# CHANNABASAVESHWARA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU, Belgaum & Approved by AICTE, New Delhi)
(**NAAC Accredited & ISO 9001:2015 Certified Institution**)
NH 206 (B.H. Road), Gubbi, Tumkur – 572 216. Karnataka.

# "INTERNSHIP PRESENTATION"

**Under the guidance of**

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**Presented by**

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# OBJECTIVE

) The main objective of higher educational institutions, especially technological institution is producing knowledgeable, well performed, country builder, productive and talented students.

2) Almost all practical engineering applications are done based on the theories and principles of different engineering fields that have been developed progressively.

3) Civil engineering practical applications i.e design, construction and supervision have laid down their foundation on those theories and principles of civil engineering study fields.

4) As under graduate student, I have grasp the basic principles and theories of civil engineering design and construction work in my last three years.

# ABOUT THE COMPANY

- **HABITAT VENTURES PVT.LTD**. Is a Bangalore based company established in 2004. **HABITAT VENTURES** in association with **Indian green building council , FKCCI Bangalore , CREDAI Bangalore.**

- An integrated real estate development company, the Bangalore's very own architect developer is a winner of many international awards and accolades.

- The Company has grown from strength to strength, having successfully completed 15 projects spanning 2.5 million sft and about 1.3 million sft under construction.

## THE LOGO OF THE COMPANY


➢ **Mission**

"*To provide our client and costumers exemplary service in a professional and transparent environment and make the entire experience of dealing with habitat ventures pleasant & personal"*.

➢**Vision**

"*To emerge as the real estate developer of choice in southern India by building quality relationships through a work culture and promotes integrity respect and loyalty*".

# COMPANY PROJECTS

**Completed Residential projects**

1. Habitat crest -Whitefield
5. Habitat Carnation - Chandra layout
2. Habitat orchid - Basavanagudi
6. Habitat aster -Whitefield
3. Habitat Maple – Rajarajeshwarinagara
7. Habitat cedar - Thindlu
4. Habitat ochre - Uttarhalli
8. Habitat Mayflower - Koramangala

**Commercial Projects**

1. HVP Cypress I &II -VV Puram
2. HVP Arcade - RR Nagar
3. HVP Aster - Whitefield

**Company has 2 major ongoing projects**

1.Habitat Iluminar - Off Mysore Road.
2.Habitat Eden heights - Whitefield.

# PROJECT DETAILS

- **HABITAT ILUMINAR** is a Multistoried Apartment suited at MylasandraVillage , KengriHobli Bangalore.

- Site measures approximately 19939.4 Sq.m .

- It has consist of 10 towers are grouped into 6 Blocks with expansion joint.

- The floor height of basement is 3.6m; Ground floor is 3.4m and typical floor height 3.05m respectively as per architectural drawings.

- Basements and Ground floor consists of parking, from 1st to 11th floor is utilized for residential purposes. Height of the building from ground floor to terrace floor is 36.95m.

- The proposed project development is spread across a site area of 4.0 acres & 35 guntas with a total built up aera of 44,554.4 sqmt .

- It consist of 10 towers accommodating 416 flats and made up of 2, 2.5 & 3 BHK with a club house & car parking at stilt & basement floor .

- The services for the building shall be provided as per the guidelines of NBC part IX, SP 35, Uniform Plumbing Code – India 2014 and good Engineering practice.

**HABITAT ILUMINAR** is a Multistoried Apartment suited at MylasandraVillage , KengriHobli Bangalore.

# MASTER PLAN


## MASTER PLAN

1. Entry Plaza
2. Visitors' Car Parking
3. Putting Greens
4. Gazebos/Kiosks
5. Park
6. Open Amphitheatre
7. Children's Play Area
8. Herbal Garden
9. Floodlit Badminton Court
10. Changing Room
11. Toddlers' Pool
12. Swimming Pool
13. Service Yard
14. Floodlit Tennis Court
15. Spectator Gallery
16. Floodlit Basketball Court
17. Two Cricket Practice Pitches
18. Jogging Track/Walkways
19. Clubhouse
    - Gymnasium
    - Space for Yoga/Aerobics Room
    - Indoor Games Areas
    - Multipurpose Hall
    - Guest Rooms and more.

