

**DETAILED PROJECT REPORT  
OF GROUP HOUSING RESIDENTIAL PROJECT AT  
VILLAGE PHOLRIWAL, DISTRICT JALANDHAR  
NAME OF PROJECT: JALANDHAR HEIGHTS-2**



**PROMOTORS**

**AGI INFRA LTD**

**66 Ft. ROAD, PHOLRIWAL,  
NEAR URBAN ESTATE-II,  
JALANDHAR**

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# **PROJECT REPORT OF GROUP HOUSING PROJECT**

## **VILLAGE PHOLRIWAL, DISTT. JALANDHAR**

### **ABOUT AGI INFRA LTD**

**AGI INFRA LTD is an existing public limited company engaged in construction and development of group housing and other commercial projects in Jalandhar.** Mr. Sukhdev Singh S/O Mr. Inder Singh is the Managing Director of the Company. Since its inception more than 1 decade ago, has carved a niche in the field of real estate development and construction. For over two decades, the promoter has consistently set quality benchmarks in property development by creating townships and commercial space, in prime locations. The company's ability to meet the special requirements of the real estate market and clients stems from the strong foundations of professionalism.

AGI INFRA LTD. have formed with strategic vision to cater the housing needs of individuals to provide its customers one brand, one standard, one uniform quality and one value system , anywhere in the state of Punjab, with an end to end housing solution system. The Promoter is expected to harness the vast housing potential of Punjab.

### **ABOUT THE GROUP HOUSING RESIDENTIAL PROJECT**

#### **Scope of the developers in small cities:-**

Most of the developers are first generation entrepreneur who start these project because of their enterprising abilities. The main source of funds are from the developer, from the bank in the form of project loans and the advances from the customers. Developers having a good reputation in the market get good advances from the customers which forms a good source as a means of finance. However the banks are very rigid in advancing loans to the developers especially in small cities. If the developer himself is the builder, a lot of funds is also required to build up the infrastructure in the form of machinery, shuttering, manpower and

automated heavy construction machines. To construct highrise buildings very special kind of infrastructure is required. As the initiation start with meager resources, next project is undertaken on the completion of the previous project only. Though the graph of the company always shows a rising trend but the speed is slow.

In the present scenario, there are number of companies which are doing good business. One can say that these are the start ups companies in real estate which are doing good volume of business. Moreover the enterprising nature of some of the developers are putting these companies on the path of success. There is one such company namely '**AGI Infra Limited**' is doing very good business. Brief profile of the company is as under:-

### **COMPANY PROFILE:**

AGI Infra Ltd. is a renowned name in the field of construction and development. The company was formed in the year 2005 with name and style of 'G. I. Builders Private Limited'. With the increase in the activities of the company the name was changed as "AGI INFRA LIMITED". During the period the Company has carried out many prestigious projects for eminent customers which includes construction in Lovely Professional University, Punjab Agriculture University, BBC Heartcare , projects of Jalandhar Development Authority etc.

For carrying out projects company has a committed team of persons which includes the educated and experienced person from all walks of life. The construction works are managed & executed by a team of well qualified AGI engineers. Our motto is Quality, Timely Delivery of Works and Client Satisfaction. This can be seen from the projects executed by the Company.

The AGI Group has in-house construction team with its own equipment and machinery to undertake self-owned projects as well as contractual works. Company has done tremendous work in high-rise buildings.

In the year 2007 company launched a group housing project at Phagwara comprising of 78 flats. The public response was very good. The total project was completed within one and a half year. All the flats have been sold and there is no inventory pending.

AGI Infra Limited gained enhanced popularity with successful completion and handing over of 297 flats in a prestigious project of the company in the name of Jalandhar Heights. Another 301 flats in phase II of Jalandhar Heights has already been completed.

Keeping in view the demand from public, company further started construction of about 427 flats comprising in 8 towers out of which four towers have been completed and completion certificate has been obtained. Balance flats are under construction and likely to be delivered in the month of December, 2017.

