Pradhan Mantri
Awaas Yojana
प्रधान मंत्री आवास योजना

DETAILS PROJECT REPORT

Beldi District Roorkee (Uttarakhand)

DEBI KAY SYSTEMS PVT. LTD.

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 8081 Date 14/11/2022
Tapovan Architect Signature RD Ground
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ABBREVIATIONS

A&OE	Administrative and Other Expenses
AHP	Affordable Housing in Partnership
AIP	Annual Implementation Plan
BMTPC	Building Materials & Technology Promotion Council
CDP	City Development Plan
CLS	Credit linked subsidy
CNA	Central Nodal Agencies
CPHEEO	Central Public Health and Environmental Engineering Organisation
CSMC	Central Sanctioning and Monitoring Committee
DIPP	Department of Industrial Policy and Promotion
DPR	Detailed Project Report
EMI	Equated Monthly Instalment
EWS	Economically Weaker Section
FAR	Floor Area Ratio
FSI	Floor Space Index
HFA	Housing for All
HFAPoA	Housing for All Plan of Action
HUDCO	Housing and Urban Development Corporation
IEC	Information Education & Communication
IFD	Integrated Finance Division
IIT	Indian Institute of Technology
IS	Indian Standard
LIG	Low Income Group
MD	Mission Directorate
MoA	Memorandum of Agreement
MoHUPA	Ministry of Housing and Urban Poverty Alleviation
MoU	Memorandum of Understanding
NA	Non Agricultural (NA)
NBC	National Building Code
NHB	National Housing Bank
NOC	No Objection Certificate
NPV	Net Present Value
PLI	Primary Lending Institution
RWA	Residents' Welfare Association
SECC	Socio Economic and Caste Census
SFCPoA	Slum Free City Plan of Action
SLAC	State Level Appraisal Committee
SLNA	State level Nodal Agencies
SLSMC	State Level Sanctioning and Monitoring Committee
TDR	Transfer of Development Rights
TPQMA	Third Party Quality Monitoring Agency
ULB	Urban Local Body
UT	Union Territory

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Definations for the purpose of the mission

Affordable Housing Project:	Housing projects where 35% of the houses are constructed for EWS category
Beneficiary	A beneficiary family will comprise husband, wife and unmarried children. The beneficiary family should not own a pucca house (an all weather dwelling unit) either in his/her name or in the name of any member of his/her family in any part of India.
Carpet Area	Area enclosed within the walls, actual area to lay the carpet. This area does not include the thickness of the inner walls
Central Nodal Agencies	Nodal Agencies identified by Ministry for the purposes of implementation of Credit linked subsidy component of the mission
Economically Weaker Section (EWS):	EWS households are defined as households having an annual income up to Rs.3,00,000 (Rupees Three Lakhs). States/UTs shall have the flexibility to re-define the annual income criteria as per local conditions in consultation with the Centre.
EWS House	An all weather single unit or a unit in a multi-storeyed super structure having carpet area of upto 30 sq. m. with adequate basic civic services and infrastructure services like toilet, water, electricity etc. States can determine the area of EWS as per their local needs with information to Ministry
"Floor Area Ratio" (FAR)/FSI	The quotient obtained by dividing the total covered area (plinth area) on all the floors by the area of the plot: $FAR = \frac{\text{Total covered area on all the floors} \times 100}{\text{Plot area}}$ If States/Cities have some variations in this definition, State/City definitions will be accepted under the mission
Implementing Agencies	Implementing agencies are the agencies such as Urban Local Bodies, Development Authorities, Housing Boards etc. which are selected by State Government/ SLSMC for implementing Housing for All Mission.
Low Income Group (LIG):	LIG households are defined as households having an annual income between Rs.3,00,001 (Rupees Three Lakhs One) up to Rs.6,00,000 (Rupees Six Lakhs). States/UTs shall have the flexibility to redefine the annual income criteria as per local conditions in consultation with the Centre.
Primary Lending Institutions (PLI)	Scheduled Commercial Banks, Housing Finance Companies, Regional Rural Banks (RRBs), State Cooperative Banks, Urban Cooperative Banks or any other institutions as may be identified by the Ministry
Slum	A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities.
State Land Nodal Agencies (SLNAs)	Nodal Agency designated by the State Governments for implementing the Mission
Transfer of Development Rights (TDR)	TDR means making available certain amount of additional built up area in lieu of the area relinquished or surrendered by the owner of the land, so that he can use extra built up area himself in some other land.

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Background:

Shelter is a basic human need next only to food and clothing. At the end of the 10th Five Year Plan, the housing short ageis estimated to be 24.7 million. However, urban areas in our country are also characterized by severe shortage of basic services like potable water, well laid out drainage system, sewerage network, sanitation facilities, electricity, roads and appropriate solid waste disposal. It is these shortages that constitute the rationale for policy focus on housing and basic services in urban areas. This policy intends to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land, shelter and services at affordable prices to all sections of society. Given the magnitude of the housing shortage and budgetary constraints of both the Central and State Governments, it is amply clear that Public Sector efforts will not suffice in fulfilling the housing demand. In view of this scenario, the National Urban Housing and Habitat Policy, 2007 focuses the spotlight on multiple stake-holders namely, the Private Sector, the Cooperative Sector, the Industrial Sector for labour housing and the Services/Institutional Sector for employee housing. In this manner, the Policy will seek to promote various types of public-private partnerships for realizing the goal of Affordable Housing for All.

Housing Needs :

The magnitude of housing shortage was estimated by a Technical Group in the context of formulation of the 11th Five Year Plan. The Technical Group estimated the housing shortage at the end of the 10th Plan to be around 24.7 million for 67.4 million households. The Group further estimated that 99% of this shortage pertains To Economical Weaker Section (EWS) & Low Income Group (LIG) sectors. During the 11th Plan, the Group estimated that the total housing requirement (including backlog) will be to the tune of 26.53 million units for 75.01 million households. Whereas more than 23% of the urban population resides in slum (Census: 2001), a much higher proportion of the urban population of metropolitan cities lives in slums; it is estimated that 55% of the population of Mumbai lives in slums. It is of critical importance that the strategy of in-situ slum up gradation is adopted for preponderant proportion of the slum dwellers, since they provide valuable services to residents living close to their own dwelling places.

The Working Group on Urban Housing pertaining to the 11th Plan made different assumptions on unit cost of construction of houses in million plus cities and other urban areas for estimating the investment required for overcoming the housing shortage. The total estimated investment for meeting the housing requirement upto 2012 was estimated to be of the order of Rs.3,61,318.10 crores consisting of Rs.1,47,195 crores for mitigating housing shortage at the beginning of 11th Plan and Rs.2,14,123.10 crores for new additions

to be made during the 11th Plan period (this includes construction of pucca houses & upgradation of semi-pucca and kutcha housing units).

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Magnitude of Poverty:

Non-affordability of housing by economically weaker sections of society and low income families in urban areas is directly linked with the magnitude of urban poverty. Poverty in India has declined from 320.3 million in 1993- 94 to 301.7 million in 2004-05. While there has been a decline of 18 million persons in the total numbers of the poor in India, the National Sample Survey Organization (NSSO) reports that the number of the urban poor has risen by 4.4 million persons during the same period. One fourth of the country's total urban population, numbering 80.7 million persons is below the poverty line. The urban poor constitute 26.7% of the total poor in the country. The fact that the number of urban poor has risen is in stark contrast with rural poverty, where both the total number of rural poor and its incidence vis-à-vis the rural population has fallen. The urban poor have limited access to basic services. According to the 2001 census, there is a 9% deficiency in drinking water, 26% in toilets and 23% in drainage. It is quite understandable that most of this shortage pertains to Slums.

Scope of RAY RAY:

will provide the support to enable states to redevelop all existing slums in a holistic and integrated way and to create new affordable housing stock. The existing schemes of Affordable Housing in Partnership, and Interest Subsidy for Housing the Urban Poor (ISHUP), would be dovetailed into this scheme. No new projects under the BSUP and IHSDP scheme of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) will be sanctioned once implementation of RAY scheme is taken up except to consume existing 11th Plan allocations that may be left uncommitted. However, projects sanctioned under the two schemes will continue to receive Central assistance as per the sanctions and the existing provision of the schemes.

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Pradhan Mantri Awas Yojana (PMAY)- Housing for all

The Hon'ble President of India has announced "By the time the Nation completes 75 years of its Independence, every family will have a pucca house with water connection, toilet facilities, 24x7 electricity supply and access.

" Hon'ble Prime Minister envisioned Housing for All by 2022 when the Nation completes 75 years of its Independence. In order to achieve this objective, Central Government has launched a comprehensive mission "Pradhan Mantri Awas Yojana – Housing for All (Urban)". Mission for urban area will be implemented during 2015-2022 and this Mission will provide central assistance to implementing agencies through States and UTs for providing houses to all eligible families/ beneficiaries by 2022.

The mission seeks to address the housing requirement of urban poor including slum dwellers through following programme verticals:

• Slum rehabilitation of Slum Dwellers with participation of private developers using land as a resource • Promotion of Affordable Housing for weaker section through credit linked subsidy

• Affordable Housing in Partnership with Public & Private sectors

• Subsidy for beneficiary-led individual house construction /enhancement.

The Mission will support construction of EWS (Economically Weaker Section) houses upto 30 square meter carpet area. As per **PMAY EWS households** are defined as households having an annual income up to Rs. **3,00,000 (Rupees Three Lakhs).** States/UTs will have flexibility in terms of determining the size of house and other facilities at the state level in consultation with the Ministry but without any enhanced financial assistance from Centre. According to PMAY guidelines, the minimum numbers of about 35% of the houses are constructed for EWS Category in such Affordable Housing project.

The PMAY mission will be implemented as **Centrally Sponsored Scheme (CSS)** except for the component of credit linked subsidy which will be implemented as a Central Sector Scheme. A beneficiary family will comprise husband, wife, unmarried sons and/or unmarried daughters. The beneficiary family should not own a pucca house either in his/her name or in the name of any member of his/her family in any part of India to be eligible to receive central assistance under the mission. The houses constructed/acquired with central assistance under the mission should be in the name

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Mandatory Conditions:

Availability of urban land is the biggest constraint in providing housing to all including weaker sections. Therefore, to ease administrative and regulatory bottlenecks, a set of Mandatory Conditions has been included in the Mission to facilitate growth of housing sector including affordable housing. For participating in the mission and to avail of financial assistance from Central Government, States/ UTs should agree to fulfil following Mandatory Conditions:-

- States/UTs to make suitable changes in the procedure and rules for obviating the need for separate Non Agricultural (NA) Permission if land already falls in the residential zone earmarked in Master Plan of city or area.

- States/UTs shall prepare/amend their Master Plans earmarking land for Affordable Housing.

- A System should be put in place to ensure single-window; time bound clearance for layout approval and building permissions at ULB level.

- States/UTs shall adopt the approach of deemed building permission and layout approval on the basis of pre- approved lay outs and building plans for EWS/LIG housing or exempt approval for houses below certain built up area or plot area.

States/UTs would either legislate or amend existing rental laws on the lines of

- model Tenancy Act being prepared by Ministry. States/UTs shall provide additional FAR/FSI/TDR and relaxed density norms for

- slum redevelopment and low cost housing, if required.

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Need for Pilot Projects:

Given that this is a path breaking approach being taken up by the Central, State and City governments, **there is a felt need to embark on a set of pilot projects with the aim of evolving, demonstrating and establishing models that can thereafter be scaled. A key objective of the programme would be to therefore incentivize innovation and encourage new approaches and solutions that can demonstrably improve the quality and quantity of shelter and services for the poor.**

Such innovation could encompass:

Projects with strong community participation i.e. Slum up gradation

• redevelopment projects initiated/spearheaded by the community; or with their demonstrable involvement and participation in design, planning and implementation.

• **Creation of Fresh Housing Stock and Transit Shelters.**

• State/UT Government and Implementing Agencies should encourage formation of associations of beneficiaries under the scheme like RWA etc. to take care of maintenance of houses being built under the mission

• New models of public-private partnerships whereby the private sector can be encouraged to take up affordable housing for the EWS/LIG

• Innovations in planning, demonstrating integrated livelihoods, shelter and services or convergence.

• Any other innovation for which the city feels it needs to design models and determine guidelines for larger application

With this intent the Ministry of Housing & Urban Poverty Alleviation, Government of India would encourage proposals and pilot projects from institutions/agencies as below:

The following institutions are eligible to apply for pilot projects under PMAY

• States

• Urban Local Bodies through the State Level Nodal Agencies (SLNA)

• Central Government Departments and Central Public Sector

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The PMAY mission will be implemented through four verticals giving option to beneficiaries, ULBs and State Governments. These four verticals are as below:



Application Modalities:

The application should consist of a Proposal containing a brief description of the project, the stage of slum free planning that the state is in. The proposal should clearly delineate the innovations and new models the project will be piloting in terms of its scope, objective, implementation strategies. It should also clearly bring out the envisaged outcomes; and implications for state wide or regional replicability. It is expected that the implementation of the pilot projects would catalyse an innovative and effective approach to the planning and implementation of the city plans for the PMAY scheme.

Pilot Project Detailed Project Report should clearly bring out:

• In-situ development projects, including infrastructure upgrading, replacement of kuccha structures with pucca structures, Incremental Housing, **Affordable Housing Projects, Transit Shelters** and Green field projects integrating shelter, services and livelihoods will be considered for pilots.

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• Land/dwelling space to be assigned to the all slum households living in the concerned slum which will be in the form of ownership. A project which envisages grant of collective property rights would be eligible.

•Basic services including roads, water supply, sewerage, drainage, waste management and street lighting infrastructure have to be planned.

• Desirable services beyond basic services including: Fire safety plan; community Centre; local shopping complex.

• Pilot projects would need to demonstrate that the building bye laws and planning norms should not be a constraint to the slum upgrading exercise.

• Timelines to complete the project and implications for the Slum free City planning process under the PMAY scheme should be clearly laid out in the Pilot Project DPR to connect it to the Proposal.

• The DPR would be prepared as per the Delhi Schedule of Rates-2016 and would need to be submitted after approval of State Level Sanction and Monitoring Committee. For proposals pertaining to Central Government and Undertakings, DPR would be based on their respective schedule of rates.

• **In view of the above considerations Urban Housing & Urban Development Authority (UHUDA), a "Development Authority or the Authority" in relation to the whole of the State Area shall be as the State Authority and in relation to any development area shall be the Local Development Authority (hereinafter referred to as the Local Authority) constituted and notified under section 4 of the Act : may be called the Uttarakhand Urban and Country Planning and Development (Amendment) Act, 2013 has prepared**

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Location, Geography and Climate

Uttarakhand was formed on the 9th November 2000 as the 27th State of India, when it was carved out of northern Uttar Pradesh. Located at the foothills of the Himalayan mountain ranges, it is largely a hilly State, having international boundaries with China (Tibet) in the north and Nepal in the east. On its north-west lies Himachal Pradesh, while on

The south is Uttar Pradesh. It is rich in natural resources especially water and forests with many glaciers, rivers, dense forests and snow-clad mountain peaks. Char-dhams, the four most sacred and revered Hindu temples of Badrinath, Kedarnath , Gangotri and Yamunotri are nestled in the mighty mountains. It's truly God's Land (Dev Bhoomi). Dehradun is the Capital of Uttarakhand. It is one of the most beautiful resorts in the sub mountain tracts of India, known for its scenic surroundings. The town lies in the Dun Valley, on the watershed of the Ganga and Yamuna rivers.

It is blessed with a rare bio-diversity, inter-alia, 175 rare species of aromatic & medicinal plants are found in the State. It has almost all major climatic zones, making it amenable to a variety of commercial opportunities in horticulture, floriculture and agriculture. It has a vast tourism potential in adventure, leisure, and eco-tourism.

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About BELDI

Gram Panchayat :	Beladi Salhapur
Block / Tehsil :	Roorkee
District :	Hardwar
State :	Uttarakhand
Pincode :	248197
Area :	248.77 hectares
Population :	1,860
Households :	340
Assembly Constituency :	Pirankaliyar
Parliament Constituency :	Haridwar
Nearest Town :	Roorkee (5 km

According to Census 2011 information the location code or village code of Beldisalhapur village is 056436. Beldisalhapur village is located in Roorkee tehsil of Hardwar district in Uttarakhand, India. It is situated 5km away from sub-district headquarter Roorkee (tehsildar office) and 25km away from district headquarter Hardwar.

As per 2009 stats, Beladi Salhapur is the gram panchayat of Beldisalhapur village. The total geographical area of village is 248.77 hectares. Beldisalhapur has a total population of 1,860 peoples, out of which male population is 1,001 while female population is 859. Literacy rate of beldisalhapur village is 60.16% out of which 68.03% males and 50.99% females are literate. There are about 340 houses in beldisalhapur village.

Pincode of beldisalhapur village locality is 248197.
When it comes to administration, Beldisalhapur village is administrated by a sarpanch who is elected representative of the village by the local elections. As per 2019 stats, Beldisalhapur village comes under Pirankaliyar assembly constituency & Hardwar parliamentary constituency. Roorkee is nearest town to beldisalhapur for all major economic activities, which is approximately 5km away

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Background of the Project

Shelter is a basic human need next only to food and clothing. However, urban areas in our country are also characterized by severe shortage of basic services like potable water, well laid out drainage system, sewerage network, sanitation facilities, electricity, roads and appropriate solid waste disposal. It is these shortages that constitute the rationale for policy focus on housing and basic services in urban areas. This policy intends to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land, shelter and services at affordable prices to all sections of society. Given the magnitude of the housing shortage and budgetary constraints of both the Central and State Governments, it is amply clear that Public Sector efforts will not suffice in fulfilling the housing demand. In view of this scenario, Uttarakhand State government launched a scheme "Jan Awas Yojana" and Central Government has also launched a comprehensive mission "Pradhan Mantri Awas Yojana – Housing for All (Urban)". And in this connection, The Hon'ble President of India has also announced "By the time the Nation completes 75 years of its Independence, every family will have a pucca house with water connection, toilet facilities, 24x7 electricity supply and access."

Hon'ble Prime Minister envisioned Housing for All by 2022 when the Nation completes 75 years of its Independence. In order to achieve this objective, Central Government has launched a comprehensive mission "Pradhan Mantri Awas Yojana – Housing for All (Urban)". Mission for urban area will be implemented during 2015-2022 and this Mission will provide central assistance to implementing agencies through States and UTs for providing houses to all eligible families/ beneficiaries by 2022.

The mission seeks to address the housing requirement of urban poor including slum dwellers through following programme verticals:

- Slum rehabilitation of Slum Dwellers with participation of private developers using land as a resource
- Promotion of Affordable Housing for weaker section through credit linked subsidy
- Affordable Housing in Partnership with Public or Private Sectors.
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Defined as households having an annual income up to Rs. 3,00,000 (Rupees Three Lakhs). Uttarakhand state will have flexibility in terms of determining the size of house and other facilities at the state level in consultation with the Ministry but without any enhanced financial assistance from Centre. According to PMAY guidelines, the minimum numbers of about 35% of the houses are constructed for EWS Category as covered in the progamme verticals mentioned above of such Affordable Housing project

The PMAY mission will be implemented as Centrally Sponsored Scheme (CSS) except for the component of credit linked subsidy which will be implemented as a Central Sector Scheme. A beneficiary family will comprise husband, wife, unmarried sons and/or unmarried daughters. The beneficiary family should not own a pucca house either in his/her name or in the name of any member of his/her family in any part of India to be eligible to receive central assistance under the mission. The houses constructed/acquired with central assistance under the mission should be in the name of the female head of the household or in the joint name of the male head of the household and his wife, and only in cases when there is no adult female member in the family, the house can be in the name of male member of the household.

Mandatory Conditions:

Availability of urban land is the biggest constraint in providing housing to all including weaker sections. Therefore, to ease administrative and regulatory bottlenecks, a set of Mandatory Conditions has been included in the Mission to facilitate growth of housing sector including affordable housing. For participating in the mission and to avail of financial assistance from Central Government, Uttarakhand State should agree to fulfil following Mandatory Conditions:-

- Uttarakhand state to make suitable changes in the procedure and rules for• obviating the need for separate Non Agricultural (NA) Permission if land already falls in the residential zone earmarked in Master Plan of city or area.

- Uttarakhand state shall prepare/amend their Master Plans earmarking land for

- Affordable Housing.

- Uttarakhand state would either legislate or amend existing rental laws on the

- lines of model Tenancy Act being prepared by Ministry.

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Objectives:

The objectives of this project are:

- To provide affordable and liveable Shelter solution to Industrial Workers and¬ workers engaged in Construction projects/activities.
- To reduce temporary/permanent establishment of new slums lacking basic physical & social infrastructure.
- To provide alternative shelter to the slum dwellers who are not eligible for relocation houses and are likely to be displaced.
- To prevent unorganized growth in housing sector.

Project Concept:

It is proposed to construct Ground + Three storied building blocks along with civic amenities like Community Facilities, Open Spaces, Park/Garden, Local Shopping, Crèche, etc. with well-developed Infrastructure networks such as Roads, Drainage, Water Supply, Sewerage, Electrification, Rain Water Harvesting, Horticulture/Site Development, Street Light, Parking, Over Head Tank, Sewerage Treatment Plant, Substation, as well as planned circulation and other features. One such building will provide 8 units & 16 units at one floor and to provide **1088** units at 19 Tower of such type of buildings need to be built up.

The main concept behind the formulation of this scheme is to provide not just shelter for the Economical weaker Section /Lower Income Group /migrating population but also a healthy and enabling urban environment, to help them to come out of their poverty level and

- To integrate the residential areas with social network of the entire complex.
- Sustainable improvement in overall quality of life of Weaker Class / Lower income Group/industrial labours/migrating population.
- Sustainable improvement in standards of health, education and community life and increased income-earning potential of Weaker Class / Lower income Group/ migrating population by providing a livelihood training centre.
- Strong, committed and broad-based formal and informal community-based groups, which participate actively in sustainable development activities established and functioning.

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Project Site , Location Google image & Key plan

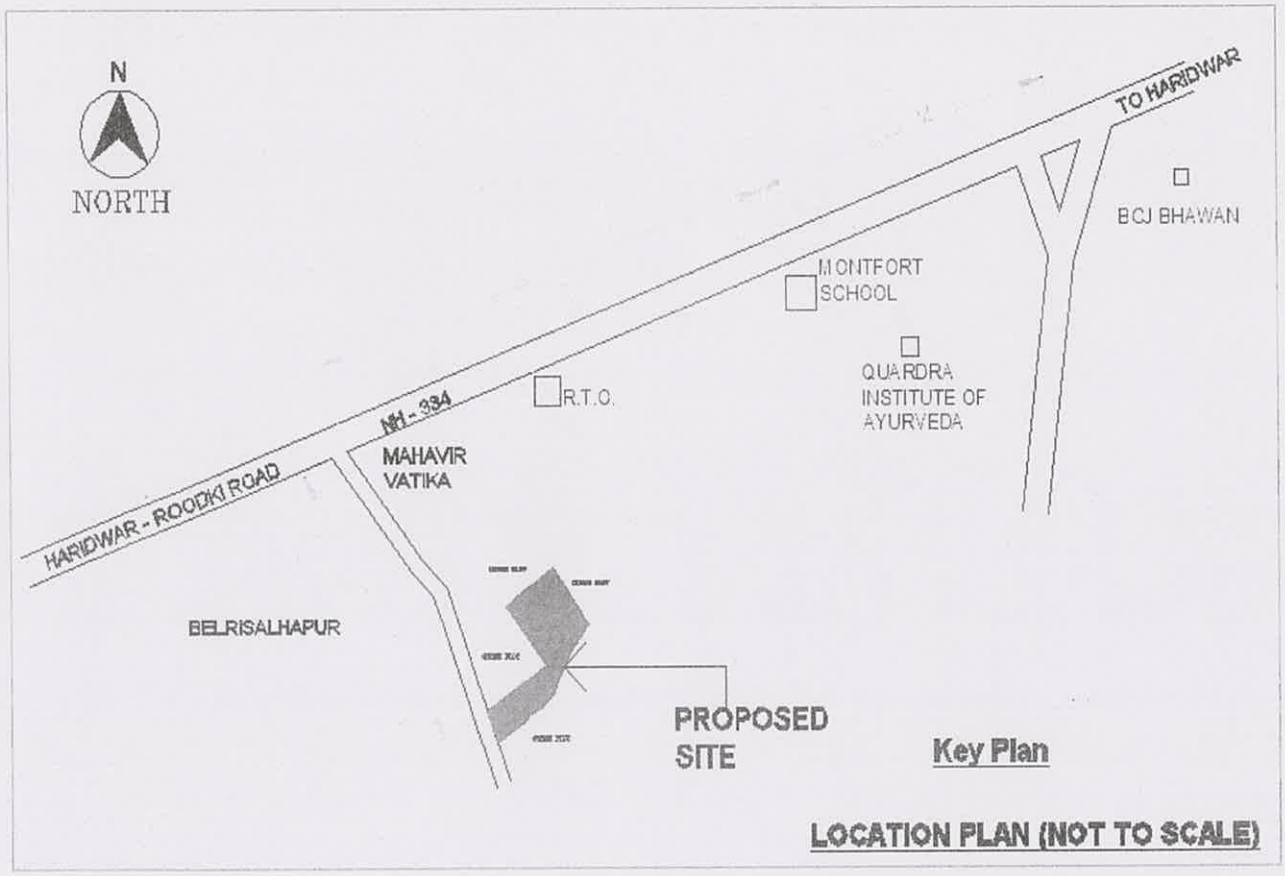
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SITE LOCATION IN GOOGLE MAP

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Key Plan



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Monolithic Concrete Construction Technology:

Monolithic – The term is derived from Imposing in size, bulk or solidity. Characterized by massiveness and rigidity and total uniformity. The synonyms of Monolithic are Massive or Monumental.

In MCC beams, columns and filler brick walls are eliminated and instead walls made from concrete are used to take loads of the building. Here walls and slabs are cast in one operation in specially designed light weight forms / moulds. Concrete is poured in the forms and forms are removed after the setting of the concrete takes place, resulting in box like cubical structure of required architectural design.

The entire operation essentially comprises fitting and erecting the portion of shuttering / forms as already determined and then carrying out concreting of the walls and slabs. Props are so designed that they stay in position while de-shuttering of slabs takes place. The dimensional accuracy of the formwork is of high order. Therefore any possibility of errors does not rise. These forms enable rapid construction of multiple units of repetitive types.

The pre-designed form work also acts some sort of assembly line production and require few semi-skilled workers / labour.

As bricks are not used in this type of construction walls are just rendered with cement slurry to give even shed thus eliminating need of plastering resulting in saving in time and cost of plastering. After removal of form work finishing activities like fixing of doors and windows, flooring works, fixing of plumbing, sanitary and electrical services etc can be carried out as per the current / local practice.

In this system, in place of traditional RCC framed construction of columns and beams; all walls, floors, slabs, columns, beams, stairs, together with door and window openings are cast-in-place monolithically using appropriate grade of concrete in one operation. The especially custom designed modular formwork made up of Aluminium is easy to handle with minimum labour& without use of any equipment. Being modular formwork system, it facilitates in rapid construction of multiple/mass unit scale

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Highlights of the MCC Technology :

- In the Monolithic concrete construction with Aluminum / Plastic / Steel / Composite forms system, Concrete walls and slabs are cast monolithically at one pour.
- The system allows reduction in thickness of concrete members below the minimum value than the conventional construction, thus reducing the consumption of natural resources.
- The technology reduces the cost of repair and maintenance compared to conventional system.
- Walls and slabs are cast in one operation in specially designed light weight form/ moulds in concrete.
- Concrete is poured in the forms & forms are removed after the setting of concrete takes place, resulting in box like cubical structure of required architectural design.
- The pre-designed formwork also acts some sort of assembly line production and enables rapid construction of multiple units of repetitive type.

Basic Material Requirements

Formwork system

Formwork system is propriety system and designed as per loading requirements of the structure. It has adequate stiffness to weight ratio, yielding minimum deflection under concrete loading. The panel should fix precisely, securely and require no bracing. Being recent advancement in technology, IS-14687:1999 Guidelines for falsework for concrete does not cover requirements of special type of formwork system.

Concrete

Shall be of appropriate grade based on environment condition as per IS 456:2000

Reinforcement

Shall conform to IS 1786:2008

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Details of Formwork

The formwork systems used are made of lightweight Aluminum.

The recommended concrete forms generally use robotics welding system for manufacturing. A soft alloy weld wire is utilized in the concrete form weld process.

Fixing of the formwork is done using tie, pin & wedges system. It does not require very skilled labor to do the job.

Structural Requirements of the Construction

The Monolithic RCC construction is considered as shear wall system. The maximum spacing between cross wall shall be limited to 1.5 times the floor height if supported on two edges and 2.0 times the floor height, when supported on all four edges.

The walls are designed primarily for loading and also for in-plane lateral load (shear) and out of plane (bending) due to wind load and earthquake forces as per relevant Indian Standard Code IS 875(Pt.3):1987 and IS1893(Pt.1):2002 respectively. For out of plane loading, the plate can be assumed to be supported by floor slabs / diaphragm and cross walls and continuity can be assumed, wherever applicable.

The structural design of plain & RCC shall be as per IS 456:2000 while IS 13920:1993 is referred for ductile detailing of reinforced concrete structure. Thickness of wall below plinth level should be minimum 200 mm with double layers reinforcement.

Guidelines on Monolithic Concrete Construction prepared by BMTPC may be referred for material requirements & design aspects of this system.

Durability

Since concrete is main constituent material in this system, durability of the structure can be achieved by using proper ingredient, Grade of concrete as per IS 456:2000 and mix design in accordance with IS 10262:2009.

Thickness of the wall is generally 100 mm with the centrally placed reinforcement. Therefore, adequate cover is likely to be maintained; as a result high durability is achieved.

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Ease of fixing services

All electric and plumbing fixtures, lines have to be pre-planned and placed appropriately before pouring concrete in RC walls & slabs. Post construction alternation is not desirable.

ECONOMY OF SCALE

Economy of scale depends upon the volume of work and number of repetition of the formwork. To achieve economy, minimum 100 repetitions are desirable.

For very small project of less than 500 units, this system may not prove to be economical.

Other features

Pre designed formwork acts as assembly line production and enables rapid construction of multiple/mass scale 1) units of repetitive type.

