00	-900	-922	900	922	911.11	
10	R8c	R8d	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	12.0	360	33.33	0.00	0.00	-900	-933	900	933	916.67	
11	R8	R9	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	8.0	360	22.22	0.00	0.00	-900	-922	900	922	911.11	
12	R9	R10	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
13	R10	R11	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
14	R11	R12	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
15	R12	R13	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
16	R13	R14	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
17	R14	R15	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
18	R15	R16	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
19	R16	R17	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
20	R17	R18	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
21	R18	R19	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
22	R19	R20	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06	
23	R20	R21	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	13.0	480	27.08	0.00	0.00	-900	-927	900	927	913.54	
24	R21	R22	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	13.0	480	27.08	0.00	0.00	-900	-927	900	927	913.54	
25	R22	R23	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	11.0	480	22.92	0.00	0.00	-900	-923	900	923	911.46	
26	R23	R24	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	16.0	480	33.33	0.00	0.00	-900	-933	900	933	916.67	
27	R24	R25	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	16.0	480	33.33	0.00	0.00	-900	-933	900	933	916.67	
28	R25	R26	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	8.0	480	16.67	0.00	0.00	-900	-917	900	917	908.33	
29	R26	R27	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	24.0	480	50.00	0.00	0.00	-900	-950	900	950	925.00	
30	R27	R28	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	19.0	480	39.58	0.00	0.00	-900	-940	900	940	919.79	
31	R28	R29	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	8.0	480	16.67	0.00	0.00	-900	-917	900	917	908.33	
32	R29	R30	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	18.0	480	37.50	0.00	0.00	-900	-938	900	938	918.75	

Executive Engineer  
HSVP, Division Palwal

Storm Water Cal.

KAPIL KUMAR  
ARCHITECT  
CA/2001/27088  
FOR MITTECH RESIDENCY  
Date: 1/4

33	R30	R31	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	15.0	480	31.25	0.00	0.00	-900	-931	900	931	915.63
34	R31	R32	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	14.0	480	29.17	0.00	0.00	-900	-929	900	929	914.58
35	R32	R33	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	14.0	480	29.17	0.00	0.00	-900	-929	900	929	914.58
36	R33	R34	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	14.0	480	29.17	0.00	0.00	-900	-929	900	929	914.58
37	R34	R35	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	8.0	480	16.67	0.00	0.00	-900	-917	900	917	908.33
38	R35	R36	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	8.0	480	16.67	0.00	0.00	-900	-917	900	917	908.33
39	R36	EXTERNAL	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	1.0	480	2.08	0.00	0.00	-900	-902	900	902	901.04
40	R37	R38	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
41	R38	R39	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
42	R39	R40	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
43	R40	R41	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
44	R41	R42	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
45	R42	R43	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
46	R43	R44	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
47	R44	R45	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
48	R45	R46	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
49	R46	R47	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	16.0	360	44.44	0.00	0.00	-900	-944	900	944	922.22
50	R47	R48	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	21.0	360	58.33	0.00	0.00	-900	-958	900	958	929.17
51	R47	R49	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.0	360	25.00	0.00	0.00	-900	-925	900	925	912.50
52	R49	R50	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
53	R50	R20	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83
54	R51	R52	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	12.0	360	33.33	0.00	0.00	-900	-933	900	933	916.67
55	R52	R53	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
56	R53	R54	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
57	R54	R55	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
58	R55	R23	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
59	R56	R57	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
60	R57	R58	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
61	R58	R59	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
62	R59	R26	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83
63	R60	R61	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
64	R61	R62	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
65	R62	R28	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83
66	R63	R64	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
67	R64	R65	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
68	R65	R66	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	12.0	360	33.33	0.00	0.00	-900	-933	900	933	916.67
69	R66	R67	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.0	360	25.00	0.00	0.00	-900	-925	900	925	912.50
70	R67	R68	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
71	R68	RWH	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	1.0	360	2.78	0.00	0.00	-900	-903	900	903	901.39
72	RWH	R69	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	1.0	360	2.78	0.00	0.00	-900	-903	900	903	901.39
73	R69	R70	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.0	360	25.00	0.00	0.00	-900	-925	900	925	912.50
74	R70	R30	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.0	360	25.00	0.00	0.00	-900	-925	900	925	912.50
75	R71	R72	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	7.0	360	19.44	0.00	0.00	-900	-919	900	919	909.72

Executive Engineer  
HSVP, Divison Palwal

Storm Water Cal.

KAPIL MANGLA  
B.ARCH  
EA/2001/27088



76	R72	R73	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
77	R73	R36	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83
78	R74	R75	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	12.0	360	33.33	0.00	0.00	-900	-933	900	933	916.67
79	R75	R76	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
80	R76	R77	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
81	R77	R78	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
82	R78	R79	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
83	R79	R80	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.0	360	25.00	0.00	0.00	-900	-925	900	925	912.50
84	R80	R81	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	19.0	360	52.78	0.00	0.00	-900	-953	900	953	926.39
85	R80	R82	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83
86	R82	R83	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
87	R83	R84	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	11.0	360	30.56	0.00	0.00	-900	-931	900	931	915.28
88	R84	R85	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	19.7	360	54.72	0.00	0.00	-900	-955	900	955	927.36
89	R85	R85a	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.6	360	40.56	0.00	0.00	-900	-941	900	941	920.28
90	R85	R126	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	2.7	360	7.50	0.00	0.00	-900	-908	900	908	903.75
91	R126	RWH	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	1.0	360	2.78	0.00	0.00	-900	-903	900	903	901.39
92	RWH	R128	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	1.0	360	2.78	0.00	0.00	-900	-903	900	903	901.39
93	R128	R86	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	3.7	480	7.71	0.00	0.00	-900	-908	900	908	903.85
94	R86	R87	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	7.0	480	14.58	0.00	0.00	-900	-915	900	915	907.29
95	R87	R88	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	12.0	480	25.00	0.00	0.00	-900	-925	900	925	912.50
96	R88	R89	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	13.0	480	27.08	0.00	0.00	-900	-927	900	927	913.54
97	R89	R90	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	13.0	480	27.08	0.00	0.00	-900	-927	900	927	913.54
98	R90	R90a	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
99	R90	R91	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	20.0	480	41.67	0.00	0.00	-900	-942	900	942	920.83
100	R91	R92	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	14.0	480	29.17	0.00	0.00	-900	-929	900	929	914.58
101	R92	R93	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	14.0	480	29.17	0.00	0.00	-900	-929	900	929	914.58
102	R93	R26	500	0.1235	0.1235	0.2471	0.0618	0.400	0.67	2.926	0.660	9.0	480	18.75	0.00	0.00	-900	-919	900	919	909.38
103	R94	R95	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	17.0	360	47.22	0.00	0.00	-900	-947	900	947	923.61
104	R95	R94	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
105	R94	R95	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
106	R95	R96	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
107	R96	R97	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
108	R97	R98	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
109	R98	R99	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
110	R99	R100	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
111	R100	R101	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
112	R101	R91	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	22.0	360	61.11	0.00	0.00	-900	-961	900	961	930.56
113	R102	R103	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	16.0	360	44.44	0.00	0.00	-900	-944	900	944	922.22
114	R103	R104	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
115	R104	R105	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
116	R105	R106	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
117	R106	R107	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
118	R107	R108	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
119	R108	R109	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
120	R109	R110	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44