Further in order to the demand from middle class income group company launched another project Jalandhar Heights-2, which is comprising of 689 flats including the 64 flats for Economic Weaker Section.

Prime Minister of India launched a scheme known as Prime Minister Awas Yojna. Under this scheme Govt. of India is committed to provide Housing for all by the year 2022. Under this scheme Govt. Launched various incentives for the First Time House Buyers which will boost the demand for housing from Public. Also in line with the policy of Central Govt., Govt. of Punjab notified the policy for Affordable Housing 2016. Under the policy, Stress is given on the small size houses. Keeping in view the demand from lower income group, we have designed a project for affordable houses.

**Brief detail of the projects undertaken by the company is as under:-**

<b>Name of the Project</b>	<b>No. of Flats</b>	<b>Type of Flats</b>	<b>Sanctioned by</b>	<b>Status of the project</b>
G.I. Apartments	78	2/3 BHK	Municipal Corpn.	Completed
Jalandhar Heights-I, Phase-1	297	4 BHK	JDA	Completed
Jalandhar Heights, Ph-2	389	3 & 4 Bhk	JDA	Completed
Jalandhar Heights, Ph.-3	423	4 & 5 Bhk	JDA	Partially Completed
AGI SMART HOMES at Pholriwal	936	2 BHK	JDA	Under Construction
AGI Palace	90	4 BHK	JDA	Under construction

**Proposed Project:-**

**(Jalandhar Heights-2 under expansion)**

**Existing Before Expansion:-**

**Jalandhar Heights 2 (Existing 689 flats 172 flats 2 Bhk, 168 Flats 3Bhk, 4 Bhk, 64 flats 1 Bhk under EWS)**

**Proposed after expansion**

**172 flats 2 Bhk, 3Bhk 558 Flats, 4 Bhk 533, 1 Bhk 127 Flats under EWS**

## **VISION & MISSION**

- To create niche in the real estate space looking beyond steel and concrete to redefine life and lifestyle.
- To rise the benchmark of excellence by creating in the state of Punjab, commercial and residential landmarks that are at par with prestigious addresses across the globe.
- To achieve best quality standards through cutting edge value engineering and intelligent resource management.

### **Projects Completed:-**

#### **1. G.I. Apartments:-**

G.I. Apartments a Group Housing Project at Phagawara comprising of 78 units. All the flats have been sold with zero inventory.

#### **2. JALANDHAR HEIGHTS-I:-**

Jalandhar Heights, Phase-I in Jalandhar is a residential Group Housing Project comprising of 9 towers of 297 units. Project was launched for construction on June 2011 and was completed by June 2014. Project loan of Rs. 16.00 crores was raised from PNB Bank which stands repaid in time. Company has already constructed 297 flats comprising of 9 block from A to I Block. All the flats has already been sold and 70% of the flats owners have already moved in flats.

#### **3. JALANDHAR HEIGHTS, Phase-II:-**

Keeping in mind the demand from the public, Company started

construction of another residential group housing project namely JALANDHAR HEIGHTS, Phase-II, just adjoining the Jalandhar Heights-I. It has already been completed and possession of about 200 flats has already been given and the possession of Balance flats will be delivered by the end of March 2017. There are 301 flats in Phase-2 comprising of Seven Towers from J to P. Two towers are of 4BHK flats and 5 towers are of 3BHK flats.

About 90% of the flats have already been sold and the company has started giving possession since March 2016. Company has raised project loan of Rs. 21.00 Crores for construction of this project. Company has already repaid the loan as per schedule. In construction of Jalandhar Heights, Phase -2 company has provided all the facilities as have been mentioned above. Most of the buyers are friends and relatives of our residents in Jalandhar Heights-Phase-I.

The housing project includes following features:-

- a) optimum Space Management
- b) Residence Club & Restaurant
- c) Swimming Pool and Gymnasium
- d) Badminton and Basketball court
- e) 24 hour 3 tier security arrangement
- f) Convenient Shopping
- g) Bank Branch outside the premises
- h) Ample Parking Space
- i) Earthquake Resistant Structure
- j) Two high speed lifts to each block

After the successful completion of Jalandhar Heights, Phase-1 and Jalandhar Heights, Phase-II, Company started the expansion by starting construction of Jalandhar Heights, Phase-3. Total number of flats are 384 in 8 Blocks..