Varying work cycle is possible, however, for speed and economy 3-4 days cycle are desirable.2)

It is flexible in design and can form any architectural or structural configuration, such as stairs, windows, etc.3)

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SPECIFICATIONS FOR EWS HOUSES – CONSTRUCTED UNDER PMAY

Sl. No	ITEM	SPECIFICATION
1.	Earthwork excavation	The earthwork excavation shall be done as per CPWD specification. The foundation shall rest on firm base
	Filling in trenches	Same excavated good earth soil is to be filled.
2.	Foundation(monolithi c cement concrete structure)	M-20 grade of concrete is used for all the RCC works
	Base concrete	1:4:8 grade, 10 cm thick below building foundations on hard strata.
	Plinth Filling	If excavated soil or part of excavated soil seems to be good for filling, same shall be refilled as per direction of engineer in charge
	RCC Footing/Raft/Piles	M-20 grade of concrete is used for 450mm thick raft using Self Compacting Concrete Design Mix.
	Plinth beam/grade slab	M 20 grade of concrete is used for all the works using Self Compacting Concrete Design Mix
3.	Super structure	
	a) Slabs	M 20 grade of concrete is used for all the works using Self Compacting Concrete Design Mix.
	b) Projections	M 20 grade of concrete is used for all the works using Self Compacting Concrete Design Mix
4.	Flooring	1.Everywhere in EWS unit is having ordinary Cement flooring including staircase etc. with Colour Pigment. 2.Industrial tiles flooring in parking areas.
5.	Skirting	Skirting in ordinary cement with neat punning in all rooms shall be to the height of 100mm.
6.	Kitchen platform and sink	Ordinary RCC Slab with neat cement punning and with provision for cut-out of Stainless Steel Sink.
	Putty	Putty on inner walls and ceiling.
7.	Finishing	Internal:- White washing on internal walls and ceiling External:- Water proofing cement paint
	Painting on Wood/Iron work	Painting with synthetic enamel paint of two or more coats.
8.	Waterproofing	Toilets cement slurry mixed with water proofing treatment.
9.	Joinery	
	a) Windows	Angle iron frames and glazed shutters for windows and clerestory windows using 4 mm thick float glass panes with hillock wood.
	b) Doors	a) Angle Iron Frames and shutters – 25 mm thick flush door shutter, non-decorative type for rooms b) Angle Iron Frames and Steel shutters for block entrance & mumty of staircase. c) FRP frame and shutter for Bath and WC
10.	Doors & Window Fixtures and Fitting	Oxidised MS fittings
11.	Railings	MS railings

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Public Health & Sanitary Works

Sl. No	ITEM	SPECIFICATION
1.	**Water Supply**	
	Internal Areas water supply pipe (inside the Block in shafts, terrace and rising main as per drawing and design)	Unplasticised-Rigid PVC rain water pipes conforming to IS :13592
	Bib-Cock	Long body CP Brass Bib-Cock.
	Control valves	CI Wheel Gun Metal Valve.
2.	**Sewerage (Sanitary & Rain water)**	
	Internal areas sanitary pipe (Inside the flats or inside the block and in all Bath, WC and kitchen)	Supplying, laying, jointing and testing of 110mm Dia. And 75 mm unplasticized Non-pressure Polyviny Chloride (PVC-U) Pipes.
	External Area	Stone Ware Pipes with all around concreting.
	Rain Water Drainage	Providing UPVC pipes of approved make for
	Pipe (inside the Block in shafts as per drawing and design)	4kg/Sq.Cms. of single socket pipe of ISI standard confirming to ISI 1352 with air tight joints, fixing with clamps and nails etc., complete for (Vent Shaft) WC Connection
3.	**Sanitary Fittings**	
	in W.C.	Indian type W.C. pan with 100 mm sand cast Iron P or S trap, 10 liter low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) .
	Floor Trap	Providing 76.2mm (3") Dia. NAHANY TRAP with Jali for UPVC/SWR for toilets and kitchen
	Gully Chambers	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :
	Internal sanitary and collecting chambers	Sewage disposal from Indian type W.C. pan & waste water from kitchen with 100 mm PVC pipe & Bathroom with 75 mm diameter PVC pipe with fittings.

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Electrical Works:

	For Internal Flat	
Sl. No	**ITEM**	**SPECIFICATION**
1.	Point Wiring	Wiring for light point/ fan point/ exhaust fan point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed PVC conduit, with Piano type switch.
2.	Wiring for circuit / Submain	Wiring for circuit/ sub main wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed PVC conduit as required
		2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire
		2 X 4 sq. mm + 1 X 4 sq. mm earth wire
		2 X 6 sq. mm + 1 X 6 sq. mm earth wire
3.	PVC conduit	Supplying and fixing of following sizes of PVC conduit of along with accessories in surface/recess or cutting the wall and making good the same in case of recessed conduit as required.
		20mm & 25mm dia with
4.	Switch and socket	Supplying and fixing following Piano Type switch/ socket on the switch box including connections
		5/6 amps switch
		15/16 amp switch
		3 pin 5/6 amp socket outlet
		3 pin 15/16 amp socket outlet
5	Fan regulator	Supplying and fixing stepped type electronic fan regulator
6	Switch box	Supplying and fixing of suitable size metal box with phenolic laminated sheet cover in front
7	Angle holder	Supplying and fixing brass batten/ angle holder including connection etc. as required.
8	MCCB	Providing and fixing MCCB in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.

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9.	MCB Enclosure	Supplying and fixing SPN Distribution Board with IP43 Protection (Metal Door) as per 13032 for all incoming and outgoing (With MCB/ RCCB/ Isolator)
	For Common Area Service	
10.	TPN Distribution Board	Following way TPN distribution boards
		4 way Double door
		6 way Double door
		8 way Double door
		12 way Double door
11.	MCB	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections,
		Single pole
		Single pole and neutral
		Double pole
		Triple pole
		Triple pole and neutral
12.	Isolator	Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.
		40 amps
		63 amps
13	Earthing	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt as required

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ABSTRACT OF PROPOSED PHYSICAL INFRASTRUCTURE

Buildings

1) Total 1088 units are provided under the scheme
2) 19 Tower are designed to accommodate 1088 units.
3) Ground + 3 storied building
4) Each building has 8 units & 16 units on each floor.
5) Each unit has 1 Bedroom, Living Room, Kitchen, Bathroom and WC
6) Total no. of floors – 4
7) Total no of units per tower- 8 X 4 = 32 units & 16 X 4 = 64 units

Infrastructures

I. Storm Water Drainage

• Brick Masonry open Drain is proposed for collection of Rain Water

II. Roads and Pavers

• Internal concrete road of 9.0 mtr. and 6 mtr wide are proposed with 12 mtr. wide road as the main entry road.
• 600 mm thick factory made cement concrete inter locking paver blocks are proposed at open areas between buildings and other locations.

III. Compound Wall

• Brick Masonry Compound Wall

VII. Internal Water Supply and Sanitation Facilities

• WC's, Wash basins, Kitchen Sink, Urinal basins, water taps and all other necessary Water Supply & Sanitation facilities are proposed with proper fitting & fixtures at each floor of every building.

VIII. Internal Electrical Installations

• Sufficient nos. of electrical points for fans, Ceiling fans, call bell, light, chargers etc. are proposed in each room/corridors/stairs/baths/toilets/urinal/stores with metal box and proper wiring systems.

IX. Parking Facilities

• Sufficient Parking facilities for two Wheeler Vehicles are proposed.

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PROJECT COST DETAILS

As per the Scheme Guidelines of Pradhan Mantri Awas Yojana Housing for all an single unit or a unit in multi-storied super structure of EWS type Houses with all adequate basic civic services and infrastructure services like Toilet, Water, Electricity etc. So, we have designed the typical EWS dwelling unit of approx. 23.00 square meters carpet area which will have 2 rooms (i.e., living room and one bed room), a kitchen, separate bath and WC and balcony.

Sl No.	Type	Nos. of Dwelling Units	Carpet Area of each unit	Super built up Area of each unit
1.	EWS	1088	23.24 sq.m	25.30 sq.m

Sl No	DESCRIPTION OF WORK	AMOUNT
1	Grand Total amount for 15 Tower A , B , F , G , H TO S	620819842.9
2	Grand total amount for tower C , D , E & T	80704224.32
3	Grand Total other service	122797715
	Grand total project cost	824321782.2

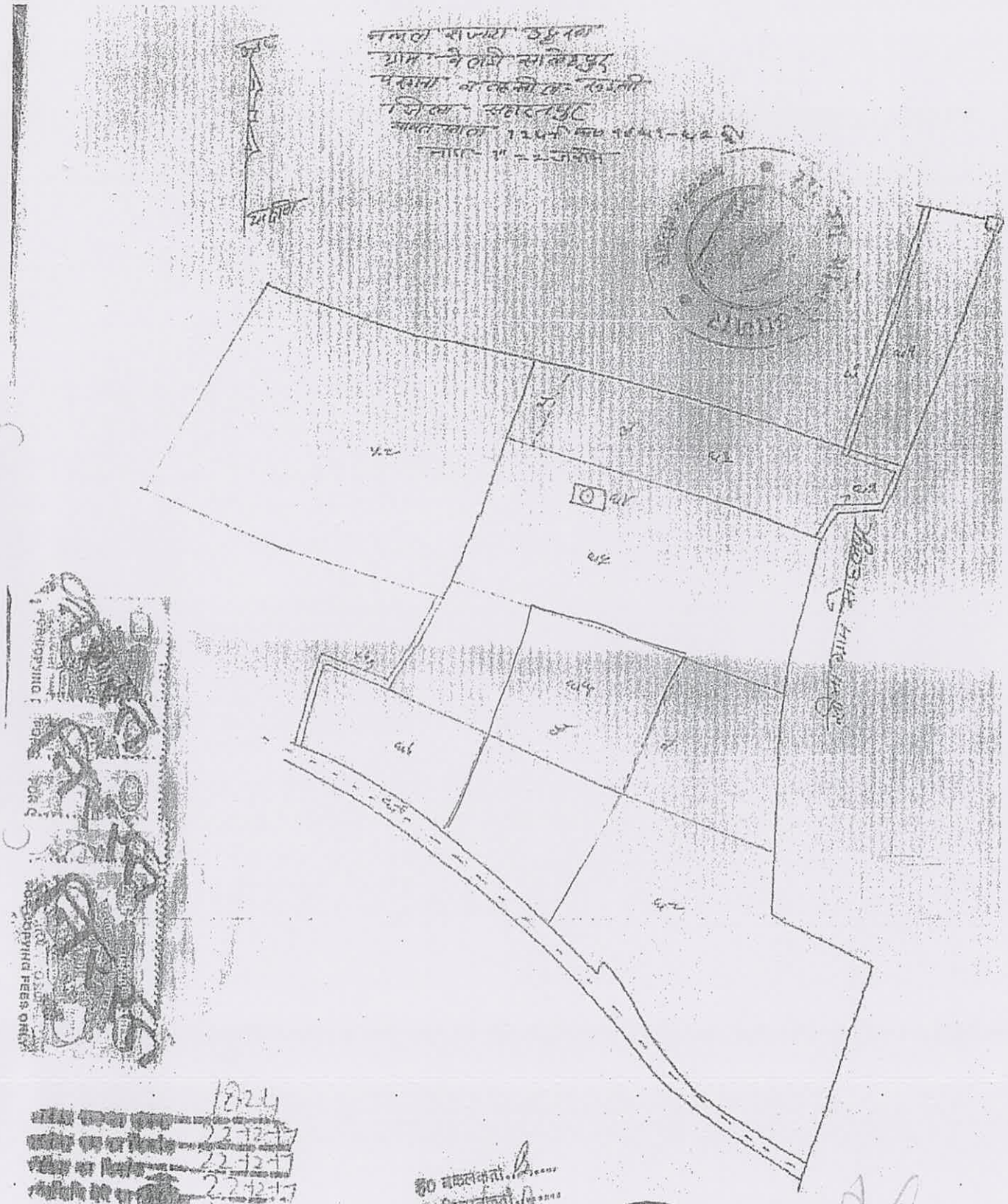
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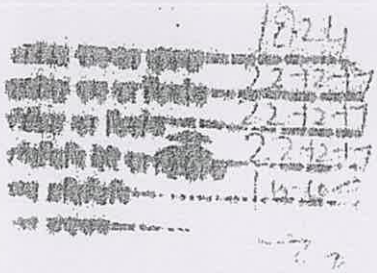
PAL ARCHITECT AND ENGINEER
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Case No. ..... Date .....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

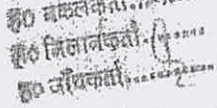
LAND DOCUMENTS

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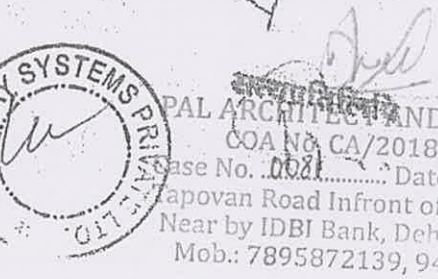












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DETAILS OF PROJECT LAND AT VILLAGE BELDI, RORKEE, HARIDWAR

Details of land						
Sl. No	Name of owner	Village	Khotoni No	New Khasara No	Total Area in Hactares	Area under Agreement in hactares
1	Dev Pal	Beldi	214	66	3.2650	1.6325
2	Sudhir	Beldi	269	68/2	1.4340	0.7340
		TOTAL			4.6990	2.3665

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Mob.: 7895872139, 9412143346

2004

हिस्सा प्रमाण–पत्र

प्रार्थी का नाम सुधीर कुमार पुत्र विरेन्द्र कुमार निवासी ग्राम बेलडी साल्हपुर

मौजा बेलडी साल्हपुर प0 रूड़की तहसील–रूड़की जिला हरिद्वार।

क्र0 सं0	ग्राम का नाम जिसमें भूमि स्थित है।	खाता खतौनी संख्या	खाते का कुल क्षे0 माल0	खाते की कुल माल0	खाते में हिस्सा	हिस्से का क्षे0 है0 में	हिस्से का माल0	विवरण
1	2	3	4	5	6	7	8	9
1.	बेलडी साल्हपुर	269	1.434	68.15	734/1434 भाग	0.734	34.88	—

दुनु दखलकार सतदीन-चार है

23/2/19

सुधीर कुमार सागर
राजस्व उप-निरीक्षक
रूड़की जिला हरिद्वार

यह प्रमाण–पत्र श्री ~~सुनील कुमार~~ लेखपाल क्षेत्र ~~रूड़की ग्रामीण~~ की जांच आख्या पर जारी किया गया।

दिनांक:– 23/02/2019

तहसीलदार
रूड़की।

DEBI KAY SYSTEMS PVT. LTD.

DEBI KAY SYSTEMS PRIVATE LTD.

PAL ARCHITECT AND ENGINEER
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Jeevan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

2584

हिस्सा प्रमाण–पत्र

प्रार्थी का नाम दैतपाल पुत्र ब्राह्मणदास निवासी ग्राम बेलडा

मौजा बेलडी साल्हपुर पo ऊडकी तहसील–रूडंकी जिला हरिद्वार।

क्र0 सं0	ग्राम का नाम जिसमें भूमि स्थित है।	खाता खतौनी संख्या	खाते का कुल क्षे0 माल0	खाते की कुल माल0	खाते में हिस्सा	हिस्से का क्षे0 है0 में	हिस्से का माल0	विवरण
1	2	3	4	5	6	7	8	9
1.	बेलडी साल्हपुर	214	3.275	150.25	1/2	1.6375	75.12	

एक दशमलव छः तीन सात पाँच है०

28/2/19

तहसील

यह प्रमाण–पत्र श्री [illegible] लेखपाल क्षेत्र [illegible] की जांच आख्या पर जारी किया गया।

दिनांक– 28/02/2019

तहसीलदार
रूडकी।

23/4/19

[illegible] कानूनगो
तहसील रूड़की

UBIKAY SYSTEMS PRIVATE LTD.

HAL ARCHITECT AND ENGINEER
CA No. CA/2018/96244
Case No. [illegible] Date: 14/11/22
Tapovan Road Infront of PRD Ground
Near by SBI Bank, Dehradun (U.K.)
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BHULEKH
Uttarakhand

खाता विवरण (अप्रमाणित प्रति)

NOTE : डाटा उपलब्ध ना होने पर डिजिटल हस्ताक्षरित होने तक प्रतीक्षा करे|

ग्राम का नाम : बेलडी साल्हापुर परगना : (रूड़की) तहसील : रूड़की जनपद : हरिद्वार फसली वर्ष : 1422-1427 भाग : 1 खाता संख्या : 00214

खातेदार का नाम / पिता पति संरक्षक का नाम / निवास स्थान	भौमिक अधिकार का वर्ष	खसरा संख्या	क्षेत्रफल (है.)	आदेश	टिप्पणी
श्रेणी : 1-क / भूमि जो सक्षमणीय अधिकार वाले भूमिधारो के अधिकारमे हो					
राजेश्वर / आशाराम / नि॰ बेलडा देवपाल / आशाराम / नि॰ बेलडा	प्0 1360फ0 प्0 1360फ0	64म. 66	0.0100 3.2650	1410फ0 पी0एन0बी0 बेलडा से देवपाल ने दिनांक 27.09.2 को अकंन 1,50,000 का ऋण लिया है। ह0ले0अ0/ 01.10.2012 1413फ0 पी0एन0बी0 बेलडा के बंधक पत्र दि0 20.09.2015 को जनेश्वर पुत्र आशाराम ने खाता सं0 214 को बंधक कर रु0 1,00,000 का ऋण लिया है। ह0ले0अ0/ 07.10.2005 पी0एन0बी0 ने दि0 25.08.2010 को राजेश्वर पुत्र आशाराम ने 1/2 भाग को बंधक कर रु0 2,50,000 का ऋण लिया है। ह0ले0अ0/ 26.08.2010 पी0एन0बी0 के बंधक पत्र दि0 14.03.2013 (315/ऋ0का0) के अनुसार देवपाल पुत्र आशाराम ने अपनी भूमि खाता सं0 188 खसरा सं0 64म व	

Disclaimer: यह अंकीकृत अभिलेखांश है, यथावश्यक प्रमाणन हेतु से उपयुक्त की उपायुक्त प्रति प्राप्त की जा सकती है।

Data Updated Upto: Fri Feb 01 14:52:56 IST 2019

Technical Support By: National Informatics Center, Uttarakhand State Unit, Dehradun.

Contents owned by Board of Revenue(Uttrakhand)

Digital India

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

PAL ARCHITECT AND ENGINEER
COA/CA/2018/0224
Case No. 0000/2018/0224 Date: 24/11/22
Tapovan Road Infront of DEBI KAY Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

SYSTEMS PRIVATE LTD.

NOTE : डाटा उपलब्ध ना होने पर डिजिटल हस्ताक्षरित होने तक प्रतीक्षा करे।			खाता विवरण (अप्रमाणित प्रति)		
ग्राम का नाम : बेलडी सालहापुर परगना : (रूड़की) तहसील : रूड़की जनपद : हरिद्वार		फसली वर्ष : 1422-1427	भाग : 1	खाता संख्या : 00214	
				66 को भागानुसार बंधक कर रु0 3,00,000 का ऋण लिया है। ह0ले0अ0/ 15.03.2013 1424फ0 (34/र0का0) पी0एन0बी0 बेलडा के बंधक पत्र दि0 02.06.17 अनुसार राजेश्वर पुत्र आसाराम नि0 बेलडा ने भूमि खसरा नं0 64म, 66 को बंधक कर रु0 5,00,000/- का ऋण लिया है। ह0र0का0/ 05.06.2017	
योग		2	3.2750		

Disclaimer: इस वेबसाईट मात्र आलेखनार्थ है, राजस्व अभिलेख कम्प्यूटर केन्द्र से प्रमाणित प्रति प्राप्त की जा सकती है।

Data Updated Upto: Fri Feb 01 14:52:56 IST 2019

Technical Support By: National Informatics Center, Uttarakhand State Unit, Dehradun.

Contents owned by Board of Revenue(Uttrakhand)

Digital India

PAL ARCHITECT AND ENGINEER SYSTEMS PRIVATE LTD. Case No. CA/2018/96244 Tapovan Rishikesh Near by IDBI Bank, Dehradun (U.K.) Mob: 7895872139, 9412143316

BHULEKH
Uttarakhand

खाता विवरण (अप्रमाणित प्रति)

ग्राम का नाम : बेलडी राल्हापुर परगना : (रुड़की) तहसील : रुड़की जनपद : हरिद्वार फसली वर्ष : 1422-1427 भाग : 1 खाता संख्या : 00269

खातेदार का नाम / पिता पति संरक्षक का नाम / निवास स्थान	भौमिक अधिकार का वर्ग	खसरा संख्या	क्षेत्रफल (हे.)	आदेश	टिप्पणी
श्रेणी : 1-क / भूमि जो संक्रमणीय अधिकार वाले भूमिधारो के अधिकारमे हो					
सुधीर कुमार / विरेन्द्र कुमार / नि॰ ग्राम नरेन्द्र / आशाराम / नि॰ ग्राम हरेन्द्र / आशाराम / नि॰ ग्राम रेखा गोयल / पत्नी राजीव कुमार गोयल / नि॰5/3 गंगाविहार आवास विकास कालोनी रुड़की	1385फ0 से	68/2	1.4340	नरेन्द्र ने अपना भाग 1/3 16,000 का ऋण लेकर पी0बी0आई0 बैंक को बंधक कर दिया है। ह0ले0अ0/ 24.09.1986 1410फ0 पी0एन0बी0 से सुधीर पुत्र विरेन्द्र निवासी ग्राम ने अपनी भूमि खाता सं0 269 को भागानुसार बंधक कर रु0 50,000 में बंधक किया है। ह0ले0अ0/ 20.02.2003 पी0एन0बी0 बेलडा के बंधक पत्र दिनांक 04.02.2006 के अनुसार सुधीर कुमार पुत्र विरेन्द्र कुमार ने अपनी भूमि खाता सं0 269 को बंधक कर रु0 1,00,000 का ऋण लिया है। ह0ले0अ0/ 10.03.2006 पी0एन0बी0 बेलडा के बंधक पत्र दिनांक 12.08.2008 के अनुसार सुधीर कुमार पुत्र विरेन्द्र कुमार ने अपनी भूमि खाता सं0 269 को बंधक कर रु0 2,60,000 का ऋण लिया है। ह0ले0अ0/ 20.08.2008 पी0एन0बी0 बेलडा के बंधक पत्र दिनांक 05.06.2012 के अनुसार सुधीर कुमार पुत्र विरेन्द्र कुमार ने अपनी भूमि खाता सं0 269 को बंधक कर रु0 7,50,000 का ऋण लिया है। ह0ले0अ0/ 06.06.2012 पी0एन0बी0 बेलडा के बंधक पत्र दिनांक 21.09.2011 के अनुसार	

Disclaimer: यह अभिलेख मात्र आपकोसार्थ है तहसील कार्यालय केन्द्र से उक्त की प्रमाणित प्रति प्राप्त की जा सकती है।
Data Updated Upto. Fri Feb 01 14:54:07 IST 2019
Technical Support By: National Informatics Center, Uttarakhand State Unit, Dehradun
Contents owned by Board of Revenue(Uttrakhand)

Digital India

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96
Case No. ..... Date.....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun
Mob.: 7895872139, 9412143346
DEHRADUN KALP SYSTEMS PRIVATE LTD.

खाता विवरण (अप्रमाणित प्रति)

ग्राम का नाम : वेलडी साल्हापुर परगना : (रुड़की) तहसील : रुड़की जनपद : हरिद्वार फसली वर्ष : 1422-1427 भाग : 1 खाता संख्या : 00269

				हरेन्द्र कुमार पुत्र आसाराम ने अपनी भूमि खाता सं0 269 को बंधक कर रु0 3,00,000 का ऋण लिया है। ह0ले0अ0/ 21.09.2011 पी0एन0बी0 वेलडा के बंधक पत्र के अनुसार नरेन्द्र कुमार पुत्र आसाराम ने अपनी भूमि खाता सं0 269 को बंधक कर रु0 2,50,000 का ऋण लिया है। ह0ले0अ0/ 19.09.2011 1424फ0 पी0एन0बी0 वेलडा के बंधक पत्र दि0 10.10.2016 (89/0का0) के अनुसार सुधीर कुमार पुत्र विरेन्द्र ने अपनी भूमि खाता सं0 269 को भागानुसार बंधक कर रु0 20,00,000 का ऋण लिया है। ह0ले0अ0/ 25.10.2016 1425फ0 न्यायालय तहसीलदार रुड़की वाद सं0 1265/16-17/16.09.17को आदेश हुआ कि खासरा नं0 68/2/1.4340है0 की अपनी कुल भूमि 0.2560है0 भू-रा0 रु0 12.15 से विक्रेता हरेन्द्र पुत्र आशाराम निवासी वेलडी साल्हापुर पर0 व तह0 रुड़की का नाम खारिज करके केता सुधीर कुमार पुत्र विरेन्द्र कुमार निवासी वेलडी साल्हापुर पर0 व तह0 रुड़की का नाम द्वारा बैनामा रजि0 सं0 4369/14.05.13 अंकन 5,00,000/- से बतौर सं0भूमिधर अंकित हो। ह0र0का0/16.09.17	
योग		1	1.4340		

Disclaimer: इस वेबसाईट पर उपलब्ध की है, तहसील कम्प्यूटर केन्द्र से अद्यतन की प्रमाणित प्रति प्राप्त की जा सकती है।

Data Updated Upto: Fri Feb 01 14:54:07 IST 2019

Technical Support By: National Informatics Center, Uttarakhand State Unit, Dehradun.

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Digital India
Power To Empower

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

PAL ARCHITECT & ENGINEER
COA No. CA/2008/...
Case No. ...
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DEBI KAY SYSTEMS PRIVATE LTD.

खाता विवरण (अप्रमाणित प्रति)

ग्राम का नाम : बेलडी साल्हापुर परगना : (रुड़की) तहसील : रुड़की जनपद : हरिद्वार फसली वर्ष : 1422-1427 भाग : 1 खाता संख्या : 00269

				हरेन्द्र कुमार पुत्र आसाराम ने अपनी भूमि खाता सं0 269 को बंधक कर रु0 3,00,000 का ऋण लिया है। ह0ले0अ0/ 21.09.2011 पी0एन0बी0 बेलडा के बंधक पत्र के अनुसार नरेन्द्र कुमार पुत्र आसाराम ने अपनी भूमि खाता सं0 269 को बंधक कर रु0 2,50,000 का ऋण लिया है। ह0ले0अ0/ 19.09.2011 1424फ0 पी0एन0बी0 बेलडा के बंधक पत्र दि0 10.10.2016 (89/ठ0का0) के अनुसार सुधीर कुमार पुत्र विरेन्द्र ने अपनी भूमि खाता सं0 269 को भागानुसार बंधक कर रु0 20,00,000 का ऋण लिया है। ह0ले0अ0/ 25.10.2016 1425फ0 न्यायालय तहसीलदार रुड़की वाद सं0 1265/16-17/16.09.17को आदेश हुआ कि खसरा नं0 68/2/1.4340है0 की अपनी कुल भूमि 0.2560है0 भू-रा0 रु0 12.15 से विक्रेता हरेन्द्र पुत्र आशाराम निवासी बेलडी साल्हापुर पर0 व तह0 रुड़की का नाम खारिज करके क्रेता सुधीर कुमार पुत्र विरेन्द्र कुमार निवासी बेलडी साल्हापुर पर0 व तह0 रुड़की का नाम द्वारा बैनामा रजि0 सं0 4369/14.05.13 अंकन 5,00,000/- से बतौर सं0भूमिधर अंकित हो। ह0ठ0का0/16.09.17	
योग		1	1.4340		

Disclaimer: यह कॉपी मात्र अवलोकनार्थ है, तहसील कम्प्यूटर केन्द्र से अंतरण की प्रमाणित प्रति प्राप्त की जा सकती है।

Data Updated Upto: Fri Feb 01 14:54:07 IST 2019

Technical Support By: National Informatics Center, Uttarakhand State Unit, Dehradun.

Contents owned by Board of Revenue(Uttrakhand)

Digital India

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/9[illegible]
Case No. 0981..... Date...14/11/2018
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DEEP SYSTEMS PRIVATE LTD.

(Architecture Drawing)

Pradhan Mantri Awas Vikas Yojna EWS

Beldi

Distt- Roorkee

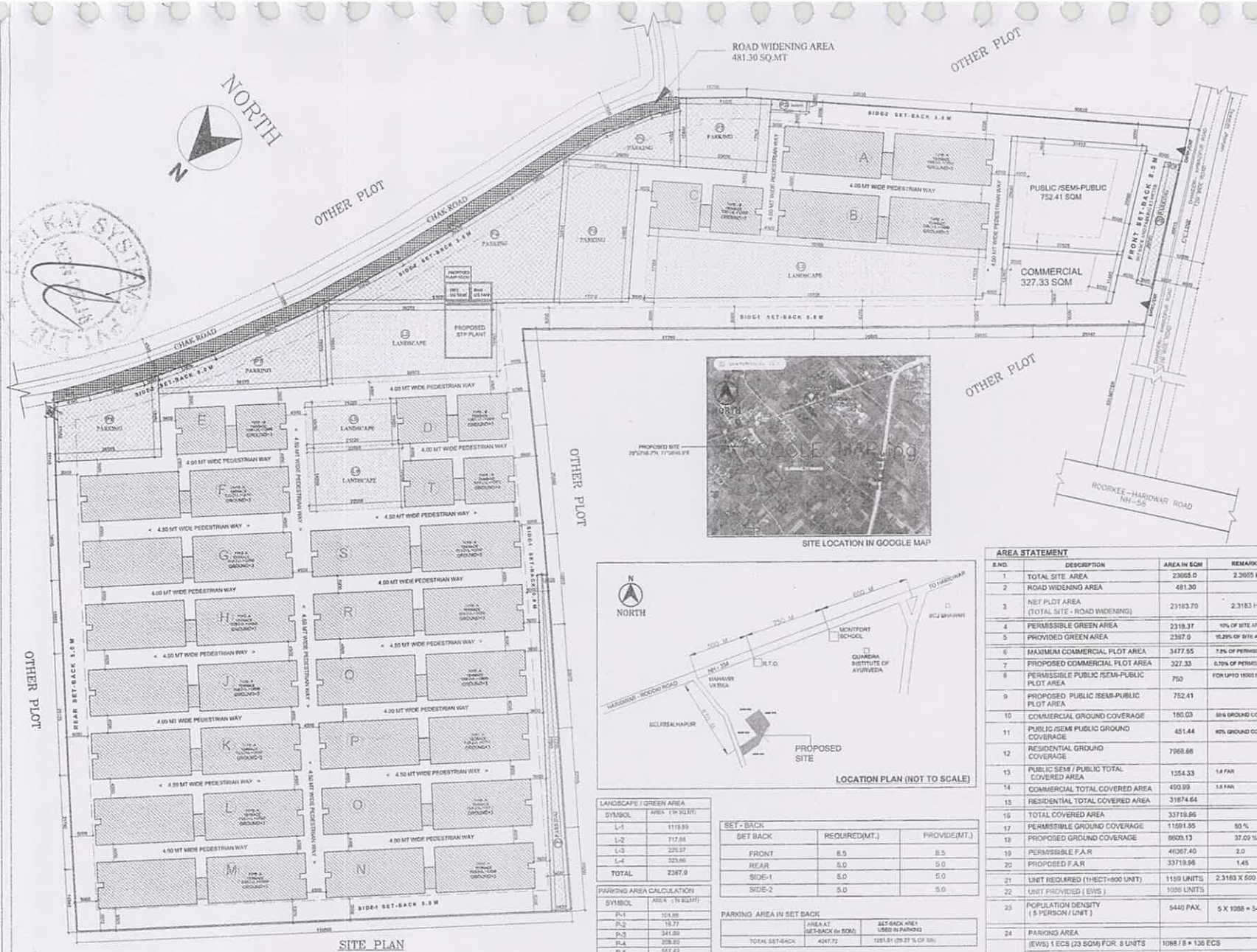
(Uttrakhand)

DEBI KAY SYSTEMS PVT. LTD.