Executive Engineer  
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ARTTECH RESIDENCY  
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121	R110	R111	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
122	R111	R112	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	15.0	360	41.67	0.00	0.00	-900	-942	900	942	920.83
123	R112	R191	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	8.0	360	22.22	0.00	0.00	-900	-922	900	922	911.11
124	R113	R114	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	12.0	360	33.33	0.00	0.00	-900	-933	900	933	916.67
125	R114	R115	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
126	R115	R116	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
127	R116	R117	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	13.0	360	36.11	0.00	0.00	-900	-936	900	936	918.06
128	R117	R118	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
129	R118	R84	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	9.0	360	25.00	0.00	0.00	-900	-925	900	925	912.50
130	R119	R120	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
131	R120	RWH	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	4.0	360	11.11	0.00	0.00	-900	-911	900	911	905.56
132	RWH	R121	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	4.0	360	11.11	0.00	0.00	-900	-911	900	911	905.56
133	R121	R122	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
134	R122	R123	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	16.0	360	44.44	0.00	0.00	-900	-944	900	944	922.22
135	R124	R125	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
136	R125	R123	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	14.0	360	38.89	0.00	0.00	-900	-939	900	939	919.44
137	R123	R126	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	11.0	360	30.56	0.00	0.00	-900	-931	900	931	915.28
138	R126	RWH	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	1.0	360	2.78	0.00	0.00	-900	-903	900	903	901.39
139	RWH	R127	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	1.0	360	2.78	0.00	0.00	-900	-903	900	903	901.39
140	R127	R86	400	0.0988	0.0988	0.1977	0.0494	0.400	0.77	3.379	0.762	4.0	360	11.11	0.00	0.00	-900	-911	900	911	905.56

Executive Engineer  
HSVP, Division Palwal

*Kapil Mangla*  
KAPIL MANGLA  
B.ARCH  
CA/2001/27088

*Artech*  
ARTECH RESIDENCY LLP  
Partner

**PROJECT : PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-06, DISTRICT PALWAL**

**ROAD AREA CALCULATION (9 M & 12 M wide road)**

S. No.	ROAD NO.	LENGTH (M)	WIDTH OF ROAD (M)	WIDTH OF METAL PORTION IN (M)	ROAD AREA (SQM) (M)
1	R1-R2	65.0	9.0	6.0 <i>5.5</i>	390.0 <i>337.5</i>
2	R3-R4	152.0	9.0	6.0 <i>5.5</i>	912.0 <i>836</i>
3	R5-R6	152.0	9.0	6.0 <i>5.5</i>	912.0 <i>836</i>
4	R7-R8	67.0	9.0	6.0 <i>5.5</i>	402.0 <i>358.5</i>
5	R9-R10	67.0	9.0	6.0 <i>5.5</i>	402.0 <i>358.5</i>
5	R11-R12	45.0	9.0	6.0 <i>5.5</i>	270.0 <i>237.5</i>
6	R13-R14	303.0	9.0	6.0 <i>5.5</i>	1818.0 <i>1646.5</i>
7	R15-R16	30.0	9.0	6.0 <i>5.5</i>	180.0 <i>165</i>
8	R17-R18	77.0	9.0	6.0 <i>5.5</i>	462.0 <i>423.5</i>
9	R19-R20	77.0	9.0	6.0 <i>5.5</i>	462.0 <i>423.5</i>
<del>10</del>	<del>R21-R22</del>	<del>142.0</del>	<del>9.0</del>	<del>6.0 <i>5.5</i></del>	<del>852.0</del>
	<b>TOTAL</b>	<b>1477.0</b>			<b>9062.0</b> <i>8642.5</i>
					<i>1435 + 231 = 1666</i>
	Add 10% for curves	147.7			<i>569.25</i> -206.2
					<i>1329.30</i>
	<b>Total</b>	<b>1294.7</b>			<b>7768.2</b>
	Say	1295.0	<i>1330 m</i>	Sqm	<b>7768.0</b>
				<i>Total metalled width</i>	<i>6267.75 + 3552.18</i>
	Length of kerb (2 x Road Length) =	<i>2590</i> <i>2660</i>		Say	<i>9614.53</i> <i>3179</i> <b>7770.0</b> <i>9820.5m</i>

*24 m wide road = A + D*  
*155.70 + 75 = 230.70*  
 Add 10% for curves *23.07*  
*253.77*  
 metalled width *14 m*  
 Executive Engineer  
 HSVP, Division Palwal

  
**KAPIL MANGLA**  
 ARCHITECT  
 6822811/27088  
 For MITTECH RESIDENCY LLP  
*Na-h Cdn*  
**3552.74.55m**  
 Road Area Cal. Partec



**PROJECT-PROPOSED AFFORDABLE RESIDENTIAL PLOTTED COLONY ON AREA MEASURING 14.41875 ACRES IN THE REVENUE ESTATE OF VILLAGE PALWAL & PATLIKHURD, SECTION-06, FARIDABAD**

**Water Requirement Chart & Capacity of UG Tank & STP**

S. NO	DESCRIPTION	3	4	5	6	7	8	9	10	11	12
		TOTAL NO. OF PLOTS	NO. OF PERSONS /PLOT/ DWELLING UNIT	POPULATION CALCULATION	DOMESTIC WATER REQUIREMENT PER PERSON PER DAY IN LTRS.	FLUSHING WATER REQUIREMENT PER PERSON PER DAY IN LTRS.	TOTAL WATER REQUIREMENT PER PERSON PER DAY IN LTRS.	TOTAL DOMESTIC WATER REQUIREMENT PER DAY IN LTRS.	TOTAL FLUSHING WATER REQUIREMENT PER DAY IN LTRS.	TOTAL WATER REQUIREMENT PER DAY IN LTRS.	CAPACITY OF STP IN LTRS (80% TOTAL WATER REQUIREMENT)
1	2										
<b>(A) RESIDENTIAL PLOTTED COLONY</b>											
1	PLOTS	281	13.5	3794	112.13	60.38	172.5	425346.2	229033	654379	523503
	<b>SUB TOTAL OF (A)</b>	<b>281</b>		<b>3794</b>				<b>425346.2</b>	<b>229033</b>	<b>654379</b>	<b>523503</b>
<b>(B) COMMERCIAL</b>											
1	Water Requirement @32 KL per Acre, commercial Area- 1168.10625 Sq. Mtr. (0.28865 acres)							6003.92	3232.88	9236.8	7389
	<b>SUB TOTAL OF (B)</b>							<b>6003.92</b>	<b>3232.88</b>	<b>9236.8</b>	<b>7389</b>
<b>(C) COMMUNITY</b>											
1	Water Requirement @ 25 KL per Acres, Community Area- 5835.899 Sq.Mtrs. (1.44208 acre)							23433.8	12618.2	36052	28842
	<b>SUB TOTAL OF (C)</b>							<b>23433.8</b>	<b>12618.2</b>	<b>36052</b>	<b>28842</b>