The photos/ imagery used here is indicative of style only. The photographs of the interiors, surrounding views and location may have been digitally enhanced or altered and do not represent actual views or surrounding views. Map not to Scale.

# ARCHITECTURE BRIEF


- Type of the Building - Residential Building
- Categories as per NBC - Group A - Sub -division- A-4
- Max. Height of Tower - 37.1 m
- Total Built Up Area - 44,541.4 sqmt
- Number of Units - 412 Units (3BHK-220 Units, 2BHK- 148 Units, 2.5 BHK 44Units) & A Club House partially in tower 5 & 6 up to first 4 Floors)
- 7Number of Towers - 10 nos

# STRUCTURAL BRIEF

- RCC framed structure with columns beams and slabs, having regard to safety & durability.
- Soil bearing capacity at 3m depth is 600-800KN/sqm.
- The design life of the structure is 50 years.
- Concrete grade: M30
- Steel grade: Fe500
- The structure is also designed for 2 hour fire rating.
- 100mm expansion joints are considered between blocks.
- Structure is designed for the combination of
  - *Dead load*
  - *Live load*
  - *wind load (IS: 875-1987)*
  - *Seismic load (IS: 1893-2002)*

# BASIC MATERIALS

| MATERIALS | Unit weight KN/m$^3$ |
|---|---|
| Steel | 78.50 |
| Plain cement concrete | 24.00 |
| Reinforced cement concrete | 25.00 |
| Porotherem Wall | 7.5 |
| Soil | 18.00 |
| Water | 10.00 |
| Cement concrete screed | 24.00 |
| Sand | 18.00 |
| Solid concrete block | 17.65 |

- Cut and bent Reinforcement by **TATA STEEL** is being used.

- Ready mix concrete by **HITECH CONCRETE** is being used .

- **POROTHEREM BLOCKS** are being used as masonry units because of their thermal insulation and light weight.

*All the materials are quality assured by third party consultancy-CIVIL AID.*
*Reports are maintained in office and as well as in site office.*

# TASK PERFORMED AT SITE

- Masonary work
- Flooring
- Plastering
- Plumbing
- Expansion joint
- Painting
- Curing
- Quality inspection
- Safety at site

# BRICKS

In this project **concrete** and **porotherm** blocks are used.

Steps of masonry works are as follows:

- Base course of about 10-12mm is placed
- Check the base course as per plan
- Check room dimensions
- Laying of blocks on base course
- Check the plum line after laying each course
- Only 5 layers of block work is done in one day to maintain verticality and there by avoiding the sagging of block work.

## Porotherm blocks

**Size of blocks used in construction site -**

- 400x200x200
- 400x150x200
- 400x100x200

**Advantage :**

- Light weight (60% less weight than conventional walling material )
- Low water absorption of ~15 % thus minimal risk of dampness ,cracks or shrinkage of walls.
- Non -susceptible to carbonation thus providing greater durability.

## Soid blocks

**Sizes used in site**

- 400x150x200 mm
- 400x100x200 mm

Advantages

- More durable and strength
- Increase in stability and capable of carrying more loads

# FLOORING

Flooring is the general term for a permanent covering of a floor or the work of installing such a floor covering ,finished material applied over the floor structure to provide a walking surface.

- Wall tiling of dimension 300x300 mm , 6mm thickness is used in this project.
- Flooring tile -vitrified tiles of 600x600mm ,800x800mm, 9mm thickness is used.
- Cement mortar -1:3 screed shall be spread with recommended thickness of mortar should be in range of 20-25 mm.

# FLOORING PROCEDURE

Clean the Floor → Snap chalk lines → Layout tile with spacers for dry run → Mix the Thin set of Mortor ↓ Apply the mortar ← Place and cut odd tile ← Place the spacers ← Apply the grout ↓ Remove the excess Grout

# PLASTERING

Plastering is the process of covering rough walls and uneven surface in the construction of houses and other structures with a material called plaster, which is a mixture of lime or cement concrete and sand along with the required quantity of water.