### **Jalandhar Heights, Phase- III:-**

Company has noticed that People' demand is for big flats having four to five bedrooms. It is comprised of 8 towers. It is situated adjoining to the Jalandhar Heights-Phase 1 and Jalandhar Heights-Phase 2. The project is comprised of 384 premium class flats being built in 8 towers from Q, R, T, U, V,W,X AND Y. The housing project Includes 4 bed room and 5 Bed Room Flat having area of 2300 Sq. Ft. and 3000 Sq. Ft. respectively. All the facilities are being provided in the proposed flats. Company has raised a loan of Rs. 25.00 Crores for the construction of Project. Out of the total eight towers 4 towers has been completed and the construction of balance towers are in full swing. About 80% of the flats have already been sold and the company has started giving possessions of the flats.

### **AGI Business Centre:-**

The company has also completed a commercial project namely 'AGI BUSINESS CENTRE' in the heart of the city. It is located just adjoining the city bus stand. It is comprised of 69 shops and offices. There will be food court on the top floor of the building which will have many unique features. Each office/shop is visible from the road. Two high speed lifts are installed. It has become a hub for travel business, foreign exchange business and overseas study programmes. Company has adopted lease and outright sale model. Many prestigious giants have already moved in the business centre. The building is being maintained by the company and its common areas



like reception lobby, bathrooms and urinals, interior lighting etc are being maintained by the company itself. The inner lobbies and reception lobby are fully air conditioned.

## **ABOUT THE SMART HOMES AT PHOLRIWAL**

### **AGI SMART HOMES**

Considering the demand of the Middle income group, company launched A Project namely AGI Smart Homes. Company acquired a piece of land measuring 7.244 Acres at village Pholriwal just adjoining the other projects of the Company. The project approval has been filed with the Jalandhar Development Authority, Jalandhar under the policy for affordable houses 2016. Moreover the project has been designed in such a way that it falls in line with the affordable houses definition of Centre Govt. Under this project people will have a meaning full living by paying small amout. The project is designed on the land situated at village Pholriwal having area of 7.244 Acres. Total no. of flats designed under the project are 936. Company has started the construction in the month of April 2017 and it will be completed with in the period of two and a half year. It will be completed by September, 2019.

60' wide approach road and minimum 20' wide setback roads have been proposed all around all the housing towers/blocks. Project is situated at Proposed 22' wide road which is proposed to be widened to 80' under the Notified Master Plan. It will provide better accessibility to the project.

Company has got the sanction from the PWD department in respect of the accessability of the road for approach to the project.

## **ABOUT THE SMART HOMES AT G.T. Road**

### **AGI SKY GARDEN**

Keeping in mind the policy of Govt. for Housing for All by 2022, Company launched a project under affordable segment at Village Pholriwal, Jalandhar. Keeping in view the demand from the public Company acquired a land measuring 12.5 Acres approx at village Khazurla, Tehsil Phagwara, District Kapurthala. The land is just adjacent to the Haveli restaurant at G.T. Road, Jalandhar. Company has proposed to build 1274 flats having built up area of 820 Sq. Ft. (Carpet Area of 59 Sq. Mt.) Moreover the project has been designed in such a way that it falls in line with the affordable houses definition of Centre Govt. Under this project people will have a meaning full living at a very reasonable price. The project is designed on the land situated at village Khazurla having area of 12.50 Acres approx. Company proposes to start construction in the month of January , 2018 and it will be completed with in the period of two and a half year i.e. by June, 2020. The proposed land has the access of 148' from the main G.T. Road.

Company has applied to the NHAI to get an access to the project and the provisional sanction may be obtained with in two months time. Proposed land is in conformity with the Master Plan and it is a residential zone.