**KAPIL MANGLA**  
B ARCH  
CA/2001/27088

Executive Engineer  
HSVP, Division Palwal



FOR NOTATION RESIDENCY AT  
-1/2  
factory

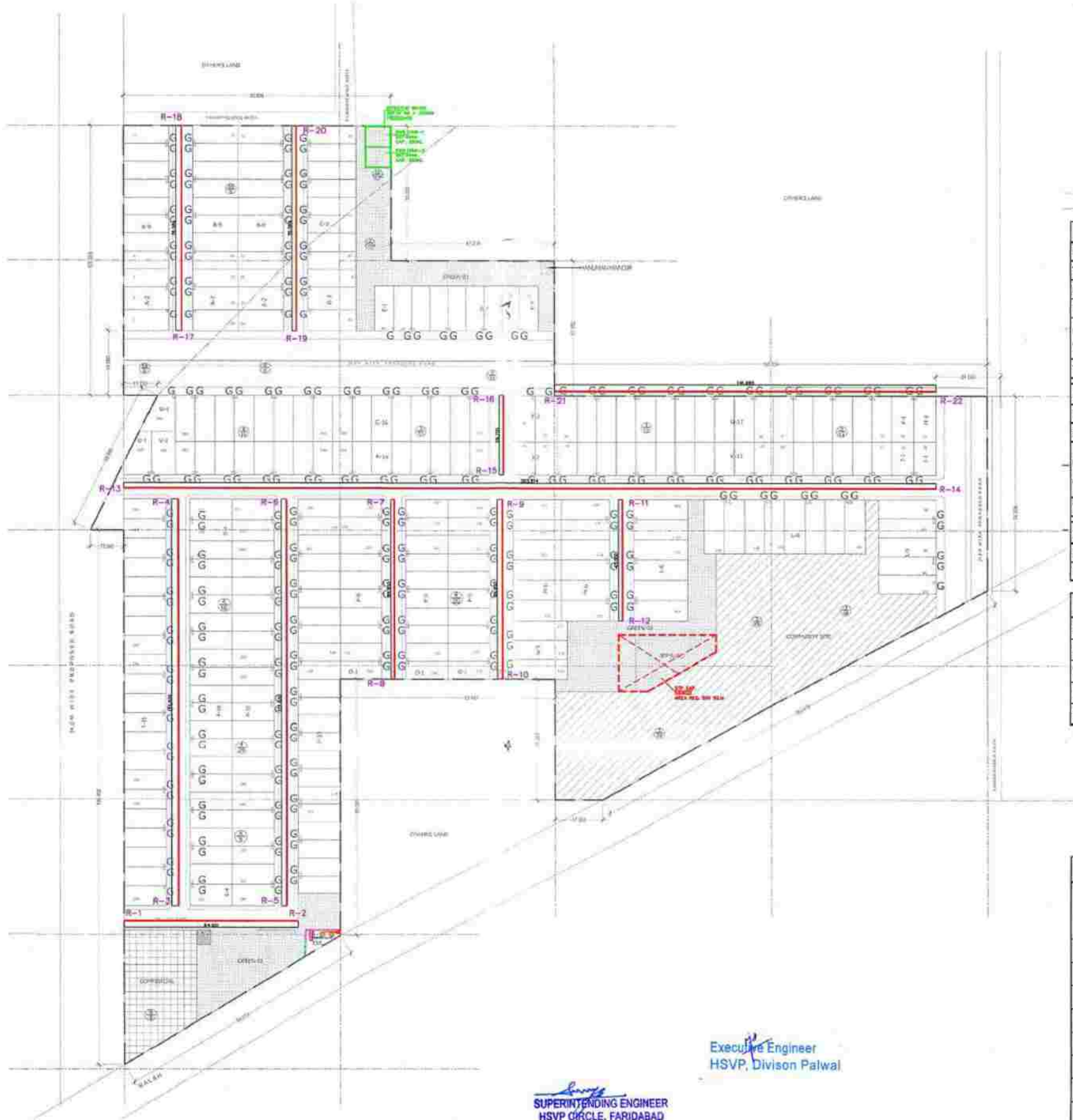
S. NO	DESCRIPTION	TOTAL NO. OF PLOTS		NO. OF PERSONS / PLOT / DWELLING UNIT		POPULATION		CALCULATION		DOMESTIC WATER REQUIREMENT PER PERSON PER DAY IN LTRS.		FLUSHING WATER REQUIREMENT PER PERSON PER DAY IN LTRS.		TOTAL WATER REQUIREMENT PER PERSON PER DAY IN LTRS.		TOTAL DOMESTIC WATER REQUIREMENT PER DAY IN LTRS.		TOTAL FLUSHING WATER REQUIREMENT PER DAY IN LTRS.		TOTAL WATER REQUIREMENT PER DAY IN LTRS.		CAPACITY OF STP IN LTRS. (80% TOTAL WATER REQUIREMENT)		
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	2																							
(D)	MISCELLANEOUS																							
	GRAND TOTAL(A+B+C)	281		3794																				
	TOTAL WATER REQUIREMENT PER DAY																							
	TOTAL DOMESTIC WATER REQUIREMENT (RAW WATER) PER DAY																							
	UG RAW WATER TANK CAPACITY (3/4 DAY STORAGE OF TOTAL WATER REQUIREMENT)																							
	UG DOMESTIC WATER TANK CAPACITY (3/4 DAY STORAGE OF TOTAL DOMESTIC WATER REQUIREMENT)																							
	CAPACITY OF STP																							
	NOTE:																							
	Irrigation for Green Area @ 25 KL Per Acre fulfill from STP Treated Water Tank																							
	Water Requirement as per NBC 2016 or Local Norms																							
	172.5 Litre per person per day for plots & 13.5 person per plot																							
	Water requirement considered - 65% domestic & 35% flushing of total water requirements																							