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

ARCHITECT AND ENGINEER
No. CA/2018/96244
Date 14/1/22
Ground infront of PRD Ground
Bank Debradun (U.K.)
96872139, 941213346

DEBI KAY SYSTEMS PVT. LTD.
NEW DELHI



SITE PLAN

LANDSCAPE / GREEN AREA	
SYMBOL	AREA (IN SQ.MT)
L-1	1119.99
L-2	717.88
L-3	226.57
L-4	323.66
TOTAL	2387.9

PARKING AREA CALCULATION	
SYMBOL	AREA (IN SQ.MT)
P-1	101.66
P-2	19.77
P-3	341.89
P-4	208.80
P-5	557.43
P-6	842.32
P-7	435.00
P-8	359.64
P-9	294.84
TOTAL	3154.54

SET - BACK		
SET BACK	REQUIRED(MT.)	PROVIDE(MT.)
FRONT	6.5	8.5
REAR	5.0	5.0
SIDE-1	5.0	5.0
SIDE-2	5.0	5.0

PARKING AREA IN SET BACK

	AREA AT (SET-BACK for SOM)	SET-BACK AREA USED IN PARKING
TOTAL SET-BACK	4247.72	1251.81 (29.37 % OF SB)

NUMBER OF UNITS CHART

TYPE	NO. OF CLUSTERS	NUMBER OF UNITS				TOTAL
		GROUND	FIRST	SECOND	THIRD	
TYPE-A	15	16	16	16	16	960 UNITS
TYPE-B	4	8	8	8	8	128 UNITS
TOTAL NO. OF UNITS						1088 UNITS

CLUSTER AREA CHART

TYPE	NO. OF CLUSTERS	AREA CHART (in SQ.MT)				TOTAL COVERED AREA OF EACH CLUSTER	TOTAL COVERED AREA
		GROUND	FIRST	SECOND	THIRD		
TYPE-A	15	467.30	467.30	467.30	467.30	1869.2	28038.05 SQM
TYPE-B	4	238.79	238.79	238.79	238.79	955.16	3820.64 SQM
TOTAL AREA OF ALL CLUSTERS							31874.84 SQM

AREA STATEMENT				
S.NO.	DESCRIPTION	AREA IN SQM		REMARK
1	TOTAL SITE AREA	23665.0		2.3665 HEC
2	ROAD WIDENING AREA	481.30		
3	NET PLOT AREA (TOTAL SITE - ROAD WIDENING)	23183.70		2.3183 HEC
4	PERMISSIBLE GREEN AREA	2318.37		10% OF SITE AREA
5	PROVIDED GREEN AREA	2387.9		10.29% OF SITE AREA
6	MAXIMUM COMMERCIAL PLOT AREA	3477.55		7.5% OF PERMISSIBLE FAR
7	PROPOSED COMMERCIAL PLOT AREA	327.33		0.70% OF PERMISSIBLE FAR
8	PERMISSIBLE PUBLIC /SEMI-PUBLIC PLOT AREA	750		FOR UPTO 18000 PERSONS
9	PROPOSED PUBLIC /SEMI-PUBLIC PLOT AREA	752.41		
10	COMMERCIAL GROUND COVERAGE	180.03		55% GROUND COVERAGE
11	PUBLIC /SEMI PUDLIC GROUND COVERAGE	451.44		60% GROUND COVERAGE
12	RESIDENTIAL GROUND COVERAGE	7968.66		
13	PUBLIC SEMI / PUBLIC TOTAL COVERED AREA	1354.33		1.8 FAR
14	COMMERCIAL TOTAL COVERED AREA	490.99		1.5 FAR
15	RESIDENTIAL TOTAL COVERED AREA	31874.64		
16	TOTAL COVERED AREA	33719.96		
17	PERMISSIBLE GROUND COVERAGE	11591.85		50 %
18	PROPOSED GROUND COVERAGE	8609.13		37.09 %
19	PERMISSIBLE F.A.R	46367.40		2.0
20	PROPOSED F.A.R	33719.96		1.45
21	UNIT REQUIRED (1HECT=500 UNIT)	1159 UNITS		2.3183 X 500 UNITS
22	UNIT PROVIDED (EWS)	1088 UNITS		
23	POPULATION DENSITY (5 PERSON / UNIT)	5440 PAX.		5 X 1088 = 5440
24	PARKING AREA			
	(EWS) 1 ECS (23 SQM) FOR 8 UNITS	1088 / 8 = 136 ECS		
	PARKING AREA PROVIDED (ECS)	137 ECS		
	PARKING AREA REQUIRED	3128.09 SQM		
	PARKING AREA PROVIDED	3154.54 SQM		

RAIN WATER HARVESTING CALCULATION		
PLOT AREA	23183.70	SQM
GROUND COVERAGE AREA(ROOF AREA)	8609.13	SQM
RWHT VOLUME TILL 400 SQM	3.5	CUM
RWHT VOLUME BALANCE COVERAGE (Balance Area x 0.5 / 50)	82.00	CUM
TOTAL RWHT VOLUME REQUIRED	85.50	CUM
PROPOSED VOLUME OF SINGLE TANK	30.0	CUM
PROPOSED VOLOUME @ 3 NOS. TANK	3	NOS.



SITE ON SIJRA PLAN

T.O.S.LVL = TOP OF SLAB LEVEL
F.F.LVL = FLOOR FINISH LEVEL
T.O.C.LVL = TOP OF CONCRETE LEVEL

REVISIONS				
NO.	DATE	CHECKED	VERIFIED	REMARKS

PROJECT TITLE :

PROPOSED EWS GROUP HOUSING
PMAY (EWS) AWASIYA YOJANA,
(UTTRAKHAND AWAS AVAM
VIKAS PARISHAD)

SITE AT - KHASRA NO. 66, 68/2, VILL- BELDI,
TEH. - ROORKEE, HARIDWAR , UTTARAKHAND

APPLICANT :

DEBIKAY SYSTEMS (p) Ltd.
Through Director Mr. Arjun Mangal

G-127, 12TH FLOOR, HIMALAYA HOUSE,
KASTURBA GANDHI MARG, NEW DEHLI

LAND OWNER :

SHRI SUDHIR KUMAR S/O MR. VIRENDRA KUMAR
R/O.- 27, BELDI SHAILAPUR, DHANDHERI KHWAZGIPUR,
HARIDWAR, UTTARAKHAND-247667

SHRI DEVPAL S/O MR. AASHARAM
R/O.- BELDA, BELRA(M), HARIDWAR, ROORKEE,
UTTARAKHAND

DRG. TITLE

SITE PLAN (FOR APPROVAL)

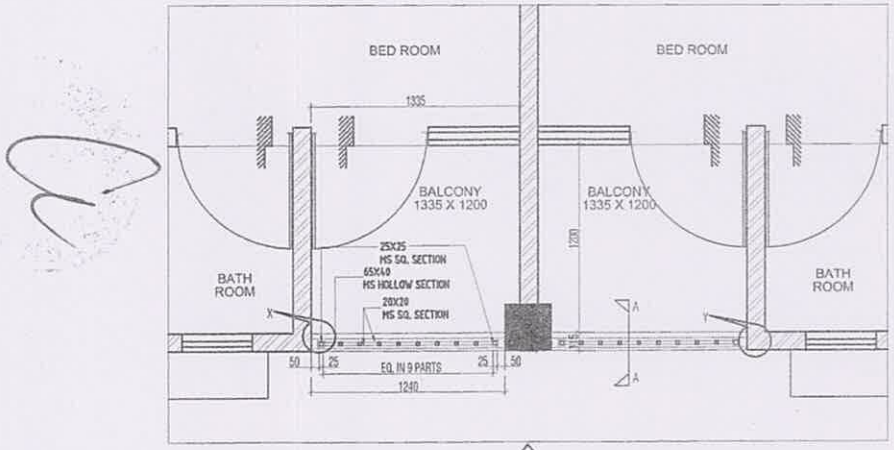
ARCHITECT :

HDC ARCHITECTS
105A IDEA COLONY, RUDRAPUR, UTTRAKHAND
PHONE : +9-9870451163, 8077559905
EMAIL : hdcarchitectsdesignc@gmail.com

DRG. NO.	REV.		DATE
A-JSP-SP-FA-01	R0		APR 2022
DRAWN: CS	CHECKED: DR		
VERIFIED: RC	STATUS: FOR APPROVAL		

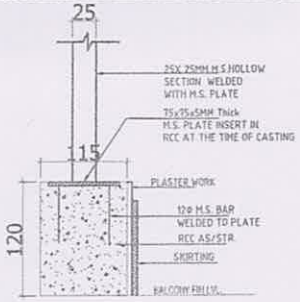
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PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 6091 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

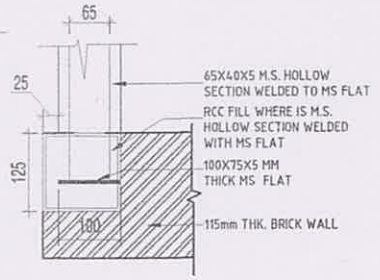


PLAN

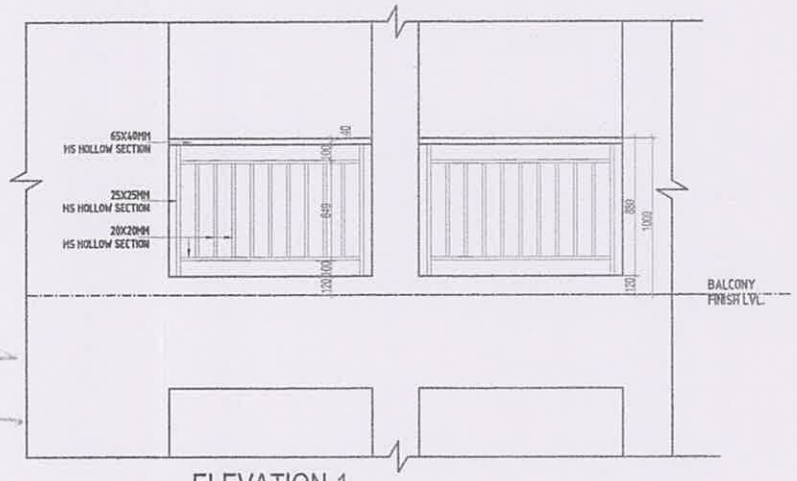
ELE-1



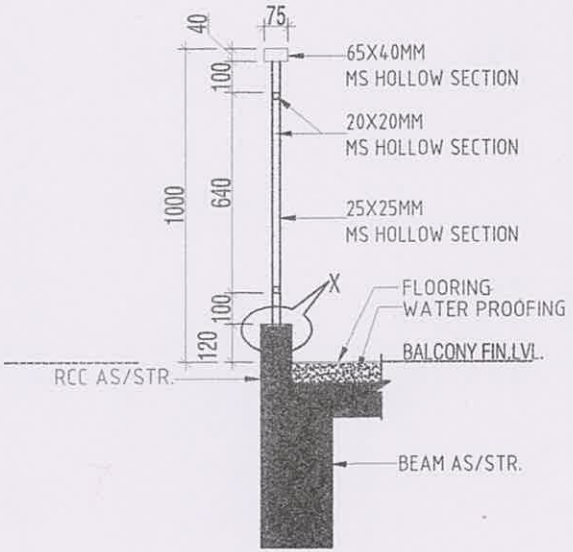
Det-X



Det-Y
Scale 1:5



ELEVATION-1

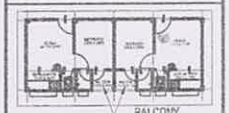


SECTION-A-A

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NOTES

1. ALL DIMENSIONS ARE IN MM, U.N.O.
2. ALL DIMENSIONS ARE TO BE READ ONLY AND NOT TO BE MEASURED/ SCALED.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT STRUCTURAL, ARCHITECTURAL SERVICES AND LANDSCAPE DRAWINGS.
4. ANY DISCREPANCIES IN THE DRAWINGS OR AT SITE SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECTS IMMEDIATELY.
5. FOR DETAILS REFER RELEVANT LARGE SCALE DETAIL DRAWINGS AS INDICATED.
6. RCC/BRICKBAT TO BE PROVIDED FOR SLABS IN ALL SHAFTS AND CUTOUTS. (EXCEPT LIFT SHAFTS & VENTILATION CUTOUTS) FOR SLAB TO BE CAST TO SEAL THE SHAFT AFTER INSTALLATION OF ALL SERVICES.
7. MASONRY WORK AROUND SERVICES SHAFTS AND CUTOUTS TO BE KEPT OPEN ONLY COORDINATED WITH SERVICES CONTRACTORS FOR INSTALLATION OF ALL SERVICES.
8. FLOOR FINISH DROP FOR TOILETS SHALL BE 100MM, AND AT BALCONY IT SHALL BE 75MM UNLESS OTHERWISE SPECIFIED.
9. SLAB DROP IN TOILETS=100MM, AT BALCONIES= 50MM, UNLESS OTHERWISE SPECIFIED.
10. ALL MASONRY WALLS TO BE 115 & 230 MM THK. BLOCK WORK UNLESS OTHERWISE SPECIFIED AND ALL OPENINGS SIZES MENTIONED ARE GIVENSIZED MASONRY SIZES.
11. SLOPE IN FLOOR PINCH FOR BALCONY DRAINAGE/TOILETS SHALL BE NOM UNLESS NOTED OTHERWISE.
12. FOR RAILING DETAIL REFER RESPECTIVE RAILING DRAWING



TYPICAL UNIT PLAN

REV.NO.	DATE	DESCRIPTION
R0	06.10.22	ISSUE FOR GFC (2 PRINTS)

APPLICANT

DEBIKAY SYSTEMS (P) LTD.
Through Director Mr.Arjun Mangal
G-127,12TH FLOOR, HIMALAYA HOUSE
KASTURBA GANDHI MARG. NEW DELHI

M&P Consultants
Techne Engineers Pvt Ltd.
A - 9697 Paryavaran Complex
Ignou Road Sultanpur N. Delhi-110030
Tel : (011) 26532149
e mail : techne.engg.com@gmail.com

STRUCTURAL DESIGN & DRAWINGS

M.V.P. CONSULTANT & ASSOCIATES
203, TARA PLACE NAINITAL ROAD
HALDWANI
Email: consultantmvp@gmail.com

PROJECT ARCHITECTS

GARG & ASSOCIATES
ARCHITECTS, ENGINEERS, PLANNERS
48,REGAL BUILDING, CONNAUGHT PLACE,
NEW DELHI -110001.
e-Mail: office@gargassociates.in

Project

PROPOSED PMAY (EWS) AWASIYA YOJANA
BELDI , HARDWAR , UTTARAKHAND

Drawing Title

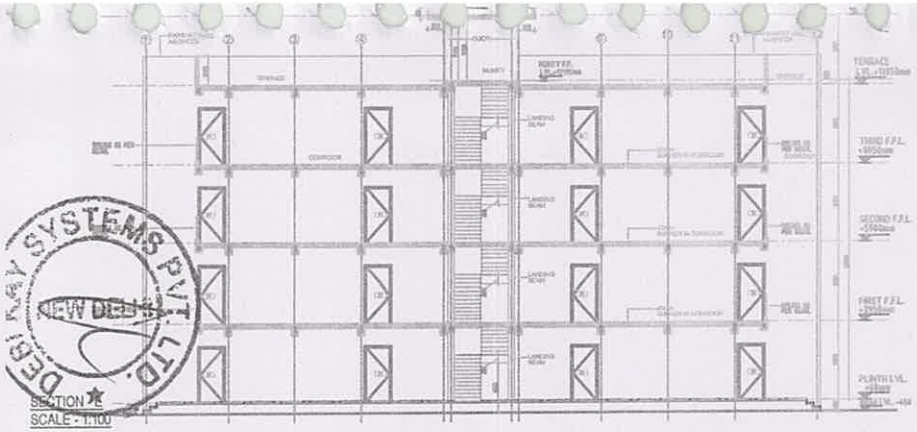
BALCONY RAILING DETAIL

Drawing Purposed

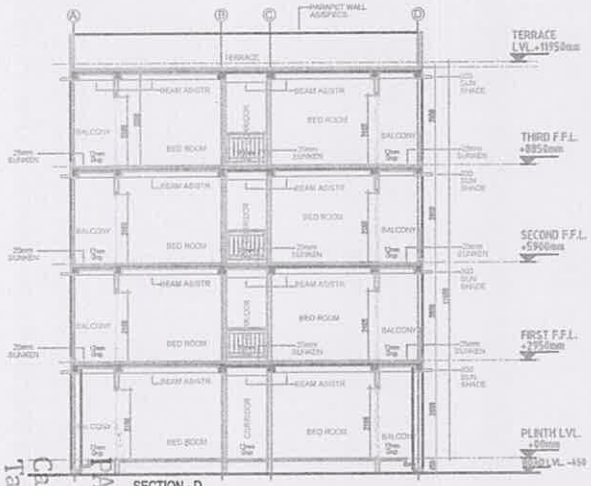
GOOD FOR APPROVAL

Job Number	Scale	North
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CAD file ref.	Date	
	OCT. 2022	
Drawn by	Checked by	Approved by
suman		
Drawing Number		Rev. R0
PMAY/BELDI/RD/01		Date Of Issue 06.10.22

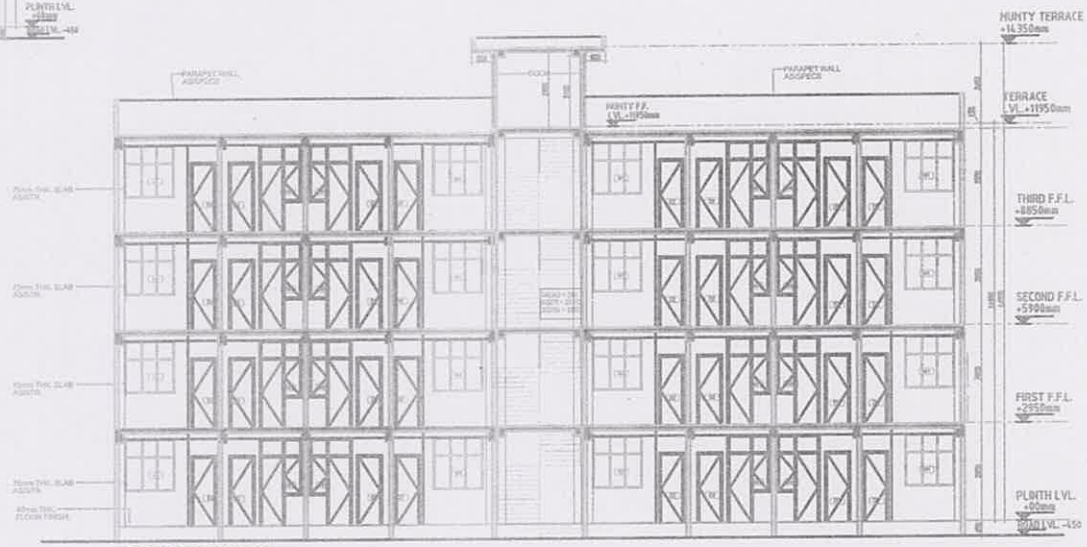
PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 6081 Date 14.11.22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (UK)
Mob.: 7895872139, 9412433246



SECTION - A
SCALE - 1:100



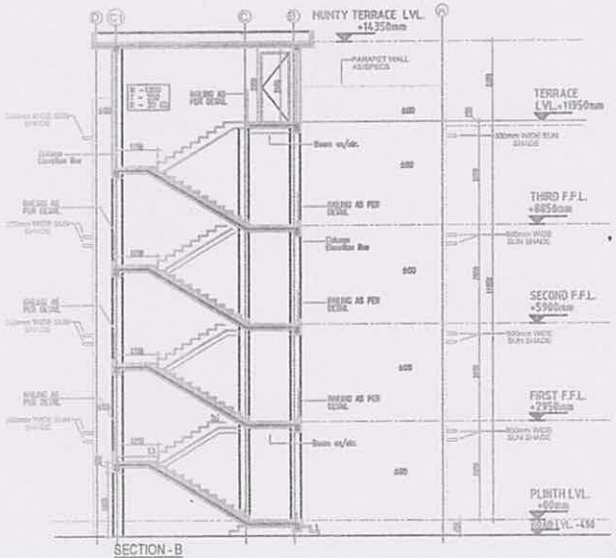
SECTION - D



TYPICAL SECTION "(A-A)"
SCALE - 1:80



FRONT ELEVATION - 1
SCALE - 1:80



SECTION - B

DEBIKAY SYSTEMS PVT. LTD. NEW DELHI

GAIRAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081..... Date 14/11/22.....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

NO.	DD.MM.YY	REMARK
00	06.10.22	ISSUE FOR GFC (2 PRINTS)

APPLICANT

DEBIKAY SYSTEMS (P) LTD.
Through Director Mr.Arjun Mangal
G-127,12TH FLOOR, HIMALAYA HOUSE
KASTURBA GANDHI MARG, NEW DELHI

MEP Consultants
Techne Engineers Pvt Ltd.
A - 9697 Paryavaran Complex
Ignou Road Sarita Vihar, New Delhi-110076
Tel : (011) 26535349
e mail : techne.engg.new@gmail.com

STRUCTURAL CONSULTANTS

M.V.P. CONSULTANT & ASSOCIATES
203, TARA PLACE NAINITAL ROAD
HALDWANI
Email: consultantmvp@gmail.com

PROJECT ARCHITECTS

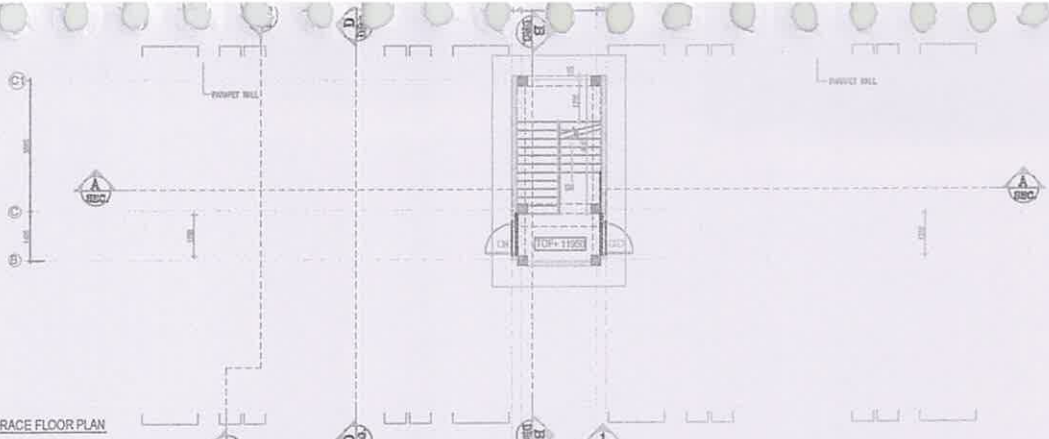
GARG & ASSOCIATES
ARCHITECTS, ENGINEERS, PLANNERS
145, REGAL BUILDING, CONNAUGHT PLACE,
NEW DELHI-110001
office@gargandassociates.in

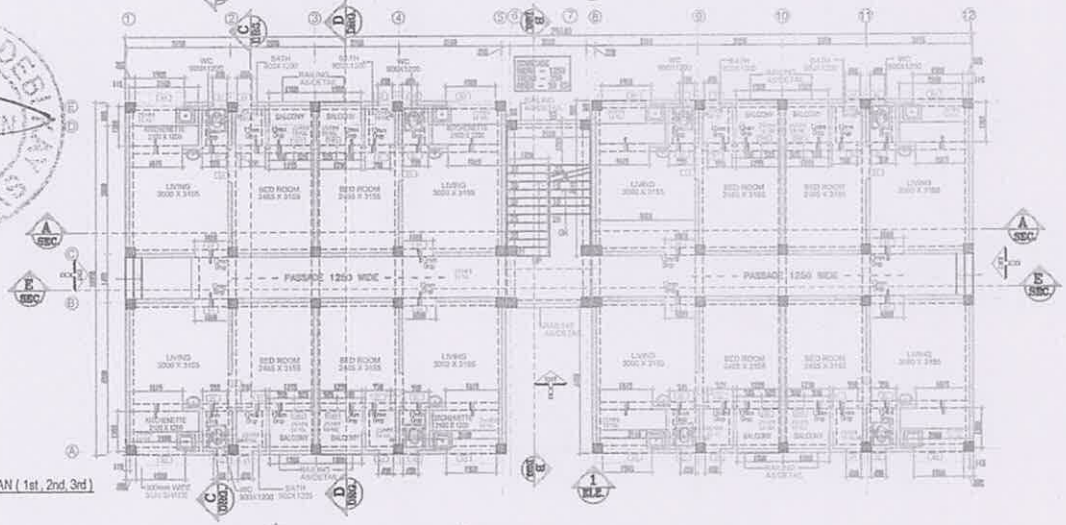
Project
PROPOSED PMAY (EWS) AWASIYA YOJANA
BELDI , HARIDWAR , UTTARAKHAND

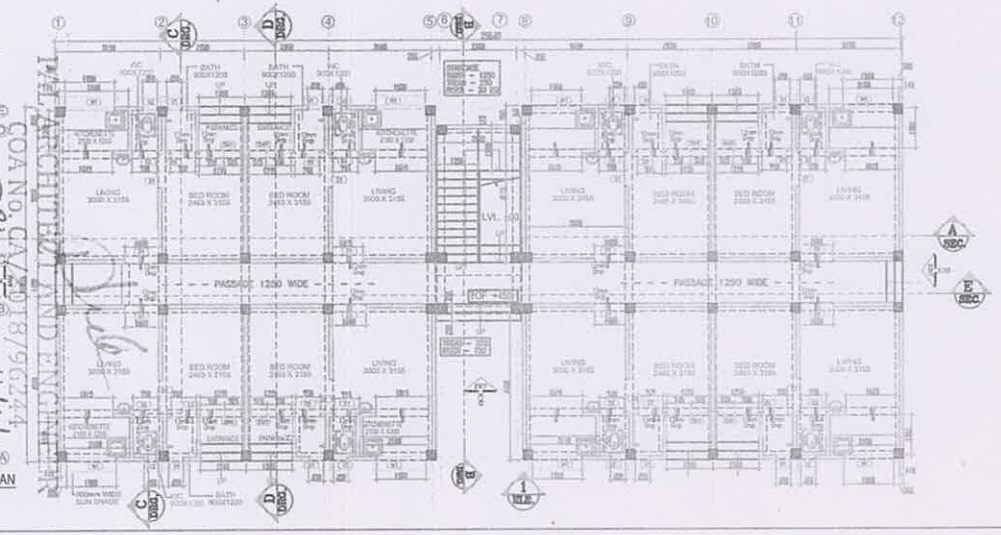
Drawing Title
SECTIONS & ELEVATION
UNIT - B

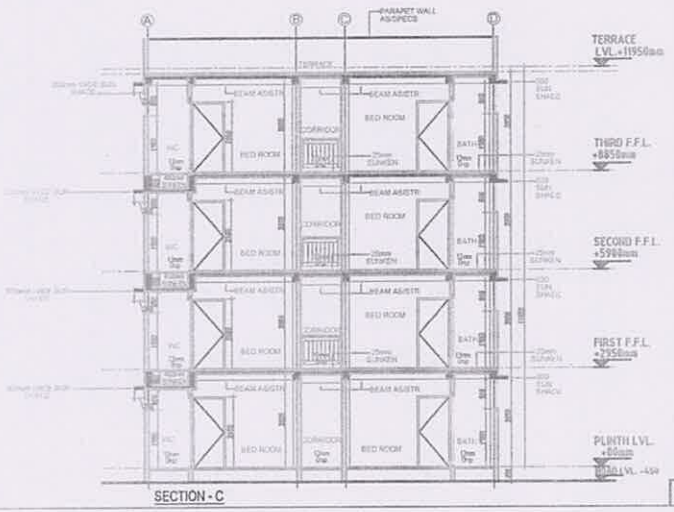
Drawing Purposed
GOOD FOR APPROVAL

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CAD file ref.	Date	
	OCT. 2022	
Drawn by	Checked by	Approved by
pumen		
Drawing Number		Rev.
PMAY.BELDI.W.02		00
A1		Date Of Issue 06.10.22









DOORS - WINDOWS SCHEDULE

SNO	NOMENCLATURE	WIDTH	HEIGHT	CILL	LINTEL
1	D	1000	2100	00	2100
2	D1	1000	2100	00	2100
3	D2	750	2000	00	2000
4	Door	1270	1710	890	2610
5	D3/2	1300	1710	900	2610
6	Door	1270	1710	900	2610
7	Door	1200	1710	900	2610
8	D4/5	1220	1710	900	2610
9	W1	1600	1060	1700	2760
10	V1 (BATH & W.C)	600	600	1700	2300
11	V2 (W.C)	600	600	1700	2300

NO	DATE	ISSUE FOR BPC (2 PRINTS)
REVISED	DATE	DESCRIPTION

APPLICANT

DEBIKAY SYSTEMS (P) LTD.
Through Director Mr.Arjun Maingal
G-127,12TH FLOOR, HIMALAYA HOUSE
KASTURBA GANDHI MARG, NEW DELHI

MEP Consultants
Techno Engineers Pvt Ltd.
A - 19/27 Paryavan Complex
Ignou Road Saidabjab M. Delhi-110030
Tel : (011) 29537160
e mail : tedhna.engg.com@gmail.com

STRUCTURAL CONSULTANTS
M.V.P. CONSULTANT & ASSOCIATES
203, TARA PLACE NAINITAL ROAD
HALDWANI
Email: consultantmvp@gmail.com

PROJECT ARCHITECTS
GARG & ASSOCIATES
ARCHITECTS, ENGINEERS, PLANNERS
48 ROYAL BUILDING CONNAUGHT PLACE
NEW DELHI-110001.
office@gargandassociates.in

Project
PROPOSED PMAY (EWS) AWASIYA YOJANA
BELDI , HARIDWAR , UTTARAKHAND

Drawing Title
FLOOR PLANS & SECTION
UNIT - 8

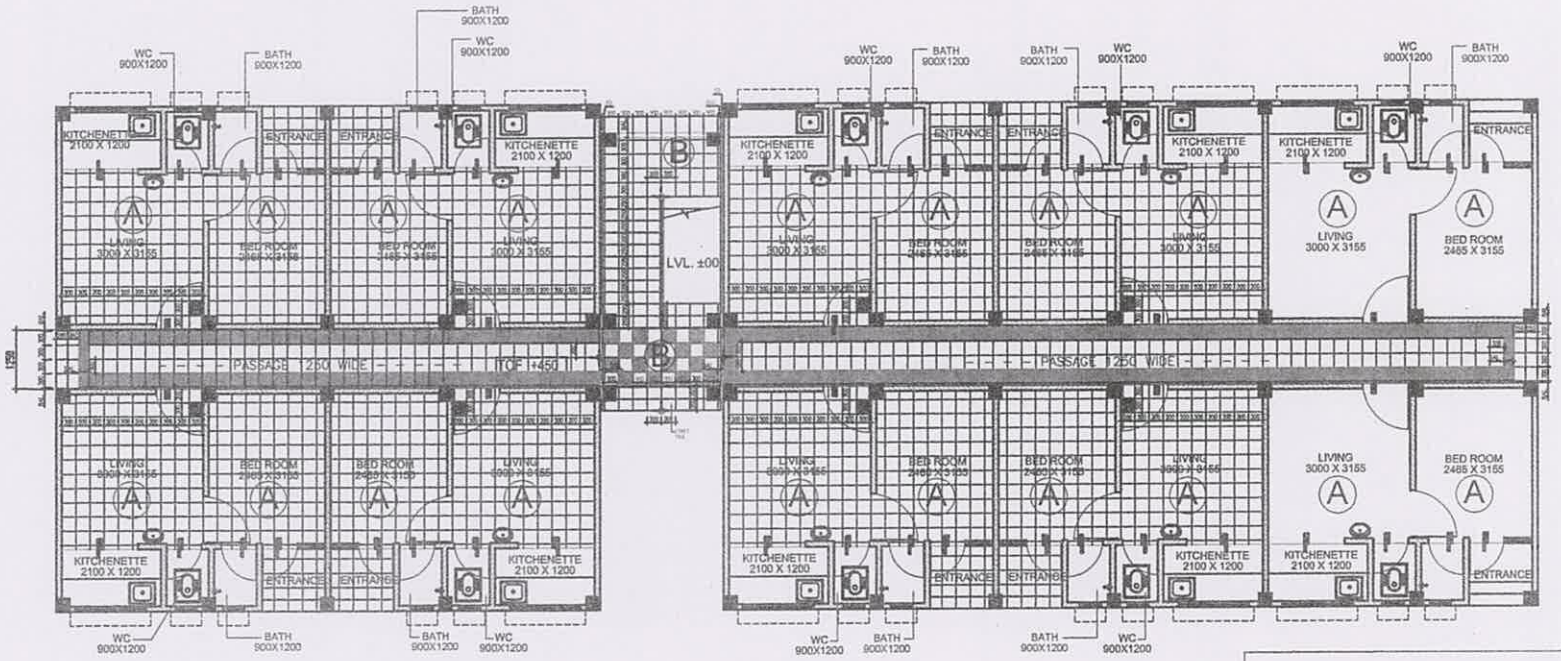
Drawing Purposed
GOOD FOR APPROVAL

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	OCT. 2022	
Drawn by	Checked by	Approved by
suman		
Drawing Number		Rev. R0
PMAY/BELDIW/01		Date Of Issue 06.10.22