### **ABOUT THE AGI PALACE:-**

Keeping in view the demand from public the company has proposed to construct two blocks comprising of high end flats of 4BHK. Land in the project is 2.18 Acres. Total number of flats are 90 in numbers. Company proposed to start construction in the month of March , 2018 and it will be completed with in the period of two and a half year i.e. by December, 2020. The proposed project has the access of 60'-6" from the main 66' Road.

Company has applied to the PWD to get an access to the project and the provisional sanction may be obtained within two months time. Proposed land is in conformity with the Master Plan and it is a residential zone.

### **PROPOSED PROJECT:-**

#### **JALANDHAR HEIGHTS-2:-**

Keeping in view the demand from public, Company acquired a land measuring 10.305 Acres where in 689 flats of 2, 3 & 4 Bhk was planned. The project was approved by JDA and PBIP and it is under construction. Environmental clearance has been obtained by the competent authority. Now the company has acquired an additional land measuring 11.894 acres adjoining the Jalandhar Heights -2. Now the total land area comes to 21.879 Acres after area left for road widening.

The total built up area is proposed to about 35,70,878 Sq. Ft.

### **ABOUT ARCHITECTURAL/SERVICES DESIGN OF THE RESIDENTIAL PROJECT**

Project is conceptualized inhouse by creating design by the inhouse architect. All the statutory rules and laws as per the Papra Act are taken care while creating the conceptual design of the Existing and Proposed Project. All the service designs are also prepared inhouse by the architect team. Structural drawings are prepared by M/s Spantech consultants.

### **OUR COMMITMENTS**

1. No development works shall be under taken by us at site without obtaining

- permission under PAPR Act 1995 from the competent authority. The development of the township shall be done in phased manner.
2. The development works shall be carried out by us after obtaining demarcation/ getting the road formation levels/ x-sections approved from Competent Authority.
  3. Confirmation regarding alignment/width and depth of water supply lines, sewerage lines if any shall be got conformed by us with the external development work being carried out by the competent authority and Municipal Corporation.
  4. NOC from Punjab Pollution Control Board shall be obtained by us under Water Prevention and Control of Pollution Act 1970, Municipal Solid Waste Management and Handling Rules 2000 or any other relevant Act.
  5. Minimum buffer of 90 metre green belt of Board leaf trees shall be provided by us towards air polluting industries if any.
  6. Final/confirmed NOC from Punjab State Power Corporation Ltd. shall be obtained by us before start of electrification work.
  7. No construction shall be done by us under HT/LT electric lines.
  8. Rain water reverse bore harvesting system shall be provided by us for disposal of rain water.
  9. We shall comply all terms & conditions of CLU already obtained and to be obtained from the regulatory authority.
  10. No forest land is there, hence no permission is required from Forest Department. Permission from Forest Department as well as regarding entry from Kadia Wali-Urban Estate Jalandhar Road has already been applied and under the process. No specific forest zone is situated and only for access to project permission is required from the Forest Department.

## **ABOUT CLU & AREA DISTRIBUTION**

The area under project is in residential zone and is in conformity with the Local Planning Area.

### **PARKING**

In order to provide parking to the residents a Basement, Stilt and Ground floor will be

used. Provision of parking has been provided as per the requirement under the PAPRA act. Total provision of 2782 ECS has been made.

### **GROUND COVERAGE**

As per the Policy 30% of the total land can be covered. But in order to have better greenery in the project only about 23.67% area is covered under ground coverage. Balance land will be for greenery, roads and other facilities in the residential complex.

### **GREEN BUILDING**

Project will be got approved as a Green Building. As per the PAPRA Act 5% FAR is available free of charge for the projects approved as Green Building. The benefit under the scheme is being taken by getting this project approved as Green Building.

### **FAR**

As per the PAPRA act the eligible FAR will be 2.5:1. Additional FAR @5% of the total FAR area can be achieved being the Green Building if it is approved by the GRIHA. It has been undertaken to construct it as per the green building regulations.