Executive Engineer  
HSVP, Division Palwal

KAPIL MANJLA  
B.ARCH  
CA/2001/27088



INTEGRAL DESIGNS  
INTEGRAL DESIGNS



Executive Engineer  
HSVP, Division Palwal

Supervising Engineer  
HSVP Circle, Faridabad

AREA STATEMENT		
Description	Area in Acres	Area in Smt.
<b>Total Area of the Scheme</b>	<b>14.41875</b>	<b>58350.5184</b>
(A) Proposed Area Under Plots @55.3859%	7.98595	32317.95460
Permissible Commercial Area @4%	0.57675	2334.02074
(B) Proposed Commercial Area Including Milk & Veg. Booth @2.0018%	0.28865	1168.10625
<b>Total Saleable Area (A+B) @57.3877%</b>	<b>8.2746</b>	<b>33486.06085</b>

GREEN AREA CALCULATION		
Description	Area in Acres	Area in Smt.
Required Green Area @ 7.50%	1.08141	4376.28888
<b>PROPOSED GREEN AREA</b>		
Organised Green Area		
Green-1	0.27236	1102.18166
Green-2	0.41914	1696.19882
Green-3	0.39040	1579.89376
<b>Total Proposed Green Area @7.5034%</b>	<b>1.0819</b>	<b>4378.27424</b>

AREA FOR PROVISION OF COMMUNITY FACILITIES		
Description	Area in Acres	Area in Smt.
Required Area @10%	1.44188	5835.05184
Proposed Area @10.0014%	1.44208	5835.89977

DENSITY CALCULATION	
Description	Nos.
Proposed Plots	281
Total No. of Persons Per Plot @ 13.5	3793.50
Permissible Density	240-400 PPA
Proposed Density (3793.50/14.41875 = 263.09492 say 263)	263

PLOT AREA CALCULATION						
S.No.	Type of plot	Plot Size		Area of each plot (in Sq.mt.)	Total No. of Plots	Total Area of plots (in Sq.mt.)
		Width (in mt.)	Depth (in mt.)			
1	A	8.142	16.850	137.1927	6	823.1562
2	B	6.700	16.850	112.8950	34	3838.4300
3	C	6.700	18.000	120.6000	9	1085.4000
4	D	8.142	18.000	146.5560	2	293.1120
5	E	7.320	16.850	123.3420	2	246.6840
6	F	8.290	17.140	142.0906	3	426.2718
7	G	7.320	17.140	125.4648	33	4140.3384
8	H	8.289	17.140	142.0735	1	142.0735
9	I	8.289	12.570	104.1927	1	104.1927
10	J	8.290	12.570	104.2053	3	312.6159
11	K	7.320	12.570	92.0124	33	3036.4092
12	L	7.500	20.000	150.0000	14	2100.0000
13	LI	7.000	21.425	149.9750	5	749.8750
14	M	7.500	18.000	135.0000	12	1620.0000
15	N	7.301	20.000	146.0200	3	438.0600
16	O	6.603	15.616	103.1124	3	309.3373
17	P	6.700	15.616	104.6272	85	8893.3120
18	S	7.808	15.616	121.9297	8	975.4378
19	T	7.230	15.619	112.9254	21	2371.4328
20	U	Area as per P.Line		131.1720	1	131.1720
21	V	9.000	16.210	145.8900	1	145.8900
22	W	Area as per P.Line		134.7540	1	134.7540
				<b>281</b>		<b>32317.9546</b>

To be read with 56 of 2019 dated 08.03.2019 LC-3339

That this Revised Layout plan for an area measuring 14.41875 acres (Drawing No. DTCP/1068 dated 04-12-2023) comprised of license which is issued in respect of Affordable Residential Plotted Colony (Under Deem Day) Jan Awas Yojna) being developed by Arttech Residency LLP. in the revenue estate of Village Palwal and Patti Khurd, Sector-6, District Palwal is hereby approved subject to the following conditions:-

1. That this Revised Layout plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
2. That the plotted area of the colony shall not exceed 65% of the net planned area of the colony. The entire area reserved for commercial purposes shall be taken as plotted for calculation of the area under plots.
3. That the demarcation plans as per site of all the Residential Plots and Commercial site shall be got approved from this Department and construction on these sites shall be governed by the Haryana Building Code, 2017 and the Zoning Plan approved by the Director, Town & Country Planning, Haryana.
4. That for proper planning and integration of services in the area adjacent to the colony, the colonizer shall abide by the directions of the DTCP, Haryana for the modification of layout plans of the colony.
5. That the revenue casts falling in the colony shall be kept free for circulation/movement as shown in the layout plan.
6. That the colonizer shall abide by the directions of the DTCP, Haryana and accordingly shall make necessary changes in the layout plan for making any adjustment in the alignment of the peripheral roads, internal road circulation or for proper integration of the planning proposals of the adjoining areas.
7. That no property/plot shall derive access directly from the carriage way of 30 metres or wider sector road if applicable.
8. All green belts provided in the layout plan within the licensed area of the colony shall be developed by the colonizer. All other green belts outside the licensed area shall be developed by the Haryana Urban Development Authority/colonizer on the directions of the Director, Town and Country planning, Haryana or in accordance with terms and conditions of the agreements of the license.
9. At the time of demarcation plan, if required percentage of organized open space is reduced, the same will be provided by the colonizer in the licensed area.
10. No plot will derive an access from less than 9 metres wide road would mean a minimum clear width of 9 metres between the plots.
11. Any excess area over and above the permissible 4% under commercial use shall be deemed to be open space.
12. The portion of the sector/development plan roads /green belts as provided in the Development Plan if applicable, which form part of the licensed area shall be transferred free of cost to the government on the lines of Section 3(3)(a)(ii) of the Act No.8 of 1975.
13. That the odd size plots are being approved subject to the conditions that these plots should not have a frontage of less than 75% of the standard frontage when demarcated.
14. That you will have no objection to the regularization of the boundaries of the license through give and take with the land that HSVP is finally able to acquire in the interest of planned development and integration of services. The decision of the competent authority shall be binding in this regard.
15. That the rain water harvesting system shall be provided as per Central Ground Water Authority norms/Haryana Govt. notifications as applicable.
16. That the colonizer/owner shall use only Light-Emitting Diode lamps (LED) fitting for internal lighting as well as Campus lighting.
17. That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No.22/52/2005-SPower dated 21.03.2016 issued by Haryana Government Renewable Energy Department.
18. That the colonizer/owner shall strictly comply with the directions issued vide Notification No. 19/6/2016-SP dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.

(Signature) (Signature) (Signature) (Signature) (Signature)  
 (SANJAY KUMAR) (SANJAY KUMAR) (SAVITA JINDAL) (SANJAY KUMAR) (SANJAY KUMAR)  
 ID (M) ATP (M) DTP (M) STP (M) DTCP (M)

LAYOUT OF ROAD PLAN.

ARCHITECT'S SIGNATURE:  
  
 KAPIL MANSURIYA  
 B. ARCHT.  
 CA200127058

OWNER'S SIGNATURE:  
 For ARTTECH RESIDENCY LLP  
  
 Anshu Gdwal  
 Partner

OWNER :-  
 REVISED LAYOUT PLAN OF AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDIAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-6, DISTRICT-PALWAL BEING DEVELOPED BY ARTTECH RESIDENCY LLP.