**Steps of plastering are as follows:**

- **Preparation of surface for plastering**: Surface and all joints should be cleaned and rough to give a good bonding to hold plaster.
- **Groundwork for plaster**: To get uniform thickness check the level surface by level pods.
- **Applying first coat** : The thickness of first coat plaster is generally of 12mm .
- **Applying of finishing coat**: The thickness of finishing coat of 1:4 to 1:6 ratio is provided. The finishing coat should be applied starting from top towards bottom and complete in one operation to eliminate joining marks.

After the completion of the plastering work , it is kept wet by sprinkling water for at least 7 days in order to develop strength

## GYPSUM PLASTERING

Gypsum plastering is most commonly used in internal wall plastering and has been widely replacing the traditional cement mortar plastering.

## SPECIFICATION OF GYPSUM PLASTER USED AT SITE:

Setting time: 25-30 min.
Color: White
Coverage area(Considering 12mm thickness):21sq ft per 25 kgs bag
Compressive strength: 60-70 kg/cm2
Plaster/Water Ratio: 10 kg to 6-6.5 litres of water
Storage Life: 12 Months from manufacture in dry & sheltered conditions


**Advantages:**

Light Weight
Resistant to corrosion
More economical than steel mesh
Smooth finishing

# EXPANSION JOINT

Normally structures exceed 45m in length are designed with one or more expansion joint. Structures adjacent to the joint should preferably be supported on separate columns or walls but not necessarily on separate foundations. Joints provided to accommodate the expansion of adjacent building. 100mm width of expansion joints are considered between the two blocks.
In building construction, an expansion joint is a mid structure separation designed to relieve stress of building movement included by:

- Thermal expansion and construction caused by temperature changes
- Sway caused by wind
- Seismic events
- Static load deflection
- Live load deflection

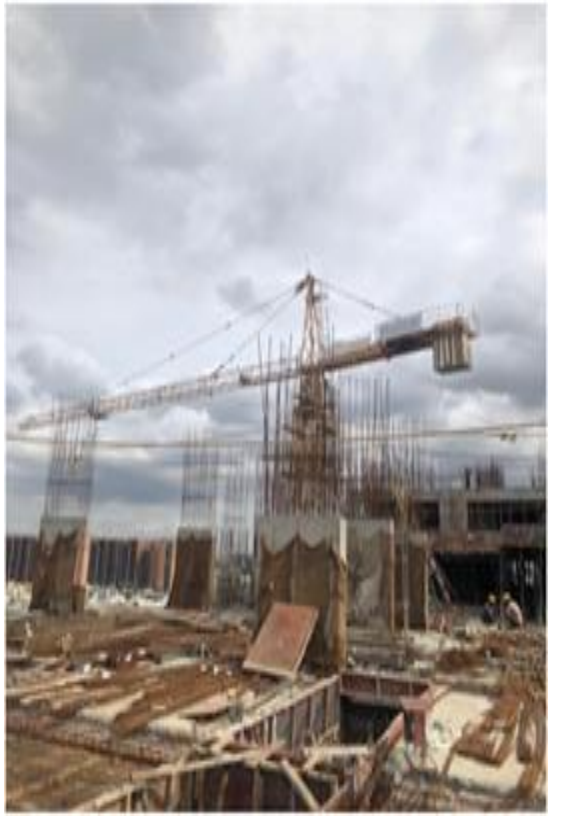
# CURING

As per the IS 9013(1978) Standards the curing time of concrete is 28 days until it achieves its nominal strength.

- Minimum of 7 days and 14 days of curing should be done for columns, slabs.
- Most of concrete reaches approximately 80% of its compressive strength within 7 days.
- If concrete does not contain fly ash , GGBS , micro silica , the slab needs to be cured for a minimum period of 7 days. If they contain this compounds it should be cured for 14 days.

In our site, the types of curing done are as follows,

- For Columns- Gunny bag curing is done for 28 days.
- For Slabs- pond curing is done for 28 days.
- For Block work- 7 days of curing is done with the help of pipes.
- For Plastered surface- 7 days of curing is done with the help of pipes.