### **POLLUTION CONTROL**

Consent to establish and Environmental Clearance in respect of the existing project has already been obtained. A fresh consent to operate will be taken after obtaining the Environmental Clearance from the competent authority.

### **Green Area**

As per the Act minimum 20% of the total area will be developed as an organized green. In the conceptual layout plan it is ensured that 22.87% area will be kept as green.

### **ABOUT BUILDING PARAMETRES**

Maximum height of all buildings to be constructed in this Township shall be of around 190 Ft. As our project is situated in Jalandhar there is no air port in Jalandhar and

nearby area. However the building shall be subject to clearance from Fire Safety Norms. Traffic Management rules will also be taken care for providing In and Exit of cars for parking.

Keeping in view the height of the building setbacks will be provided for 16 meters.

The Road formation levels and cross sections shall be got approved by us from the competent authority. Plinth Level of all the buildings shall be kept minimum 1'-6" above the finished level of road/ street. Where the Building Rules are silent & stipulate no condition or norms the building Bye-laws issued by NBC shall be followed.

Electrification shall be carried out as per design/ specifications approved by Punjab State Power Corporation Ltd. The Layout of the Electrical scheme / load shall also be got approved from Punjab State Power Corporation Ltd. before execution of work as per their norms/ specifications.

All Development works shall be executed strictly as per NHAI specifications/ norms laid down in PWD (B&R) Manual and JDA/ MOST Specifications. All building materials confirming to BIS /ISI Code with latest amendments shall be used.

Prior approval of Punjab Pollution Control Board shall be obtained by us for reuse of treated sewage water in regards to its suitability /norms, in flushing, gardening, washing of vehicles, dual plumbing etc.

The Rain water Harvesting Structures for disposal of storm waters shall be provided by us as per the design approved by Central Ground Water Board.

Efforts shall be made to reduce Energy Consumption in the Township, thereby to contribute reduction of Green House gases. Efforts shall also be made to cut down on Transportation in the Township, thereby to contribute ambient air quality. Environment friendly Houses shall be built to promote livelihoods.

The Township shall be developed as a single unit and not bifurcated into segments /portions. Revenue Rasta passing through the site shall be maintained and no construction shall be done under 66KV & 11KV High Tension Lines passing through the site unless the same are shifted with permission of Punjab State Power Corporation

Ltd. As we are giving the External Development Charges, JDA has vowed to provide the external services like road, electricity, sewerage etc. However in order to connect with the basic services we will make our own arrangement for Independent Water , Sewerage and install the Sewage Treatment Plant and shall also ensure smooth supply of Electricity and other requisite services in the colony at our own cost , the cost of which has been included in this estimate . We shall also provide Rainwater reverse bore harvesting system for the disposal of storm water, the cost of which has been included. The storm water drainage and sewerage of this Township shall be connected by us at our own cost with the Municipal Services as and when the same are laid and also provide water supply and Sewerage services to the project at our own expenses till it is integrated with the services of MC.

Also Solar panels will be installed to generate power to cater to the common area requirements of the society.

The electrical work shall be carried out by us as per Indian Electricity Rules 1956 (with up to date amendments) & as per design to be approved from Punjab State Power Corporation Ltd. before start of work at site. No construction shall be done under the HT Lines. All LT Lines shall be got shifted at our cost.

## **OUR OTHER COMMITMENTS**

We shall further be responsible for

1. Providing good quality work/workmanship as per PWD / CPWD / JDA specifications
2. Proper disposal of Storm Water / Sewerage
3. Keeping the plinth of buildings & road crown levels w.r.t H.F.L (Highest Flood Level) & other hydrological conditions.
4. Complying the observations raised by XEN PWD (B&R) and Drainage Department if any.
5. Providing Portable drinking water in the township.
6. Fire safety measures as per BIS norms & Lifts/ staircases as per PUDA / JDA norms.
7. Deputing a dedicated qualified and well experienced, quality surveillance team to ensure the quality of works as per laid down standards, IS and other

- relevant codes/ specifications and testing of materials etc.
8. No litigation regarding land in the court of law.