A1

DEBIKAY SYSTEMS PVT. LTD.
M.E. ARCHITECTURE AND ENGINEERING
COA No. CA/2018/90244
Case No. ...
Date 14/1/22
Tapovan Road Mirzapur of PRU Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143211

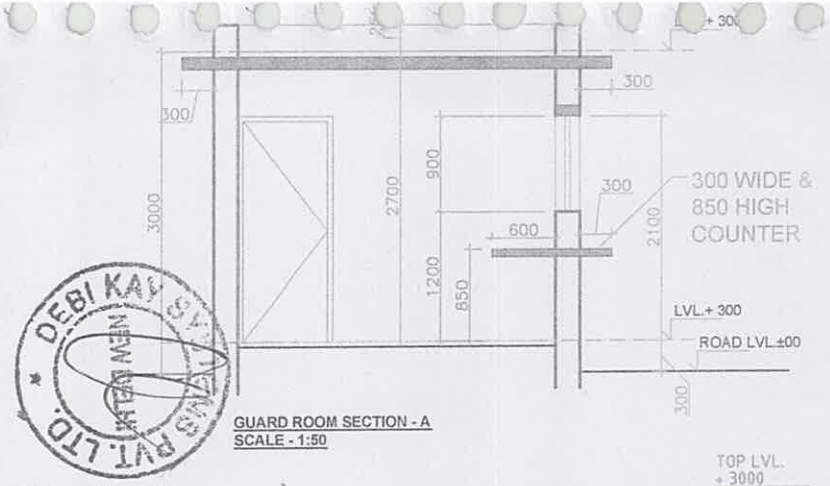
TYPICAL FLOOR FLOORING PLAN
(TOWER-A,B,C,D,E,F,G,H, J,K,L,M,N,O,P,Q,R,S,T)



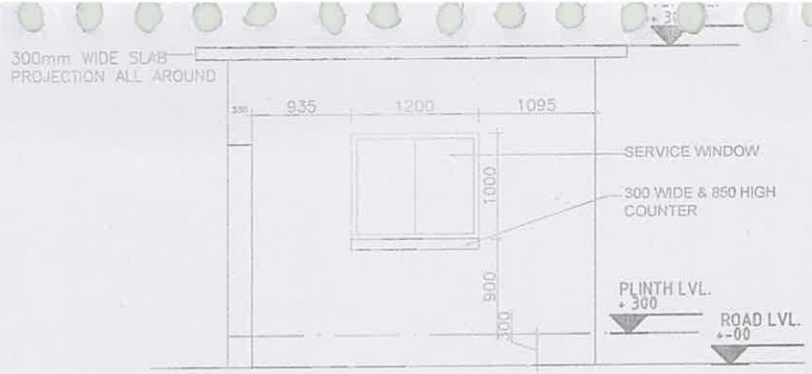
TYPICAL FLOOR FLOORING PLAN
(TOWER-U)

LEGEND	
A	MATTE FINISH MATCHING SKI (300MM X 300M
B	PRECAST CEM (300MM X 300M

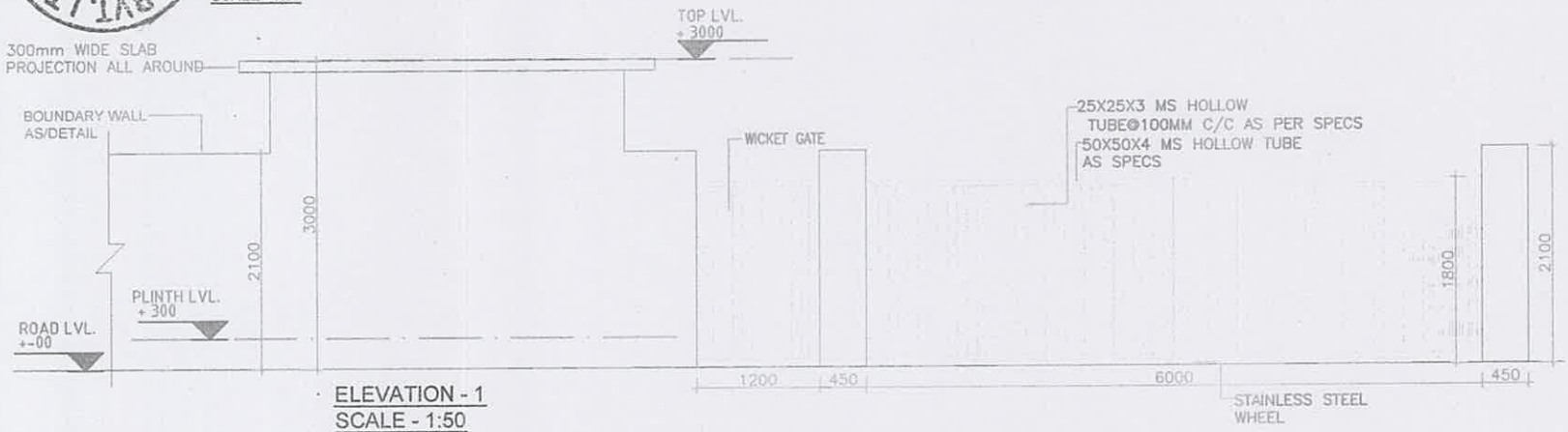
PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 008 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346



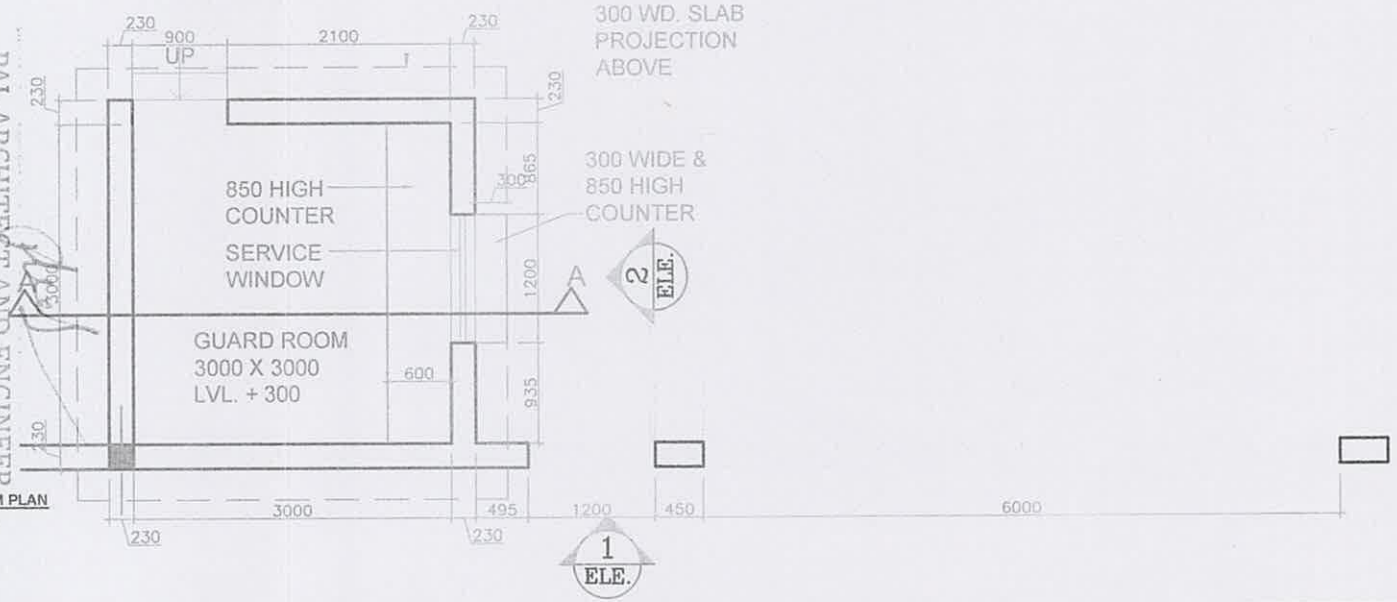
GUARD ROOM SECTION - A
SCALE - 1:50



ELEVATION - 2
SCALE - 1:50



ELEVATION - 1
SCALE - 1:50



GUARD ROOM PLAN
SCALE - 1:50

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

NOTES:

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6. REINFORCEMENT TO BE PROVIDED FOR SLABS IN ALL SHAFTS AND CUTOUTS (EXCEPT LIFT SHAFTS & VENTILATION CUTOUTS) FOR SLAB TO BE CAST TO SEAL THE SHAFT AFTER INSTALLATION OF ALL SERVICES.
7. MASONRY WORK AROUND SERVICES SHAFTS AND CUTOUTS TO BE KEPT ON HOLD/ COORDINATED WITH SERVICES CONTRACTORS FOR INSTALLATION OF ALL SERVICES.
8. FLOOR FINISH DROP FOR TOILETS SHALL BE 10MM, AND AT BALCONY IT SHALL BE 15MM UNLESS OTHERWISE SPECIFIED.
9. SLAB DROP: IN TOILET=100MM, IN BALCONIES= 50MM, UNLESS OTHERWISE SPECIFIED.
10. ALL MASONRY WALLS TO BE 125 & 250 MM THK. BLOCK WORK UNLESS OTHERWISE SPECIFIED AND ALL OPENINGS SIZES MENTIONED ARE UNFINISHED MASONRY SIZES.
11. SLOPE IN FLOOR FINISH FOR BALCONY DRAINAGE/TOILETS SHALL BE 1:200 UNLESS NOTED OTHERWISE.
12. FOR RAILING DETAIL REFER RESPECTIVE RAILING DRAWING

REV.NO.	DATE	DESCRIPTION
R0	06.10.22	ISSUE FOR GFC (2 PRINTS)

APPLICANT

DEBIKAY SYSTEMS (P) LTD.
Through Director Mr.Arjun Mangal
G-127,12TH FLOOR, HIMALAYA HOUSE
KASTURBA GANDHI MARG. NEW DELHI

PROJECT ARCHITECTS

GARG & ASSOCIATES
ARCHITECTS, ENGINEERS, PLANNERS
46,REGAL BUILDING, CONNAUGHT PLACE,
NEW DELHI -110001.
office@gargandassociates.in

Project

PROPOSED PMAY (EWS) AWASIYA YOJANA
BELDI , HARIDWAR , UTTARAKHAND

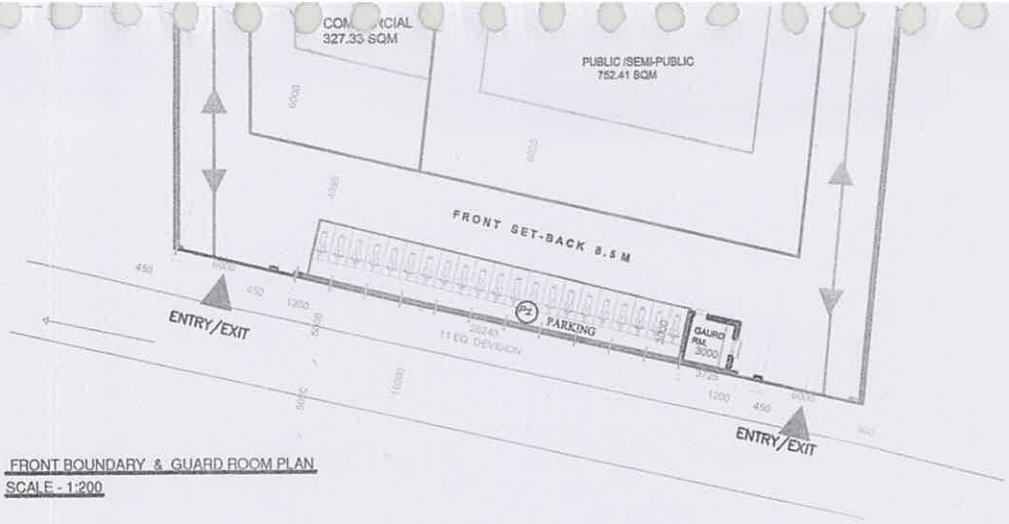
Drawing Title

TYPICAL GUARD ROOM &
GATE DETAIL

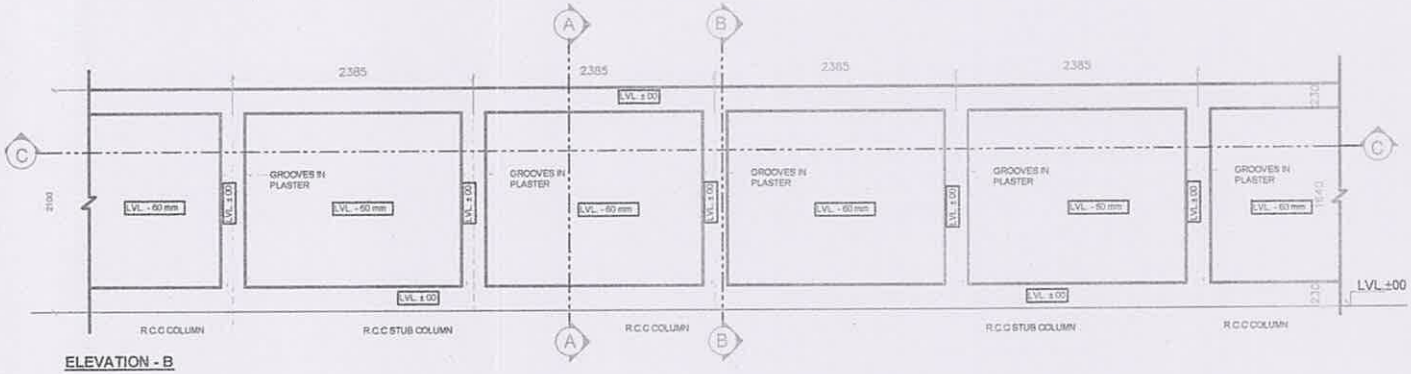
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GOOD FOR APPROVAL

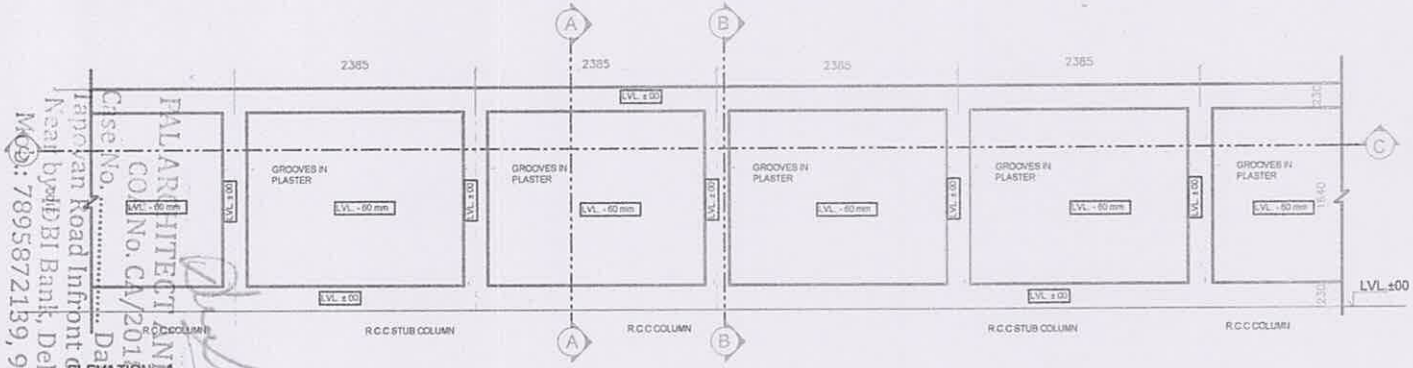
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CAD file ref.	Date	
	OCT. 2022	
Drawn by	Checked by	Approved by
suman		
Drawing Number		Rev. R0
PMAY/BELDI/BD/02		Date Of Issue 06.10.22



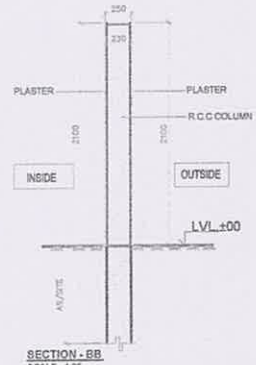
FRONT BOUNDARY & GUARD ROOM PLAN
SCALE - 1:200



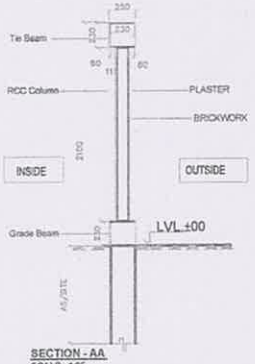
ELEVATION - B



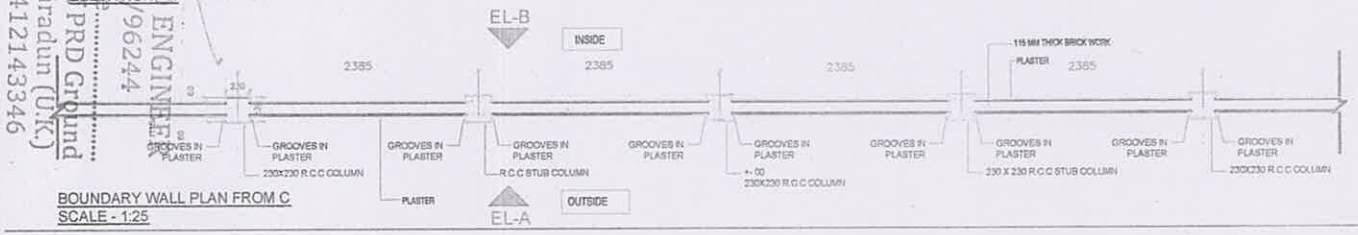
ELEVATION - A



SECTION - BB
SCALE - 1:25



SECTION - AA
SCALE - 1:25



BOUNDARY WALL PLAN FROM C
SCALE - 1:25

PALARCHITECTS ENGINEERS
CONo. CA/2011/96244
Case No. Date
Near by BI Bank, Dehradun (U.K.)
M@: 7895872139, 9412143346

NO	DATE	DESCRIPTION
00	06.10.22	ISSUE FOR SPC CF PRINTS

APPLICANT

DEBIKAY SYSTEMS (P) LTD.
Through Director Mr.Arjun Mangal
G-127,12TH FLOOR, HIMALAYA HOUSE
KASTURBA GANDHI MARG, NEW DELHI

MEP Consultants
Techno Engineers Pvt Ltd.
A- 3697 Paryavaran Complex
Ignou Road Saidulajab N. Delhi-110030
Tel : (011) 29575120
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STRUCTURAL CONSULTANTS
M.V.P. CONSULTANT & ASSOCIATES
203, TARA PLACE RAINITAL ROAD
HALDWANI
Email: consultantmvp@gmail.com

PROJECT ARCHITECTS
GARG & ASSOCIATES
ARCHITECTS, ENGINEERS PLANNERS
48, REGAL BUILDING, CONNAUGHT PLACE
NEW DELHI-110001

Project
PROPOSED PMAY (EWS) AWASIYA YOJANA
BELOI , HARIDWAR , UTTARAKHAND

Drawing Title
FRONT BOUNDARY WALL DETAIL

Drawing Purposed
GOOD FOR APPROVAL

Job Number	Scale	North
	1:25 , 1:175	
CAD file ref.	Date OCT. 2022	
Drawn by: suman	Checked by	Approved by
Drawing Number: PMAY/BELDI/BD01		SIR. R0 Date Of Issue 06.10.22

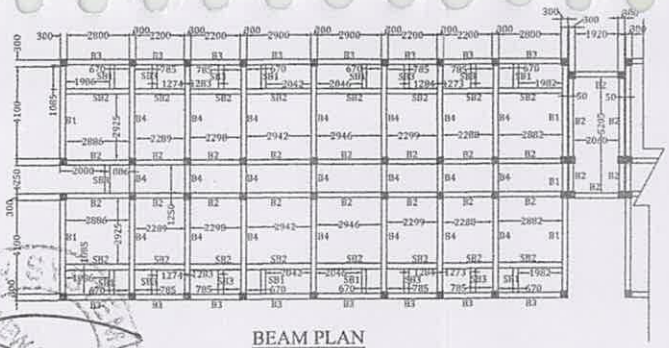
(Structure Drawing)

Pradhan Mantri Awas Vikas Yojna EWS Beldi

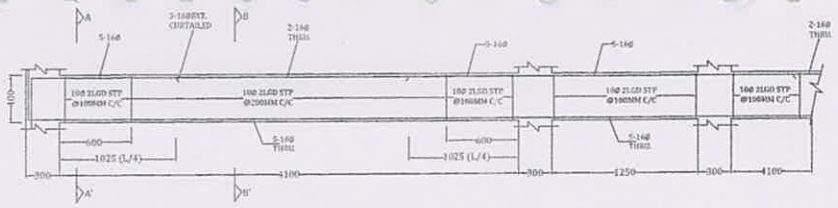
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(Uttrakhand)

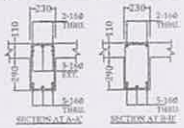
PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

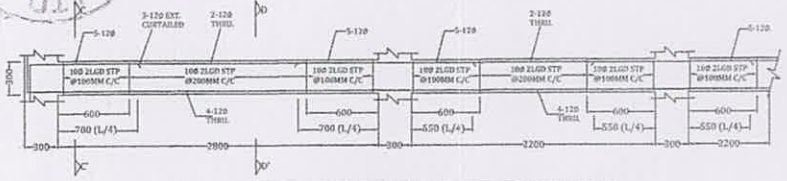


BEAM PLAN



REINFORCEMENT DETAIL OF BEAM B1

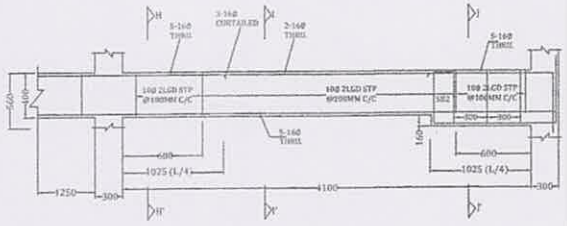




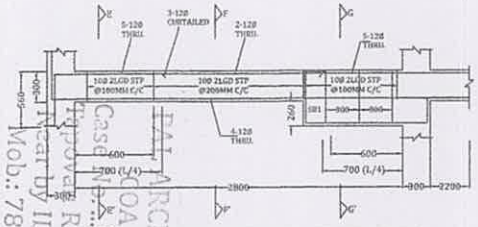
REINFORCEMENT DETAIL OF BEAM B2



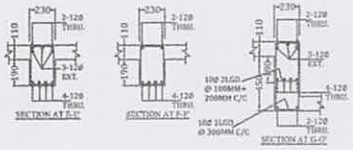


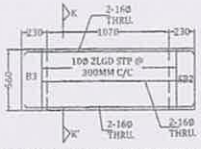


REINFORCEMENT DETAIL OF BEAM B4

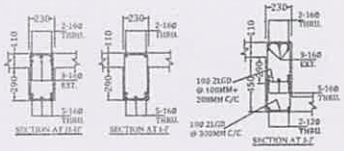


REINFORCEMENT DETAIL OF BEAM B3

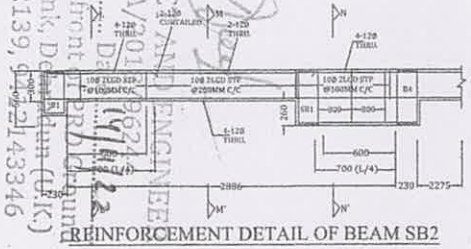




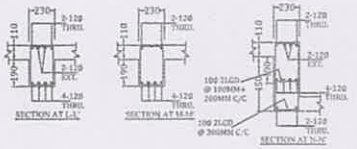
REINFORCEMENT DETAIL OF BEAM SB1

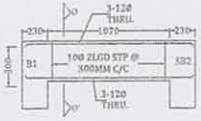




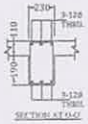


REINFORCEMENT DETAIL OF BEAM SB2





REINFORCEMENT DETAIL OF BEAM SB3

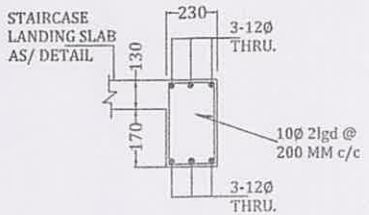


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15. MORE THAN 50 % OF BARS SHALL NOT BE SPLICED AT ANY ONE SECTION.
16. STRUCTURE IS DESIGNED FOR A S.B.C. OF 7.5T/M2
17. All SLABS FROM GF TO FF TERRACE 110 MM THICK EXCEPT NOTED OTHERWISE

SCHEDULE FOR SLAB BEAM

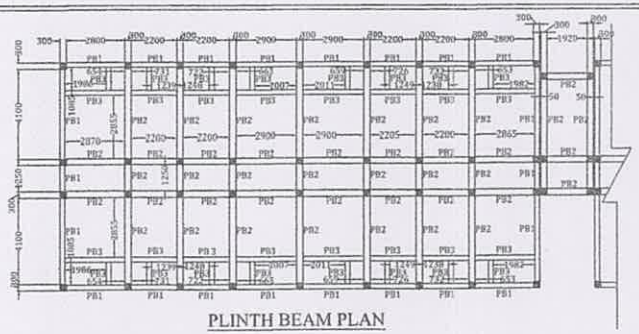
BEAM	WIDTH (B)(MM)	DEPTH (D)(MM)	
			AT SUNK
B1	230	400	-
B2	230	300	-
B3	230	300	560
B4	230	400	560
SB1	230	560	-
SB2	230	300	560
SB3	230	300	-



DETAIL OF LANDING BEAM

PROJECT	DRG. NO.	TITLE	REV.	DATE	STRUCTURE ENGG. SIGN	DESIGNED BY:	CONSULTANT
PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 16 BELDI,ROORKEE	3	DETAIL OF TYP. FIRST, SECOND,THIRD FLOOR SLAB BEAM	R0	30/09/2022	J.C. Belwal, B.Tech, FIE,FIV, MA Struct-E, LM-ICI,LM-IRC, Authorised Structural Engineer (ASE), Regd. No DOH-URKG-I/ASE-6/2019, 203, Taraplace, Nainital Road, Haldwani, Distt. Nainital (Uttarakhand) Mo.9537774719	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
			G.F.C				

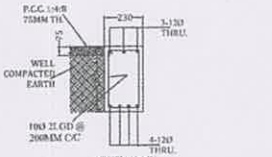
BAJ ARCHITECTURAL ENGINEERING
COA No. CA/2018/62211
Approved by IDBI Bank, Dehradun (UK)
Mob:: 7895872139, 9411743346



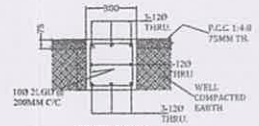
PLINTH BEAM PLAN

SCHEDULE FOR COLUMN DETAIL (M20 : FE 500)

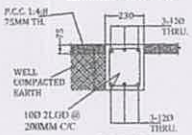
COLUMN NAME	COLUMN DETAIL		
	B X D (MM)	REINFORCEMENT DETAIL	REMARKS
C1	300 X 300	2-16Ø, 2-12Ø, 2-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM FOUNDATION TO SECOND FLOOR
		4-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM SECOND FLOOR TO TERRACE
C2	300 X 300	6-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM FOUNDATION TO SECOND FLOOR
		4-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM SECOND FLOOR TO TERRACE



SECTION OF PLINTH BEAM PB1

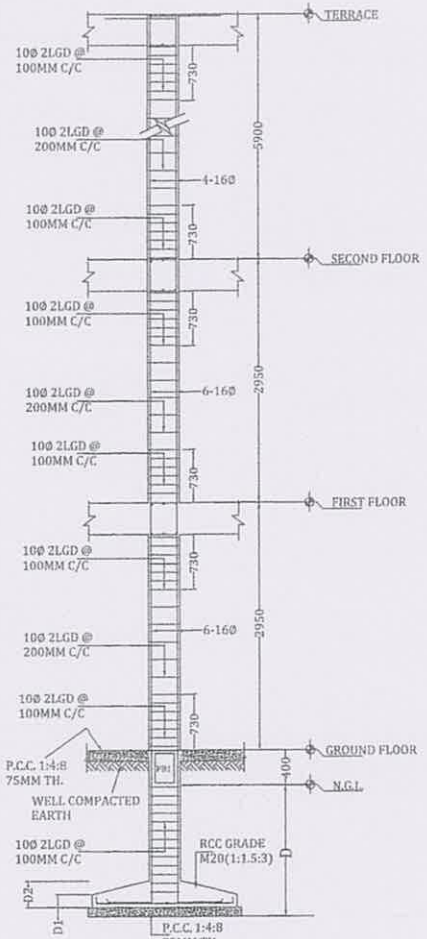


SECTION OF PLINTH BEAM PB2

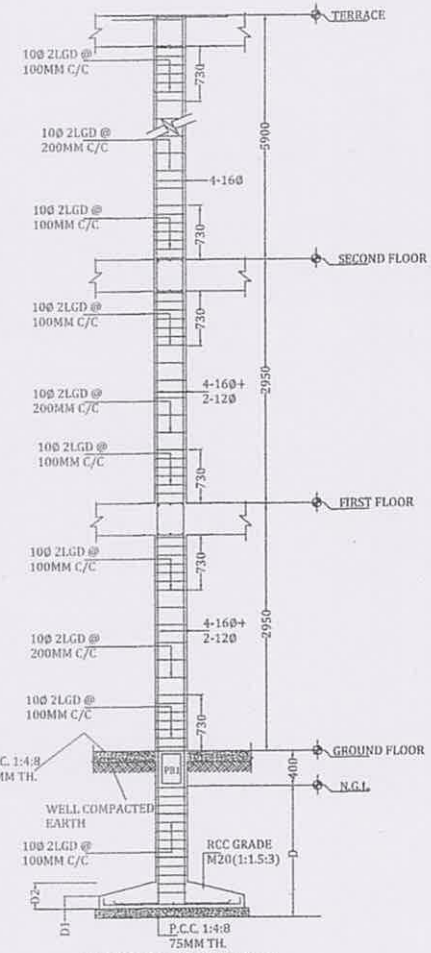


SECTION OF PLINTH BEAM PB3

NOTE:
IF 8Ø 2LGD STIRRUPS ARE USED THEN SPACING SHALL BE 8Ø 2LGD @ 150MM C/C IN PLINTH BEAM AND 8Ø 2LGD @ 100+150MM C/C (END & MID ZONE RESPECTIVELY) IN COLUMNS