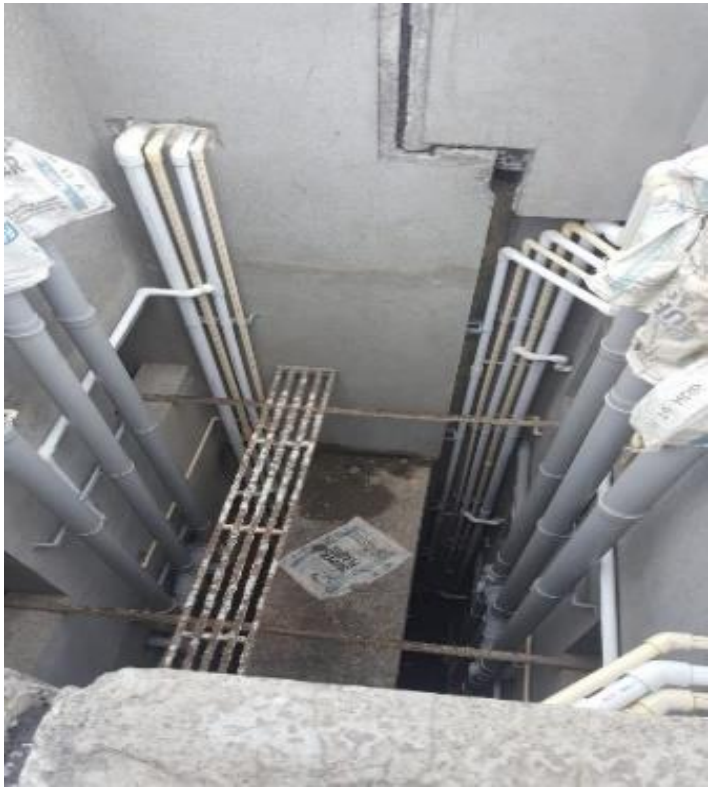


# PLUMBING WORK

A fitting is used in pipe systems to connect straight pipe or tubular sections, adapt to different sizes or shapes and for other purposes, such as regulating fluid flow.

**The different pipes used for plumbing works are:**

- PVC- Polyvinyl chloride-which is light weight plastic used in construction it is softer and more flexible. It is used as acid resistant waste piping .
- UPVC- Unplasticized polyvinyl chloride -It is more hard than PVC. It is used for cold water and transmit drinking water.
- CPVC- Chlorinated polyvinyl chloride – It is a thermoplastic produced by chlorination of polyvinyl chloride resin, which is significantly more flexible and can withstand higher temp. It include hot and cold water pipes.



# WATERPROOFING

Waterproofing is the process of making a structure water resistant so that it remains relatively unaffected by water or resisting the ingress of water under specified conditions. Such items may be used in wet environments.

Waterproofing of toilets is required to prevent seepage of water from floor slab and walls as toilet involves use of water and has plumbing works.

Generally there are two types of waterproofing membranes :

-Sheet membrane

- Liquid membrane

**Procedure**

•Surface preparation.

•Priming of surface.

•Application of 2 coats.

Waterproof chemical- PROTECTA 500 coating is done.

- Ready proof chemical is used.
- For 1 bag cement -200ml chemical is used.
- For waterproofing of terrace – Chipping and cleaning of debris should be done.
- Coating of chemical should be in dilution of 1:2 (Chemical: water).
- Double coating should be done.-4hr of gap should be given b/w 2 coats.

# PAINTING WORKS

The purpose of painting is to improve the appearance of a building and toprotect it from damage by water, rust, corrosion and mold.

## Painting procedure on plastered surface inside room

- Surface preparation: surface should be minimum 45 days old, well cured andcompletely dry.
- Applying primer: The main job of primer is to provide adhesion between thesurface and the paint film
- Applying putty: Putty is applied to repair cracks and to make smooth andlevel the surface.
- Applying paint .

Different types of building paints:
Interior wall and ceiling- Distemper, Plastic paint, regular emulsion, economy emulsion , premium emulsion.
Exterior- cement paint , acrylic emulsion, Textured plaster.
Wood- varnish (Polyurethane and melamine)
Metal- Enamel, synthetic and premium

# QUALITY INSPECTION

Tolls to be used for quality inspection.