## **ABOUT ROAD SPECIFICATIONS**

Metalled roads as per approved road cross sections / MORT specifications shall be built by us in the township as per following specifications.

### **Roads 20', 60' wide:-**

1. Earth work in cutting / filling shall be done on average basis.
2. Preparation of sub-grade shall be done to maintain DBD of the roads in filling / cutting.
3. 225 mm granular sub-base with 225 mm thick graded stone aggregates WETMIX in two equal Layers 4" compacted to 3" including 50 mm Bituminous Macadam & 20 mm thick Premix.
4. Surface painting with the bitumen 60/70 grade 1<sup>st</sup> coat.
5. Provisions of PCC kerbs and channels / Brick on edging as the case may be.
6. The overall crust thickness of metal shall not be less than 225 mm.

## **GENERAL NOTES ABOUT ROAD WORK**

1. The formation levels of the roads to be built in Township shall be got approved from SE JDA and permission obtained from National Highway Authority before undertaking works at site.
2. While laying of existing roads, the construction of shoulders shall be done along side with pavement layers i.e. sub-grade/sub-base/wearing coarse to provide lateral support to pavements layers and to ensure proper compaction of the beams and non-wearing of the edges of the existing roads.
3. Full width of bituminous layer be laid in single operation and the bituminous joints



shall be made strictly as per MORT & H specifications, reproduced as under:

Longitudinal joints shall be made in pre-mixed bituminous materials and the same shall be fully compacted and the joint made flush in one of the following ways, only method (iii) shall be used for transverse joints:

- i. By heating the joints with an approved joint heater when the adjacent width is being laid, but without cutting back or coating with binder.  
The heater will raise the temperature of the full depth of material, to within the specified range of minimum rolling temperature and maximum temperature at any stage for the materials, for a width not less than 75mm. We shall also have equipments available, for use in the event of a heater breakdown, to form joints by method (iii).
  - ii. By using two or more pavers operating in echelon, where this is practicable and in sufficient proximity for adjacent widths to be fully compacted by continuous rolling.
  - iii. By cutting back the exposed joint, for a distance equal to the specified layer thickness, to a vertical face discarding all loosened materials and coating the vertical face completely with 100 penetration grade hot bitumen or cold-applied bitumen or polymer modified adhesive bitumen tape with a minimum thickness of 2mm before the adjacent surface.
4. All joints shall be having offset at least 300mm from parallel joints in the layer beneath. Joints in the wearing course shall coincide with either the lane edge or the lane marking, whichever is appropriate. Longitudinal joints shall not be situated in wheel track zones.
  5. Provision of surface dressing/one coat shall be made on WBM surface instead of using emulsion prime coat.
  6. Use of Wet Mix Macadam (WMM) shall also be made as base coarse since WMM has definite advantages over WBM with regard to mechanical lying, mix preparation at computerized plant and speed of work etc. However roads shall be opened to traffic lying of subsequent layers on roads having width up to 6.7 metres.
  7. Provision of kerbs shall also be made to maintain longitudinal profile, cross profile and regular camber of roads.

## **ABOUT GROUP HOUSING SPECIFICATIONS**

Under the scope of Group Housing blocks of identical sizes shall be constructed by us as a RCC frame structure designed for one step higher earth quake zone. The basement shall also built by us in RCC with adequate arrangement for disposal of water from the basement, if any. All kinds of brick work shall be constructed in cement sand mortar 1:7 in foundations and 1:5 in super structure. All roofs shall be made of RCC and flooring of Vitrified Tiles except in basement where conglomerate flooring shall be done. Aulakh wood shall be used for doors. UPVC windows and sliders will be used in flats keeping in view lesser use of wood in construction. All public Health and Electrical fittings shall be ISI Marked. Adequate arrangement for firefighting shall be made by us as per National Building Code.