ARCHITECTURAL CONSULTANT:  
 NIRMAN  
 ARCHITECTS & INTERIOR DESIGNERS  
 e-mail : nirmanarchitects@yahoo.com  
 I-8, 1st FLOOR, SECTOR-10, D.L.F.  
 PH. : 9811204088, 9810081088

DATE : 04-12-2023

SCALE :- NTS

DRAWING TITLE :  
 LAYOUT PLAN

Checked subject to Comments in forwarding letter No. 137/66 D2-3/05/2024 and notes Attached with the estimate

Executive Engineer (M) for Chief Engineer-1 HSVP, Panchkula

Director Town & Country Planning Haryana, Chandigarh

This Revised Layout plan for an area measuring 14.41875 acres [Drawing No. DTCP-10-28 dated 02-12-19] comprised of licence which is issued in respect of Affordable Residential Plotted Colony (Under Deen Dayal Jan Awas Yojna) being developed by Artech Residency LLP. In the revenue estate of Village Palwal and Patti Khurd, Sector-6, District Palwal is hereby approved subject to the following conditions:-

- That this Revised Layout plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
- That the plotted area of the colony shall not exceed 65% of the net planned area of the colony. The entire area reserved for commercial purposes shall be taken as plotted for calculation of the area under plots.
- That the demarcation plans as per site of all the Residential Plots and Commercial site shall be got approved from this Department and construction on these sites shall be governed by the Haryana Building Code, 2017 and the Zoning Plan approved by the Director, Town & Country Planning, Haryana.
- That for proper planning and integration of services in the area adjacent to the colony, the colonizer shall abide by the directions of the DTCP, Haryana for the modification of layout plans of the colony.
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- That no property/plot shall derive access directly from the carriage way of 30 metres or wider sector road if applicable.
- All green belts provided in the layout plan within the licensed areas of the colony shall be developed by the colonizer. All other green belts outside the licensed area shall be developed by the Haryana Urban Development Authority/colonizer on the directions of the Director, Town and Country planning, Haryana or in accordance with terms and conditions of the agreements of the licence.
- At the time of demarcation plan, if required percentage of organized open space is reduced, the same will be provided by the colonizer in the licensed area.
- No plot will derive an access from less than 9 metres wide road would mean a minimum clear width of 9 metres between the plots.
- Any excess area over and above the permissible 4% under commercial use shall be deemed to be open space.
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- That the odd size plots are being approved subject to the conditions that these plots should not have a frontage of less than 75% of the standard frontage when demarcated.
- That you will have no objection to the regularization of the boundaries of the licence through give and take with the land that HSVP is finally able to acquire in the interest of planned development and integration of services. The decision of the competent authority shall be binding in this regard.
- That the rain water harvesting system shall be provided as per Central Ground Water Authority norms/Haryana Govt. notifications as applicable.
- That the colonizer/owner shall use only Light-Emitting Diode lamps (LED) fitting for internal lighting as well as Campus lighting.
- That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No.22/S2/2005-SPower dated 21.03.2016 issued by Haryana Government Renewable Energy Department.
- That the colonizer/owner shall strictly comply with the directions issued vide Notification No. 19/6/2016-SP dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.

(PANKAJ KUMAR) TO (HQ) (RANJAN KUMAR) ATP (HQ) (SAVITA JINDAL) STP (HQ) (SANJAY KUMAR) STP (HQ) (DIPAK KUMAR) CH (HQ) (ARVIND KUMAR) DTCP (HQ)

AREA STATEMENT		
Description	Area in Acres	Area in Smt.
<b>Total Area of the Scheme</b>	<b>14.41875</b>	<b>58350.5184</b>
(A) Proposed Area Under Plots @55.3859%	7.98595	32317.95460
Permissible Commercial Area @4%	0.57675	2334.02074
(B) Proposed Commercial Area Including Milk & Veg. Booth @2.0018%	0.28865	1168.10625
<b>Total Saleable Area (A+B) @57.3877%</b>	<b>8.2746</b>	<b>33486.06085</b>
GREEN AREA CALCULATION		
Required Green Area @ 7.50%	1.08141	4376.28888
PROPOSED GREEN AREA		
Organised Green Area		
Green-1	0.27236	1102.18166
Green-2	0.41914	1696.19882
Green-3	0.39040	1579.89376
<b>Total Proposed Green Area @7.5034%</b>	<b>1.0819</b>	<b>4378.27424</b>
AREA FOR PROVISION OF COMMUNITY FACILITIES		
Required Area @10%	1.44188	5835.05184
Proposed Area @10.0014%	1.44208	5835.89977

DENSITY CALCULATION	
Description	Nos.
Proposed Plots	281
Total No. of Persons Per Plot @ 13.5	3793.50
Permissible Density	240-400 PPA
Proposed Density (3793.50/14.41875 = 263.09492 say 263)	263

PLOT AREA CALCULATION						
S.No.	Type of plot	Plot Size		Area of each plot (in Sq.mt.)	Total No. of Plots	Total Area of plots (in Sq.mt.)
		Width (in mt.)	Depth (in mt.)			
1	A	8.142	16.850	137.1927	6	823.1562
2	B	6.700	16.850	112.8950	34	3838.4300
3	C	6.700	18.000	120.6000	9	1085.4000
4	D	8.142	18.000	146.5560	2	293.1120
5	E	7.320	16.850	123.3420	2	246.6840
6	F	8.290	17.140	142.0906	3	426.2718
7	G	7.320	17.140	125.4648	33	4140.3384
8	H	8.289	17.140	142.0735	1	142.0735
9	I	8.289	12.570	104.1927	1	104.1927
10	J	8.290	12.570	104.2053	3	312.6159
11	K	7.320	12.570	92.0124	33	3036.4092
12	L	7.500	20.000	150.0000	14	2100.0000
13	L1	7.000	21.425	149.9750	5	749.8750
14	M	7.500	18.000	135.0000	12	1620.0000
15	N	7.301	20.000	146.0200	3	438.0600
16	O	6.603	15.616	103.1124	3	309.3373
17	P	6.700	15.616	104.6272	85	8893.3120
18	S	7.808	15.616	121.9297	8	975.4378
19	T	7.230	15.619	112.9254	21	2371.4328
20	U	Area as per P.Line		131.1720	1	131.1720
21	V	9.000	16.210	145.8900	1	145.8900
22	W	Area as per P.Line		134.7540	1	134.7540
					<b>281</b>	<b>32317.9546</b>

Checked subject to Comments in Supporting letter No. 1277/16 DP-2/15/2019 and notes Attached with the estimate

Executive Engineer (M) for Chief Engineer-I HSVP, Panchkula



Executive Engineer HSVP, Division Palwal

SUPERINTENDING ENGINEER HSVP CIRCLE, FARIDABAD

LEGEND		
	DOMESTIC WATER SUPPLY (DWS)	
	GARDEN HYDRANT TAP	
	TUBEWELL	
	TUBEWELL SUPPLY	
	FLUSHING SUPPLY	
	MUNICIPAL SUPPLY	

LEGEND		
NAME	COLOUR	MADE OF PIPES
DOMESTIC WATER SUPPLY	RED	SI PIPE
SEWER SUPPLY	BLACK	SI PIPE
FLUSHING SUPPLY	GREEN	SI PIPE
FLUSH WATER SUPPLY PIPE	BLUE	SI PIPE
GARDEN HYDRANT TAP	GREEN	SI PIPE

NOTES: - PLEASE INSTALL VALVE IN DOMESTIC & FLUSHING LINE AS PER SITE CONDITION

LAYOUT OF WATER SUPPLY LINE.