TYPICAL SECTION OF COLUMN C2

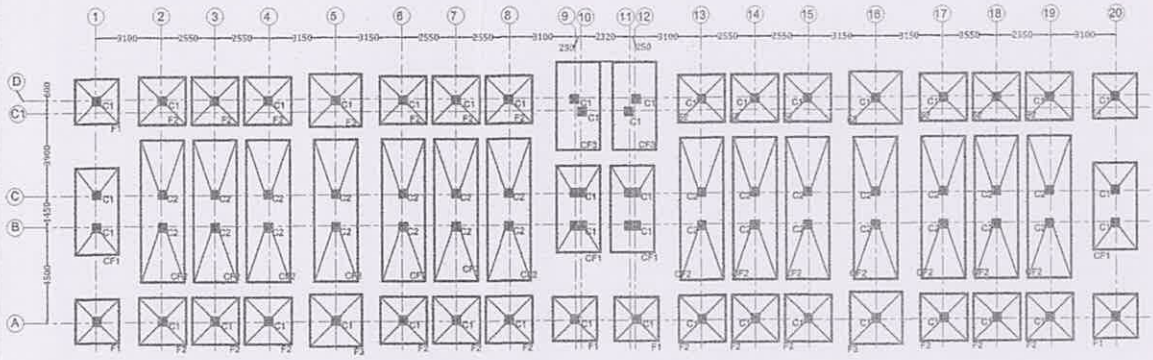


TYPICAL SECTION OF COLUMN C1

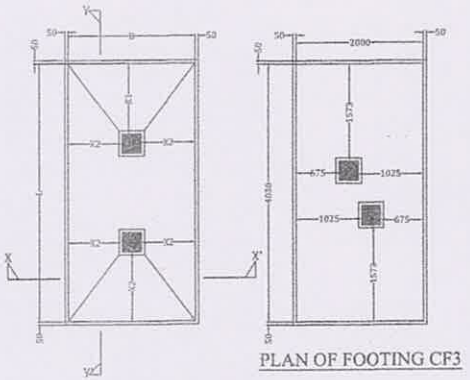
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PROJECT	DRG. NO.	TITLE	REV.	DATE	STRUCTURE ENGG. SIGN	DESIGNED BY:	CONSULTANT
PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 16 BELDI	2	PLINTH LEVEL PLAN AND DETAIL OF COLUMN AND TIE BEAM	R0	30/09/2022	J.C. Baliwal, B.Tech, FIE,FIV, 4th Street-E, LM-ICI,LM-IRC, Authorised Structural Engineer (ASE) Regd. No UOH-UK/G-ASE-6/2019, 203, Taraplace, Nainital Road, Haldwani, Distt. Nainital (Uttarakhand) Mo-9537774711	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
				G.F.C			

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 9081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346



TRENCH PLAN OF FOUNDATION

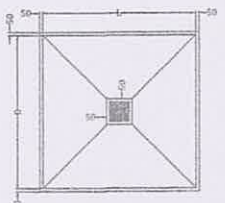


PLAN OF FOOTING CF1 & CF2

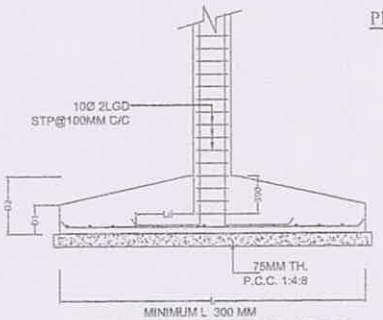
PLAN OF FOOTING CF3

SCHEDULE FOR ISOLATED FOOTING (M20 : FE 500)

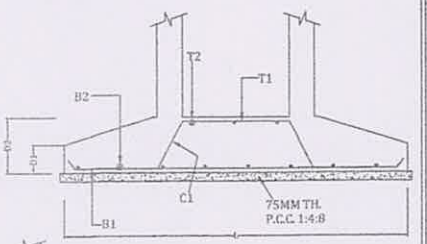
FOOTING NAME	FOUNDATION DETAIL			FOUNDATION REINFORCEMENT	
	L X B	D1	D2	ALONG SHORT SPAN	ALONG LONG SPAN
F1	2020 X 2020	150	300	12Ø @ 180 MM C/C	12Ø @ 200 MM C/C
F2	2160 X 2160	200	400	12Ø @ 180 MM C/C	12Ø @ 200 MM C/C
F3	2400 X 2400	200	400	12Ø @ 160 MM C/C	12Ø @ 180 MM C/C



PLAN OF FOOTING F1 F2 & F3



SECTION OF FOOTING F1, F2 & F3

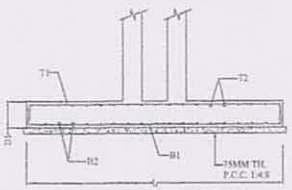


SECTION OF FOOTING CF1,CF2 AT Y-Y'

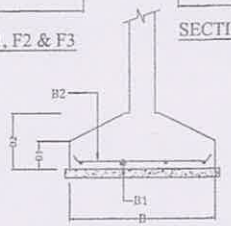
SCHEDULE FOR COMBINED FOOTING (M20 : FE 500)

FOOTING NAME	FOUNDATION DETAIL					FOUNDATION REINFORCEMENT				
						BAR MARK				
	L X B	D1	D2	X1	X2	T1	T2	B1	B2	C1
CF1	4030 X 2000	150	300	1090	850	4-12Ø	12Ø 250 MM C/C	8-12Ø	12Ø 250 MM C/C	4-12Ø
CF2	6650 X 2000	300	600	2400	850	6-20Ø	16Ø 250 MM C/C	11-20Ø	16Ø 250 MM C/C	6-20Ø
CF3	4030 X 2000	400	-	AS PER DRG.		6-16Ø	16Ø 200 MM C/C	10-16Ø	16Ø 200 MM C/C	-

NOTE: THE DEPTH OF FOUNDATION FROM N.G.L. SHALL BE 1650 MM



PLAN OF FOOTING CF3



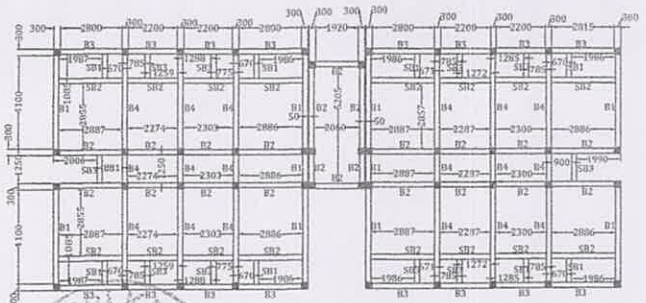
SECTION OF FOOTING CF1,CF2 AT X-X'

NOTE :-

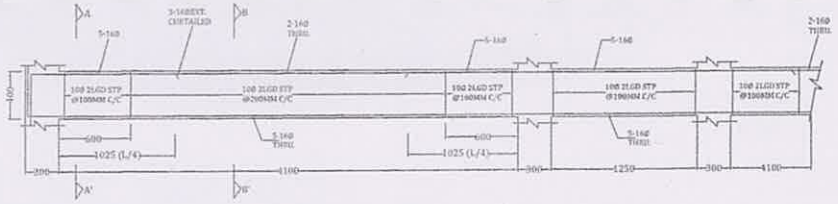
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PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 16 BELDI,ROORKEE	1	PLAN & DETAIL OF FOUNDATION	R0	30/09/2022	J.C. Bansal, B.Tech, FIE,FIV, LA-Struct-E, LM-ICALLM-IRC, Authorised Structural Engineer (ASE), Regd. No DDH-UKG-NASE-6/2019, 203, Tara place, Nainital Road, Haldwani, Distt. Nainital (Uttarakhand) Mo-9997774714	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
			G.F.C				

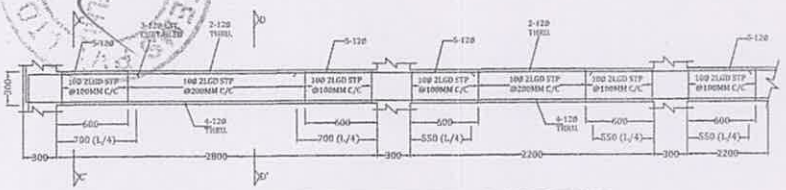
PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346



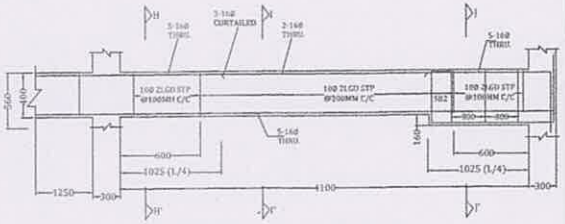
BEAM PLAN



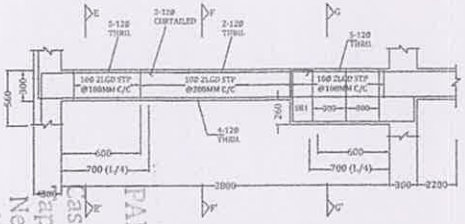
REINFORCEMENT DETAIL OF BEAM B1



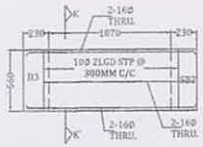
REINFORCEMENT DETAIL OF BEAM B2



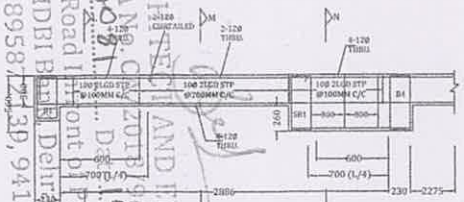
REINFORCEMENT DETAIL OF BEAM B4



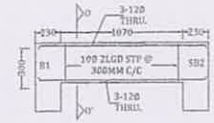
REINFORCEMENT DETAIL OF BEAM B3



REINFORCEMENT DETAIL OF BEAM SB1



REINFORCEMENT DETAIL OF BEAM SB2



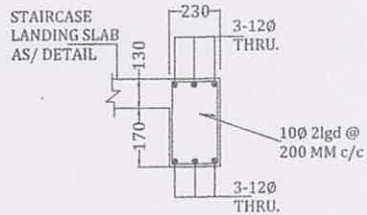
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17. All SLABS FROM GF TO FF TERRACE 110 MM THICK EXCEPT NOTED OTHERWISE

SCHEDULE FOR SLAB BEAM

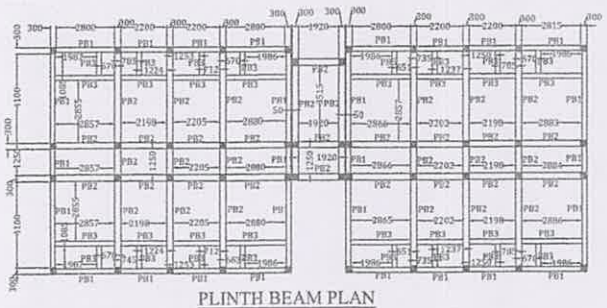
BEAM	WIDTH (B)(MM)	DEPTH (D)(MM)	
			AT SUNK
B1	230	400	-
B2	230	300	-
B3	230	300	560
B4	230	400	560
SB1	230	560	-
SB2	230	300	560
SB3	230	300	-



DETAIL OF LANDING BEAM

PROJECT	DRG. NO.	TITLE	REV.	DATE	STRUCTURE ENGG. SIGN	DESIGNED BY:	CONSULTANT
PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 8 BELDI,ROORKEE	3	DETAIL OF TYP. FIRST, SECOND,THIRD FLOOR SLAB BEAM	R0	30/09/2022	J.C. Baliwal B.Tech, FIE,FIV,MASCE,MIE,MICI,MIRC Authorised Structural Engineer (ASE) Regd. No DOH-URUG-ASE-5/2019 203, Tarapiace, Nainital Road, Haldwani Distt. Nainital (Uttarakhand) Mo-9997774711	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
				G.F.C			

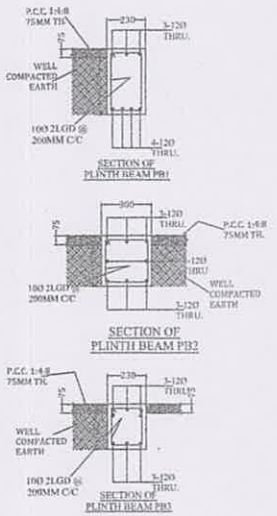
PARMARCHITECT AND ENGINEER
COA No.: C-2019/62412
Date: 14.12.22
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895871230, 9412143338



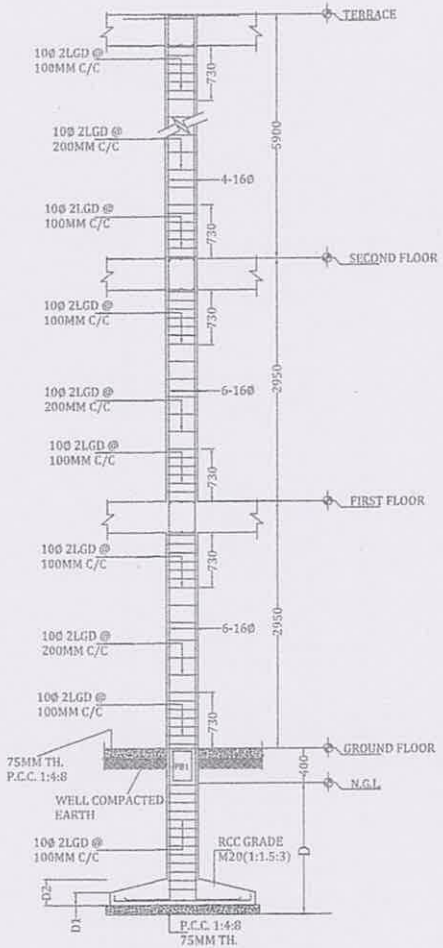
PLINTH BEAM PLAN

SCHEDULE FOR COLUMN DETAIL (M20 : FE 500)

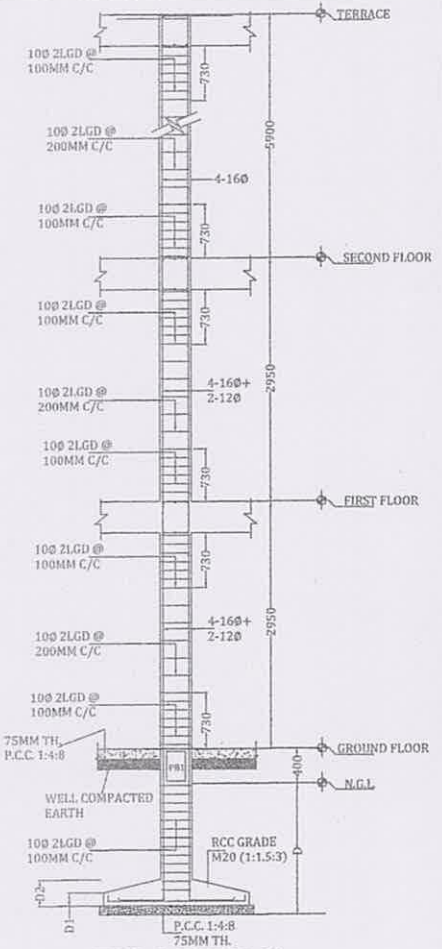
COLUMN NAME	COLUMN DETAIL		
	B X D (MM)	REINFORCEMENT DETAIL	REMARKS
C1	300 X 300	2-16Ø, 2-12Ø, 2-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM FOUNDATION TO SECOND FLOOR
		4-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM SECOND FLOOR TO TERRACE
C2	300 X 300	6-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM FOUNDATION TO SECOND FLOOR
		4-16Ø; 10Ø 2LGD @100MM + 200MM C/C	FROM SECOND FLOOR TO TERRACE



NOTE:
IF 8Ø 2 LGD STIRRUPS ARE USED THEN SPACING SHALL BE 8Ø 2LGD @ 150MM C/C IN PLINTH BEAM AND 8Ø 2LGD @ 100+150MM C/C (END & MID ZONE RESPECTIVELY) IN COLUMNS



TYPICAL SECTION OF COLUMN C2



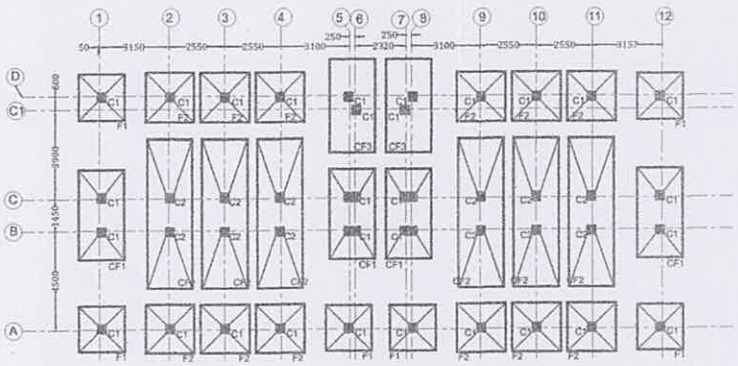
TYPICAL SECTION OF COLUMN C1

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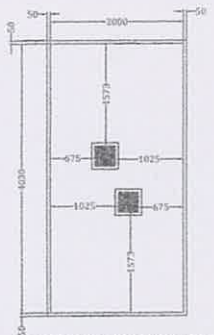
PROJECT	DRG. NO.	TITLE	REV.	DATE	STRUCTURE ENGG. SIGN	DESIGNED BY:	CONSULTANT
PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 8 BELDI	2	PLINTH LEVEL PLAN AND DETAIL OF COLUMN AND TIE BEAM	R0	30/09/2022	J.C. Bansal, Tech. FIE,FIV, M-Struct-E, LM-IEI,LM-IRC, Authorised Structural Engineer (ASE), Regd. No DDH-UKG-ASE-6/2019, 203, Tarapiace, Nainital Road, Haldwani, Distt. Nainital (Uttarakhand) Mo- 9537774751	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
				G.F.C			

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

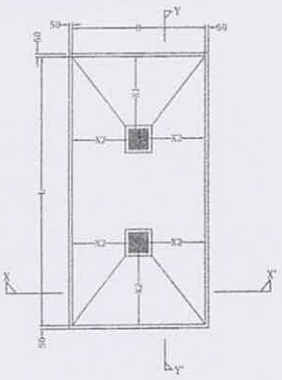
DEBY KAY SYSTEMS PVT. LTD. NEW DELHI



TRENCH PLAN OF FOUNDATION



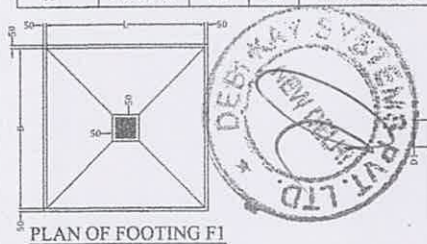
PLAN OF FOOTING CF3



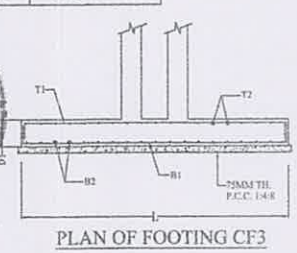
PLAN OF FOOTING
CF1 & CF2

SCHEDULE FOR ISOLATED FOOTING (M20 : FE 500)

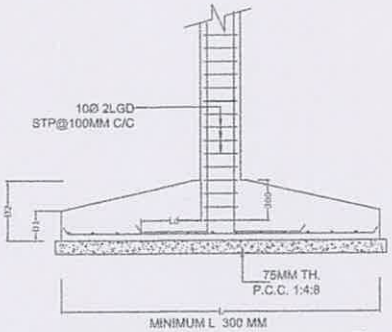
FOOTING NAME	FOUNDATION DETAIL			FOUNDATION REINFORCEMENT	
	L X B	D1	D2	ALONG SHORT SPAN	ALONG LONG SPAN
F1	2020 X 2020	150	300	12Ø @ 180 MM C/C	12Ø @ 200 MM C/C
F2	2160 X 2160	200	400	12Ø @ 180 MM C/C	12Ø @ 200 MM C/C
F3	2400 X 2400	200	400	12Ø @ 160 MM C/C	12Ø @ 180 MM C/C



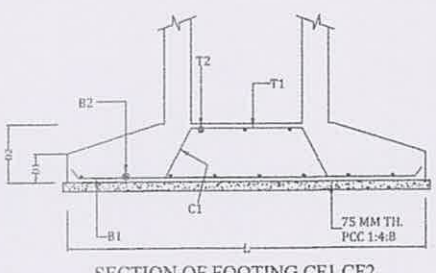
PLAN OF FOOTING F1
F2 & F3



PLAN OF FOOTING CF3



SECTION OF FOOTING F1, F2 & F3

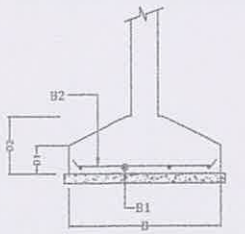


SECTION OF FOOTING CF1,CF2

SCHEDULE FOR COMBINED FOOTING (M20 : FE 500)

FOOTING NAME	FOUNDATION DETAIL					FOUNDATION REINFORCEMENT				
						BAR MARK				
	L X B	D1	D2	X1	X2	T1	T2	B1	B2	C1
CF1	4030 X 2000	150	300	1090	850	4-12Ø	12Ø 250 MM C/C	8-12Ø	12Ø 250 MM C/C	4-12Ø
CF2	6650 X 2000	300	600	2400	850	6-20Ø	16Ø 250 MM C/C	11-20Ø	16Ø 250 MM C/C	6-20Ø
CF3	4030 X 2000	400	-	AS PER DRG.		6-16Ø	16Ø 200 MM C/C	10-16Ø	16Ø 200 MM C/C	-

NOTE: THE DEPTH OF FOUNDATION FROM N.G.L. SHALL BE 1650 MM

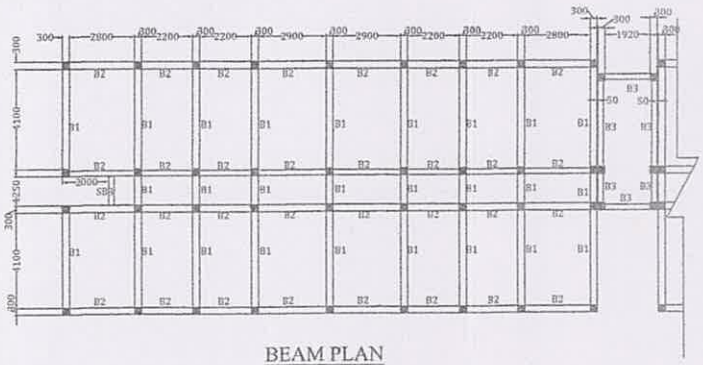


SECTION OF FOOTING
CF1,CF2 AT X-X'

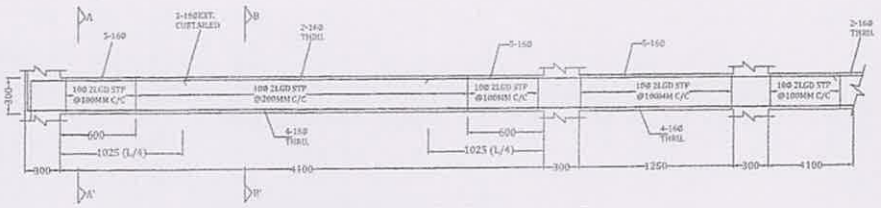
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PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 8 BELDI,ROORKEE	1	PLAN AND DETAIL OF COLUMN AND FOUNDATION	R0	30/09/2022	J.C. Baliwal, B.Tech, FIE,FIV, M.Tech(Const.E, LM,M21 M.WC, Authorised Structural Engineer (ASE) Regd. No DOR-UK/G-ASE-E/2019 203, Tarapisce, Nainital Road, Haldwani Distt. Nainital (Uttarakhand) Mo-9837774719	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
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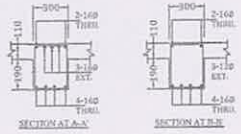
PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
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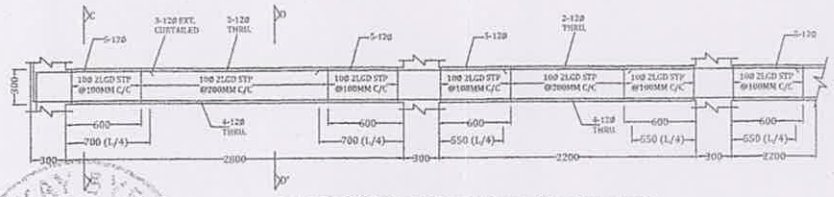


BEAM PLAN

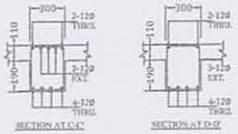


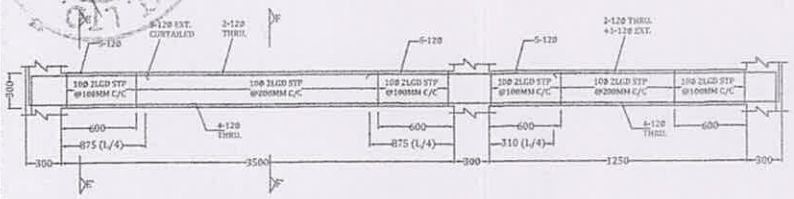
REINFORCEMENT DETAIL OF BEAM B1



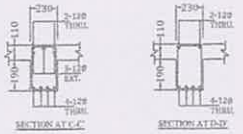


REINFORCEMENT DETAIL OF BEAM B2





REINFORCEMENT DETAIL OF BEAM B3



SCHEDULE FOR SLAB BEAM (TERRACE)

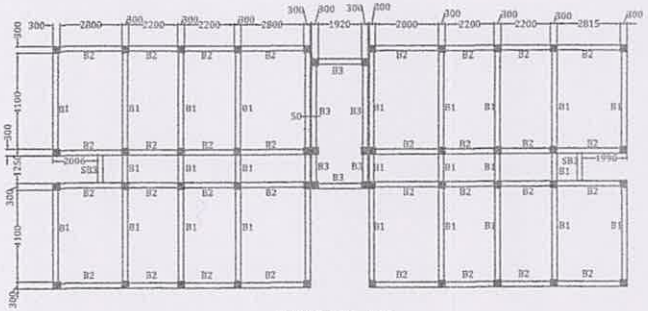
BEAM	WIDTH (B)(MM)	DEPTH (D)(MM)
B1	300	300
B2	300	300
B3	230	300

NOTE :-

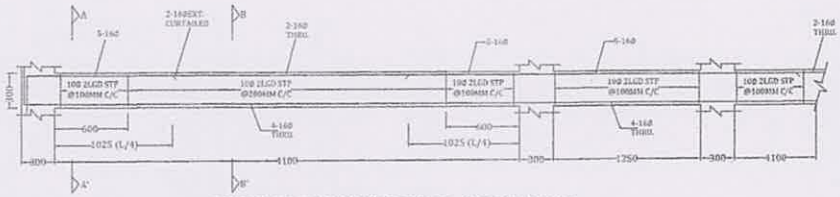
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PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 16 BELDI,ROORKEE	5	DETAIL OF TERRACE SLAB BEAM	R0	30/09/2022	J.C. Baliyal B.Tech, FIE,FIV,F.I.Struct.E, LM ICI, M.IRC Authorised Structural Engineer (ASE) Regd. No DOH-UK/G-NASE-8/2019 203, Taraplace, Nainital Road, Haldwani Distt. Nainital (Uttarakhand) Mo-9997774719	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
			G.F.C				

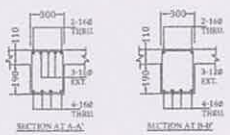
PAL ARCHITECT AND ENGINEER
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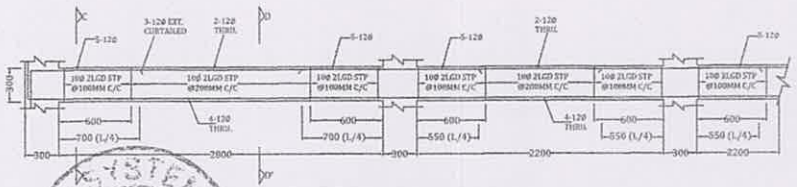


BEAM PLAN

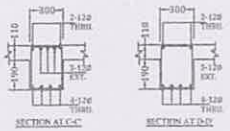


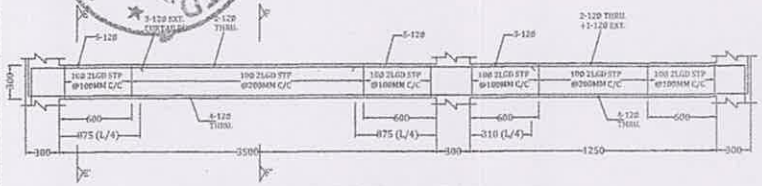
REINFORCEMENT DETAIL OF BEAM B1



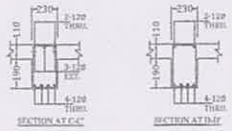


REINFORCEMENT DETAIL OF BEAM B2





REINFORCEMENT DETAIL OF BEAM B3



SCHEDULE FOR SLAB BEAM (TERRACE)

BEAM	WIDTH (B) (MM)	DEPTH (D) (MM)
B1	300	300
B2	300	300
B3	230	300

NOTE :-

1. DRAWING NOT TO SCALE FOLLOW WRITTEN DIMENSIONS ONLY.
2. ALL DIMENSIONS ARE IN M.M. UNLESS STATED OTHERWISE.
3. THE R.C.C. GRADE FOR FOUNDATION,COLUMN, BEAM, SLAB & WALL SHALL BE OF M 20
4. STEEL REINFORCEMENT BARS ARE TO BE HIGH YIELD STRENGTH COLD TWISTED DEFORMED BARS (FE 500 GRADE) AS PER IS 1786:2008.BEFORE USE IT SHOULD BE TESTED AND RECORDED.
5. THE QUALITY OF MATERIALS USED IN CONCRETE SHALL BE CHECKED REGULARLY AND LAB TEST SHALL BE DONE TO ENSURE THAT SPECIFICATIONS ARE MET.
6. THE CONCRETING SHALL BE DONE BY WEIGHT AND SITE RECORDS SHALL BE MAINTAINED.
7. REGULAR CUBE CASTING AND TESTING SHALL BE DONE AT SITE AND RECORD SHALL BE MAINTAINED.
8. P.C.C. SHALL BE OF GRADE M-7.5 (1:4:8) 75 MM THICK IN FOUNDATION.
9. DEVELOPMENT LENGTH SHOULD BE MIN. 45d (WHERE d = DIA OF BAR)
10. CLEAR COVER OF 25 MM IN BEAM, 30 MM IN COLUMN AND 50 MM IN FOUNDATION.
11. ANY DIFFICULTY SHALL BE BROUGHT TO THE DESIGNER BEFORE TAKING ANY DECISION.
12. CLOSED LINKS SHALL BE PROVIDED OVER THE ENTIRE LENGTH OVER WHICH THE LONGITUDINAL BARS ARE SPLICED.SPACING OF THESE LINKS SHALL NOT EXCEED 150 MM IN BEAM AND 100 MM IN COLUMN.
13. LAP LENGTH SHALL NOT BE LESS THAN THE DEVELOPMENT LENGTH OF THE LARGEST LONGITUDINAL BAR IN TENSION.
14. LAP SPLICES SHALL NOT BE PROVIDED:
A) WITHIN A JOINT.
B) WITHIN A DISTANCE 2D FROM THE FACE OF COLUMN / BEAM
15. MORE THAN 50 % OF BARS SHALL NOT BE SPLICED AT ANY ONE SECTION.
16. STRUCTURE IS DESIGNED FOR A S.B.C. OF 7.5T/M2
17. All SLABS FROM GF TO FF TERRACE 110 MM THICK EXCEPT NOTED OTHERWISE

PROJECT	DRG. NO.	TITLE	REV.	DATE	STRUCTURE ENGG. SIGN	DESIGNED BY:	CONSULTANT
PROPOSED EWS GROUP HOUSING UNDER PRADHAN MANTRI AWASIYA YOJANA (MODEL 2) UNIT 8 BELDI,ROORKEE	5	DETAIL OF TERRACE SLAB BEAM	R0	30/09/2022	J.C. Bansal, B.Tech, FIE,FIV, MI Struct-E, LM-ICI, M-IRC, Authorised Structural Engineer (ASE) Regd. No DON-UK/G-MASE-6/2019 203, Taraplace, Nainital Road, Haldwani Distt. Nainital (Uttarakhand) Mo-9997774716	ER. HARIT VERMA B.TECH (C.E.) AM-IEI	M.V.P. CONSULTANT & ASSOCIATES 203, TARA PLACE NAINITAL ROAD HALDWANI Email: consultantmvp@gmail.com
				G.F.C			

DEBI MAP SYSTEMS PVT LTD NEW DELHI

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date.....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

Tower No A,B,F,G,H,To S (15 Tower)

Bill Of Quantity PMAY EWS (Uttrakhand)

(Civil Work)

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0021 Date 19/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER NO A , B , F ,G , H TO S (15 TOWER) BILL OF QUANTITY PMAY EWS BELDI (UTTARAKHAND)

S.NO.	DSR - 21	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT
EARTH WORK						
1	2.28	Surface dressing of the ground including removing vegetation and in equalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m.				
2	2.28.1	All kinds of soil	sqm	23665	28.15	666169.75
3	2.32	Clearing grass and removal of the rubbish up to a distance of 50 m outside the periphery of the area cleared.	sqm	4733	7.4	35024.2
4	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in charge. 2.6.1 All kinds of soil				
5	2.6.1	All kinds of soil	cum	11821.56	205.45	2428739.502
6	2.36	Extra for levelling & neatly dressing of disposed soil completely as directed by Engineer-in-charge.	cum	1773.12	76.7	135998.304
		SUB TOTAL				**3265931.756**
CONCRETE WORK						
7	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
8	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	cum	1214.445	6326.05	7682639.792
9	4.20.1	4.20.1 All works upto plinth level :				
10	4.20.1.3	Concrete of M20 grade with minimum cement content of 270 kg /cum	cum	2921.38	8387.15	24502052.27
11	4.20.2	All works above plinth and upto floor V level				
12	4.20.2.3	Concrete of M20 grade with minimum cement content of 270 kg /cum	cum	5923.41	10009.5	59290372.4
		SUB TOTAL				**91475064.45**
FORM WORK						
12	5.9	Centering and shuttering including strutting, propping etc. and removal of form for				
13	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	sqm	9726.39	307.95	2995241.801
14	5.9.3	Suspended floors, roofs, landings, balconies and access platform	sqm	127867.2	766.55	98016632.82
16	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	19845	657.75	13053048.75
17	5.9.7	Stairs, (excluding landings) except spiral-staircases	sqm	4153.17	657.75	2731747.568
		SUB TOTAL				**116796670.9**
STEEL REINFORCEMENT						
18	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level				
19	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more	kg	985691.8	89.65	**88367266.28**
		SUB TOTAL				**88367266.28**

DEBI KAY SYSTEMS PVT. LTD.