## **SPECIFICATIONS OF PUBLIC HEALTH SERVICES**

Under the scope of Public Health Services, independent water supply, Sewerage System and storm water drainage through Artificial Ground Water Recharge System has been proposed for this Township. Broadly the water requirement of water has been worked out considering 5 persons per flat for residential purpose. As per recommendations of Central Public Health Engineering Organization, the total requirement of water has been calculated by considering a demand of 200 litres per day for single person for residential purpose, 3.5 litres for each student in School. The source of water supply will be from deep tube well to be installed within the site itself. The water pumped from the deep tube well shall first be pumped into UGSR and then for creating the requisite static head. Generating set of suitable capacity will be provided to act as standby arrangement. For rising mains as well as distribution network the centrifugally cast iron ductile pipes with tyton joints have been proposed. The provisions for S.V.'s, Air Valves & Fire Hydrants have been made as per norms.

## **WATER SUPPLY**

Water supply lines of PVC pipes (ISI marked) of minimum 4" i/d along with all specials and sluice valves, fire hydrants etc. shall be laid by us in the Township.

Provision of two 150 mm dia straight tube wells capable of giving discharge @ 10000 gallons per hour to meet the daily water requirement, Sintex PVC Tanks of suitable capacity supported on steel structure with provision of chlorination plant and bye pass arrangement will also be made.

## **SEWERAGE SYSTEM**

For designing the Sewerage Scheme, it has been assumed at 75% of the total water requirement will reach the Sewerage Network and a design factor at the rate of 3 times of DWF has been taken into account. The complete network has been designed by using S.W. pipes of appropriate size (minimum size of SW pipes has been considered as 8" as per Punjab PWD norms) and by considering half running full, with a self-cleaning velocity of 2.5 feet per second.

AGI INFRA LTD shall be making its own arrangement for door to door collection of garbage and transportation to the nearest dumping site of Municipal Corporation and then the Municipal Corporation shall lift the garbage from collection centre. The sewerage system laid inside the complex will be integrated with the sewerage line laid by the JDA at the doorstep of complex.

## **STORM WATER DRAINAGE**

Heavy rainfall occurrence cause severe flooding, resulting in disruption to the Urban Infrastructure. Thus there is an urgent need to implement State-of-the-Art Technology to minimize the damage, by making drainage system more efficient. Moreover rain harvesting measures implemented during the monsoon season, offers a viable alternative to the present water crisis. Rain water harvesting, is the simplest technology being practiced in India for centuries. The concept involves collection of rain water in artificial tanks through bore-wells. It raises the ground water table and improves the quality of ground water and also reduces soil erosion. The only disadvantage is that it requires periodic/ pre-monsoon maintenance and involvement of user for its monetary.

Govt. of Punjab has made it mandatory to provide Artificial Ground Water Recharging in all the colonies. Moreover since Trunk Storm Sewer has not been laid by JDA or

MC along main road, the only remedy left to take care of storm water drainage is Artificial Ground Water Recharging. As mentioned above, the soil strata in this area it is about 40% sandy and spring level is approximately 30 metre below ground level, which as per the enquiry made from, the office of Central Ground Water Board, remains more or less same throughout the year. The percolation of water is quite high. Moreover, the rainfall intensity in this area is moderate. The hourly rainfall intensity is generally 15 mm per hr. As such for purpose of designing the system rainfall intensity of 15-20mm/hour has been considered.

RCC Hume pipe storm water drainage system shall be provided on the basis of design calculations. Minimum dia of RCC pipe shall be 250mm. Road gullies, manholes etc shall be provided as per requirement.

Four Reverse bore wells 300 mm dia width use of 150 mm size MS pipes/SS Strainer along with one round RCC Rain Harvesting Structure of 4000 mm internal dia and 3800 mm deep for each well along with network of RCC pipes and road gullies to drain the water up to rain harvesting structure shall be provided as per guidelines of Central Ground Water Board.

## **SEWAGE TREATMENT PLANT (STP)**

The firm will install a treatment plant of required capacity to treat the sewage water and reuse it for dual plumbing, greenery and other uses. Surplus water will be disposed in the sewer maintained by the Corporation by laying a sewerage line upto the MC sewerage. However a portion of the water will be treated in house in order to reuse it for greenery, dual plumbing, car washing etc.