ARCHITECT'S SIGNATURE:

OWNER'S SIGNATURE:

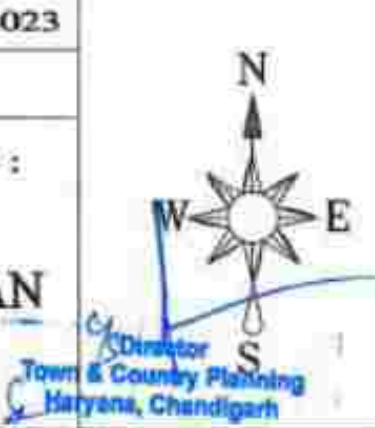
OWNER:- REVISED LAYOUT PLAN OF AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDIAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-6, DISTRICT-PALWAL BEING DEVELOPED BY ARTECH RESIDENCY LLP.

ARCHITECTURAL CONSULTANT: NIRMAN ARCHITECTS & INTERIOR DESIGNERS

DATE : 04-12-2023

SCALE :- NTS

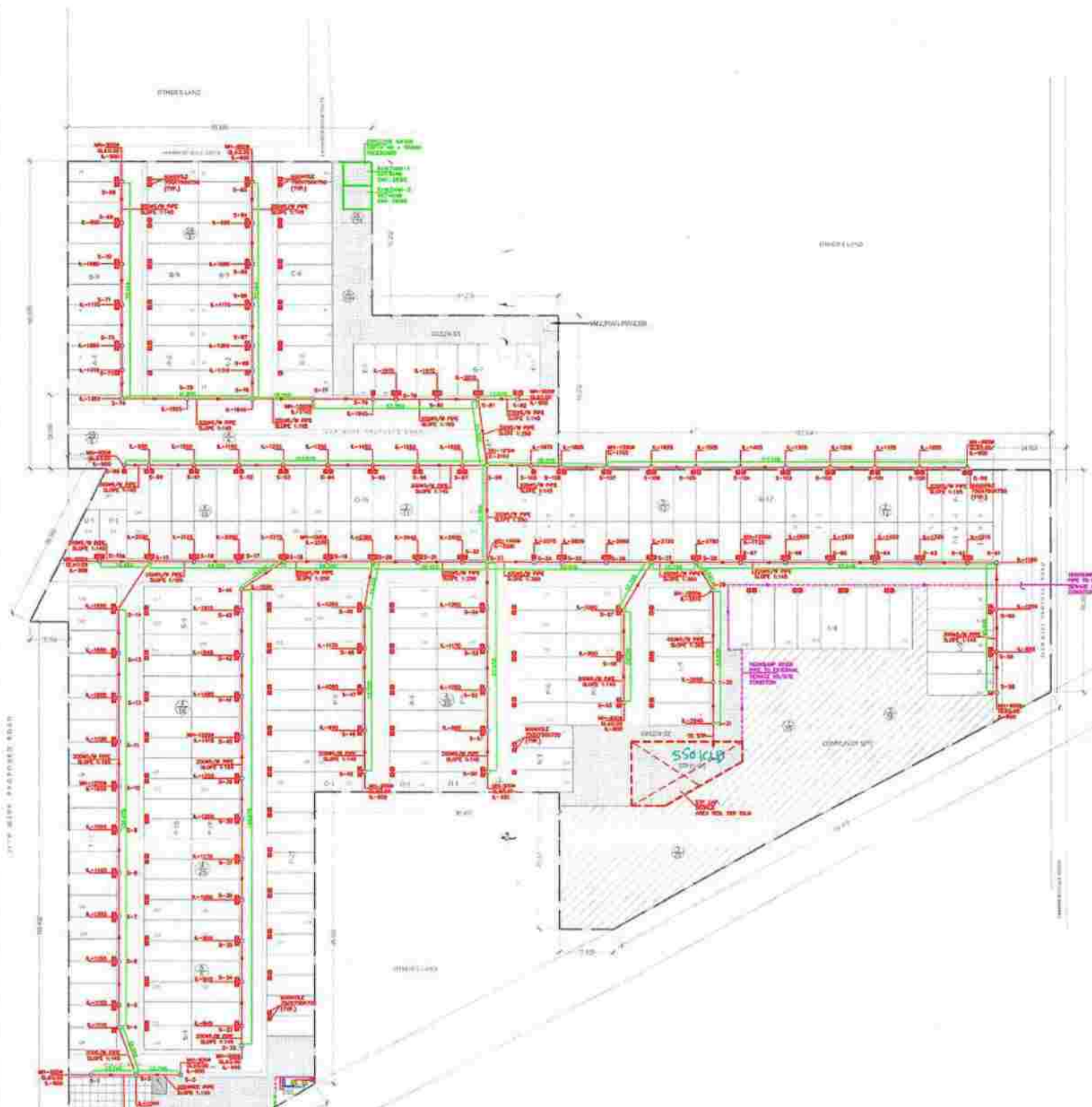
DRAWING TITLE : LAYOUT PLAN



This Revised Layout plan for an area measuring 14.41875 acres (Drawing No. DTCP-3339 dated 08-12-2023) comprised of licence which is issued in respect of Affordable Residential Plotted Colony (Under Doon Dayal Jan Awas Yojna) being developed by Arttech Residency LLP. in the revenue estate of Village Palwal and Post Khurd, Sector-6, District Palwal is hereby approved subject to the following conditions:-