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 9981 Date. 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER NO A , B , F ,G , H TO S (15 TOWER) BILL OF QUANTITY PMAY EWS BELDI (UTTARAKHAND)

S.NO.	DSR - 21	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT
A.C.C BLOCK WORK						
20	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.	cum	4764.6	8890.8	42361105.68
		SUB TOTAL				42361105.68
CLADDING WORK						
21	8.6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.	sqm	586.5	417.6	244922.4
22	8.9	Stone tile (polished) work for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete				
		SUB TOTAL				244922.4

TOWER NO A , B , F ,G , H TO S (15 TOWER) BILL OF QUANTITY PMAY EWS BELDI (UTTARAKHAND)

S.NO.	DSR - 21	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT
23	9.18	Providing and fixing Pre-laminated flat pressed 3 layer (medium density) particle board or graded wood particle board IS : 3087 marked, with one side decorative and other side balancing lamination Grade I, Type II exterior grade IS : 12823 marked, in shelves with screws and fittings wherever required, edges to be painted with polyurethane primer (fittings to be paid separately)				
24	9.18.2	25 mm thick	sqm	8568	1501	12860568
25	10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
26	10.25.2	n gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	KG	235200	142.3	33468960
27	10.26	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.				
	10.26.1	M.S. tube		10128	157.15	1591615.2
28	9.12	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	SQM	2332.8	148.5	346420.8
						48267564
FLOORING WORK						
29	11.37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	SQM	32460	935.6	30369576
		SUB TOTAL				30369576

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 9081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER NO A , B , F ,G , H TO S (15 TOWER) BILL OF QUANTITY PMAY EWS BELDI (UTTARAKHAND)

S.NO.	DSR - 21	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT
FINISHING WORK						
30	13.1	12 mm cement plaster of mix :				
31	13.1.2	1:6 (1 cement: 6 fine sand)	sqm	199515.6	294.85	58827174.66
32	13.8	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	199515.6	123.85	24710007.06
33	13.48	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :				
34	13.48.1	Two or more coats applied on walls @ 1.25 ltr/10 sqm over and including one coat of Special primer applied @ 0.75 ltr /10 sqm	sqm	199515.6	158.95	31713004.62
33	13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:				
34	13.47.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	20376.9	162.35	3308189.715
35	13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour				
36	13.83.2	Two coats	sqm	175594.5	121.55	21343511.48
						139901887.5
PLUMBING AND SANITARY INSTALLATIONS						
37	17.3	Plumbing and sanitary installation of 960 EWS per floor 16 unit G+3 (64 Unit) total 15 tower				**19530177.6**
	17.3.1	Internal Electrical work of 960 EWS per floor 16 unit G+3 (64 Unit) total 15 tower				**38824080**
WATER PROFFING						
	22.6	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:				
	(a)	after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.				
	(b)	laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.				
	(c)	third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around				
	(d)	fourth and final layer of brick tiling with cement mortar (which will be paid for separately.				
		For the purpose of measurement the entire treated surface will be measured.	2417.55	15	585.55	**1415596.403**
		GRAND TOTAL TOWER A , B , F , G , H TO S				**620819842.9**

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 6081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
1	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in charge. 2.6.1 All kinds of soil										
	2.6.1	**All kinds of soil**										
		(F1)		2.02	2.02	2	8.16	6	48.96			
		(F2)		2.16	2.16	2	9.331	24	223.94			
		(F3)		2.4	2.4	2	11.52	4	46.08			
		(CF1)		4.03	2	2	16.12	4	64.48			
		(CF2)		6.65	2	2	26.6	14	372.40			
		(CF3)		4.03	2	2	16.12	2	32.24			
									788.10	**CUM**	**205.45**	161915.97
	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.										
		(F1)		2.02	2.02	0.3	1.224	6	7.34			
		(F2)		2.16	2.16	0.3	1.399	24	33.59			
		(F3)		2.4	2.4	0.3	1.728	4	6.91			
		(CF1)		4.03	2	0.3	2.418	4	9.67			
		(CF2)		6.65	2	0.3	3.99	14	55.86			
		(CF3)		4.03	2	0.3	2.418	2	4.84			
									118.21	**CUM**	253.95	30018.92
		SUB TOTAL										**191934.89**



PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
2	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :										
	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)										
		Foundation (F1) P.C.C		2.02	2.02	0.075	0.306	6	1.836			
		Foundation (F2) P.C.C		2.16	2.16	0.075	0.3449	24	8.398			
		Foundation (F3) P.C.C		2.4	2.4	0.075	0.432	4	1.728			
		Foundation (CF1) P.C.C		4.03	2	0.075	0.6	4	2.418			
		Foundation (CF2) P.C.C		6.65	2	0.075	0.997	14	13.965			
		Foundation (CF3) P.C.C		4.03	2	0.075	0.6	2	1.2			
		Sub Total							**29.545**	**cum**	**6326.05**	186903.147
		Plinth beam (PB1) P.C.C		164.1	0.3	0.075			3.692			
		Plinth beam (PB2) P.C.C		238.2	0.3	0.075			5.359			
		Plinth beam (PB3) P.C.C		164.1	0.3	0.075			3.692			
									12.743	**cum**	6326.05	80612.85
		Ground floor pcc		48.42	10.65	0.075			**38.675**	**cum**	6326.05	244659.98
		SUB TOTAL										**512175.977**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, De. radun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
3	4.20.1	**4.20.1 All works upto plinth level :**										
	4.20.1.3	**Concrete of M20 grade with minimum cement content of 270 kg /cum**										
		Foundation (F1) R.C.C		2.02	2.02	0.3	1.22	6	7.34			
		Foundation (F2) R.C.C		2.16	2.16	0.4	1.86	24	44.78			
		Foundation (F3) R.C.C		2.4	2.4	0.4	2.3	4	9.216			
		Foundation (CF1) R.C.C		4.03	2	0.3	2.418	4	9.672			
		Foundation (CF2) R.C.C		6.65	2	0.3	3.99	14	55.86			
		Foundation (CF3) R.C.C		4.03	2	0.4	3.224	2	6.448			
									133.316	**cum**	**8387.15**	1118141.29
		Plinth beam (PB1) R.C.C		164.1	0.23	0.4			15.09			
		Plinth beam (PB2) R.C.C		238.18	0.3	0.3			16.43			
		Plinth beam (PB3) R.C.C		164.1	0.23	0.3			11.32			
									42.84	**cum**	**8387.15**	359305.5
		Column (C1) R.C.C upto plinth beam level		0.3	0.3	2	0.2385	50	11.925			
		Column (C2) R.C.C upto plinth beam level		0.3	0.3	2	0.2385	28	6.678			
									18.603	**cum**	**8387.15**	156026.15
	4.20.2	**All works above plinth and upto floor V level**										
	4.20.2.3	**Concrete of M20 grade with minimum cement content of 270 kg /cum**										
		Column (C1) R.C.C upto terrace level		0.3	0.3	11.95	1.0755	50	53.775			
		Column (C2) R.C.C upto terrace level		0.3	0.3	11.95	1.0755	28	30.114			
									83.889	**cum**	**10009.5**	839686.94
		Column (C1) R.C.C terrace to mumty		0.3	0.3	2.4		6	**1.296**	**cum**	**10009.5**	12611.97
		(B1)		36	0.23	0.4			3.312			
		(B2)		126	0.23	0.3			8.694			
		(B3)		92	0.23	0.3			6.348			
		(B4)		26	0.23	0.4			2.392			
		(SB1)		21.63	0.23	0.56			2.785			
		(SB2)		92	0.23	0.3			6.348			
		(SB3)		21.63	0.23	0.3			1.492			
		G.F		48.42	10.65	0.125			64.459			
		F.F		48.42	10.65	0.125			64.459			
		S.F		48.42	10.65	0.125			64.459			
		T.F		48.42	10.65	0.125			64.459			
		Staircase landing		2.06	1.25	0.125		4	1.287			
		20 Steps(0.5*20*1*0.15*0.145)		1	0.15	0.145		4	0.435			
		projection 4 floor		1.7	0.45	0.125	0.0956	16	6.12			
		projection 4 floor		0.65	0.45	0.125	0.365	16	2.34			
		projection 4 floor		0.65	0.45	0.125	0.365	16	2.34			
		projection 4 floor		1.65	0.45	0.125	0.0928	2	0.3712			
		Kitchen Counter 4 floor		2.07	0.6	0.075	1.4904	16	5.9616			
		Mumty slab		5.91	2.23	0.125			1.6474			
									309.7092	**cum**	**10009.5**	3100034.23
		SUB TOTAL										**5585806.08**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0091 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
4	5.9	**Centering and shuttering including strutting, propping etc. and removal of form for**										
	5.9.1	**Foundations, footings, bases of columns, etc. for mass concrete**										
		(F1)	2 side	2.02		0.45	1.818	6	10.908			
				2.02		0.45	1.818	6	10.908		275.748	
		(F2)	2 side	2.16		0.45	1.94	24	46.65		372.678	
				2.16		0.45	1.94	24	46.65			
		(F3)	2 side	2.4		0.45	2.16	4	8.64			
				2.4		0.45	2.16		8.64			
		(CF1)	2 side	4.03		0.45	3.627	4	14.508			
				2		0.45	1.8	4	7.2			
		(CF2)	2 side	6.65		0.45	5.985	14	83.79			
				2		0.45	1.8	14	25.2			
		(CF3)	2 side	4.03		0.45	5.427	2	10.854			
				2		0.45	0.9	2	1.8			
									275.748	**sqm**	**307.95**	84916.5966
		Plinth beam (PB1)	2 side	164.1		0.4	65.64	2	131.28			
		Plinth beam (PB2)		238.18		0.3	71.454	2	142.908			
		Plinth beam (PB3)		164.1		0.3	49.23	2	98.46			
									372.648	**sqm**	**307.95**	114756.952
	5.9.6	**Columns, Pillars, Piers, Abutments, Posts and Struts**										
		C1 upto plinth beam level	4 side	0.3		2	2.4	50	120			
		C2 upto plinth beam level		0.3		2	2.4	28	67.2			
									187.2	**sqm**	**804.25**	150555.6
		C1 G+3 upto terrace level	4 side	0.3		11.95	14.34	50	717			
		C2 G+ 3 upto terrace level		0.3		11.95	14.34	28	401.52			
									1118.52	**sqm**	**804.25**	899569.71
		C1 upto terrace TO Mumty level	4 side	0.3		2.4	2.88	6	**17.28**	**sqm**	**804.25**	13897.44
	5.9.3	**Suspended floors, roofs, landings, balconies and access platform**										
		(B1)		36		0.4	14.4	2	28.8			
		(B2)		126		0.3	37.8	2	75.6			
		(B3)		92		0.3	27.6	2	55.2			
		(B4)		26		0.4	10.4	2	20.8			
		(SB1)		21.63		0.56	12.112	2	24.225			
		(SB2)		92		0.3	27.6	2	55.2			
		(SB3)		21.63		0.3	6.489	2	12.978			
									272.803	**sqm**	**766.55**	209117.14
		G.F		48.42		10.65	515.673	4	2062.92			
		F.F		48.42		10.65	515.673	4	2062.92			
		S.F		48.42		10.65	515.673	4	2062.92			
		T.F		48.42		10.65	515.673	4	2062.92			
									8251.68	**sqm**	**766.55**	6325325.3
	5.9.7	**Stairs, (excluding landings) except spiral-staircases**										
		Staircase landing		2.06	1.25		2.575	4	10.3			
				8	1.25		10	4	40			
		projection		1.7	0.45		0.765	64	48.96			
		projection		0.65	0.45		0.2925	64	18.72			
		projection		0.65	0.45		0.2925	64	18.72			
		projection		1.65	0.45		0.7425	64	47.52			
		Kitchen Counter		2.07	0.6		1.242	64	79.488			
		Mumty slab		5.91	2.23		13.17	1	13.17			
									276.878	**sqm**	**657.75**	182116.505
		SUB TOTAL										**7980255.25**

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
5	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level										
	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more										
		Foundation (F1) steel	12 mm	44.44			39.107	6	234.64			
		Foundation (F2) steel	12 mm	49.68			43.718	24	1049.24			
		Foundation (F3) steel	12 mm	69.9			61.512	4	246.048			
		Foundation (CF1) steel	08 mm	32.24			12.73	4	50.93			
			12 mm	48.24			42.45	4	169.8			
		Foundation (CF2) steel	20 mm	65.2			160.98	14	2253.82			
			16 mm	75			118.5	14	1659			
		Foundation (CF3) steel	16 mm	118			186.44	2	372.88			
									6036.358	**kg**	**89.65**	541158.77
		Column (C1) steel Steel upto plinth beam level	16 mm	10			15.8	50	790			
			12 mm	5			4.4	50	220			
			10 mm	16			9.76	50	488			
		Column (C2) steel Steel upto plinth beam level	16 mm	15			23.7	28	663.6			
			10 mm	5			4.4	28	123.2			
									2284.8	**kg**	**89.65**	204832.32
		Column (C1) steel Steel upto Terrace level G+3	16 mm	48			75.84	50	3792			
			12 mm	24			22	50	1100			
			10 mm	72			44	50	2200			
		Column (C2) steel Steel upto Terrace level G+3	16 mm	72			113.76	28	3185.28			
			10 mm	72			44	28	1232			
									11509.28	**kg**	**89.65**	1031806.95
		Column (C1) steel Steel upto Terrace to mumty level	16 mm				22.75	6	136.512			
			12 mm				4.224	6	25.344			
			10 mm				5.688	6	34.128			
									195.984	**kg**	89.65	17569.9656
		Plinth beam (PB1) steel	12 mm	164.1			144.4	7	1010.85			
			10 mm	1.26			0.768	820	630.25			
		Plinth beam (PB2) steel	12 mm	238.18			209.59	6	1257.9			
			10 mm	1.2			0.732	792	579.74			
		Plinth beam (PB3) steel	12 mm	164.1			144.4	7	1010.85			
			10 mm	1.26			0.768	820	630.25			
									5119.84	**kg**	**89.65**	458993.656
		Slab steel (B1)	16 mm	131.12			206.98	7	1448.86			
			16 mm	64			101.12	3	303.36			
			10 mm	5.04			3.07	655	2013.73			
		Slab steel (B2)	12 mm	124.5			109.56	6	657.36			
			12 mm	62.25			54.78	3	164.34			
			10 mm	4.24			2.586	622	1608.74			
		Slab steel (B3)	12 mm	124.5			109.56	6	657.36			
			12 mm	62.25			54.78	3	164.34			
			10 mm	4.24			2.586	622	1608.74			
		Slab steel (SB1)	16 mm	69.44			109.71	4	438.86			
			16 mm	32			50.56	2	101.12			
			10 mm	6.32			3.855	347	1338.45			
		Slab steel (SB2)	12 mm	124.5			109.56	6	657.36			
			12 mm	62.25			54.78	3	164.34			
			10 mm	4.24			2.586	622	1608.74			
		Slab steel (SB2)	12 mm	101.25			89.1	6	534.6			
			10 mm	4.8			2.928	622	1821			
		Slab	10 mm	2614.68			1594.95	4	6379.81			
			10 mm	2556			1559.16	4	6236.64			
			10 mm	1307.34			797.47	4	3189.9			
			10 mm	1278.4			779.82	4	3119.29			
		Staircase	12 mm	260			228.8	25	5720			
		prjection	10 mm	258			157.38	4	629.52			
									40566.46	**kg**	**89.65**	3636783.14
		SUB TOTAL										**5891144.8**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0021 Date 19/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
6	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.										
		WALL (G+3 building)	4	2.8		2.65	29.68	16	474.88			
			4	4.1		2.65	43.45	16	695.304			
			4	2.8		2.65	29.68	16	474.88			
			4	1.3		2.65	13.77	16	220.382			
			4	0.6		2.65	6.359	16	101.75			
			4	1		2.65	10.6	16	169.6			
			4	0.35		2.65	3.706	16	59.304			
			4	2.2		2.65	23.31	16	373.11			
			4	3		2.65	31.79	16	508.66			
			4	1.4		2.65	14.83	16	237.43			
			4	1.4		2.65	14.83	16	237.43			
			4	1.2		2.65	1.59	12.72	25.44			
		WALL							**3578.17**	SQM		
		(Door & window) Deduction no of unit 16 x 4 floor	D1	1		2.1	2.1	2	268.8			
			D2	0.75		2.1	1.575	2	201.6			
			DW1	0.75		2.1	1.575	1	201.6			
			DW1	0.6		1.2	0.72	1	46.08			
			W1	1.5		0.9	1.35	1	86.4			
			V1	0.45		0.4	0.18	2	11.52			
									816	SQM		
		wall							3578.17			
		Deduction							816			
									2762.17	SQM		
					0.115		2762.17		**317.64**	cum	8890.8	2824073.71
		SUB TOTAL										**2824073.71**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
7	9.18	Providing and fixing Pre-laminated flat pressed 3 layer (medium density) particle board or graded wood particle board IS : 3087 marked, with one side decorative and other side balancing lamination Grade I, Type II exterior grade IS : 12823 marked, in shelves with screws and fittings wherever required, edges to be painted with polyurethane primer (fittings to be paid separately)										
	9.18.2	**25 mm thick**										
		D1		1		2.1	2.1	2	4.2			
		D2		0.75		2.1	1.575	2	3.15			
		DW1		0.75		2.1	1.575	1	1.575			
									8.925			
		64 unit G+3					8.925	64	**571.2**	sqm	1501	857371.2
	10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.										
	10.25.2	n gratings, frames, guard bar, ladder, railings, brackets, gates and similar works										
		Door chowkhats (16 UNIT)										
		D1					30	2	60			
		D2					30	2	60			
		DW1					45	1	45			
		W1					50	1	50			
		V1					15	2	30			
									245			
		64 UNIT G+3 FLOOR					245	64	15680	kg	142.3	2231264
	10.26	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.										
	10.26.1	**M.S. tube**										
		65x40				1.25		1	1.25			
		25x25				0.84		2	1.68			
		20x20				1.25		2	2.5			
		20x20				0.64		8	5.12			
									10.55			
		per floor 16 unit					10.55	16	168.8			
		G+3 Floor					168.8	4	**675.2**	kg	157.15	106107.68
	9.12	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).										
		DW1		0.6		1.2	0.72	1	0.72			
		W1		1.5		0.9	1.35	1	1.35			
		V1		0.45		0.4	0.18	2	0.36			
									2.43			
		Per floor 16 unit					2.43	16	38.88			
		G+3 Floor Building					38.88	4	**155.52**	sqm	148.5	23094.72
		Sub Total										**2360466.4**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 ..... Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
8	13.1	12 mm cement plaster of mix :										
	13.1.2	1:6 (1 cement: 6 fine sand)										
			wall	2.8		2.95	8.26	16	132.16			
			wall	4.1		2.95	12.095	16	193.52			
			wall	2.8		2.95	8.26	16	132.16			
			wall	1.3		2.95	3.835	16	61.36			
			wall	0.6		2.95	1.77	16	28.32			
			wall	1		2.95	2.95	16	47.2			
			wall	0.35		2.95	1.0325	16	16.52			
			wall	2.2		2.95	6.49	16	103.84			
			wall	3		2.95	8.85	16	141.6			
			wall	1.4		2.95	4.13	16	66.08			
			wall	1.4		2.95	4.13	16	66.08			
			wall	1.2		2.95	3.54	16	56.64			
		G.F , F.F , S.F , T.F ceilling		48.42		10.65	515.673	4	2062.69			
									3108.17			
		INNER WALL					3108.17	4	**12432.68**			
			D1	1		2.1	2.1	2	4.2			
			D2	0.75		2.1	1.575	2	3.15			
			DW1	0.75		2.1	1.575	1	1.575			
			DW1	0.6		1.2	0.72	1	0.72			
			W1	1.5		0.9	1.35	1	1.35			
			V1	0.45		0.4	0.18	2	0.36			
									11.355	SQM		
		(Door & window) Deduction no of unit 16 x 4 floor					11.355	64	**726.4**			
		INNER WALL							12432.7			
		DEDUCTION							726.4			
		TOTAL							**11706.3**	SQM	294.85	3451602.56
		OUTER WALL		4.361		2.95	12.865	16	205.8392			
				2.8		2.95	8.26	16	132.16		11706.3	
		CORRIDOOR		10.65		2.95	31.4175	2	62.835		1358.46	
									400.8342		236.28	
		G+3 FLOOR					400.815	4	**1603.26**			
		DEDUCTION	W1	1.5		0.9	1.35	16	21.6			
			DW1	0.75		2.1	1.575	16	25.2			
			DW1	0.6		1.2	0.72	16	11.52			
			V1	0.45		0.4	0.18	16	2.88			
									61.2			
		G+3 FLOOR					61.2	4	**244.8**			
		WALL							1603.26			
		DEDUCTION							244.8			
		TOTAL							**1358.46**	SQM	294.85	400541.931
		PARAPET WALL		48.42		1	48.42	4	193.68			
				10.65		1	10.65	4	42.6			
									236.28	SQM	294.85	69667.158
		Sub total										**3921811.64**



PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 6081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
9	11.37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.										
		Living Room	floor	3.27	3.002		9.8165	16	157.064			
			skiarting	12.54	0.1		1.254	16	20.064			
		Kitchen	floor	2.101	1.2		2.521	16	40.336			
			skarting	6.602	0.1		0.6602	16	10.5632			
		toilet	floor	0.9	1.2		1.08	16	17.28			
			wall	0.9		1.52	1.368	16	21.88			
			wall	1.2		1.52	1.824	16	29.18			
		Bed room	floor	2.465	3.155		7.77	16	124.32			
			skarting	11.2	0.1		1.12	16	17.92			
		Entrance	floor	1.335	1.335		1.7822	16	28.515			
			skarting	5.34	0.1		0.534	16	8.544			
		Corridor	floor	48.42	1.25				60.525			
			skarting	48.42	0.1				4.842			
									541.0332			
		G+3 floor					541.033	4	**2164.012**	sqm	935.6	2024649.63
	8.6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.										
				0.3	1.5		0.45	20	**7.2**			
				2.06	1.25		2.575	1	**2.575**			
		G+3 Floor					9.775	4	**39.1**	sqm	417.6	16328.16
		Sub total										2040977.79



PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
10	13.8	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.										
			wall	2.8		2.95	8.26	16	132.16			
			wall	4.1		2.95	12.095	16	193.52			
			wall	2.8		2.95	8.26	16	132.16			
			wall	1.3		2.95	3.835	16	61.36			
			wall	0.6		2.95	1.77	16	28.32			
			wall	1		2.95	2.95	16	47.2			
			wall	0.35		2.95	1.0325	16	16.52			
			wall	2.2		2.95	6.49	16	103.84			
			wall	3		2.95	8.85	16	141.6			
			wall	1.4		2.95	4.13	16	66.08			
			wall	1.4		2.95	4.13	16	66.08			
			wall	1.2		2.95	3.54	16	56.64			
		G.F , F.F , S.F , T.F ceilling		48.42		10.65	515.673	4	2062.69			
									3108.17			
		INNER WALL					3108.17	4	**12432.68**			
			D1	1		2.1	2.1	2	4.2			
			D2	0.75		2.1	1.575	2	3.15			
			DW1	0.75		2.1	1.575	1	1.575			
			DW1	0.6		1.2	0.72	1	0.72			
			W1	1.5		0.9	1.35	1	1.35			
			V1	0.45		0.4	0.18	2	0.36			
									11.355	SQM		
		(Door & window) Deduction Per floor unit 16 (64 unit)					11.355	64	**726.4**			
		INNER WALL							12432.7			
		DEDUCTION							726.4			
		TOTAL							**11706.3**	SQM	123.85	1449825.26
		OUTER WALL		4.361		2.95	12.865	16	205.8392			
				2.8		2.95	8.26	16	132.16			
		CORRIDOOR		10.65		2.95	31.4175	2	62.835			
									400.8342			
		G+3 FLOOR					400.815	4	**1603.26**			
		DEDUCTION	W1	1.5		0.9	1.35	16	21.6			
			DW1	0.75		2.1	1.575	16	25.2			
			DW1	0.6		1.2	0.72	16	11.52			
			V1	0.45		0.4	0.18	16	2.88			
									61.2			
		G+3 FLOOR					61.2	4	**244.8**			
		WALL							1603.26			
		DEDUCTION							244.8			
		TOTAL							**1358.46**	SQM	123.85	168245.271
		PARAPET WALL		48.42		1	48.42	4	193.68			
				10.65		1	10.65	4	42.6			
									236.28	SQM	123.85	29263.278
	13.48	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :										
	13.48.1	Two or more coats applied on walls @ 1.25 ltr/10 sqm over and including one coat of Special primer applied @ 0.75 ltr /10 sqm										
		primer qty							**13301.04**	SQM	158.95	2114200.31
	13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:										
	13.47.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)										
		exterior paint qty							**1358.46**	SQM	162.35	220545.981
	13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour										
	13.83.2	Two coats										
		interior paint qty							**11706.3**		121.55	1422900.77
		Sub total										**5404980.86**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Del.radun (U.K.)
Mob.: 7895872139, 9412143346

TOWER A , B , F , G , H TO S DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 16 UNIT G+3 (64 UNIT)

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
11	22.6	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:										
	(a)	after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.										
	(b)	laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.										
	(c)	third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around										
	(d)	fourth and final layer of brick tiling with cement mortar (which will be paid for separately.										
		For the purpose of measurement the entire treated surface will be measured.		1.915	1.315		2.518	16	40.29			
		G+3 Floor					40.29	4	161.166	sqm	585.55	94370.7513



PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATED FOR INTERNAL ELECTRICAL PER FLOOR 16 UNIT G+3 (64 UNIT)						
S.NO	DSR -2022	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	1.8	Wiring for light point /fanpaoint/exhaust fan point with 1.5 sq.mm FRLS PVC insulated copper coductor single core in surface / recessed medium class pvc condult , with piano type switch , phenolic leminated sheet, suitable size ,M.S box and earthing the point with 1.5 sq,mm FRLS PVC insulated copper conductor single core cable etc. as required.				
	1.8.1	Group A point	Nos.	436	1221	532356
	1.2	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way piano type switch, phenolic laminated sheet, suitable size MS box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	Point	40	1835	73400
	1.3	Wiring of circuit / sub main wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface / recessed medium class PVC conduit as required				
	1.7.2	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Meter	1920	327	627840
	1.7.3	2 x 4 sq. mm. + 1 x 4 sq. mm. earth wire	Meter	960	428	410880
	1.7.4	2 x 6 sq. mm. + 1 x 6 sq. mm. earth wire	Meter	480	589	282720
	1.27	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.				
	1.27.1	1 or 2 Module (75 mmX75 mm)	Each	64	298	19072
	1.27.2	3 Module (100 mmX75 mm)	Each	256	327	83712
	1.23	Supplying and fixing following piano type switch/ socket on the existing switch box/ cover including connections etc. as required.				
		5/6 amps switch	Each	64	103	6592
		15/16 amp switch	Each	64	156	9984
		3 pin 5/6 amp socket outlet	Each	64	122	7808
		6 pin 15/16 amp socket outlet	Each	64	197	12608
		TV antenna socket outlet	Each	64	148	9472
		Bell Push	Each	64	140	8960
	1.38	Supplying and fixing call bell / buzzer suitable for single phase, 230 volts, complete as required.	Each	64	99	6336
	1.25	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	64	369	23616
	1.32	Supplying and fixing brass batten/ angle holder including connection etc. as required.	Each	192	131	25152
		Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
	1.21.2	: 25 mm	Meter	384	145	55680
		Distribution board				
2	2.3	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 Volts, on surface / recess complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc .as required . (But without MCB/RCBO/Isolator)				
	2.3.1	6 way double door	Each	64	2206	14184
	2.1	Supplying and fixing 5amps to 32 amps rating 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in existing MCB DB complete with connections, testing and commissioning etc. as required.				
	2.10.1	single pole	Each	192	256	49152
	2.14	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB) having sensitivity up to 30 milli ampere in the existing MCB DB complete with connections, testing commissioning etc. as required				
	2.14.2	40 amps	Each	64	2642	169088
3	9.1	Supplying and making of end terminations with brass compression gland and AL./CU. lugs for following size PVC insulated and PVC sheated /XLPE Al Armored /Unarmored conductor cable of 1.1 kV grade as required				
	9.1.23	3.5C x 70 sq. mm (Al. Armored Cable)	Each	8	468	3744
4	5.4	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick includi	Each	8	7472	59776
		2.7 meter long etc. with charcoal/ coke and salt as required.				
	5.7	Supplying and laying 6 SWG GI wire at 0.50 Meter below ground level for conductor earth electrode including connections / termination with GI thimble etc. as required.	meter	36	51	1836
	5.15	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	meter	36	1162	41832
		Providing and fixing of lightning conductor finial , made of 25mm dia 300mm long G.I tube ,having single prong at top, with 85mm dia 6mm thick G.I base plate including holes etc. complete as required.	Each	4	518	2072
		Providing and fixing G.I tape 20mm x 3mm thick on parapet or surface of wall for lightining conductor complete as required.(for horizontal run)	meter	400	126	50400
		Sub Total				**2588272**



PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Del.radun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF INTERNAL PLUMBING WORK 16 UNIT PER FLOOR G+3 64 UNITS						
S. No.	DSR 2021	DESCRIPTION OF WORK	UNIT	Qty	Rate (Rs)	Amount (Rs)
		Sanitary Fixtures				
1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device(handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :				
a)	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	Each	64	5781.35	370006.4
	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
i	17.10.2 17.10.2.2	Kitchen sink without drain board 610x460 mm bowl depth 200 mm	Each	64	3337.85	213622.4
		Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.1	32 mm dia	Each	64	104.35	1669.6
	18.51	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.				
a)	18.51.1	15 mm nominal bore	Each	192	594.75	114192
	18.7	**WATER SUPPLY SYSTEM** Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. : Internal work - Exposed on wall				
b)	18.7.2	20 mm nominal outer dia. Pipes.	metre	400	325.10	130040
c)	18.7.3	25 mm nominal outer dia .Pipes.	metre	112	408.55	45757.6
d)	18.7.4	32 mm nominal outer dia. Pipes.	metre	192	500.95	96182.4
e)	18.7.5	40 mm nominal outer dia. Pipes.	metre	48	674.35	32368.8

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/4/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF INTERNAL PLUMBING WORK 16 UNIT PER FLOOR G+3 (64 unit)						
S. No.	DSR 2021	DESCRIPTION OF WORK	UNIT	Qty	Rate (Rs)	Amount (Rs)
	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. :Concealed work, including cutting chases and making good the walls etc.				
a)	18.8.1	15 mm nominal outer dia .Pipes.	Metre	96	441.15	42350
	18.8.2	20 mm nominal outer dia Pipes	metre	128	712.75	91232
	18.8.3	25 mm nominal outer dia Pipes	metre	16	626.05	10016.8
		Providing and fixing gun metal gate valve with CI wheel of approved quality (screwed end)				
	18.17.3	40 mm dia nominal bore	Each	32	707.30	22633.6
	18.17.5	65 mm dia nominal bore	Each	12	1490.70	17888.4
	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
b)	18.18.2	20 mm nominal bore	Each	64	397.45	25436.8
c)	18.18.3	25 mm nominal bore	Each	4	399.15	1596.6
	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
a)	18.21.1	30 cm length				
(i)	18.21.1.1	15 mm nominal bore	Each	64	74.80	1196.8
	18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1cement :2 coarse sand : 4 graded stone aggregate 20mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design :				
a)	18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	No.	4	10102.50	40410
	18.58	Providing and fixing PTMT grating of approved quality and colour.				
a)	18.58.1	Circular type.				
(ii)	18.58.1.2	125 mm nominal dia with 25 mm waste hole.	No.	128	45.25	5795.84

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date. 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF INTERNAL PLUMBING WORK 16 UNIT PER FLOOR G+3 (64 unit)						
S. No.	DSR 2021	DESCRIPTION OF WORK	UNIT	Qty	Rate (Rs)	Amount (Rs)
	12.43	Providing and fixing un plasticised -PVC pipe clips of approved design to un plasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.			309.5	39616
	12.43.2	110 mm	Each	128		
Total cost for single (G+3) tower						1302011.84

DEBI VAY SYSTEMS PVT. LTD.

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Del.radun (U.K.)
Mob.: 7895872139, 9412143346

Tower No. C,D,E & T (4 Tower)

Bill of Qunatity PMAY EWS (Uttrakhand)



(Civil Work)

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. C.D.T. Date 14/11/2022
Tapovan Road Infront of PRD Ground
Near by HDFC Bank, Dehradun (U.K.)
Mob.: 78938/2139, 9412143346

TOWER NO C , D , E & T (4 TOWER) BILL OF QUANTITY PMAY EWS BELDI ROORKEE (UTTARAKHAND)

S.NO.	DSR - 21	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT
EARTH WORK						
1	2.28.1	All kinds of soil				
2	2.32	Clearing grass and removal of the rubbish up to a distance of 50 m outside the periphery of the area cleared.				
3	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in charge. 2.6.1 All kinds of soil				
4	2.6.1	All kinds of soil	cum	1540.024	205.45	316397.9308
5	2.36	Extra for levelling & neatly dressing of disposed soil completely as directed by Engineer-in-charge.	cum	231.008	76.7	17718.3136
		SUB TOTAL				**334116.2444**
CONCRETE WORK						
6	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
7	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	cum	158.102	6326.05	1000161.157
8	4.20.1	4.20.1 All works upto plinth level :				
9	4.20.1.3	Concrete of M20 grade with minimum cement content of 270 kg /cum	cum	397.568	8387.15	3334462.451
10	4.20.2	All works above plinth and upto floor V level				
11	4.20.2.3	Concrete of M20 grade with minimum cement content of 270 kg /cum	cum	822.564	10009.5	8233454.358
		SUB TOTAL				**12568077.97**
FORM WORK						
12	5.9	Centering and shuttering including strutting, propping etc. and removal of form for				
13	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	sqm	1381.8	307.95	425525.31
14	5.9.3	Suspended floors, roofs, landings, balconies and access platform	sqm	17047.036	766.55	13067405.45
15	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	3149.28	657.75	2071438.92
16	5.9.7	Stairs, (excluding landings) except spiral-staircases	sqm	654.548	657.75	430528.947
		SUB TOTAL				**15994898.62**
STEEL REINFORCEMENT						
17	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level				
18	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more	kg	136110.72	89.65	12202326.05
		SUB TOTAL				**12202326.05**
A.C.C BLOCK WORK						
19	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.	cum	641	8890.8	5699002.8
		SUB TOTAL				**5699002.8**

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. D-01 Date 10/11/22
Tiwari Road Infront of PRD Ground
Near by Rajpur Dehradun (U.K.)
Mob.: 7895572133, 9412143346

CLADDING WORK						
20	8.6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.	sqm	156.4	417.6	65312.64
		SUB TOTAL				**65312.64**
WOOD AND P.V.C WORK						
21	9.18	Providing and fixing Pre-laminated flat pressed 3 layer (medium density) particle board or graded wood particle board IS : 3087 marked, with one side decorative and other side balancing lamination Grade I, Type II exterior grade IS : 12823 marked, in shelves with screws and fittings wherever required, edges to be painted with polyurethane primer (fittings to be paid separately)				
22	9.18.2	25 mm thick	sqm	1142.4	1501	1714742.4
23	10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
24	10.25.2	n gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	KG	980	142.3	139454
25	10.26	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.				
26	10.26.1	M.S. tube		1350.4	157.15	212215.36
27	9.12	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	SQM	311.04	148.5	46189.44
		SUB TOTAL				**2112601.2**
28						
29	11.37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	SQM	4328.36	935.6	4049613.616
		SUB TOTAL				**4049613.616**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0.5.87 Date 19/11/2022
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

TOWER NO C , D , E & T (4 TOWER) BILL OF QUANTITY PMAY EWS BELDI ROORKEE (UTTARAKHAND)

S.NO.	DSR - 21	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT
FINISHING WORK						
30	13.1	12 mm cement plaster of mix :				
31	13.1.2	1:6 (1 cement: 6 fine sand)	sqm	27189.8	294.85	8016912.53
32	13.8	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	27189.8	123.85	3367456.73
33	13.48	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :				
34	13.48.1	Two or more coats applied on walls @ 1.25 ltr/10 sqm over and including one coat of Special primer applied @ 0.75 ltr /10 sqm	sqm	27189.8	158.95	4321818.71
35	13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:				
36	13.47.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	3219.632	162.35	522707.2552
37	13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour				
38	13.83.2	Two coats	sqm	23412.4	121.55	2845777.22
		SUB TOTAL				**19074672.45**
PLUMBING AND SANITARY INSTALLATIONS						
39		Plumbing and sanitary installation of 128 EWS per floor 8 unit G+3 (32 Unit) total 4 tower				**2885230.36**
ELECTRICAL WORK						
40		Internal Electrical work of 128 EWS per floor 8 unit G+3 (32 Unit) total 4 tower				**5340880**
WATER PROFFING						
	22.6	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:				
	(a)	after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.				
	(b)	laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.				
	(c)	third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around				
	(d)	fourth and final layer of brick tiling with cement mortar (which will be paid for separately.				
		For the purpose of measurement the entire treated surface will be measured.	644.68	4	585.55	**377492.374**
		Grand total amount for tower C , D , E & T				**80704224.32**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date .....
Tapovan Road Infront of PWD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412149946

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
1	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in charge. 2.6.1 All kinds of soil										
	2.6.1	**All kinds of soil**										
		(F1)		2.02	2.02	2	8.1608	6	48.966			
		(F2)		2.16	2.16	2	9.33	12	111.96			
		(CF1)		4.03	2	2	16.12	2	32.24			
		(CF2)		6.65	2	2	26.6	6	159.6			
		(CF3)		4.03	2	2	16.12	2	32.24			
									385.006	**CUM**	**205.45**	79099.4827
	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.										
		(F1)		2.02	2.02	0.3	1.224	6	7.344			
		(F2)		2.16	2.16	0.3	1.399	12	16.796			
		(CF1)		4.03	2	0.3	2.418	2	4.836			
		(CF2)		6.65	2	0.3	3.99	6	23.94			
		(CF3)		4.03	2	0.3	2.418	2	4.836			
									57.752	**CUM**	**253.95**	14666.1204
		SUB TOTAL										**93765.6031**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0021 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143546

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
2	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :										
	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)										
		(F1) Foundation P.C.C		2.02	2.02	0.075	0.306	6	1.836			
		(F2) Foundation P.C.C		2.16	2.16	0.075	0.3499	12	4.199			
		(CF1) Foundation P.C.C		4.03	2	0.075	0.6045	2	1.209			
		(CF2) Foundation P.C.C		6.65	2	0.075	0.9975	6	5.985			
		(CF3) Foundation P.C.C		4.03	2	0.075	0.3022	2	0.6045			
		Sub Total							**13.8335**	**cum**	**6326.05**	186903.147
		Plinth beam (PB1) P.C.C		82.05	0.3	0.075			1.846			
		Plinth beam (PB2) P.C.C		119.1	0.3	0.075			2.67			
		Plinth beam (PB3) P.C.C		82.05	0.3	0.075			1.846			
									6.362	**cum**	**6326.05**	80612.85
		Ground floor pcc		24.21	10.65	0.075			**19.33**	**cum**	**6326.05**	122282.5465
		SUB TOTAL										**389798.5435**

DEBI KAY SYSTEMS PVT. LTD. DEHRADUN

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Del.radun (U.K.)
Mob.: 7895872139, 9412143346

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
3	4.20.1	4.20.1 All works upto plinth level :										
	4.20.1.3	Concrete of M20 grade with minimum cement content of 270 kg /cum										
		Foundation (F1) R.C.C		2.02	2.02	0.3	1.22	6	7.32			
		Foundation (F2) R.C.C		2.16	2.16	0.4	1.86	12	22.32			
		Foundation (CF1) R.C.C		4.03	2	0.3	2.418	2	4.836			
		Foundation (CF2) R.C.C		6.65	2	0.3	3.99	6	23.94			
		Foundation (CF3) R.C.C		4.03	2	0.4	3.224	2	6.448			
									64.864	cum	8387.15	544024.0976
		Plinth beam (PB1) R.C.C		82.05	0.23	0.4			7.5486			
		Plinth beam (PB2) R.C.C		119.1	0.3	0.3			10.719			
		Plinth beam (PB3) R.C.C		82.05	0.23	0.3			5.661			
									23.9286	cum	8387.15	200692.7575
		Column (C1) R.C.C upto plinth beam level		0.3	0.3	2	0.2385	34	8.126			
		Column (C2) R.C.C upto plinth beam level		0.3	0.3	2	0.2385	12	2.868			
									10.994	cum	8387.15	92208.3271
	4.20.2	**All works above plinth and upto floor V level**										
	4.20.2.3	**Concrete of M20 grade with minimum cement content of 270 kg /cum**										
		Column (C1) R.C.C upto terrace level		0.3	0.3	11.95	1.0755	34	36.58			
		Column (C2) R.C.C upto terrace level		0.3	0.3	11.95	1.0755	12	12.906			
									49.486	cum	10009.5	495330.117
		Column (C1) R.C.C terrace to mumty		0.3	0.3	2.4		6	**1.296**	cum	10009.5	12611.97
		(B1)		18	0.23	0.4			1.656			
		(B2)		63	0.23	0.3			4.347			
		(B3)		46	0.23	0.3			3.174			
		(B4)		13	0.23	0.4			1.196			
		(SB1)		10.82	0.23	0.56			1.393			
		(SB2)		46	0.23	0.3			3.174			
		(SB3)		10.82	0.23	0.3			0.746			
		G.F		24.21	10.65	0.125			32.23			
		F.F		24.21	10.65	0.125			32.23			
		S.F		24.21	10.65	0.125			32.23			
		T.F		24.21	10.65	0.125			32.23			
		Staircase landing		1.03	1.25	0.125		4	0.644			
		20 Steps(0.5*20*1*0.15*0.145)		0.5	0.15	0.145		4	0.218			
		projection 4 floor		0.85	0.45	0.125		16	3.06			
		projection 4 floor		0.325	0.45	0.125		16	1.17			
		projection 4 floor		0.325	0.45	0.125		16	1.17			
		projection 4 floor		0.852	0.45	0.125		2	0.186			
		Kitchen Counter 4 floor		1.035	0.6	0.075		16	2.981			
		Mumty slab		2.955	2.23	0.125			0.824			
									154.859	**cum**	**10009.5**	1550061.161
		SUB TOTAL										**2894928.43**



RAI ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ...CD-81... Date 14/11/2021
Tehsil Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
4	5.9	Centering and shuttering including strutting, propping etc. and removal of form for										
	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete										
		(F1)	2-Side	2.02		0.45	1.818	6	10.908			
				2.02		0.45	1.818	6	10.908			
		(F2)	2-Side	2.16		0.45	2.099	12	25.194			
				2.16		0.45	1.944	12	23.328			
		(CF1)	2-Side	4.03		0.45	3.627	2	7.254			
				2		0.45	3.627	2	7.254			
		(CF2)	2-Side	6.65		0.45	5.427	6	32.56			
				2		0.45	1.8	6	10.8			
		(CF3)	2-Side	4.03		0.45	3.627	2	7.254			
				2		0.45	3.627	2	7.254			
									142.714	sqm	307.95	43948.7763
		Plinth beam (PB1)	2 side	82.05		0.4	32.82	2	65.64			
		Plinth beam (PB2)		119.1		0.3	35.73	2	71.46			
		Plinth beam (PB3)		82.05		0.3	32.82	2	65.64			
									202.74	sqm	307.95	62433.783
	5.9.6	**Columns, Pillars, Piers, Abutments, Posts and Struts**										
		C1 upto plinth beam level	4 side	0.3		2	2.4	34	81.6			
		C2 upto plinth beam level	4 side	0.3		2	2.4	12	28.8			
									110.4	sqm	804.25	88789.2
		C1 G+3 upto terrace level	4 side	0.3		11.95	14.34	34	487.56			
		C2 G+ 3 upto terrace level	4 side	0.3		11.95	14.34	12	172.08			
									659.64	sqm	804.25	530515.47
		C1 upto terrace TO Mumty level	4 side	0.3		2.4	2.88	6	**17.28**	sqm	804.25	13897.44
	5.9.3	**Suspended floors, roofs, landings, balconies and access platform**										
		(B1)		18		0.4	14.4	2	14.4			
		(B2)		63		0.3	37.8	2	37.8			
		(B3)		46		0.3	27.6	2	27.6			
		(B4)		13		0.4	10.4	2	10.4			
		(SB1)		10.82		0.56	12.112	2	12.11			
		(SB2)		46		0.3	27.6	2	27.6			
		(SB3)		10.82		0.3	6.489	2	6.489			
									136.399	sqm	766.55	104556.6535
		G.F		24.21		10.65	257.836	4	1031.34			
		F.F		24.21		10.65	257.836	4	1031.34			
		S.F		24.21		10.65	257.836	4	1031.34			
		T.F		24.21		10.65	257.836	4	1031.34			
									4125.36	sqm	766.55	3162294.708
	5.9.7	**Stairs, (excluding landings) except spiral-staircases**										
		Staircase landing		2.06	1.25		2.575	4	10.3			
				8	1.25		10	4	40			
		projection		1.7	0.45		0.765	32	24.48			
		projection		0.65	0.45		0.2925	32	9.376			
		projection		0.65	0.45		0.2925	32	9.376			
		projection		1.65	0.45		0.7425	32	23.776			
		Kitchen Counter		2.07	0.6		1.242	32	39.744			
		Mumty slab		5.91	2.23		13.17	1	6.585			
									163.637	sqm	657.75	107632.2368
		SUB TOTAL										**4114068.268**

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

PAL ARCHITECT AND ENGINEER
COA No. CA/2016/96244
Case No. ..... Date .....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
5	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level										
	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more										
		Foundation (F1) steel	12 mm	44.44			39.107	6	234.642			
		Foundation (F2) steel	12 mm	49.68			43.718	12	524.616			
		Foundation (CF1) steel	08 mm	32.24			12.73	2	25.46			
			12 mm	48.24			42.45	2	84.9			
		Foundation (CF2) steel	20 mm	65.2			160.98	6	965.88			
			16 mm	75			118.5	6	711			
		Foundation (CF3) steel	16 mm	118			186.44	2	372.88			
									2919.38	kg	89.65	261722.2377
		Column (C1) steel Steel upto plinth beam level	16 mm	10			15.8	34	537.2			
			12 mm	5			4.4	34	149.6			
			10 mm	16			9.76	34	331.84			
		Column (C2) steel Steel upto plinth beam level	16 mm	15			23.7	12	284.4			
			10 mm	5			4.4	12	52.8			
									1355.84	kg	89.65	121551.056
		Column (C1) steel Steel upto Terrace level G+3	16 mm	48			75.84	34	2578.56			
			12 mm	24			22	34	748			
			10 mm	72			44	34	1496			
		Column (C2) steel Steel upto Terrace level G+3	16 mm	72			113.76	12	1365.12			
			10 mm	72			44	12	528			
									6715.68	kg	89.65	602060.712
		Column (C1) steel Steel upto Terrace to mumty level	16 mm				22.75	6	136.512			
			12 mm				4.224	6	25.344			
			10 mm				5.688	6	34.128			
									195.984	kg	89.65	17569.9656
		Plinth beam (PB1) steel	12 mm	82.05			72.204	7	505.428			
			10 mm	0.63			0.3843	820	315.126			
		Plinth beam (PB2) steel	12 mm	119.09			104.799	6	628.794			
			10 mm	0.6			0.366	792	289.872			
		Plinth beam (PB3) steel	12 mm	82.05			72.204	7	505.428			
			10 mm	0.63			0.3843	820	315.126			
									2559.77	kg	89.65	229483.7391
		Slab steel (B1)	16 mm	65.56			103.49	7	724.43			
			16 mm	32			50.56	3	151.68			
			10 mm	2.52			1.535	655	1005.43			
		Slab steel (B2)	12 mm	62.25			54.78	6	328.68			
			12 mm	31.13			27.39	3	82.17			
			10 mm	2.12			1.293	622	804.246			
		Slab steel (B3)	12 mm	62.25			54.78	6	328.68			
			12 mm	31.13			27.39	3	82.17			
			10 mm	2.12			1.293	622	804.246			
		Slab steel (SB1)	16 mm	34.72			54.855	4	219.42			
			16 mm	16			25.28	2	50.56			
			10 mm	3.16			1.9275	347	668.843			
		Slab steel (SB2)	12 mm	62.25			54.78	6	328.68			
			12 mm	31.13			27.39	3	82.17			
			10 mm	2.12			1.293	622	804.246			
		Slab steel (SB2)	12 mm	50.63			44.55	6	267.3			
			10 mm	2.4			1.464	622	910.608			
		Slab	10 mm	1307			797.475	4	3189.9			
			10 mm	1278			779.58	4	3118.32			
			10 mm	653.7			398.735	4	1594.94			
			10 mm	639.2			389.91	4	1559.64			
		Staircase	12 mm	130			114.4	25	2860			
		prjection	10 mm	129			78.69	4	314.76			
									20281.1	**kg**	**89.65**	1818201.825
		SUB TOTAL										**3050589.536**

DEBI KAY SYSTEMS PVT. LTD. DEHRADUN

PAL ARCHITECT AND ENGINEER
COA No. CA/2010/50244
Case No. ..... Date .....
Tapovan Road Infront of PRD Ground
Near by IOBI Bank, Dehradun (U.K.)
Mob.: 7895972139, 9412143346

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
6	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.										
		WALL (G+3 building)	4	2.8		2.65	29.68	8	237.44			
			4	4.1		2.65	43.45	8	347.6			
			4	2.8		2.65	29.68	8	237.44			
			4	1.3		2.65	13.77	8	110.16			
			4	0.6		2.65	6.359	8	50.872			
			4	1		2.65	10.6	8	84.8			
			4	0.35		2.65	3.706	8	29.648			
			4	2.2		2.65	23.31	8	186.48			
			4	3		2.65	31.79	8	254.32			
			4	1.4		2.65	14.83	8	118.64			
			4	1.4		2.65	14.83	8	118.64			
		corridoor wall	4	1.2		2.65	12.72	2	25.44			
		wall							**1801.48**	SQM		
		(Door & window) Deduction no of unit 8 x 4 floor	D1	1		2.1	2.1	2	134.4			
			D2	0.75		2.1	1.575	2	100.8			
			DW1	0.75		2.1	1.575	1	100.8			
			DW1	0.6		1.2	0.72	1	23.04			
			W1	1.5		0.9	1.35	1	43.2			
			V1	0.45		0.4	0.18	2	5.76			
									408	SQM		
		wall							1801.48			
		Deduction							408			
									1393.5	SQM		
					0.115		1393.5		**160.25**	**cum**	**8890.8**	1424750.7
		SUB TOTAL										**1424750.7**

PAL ARCHITECT AND ENGINEER
COA No. CA/2010/96244
Case No. ..... Date .....
Dehradun (U.K.)
9412143346

SYSTEMS PVT. LTD. DEHRADUN

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
7	9.18	Providing and fixing Pre-laminated flat pressed 3 layer (medium density) particle board or graded wood particle board IS : 3087 marked, with one side decorative and other side balancing lamination Grade I, Type II exterior grade IS : 12823 marked, in shelves with screws and fittings wherever required, edges to be painted with polyurethane primer (fittings to be paid separately)										
	9.18.2	**25 mm thick**										
		D1	8	1	2.1		2.1	2	4.2			
		D2	8	0.75	2.1		1.575	2	3.15			
		DW1	8	0.75	2.1		1.575	1	1.575			
		32 unit G+3					8.925	32	**285.6**	sqm	1501	428685.6
	10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.										
	10.25.2	n gratings, frames, guard bar, ladder, railings, brackets, gates and similar works										
		Door chowkhats (16 UNIT)										
		D1	8				30	2	60			
		D2	8				30	2	60			
		DW1	8				45	1	45			
		W1	8				50	1	50			
		V1	8				15	2	30			
		32 UNIT G+3 FLOOR							**245**			
							245	32	**7840**	kg	**142.3**	1115632
	10.26	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.										
	10.26.1	M.S. tube										
		65x40				1.25		1	1.25			
		25x25				0.84		2	1.68			
		20x20				1.25		2	2.5			
		20x20				0.64		8	5.12			
									10.55			
		Per floor 8 unit					10.55	8	84.4			
		G+3 Floor					84.4	4	**337.6**	kg	157.15	53053.84
	9.12	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).										
		DW1		0.6		1.2	0.72	1	0.72			
		W1		1.5		0.9	1.35	1	1.35			
		V1		0.45		0.4	0.18	2	0.36			
									2.43			
		Per floor 8 unit					2.43	8	19.44			
		G+3 Floor Building					19.44	4	**77.76**	sqm	**148.5**	11547.36
		Sub Total										**1180233.2**

PVT. LTD. DEHRADUN

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date .....
Thanam Road Infront of PRD Ground
Nearby IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
8	13.1	12 mm cement plaster of mix :										
	13.1.2	1:6 (1 cement: 6 fine sand)										
			wall	2.8		2.95	8.26	8	66.08			
			wall	4.1		2.95	12.095	8	96.76			
			wall	2.8		2.95	8.26	8	66.08			
			wall	1.3		2.95	3.835	8	30.68			
			wall	0.6		2.95	1.77	8	14.16			
			wall	1		2.95	2.95	8	23.6			
			wall	0.35		2.95	1.0325	8	8.26			
			wall	2.2		2.95	6.49	8	51.92			
			wall	3		2.95	8.85	8	70.8			
			wall	1.4		2.95	4.13	8	33.04			
			wall	1.4		2.95	4.13	8	33.04			
			wall	1.2		2.95	3.54	8	28.32			
		G.F , F.F , S.F , T.F ceilling		24.21		10.65	257.83	4	1031.34			
									1554.08			
		INNER WALL					1554.08	4	**6216.32**			
			D1	1		2.1	2.1	2	4.2			
			D2	0.75		2.1	1.575	2	3.15			
			DW1	0.75		2.1	1.575	1	1.575			
			DW1	0.6		1.2	0.72	1	0.72			
			W1	1.5		0.9	1.35	1	1.35			
			V1	0.45		0.4	0.18	2	0.36			
									11.355	SQM		
		(Door & window) Deduction Per floor 8 unit (32 unit)					11.35	32	363.2			
		INNER WALL							6216.32			
		DEDUCTION							363.2			
		TOTAL							**5853.1**	SQM	294.85	1725786.535
		OUTER WALL		4.361		2.95	12.864	8	102.912			
				2.8		2.95	8.26	8	66.08			
		CORRIDOOR		10.65		2.95	31.417	2	62.835			
		G+3 FLOOR					231.827	4	**231.827**			
		DEDUCTION	W1	1.5		0.9	1.35	8	**927.308**			
			DW1	0.75		2.1	1.575	8	10.8			
			DW1	0.6		1.2	0.72	8	12.6			
			V1	0.45		0.4	0.18	8	5.76			
									1.44			
		G+3 FLOOR					30.6	4	**30.6**			
									122.4			
		WALL							927.308			
		DEDUCTION							122.4			
		TOTAL							**804.908**	SQM	294.85	237327.1238
		PARAPET WALL		24.21		1	48.42	2	96.84			
				10.65		1	10.65	2	42.6			
		Sub total							**139.44**	SQM	294.85	41113.884
												2004227.543

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 08 81 Date 19/11/2021
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DEBI LAW SYSTEMS PVT. LTD. NEW DELHI

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
9	11.37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.										
		Living Room	floor	3.27	3.002		9.8165	8	78.532			
			skiarting	12.54	0.1		1.254	8	10.032			
		Kitchen	floor	2.101	1.2		2.521	8	20.168			
			skarting	6.602	0.1		0.6602	8	5.2816			
		toilet	floor	0.9	1.2		1.08	8	8.64			
			wall	0.9		1.52	1.368	8	10.944			
			wall	1.2		1.52	1.824	8	14.592			
		Bed room	floor	2.465	3.155		7.77	8	62.16			
			skarting	11.2	0.1		1.12	8	8.96			
		Entrance	floor	1.335	1.335		1.7822	8	14.2576			
			skarting	5.34	0.1		0.534	8	4.272			
		Corridor	floor	24.21	1.25				30.2625			
			skarting	24.21	0.1				2.421			
									270.523			
		G+3 floor					270.523	4	**1082.09**	**sqm**	**935.6**	1012405.275
	8.6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.										
				0.3	1.2		0.36	20	**7.2**			
				2.06	1.25		2.575	1	**2.575**			
		G+3 Floor					9.775	4	**39.1**	**sqm**	**417.6**	16328.16
		Sub total										**1028733.435**

FAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date.....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DEBI KAY SYSTEMS PVT. LTD.