## **ELECTRIFICATION**

The connected load has been worked out as per norms approved by Punjab State Power Corporation Ltd and total connected load by applying a demand factor of 0.33 with increase of 40% for future expansion. 11 KV overhead lines shall be running on 9 m PCC Poles adequately spaced so that conductors do not sag beyond permissible limits. XLPE Cables shall be 3x185mm<sup>2</sup> size aluminum conductor as per site requirement to the satisfaction of Punjab State Power Corporation Ltd. All provisions shall be made by us in view of required electric load as per prescribed standards.

Transformer wise load distribution statement has been appended in this estimate for seeking approval from Punjab State Power Corporation Ltd. Provision of aluminium conductors and all other relevant accessories has been made in the estimate. Two transformers of 500 KVA capacity copper wound have been proposed in this township. These transformers shall be mounted on cement concrete pole structure duly braced and properly earthed Provision of GO Switches, HT Fuse system and lightening arrestors shall also be made by us.

The distribution of power shall be done on 230/415 volts. LT Lines shall be laid on the roof of basement at cable trays etc. on 8 m PCC Poles with 48 mm<sup>2</sup> ACSR for phase conductors and 30 mm<sup>2</sup> for neutral conductor underground LT cable. Supply from transformer to LT Poles shall be taken by means of adequate size PVC/XLPE insulated aluminium conductor cables. Provision of Bus Bars for connecting supplies to energy metres as well as feeder pillars shall also made by us for the houses on other side of the road.

Street lightning system has been designed as per relevant IS Code and latest engineering practice enforce. 150 Watt HPSV metal halide Lamps shall be provided on 7.5 m independent steel tubular poles on 60' wide road and 40 watt tube fittings on 35' wide road. 70 watt HPSV fittings shall be provided on 4.8 m fancy poles in the parks. Cost of decorative poles with pole top mounting metal halide lamp fixtures/CFL fixtures for campus lightning of Commercial Parking areas shall also be borne by us.

## **HORTICULTURE/LANDSCAPING WORK**

Provision of road side trees @ 30' c/c one side of roads of 35' width and on both sides of roads for roads having width 80' and above has been made by us. An area of 113579 sqft has been reserved for the development of one spacious Park-A , Playing of children and recreational activities etc apart from other green area of about 28871 SFT.

The state of the art landscaping shall be done in the Township. Provision of Musical Fountains, Superior quality ornamental trees , Shrubs has been made. Inter-lockable pavers shall be used for pavements inside the parks; a separate space will be allocated

for children swings. Tree guards with MS railing shall be provided around the parks and shrubs.

### **Cost of Project:-**

**Project Name:- Jalandhar Heights-2, Pholriwal, Jalandhar**

<b>No. of Towers</b>	Proposed 22
<b>No. of Flats</b>	1390

### **COST OF PROJECT:-**

S. NO.	PARTICULARS	AMOUNT (Rs. in Crores)
1.	LAND	13.00
2.	APPROVAL CHARGES	9.00
3.	CONSTRUCTION CHARGES	320.00
4.	MISC. EXPENSES	20.00

5.	INTEREST DURING CONST.	18.00
	<b>TOTAL</b>	<b>380.00</b>
<b>MEANS OF FINANCE</b>		
1.	PROMOTERS' CONTRIBUTION	95.00
2.	BANK LOAN	85.00
3.	ADVANCES FROM CUSTOMERS	200.00
	<b>TOTAL</b>	<b>380.00</b>

### **COMPLETION PERIOD:-**

All kind of development works of this township shall be completed by us strictly as per PWD specification within three and a half years from the date of approval of estimates and issue of License by the Competent Authority.

### **ARRANGEMENT FOR TREATED WATER:-**

A Treatment plant will be installed in the project to treat the waste water and reuse it for dual plumbing, watering the plants and car washing etc. Consent to establish will be obtained by submitting the detailed plan of water Balance and its treatment.