1. That this Revised Layout plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
2. That the plotted area of the colony shall not exceed 65% of the net planned area of the colony. The entire area reserved for commercial purposes shall be taken as plotted for calculation of the area under plots.
3. That the demarcation plans as per site of all the Residential Plots and Commercial site shall be got approved from this Department and construction on these sites shall be governed by the Haryana Building Code, 2017 and the Zoning Plan approved by the Director, Town & Country Planning, Haryana.
4. That for proper planning and integration of services in the area adjacent to the colony, the colonizer shall abide by the directions of the DTCP, Haryana for the modification of layout plans of the colony.
5. That the revenue rasta falling in the colony shall be kept free for circulation/movement as shown in the layout plan.
6. That the colonizer shall abide by the directions of the DTCP, Haryana and accordingly shall make necessary changes in the layout plan for making any adjustment in the alignment of the peripheral roads, internal road circulation or for proper integration of the planning proposals of the adjoining areas.
7. That no property/plot shall derive access directly from the carriage way of 30 metres or wider sector road if applicable.
8. All green belts provided in the layout plan within the licensed areas of the colony shall be developed by the colonizer. All other green belts outside the licensed area shall be developed by the Haryana Urban Development Authority/colonizer on the directions of the Director, Town and Country planning, Haryana or in accordance with terms and conditions of the agreements of the licence.
9. At the time of demarcation plan, if required percentage of organized open space is reduced, the same will be provided by the colonizer in the licensed area.
10. No plot will derive an access from less than 9 metres wide road would mean a minimum clear width of 9 metres between the plots.
11. Any excess area over and above the permissible 4% under commercial use shall be deemed to be open space.
12. The portion of the sector/development plan roads /green belts as provided in the Development Plan if applicable, which form part of the licensed area shall be transferred free of cost to the government on the lines of Section 3(3)(a)(ii) of the Act No.8 of 1975.
13. That the odd size plots are being approved subject to the conditions that these plots should not have a frontage of less than 75% of the standard frontage when demarcated.
14. That you will have no objection to the regularization of the boundaries of the licence through give and take with the land that HSVP is finally able to acquire in the interest of planned development and integration of services. The decision of the competent authority shall be binding in this regard.
15. That the rain water harvesting system shall be provided as per Central Ground Water Authority norms/Haryana Govt. notifications as applicable.
16. That the colonizer/owner shall use only Light-Emitting Diode lamps (LED) fitting for internal lighting as well as Campus lighting.
17. That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No.22/52/2005-SPower dated 21.03.2016 issued by Haryana Government Renewable Energy Department.
18. That the colonizer/owner shall strictly comply with the directions issued vide Notification No. 19/6/2016-SP dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.

(PARVEN KUMAR) ID (HQ) (RAMANUJ) ATP (HQ) (SAMITA JINDAL) DTP (HQ) (SANJAY KUMAR) STP (HQ) (VISHAL) CP (HQ) (SANT KHATRI, IAS) DTCP (HR)



AREA STATEMENT		
Description	Area in Acres	Area in Smt.
Total Area of the Scheme	14.41875	58350.5184
(A) Proposed Area Under Plots @55.3859%	7.98595	32317.95460
Permissible Commercial Area @4%	0.57675	2334.02074
(B) Proposed Commercial Area Including Milk & Veg. Booth @2.0018%	0.28865	1168.10625
<b>Total Saleable Area (A+B) @57.3877%</b>	<b>8.2746</b>	<b>33486.06085</b>

GREEN AREA CALCULATION		
Required Green Area @ 7.50%	1.08141	4376.28888
PROPOSED GREEN AREA		
Organised Green Area		
Green-1	0.27236	1102.18166
Green-2	0.41914	1696.19882
Green-3	0.39040	1579.89376
<b>Total Proposed Green Area @7.5034%</b>	<b>1.0819</b>	<b>4378.27424</b>

AREA FOR PROVISION OF COMMUNITY FACILITIES		
Required Area @10%	1.44188	5835.05184
Proposed Area @10.0014%	1.44208	5835.89977

DENSITY CALCULATION	
Description	Nos.
Proposed Plots	281
Total No. of Persons Per Plot @ 13.5	3793.50
Permissible Density	240-400 PPA
Proposed Density (3793.50/14.41875 = 263.09492 say 263)	263

NOTE  
200/250mm dia S.W. PIPE  
300/400mm

PLOT AREA CALCULATION						
S.No.	Type of plot	Plot Size		Area of each plot (in Sq.mt.)	Total No. of Plots	Total Area of plots (in Sq.mt.)
		Width (in mt.)	Depth (in mt.)			
1	A	8.142	16.850	137.1927	6	823.1562
2	B	6.700	16.850	112.8950	34	3838.4300
3	C	6.700	18.000	120.6000	9	1085.4000
4	D	8.142	18.000	146.5560	2	293.1120
5	E	7.320	16.850	123.3420	2	246.6840
6	F	8.290	17.140	142.0906	3	426.2718
7	G	7.320	17.140	125.4648	33	4140.3384
8	H	8.289	17.140	142.0735	1	142.0735
9	I	8.289	12.570	104.1927	1	104.1927
10	J	8.290	12.570	104.2053	3	312.6159
11	K	7.320	12.570	92.0124	33	3036.4092
12	L	7.500	20.000	150.0000	14	2100.0000
13	L1	7.000	21.425	149.9750	5	749.8750
14	M	7.500	18.000	135.0000	12	1620.0000
15	N	7.301	20.000	146.0200	3	438.0600
16	O	6.603	15.616	103.1124	3	309.3373
17	P	6.700	15.616	104.6272	85	8893.3120
18	S	7.808	15.616	121.9297	8	975.4378
19	T	7.230	15.619	112.9254	21	2371.4328
20	U	Area as per P.Line		131.1720	1	131.1720
21	V	9.000	16.210	145.8900	1	145.8900
22	W	Area as per P.Line		134.7540	1	134.7540
					<b>281</b>	<b>32317.9546</b>

Checked subject to Comments in forwarding letter No. 168/166 Dt. 28/12/2023 and notes Attached with the estimate  
Executive Engineer (M) for Chief Engineer, HSVP, Panchkula

LAYOUT OF SEWERAGE LINE.

ARCHITECT'S SIGNATURE:  
*Kapil Manohar*  
KAPIL MANOHAR  
B. ARCH  
CA/2001/27053

OWNER'S SIGNATURE:  
For ARTTECH RESIDENCY LLP  
*Navin G.D.V.*  
Partner

OWNER:-  
REVISED LAYOUT PLAN OF AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDJAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-6, DISTRICT-PALWAL BEING DEVELOPED BY ARTTECH RESIDENCY LLP.

