

Demonstration Housing Project using Emerging Technologies



Building Materials and Technology Promotion Council
Ministry of Housing & Urban Poverty Alleviation
Government of India

Mainstreaming of Emerging Technologies

Emerging Technologies Identified, Evaluated and Promoted

Formwork Systems

1. Formwork for Monolithic Concrete Construction
2. Modular Tunnel form
3. Sismo Building Technology

Precast Sandwich Panel Systems

1. Advanced Building System – EMMEDUE
2. Rapid Panels
3. Reinforced EPS Core Panel System
4. QuickBuild 3D Panels
5. Concrewall Panel System
6. Glass Fibre Reinforced Gypsum (GFRG) Panel System



Mainstreaming of Emerging Technologies

Emerging Technologies Identified, Evaluated and Promoted ...contd.

Light Gauge Steel Structural Systems

1. Light Gauge Steel Framed Structure (LGSFS)
2. Light Gauge Steel Framed Structure with Infill Concrete Panels (LGSFS-ICP)

Steel Structural Systems

1. Factory Made Fast Track Building System
2. Speed Floor System

Precast Concrete Construction Systems

1. Waffle-Crete Building System
2. Precast Large Concrete Panel System
3. Industrialized 3-S system using cellular light weight concrete slabs & precast columns



Mainstreaming of Emerging Technologies

Adoption of New Technologies by Government Agencies:

- Ministry of Urban Development vide OM No.JS/Works/OM/2016 dt.30.05.2016 has directed CPWD, DDA & NBCC to adopt three new technologies which have been validated by BMTPC at their construction sites initially in Metropolitan cities of India and where the value of works is Rs. 100 crores or more.
- CPWD has also published Schedule of Rates for three technologies namely, Monolithic Concrete Construction, EPS Core Panel System and Light Gauge Steel Framed Structure vide OM No.DG/DSR/010 dt.24.06.2016.
- CPWD has also issued an OM for adoption of three new and emerging technologies in projects/ works of value not less than 100 crores in metropolitan cities on turnkey basis vide OM No.DG/DSR/011 dt.17.08.2016.
- Now the Ministry of Urban Development vide circular dated December 28, 2016 has notified that these new technologies may be mandatorily adopted for all projects across the country irrespective of location and project cost w.e.f.1.4.2017.
- New technologies have also been included in the recently published National Buildings Code.
- Ministry of Defence has initiated a project for married accommodation with new technologies.

CENTRAL PUBLIC WORKS DEPARTMENT
OFFICE MEMORANDUM
DG/DSR/11
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD
NIRMAL BHAWAN NEW DELHI DATED 17/08/2016
OFFICE MEMORANDUM

Subject: Adoption of New & Emerging Technologies in projects/ Works of value not less than 100 crores in Metropolitan Cities.

MoUD vide No. JS/Works/OM/2016 dated 30th May, 2016 has issued an office memorandum for use of following three technologies in CPWD works:-

1. Monolithic Concrete Construction System using Aluminium Formwork.
2. Industrialized 3-S system using Cellular Light Weight Concrete Slabs & Precast Columns (Precast/Prestab).
3. Monolithic Concrete Construction System using Plastic - Aluminium Formwork.

Adopting the above technologies, a Turnkey project item with scope and payment schedule is here by added to DSR 2016. The rates of the items are according to the scope of work as mentioned. In measure and are inclusive only, the NIT approving authority may modify and add or delete these rates as per the work/ project requirements/conditions/scope.

Construction shall be done on turnkey basis by adopting monolithic concrete construction system using customized aluminium/plastic aluminium form, or industrialized system using partly / fully precast slabs, beams and columns (Precast / prestab) with cast in situ joints for the superstructure and cast in situ methodology for foundation.

Payment shall be made stage wise, a payment schedule is provided as guideline. Payment schedule is indicative. NIT approving authority shall further breakup the payment stages but above percentage limits must not be exceeded for any particular stage.

The Industrialized 3-S system using Cellular Light Weight Concrete Slabs & Precast Columns (Precast/Prestab) is restricted up to seismic Zone IV only.

The technology is new and idea of turnkey project/work based on these technologies is not experienced by the CPWD hence experience/suggestions/ inputs are also invited for future refinements.

This issued with the approval of DG, CPWD.

Kumar Chandesh
17.08.16
Kumar Chandesh
Executive Engineer
CSO, CPWD, Nirmal Bhawan, New Delhi

No.13396/IASVCS-DSR-2016(2016-17) /Rg-E Dated: 17.08.2016
Copy to: All the SDGAD/GCEs/CPWs through CPWD website <http://www.cpwd.in>

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17.08.16
Kumar Chandesh
Executive Engineer
CSO, CPWD, Nirmal Bhawan, New Delhi

Need for Emerging Technologies

- Due to the large volume of housing to be undertaken in both urban and rural areas with limited availability of building materials and finance available, it is important that proven/green and faster construction systems are used, with due care for structural and performance requirements.

New Emerging & Proven Materials & Technologies demand mainstreaming due to:

- Depletion of natural resources
- rising cost of traditional building materials and construction practices
- environmental concerns of producing and using such materials
- scarcity of basic ingredient of coarse and fine sand / aggregates in different parts of the country
- use of energy intensive building materials & products in traditional construction & manufacturing
- high Green House Gas emissions
- vulnerability to natural hazards
- shortage of skilled labour
- need to bring efficiency, speed & quality in construction
- low levels of awareness about these technology options at the level of practicing professionals

Demonstration Housing Projects

- Aims to facilitate wide spread dissemination and adoption of both proven, emerging and sustainable building materials and technologies in preference to the conventional
- Create enabling environment for the large scale adoption of such materials & technologies in different geo-climatic parts of the country, thus making housing more affordable and accessible.

Demonstration Housing Project

- The Ministry of Housing & Urban Poverty Alleviation requested the State Governments of Maharashtra, Kerala, Andhra Pradesh, Telangana, Karnataka, Rajasthan, Haryana, West Bengal, Odisha, Sikkim, Gujarat, Uttar Pradesh, Uttarakhand, Tamil Nadu, Bihar and Chhattisgarh for participation in the “Demonstration Housing Project” of BMTPC.
- Received requests from **Andhra Pradesh, Telengana, Odisha, Haryana, Maharashtra, Uttar Pradesh, Bihar, Tamil Nadu, Uttarakhand and Karnataka**
- Govt. of Assam and Govt. of UP has also shown interest in undertaking DHPs.

Salient Features of DHPs

- Minimum carpet area of each unit: 30 Sq.mt. or as per the prevailing guidelines of the respective State.
- At least two habitable rooms, separate kitchen, bathroom, toilet and verandah/balcony
- Each project in cluster includes onsite infrastructure development like internal roads, pathways, boundary wall, Underground water tank, external electrification, horticulture work, pavements, septic tanks, UG Tank, etc.
- Proven/green or emerging technology suitable to the region to be selected in consultation with respective State Govt.

Salient Features of DHPs

- Houses are designed keeping in view the dimensional requirements laid down in National Building Code (NBC) 2005.
- Disaster resistant features as per the requirements of existing BIS and international standards pertaining to earthquake, cyclone and flood resistant features.
- The State Government to provide land for the Demonstration Housing Project free of cost
- The State Government to identify the beneficiary for the demonstration houses
- Capacity building of artisans and professionals

Salient Features of DHPs

- During the course of construction, training programmes will be organized for
 - State Professionals such as engineers, architects, planners, etc.
 - Students of engineering and architectural colleges
 - Construction Workers such as masons, carpenters, barbenders, etc.
- These DHPs will act as Training cum Resource Project for providing training on emerging technologies
- DHPs will primarily showcase the emerging technologies suitable for the region

Methodology for Award of Work

- Finalization of Plan, Sections, Layout Plan of DHP in consultation with State Govt.
- After the preparation of detailed estimates, BMTPC float open tender through newspapers and websites of BMTPC and government's tender portal on Design & Build basis.
- Technologies identified jointly with the State Govt.
- The rates for housing on lumpsum built up area basis with complete specifications and infrastructure work on item rate basis.
- Award of work to the lowest bidder.
- Vetting of structural designs through IITs /NITs/ Engineering Colleges.

Demonstration Housing Project using GFRG Panel System at Saraswathi Nagar, Nellore – *recently completed*



No. of Dwelling Units : 36 (G+1);
Project Cost of Houses and a Community Building including infrastructure: Rs.508 lakhs

Carpet Area: 30.20 sqm. (32 houses), 56.74 sqm. (4 houses)
Cost of construction: Rs.1693 per sqft.

Inauguration of Demonstration Housing Project at Saraswathi Nagar, Nellore on 3rd September, 2016



EXPENDITURE INCURRED

S. No.	Description	Cost in Rs.
1	Cost of 36 houses	3,26,22,641
2	Cost of Community Centre Building	73,39,794
3	Infrastructure cost	1,07,89,857
	Sub-Total	5,07,52,292
4	Design and documentation charges to IIT Madras	22,90,000
5	Project management & consultancy charges to FRBL	15,06,514
6	BMTPC Overheads	8,81,006
	Total	5,54,29,812

Total builtup area of houses : 19,272 sq.ft.
Cost per sq.ft. of houses : 1693 per sq.ft.

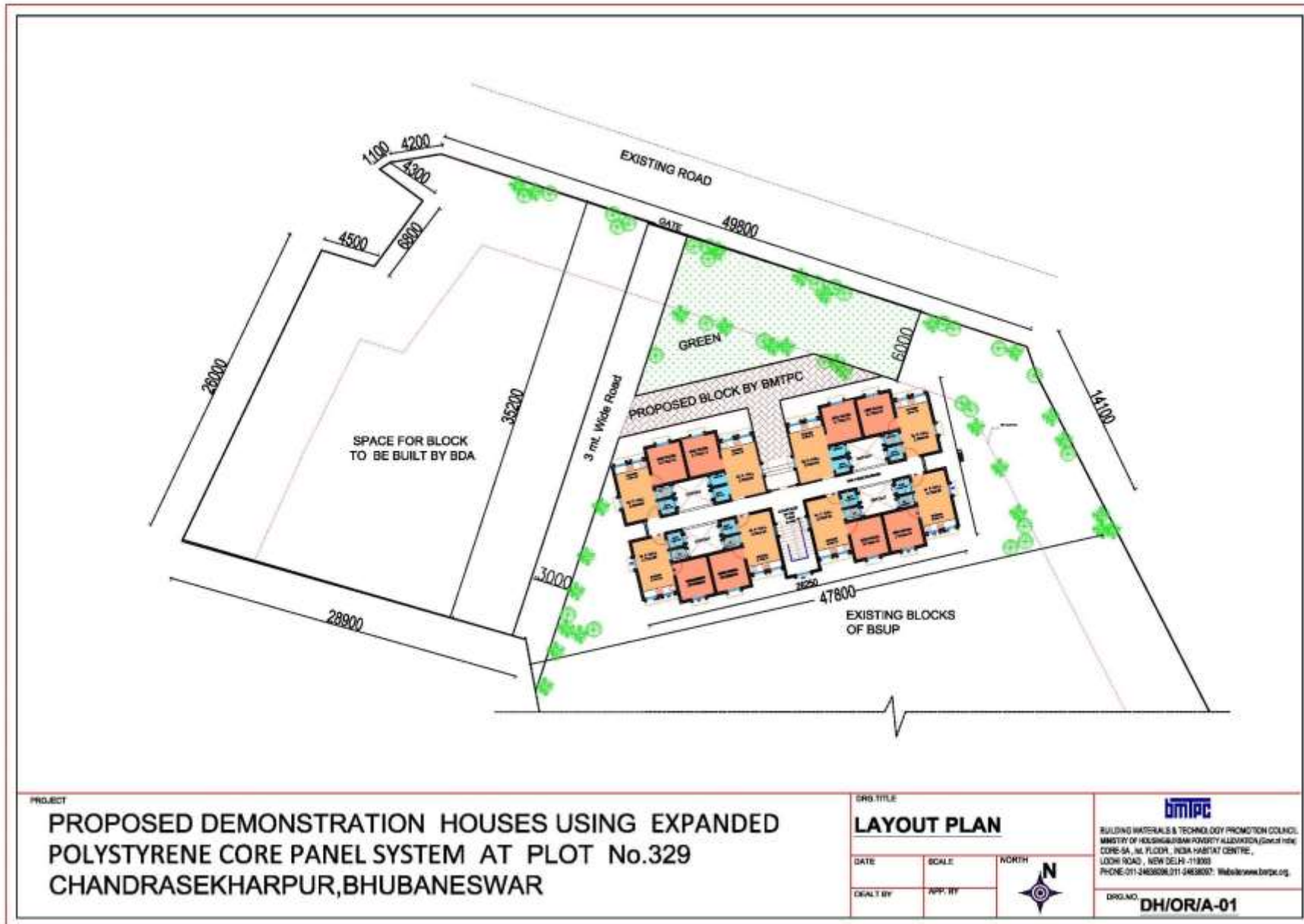
**Demonstration Housing Project
at Bhubaneswar, Odisha
(under construction)**

Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha

Salient Features

1.	Area of Site	0.43 Acre (1740 sqfts) - allotted by the State Govt.
2.	No. of Dwelling units (DUs)	32 Nos. (G+3)
3.	Carpet area each DU	23.09 sqmt
4.	Built up area of each DU:	34.21 sqmt.
5.	Total Covered Area	1094.76 sq.mts (11779.6 sqfts)
6.	Technology being used	Expanded Polystyrene Core Panel System (EPS) Technology
7.	Dwelling unit comprises of	A bedroom, multi-purpose room, kitchen Alcove, Separate WC & bathroom
8.	Infrastructure components	External water supply, pavers, sewerage system and solar street lights, etc.

Demonstration Housing Project at Chandrasekharpur, Bhubaneswar, Odisha



Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



GROUND FLOOR PLAN

SPECIFICATIONS	
Foundation	Isolated Footing in RCC with FRAB Beams
Wall/Floor/Floor	Expanded Polystyrene Core Panel System With Soreyol Concrete Structural Plaster
Door Frames	Pressed Steel Door Frame With Painted/Anodized Window Louvered Shutter PVC Door Frame & Shutter in Toilet/W.C. Section
Window Frames	R.S. Section Window Frame With Guard Rail & Glazed Shutter
Flooring	Cray Tile Flooring in Rooms, Ceramic Tile Flooring in WC & Bath, Kato Stone in Passage
Kitchen Counter	RCC Casting Counter Top With Green Marble
Staircase	EPS Staircase With Kato Stone Flooring
Wall Finishing	Acrylic Emulsion on Internal Wall Surface Acrylic Emulsion Paint on External Wall Surface

PROJECT
PROPOSED DEMONSTRATION HOUSES USING EXPANDED POLYSTYRENE CORE PANEL SYSTEM AT PLOT No.329 CHANDRASEKHARPUR, BHUBANESWAR