1. Measuring tape.
2. Spirit levels - 3m.
3. Right angle template.
4. Related “Good for Construction” drawings.

**CHECKLIST FOR ON-SITE INSPECTION**
**ACTIVITY:BLOCKWORK**

| | | | | |
|---|---|---|---|---|
| **Project:** | | | **Date:** | |
| **Location:** | | | | |
| NOTE:- Please ☑ appropriate box or enter readings as per requirements | | | | |
| **Sl. No.** | **ITEM** | **YES** | **NA** | **Remarks / Clarifications** |
| 1 | Name,date and number of the drawing | | | |
| | **PRE-EXECUTION CHECKS** | | | |
| 2 | Are the latest "Good for Construction" drawings available? | [ ] | [ ] | |
| 3 | Are the required number of blocks available? (both load bearing and non-load bearing) | [ ] | [ ] | |
| 4 | *Surface preparation:* | | | |
| | Has the hacking at contact surfaces of column & beam been done? | [ ] | [ ] | |
| | Has cement mortar slurry been applied over the hacked surface and cured for 3 days? | [ ] | [ ] | |
| 5 | Have aluminium templates used for door/window openings? | [ ] | [ ] | |
| 6 | Are the required tools available? | [ ] | [ ] | |
| 7 | Are there any specific requirements of the client? | [ ] | [ ] | |
| 8 | Cement - is it of the approved grade and less than 1 month old? | [ ] | [ ] | |
| 9 | Sand - is it medium gritty, clean and silt-free (less than 5%)? | [ ] | [ ] | |
| 10 | Is the finished floor level button marked on structural slab? | [ ] | [ ] | |
| 11 | Are the markings for reference lines on pillars done? | [ ] | [ ] | |
| 12 | Have the wall ties been cast into columns at a vertical spacing (<500mm)? | [ ] | [ ] | |
| | **CHECKS DURING EXECUTION** | | | |
| 13 | Is the blockwork checked in vertical and horizontal directions? | [ ] | [ ] | |
| 14 | Is the marker/ lowest course of hollow blocks filled with concrete 1:3:6 (12mm jelly)? | [ ] | [ ] | |
| 15 | Is the mortar in proportion 1:5 on MS sheet using farma box? | [ ] | [ ] | |
| 16 | Has the check for diagonals & dimensions been done? | [ ] | [ ] | |
| 17 | Has the thickness for joints been checked? | [ ] | [ ] | |
| 18 | Has raking and pointing of joints been done? | [ ] | [ ] | |
| 19 | Is the RCC band for 100mm walls done? | [ ] | [ ] | |
| 20 | Has the procedure of not constructing more than 5 courses a day been followed? | [ ] | [ ] | |
| 21 | Has the top course been packed below the concrete beam? | [ ] | [ ] | |
| | **POST-EXECUTION CHECKS** | | | |
| 22 | Has the curing of blockwork done for atleast 7 days? | [ ] | [ ] | |
| 23 | Has care been taken of not entertaining excessive chasing? | [ ] | [ ] | |
| 24 | Has a nail been driven to test the strength of joint after 7 days of curing? | [ ] | [ ] | |

*Checked by:*

Sign
Name
Date

*Approved by:*

Sign
Name
Date

# SAFETY MEASURES

## Safety at site

Safety us very important part of any work. Most accidents can be prevented by taking simple measures or adopting proper working procedures. It is very important to discuss issues on safety and health that should be paid attention to on construction sites.

**Precautions at site for safety**:

- Wear protective equipment.
- Do not drink or drugs while working.
- Pay attention to personal hygiene.
- Do not play in workplace.
- Report to your supervisor immediately if you notice any unsafe condition.
- Areas of responsibility are defined and lines of communication are clear.
- Educate the workers on safe work practices on a regular basis.
- Good housekeeping of materials through proper method of stacking avoids accidents.

# SITE PHOTOS


Habitat
Habitat Ventures is real estate development company with expertise in conceptualizing, building and operating innovative developments in Southern India. In 11 years, it has grown into a brand renowned for its classy and state-of-the-art real estate

# CONCLUSION

- Internship is a network between theoretical knowledge and practical in construction field .
- Internship provide us a nice learning curve with little experience of professional world
- This helps me and my friends not only to get experience on technical practices but also to observe management practices and interact with field work .
- The site engineers make us more familiar with site work starting from communication skills ,handling of different site works ,equipment utilization ,manpower control to finishing of work .

# THANK YOU