ARCHITECTURAL CONSULTANT:  
NIRMAN  
ARCHITECTS & INTERIOR DESIGNERS  
e-mail : nirmnarchitects@yahoo.com  
I-8, 1st FLOOR, SECTOR-10, D.L.F.  
PH. : 9811204088, 9810081088

DATE : 04-12-2023  
SCALE :- NTS  
DRAWING TITLE :  
LAYOUT PLAN

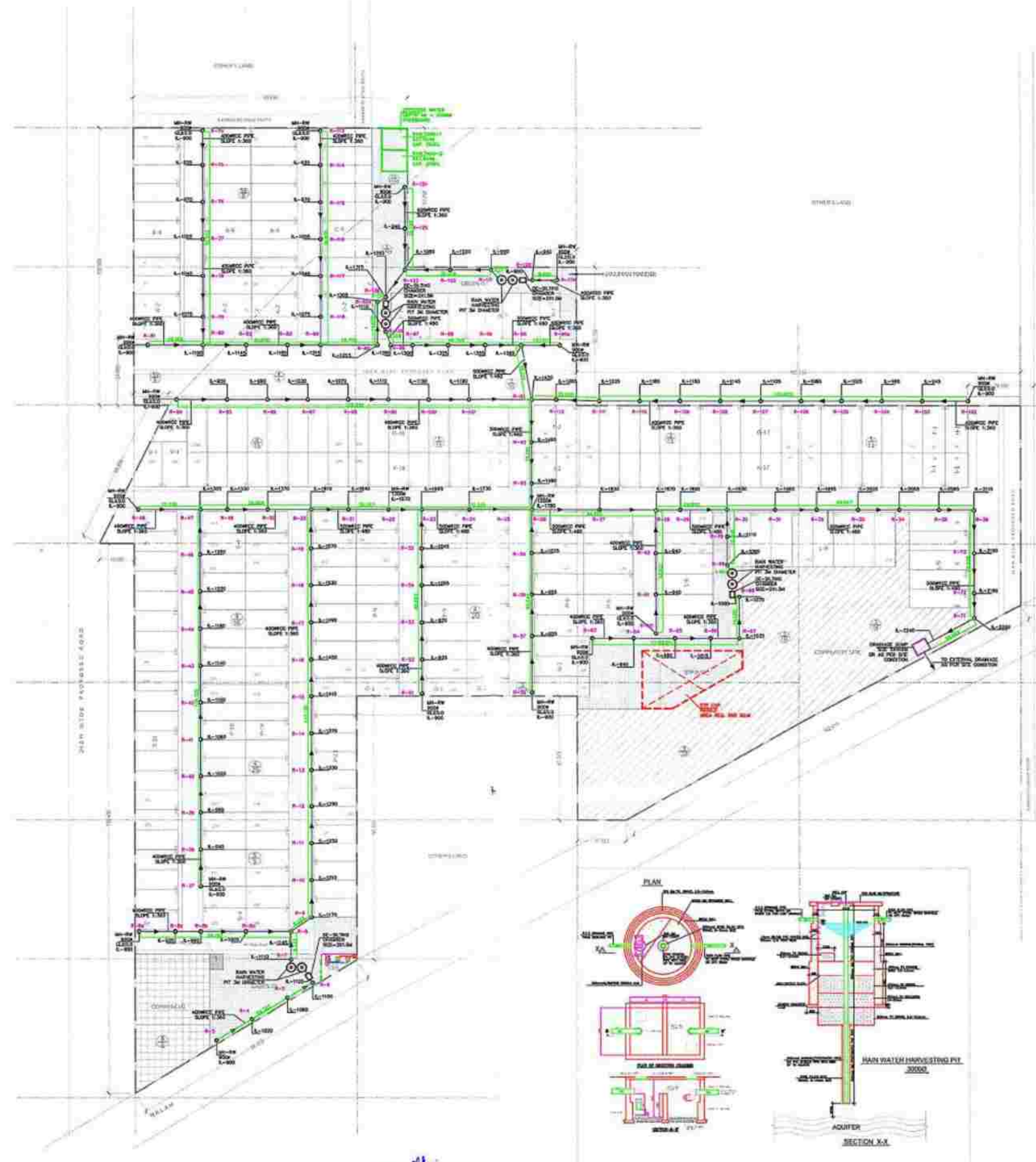
Director  
Town & Country Planning  
Chandigarh

Executive Engineer  
HSVP, Division Palwal  
SUPERINTENDING ENGINEER  
HSVP CIRCLE, FARIDABAD

This Revised Layout plan for an area measuring 14.41875 acres (Drawing No. DTCP/19/288 dated 02-12-22) comprised of licence which is issued in respect of Affordable Residential Plotted Colony (Under Deen Dayal Jan Awas Yojna) being developed by Arttech Residency LLP. In the revenue estate of Village Palwal and Patti Khurd, Sector-6, District Palwal is hereby approved subject to the following conditions:-

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2. That the plotted area of the colony shall not exceed 65% of the net planned area of the colony. The entire area reserved for commercial purposes shall be taken as plotted for calculation of the area under plots.
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16. That the colonizer/owner shall use only Light-Emitting Diode lamps (LED) fitting for internal lighting as well as Campus lighting.
17. That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No.22/22/2005-5Power dated 21.03.2016 issued by Haryana Government Renewable Energy Department.
18. That the colonizer/owner shall strictly comply with the directions issued vide Notification No. 19/6/2016-5P dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.

(PARVEEN KUMAR) AD (HC) (RAMAN) ATP (HC) (SAVITA JINDAL) DTP (HC) (SANJAY KUMAR) STP (HC) (RUPESH) CTP (HC) (ARUN KHATRI) IAS) DTCP (HR)



AREA STATEMENT		
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Proposed Density (3793.50/14.41875 = 263.09492 say 263)	263	

NOTE  
400/300 mm dia SEC NR. 1 PIPE

PLOT AREA CALCULATION						
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22	W	Area as per P.Line		134.7540	1	134.7540
					<b>281</b>	<b>32317.9546</b>

Checked subject to Comments in forwarding letter No. 19/2/2022 Dt. 22/10/2022 and notes Attached with the Estimate

Executive Engineer (M) for Chief Engineer-I HSVP, Panchkula

LAYOUT OF DRAINAGE LINE.

ARCHITECT'S SIGNATURE:  
  
 KAPIL MANGAL  
 B. ARCHT.  
 CA/200127953

OWNER'S SIGNATURE:  
 For ARTTECH RESIDENCY LLP  
  
 Mark Chav  
 Partner

OWNER :-  
 REVISED LAYOUT PLAN OF AFFORDABLE RESIDENTIAL PLOTTED COLONY (DDIAY) OVER AN AREA MEASURING 14.41875 ACRES IN SECTOR-6, DISTRICT-PALWAL BEING DEVELOPED BY ARTTECH RESIDENCY LLP.

ARCHITECTURAL CONSULTANT:  
**NIRMAN**  
 ARCHITECTS & INTERIOR DESIGNERS  
 e-mail : nirmanarchitects@yahoo.com  
 I-8 , 1st FLOOR , SECTOR-10, D.L.F.  
 PH. : 9811204088, 9810081088

DATE : 04-12-2023  
 SCALE :- NTS  
 DRAWING TITLE :  
**LAYOUT PLAN**

North Arrow pointing North (N), South (S), East (E), West (W).  
 Director, Town & Country Planning, Haryana, Chandigarh

Executive Engineer HSVP, Division Palwal

SUPERINTENDING ENGINEER HSVP CIRCLE, FARIDABAD