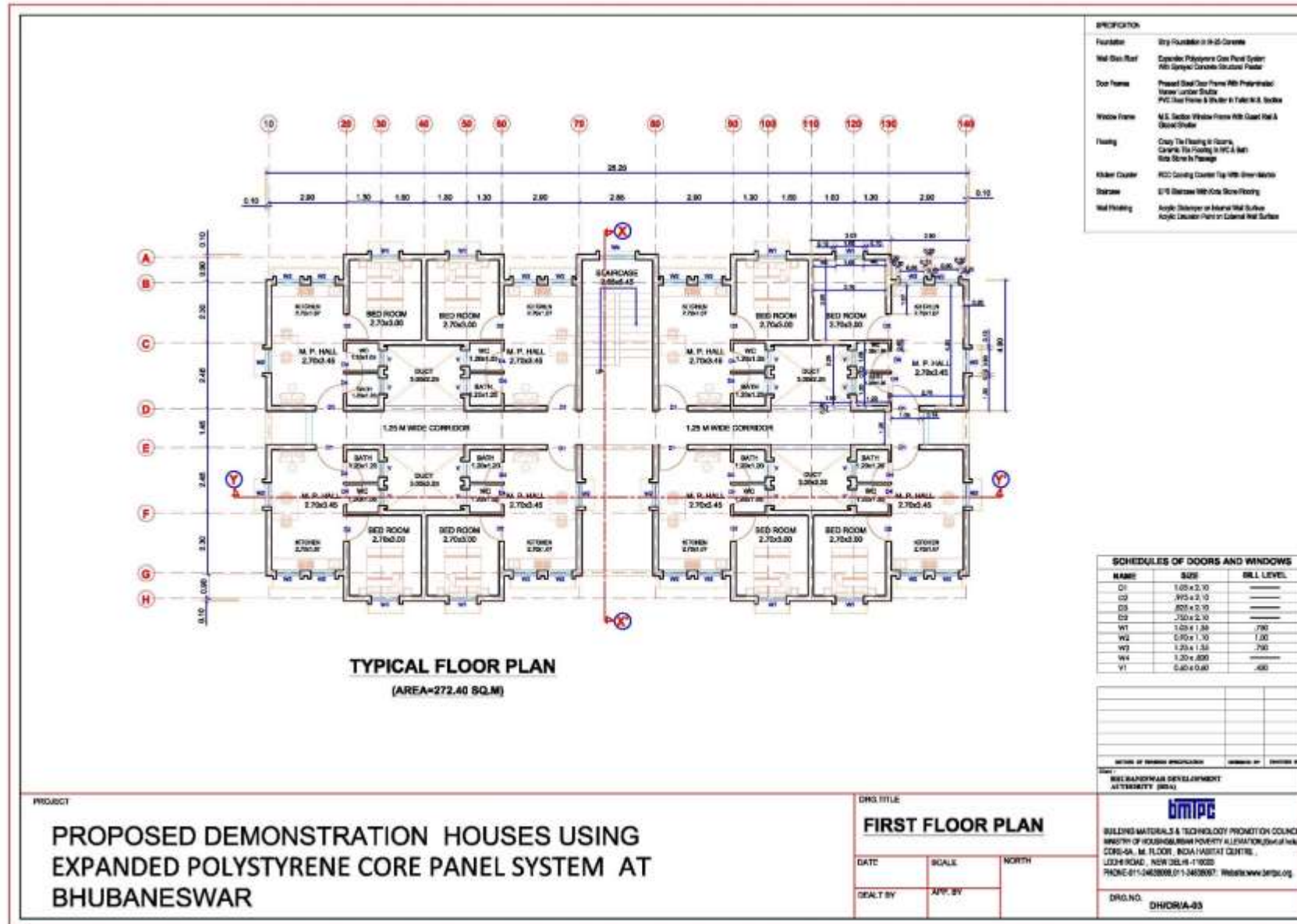
DRG. TITLE
GROUND FLOOR PLAN

DATE	SCALE	NORTH
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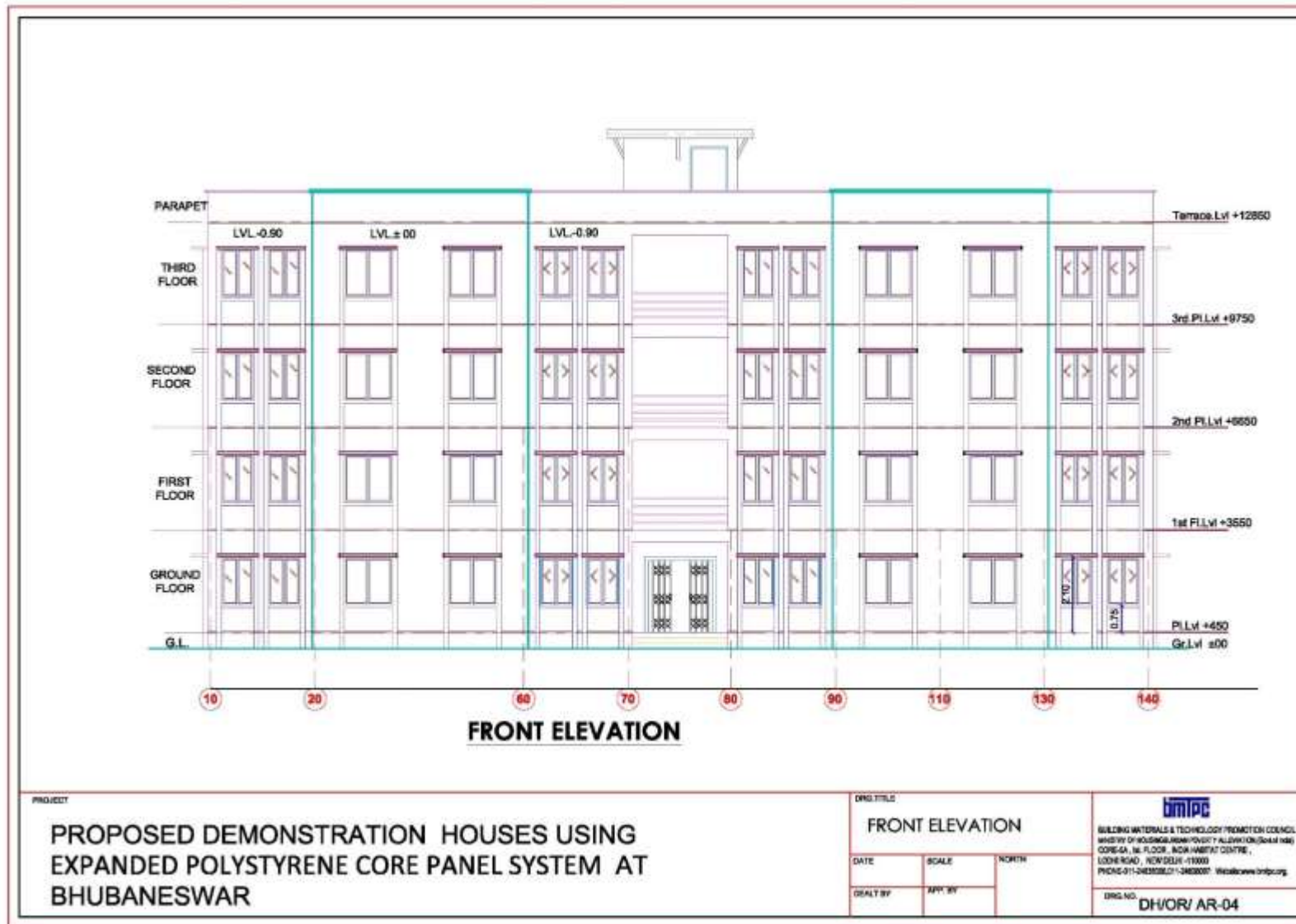
DMTPC
 BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
 MINISTRY OF HOUSING/URBAN POVERTY ALLEVIATION (Govt. of India)
 CORE-54, 4th FLOOR, INDIA HABITAT CENTRE,
 LODHI ROAD, NEW DELHI-110003
 PHONE-011-2428206, 011-24282051 Website www.dmtpc.org

DRG. NO. **DH/ORA-02**

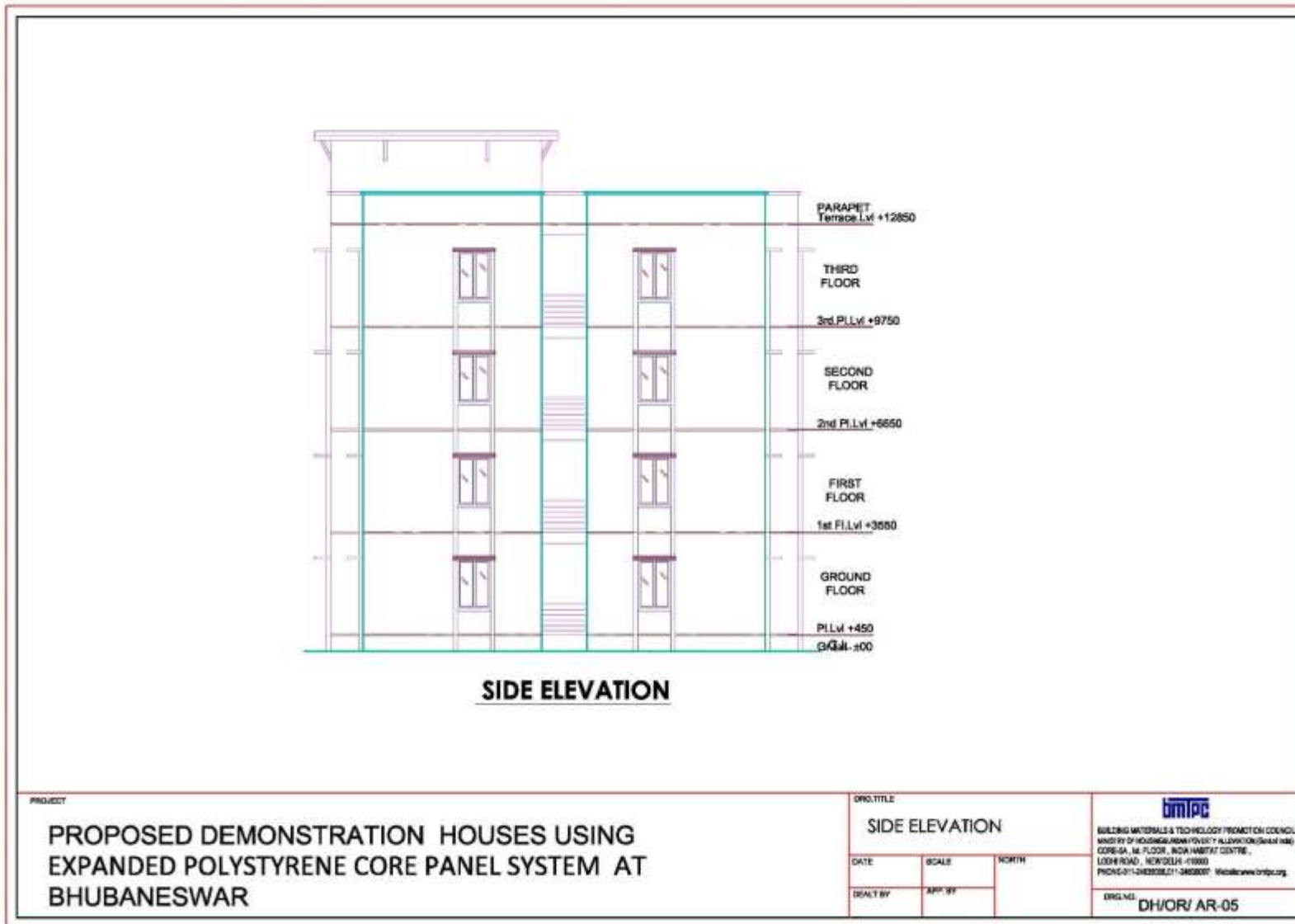
Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



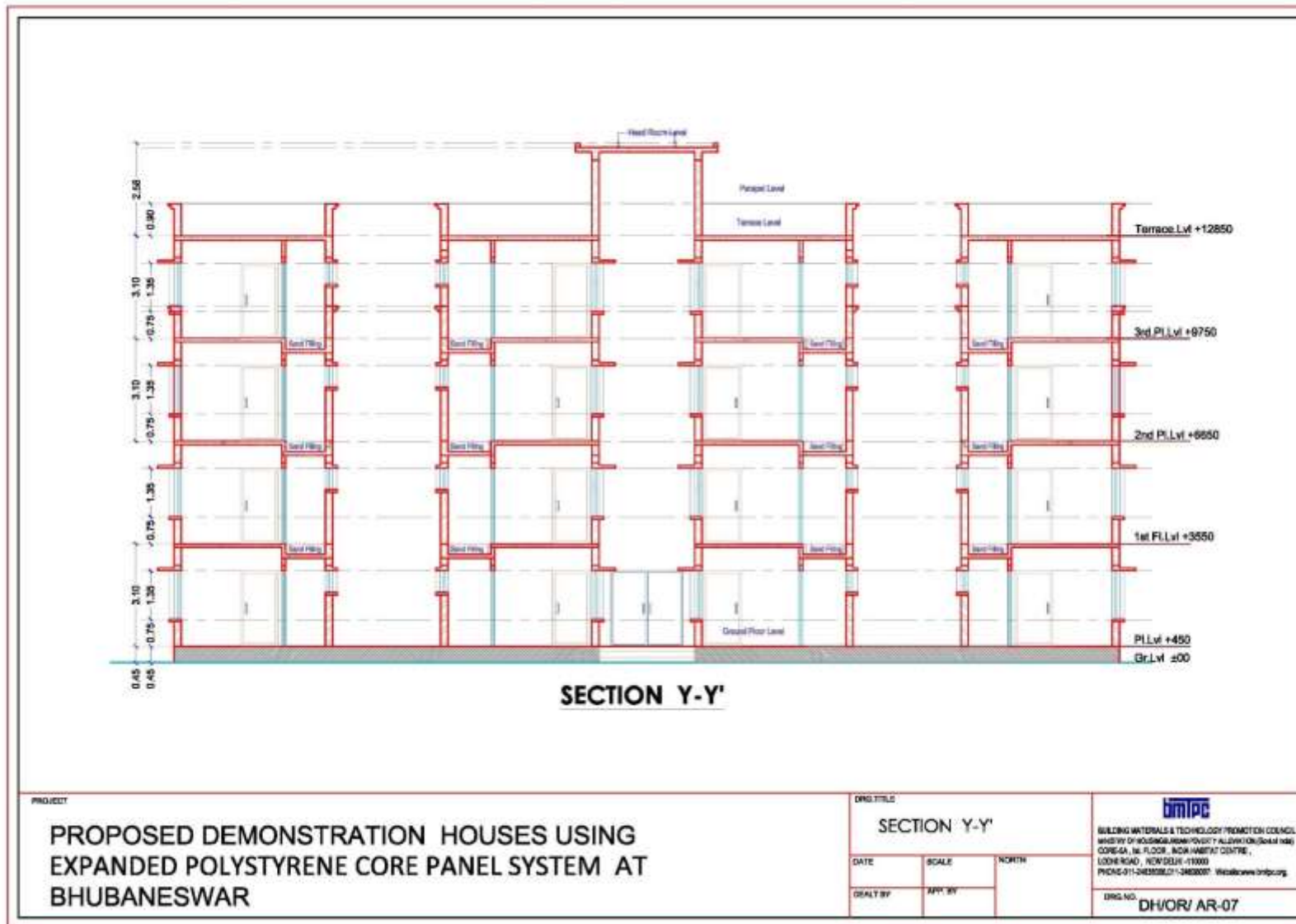
Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



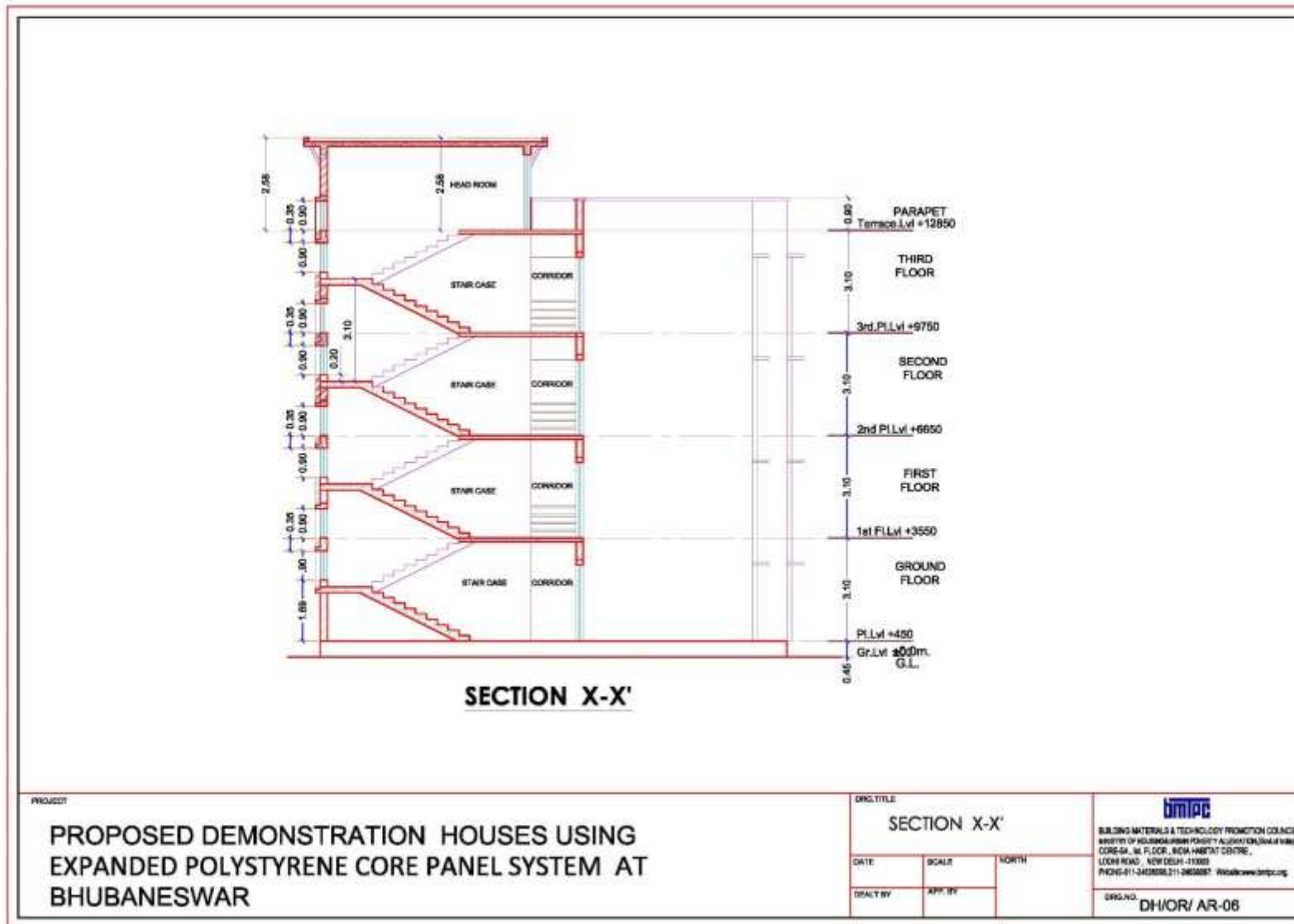
Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