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
10	13.8	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.										
			wall	2.8		2.95	8.26	8	66.08			
			wall	4.1		2.95	12.095	8	96.76			
			wall	2.8		2.95	8.26	8	66.08			
			wall	1.3		2.95	3.835	8	30.68			
			wall	0.6		2.95	1.77	8	14.16			
			wall	1		2.95	2.95	8	23.6			
			wall	0.35		2.95	1.0325	8	8.26			
			wall	2.2		2.95	6.49	8	51.92			
			wall	3		2.95	8.85	8	70.8			
			wall	1.4		2.95	4.13	8	33.04			
			wall	1.4		2.95	4.13	8	33.04			
			wall	1.2		2.95	3.54	8	28.32			
		G.F , F.F , S.F , T.F ceilling		24.21		10.65	257.83	4	1031.34			
									1554.08			
							1554.08	4	**6216.32**			
		INNER WALL										
			D1	1		2.1	2.1	2	4.2			
			D2	0.75		2.1	1.575	2	3.15			
			DW1	0.75		2.1	1.575	1	1.575			
			DW1	0.6		1.2	0.72	1	0.72			
			W1	1.5		0.9	1.35	1	1.35			
			V1	0.45		0.4	0.18	2	0.36			
									11.355	SQM		
		(Door & window) Deduction Per floor 8 unit (32 unit)					11.35	32	**363.2**			
		INNER WALL							6216.32			
		DEDUCTION							363.2			
		TOTAL							**5853.1**	SQM	123.85	724906.435

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
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DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

		OUTER WALL		4.361		2.95	12.864	8	102.912			
				2.8		2.95	8.26	8	66.08			
		CORRIDOOR		10.65		2.95	31.417	2	62.835			
									231.827			
		G+3 FLOOR					231.827	4	**927.308**			
		DEDUCTION	W1	1.5		0.9	1.35	8	10.8			
			DW1	0.75		2.1	1.575	8	12.6			
			DW1	0.6		1.2	0.72	8	5.76			
			V1	0.45		0.4	0.18	8	1.44			
									30.6			
		G+3 FLOOR					30.6	4	**122.4**			
		WALL							927.308			
		DEDUCTION							122.4			
		TOTAL							**804.908**	SQM	123.85	99687.8558
		PARAPET WALL		24.21		1	48.42	2	96.84			
				10.65		1	10.65	2	42.6			
									139.44	SQM	123.85	17269.644
	13.48	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :										
	13.48.1	Two or more coats applied on walls @ 1.25 ltr/10 sqm over and including one coat of Special primer applied @ 0.75 ltr /10 sqm										
		primer qty							**6635.32**	SQM	158.95	1054684.114
	13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:										
	13.47.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)										
		exterior paint qty							**804.908**	SQM	162.35	130676.8138
	13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour										
	13.83.2	Two coats										
		interior paint qty							**5853.1**		121.55	711444.305
		Sub total										**2738669.168**

PAL ARCHITECT AND ENGINEER
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Case No. ....Date.....
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DEBI KAY SYSTEMS PVT. LTD. NEW DELHI

TOWER C,D,E,T (4 TOWER) DETAILED ESTIMATE OF CIVIL WORK PER FLOOR 8 UNIT G+3 (32 UNIT)

sno	DSR - 21 CODE	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
	22.6	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:										
	(a)	after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.										
	(b)	laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.										
	(c)	third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around										
	(d)	fourth and final layer of brick tiling with cement mortar (which will be paid for separately.										
		For the purpose of measurement the entire treated surface will be measured.		1.915	1.315		2.518	8	20.144			
		G+3 Floor					20.144	4	80.576	sqm	585.55	**47181.2768**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date 14/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATED FOR INTERNAL ELECTRICAL PER FLOOR 8 UNIT G+3 (32 UNIT)						
S.NO	DSR -2022	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	1.8	Wiring for light point /fanpaoint/exhaust fan point with 1.5 sq.mm FRLS PVC insulated copper coductor single core in surface / recessed medium class pvc condult , with piano type switch , phenolic leminated sheet, suitable size ,M.S box and earthing the point with 1.5 sq,mm FRLS PVC insulated copper conductor single core cable etc. as required.				
	1.8.1	Group A point	Nos.	218	1221	266178
	1.2	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way piano type switch, phenolic laminated sheet, suitable size MS box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	Point	20	1835	36700
	1.3	Wiring of circuit / sub main wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface / recessed medium class PVC conduit as required				0
	1.7.2	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Meter	960	327	313920
	1.7.3	2 x 4 sq. mm. + 1 x 4 sq. mm. earth wire	Meter	480	428	205440
	1.7.4	2 x 6 sq. mm. + 1 x 6 sq. mm. earth wire	Meter	240	589	141360
	1.27	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.				0
	1.27.1	1 or 2 Module (75 mmX75 mm)	Each	32	298	9536
	1.27.2	3 Module (100 mmX75 mm)	Each	128	327	41856
	1.23	Supplying and fixing following piano type switch/ socket on the existing switch box/ cover including connections etc. as required.				0
		5/6 amps switch	Each	32	103	3296
		15/16 amp switch	Each	32	156	4992
		3 pin 5/6 amp socket outlet	Each	32	122	3904
		6 pin 15/16 amp socket outlet	Each	32	197	6304
		TV antenna socket outlet	Each	32	148	4736
		Bell Push	Each	32	140	4480
	1.38	Supplying and fixing call bell / buzzer suitable for single phase, 230 volts, complete as required.	Each	32	99	3168
	1.25	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	32	369	11808
	1.32	Supplying and fixing brass batten/ angle holder including connection etc. as required.	Each	96	131	12576
		Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				0
	1.21.2	: 25 mm	Meter	192	145	27840
		Distribution board				0
2	2.3	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 Volts, on surface / recess complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc .as required . (But without MCB/RCBO/Isolator)				0
	2.3.1	6 way double door	Each	32	2206	70592

PAL ARCHITECT AND ENGINEER
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	2.1	Supplying and fixing 5amps to 32 amps rating 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in existing MCB DB complete with connections, testing and commissioning etc. as required.				0
	2.10.1	single pole	Each	96	256	24576
	2.14	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB) having sensitivity up to 30 milli ampere in the existing MCB DB complete with connections, testing commissioning etc. as required				0
	2.14.2	40 amps	Each	32	2642	84544
3	9.1	Supplying and making of end terminations with brass compression gland and AL./CU. lugs for following size PVC insulated and PVC sheated /XLPE Al Armored /Unarmored conductor cable of 1.1 kV grade as required				0
	9.1.23	3.5C x 70 sq. mm (Al. Armored Cable)	Each	4	468	1872
4	5.4	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of	Each	1	7472	7472
		2.7 meter long etc. with charcoal/ coke and salt as required.				0
	5.7	Supplying and laying 6 SWG GI wire at 0.50 Meter below ground level for conductor earth electrode including connections / termination with GI thimble etc. as required.	meter	18	51	918
	5.15	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	meter	18	1162	20916
		Providing and fixing of lightning conductor finial , made of 25mm dia 300mm long G.I tube ,having single prong at top, with 85mm dia 6mm thick G.I base plate including holes etc. complete as required.	Each	2	518	1036
		Providing and fixing G.I tape 20mm x 3mm thick on parapet or surface of wall for lightining conductor complete as required.(for horizontal run)	meter	200	126	25200
		Sub Total				**1335220**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. 0081 Date. 04/11/22
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF INTERNAL PLUMBING WORK PER FLOOR 8 UNIT G+3 32 UNITS						
S. No.	DSR 2021	DESCRIPTION OF WORK	UNIT	Qty	Rate (Rs)	Amount (Rs)
		Sanitary Fixtures				
1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device(handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :				
a)	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	Each	32	5781.35	185003.2
	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
i	17.10.2 17.10.2.2	Kitchen sink without drain board 610x460 mm bowl depth 200 mm	Each	32	3337.85	106811.2
		Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.1	32 mm dia	Each	32	104.35	3339.2
	18.51	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.				
a)	18.51.1	15 mm nominal bore	Each	96	594.75	57096
	18.7	**WATER SUPPLY SYSTEM** Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. : Internal work - Exposed on wall				
b)	18.7.2	20 mm nominal outer dia. Pipes.	metre	200	325.10	65020
c)	18.7.3	25 mm nominal outer dia .Pipes.	metre	56	408.55	22879.36
d)	18.7.4	32 mm nominal outer dia. Pipes.	metre	96	500.95	48091.2
e)	18.7.5	40 mm nominal outer dia. Pipes.	metre	24	674.35	16184.4



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DETAILED ESTIMATE OF INTERNAL PLUMBING WORK PER FLOOR 8 UNIT G+3 (32 unit)						
S. No.	DSR 2021	DESCRIPTION OF WORK	UNIT	Qty	Rate (Rs)	Amount (Rs)
	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. :Concealed work, including cutting chases and making good the walls etc.				
a)	18.8.1	15 mm nominal outer dia .Pipes.	Metre	48	441.15	21175
	18.8.2	20 mm nominal outer dia Pipes	metre	64	712.75	45616
	18.8.3	25 mm nominal outer dia Pipes	metre	8	626.05	50008.4
		Providing and fixing gun metal gate valve with CI wheel of approved quality (screwed end)				
	18.17.3	40 mm dia nominal bore	Each	16	707.30	11316.8
	18.17.5	65 mm dia nominal bore	Each	6	1490.70	8944.2
	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
b)	18.18.2	20 mm nominal bore	Each	32	397.45	12718.4
c)	18.18.3	25 mm nominal bore	Each	4	399.15	1596.6
	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
a)	18.21.1	30 cm length				
(i)	18.21.1.1	15 mm nominal bore	Each	32	74.80	2393.6
	18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1cement :2 coarse sand : 4 graded stone aggregate 20mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design :				
a)	18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	No.	4	10102.50	40410
	18.58	Providing and fixing PTMT grating of approved quality and colour.				
a)	18.58.1	Circular type.				
(ii)	18.58.1.2	125 mm nominal dia with 25 mm waste hole.	No.	64	45.25	

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DETAILED ESTIMATE OF INTERNAL PLUMBING WORK PER FLOOR 8 UNIT G+3 (32 unit)						
S. No.	DSR 2021	DESCRIPTION OF WORK	UNIT	Qty	Rate (Rs)	Amount (Rs)
	12.43	Providing and fixing un plasticised -PVC pipe clips of approved design to un plasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.			309.5	19808
	12.43.2	110 mm	Each	64		
					Total cost for single (G+3) tower	721307.56

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(Other services)

Bill of Quantity PMAY EWS (Uttrakhand)

1- External Sewrage System

2- Extrnal Water Supply System

3- Extrnal Drainage System

4- C.C Paving Work Cost

5- Boundry Wall Construction 833.575M

6- Tube Wall Cost

7- Main Entrance gate

8- UG Tank And Pump room

9- S.T.P Tank Construction

DEBI KAY SYSTEMS PVT. NEW DELHI

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DETAILED ESTIMATE OF EXTERNAL SEWERAGE SYSTEM

S.NO	DSR -2022	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	2.1	EARTHWORK				
		Excavation in trench in all kinds of soil of required width for pipes with working space including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5m including getting out the excavated soil, and then returning the soil as required, in layers not exceed 20cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, wherever required within the site area/boundary,Item including shoring, struting,dewatering (except sub-soil water) all complete as per direction of the Project manager at site.				
	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	Rm	3771	417.35	1573826.85
	2.10.1.3	Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm	Rm	19	651.55	12379.45
	2.11	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).	Rm	1425	127	180975
	19.1	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
	19.1.3	200 mm diameter	Rm	3477.1	830.4	2887383.84
	19.1.4	250 mm diameter	Rm	157.51	1293.9	203802.18
	19.1.5	300 mm diameter	Rm	135.92	1774.5	241190.04
	19.2	Providing and laying cement concrte 1:5:10 (1 cement:5 coarse sand:10 graded stone aggregate 20 mm nominal size) all-round				
		S.W. Pipes including 150 mm thick bed concrte as per standard design:				
	19.2.3	200 mm dia	Rm	3477	830.4	2887300.8
	19.3	Providing and laying cement concrte 1:5:10 (1 cement:5 coarse sand:10 graded stone aggregate 20 mm nominal size) up to haunches of S.W. Pipes including 150 mm thick bed concrte as per standard design:				
	19.3.5	300 mm dia	Rm	135.92	1089.1	148030.47
	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
	19.4.1	100x100 mm size P type				
	19.4.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	886	2453.55	2173845.3
	19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design				
	19.9.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter con forming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :				
	19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	360	11886.45	4279140
	19.11	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
	19.11.1	.68 m deep with SFRC Cover and frame (heavy duty HD 20 grade designation) 560 mm internal diameter conform ing to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 ce ment : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :				
	19.11.1.2	With Sewer bricks conforming IS : 4885	Each	113	22463.9	2538420.7

PAL ARCHITECT AND ENGINEER
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	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	1425	487.1	694117.5
	19.1	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m	Meter	117	6693.95	783192.15
	19.10.2	With Sewer bricks conforming IS : 4885				
	19.3	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 fine sand : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design:				
	19.30.1	Inside dimensions 455x610 mm and 45 cm deep for single pipe line :				
	19.30.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	234	6431.3	1504924.2
		Sub Total				**20108528.48**

PAL ARCHITECT AND ENGINEER
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DETAILED ESTIMATE OF EXTERNAL WATER SUPPLY SYSTEM

S.NO	DSR -2022	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		EARTHWORK				
	2.1	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :				
	2.10.1	All kinds of soil				
	2.10.1.1	Pipes, cables etc, not exceeding 80 mm dia.				
	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	Meter	1676	417.35	699478.6
		Sand filling				
	18.41	Providing and filling sand of grading zone V or coarser grade, allround the G.I. pipes in external work :				
	18.41.9	100 mm diameter pipe		918.88	304.75	280028.68
	18.41.10	150 mm diameter pipe		922.36	453.95	418705.32
		Pipe work				
	18.7	Providing push-on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and the cost of rubber gasket				
	18.70.1	100 mm dia pipes		367.55	96.15	35339.93
	18.70.2	150 mm dia pipes		369.55	156.05	57668.27
	18.70.3	200 mm dia pipes		10	229.5	2295
	18.72	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 :				
	18.72.1	100 mm dia Ductile Iron Class K-7 pipes	Rm	655	1121.1	734320.5
	18.72.2	150 mm dia Ductile Iron Class K-7 pipes	Rm	266	1601.3	425892.6
	18.72.3	200 mm dia Ductile Iron Class K-7 pipes	Rm	970	1975.95	1916671.5
	18.8	Disinfecting C.I. water mains by flushing with water containing bleaching powder @ 0.5 gms per litre of water and cleaning the same with fresh water, operation to be repeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory.				
	18.80.2	100 mm diameter C.I. pipe	100 m	9.88	1996.5	19725.42
	18.80.4	150 mm diameter C.I. pipe	100 m	9.18	2974.9	27309.58
	18.80.5	200 mm diameter C.I. pipe	100 m	0.55	3954.45	2174.94
		VALVES AND ACCESSORIES				
	18.31	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately)				
	18.31.1	100 mm diameter				
	18.31.1.2	Class II	Each	17	4097.9	69664.3
	18.31.3	150 mm diameter				
	18.31.3.2	Class II	Each	8	13512.6	108100.8
	18.31.4	200 mm diameter				
	18.31.4.2	Class II	Each	2	27521.5	55043
	18.59	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc if required will be paid separately) :				
	18.59.1	50 mm dia	each	2	5171.75	10343.5
	18.59.2	80 mm dia	each	1	6255.45	6255.45
	18.6	Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by Municipal Board complete with bolts, nuts, rubber insertions etc. (The tail pieces if required will be paid separately) :				
	18.60.2	100 mm dia nominal bore	Each	3	4995.9	14987.7
	18.60.3	150 mm dia nominal bore	Each	2	7357.35	14714.7
	18.34	Constructing masonry Chamber 90x90x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :	Each			
	18.34.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each	24	17577.9	421869.6
	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.3	250 mm dia. R.C.C. pipe	meter	100	811.15	8110.15
	19.6.4	300 mm dia. R.C.C. pipe	meter	100	902.05	9020.05
	18.61	Providing and fixing C.I. dirt box strainer for bulk type water meter with nuts, bolts, rubber insertions etc. complete conforming to IS : 2373 :				
	18.61.3	150 mm dia	each	2	8394.25	16788.5
		Sub Total				**5354508.09**

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DETAILED ESTIMATE OF CIVIL WORKS OF EXTERNAL DRAINAGE SYSTEM

S.No.	DSR No.	DESCRIPTION	UNIT	QTY.	RATE (Rs)	AMOUNT(Rs)
	21	EARTH WORK				
1	2.8	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.				
	2.8.1	All kinds of soil	Cum	3325.00	286.85	953776.25
	a	Extra over item no. 1 for depth exceeding 1.5 m but not exceeding 3.0 m	cum	475.00	286.85	136253.75
2	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.	cum	631.75	253.95	160242.45
		CEMENT CONCRTE WORKS				
4	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
	4.1.4	1:2:4 (1 Cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 40 mm nominal size).	cum	133.00	7226.95	961184.35
	4.1.11	1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size).	cum	332.50	5660.45	1882099.62
5	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	2141.3	8288.35	17747843.85
6		Centering and shuttering including strutting, propping etc. and removal of form for :				
	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete.	Sqm	997.50	307.95	307180.125
	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	Sqm	13300.00	669.55	8905015
	13.4	12 mm cement plaster :				
	13.4.2	1:6 (1 cement : 6 coarse sand)	sqm	8179.50	294.35	2407635.82
	13.18	Neat cement punning	sqm	9310.00	67.80	631218
		Total for Civil work				**34092449.21**

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DETAILED ESTIMATE OF CC ROAD & PAVING

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement L	B	H	Qty	No	Total Qty	Unit	Rate	Amount
12	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.			5402	0.03	162.06	1	162.06	cum	2161.2	350244.07
	4.3	Centering and shuttering including strutting, propping etc. and removal of form work for :										
	4.3.1	Foundations, footings, bases for columns		1500		0.12	180	2	360	cum	307.95	110862
	16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earthwith lead upto 50 metres.		15112				1	15112	sqm	180.5	2727716
	16.78	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.										
	16.78.1	With material conforming to Grade-I (size range 75 mm to 0.075 mm) having CBR Value-30										
		P1			101.98	0.125		1	12.7475			
		P2			19.77	0.125		1	2.47125			
		P3			341.89	0.125		1	42.73625			
		P4			208.8	0.125		1	26.1			
		P5			557.42	0.125		1	69.6775			
		P6			842.32	0.125		1	105.29			
		P7			438.08	0.125		1	54.76			
		P8			389.44	0.125		1	48.68			
		P9			254.84	0.125		1	31.855			
									394.3175	cum	2658.1	1048135.35
	16.75	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in charge. (The panel shuttering work shall be paid for separately).		15112		0.125		1	1889	cum	8277.55	15636292
		STEEL REINFORCEMENT										
	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level										
	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more.		25		1889		1	**47225**	kg	89.65	4233721.25
	16.47	Painting runway/taxi track/apron marking with adequate nos of coats to give uniform finish with road marking paint of superior make as approved by the Engineer-in-charge, i/c cleaning the surface of all dirt, scales, oil, grease and other foreign material etc. and lining out complete.										
	16.47.1	New work (Two or more coats)			2518.97	1		1	**2518.97**	sqm	158.5	399258.33
	16.68	Providing and laying 60mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.										
		P1			101.98			1	101.98			
		P2			19.77			1	19.77			
		P3			341.89			1	341.89			
		P4			208.8			1	208.8			
		P5			557.42			1	557.42			
		P6			842.32			1	842.32			
		P7			438.08			1	438.08			
		P8			389.44			1	389.44			
		P9			254.84			1	254.84			
									3154.54	sqm	951	2999967.54
		Sub Total										**27506196.5**

PAL ARCHITECT AND ENGINEER
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DETAILED ESTIMATE OF BOUNDARY WALL CIVIL CONSTRUCTION

sno	DSR - 21 CODE NO.	Description of work	Item	Measurement			Qty	No	Total Qty	Unit	Rate	Amount
				L	B	H						
		ALL WORK FROM 30 M LENGTH										
12	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in charge.										
	2.6.1	All kinds of soil		30	0.9	0.75	20.25	1	**20.25**	CUM	205.45	4160.36
	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :										
	4.1.10	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)		30	0.9	0.15	4.05	1	**4.05**	CUM	6050.65	24505.13
	4.1.3	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)		30	0.46	0.05	0.69	1	0.69	CUM	7365.15	5081.95
	5.2	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. above plinth level up to floor five level, excluding cost of centering, shuttering, finishing and reinforcement :										
	5.2.2	1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natu ral sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)		30	0.23	0.15	1.035	1	1.035	CUM	10185.05	10541.475
	5.22A	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.		1.035		120	124.2	1	**124.2**	KG	89.65	11134.53
	5.22A.6	Thermo-Mechanically Treated bars of grade Fe-500D or more										
	6.2	Brick work with common burnt clay modular bricks of class designation 7.5 in foundation and plinth in:										
	6.2.2	Cement Mortar 1:6 (1 cement : 6 coarse sand).		30	0.68	0.15	3.1	1	3.1			
				30	0.575	0.15	2.6	1	2.6			
				30	0.46	0.15	2.1	1	2.1			
				30	0.345	0.15	1.6	1	1.6			
									9.4	CUM	5549.95	52169.53
	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :										
	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)		24.94	0.23	0.15	0.8604	1	0.8604			
		Length of wall=30-0.46*11 (below RCC band)		24.94	0.23	1.2	0.6883	1	6.88			
		Above RCC Band		0.46	0.46	1.8	0.3808	11	4.189			
		Column							**11.9294**	cum	8288.35	98875.04
	13.4	12 mm cement plaster of mix :										
	13.4.1	1:4 (1 cement: 4 coarse sand)		24.94		1.2	29.28	1	29.28			
				0.46		1.8	0.828	11	9.108			
				0.115		1.8	0.207	22	4.554			
									42.942	sqm	307.25	13193.92
	13.5	15 mm cement plaster on rough side of single or half brick wall of mix:										
	13.5.1	1:4 (1 cement: 4 coarse sand)		24.94		1.2	29.28	1	29.28			
				0.46		1.8	0.828	11	9.108			
				0.115		1.8	0.207	22	4.554			
									42.942	sqm	354.5	15222.93

PAL ARCHITECT AND ENGINEER
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	13.44	Finishing walls with water proofing cement paint of required shade :										
	13.44.1	New work (Two or more coats applied @ 3.84 kg/10 sqm)						1	174.5		97.6	17013.75
	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.										
		back filling							10.98	cum	253.95	2788.371
	5.9	Centering and shuttering including strutting, propping etc. and removal of form for										
	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers										
		GB		30	0.15	9	40.5	2	81	SQM	608.35	49276.35
	10.2	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete										
		MS flats 20x5mm L=30m		30	0.75		22.5	2	45	KG	78.2	3519
		12x12mm square bar c/c 150mm		6	1.13		6.78	21	142.38	KG	78.2	11134.116
		Cost of Boundary Wall for 30 m										318616.452
		Cost of Boundary Wall for 1m										10620.54
		Total Length 833.575m										**8853016.63**

PAL ARCHITECT AND ENGINEER
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Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF TUBE WELL

S.NO	DSR -2022	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	23.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.				
	23.1.1	All types of soil				
	23.1.1.1	300 mm dia	metre	50	592.05	29602.5
	23.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, beyond 90 metre & upto 150 metre depth below ground level.				
	23.2.1.1	300 mm dia	metre	100	690.7	69070
	23.1	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.				
	23.10.3	200 mm nominal size dia having minimum wall thickness 5.40 mm	metre	50	2082.1	104105
	23.11	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumestic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer -in-charge.				
	23.11.3	200 mm nominal size dia	metre	50	2194.85	109742.5
	23.6	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	cum	3.92	1309	5131.28
	23.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	hour	20	916.8	18336
	23.13	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of:				
	23.13.3	200 mm dia	each	1	280.95	280.95
	23.14	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.				
	23.14.3	200 mm clamp	each	1	1827	1827
	23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
	23.15.3	200 mm dia	each	1	308.55	308.55
		TOTAL Drill of Tube well civil + Electrical cost				
		Total 1 No Drilling of Tube wel				338403.78

PAL ARCHITECT AND ENGINEER
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Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF MAIN GATE

S.NO	DSR -2022	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	4.1	P/L cement concrete - all works upto plinth level :				
	4.1.10	1:5:10 (1 cement : 5 coarse sand derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	cum	25.12	6050.65	151992.328
	9.71	Providing and fixing IS : 12817 marked stainless steel butt hinges (heavy weight) with stainless steel screws etc. complete :				
	9.71.2	100x60x2.50 mm	each	6	85.45	512.7
	10.16	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.				
	10.16.1	Hot finished welded type tubes	kg			
		HollowSSBOXsection 80x40x2mm	kg	76.8712		
		HollowSSBOXsection 40x20x1.5mm	kg	134.4244		
		TOTAL		211.2956	154.9	32729.68844
	10.27.2	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yieldstrength 480 N/mm2), counter sunk head, comprising of 10 m dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in- charge.				
		10 x 80 mm	each	36	117.3	4222.8
		MAIN ENTRANCE GATE				
	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
	4.1.10	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	cum	0.072	6050.65	435.6468
	9.71	Providing and fixing IS : 12817 marked stainless steel butt hinges (heavy weight) with stainless steel screws etc. complete :				
	9.71.2	100x60x2.50 mm	each	6	85.45	512.7
	10.16	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.				
	10.16.1	Hot finished welded type tubes				
		HollowSSBOXsection 80x40x2mm	kg	110.25	154.9	
		HollowSSBOXsection 40x20x1.5mm	kg	180.25	154.9	
				290.5	154.9	44998.45
	10.27	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm2), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.				
	10.27.2	10 x 80 mm	each	36	117.3	4222.8
		Total cost of 2 Main gate	each	2	239627.11	**479254.22**

DEBMAY SYSTEMS PVT. LTD.

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ...to.91..... Date...14/11/2021
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF UNDER GROUND TANK AND PUMP ROOM

S.NO	DSR -2022	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in charg				
	2.6.1	All kinds of soil	cum	932	205.45	191479.4
		Extra over item no. 1 for depth exceeding 1.5 m but not exceeding 3.0 m	cum	558	205.45	114641.1
		Extra over item no. 1 for depth beyond 3.0 m.	cum	36	205.45	7396.2
	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	cum	388.5	253.95	98659.575
	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level				
	4.1.3	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	2.54	7365.15	18707.481
	4.1.11	1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size).	cum	64.24	5660.45	363627.308
	5.33	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but , excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
	5.33.1	All works up to plinth level.	cum	478.79	7997.3	3829027.267
		Centering and shuttering including strutting, propping etc. and removal of form for				
	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete.	Sqm	41	307.95	12625.95
	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	Sqm	1370	669.55	917283.5
	5.9.3	Suspended floors, roofs, landings, balconies and access platform.	Sqm	399.03	766.55	305876.4465
	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
	5.22A.6	Thermo-Mechanically Treated bars	Kg	56377.02	89.65	5054198.843
		Providing and fixing in recommended proportion admixtures as per IS code for water profing concrete as per manufacturer specification and direction of Construction manager				
	22.4.1	Serrated with central bulb (225 mm wide, 8-11 mm thick)	metre	73.3	285.6	20934.48
	11.26	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to 10 match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
		25 mm thick	sqm	42	0.1491	6.2622
	22.14	Grading roof for water proofing treatment with				
	22.14.1	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	17.5	3.2	56
	22.1	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : i) I st layer of 22mm to 25mm thick approved and specified rough stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.				
	22.1.1	Using rough kota stone sqm	Sqm	375	0.342	128.25
		Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :				

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date.....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Del.radun (U.K.)
Mob.: 7895872139, 9412143346

	22.2.1	Using rough Kota stone	sqm	195	0.443	86.385
	6.3	Brick work with common burnt clay machine moulded perforated bricks of class designation 12.5 conforming to IS: 2222 in superstructure above plinth level up to floor five level in cement mortar 1:6 (1 cement : 6 coarse sand) :				
	6.3.1	With F.P.S.(non modular) bricks	cum	13.56	8030.6	108894.936
	13.4.2	1:6 (1 cement: 6 coarse sand)	sqm	202.33	294.35	59555.8355
	13.37	White washing with lime to give an even shade :				
	13.37.1	New work (three or more coats)	sqm	202.33	32.45	6565.6085
		TOTAL COST				**11109751.83**

Mob.: 7895872139, 9412[illegible]

DEBI KAY SYSTEMS PVT. LTD.

DETAILED ESTIMATE OF SEWAGE TREATEMENT PLANT FOR CONSTRUCTION OF 1088 HOUSES

SR NO	DSR-21.	DESCRIPTION	UNIT	QTY.	RATE (Rs)	AMOUNT (Rs)
		EARTH WORK				
1	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
	2.6.1	All kinds of soil.	cum	932.40	205.45	191561.58
	a	Extra over item no. 1 for depth exceeding 1.5 m but not exceeding 3.0 m.	cum	941.63	205.45	193457.88
	b	Extra over item no. 1 for depth beyond 3.0 m.	cum	1255.50	205.45	257942.47
2	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.	cum	202.50	253.95	51424.875
		CEMENT CONCRTE WORKS				
4		Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
	4.1.11	1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size).	cum	94.16	6050.65	569729.04
5	5.5	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but , excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
	5.33.1	All works up to plinth level.				
		using M20 grade instead	cum	652.60	8320.05	5429664
6		Centering and shuttering including strutting, propping etc. and removal of form for :				
	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete.	Sqm	59.20	307.95	18230.64
	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	Sqm	2320.00	669.55	1553356
	5.9.3	Suspended floors, roofs, landings, balconies and access platform.	Sqm	598.50	766.55	458780.175
7		Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
	5.22A.6	Thermo-Mechanically Treated bars.	Kg	63578.00	89.65	5699767.7
8		Providing and fixing in recommended proportion admixtures as 50per IS code for water profing concrete as per manufacturer specification and direction of Construction manager	Per bag of Kg of cement used in the mix			-
8	22.4	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete :				
	22.4.1	Serrated with central bulb (225mm wide, 8-11mm thick).	M	234.00	285.60	66830.4

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date .....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, De... (U.K.)

DETAILED ESTIMATE OF SEWAGE TREATEMENT PLANT FOR CONSTRUCTION OF 1088 HOUSES

SR NO	DSR-21	DESCRIPTION	UNIT	QTY.	RATE (Rs)	AMOUNT (Rs)
9		Providing and fixing 500 mm dia CI manhole cover and frame (medium duty). Weight of cover not less than 58 Kg.				-
10	11.26	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
		25 mm thick	sqm	178.70	1706.60	304969.42
11	22.14	Grading roof for water proofing treatment with				
12	22.14.1	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	8.94	3.20	28.608 -
13	22.1	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : i) I st layer of 22mm to 25mm thick approved and specified rough stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.				
	22.1.1	Using rough kota stone.	Sqm	626.22	0.342	214.167
	22.2	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in charge :				
	22.2.1	Using rough Kota stone	sqm	311.10	0.443	137.817
	22.23	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guaranteed for 10 years against any leakage.				

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date.....
Tapovan Road Infront of PRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143346

DETAILED ESTIMATE OF SEWAGE TREATEMENT PLANT FOR CONSTRUCTION OF 1088 HOUSES

SR.NO	DSR-21	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
15	6.3	Brick work with common burnt clay machine moulded perforated bricks of class designation 12.5 conforming to IS: 2222 in superstructure above plinth level up to floor five level in cement mortar 1:6 (1 cement : 6 coarse sand) :				
	6.3.1	With F.P.S.(non modular) bricks.	CUM	13.56	8030.60	108894.93
	13.4	12 mm cement plaster of mix :				
16	13.4.2	1:6 (1 cement: 6 coarse sand)	Sqm	152.40	294.35	44858.94
17	13.37	White washing with lime to give an even shade :				
	13.37.1	New work (three or more coats)	One Square Metre	195.34	32.45	6338.78
			TOTAL CIVIL WORK OF STP			**14956187.42**

PAL ARCHITECT AND ENGINEER
COA No. CA/2018/96244
Case No. ..... Date.....
Tapovan Road Infront of PR
Near by IDBI Bank, De..rad
Mob.: 7895872139, 9412

OTHER SERVIES						
41		External sewerage system				20108528
42		External water supply system				5354508.09
43		External Drainage system				34092449.21
44		C.C Paving work cost				27506196.49
45		Boundary wall construction 833.575 M				8853016.63
46		Tube well cost				338403.78
47		Main Entrance gate				479254.22
48		U.G Tank and Pump Room				11109171.14
49		S.T.P Construction				14956187.42
		other service				122797715

Grand Total amount for 15 Tower A , B , F , G , H TO S	620819842.9
Grand total amount for 4 Tower C , D , E & T	80704224.32
Grand Total other service	122797715
Grand total project cost	**824321782.2**

TAL ARCHITECT AND ENGINEER
COA No. CA/2011/9
Case No. A-5-31 Da
Tapovan Road In Front of RRD Ground
Near by IDBI Bank, Dehradun (U.K.)
Mob.: 7895872139, 9412143536

DEBI KAY SYSTEMS PVT. LTD. NEW DELHI