Expanded Polystyrene Core Panel System (EPS) Technology



Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha

Estimates

ABSTRACT SHEET FOR WORKS AT BHUBANESWAR, ODISHA		
S.No	Description	Amount
1	Foundation	1579860.98
2	Superstructure work	10670192.65
3	Common Space and Tarrace floor	1484854.78
	Sub-Total	13734908.41
	Add 7% for Cost Index above DSR 2014	961443.59
	Sub-Total	14696352.00
4	Add 12% for Internal Water Supply & Sanitary Installation	1763562.24
5	Add 12.5% for Internal Electrical Instalation	1837044.00
	Sub-Total	18296958.24
6	Cost of infrastructure including 7% cost index	842395.81
	Total	19139354.05
	Provision for WCT @ 5%	956967.70
	Provision for Labour cess @ 1 %	191393.54
	Provision for Insurance Charges 0.52%	99524.64
	Grand Total	20387239.93

Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha

BUDGET

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Tendered cost of the project inclusive of taxes Cost of Houses: Rs.169.90 lakhs Cost of Infrastructure: Rs. 6.10 lakhs	176.00
2	Cost of extra items such as Boundary wall, open drains/channel (as per the site condition)	24.00
3	Contingency (3%)	6.00
4	Planning & Designing charges (7.5%)	15.00
5	BMTPC Overheads (7%)	14.00
	Total	235.00

Duration of the Project: 6 months

Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha

Source of Funding

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Funding from National Housing Bank	140.80
2	Funding sought from HFA Mission Directorate, MoHUPA	94.20
	Total	235.00

Status of Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



Status of Demonstration Housing Project at Chandrashekharpur, Bhubaneswar, Odisha



**Demonstration Housing Project
at Bihar Shariff, Bihar
(under construction)**

Demonstration Housing Project at Bihar Shariff, Bihar

Salient Features

1.	Area of Site	1392.00 sq.mts (14978.0 sqfts)
2.	No. of Dwelling units (DUs)	36 Nos (G+2)
3.	Carpet area each DU	29.67 sqmt (319.25 sqft)
4.	Built up area of each DU:	44.20 sqmt (475.59 sqft)
5.	Total Covered Area	1639.50 sq.mts (17641.0 sqfts)
6.	Technology being used	Monolithic construction with structural stay in place CR steel specially designed formwork system
7.	Dwelling unit comprises of	A Bed room, Multi-purpose hall, kitchen, Separate WC & bathroom
8.	Infrastructure components	Internal road, pathways, boundary wall, Septic tank, external electrification and water supply work, horticulture work, drainage & disposal, etc.

Demonstration Housing Project at Bihar Shariff, Bihar



GROUND FLOOR PLAN

AREA DETAILS

LIVING ROOM	= 2.90 x 4.10	= 11.89 sq.mts
BED ROOM	= 2.90 x 3.00	= 8.70 sq.mts
KITCHEN	= 2.00 x 1.80	= 3.60 sq.mts
BATH ROOM	= 1.20 x 1.15	= 1.38 sq.mts
W.C.	= 1.10 x 1.00	= 1.10 sq.mts
LOBBY		= 2.40 sq.mts
CUPBOARD	= 1.10 x 0.55	= 0.60 sq.mts
TOTAL CARPET AREA		= 29.67 sq.mts
FRONT VERANDHA	= 3.30 x 0.90	= 2.97 sq.mts
TOTAL AREA OF UNIT		= 37.25 sq.mts
PLINTH AREA OF UNIT (@50% VER.)		= 38.735 sq.mts

AREA OF STAIRCASE / UNIT = 5.46 sq.mts

TOTAL AREA OF UNIT
(including verandha @50% coverage) = 44.20 sq.mts

AREA OF 1 BLOCK (Gr. Coverage) = 91.36 sq.mts

No. of Unit Per Floor = 2

No. of Floor = 3 (G+2)

PROJECT

Proposed Demonstration Houses At Chakhajiyain ,Biharshraif

DWG TITLE

GROUND FLOOR PLAN (TYPE A)

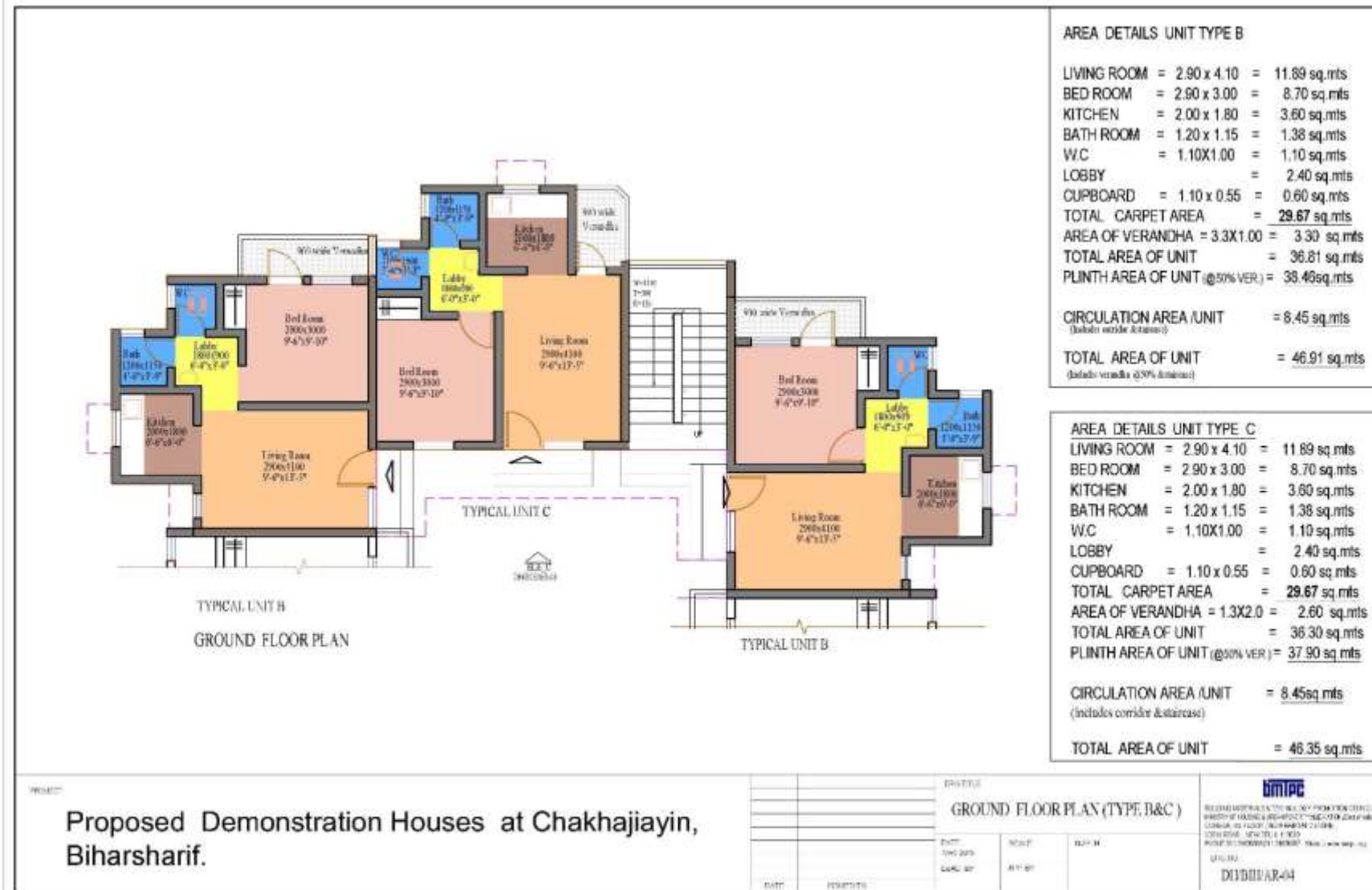
DWG NO.

DH/BIH/AR-02

bimpc

BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL,
MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION (Govt. of India)
CORE-5A, 1st FLOOR, BINA MARKET CENTRE,
LODHI ROAD, NEW DELHI - 110003
PHONE-011-2463094,011-24630471 Mobile no. www.bimpc.org

Demonstration Housing Project at Bihar Shariff, Bihar



Demonstration Housing Project at Bihar Shariff, Bihar



ELEVATION C

PROJECT

Proposed Demonstration Houses at Chakhajiyin,
Biharsharif.

DATE	ISSUED TO

DWG TITLE

FRONT ELEVATION (TYPE B&C)

DATE

18/07/2018

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SCALE

1/4" = 1'-0"

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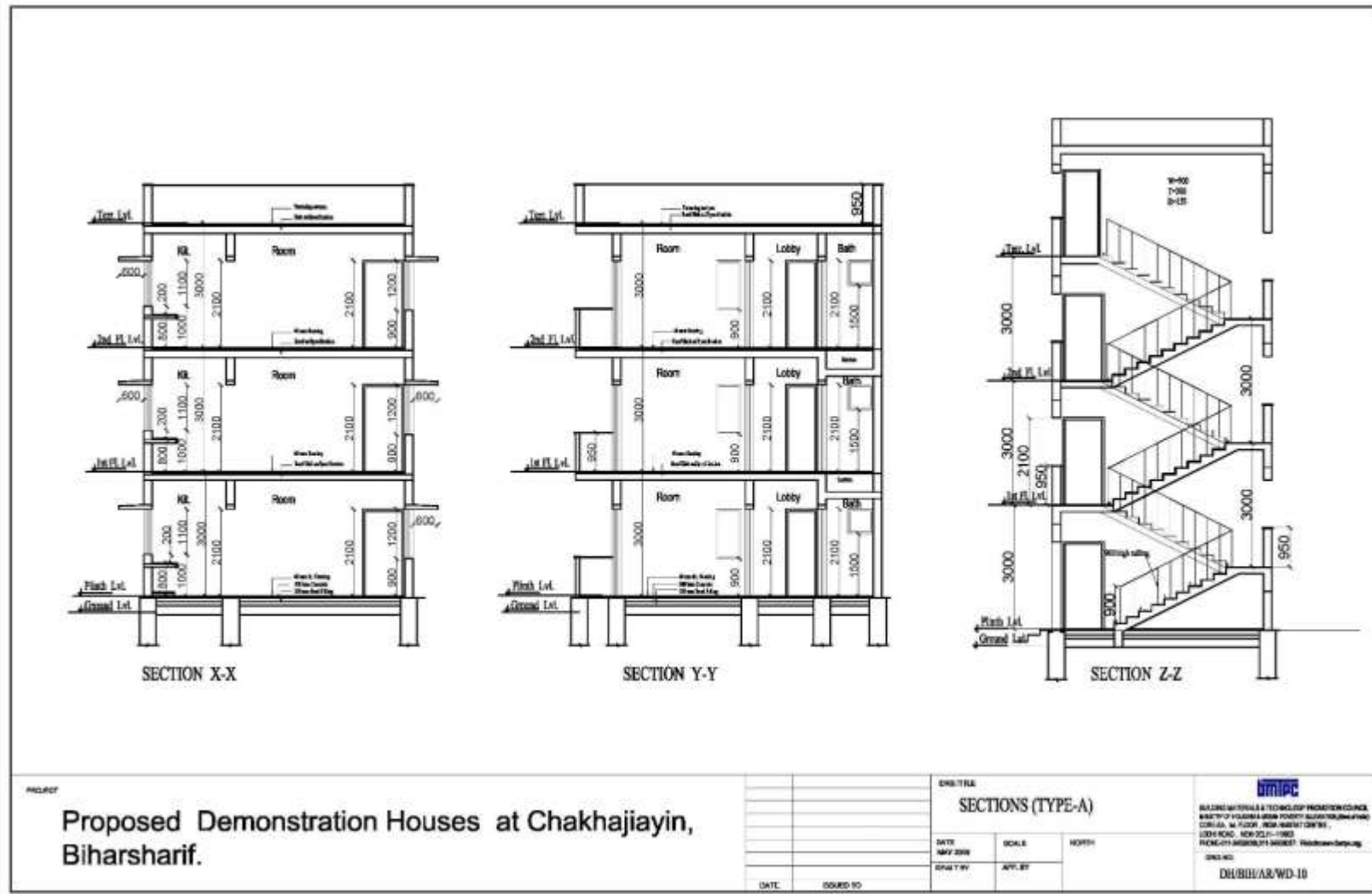
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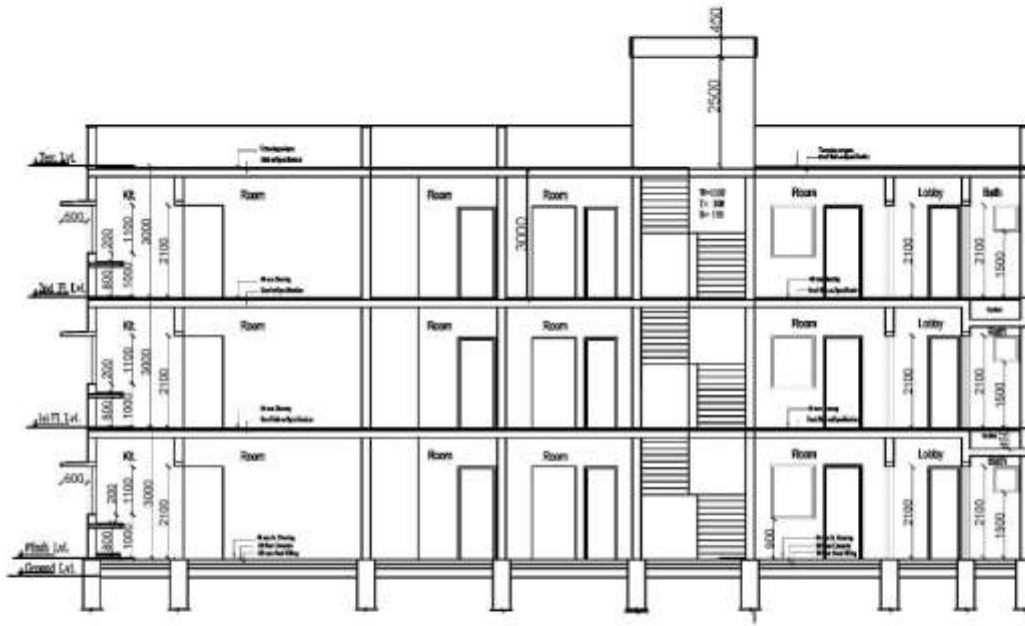
BUILDING REGULATIONS & STANDARDS ENFORCEMENT BOARD,
WESTERN UP REGIONAL OFFICE, 1ST FLOOR, 1ST FLOOR,
CORP. ST. N. FLOOR - NEW MARKET, DELHI.
LIC-11/2014, NEW DELHI-110002
PHONE NO. 011-26101111
WWW.DMPC.CO.UK

DELHI/AR/18/08

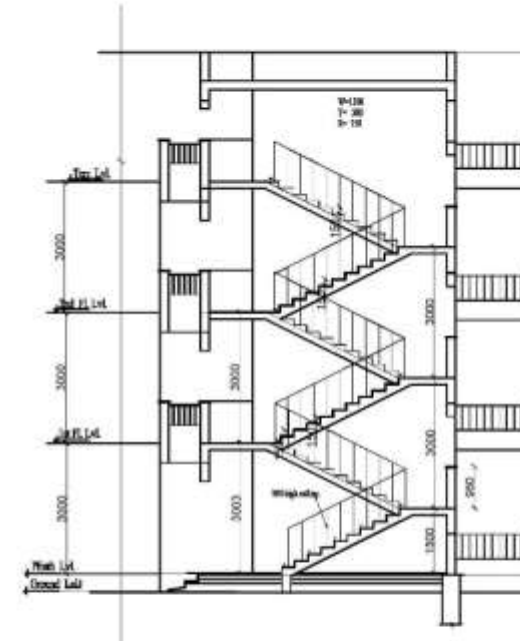
Demonstration Housing Project at Bihar Shariff, Bihar



Demonstration Housing Project at Bihar Shariff, Bihar



SECTION S-S



SECTION T-T

PROJECT

Proposed Demonstration Houses at Chakhajiayin,
Biharsharif.

DWG TITLE

SECTIONS (TYPE-B & C)

DATE

MAY 2016

DRAWN BY

SCALE

APR. 07

NO. OF SHEETS

1

DATE

ISSUED TO



BUILDING MATERIALS & TOOL BIDDING PROMOTION BOARD,
MINISTRY OF HOUSING & DWELLING, GOVT. OF BIHAR,
CORP. HQ., 1st FLOOR, NEW MARKET CENTRE,
LONE ROAD, NEW DELHI - 110001

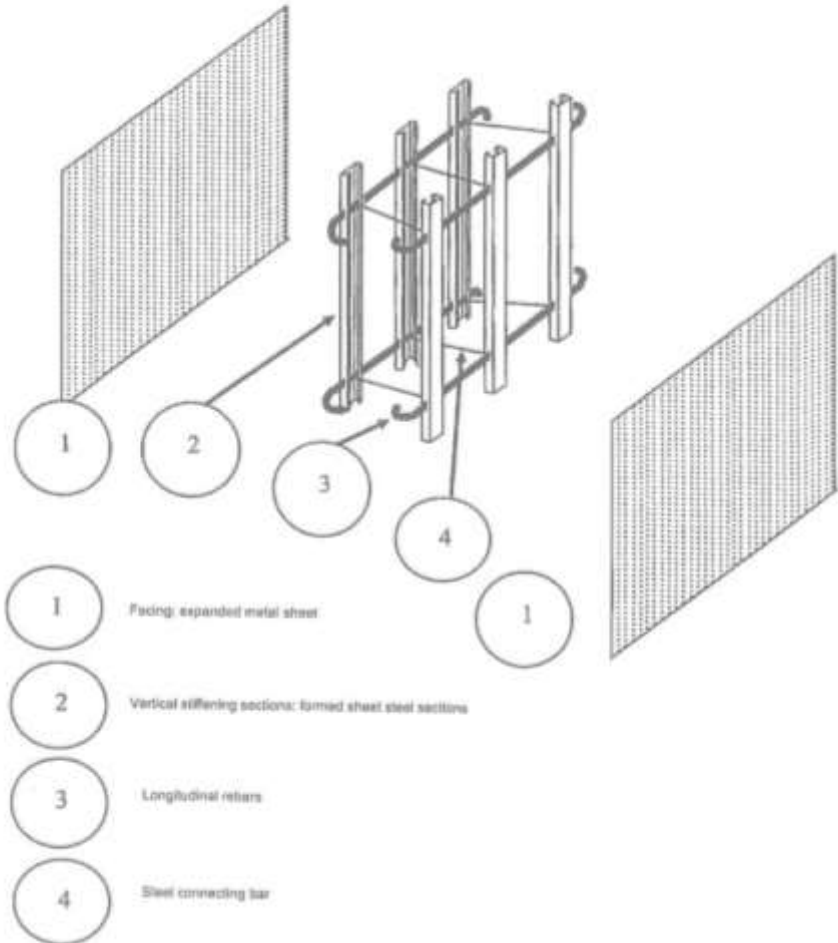
PROJECT NO.: BIMP/2015/11 (MCDP) - BIHAR (MCDP/15/11)

DWG. NO.

DEWB/2016/WD-11

Monolithic Construction With Structural Stay-In-Place CR Steel Specially Designed Formwork System (Coffor)

MONOLITHIC CONSTRUCTION WITH STRUCTURAL STAY IN PLACE STEEL FORM WORK SYSTEM



Demonstration Housing Project at Bihar Shariff, Bihar

Estimates

ABSTRACT SHEET FOR ESTIMATES AT BIHAR SHARIF, BIHAR		
BUILDING WORKS		
Sr. No.	Sub Head	Amount in Rs.
1	Civil Works	
a	Foundation	3294793.20
b	Foundation Stair Case	116223.88
c	Superstructure Panel	9102487.68
d	Superstructure upto finishing	11058460.92
e	Staircase	911222.15
f	Terrace	283947.20
	Total for Civil Work	24767135.03
2	Sanitary and Water Supply	1311112.56
3	Electrical Works	792648.00
	Total (A)	26870895.59
INFRASTRUCTURE WORKS		
1	Boundary Wall	675368.00
2	Earth Filling	276652.25
3	Road and Pavement	300265.24
4	Septic Tank	220040.05
5	Horticulture	8551.06
6	External Water Supply and Sewerage	588091.50
7	Drainage & Disposal	321856.97
8	External Electrification Work	471933.20
9	Plinth Protection	57474.00
	Total (B)	2920232.26
	Sub Total (C=A+B)	29791127.85
	Cost Index @ 7% Above Bihar Schedule of Rate 2014 (on C)	2085378.949
	Total (A+B+C)	31876506.80
1	Provision for WCT @ 5%	1593825.34
2	Provision for Labour cess @1 %	318765.07
3	Provision for Insurance Charges 0.52%	165757.84
	GRAND TOTAL	33954855.04

Demonstration Housing Project at Bihar Shariff, Bihar

BUDGET

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Tendered cost of the project inclusive of taxes	335.00
2	Contingency (3%)	10.05
3	Planning & Designing charges (7.5%)	25.13
4	BMTPC Overheads (7%)	23.45
	Total	393.63

Duration of the Project: 6 months

Demonstration Housing Project at Bihar Shariff, Bihar

Source of Funding

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Funding from National Housing Bank	250.00
2	Funding sought from HFA Mission Directorate, MoHUPA	143.63
	Total	393.63

Status of Demonstration Housing Project at Bihar Shariff, Bihar



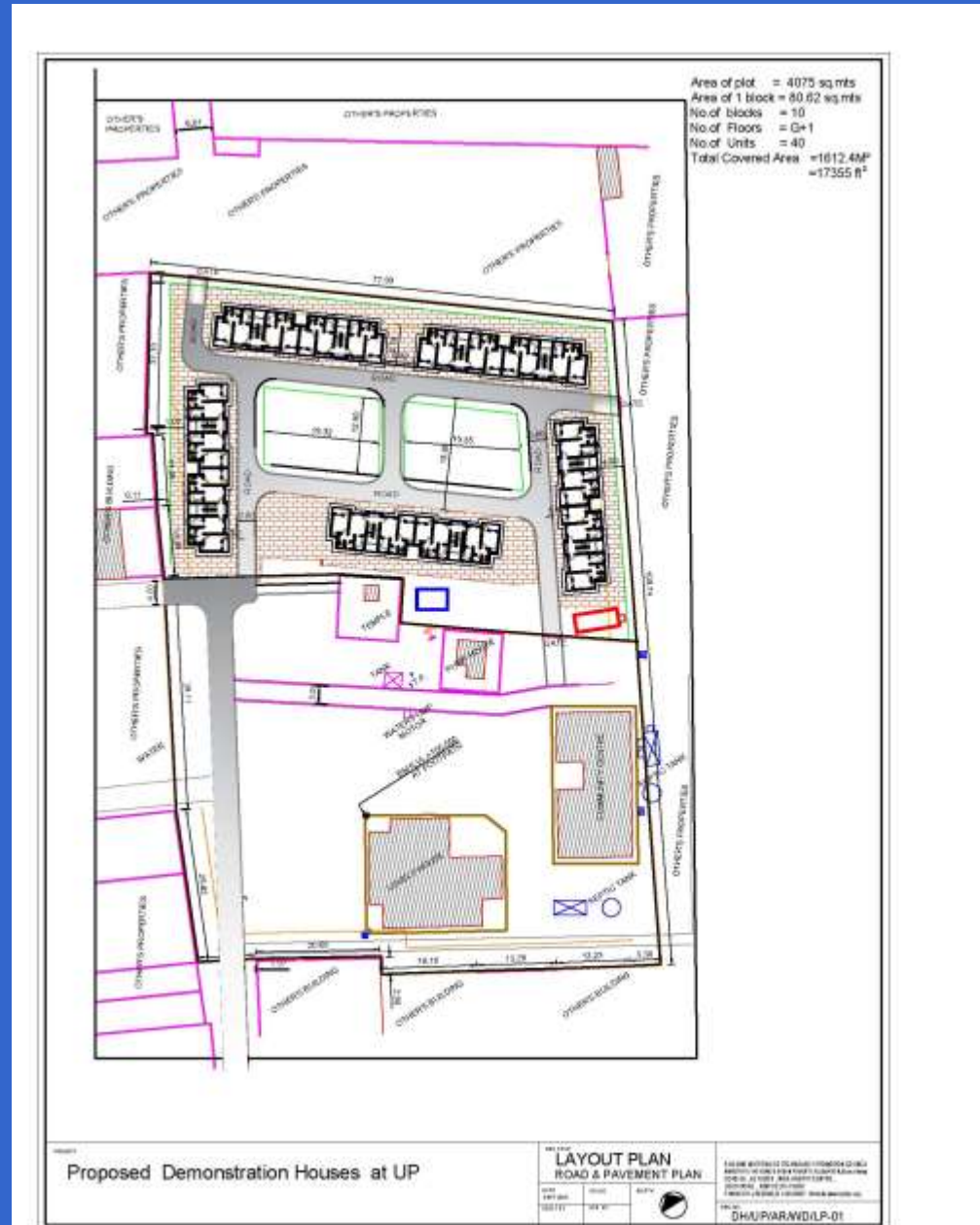
**Demonstration Housing Project
at Lucknow, Uttar Pradesh
(under construction)**

Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh

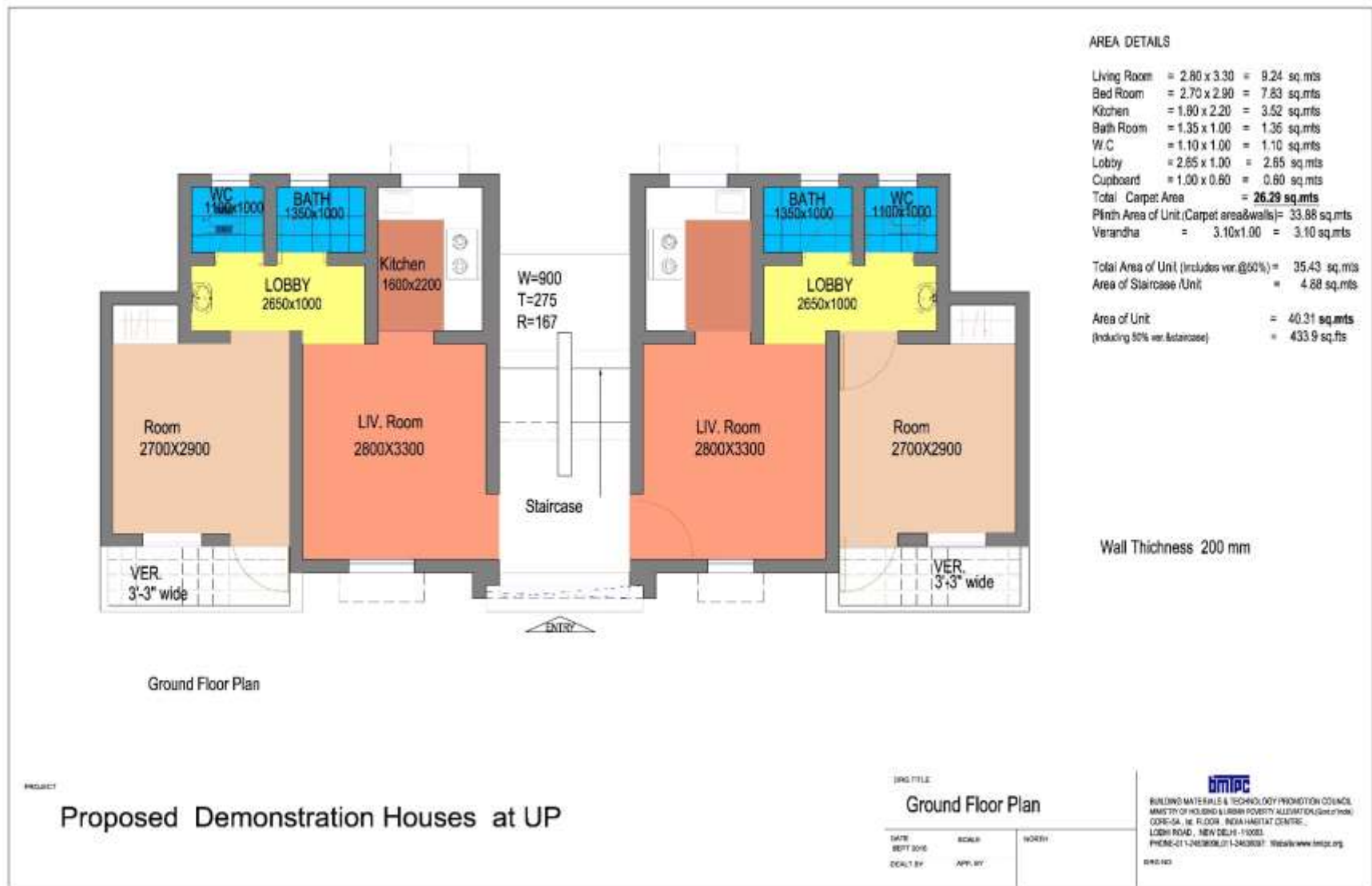
Salient Features

1.	Area of Site	4075.00 sq.mts (43863.3 sqfts)
2.	No. of Dwelling units (DUs)	40 Nos. (G+1)
3.	Carpet area each DU	26.40 sqmt.
4.	Built up area of each DU:	40.31 sqmt.
5.	Total Covered Area	1612.4.50 sq.mts (17355.0 sqfts)
6.	Technology being used	Stay in Place EPS based double walled panel System
7.	Dwelling unit comprises of	A bedroom, multi-purpose room, kitchen, Separate WC & bathroom
8.	Infrastructure components	Internal and external roads & pavements, Septic Tank, water supply, sewerage, external electrification, Drainage, Landscaping, Boundary Wall, Bore well, UGT etc.

Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh



Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh



AREA DETAILS

Living Room	= 2.80 x 3.30	= 9.24 sq. mts
Bed Room	= 2.70 x 2.90	= 7.83 sq. mts
Kitchen	= 1.80 x 2.20	= 3.96 sq. mts
Bath Room	= 1.35 x 1.00	= 1.35 sq. mts
W.C	= 1.10 x 1.00	= 1.10 sq. mts
Lobby	= 2.65 x 1.00	= 2.65 sq. mts
Cupboard	= 1.00 x 0.80	= 0.80 sq. mts
Total Carpet Area		= 26.29 sq. mts
Plinth Area of Unit (Carpet area & walls)		= 33.88 sq. mts
Verandha	= 3.10 x 1.00	= 3.10 sq. mts
Total Area of Unit (Includes ver. @ 60%)		= 35.43 sq. mts
Area of Staircase / Unit		= 4.88 sq. mts
Area of Unit (Including 60% ver. & staircase)		= 40.31 sq. mts
		= 433.9 sq. ft.

Wall Thickness 200 mm

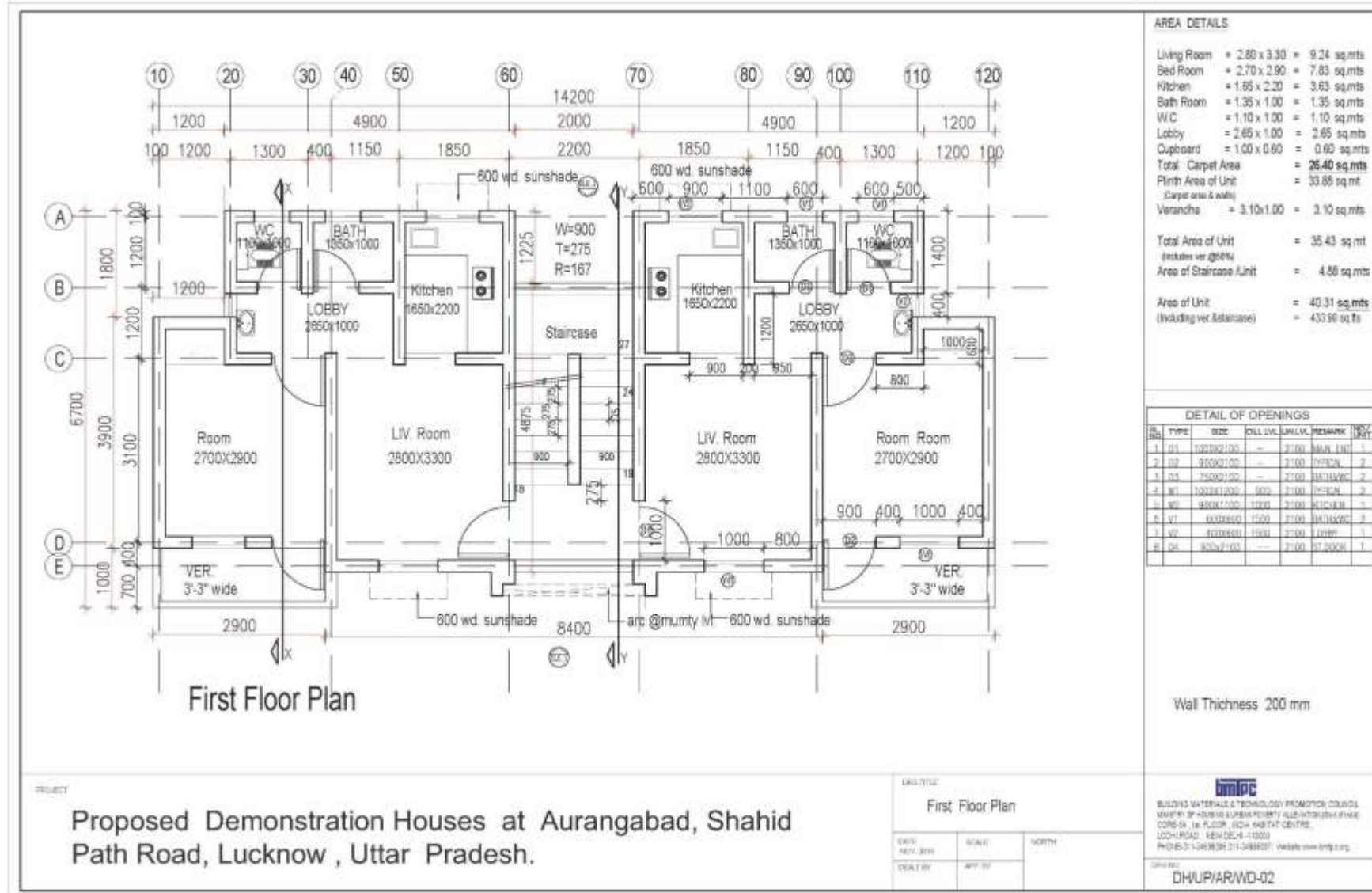
PROJECT: Proposed Demonstration Houses at UP

DWG TITLE: Ground Floor Plan

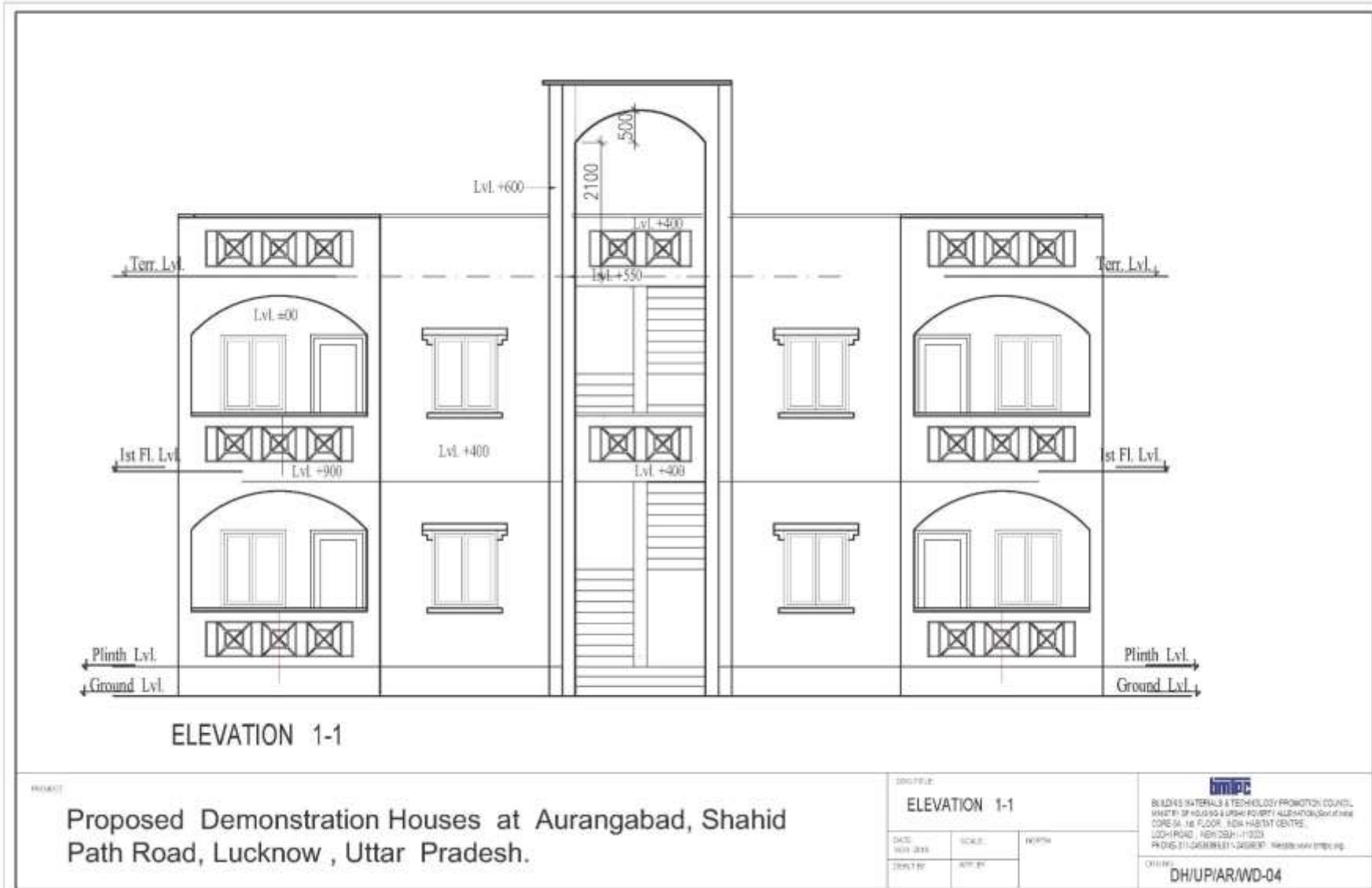
DATE: 08/11/2016
SCALE: 1/8"=1'-0"
DRAWN BY: A.P.V.

BMPIC
BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION (Govt. of India)
CORP-5A, 1st FLOOR, INDIA HABITAT CENTRE,
LODHI ROAD, NEW DELHI - 110003.
PHONE-011-24383001/1-24383002 Website: www.bmpic.org

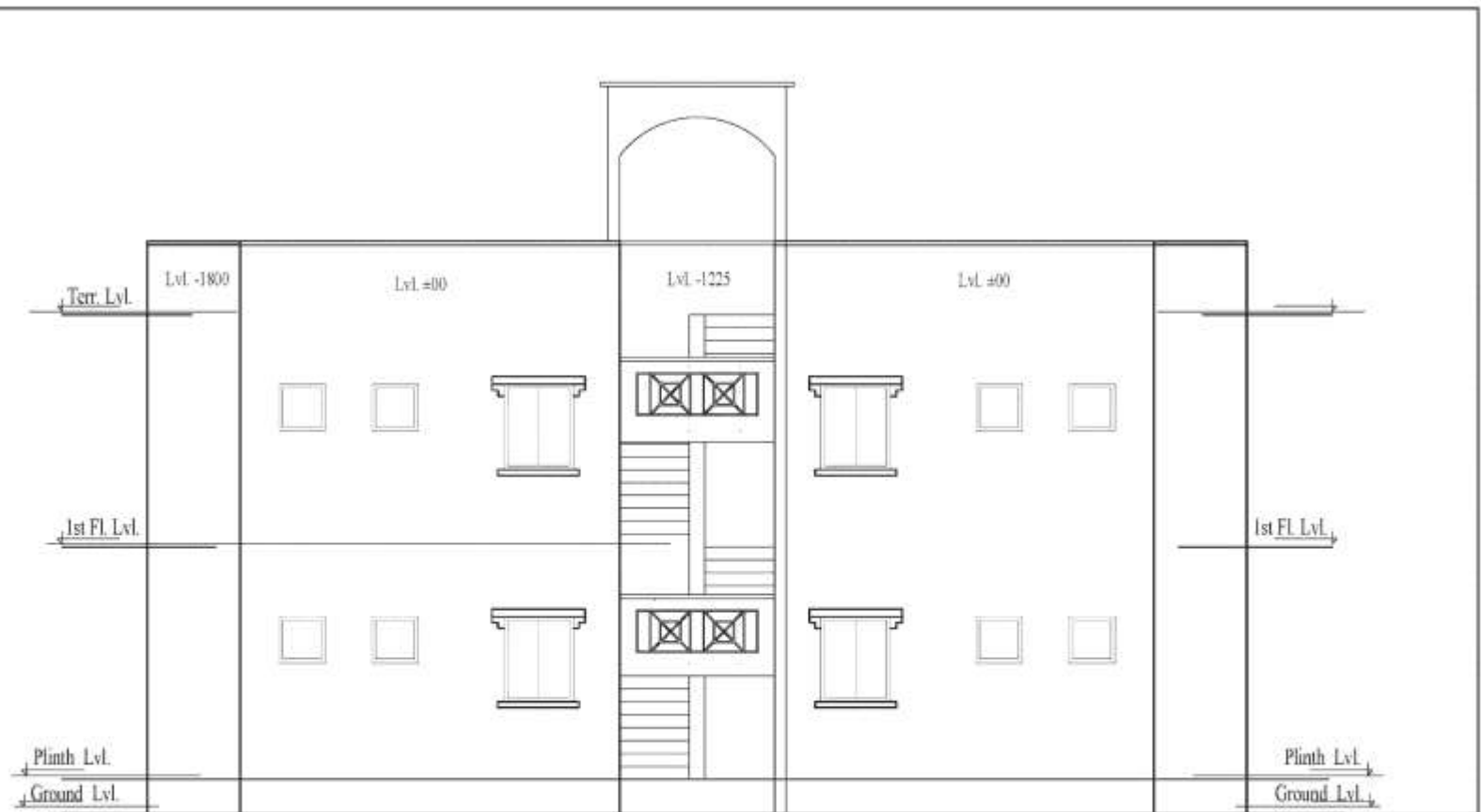
Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh



Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh



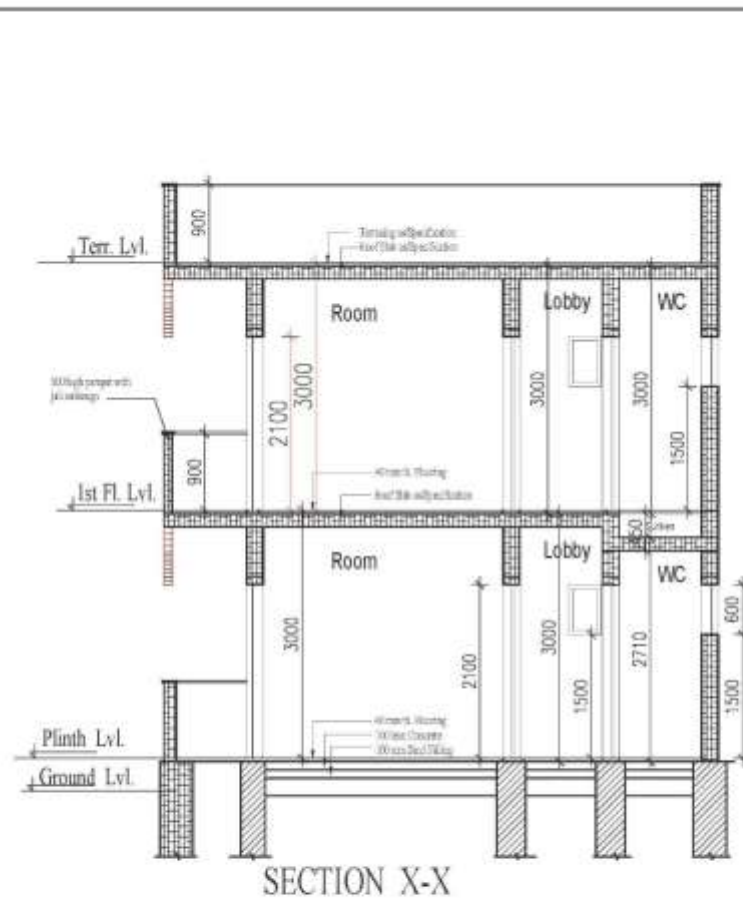
Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh



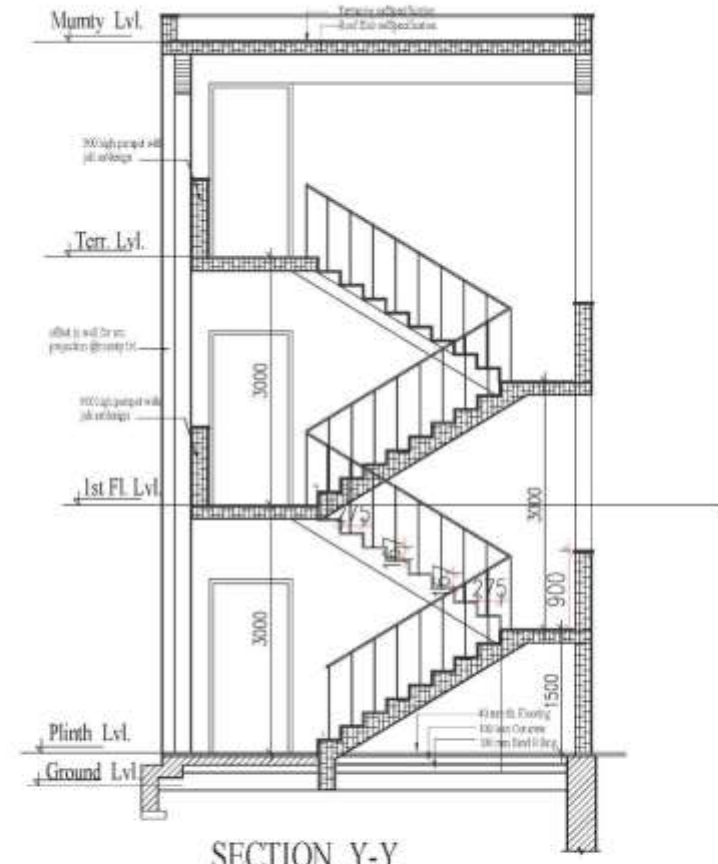
ELEVATION 2-2

PROJECT		DRAWING TITLE		 BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL MINISTRY OF INDUSTRIES & COMMERCE, GOVT. OF INDIA CORP. ST. 1st FLOOR, IIDA BASTI, CENTRE, LOCH ROAD, NEW DELHI - 110003 PHONE: 31-2400385, 311-2886331, Website: www.bmtc.org
Proposed Demonstration Houses at Aurangabad, Shahid Path Road, Lucknow, Uttar Pradesh.		ELEVATION 2-2		
DATE	SCALE	DIRECTION		Drawing No: DH/UP/AR/WD-05
REV. 2018	1/8" = 1'-0"	NORTH		
DRAWN BY	APP. BY			


Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh



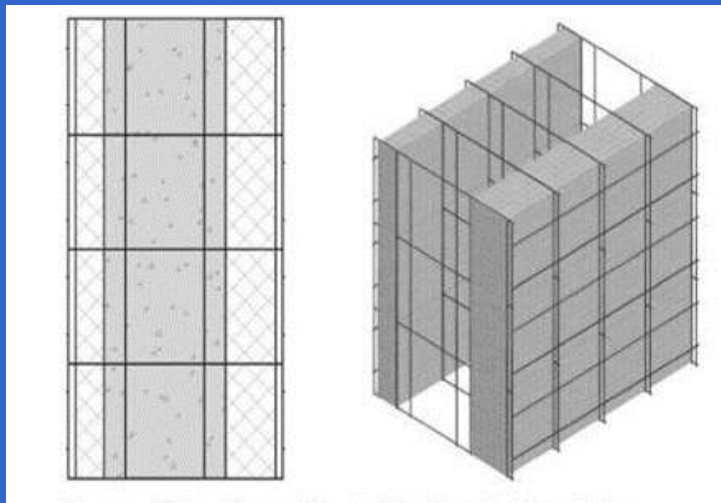
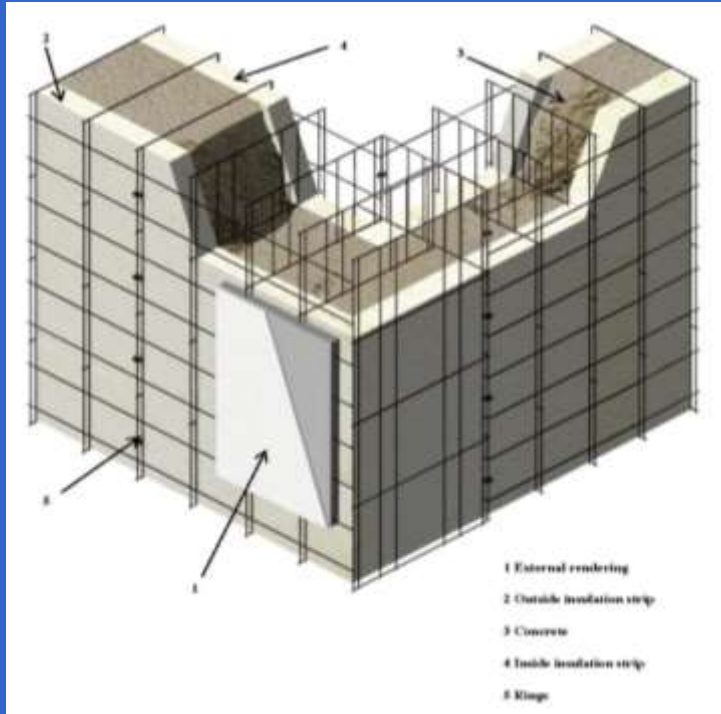
SECTION X-X



SECTION Y-Y

PROJECT Proposed Demonstration Houses at Aurangabad, Shahid Path Road, Lucknow, Uttar Pradesh.	DRAWING TITLE SECTION		 BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL OFFICE OF HOUSING & URBAN POVERTY ALLEVIATION COM-5A, 1st FLOOR, INDIA-HABITAT CENTRE, LODHI ROAD, NEW DELHI - 110029 PHONE: 011-2468895/01-2468937 Website: www.bimpc.org
	DATE 10/11/2011	SCALE 1/8" = 1'-0"	
DRAWN BY APT/01	CHECKED BY APT/01	APPROVED BY APT/01	DRAWING NO. DH/UP/AR/WD-06

Stay in Place EPS based double walled panel System



Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh

Estimates

ABSTRACT SHEET FOR WORK AT AURANGABAD, LUCKNOW		
BUILDING WORKS		
Sr. No.	Sub Head	Amount in Rs.
1	Civil Works	
a	Foundation	3780066.20
b	Foundation Stair Case	427041.82
c	Superstructure Panel	13470229.02
d	Superstructure upto finishing	5622888.36
e	Staircase	2204966.18
f	Terrace	524058.73
	Total for Building Work	26029250.32
2	Sanitary and Water Supply	1442087.20
3	Electrical Works	815800.00
	Sub-Total (A)	28287137.52
INFRASTRUCTURE WORKS		
1	Boundary Wall	931741.00
2	Earth Filling	525448.94
3	Road and Pavement	1758476.79
4	Septic Tank & Soakage Well	345221.63
5	Horticulture	59857.12
6	External Water Supply and Sewerage	1340542.20
7	Drainage & Disposal	386697.94
8	Plinth Protection	119567.93
9	Rain Water Harvesting	61422.43
10	Underground Water Tank	189295.47
11	External Electrification	738264.00
12	Tube Well	258717.80
	Sub-Total (B)	6715253.24
	Total(A+B)	35002390.76
1	Provision for WCT @ 5%	1750119.54
2	Provision for Labour cess @1 %	350023.91
3	Provision for Insurance Charges 0.52%	182012.43
	TOTAL	37284546.64
	Add for Transformer	500000.00
	GRAND TOTAL	37784546.64

Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh

BUDGET

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Tendered cost of the project inclusive of taxes	360.96
2	Cost of Transformer (as requested by State Govt.)	5.00
3	Contingency (3%)	10.98
4	Planning & Designing charges (7.5%)	27.45
5	BMTPC Overheads (7%)	25.62
	Total	430.00

Duration of the Project: 8 months

Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh

Source of Funding

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Funding from National Housing Bank	250.00
2	Funding sought from HFA Mission Directorate, MoHUPA	180.00
	Total	430.00

Status of Demonstration Housing Project at Aurangabad Jagir, Lucknow, Uttar Pradesh



**Demonstration Housing Project
at Gachibowli, Hyderabad,
Telangana
(under construction)**

Demonstration Housing Project at Gachibowli, Hyderabad, Telangana

Salient Features

1.	Area of Site	1085.00 sq.mts (11674.6 sqfts)
2.	No. of Dwelling units (DUs)	32 Nos. (G+3)
3.	Carpet area each DU	Type A: 38.74 sqmt Type B: 39.30 sqmt
4.	Built up area of each DU:	Type A: 53.18 sqmt. Type B: 53.10 sqmt.
5.	Total Covered Area	1702.00 sq.mts (18313.52 sqfts)
6.	Technology being used	Structural Stay-in-Place Steel Formwork System (Coffor) (16 Houses) Light Gauge Steel Framed Structure (16 houses)
7.	Dwelling unit comprises of	Two bedrooms, multi-purpose room, kitchen, Two WC & bathroom
8.	Infrastructure components	Internal roads & pavements, Septic Tank, water supply, sewerage, external electrification, Drainage, Landscaping etc.

Demonstration Housing Project at Gachibowli, Hyderabad, Telangana



Demonstration Housing Project at Gachibowli, Hyderabad, Telangana



AREA DETAILS TYPE-A

Living Room	= 3.95x2.90 = 11.45 sq.mts
Bed Room 1	= 3.20x2.90 = 9.28 sq.mts
Bed Room 2	= 2.70x2.90 = 7.83 sq.mts
Passage	= 2.80x0.90 = 2.52 sq.mts
Kitchen	= 1.85x2.00 = 3.70 sq.mts
TOILET 1	= 1.10x1.80 = 1.98 sq.mts
TOILET 2	= 1.10x1.80 = 1.98 sq.mts

Total Carpet Area	= 38.74 sq.mts
WashArea/Ver.	= 2.05x0.90 = 1.845 sq.mts
Paint Area of Unit	= 46.9/5 sq.mts
Total Area of Unit (includes ver.@50%)	= 47.90 sq.mts
Area of Staircase /Unit	= 4.35 sq.mts
Area of Unit (including ver.&staircase)	= 53.18 sq.mts

AREA DETAILS TYPE-B

Living Room	= 3.95x2.90 = 11.45 sq.mts
Bed Room 1	= 3.20x2.90 = 9.28 sq.mts
Bed Room 2	= 2.70x2.90 = 7.83 sq.mts
Passage	= 2.52 sq.mts
Kitchen	= 2.50x1.60 = 3.68 sq.mts
TOILET 1	= 2.00x1.10 = 2.20 sq.mts
TOILET 2	= 1.05x1.80 = 1.89 sq.mts

Total Carpet Area	= 39.30 sq.mts
WashArea/Ver.	= 0.90x1.50 = 1.44 sq.mts
Paint Area of Unit	= 47.30 sq.mts
Total Area of Unit (includes ver.@50%)	= 47 sq.mts
Area of Staircase /Unit	= 4.35 sq.mts
Area of Unit (including ver.&staircase)	= 53.10 sq.mts

Area of BLOCK = 212.75 sq.mts

PROJAC

PROPOSED DEMONSTRATION HOUSES AT THE SITE OF NIRMITI KENDRA, GACHIBOWLI, HYDERABAD.

DRWNGRPF

TYPICAL FLOOR PLAN

DATE: JULY 2018

SCALE: 1/8" = 1'-0"

REVISION

APP. BY:



BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION (Government of India)
CORE-5A, 5C, FLOOR, INDIRA PRASTHA CENTRE,
103RD ROAD, NEW DELHI - 110003
PHONE-011-24638556, 24638557. Web: www.bmtpc.org.
200400

DH/TEL/PRESENTATION

Demonstration Housing Project at Gachibowli, Hyderabad, Telangana



ELEVATION_A A

PROJECT

PROPOSED DEMONSTRATION HOUSES AT THE
SITE OF NIRMITI KENDRA, GACHIBOWLI,
HYDERABAD.

DRAWING TITLE

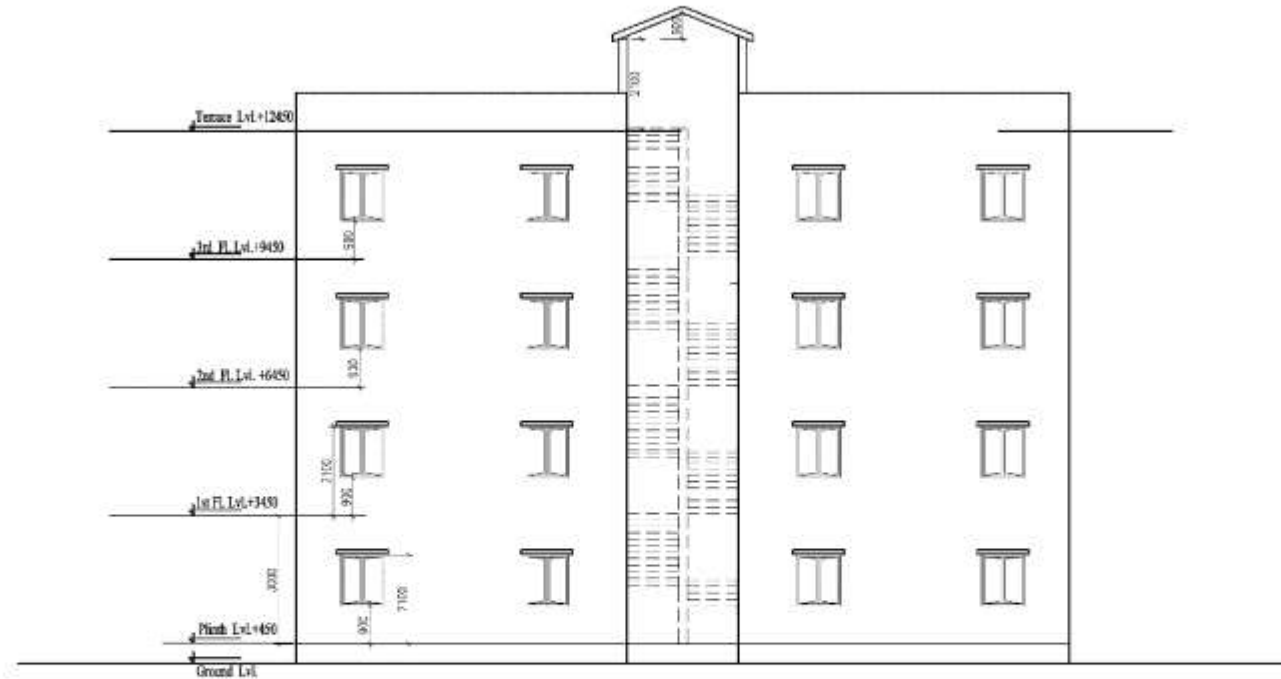
ELEVATION

DATE	SCALE	NO. OF SHEETS
JULY 2016		
DRAWN BY	APP. BY	



BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION (Govt. of India)
DORL-5A, 1st FLOOR, INDA HABITAT CENTRE,
DCH ROAD, MPH BELHE - 110005
PHONE-011-24638295, 24638297 Website: www.bimtec.org
REG. NO. DH/TEL/AR/WD-04

Demonstration Housing Project at Gachibowli, Hyderabad, Telangana



ELEVATION_B B

PROJECT

**PROPOSED DEMONSTRATION HOUSES AT THE
SITE OF NIRMITI KENDRA, GACHIBOWLI,
HYDERABAD.**

DATE

JULY 2016

SCALE

NO. BY

DRAWN BY

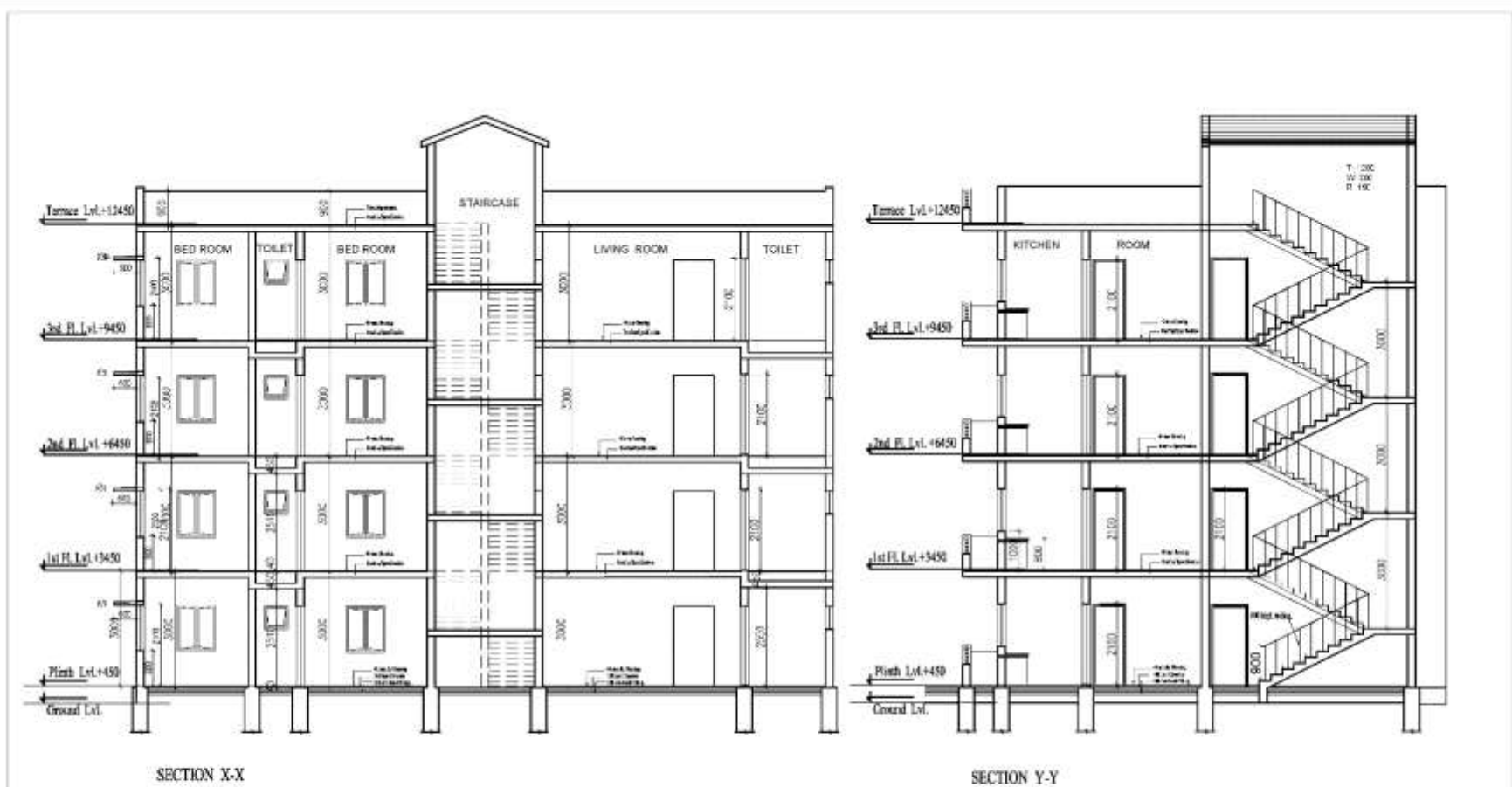
APP. BY



BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION, (Govt. of India)
CORP-5A, 1st FLOOR, ANSA HABITAT CLY. II, II,
37th ROAD, NEW DRHS - 110003
PHONE-011-24638095, 24638097 Website: www.bmtpc.org
ORG. NO.

DH/TEL/AR/WD-05

Demonstration Housing Project at Gachibowli, Hyderabad, Telangana



PROJECT

**PROPOSED DEMONSTRATION HOUSES AT THE
SITE OF NIRMITI KENDRA, GACHIBOWLI,
HYDERABAD.**

DRAWING TITLE

SECTIONS

DATE

JULY 2016

SCALE

NOTES

DRAWN BY

ART BY

bmtpc

BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION (Govt of India)
CORP-5A, 6th FLOOR, INDA HARITAT CENTRE,
LODH ROAD, NEW DELHI - 110003
PHONE: 011-24630395, 24630037 Website: www.bmtpc.org

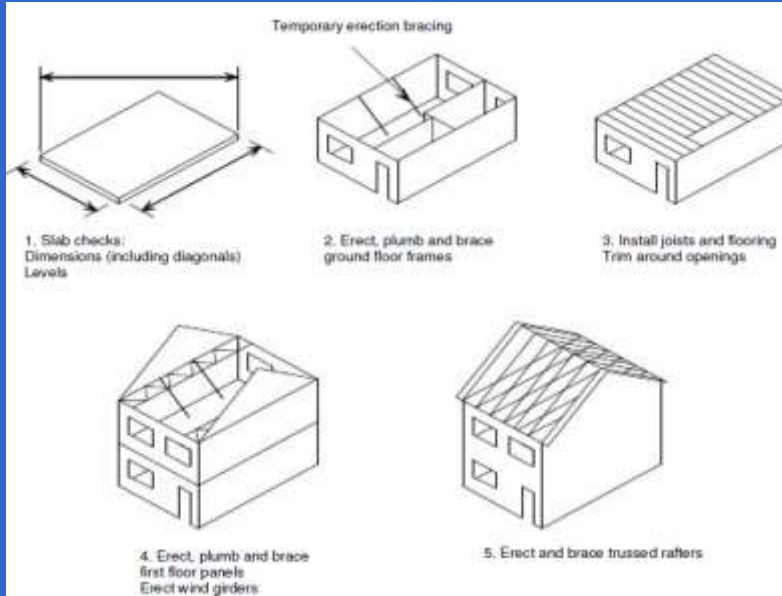
DRAWING

DH/TEL/AR/WD-06

Structural Stay-in-Place Steel Formwork System (Coffor) (16 Houses)



Light Gauge Steel Framed Structure (16 houses)



Demonstration Housing Project at Gachibowli, Hyderabad, Telangana

Estimates

ABSTRACT SHEET FOR INFRASTRUCTURE WORK AT TELENGANA			
BUILDING WORKS			
Sr. No.	Sub Head		Amount in Rs.
1	Civil Works		
a	Foundation		2318431.20
b	Foundation Stair Case		84662.83
c	Superstructure Panel		10150588.13
d	Superstructure upto finishing		11936962.16
e	Staircase		771663.80
f	Terrace		428740.04
	Total for Building Work		25691048.15
2	Sanitary and Water Supply		1336614.19
3	Electrical Works		704576.00
	Total (A)		27732238.34
INFRASTRUCTURE WORKS			
1	Earth Filling		256047.87
2	Road and Pavement		629040.42
3	Septic Tank		211004.27
4	Horticulture		8551.06
5	External Water Supply and Sewerage		459521.35
6	Drainage & Disposal		568823.91
7	External Electrification Work		448615.20
8	Plinth Protection		47384.12
9	Rain Water Harvesting		81344.28
	Total (B)		2710332.47
	Total(C=A+B)		30442570.81
	Cost Index @7% on C above the DSR 2014		2130979.96
	Total		32573550.77
1	Provision for WCT	5%	1628677.54
2	Provision for Labour cess	1%	325735.51
3	Provision for Insurance Charges	0.52%	169382.46
	GRAND TOTAL		34697346.28

Demonstration Housing Project at Gachibowli, Hyderabad, Telangana

BUDGET

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Tendered cost of the project inclusive of taxes	340.74
2	Contingency (3%)	10.22
3	Planning & Designing charges (7.5%)	25.56
4	BMTPC Overheads (7%)	23.85
	Total	400.37

Duration of the Project: 6 months

Demonstration Housing Project at Gachibowli, Hyderabad, Telangana

Source of Funding

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Funding from National Housing Bank	0
2	Funding sought from HFA Mission Directorate, MoHUPA	400.37
	Total	400.37

Status of Demonstration Housing Project at Gachibowli, Hyderabad, Telangana



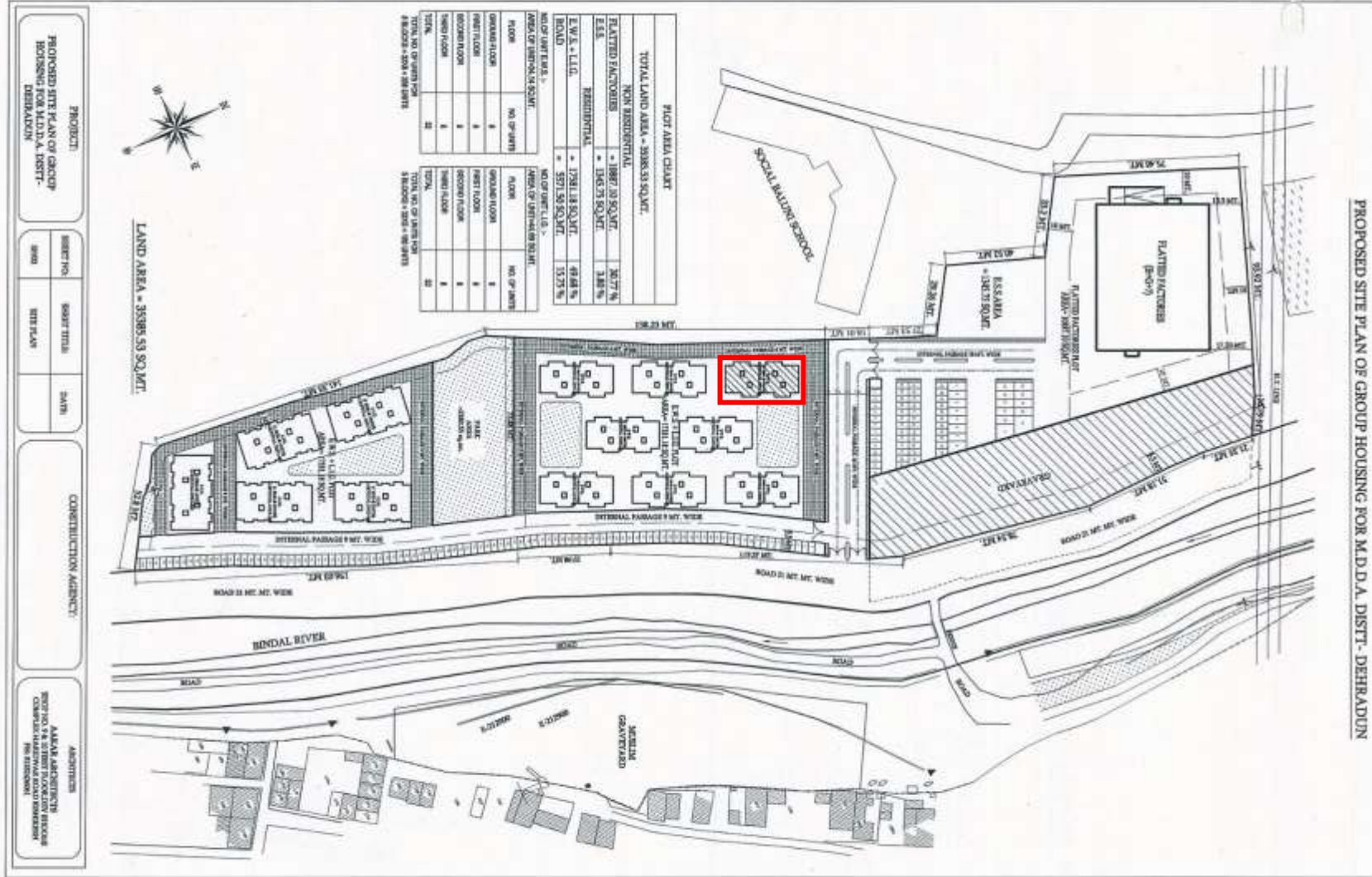
**Demonstration Housing Project
at Dehradun, Uttaranchal
(Proposed)**

Demonstration Housing Project at Dehradun, Uttarakhand

Salient Features

1.	Area of Site	500 sqmt.
2.	No. of Dwelling units (DUs)	32 Nos. (G+3)
3.	Carpet area each DU	27.40 sqmt.
4.	Built up area of each DU:	45.37 sqmt.
5.	Total Covered Area	1451.85 sqmt.
6.	Technology being used	Stay in Place EPS based double walled panel System OR Monolithic Construction with Structural Stay-In-Place CR Steel Specially Designed Formwork System OR Load Bearing Expanded Polystyrene Core Panel System (EPS) Technology
7.	Dwelling unit comprises of	One Bed Room, Drawing Room, Kitchen, Separate WC & Bathroom

Demonstration Housing Project at Dehradun, Uttarakhand



Demonstration Housing Project at Dehradun, Uttarakhand



PROJECT: Proposed Demonstration Houses at Uttarakhand

DATE		SCALE		NORTH	
DRAWN BY		APP BY			
DATE	NO.	DATE	NO.	DATE	NO.

DRG TITLE: BLOCK PLAN

Logo: MTPC

BLOCK MATERIALS & TECHNIQUE DEVELOPMENT CENTER,
MINISTRY OF HOUSING & URBAN DEVELOPMENT, GOVT. OF INDIA,
100A, BANGALORE ROAD, NEW DELHI-110042.

PROJECT: PROPOSED DEMONSTRATION HOUSES AT UTTARAKHAND

PREPARED BY: DR. B. K. SHARMA

DATE: 10/10/2011

Demonstration Housing Project at Dehradun, Uttarakhand



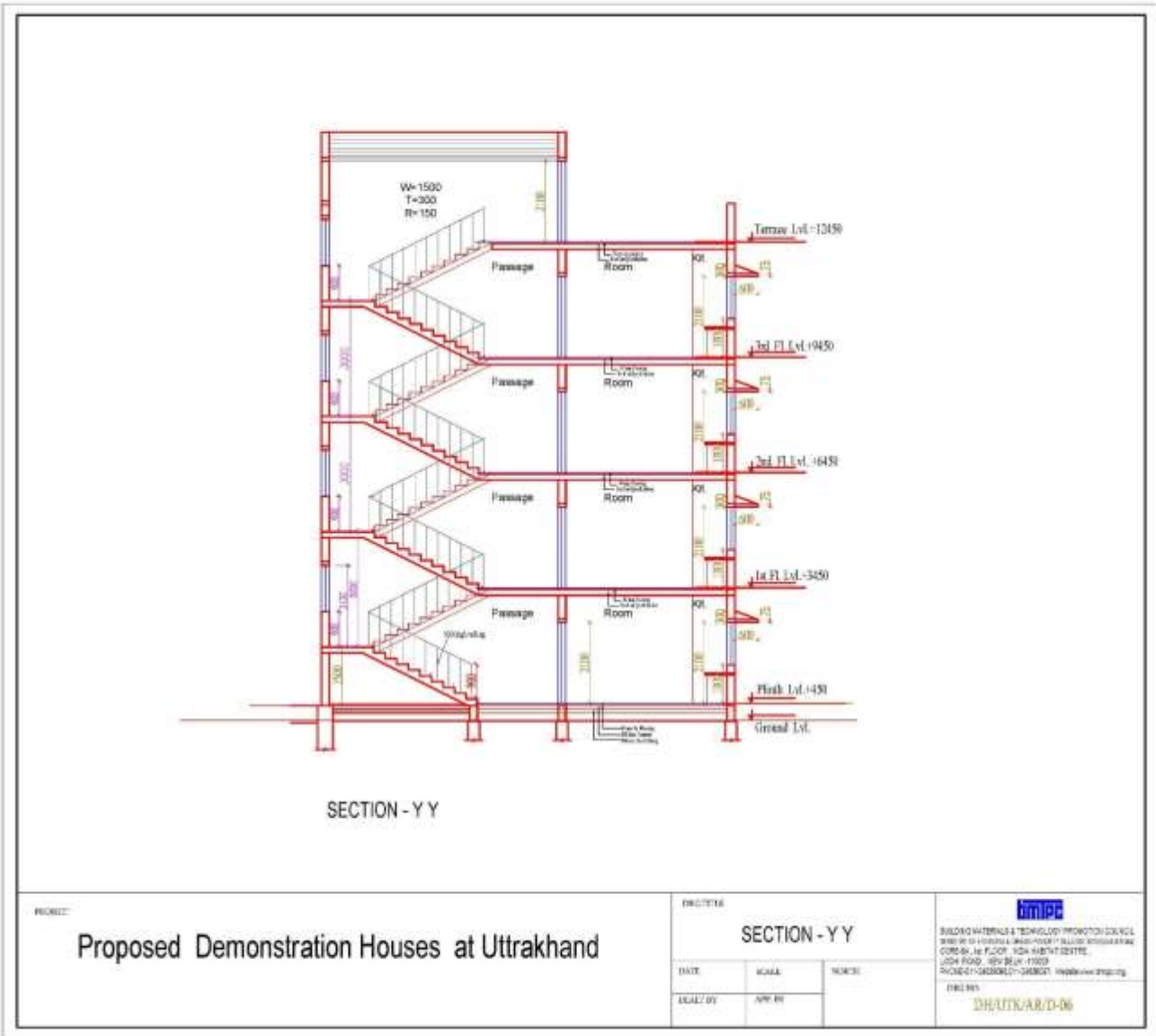
Demonstration Housing Project at Dehradun, Uttarakhand



Demonstration Housing Project at Dehradun, Uttarakhand



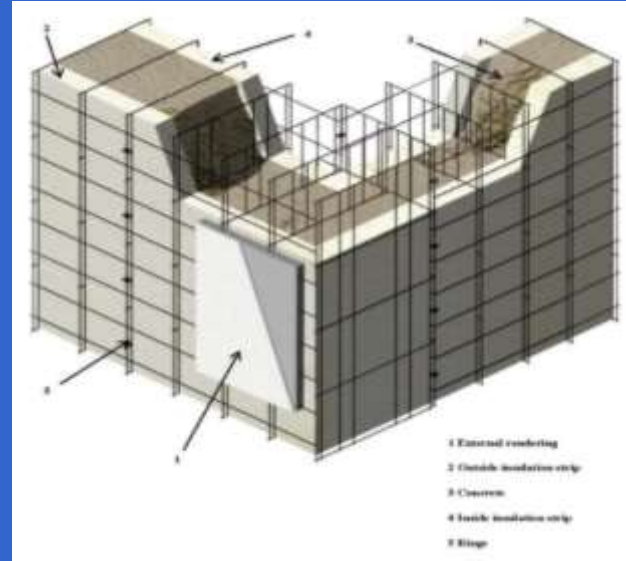
Demonstration Housing Project at Dehradun, Uttarakhand



Structural Stay-in-Place Steel Formwork System (Coffor)



Stay in Place EPS based double walled panel System



Demonstration Housing Project at Dehradun, Uttarakhand

Estimates

ABSTRACT SHEET FOR WORK AT DEHRADUN, UTTARAKHAND		
BUILDING WORKS		
Sr. No.	Sub Head	Amount in Rs.
1	Civil Works	
a	Foundation	2059659.00
b	Foundation Stair Case	244054.00
c	Superstructure Panel	14712567.00
d	Superstructure upto finishing	4293915.00
e	Staircase	1746149.00
f	Terrace	391196.00
g	Plinth Protection	25778.00
	Total for Building Work A	23473318.00
2	Sanitary and Water Supply	1551191.00
3	Electrical Works	857504.00
	Total for Services B	2408695.00
		Total(A+B)
		25882013.00
1	Provision for WCT @ 5%	1294100.00
2	Provision for Labour cess @ 1 %	258820.00
3	Provision for Insurance Charges 0.52%	134586.00
	GRAND TOTAL	27569519.00

Demonstration Housing Project at Dehradun, Uttarakhand

BUDGET

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Estimated cost of the project inclusive of taxes	275.70
2	Contingency (3%)	8.27
3	Planning & Designing charges (7.5%)	20.68
4	BMTPC Overheads (7%)	19.30
	Total	323.95

Duration of the Project: 8 months

Demonstration Housing Project at Dehradun, Uttarakhand

Source of Funding

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Funding from National Housing Bank	0
2	Funding sought from HFA Mission Directorate, MoHUPA	323.95
	Total	323.95

Site photograph of Demonstration Housing Project at Dehradun, Uttarakhand



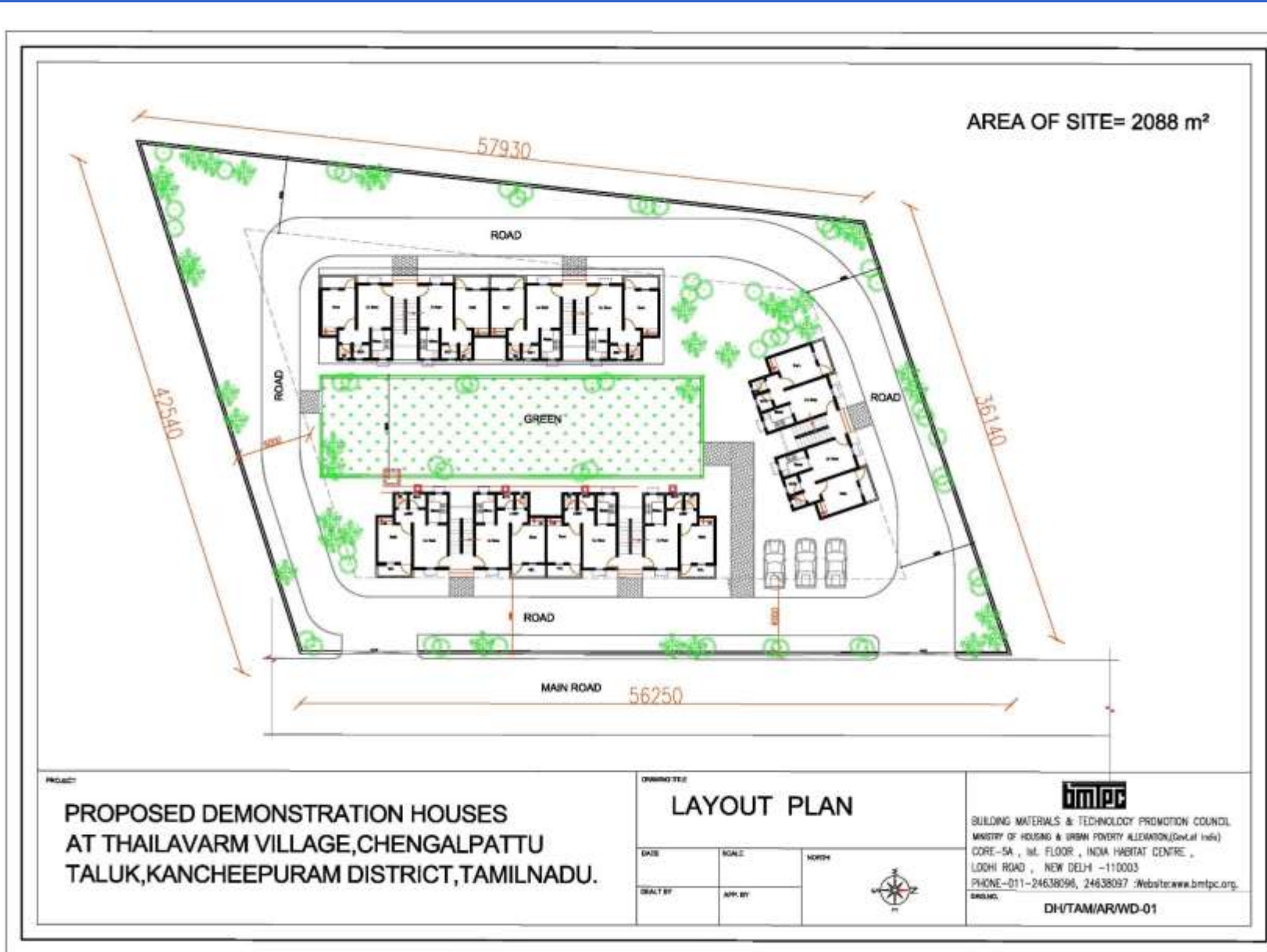
**Demonstration Housing Project
at District Kanchipuram,
Tamil Nadu
(Proposed)**

Demonstration Housing Project at District Kanchipuram, Tamil Nadu

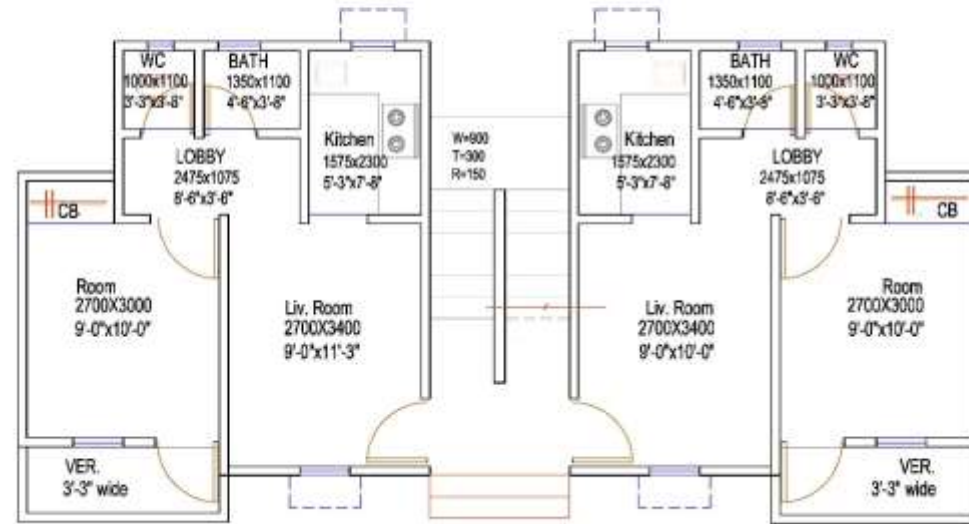
Salient Features

1.	Area of Site	2088 sqmt.
2.	No. of Dwelling units (DUs)	40 Nos. (G+3)
3.	Carpet area each DU	26.85 sqmt.
4.	Built up area of each DU:	37.94 sqmt.
5.	Total Covered Area	1517.60 sqmt.
6.	Technology being used	Glass Fibre Reinforced Gypsum (GFRG) Panel Technology.
7.	Dwelling unit comprises of	One Bed Room, Drawing Room, Kitchen, Separate WC & Bathroom
8.	Infrastructure	Internal and external roads & pavements, Septic Tank, water supply, sewerage, external electrification, Drainage, Landscaping, Boundary Wall, UGT etc.

Demonstration Housing Project at District Kanchipuram, Tamil Nadu



Demonstration Housing Project at District Kanchipuram, Tamil Nadu



FLOOR PLAN

AREA DETAILS

Living Room	=	2.70x3.40	=	9.18 sq.mts
Bed Room	=	2.70x3.00	=	8.10 sq.mts
Kitchen	=	1.57x2.30	=	3.61 sq.mts
Bath Room	=	1.35x1.10	=	1.48 sq.mts
W.C	=	1.00x1.10	=	1.10 sq.mts
Lobby	=	2.47x1.07	=	2.65 sq.mts
Cupboard	=	1.22x0.60	=	0.73 sq.mts
Total Carpet Area			=	26.85 sq.mts
Plinth Area of Unit (Carpet area&walls)	=			31.49 sq.mts
Verandha	=	2.95x1.05	=	3.09 sq.mts
Total Area of Unit (Includes ver.@50%)	=			33.04 sq.mts
Area of Staircase /Unit	=			4.90 sq.mts
Area of Unit (Including ver.&staircase)	=			37.94 sq.mts
No. of unit			=	40 DU

PTC-027

PROPOSED DEMONSTRATION HOUSES
AT THAILAVARM VILLAGE, CHENGALPATTU
TALUK, KANCHEEPURAM DISTRICT, TAMILNADU.

DATE

FLOOR PLAN

MAY 2016

SCALE

NORTH

DATE

BY

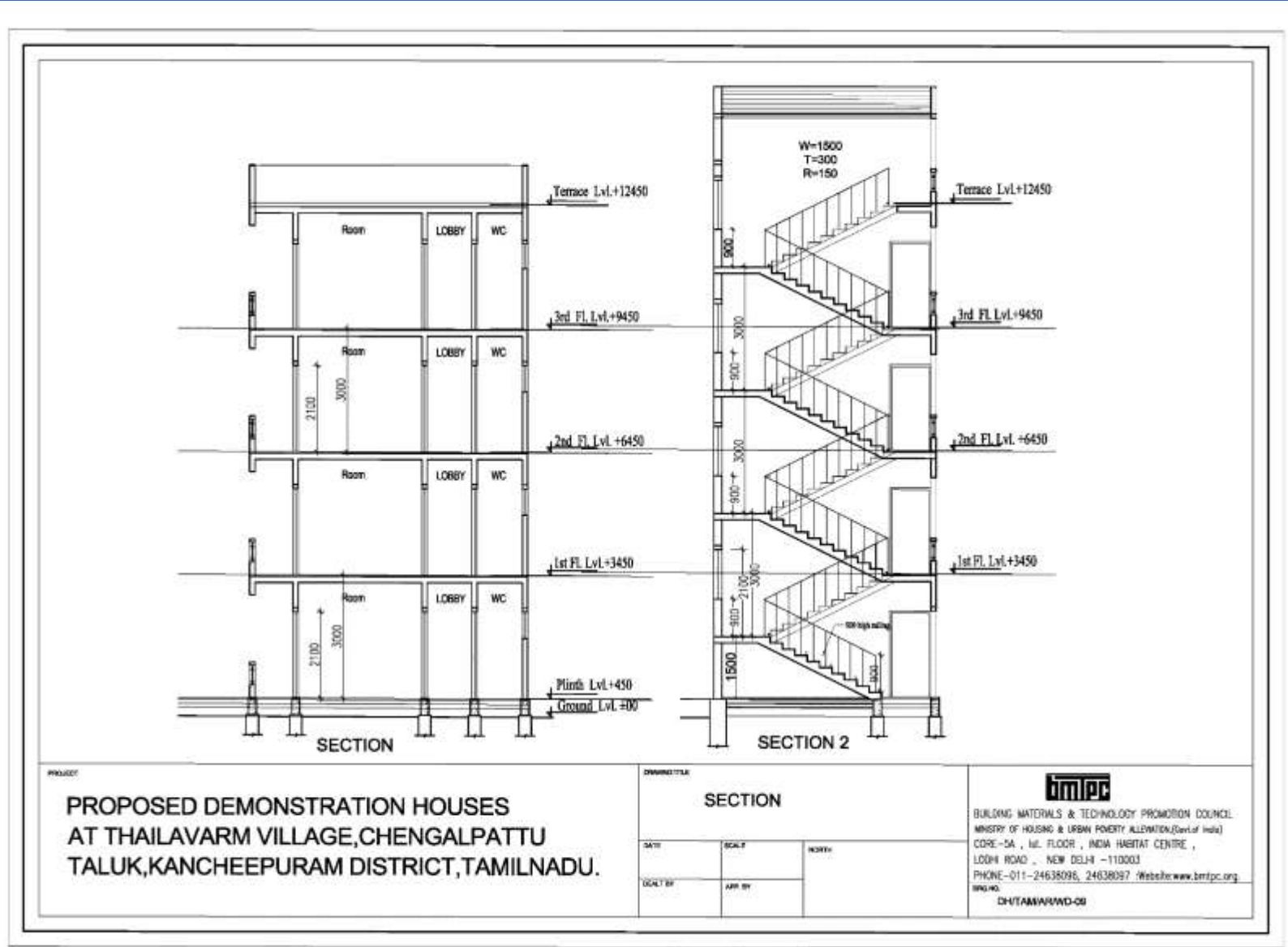
bmtpc

BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION, (Govt. of India)
CORE-5A, 1st FLOOR, INDIA HABITAT CENTRE,
LOCHN ROAD, NEW DELHI - 110003
PHONE-011-24638086, 24638087 : Website www.bmtpc.org
2016102

Demonstration Housing Project at District Kanchipuram, Tamil Nadu



Demonstration Housing Project at District Kanchipuram, Tamil Nadu



PROJECT
**PROPOSED DEMONSTRATION HOUSES
 AT THAILAVARM VILLAGE, CHENGALPATTU
 TALUK, KANCHEEPURAM DISTRICT, TAMILNADU.**

DRAWING TITLE
SECTION

DATE	SCALE	NORTH
DRAWN BY	APP. BY	

bmtpc
 BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL
 MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION, (Govt. of India)
 CORE - 5A, 1st FLOOR, INDIA HABITAT CENTRE,
 LODHI ROAD, NEW DELHI - 110003
 PHONE - 011 - 24638096, 24638097 / Website: www.bmtpc.org
 REG. NO.
 DHYAMAWARD-08

Glass Fibre Reinforced Gypsum (GFRG) Panel System



Demonstration Housing Project at District Kanchipuram, Tamil Nadu

Estimates

ABSTRACT SHEET FOR WORK AT KANCHEEPURAM, TAMIL NADU		
BUILDING WORKS		
Sr. No.	Sub Head	Amount in Rs.
1	Civil Works	
a	Foundation	2094563.96
b	Foundation Stair Case	176661.27
c	Superstructure Panel	15409083.48
d	Superstructure upto finishing	3936273.81
e	Staircase	1284610.24
f	Terrace	68251.34
	Total for Building Work	11969444.10
2	Sanitary and Water Supply	1439067.20
3	Electrical Works	815800.00
	Sub-Total (A)	25224311.30
INFRASTRUCTURE WORKS		
1	Boundary Wall	752680.65
2	Earth Filling	184611.63
3	Road and Pavement	604602.11
4	Septic Tank	372665.26
5	Horticulture	24872.06
6	External Water Supply and Sewerage	4400251.00
7	Drainage & Disposal	210870.94
8	Plinth Protection	49178.22
9	Rain Water Harvesting	61423.90
10	Underground Water Tank	196157.84
11	External Electrification	727414.00
12	Tube Well	325000.00
	Sub-Total (B)	3949727.60
	Total(A+B)	29174038.90
1	Provision for WCT @ 5%	1458701.95
2	Provision for Labour cess @1 %	291740.39
3	Provision for Insurance Charges 0.52%	151705.00
	TOTAL	31076186.24

Demonstration Housing Project at District Kanchipuram, Tamil Nadu

BUDGET

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Estimated cost of the project inclusive of taxes	310.76
2	Contingency (3%)	9.32
3	Planning & Designing charges (7.5%)	23.31
4	BMTPC Overheads (7%)	21.75
	Total	365.14

Duration of the Project: 8 months

Demonstration Housing Project at District Kanchipuram, Tamil Nadu

Source of Funding

Sr. No.	Description	Total Cost including onsite infrastructure (Rs.in lakh)
1	Funding from National Housing Bank	0
2	Funding sought from HFA Mission Directorate, MoHUPA	365.14
	Total	365.14

Site photograph of Demonstration Housing Project at District Kanchipuram, Tamil Nadu



SOURCE OF FUNDING

Sr. No.	Location of DHP	Funding from National Housing Bank (Rs.in lakh)	Funding sought from HFA Mission Directorate, MoHUPA (Rs.in lakh)	Total Cost (Rs.in lakh)
1	Chandrashekharpur, Bhubaneswar, Odisha	140.80	94.20	235.00
2	Biharshariff, Bihar	250.00	143.63	393.63
3	Aurangabad Jagir, Lucknow, Uttar Pradesh	250.00	180.00	430.00
4	Gachibowli, Hyderabad, Telangana	0	400.37	400.37
	Sub-Total	640.80	818.20	1459.00
5	Dehradun, Uttarakhand	0	323.95	323.95
6	Kancheepuram, Tamil Nadu	0	365.14	365.14
	Total	640.80	1507.29	2148.09

EMERGING TECHNOLOGY PARK CUM TRAINING CENTRE

**by BMTPC at Regional Hubs
being established at IIT's / NIT's**

PROPOSED ACTIVITIES

- The Emerging Technology Park cum Training Centre will be established at identified regional hubs on the land as identified by respective IITs/NITs.
- This technology park will showcase different emerging and green technologies through construction of dwelling units or other structures depending upon the land availability.
- Through this Technology Park, training and sensitization cum awareness programmes, skill upgradation and capacity building programmes will be conducted in association with regional hubs for engineers, architects, contractors, developers, entrepreneurs and users also. The facility within technology park for holding these programmes will also be created.
- The technology park cum training centre will provide the students an opportunity to understand emerging trends of construction which they can use in the field after their graduation.
- The technology park will also be used by the regional hubs as well as by BMTPC/MoHUPA for conducting technical visits of various stakeholders of the regions.
- The funds for establishing technology park cum training center will be given to BMTPC by MoHUPA under PMAY separately.
- The upkeep of the park & training center will be regional hub's responsibility.



LAYOUT PLAN

TOATAL AREA OF SITE = 1950 Sqmts.
 AREA OF TRAINING CENTER = 230 Sqmts.

NO:01

PROPOSED EMERGING TECHNOLOGY PARK
 CUM TRAINING CENTER

DATE:

FEB. 2017

SCALE:

1:100

NO:

01



BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL,
 MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION, (Govt. of India)
 CORE-5A, 1st FLOOR, INDIA HABITAT CENTRE,
 LODHI ROAD, NEW DELHI - 110003
 PHONE: 011-24638095, 24638097. Website: www.bmtpc.org.
 E-MAIL: bmtpc@bmtpc.org



Floor Plan
Training Center

PROPOSED EMERGING TECHNOLOGY PARK
CUM TRAINING CENTER

Floor Plan



BIMPC ARCHITECTS & ENGINEERS PRIVATE LIMITED,
MAKING OF PLANS & WORKING DRAWINGS FOR
CONSTRUCTION OF BUILDINGS AND OTHER STRUCTURES
AND
REPAIR AND MAINTENANCE WORKS
AND
REPAIR AND MAINTENANCE WORKS
AND
REPAIR AND MAINTENANCE WORKS

AREA DETAILS (per centre)

S.No.	Description	Area
1	Minimum Area required for Emerging Technology Park cum Traiing Centre	2000 sq.mt
2	Training Hall area <ul style="list-style-type: none">- Hall for 40-50 trainees- Two faculty rooms- Two rooms for guests- Ladies & gents toilet- Pantry	230 sq.mt. (2475 sq.ft.)
3	No. of demo houses to be constructed using emergin technology having an built up area of 450 to 500 sqft. with carpet area of 300 sqft. each	10 nos.

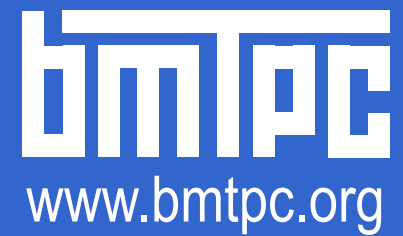
FUNDS REQUIREMENT (per centre)

S.No.	Description	Amount (Rs.in lakh)
1	Cost of Training Centre using emerging technology (2475 sq.ft. x Rs.1650 per sq.ft.)	41.00
2	Cost of 10 demo houses using emerging technologies (450 sqft. x 1650 per sqft. x 10 houses)	75.00
3	Infrastructure such as roads/pavements, landscaping, external electrification, etc. (15% of cost of training centre & demo house)	17.00
4	Cost of manpower for one year (recurring expenditure) - Research Associate 1 no. @Rs.50,000 p.m. - Data Entry Operator 1 no. @Rs.25,000 p.m. - MTS 2 nos. @Rs.20,000 p.m. each	14.00
5	Fixtures & fittings like dias, tables, chairs, computers, PA system, Multi-media system, etc.	15.00
6	Maintenance charges for one year (recurring expenditure)	5.00
	Sub-Total	167.00
	Contingency (3%)	5.00
	BMTPC overheads/supervision charges including other expenditure (7%)	11.70
	Total	183.70

METHODOLOGY

- The identified Regional Hubs being set up under Technology Sub-Mission at IITs/NITs will be requested to provide land free of cost.
- An MoU will be entered into between respective IITs/NITs, Ministry of HUPA and BMTPC for smooth functioning and operation & maintenance of the Technology Park.
- The Technology Park will be established by BMTPC including sourcing of various emerging technologies.
- The training facility created under the Technology Park will be provided by the Regional Hubs to Ministry of HUPA/BMTPC as and when required for organization of various programmes.

Thank you



Creating Enabling Environment for Affordable Housing for All